

Wandoan Coal Project Social impact assessment

October, 2008

Wandoan Joint Venture



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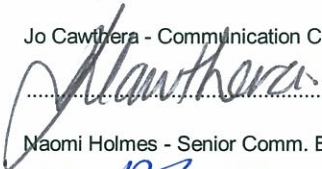



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Glossary

<i>ABS</i>	Australian Bureau of Statistics
<i>EIS</i>	Environmental Impact Statement
<i>LGA</i>	Local Government Area
<i>MIA</i>	Mine Infrastructure Area
<i>Mtpa</i>	Million tonnes per annum
<i>ROM</i>	Run of Mine
<i>SIA</i>	Social Impact Assessment
<i>WJV</i>	Wandoan Joint Venture
<i>XCQ</i>	Xstrata Coal Queensland

Executive summary

Social impact assessment is a study concerned with predicting and understanding likely consequences of a proposed action on a community. This assessment comprised a desktop study of the demographic and social characteristics of the study area and region as well as community consultation to define current social values and lifestyles. The assessment of existing environment and potential impacts within the study area was also informed by consultation with the local community and stakeholders.

Studies have indicated that the study area of Wandoan and the region (consisting of the former Taroom and Murilla Shires and now located primarily within the Dalby Regional Council) is a primarily agricultural community. The study area is predominantly made up of couple families, both with and without children, and the safe environment and existing social amenity is considered ideal for raising a family. The population of the area has been in decline since 1996 with a high number of people leaving the area.

Key negative and beneficial impacts that could potentially result from the Project relate to:

- potential to reverse the trend of consistent population loss in the area
- potential for changes in the demographic profile, with increases in the population and an increase in the proportion of younger people and males residing in the area
- the potential for some low income households to be displaced from existing housing due to an increase in housing costs
- changes to local social values and the rural atmosphere
- the loss of farming families that contribute to the existing social amenity and community participation
- community perceptions that their feelings of safety and security may be compromised
- the potential for social isolation between mine workforces and the community
- potential safety risks associated with road travel as mine personnel drive to and from the site
- potential for a more diverse and improved local economy with increased opportunities for small business and opportunities for local employment
- potential for the improvement of local services and facilities
- potential employment and training opportunities that will help to reduce the loss of young people from the area
- environmental changes which affect lifestyle through increased noise and changes in air quality

Recommended mitigation strategies are focussed on providing proactive solutions to possible impacts and reducing the stress and anxiety that will be felt by the community during construction and operation of the Project.

1. Introduction

The Wandoan Coal Project (the Project) is proposed to be developed by the Wandoan Joint Venture. The joint venture partners are Xstrata Coal Queensland Pty Ltd (WJV), ICRA RPW Pty Ltd and Sumisho Coal Australia Pty Ltd. The Project comprises the development of thermal coal resources situated immediately west of the Wandoan Township approximately 350 km northwest of Brisbane and located within Dalby Regional Council. The coal resources will be developed as an open cut mine with related local infrastructure and a Project covering an area of approximately 32,000 ha.

This report is the social impact assessment (SIA) which forms part of the environmental impact statement (EIS) being undertaken for the Project. An SIA is conducted to assess and predict the likely consequences (both positive and negative) of a proposed action on a community and provide strategies to mitigate any adverse impacts and maximise potential benefits.

This assessment comprised an initial desktop study of the demographic information of the study area and region to build an understanding of the existing social character of these communities. Consultation with community stakeholders contributed to building an understanding of the existing social environment and potential direct and cumulative social impacts of the mine on the local area and regional communities. Interviews were conducted with providers of local services and facilities and provided information on the types of issues currently facing the local and regional communities and the potential cumulative impacts which may be experienced with the introduction of the Project.

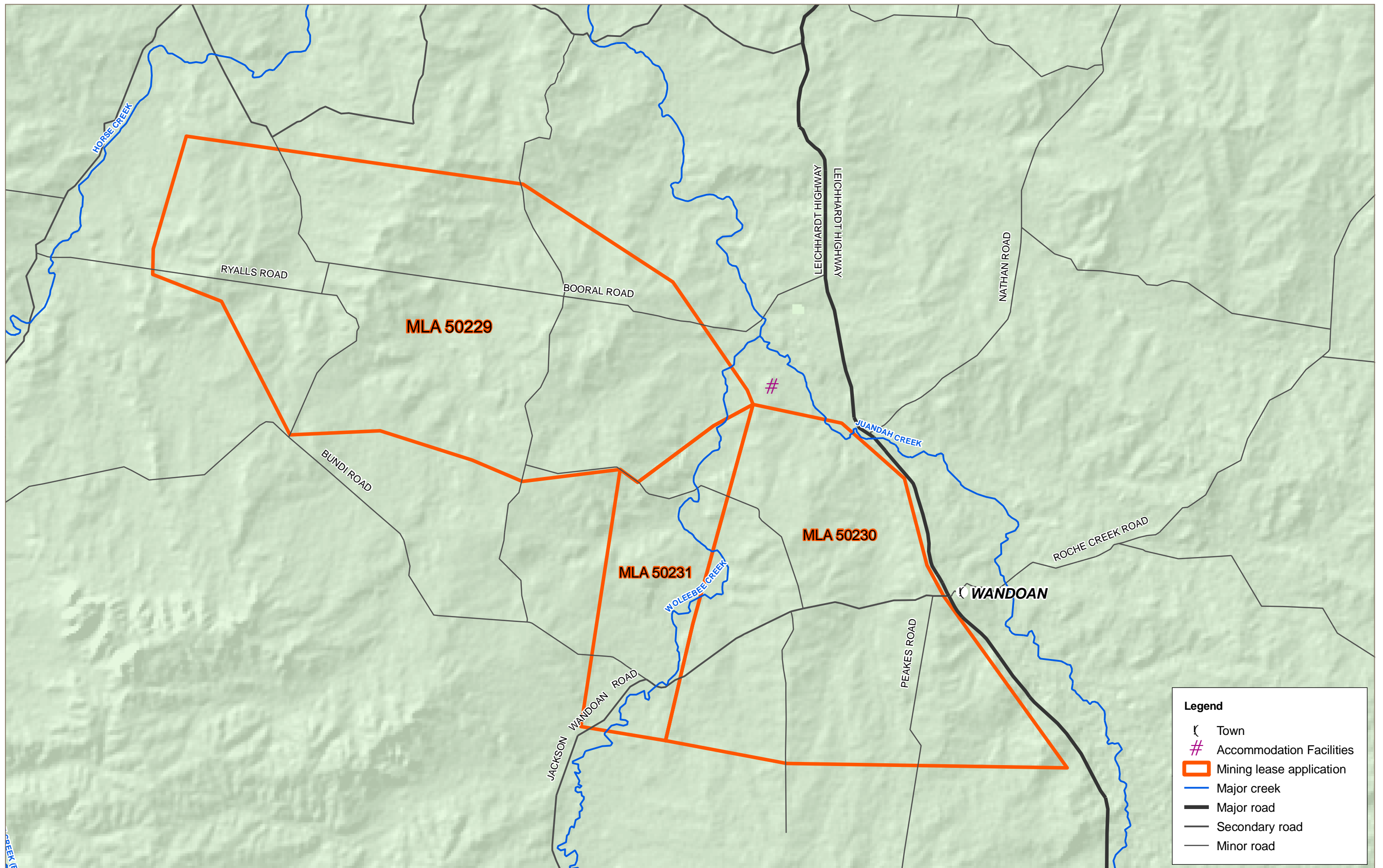
1.1 Description of study area

For the purpose of this SIA, the study area has been defined as including the communities within postcodes 4418 and 4419. Statistics presented for the study area are the combined totals of the data available for these areas. These postcodes take into account the townships of Wandoan, Guluguba and Grosmont which are situated along the Leichhardt Highway between Miles and Taroom.

A second data set used for this study was obtained by using the combined local government area (LGA) statistics for the former Taroom and Murilla shires. The combined data of these two shires provides an understanding of the wider community demographics and values, and is identified as “the region” in this report. It is understood that potential impacts may extend to other LGA’s and adjacent communities over the life of the Project.

Data focussing on Queensland is provided, where appropriate, to offer a comparison of regional trends.

Both the study area and the region can be seen in relation to the Project in Figure 1-1.



J:\A442-ENG\PROJ\2133006C__Wandoan_prefea\10_GIS\Projects\Env\Technical Report\Figure 1-2 Project Area.mxd

Source: Roads, QLD State Digital Road Network (2004); Towns, creeks 1:250K Topo, Geoscience Australia (2006)

2. Methodology of assessment

2.1 How the study was conducted and information obtained

These studies were conducted to meet the Terms of Reference (ToR) for the Environmental Impact Statement (EIS) for the Project.

The assessment of social impacts of the Project is informed by a desk top study of the existing social environment, analysis of demographic data and community trends and robust consultation with the local community, identified stakeholders and providers of community service and facilities to the study area and the region.

Information related to this study was gathered from sources including:

- statistical information from a range of sources including Australian Bureau of Statistics (ABS) 1996, 2001 and 2006 Census data, Queensland Planning and Information Forecasting Unit and the Queensland Office of Economic and Statistical Research
- social service providers' websites, including local councils and relevant government websites (including Queensland Health and Department of Education, Training and Arts)
- consultation with the community through activities such as workshops, surveys, community displays and face to face meetings
- consultation with government and non-government stakeholders including (but not limited to):
 - Department of Communities
 - Department of Education, Training and the Arts
 - Queensland Health
- review of technical studies prepared as part of the EIS
- existing WJV documentation
- case studies and examples of similar projects.

The Project will be located in a regional area which is both small, sparsely populated and a considerable distance from large population centres which can limit the amount of data available in some instances particularly in relation to available community services and infrastructure and its use by the community.

This report has considered the Sustainable Resource Communities Policy Social Impact Assessment in the Mining and Petroleum Industries released in September 2008 and the social impact assessment initiatives to build equitable and sustainable resource communities.

The assessment process also included the identification of qualitative and quantitative changes within the community as a result of the Project. Information developed as part of the Project in relation to mine planning and development has assisted the identification of:

- workforce requirements

- housing and accommodation requirements and changes
- impacts to local services and facilities
- impacts to community values and lifestyles
- changes to access, amenity, and services
- impacts to affected properties, including property management, property devaluation and compensation, productivity losses, movement and access.

Mitigation measures were identified through desktop research that focussed on management strategies used for communities affected by existing XCQ operations. Social research associated with the mining industry has also been used as a reference for management strategies during the construction and operation of the Project.

2.2 Consultation

An extensive community consultation program was initiated in July 2007 and conducted in parallel to the SIA studies and enabled community members to provide input into what defines their social values, aspirations and lifestyle factors. The process also provided social service providers with an opportunity to discuss the effects the Project may potentially have on the community and local services. The consultation process included potentially directly affected property owners, key stakeholders and the broader community. Comments gathered during the consultation process are included in this report.

A community survey was distributed to more than 1,700 residents in areas surrounding Wandoan, Taroom and Miles from which 129 responses received from community members. Community information sessions were held in July 2007 and April 2008 and were attended by a total of 620 community members. The community information sessions were held from 7 pm to 9 pm at the following locations:

- Wandoan Cultural Community Centre Auditorium on Monday 9 July 2007 and Tuesday 1 April 2008
- Taroom Town Hall on Tuesday 10 July 2007 and Wednesday 2 April 2008
- Murilla Shire Council Corbill Function Room and Hall in Miles on Wednesday 11 July and Thursday 3 April 2008.

Workshop participants were given the opportunity to obtain information about the Project and discuss the potential direct and indirect impacts on their community with the project team.

Other consultation methods used to inform and engage the community included:

- developing Project specific communication materials such as advertisements, newsletters, and information sheets
- conducting a property owner forum
- conducting community information workshops in the townships of Wandoan, Taroom and Miles
- establishing a Community Reference Group and conducting quarterly meetings
- contacting and meeting with potentially affected property owners
- maintaining community contact points.

Details and outcomes of the consultation process are included in Chapter 4, Volume 1 of the EIS.

2.3 Limitations

2.3.1 Council amalgamation

The Queensland Government announced on 27 July 2007, a proposal to amalgamate a number of local governments. These amalgamations, which occurred on 15 March 2008, saw the Taroom Shire (Division 1) absorbed into the Banana Shire Council and the Murilla, Wambo, Tara, Chinchilla shires, Taroom Shire (Division 2 – Wandoan) and Dalby Town amalgamated to form the Dalby Regional Council.

This report recognises the change in local council boundaries. However, statistical data for the region has been modelled on data obtained for the former Taroom and Murilla Shires as historical data suitable for comparison is not readily available for Dalby Regional Council.

2.3.2 ABS introduced random error

Statistics obtained from the ABS include an “introduced random error” to ensure that any data released does not risk the identification of individuals by the statistics. The ABS employ a method of randomly adjusting the data provided to avoid this potential identification. When the technique is applied, all cells are slightly adjusted to prevent any identifiable data being exposed. These adjustments result in small introduced random errors. However, the information value of the table as a whole is not impaired.

The totals and subtotals in summary tables are also subjected to small adjustments. These adjustments of totals and subtotals include modifications to preserve the ability to total figures within tables. Although each table of this kind is internally consistent, comparisons between tables which contain similar data may show some minor discrepancies. This feature may be most evident in the statistics of small populations such as the Project’s identified study area.

2.3.3 Cumulative effects

The Wandoan Coal Project is the first mine development in the region and may be a catalyst for similar projects to be developed. A number of Company’s currently hold coal exploration tenements throughout the region. The Project also has a number of mine infrastructure projects which are undergoing technical assessments including the provision of water to the Project through the development of a Coal Seam Methane Water Pipeline or the raising of the Glebe Weir.

The Surat Basin Rail and Nathan Dam projects are also undergoing assessment. Each of these projects surrounding the study area will produce their own individual positive and negative impacts on the study area and the region. The gas industry already has some influence throughout the region with the expansion of this industry considered likely during the life of the Project.

This increased interest in the study area and region will created planning issues for service providers, affected property owners and the broader community. Speculation regarding the “unknowns” of individual projects and overall development in the area has created both

positive feelings and concerns for the region's future. It is anticipated these views will heighten with the development of each project.

Cumulative impacts are also a key consideration when assessing the proposed gas supply pipeline and its affect on the social environment. While the proposed gas pipeline is partially co-located with the Surat Basin Rail easement, cumulative impacts associated with access, property management, property viability, lifestyles and aspirations are creating distress for affected property owners, their neighbours and the broader community.

3. Description of existing social environmental values

The social environment includes housing, education, recreation, health, emergency services and community support facilities as well as the community values and social interaction.

3.1 Demographic profile

An analysis of the existing environment has been conducted by considering its social characteristics, informed by population and demographic data, and its social infrastructure through the types of facilities and support available. This information provides an understanding of baseline conditions with which to measure any changes that may potentially occur.

This section details the socio-economic profile of both the study area and the region through analysis of population, income, education levels and labour participation. The profile highlights age and gender composition and household characteristics of the area and how this aspect has changed over time.

3.1.1 Population

At the time of the 2006 Census the population of the study area was 918 persons. This accounted for 18.1% of the population of the region, and 0.02% of the total population of Queensland. The region had a combined population of 5,076 in 2006. The region accounts for 0.13% of the total Queensland population recorded in the 2006 Census. The Shire of Taroom and the Murilla Shire cover 18,644 km² and 6,075 km² respectively and can be considered sparsely populated with approximately one person per 4.9 km².

Studies of available population data for the region suggest that a decline in population has been occurring since 1996 where the region experienced a loss of 2.2% of the male population and 4.4% of the female population. Overall a 3.3% loss of population was recorded. This loss of population continued between 2001 and 2006 when the region experienced a loss of 5.0% of the population.

Between 2001 and 2006, the study area's population underwent a significant decline, decreasing by 24.7%. This declining population was in contrast to the overall population of Queensland which experienced growth of 8.2% over the same time period. Table 3-1: shows the change in population for males and females between 2001 and 2006 for the study area, the region and Queensland.

During consultation, the community identified the steady decline of the population in the study area and the region over the past decade and this is substantiated through an analysis of the area's demographic data. The decrease in population within the study area in particular may be attributed to the drought with Wandoan officially declared drought affected in July 2001. Population loss could be attributed to associated impacts on rural lifestyles and enterprise (such as the increased farm running costs and steadily increasing fuel prices) which may have affected the availability of employment and enterprise opportunities. These impacts may have contributed to the migration of families out of the area, as they move away to seek better opportunities, and are not being replaced by newcomers. The study

area and regional populations will not be expected to increase based on historical population patterns and the current trend of rural decline.

Table 3-1: Population changes by gender by Census year

	Census 1996	Census 2001	Person Change 96-01	% Change 96-01	Census 2006	Person Change 01-06	% Change 01-06
Study area							
Males	n/a	648	n/a	n/a	464	-184	-28.4%
Females	n/a	571	n/a	n/a	454	-117	-20.5%
Persons	n/a	1,219	n/a	n/a	918	-301	-24.7%
Region							
Males	2,858	2,794	-64	-2.2%	2,565	-229	-8.2%
Females	2,666	2,550	-116	-4.4%	2,511	-39	-1.5%
Persons	5,524	5,344	-180	-3.3%	5,076	-268	-5.0%
Queensland							
Males	1,673,220	1,775,554	102,334	6.1%	1,935,381	159,827	9.0%
Females	1,695,630	1,810,085	114,455	6.7%	1,969,151	159,066	4.1%
Persons	3,368,850	3,585,639	216,789	6.4%	3,904,532	318,893	8.2%

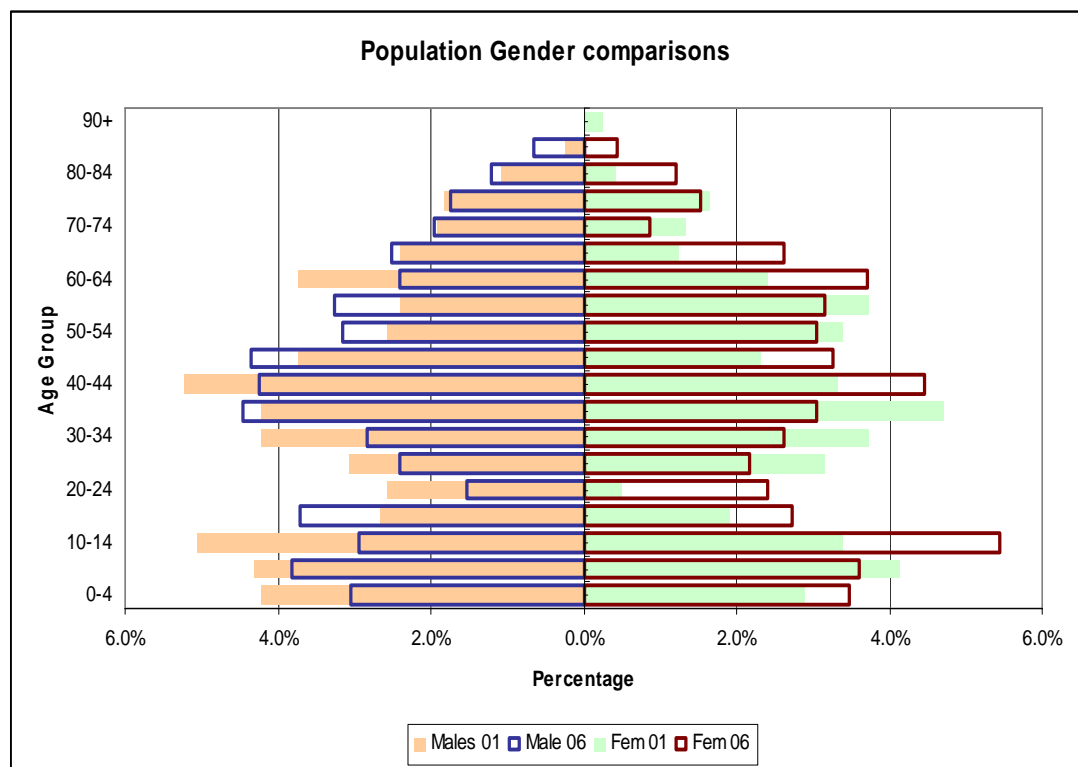
The study area as a percentage of Queensland population in 2006	0.02%	
The region as a percentage of Queensland population in 2006	0.13%	
Study area as a percentage of the region in 2006	18.09%	

Source: Australian Bureau of Statistics, 1996, 2001 and 2006

At the time of the 2001 census, there were more males than females within the study area (648 males compared to 571 females). This imbalance was corrected by the time of the 2006 census with a high proportion (28.4%) of males having left the area. The loss of females from the study area was also high during the same period with a decrease of 20.5%.

Between 1996 and 2001 the region lost 64 males (2.2% of males) and 116 females (4.4% of females) from its population, this reduction continued in 2001 with the loss of 229 (8.2%) males from the area, compared to a loss of 39 females or 1.5%.

These losses were not replicated within the State, where there were more females than males. Over the same time period the population of males in Queensland increased by 9.0% compared to an increase of 4.1% for females. The slightly higher proportion of males within the study area and the region is generally typical of regional rural locations. The age and gender representation of the population within the study area in both 2001 and 2006 can be seen in Figure 3.1.



Source: Australian Bureau of Statistics 2006

Figure 3-1: Population pyramid of males and females within the study area 2006 Census

3.1.2 Future population

In September 2006 the Planning Information and Forecasting Unit (PIFU), within the Queensland Department of Infrastructure and Planning, predicted a continuing decrease in the population of Taroom Shire of -0.4% between 2006 and 2016 and -0.2% in the ten years to 2026. Based on these calculations minimal population growth was expected for Murilla Shire over the next 10 to 20 years with an increase of 0.2% to 2016 and 0.1% to 2026. The projections are shown in Table 3-2. However, this forecast does not consider the growth of resource based enterprise in the region. PIFU is currently undertaking studies to ascertain the potential population effects of the resource extraction industries growth in the area, however, this information is not currently available.

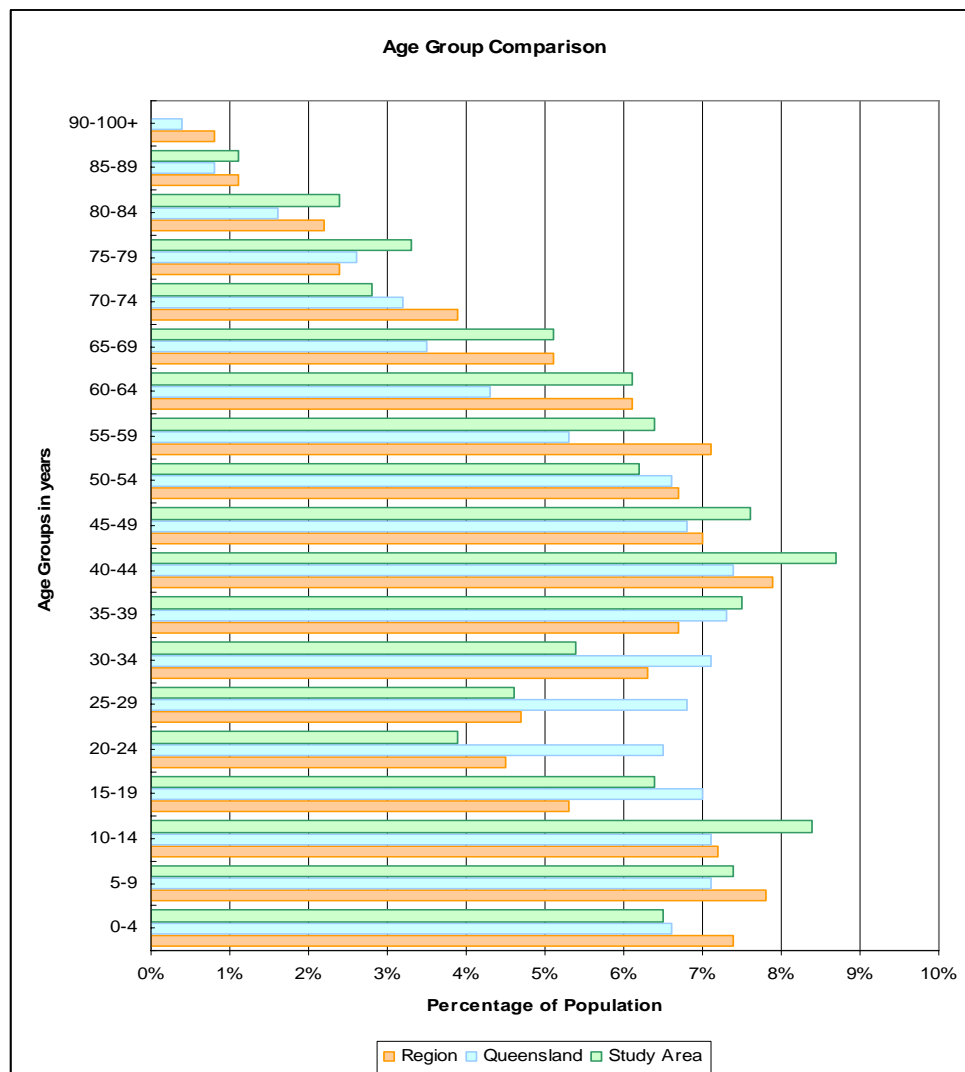
Table 3-2: Projected population with no resource extraction impact

Shire	2006 Census	Projected average annual population change					
		10 yrs to 2006		10 yrs to 2016		10 yrs to 2026	
	Population	No	%	No	%	No	%
Taroom	2,389	-23	-0.8	-10	-0.4	-6	-0.2
Murilla	2,689	-7	-0.2	4	0.2	2	0.1

Source: Planning Information and Forecasting Unit – Queensland Department of Local Government, Planning, Sport and Recreation (September 2006)

3.1.3 Age structure

Those aged 40-44 years represent the largest percentage of the population within the study area at 8.7% of the population. This age bracket is also the most widely represented in both the region and Queensland comparisons. Those aged 10-14 years are also well represented in the study area with 8.4% of the population as shown in Figure 3-2. This age group accounts for 7.2% of the region and 7.1% of the state. There is also a high proportion of those aged 55-69 across the study area and the region. For example, those aged 60-64 make up 6.1% of the population in the study area, 6.1% in the region but just 4.3% of Queensland.



Source: Australian Bureau of Statistics 2006 Census

Figure 3-2: Age group representation comparison 2006 Census.

Retirement tends to create a drop in population in the study area for those aged over the age of 60. As people employed in agriculture and farming get older, they retire and leave the area. People aged over 80 years old are the least represented in the study area with those aged between 80-84 accounting for just 2.4% of the population. This is followed by 85-89 year olds who represent 1.1%. These findings are consistent when compared to the region (1.1% and 0.8% respectively) and Queensland's population, where the same age groups represent just 1.6% and 0.8% of the population.

While both the study area and the region have a strong representation of children and teenagers in their population, both areas feature a small proportion of young adults aged 20-29 years. This is evident when compared to the Queensland average. This was in keeping with findings during the consultation process where the community advised that many young people were required to leave the region after secondary studies to continue their studies or find suitable work elsewhere.

3.1.4 Ethnicity

The study area has a small Indigenous population of 0.7% compared to 2.5% in the region and the state. The majority of the population in the study area and the region were born in Australia, as shown in Table 3-3, with most of the community speaking English as their primary language.

Table 3-3: Study of ethnicity characteristics

	Study area	Region	Queensland
Indigenous persons:			
Aboriginal	0.7%	2.5%	2.5%
Torres Strait Islander	0.0%	0.3%	0.5%
Both Aboriginal and Torres Strait Islander(a)	0.0%	0.1%	0.3%
Total	0.7%	2.9%	3.3%
Birthplace:			
Australia	92.7%	91.7%	75.2%
Elsewhere(b)	2.9%	3.5%	17.9%
Language spoken at home:			
English only	96.8%	95.9%	86.4%
Other language(c)	0.7%	0.8%	7.8%
Australian citizen	95.6%	94.2%	86.1%

(a) Applicable to persons who are of both Aboriginal and Torres Strait Islander origin. (b) Includes 'Australian External Territories', 'Inadequately described', 'At sea', and 'Not elsewhere classified'. (c) Includes 'Inadequately described' and 'Non-verbal, so described'.

Source: Australian Bureau of Statistics 2006

3.1.5 Mobility

The community in the study area enjoy a continuity of residence with well over half of the population (63.6%) residing at the same address at the time of the 2006 Census as they did five years previously. This lack of mobility was reflected within the region as well, with 67.7% of people residing at the same address. When compared to the Queensland population, as shown in Table 3-4, there was considerably more continuance of residence in the study area and region with only 45.1% of the Queensland population at the same address.

Within the study area, of those who were not at the same residence as 2001, 10.1% lived within the same area and 20.3% lived elsewhere in Queensland. There was very little interstate or international migration in either the study area or the region during the five year period.

Table 3-4: Resident mobility between 2001 and 2006 Census

Characteristic	Study area	Region	Queensland
Total same usual address 5 years ago as in 2006	63.6%	67.7%	45.1%
Total different usual address 5 years ago	33.2%	29.3%	47.6%
Question not answered	3.2%	3.0%	7.3%
Break down of areas			
▪ the same area - but a different address	10.1%	9.6%	9.2%
▪ elsewhere in Queensland	20.3%	16.9%	26.3%
▪ New South Wales	0.8%	0.7%	3.9%
▪ Victoria	0.6%	0.7%	1.4%
▪ South Australia	0.3%	0.3%	0.4%
▪ Western Australia	0.6%	0.2%	0.5%
▪ Tasmania	0.0%	0.0%	0.2%
▪ Northern Territory	0.3%	0.1%	0.4%
▪ Australian Capital Territory	0.0%	0.0%	0.3%
▪ other territories	0.0%	0.0%	0.0%
▪ Overseas	0.3%	0.3%	4.4%
▪ Area not specified.	0.0%	0.3%	0.6%

Source: Australian Bureau of Statistics 2006

3.1.6 Household structure

Couple households are strongly represented in the study area and the region. At the time of the 2006 census there were 206 families in the study area and 1,369 families in the region. Of families within the study area, 46.0% are couple families with children and 44.0% are couple families without children. The high percentage of couples with children reflects community feedback that the study area is ideal for raising a family.

There are slightly fewer couple families in the region when compared to the state with 42.1% of families describing themselves as couples with children compared to 43.3% in Queensland. However, at 47.2% there are more couple families without children in the region when compared to the state proportion of 39.1%.

There are less one-parent families in both the study area and the region at 8.7% and 9.1% respectively compared to 15.9% in Queensland as a whole. Table 3-5 describes the current family types in the study area, the region and Queensland.

The community identified a strong sense of family and unity during consultation and suggested that the community valued the area as an ideal place to raise children.

Table 3-5: Family type (percent of total families, 2006)

Family characteristics	Study area	Region	Queensland
Couple families with children	46.0%	42.1%	43.3%

Couple families without children	44.0%	47.2%	39.1%
One parent families	8.7%	9.1%	15.9%
Other families	1.2%	1.6%	1.7%

Source: Australian Bureau of Statistics 2006

3.1.7 Relationship status

Traditionally, rural populations demonstrate more traditional family and relationship structures as demonstrated in the available statistics. As well as having a high proportion of couple families, census data indicates a high percentage of people, in the study area and the region, are married. In the study area married couples account for 62.5% of the population aged over 15 which is slightly more than the 59.6% represented within the region. However, both proportions are considerably higher than the Queensland figure of 49.1%. There are less couples identifying themselves as separated or divorced in the study area (8.4%) and the region (8.8%) compared to Queensland (12.3%). This again correlates with anecdotal evidence during consultation where the community expressed their strong family connections and values.

As shown in Table 3-6 the incidence of separation and divorce in both the study area and the region is considerably lower than the Queensland comparison.

Table 3-6: Marital status (percent of persons, 2006)

Marital status (Population aged 15 years and over)	Study area	Region	Queensland
Married	62.5%	59.6%	49.1%
Never married	22.8%	24.0%	33.2%
Separated or divorced	8.4%	8.8%	12.3%
Widowed	6.3%	7.6%	5.4%

Source: Australian Bureau of Statistics 2006

3.1.8 Dwelling structure and tenure

Separate houses are the most common form of dwelling in the study area and region. Within the study area 94.7% of dwellings were described as a separate house. In the region the proportion was slightly less at 86.8%.

The proportion of flats and units in the study area is 4.5% and 2.1% in the region. This is considerably less than the percentage represented in Queensland of 13.0% but is in line with the areas rural setting and low density. As shown in Table 3-8, Census data indicates that 28.8% of dwellings in the study area are unoccupied, with 22.2% unoccupied in the region. This is substantially higher than the 9.2% of unoccupied dwellings within Queensland as a whole.

The high proportion of separate houses and the limited number of flats, units and apartments is representative of the area's rural nature.

Table 3-7: Dwelling structure (percent of occupied dwellings, 2006)

Dwelling characteristics — private dwellings (includes visitor only and other not classifiable households)	Study area	Region	Queensland
Separate house	94.7%	86.8%	76.5%
Semi-detached, row or terrace house, townhouse etc.	0.0%	5.3%	7.5%
Flat, unit or apartment	4.5%	2.1%	13.0%
Other dwellings	0.8%	5.6%	2.8%
Not stated	0.0%	0.2%	0.1%
Occupied private dwellings:	71.2%	77.8%	90.8%
Unoccupied private dwellings	28.8%	22.2%	9.2%

Source: Australian Bureau of Statistics 2006

As shown in Table 3-8, the study area and the region have a substantially higher number of houses which are fully owned at 46.6% when compared to Queensland at 30.4%. This high rate of home ownership is reflected in the study area where 46.3% of dwellings are owned. There are also lower rates of dwellings being purchased at 19.4% in the study area and 19.1% in the region when compared to 31.4% of Queensland. Rental rates at 27.5% for the region and 29.2% for the study area are in line with the Queensland rate of 30.0%.

Table 3-8: Dwelling tenure (percent of occupied private dwellings, 2006)

Tenure type – occupied private dwellings	Study area	Region	Queensland
Fully owned	46.3%	46.6%	30.4%
Being purchased (includes being purchased under rent/buy scheme)	19.4%	19.1%	31.4%
Rented (includes rent-free)	29.2%	27.5%	30.0%
Other tenure type	1.1%	1.9%	1.0%
Not stated	3.9%	4.9%	7.3%

Source: Australian Bureau of Statistics 2006

Median rents in Wandoan and within the Region are considerably lower than those in Queensland with the Median weekly rent in Wandoan just \$41 per week compared to the Queensland median of \$200 per week as shown Table 3-9.

Monthly median loan repayments are also considerably lower than Queensland comparisons with the median being \$474 dollars compared to Queensland's \$1,300 median loan repayment. There are traditions within the region of passing down properties from parent to child as well as selling adjoining properties to neighbours at below market rates for quick sale.

Table 3-9: Median rent and loan repayments

Median rent and loan	Wandoan	Taroom Shire	Murilla Shire	Queensland
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repayments				
Median rent (\$/weekly)	\$41	\$85	\$25	\$200
Median housing loan repayment (\$/monthly)	\$474	\$704	\$542	\$1,300

Source: Australian Bureau of Statistics 2006

Further investigation into accommodation is provided in Sections 3.10 and 5.17.

3.1.9 Employment and industry

Labour force participation

Both the study area and the region have a lower percentage of both males and females who are unemployed and looking for either full time or part time work when compared to Queensland averages. The total labour force participation within the study area is 52.8% for males and 47.2% for females as shown in Table 3-10.

Within the study area there are 40.3% of males employed compared with 37.6% of the region and 31.8% of the state respectively. The total percentage of working females within both the study area and the region is slightly greater than state comparison with substantially more of those females in the study area working full time.

The proportion of males employed in the study area is considerably higher than Queensland comparisons with the majority of those males working full-time. The proportion of working males within the region is similarly high, however, there are slightly more part-time male workers in the region when compared to Queensland totals.

Table 3-10: Percentage of labour force participation by gender

	Study area		Region		Queensland	
	Male %	Female %	Male %	Female %	Male %	Female %
Employed, worked:						
Full-time	36.3%	16.9%	31.6%	15.5%	24.6%	13.5%
Part-time	2.7%	10.7%	3.7%	11.5%	5.2%	11.9%
Employed, away from work	0.4%	1.3%	0.8%	0.8%	1.0%	1.1%
Hours worked not stated	0.8%	0.8%	1.6%	0.8%	1.0%	0.6%
Total	40.3%	29.8%	37.6%	28.6%	31.8%	27.1%
Unemployed, looking for:						
Full-time work	0.0%	0.0%	0.5%	0.2%	1.1%	0.7%
Part-time work	0.0%	0.6%	0.3%	0.4%	0.4%	0.8%
Total	0.0%	0.6%	0.8%	0.5%	1.5%	1.5%
Total labour force	40.3%	30.4%	38.3%	29.2%	33.3%	28.6%
Not in the labour force	10.2%	14.7%	10.4%	17.3%	12.3%	19.1%
Labour force status not stated	2.4%	2.1%	2.3%	2.5%	3.6%	3.2%

Source: Australian Bureau of Statistics 2006

The low number of people who are unemployed in the study area and the region may not accurately represent those who are 'underemployed' or those who would like to work more

hours than they currently do. During consultation the community expressed that there were few real employment opportunities in the region. .With less than one percent of the population in the study area and the region identifying themselves as seeking employment in the 2006 Census it may also indicate that people have moved from the area in search of work.

Employment by industry

Agriculture, forestry and fishing represent the industry with the highest employment participation at 45.5% in the study area and 44.3% in the region. This reflects the rural nature of the area and the dominance of the agricultural industry. Males were the greater participants in this industry, however females still made up a considerable proportion of participants at 37.3% in the study area and 33.7% in the region. Within the study area and region there are no industries with such a high participation rate with the next most prominent sector employer being Public Administration and Safety and Manufacturing industries which account for 8.7% and 7.4% respectively. Retail trade makes up 6.8% of the population employed in industries within the study area and 6.9% in the region.

As shown in Table 3-11 there are few people in either the study area or the region who work within administrative and support services, information and media telecommunications or rental, hiring and real estate services. The study area has few people employed in health care and social assistance with 3.5% of people employed in this industry.

There is just 3.0% of the population employed in the construction industry and 2.8% in mining within the study area. This trend is replicated within the region with just 4.5% of people employed in construction and 1.7% currently employed in the mining industry.

Table 3-11: Percentage of employment by selected industry by gender

Industry	Study area			Region		
	Males	Females	Persons	Males	Females	Persons
Accommodation and food services	1.3%	6.5%	3.5%	2.0%	6.4%	3.9%
Administrative and support services	0.0%	1.8%	0.8%	0.0%	1.9%	0.8%
Agriculture, forestry and fishing	51.5%	37.3%	45.5%	52.5%	33.6%	44.3%
Arts and recreation services	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%
Construction	3.9%	1.8%	3.0%	7.3%	0.9%	4.5%
Education and training	3.0%	15.4%	8.3%	2.2%	12.7%	6.7%
Electricity, gas, water and waste services	4.8%	0.0%	2.8%	0.6%	0.0%	0.3%
Financial and insurance services	0.0%	0.0%	0.0%	0.7%	1.5%	1.1%
Health care and social assistance	0.0%	8.3%	3.5%	0.8%	15.4%	7.1%
Information media and telecommunications	0.0%	0.0%	0.0%	0.3%	0.0%	0.2%
Manufacturing	7.4%	3.0%	5.5%	5.6%	1.8%	3.9%
Mining	3.5%	1.8%	2.8%	2.6%	0.6%	1.7%

Industry	Study area			Region		
	Males	Females	Persons	Males	Females	Persons
Other services	2.2%	0.0%	1.3%	1.9%	1.3%	1.6%
Professional, scientific and technical services	0.0%	1.8%	0.8%	0.3%	1.7%	0.9%
Public administration and safety	8.7%	4.7%	7.0%	8.5%	4.6%	6.8%
Rental, hiring and real estate services	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%
Retail trade	3.5%	11.2%	6.8%	3.9%	10.8%	6.9%
Transport, postal and warehousing	5.2%	1.8%	3.8%	4.7%	2.6%	3.8%
Wholesale trade	2.6%	2.4%	2.5%	3.3%	1.6%	2.6%
Inadequately described	1.3%	0.0%	0.8%	1.4%	1.2%	1.3%
Not stated	1.3%	2.4%	1.8%	1.0%	1.0%	1.0%

Source: Australian Bureau of Statistics 2006

Employment by occupation

In the study area and the region, the occupation most represented in the population is that of manager at 32.2% and 25.8% of the population respectively. This is followed by labourers at 10.1% in the study area and 11.6% in the region and machinery operators and drivers at 8.0% in the study area and 6.5% in the region as shown in Table 3-12. The high percentage of managers is consistent with the study area and regions strong representation in the agricultural industry.

Table 3-12: Employment by occupation

Occupation	Study area	Region	Queensland
Managers	32.2%	25.8%	7.3%
Labourers	10.1%	11.6%	7.0%
Machinery operators and drivers	8.0%	6.5%	4.3%
Technicians and trades workers	4.5%	5.1%	9.0%
Professionals	4.4%	4.6%	10.1%
Community and personal service workers	4.9%	4.1%	5.4%
Clerical and administrative workers	3.4%	5.1%	8.7%
Sales workers	1.0%	2.6%	6.1%
Other	31.5%	34.7%	42.1%

Source: Australian Bureau of Statistics 2006

The area profile of the Australian Government Labour Force Regional Data for the Darling Downs region (includes Taroom, Wandoan and Miles but extending further west through Roma and Charleville) shows an average unemployment rate of just 2.8% as at May 2008 which is less than the Queensland rate of 3.8%. The teenage full-time unemployment rate (those aged 15-19) is 16.7% which is greater than the Queensland total of 13.5% however social factors such as employment on the family farm may contribute to this higher rate.

3.1.10 Education

Education completion

In line with identified rural trends, a large proportion of the population, in the study area and region, have left school before Year 12. Table 3-13 shows the education levels for the population aged 15 years and over who are not currently studying. A large proportion of the study area and regional population have a Year 10 or equivalent education at 39.7% and 33.7% respectively. This is greater than the Queensland proportion of 26.9%.

By contrast the proportion of people in the study area and region who have attained an education level of Year 12 or equivalent, 25% and 28.7% respectively, is significantly less than the Queensland average of 41.3%.

Table 3-13: Education attainment to Year 12 for population over 15 years

Persons	Study area	Region	Queensland
Year 12 or equivalent	25.0%	28.7%	41.3%
Year 11 or equivalent	5.7%	6.9%	8.2%
Year 10 or equivalent	39.7%	33.7%	26.9%
Year 9 or equivalent	7.0 %	6.9%	5.9%
Year 8 or below	15.1%	15.9%	7.4%
Did not go to school	0.0%	0.6%	0.5%
Highest year of school not stated	7.5%	7.4%	9.9%

Source: Australian Bureau of Statistics 2006

Post-secondary qualifications

The population of both the study area and the region have similar post-secondary qualifications as Queensland, as shown in Table 3-14. At the regional level 17.0% of the population possess a Bachelors Degree. Within the study area 19.7% have the same qualification, which is in line with the Queensland figure of 19.8%. Furthermore, 1.5% of the region and 2.7% of the study area possess postgraduate qualifications. This is lower than the Queensland average of 3.8%.

Diploma and Advanced Diploma qualifications in the region and the study area (13.4% and 12.6% respectively) are at comparable levels to Queensland's 13.1%. Certificate level of education is also similar to Queensland's (35.5%) with 35.7% in the region and 34.4% for the study area.

Table 3-14: Education attainment to Year 12 for population over 15 years

Characteristic	Study area	Region	Queensland
Postgraduate Degree	2.7%	1.5%	3.8%
Graduate Diploma and Graduate Certificate	0.0%	2.5%	2.3%
Bachelor Degree	19.7%	17.0%	19.8%
Advanced Diploma and Diploma	12.6%	13.4%	13.1%
Certificate	34.4%	35.7%	35.5%
Level of education not stated	29.0%	29.9%	22.7%

Source: Australian Bureau of Statistics 2006

3.1.11 Income and earnings

Household earnings

As detailed in Table 3-15, the median average individual weekly income in Wandoan is \$67.00 per week less than Queensland levels. The median household income per week in Wandoan is \$692.00, which may indicate most households are based on a single income earner with a partner potentially working part-time. The median individual weekly income is \$442.00 in the Taroom Shire (\$34 less than the Queensland median) and \$392 in Murilla Shire (\$84 less than the Queensland median).

The low income levels of household income in the study area relative to Queensland median comparisons studied in conjunction with available employment participation data tends to indicate that there are more people participating in employment activities however they are earning less for that work. A mix of part time and full time employment may also be contributing to the majority of household incomes. This may be as a result of the types and hours of employment available based on regional business demands and overall may contribute to a lower cost of living in the region.

Table 3-15: Income characteristics of the study area and region

Characteristic	Wandoan	Taroom	Murilla	Queensland
Median individual income (\$/weekly)	\$409	\$442	\$392	\$476
Median household income (\$/weekly)	\$692	\$810	\$697	\$1,033
Median family income (\$/weekly)	\$976	\$1,017	\$957	\$1,154

Source: Australian Bureau of Statistics 2006

3.1.12 Summary of demographic profile

During consultation, the community identified the steady decline of the population in the study area and the region over the past decade. This can be seen in analysis of the region's demographic data. The loss of population could be attributed to impacts on rural lifestyle and enterprise (such as the drought, increased farm running costs and steadily increasing fuel prices) which may have affected the availability of employment and enterprise opportunities. These impacts may have contributed to the migration of families out of the area, as they move away to seek better opportunities, and are not being replaced. The study area and regional populations would not be expected to increase based on historical population patterns and the current trend of rural decline.

There is a strong sense of family and unity within the study area and region. Over half the study area population identifies themselves as being couple families with children. Population characteristics identify that most of these families would consist of married, middle aged parents with primary school aged children.

The proportion of young people in the study area and the region tends to decrease as children reach their mid to late teens. This trend is often associated with the lack of education opportunities in regional areas where children need to move away to further their education. The proportion of young people aged between 20 and 29 continues to decrease often due to travel, tertiary education or the pursuit of employment opportunities.

Retirement tends to create a drop in population in the study area for those aged over the age of 60. As people employed in agriculture and farming get older, they retire and leave the area.

Mobility in the population was limited with communities within the study area and the region having well over half the population living at the same address as five years previous. Of those at a different address the majority were again within the region or within the state. There was very little interstate or international migration in either area.

The majority of the population of both the study area and the region are Australian born and speak English as their only language.

Houses are the dominant dwelling structure in the study area and the region and both areas have a high percentage of fully owned properties or those in the process of being purchased which again indicates a low rate of mobility. Mean weekly rental rates for the study area and the region are considerably lower than Queensland as are the mean monthly loan repayments. A high proportion of dwellings in the study area and the region are unoccupied.

There is a low rate of unemployment in the study area and the region with over half the population identified as in the labour force. Less than one percent of the population in the study area and the region identified themselves in the 2006 Census as seeking employment. This can often indicate that people have moved from the area in search of work.

The agricultural component of the area is again highlighted by the prominence of occupations such as managers, labourers and machinery operators and drivers.

Income levels in the region are less than the Queensland median and reflect the prevalence of one income families. This may contribute to a lower cost of living. A mix of part time and full time employment may also be contributing to the majority of household incomes.

In line with identified rural trends, a large proportion of the population, in the study area and region, have left school before Year 12. Post secondary education in the region and the study area show that Certificate level qualifications are the most prevalent, which is in line with Queensland comparisons.

3.2 Social amenity, values, vitality and lifestyles

Social amenity can be described as the attributes that a community sees as adding comfort, attractiveness, enjoyment or value to their everyday lives. Community values also consider the principles, standards and ideals that a community expects from the people who live within it. General observation of the community suggests they have a strong connection with the region's agricultural history and the land itself. They are very community-focussed, and have strong social connections and a healthy enjoyment of the rural lifestyle they share. Community members are family focussed and many have expressed their belief that the region is an excellent place to raise children.

During the initial phase of the pre-feasibility study, PB received approximately 129 survey forms from the community providing responses to the community survey which had been attached to Newsletter 1. Of these, 90 responses were from Wandoan residents, 19 from Taroom residents and 20 from Miles residents. Responses from Gulugaba have been included in the Wandoan survey results. Full details of the survey participants and their responses is detailed in the Community Consultation TR 4-v1.5.

Key results from that survey showed that respondents were happy with the lifestyles they led and the values that they shared as a community with respect to social connections, family, safety and security and felt that they were living in a 'great community'.

Few aspects featured strongly as negatives for living in the community. One in three responses from Wandoan residents indicated there was nothing that they disliked about the area. This was followed by 28% responses that indicated the lack of services as a problem. This was seen as a similar problem for Taroom and Miles, with 39% and 36% respectively indicating the lack of services as a reason for disliking the area.

Respondents were asked to identify important issues facing their local community. Of the 72 responses to this question from Wandoan, more than half indicated poor employment opportunities as a major issue. This was raised by someone in every age group from 18 years and over, and from both male and female respondents. Of the remaining responses, access to services was seen as a major issue. This was a view similarly held by the 21% of responses from Taroom and from 30% of responses from Miles, who indicated access to services and the need for a permanent doctor as an important issue.

Further investigation into the study area and region's social amenity in terms of social integrity, amenity, liveability, harmony and well being as well as their sense of community was conducted through a workshop activity with the local communities during the Community workshops held in Wandoan, Taroom and Miles in July 2007. The community members were asked to group and discuss what they liked and disliked about their local community. The responses received tended to validate the anecdotal observations gained over numerous visits to the communities. The participants identified that they:

- enjoy a quiet, rural lifestyle
- live in a close-knit, community minded area
- have close social connections with friends and family in the area
- feel secure and safe within their community
- enjoy a low cost of living including affordable housing
- believe the area is a good place for raising a family.

Safety, security and the low crime rate were seen as important community values throughout the consultation process with participants stating the area is safe enough to leave doors unlocked. This view adds to feelings that the region is a quiet and peaceful area, appropriate for raising families. Community members also identified other local community members as the people they trusted most, before council, business owners, and government agencies.

When asked about potential issues the community are facing, respondents identified that there was:

- a lack of suitable services in health and community available to the community
- ongoing impact of drought and future access to water
- a lack of suitable employment opportunities
- a lack of skilled employees for business
- the need to keep people in the community, especially the young.

The communities within the study area and the region enjoy a relatively low cost of living particularly in relation to housing and services. Fuel is slightly more expensive than other areas in Queensland, as are some supplies. However, these costs are manageable for the population and balanced by the lower cost of other goods and services.

Community members enjoy a busy but relaxed lifestyle and often find the time to participate in community and recreational activities. Employment is often home/farm based and relatively flexible, though often dictated by the season, weather or availability of resources such as equipment or labour.

3.2.1 Community identity

The communities within the study area identify themselves as being rural focussed, and people value the contribution that rural property owners make to the area. The community has expressed their enjoyment of their 'clean, green' natural environment throughout the consultation process, particularly in relation to the lack of noise and pollution. They take pride in their community and feel the area's rural history is important. Community members value the 'fresh air', the quality grazing land, rural landscape and the country lifestyle they enjoy.

3.2.2 Social connections and rural isolation

The study area features the ability to enjoy a rural lifestyle, with an income producing farm, without the need to travel extensively between properties or to the nearest town. Throughout the consultation activities, the community expressed their strong family and social connections with many families having multiple generations living in the region.

The communities have a number of regular organised social gatherings and opportunities to connect, which contribute to maintaining social connections and managing the isolation a rural lifestyle can bring. Further details of the types of recreation, leisure and sporting opportunities are detailed in Section 4.2.

Social isolation for rural women can be an issue, and a number of women in the study area choose to work in the township of Wandoan for extra income and social interaction. This ability to work off-farm can be particularly important for women whose children have moved away to pursue education or employment opportunities.

3.3 Current land use

The Project is located on land predominately used for grazing and cropping. Grain growing and beef production are the major land uses with most properties in the mining lease application (MLA) areas being mixed enterprises. The majority of the site has been cleared in the past for agricultural purposes. Winter forage crops are also widely grown. Discussions with property owners within the MLA identify that many use the blocks specifically for "fattening" and often rotate cattle into these paddocks before sale. The properties themselves are small enough to be managed by one family while still large enough to produce a suitable family income. A total of 43 properties are affected, all of which feature some type of agricultural activity occurring onsite.

Wandoan Township is surrounded by pastoral land. The majority of the town is zoned for residential use, and houses are situated on relatively large blocks and accessed by wide

streets. The town features two main parks and reserves, as well as a golf course, football field and shooting range. Land zoned for industrial use is situated to the south-east and features a saw mill. Other land in the township is used for short-term accommodation.

The region shares similar land use characteristics to the study area.

The region is traversed by a number of recognised stock routes which enable local farmers to transport stock between properties.

Further information on land use can be found in Chapter 8, Volume 1.

3.4 Recreation, leisure and sporting facilities

Respondents to the community survey and participants in the community workshops placed great value on the recreation and sporting facilities available within their community. Many of the directly affected property owners also described the importance of the sporting and recreating clubs to the community, and the role these clubs played in promoting community spirit, optimism and cohesion.

Examples of organised sporting and leisure groups within the community include:

- tennis – Taroom Tennis Club, Wandoan Tennis Club
- golf – Taroom Golf Club, Wandoan Golf Club
- gymnastics – Wandoan Gymnastics Club
- bowls – Taroom Bowls Club, Wandoan Bowls Club
- polocrosse – Wandoan Polocrosse, Taroom Polocrosse Club
- rodeo and camp-drafting – Wandoan Campdraft and Rodeo Association, Taroom Rodeo Club
- jockey and pony club – Taroom Pony Club, Wandoan Pony Club, Taroom Jockey Club
- netball – Miles Junior Netball Association
- rugby league – Miles and District Junior Rugby League, Wandoan Junior Rugby League
- shooting – Wandoan Clay Target Association.

The region also supports a number of gardening clubs, arts and craft groups, Apex, Lions and the Country Women's Association groups in Dulacca and Wandoan. Landcare and the Wildlife Preservation Society are also active within the community.

The annual Wandoan Show provides an opportunity for the community to socialise and allows local agriculture, horticulture, art and craft, cookery and livestock enthusiasts to compete and attendance at other regional agricultural shows by local community members is common.

Non-organised sporting and leisure activities described by the community in the study area include hunting, fishing and boating.

3.5 Culture and heritage

Information from the community workshops indicates that the community has strong links to their non-indigenous cultural heritage. Historically the Wandoan Township traces its rural background to Juandah Station. This station was established in 1853 after the land purchases that followed Leichhardt's travels through the region in the 1840s. Participants at workshops and survey respondents highlighted a strong connection with their rural lifestyles and connection to their properties.

The region holds its non-indigenous cultural heritage in high regard and a number of tourism opportunities centre on this heritage. The soldier settler's blocks which surround the Project site are significant to existing property owners and the Wandoan Township. The hard work and determination of soldier settlers is cited as a key characteristic and cultural highlight of the study area. The community trace their strength and resilience to impacts, such as the drought, back to these features of their history.

Community members have noted that many families have lived in the region for many generations, demonstrating the historical connection current residents feel towards the area. Other points of historical interest identified during community workshops in April 2008 include:

- the shearing shed on 'Wongalea'
- the surveyor marks on trees
- the sheep holding yards on 'Yarrabee'
- Sundown Creek – wash down area for sheep
- various burial sites around region
- the area being originally dairy farms
- Booral - original homestead property 1900
- Booral – Juandah survey trees.
- washpool posts
- shepherds huts and boundary huts throughout region.

The local Wandoan Historical Society has gathered information and artefacts from the study area's past and put together a display of this history in a shop front on the main street of Wandoan. This display features examples of the petrified wood which is found throughout the region.

A feature of the study area is the Wandoan Community Cultural Centre which is frequently used by community members as a gathering place. It provides the opportunity for locals to participate in the arts and has hosted an array of productions in connection with the Queensland Arts Council. The local library and local council office is also located on this site.

A war memorial is located outside of the Cultural Community Centre and becomes a focus for ANZAC Day services, which includes an ANZAC Day parade through the main street.

A full technical analysis of the region's non-indigenous cultural heritage is included in Chapter 20B of the EIS, Volume 1, and the associated Technical Report.

A study of the Indigenous Cultural Heritage can be accessed in Chapter 20A, Volume 1.

3.6 Tourism

The area is not considered a prominent tourist destination. The township of Wandoan is situated close to the highway and often acts as a stop over point for travellers, particularly older motor home and caravan enthusiasts.

There are limited tourism opportunities in the study area. Community members have produced a collection of artefacts and stories from the area's history which is presented in a shop front on the main street of Wandoan and called the 'Juandah Historical Museum'. A key is required to access the shop front as the display does not have regular opening hours. The Juandah Historical site is another tourist feature of the study area though, again it has limited opening hours.

3.7 Business and enterprise

The study area features a number of small, locally run businesses operating within the town centres, examples of which are detailed in Table 3-16. Throughout the study area and the region a number of businesses open for limited hours or days during the week. These businesses are often run as a second business, with the main focus on farming activities, or as shared services where an office exists in each location and are staffed on a set routine.

Table 3-16: Examples of businesses within the study area and region.

Wandoan	Taroom	Miles
<ul style="list-style-type: none"> ▪ Pharmacy ▪ Hardware store ▪ Café ▪ Stock and station agents ▪ Produce and livestock supplies ▪ Arts and craft store ▪ Post office ▪ Charity store ▪ Tyre repair ▪ Mechanics and machinery shore ▪ Service station ▪ Dress shop ▪ Mini bus charter ▪ Sawmill ▪ Grocery store ▪ Hotel/motel ▪ Hair dresser ▪ Internet café and print shop ▪ Florist and gift store 	<ul style="list-style-type: none"> ▪ Charity store ▪ Service stations ▪ Motor mechanics ▪ Gift and general goods ▪ Bank ▪ Newsagent ▪ Café ▪ Pharmacy ▪ Hairdressers ▪ Beautician ▪ Butcher ▪ Grocery stores ▪ Post office ▪ Centrelink point ▪ Stock and station agent ▪ Produce and rural supplies ▪ Laundromat. 	<ul style="list-style-type: none"> ▪ Instrument and home wares ▪ Banks ▪ Auto parts ▪ Home electrical appliances ▪ Pharmacy ▪ Computers ▪ Shoes and boots ▪ Computer sales and repairs ▪ Agricultural services tyre sales and repairs ▪ Nursery ▪ Metal engineering ▪ Hardware ▪ Groceries ▪ Caravan park ▪ Funeral home ▪ Drapery ▪ Café ▪ Pub

Wandoan	Taroom	Miles
<ul style="list-style-type: none"> ▪ Newsagent. 		<ul style="list-style-type: none"> ▪ Hairdressers ▪ Hot bread ▪ Video store ▪ Motor inn ▪ Beautician ▪ Post office ▪ Smash repairs ▪ Service station ▪ Natural therapies ▪ Real estate clothing and apparel ▪ Stock and station agents.

Source: Field investigations

At the time of these studies there were a number of vacant shop fronts visible on the main streets of Wandoan and Taroom. There were no visible vacant shopfronts in Miles.

The closest major shopping precinct is located in Toowoomba, some 280 km from Wandoan.

3.8 Education

The school closest to the Project is the Wandoan State School which is a co-educational state school catering for students in preparatory year through to Year 10. There are currently 126 students enrolled in this school. Grosmont State School is also situated close to the MLA boundaries and has an enrolment of 13. Miles has the only senior secondary education facility in the region.

There are generally small enrolment numbers within local schools with many classes being run as composite classes with a mixture of years represented in the one classroom. Most access to schools is via local school bus runs with as many as 250 primary school children and almost 100 secondary school children living within the region, depending on local bus school buses.

Primary and secondary education facilities located in the region are shown in Table 3-17.

Table 3-17: Education centres in the region as at July 2008

School name	Years catered	Current enrolment
Grosmont State School	Prep-7	13
Guluguba State School	Prep-7	12
Peek-A-Doo State School	Prep-7	8
St Mary's Primary School (Taroom)	Prep-7	28
Taroom State School	Prep-10	140
Wandoan State School	Prep-10	126

Condamine State School	Prep -7	52
Drillham State School	Prep -7	33
Dulacca State School	Prep -7	40
Miles State High School	8-12	168
Miles State School	Prep-7	215

Source: Queensland Department of Education, Training and the Arts Schools Database 2008

3.8.1 Higher education opportunities

Higher education opportunities including technical and trade studies within the region are limited. The closest campus, the Southern Queensland Institute of TAFE, has campuses at Chinchilla (115 km or approximately 1.5 hours drive from Wandoan) or Roma (165 km or approximately two hours drive from Wandoan). The campus is a shared facility with Education Queensland and students can undertake TAFE certificates across a range of industry areas in combination with their Senior Studies subjects. Central Queensland Institute of TAFE has campuses north of the study area in Biloela (260 km or approximately three hours drive from Wandoan) and Rockhampton (362 km or approximately 4.5 hours drive from Wandoan). Both institutes offer courses in vocational education and training, traineeships, and apprenticeships across a number of key industry areas including business, children's services, construction, engineering, general education, hospitality, information technology, and rural studies.

Distances to University campuses are also considerable with the university campuses situated in areas such as Brisbane, Toowoomba, Rockhampton, Townsville and Maroochydore. Access to a selection of these universities is available via distance education.

3.9 Childcare services

Discussions with childcare service providers in the study area indicate there is one Kindergarten/Childcare service operating. This service is open on Tuesday and Thursday from 9 am til 2.30 pm. There are 20 children who attend each day and they are aged between 3 and 5 years and the centre employs two staff. Other childcare facilities described as operating within the study area includes three mothers who offer day-care services from their homes.

There are limited full time childcare centres operating within the region. The Murilla Family Day care Scheme operates outside of Miles and provides in home care of children. The Murilla Long Day Care centre offers long-day day care (from 6 am to 6 pm). Both of these organisations are accredited by the National Childcare Accreditation Council.

3.10 Housing and accommodation

3.10.1 Existing Accommodation

Studies have been conducted at various points to determine housing sales in the study area and the region to understand the existing and historical house values, rental rates and the characteristics of available dwellings as well as land available for future growth. These studies were primarily undertaken In 2007 and form part of the Initial Advice Statement for

the Project. Current data has been provided in October 2008 to observe the changes that may have occurred over the year as a result of the Project's pre-feasibility studies.

Census data identifies a total of 500 dwellings within the study area in 2006 with 144 of those properties unoccupied as shown in Table 3.18. The dwellings consist mainly of single story timber structures with some brick constructions. During consultation community members highlighted the lack of easy and affordable access to construction and home maintenance supplies, and services such as builders and electricians.

A high number of unoccupied dwellings are present in both the study area and the region. Discussions with community members, including affected property owners, has indicated a trend whereby properties for sale are regularly bought by neighbours or friends (often before the sale is published) to extend a property owner's existing pastoral land or to introduce another property for seasonal stock rotation. The properties are occasionally leased or provided as accommodation for farm managers and their families, however if the size of the property allows, the houses are left vacant and may only be used seasonally during mustering or cropping. This practice, if widespread in a region, can potentially impact the population as it prevents new families moving into the area to replace those that have moved away. This also means that there are seasonal population impacts related to farming cycles.

As shown in Table 3-18 the majority of dwellings in all three towns are 'separate houses'. There are few flats in any of the towns.

Table 3-18 Number of Private Dwellings as at Census 2006

Private Dwellings	Study Area	Murilla Shire	Taroom Shire
Separate house	337	950	821
Semi-detached, row or terrace house, townhouse etc	0	28	81
Flat, unit or apartment	16	20	22
Other dwellings	3	90	25
Not stated	0	4	0
Occupied private dwellings:	356	1,092	949
Unoccupied private dwellings	144	236	348
Total private dwellings (includes unoccupied private dwellings)	500	1,328	1,297

Source: ABS Census Data 2006

3.10.2 Dwelling Sales and Property Values

Housing availability in the study area has been relatively static with an average of 11 sales per year over the last decade (2.2% of dwellings changing hands on average each year). Few new residences are built within the township and there is a generally long tenure of residence by the community.

Table 3.19 lists the accommodation available for sale Wandoan, Taroom and Miles as at November 2007 and October 2008. This data was sourced through discussions with local real estate agents and through internet real estate searches.

Table 3-19: Accommodation for sale in Wandoan, Taroom and Miles

Description	Wandoan	Miles	Taroom	Totals
November 2007	6	39	6	51
October 2008	12	31	8	51

Source: www.realestate.com.au and local real estate agents.

Asking prices for properties in the area have fluctuated since the Project was announced in 2006. As shown in Table 3-20, the median sale price has increased steadily over the last decade though almost doubled between 2006 and 2007. This may be due to renewed interest in the area as a result of Project studies however the increase has also occurred in line with the general increase in property prices through Queensland. In March 2008, Wandoan featured in the media in relation to its' identification as a property 'hot spot' by an Australian property researcher and analyst. There has also been an increase in properties advertised as 'investment opportunities' including some properties advertised as 'in a mining town' and that 'the mine is coming'. Statistics for 2008 sales are available for the first 10 months of the year.

Table 3-20: Recorded Sales of single unit dwelling n Wandoan 1998-2008

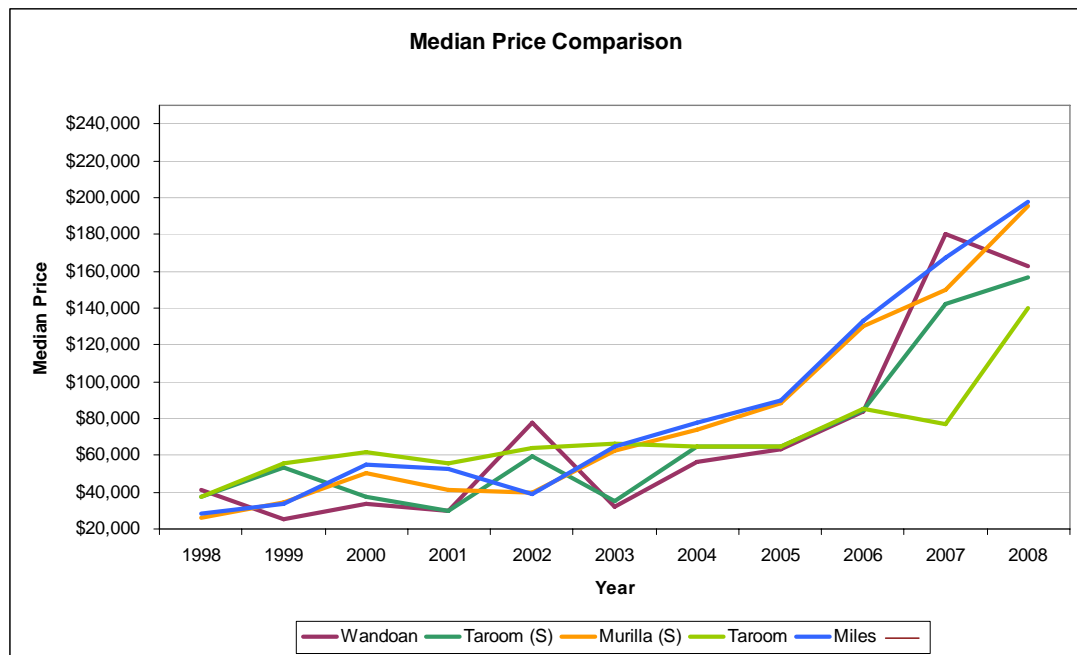
Year	Volume of Sales	Number of Sales	Median Sale
1998	\$349,000	10	\$41,250
1999	\$3,471,276	8	\$25,000
2000	\$255,501	8	\$33,500
2001	\$356,000	11	\$30,000
2002	\$447,000	6	\$77,500
2003	\$346,500	10	\$32,500
2004	\$836,500	16	\$56,750
2005	\$1,162,500	17	\$63,000
2006	\$25,912,050	15	\$84,000
2007	\$2,788,500	16	\$180,000
2008*	\$1,377,500	9	\$162,500

* Available 10 month data

Source: RP Data 2008

Information received through discussions with real estate agents in the Miles area suggests that a number of projects neighbouring the town is expected to create an ongoing demand for housing stocks in the area over the next two years. The town is a residential centre for the developing coal gas industry.

As shown in Figure 3-3 the median house prices over of the study area and the regions show that median house prices have increased since 1998. Analysis of the three town centres of Miles, Taroom and Wandoan shows that Miles and Wandoan have experienced the most overall growth, and while Taroom has also experienced higher median house prices they have been reasonably stable over the study period. Taroom has also seen the least direct impact from resource extraction projects and proposals.



Source: RP Data 2008

Figure 3-3: Median House price comparisons from 1998-2008

Interestingly there was a strong spike in median house price between 2001 and 2002 potentially driven by the first round of pre-feasibility studies conducted by Xstrata and the associated media coverage related to Rolleston and Wandoan projects.

There is a strong chance that approval of the Project may impact the local housing market significantly. Anecdotal advice from local agents again suggests that many properties have been speculatively purchased in the area in anticipation of mine approval. Impacts are further discussed in Section 6.18.

3.10.3 Dwellings for rent

At the 2006 Census 104 (29.2%) of properties in the study area and 561(27.5%) properties in the region were rented.. Local properties are traditionally rented privately. Discussions with local agents in Wandoan and Taroom in particular, indicate that traditionally there is no established 'rent roll'. Miles was the exception, with one real estate advising a rental portfolio of around 90 dwellings; however the majority of these were flats and units. This feedback from the agents corresponded well with statistical data from the ABS which showed no houses being managed by Real Estate Agents as at the 2006 census in the region.

As shown in Table 3-21, studies undertaken in November 2007 and October 2008 indicate that there are few properties publicly advertised for rent in the region.

Table 3-21: Rentals advertised in Wandoan, Taroom and Miles at October 2008

Description	Study Area	Miles	Taroom	Totals
November 2007	0	20	0	20
October 2008	3	2	0	5

Source: www.realestate.com.au and discussions with agents.

The ABS provides information on rental prices from 2006 that shows the median rent paid per week within the region is low when compared to the state. Within Wandoan the median rent per week is \$41, while in Taroom Shire the figure is \$85. Murilla Shire has a median rent of just \$25 which is considerably lower than the Queensland median rent per week of \$200. These low rental figures within the region may indicate regional trends whereby rented properties are provided at reduced rates or as part of a salary package for those who work and manage agricultural properties for the owners

Table 3-22 shows the prices and specifications of the four properties advertised as available for rent in October 2008.

Table 3-22: Advertised Rentals October 2008

Location	Bedrooms	Extra Features	Advertised Weekly Rental
Wandoan	3	Low-set, timber, newly renovated, air conditioning, new kitchen and bathroom, polished floors, can be fully furnished	\$450
Wandoan	3	Low set, timber, new kitchen and bathroom, polished floors, air conditioning	\$190
Wandoan	4	Two storey, 2 bathroom, 2 toilets, air conditioned, fully furnished	\$300
Miles	2	Brand new duplex, single story, open plan	\$250
Miles	2	Brand new duplex, single story, open plan	\$250

Source: www.realestate.com.au and discussions with agents.

There are no specific seasonal impacts to the availability of rentals. As with dwellings available for purchase, rental availability at the time of project commencement may change significantly. Anecdotal advice from local agents again suggests that many properties have been speculatively purchased in the area in anticipation of mine approval.

3.11 Land availability

3.11.1 Existing subdivided allotments

To assess availability of land a comparison of the Town Zoning Map of Wandoan was compared to aerial images of the town. The comparison suggests that within the urban zone and disregarding a recent subdivision (11 allotments) in the north-east corner of the town, there are about 36 vacant blocks currently potentially available. This will suggest that there could potentially be a total of 47 blocks available for new housing (including those in the recent subdivision).

Table 3-23 below gives an estimated figure of vacant, serviced residential and rural residential allotments in Wandoan, Taroom and Miles as at November 2007.

Table 3-23: Existing and assumed available for purchase, vacant residential allotments in Wandoan, Taroom and Miles

Description	Wandoan	Taroom	Miles
Vacant Allotments	47	20	20

A search of urban zoned vacant land sales over the last 10 years for Wandoan shows that over half of the 56 parcels bought and sold over the last decade have been purchased by

people outside of the township. This statistic provides some validity to the anecdotal feedback from the local real estate agents suggesting many of these vacant blocks have been purchased by investors making speculative investments in anticipation of future mining activities.

Real estate agents in the area indicated that vacant blocks purchased by local residents are generally used to meet their preference for larger allotments and, in some cases, for the house to be built over the common boundary. When the house has been built on one allotment, the second can be sold relatively easily when compared to the larger blocks where the house is built across both.

Existing available subdivided urban allotments in Taroom and Miles are less easily identifiable without detailed aerial images of the areas however visual inspections of both towns indicate there will be at least 20 vacant blocks available in each town suitable for future residences. Both towns, however, have considerably more existing un-subdivided land than Wandoan, which is discussed in the section below.

3.11.2 Existing un-subdivided suitably zoned lands

Table 3-24 below gives indicative areas of vacant residential and rural residential zoned, developable land in Wandoan, Taroom and Miles as at November 2007.

There are few clear options for urban zoned land that are currently available for development in Wandoan. There are four lots of state government controlled land that are potentially suitable. The NRW had offered these lots to Dalby Regional Council for development into residential allotments. There is a requirement for native title on the land to be extinguished and there is no guarantee that this will be immediate or without difficulty. These lots could potentially yield approximately 60 residential allotments of around 1000 square meters which is standard for the township.

A large block of urban zoned land is located behind the Catholic Church and opens up on to Willacy Street. The land has been passed onto Department of Natural Resources and Water (NRW) for disposal however its current status is yet to be ascertained. The property could potentially produce 16 allotments if subdivided.

Local real estate agents in Wandoan have mentioned potential subdivisions occurring close to Wandoan offering two to five hectare parcels near Henderson Road. This land is zoned as urban. The progression of the project through environmental approvals may potentially propel this and other similar potential subdivision into action as the speculative nature of the investment diminishes and more guaranteed returns can be seen by the owners.

Table 3-24: Vacant residential and rural residential zoned, developable land in Wandoan, Taroom and Miles

Land Description	Wandoan	Taroom	Miles
Total area of land zoned as Urban Nov 2007	23.1ha	61.7ha	335.1 ha

Miles and Taroom show considerably more options for urban zoned properties for subdivision. The town plan of Taroom shows an extensive area of land on Cracow Road which could potentially yield up to 90 standard blocks. There is also a large rural residential block also off Cracow Road that could be suitable for about 34 rural residential blocks.

Miles is quickly becoming a residential centre for the developing coal gas industry, and has a number of town-based builders presently building and marketing “spec” homes to meet the current surge in demand for houses. In addition, advice from local agents is that the current market in residential properties is active, with more than 39 houses (including “spec” houses) presently on the market. Moreover, there are extensive areas that are presently zoned as Urban within the Town of Miles Planning Scheme and which are suitable for subdivision to meet further demand for housing allotments.

3.11.3 Other vacant land available

Due to the small amount of urban zoned property available in Wandoan investigations into allotments which could potentially be rezoned have been completed with mixed results. The area currently has land lease areas, which are typically 99 year leases, to the north of Arnold Street (next to the golf course) which has been known to flood and is not suitable for residential area as it is subject to flooding.

The local gun club is also to the end of the North Street and may need to be relocated in the near future due to its position in relation to housing. If the property became available through the gun club relocation it will need to be re-zoned to Urban (from Open Space and Recreation) and could yield as many as 80 standard residential blocks however the area will require extensive remediation due to the residual lead and steel shot that covers the area.

Finally there is Freehold Land that is currently occupied by the Sawmill. Taroom Shire Council recently acquired a portion of the land from the previous owners of the business for development of an industrial site. The new owners, however, are unlikely to release more land for development. Any land that was released will also need to be rezoned to allow residential allotments.

It is considered that there are enough available urban allotments in Taroom and Miles for further studies into other non-urban zoned properties to be unnecessary.

3.11.4 Constraints to development

Investigations have suggested that there are adequate existing or potential housing allotments in Wandoan to allow for construction of some houses and duplexes required to accommodate senior mine operations personnel in the town as well as some non-mine housing. However, the main constraints to development in the town will be the ability to acquire suitable allotments at a fair price should prices rise on Project approval and the impacts of speculative buying by investors.

There is not considered to be any constraints to development within Taroom or Miles with adequate, suitably zoned land available.

3.12 Short term accommodation

Short-term accommodation within the study area is limited. However, availability has increased since the announcement of pre-feasibility studies commencing for the Project. Since Project announcement one motel has been constructed (with provision for extension if required) in Wandoan and facilities at the Wandoan Accommodation Park have been upgraded. Dalby Regional Council indicated that at least one development application for hotel accommodation had been submitted for council consideration this year.

Overall though, in comparison to other major regional centres, the variety of accommodation is limited. The better quality accommodation is available as motel rooms and unit style accommodation with basic kitchen facilities. There are also ‘donger’ style accommodation, multiple bed bunk houses, caravans and caravan sites available.

It should be noted that since Project announcement and the initiation of pre-feasibility studies, the Wandoan based accommodation facilities are regularly booked-out with Project related staff, as well as by those associated with other potential resource and infrastructure projects within the area.

An inventory of these accommodation types is provided in Table 3-25.

Table 3-25: Existing Short Term Accommodation in Wandoan, Taroom and Miles

Item	Wandoan	Taroom	Miles
Hotel/motel rooms available -	60	36	123
Caravan park spaces available	12	12	35

3.12.1 Community housing

Discussions with representatives of the Department of Housing indicate there are 34 department properties within the region. The Department indicates that there are few families in the region that are currently identified as requiring government funded housing.

A number of houses in the area are supplied by government employers such as Queensland Police and the Queensland Ambulance Service who are required to provide or subsidise accommodation for their employees.

3.13 Directly affected mining lease application area properties

There are a total of 43 land titles are required for acquisition within the mining lease application (MLA) areas, these belong to 37 property owners. These property owners are identified as individuals, couples, partnerships, companies and families. Over 50% of the properties are owner occupied. Those with multiple adjoining properties often manage them as a single large farm which means one family can reside on multiple properties. At least nine of these properties are not occupied by the owners themselves. Managers, caretakers and tenants and their families may reside on site though may be transient within the community. Of the properties impacted there are at least three that are usually vacant though owners, managers or their family may reside there seasonally based on the agricultural activities occurring on the properties.

Many of the affected property owners have a strong historical and emotional connection to their properties, and the community. Some properties have passed through multiple generations of a family. Generally, the majority of property owners are long-term residents of the Wandoan community. A number of property owners affected by the Project have lived on their properties since birth. A number of dwellings on the properties are family built.

Some properties were drawn as “soldier blocks” in the 1950s by the parents of the current owners. Many property owners intended to pass these properties on to their children on their retirement.

Many of the property owners affected by the Project both reside and operate their businesses from their properties. The directly affected properties are used for agricultural purposes. The majority are used to for beef cattle production. Other properties hold a mixture of cattle and crops and there is some fruit growing. One property has a registered feedlot. There is evidence that considerable investment in relevant infrastructure has been made on these properties to accommodate the various industries and lifestyles enjoyed by property owners.

During consultation, many property owners discussed the lifestyle advantages their properties in comparison to rural properties available elsewhere. Many described the size of their properties and the relatively short drive to town as important to their lifestyles. The size and pasture quality of their properties allows property owners to make suitable family incomes, while the short distance to a town centre helps to reduce the impact of rural isolation. For example, children are easily able to attend extra-curricular activities.

Social and family connections among the affected property owners are strong. Some property owners have elderly parents living locally who rely on their assistance and care. The affected families also have strong ties to the wider community and volunteer in local community and sporting groups, committees, churches, and local schools and kindergarten. Other affected property owners or their tenants work within the Wandoan township.

Further information about the issues and concerns expressed by affected property owners can be found in Chapter 4 Community Consultation, Volume 1, and the associated Technical Report

3.14 Properties indirectly affected by the Mining Lease Area

Properties identified as indirectly affected are those that are along the MLA boundaries. There are 15 properties identified as indirectly affected which impacts on 15 families. As with the property owners directly affected by the MLA, the indirectly affected property owners also reside and operate enterprise from their properties. Cattle and crops are the predominant industry with some property owners also running mixed businesses such as seed sales, school bus business and stud cattle.

Many of the property owners living adjacent to the MLA areas are also long term members of the community with strong community and historical ties. A number of these property owners also work within the township of Wandoan.

Owners of indirectly affected properties also have historical ties to the community with at least two properties passed down through generations since being drawn as soldier settler blocks. These property owners acknowledged their intention to pass these properties onto their own children.

3.15 Employment and training

Centrelink services are available in Miles and employment agencies for the region operate in Miles and Roma. There are a number of issues relating to employment in the region including the need for up-skilling the under-employed and long-term unemployed. This will provide better opportunities for potential employment.

Employment and training opportunities for local youth are limited within the region and young people often need to move away to seek suitable employment opportunities. The

Queensland Government Department of Education, Training and the Arts currently operates a mobile customer service centre which visits Wandoan, Miles and Taroom. This service provides free support and advice on addressing skilling solutions, including providing information on training and career opportunities and information on registered training organisations, including those with the ability to provide recognition of prior learning advice.

3.16 Health

Health facilities in the study area are reasonable for current demand. However demand is increasing. There is only one doctor in the area. The doctor is available in the Wandoan Outpatient Clinic twice a week for one hour per day and also operates a private practise in the main street for limited hours on these days. The Wandoan Outpatient Clinic offers a 24 hour accident and emergency service, a pathology service for private pathology, community palliative care and domiciliary nursing. There is a traditional alliance with Taroom to service Wandoan's medical needs.

The Wandoan Outpatient Clinic has a podiatrist and private physiotherapist visit weekly, with another physiotherapist visiting fortnightly. The mental health service for children and adults is provided from Miles fortnightly. An occupational therapist, speech therapist, social worker and a Mobile Women's Health Nurse visit the clinic every four to six weeks. The Aged Care Assessment Team (ACAT) visit monthly and the Rural Allied Health Team (RAHT) visit the clinic every six weeks. The optometrist visits the Wandoan Outpatient clinic every two months. Some maternity/child health services are available.

Community health facilities available for the study area include child health, which provides immunisations for both infants and school children in Wandoan and Taroom, health promotion and education, a school based youth health nurse (one day per fortnight), ante-natal shared care, and pre-admission clinic.

Taroom Health Service has 30 staff, including visiting staff, and provides accident and emergency, medical, surgical, general admissions, and an outpatients clinic. Other clinics available include antenatal and dental. Allied health services provided in Taroom include optometry, podiatry, physiotherapy, radiography and an Outreach Rural Allied Health Team (dietetics and occupational therapy). The Taroom Health Service is currently seeking to recruit more staff.

Taroom Health Service also provides part time Community and Child Health (visiting child health nurse) and a specialist flying doctor.

Aged care facilities accommodate long stay patients, respite patients and provide community care packages.

The distance from Taroom Health Service to Toowoomba hospital is 330 km and it is 320 km to Rockhampton hospital. There is no service available for community members who require admission to hospital but do not have access to, or are unable to use, private transportation. Suitable public transport for accessing hospital services is also unavailable.

The Miles Health Service is a Level Three Accident and Emergency facility with 59 permanent staff and 20 casual staff. The hospital provides services such as medical and surgical, outpatients, accident and emergency, palliative care, maternity care, aged care (State Government Nursing Home), operating procedures, carer respite and mental health

services. The Miles Health Service also provides an antenatal clinic, women's health clinic and a visiting breast screen clinic.

Other aged service provisions in Miles are respite, Meals on Wheels, Home and Community Care, Blue Care, Community Aged Care packages, the Carinya Independent Living Units and Hostel.

Allied health services provided through the Miles Health Service are physiotherapy, dietetics, radiography, the Rural Allied Health Team (RAHT), the Aged Care Assessment Team (ACAT), speech therapy and podiatry.

There is also the provision of specialist services such as obstetrics, gynaecology and surgical at Miles through the hospital.

Generally, recruitment of health providers to the region tends to be difficult due to its regional location.

3.17 Emergency services

Queensland Ambulance Services (QAS) has one ambulance officer based in Wandoan, two officers in Taroom and four in Miles. These officers provide pre-hospital emergency care and pre-hospital routine support.

Discussions with QAS representatives indicate that their services have the capacity to manage some growth related to the Project however they indicated that it can take approximately 12 months to recruit an ambulance officer as QAS has to provide housing for new employees and that they frequently experience difficulties in attracting staff to the Wandoan area due to its regional location.

The Wandoan police station currently employs two police officers whose main service is preventing, targeting and reducing crime amongst the local community and carrying out general policing duties including highway patrol and traffic enforcement. The Wandoan station currently has room for some population growth associated with the Project. There are five police officers currently servicing Miles. All officers are currently working at capacity but have room to grow as population increases.

The study area is located within the South Western Region of the Queensland Fire and Rescue Service and is part of their rural operations. The region runs from Toowoomba in the east, west to the South Australian border and south to the New South Wales border. The region's major city is Toowoomba with most of the population concentrated in the eastern part of the region with the western areas more sparsely populated. The service usually has two officers looking after rural towns with a large number of volunteer rural fire-fighters on hand to assist, particularly with bush fire emergencies.

3.18 Public and community transport

There is limited public transport available to the region. This issue was highlighted by the community during the consultation process.

One private bus service is available to the study area on Monday, Wednesday and Friday as a stop-over along the route between Toowoomba and Rockhampton.

The Westlander train service, operated by Queensland Rail, runs twice a week from Brisbane to Charlevilles and services Miles.

The closest regional airport is located in Roma. The closest international airport is located in Brisbane. There is a small airport in Taroom and a small grass strip to the north of the Wandoan Township. Both strips are used for private planes, recreational flyers and aviation health service providers if necessary. Wandoan airstrip is particularly small and not suitable for large planes to access. No commercial flights are known to access either location.

3.19 Water and waste

The community workshop and survey participants noted concerns about the agricultural viability of local properties due to ongoing drought and the need for ongoing access to water supplies. Wandoan has been experiencing drought conditions for many years. The region was officially drought declared in July 2001. Ongoing access to water is vital to the region's agricultural industry.

Although there has been drought in the region in recent years, the community's general attitude to water is still relatively relaxed. Visits to the township show a regular use of sprinklers to water sporting ovals, local parks and residential lawns. Water usage in the township of Wandoan is particularly high. Studies show that potable water use in the town averages 1,480 litres per person per day (based on a population of 380 within the township). This is considerably higher than the target set for Brisbane residents of 140 litres per person per day. Wandoan's water is predominantly supplied by the two town bores, while access to water within the region is via community bores, private bores or from rain tanks.

Preliminary discussions with the Dalby Regional Council have indicated that the local landfill site is already nearing capacity with waste generated by the local region.

3.20 Community services and infrastructure

There are few community services which directly service the study area, an aspect which featured strongly throughout consultation with the local communities. Study area residents are able to access some Queensland government services such as Queensland Transport and Births, Deaths and Marriages, through a small dedicated agent in the Wandoan Township. The agent employs two staff and is open daily. The community also regularly access these services through a larger agent in Miles.

Counselling and community support services for the study area are also offered through Miles Community Inc. in Miles and are well used by both the Miles community and those in the study area to the north. These offices also act as Centrelink and Family Assistance offices and offer advice and access to government services involving pensions and benefits. The service employs over 60 staff over all its services including the provision of childcare services.

Taroom has a Youth Development officer available who can help young people with information on available services, referrals and counselling.

Medicare claiming facilities in the region are operated out of local pharmacies including the Wandoan, Taroom and Miles pharmacies.

3.21 Community service and organisations

Community service and volunteer work is identified as an important characteristic of the study area and regional community. When compared to Queensland's general population, the study area and the region contribute significantly more unpaid service to their community across all age groups as demonstrated in Table 3-26. This sense of community is shared through most age groups in the study area. All age groups contribute more than the Queensland rate. This is particularly evident in the 15 to 19 and 55 to 64 years age brackets.

Table 3-26: Percentage of community involvement in volunteer work

Age group	Study area	Region	Queensland
15-19 years	29%	24%	15%
20-24 years	8%	22%	14%
25-34 years	23%	33%	15%
35-44 years	42%	44%	22%
45-54 years	40%	41%	22%
55-64 years	49%	34%	20%
65-74 years	31%	31%	21%
75-84 years	23%	20%	13%
85 years and over	0%	8%	4%
Total	34%	34%	18%

Source: Australian Bureau of Statistics 2006

During consultation, community members commented that many of the organisations within the study area and region rely heavily on volunteers. Meals on Wheels and local show societies, sporting clubs (such as the Wandoan Gymnastics club) and local football clubs are all predominantly administered by volunteers, as are community groups such as the Lions and Apex clubs and district development associations.

Many of the directly affected property owners are heavily involved with community groups. These community members expressed their concern about the ongoing viability of those organisations if they were to move away from the area.

3.22 Summary of existing social environmental values

The community has a strong connection with the region's agricultural history and the land itself. They are very community-focussed, and have strong social connections and a healthy enjoyment of the rural lifestyle they share. Community members are family focussed and many have expressed their belief that the region is an excellent place to raise children.

The community expresses its strong connections through a robust provision of volunteer support to community services, groups and activities. Much of the community have lived in the community for most of their lives and many have been in the area since birth.

The properties within the region are used for agricultural purposes, usually a mixture of cattle and crops. The study area and properties affected by the MLA are also predominantly agriculturally orientated. The township of Wandoan is primarily residential with some mixed business and light industrial areas.

There are opportunities for farming families to live close to a town, which means they can more easily work off-farm and participate in social and sporting recreational activities. A number of organised sporting and leisure groups operate within the community and rely heavily on local volunteers.

The area's non-indigenous cultural heritage associated with agriculture is held in high regard and the community bases much of its tourism activities on this heritage as well as the area's connections with the travels of the explorer Ludwig Leichardt in the 1840's.

Retail facilities within the study area and the region are typical of regional communities with businesses catering for local needs. Businesses common in the region include pharmacies, post offices, service stations, hair dressers and small grocery stores. The nearest major shopping centre precinct is located in Toowoomba.

Access to local schooling in the region is good, although enrolment numbers for many schools within the area are small. There is only one high school in the region, which is located in Miles. Access to higher education opportunities is limited. Considerable travel is required to access the nearest TAFE and university campuses.

Housing rental prices in the area are relatively low when compared to Queensland averages and there is a good quantity of properties available. However, asking prices of houses listed for sale have increased. There are a high number of unoccupied houses properties in the region. There is little demand for community housing in the area at this time.

The supply of short-term accommodation within the study area is increasing. A number of motels have been developed and improved since the Project was announced.

Properties directly and indirectly affected by the MLAs are predominantly used for cattle grazing and some grain crop production. These property owners are long standing members of the local community and active participants and contributors to local community groups, churches, committees, schools and sporting clubs. Most of these property owners and their families have considerable historical connections to the community including some properties being won in the soldier settler ballots of the 1950s.

Services such as employment and training services and health are available within the study area and are adequate based on current demand. Basic access is available to most services required, though many are only available on rotation with other areas within the region. Sourcing suitable employees, particularly within health services can be difficult due to the area's regional rural location. Emergency services for the area are considered adequate based on the community's needs. Recruiting suitable employees for these services can also be difficult.

4. Description of proposed development

This SIA takes into account a number of key development features and elements of the Project. The following summary provides Project details which may influence the social outcomes for communities within the region.

The Wandoan Coal Project is a joint venture proposal by Xstrata Coal Queensland Pty Ltd, ICRA (Itochu) Pty Ltd and Sumisho Coal Australia Pty Ltd. promoting the development of open-cut coal mining. The Project's annual run of mine production will be 30 million tonnes of export steaming or thermal coal. It is expected to have a mine life in excess of 30 years. There is the potential for an open cut pit, Frank Creek Pit, to be within 500 m of the Leichhardt Highway, adjacent to the township of Wandoan. The coal will be processed on site before being transported by rail to the Port of Gladstone or Port Alma via the proposed Surat Basin Rail line.

This study also takes into account the provision of water and energy supply arrangements for the mine. However, this study does not include the social or economic impacts associated with Surat Basin Rail or port development projects which are the subject of their own studies.

The proposed development includes the construction of associated mine infrastructure including accommodation facilities that will hold the majority of the workforce during both construction and operation, administration buildings, equipment housing and mechanical workshops as well as a coal handling and processing plant. Below is a summary of the proposed inclusions and scope of this infrastructure and its assumed use.

- A 10 day on and 4 days off or similar roster will operate during the construction and a 7 day on 7 day of roster during the operation phase.
- Most of the mine workforce (construction and operation) will operate on a fly-in fly-out basis.
- The workforce will be primarily housed in purpose built accommodation facilities in or close to the mine site. The onsite self contained accommodation will include:
 - apartment style sleeping quarters
 - canteen, kitchen and crib preparation areas
 - mess hall, including wet mess
 - recreation areas and sporting facilities
 - ablution and laundry facilities.
- There will be no provision of onsite couple accommodation
- Provision will be made for limited 'hot beds' available for non-continuous construction or operation personnel.
- The on site accommodation facilities construction workforce will initially provide their own accommodation or use accommodation available within the region until sufficient units are constructed on site. These units will then be used for accommodation while construction and conversion is being undertaken

- The operational workforce for the accommodation facilities (catering, laundry, housekeeping, maintenance) will be externally sourced and live onsite
- It is anticipated that WJV will provide 15 houses (four bedroom) and five duplexes (two bedrooms) for its staff in Wandoan. These will house 25 staff and some of their families.
- There will be some members of the workforce who will be employed from the local area and others who will decide not to live on-site and instead choose to rent or buy within the study area or region. Based on calculations initiated from the Project IAS it is estimated that 20% of the Project operational workforce will choose to live off-site or 150 people will choose to live off site.
- Some WJV and other contracting personnel engaged during the construction works will move into the operational workforce
- There will be a two year construction period. Construction will continue during the first four years of operation. Minor construction works will then continue until the construction of the fourth dragline is operation in Year 16.
- During the construction phase WJV will recruit/transfer future operational personnel. These personnel will undertake mine infrastructure construction activities prior to moving into the operational workforce late in the second year of construction.
- The Surat Basin Rail, raw water supply pipeline and high voltage (HV) power supply workforces are not included as it is assumed they will be accommodated elsewhere based on their own specific pre-feasibility studies.

4.1 Project workforce numbers

Project workforce numbers (construction and operation) have been derived from information provided by the proponent and their contractors and have been compared to numbers involved in recent similar coal Projects in Queensland

During construction the workforce is, likely to peak at 1375 around the end of Year -2 or into early Year -1. There may be some overlap with approximately 80 operations staff in the final quarter of Year -1.

An estimate of 1345 has been provided by the WJV as the likely requirement of beds in the accommodation facility by Year -1 with around 30 workers accommodated in Wandoan, Taroom or Miles. The number of required beds will peak at 1425 in the last quarter of Year -1, as operations workforce begin to stay in the accommodation village.

There is expected to be an operations workforce of 412 by the end of Year 1 with an additional 90 workers required for shutdown. There will still be around 150 construction workforce working at this point.

By Year 4 the total operations workforce will be 754 plus 90 for shutdown and this will be the usual operations workforce until Year 16. In years 4 and 8 there will be a construction workforce required for dragline construction who will need to be accommodated in the village. A graphical example of Workforce predictions for construction and operation is included as Figure 4-1.

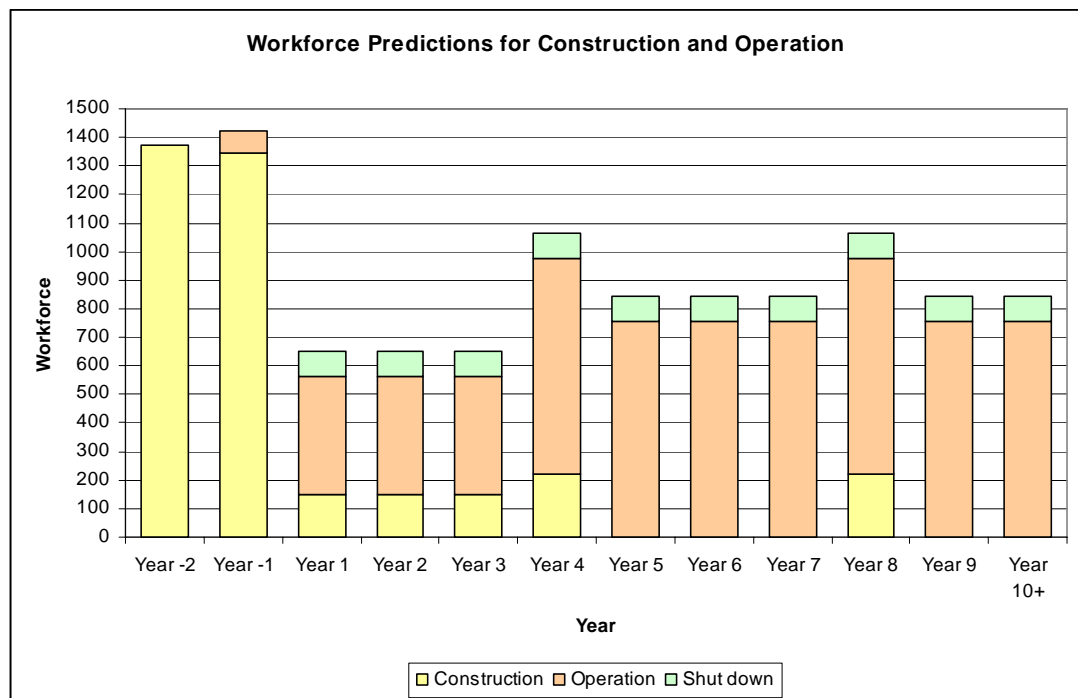


Figure 4-1: Graph of workforce predictions for construction and operation

4.2 Development profile

4.2.1 Construction phase

It is expected that the construction phase will commence in 2010 and is set to last approximately two years. This will include construction of the accommodation facilities and associated administrative infrastructure, and construction of mine infrastructure.

The construction workforce numbers are based on estimated personnel required to:

- construct the mine infrastructure including roads (new and relocations), water management, power reticulation, buildings and services
- construct housing in Wandoan for mine staff and their families
- construct the operational accommodation units and decommission the construction units at the completion of the construction period
- construct the coal crushing, washing, stacking, handling and train loading facilities
- construct the heavy mining fleet
- construct the second dump station and western conveyor
- construct the draglines.

4.2.2 Operational phase

The initial mining operations, between January and June 2012, will involve overburden removal and removal of coal. After July 2012, during the first operational year, it is expected that the first of the three proposed draglines will be operational and management and operating personnel numbers will be 412. This number will include mining operation and

dragline operation staff, accommodation facilities operations and mine management staff, and up to 90 personnel visiting the site for dragline or coal wash plant shut downs. The maximum total number of personnel required for operational and shut down numbers in the first operational year is expected to be 567.

5. Potential impacts to existing social environment

The following section identifies the potential impacts that the communities in the study area and the region may experience as a result of the Project. These impacts are based on a study of the existing environment, and an understanding of impacts on communities experienced in other similar projects.

5.1 Impacts on demographic profile

The Project is likely to impact on the demographic profile of the study area and the region. The largest initial impact is the likely change to population, mobility and demographic characteristics such as gender, age, employment, occupations, education level and industry. These changes will occur during various phases of the Project. It can be expected that demographics will fluctuate rapidly as the construction workforce moves on and the operation workforce takes their place.

The Project will require a peak workforce of approximately 1,375 people during construction and around 754 people by Year 4 plus 90 for operation. WJV intends to develop accommodation facilities on or immediately adjacent to the site. These accommodation facilities will accommodate the majority of the construction and operation workforces.

While it is expected that WJV will actively encourage local employment and participation, it is unlikely that the mine workforce will be able to be sourced in full from either the study area or region due to the small populations and high rate of current employment, in contrast to the large number of workers that will be required. As such, there will be a requirement to source the necessary workforces from outside the study area, region and potentially Queensland. Construction workforces will be sourced primarily from contractors to WJV and will be primarily transient as they maintain residences in other areas.

5.1.1 Changes to population

It is anticipated the majority of the Project mining workforce will maintain their primary residence outside of the region. Therefore, while the non-resident population of the area will increase, the affect will be controlled by the transient nature of the workforce. However, a steady increase in the actual study area population can be expected, through employees choosing to live with their families in the area and the growth of local industry services. Initially the potential gross increase in population within the study area is likely to be 8.1% and 2.5% gross increase within the region and does not account for the potential loss of population leaving the region as a result of the project. The potential for local services and facilities to increase over time will lead to an increase in population in the longer term. This can be expected to lead to better lifestyle opportunities for the community and the potential for social networks to develop.

An example of potential population impacts over the life of the mine is shown in Figure 5-1. At this stage of the project, with negotiations underway on the purchase of affected properties and approval for the project yet to be obtained it is difficult to assess the true population movements that may occur as a result of the Project. An assessment of the potential population movement over the general life of the mine is provided in Figure 5-1. This calculation is based on:

- 130 people (high estimation of total adults and children) leave the community from direct or indirect impacts of the mine, including properties impacted by the MLA. This figure is based on some families moving as a direct result of selling their property to the WJV for the project and moving out of the region, their extended family (for example their older parents) leaving the community and the general loss of community members who move away based on the potential changes expected for the town as construction begins.
- limited population movement in non-Project related population over the life of the mine. Accounting for a general increase of 10 people (includes adults and children) per year through migration or reproduction (high prediction) in the first ten years of the project. This has been calculated and is based on the possible growth in local business producing a more robust economy.
- 60% of the 125 WJV operations staff who choose to live permanently in the region residing within the study area with their families. Calculations have been made based on these employees bringing a partner and one child into the community with that figure increasing by 2 each operational year based on migration and reproduction.

Figure 5-1 shows the static population, such as current residents and mine staff living within the community will be reasonably stable over the life of the mine. The overall population will be presumed to increase quickly over the initial few years of operation and then have a steady increase over the life of the mine. The transient population, particularly construction staff, will have a large increase in population over a short period of time. However their figures will remain relatively static over the life of the mine until decommissioning when large numbers of staff will return to the area should other resource extraction activities not be available to continue employment and maintain tenure of residence.

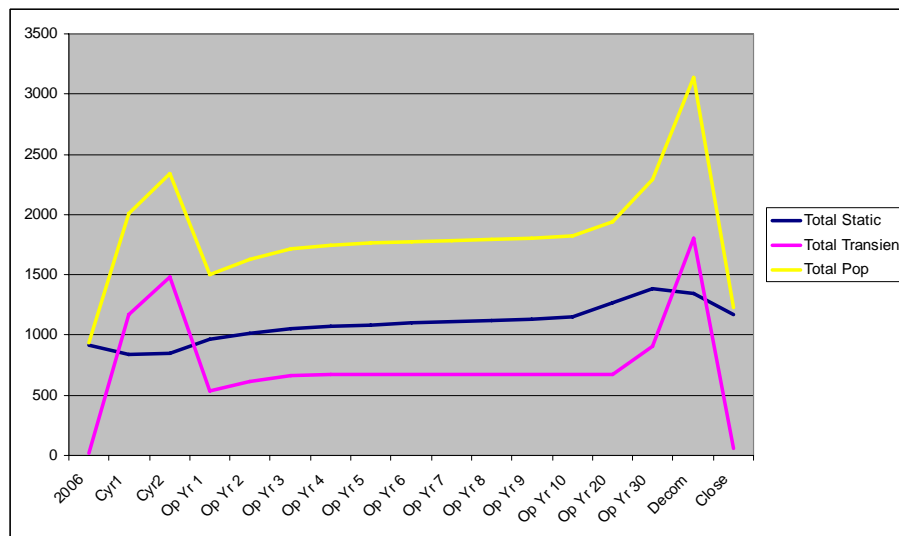


Figure 5-1: Potential population movements in the study area over the life of mine

Demographic impacts during construction

The impact to regional demographics during construction will be dependant on the number of construction workers who choose to live within the region, both during and after construction. At its peak, the workforce is anticipated to reach up to 1425 people. This will primarily be a non-resident population made up of people who travel to site for work from outside the region or state.

Historically construction workforces are dominated by males and as a result it is expected that there will be an increase in males in the study area aged between 20 and 29 years. The female population is not expected to increase considerably. While it is expected that some construction staff will bring families into the area, this is not expected to be a long-term increase in population, although the mine and associated employment opportunities may attract some young adults back to the area.

It is assumed that the industry profile in the area will also change considerably. It is anticipated that the study area and regional proportion of population associated with agriculture, forestry and fishing will decline, while the population involved in mining and construction will increase considerably. Impacts on existing industry may relate to the ability of property owners to attract and retain labourers and farm workers who may be attracted to higher-paying mine employment or who leave the area to pursue a more rural-based lifestyle.

During construction, it is expected that the Project population will almost equal the population involved in agriculture. Shift arrangements may dictate the number of construction employees residing in the region at any one time.

It is expected that the proportion of the population involved in managerial, professional and scientific occupations will also increase during construction. While management is the most common occupation in both the study area and the region, it is anticipated that experience in this role will be predominantly

focussed on farm and stock management. Managers with mining and construction experience are likely to be sourced from outside the area. The proportion of population involved in trades and machine operation will be expected to increase as these workers seek the higher incomes from the Project however this workforce will predominately be transient.

There is a high level of property ownership in the region, therefore affect on property pricing and accommodation availability should have little impact on resident population statistics. However, any changes in property prices and rental prices may affect those renting properties, people on low or fixed incomes or those provided properties under employment agreements. Young people entering the property market may also experience impacts.

Education levels of the region are expected to stay similar to existing levels.

There is likely to be an increase in dwelling numbers and potentially a decrease in the number of vacant dwellings as access to carpentry and home improvement services increases as owners look for opportunities to rent or sell those properties as a result of increased related to the Project. The types of dwellings will be impacted with an increase in both single unit dwellings but also an increase in semi-detached properties or town houses in the study area.

Demographic impacts during operation

While WJV has advised that employment opportunities will be made available to local people there will be an expected workforce of up to 754 people by Year 4 of the operational phase. With just 578 people in the study area aged between 15 and 65 years old at the 2006 Census, and based on their skills and occupations, there will need to be a high number of workers brought into the Project from outside the study area. This will mean the study area's non-resident population is expected to increase

Industry and occupations within the study area will also change. The proportion of the population involved in mining will increase, however agriculture, forestry and fishing will still maintain a strong share of industry populations. Once again the proportion of tradespeople and people involved in manufacturing, transport and management will also increase as a result of mining operations in the area.

The proportion of 20 to 29 year olds in the study area and region will increase after construction and substantially during operations. Currently the region is experiencing a drain of young people from the area as they leave to pursue education and employment opportunities elsewhere. It is expected that the overall population for this age group will increase. Anecdotally there has been feedback from the community that they feel the increase in employment opportunities will encourage their children to stay within the area or attract back those who have left to study or work elsewhere.

The area may also experience a greater diversity in ethnicity with the increased population as well as the potential for the population to have a greater variety of skills and education..

The number of dwellings is expected to rise in the area particularly the quantity of semi-detached and townhouses as it is anticipated that WJV will provide dwellings for staff in Wandoan in the form of 15, four bedroom houses and five sets of duplexes, each featuring 2 bedrooms. There is the potential for the number of vacant dwellings to decrease through a minor loss from the MLA areas but primarily as these houses may be made available for sale or rent as additional income.

Average household incomes will be expected to increase during mine operation as mine workers move into the study area. There is also the possibility that the likely increase in population will strengthen the incomes of local businesses. Table 5-1 shows a selection of mining roles and their current salary ranges as gathered from a recent Mining and Resource industry salary survey conducted by the recruitment company, Hays Resources and Mining. These salary ranges are based on Queensland specific data of residential positions excluding superannuation and additional benefits. Local community members who do not obtain directly operational roles may find employment in service related work to the Project and the accommodation facilities and would be paid accordingly (award wages) which would likely flow through to the local economy.

Table 5-1: Selection of mining roles and current Qld Salary Range

Role	Salary Range (\$)
Maintenance Superintendent	135,000 – 175,000
Maintenance Supervisor	95,000 – 125,000
Mechanical Engineer (Mid level – 3 to 7 years)	90,000 – 125,000
Leading Hand	95,000 – 115,000
Mechanical Fitter	80,000 – 95,000
Electrician	90,000 – 110,000
Boiler maker / Welder	85,000 – 95,000
Excavator Operator	90,000 – 120,000
Dump Truck Operator	75,000 – 105,000
Open Pit Supervisor	110,000-140,000

Source: Hays Resource and Mining 2008 Salary Survey

Demographic impacts during closure

This assessment has been undertaken on the basis of a mine life of 30 years and does not consider other mining operations or other infrastructure in the region which may provide employment for employees and contractors affected by the eventual closure of the mine. At the commencement of closure activities it is expected that there will be a gradual decrease in mine operation staff. This decrease in operational staff will affect the demographics of the study area and regional population.

If there is not sufficient resources-based or other commercial enterprise within the region to provide suitable opportunities, it is anticipated that the majority of the population brought into the region by mining will need to relocate to source other means of employment. This has the potential of changing the demographic

profile of the study area and region over a relatively short period of time. Potential demographic affects also include the loss of families from the region as they move to seek other working opportunities, an increase in gender balance, a loss of 20–49 year olds from the area and changes in occupations. There may also be a decrease in property values. It is also anticipated that the study area and region will return to an agricultural base. There is expected to be an increase in the transient population for a short time during mine decommissioning. Population will then be expected to decrease significantly on final closure of the mine. If there is any extreme or sudden closure of the Project the community may experience severe economic and social impacts as any abrupt and unplanned loss of the Project may cause a loss in property values, and economic uncertainty. It is imperative that any closure is managed in long term strategic planning for the Project.

However, the development of the Project is likely to be a catalyst for expanded resource extraction in the region, particularly coal considering the large resource base. Experience of other mining regions such as the Bowen Basin and Hunter Valley, suggest once mining has been established and base infrastructure built, a large resource base tends to guarantee that mining and associated activity outlives the lives of individual mines, reserves or ore bodies. This, in turn, allows these regions to maintain their population bases with only small fluctuations.

5.2 Social amenity, values, vitality and lifestyles

5.2.1 Impacts during construction

During the construction phase it is likely that the Project will have a significant affect on the social amenity, values, vitality and lifestyles found in the study area.

New people will move to the area. However, the majority will not take up full-time residence during the construction process. This may lead to no or limited social connections and isolation between the construction workforce and the community. At the same time some families directly affected by the Project, who currently contribute to the social amenity, may be lost from the area.

It is anticipated that community perceptions of the study area and region will begin to change during the construction phase. The study area's strong identity as a rural community may be challenged and values relating to safety, security and familiarity may change as the construction phase continues. The presence of such a large mining project in the region, particularly one so prominent in the study area, will potentially change their perceptions of the area from agriculture to mining.

The use of onsite accommodation facilities will restrict the workforce's interaction with the community and it is unlikely these workforce members will relocate permanently to the area. At the peak year of the construction phase, approximately 1,345 members of the construction workforce and just 30 operations workforce members will be accommodated onsite. Some members of the construction workforce may interact with the community through social and

recreational opportunities. However, due to shift arrangements, the opportunities for this may be limited. The community may perceive an impact to their lifestyles as their perceived safe environment is challenged as people they are unfamiliar with enter the community however, with the majority of workforce accommodated on-site and are likely to be regular visitors to the township.

Wandoan community tend to be insular and has indicated a concern that the community will close its sense of community cohesion and spirit as a result of the changes that the Project will bring. However, as the community begins to adapt to the changes experienced within the area, and the positives impacts of the project begin to emerge, it is likely that new social connections between the existing community and those new to the area will develop. T

The study area will shift from a predominantly agriculturally focussed community to one of a mix of industries.

5.2.2 Impacts during operation

During operation it is possible that some workforce members may choose to live in the study area or region with their families. This will add to the social amenity and will also assist in maintaining or improving local facilities through greater participation rates. These community members will be likely to participate in local activities and also contribute to the economic development of the area, through the use of locally provided goods and services.

The majority of mine staff will be housed in Wandoan with their families. It is anticipated that the workforce accommodated at the accommodation facilities will maintain very little contact with the general community. This group will most likely be bussed in and out of the accommodation facilities on a shift basis unless they choose to live locally.

The local and regional community view the Project as an opportunity for economic development and the improvement of local services and facilities. Some community members have questioned the actual localised benefit for the community and have raised concerns about health and lifestyle impacts. The quiet and peaceful aspects of the area will alter as the workforce move in and out of the area on a weekly basis. This will be related to increased traffic and the associated concerns about safety, additional pressures on services and an increase in people with whom community members are unfamiliar (and who will be considered 'strangers' within the area). These changes to the community will likely be evident in the early phases of operation but are expected to dissipate as the community adapts to the changing social environment.

Values such as familiarity and social connection, which are important to the people in this study area, may change. The community may become polarised from the mine workforce if they experience difficulties in building relationships. There may also be perceived disparities in wealth and economic opportunities that limit the vigour of new relationship building in the short term however, this is likely to diminish as the community adapts to the changes in social setting.

It is also possible that some families currently living in the study area will relocate to maintain an agricultural lifestyle and to avoid the mining industry. This will further change the existing way of life and deplete highly valued social connections.

The gradual growth in community members associated with the Project moving into the study area and the region has the potential of reinvigorating the community and bringing about new social connections, renewed enthusiasm for local activities and organisations and better opportunities for accessing services and facilities driven by the increased population and a stronger local economy.

5.2.3 Impacts during closure

As the community begins to accept and depend on the Project through the operational phase there is the potential for the eventual closure of the mine to cause a negative social impact. The operation of the Project will potentially make a substantial contribution to the social and economic environment of the study area and the region through increases to the local population, better access to services and facilities and by providing a boost to local businesses producing a changed but vital community potentially higher in social capital.

Social and economic impacts associated with the eventual closure of the Project will include:

- changes to local lifestyles, incomes, aspirations and futures
- impacts to the local economy and regional prosperity
- population changes as people move to other areas seeking work
- changes in landscape and land use.

Any sudden exodus of workers and their families away from the community is likely to cause a great deal of social impacts as their departure flows on to other aspects of the community and local economy. Any closure of the Project would need to be managed over the long term to allow the community time to adjust.

Due to the large resource base within the Surat Basin area it is likely that other projects are likely to begin operation in the region will provide opportunities for employment and industry and will negate major issues associated with the closure of the Project.

5.3 Business and enterprise

One of the strongest benefits for the community is the potential for the strengthening of local businesses, diversification of local industry and the opportunities for financial gain as a more robust local economy develops as an indirect result of the Project.

Businesses within the study area and the region focus primarily on the local market and may miss opportunities for growth through the inability to keep up with the growth of the region, access to appropriately skilled workers due to

competition with resource extraction industries, or insufficient funds to invest to promote and manage growth particularly in a “boom” period of project activity in the region.

There is potential that local companies may be overly optimistic about demand for their products and services as a result of a perceived increase in the economy and may make investment decisions which harm the ongoing sustainability of their businesses; however well developed plans for expansion and increased service supply could provide exceptional opportunities for growth and profit.

Competition for labour and subsequent wage inflation may impact negatively on businesses relying on labour, as will the availability of affordable accommodation for these workers.

5.4 Psychological impacts

The psychological impacts of the Project are difficult to quantify. The way communities and individuals process impacts can often be dependant on their experiences, current lifestyle, resilience and upbringing, as well as their own understanding and experience of the world. Their connection to the Project or the way the Project impacts them personally, will generally be the biggest contributor to the level of psychological impact they experience and this has been highlighted through consultation as community members express their concerns and aspirations.

Community consultation has identified that some members of the community, particularly affected property owners, are going through a grieving process, as they come to terms with losing their properties. Others are concerned about the loss of friends, family and social connections. Anecdotal feedback from the community over the course of pre-feasibility studies has indicated that there are concerns including:

- uncertainty about major changes to the community
- potential changes to lifestyle during the pre-feasibility studies
- major life choices
- concerns about property values of affected and acquired properties
- rehousing displaced families within the community
- impact on housing costs and local economy
- changes to an area's visual amenity and loss of agricultural land
- ongoing impacts by noise, dust, vibration, access and lighting through operation.

These concerns were also noted in the community survey and community workshop activities.

There are a number of community members who are excited by the opportunities the Project may offer in terms of jobs, training, and the potential increased value of their properties, the increased opportunities for small business and the potential financial benefits which may eventuate through a revitalised local economy. It is hoped by many in the community that the Project will provide opportunities for the region's young people to stay within the community or encourage those who have left to return.

5.4.1 Social connections and rural isolation

The study area provides opportunities for rural enjoyment without the need to travel extensively between properties. Throughout the consultation activities, the community expressed their strong family and social connections with many community members describing the community as 'close-knit' and enjoying the social life and activities they share.

As construction begins and some families affected by the mine move away, the remaining community may experience a sense of grief and isolation with the loss of family, friends, and colleagues impacting their existing social networks.

The community within the study area may not accept the workforce and their families who move into the area. The sudden increase in population may be overwhelming and many may not feel comfortable interacting with new community members. A perceived disparity between income and education and a resentment of the Project itself may also discourage interaction and lead to feelings of isolation for newcomers and weaken social connections within the existing community.

For others in the community the Project offers the potential for new social connections and the reinvigoration of the local community. For some it means the opportunity for family and friends who had moved away from the area to seek work or pursue other opportunities to move back into the area. During consultation a number of people contacted the consultation team expressing interest in employment within the Project. Many of these people had advised the team that they had grown up in the area, moved away for work and were now looking forward to the chance of returning through employment within the Project.

5.5 Social order

Many workers from elsewhere in the state will commute to the Project site leaving their families for that time. It is the perception of many community members that it is possible that with high population increases there may be a small proportion of workers may engage in anti-social behaviour.

The perception of the potential negative impacts to social order through construction and operation is strongly held by the community with these perceptions most strongly linked to the construction workforce. However, with the majority of project workforce located on site and robust employment and

behaviour protocols it is unlikely that this fear will be realised. Project discussions with representatives from Dalby Regional Council noted that recent experiences in Chinchilla, accommodating large numbers of construction personnel associated with Kogan Creek Power Station identified that this perception is often proven incorrect and that behaviour of workforce related to the Project was very good.

Project proponents and their contractors have displayed an extremely low tolerance for staff displaying anti-social behaviour. Current employment protocols and employee benefit programs are in place to help to promote best behaviour from workforces. It is unlikely that the community's fears about the negative behaviour of both the construction and Project workforce will be realised.

5.6 Noise impacts

A technical study on potential noise impacts and appropriate mitigation measures is included in Chapter 15 of Volume 1 and the associated technical report.

There may be a number of factors contributing to increased noise that may be experienced by the community. Noise generated by construction and mining operations will be the main cause of noise impacts. However, there is also the potential for increased highway and road noise from the traffic related to the Project.

Through community consultation, it has been found that the community perceive there will be substantial noise impacts on their lifestyle. The community have described the quiet atmosphere they currently enjoy and expressed concern that increased noise from the Project will be detrimental to the way they relate to their natural environment.

5.7 Dust impacts

A technical study on potential impacts from dust in the area and potential mitigation strategies is included in Chapter 13 of Volume 1 and the associated technical report.

Community consultation has revealed that the community is concerned about the potential negative affects of dust on their lifestyle and particularly on their agricultural activities. Members of the community have queried how coal dust affects grazing cattle and crops as well as the potential affects to human health. Lack of knowledge regarding these issues may create distress and concern.

5.8 Vibration

A technical study on potential impacts of vibration associated with the mine and potential mitigation strategies is included in Chapter 16 of Volume 1 and the associated technical report.

5.9 Light impacts

A technical study into potential impacts of lighting of the area and potential mitigation strategies is included in Chapter 19 of Volume 1 and the associated technical report. Lighting used on the Project site will be most evident during the initial construction period. Nights in Wandoan are very dark as the town has little light pollution and is at least 300 km from major towns. The introduction of strong lighting during construction, even if only for limited portions of the construction phase, will be different from the current night environment.

During operation there will be the need to light the mine area for night mining which may impact the community surrounding the mine and particularly those adjoining the MLA areas.

5.10 Visual amenity

The proposed size of the mine and its proximity to the township of Wandoan has the potential to affect the visual amenity of the area. A technical study into potential changes to the visual amenity of the area and potential mitigation strategies is included in Chapter 19 of Volume 1 and the associated technical report.

One major issue encountered throughout the consultation process was the connection of the community with the land through rural heritage and a general concern regarding identity loss and being perceived as a “mining town”. The proximity of the Project to the Wandoan Township will mean the mine, out of pit spoil dumps, mine infrastructure and equipment may potentially be visible from the Leichhardt Highway and some surrounding areas.

The affects of this change in visual amenity will potentially be substantial for those used to seeing rural undulating pastures. Visual impacts will be different for individuals and could be based on a variety of factors including their personal connection with the land affected by the MLA, their outlook over the MLA and even their general opinion of the Project.

5.11 Current land-use

The agricultural uses of the properties within the MLA areas will have the greatest land use changes as they are purchased for the Project. However, there should be limited impact on surrounding land use. Agriculture in the study area and region will continue. Studies of potential environmental impacts on current land use are included in Chapter 8 of volume 1.

The project will affect the movement of stock between properties via recognised stock routes to a small degree and may impact the general seasonal stock rotation routines where stock are moved to fattening pastures before sale or processing. It is important that all stock route users are notified of these changes and that appropriate signs are erected along the routes which will require ongoing consultation with local authorities by the WJV.

Construction will bring about initial changes to land-use. Parts of the Project area will change from rural to more industrialised land-use. Rural land may begin to see impacts on mine infrastructure related to power, water and transport and the construction of the accommodation facilities. It is anticipated that some cattle grazing will continue on project land not initially used for construction or operation.

5.12 Water and waste

The increase in population throughout the life of the mine will increase the demand for water, waste water treatment and waste management services in the local area.

Social impacts related to water supplies and waste treatment, in the study area and region, during construction and operation are expected to be minimal and changes to potable water use facilities to increase the service to the on site accommodation facilities will likely improve supplies for those residing in Wandoan Township.

5.13 Existing lifestyles

The community has indicated they enjoy their healthy, rural based lifestyle as well as the peaceful and quiet atmosphere of their community. Residents also enjoy the clean environment, which is free from industrial pollution. The community has outlined that it is concerned that this lifestyle aspect, as well as other features, may be threatened by the Project. Key concerns relate to:

- changes in friends and social activities
- stress associated with property valuation and purchase negotiations
- lives busier with more people and traffic
- The anticipated changes to local lifestyles generally relate to the proximity of construction and mine operations to the township of Wandoan. Potential impacts include:
 - environmental issues such as noise, air quality, vibration and lighting
 - changes to rural landscapes and vegetation
 - changes in local road networks and access
 - pressures on local facilities and services
 - impacts to heritage features
 - safety on local roads during shift changes and construction haulage.

Overall the incoming population may aspire to lifestyles which are significantly different to those of the existing community. The incoming population is expected to have higher household incomes leading to different spending habits and potentially different lifestyle priorities.

5.14 Recreation, leisure and sporting facilities

It is unlikely that recreation, leisure and sporting facilities will experience major changes during the construction phase of the Project. There may be a down turn in participation rates due to the number of property owners within the affected area who may leave. Many of the property owners directly impacted by the Project are highly involved in local sporting and recreational activities. Many of these property owners and their families are likely to leave the area and, if their input to local groups is not replaced, there may be impacts which affect the ongoing viability of these clubs and organisations.

The operation phase may see an increase in the number of activities available in the study area as the population increases. Also, participation may increase and new vitality associated with recreational pursuits may develop through different experiences and new ideas.

5.15 Culture and heritage

It is anticipated that the cultural profile of the study area will change as a result of the Project, during both construction and operation phases. A greater reliance on mining may shift the focus from agriculture. As the study area will no longer be dependant on the agricultural industry for financial stability, there is potential that farming families will gradually become marginalised. This will not be the case at the regional level where agriculture will maintain a dominant presence.

The community is strongly connected to its agricultural history and their properties and a number of properties to be purchased by the Project have been passed through the local families over multiple generations. As these properties are sold and families move on, there is potential for these families to feel disconnected from their family history, particularly as many of these sites will no longer exist as accessible properties.

During operations, young people may be inclined to remain in the area for employment opportunities and a slight increase in families moving to the area will help to sustain local cultural activities and services. While the potential increase in household incomes through the generated prosperity of the Project may help revitalise cultural and social activities, this may be countered by the increase in working hours. An effective work/life balance will need to be maintained to ensure that opportunities for social interaction in a revitalised cultural and social environment are available.

It is anticipated that the historical significance of the area will be maintained and shared with people moving to the area. However, activities and sponsorship associated with mining may influence how the community meets, the issues that concern them, and the local features and customs they identify with.

Non-indigenous cultural heritage features identified within the MLAs may no longer be able to be visited by the community or only done so with Proponent approval, so as to protect the public from hazards associated with Project construction and operation.

Information of indigenous cultural heritage impacts can be found in Chapter 20A of Volume 1.

Access to culturally important areas and landscapes outside of the Project area are unlikely to be affected by the Project.

5.16 Tourism

Tourism in the area is focussed on farming heritage as well as being associated with the travels of Leichhardt the explorer. There will be little impact on existing tourist operations as a result of the Project. Since the announcement of pre-feasibility studies into the Project there has been a steady increase in short term accommodation available in the study area. This increase has more than doubled the rooms available. While this increase is evident it is anticipated that the availability of short-term accommodation will be impacted during the initial construction stage as Project related staff occupy rooms. This impact will occur until the accommodation facilities are available and may be apparent for up to six months after which point the rooms will become more readily available as tourist accommodation.

The Leichhardt Highway is often used by tourists, particularly those in motor homes and with caravans. The close proximity of the Project to the highway may discourage tourists from staying in the study area due to perceived noise or dust impacts. However, it is likely that some visitors will be drawn to the township of Wandoan out of curiosity drawn by the visible mine infrastructure and equipment. Mining operations in close proximity to residential centres are rare within the region. This may, in turn, result in increased patronage to local businesses and tourists stop over in the town.

5.17 Accommodation

5.17.1 Accommodation for Project Workforce

The majority (80%) of the workforce will be sourced from outside the study area and region, and it is estimated that workforce members will travel to the Project from their primary residence. During the operation phase it is anticipated that pressure on accommodation services will be marginal, as the workforce will be largely housed onsite.

A recent study of a similar mining operation with a primarily fly-on fly-out workforce in regional Queensland indicates around 33% of that mine's workforce resides locally. A summary of this study is provided in Table 5-2. The majority of mine staff lived within the communities neighbouring the case study mine (the study area). The study showed that the majority of employees and permanent contractors were located outside of the study area. Those who travel to site are based predominantly along the coast and in major business centres such as Brisbane and Toowoomba.

Table 5-2: Regional study of locality of mine workers of a regional Queensland mine operation

Staff		Employees		Permanent Contractors	
Brisbane	17.14%	Brisbane	6.82%	Brisbane	2.63%
Mackay	5.71%	Mackay	7.95%	Mackay	0.00%
Case Study Area	42.86%	Case Study Area	30.68%	Case Study Area	28.95%
Region	8.57%	Region	3.41%	Region	10.53%
Rockhampton	11.43%	Rockhampton	13.64%	Rockhampton	13.16%
Gold Coast	8.57%	Gold Coast	7.95%	Gold Coast	0.00%
Bundaberg	2.86%	Bundaberg	4.55%	Bundaberg	15.79%
Toowoomba	2.86%	Toowoomba	6.82%	Toowoomba	7.89%
		Moura	5.68%	Moura	5.26%
		Dalby	1.14%	Sun Coast	2.63%
		Kingaroy	1.14%	Gladstone	2.63%
		Sunshine Coast	2.27%	Gemfields	2.63%
		Gladstone	3.41%	Barcaldine	2.63%
		Capella	1.1%	Monto	2.63%
		Blackwater	1.1%	Ingham	2.63%
		Gemfields	1.14%		
		Wallumbilla	1.14%		

Source: Xstrata Coal Queensland

Based on the choices made by mine workers at this case study mine site, in addition to the 35 off site housing places provided by WJV for its staff, it has been assumed about 20% of the operational workforce (125 workers) will eventually choose to live away from the on site accommodation facilities. It is further estimated that 75 will choose the Wandoan district and the remaining 50 will be split between the Miles and Taroom district. The split of off site workforce has been calculated assuming 60% will chose to live in the study area and 20% in Taroom and 20% in Miles as they are within safe driving distance of the Project and may offer alternative lifestyle and community attractions. There is no concrete way to determine exactly what that split will be as there are many variables which will affect the individual decisions of the employees. However, it is likely some of these variables expected to influence the decision are:

- availability of suitable housing (cost, standard of housing, number of rooms etc)
- availability of employment opportunities for other members of the family
- state of current housing markets (i.e. prices compared to alternative locations), interest rates and forecast housing trends
- availability of schools, banks, medical and other essential service providers

- proximity to transport
- diversity of businesses and services (for example, banks, medical services, competitive grocers)
- road networks for travelling to work and other shopping and recreational destinations
- location and type of social and sporting clubs and activities
- availability of family support networks
- aesthetics of the towns and surrounding area.

WJV has confirmed that travel to Miles or Taroom prior to and following a shift will be acceptable as part of their fatigue management and health and safety requirements. It is expected that the full impact of these off site accommodation choices will occur by the second year of construction..

All three towns have vacant residentially zoned land available for development. Although suitably zoned, undeveloped land available in Wandoan and Taroom will need to be subdivided and developed to supply the expected demand. Based on experience at other XCQ mines, it is expected that XCQ, in conjunction with the local council, will have to undertake some residential subdivision with private investors providing the shortfall. It is also expected that XCQ will have to carry the subdivision risk and hence development costs of some of the allotments created until they are purchased.

With the amount of private subdivision activity in Miles, it is expected that sufficient allotments will be available to meet the expected demand without XCQ having to assist subdivision works.

The Project is likely to affect accommodation availability and affordability within the region and particularly within the township of Wandoan; though some of these impacts will be indirect and related to property speculation as opposed to actual project demand.

During the construction phase it is anticipated that the accommodation availability will reduce during initial stages. Housing may be needed for professional staff in the initial instance, followed by contracting staff. It is expected that substantial changes to the availability of accommodation may be avoided if construction workforces are accommodated on the Project site within the accommodation village. Support and contracting services may short-term require accommodation, which will lead to pressure on local service providers.

ABS data indicates that there are a large number of vacant premises available across both the study area and the region. It is anticipated that many of these properties may be made available for rent or sale on Project approval. While these properties may contribute to easing pressures on local housing availability, not all will be available or suitable for project accommodation. Community members have anecdotally communicated to Project team that they are intending to renovate properties for rental for those associated with the various projects occurring within the region. It is likely that property owners choosing to

renovate or construct properties for to meet potentially increased demand may encourage a greater number of tradespeople, contractors and those in the housing construction industry to offer services within the region. Anecdotal evidence suggests that these services are already increasing as a result of the service but there is still room for growth.

Due to current development constraints in the Wandoan Township and pressure on accommodation stocks throughout the region, it is expected that housing demand will exceed the supply and that this will impact greatly on housing affordability. This is likely to be as a result of the cumulative impacts of resource extraction industry growth in the area rather as a specific impact of the Project which will need to be managed by the various project proponents and local and state government agencies.

The potential imbalance of available properties in relation to the potential demand may contribute towards higher rents being sought by landlords. Any increase in accommodation costs, particularly rent, will affect those on low or fixed incomes. Families currently residing in the study area and region who do not own property or those wishing to relocate to the area may find it difficult to obtain suitable, affordable housing and may be forced to look outside the region. The displacement of this group of people will also have a detrimental affect on the township and will emphasise the disparity between the income of mine workforces and the existing community.

WJV have indicated that it intends to construct about 15 houses and 10 duplexes in Wandoan, providing accommodation places for 35 personnel and their families. The remaining anticipated demand will be met from private or other associated company rentals, purchases and construction of new dwellings. The number of new dwellings will be dependant on sales and rentals achieved. There will be no couple's accommodation available in the on site accommodation facilities which may affect the choices of workers who do not wish to work away from their partners.

Wandoan is a township with limited opportunity to expand in relation to the availability of land in the area. Throughout the consultation process there has been a strong desire by community members for WJV to encourage their workers to reside in the local area with the study area or region to encourage participation in the community, schools, churches, community services and to benefit local business. Initially it may be difficult finding accommodation when the initial construction workforce is mobilised, however, this is not expected to continue as the on site accommodation facilities built. Land and housing availability and the cost of accommodation may be key aspects in encouraging and assisting these workforce members to move to the area.

It is also assumed that half of directly-affected property owners will move from the region based on current availability of suitable properties and the intentions of property owners generally communicated during consultation. The potential loss of approximately 20 families from 206 in the study area equates to a 9.7% reduction in families in the study area or a loss of 1.5% in the region. Feedback

from the families affected by the Project indicates that many are hoping to relocate within the region.

5.18 Short term accommodation

On a long term basis it is not proposed to house any of the operational workforce in hotels, motels or caravan parks, however there is likely to be a short term demand for this accommodation at the commencement of the project whilst the site based accommodation village is being constructed.

During construction peaks, which may exceed the on site bed provisions due to unscheduled events etc, this type of accommodation will be required to accommodate the on site shortfall. WJV staff, consultants, suppliers and maintenance workers who visit the Mine on a temporary or irregular basis are most likely to use this type of accommodation.

Demand for short term accommodation during project operation will be mitigated through the provision of 'hot beds' available for non-continuous construction or operation personnel, contractors and visitors.

5.19 Community housing

The need for community housing may is anticipated to rise should as accommodation affordability and availability decrease within the region however this is expected to occur gradually over a longer period of time and be relative to employment opportunities available within the region as a result of increased economic opportunity and the general state of the real estate market in the future. The main impacts will be as a result of individuals or families currently renting within the region and on low or fixed incomes that may be displaced by sharp rent increases once demand for rental accommodation in region increases. This displacement will be particularly evident for those who have social and family connections within the region and who want to continue to reside in the area rather than seeking accommodation elsewhere.

5.20 Education

5.20.1 Primary and secondary

It is expected that the Project will not have a significant affect on schools within the region. It is not expected that large numbers of children will move into the area with their families once the project begins. It is expected that the majority of the construction workforce will be sourced from outside the study area and region and housed within a purpose-built accommodation facilities. This will not increase pressures on local and regional facilities as it will limit the number of families moving into the area.

However, in the short-term the possible loss of up to 20 directly-affected families may generate considerable impacts on education facilities within the study area.

Consultation with property owners affected by the Project highlight that over 20 children may initially leave Wandoan State School leaving a population of just over 100. There may be as many as 6 children who leave Grosmont State School leaving an enrolment of just 6. Other schools in the area are not expected to experience any noticeable loss in enrolments.

Displaced families may move towards other centres in the region however a discussion with Queensland Department of Education, Training and the Arts suggests that these are unlikely to generate pressure on these existing services.

Based on WJV predictions it is anticipated 125 employees will move to the study area during the operation phase. These employees may bring children into the area of schooling age. This gradual change in population will compensate for the loss of families from the area. Therefore, it is anticipated that school populations across the region will remain largely unchanged over the longer-term

Enrolment numbers in local schools are in decline so additional children into the system, especially after the initial loss of families directly impacted by the mine, will help control that long term trend. Discussions with service providers suggest that local schools have sufficient capacity in both facilities and teaching staff to take in more enrolments if the population increases and these resources are identified annually and managed as need arises. Wandoan State school in particular currently runs at a much lower enrolment than what its campus and facilities' could manage.

Ongoing consultation with the education providers within the region will need to continue to understand ongoing enrolment projections for local schools and any impacts the Project may have on these numbers. The impact on the viability of schools, particularly of those schools with very small enrolment will need to be managed in partnership with the Queensland Department of Education. The Department of Education currently has a number of frameworks in place to monitor these impacts, and it will be expected that WJV will work with these organisations to provide information that contributes to this process.

There is the potential for Project activities to affect school bus routes in the area which may impact education choices for community members. Four bus routes will be affected by the MLA areas and potential road realignments. Based on the numbers of students using these services today, these changes will affect 26 primary students and eight secondary students attending Wandoan State School, and nine primary and two secondary students attending Grosmont State School. Some of those students may also leave the region due to the direct impact of the Project on their family properties. Queensland Transport have indicated that student fluctuations in bus service is common and manageable with suitable consultation.

During consultation a number of community members expressed hopes that any increase in school population attending Wandoan School may encourage an extension of senior levels from Year 10 through to Years 11 and 12. This will decrease the need for students to leave for either boarding school, or weekly boarding in Chinchilla or Miles for Senior Education. If vocational training was to

become available, some young people will have the opportunity to undertake school-based apprenticeships and traineeships and then enter employment at the mine, in construction or its support industries. This will allow more opportunities for young people and contribute to slowing the existing trend of population loss in these age groups through out the region.

5.21 Childcare services

As construction begins and property owners affected by the Project leave the area, there may be some initial decline in numbers using childcare in the study area. It is anticipated that this loss of children using the service will not impact negatively on services and children currently on the waiting list will most likely move on to fill spare places.

During operation there will likely be increased demand on childcare services in both the study area and the region. Currently, there is limited long day care services available within the region with the only full-time full day childcare centre located in Miles. This may impact the choices of workforce families, particularly if both parents choose to work and may influence the choice these workforce families make in relation to where to base themselves.

5.22 Health services

There may be conflict between what is reasonably available to the community through current health care services and what is expected from the health care services once the Project is underway. Health Care representatives from the study area and region are concerned that they will not be able to deliver the service due to staff and resource shortages often related to the ability to recruit staff to regional areas.

The Project itself is not anticipated to have a direct affect on health services as WJV will employ specialised health service providers for their employees.

Services by the local doctor are not expected to be greatly affected by the Project through construction. However, as the population of the study area grows there may be a need to increase access to the services of a General Practitioner.

5.23 Emergency services

The main contributors to changes in demand for emergency services will potentially be through road accidents as the number of vehicles on local roads increases with the Projects development. Representatives from the QAS are concerned that population increases due to the mine may mean more staff are required to service their area. The potential increase in population could become critical to the services and staff numbers provided by QAS, therefore clear indication of Project construction and operational staffing numbers needs to be provided to QAS as part of the ongoing consultation process with service providers by the WJV.

5.24 Social services

Social services including counselling and community care services in the region may experience changes in demand due to the Project. Initially there will be an increase in demand for counselling and social services as property owners affected by the MLA areas make decisions on their future.

There is also expected to be an increase in people moving to the area hoping to find employment at the Project or its associated industries. Should they not be suitable for mine-related roles there may be an increase in the dependence on government organisations including Centrelink and the Family Assistance Office. Discussions with the main providers of these services in the region have identified sufficient capacity and room for growth to handle any increased need for their services.

There are a number of community volunteer run organisations in the study area and the region such as Meals on Wheels. The loss of community members active in volunteering roles may affect the provision of these services. The transient mine workforce will be less likely to participate in community organisations. However, mine staff and their families encouraged to live in the community may be prepared to work with these local groups to support the services they provide.

5.25 Roads

5.25.1 Road realignment

The mine will be accessed via a newly-constructed private road which will join the Leichhardt Highway approximately 8 km to the north of the Wandoan Township. The mine access road will enable safe traffic movement to and from the mine site and accommodation facilities via security at the main gate to the mine site.

The Project area is traversed by a number of existing roads, most notably the Jackson-Wandoan Road. The proposed pit locations will result in a number of road closures, requiring new sections of roads and road relocations within and adjacent to the MLAs, including the Jackson-Wandoan Road.

The local roads which will require temporary closure and/or realignment as a result of the Project include:

- Jackson-Wandoan Road
- Peakes Road
- Paradise Downs Road
- Grosmont Road
- Q Road
- Booral Road

- Kabunga Road
- Ryals Road
- Cecils Road.

Chapter 6 of Volume 1 and associated Technical Reports discuss road changes and assessment in further detail.

Temporary road closure will result in a number of potential social impacts. Some members of the community have commented that they are used to travelling long distances due to their rural lifestyles (for example travelling as far as Toowoomba for shopping or to Chinchilla or Dalby for certain medical services etc). Any improvements to local services and facilities which eventuate from the Project may initiate changes to these travel habits.

While road upgrading and improvements will be welcomed by the community, some increases in travel distances may negatively affect those transporting livestock or produce to and from their properties. For agricultural businesses, these costs are calculated on a per kilometre basis.

5.25.2 Road safety

Road safety is a concern for the communities adjoining the Project. Additional commuter and commercial traffic, especially heavy vehicles, will be experienced during the construction period. This may result in the potential for an increase in traffic incidents.

The impact of driver fatigue on road safety is a serious consideration with regards to road safety as workers leave after 12 hour shifts to drive home. Allowable travel times and distances will need to be established with construction and operations staff. WJV has a range of strict health and safety policies as part of employment conditions relating to fatigue management, which will be implemented and managed over the entire employment cycle for all staff members and contractors.

Chapter 12 of Volume 1 and associated Technical Reports discuss road safety and road impact assessment in further detail.

5.26 Public and community transport

The road realignments may also affect local school bus routes as discussed in Section 5.33.

There is expected to be no impact on the running of the existing private bus services through to Rockhampton, however the increased traffic and associated impacts on road safety will potentially impact on running times and safety procedures.

Opportunities may exist in expanding the access to public transport to include more private bus services.

5.27 Local employment and training

There is a high rate of employment identified within the region which may reduce the capacity of existing residents to provide labour to the Project's workforce or cause a displacement of people from existing industries.

Anecdotal evidence from community members suggests a number of people are 'under-employed' meaning that they are working, but have more advanced skills or capacity than they currently use, or that they only work casually, but will prefer to work full time if suitable positions were available. Some community members have suggested that they work on family-owned farms but will like to take on other employment that did not preclude them from this farm work. Some community members indicated that many local families have children or young adults studying, planning to study or who are working in fields for which there may be employment at the mine. They believe the project will encourage these young people back into the study area if suitable employment opportunities were available.

It is recommended that a skills audit be undertaken to provide a qualitative indication of the skills held by the local and regional communities. Currently there is a high proportion of management staff associated with agriculture and property management living in the region. This skill may not transfer easily to the Project. However, the proportion of labourers, as well as machinery operators and drivers in the study area is also high and employment opportunities may exist for this group though there is overall likely to be a skills shortage within the local labour market.

On a state level, in August Quarter 2008 there were 35,100 males working in the Mining Industry in Queensland and 5,200 women (ABS 2008). There is likely to be ongoing demand for these skilled workers in the future and potential issues in supply of experienced workers.

The study area community has raised the importance of the Project providing employment for local people. This issue has particularly been recognised by the Community Reference Group (CRG) established as part of ongoing community consultation.

A loss of young people from the study area and region, identified through demographic profiles and the community consultation process, is a key issue for the community. Training programs and apprenticeships aimed at local school leavers may help to maintain people in the local area and region and will assist in making the mine operation workforce part of the community. At this stage, training and educational facilities in the area do not relate directly to the mining industry.

It is also important to note that skills associated with managing and servicing the accommodation facilities will also be necessary. Some local people may gain employment through services such as catering, administration and maintenance; however the management of facilities and therefore employment will likely be sourced from major contractors.

New services and facilities may also open in the area to support operations or to capitalise on development in the area. This may provide avenues for the employment of local people and existing services and facilities will be encouraged to grow during the operation phase.

The majority of the construction workforce will be employed through contractors working for the WJV.

There is the potential for competition to develop between agricultural and resource extraction related industries for employees which may positively impact employee wages but may result increased workforce costs being passed on through raised prices to local consumers.

Direct and indirect employment

The Project is likely to have direct employment impacts for the study area and the region through the creation of new opportunities and the diversification of industry. However, it is expected that more indirect jobs will be created as a result of local business growth, local spending by the Project workforce and investment stimulated by the revitalisation of the local economy.

5.28 Properties directly affected by the MLAs

Properties directly affected by the MLAs will be purchased. Property owners and their families as well as their employees and tenants will be required to vacate their properties before the end of 2009 or as otherwise agreed with the WJV. Some property owners may have the option of leasing back their properties from WJV until it is required.

Negotiations with affected property owners are continuing with affected property owners at the time of writing this report. The proponent is negotiating directly with property owners directly affected by the Project; the details of these negotiations are confidential and cannot be included in this report. During discussions with property owners in September 2007 many of the property owners had indicated their desire to stay within the region, mainly due to their social and family connections, their tenure within the community and their high regard for the surrounding land quality. Their ability to stay within the community was dependant on the availability of suitable, affordable properties within the region.

5.29 Properties indirectly affected by the MLAs

Properties identified as indirectly affected by the MLAs may be affected by issues related to visual amenity, noise, dust, vibration, access and lighting, as discussed previously.

As construction activities commence the properties along some parts of the MLA boundaries may begin to experience an increase in noise from both construction and associated traffic. Currently the area is very still and peaceful with the majority of noise generated by trucks on the Leichardt Highway. It is likely that

many properties bordering the MLA will not experience any affects for a number of years due to the size of the MLA area.

The mine is likely to be visible from a number of the surrounding properties, particularly the lights from the mine at night. Some properties may also experience dust, noise and vibration from mining operations.

Many property owners in properties adjacent to the Project have strongly expressed their desire to stay on their properties regardless of the impacts of the Project. Their proximity to the mine through construction and operation has the potential to cause impacts on the lifestyles they enjoy.

5.30 Mine closure

As the community begins to accept and depend on the Project through the operational phase, there is the potential for the eventual closure of the mine to cause a negative social impact. The operation of the Project will potentially make a substantial contribution to the social and economic environment of the study area and the region through increases to the local population, better access to services and facilities and by providing a boost to local businesses.

Throughout the life of the mine, diversity within the local economy in employment, training and industry, is important in ensuring a continuity of opportunities for the local community.

5.31 Potential cumulative effects

The WJV and a number of other project proponents in the region are investigating the potential for other resource extraction and associated infrastructure projects run in parallel with the Project such as the Surat Basin Rail, or independent of the Project.

It is anticipated that some of these projects will commence within a similar timeframe to the Project or within five to ten years of the Project's operation, which will lead to a sharp increase of activity in the region. This activity will include the movement of traffic on regional roads, an increase in rail transportation activities, an increase in transient population into the area, a change in demographics from a predominance of agricultural industry workers to a shared demographic between agricultural industry workers and mining and resource industry workers.

The actual degree of impact of these Projects combined is currently difficult to establish as they are undergoing their own pre-feasibility studies and accurate information on the potential impacts as determined by the project teams is unavailable. These combined projects will, in the long term, generate new opportunities for local communities especially in relation to employment and education/training opportunities.

5.32 Summary of potential impacts to existing social environment

Overall, the Project is likely to present a number of positive and negative impacts to the communities within the study area and the region. The community within the study area will experience the most significant initial changes to their existing social environment. Demographically, this impact is likely change to population, mobility and characteristics such as gender, age, employment, occupations and industry.

As the whole workforce is unlikely to be sourced locally, it is expected that people from outside the area will come to Wandoan to work on the Project. Initially, some will come only for short periods and reside in the accommodation village, others will fly-in fly-out over longer periods and reside in the mine accommodation village once construction is complete and mine operations have begun. A smaller number will relocate to the local area with or without other family members and live in Wandoan or other locales to which they can safely return each night after work.

The ability for the local agricultural industry's ability to attract and retain farm workers may be impacted should they pursue higher-paying mine employment. However, some shift arrangements may enable farm workers to participate in farming activities on their days off.

It is expected that the Project will provide employment opportunities for local people, particularly those with labouring and machinery operator backgrounds or in roles associated with the accommodation facilities or in Project administration. Training programs and apprenticeships aimed at local school leavers will help to maintain people in the local area and region and will assist in making the mine operation workforce part of the community.

Increases in population are likely to create an impact on accommodation availability and affordability within the region and particularly within the township of Wandoan. Due to development constraints in the Wandoan Township and pressure on existing accommodation stocks throughout the region, it is expected that housing demand will exceed the supply and that this will impact housing affordability as a result of cumulative impacts of the many projects in the region which will need to be managed by the various project proponents and local and state government agencies.

Demographic changes may also bring about significant affects on the social amenity, values, vitality and lifestyles found in the study area.

It is anticipated that the majority of mine workforce will be located within a purpose built accommodation village while on-shift though there will be some who will choose to enjoy full-time residence within the study area and the region. The large number located on site may limit social connections and increase social isolation between the workforce and the study area community. The community may become polarised from the mine workforce if there is a difficulty

in building relationships and potentially due to perceived disparities in wealth and economic opportunities.

The study area's strong identity as a rural community may be challenged, moving from an agricultural to a town with a more mixed economy and identity. This may change local people's views on safety and personal security, changing the community's social cohesion.

It is anticipated some families who are directly affected by the Project and will move from the area which may affect the community groups and sporting associations, and schools with which they are involved in the short-term. Others will try to relocate within the study area or the region to maintain their connections within the community.

Overall local residents have indicated their concern that community spirit may be reduced as more people move into the area, fearing that they will not share the same concern for the community as the current residents. However, the gradual growth in community members associated with the Project moving into the study area has potential to reinvigorate the community and bring about new social connections, renewed enthusiasm for local activities and organisations and better opportunities for accessing services and facilities driven by the increased population.

The operation of the Project will potentially make a substantial contribution to the social and economic environment of the study area by revitalising the local economy and acting as a catalyst for increasing or improving available services. Economically, the local community view the Project as an opportunity for economic development and the improvement of local services and facilities. Due to demand for services such as water and wastewater, facilities may improve for those in the Wandoan Township. However, there may be conflict between what is reasonably available to the community through current health care services and what is expected from the health care services once the Project is underway. The community may expect changes to services to occur more rapidly than what is likely. Health care representatives from the study area and region are concerned that they will not be able to deliver the service due to staff and resource shortages often related to the ability to recruit staff to regional areas.

Environmentally, additional commuter and commercial traffic, especially heavy vehicle traffic will be generated during the construction period. Road safety is a serious concern for the communities adjoining the Project.

Residents may be adversely affected by construction and mine operation noise, road noise, mine lighting as well as the impact of dust on their lifestyle and agricultural activities.

There will be some visual amenity impacts for those used to seeing rural undulating pastures and properties. The community's identity as an exclusively rural and agricultural community may be challenged through the loss of these visual identifiers.

In the longer-term the eventual closure of the mine after a life-span of approximately 30 years, has the potential to cause a negative social impact if other mining projects do not open in the area and the community builds a dependence on the Project's operation. If mining in the Surat Basin does cease with the depletion of the Wandoan resource, it is anticipated that the majority of the population brought into the region by mining will need to relocate to source other means of employment. This has the potential of changing the demographic profile of the study area and region over a relatively short period of time. The eventual closer of the mine will potentially affect demographic characteristics of the area as families move from the region to seek other working opportunities, an increase in gender balance, a loss of 20–49 year olds from the area and changes in occupations. It is also anticipated that the study area and region will return to a purely agricultural base. However, given the scale of the coal resources available in the Surat Basin, it is probable that there will be a continuity of resource development, and therefore employment and economic opportunity, in the study area which will be maintained even on closure of this Project.

6. Mitigation measures

This section aims to provide a selection of measures to manage any potential negative impacts of the Project on the social character and infrastructure of both the study area and the region. Strategies have also been developed to enhance the potential benefits to the local communities. WJV as part of the WJV has a number of existing policies in relation to social and community engagement, sustainability, employment, environment, climate change, hazard and risk, and health and safety. These mitigation and enhancement strategies are developed to work with those existing policies but are targeted specifically to the Project. These mitigations strategies should be read in

Mitigation of potential social impacts and the maximisation of benefits to the community are crucial to the Project, however the responsibility for meeting and managing these requirements extends beyond the responsibility of the Proponent alone. All measures implemented require the full support, participation and commitment of the local communities, service providers and government agencies to ensure ongoing success. The WJV will have an on-going community engagement role and responsibility to inform their state and local government processes to minimise adverse social impacts..

6.1 Community visioning

Upon project approval, it is recommended that the WJV facilitates, with input from relevant government departments and non-government organisations, a community workshop focussed on community visioning. This process will enable the community to articulate the kind of community they hope to live in during mining construction, operation and on its eventual close. The community will be encouraged to work together to determine their shared vision and to develop a

framework which encourages growth and achievement of a community which is not solely dependant on the Project to ensure a sustainable future.

This process will empower participants to work together and develop plans for their future Elements of this vision which the WJV is able to support and nurture will be incorporated in the Project's Social Involvement Plan (SIP). Documenting this community vision will ensure that the SIP supports a selection of initiatives that are pre-determined by the community and will assist the WJV in managing resources and ongoing community requests.

6.2 Social involvement plan

Due to the size, scale and scope of the proposed mining activities, a Wandoan social involvement plan (SIP) will be developed as a working document for the WJV and its contractors on Project approval. It is recommend that the SIP include the mitigation measures outlined in this document as well as WJV's existing community relations strategies. The SIP will facilitate a systematic process for the ongoing management of social impacts.

The SIP is a dynamic document that needs to reflect changes in the community as the mine progresses through the various operational stages. It is recommended that the SIP undergo an internal annual review in consultation with local communities and service providers, and action taken and mitigation measures amended where objectives and targets are not met. A five-yearly external strategic review of this document is then recommended to ensure impact mitigation and benefit maximisation measures are still relevant to the changing needs of the community and innovative in relation to wider industry standards.

The SIP should be used to determine and monitor nominated quantitative standards and indicators and should involve ongoing consultation with state authorities including (but not limited to) Queensland Health, Department of Communities and Department of Education, Training and the Arts.

Key targets contained in the SIP and progression towards meeting them will be reported annually to the community in a sustainability report or similar document.

6.3 Community consultation

Ongoing consultation with the community through the provision of a community liaison representative (CLR) is recommended. This role will preferably be based in a project office within the study area from the time of mining lease grant to ensure linkages to the local community are maintained from pre-feasibility and approvals into construction. This role will be a constant through the Project lifecycle of construction, operation and eventually through to closure. This role will help ease ongoing community anxiety and will act as an intermediary between the WJV and the communities, and encourage active engagement through proactively addressing questions and concerns as the Project progresses. The continuation of activities with the existing Community Reference

Group and ongoing community information sessions featuring Project technical team members are encouraged through the various phases of the Project.

A second community survey is recommended to measure changes in community opinion after release of the EIS. These results will be used in conjunction with ongoing community consultation to inform SIP. Open channels of communication between the WJV and the study area community and the provision of materials including advertisements, fact sheets and newsletters are encouraged to provide information about the various aspects of the Project to the community.

6.4 Demographic

To manage any initial decrease in local population and any potential increase, the WJV is encouraged to develop strategies to manage the demographic character of their workforce. It is recommended that gender balance be improved through the provision of employment opportunities for women throughout construction and operation. This will be achieved through targeted employment and training initiatives and partnerships with local training and employment organisations as well as the Queensland Resources Council.

The retention of local youth is important to the community and training programs for local young people are recommended to help minimise current trends of population loss of those aged between 20 to 29 years. Incentive packages for people to move to the area may encourage former community members who have left the region in search of work or education to return.

The provision of incentives to encourage mine staff and their families to reside within the community is recommended. Incentives may take the form of monetary incentive payments (subsidised by transport to site savings) or through work-life balance arrangements such as the provision of flexible shift arrangements to meet family, farm or recreational (such as sporting) commitments. Other opportunities to encourage resident families may be the provision of part-time and casual employment opportunities for spouses and access to improved childcare facilities. This will offset the effect of the loss of some families affected by the MLA areas and encourage the integration of families into the community. It is anticipated that as mine staff bring their families into the area the proportion of women and children within the area will increase.

The Wandoan Joint Venture is encouraged to provide leaseback arrangements for properties directly affected by the MLA areas and introduce a phased system of properties becoming used for mine-only activities, to decrease impacts caused by the sudden loss a large number of community members.

6.5 Social amenity, values, vitality and aspirations

The WJV is encouraged to contribute support to its workers and contractors through encouraging participation in local activities and embracing the local communities.

Social integration is important and helps develop a sense of community which has flow-on effects of increased feelings of safety and community well-being. An ongoing community strategy could be developed in the SIP, including the WJV contributing in-kind support and funding for local social, sporting, recreation and cultural activities. Rather than duplicating sporting facilities within the on site mine accommodation facilities, it is recommended that the WJV encourages employees to use local facilities.

The provision of activities and facilities for young people may assist in community development and integration. The best form of this assistance will be identified during the community visioning process.

There is an opportunity for the WJV to mitigate perceptions of the Project affecting community values through encouraging social integration, particularly by developing strategies to encourage mine workforce (especially families) to reside in the study area and the region and by promoting a culture that recognises the partnership that exists between the mine and the community in which it operates.

6.6 Impacts to social order

As with all large construction Projects, it is recommended that strategies be implemented to manage potential impacts associated with anti-social behaviour. Many of these issues will need to be managed internally by WJV and its contractors to ensure an appropriate induction and establishment of expectations of behaviour.

It is recommended that behaviour protocols are established for WJV employees working on the Project. These guidelines are imperative to the ongoing maintenance of good social order and it is recommended that these be included within a robust site induction process including employee sign-off.

The provision of an advertised contact point for the community is encouraged. This will enable the community report any anti-social behaviour – should it occur.

6.7 Dust impacts

It is recommended that dust mitigation measures identified in Chapter 13, Volume 1 of the EIS are implemented. A point of contact should be provided for the community to alert the operation of any concerns they may have regarding dust.

6.8 Vibration

It is recommended that vibration mitigation measures identified in Chapter 16, Volume 1 of the EIS are implemented. A point of contact should be provided to the community to use to alert the operation of any concerns they may have regarding vibrations.

6.9 Light impacts

It is recommended that impacts from Project lighting are mitigated using the measures identified in Chapter 19, Volume 1 of the EIS are implemented. A point of contact should be provided to the community to alert the operation of any concerns they may have regarding light.

6.10 Visual amenity

The impacts from the potential change in visual amenity can be mitigated by screening mining areas closest to the Leichhardt Highway and the town of Wandoan.

6.11 Local Employment

The WJV have a number of policies in relation to local employment and training operating successfully at other sites particularly in relation to provision of apprenticeships for local youth. These policies are recommended to be implemented at the Project as well as a quantitative goal provided for local employment in the Project SIP.

A skills audit is recommended to be completed with the local communities on mine approval to provide an understanding of the range of skills and experience available locally and to determine where training opportunities could be directed. This may be carried out in conjunction with local government departments such as the Department of Education, Training and the Arts.

6.12 Psychological Impacts

Ongoing relationship building with the community and the Project is recommended, as is ongoing communication with local counselling organisations, churches and community groups. This will ensure that serious community health issues are monitored. The WJV has offered fully-subsidised telephone counselling services by a professional third-party to affected property owners and it recommended that this service continues.

The provision of a CLR based within the community is encouraged to provide community members with the opportunity to discuss aspects of the Project as they occur. This will decrease the chance of rumour or misinformation circulating through the community and causing unnecessary stress and upset.

6.13 Culture and heritage

For a community to move forward there often needs to be an opportunity to acknowledge the past and the experiences that brought them to that point. The depth of appreciation the local community has for their heritage and their connection to the land should not be underestimated.

It is recommended that the WJV consider ways to document or recognise the history of the region and the communities that contributed to its culture and heritage. This could be considered a gift to the local community as a way of celebrating the past and embracing the future.

6.14 Properties directly affected by the MLAs

The potential loss of friends, family and colleagues is a key concern for the local community. The WJV is encouraged to provide support to property owners affected by the Project to help them stay within the community. This will be achieved through the provision of a leaseback option for the property owners affected by the Project. The development of options for affected property owners displaced from their properties is recommended to assist people who desire to remain in the area.

6.15 Properties indirectly affected by the MLAs

Property owners indirectly affected by the MLAs will require ongoing support and consultation to work through the changes to the surrounding land and the associated impacts of noise, dust, vibration and lighting. Open channels of communication with WJV are encouraged and should these property owners determine a need to sell their properties, it is recommended that WJV considers their purchase.

6.16 Current land use

A robust environmental restoration process is recommended to restore land mined by the Project. Community members have indicated a preference for the land to be returned to its current agricultural uses. WJV is encouraged to communicate with the town through the life of the Project to determine the best use for rehabilitated land. This use should reflect the town's future aspirations as discussed during community visioning exercises.

6.17 Business and enterprise

The WJV is encouraged to implement a tendering process for Project construction and operation supplies and services to encourage participation by local business.

It is recommended that the WJV works with local business groups to identify and use local suppliers where possible and to structure bids to enable local supplier participation. This may also include setting targets of regional expenditure.

The WJV is encouraged to develop partnerships with regional government representatives and Non Government Organisations (NGOs) to determine opportunities to increase capacity and responsiveness of local businesses to regional change and development. This will help local businesses to access opportunities created by resources development across the Surat Basin.

Business and service provider support networks need to be developed to assist sustainable growth and skills development within the region. This aspect will be essential in ensuring the community can adapt to changes in the local area and strengthen businesses with the ability to support the mine development. It is recommended that WJV liaise with appropriate agencies to help facilitate these networks on a regional basis with other resource extraction industry proponents to manage the cumulative impacts of industry expansion.

6.18 Accommodation

The WJV is recommended to encourage a proportion of their workforce to reside within the region through the provision of employee incentives as well as the proposed provision of the WJV supplied houses and duplexes to some Project staff.

It is recommended that WJV build suitable residences for their staff, rather than solely buying established properties. WJV policies in relation to accommodation provision for their employees and plans to build accommodation in Wandoan should continue to be communicated to the town.

If possible it will also be beneficial to build new housing among existing housing stock to reduce an “us and them” scenario where all mine staff are located in a particular section of town. This will encourage stronger social connections between mine staff and the existing community.

6.19 Education

The WJV will work closely with state education authorities to manage impacts on local schools, particularly Grosmont and Wandoan State Schools, through potential enrolment fluctuations.

The provision of school-based training through partnerships with local schools and training institutions is recommended particularly in relation to senior studies. This will enable local students to undertake training opportunities while completing their Senior Certificates. Further training for school leavers, particularly young women currently residing in the study area and region, is recommended as an important aspect in maintaining the local population and involving the community in the Project benefits.

6.20 Health services

While impacts to health services are expected to be limited, it is recommended that where possible, WJV provide support to existing providers. As WJV will provide their own health providers on site, it is recommended that the local community be provided some access to these personnel particularly during emergencies.

It is recommended that WJV work with local health providers and government agencies to plan for future health service needs.

6.21 Emergency services

The WJV is encouraged to develop strong partnerships with emergency service providers in the region, and their associated government agencies, to ensure robust emergency management plans are determined and implemented. These plans are encouraged to consider the ongoing need for staff versus the current difficulty in obtaining staff in suitable timeframes. The ongoing need for equipment and specialised services in relation to mining operations will need to be considered.

It is recommended that WJV work closely with the local police force particularly in relation to traffic management and associated road safety issues. The policing of driver behaviour is recommended.

6.22 Local employment and training

A number of opportunities exist for WJV to develop lasting community partnerships with local employment and training service providers. These partnerships may include allowing trainees to use WJV equipment or facilities as part of their studies when practical experience on equipment is required.

Open dialogue between WJV and regional employment and training agencies, particularly those funded by the Queensland Government, is recommended to ensure that employment requirements and opportunities are managed from within the region.

It is recommended that the WJV work with the local community and encourage their participation in the Project. Up-skilling of local workers provides an opportunity to involve the community, as well as develop succession planning for project roles.

Female workers and mining families are to be encouraged as employees through the provision of family-friendly roles in the mine and work shifts for employees who choose to live locally. These shifts will operate primarily during school hours or be available on a part-time basis.

It is recommended that a skills audit be conducted as early as possible to identify skills available in the community and to analyse gaps where training could be provided. This could be done in partnership with regionally-based government organisations associated with the Department of Employment Training and the Arts.

6.23 Roads and transport

With the proposed changes to road alignments there is the potential for impact to be felt on School bus routes in the area. It is recommended that WJV work with Queensland Transport and Main Roads and provides information on road realignments as soon as possible to promote effective planning by the organisation.

The increase in heavy vehicles on regional roads will need to be managed by WJV, local authorities, Queensland Transport and the Department of Main Roads, particularly during construction.

6.24 Mine closure

A proactive approach to the eventual closure of the mine is recommended. A component of the SIP should relate to mine closure and should be included in the quarterly review process to ensure that potential closure dates are in-line with expectations and to take into account any financial or legislative effects which may impact mine lifespan.

It is recommended that initial studies be undertaken to prepare for the eventual phase-out of mine operations and the social and economic impacts of closure at the beginning of mine operation. These higher level studies will begin establishing opportunities to promote community independence through the operation of the Project and to reduce the community's dependence on the Project. These studies will then become more targeted through the operational stage as mine closure draws closer.

6.25 Cumulative effects

The WJV is encouraged to work proactively with other project proponents in the area, the Department of Infrastructure and Planning, local government and community service providers to work on plans to mitigate the cumulative effects of projects proposed for the region. It is recommended that the WJV develop partnerships with local service providers and government agencies to ensure ongoing management and mitigation of cumulative social impacts from the projects in the region are proactively managed.

The WJV are also encouraged to work with the Department of Tourism, Regional Development and Industry in developing their Sustainable Resource Communities Policy.

Throughout construction it is recommended that proponents work closely with Queensland Transport to develop robust traffic management plans particularly in relation to road safety. This may require a joint community awareness campaign on how to manage the potential increase in traffic safely.

7. Gas supply pipeline

7.1 Introduction

Parsons Brinckerhoff (PB) was commissioned by the Wandoan Joint Venture (WJV) to undertake community consultation and social impact assessments as part of the Wandoan Coal Project (Project). These activities and studies are a key part of the Project Environmental Impact Statement (EIS). The EIS also examines the negative and beneficial impacts of Project-related infrastructure which includes the Gas Supply Pipeline.

Due to the existing capacity of the power grid in and around Wandoan, compared to the potential energy demands of the Project, on site power generation is being considered as a power supply option. Gas from the existing Peat-Scotia Gas Line is considered a potential fuel source for proposed onsite power generation.

This section identifies and assesses the likely negative and positive social impacts that may eventuate from the development of the proposed gas pipeline. It provides strategies to mitigate adverse impacts and maximise potential benefits to the local and regional community.

7.1.1 Route selection

Investigations into a potential route alignment involved a review of available desktop information and data sources. Potential gas supply pipeline route options were assessed by considering a range of selection criteria, relating to issues such as regulatory and planning constraints as well as environmental, social and economic impacts and benefits.

Three proposed options were considered for analysis and are detailed in the Wandoan Coal Project Route Section Report – Gas Supply Pipeline. The preferred alignment was determined using several criteria, which includes:

- number of properties affected and good quality agricultural land
- ability to be co-located with the proposed Surat Basin Rail line
- the number of waterways crossed
- soil conservation planning
- length
- cost
- potential impact on regional ecosystems.

7.1.2 Description of the proposed development

A comparative assessment of options selected a gas pipeline route running from the existing Santos Scotia-Peat gas pipeline to the eastern side of the proposed

Wandoan Coal Project lease area. This preferred route is expected to be 31kms in length and adjoin the proposed Surat Basin Rail easement which is anticipated to follow the eastern side of Nathan Road into the Mine Lease Area (MLA).

The proposed gas supply pipeline is proposed to be 600 mm in diameter and placed 750 mm underground. At creek crossings and roads the pipeline will be 1,200 mm underground. Test points will be placed every 5 km along the pipeline with pipeline marker posts placed at a maximum of 200 metres apart and points where the pipeline changes direction. Access pits will be constructed on selected properties to enable access for maintenance. A 20 metre construction access path will be constructed prior to trenching activities. The pipe will be made of steel and encased in a rubber material.

Construction is expected to commence in 2011 and completed by Project commencement.

7.2 Methodology of assessment

These studies are completed to meet the Terms of Reference for the EIS for the Project.

The assessment of social impacts is informed by:

- desktop studies on the existing social environment
- analysis of demographic data and community trends
- consultation with affected parties, service providers and the broader community
- analysis of similar projects
- consideration of cumulative impacts.

The assessment of impacts associated with the gas supply pipeline includes:

- workforce requirements
- housing and accommodation requirements and changes
- impacts to local services and facilities
- impacts to community values and lifestyles
- changes to access, amenity and services
- impacts to affected properties, including property management, potential devaluation and compensation and productivity.

Mitigation measures were identified through desktop studies that focussed on existing WJV programs and operations. Social research associated with construction activities and infrastructure development has also been used as a reference for managing potential issues and maximising benefits for the community. Feedback gathered from directly affected property owners has also assisted the development of mitigation strategies and social monitoring.

7.3 The existing social environment

7.3.1 Social profile

The proposed gas supply pipeline is located in the study area and region identified for the Project. Therefore existing social characteristics detailed in the Project social impact assessment are consistent with this study. Key aspects of the existing environment outlined in the Project EIS include:

- a description of the study area
- study limitations
- demographic profiles
- community identity
- social connections and rural isolation
- current land use
- recreation, leisure and sporting facilities
- business and enterprise
- human services
- housing and accommodation.

The immediate study area surrounding the proposed gas supply pipeline route comprises large rural allotments, predominantly used for grazing. A number of homesteads (residences) and associated out buildings are identified in the surrounding the proposed gas supply pipeline. However, its location ensures existing residences are not directly impacted.

7.3.2 Properties affected by the proposed gas supply pipeline

Ten properties are directly impacted by the proposed gas supply pipeline route. The directly affected properties are predominantly used for grazing purposes. Some of the properties are involved in cropping, as well as grazing, with wheat, sorghum and leucaena being the main forms of cultivation. The households are typically single family households and the proposed route does not impact on the residential area of the properties.

Eight properties are directly affected by the proposed collocation of the gas supply pipeline and the proposed Surat Basin Rail easement. Two properties are affected only by the proposed gas supply pipeline where it diverts to join the Santos Scotia-Peat gas pipeline.

7.4 Potential impacts

The following section identifies the potential impacts which the communities in the study area may experience as a result of construction and operation of the proposed gas supply pipeline.

7.4.1 Impacts on demographic profile

It is anticipated that a workforce or team of up to 30 people will be required to construct the proposed gas supply pipeline. Based on existing demographic profiles in the study area and region it is anticipated that some of this workforce will be sourced locally. However, the majority will be sourced from outside the region or Queensland. Low levels of local unemployment and the need for specialist skills in the construction of the proposed pipeline will mean local residents may not be available or may be precluded from participating in the construction of the pipeline. The construction workforce will be sourced by contractors and be primarily transient. Local members of the workforce will maintain their residences reducing potential changes to the demographic profile.

The proposed gas supply pipeline is not anticipated to create ongoing impacts on the demographic profile. The population will change marginally with an increase in males aged between the ages of 20 and 35 moving to the area on a short-term basis. During this time there will be a slight change in the skill levels, occupations and incomes found in the study area.

It is unlikely that these contractors will move their families to the area as the construction phase will only take up to six months to complete. It is anticipated that a minimal number of workforce members will stay in the area after construction.

Once constructed the pipeline will require low levels of maintenance. Staff involved in this activity will be sourced locally or will visit the area on short term contracts.

7.4.2 Social amenity, values, vitality and lifestyles

Construction of the proposed gas supply pipeline will create limited impacts on the social amenity, values, vitality and lifestyles of the study area and region. Key issues that may influence community wellbeing are increased traffic on local roads and highways, associated safety concerns and the use of heavy vehicles and machinery.

Construction activity and increased road traffic will likely disrupt the peaceful and quiet surroundings which are noted as key community values. Families residing on affected properties may experience some severance from the surrounding community and neighbours during construction. Potential increases in noise and reduced air quality may also challenge the rural values of the area and the peaceful environment property owners currently enjoyed. Cumulative impacts

associated with the proposed Surat Rail Project may create concern for the wellbeing of affected property owners and their neighbours.

The potential for changed or disrupted access and impacts on activities and management practices on the affected properties may also erode the current lifestyle of the affected property owners and their neighbours. These impacts will be short term and will reduce during the operation of the proposed gas supply pipeline.

It should be noted that the broader community is unlikely to be affected by the construction and operation of the pipeline. It is anticipated that the workforce will have little interaction with the community and have little influence on the area's values, vitality and lifestyles.

7.4.3 Social connections and rural isolation

The community in the study area and region have noted the importance of trust and the personal and family connections found in their local area. At the same time the area is noted as a peaceful and safe place. It is possible the construction of proposed gas supply pipeline might lead to negative views on the construction workforce and the WJV. However, the WJV and its contractors uphold positive social behaviour and interaction with affected property owners and the community. Interaction with the broader community will likely be limited and only occur for a short period of time.

Directly affected property owners will have the most contact with contract workforces during the construction period. Open communication between the property owners and the workforce will be necessary. This will assist in understanding property issues and potential construction impacts.

7.4.4 Accommodation

Existing housing or accommodation facilities in the study area and region will be marginally impacted by the workforce population seeking accommodation in the area. It is expected that the majority of the workforce will be accommodated in the Project accommodation village, given the pipeline's proximity to the MLA.

7.4.5 Noise, air quality, visual amenity, lighting

There will be a number of aspects which contribute to noise generation in the immediate area surrounding the proposed gas supply pipeline. Again this impact will be experienced predominantly during the construction period. During operation it is anticipated that the pipeline will not create noise.

During construction possible noise sources will be:

- increased use of light and heavy vehicles
- the use of heavy machinery
- vegetation clearance.

It is expected that affected properties and near neighbours will experience increased noise.

Further information on noise impacts is outlined in Chapter 15.

Impacts on air quality will be experienced during the construction process. Trenching activities expose unprotected surfaces and increased machinery and vehicle use may also impact air quality. Dust will be the key consideration for property owners; however, the location of the pipeline away from households may reduce the potential for dust to impact property owners or their households. It is unlikely that the remaining community will be exposed to air quality impacts during construction and overall air quality will not be affected during operation of the pipeline.

The proposed gas supply pipeline will be placed underground and therefore is not expected to contribute any ongoing visual impacts. However, vegetation clearing will be required in order facilitate construction of the pipeline, which may change existing view corridors and alter the general appearance and rural landscape of the area. It should also be noted that pipeline marker posts will also be noticeable but not create a major visual impact.

Lighting impacts will be experienced during construction activities, with no lighting required during the operation of the gas supply pipeline. Again affected properties and near neighbours will experience the most impact. However, there will only be an impact where multiple shifts area necessary (ie. night hours worked).

7.4.6 Current land use

Overall, agricultural activities on affected properties will be negatively impacted by the construction and operation of the proposed gas supply pipeline. Most directly affected property owners, involved in cropping, have noted the potential for plough blades to damage the pipeline, creating safety concerns and possible environmental damage. The location of the proposed gas supply pipeline and its proximity to the proposed Surat Basin Rail easement may restrict access to some areas of individual properties and the viability of these areas into the future.

During consultation, affected property owners noted concern regarding restrictions that may be placed on their land and in turn their business. Two property owners raised the importance of maintenance of pastures and paddocks. Many of the property owners have established contour banks and water run-off measures to mitigate the disturbance of top soil during wet weather. Property owners have raised concerns regarding the potential damage to existing crops and contour banks during the construction phase.

One property owner requested direct liaison with the WJV to ensure construction occurs before planting of crops or after the harvest season. Impacts on land use during construction will also relate to weed protection, stock safety, property owner safety and maintained access.

Access for maintenance was also raised as a concern and there is an expectation for sufficient notice and respect for local roads, crops and stock at all times. Issues regarding the location and management of testing and release points were also raised by all affected property owners as they expressed concerns for the safety of their stock and the need to prevent damage to the test points. Fencing of test points were raised by the majority of property owners, should these be located on their property.

7.4.7 Affected property owners

The announcement and negotiation processes associated with the Project, the Surat Basin Rail Project and the proposed gas supply pipeline has created uncertainty and anxiety for affected property owners.

Planning and environmental assessment for the proposed Surat Basin Rail Project is a key consideration for eight property owners, with the proposed pipeline considered a secondary yet important issue.

The 10 directly affected property owners have noted concern regarding the potential impact on property values and the compensation process for the pipeline easement. Proposed property severance and changes in land use have resulted in property owners questioning their lifestyle and property aspirations. There were also concerns that while the gas pipeline route was planned to adjoin the rail easement to mitigate impacts, there may be an impact on current and future land values.

The proposed pipeline easement traverses the majority of entrances to affected properties. All property owners raised this as a major concern and requested they be given appropriate access throughout the construction phase for light and heavy vehicles.

An existing distrust of negotiation processes and planning has also created some concern for property owners that they believe will likely continue during construction and operation of the proposed gas supply pipeline. One-off compensation offered by the WJV was considered insufficient based on potential impacts on pastures during maintenance activities. Property owners noted the possibility that they will have to pay rehabilitation costs to maintain their current livelihood.

7.4.8 Recreation, leisure and sporting facilities

It is unlikely that recreation, leisure and sporting facilities will be impacted during the construction and operation of the proposed gas supply pipeline. The small workforce and limited time period of construction will likely prevent any negative or beneficial impact on local facilities and activities.

7.4.9 Culture and heritage

It is unlikely the cultural and heritage attributes of the study area or region will be impacted during the construction and operation of the proposed gas supply pipeline.

Information on indigenous cultural heritage impacts is included in Chapter 20A.

Access to culturally important areas is unlikely to be restricted during construction and operation.

7.4.10 Tourism

Tourism in the study area and region is based on farming heritage as well as Ludwig Leichhardt, the 19th century explorer. There will be little impact on existing and future tourism operations as a result of the construction and operation of the proposed gas pipeline. During the construction period, the accommodation needs of the workforce may prevent some tourists from accessing hotels and accommodation parks in the region. This may be reduced if local residents join the contract workforce.

7.4.11 Community housing

The construction and operation of the proposed gas supply pipeline will not impact community housing in the study area or region. The proposed route does not directly affect any households, in turn reducing the potential relocation of families.

7.4.12 Human services

It is anticipated that impacts on human services during construction and operation will be minimal. Table 7-1 provides a summary of human services in the area and expected negative and beneficial impacts.

Table 7-1; Pipeline impact on human services

Human service delivery	Construction impact	Operation impact
Education	<ul style="list-style-type: none"> It is unlikely that school aged children will move to the area with the construction workforce, reducing and potential negative or beneficial impacts on education in the local area and region. Increased traffic on local roads may create some safety concerns for school bus routes. 	<ul style="list-style-type: none"> The majority of the construction workforce will leave the area during the operation of the proposed gas supply pipeline, generating little or no impact on education services and facilities.
Childcare service	<ul style="list-style-type: none"> It is expected that the majority of the workforce will not bring their families to the area, leading to little or no impact on childcare services. 	<ul style="list-style-type: none"> The majority of the construction workforce will leave the area during the operation of the proposed gas supply pipeline, generating little or no impact on childcare facilities.
Health services	<ul style="list-style-type: none"> The small workforce will not overload healthcare services. The small population increase will be within the current capacity of services. Services at Taroom will be equipped to deal with the health needs of the contract workforce. When considering the cumulative impact of the Project and the proposed gas supply pipeline and associated infrastructure there may be some negative impacts on health care in the region as existing services may be unable to contend with large population increases. 	<ul style="list-style-type: none"> With minimal maintenance of the proposed gas supply pipeline, it is unlikely that health services will be adversely affected during operation.
Emergency services	<ul style="list-style-type: none"> Existing services will not be extended beyond capacity during construction. A key consideration for emergency services will be the potential increase in road traffic and safety risks. This is related to both heavy and light vehicle use. Potential conflict with existing road users may result. Wide and heavy roads may increase the incidence of road accidents. 	<ul style="list-style-type: none"> With minimal maintenance of the proposed gas supply pipeline it is unlikely that health services will be adversely affected during operation.

Social services	<ul style="list-style-type: none"> There will be limited demand on existing social services during the construction period due to the small size of the contract workforce. It should be noted that cumulative impacts of the Project and related infrastructure may place services under additional pressure. 	<ul style="list-style-type: none"> With minimal maintenance of the proposed gas supply pipeline it is unlikely that social services will be adversely affected during operation.
Public and community transport	<ul style="list-style-type: none"> Impacts are expected to be minimal. Awareness raising associated with increased traffic on local and regional roads will be necessary. 	<ul style="list-style-type: none"> With minimal maintenance of the proposed gas supply pipeline it is unlikely that public and community transport will be adversely affected during operation.

7.4.13 Local employment and training

With the anticipated involvement of some study area and regional residents in the construction workforce, there is the potential for employment and training opportunities associated with the proposed gas supply pipeline to be taken up. However, the high rate of employment in the region may reduce the capacity of existing residents to be involved. Competition with existing industry and agriculture may result, as potential contractors seek higher wages associated with construction. Opportunities to train local people and further develop the corporate social responsibility of contracting groups may also be a key advantage of the proposed gas supply pipeline.

7.4.14 Business and enterprise

The small workforce associated with the proposed gas supply pipeline construction will have a minimal impact on the businesses and enterprises in the study area and region. The workforce may use local shops and services in Wandoan and Taroom, such as food stores and petrol stations. The use of local shops and services may increase over the six month construction period; however, this will diminish during the operation of the pipeline.

7.4.15 Roads

Most of the proposed gas supply pipeline traverses privately owned properties, reducing impacts on local services roads and public access points. However, the route crosses the southern side of the Leichardt Highway and Nathan Road intersection, where it enters the Mining Lease Area. This crossing is on the north eastern side of Wandoan.

It is expected that construction at this location will create some delays and safety concerns for local residents and regional travellers. This may also have some impact on access for tourists, school buses and freight. Drivers will experience delays during the movement of machinery, equipment and pipe materials. This may reduce safety for the workforce and travellers alike. During wet weather local road conditions may also be compromised by heavy vehicle movements and increased traffic.

After construction, impacts on local roads will be minimal. It is unlikely that maintenance work will disturb local traffic or roads.

7.4.16 Potential cumulative effects

The WJV and a number of other proponents in the region are investigating the potential for resource extraction and associated infrastructure projects. This increased interest in the study area and region has created planning issues for service providers, affected property owners and the broader community. Speculation regarding the “unknowns” of individual projects and overall development in the area has created both positive feelings and concerns for the region’s future. It is anticipated these views will heighten with the construction of each project.

Cumulative impacts are a key consideration when assessing the proposed gas supply pipeline and its affect on the social environment. While the proposed pipeline is co-located with the Surat Basin Rail easement, cumulative impacts associated with access, property

management, property viability, lifestyles and aspirations are creating distress for affected property owners, their neighbours and the broader community.

7.5 Mitigating potential impacts

This section aims to provide a selection of measures to manage any potential negative impacts of the proposed gas supply pipeline on the social character and of the study area and the region. A key objective of the proposed gas supply pipeline is the mitigation of potential negative impacts while maximising benefits to the community.

XCQ and WJV have a number of existing mitigation policies and strategies in relation to health and safety, hazard and risk, sustainability, land rehabilitation and social and community engagement. Although the existing mitigation policies and strategies extend to the overarching Project, more specific strategies are focussed on the proposed gas supply pipeline.

It is the responsibility of the proponent and affiliated project contractors to ensure that all mitigation policies and strategies are followed throughout the course of the Project life to ensure community approval and overall project success.

7.5.1 Community consultation

The implementation of an effective two-way communication process between WJV, its contractors and all affected parties is essential in managing any potential negative impacts to the land, affected property owners, service providers and broader community.

It is recommended that the following consultation activities and contact points for affected property owners, stakeholders and the broader community are maintained during the construction and to a lesser extent during operation of the pipeline:

- phone calls and letters to affected property owners to inform them of work commencement and changes
- one-to-one meetings to discuss planning and impact management
- webpage project updates
- freecall information line.

Information must be readily accessible to all affected parties and provide clear, updates on each stage of the proposed pipeline construction. Affected property owners will also be provided with opportunities to be involved in planning for the location, maintenance and construction regimes associated with the proposed gas supply pipeline.

A dedicated community engagement manager will be available to community members to discuss construction and operation issues. This manager will also have a role in discussing human service delivery with property owners and investigating management strategies which account for cumulative impacts on the study area and region.

7.5.2 Corridor use, maintenance and restrictions

For safety reasons WJV will implement and maintain fencing along the route corridor during construction to ensure the safety of property owners and their livestock. In particular fencing will be a necessary requirement for the test point sections of the pipeline to prevent stock

from damaging the test points and to prevent injury. Stockpile areas and machinery should be fenced and covered at night and during rest days in construction.

It is important for WJV to implement and maintain effective temporary access during the construction phase of the Project. Communication with property owners regarding the most convenient location and available access points is essential, particularly for property owners who require access at all times due to the stock transportation.

Liaison will also take part between WJV, affiliated contractors and the affected property owners to ensure the relocation of cattle and stud paddocks due to construction is carried out to the property owner's requirements.

7.5.3 Cultivation

The rehabilitation of cultivated land throughout the Project life is a high priority for WJV. It is recommended, where necessary, that further one-to-one meetings are conducted with directly affected property owners to collate detailed information on what type and area of pasture land is likely to be impacted during construction and ongoing maintenance of the pipeline.

Consideration must be given to existing crops during the construction phase along with the timing of construction activities prior to planting of crops and after the harvest season. This should also be incorporated into an environmental and social management plan for the construction and operation of the proposed gas supply pipeline.

The WJV should rehabilitate the affected land to meet property owner's expectations. Particular consideration will be given to soil rehabilitation and mitigation measures applied to the potential loss of topsoil during and post construction activities. WJV should establish water run-off measures to mitigate the disturbance of top soil during wet weather and ensure that all contour banks are rehabilitated to the previous standard.

7.5.4 Traffic

The potential increase in traffic and construction machinery on roads should be monitored and managed by WJV, affiliated contractors, local authorities, Queensland Transport and the Department of Main Roads. This requirement is particularly important during the construction phase of the Project.

It is recommended that the broader community are informed of the potential impact to roads and transport through communication activities and advertising. Information on the predicted traffic increase and types of vehicles on the roads should be provided along with the areas and specific roads affected.

7.5.5 Noise, air quality, visual amenity, lighting

It is recommended that WJV monitor the level of noise and air quality levels throughout the construction phase. Particular consideration should be given to the potential impact on live stock and measures adopted to minimise noise levels when working close to stock. WJV should engage with directly affected property owners prior to construction to ensure that stock are kept away from the construction area during times of high noise levels.

The level of noise is expected to reduce significantly towards the final stages of the construction phase with minimal noise levels experienced during maintenance of the pipeline. Once construction is complete, the low-pressure gas pipeline should not generate any noise as it is buried underground.

Where practicable, stockpiles should be covered and soil exposed for long periods of time will be watered to reduce dust. Areas should be kept tidy at all times to reduce visual impacts. Containing construction activities to a small area will also assist impacts on directly affected property owners and neighbours.

7.5.6 Human service delivery

While impacts to human services should be limited, it is recommended that WJV include discussions about the proposed gas supply pipeline in all dealings with service providers. This Project aspect should be considered along with broader impacts on human services, allowing for a holistic approach to mitigation.

7.6 Conclusions

When assessing likely social impacts associated with the proposed gas supply pipeline it is important that potential issues and mitigation strategies are integrated into the overarching Project. This will ensure greater community understanding and an efficient implementation of mitigation strategies.

It is unlikely that the proposed gas pipeline will contribute significant impacts to the study area and regional. As the workforce will be small and somewhat isolated from the community, there should be limited impacts on accommodation, business development, human services and community values and vitality.

Key aspects for consideration include impacts on affected property owners such as property severance, vegetation clearance, noise and dust generation. It is important that the lifestyles, property management and aspirations should be further discussed with property owners to determine effective mitigation strategies.

It is unlikely that impacts will continue during the operation phase of the proposed gas supply pipeline.

8. Residual impacts

8.1 Cumulative residual accommodation impacts

Even through the implementation of mitigation strategies related to the provision of accommodation for mine staff, there is still expected to be residual affects on the availability and affordability of accommodation in both the study area and the region. These affects will be driven by the initial low cost of local housing when compared to State averages and high vacancy rates, as well as speculative purchases of properties for investment, the impacts of other projects in the region, housing affordability across the state, and the general availability of suitable residential properties or land for development.

9. Conclusions

The communities within the study area and the region attribute much of their identity, social values and amenity to the rural atmosphere and agricultural success. Wandoan is a small cohesive community that notes peace and quiet, friendliness and safety as the key aspects of the area.

The demographic profile confirms that the area is based on agriculture and provides employment for management staff, labourers and machinery operators and drivers alike. This is also statistically shown in the dominance that agriculture, forestry and fishing has amongst industry groups in the region.

The community has noted strong social connections as a key reason for living in the area and a large proportion of people are married with or without children. This strong family approach and atmosphere may change with the introduction of mine construction and operation workforces.

While the population may increase, and the initial small loss of families from the area is steadied, it is unlikely that a large number of families will move to the study area compared to the overall population increase. It is also estimated that the high numbers of males in mine workforces will reduce the proportion of females residing in the study area and region at any one time.

A large number of workforce members will be accommodated on the Project site while on shift, for example for seven days, before returning to their place of residence for their days off, for example for seven days. It is anticipated that 20 to 30 per cent of employees will choose to reside with their families in the study area and will return to their homes each night. There is a possibility that these arrangement may lead to social isolation between mine workforces and the existing community. However, strong connections may be established between the smaller group who choose to reside in the study area and existing community members. It should be noted that the community's concern regarding safety may be reduced if the predominate mine workforce is accommodated away from the township. The change in the study area from rural to a mix of agriculture and mining should be considered in ongoing studies and consultation activities.

Overall the community understands that the Project will lead to significant changes in the area, which can be viewed as both negative and positive. Generally, those whose property, livelihoods and homes are directly affected have expressed the most concern about the Project, while other community members are interested in the economic and social benefits of the Project. Care should be taken to reduce anxiety and speculation about Project outcomes by ensuring ongoing communication.

Local businesses will like to take part in economic development in the area, but need assistance in preparing for changes and potential pressures on available goods and services. This will also be a similar situation for government services providers, who may be pressured by low staffing levels and facilities. The ability of these groups to service a large workforce during the construction phase should be considered early in the planning process. Facilities and staffing levels can then be adjusted to cater for the Project.

Ongoing communication will be an important part in managing expectations and minimising stress during further studies, approvals, and construction. Mitigation measures which

address concerns raised by the community, while meeting the WJV expectations and requirements, should be developed in cooperation with local stakeholders and service providers.

10. Summary of mitigation measures and strategies

To assist in developing a positive outlook for the Project within the study area and to assist ongoing assessments and consultation, the following aspects will be included in mitigation measures, strategies and management.

- a process of community involvement in determining their future goals and aspirations
- ongoing communication in the study area and region be based on Project outcomes and the planning needs of the community, stakeholders and service providers
- a Community Liaison Manager has been appointed and with a future local appointment to address concerns and enable proactive actions.
- the provision of a Social Involvement Plan (SIP) of community needs and responses to the Project with an internal annual review and five yearly external technical review. This will be based on surveys, consultation with the local communities and local service providers.
- education and training for school leavers, currently residing in the study area and region. This will be an important aspect in maintaining the local population and involving the community in the Project benefits.
- funding specific to identified community needs such as health, and training. However opportunities that support the cultural and community values of the area should also be supported through funding assistance.
- incentive packages developed to encourage Project employees to move to the study area. This will help to grow the local economy and strengthen business opportunities. A sense of belonging and familiarity will also be established for some members of the workforce within the community.
- business and service provider support activities developed to assist in sustainable growth and skill development. This aspect will be essential in ensuring the community can adapt to changes in the local area and contribute skills to mine operations.

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Appendix A

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Appendix B

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Appendix C

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