

Mt Arthur Coal



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Section 1 – Introduction

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1 INTRODUCTION

1.1 GENERAL

This document is an Environmental Assessment (EA) for a modification to the Mt Arthur Coal Mine Open Cut Consolidation Project Approval 09_0062 granted by the Minister for Planning on 24 September 2010.

The Mt Arthur Coal Mine is owned and operated by Hunter Valley Energy Coal (HVEC), a wholly-owned subsidiary of BHP Billiton.

This EA has been prepared by HVEC to support a request to modify the Project Approval 09_0062 under section 75W of the New South Wales (NSW) *Environmental Planning and Assessment Act, 1979* (EP&A Act) (the Mt Arthur Coal Open Cut Modification [the Modification]). The Modification includes the continuation of open cut mining operations at the Mt Arthur Coal Mine for an additional operational life of four years.

A copy of the Project Approval (09_0062) is provided as Attachment 1.

1.1.1 Existing Operations Overview

The Mt Arthur Coal Mine is located approximately 5 kilometres (km) south-west of Muswellbrook within the Muswellbrook Shire Local Government Area (LGA) in the Upper Hunter Valley of NSW (Figures 1-1 and 1-2).

Coal mine development at Mt Arthur Coal Mine commenced in the early 1960s in the Bayswater No. 2 Open Cut mining area. Coal production progressively increased and approval to extract coal from the Bayswater No. 3 Open Cut was granted in 1994. To support the expanding development at Bayswater No. 3 and cease coal transport by public road, approval was obtained in November 2000 for the construction and operation of the rail loading facility and spur line. This allows export coal to be transported directly to the Port of Newcastle via the Main Northern Railway.

In May 2001, the Mt Arthur North Open Cut operation was approved to extract up to 15 million tonnes of run-of-mine (ROM) coal per annum. The approval also allowed for the construction and use of associated infrastructure and facilities.

In March 2006, HVEC lodged an application to extend the Mt Arthur North South Pit. The application was assessed in the *Environmental Assessment Proposed South Pit Extension Project* (Umwelt [Australia] Pty Limited [Umwelt], 2007a) and was approved by the Minister for Planning on 9 January 2008.

Also in March 2006, HVEC lodged an application to commence underground mining operations at Mt Arthur Coal Mine. The application was assessed in the *Environmental Assessment Proposed Mt Arthur Underground Project* (Umwelt, 2008a) and was approved by the Minister for Planning on 2 December 2008 (Project Approval 06_0091). The Mt Arthur Underground Project is approved up to 8 million tonnes per annum (Mtpa).

In 2009, HVEC lodged an application under Part 3A of the EP&A Act to extend open cut operations and consolidate existing approvals for open cut mining operations and surface infrastructure. The application was assessed in the *Mt Arthur Coal Consolidation Project Environmental Assessment* (HVEC, 2009) and was approved by the Minister for Planning on 24 September 2010 (Project Approval 09_0062). The Project Approval 09_0062 permits the extraction of up to 32 Mtpa of ROM coal from the open cut.

In accordance with Project Approval 09_0062, a number of project approvals were surrendered by HVEC in 2011 including Mt Arthur North, the Rail Loading Facility and the South Pit Extension and the Bayswater Coal Preparation Plant. The Bayswater No. 3 Development Consent is also expected to be surrendered in early 2013.

Although the open cut and underground mining operations are approved to rates of 32 Mtpa and 8 Mtpa, respectively, the total mine extraction rate is limited to 36 Mtpa of ROM coal by the Project Approval 09_0062.

The current extent of the Mt Arthur Coal Open Cut (as at November 2011) is shown on Figure 1-3.

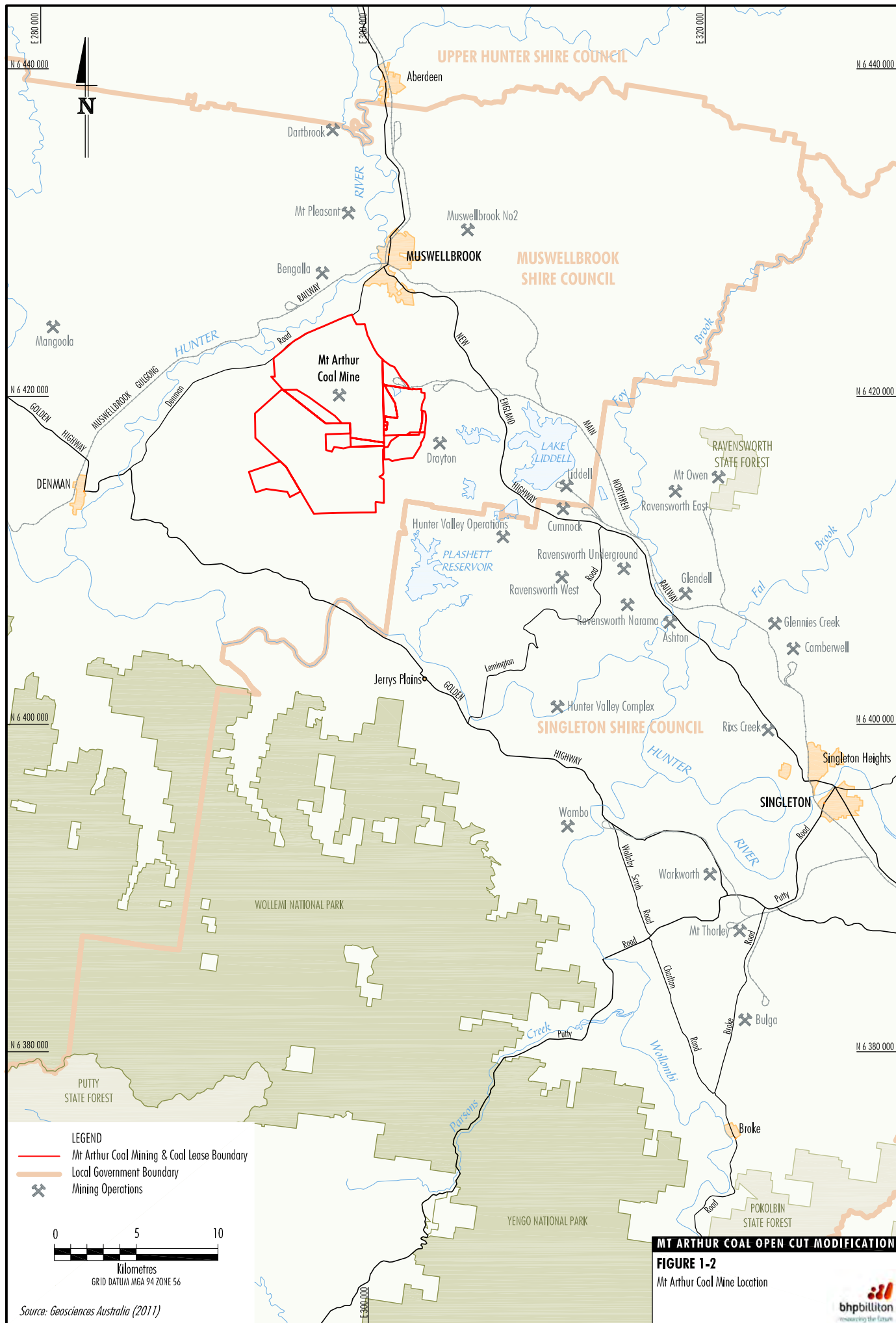
1.1.2 Modification Overview

The Modification includes the following key components:

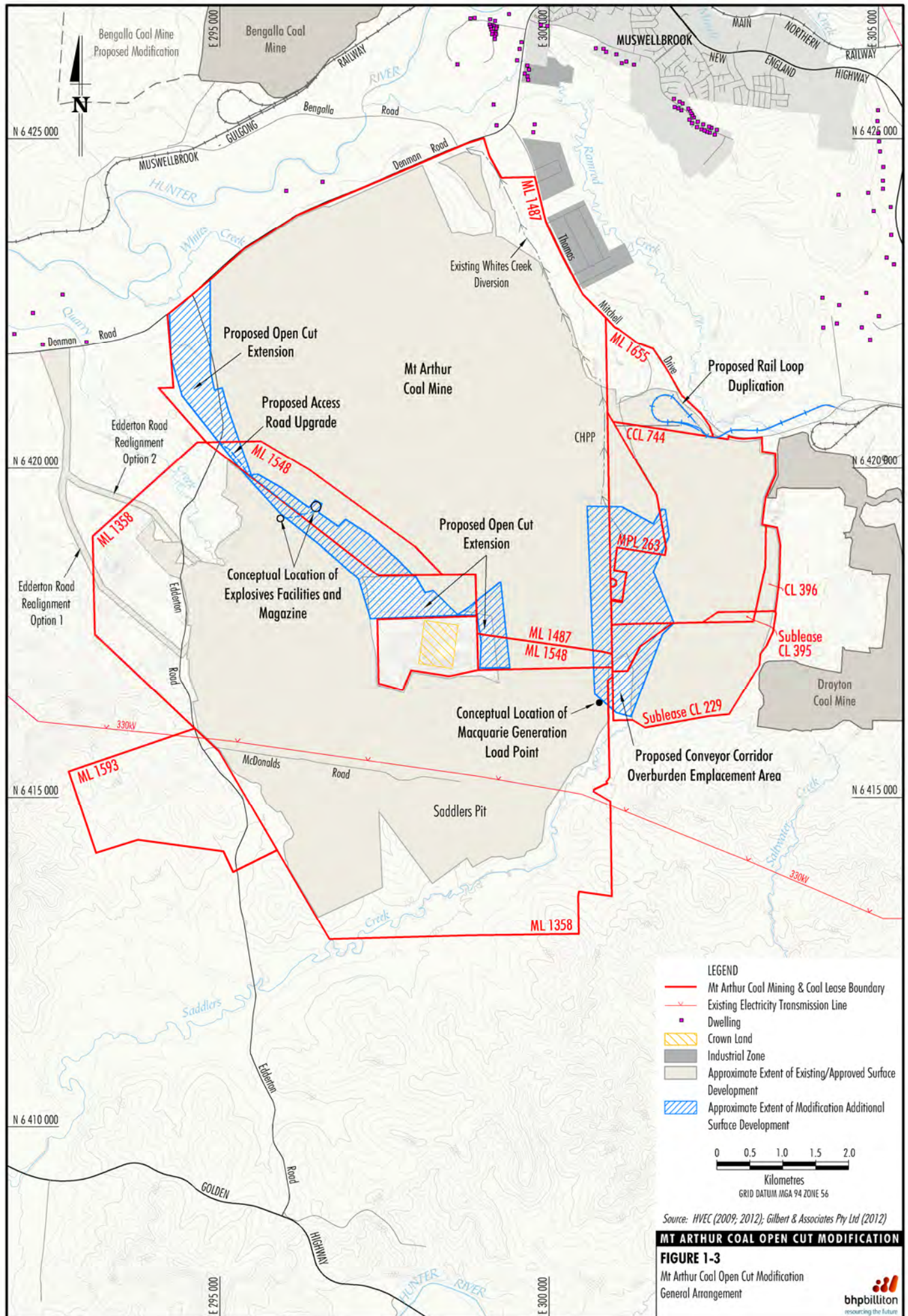
- a four year continuation of the open cut mine life from 2022 to 2026 at the currently approved maximum rate of 32 Mtpa;
- an increase in open cut disturbance areas;
- use of the conveyor corridor for overburden emplacement;



MT ARTHUR COAL OPEN CUT MODIFICATION
FIGURE 1-1
 Regional Location



Source: Geosciences Australia (2011)



- duplication of the existing rail loop;
- an increase in the maximum number of train movements per day from 24 to 38;
- the relocation of the load point for the overland conveyor which delivers coal to Macquarie Generation's Bayswater Power Station;
- the relocation and upgrade of the explosives storage, magazine and associated facilities; and
- the construction of additional offices and a control room and a small extension to the ROM coal stockpile footprint.

The proposed changes to the existing and approved Mt Arthur Coal Mine are shown on Figure 1-3.

Table 1 provides a summary comparison of the currently approved Mt Arthur Coal Mine and the Modification. As shown in Table 1, the Modification **does not** involve any changes to the operation's:

- mining tenements;
- annual open cut ROM coal production rate;
- coal processing rate;
- employment levels; or
- hours of operation.

A description of the Modification is provided in Section 3.

Section 4 describes the potential environmental impacts of the Modification and discusses how existing environmental management and monitoring program at the Mt Arthur Coal Mine would be applied to manage potential environmental impacts.

1.2 LEGISLATIVE FRAMEWORK

1.2.1 Environmental Planning and Assessment Act, 1979

The EP&A Act and NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) set the framework for planning and EAs in NSW. Modification of the Mt Arthur Coal Open Cut Consolidation Project Approval 09_0062 for the Mt Arthur Coal Mine is sought under section 75W of Part 3A of the EP&A Act.

Section 75W of the EP&A Act states:

75W Modification of Minister's Approval

(1) *In this section:*

Minister's approval means an approval to carry out a project under this Part, and includes an approval of a concept plan.

Modification of approval means changing the terms of a Minister's approval, including:

(a) *revoking or varying a condition of the approval or imposing an additional condition of the approval, and*

(b) *changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*

(2) *The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.*

(3) *The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*

(4) *The Minister may modify the approval (with or without conditions) or disapprove of the modification.*

Although Part 3A was repealed by the *Environmental Planning and Assessment Amendment (Part 3A Repeal) Act, 2011*, section 75W continues to be the applicable modification provision for an approval such as the Mt Arthur Open Cut Project Approval (09_0062). This is because Schedule 6A of the EP&A Act, which has the effect of making the Mt Arthur Coal Open Cut Consolidation Project Approval 09_0062 a "transitional Part 3A Project", states that provisions in the repealed Part 3A, such as section 75W, continue to apply to and in respect of a "transitional Part 3A Project".

Further, the NSW Department of Planning and Infrastructure (DP&I) advised BHP Billiton in a meeting held on 30 November 2011 that the DP&I was supportive in principle of a modification of Project Approval 09_0062 under section 75W of the Part 3A of the EP&A Act. An outcome of the meeting was that Director-General's Requirements (DGRs) for the Modification were sought by HVEC in February 2012 and were issued on 30 April 2012 (Attachment 2).

The planning framework is discussed further in Section 6.

Table 1
Summary Comparison of Approved and Modified Mt Arthur Coal Mine

Development Component	Approved Mt Arthur Coal Mine*	Mt Arthur Coal Mine Including the Modification
Life-of-Mine	<ul style="list-style-type: none"> Approval for open cut mining to 2022. 	<ul style="list-style-type: none"> Extension of open cut mining to 2026.
Annual ROM Coal Production Rate (Open Cut)	<ul style="list-style-type: none"> Up to 32 Mtpa. 	<ul style="list-style-type: none"> No change.
Coal Processing Rate	<ul style="list-style-type: none"> Upgrade of Coal Handling and Preparation Plant (CHPP) to facilitate processing of up to 36 Mtpa (including underground coal). 	<ul style="list-style-type: none"> No change.
Mining Areas	<ul style="list-style-type: none"> Open cut mining areas including the Northern and Southern Open Cuts. 	<ul style="list-style-type: none"> Extension to the Northern Open Cut.
Disturbance Areas	<ul style="list-style-type: none"> Total Mt Arthur Coal Mine disturbance area of approximately 6,400 hectares (ha). 	<ul style="list-style-type: none"> Increase of total disturbance areas of approximately 260 ha.
Mining Tenements	<ul style="list-style-type: none"> Mining leases (MLs) 1548, 1487, 1358, 1655 and 1593, Mining Purpose Lease (MPL) 263, Sublease Coal Leases (CL) 229 and 396, and Consolidated Coal Lease (CCL) 744. 	<ul style="list-style-type: none"> No change.
Overburden Emplacement	<ul style="list-style-type: none"> Development of Mt Arthur North overburden emplacement height to an average of 360 m Australian Height Datum (AHD) (maximum height of 375 m AHD). Development of Bayswater No 3 (Saddlers Pit) overburden emplacement height up to 250 m AHD (no change to existing approval). Development of Drayton sub-lease emplacement area up to 290 m AHD (part of South Pit extension). Development of an out-of-pit overburden emplacement area up to 360 m AHD. 	<ul style="list-style-type: none"> Increase in in-pit emplacement inline with increase in open cut footprint. Use of existing conveyor corridor for overburden emplacement, including integration with existing Drayton sub-lease emplacement area to a height of approximately 360 m AHD. No other changes to out-of-pit emplacements.
Coarse Rejects and Tailings Management	<ul style="list-style-type: none"> Deposition of tailings in the tailings emplacement area at Bayswater No 2. Approval to dispose tailings in Drayton sub-lease void will be maintained. The tailings emplacement area will be extended (up to 280 m AHD). Co-disposal of coarse reject within overburden emplacement areas. 	<ul style="list-style-type: none"> Additional tailings disposed of in existing and approved emplacement area. Continued co-disposal of additional coarse reject within overburden emplacement areas.
Product Coal Transport	<ul style="list-style-type: none"> Transport of up to 27 Mtpa product coal via rail. Construction and commissioning of an additional loading facility. Maximum of 24 rail movements per day (i.e. 12 laden train departures). Use of the existing overland conveyor to Macquarie Generation's Bayswater Power Station as required. 	<ul style="list-style-type: none"> Increase in maximum rail movements from 24 to 38 movements per day. Duplication of the existing Mt Arthur Coal Mine rail loop (high capacity option). Relocation of load point for the overland conveyor which supplies coal to Macquarie Generation's Bayswater Power Station. No change to maximum total product coal rail transportation rate of 27 Mtpa.
Employment	<ul style="list-style-type: none"> Total workforce of approximately 2,600 full-time equivalents employees during peak production. A workforce of approximately 240 full-time equivalent employees during peak construction phases. 	<ul style="list-style-type: none"> No change.
Hours of Operation	<ul style="list-style-type: none"> All coal operations and associated activities will continue to be undertaken 24-hours per day, seven days a week. Construction on-site may be on a 24-hour, seven day roster consistent with operational requirements. Construction hours for the proposed Edderton Road realignment are 7.00 am to 5.00 pm Monday to Saturday (except in the case of an emergency). 	<ul style="list-style-type: none"> No change.
Coal Handling Infrastructure Changes/Upgrades	<ul style="list-style-type: none"> Development of infrastructure such as workshop and bathhouse, additional ROM coal hoppers and the extension of ROM and product coal stockpiles. 	<ul style="list-style-type: none"> Minor changes to layout, including a minor extension to the mine infrastructure area and additional facilities (control room and offices). No change to CHPP throughput rate.
Explosives Facilities	<ul style="list-style-type: none"> Fully bunded on-site explosives magazine for the storage of detonators and other materials. 	<ul style="list-style-type: none"> Relocation and upgrade of explosives facility and magazine.
Final Voids	<ul style="list-style-type: none"> Final voids proposed for the Northern Open Cut, Saddlers Pit, Belmont Pit and MacDonalds Pit. 	<ul style="list-style-type: none"> Saddlers Pit Void to be backfilled. Other voids to remain.
Site Entrance	<ul style="list-style-type: none"> Site access road from Thomas Mitchell Drive. 	<ul style="list-style-type: none"> Additional access road from Edderton Road to allow access to relocated explosives facility.

* As described in the Consolidation Project EA (HVEC, 2009) and approved under Project Approval (09_0062).

1.3 CONSULTATION

1.3.1 State Government Agencies

Comprehensive consultation with State Government agencies has been undertaken for the Modification. Generally, the Modification was seen as a logical progression of the Mt Arthur Coal Mine from consultees, meaning that detailed briefings were, in some cases, unwarranted.

Department of Planning and Infrastructure

HVEC discussed the Modification with the DP&I in November 2011. DGRs for the Modification were subsequently issued on 30 April 2012 (Attachment 2). HVEC has continued to consult with the DP&I, including meetings held in May and June 2012.

A briefing regarding the Modification was held with the DP&I Singleton branch in November 2012.

Key aspects discussed with the DP&I included:

- the Future Landscapes Design Project (FLDP) (Section 5.3);
- Aboriginal cultural heritage (Section 4.7);
- increase in train movements (Section 4.14); and
- impacts on agricultural resources (Section 4.3).

DP&I representatives in Sydney were also provided with an update on the Modification in November 2012, which included an overview of potential environmental impacts and community consultation undertaken by HVEC.

Office of Environment and Heritage (including the Environment Protection Authority and the Heritage Branch)

The NSW Office of Environment and Heritage (OEH) were provided information regarding the Modification in February 2012 and an update was provided in October 2012.

A meeting was also held with the NSW Environment Protection Authority (EPA) and OEH in November 2012, where the Modification description, noise and air quality assessment results, the Aboriginal heritage assessment and flora and fauna study results were discussed.

Key aspects raised with the EPA and OEH were:

- the limited changes (and some minor improvements) in air and noise effects associated with the Modification (Sections 4.8 and 4.10);
- the consultation undertaken with Aboriginal stakeholders (Section 4.7.1);
- the survey methodology and timing with respect to threatened flora species (Section 4.6.1);
- the Modification Project in relation to the existing Environment Protection Licence (EPL) 11457 (Section 6); and
- assessment of the proposed biodiversity offset (Section 4.6.4).

Department of Primary Industries

In November 2012, HVEC distributed a letter and information sheet regarding the Modification to the following divisions of the NSW Department of Primary Industries (DPI). An offer to meet was also made by HVEC to the:

- Department of Agriculture, Fisheries and Forestry; and
- Catchments and Lands (Crown Lands Division).

NSW Office of Water

HVEC provided the NSW Office of Water (NOW) with an information sheet regarding the Modification in February 2012.

In June 2012, HVEC provided the NOW representatives with a presentation regarding the Modification and a field inspection was also undertaken. Air quality, noise, cumulative impacts, land use, water and ecology issues were discussed.

In October 2012, the NOW was provided with an updated information sheet regarding the Modification.

A specific Modification briefing was held with the NOW in November 2012, where the Modification description, surface and groundwater study results were discussed.

Key aspects discussed with NOW were:

- the Aquifer Interference Policy (Attachment 3);
- the groundwater assessment results (Section 4.4); and

- the site water and salt balance results (Section 4.5).

Division of Resources and Energy (within the Department of Trade and Investment, Regional Infrastructure and Services)

In February 2012, HVEC provided the NSW Division of Resources and Energy (DRE) with an information sheet regarding the Modification.

HVEC held a meeting with DRE representatives in May 2012 to provide a Modification briefing and information sheet. A field inspection was also undertaken. Potential air quality, noise, cumulative impacts, land use, water and ecology impacts were discussed.

In October 2012, an updated information sheet was provided and HVEC presented an update briefing on the Modification to representatives of the DRE. Revision of the rehabilitation strategy, water management and final landform stability (Section 5) were discussed.

NSW Dams Safety Committee

In November 2012, HVEC provided the NSW Dams Safety Committee with a letter and information sheet and offered to meet with the NSW Dams Safety Committee regarding the Modification.

Hunter-Central Rivers Catchment Management Authority

The Hunter-Central Rivers Catchment Management Authority (CMA) was provided with a letter and information sheet regarding the Modification in November 2012.

HVEC met with the CMA in January 2013, where an update regarding the Modification was provided. Opportunities for a collaborative approach in relation to conservation initiatives at Saddlers Creek were discussed.

NSW Health

In November 2012, HVEC provided NSW Health with a letter and information sheet regarding the Modification.

HVEC met with NSW Health in January 2013, where an introduction to the Modification and an overview of potential noise and air quality effects was provided. Assessment of potential blasting emissions was discussed.

Transport for NSW (including Centre for Transport Planning, Roads and Maritime Services)

In November 2012, an information sheet regarding the Modification and summary of results, with focus on the traffic assessment, was provided to Transport for NSW.

Later that month, HVEC met with Transport for NSW to discuss the Modification, in particular, the outcomes of the road transport and rail assessments.

1.3.2 Local Government Agencies

Muswellbrook Shire Council

In January 2012, HVEC met with the Muswellbrook Shire Council (MSC) to discuss the Modification. The MSC were provided with a briefing and information sheet.

In May 2012, HVEC held a meeting with the MSC to provide an update on the Modification and to discuss final landform concerns raised by MSC. In July 2012 MSC representatives met with HVEC to discuss Modification offsets and potential impacts on the draft Muswellbrook Land Use Plan.

In October 2012, HVEC provided an update on the Modification to representatives of MSC. Key aspects discussed by the MSC included:

- road traffic and the increase in rail movements (Sections 4.13 and 4.14);
- final void management (Section 5);
- air quality monitoring and cumulative impacts (Section 4.8); and
- local biodiversity offset areas (Section 4.6.4).

In addition to the above, HVEC and MSC are currently negotiating an extension of the existing Voluntary Planning Agreement to cater for the Modification.

1.3.3 Federal Government Agencies

Department of Sustainability, Environment, Water, Population and Communities

In November 2012, HVEC provided the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) with a letter, information sheet regarding the Modification and a summary of ecological study results.

1.3.4 Infrastructure Owners, Service Providers and Other Resource Companies

Australian Rail Track Corporation

In November 2012, HVEC provided the Australian Rail Track Corporation (ARTC) with a letter and information sheet regarding the Modification.

RailCorp

In November 2012, HVEC provided RailCorp with a letter and information sheet regarding the Modification.

Newcastle Port Corporation

In November 2012, the Newcastle Port Corporation was provided with a letter and information sheet regarding the Modification.

Anglo Coal (Drayton Management) Pty Limited

HVEC held a meeting with Anglo Coal Drayton representatives in March 2012. An update on the Modification was provided and a discussion held in relation to potential noise impacts in the vicinity of Antienne.

In December 2012, HVEC met with Anglo Coal Drayton to provide an update on the Modification and discuss the potential cumulative noise and air quality impacts.

Xstrata – Mangoola Coal

In March 2012, HVEC provided Mangoola Coal with an information sheet regarding the Modification.

In November 2012, HVEC and Mangoola Coal representatives met to discuss the Modification and potential cumulative impacts with the Mangoola Coal Mine.

In addition, HVEC met with Mangoola Coal representatives in January 2013 to discuss cumulative air quantity impacts.

Bengalla Mining Company Pty Limited

HVEC provided Bengalla Mining Company Pty Limited with an information sheet regarding the Modification in February and November 2012.

Macquarie Generation

In March 2012, HVEC met with Macquarie Generation representatives to provide a Modification briefing and discuss the relocation of the Macquarie Generation conveyor load point (Section 3).

Macquarie Generation was provided with an updated information sheet regarding the Modification in November 2012.

Hunter Valley Coal Chain Coordinator Limited

In November 2012, HVEC provided Hunter Valley Coal Chain Coordinator Limited with a letter and information sheet regarding the Modification.

1.3.5 Public Consultation

Local Community and Affected Landholders

During the preparation of this EA, information sheets regarding the Modification were distributed to the location community in February and October 2012. The information sheets were also made available on the BHP Billiton website. HVEC employees and representatives have also undertaken face-to-face meetings with numerous potentially affected landholders regarding the project.

Key issues discussed with landholders included:

- the increased traffic impact and additional rail movements, including the trains idling/waiting at night-time (Sections 4.13, 4.14 and Appendix K);
- the potential cumulative air quality, noise and blasting impact and mitigation measures (Sections 4.8 and 4.10);
- the impact of blast fumes and the frequency of blast inspections on landholder properties (Appendix F);
- the need for increased communication and community engagement between mining companies and landholders in the region;
- the water quality, access and the need for equitable water licence distribution among landholders and mining companies (Appendices B and C);
- the standard of rehabilitation and the number of final voids for the Modification (Section 5);
- interaction and cumulative impacts of the Modification with the surrounding Drayton, Bengalla and Mangoola Coal Mines (Section 4);
- noticeable dust levels, presence of black dust and cumulative impacts from surrounding mines (Section 4.8 and Appendix F);
- the potential for future Mt Arthur Coal Mine approvals, plans and development of the Mt Arthur Coal underground mine;

- opportunities for landholder properties to be purchased by HVEC changes to the zone of acquisition and mitigation agreements; and
- opportunity for the local community to comment and make submissions on the Modification and EA document.

During the assessment of the Modification, HVEC will continue to consult with its key stakeholders (including many of the landholders shown in Figures 1-4a to 1-4c).

In February 2011 and October 2012, HVEC provided the Mt Arthur Coal Community Consultative Committee (CCC) with a detailed brief regarding the Modification.

Key aspects of the briefing included additional rail movements, traffic assessment, potential noise impact and final landform.

HVEC has continued to provide updates to the CCC during the assessment of the Modification.

Hunter Thoroughbred Breeders Association

HVEC provided the Hunter Thoroughbred Breeders Association with a letter and information sheet regarding the Modification in November 2012.

A meeting was held with a representative of the Hunter Thoroughbred Breeders Association in December 2012 to discuss the Modification progress and specialist study results.

Coolmore Stud

HVEC provided Coolmore Stud with a letter and information sheet regarding the Modification in November 2012.

In January 2013, HVEC met with a representative of Coolmore stud. The meeting included a briefing on the Modification results and cumulative impacts.

Woodlands Stud

In February 2012, HVEC met with a representative of Woodlands Stud to present a Modification briefing, fact sheet and information of potential improvements for visual and dust impacts.

In November 2012, HVEC provided a letter and updated information sheet of the Modification and specialist study results. A meeting was held between HVEC and Woodlands Stud representatives in December 2012 to discuss the Modifications progress and specialist study results.

Aboriginal Community

A detailed description of the consultation undertaken with the registered Aboriginal stakeholders during the preparation of this EA is provided in the Aboriginal and Non-Indigenous Cultural Heritage Assessment (Appendix E).

An Aboriginal cultural heritage information session and site inspection was also held on 30 August 2012.

1.4 PROJECT DESIGN AMENDMENTS IN RESPONSE TO ISSUES RAISED

In response to concerns raised by stakeholders regarding the proposed final landforms at the Mt Arthur Coal Mine, HVEC has established a separate project known as the FLDP.

The key objective of the FLDP is to investigate, design and develop a final landform that addresses stakeholder concerns, is safe and stable, and generates little or no impact on production or operational efficiencies during its development and reduces ongoing maintenance.

It is anticipated that the first phase of the FLDP would be completed in approximately 18 months. The FLDP is a separate project to the Modification.

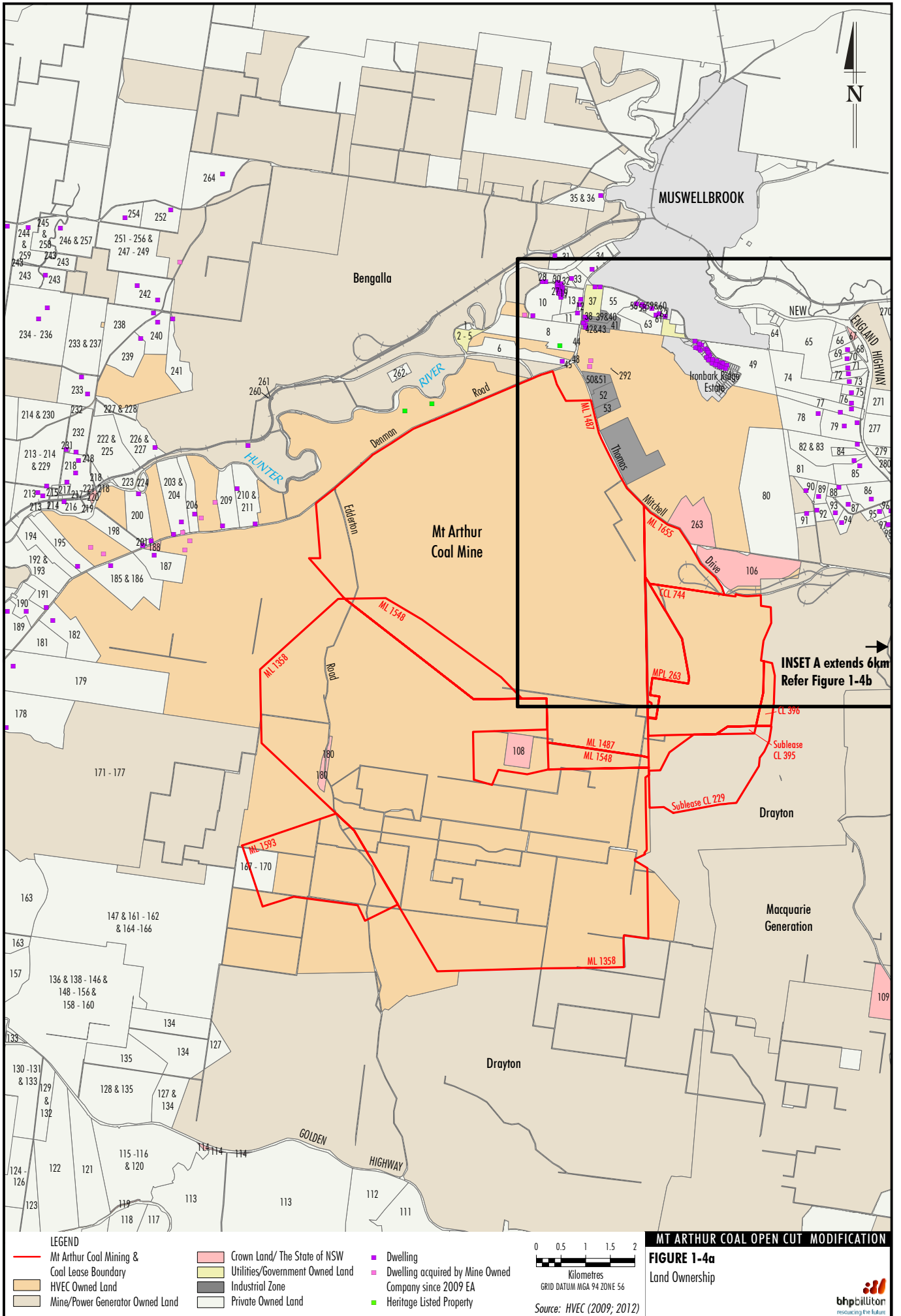
1.5 COMMUNITY INITIATIVES AND INVOLVEMENT

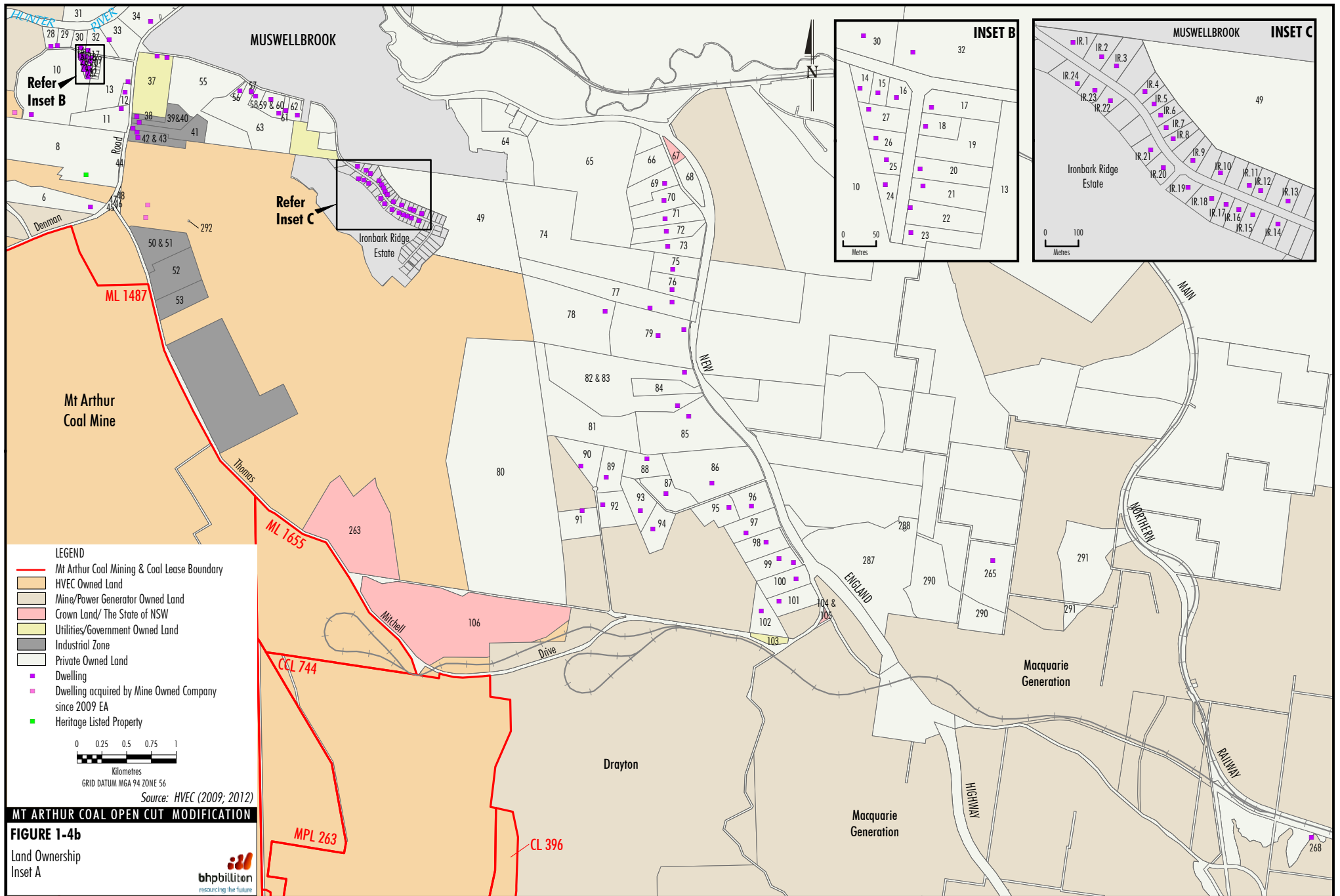
Sustainable Development Policy

The BHP Billiton Mt Arthur Coal Sustainable Development Policy states:

Central to Mt Arthur Coal's goal of zero harm is our commitment to developing, implementing and maintaining management systems that drive continual improvement and ensure we:

- *do not compromise our safety values and seek to improve the health of our workforce and the community;*
- *identify, assess and manage risks to employees, contractors, the environment and our the community;*
- *uphold ethical business practices and meet or, where less stringent than our standards, exceed applicable legal and other requirements;*
- *respect and promote fundamental human rights within our sphere of influence, respecting the rights of Indigenous peoples and valuing cultural heritage;*





REF NO	LANDHOLDER	REF NO	LANDHOLDER	REF NO	LANDHOLDER	REF NO	LANDHOLDER
1	MJ Drake	71	IE & LF Hunt	146	MH & JN Wolfgang	227	A Wynne & TW Roots
2	The Water Conservation and Irrigation Commission	72	WR & JM Budden	147	MH & RE Wolfgang	228	A Wynne & TW Roots
3	The Water Conservation and Irrigation Commission	73	PJ Hogan	148	MH & JN Wolfgang	229	SR & JW Lawson
4	The Water Conservation and Irrigation Commission	74	F Webber	149	MH & JN Wolfgang	230	SR & JW Lawson
5	The Water Conservation and Irrigation Commission	75	D & MJ Harris	150	MH & JN Wolfgang	231	PJ Brown
6	JR Scriven	76	Merlaust PTY Limited	151	MH & JN Wolfgang	232	JI & PJ Brown
8	MJ Drake	77	MT Perram	152	MH & JN Wolfgang	233	RM & KF Merrick
10	Muswellbrook Race Club Limited	78	Yarralong Stud PTY LTD	153	MH & JN Wolfgang	234	JM Thompson
11	JP Drake	79	SJ & J Jackson	154	MH & JN Wolfgang	235	JM Thompson
12	DR & CJ Tubb	80	EM Casben	155	MH & JN Wolfgang	236	JM Thompson
13	Upper Hunter Developers PTY Limited & NR Turner	81	CS Jacobsen	156	MH & JN Wolfgang	237	RM & KF Merrick
14	J & DL Robinson	82	K Newton	157	G Mediat	238	MR Peel
15	MC & LJ Dobie	83	K Newton	158	MH & JN Wolfgang	239	PR Ellis
16	ML & EA Sweeney	84	J Jacobsen	159	MH & JN Wolfgang	240	PSJ Murray
17	JR Gleeson & MR Cranfield	85	PJ & KJ Collins	160	MH & JN Wolfgang	241	PG & CM Lane
18	SM Bredden	86	RE & ID Baxter	161	MH & RE Wolfgang	242	NJ & RY Ellis
19	NJ Rowe	87	RB & LJ Halloran	162	MH & RE Wolfgang	243	GT McNeill
20	AC Good	88	WJ Reynolds	163	PM Wolfgang	244	FN & WL Googe
21	RS & JT Cridland	89	SR Page	164	MH & RE Wolfgang	245	RB & SA Parkinson
22	Englebrecht Racing Stables PTY Limited	90	BC & SR Page	165	MH & RE Wolfgang	246	RB & SA Parkinson
23	RH Englebrecht	91	MF & AV Doherty	166	MH & RE Wolfgang	247	RB & SA Parkinson
24	RJ & TT Reid	92	CJ & LE Duck	167	MH & RE Wolfgang	248	RB & SA Parkinson
25	GL & IL Andrews	93	RDJ & DA Osborn	168	MH & RE Wolfgang	249	RB & SA Parkinson
26	RA Byrnes & MA Moller	94	RC & LT Skinner	169	MH & RE Wolfgang	251	RB & SA Parkinson
27	TD Barron	95	GHJ & PH De Boer	170	MH & RE Wolfgang	252	BA & TE Strachan
28	MJ McGoldrick	96	MJ Bird	171	Spur Hill Agricultural	253	RB & SA Parkinson
29	KB & JA Bernett	97	P & K Clifton	172	Spur Hill Agricultural	254	DR & AK Hughes
30	DP Englebrecht	98	BD & B Jones	173	Spur Hill Agricultural	255	RB & SA Parkinson
31	Jabetin PTY Limited	99	DW & LM Hunter	174	Spur Hill Agricultural	256	RB & SA Parkinson
32	FK & WDG Almond & PW Hume	100	EJ & MC Sharman	175	Spur Hill Agricultural	257	RB & SA Parkinson
33	SW & KL Barkley	102	BJ & NH Robertson	176	Spur Hill Agricultural	258	RB & SA Parkinson
34	WJ Harges	103	The Council of the Shire of Muswellbrook	177	Spur Hill Agricultural	259	FN & WL Googe
35	C Horne	104	Crown	178	Blakefield	260	C & LJ Francis
36	C Horne	105	Crown	179	PR & M Burgmann	261	RH Keys & RH Reynolds
37	The Council of the Shire of Muswellbrook	106	Crown	180	Crown	262	Aliform PTY Limited
38	Monadelphous Properties PTY LTD	108	The State of NSW	181	TR & KM Paulsen	263	Crown
39	JR & JA Buckley	109	The State of NSW	182	TR & KN Paulsen	264	J Moore
40	JR & JA Buckley	111	Arrowfield Wines PTY Limited	185	RW Turner	265	HJG Ray
41	SRP & RF Ray	112	Calogo Bloodstock AG	186	RW Turner	268	Lake Liddell Recreational Park
42	DJ Hallett & KL & J Campbell	113	Darley Australia PTY Limited	187	MJ & MJ Duncan	287	Wild Group Pty Limited
43	DJ Hallett & KL & J Campbell	114	Crown	188	Crown	288	NBN Limited
44	Crail Estates PTY Limited	115	Hynken PTY Limited	189	RW Jones	290	PJ Wild
46	The Council of the Shire of Muswellbrook	116	Hynken PTY Limited	190	DJ Phillips	291	GD Sneddon & JA Passfield
47	Webber	117	Hynken PTY Limited	191	RL Wilks	292	CM Bowman
48	F & IR Webber	118	NE Ray	192	HR & BC Grugeon	IR.1	JM Stranding & CA McLean
49	F & IR Webber	119	Crown	193	HR & BC Grugeon	IR.2	KJ Nilon
50	Energy Australia	120	Hynken PTY Limited	194	Beringer Blass Wine	IR.3	BJ Osborn
51	Energy Australia	121	JN & JE Wolfgang	195	LA & CA MacPherson	IR.4	JM Gill & I Hamwi
52	Domaine Property Funds	122	WRL Wolfgang	198	MJ & MJ Duncan	IR.5	WR Bromfield & KA Bromfield
53	PC & DA & NA Mitchell	123	TL Wolfgang	200	GR & MK Walsh	IR.6	DH Smith & BC Smith
55	PM & FP Farrell & HG & MG Cope	124	TL Wolfgang	201	EJ & CA Denton	IR.7	SA Fulloon & TD Fulloon
56	JT & SE Bancroft	125	TL Wolfgang	203	MG & LJ Latham	IR.8	NJ Wall & EL Wall
57	GJ Mayer	126	TL Wolfgang	204	MG & LJ Latham	IR.9	TJ Vanderwerf & TL Vanderwerf
58	AR & FM Masters	127	RL Wolfgang	206	DJ & JM Wild	IR.10	K Baker & N Baker
59	RJD & DA Osborn	128	MH Wolfgang	209	BW & E Rankin	IR.11	LG Daniel & JA Daniel
60	RJD & DA Osborn	129	SA Wolfgang	210	BW & E & WJ Rankin	IR.12	RJ Cullen & SM Cullen
61	JFA Burton	130	SA Wolfgang	211	BW & E & WJ Rankin	IR.13	TP Carr & CA Carr
62	N Burke & HG Talbot	131	SA Wolfgang	213	SR & JW Lawson	IR.14	BJ Morgan & LM Morgan
63	G Gillfeather	132	SA Wolfgang	214	SR & JW Lawson	IR.15	MR Hinschen & JM Pawley
64	Eastbrook Estate PTY Limited	133	SA Wolfgang	215	Minister for Public Works	IR.16	NT Pollard & SM Pollard
65	Eastbrook Pastoral PTY Limited	134	RL Wolfgang	216	AA & BT Meyer	IR.17	DB Bradstreet & AL Bradstreet
66	JG Abercrombie	135	MH Wolfgang	217	State Rail Authority of NSW	IR.18	BC Prosser & TM Prosser
67	Crown	136	MH & JN Wolfgang	218	JDM Markham	IR.19	JL Adams & TL Adams
68	BL & JM Bennett	138	MH & JN Wolfgang	219	AA & BT Meyer	IR.20	BS Walsh & RJ Walsh
69	BS & MB Wells	139	MH & JN Wolfgang	220	Crown	IR.21	S Strijakov
70	JA & DR Folpp	140	MH & JN Wolfgang	221	Crown	IR.22	BJ Wilcher & RA Wilcher
		141	MH & JN Wolfgang	222	MR & M Peel	IR.23	PJ Langford & CL Landford
		142	MH & JN Wolfgang	223	A Wynne & TW Roots	IR.24	BD Webber & SP Webber
		143	MH & JN Wolfgang	224	GR & MK Walsh		
		144	MH & JN Wolfgang	225	MR & M Peel		
		145	MH & JN Wolfgang	226	A Wynne & TW Roots		

Source: HVEC (2009; 2012)

MT ARTHUR COAL OPEN CUT MODIFICATION

FIGURE 1-4c

Landholder List

(Refer Figure 1-4a and 1-4b for Details)



- *encourage a diverse workforce and provide a work environment in which everyone is treated fairly, is treated with respect and can realise their full potential;*
- *take action within our own business and work with governments, industry and other stakeholders to address the challenge of climate change;*
- *set and achieve targets that promote efficient use of resources, including reducing and preventing pollution;*
- *enhance biodiversity by assessing and considering ecological values and land-use aspects in investment, operational and closure activities;*
- *engage regularly, openly and honestly with government and the community, taking their views and concerns into account in our decision-making;*
- *develop partnerships that foster sustainable community development, enhance economic benefits from our operation and contribute to improving quality of life within the community.*

Mt Arthur Coal Community Consultative Committee

The Mt Arthur Coal CCC is established and operates in accordance with Project Approval 09_0062.

The CCC meets at least quarterly and the meeting minutes are available publicly on the BHP Billiton website.

Website and Community Response Line

BHP Billiton's website (www.bhpbilliton.com) provides regular updates on assessments and approvals relevant to the Mt Arthur Coal Mine and provides access to relevant environment and community information.

The website provides information on the environmental management and performance of the Mt Arthur Coal Mine, including:

- environmental management plans;
- annual environmental management reports;
- environmental monitoring results;
- environmental audits;
- CCC meeting minutes; and
- complaints summary.

A copy of this EA will be made available on the BHP Billiton website.

A 24-hour Community Response Line (1800 882 044) allows members of the public to contact HVEC with enquiries or complaints about mining activities (BHP Billiton, 2011a).

Community Matters Newsletter

Mt Arthur Coal's community newsletter *Community Matters* is regularly distributed to approximately 7,000 households, businesses and organisations throughout Muswellbrook, Aberdeen and Denman (BHP Billiton, 2011a). The newsletter provides an update on all aspects of the operation.

Community Investment

HVEC continues to invest in community development activities and initiatives, through its Community Development Fund. Through this fund, HVEC invests in a number of community development projects which aim to address cumulative impact issues and improve local quality-of-life outcomes.

Sustainable Communities Project

HVEC initiated the *Sustainable Communities Project* in October 2010 to understand the combined, or cumulative, impacts of coal mining on the community, economy and environment and to address these impacts through collaboration between the mining industry and other stakeholders (BHP Billiton, 2011b).

A range of information sources were used as part of the Project, including:

- direct engagement with the community;
- previous research such as social impact assessments;
- existing, or baseline, information about social and economic conditions; and
- mining company information, such as proposed workforce expansion.

Around 300 people attended an open community event in Muswellbrook in December 2010. The event was hosted by HVEC to share the outcomes of the *Sustainable Communities Project* and provide information about some of the initiatives that HVEC is currently supporting or planning to support in response to community feedback received since late 2010.

The outcomes of the *Sustainable Communities Project*, including community perceptions, are reviewed in Section 4.16. The Sustainable Communities Project is an ongoing initiative. The preliminary results from subsequent community surveys in 2012 support these previous survey results.

Public Reporting

Annual Environmental Management Report

In accordance with Project Approval PA 09_0062, HVEC produces an Annual Environmental Management Report (AEMR) to review the environmental performance of the development. Copies of historical AEMRs are available on the BHP Billiton website.

National Greenhouse and Energy Register

HVEC is registered on the National Greenhouse and Energy Register (established under section 16 of the NSW *National Greenhouse and Energy Reporting Act, 2007* [NGER Act]), which is publicly available on the Commonwealth Department of Climate Change and Energy Efficiency website (www.climatechange.gov.au).

Energy Efficiency Opportunities Program

HVEC is also a registered participant of the Commonwealth Government's Energy Efficiency Opportunities (EEO) program (www.ret.gov.au/energy/efficiency/eeo), which requires corporations to identify, evaluate and report publicly on cost effective energy savings opportunities.

Environmental Protection Licence

Information relevant to the Mt Arthur Coal Mine EPL 11457 is available via a public register on the EPA's website (www.environment.nsw.gov.au). The pollution reduction programme required under EPL 11457 is also available on the BHP Billiton website.

National Pollution Inventory

Annual National Pollutant Inventory (NPI) reports for the Mt Arthur Coal Mine are provided to the EPA. Emissions data for the Mt Arthur Coal mine is publicly available on the Federal Government's NPI website (www.npi.gov.au) and is also reported in the Annual Reviews.

1.6 STRUCTURE OF THIS EA

This EA is structured as follows:

Section 1	Provides an overview of the existing and approved Mt Arthur Coal Mine, the nature of the Modification and a summary of the consultation undertaken in relation to the Modification.
Section 2	Provides a description of the existing/approved Mt Arthur Coal Mine.
Section 3	Provides a description of the Modification.
Section 4	Provides a review of the existing environment, assesses potential impacts associated with the Modification and describes the existing Mt Arthur Coal Mine environmental management systems and measures in place to manage and monitor any potential impacts.
Section 5	Describes the proposed rehabilitation of the Modification.
Section 6	Provides the Planning Framework and Modification Justification.
Section 7	References.

Attachments 1 to 3 and Appendices A to L provide supporting information as follows:

Attachment 1	Mt Arthur Consolidation Project Approval (09_0062)
Attachment 2	Modification Director-General's Requirements
Attachment 3	Aquifer Interference Policy Considerations
Appendix A	Agricultural Impact Statement
Appendix B	Groundwater Impact Assessment
Appendix C	Surface Water Assessment
Appendix D	Ecological Assessment
Appendix E	Aboriginal and Non-Indigenous Cultural Heritage Assessment
Appendix F	Air Quality and Greenhouse Gas Assessment

Appendix G	Noise and Blasting Assessment
Appendix H	Landscape and Visual Impact Assessment
Appendix I	Geochemistry Assessment of Overburden and Interburden
Appendix J	Socio-Economic Assessment
Appendix K	Road Transport Assessment
Appendix L	Environmental Risk Assessment