Social Impact Assessment

DRAYTON SOUTH COAL PROJECT

SOCIAL IMPACT ASSESSMENT

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for

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EXECUTIVE SUMMARY

Hansen Bailey Environmental Consultants was commissioned by Anglo American Metallurgical Coal Pty Ltd to complete a Social Impact Assessment for the Drayton South Coal Project (the Project). The assessment is to form part of an Environmental Assessment being prepared by Hansen Bailey to support an application under Part 3A of the *Environmental Planning and Assessment Act 1979* to facilitate the continuation of the existing Drayton Mine by the development of an open cut and highwall coal mining operation and associated infrastructure within the Drayton South area.

The Project is located approximately 10 km north-west of the village of Jerrys Plains and approximately 13 km south of the township of Muswellbrook in the Upper Hunter Valley of New South Wales. The Project is predominately situated within the Muswellbrook Shire Local Government Area, with the south-west portion falling within the Singleton Local Government Area.

At 30 June, 2010, Muswellbrook Local Government Area had an Estimated Resident Population of 16,676, while neighbouring Singleton Local Government Area, to the east of the Project Boundary, had a population of 24,182. The Upper Hunter Local Government Area, to the north of the Project Boundary, had a population of 14,198 at the time. The Muswellbrook, Singleton and Upper Hunter Local Government Areas have all experienced an increase in population from 2006 to 2010 of between 4.5% and 5.4% (ABS, 2011a).

The population projections from the Department of Planning and Infrastructure (2010) for the Muswellbrook and Singleton Local Government Areas are expected to increase from 15,900 and 22,900 in 2006 to 18,300 and 31,800, respectively, by 2036. The Upper Hunter Local Government Area is predicted to experience a population decrease from 13,600 to 12,900 by 2036. In comparison, the Hunter Valley Research Foundation (2010) shows increasing medium growth population projections for all three Local Government Areas at 2026; a higher rate than that estimated by the Department of Planning and Infrastructure. The Muswellbrook, Singleton and Upper Hunter Local Government Area populations are expected to increase from 15,236, 21,940 and 12,976 in 2006 to 17,888, 27,822 and 13,528, respectively, by 2026.

From the 2006 census (ABS, 2006a), Singleton and Muswellbrook Local Government Areas had a median age of 34, whereas the Upper Hunter Local Government Area had a median age of 39.

All three Local Government Areas had a higher proportion of younger people (under 15) than New South Wales; however, the proportion of older people (over 55) in the Muswellbrook and Singleton Local Government Areas was lower when compared to the Upper Hunter Local Government Area.

The stability of the residences across the Muswellbrook, Singleton and Upper Hunter Local Government Areas varied during the five years prior to the 2006 census. Approximately 80% of residents in the local area had lived at the same address one year ago while just over half of residents had lived at the same address five years ago. However, of those that had moved, 20% of them in the Singleton and Muswellbrook Local Government Areas had moved from somewhere else in their Local Government Area (ABS, 2006a). At the time of the census, the Muswellbrook and Singleton Local Government Areas had a higher proportion of family households (74% and 79%) than NSW while the Upper Hunter Local Government Area had slightly less (70%) (ABS, 2010).

In 2006, Muswellbrook and Singleton Local Government Areas had generally higher median incomes than New South Wales, particularly in median family income, where Singleton and Muswellbrook Local Government Areas recorded $1,458 and $1,213 weekly, respectively. In contrast, the Upper Hunter Local Government Area recorded generally lower median incomes than New South Wales at $1,091 weekly (ABS, 2006a).

The estimated unemployment rate for the Muswellbrook, Singleton and Upper Hunter Local Government Areas were well below the New South Wales rate in both September 2010 (NSW 5.5%) and 2011 (NSW 5.1%). In September 2011, Singleton Local Government Area recorded the lowest unemployment rate at 1.1%, followed by the Upper Hunter at 1.2% and Muswellbrook at 2.2%. Falls in all unemployment rates of approximately 0.5% were recorded for all areas since the previous year (DEEWR, 2011).

The mining sector employed the highest percentage of employed people in 2006 in both the Singleton Local Government Area (20%) and Muswellbrook Local Government Area (16%). Although 7% of employed people in the Upper Hunter Shire were in the mining sector, the agriculture, forestry and fishing sector is the highest employing sector in that Local Government Area (20%). Note that in 2006, the number of people employed in the mining sector within the Singleton and Muswellbrook Local Government Area (i.e. who travelled to work at a destination within the Singleton and Muswellbrook Local Government Area) was 3,794 and 1,522, respectively (ABS, 2006a). This is a significant increase to the number of residents of the Local Government Area who were employed in the mining sector. The differences in these figures (between the number of residents and the number of people travelling to work in the respective Local Government Areas) indicate that:

- There is net migration of employees travelling into the Muswellbrook and Singleton Local Government Areas to work in the mining sector;

- There is most likely a large number of employees travelling from their place of residence in Muswellbrook to work in the Singleton Local Government Area, and vice versa; and
- There is a large number of people travelling from the Upper Hunter Local Government Area to mines within the Muswellbrook and Singleton Local Government Areas.

During 2006, the primary skill set in the mining industry workforce within the Muswellbrook and Singleton Local Government Areas was either a technician or trade worker (30%) or a machinery operator and driver (50%). Of this workforce, 93% were males located in the Muswellbrook and Singleton Local Government Areas (ABS, 2006b).

The occupancy rate in an average household size varied across the local area. Some urban areas show a lower occupancy rate than NSW (2.6), whist the Singleton Local Government Area showed the highest, at 2.8 (2006a). Muswellbrook Local Government Area had the highest rate of occupied rented dwellings at 32%, whilst Singleton Local Government Area had a lower proportion at 25% (ABS, 2006d). Anecdotally, it is understood that rental vacancy rates are particularly low in the Singleton and Muswellbrook Local Government Areas. However, there is a lower proportion of dwellings that are fully owned or being purchased in the Muswellbrook Local Government Area (29% and 30%) than Singleton Local Government Area (32% and 37%) (ABS, 2006d). Generally, a greater number of fully owned dwellings indicate an older, longer-settled population.

Between 2005 and 2011, the average value of all houses in the Singleton Local Government Area increased steadily from $279,113 to $403,215 (an increase of $124,102 or 44%). The median and average value of units fluctuated over this time, with a 2011 median and average of $256,000 and $255,982 respectively (RP Data, 2012). During this period, the average value of all houses in the Muswellbrook LGA increased steadily from $231,370 to $325,391 (an increase of $94,021 or 41%) (RP Data, 2012). In 2006, a lower percentage of households in the Muswellbrook and Singleton Local Government Areas were experiencing mortgage stress than New South Wales (Public Health Information Development Unit, 2009). The pressure on temporary accommodation from the mining workforce is anecdotally evident throughout the local area. Reports, particularly for Singleton, suggest that all the accommodation providers are stretched, especially mid-week. Smaller accommodation providers (set up for the tourist market) are also always fielding enquires to house the mining workforce.

The anticipated peak workforce during construction of the Project is 369 equivalent full time persons at approximately month 11. For the Project, it is anticipated that 70% (258 employees) of the construction workforce will be local hire contractors, 20% (74 employees) will be contractors from the broader locality and 10% (37 employees) will be non-local hire contractors. The Project will continue to utilise the existing operations workforce of 530 full time equivalents from Drayton Mine.

The demand for short-term accommodation for construction workers at peak construction of the Project will be up to 37 units of accommodation (assuming one single accommodation unit per worker). Assuming 90% (332 employees) of the construction workforce is employed from the local area or broader locality and can be accommodated in their existing housing, the remaining 10% (37 employees) will require accommodation in the local area.

The accommodation strategy for the operations phase of the Project assumes that all employees currently residing in the local area will continue to be located permanently there. As the existing operations workforce from Drayton Mine will continue to be utilised, there will be no anticipated increase in population or demand for housing from the Project alone. This will in turn limit any additional strain on community services and facilities in the local area.

The local area has a low rate of unemployment and considered to have an adequate pool of skilled labour. As the Project will continue to utilise the existing operations workforce from Drayton Mine, it is considered unlikely that there will be any strain on the local labour pool.

Cumulatively, other mining developments within the local area in conjunction with the Project could impact:

- Housing affordability and accessibility;
- Skills shortages and competition for skilled personnel;
- Economic growth and stability; and
- Supply and demand for community services and facilities.

The predicted increase in population associated with future mining projects in the local area will continue to place stress on both the rental and sales markets. The contribution to this associated with the Project is considered negligible. Services and facilities in the local area are sufficient to support the Project. There is however, likely to be a strain on community facilities and services in the future as other mining Projects proceed.

To ensure the timely recruitment of replacement staff as required for the Project workforce, and to protect long term workforce retention in light of competition from existing and proposed mines, Anglo American will implement labour force recruitment strategies prior to approval of other major developments in the local area coal mining sector. A local hire strategy will remain a strong and preferred option for the Project in the short to medium term.

The recruitment strategy for the operations workforce will focus on maximising the transition of existing contactors, identifying pre-production resources, focused campaigns (potentially on a nationwide level) for the professional and maintenance workforce and local campaigns for operations and ancillary staff. As part of the local hire strategy, efforts will be made in the recruitment and training of women and local Aboriginal people.

Anglo American has made an offer to enter into a Voluntary Planning Agreement with Muswellbrook Shire Council to provide in kind and monetary contributions to ensure the

potential social effects of the Project are mitigated. Discussions are progressing with Muswellbrook Shire Council to reach an agreement as to the terms of the Voluntary Planning Agreement.

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SOCIAL IMPACT ASSESSMENT

for
Anglo American Metallurgical Coal Pty Ltd

1 INTRODUCTION

Hansen Bailey Environmental Consultants (Hansen Bailey) was commissioned by Anglo American Metallurgical Coal Pty Ltd (Anglo American) to complete a Social Impact Assessment (SIA) for the Drayton South Coal Project (the Project). The purpose of the assessment is to form part of an Environmental Assessment (EA) being prepared by Hansen Bailey to support an application for Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to facilitate the continuation of the existing Drayton Mine by the development of an open cut and highwall coal mining operation and associated infrastructure within the Drayton South area.

In October 2011, Part 3A of the EP&A Act was repealed. However, the Project has been granted the benefit of transitional provisions, and as a result, is a development to which Part 3A applies.

The scope of work completed by Hansen Bailey for this assessment included:

- Analysis of the existing local socio-economic setting based on a review of existing information;
- Analysis of the Project workforce profile and workforce accommodation strategy for the construction and operation phases;
- Assessment of potential social impacts of the Project on the local area, including cumulative impacts;
- Development of appropriate mitigation and management measures for any adverse social impacts; and
- Identification of areas for infrastructure development and growth in community services to support the local area in the future.

1.1 PROJECT DESCRIPTION

Drayton Mine is managed by Anglo Coal (Drayton Management) Pty Ltd which is owned by Anglo American. Drayton Mine commenced production in 1983 and currently holds Project Approval 06_0202 (dated 1 February 2008) which expires in 2017, at which time the operation will have to close.

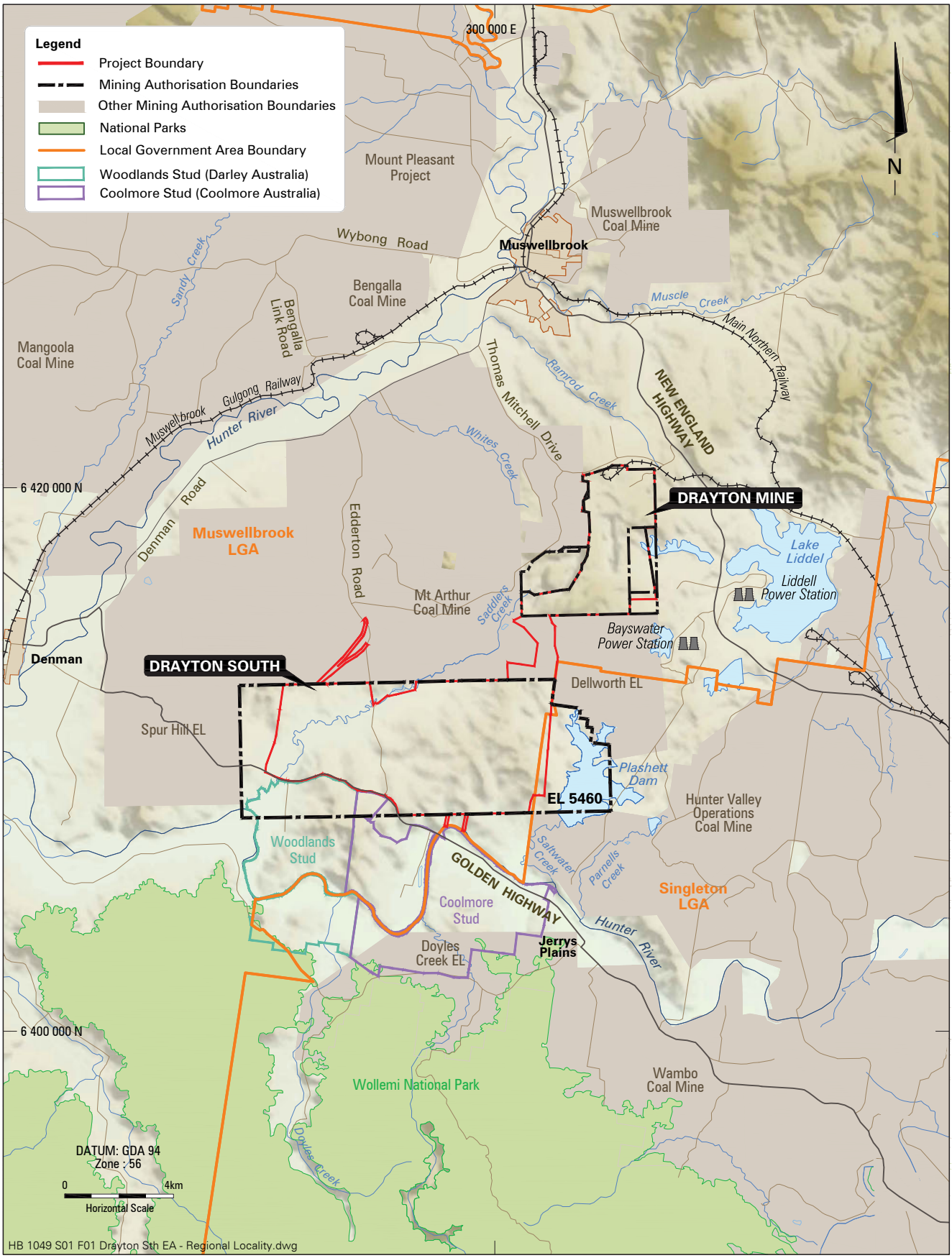
The Project will allow for the continuation of mining at Drayton Mine by the development of open cut and highwall mining operations within the Drayton South mining area while continuing to utilise the existing infrastructure and equipment from Drayton Mine.

The Project is located approximately 10 km north-west of the village of Jerrys Plains and approximately 13 km south of the township of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW). The Project is predominately situated within the Muswellbrook Shire Local Government Area (LGA), with the south-west portion falling within the Singleton LGA. **Figure 1** illustrates the location of the Project. The Project is located adjacent to two thoroughbred horse studs, two power stations and several existing coal mines.

For the purposes of this assessment, Muswellbrook LGA, Singleton LGA and the Upper Hunter LGA constitute the '*local area'*. Additional focus has been placed on Muswellbrook and Singleton LGAs as it is anticipated that the majority of the workforce residential locations will fall within these two LGAs.

The Project will extend the life of Drayton Mine by a further 27 years ensuring the continuity of employment for its workforce of 530, the ongoing utilisation of its infrastructure and the orderly rehabilitation of Drayton Mine's completed mining areas.

Anglo American is seeking Project Approval under Part 3A of the EP&A Act to facilitate the extraction of coal by both open cut and highwall mining methods within Exploration Licence (EL) 5460 for a period of 27 years. The Project Application Boundary (Project Boundary) is shown on **Figure 1**.



DRAYTON SOUTH COAL PROJECT

Regional Locality Plan

FIGURE 1

The Project generally comprises:

- The continuation of operations at Drayton Mine as presently approved with minor additional mining areas within the East, North and South Pits;
- The development of an open cut and highwall mining operation extracting up to 7 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal over a period of 27 years within the Drayton South area;
- The utilisation of the existing Drayton Mine workforce and equipment fleet with the addition of a highwall miner and coal haulage fleet;
- The use of Drayton Mine's existing voids for rejects and tailings disposal and water storage to allow for the optimisation of the final landform of the existing Drayton Mine mining area;
- The utilisation of the existing Drayton Mine infrastructure including the Coal Handling Preparation Plant (CHPP), rail loop and associated loading infrastructure, workshops, bath houses and administration offices;
- The construction of a transport corridor between the Drayton South mining area and the existing Drayton Mine;
- The continued utilisation of the Antiene Rail Spur off the Main Northern Railway to transport product coal to the Port of Newcastle for export;
- The realignment of a section of Edderton Road; and
- The installation of further water management and power reticulation infrastructure to support mining in the Drayton South area.

A contractor based workforce of approximately 369 personnel will be required during the peak construction phase.

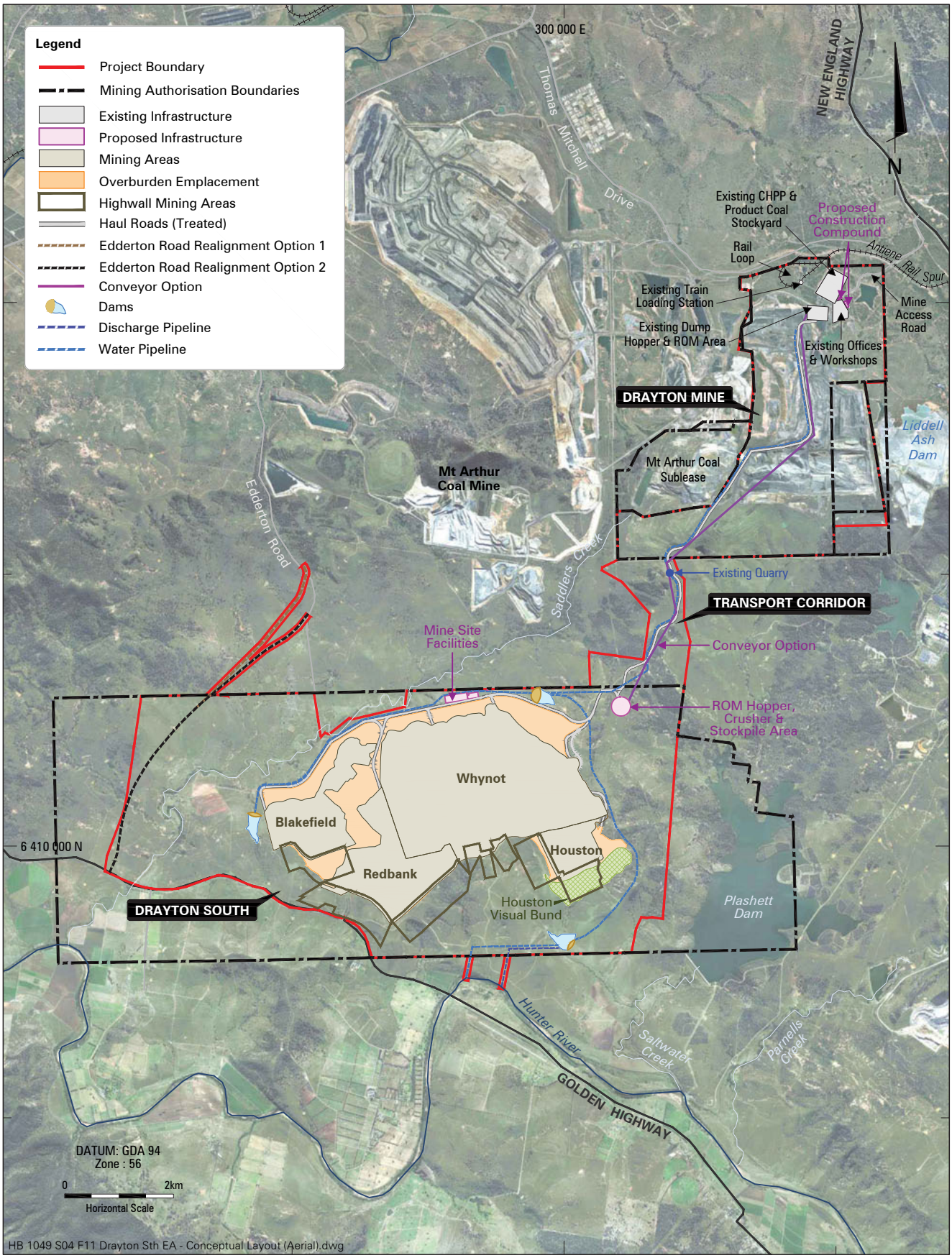
Following construction there will be a period when mining will occur concurrently at the existing approved Drayton Mine and the Drayton South area. During this period, personnel and equipment will be progressively transferred from the existing Drayton Mine area to the Drayton South area. This will continue up until the stage when mining is completed at the existing Drayton Mine.

The conceptual layout of the Project is shown in **Figure 2**.

1.2 RELATED STUDIES

The studies which are to be read in conjunction with this assessment include the following:

- The EA traffic impact assessment; and
- The EA economic impact assessment.



DRAYTON SOUTH COAL PROJECT

Conceptual Project Layout

FIGURE 2

2 METHODOLOGY

This section describes the methodology applied to the SIA. The methodology included the following key tasks:

- Analysis of the existing local socio-economic setting based on a review of existing information;
- Analysis of the Project workforce profile and workforce accommodation strategy for the construction and operation phases;
- Assessment of potential social impacts of the Project on the local area;
- Assessment of potential social impacts associated with the Project with reference to existing and conceptual surrounding industry;
- Development of appropriate mitigation and management measures for any adverse social impacts;
- Analysis of the potential cumulative impacts of the Project and surrounding industry. The purpose of the cumulative impact analysis is to evaluate, at a high level, the potential longer-term impacts of additional mining projects in the local area; and
- Identification of areas for infrastructure development and growth in community services to support the local area in the future (having regard to both the impacts of the Project where relevant and potential cumulative impacts).

The information contained in the SIA has been drawn from a number of sources including studies carried out by surrounding mining operations and published background information and statistical data.

The information was used to obtain a general understanding of the local setting and potential social impacts to the local area. Specific studies reviewed are referenced throughout this SIA and listed in the reference list.

The statistical data referenced in this SIA is drawn primarily from the 2006 census data compiled by the Australian Bureau of Statistics (ABS) and population and housing projections from the NSW Department of Planning & Infrastructure (DP&I), as well as other publicly available sources.

3 EXISTING SOCIO-ECONOMIC PROFILE

The following section provides an overview of the existing socio-economic setting for the Project, including analysis of:

- Population and population growth;
- Population characteristics including age, household and family structure, stability of residency and income;
- Employment, unemployment and labour force participation;
- Labour force characteristics, including industry of employment, occupation, qualifications and gender;
- Housing, including current housing stock, growth, tenure, costs, affordability and temporary accommodation; and
- Existing community services and facilities.

3.1 LOCAL AREA SETTING

3.1.1 Muswellbrook LGA Summary Profile

"At the 2006 census, there were 15,236 residents in the Muswellbrook LGA, comprising 51.3% males and 48.7% females. The growth rate since the preceding census was 0.84% (ABS). The major population centres are the towns of Muswellbrook (10,500) and Denman (1,500), with the balance of the population located in and around smaller villages and rural areas.

The 2010 projected population of Muswellbrook LGA is 16,676 people and population growth for the year ending 30 June 2011 was 1.8% (ABS). The growth is largely assumed to be associated with the coal mining industry, energy industry and staged residential development. In December 2010 Muswellbrook Shire had an unemployment rate of 1.7%, while the unemployment rate in the Hunter Region is 5.1% and 5.4% for NSW respectively (HVRF)." (MSC, 2011)

The median age at the 2006 census was 34 years with a high proportion of Muswellbrook's population between 0 – 14 years (3,691 people; equivalent to 24%) (ABS, 2006a). Of the population, 4.8% (724 people) are from an Indigenous background (ABS, 2010).

The median individual weekly household income in 2006, was $453 and the median weekly family income was $1,213. A key source of employment for the Muswellbrook LGA is mining, with 16% of the population associated with the industry at the time (ABS, 2006a).

"Muswellbrook Shire was originally built upon the agriculture economy and this is still reflected in many areas of the Shire. Presently, it is home to a significant proportion of the agribusiness and mineral resources based industries in the Upper Hunter region.

Agribusiness in Muswellbrook LGA represents viticulture, equine, beef, dairying and other rural industries. The resource based industries in the Shire represents coal mining, power generation and other supportive industries.

Coal mining has a long history in Muswellbrook Shire since the late 1800's. Initially underground mining was the norm in the Shire. The first open cut coal mine was established in 1944. As a result of advancement of mining related technologies, more and more open cut mines have been established in and around Muswellbrook township. The growth of Muswellbrook has been influenced by the development of open cut coal mining in the area and the establishment of power generation at Liddell and Bayswater. Between them Liddell and Bayswater Power Stations supply the equivalent of 40% of the electricity required by the people of NSW.

Coal extraction in the Shire has increased remarkably over the last ten years, from 4 million tonnes each year in 2001 to 37 million tonnes in 2011. Recent approvals, proposed modifications and proposed new operations are projected to increase coal production to 80 million tonnes by 2014.

In 2006 the mining sector accounted for almost 20% of the jobs in the Upper Hunter region, a total of 5,500 mining jobs, with Muswellbrook Shire accounting for 28% of these jobs in the mining industry. When mining support activities are included then the dominance of mining for jobs in the region is highlighted. Estimates indicate that in 2006 there were a total of 7885 mining related jobs." (MSC, 2011).

3.1.2 Singleton LGA Summary Profile

"Singleton Local Government Area has a population of approximately 23,900, with just under a quarter of these under the age of 14. Approximately 65% of the population lives within the Singleton Township and surrounding urban centres.

Singleton is a prosperous town that has a predominantly young, employed labour force. This is the result of a strong economy, supported by a variety of industries which have contributed to a prolonged period of steady economic growth.

Traditionally a farming town, Singleton maintains successful agricultural production alongside the booming power and coal mining operations. Eighteen coal mines in the area produce around 90 million tonnes of coal per year and employ approximately 7,000 people. Supporting trade and engineering services for these industries are located in two well established industrial areas. Singleton is ideally located as a tourism destination.

Singleton enjoys the benefits of a higher than average weekly household income, a factor contributing to the high standard of living enjoyed by locals. With low unemployment and a strong industrial base, Singleton provides a lifestyle that is attracting many to the area assuring long term prosperity for the region.

The population growth in Singleton is 1.1% per annum. The median age at the 2006 census was 34 years, compared with 37 for the Australian population.

A high proportion of Singleton's population was 0 – 14 years occupying almost one quarter (24.4% compared with the Australia average of 19.8%). Of the community, 2.7% identify as Indigenous (compared with 2.3% for Australia), and 7.3% were born overseas.

The median weekly household income was $1,258 and the median weekly family income was $1,458 (Australian figures are $1,027 and $1,171 respectively). The unemployment rate was 4.2% (compared with 5.2% for Australia). The most common industry of employment was coal mining (16.5%). The Singleton population is growing at a steady rate and the economy is strong." (SSC, 2011)

Jerrys Plains Village

The village of Jerrys Plains is approximately 10 km south-east of the Project, and within the Singleton LGA. Its approximate population in 2011 was 210, determined from aerial photo interpretation of the number of dwellings in the village. In 2006, the Jerrys Plains '*State Suburb'*, which covers a wider area than the actual village, had a total population of 560 and displayed the following characteristics:

- A median age of 38, higher than the Singleton LGA;
- 87% of its residents had lived at the same address one year previously, and 57% five years previously, both higher percentages than the Singleton LGA;
- An unemployment rate of 2.6%, the lowest of the areas analysed in the local area;
- A labour force participation rate of 68%, the highest of the areas analysed in the local area;
- Almost equal proportions of employed people within the '*agriculture, forestry and fishing*' and '*mining*' sectors, at 18% and 17% respectively. The proportion of people in these industries in the Singleton LGA is 5% and 20% respectively;
- *'Technicians and trades workers'* comprised 22% of employed people, with *'managers'* at 17%. These are higher proportions than those of Singleton LGA, at 20% and 12%. The higher proportion of *'managers'* reflects the number of farmers in the area who manage their own businesses;
- Almost a quarter of employed people had a Certificate level qualification, similar to the Singleton LGA, while 5% had a Bachelor degree, slightly lower than Singleton LGA; and
- A median household income of $1,247, similar to Singleton LGA's, with median individual and family incomes also being similar to the LGA (ABS, 2006a).

3.2 POPULATION AND DEMOGRAPHIC CHARACTERISTICS

3.2.1 Current Population

At 30 June 2010, Muswellbrook LGA had an Estimated Resident Population (ERP) of 16,676, while neighbouring Singleton LGA, to the east of the Project Boundary, had a population of 24,182. The Upper Hunter LGA, to the north of the Project Boundary, had a population of 14,198 (ABS, 2011a).

While ERPs are provided yearly by the ABS for LGAs, the most recent population data for the local area for areas smaller than LGAs is provided by the ABS 2006 census, as shown in **Table 1**.

Table 1
Local Population, 2006

Location	ABS Geographical Classification	Population	LGA	% of Population of Relevant LGA
Muswellbrook	Urban Centre / Locality	10,222	Muswellbrook	67%
Denman	Urban Centre / Locality	1,385	Muswellbrook	9%
Muswellbrook	**LGA**	15,937	**Muswellbrook**	
Singleton	Urban Centre / Locality	13,664	Singleton	62%
Jerrys Plains	State Suburb	560*	Singleton	3%
Singleton	**LGA**	22,948	**Singleton**	
Aberdeen	Urban Centre / Locality	1,791	Upper Hunter	14%
Scone	Urban Centre / Locality	4,624	Upper Hunter	36%
Upper Hunter	**LGA**	13,589	**Upper Hunter**	

Source: ABS, 2006a

*Note: * Jerrys Plains village (as opposed to the wider State Suburb) contains approximately 75 dwellings (determined from Singleton Shire Council water service data and aerial photo interpretation. When multiplied by the occupancy rate of 2.8 for Jerrys Plains at the 2006 Census, this equates to approximately 210 population*

3.2.2 Past and Future Population Growth

Estimated Resident Population 2006 - 2010

ERPs of LGAs throughout Australia are provided each year by the ABS and are shown in **Table 2** for the Muswellbrook, Singleton and Upper Hunter LGAs from 2006 (the date of the last census) to the most recent ERP in 2010.

Table 2 shows that the Muswellbrook, Singleton and Upper Hunter LGAs have all experienced an increase in population from 2006 to 2010 of 4.5% to 5.4%, slightly lower than NSW's growth during that time of 6.1%. Each LGA has a positive average annual growth rate from 2006 - 2010 of 1.2% (Muswellbrook), 1.3% (Singleton) and 1.1% (Upper Hunter).

NSW Department of Planning and Infrastructure Population Projections

Table 3 details projected population and growth rates for the Muswellbrook, Singleton and Upper Hunter LGAs from 1996 to 2036. These projections are supplied by the DP&I for each LGA in NSW, and use standardised demographic modelling, including expected natural increase in population (births over deaths) and net migration assumptions.

Table 2
Estimated Resident Population, 2006 – 2010

Location	2006	2007	2008	2009	2010	Change 2006 - 2010	Annual Average Growth Rate 2006 - 10
Muswellbrook LGA	15,937	16,071	16,187	16,374	16,676	4.6%	1.2%
Singleton LGA	22,948	23,257	23,561	23,798	24,182	5.4%	1.3%
Upper Hunter LGA	13,589	13,607	13,846	14,029	14,198	4.5%	1.1%
NSW	6,816,087	6,904,942	7,014,887	7,127,168	7,232,589	6.1%	1.5%

Source: ABS, 2011a

Table 3
DP&I Projected Population and Growth Rates, 1996 – 2036

Year	Resident Population at 30 June	Annual Growth Rate for Previous 5 Years	Components of Population Growth	
			Natural Increase	Net Migration
Muswellbrook LGA				
1996	15,700	n/a	n/a	n/a
2001	15,200	-0.6%	n/a	n/a

Year	Resident Population at 30 June	Annual Growth Rate for Previous 5 Years	Components of Population Growth	
			Natural Increase	Net Migration
2006	15,900	0.9%	n/a	n/a
2011	16,300	0.4%	760	-410
2016	16,700	0.5%	780	-360
2021	17,100	0.5%	780	-360
2026	17,500	0.5%	760	-360
2031	17,900	0.4%	740	-360
2036	18,300	0.4%	700	-360
Singleton LGA				
1996	20,200	n/a	n/a	n/a
2001	21,200	1.0%	n/a	n/a
2006	22,900	1.6%	n/a	n/a
2011	24,200	1.1%	1,020	280
2016	25,700	1.2%	1,100	350
2021	27,200	1.1%	1,170	350
2026	28,800	1.1%	1,200	350
2031	30,300	1.0%	1,190	350
2036	31,800	1.0%	1,150	350
Upper Hunter LGA				
1996	13,400	n/a	n/a	n/a
2001	13,500	0.2%	n/a	n/a
2006	13,600	0.1%	n/a	n/a
2011	13,500	-0.2%	310	-440
2016	13,400	-0.1%	320	-400
2021	13,300	-0.1%	320	-400
2026	13,200	-0.2%	290	-400
2031	13,000	-0.2%	270	-400
2036	12,900	-0.3%	240	-400

n/a: Not available

Source: ABS, 2008; DP&I, 2010

Note: Data for 1996, 2001 and 2006 are final estimated resident population. Statistical Local Area is equivalent to the Local Government Area for Singleton and Muswellbrook

For Muswellbrook LGA, the projections in **Table 3** show an increasing population from 1996 to 2036, with a population of 18,300 projected for 2036. The growth rate during this period is predominantly around 0.5% per annum.

The components of this increasing growth assume a positive natural increase (of 700 – 780 people for each five year period) and net migration of -360 people in most five year periods.

These projections have presumably not taken into account the likely increase in population that will accompany future coal projects and expansions in the local area.

For Singleton LGA, the projections in **Table 3** show an increasing population from 1996 to 2036, with a population of 31,800 projected for 2036. The growth rate during this period is predominantly around 1.1% per annum; double that of Muswellbrook's. The components of this increasing growth assume a positive natural increase (of 1,000 – 1,200 people for each five year period) and net migration of 350 people in most five year periods. Although this growth is in contrast to Muswellbrook's decline in net migration, it may still not accurately reflect the increase in population that can be expected as a result of future coal projects and expansions in the local area.

For the Upper Hunter LGA, the projections in **Table 3** show a slightly decreasing population from 1996 to 2036, with a population of 12,900 projected for 2036. The growth rate from 2011 to 2036 is around -0.2% per annum. The components of this decreasing population assume a positive, although declining natural increase of between 240 – 320 people for each five year period and net migration of -400 people in each five year period. Although this decrease in population is in contrast to the Singleton and Muswellbrook LGAs' increase, it may still not accurately reflect the increase in population that could be expected as a result of future coal projects and expansions in the local area.

Hunter Valley Research Foundation Population Projections

The Hunter Valley Research Foundation (HVRF) provides medium growth population projections for the Hunter Region from 2011 – 2026. **Table 4** shows that the HVRF expects the population of each of the LGAs to increase to 2026, with average annual growth rates being higher than that of DP&I's estimates given in **Table 3**, particularly for Muswellbrook LGA, where the HVRF average annual growth rate of 0.81% is double that of the 0.4 – 0.5% per annum predicted by DP&I.

Table 4
Medium Growth Population Projections, 2011 – 2026

Year	Muswellbrook LGA	Singleton LGA	Upper Hunter LGA	Upper Hunter total
2006 (actual)	15,236	21,940	12,976	50,152
2011	15,893	23,538	13,045	52,476
2016	16,549	25,003	13,185	54,736
2021	17,215	26,420	13,363	56,998
2026	17,888	27,822	13,528	59,239
Average annual growth rate 2006 – 2026	0.81%	1.19%	0.21%	0.84%

Source: HVRF, 2010

3.2.3 Age

The median age of the LGAs in the local area is outlined in **Table 5**. It also shows the median age for the Hunter Statistical Division (SD) and NSW.

Table 5 shows that Singleton and Muswellbrook LGAs had a median age of 34 in 2006, which was lower than NSW (37) and the Hunter SD (39). The Upper Hunter LGA also had a median age of 39.

The 2006 age structure of the Muswellbrook, Singleton and Upper Hunter LGAs is outlined in **Table 6** which compare the LGAs to the Hunter SD and to NSW.

Table 5
Median Age, 2006

Location	Median Age
Muswellbrook LGA	34
Singleton LGA	34
Upper Hunter LGA	39
Hunter SD	39
NSW	37

Source: ABS, 2006a

Table 6
Age Distribution, 2006

Age	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	Persons	% of Total Persons	Persons	% of Total Persons	Persons	% of Total Persons	% of Total Persons	% of Total Persons
0 - 4	1,254	8%	1,671	8%	874	7%	6%	6%
5 - 14	2,437	16%	3,692	17%	1,757	14%	14%	13%
15 - 19	1,113	7%	1,667	8%	874	7%	7%	7%
20 - 24	946	6%	1,245	6%	762	6%	6%	7%
25 - 34	2,078	14%	2,845	13%	1,463	11%	12%	14%
35 - 44	2,294	15%	3,441	16%	1,731	13%	14%	15%
45 - 54	2,010	13%	3,115	14%	1,897	15%	14%	14%
55 - 64	1,559	10%	2,188	10%	1,603	12%	12%	11%
65 - 74	873	6%	1,113	5%	1,057	8%	8%	7%
75 - 84	500	3%	720	3%	704	5%	6%	5%
85 and over	172	1%	241	1%	254	2%	2%	2%
Total	**15,236**		**21,939**		**12,976**		**N.A.**	**N.A**

N.A. Not Applicable
Source: ABS, 2006a

Table 6 shows that:

- All LGAs in the local area have a higher proportion of younger people (under 15) than NSW (19%); and
- Muswellbrook and Singleton LGAs have a lower proportion of older people (over 55) than NSW (25%), while the Upper Hunter LGA has a higher proportion. This accords with the higher median age in the LGAs as shown in **Table 5**.

3.2.4 Household and Family Structure

Table 7 shows the 2006 household types of the LGAs in the local area, as well as the Hunter SD and NSW.

Table 8 shows the 2006 family types of the LGAs in the local area, as well as the Hunter SD and NSW.

Table 7
Household Types, 2006

Household Type	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	No.	% of Total House - holds	No.	% of Total House - holds	No.	% of Total House - holds	% of Total House - holds	% of Total House - holds
Lone person households	1,230	23%	1,387	19%	1,352	27%	25%	24%
Group households	161	3%	179	2%	133	3%	3%	4%
Family households	3,911	74%	5,721	79%	3,514	70%	72%	72%
Total households	**5,302**		**7,287**		**4,999**		**N.A.**	**N.A.**

N.A. Not Applicable
Source: ABS, 2010

Table 7 shows that in 2006:

- Muswellbrook and Singleton LGAs had a higher proportion of family households (74% and 79%) than NSW and the Hunter SD (72%), while the Upper Hunter LGA had slightly less (70%); and
- Muswellbrook and Singleton LGAs had a lower proportion of lone person households (23% and 19%) than NSW and the Hunter SD (24% and 25%), while the Upper Hunter LGA had slightly more (27%).**Table 8**

Table 8
Families by Type, 2006

Category	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	No.	% of Total Families	No.	% of Total Families	No.	% of Total Families	% of Total Families	% of Total Families
Couple families with children under 15 and / or dependent students	1,558	39%	2,501	43%	1,257	35%	34%	37%
Couple families with non-dependent children only	281	7%	513	9%	251	7%	8%	9%
Couple families without children	1,433	36%	1 983	34%	1,522	43%	39%	36%
One parent families with children under 15 and / or dependent students	483	12%	521	9%	347	10%	12%	11%
One parent families with non-dependent children only	168	4%	245	4%	144	4%	5%	5%
Other families	41	1%	63	1%	35	1%	1%	2%
Total families	**3,964**		**5,826**		**3,556**		**N.A.**	**N.A.**

N.A. Not Applicable
Source: ABS, 2010

Table 8 shows that in 2006:

- The Singleton and Muswellbrook LGAs both recorded a higher proportion of *'couple families with children under 15 and / or dependent students'* (43% and 39% respectively) than NSW and the Hunter SD (37% and 34% respectively), while the Upper Hunter LGA recorded 35%;
- The Upper Hunter LGA recorded the highest proportion of *'couple families without children'* at 43%, this being the largest proportion of family type for that LGA, whereas in the Singleton and Muswellbrook LGAs their largest proportion was for *'couple families with children under 15 and / or dependent students'*; and
- All LGAs generally recorded a lower proportion of one parent families than NSW or the Hunter SD.

3.2.5 Stability of Residency

The time that residents have lived in a community affects the extent to which they develop relationships and networks with other residents, and build social capital. The longer that more residents have lived in a place, the stronger their community networks are likely to be. The census provides valuable indicators of community stability by asking people where they lived one and five years ago (Public Practice, 2007).

Table 9
Place of Usual Residence One Year Ago, 2006

Location	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	Persons	% of Total Persons	Persons	% of Total Persons	Persons	% of Total Persons	% of Total Persons	% of Total Persons
Same usual address 1 year ago as in 2006	11,389	76.1%	17,114	79.1%	10,389	81.2%	81%	80%
Different usual address 1 year ago:								
Same Statistical Local Area (SLA)	1,340	9.0%	1,721	8.0%	1,018	8.0%	6%	6%
Different SLA in NSW	855	5.7%	1,167	5.4%	709	5.5%	n/a	n/a
Different SLA in another state or territory	203	1.4%	528	2.4%	120	0.9%	n/a	n/a
Overseas	70	0.5%	117	0.5%	83	0.6%	n/a	n/a
Not stated (a)	25	0.2%	23	0.1%	20	0.2%	n/a	n/a
Total	2,493	16.7%	3,556	16.4%	1,950	15.2%	n/a	n/a
Not stated (b)	1,089	7.3%	958	4.4%	459	3.6%	n/a	n/a
Total	**14,971**		**21,628**		**12,798**		**581,908**	**n/a**

Source: ABS, 2006a
n/a: not available
Note: Count of persons aged one year and over
(a) Includes persons who stated that they were usually resident at a different address one year ago but did not state that address.
(b) Includes persons who did not state whether they were usually resident at a different address one year ago.

Table 10
Place of Usual Residence Five Years Ago, 2006

Location	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	Persons	% of Total Persons	Persons	% of Total Persons	Persons	% of Total Persons	% of Total Persons	% of Total Persons
Same usual address 5 years ago as in 2006	7,097	51%	10,491	52%	6,793	56%	57%	55%
Different usual address 5 years ago:								
Same Statistical Local Area (SLA)	2,800	20%	4,054	20%	2,106	17%	14%	13%
Different SLA in NSW	2,230	16%	3,134	15%	2,031	17%	n/a	n/a
Different SLA in another state or territory	447	3%	1,080	5%	356	3%	n/a	n/a
Overseas	144	1.0%	314	1.5%	163	1.3%	n/a	n/a
Not stated (a)	70	0.5%	76	0.4%	50	0.4%	n/a	n/a
Total	*5,691*	41%	*8,658*	43%	*4,706*	39%	n/a	n/a
Not stated (b)	1,191	9%	1,121	6%	602	5%	n/a	n/a
Total	**13,979**		**20,270**		**12,101**		**552,881**	**n/a**

ABS, 2006a
n/a: not available
Note: Count of persons aged five years and over
(a) Includes persons who stated that they lived at a different address five years ago but did not state that address.
(b) Includes persons who did not state whether they were usually resident at a different address five years ago.

Table 9 and **Table 10** show that in 2006:

- Approximately 80% of residents in the local area had lived at the same address one year ago; and
- In the Singleton and Muswellbrook LGAs, just over half of residents had lived at the same address five years ago. This proportion was slightly lower than NSW (55%) and Hunter SD (57%). However, of those that had moved, 20% of them in the Singleton and Muswellbrook LGAs had moved from somewhere else in their LGA. This proportion was higher than the NSW (13%) and Hunter SD (14%).

3.2.6 Income

Table 11 lists the median weekly individual, family and household income in 2006 for the LGAs within the local area as well as the Hunter SD and NSW. Median incomes indicate where half of the individuals / families / households (whichever is relevant) earn more and half less.

Table 11 shows that in 2006, Muswellbrook and Singleton LGAs had generally higher median incomes than NSW and the Hunter SD, particularly in median family income, where Singleton LGA recorded $1,458 weekly, Muswellbrook $1,213 weekly, Hunter SD $1,090 weekly and NSW $1,181 weekly. In contrast, the Upper Hunter LGA recorded generally lower median incomes than NSW and the Hunter SD.

Table 11
Income Indicators, 2006

Location	Median Individual Income ($ / weekly)	Median Family Income ($ / weekly)	Median Household Income ($ / weekly)
Muswellbrook LGA	$453	$1,213	$1,060
Singleton LGA	$487	$1,458	$1,258
Upper Hunter LGA	$438	$1,091	$882
Hunter SD	$394	$1,090	$888
NSW	$461	$1,181	$1,036

Source: ABS, 2006a

3.3 EMPLOYMENT, UNEMPLOYMENT AND LABOUR FORCE PARTICIPATION

Table 12 details the 2006 census unemployment rate, labour force participation rate and employment to population ratio for the urban settlements for the LGAs and their component urban settlements, the Hunter SD and NSW.

Jerrys Plains also recorded the highest labour force participation rate at 67.9%, significantly higher than NSW of 58.9%. All areas within the local area recorded higher labour force participation rates than both the Hunter SD and NSW.

Table 12
Labour Force Status, 2006

Location	% Unemployment (a)	% Labour Force Participation (b)	% Employment to Population (c)
Muswellbrook (Urban Centre / Locality)	6.4	61.0 %	57.1 %
Denman (Urban Centre / Locality)	4.1	60.7 %	58.2 %
Muswellbrook LGA	**5.4**	**61.5 %**	**58.2 %**
Singleton (Urban Centre / Locality)	4.7	63.3 %	60.3 %
Jerrys Plains (State Suburb)	2.6	67.9 %	66.2 %
Singleton LGA	**4.2**	**65.0 %**	**62.2 %**
Aberdeen (Urban Centre / Locality)	5.2	61.6 %	58.4 %
Scone (Urban Centre / Locality)	4.3	61.0 %	58.4 %
Upper Hunter LGA	**4.5**	**62.7 %**	**59.9 %**
Hunter SD	6.9	56.2 %	52.4 %
NSW	5.9	58.9 %	55.4 %

Source: ABS, 2006a
Notes:
(a) The number of unemployed persons expressed as a percentage of the total labour force.
(b) The number of persons in the labour force expressed as a percentage of persons aged 15 years and over.
(c) The number of employed persons expressed as a percentage of persons aged 15 years and over.

Table 13
Unemployment Rate, 2005 – 2009

June Quarter	2005	2006	2007	2008	2009	2010
	%					
Muswellbrook LGA	4.9	9.5	5.0	5.2	5.1	3.8
Singleton LGA	3.0	5.7	3.0	3.2	3.3	2.1
Upper Hunter LGA	3.3	5.3	2.9	3.2	3.1	2.3
Hunter	6.2	6.4	5.3	5.1	5.2	4.9
NSW	5.3	5.3	5.0	4.6	5.7	5.7

Source: ABS, 2010 and 2011b

Table 14
Estimated Unemployment Rates and Labour Force, 2010 – 2011

LGA	Estimated Unemployment						Labour Force		
	Sep. 2010		Sep. 2011		Difference		Sep. 2010	Sep. 2011	Diff.
	No.	%	No.	%	No.	%			
Muswellbrook	249	2.8	190	2.2	-60	-0.6	9,031	8,749	-281
Singleton	216	1.6	151	1.1	-65	-0.4	13,693	13,277	-416
Upper Hunter	143	1.7	95	1.2	-49	-0.5	8,253	7,984	-269
NSW	204,800	5.5	193,900	5.1	-10,900	-0.4	3,705,800	3,794,800	89,000

Source: DEEWR, 2011

Table 14 lists recent estimated unemployment rates - those for each of the LGAs within the local area and NSW for the September quarters of 2010 and 2011. The number of unemployed people and the size of the labour force are also provided.

Table 14 shows that the estimated unemployment rate for all LGAs within the local area were well below the NSW rate in both September 2010 (NSW 5.5%) and 2011 (NSW 5.1%). In September 2011, Singleton LGA recorded the lowest unemployment rate at 1.1%, followed by the Upper Hunter at 1.2% and Muswellbrook at 2.2%. Falls in all unemployment rates of approximately 0.5% were recorded for all areas since the previous year. It can also be seen from a comparison with **Table 13** that unemployment rates have decreased significantly since 2006.

Further, the number of unemployed people in all three LGAs in September 2011 was approximately 450 people. This number was approximately 175 less than the previous year.

Also during this time, the labour force in each of the LGAs decreased, particularly in Singleton LGA, where the labour force of 13,277 in September 2011 was approximately 400 less than the year before.

3.4 LABOUR FORCE CHARACTERISTICS

3.4.1 Industry of Employment

The industry of employment for people over 15 years in the LGAs in the local area in 2006 is outlined in **Table 15** which compares the LGAs to the Hunter SD and NSW.

Table 15
Industry of Employment, 2006

Category	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	No. Persons	% Employed	No. Persons	% Employed	No. Persons	% Employed	% Employed	% Employed
Agriculture, forestry and fishing	613	9%	518	5%	1,257	20%	2%	3%
Mining	1,094	16%	2,055	20%	446	7%	4%	1%
Manufacturing	476	7%	759	7%	524	8%	11%	10%
Electricity, gas, water and waste services	349	5%	302	3%	144	2%	2%	1%
Construction	440	7%	620	6%	410	7%	8%	7%
Wholesale trade	204	3%	277	3%	163	3%	3%	5%
Retail trade	677	10%	1,014	10%	597	10%	12%	11%
Accommodation and food services	471	7%	666	6%	359	6%	7%	7%
Transport, postal and warehousing	217	3%	341	3%	216	3%	4%	5%
Information media and telecommunications	31	0%	56	1%	28	0%	1%	2%
Financial and insurance services	86	1%	142	1%	86	1%	3%	5%
Rental, hiring and real estate services	113	2%	179	2%	59	1%	2%	2%
Professional, scientific and technical services	274	4%	413	4%	232	4%	5%	7%
Administrative and support services	152	2%	298	3%	95	2%	3%	3%
Public administration and safety	253	4%	623	6%	280	5%	6%	6%
Education and training	375	6%	534	5%	390	6%	8%	8%
Health care and social assistance	417	6%	634	6%	480	8%	12%	10%
Arts and recreation services	64	1%	40	0%	99	2%	1%	1%
Other services	252	4%	580	6%	162	3%	4%	4%
Inadequately described / Not stated	163	2%	264	3%	170	3%	2%	3%
Total	**6,721**		**10,315**		**6,197**		**N.A.**	**N.A.**

N.A. Not Applicable
Source: ABS, 2006a

Table 15 shows that the *'mining'* sector employed the highest percentage of employed people in 2006 in both the Singleton LGA (20%) and Muswellbrook LGA (16%). This compares with the Hunter SD (4%) and NSW (1%). Although 7% of employed people in the Upper Hunter Shire were in the mining sector, the *'agriculture, forestry and fishing'* sector is the highest employing sector in that LGA (20%), which is four times the proportion of Singleton LGA in that sector.

For the Singleton, Muswellbrook and Upper Hunter LGAs, the next highest sector of employment was *'retail trade'* at 10% (which is similar to the NSW proportion of 11%).

In 2006, approximately 2,000 residents of Singleton LGA were employed in the *'mining'* sector, while approximately 1,000 residents of Muswellbrook and 450 residents of Upper Hunter LGA were employed in this sector.

Note that in 2006, the number of people employed in the mining sector within the Singleton LGA (i.e. who travelled to work at a destination within the Singleton LGA) was 3,794. This is almost double the number of residents of the LGA who were employed in the mining sector.

Similarly, in 2006, the number of people employed in the mining sector within the Muswellbrook LGA (i.e. who travelled to work at a destination within the Muswellbrook LGA) was 1,522. This is almost 50% more than the number of residents of the LGA who were employed in the mining sector.

In the Upper Hunter LGA in 2006, the number of people employed in the mining sector within the LGA (i.e. who travelled to work at a destination within the Upper Hunter LGA) was 45. This is only 10% of the number of residents of the LGA who were employed in the mining sector.

The differences in these figures (between the number of residents and the number of people travelling to work in the respective LGAs) indicate that:

- There is net migration of employees travelling into the Muswellbrook and Singleton LGAs to work in the mining sector;
- There is most likely a large number of employees travelling from their place of residence in Muswellbrook to work in the Singleton LGA, and vice versa; and
- There is a large number of people travelling from the Upper Hunter LGA to mines within the Muswellbrook and Singleton LGAs.

Further details about this issue are available in the 2006 *'Journey to Work'* statistics. Anecdotally, there has been an increase in travel to work in the mining sector in the local area since 2006. The release of Journey to Work data from the 2011 census in the near future will allow this to be validated.

3.4.2 Occupation

Occupations of Local Area

The occupation of all employed people over 15 years in the LGAs in the local area in 2006 is outlined in **Table 16**, which compares the LGAs to the Hunter SD and NSW.

Table 16
Occupation, 2006

Occupation	Muswellbrook LGA		Singleton LGA		Upper Hunter LGA		Hunter SD	NSW
	No. Persons	% Employed	No. Persons	% Employed	No. Persons	% Employed	% Employed	% Employed
Managers	792	12%	1,233	12%	1,111	18%	11%	14%
Professionals	723	11%	1,212	12%	653	11%	17%	21%
Technicians & trades workers	1,390	21%	2,044	20%	1,128	18%	17%	14%
Community & personal service workers	512	8%	833	8%	441	7%	9%	9%
Clerical & administrative workers	715	11%	1,219	12%	555	9%	14%	15%
Sales workers	563	8%	838	8%	415	7%	11%	10%
Machinery operators & drivers	973	14%	1,687	16%	660	11%	8%	6%
Labourers	965	14%	1,096	11%	1,142	18%	11%	10%
Inadequately described / Not stated	88	1%	153	1%	92	1%	2%	2%
Total	**6,721**		**10,315**		**6,197**		**N.A.**	**N.A.**

Source: ABS, 2006a
N.A. Not Applicable
Note: Count of employed persons aged 15 years and over

Table 16 shows that in 2006:

- Muswellbrook and Singleton LGAs had a lower proportion of *'managers'* (both 12%) than NSW's 14% and the Hunter SD's 11%. The Upper Hunter LGA had a proportion of 18%, reflecting the number of people self-employed in agriculture who are managing their own farming enterprises;
- A lower proportion of *'professionals'* (Muswellbrook LGA 11%, Singleton LGA 12%, Upper Hunter LGA 11%) than NSW's 21% and Hunter SD's 17%;
- A higher proportion of *'technicians and trades workers'* (Muswellbrook LGA 21%, Singleton LGA 20%, Upper Hunter LGA 18%) than NSW's 14% and Hunter SDs 17%. This occupation was the highest proportion for each of the LGAs; and
- Similarly a higher proportion of *'machinery operators and drivers'* (Muswellbrook LGA 14%, Singleton LGA 16%, Upper Hunter LGA 11%) than NSW's 6% and Hunter SD's 8% was noted, as was a higher proportion of *'labourers'* (Muswellbrook LGA 14%, Singleton LGA 11%, Upper Hunter LGA 18%) than NSW's 10% and Hunter SD's 11%. These three occupation types reflect the size of the mining industry workforce in the region.

Occupations of Mining Industry

The occupation of employed people in the mining industry whose place of employment was either in the Muswellbrook or Singleton the LGAs in 2006 is outlined in **Table 17**.

Table 17 shows that in 2006 in the mining industry in the Muswellbrook and Singleton LGAs the occupation of 80% of the mining workforce was either a *'technician or trade worker'* (30%) or a *'machinery operator and driver'* (50%).

Table 17
Mining Industry – Occupation, 2006

Occupation	Muswellbrook (Journey to Work Statistical Local Area)		Singleton (Journey to Work Statistical Local Area)		Muswellbrook and Singleton	
	Persons	% Employed in Mining	Persons	% Employed in Mining	Persons	% Employed in Mining
Managers	80	5%	207	5%	287	5%
Professionals	136	9%	284	7%	420	8%
Technicians & trades workers	432	28%	1,167	31%	1,599	30%
Community & personal service workers	3	0%	4	0%	7	0%
Clerical & administrative workers	68	4%	157	4%	225	4%
Sales workers	3	0%	4	0%	7	0%
Machinery operators & drivers	745	49%	1,886	50%	2,631	50%
Labourers	50	3%	52	1%	102	2%
Inadequately described / Not stated	4	0%	33	1%	37	1%
Total	**1,521**		**3,794**		**5,315**	

Source: ABS, 2006b
Note: Count of employed persons aged 15 years and over

3.4.3 Qualifications

Qualifications of Local Area

Table 18 lists the level of post-school qualifications of people aged 15 years in the LGAs in the local area, the Hunter SD and NSW.

Table 18 shows that while 16.5% of NSW's population over 15 in 2006 had a Bachelor Degree or higher, less than half that proportion was noted in the Muswellbrook LGA (6.4%), Singleton LGA (8.1%) and Upper Hunter LGA (7.6%). The proportion in the Hunter SD was higher at 10.6%. The proportion of the population over 15 with a Certificate qualification in all of the LGAs was higher than NSW (16.8%), with Singleton LGA having the highest proportion at 24.3%.

Table 18
Post-School Qualifications, 2006

Location	Category	Post-School Qualification					People Aged 15 and Over
		Postgraduate Degree	Graduate Diploma and Graduate Certificate	Bachelor Degree	Advanced Diploma and Diploma	Certificate Level	
Muswellbrook LGA	No of people aged 15 and over	69	74	597	517	2,575	11,544
	% of people aged 15 and over	0.6%	0.6%	5.2%	4.5%	22.3%	
Singleton LGA	No of people aged 15 and over	137	131	1,077	1,002	4,023	16,576
	% of people aged 15 and over	0.8%	0.8%	6.5%	6.0%	24.3%	
Upper Hunter LGA	No of people aged 15 and over	77	76	640	515	2,094	10,343
	% of people aged 15 and over	0.7%	0.7%	6.2%	5.0%	20.2%	
Hunter SD	% of people aged 15 and over	1.5%	1.0%	8.1%	6.4%	21.4%	N.A
NSW	% of people aged 15 and over	3.1%	1.3%	12.1%	7.4%	16.8%	N.A

Source: ABS, 2006a
N.A. Not Applicable

Qualifications of Mining Industry

The post-school qualifications of employed people in the mining industry whose place of employment was either in the Muswellbrook or Singleton LGAs in 2006 is outlined in **Table 19**. This is then compared to people in all industry sectors.

Table 19 shows that:

- There is not a substantial difference in the level of higher qualifications between the mining and broader industries in the Singleton and Muswellbrook areas, however, the differences are apparent in the level of Certificate qualifications (mining industry – 42%; all industry sectors – 32%); and
- Almost two thirds of the workforce in the mining industry with a post school qualification had a *'Certificate'* qualification.

Table 19
Mining Industry – Post-School Qualifications, 2006

Muswellbrook and Singleton Journey to Work Statistical Local Areas						
Non School Qualification	Mining Industry Sector			All Industry Sectors		
	No. Persons	% Employed with a Qualification	% Employed	No. Persons	% Employed with a Qualification	% Employed
Postgraduate Degree	43	2.2%	1.4%	184	2.0%	1.1%
Graduate Diploma & Graduate Certificate	14	0.7%	0.4%	188	2.0%	1.1%
Bachelor Degree	270	14.0%	8.6%	1,392	15.0%	8.2%
Advanced Diploma & Diploma	166	8.6%	5.3%	1,187	12.8%	7.0%
Certificate	1,316	68.3%	41.8%	5,398	58.4%	31.7%
Inadequately described / Not stated	119	6.2%	3.8%	901	9.7%	5.3%
Total persons with a qualification	**1,928**			**9,250**		
Total persons employed in mining industry sector	**3,147**			**N.A.**		
Total persons employed in all industry sectors	**N.A.**			**17,040**		

Source: ABS, 2006c
N.A. Not Applicable
Note: Count of employed persons aged 15 years and over with a qualification

3.4.4 Gender of Mining Industry

The gender of employed people in the mining industry whose place of employment was either in the Muswellbrook or Singleton LGAs in 2006 is outlined in **Table 20**.

Table 20 shows that in 2006, males comprised 93% of the mining workforce located in the Muswellbrook and Singleton LGAs.

Table 20
Mining Industry – Gender, 2006

Journey to Work Statistical Local Area	Males		Females		Total
	No.	%	No.	%	
Muswellbrook	1,389	91%	133	9%	1,522
Singleton	3,533	93%	261	7%	3,794
Total	**4,922**	**93%**	**394**	**7%**	**5,316**

Source: ABS, 2006b
Note: Count of employed persons aged 15 years and over

3.5 HOUSING

3.5.1 Current Housing Stock

Dwelling Stock and Types

Table 21 shows the total number of dwellings and their forms in the Muswellbrook and Singleton LGAs.

Table 21 clearly shows that the dominant housing form in the local area is a *'separate house'*, which formed 88% of the Muswellbrook Urban Centre's housing stock in 2006 and 85% of the Singleton Urban Centre's stock.

Medium density development (i.e. a semi-detached, row or terrace house, townhouse, flat, unit or apartment) accounted for 10% of the Muswellbrook Urban Centre's housing stock and 13% of Singleton Urban Centre's stock.

Occupancy Rate

The *'occupancy rate'* is a measure of the average number of people per dwelling (or an average household size) in any given geographic area.

Table 22 shows the occupancy rate for the Muswellbrook and Singleton LGAs and their component settlements and for the Upper Hunter LGA, Hunter SD and NSW.

Table 21
Dwelling Type, 2006

Location	Separate House	Semi-detached, Row or Terrace House, Townhouse etc.	Flat, Unit or Apartment	Other Dwelling	Not Stated	Total Dwellings
	% of Total Dwellings					
Muswellbrook Urban Centre / Locality	88%	2%	8%	1%	0%	3,607
Singleton Urban Centre / Locality	85%	5%	8%	2%	0%	4,709

Source: ABS, 2006a

Table 22
Average Household Size (Occupancy Rate), 2006

Location	Average Household Size
Muswellbrook (Urban Centre / Locality)	2.6
Denman (Urban Centre / Locality)	2.5
Muswellbrook LGA	**2.6**
Singleton (Urban Centre / Locality)	2.7
Jerrys Plains (State Suburb)	2.8
Singleton LGA	**2.8**
Upper Hunter LGA	**2.4**
Hunter SD	2.5
NSW	2.6

Source: ABS, 2006a

Table 22 shows a variable occupancy rate across the local area. Some urban areas show a lower occupancy rate than NSW (2.6), while Singleton LGA and the village of Jerrys Plains show the highest, at 2.8.

In 2008, data prepared for Singleton Shire Council (SSC) estimated that the LGA's occupancy rate would decline from 2.8 persons per dwelling to 2.5 persons per dwelling (Planning Workshop Australia, in association with Land and Environment Planning, 2008)

3.5.2 Recent Housing Growth

Table 23 shows the number and value of residential building approvals granted in the Muswellbrook, Singleton and Upper Hunter LGAs from 2006 to 2010.

Table 23
Selected Residential Building Approvals, 2005 – 2010

Building Approvals - Year Ending 30 June		2005	2006	2007	2008	2009	2010
Muswellbrook LGA							
Private sector houses	no.	59	76	64	123	55	55
Total dwelling units	no.	64	119	71	161	86	163
Value of new residential building	$m	11.4	18.4	11.2	32.4	18.5	34.6
Singleton LGA							
Private sector houses	no.	167	133	135	73	37	51
Total dwelling units	no.	229	152	182	120	48	96
Value of new residential building	$m	39.7	29.9	35.5	23.2	10.4	21.2
Upper Hunter LGA							
Private sector houses	no.	67	53	45	59	58	43
Total dwelling units	no.	80	64	74	77	64	68
Value of new residential building	$m	15.2	12.4	13.9	15.5	15.5	15.5

Source: ABS, 2010 and 2011b

Table 23 shows differences in the housing construction sector in each of the LGAs:

- In 2010, Muswellbrook LGA reached a peak of $34.6 million in the value of total residential building, with 163 dwelling units approved. This is more than double that of the value and number approved in the Upper Hunter LGA in 2010;
- From 2005 to 2010, Muswellbrook LGA experienced a fluctuation in the number of dwellings approved;
- Singleton LGA has had fluctuating dwelling approvals. Its peak was in 2005, with 229 dwellings approved, to a value of almost $40 million. Since that time, the number of approvals has declined, with only 48 approved in 2009 and 96 in 2010; and

- From 2005 to 2010, the Upper Hunter LGA has also experienced a fluctuation in the number of dwellings approved, with two years (2005 and 2009) where the number of dwellings approved has been higher than that of Singleton LGA or Muswellbrook LGA.

3.5.3 Housing Tenure

Table 24 outlines the tenure of occupied private dwellings in 2006 for the Muswellbrook and Singleton LGAs and provides a comparison with the Hunter SD and NSW.

Table 24
Tenure Type of Occupied Private Dwellings, 2006

Category	Muswellbrook (LGA)		Singleton (LGA)		Upper Hunter (LGA)		Hunter SD	NSW
	Dwellings	% of Total Occupied Private Dwellings	Dwellings	% of Total Occupied Private Dwellings	Dwellings	% of Total Occupied Private Dwellings	% of Total Occupied Private Dwellings	
Fully owned	1,651	29%	2,411	32%	2,139	44%	36%	33%
Being purchased	1,702	30%	2,832	37%	1,047	21%	31%	30%
Rented	1,794	32%	1,933	25%	1,524	31%	26%	28%
Other tenure type	49	1%	42	1%	68	1%	1%	1%
Tenure type not stated	449	8%	421	6%	152	3%	6%	7%
Total occupied private dwellings	**5,645**		**7,639**		**4,930**		**N.A.**	**N.A.**

N.A. Not Applicable
Source: ABS, 2006d

Table 24 shows that the proportion of occupied private dwellings that were being rented in 2006 varied between the LGAs. Muswellbrook LGA had the highest rate at 32%, which was higher than both the NSW rate of 28% and Hunter SD at 26%. Conversely, Singleton LGA had a lower proportion of renters at 25%.

There is a lower proportion of dwellings that are fully owned in the Muswellbrook LGA (29%) than Singleton LGA (32%) and NSW (33%). Singleton LGA had a higher proportion of dwellings that were being purchased at 37%, compared to Muswellbrook LGA's and NSW's 30%.

Generally, a greater number of fully-owned dwellings indicate an older, longer-settled population.

Another type of *'tenure'* that is not specifically recognised by the census is that of a *'boarder'* in a private home, of which anecdotal evidence suggests that there is an increasing number in the local area.

Table 24 also shows that the Muswellbrook and Singleton LGAs contained more than 13,000 dwellings in 2006.

3.5.4 Housing Costs and Affordability

Housing market data that is typically referenced are the quarterly *Rent and Sales Reports* produced by the NSW Department of Housing. This data shows median residential sale prices and rental costs for the preceding quarter for each rural NSW LGA, and shows changes in the last quarter and year. However, for most rural LGAs, the number of residential sales or rentals in each quarter is too small to show meaningful data, and as a result, quarterly and annual changes are sometimes not able to be provided, or are patchy depending on sales each year. Also, the data includes all sales where a residence was included on the land, regardless of the land size, meaning that rural farms could also be included in the data, giving an inaccurate picture of the urban property market.

For that reason, detailed property sales and rental data from *RP Data* has been sourced, and has been analysed for specific submarkets within the Muswellbrook and Singleton LGAs.

Rental Market and Costs

The current rental properties and rental prices listed by property data specialists *RP Data* (at 1 February 2012) are listed in **Table 25**.

Table 25 shows that on 28 February 2012:

- 204 houses were offered for rent in Muswellbrook, with the average weekly rental price being $418;
- 51 houses were offered for rent in Singleton, with the average rental price being $420, similar to Muswellbrook's;
- There were 39 units on offer in Muswellbrook, with an average weekly rental price of $300 ($118 less than for houses);

Table 25
Rental Properties Listed and Rental Prices Per Week, February 2012

Location	All Units	All Houses	3 Bedroom House on Land Size under 1,500sqm	4+ Bedroom House on Land Size under 1,500sqm	House on Land Size over 3000sqm
Muswellbrook	39 / $650 / $269 / $300	204 / $899 / $420 / $418	76 / $650 / $350 / $369	102 / $899 / $450 / $471	1 / $450 / $450 / $450
Singleton	25 / $749 / $304 / $373	51 / $850 / $399 / $420	33 / $549 / $389 / $386	12 / $599 / $484 / $485	No properties listed
Jerrys Plains	No properties listed	1 / $450 / $450 / $450	No properties listed	No properties listed	No properties listed

Source: RP Data, 2012

Notes: each cell shows: the number of properties listed for rent / the highest rental price / the median rental price / the average rental price (all per week)

- There were 25 units on offer in Singleton, with an average weekly rental price of $373 ($47 less than for houses);
- There was only one property for rent in Jerrys Plains – a house for $450;
- Regarding the Muswellbrook rental market:
  - Of all the houses on offer for rental, over a third were for a *'typical'* house of 3 bedrooms on land size under 1,500 sqm, where the average rental price ($369) was less than that for *'all houses'* ($418);
  - Of all the houses on offer for rental, half were for a *'typical'* larger house of 4 plus bedrooms on land size under 1,500 sqm, where the average rental price ($471) was more than that for *'all houses'* ($418); and
  - There was not enough data to make assumptions about houses for rental on large land sizes (over 3,000 sqm);
- Regarding the Singleton rental market:
  - Of all the houses on offer for rental, more than half were for a *'typical'* house of 3 bedrooms on land size under 1,500 sqm, where the average rental price ($386) was similar to that for Muswellbrook, and was less than that for *'all houses'* in Singleton ($420);
  - Of all the houses on offer for rental, one quarter were for a *'typical'* larger house of 4 plus bedrooms on land size under 1,500 sqm, where the average rental price ($485) was slightly more than the rent for a similar house in Muswellbrook and more than that for *'all houses'* ($420); and
  - There was no data to make assumptions about houses for rental on large land sizes (over 3,000 sqm).

Median rental prices, with quarterly and annual changes for each LGA in NSW can also be obtained from *NSW Housing Rent and Sales Reports*. In June 2011, data showed that there was a 3.8% increase in median rent over the previous 12 months for three bedroom houses in Muswellbrook LGA, while Singleton LGA had shown an increase of 11.8% in this same period.

Median rents in 2006 for the Muswellbrook and Singleton LGAs and their component settlements, as well as the Upper Hunter LGA, Hunter SD and NSW are listed at **Table 26**.

Table 26
Median Rent, 2006

Location	Median Rent ($ / week)
Muswellbrook (Urban Centre / Locality)	160
Denman (Urban Centre / Locality)	125
Muswellbrook LGA	**150**
Singleton (Urban Centre / Locality)	180
Jerrys Plains (State Suburb)	150
Singleton LGA	**180**
Upper Hunter LGA	**120**
Hunter SD	180
NSW	210

Source: ABS, 2006a

Table 26 shows that in 2006, Singleton LGA and Urban Centre recorded the highest median weekly rent at $180, and was on a par with the Hunter SD, although less than NSW at $210. Muswellbrook Urban Centre was $20 less than Singleton's, while Jerrys Plains was a little lower at $150, followed by Denman at $125 and the Upper Hunter LGA at $120. These patterns are to be expected for the relative population sizes and distances from the mining industry of each of the towns and villages in the local area.

Anecdotally, it is understood that rental vacancy rates are particularly low.

Residential Property Market

Table 27 and **Table 28** shows a range of data relating to residential property sales in the Singleton 2330 postcode and Muswellbrook 2333 postcode at three yearly intervals from 2005 to 2011. The data is presented for the following sub-markets of all residential properties:

- All houses;
- Houses up to three bedrooms, on land size under 1,500 sqm;
- Houses of four+ bedrooms on land size under 1,500 sqm;

- Houses on land size over 3,000 sqm ; and
- All units.

The distinctions in the sub markets were made to determine more accurate data regarding residential property price movements in the last seven years. For example, data solely for *'all houses'* will not recognise the range of housing types that are sold in the market.

For this reason, data for a *'typical'* country town house, being on a lot size of under 1,500 sqm was extracted so that houses on larger lots were excluded. Data for these houses (on land under 1,500 sqm) was further broken down to show houses up to three bedrooms, and houses with four+ bedrooms, that are anecdotally becoming more popular. Similarly, it could be expected that rural residential homes would attract higher sales prices, so data for houses on lots over 3,000 sqm was extracted separately.

Each cell in **Table 27** and **Table 28** shows, for the applicable year and housing sub market, the:

- Number of properties sold;
- Lowest sale price;
- Highest sale price;
- Median value of all properties sold; and
- Average value of all properties sold.

Table 27 shows that between 2005 to 2011 in Singleton:

- For houses:
    - There were similar numbers of houses sold in 2005 and 2008, with a marked increase to 109 houses sold in 2011;

Table 27
House and Unit Sales – Singleton, 2005 – 2011

Year	All Houses (no and $)	Houses – Up to 3 Bedrooms, on Land under 1,500 sqm (No. and $)	Houses – 4+ Bedrooms on Land under 1,500 sqm (No. and $)	Houses – Land over 3,000 sqm	All Units (No. and $)
2005					
No. Properties Sold	74	27	9	1	12
Lowest Sale Price	20,000	158,000	85,000	395,000	153,000
Highest Sale Price	575,000	355,000	440,000	395,000	330,000
Median for all sold	269,000	238,000	297,000	395,000	250,000
Average of all sold	279,113	242,062	298,444	395,000	231,833
2008					
No. Properties Sold	72	50	15	RP data report indicates that no properties were sold	16
Lowest Sale Price	82,000	82,000	232,500		130,000
Highest Sale Price	650,000	650,000	480,000		305,000
Median for all sold	310,000	291,000	330,000		244,500
Average of all sold	313,537	301,843	368,833		230,675
2011					
No. Properties Sold	109	74	23	RP data report indicates that no properties were sold	29
Lowest Sale Price	130,000	130,000	270,000		130,000
Highest Sale Price	5,420,000	540,000	515,000		372,000
Median for all sold	349,000	325,000	410,000		256,000
Average of all sold	403,215	331,560	411,978		255,982

Source: RP Data, 2012

- The median value of all houses increased steadily from $269,000 to $349,000 (an increase of $80,000 or 30%);
- The average value of all houses increased steadily from $279,113 to $403,215 (an increase of $124,182 or 45%);
- However, for a *'typical'* house of up to three bedrooms on a land size under 1,500 sqm, the median and average value also increased, but was $24,000 and $71,655 less respectively than the corresponding values for *'all houses'* in 2011. This category comprised almost 75% of all houses sold in 2011;
- For a *'typical'* house of four+ bedrooms on a land size under 1,500 sqm, the median and average value also increased, but was $85,000 and $80,418 more respectively than the corresponding values for *'all houses'* in 2011. The number of houses sold in this category also increased from nine in 2005 to 23 in 2011.

These statistics could indicate the change in the market to a preference for larger houses in the Singleton market, rather than being a reflection of the increase in value of houses generally; and

- There was insufficient data to make any assumptions about the value of houses on land over 3,000 sqm in size.

- For units:
  - The number of units sold increased from 12 in 2005 to 29 in 2011; and
  - The median and average value of units fluctuated over this time, with a 2011 median and average of $256,000 and $255,982 respectively.

Table 28
House and Unit Sales – Muswellbrook, 2005 – 2011

Year	All Houses (No. and $)	Houses - Up to 3 Bedrooms, on Land under 15,00 sqm (No. and $)	Houses – 4+ Bedrooms on Land under 1,500 sqm (No. and $)	Houses – Land over 3,000 sqm	All Units (No. and $)
2005					
No. Properties Sold	174	62	48	6	24
Lowest Sale Price	24,000	24,000	95,000	360,000	17,600
Highest Sale Price	600,000	530,000	470,000	600,000	210,000
Median for all sold	223,500	217,500	191,500	515,000	147,000
Average of all sold	231,370	206,895	218,052	500,000	143,420
2008					
No. Properties Sold	192	81	68	5	29
Lowest Sale Price	50,000	50,000	123,500	83,300	115,000
Highest Sale Price	1,122,000	500,000	575,000	525,000	1,450,000
Median for all sold	260,000	250,000	311,000	425,000	162,500
Average of all sold	264,470	236,131	287,175	374,660	232,655
2011					
No. Properties Sold	270	127	105	10	40
Lowest Sale Price	90,000	90,000	129,500	120,000	123,200
Highest Sale Price	4,200,000	600,000	551,000	4,200,000	545,000
Median for all sold	295,000	260,000	365,000	553,750	296,000
Average of all sold	325,391	259,901	341,860	1,075,250	279,355

Source: RP Data, 2012

Table 28 shows that between 2005 to 2011 in Muswellbrook:

- For houses:
    - There has been an increase in the numbers of houses sold between 2005 (174) and 2011 (270). This is well over double the number of houses sold in Singleton in 2011;
    - The median value of all houses increased steadily from $223,500 to $295,000 (an increase of $71,500 or 32%);
    - The average value of all houses increased steadily from $231,370 to $325,391 (an increase of $94,021 or 41%);
    - However, for a *'typical'* house of up to three bedrooms on a land size under 1,500 sqm, the median and average value also increased, but was $35,000 and $65,490 less respectively than the corresponding values for *'all houses'* in 2011. This category comprised almost 50% of all houses sold in 2011;
    - For a *'typical'* house of four+ bedrooms on a land size under 1,500 sqm, the median and average value also increased, but was $70,000 and $16,469 more respectively than the corresponding values for *'all houses'* in 2011. The number of houses sold in this category has also more than doubled, from 48 in 2005 to 105 in 2011. Similar to Singleton, these statistics could indicate the change in the market to a preference for larger houses in the Muswellbrook market, rather than being a reflection of the increase in value of houses generally; and
    - For each reporting period, there were 10 or less houses sold on land over 3,000 sqm in size. It is difficult to make assumptions from this data, as there was such a wide range in sale prices, particularly in 2011 when the cheapest was $120,000 and the dearest over $1 million.
- For units:
    - The number of units sold increased from 24 in 2005 to 40 in 2011 (more than in Singleton); and
    - The median and average value of units increased over this time, with a 2011 median and average of $296,000 and $279,355 respectively, both higher than Singleton's values.

Table 29 shows a range of data relating to residential property sales in the Jerrys Plains 2330 postcode at three yearly intervals from 2005 to 2011. The data is shown for all houses, and separately for houses on land size over 8,000 sqm.

Each cell in **Table 29** shows, for the applicable year and housing sub market, the:

- Number of properties sold;
- Lowest sale price;
- Highest sale price;

- Median value of all properties sold; and
- Average value of all properties sold.

Table 29
House Sales – Jerrys Plains, 2005 – 2011

Year	All Houses (No. and $)	Houses – Land over 8,000 sqm
2005		
No. Properties Sold	2	2
Lowest Sale Price	345,000	345,000
Highest Sale Price	799,000	779,000
Median for all sold	572,000	572,000
Average of all sold	572,000	572,000
2008		
No. Properties Sold	2	RP data report indicates that no properties were sold
Lowest Sale Price	160,000	
Highest Sale Price	305,000	
Median for all sold	232,500	
Average of all sold	232,500	
2011		
No. Properties Sold	8	3
Lowest Sale Price	253,362	362,500
Highest Sale Price	625,000	625,000
Median for all sold	281,000	372,000
Average of all sold	336,857	453,166

Source: RP Data, 2012

The number of units sold in Jerrys Plains was too low to draw reliable inferences.

Representative Land Values

NSW Land and Property Information (LPI) publishes *Representative Land Values* to assist in understanding typical land values and market trends over time in LGAs across the state. **Table 30** shows the representative land value of a standard serviced housing allotment in Muswellbrook in 1996, 2006, 2010 and 2011. Data for Singleton was not published. The values are indexed to the 1996 value and indicate the market trend for that property type.

Table 30 shows that Muswellbrook experienced an increase of 120% from 1996 to 2011, however, increases in the recent past have been minimal, with no change from 2010 – 2011. Data published for many other inland NSW cities and towns shows a similar neutral growth for this period.

Housing Stress

Housing (either mortgage or rental) stress is indicated where a household spends more than 30% of its income on either a mortgage or rental. **Table 31** shows mortgage and rental stress in 2006 for the LGAs in the local area, compared with Country NSW and NSW.

Table 30
Representative Land Value for Standard Serviced Allotment – Muswellbrook, 1996 – 2011

LGA	Dimensions of Allotment (metres)	1996 ($)	2006 ($)	2010 ($)	2011 ($)	Change 2010 - 2011	Change 1996 - 2011
Muswellbrook	15 x 40	39,000	81,000	85,700	85,700	0%	120%

Source: LPI, 2011

Note: The selected allotment is considered to be representative for that locality and will indicate the market trend. Market trends are identified in the table and not by the values of specific properties at a given date.

Table 31
Mortgage and Rental Stress, 2006

Location	Low Income Households with Mortgage Stress (a)	Mortgaged Private Dwellings	% Mortgage Stress	Low Income Households with Rental Stress (b)	Rented Private Dwellings	% Rental Stress
Muswellbrook LGA	97	1,701	5.7	362	1,796	20.2
Singleton LGA	157	2,835	5.5	325	1,934	16.8
Upper Hunter LGA	257	1,498	17.2	387	4,998	7.7
Country NSW	26,748	272,534	9.8	72,529	248,253	29.2
New South Wales	69,653	745,335	9.3	175,715	700,655	25.1

Source: Public Health Information Development Unit, 2009

Note: (a) Includes households in bottom 40% of income distribution (with less than 80% of median income) spending more than 30% of income on mortgage repayments.
(b) Includes households in bottom 40% of income distribution (with less than 80% of median income) spending more than 30% of income on rent using ABS (unpublished data) 2006

Table 31 shows that in 2006, the percentage of households in the Muswellbrook and Singleton LGAs that were experiencing mortgage stress was lowered than Country NSW and NSW . However, the Upper Hunter LGA had a mortgage stress rate three times as high as those LGAs, and it was also almost double that of NSW. Conversely, the Upper Hunter

LGA had the lowest level of rental stress of the three LGAs described, almost a third of that of Muswellbrook's. All LGAs had lower levels of rental stress than Country NSW and NSW.

3.5.5 Temporary Accommodation

The pressure on temporary accommodation from the mining workforce is anecdotally evident throughout the local area. Tourism accommodation providers, especially motels, report either high mid-week occupancy rates as mining industry employees and contractors seek accommodation, or report a high level of enquiries that they cannot fulfil. Similarly, caravan parks appear to be heavily booked by mining industry personnel. Even small accommodation providers across the region, including in the Hunter Wine Country area, field constant calls from mining employees requiring short, medium and even long term accommodation. **Table 32** lists the number of accommodation establishments of over 15 rooms in the local area.

Table 32
Hotels, Motels and Serviced Apartments Statistics – September Quarter, 2011

LGA	No. of Establishments*	No. of Rooms	Room Occupancy Rate %	Guest Nights Occupied
Muswellbrook	9	267	74.3	22,970
Singleton	8	330	75.8	28,560
Upper Hunter	9	Not available	Not available	Not available

Source: ABS, 2011c

** Establishments included are hotels and resorts with 15 or more rooms, motels, private hotels and guest houses with 15 or more rooms and serviced apartments with 15 or more units*

Table 32 only lists certain tourist accommodation establishments with 15 rooms and over. There are also a number of other smaller establishments in the Muswellbrook and Singleton LGAs that provide accommodation for the mining workforce.

In the Muswellbrook LGA there are:

- Two caravan parks, eight motels, five hotels and two bed and breakfast establishments in the Muswellbrook urban area;
- Two motels, two hotels and a caravan park in Denman;
- A caravan park in Sandy Hollow; and
- Approximately six other cottages throughout the LGA.

Each weekday, the motels, hotels and caravan parks in the LGA are mainly full. The Muswellbrook Visitor Information Centre spends a considerable proportion of time assisting mining workforce people to find accommodation and hears from its members that they either accommodate or assist people in finding accommodation for the mining workforce (*Pers comm. Muswellbrook Visitor Information Centre, 29 February 2012*).

In the Singleton township there are:

- Seven motels;
- Three caravan parks;
- Nine hotels offering accommodation; and
- One bed and breakfast and one cottage (Singleton Visitor Information Centre, 2012).

There are also a substantial number of self-contained cottages and bed and breakfast accommodation providers in the rural parts of the Singleton LGA, although these are mainly situated in the Broke Fordwich area, and the northern (Hermitage Road) part of the *'Hunter Vineyard'* areas between Singleton and Cessnock.

Anecdotal reports suggest that all the accommodation providers in Singleton are stretched, particularly mid-week. Smaller accommodation providers (set up for the tourist market) are also always fielding enquires to house the mining workforce.

3.6 COMMUNITY SERVICES AND FACILITIES

This section provides a brief overview of the services available in Muswellbrook and Singleton LGAs. Both LGAs are serviced with health and education facilities, a range of recreation facilities and retail and commercial enterprises. Social capital in the local area is high, demonstrated through the proliferation of community groups and organisations, sporting clubs, industry bodies and support networks. A summary of community facilities and services provided in Muswellbrook and Singleton LGAs is provided in **Table 33**.

Table 33
Summary of Community Services and Facilities

Service	Muswellbrook (Urban Area)	Singleton (Urban Area)
Emergency Services		
Police	Yes	Yes
Fire and Rescue	Yes	Yes
Rural Fire Service	Yes	Yes
State Emergency Service	Yes	Yes
Ambulance	Yes	Yes
Health / Medical		
Hospital	Muswellbrook Hospital	Singleton District Hospital
Community Health Centre	Yes	Yes
Child Health	Yes	Yes
General Practitioners	Yes - 2 practices	Yes – 5 practices
Allied health professionals	Yes - various	Yes - various
Dentist	Yes	Yes
Aged care facilities	Yes	Yes
Education and Training		

Service	Muswellbrook (Urban Area)	Singleton (Urban Area)
Pre-school	Yes (1)	Yes (2)
Primary	Yes (4)	Yes (5)
Secondary	Yes (1)	Yes (3)
Tertiary	Yes (TAFE)	Yes (TAFE and Singleton Community College)
Children's Services		
Child care centres	Yes (6)	Yes (5)
Playgroups	Yes	Yes
Before & After school care	Yes	Yes
Youth services	Yes	Yes
Cultural		
Library	Yes	Yes
Churches	Yes	Yes
Art Gallery / Cultural or Performing Arts Centre	Muswellbrook Regional Arts Centre	No
Organisations	Yes	Yes
Cinema	No	Yes
Government Offices		
Local	Yes	Yes
State	Limited	Limited
Access		
Road	Yes	Yes
Rail	Yes	Yes
Air	No	No
Public Transport		
Bus	Yes	Yes
Taxi	Yes	Yes
Recreation and Sport		
Organisations	Yes	Yes
Facilities	Yes	Yes
Community Organisations	Yes	Yes

3.7 CUMULATIVE MINING DEVELOPMENT

The Hunter Valley is one of the primary coalfields in NSW, along with the Gunnedah Basin, Newcastle, Southern NSW and Western NSW coalfields. In NSW, there are 60 coal mines and over 30 major development proposals (DPI, 2009). Existing and proposed projects in the Hunter Valley, including modifications, with publicly available information is shown in **Table 34**. This indicates that 11,017 approved employees could potentially be associated with the existing mining industry in the local area. Workforce numbers could be set to increase significantly with the proposal of new projects and modifications, including the Mount Pleasant Project, Doyles Creek, Continuation of Bengalla Mine, and the Mangoola Modification 4.

Table 34
Existing and Proposed Mining Projects in the Hunter Valley

Project	Status	Approval Date	Expiry Date	Proponent	Workforce	ROM Production (Mtpa)	Distance to Project (km)	Source
Ashton	Approved	11/10/2002	25/02/2024	White Mining Ltd	386	5.2	15	Ashton Coal, 2010; Minister for Planning, 2002a; Wells Environmental Services, 2009
Bengalla	Approved	07/08/1995	27/06/2017	Bengalla Mining Company Pty Ltd	400	10.7	9	Minister for Urban Affairs and Planning, 1995a; Hansen Consulting, 2006 Hansen Bailey, 2007
Continuation of Bengalla Mine	DGRs Issued	N/A	N/A	Bengalla Mining Company Pty Ltd	900	15.0	9	Hansen Bailey, 2012
Bulga Open Cut	Approved	23/12/1999	04/04/2025	Bulga Coal Management Pty Ltd	660	12.2	30	Minister for Urban Affairs and Planning, 1999; Umwelt, 2011
Bulga Underground	Approved	23/02/2004	22/02/2031	Bulga Coal Management Pty Ltd	300	14.0	29	Minister for Infrastructure and Planning, 2004a; Umwelt, 2011
Bulga Coal Optimisation Project	DGRs Issued	N/A	N/A	Bulga Coal Management Pty Ltd	660	12.2	30	Umwelt, 2011
Integra Mining Complex (Open Cut)	Approved	26/11/2010	31/12/2022	Integra Coal Operations Pty Ltd	250	6.0	21	Minister for Planning, 2010a; URS, 2009

Project	Status	Approval Date	Expiry Date	Proponent	Workforce	ROM Production (Mtpa)	Distance to Project (km)	Source
Integra Mining Complex (Underground)	Approved	26/11/2010	31/12/2035	Integra Coal Operations Pty Ltd	270	4.5	15	Minister for Planning, 2010; EMGA, 2011
Doyles Creek	Prepare DGRs	N/A	N/A	NuCoal Resources Ltd	300	8.0	5	Parsons Brinckerhoff, 2012
Liddell	Approved	20/12/2002	31/12/2023	Liddell Coal Operations Pty Ltd	550	8.0	6	Minister for Planning, 2002b; GSSE, 2011
Liddell Modification 5	DGRs Issued	N/A	N/A	Liddell Coal Operations Pty Ltd	550	8.0	6	GSSE, 2011
Mangoola	Approved	07/06/2007	20/11/2029	Xstrata Mangoola Pty Ltd	240	10.5	10	Minister for Planning, 2007; Umwelt, 2006
Mangoola Modification 4	Assessment	N/A	N/A	Xstrata Mangoola Pty Ltd	300	10.5	10	Umwelt, 2010a
Mt Arthur	Approved	24/09/2010	30/06/2022	Hunter Valley Energy Coal Pty Ltd	2,600	36.0	Adjacent	Minister for Planning, 2010b; Hansen Bailey, 2009a
Mt Arthur Modification	DGRs Issued	N/A	N/A	Hunter Valley Energy Coal Pty Ltd	2,600	36.0	Adjacent	BHP Billiton, 2012
Mt Owen	Approved	08/12/2004	08/12/2025	Xstrata Mt Owen Pty Ltd	404	10.0	15	Minister for Infrastructure and Planning, 2004b; Hansen Bailey, 2010

Project	Status	Approval Date	Expiry Date	Proponent	Workforce	ROM Production (Mtpa)	Distance to Project (km)	Source
Ravensworth East	Approved	02/03/2000	23/11/2021	Xstrata Glendell Pty Ltd	184 (combined)	4.0	13	Minister for Urban Affairs and Planning, 2000; Hansen Bailey, 2010
Glendell	Approved	25/02/2008	31/06/2024	Xstrata Glendell Pty Ltd		4.5	13	Minister for Planning, 2008; Hansen Bailey, 2010
Hunter Valley Operations North	Approved	12/06/2004	12/06/2025	Coal and Allied Operations Pty Ltd	1721 (combined)	22.0	5	Coal & Allied, 2010
Hunter Valley Operations South	Approved	24/03/2009	24/03/2030	Coal and Allied Operations Pty Ltd		16.0	12	Minister for Planning, 2009; Coal & Allied, 2010
Mount Pleasant Project	Approved*	22/12/1999	22/12/2020	Coal and Allied Operations Pty Ltd	380	10.5	10	Minister for Planning, 2011; ERMMM, 1998
Mount Thorley	Approved	22/06/1996	22/06/2017	Mount Thorley Operations Pty Ltd	1217 (combined)	28.0 (combined)	26	Minister for Planning and Infrastructure, 2012; Minister for Urban Affairs and Planning, 1996
Warkworth	Approved	03/02/2012	31/03/2033	Warkworth Mining Ltd			22	Minister for Planning and Infrastructure, 2012
Muswellbrook Coal	Approved	01/09/2003	01/09/2015	Muswellbrook Coal Company Ltd	108	2.0 (product)	8	Muswellbrook Shire Council, 2003; Hansen Bailey, 2009b
Ravensworth Operations	Approved	11/02/2011	31/12/2039	Ravensworth Operations Pty Ltd	550	21.0	6	Minister for Planning, 2011; Umwelt, 2010b

Project	Status	Approval Date	Expiry Date	Proponent	Workforce	ROM Production (Mtpa)	Distance to Project (km)	Source
Rix's Creek	Approved	19/10/1995	23/06/2019	Bloomfield Collieries Pty Ltd	97	15.0 (bcm total material)	21	Minister for Urban Affairs and Planning, 1995b; DIPNR, 2004
Wambo	Approved	04/02/2004	04/02/2025	Wambo Coal Pty Ltd	700	14.7	14	Minister for Infrastructure and Planning, 2004c; Wambo, 2011

Note: Brown = Approved, Orange = Modification or Proposed Project

** Mount Pleasant Project has not yet commenced construction or operations. As a result, there is current no workforce at Mount Pleasant.*

Table 35 demonstrates the anticipated timing of each mine with reference to surrounding projects. It is anticipated that the Project will occur simultaneously with existing short-term and long-term mining operations and proposed mine projects (assuming approval granted).

Table 35
Proposed Timing of Mining Projects in the Hunter Valley

Mine / Project	N.A.	1	3	5	10	15	20	27
	2012	2014	2016	2018	2023	2028	2033	2040
	Workforce							
Drayton Mine / Drayton South	530	530	530	530	530	530	530	530
Ashton	386	386	386	386	386			
Bengalla / Continuation of Bengalla Mine	400	400	400	900	900	900	900	
Bulga Open Cut / Bulga Coal Optimisation Project	660	660	660	660	660	660	660	660
Bulga Underground	300	300	300	300	300	300		
Integra Mining Complex (Open Cut)	250	250	250	250				
Integra Mining Complex (Underground)	270	270	270	270	270	270	270	
Doyles Creek		300	300	300	300	300	300	
Liddell / Liddell Modification 5	550	550	550	550	550	550		
Mangoola / Mangoola Modification 4	240	240	240	240	240	240	300	300
Mt Arthur / Mt Arthur Modification	2600	2600	2600	2600	2600			
Mt Owen	404	404	404	404	404			
Ravensworth East / Glendell	184	184	184	184	184			
Hunter Valley Operations North / South	1721	1721	1721	1721	1721	1721		
Mount Pleasant Project	380	380	380	380				
Mount Thorley / Warkworth	1217	1217	1217	1217	1217	1217	1217	
Muswellbrook Coal	108	108						
Ravensworth Operations	550	550	550	550	550	550	550	
Rix's Creek	97	97	97	97				
Wambo	700	700	700	700	700			

Note: Brown = Approved, Orange = Modification or Proposed Project, Blue = the Project.

4 PROJECT WORKFORCE

This section outlines the workforce requirements for the construction and operational phases of the Project, as well as quantifies the local and non-local hire needs and predicted residential location pattern of the workforce.

4.1 CONSTRUCTION WORKFORCE

Project construction is anticipated to commence in Year 1 and continue for a period of 29 months. The anticipated peak workforce during construction is 369 equivalent full time persons, occurring in month 11 of the construction program. The average workforce during the construction phase is estimated to be approximately 126 full time persons.

4.2 OPERATIONS WORKFORCE

The Project will utilise the existing operations workforce of 530 full time equivalents from Drayton Mine. No retrenchment is anticipated to occur.

The existing shift cycle for Drayton Mine is 07:00 to 19:00. As a result of the Project, a new agreement and shift cycle of 07:00 to 19:45 (12.75 hours) will be implemented to address the additional travel time to Drayton South.

4.3 LABOUR FORCE SUPPLY

The Project is predominately situated within the Muswellbrook Shire LGA, with the south-west portion of the Project Boundary falling within the Singleton Shire LGA.

For the Project, it is anticipated that:

- 70% (258 employees) of the construction workforce will be local hire contractors (ie. from the Muswellbrook, Singleton and Upper Hunter LGAs);
- 20% (74 employees) of the construction workforce will be contractors from the broader locality (ie. from the Cessnock and Maitland LGAs); and
- 10% (37 employees) of the construction workforce will be non-local hire contractors.

4.4 LABOUR FORCE RESIDENCE LOCATION

Personnel for the existing operations at Drayton Mine live predominantly in Muswellbrook LGA and Singleton LGA. **Table 36** outlines the residential LGAs that Drayton Mine has drawn upon for its existing workforce and predictions for the construction and operations workforce.

Table 36
Existing, Construction and Operations Workforce Residential Locations

Residential Location	Existing Workforce		Construction Workforce		Operations Workforce	
	No. Persons	% of Residential Location	No. Persons	Predicted % of Residential Location	No. Persons	Predicted % of Residential Location
Muswellbrook LGA	207	39%	129	35%	207	39%
Singleton LGA	127	24%	77	21%	127	24%
Upper Hunter LGA	69	13%	52	14%	69	13%
Maitland LGA	48	9%	44	12%	48	9%
Cessnock LGA	63	12%	30	8%	63	12%
Other LGAs	16	3%	37	10%	16	3%
Total	530	100%	369	100%	530	100%

5 IMPACT ASSESSMENT

This section discusses the impacts associated with the construction and operations phase of the Project. Also described are the potential cumulative impacts that may be generated as a result of the Project and surrounding developments.

5.1 CONSTRUCTION PHASE

The demand for short-term accommodation for construction workers at peak construction will be up to 37 units of accommodation (assuming one single accommodation unit per worker). Assuming 90% (332 employees) of the construction workforce is employed from the local area or broader locality and can be accommodated in their existing housing, the remaining 10% (37 employees) will require accommodation in the local area.

It should be noted that upgrades to existing infrastructure will occur in a staged approach over the 29 month construction period. As such construction workforce numbers will fluctuate as works progress and as noted in **Section 4.1** will average approximately 126 employees.

5.2 OPERATIONS PHASE

5.2.1 Population

The accommodation strategy for the operations phase of the Project assumes that all employees currently residing in the local area will continue to be located permanently there.

As the Project will continue to utilise the existing operations workforce of 530 full time equivalents from Drayton Mine, there will be no anticipated increase in population.

5.2.2 Housing and Accommodation

The additional future demand for housing in the local area can be attributed to:

- Natural growth (organic growth of the existing population and changing household and family structures);
- Direct and indirect workforce and their families moving to the local area; and
- Other projects in the area and their imported workforce requirements (*'cumulative impacts'*).

As discussed in **Section 5.2.1**, the Project is not anticipated to draw any additional people to the local area. There is, however, the potential for additional population growth resulting from other proposed developments.

Labour Pool

As discussed in **Section 3.3**, the local area has a low rate of unemployment when compared to the NSW average. As a result there is not a large pool of unemployed or labour surplus individuals from which to source employees.

As the Project will continue to utilise the existing operations workforce of 530 full time equivalents from Drayton Mine, it is considered unlikely that there will be any strain on the local labour pool.

5.2.3 Labour Skills

As discussed in **Section 3.4**, mining is the largest industry of employment in the local area. As the local area consists of established mining communities, there is considered to be an adequate pool of skilled labour for industry to draw from.

As the Project will continue to utilise the existing operations workforce of 530 full time equivalents from Drayton Mine, it is considered unlikely that there will be any additional or unnecessary stress on the labour skills of the local area.

5.2.4 Community Services and Facilities

As discussed in **Section 5.2.1**, the Project is not anticipated to cause an increase in population and as such will not place additional strain on community services and facilities in the local area.

5.3 CUMULATIVE IMPACTS

This section discusses the potential cumulative impacts associated with the Project and surrounding developments. As discussed in **Section 3.7**, there are a large number of existing and proposed mining and gas developments at various stages in the local area. As a result, there is potential for substantial cumulative social impacts.

For the purposes of this SIA, to determine potential cumulative impacts, mining related development in the local area has been divided into two categories: *'existing projects'* (including approved projects and projects where applications exist) and *'potential future projects'* as listed in **Table 34**.

As discussed in **Section 5.2.1**, the Project is not anticipated to cause an increase in population of the local area. Continued utilisation of the existing workforce as other mining projects in the local area begin or expand will reduce the available labour pool in the local area for other projects. This will result in additional non-local hires being required to fill these positions.

The predicted increase in population associated with future mining projects in the local area will continue to place stress on both the rental and sales markets described in **Section 3.5**. The contribution to this associated with the Project is considered negligible.

Services and facilities in the local area are sufficient to support the Project. There is however, likely to be a strain on community facilities and services in the future as other mining projects proceed.

In summary, potential areas of cumulative impacts in the local area include:

- Housing affordability and accessibility;
- Skills shortages and competition for skilled personnel;
- Economic growth and stability; and
- Supply and demand for community services and facilities.

Adequately addressing the cumulative impacts outlined above is likely to require significant investment into local community infrastructure, including schools, tertiary education institutions, health services, child care services and recreation and cultural facilities.

This investment will require the combined commitment of the NSW Government, Muswellbrook Shire Council (MSC), SSC stakeholders and mining companies (through Voluntary Planning Agreements (VPA)).

At this early stage, it is difficult to determine which regional centres are likely to be most impacted as this will be dependent on where and when *'potential future projects'* occur. The key purpose of the cumulative impact assessment is to highlight areas of infrastructure and community services that will require further planning, development and investment at the appropriate time.

6 MITIGATION AND MANAGEMENT

This section outlines the mitigation and management measures which will be employed by Anglo American to mitigate impacts on the community and assist in development with regard to housing and accommodation, the labour pool, labour skills and community services and facilities.

6.1 LABOUR POOL AND SKILLS

To ensure the timely recruitment of replacement staff as required for the Project workforce, and to protect long term workforce retention in light of competition from existing and proposed mines, Anglo American will implement labour force recruitment strategies prior to approval of other major developments in the local area coal mining sector. A local hire strategy will remain a strong and preferred option for the Project in the short to medium term.

The recruitment strategy for the operations workforce will focus on maximising the transition of existing contractors, identifying pre-production resources, focused campaigns for the professional and maintenance workforce and local campaigns for the operations and ancillary staff.

The Project will sponsor the recruitment and training of up to at least three apprentices in varying mine related disciplines each year for the life of the Project. As part of the local hire strategy, efforts will be made in the recruitment and training of women and local Aboriginal people by the way of advertised targeted campaigns.

6.2 VOLUNTARY PLANNING AGREEMENT

Anglo American has made an offer to enter into a VPA with MSC to provide in kind and monetary contributions to ensure the potential social effects of the Project are mitigated. Discussions are progressing with MSC to reach an agreement as to the terms of the VPA.

The offer that has been made to MSC includes the following:

- A payment of $1.0 M as a direct contribution towards the cost of the Thomas Mitchell Drive upgrade;
- Meeting the full cost of design and construction of the Edderton Road realignment as required by the Project;
- An annual contribution of $80,000 to MSC to assist in funding road maintenance requirements predominately intended for Thomas Mitchell Drive and Edderton Road;
- An annual contribution of $15,000 per annum to assist in funding environmental contributions and initiatives of MSC;
- $0.065 per product tonne toward a community fund (to be established). The community fund will be designed to provide economic, social (health and education) and environmental benefit for the community in the Muswellbrook LGA; and

- A commitment for Anglo American to use its best endeavours to engage three apprentices per annum for the life of the mine sourced from residents within the Singleton and Muswellbrook Shires. This equates to approximately 12 apprentices on site assuming a four year apprenticeship.

* * *

For

HANSEN BAILEY

Belinda Hale
Environmental Scientist

James Bailey
Director

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APPENDIX A

Draft Voluntary Planning Agreement Offer

Draft Voluntary Planning Agreement - Contribution Schedule

Muswellbrook Local Government Area

Column 1	Column 2	Column 3
Development Contribution	**Intended Use**	**Payment Details**
$1.0M	Contribution to the Thomas Mitchell Drive Upgrade	A payment of $1.0M as a direct contribution towards the cost of the Thomas Mitchell Drive upgrade. Payable on the following conditions being met; 1. Drayton South mine approved for development by NSW Government 2. Within 6 months of first coal extracted from Drayton South (estimate Q2 2015) 3. Thomas Mitchell Drive upgrade completed to agreed design This contribution recognises the prorate usage of Thomas Mitchell Drive by Drayton South (predominately only about 1km of the Eastern end) and the relatively smaller scale of the Drayton South operation compared to other mines and users of the road
$x.xM	Full cost of design and construction of the Drayton South share of the Edderton Rd relocation as proposed in the Drayton South PEA or otherwise agreed with Mount Arthur North and MSC	Payable on the following conditions being met; 1. Drayton South mine approved for development by NSW Government 2. An agreed payment schedule matching agreed design and construction activities The quantum of this contribution will be determined once Drayton

		South, Mount Arthur North and MSC agree on the re-alignment and construction quality of the whole of Edderton Rd. The relative proportion to be funded by Drayton South and Mount Arthur Coal will be determined and agreed by Drayton South, Mount Arthur North and MSC.
$80k per annum + CPI	Contribution to MSC Road Maintenance requirements and predominately intended for Thomas Mitchell Drive and Edderton Rd maintenance	The first annual payment payable on the following conditions being met; 1. Drayton South mine being operational and producing first coal (estimate Q2 2015) 2. From 2 years after the completion of the Thomas Mitchell Drive upgrade Subsequent payments are to be made on the yearly anniversary of this date. Payments are only to be made for the Life of the Project or until this Agreement is terminated. CPI is applied at the end of each 12 month period after the first payment is made to determine the amount payable in respect of the following 12 month period.
$15k per annum + CPI	Environmental contributions to assist in the monitoring of planning impacts of development as well as environmental work undertaken by Council on Drayton South.	The first payment is to be made within six months of first coal extracted from Drayton South (estimate Q2 2015) Subsequent payments are to be made on the yearly anniversary of this date. Payments are only to be made for the Life of the Project or until this Agreement is

		terminated. CPI is applied at the end of each 12 month period after the first payment is made to determine the amount payable in respect of the following 12 month period.
$0.065/Product tonne	Community Fund (to be established). A proposal which will have an economic, social (health & education) or environmental benefit for the community in the Muswellbrook Local Government Area.	This figure will be calculated on the end of calendar year reporting of product tonnes. For example; calendar year 2015 would be payable in January 2016. This schedule would remain for the life of the mine or until this Agreement is terminated.
3 Apprentices per annum	Anglo American to use its best endeavours to engage 3 apprentices per annum for the life of the mine sourced from residents within the Singleton and Muswellbrook Shires. This equates to approximately 12 apprentices on site assuming a 4 year apprenticeship	