CHAPTER 25 – SOCIAL AND ECONOMIC IMPACT ASSESSMENT

GULF ALUMINA LTD – SKARDON RIVER BAUXITE PROJECT
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25. SOCIAL AND ECONOMIC IMPACT ASSESSMENT

25.1 Introduction

This chapter describes the social and economic (socio-economic) baseline environment for the local and regional areas that may be impacted by Project, the potential socio-economic impacts and proposed measures to mitigate impacts.

The socio-economic assessment identifies the impact of the Project on potentially affected communities and stakeholders. The assessment identifies and compares impacts likely to occur through the life of the Project, together with community perceptions about those impacts.

Stakeholder and communities’ priorities were ascertained to understand the effects associated with the Project which need to be sensitively managed and better mitigate any negative impacts and enhance opportunities to make a positive contribution to those groups.

The socio-economic assessment also provides an indicative estimation of the likely construction and operational economic impacts of the Project’s activities. It estimates the direct and indirect benefits arising from these activities based on a review of direct and indirect benefits from another mining project in Queensland.

The assessment will also act as a future reference for the proponent in providing a benchmark against which to measure and report the company’s social and economic performance in the future.

The assessment process involves analysis of the demographic, social and economic characteristics of the socio-economic study area against the proposed Project’s activities to determine the potential impacts of the Project.

Existing research and documentation available from regional councils, the Queensland Government and other sources, details of the Project provided by the proponent, and community and stakeholder consultations undertaken by the proponent have been used to inform the study.

A complete Project description including Project timelines are included in Chapter 5. Public consultation is described in Chapter 3.

Details of the Project proponent are included in Chapter 1.

25.2 Objectives of Social and Economic Impact Assessment

25.2.1 Objectives Overview

The purpose of the socio-economic assessment is to characterise the existing social and economic environment, identify and consider the potential positive and negative social impacts of the Project and to recommend ways to manage and mitigate negative impacts and enhance positive benefits.

The key objectives guiding the completion of the socio-economic assessment have been to:

- Fulfil all requirements outlined in Terms of Reference (ToR) for the Project provided by EHP.
- Provide a summary of native title process and agreements under the Native Title Act (1993), cultural heritage management and indigenous landholder consultation
- Provide a definition of the socio-economic and cultural area of influence through the collation and analysis of available data.
Identify the nature and extent to which Project related effects may directly, indirectly or cumulatively impact on the defined socio-economic environment.

Provide recommendations for the enhancement of positive impacts and the mitigation of negative impacts on the socio-economic environment.

Contribute to the establishment of a continued partnership between the Project and community stakeholders, which enables a collaborative approach to maximising the positive socio-economic outcomes associated with the Project.

Provide a sound basis for planning, consultation, ongoing strategy development, performance monitoring and reporting and assist the Project to become a valued component of the social and economic fabric of the community.

The socio-economic assessment includes the characterisation of the social and economic environment (baseline assessment), mitigation and management measures and post mitigation impact assessment.

25.3 Study Method

The socio-economic impact assessment identifies the existing baseline socio-economic conditions of the socio-economic study area and predicts the nature and extent of impacts which the Project may have upon those conditions. These impacts may be direct or indirect, intended or unintended, positive or negative, or cumulative.

The intent of the socio-economic impact assessment is to use an evidence-based approach to determine impacts from the Project and identify practical ways to mitigate potential adverse social and economic impacts and enhance potential Project benefits.

The steps involved include:

1. Scoping
2. Baseline characterisation
3. Stakeholder perception analysis
4. Assessing the direct and indirect economic impacts of the Project
5. A discussion of the potential social and economic implications of the Project
6. Development of mitigation and opportunity strategies

25.3.1 Area of Influence (Socio-economic Study Area)

The Project is located in the far north of Queensland’s Cape York Peninsula, entirely within the Cook Shire Council area. The Mapoon Shire Council area is located approximately 10 km to the south west.

It is expected that the construction and operational workforce for the Project will predominantly be derived from Cairns, Weipa, Mapoon, Aurukun, Napranum, the Northern Peninsula Area (NPA) and Cooktown, arriving to the site via plane. In the dry season a road between Mapoon and the Project mining area becomes trafficable to four wheel drive vehicles, although the journey time and very poor quality of roads makes this potential access route impractical for workers from Mapoon (and beyond) to reach the Project mining leases (Project area).

The historical connection between Mapoon1 and New Mapoon (which is situated 130 km further north) (see Section 25.7.1 and Section 25.7.2.5) has meant that it is appropriate to include of the Northern Peninsula Area (NPA) Region (LGA) data as part of the socio-economic study area. The NPA Region

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1 Previously 'Old' Mapoon to distinguish from 'New' Mapoon in the north. The 'Old' prefix has been dropped in common current usage.
comprises the communities of Injinoo, Umagico, Bamaga, New Mapoon and Seisia. Bamaga Airport services the NPA Region.

Native title claimants covering the Project mining leases comprise the Northern Cape York Group#1 (to the north and east of the south bank of the Skardon River); and the Ankamuthi to the south of the Skardon River, (see Chapter 24).

The socio-economic study area for the socio-economic assessment has been based on baseline Australian Bureau of Statistics (ABS) data from the following local government areas (LGAs):

- Aurukun (LGA) ABS data
- Cairns (LGA) ABS data
- Cook (LGA) ABS data
- Mapoon (LGA) ABS data
- Napranum (LGA) ABS data
- Northern Peninsula Area Region (LGA) ABS data
- Weipa Town (LGA) ABS data
- Cape York (Region) (included to provide contextual information)
- Queensland ABS data (included to provide contextual information).

Cumulative socio-economic assessment has also been based on the Project’s interactions with the nearby mining projects.

25.3.2 Scoping

Preliminary identification of potential impacts of the Project was undertaken to ensure the most relevant (positive and negative) impacts are adequately considered.

The Project scope was informed by the socio-economic area of influence, discussions with the proponent, an understanding of key risks drawn from ongoing interaction with stakeholders (see Chapter 3), and in reference the draft and Final ToR for the Project.

Key issues relating to the social and economic environment identified during the scoping phase include potential impacts on affected communities (taking into account proposed mitigation measures), and economic impacts on industry and the community.

The scope includes the following:

- Positive effects associated with improvements to the local economies including strategies for ensuring local suppliers of goods and services (including Indigenous businesses) receive fair opportunities to tender for work throughout the life of the Project.
- Positive local employment effects from recruitment and training programs to be offered including employment strategies for local residents, and for members of Indigenous communities and people with a disability across Queensland.
- Identify potential impacts on local indigenous landowners and recreational, commercial or indigenous fisheries potentially impacted and undertake consultation.
- Determine whether any impacts are likely to arise in terms of health, education, transport and other community infrastructure, if needed to cope the Project workforce.
- Identify if mitigation measures could result in positive effects on local and health infrastructure and programmes.
Determine whether any impacts on existing housing and accommodation are likely to arise in association with any workforce requirements and population growth.

- Impacts on social cohesion of present communities.
- Cumulative effects arising from interaction with major projects within the socio-economic study area.

The proponent has identified key Project stakeholders and has developed a stakeholder consultation program, elements of which inform the socio-economic impact assessment.

25.3.3 Baseline Characterisation

Baseline characterisation involved the profiling of the communities (based on their classifications at the Local Government Areas (LGAs) level.

Social and economic profiling provided a definition of the existing situation in the socio-economic study area – providing a snapshot of the social conditions at a given point in time.

Baseline characterisation included population, demographic and economic conditions and trends, political structures, social services, infrastructure and accommodation, land tenure and use, community organisations and events, cultural and heritage matters and other factors which may influence the way local communities respond to potential changes brought about by the Project.

The baseline characterisation used data sourced by the proponent through qualitative and quantitative research, a review of stakeholder correspondence, interviews and consultation with stakeholders.

Data was also sourced from the ABS, the Queensland Government, historical literature, maps and spatial data, and other publicly available information obtained from the internet.

A characterisation of the existing social and economic environment provides a baseline against which to measure changing perceptions and social and economic performance in the future. Understanding the existing social and economic environment enables the prediction of the capacity of potentially affected populations to cope with the range of impacts the Project may bring, as well as these communities’ ability to take advantage of opportunities the Project may create.

25.3.4 Impact Identification and Assessment

The impact identification and analysis component of the socio-economic impact assessment involved assessing the Project characteristics against the established socio-economic baseline. This was done through the assessment of the Project’s potential to impact key social, economic and cultural values.

Following the initial impact scoping assessment, a study was carried out to ascertain the likely nature, magnitude, timing and duration of potential impacts, and the population’s which could be affected, including an assessment of any affected populations’ capacity to adapt.

A wide variety of issues were considered in this socio-economic impact assessment, which drew on desktop research, stakeholder engagement and the findings of other specialist studies that have been undertaken for the EIS.

Identified impacts have been assigned a level of significance (for both negative and positive impacts), which has been qualitatively assessed based on the criteria in Table 25-1.

Central to the assessment method is the identification of intrinsic social and economic values associated with the potentially affected community. Intrinsic values include the core attributes of any typical Australian community such as population, housing, environmental health, infrastructure and economic characteristics.

Intrinsic values are also those which are unique to a particular community. These are any attributes of the community which residents consider important and can range from physical spaces, places or elements...
of the local economy to attributes such as community cohesion, friendliness or character as ascertained through stakeholder engagement.

The social and economic values examined as part of the social impact assessment are the following:

- demographics and demographic change
- history and heritage, non-indigenous
- indigenous community
- housing and accommodation
- residential amenity
- employment, education and training
- local economic conditions
- health and safety
- community infrastructure and services
- social identity and cohesion.

25.3.5 Significance of Impacts

The significance of impacts on an environmental value is qualitatively determined by the sensitivity of the value itself and the magnitude of the change it experiences. For example, a small population is likely to be more sensitive to relatively small fluctuations in population size, making it of high receptor sensitivity for any impacts relating to changes in population numbers.

The significance of an impact derived using Table 25-1 is explained below.

**Table 25-1 Significance of Positive and Adverse Effects**

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<th>Significance</th>
<th>Criteria for Social and Economic Environment</th>
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<td><strong>Major Adverse</strong></td>
<td>▪ Irreversible and significant negative change to current amenity, lifestyle and community activities and functioning.</td>
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<td>▪ High Receptor Sensitivity and High Magnitude of Impact.</td>
<td>▪ Displacement or relocation of several houses or businesses.</td>
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<td>▪ Severance of many communities in the area from facilities, services or of a community itself.</td>
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<td>▪ Significant impact on many community facilities and long-term constraints to the regional accommodation market.</td>
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<td>▪ An ‘unhealthy’ demographic structure is created in a community.</td>
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<td>▪ Permanent closure of one or more businesses or industries with resulting detrimental impacts to the regional economy.</td>
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<td>▪ Avoidance through appropriate design responses is generally the only effective mitigation.</td>
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| **High Adverse**      | Project will potentially affect the intrinsic characteristics and structural elements of a social or economic value such as considerable (adverse) change to current amenity, lifestyle and everyday community activities with limited scope for mitigation. |
| ▪ Medium Receptor Sensitivity and High Magnitude of Impact. | ▪ Displacement or relocation of houses or businesses.                                                       |
### Significance

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<th>Significance</th>
<th>Criteria for Social and Economic Environment</th>
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| High Receptor Sensitivity and Medium Magnitude of Impact. | - Separation of a number of communities or residential properties from facilities and services.  
- Impact to a large number of community facilities and significant long-term constraints to the regional accommodation market.  
- Temporary closure of one or more businesses or industries with some resulting detrimental impacts to the local region’s economy.  
- Avoidance through appropriate design responses or extensive mitigation and management is required. Mitigation measures and detailed design for construction work are unlikely to remove all of the significant effects upon the affected communities or interests. |

### Moderate Adverse

| Low Receptor Sensitivity and High Magnitude of Impact.  
| High Receptor Sensitivity and Low Magnitude of Impact.  
| Medium Receptor Sensitivity and Medium Magnitude of Impact. | - Adverse change to social or economic value (in spite of its intrinsic resilience) due to the scale of the impact or alteration of the susceptibility of a value to further change.  
- Adverse change to current amenity, lifestyle and everyday community activities, but with scope for some mitigation.  
- Separation of a small number of residences from facilities and services.  
- Impact to a number of community facilities and some impacts to the local accommodation market.  
- Adverse impact upon businesses, with local economic effects however their operations remain viable.  
- Appropriate mitigation and management of the change is required. |

### Low Adverse

| Medium Receptor Sensitivity and Low Magnitude of Impact.  
| Low Receptor Sensitivity and Medium Magnitude of Impact. | - Localised or limited noticeable change to current amenity, lifestyle and everyday community activities, which can be largely mitigated. Some residual effects may still arise.  
- The functional useability of community facilities affected and temporary localised impact to the accommodation market. Localised or limited change to the operation of businesses.  
- Mitigation can be provided through implementation of adequate control measures. |

### Negligible

| Low Receptor Sensitivity and Low Magnitude of Impact. | - A degraded (low sensitivity) social or economic value exposed to minor changes (low magnitude impact) will not result in any noticeable change in its intrinsic value and hence the activities will have negligible impact.  
- No appreciable impact on local amenity, resident lifestyle and everyday community activities.  
- Imperceptible changes to the amenity of nearby residences. |
### Significance

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<tr>
<td>▪ Temporary access alterations to residential properties, businesses, community facilities and recreational areas during construction.</td>
</tr>
<tr>
<td>▪ Temporary alteration to operation of businesses, community facilities and recreational areas during construction.</td>
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#### Moderate Beneficial

- Low Receptor Sensitivity and High Magnitude of Impact.
- High Receptor Sensitivity and Low Magnitude of Impact.
- Medium Receptor Sensitivity and Medium Magnitude of Impact.

- Promotion of investment locally.
- Improvements to the opportunities or operation of local businesses or industries.
- Significant direct and indirect contribution to the local economy and the creation of jobs in the local region.
- Significant change to current local amenity, lifestyle and community activities and functioning.
- Significantly improved housing, facilities, services or infrastructure at a local level.

#### High Beneficial

- Medium Receptor Sensitivity and High Magnitude of Impact.
- High Receptor Sensitivity and Medium Magnitude of Impact.

- Promotion of investment regionally.
- Significant improvements to the opportunities or operation of local and regional business or industries.
- Significant direct and indirect contribution to the regional and state economy and creation of many long-term jobs in the region.
- Significant change to current amenity, lifestyle and community activities and functioning in the region.
- Significantly improved housing, facilities, services or infrastructure in the regional context.

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### 25.3.6 Management, Mitigation and Enhancement Measures

The objective of this stage is to identify and recommend management measures and opportunity strategies to minimise the potential negative impacts of the Project and optimise positive effects.

Potential measures to avoid, minimise or mitigate negative impacts and enhance positive impacts have been developed to address impacts identified as being of moderate or high significance. The proponent’s stakeholder engagement and community consultation provided insight into community expectations around ways to enhance opportunities and manage negative impacts.

Recommendations have been made in consideration of:

- The Final ToR for the Project EIS.
- The requirements of the Section 31 Native Title Act (1993) Deed and Ancillary Agreement.
The proponent’s proposed employment policies and standards.

The proponent’s existing stakeholder engagement.

Stakeholder perceptions and suggestions.

National and international standards and guidelines.

Stakeholder suggestions, gathered during consultation activities, are detailed in Chapter 3. Recommended mitigation and management measures are outlined in Section 25.9.5 of this report.

25.3.7 Cumulative Effects

Consideration has been given to the cumulative effects through interactions of the Project with the following:

- Rio Tinto Alcan’s existing mining at Weipa
  - Rio Tinto Alcan is currently mining the East Weipa and Andoom bauxite deposits located on Mining Lease ML 7024 north of the Embley River on the western side of Cape York Peninsula and is also mining from the adjacent Ely bauxite deposit ML 7031.

- Rio Tinto Alcan’s South of Embley (SoE) project near Weipa
  - Rio Tinto Alcan has undertaken extensive drilling programmes which have identified mineable bauxite reserves south of the Embley River. The SoE project consists of the construction and operation of a bauxite mine and associated processing facilities, barge and ferry terminals and a port.

- Metro Mining’s (formerly Cape Alumina’s) Bauxite Hills project is at the Feasibility stage, and is situated adjacent to Gulf’s Project, 95 kilometres north of Weipa between the Ducie and Skardon Rivers, 5 km southeast of the existing Port of Skardon River.

Cumulative effects are presented in Sections 25.10 of the report.

In March 2011, the Western Cape Communities Trust and the Western Cape Communities Coordinating Committee were established by the Western Cape Communities Coexistence Agreement.

The agreement is an Indigenous Land Use Agreement over mining lease areas in the Western Cape region. It is an agreement between the eleven Traditional Owner groups who cover the Aboriginal Shire Council areas of Mapoon, New Mapoon (see Section 25.5.5), Aurukun and Napranum, Comalco (now Rio Tinto Alcan), the Cape York Land Council (on behalf of native title parties) and the Cape York Land Council.

25.4 Planning and Regulatory Framework

The social and economic assessment forms part of an EIS which has been prepared to support an application to EHP under the EP Act. Legislative and regulatory requirements which are relevant to the identification and management of social impacts arising from the Project are detailed in Chapter 2.

25.4.1 State Policy Alignment

The State Planning Policy (SPP) and regional plans are state planning instruments and statutory instruments under the Statutory Instruments Act 1992.

The Queensland Government established the SPP in December 2013 to simplify and clarify matters of state interest in land use planning and development. The SPP which replaced multiple state planning

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policies is a key component of Queensland's land use planning system that enables development, protects our natural environment and allows communities to grow and prosper.

The SPP identifies State interests in Queensland as follows:

- **Liveable communities**: Planning delivers liveable, well-designed and serviced communities that support wellbeing and enhance quality of life.
- **Housing supply and diversity**: Diverse, accessible and well-serviced housing and land for housing is provided.
- **Agriculture**: Planning protects the resources on which agriculture depends and supports the long-term viability and growth of the agricultural sector.
- **Development and construction**: Planning supports employment needs and economic growth by facilitating a range of residential, commercial, retail and industrial development opportunities, and by supporting a strong development and construction sector.
- **Mining and extractive resources**: Mineral, coal, petroleum, gas, and extractive resources are appropriately considered in order to support the productive use of resources, a strong mining and resource industry, economical supply of construction materials, and avoidance of land use conflicts wherever possible.
- **Tourism**: Tourism planning and development opportunities that are appropriate and sustainable are supported; and the social, cultural and natural values underpinning the tourism developments are protected to maximise economic growth.
- **Biodiversity**: Matters of environmental significance are valued and protected, and the health and resilience of biodiversity is maintained or enhanced to support ecological integrity.
- **Coastal environment**: The coastal environment is protected and enhanced, while supporting opportunities for coastal-dependent development, compatible urban form, and safe public access along the coast.
- **Cultural Heritage**: The cultural heritage significance of heritage places and heritage areas, including places of indigenous cultural heritage, is conserved for the benefit of the community and future generations.
- **Water quality**: The environmental values and quality of Queensland waters are protected and enhanced.
- **Emissions and hazardous activities**: Community health and safety, sensitive land uses and the natural environment are protected from potential adverse impacts of emissions and hazardous activities, while ensuring the long-term viability of industrial development, and sport and recreation activities.
- **Natural hazards, risk and resilience**: The risks associated with natural hazards are avoided or mitigated to protect people and property and enhance the community’s resilience to natural hazards.
- **Energy and water supply**: Planning supports the timely, safe, affordable and reliable provision and operation of electricity and water supply infrastructure.
- **State transport infrastructure**: Planning enables the safe and efficient movement of people and goods across Queensland and encourages land use patterns that support sustainable transport.
- **Strategic airports and aviation facilities**: Planning protects the operation of strategic airports and aviation facilities, and enables the growth and development of Queensland’s aviation industry.
- **Strategic ports**: Planning protects the operation of strategic ports and enables their growth and development.
25.5 Regional and Local Government Areas

The Local Government Act 2009 requires every council to develop a long term community plan which covers economic, environmental, social and governance activities for the purpose of progress long term community planning.

The following regional and local government plans which relate to the socio-economic study area have been considered in making the assessments and prescribed mitigation measures for the proposed Project.

25.5.1 Cape York Region

The Cape York Region is identified as having outstanding natural areas of high conservation value, a diverse and rich Indigenous heritage together with a wealth of natural assets, particularly mineral resources. Enabling sustainable economic development opportunities in the region balanced with the protection of the Cape’s natural areas is a key priority of the Queensland Government.

The Cape York Regional Plan covers an area of 140,000 km$^2$, and a relatively sparse population of around 7,000 people, (a population density of around 1 person per 20 km$^2$). The Plan’s aim is to create strategic, long-term land use certainty, particularly in relation to areas that are appropriate for economic development opportunities and those that are set aside for environmental protection.

The key drivers for preparing the Plan are the Queensland Government’s intentions to:

- improve and grow the region’s economic development and diversity
- balance economic development with the protection of areas with important natural and cultural values
- replace the land use aspects of the Wenlock Basin, Archer Basin, Stewart Basin, and Lockhart Basin Wild River Area (now repealed) declarations
- reduce potential land use conflict and improve land use certainty for landholders and investors
- attract and secure resource sector development and investment
- facilitate and grow tourism pursuits across all areas of the region
- provide investment certainty for towns, businesses and regional communities
- identify regional infrastructure outcomes that will support economic and community growth and avoid the introduction of additional, unnecessary regulation
- recognise and respect the role of local government to plan for their local area.

25.5.2 Cook Shire LGA

Cook Shire LGA covers 106,000 km$^2$ of the Cape York Peninsula and is characterised by small businesses. The main industries by employee numbers are: agriculture, forestry and fishing industries; accommodation and food services; and public administration and safety. An estimated 40% of the resident population of Cook Shire lives in Cooktown which is the administrative, commercial and service centre for the shire.

The Cookshire Community Plan 2011 – 2021 identifies community needs, long-term vision, aspirations and priorities for the community. The themes and goals for the Community Plan applicable to the Project are summarised below:

- Environmental Wellbeing

Goals
- Economic, residential, recreational and cultural activities work alongside environmental legislation
- Value the natural environment and promote natural value to others
- The environment is well managed
- Townships are clean, tidy and healthy places to live
- Conserve resources and encourage sustainable practices.

Safe, Healthy and Inclusive
- Goals
  - People feel safe and secure at home, in the streets, and during emergencies
  - People can access some health and social services locally and are supported if specialist services are needed elsewhere
  - Value is placed on the participation of community members and everyone is treated with respect.

Identity and Integrity
- Goals
  - The range of opportunities for different lifestyles provided by the Shires unique and diverse communities is protected and promoted
  - The pre and post contact history is recorded and sites protected and promoted as appropriate.

Infrastructure, Transport and Services
- Goals
  - The road network and our airports facilitate the safe transport of people and freight throughout the Shire
  - Rivers and harbours have well planned and maintained infrastructure; including management procedures to meet the needs of locals and tourists
  - Waste management practices are environmentally sound and cost effective

Economic Wellbeing
- Goals
  - The economy is increasingly sustainable
  - The Shire has a diverse economy based on primary industries, mining, government and tourism and new sectors of renewable energy and carbon farming and land management with a viable creative sector and range of niche and micro businesses
  - There is a good range of jobs, proportionate to the population size and economic activity levels, and training and development opportunities are available support those entering in the work force.

25.5.3 Aboriginal Shire of Mapoon

The shire of Mapoon covers an area of 458.5 km². The 2012 population was 285 people.

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5 Reference: Department of Aboriginal and Torres Strait Islander and Multicultural Affairs: Aboriginal and Torres Strait Islander Community Profiles: a Resource for the Courts; Mapoon (February 2014).
The Mapoon Aboriginal Shire Council Community Plan 2010 - 20206 aims to ensure that the community is characterised by the year 2020 as:

- a thriving, prosperous and healthy
- having high levels of participation in employment and training
- a population of 400 people
- having developed adequate, well maintained houses and a strong focus on home ownership
- a mainly Indigenous population with an historical connection or family ties to Mapoon
- a democratic community that values the input of Traditional Owners and other residents
- a caring community with a particular focus on the elderly and the young
- an environment that is respected and cared for
- having traditional culture strengthened and supported
- having business development that fits with the culture of the community and generates sufficient cash flow.

25.5.4 Torres Strait and Northern Peninsula Area Region

Injinoo, Umagico, Bamaga, New Mapoon and Seisia are the southernmost communities featured in the Torres Strait and Northern Peninsula Area (TS&NPA) Regional Plan 2009-20297. These communities are situated on the Australian mainland at the far northern tip of the Cape York Peninsula. The other (island based) communities covered in the TSNPARP extend north into the Torres Strait as far as (and including) Boigu, Dauan and Saibai islands off southern Papua New Guinea.

The TS&NPA Regional Plan originated from the Torres Strait Regional Authority (TSRA), the Torres Strait Island Regional Council (TSIRC), the Torres Shire Council (TSC) and the Northern Peninsula Area Regional Council (NPARC), with support from the Queensland Government to integrate regional planning to maximise opportunities and resources and provide adequate, appropriate and coordinated service delivery.

The Plan has a twenty year timeframe and outlines the goals for the region as follows:

- **Economic Development** - Enhance the region's wealth, by creating sustainable industries and increasing employment opportunities for people equivalent to the wider Australian community
- **Housing** - To achieve the provision of adequate, appropriate and affordable housing.
- **Governance and Leadership** - Effective and transparent self-government, with strong leadership
- **Environmental Management** – To protect the natural and cultural environment as an asset that is preserved and enjoyed through sustainable management.
- **Public Health** - Enhance both healthy communities and our living environment.
- **Communities** - Safe, healthy, respectful and progressive communities, based on Ailan Kastoms and Aboriginal traditions
- **Art Culture and Heritage** - Protect, promote, revitalize and maintain Torres Strait Islander and Aboriginal traditions and cultural heritage
- **Native Title** - Protect, maintain and progress Native Title Rights and recognition over the region's land and sea country.

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25.5.5 Northern Peninsula Area

The NPA LGA was created on 15 March 2008 from five previous entities—the Bamaga and Seisia Island Councils, and the Injinoo, New Mapoon and Umagico Aboriginal Councils.

The Northern Peninsula Area Regional Council Community Plan (2010–2020)8 visions are summarised as:

- Being a healthy and educated community
- Growing at its own pace
- Being fair, with services shared equally between the townships
- Promoting and recognising its culture and history
- Being trained with the capacity to do things well
- Having new houses having a rainwater tank and solar hot water installed
- Having a say in what happens in the community
- Not being reliant on the government
- The different cultures developing together
- Recognising achievements in the community.

NPA residents also identified community values as:

- Having the sea at the doorstep and the outback as the back yard
- Community history
- Elders and leadership
- Families
- Easy and natural lifestyle
- The open plan of the towns
- The closeness of the community
- Comfort, stability and security
- Being un-commercialised
- Having the best fishing in the country
- Being a safe place for tourists to visit.

25.5.6 Weipa Town Authority

Weipa Town Authority area (LGA) covers 10.2 km². The town of Weipa is the largest town on the Gulf of Carpentaria coast of the Cape York Peninsula with a 2012 population of 3,600.

The Weipa Town Authority manages the town and is partly funded by Rio Tinto. The Town Office acts in the role of Local Authority and has staff which one would normally associate with a local council. The

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services supplied and maintained through Town Office are of a similar nature to those supplied by local councils throughout Australia such as road maintenance, water supply, town planning, public swimming pool, public library, parks and ovals and garbage collection.

It is noted that no actual part of the Project footprint is in Weipa, and that direct and indirect impacts from the Project on Weipa are expected to be of low socio-economic significance.

The Weipa Community Plan 2012 – 2022 identifies Economic and Community Goals; those which are most relevant to the Project are detailed below:

- **Key Economic Goal – Economic Diversity**
  - Need to develop more commercial and industrial land so that the town has the capacity to expand its economic base
  - Intention to identify and develop opportunities associated with our port and marine operations

- **Key Economic Goal – Economic Growth**
  - Ensure the long term viability of mining operations on the Western Cape (so that the economic base of Weipa remains stable)
  - Encourage more competition in the provision of services in the Weipa township to assist in reducing the cost of living.
  - Ensure that local businesses remain viable and that expenditure leakage from the Weipa economy is minimised

- **Key Economic Goal – Economic Infrastructure**
  - Improve air access to Weipa
  - The provision of resources to ensure that the various economic development components of our Community Plan are implemented

- **Key Community Goal – Community Spirit**
  - Maintain Weipa’s unique community spirit as the town and community continue to grow
  - Reduce the turnover of population and encourage people to live in Weipa longer

- **Key Community Goal – Community Services**
  - Better co-ordination of Health Services across the Western Cape
  - Improved health services
  - Improve law and order

- **Key Community Goal – Community Facilities**
  - Continue to support and grow our local community organisations
  - Maintenance of existing facilities
  - Improve housing availability

- **Key Community Goal – A Broader Western Cape Community**
  - Weipa plays a key role in the Western Cape
  - Improved community relations.

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25.5.7 Aurukun Aboriginal Shire Council

On 22 May 1978, resolution was agreed and the Local Government (Aboriginal Lands) Act came into force, constituting the Aurukun Shire Council. The Act granted a 50-year lease to the Council over most of the land in the original Reserve, a large part of the traditional lands of the Aurukun people.

Aak Puul Ngantum Corporation (APN Cape York) is made up of the Aurukun Traditional Owners whose homelands lie south of Aurukun. This includes four of the five clan groups (Apalech, Puch, Wanam and Winchanam). APN Cape York aspires to play a major role in developing the future of Aurukun. Its vision includes:

- Getting Traditional Owners back onto Country and the sharing of traditional knowledge and skills with younger generations;
- Maintaining the natural resources of the Southern Wik and Kugu groups;
- Developing sustainable economic and training opportunities for the community; and
- Promoting social programs to improve the health and education of Wik and Kugu peoples.

The shire comprises some 7,500 km². Almost the entire population (1,394 in 2012) lives within the Aurukun township. The township functions as the administrative centre of the Shire, and accommodates facilities which provide essential housing, health care and education services, as well as recreational and employment opportunities for residents. The Shire’s economy is centred on the provision of services and facilities to the community and around extractive industries and tourism.

The Aurukun Shire Council is committed to ensuring that the land and resources within Aurukun are developed in a way that supports the needs of the local community. As part of this aim, the Aurukun Shire Council has adopted the Aurukun Shire Planning Scheme (2014). The planning scheme addresses the following core matters which are important to the community:

- Provision for development that makes a positive contribution to the local community
- Maintenance existing land uses and traditions
- Reduction of conflict between incompatible land uses
- Provision for development and housing which incorporates climate responsive design
- Coordination of the supply of quality infrastructure
- Maintenance historic and cultural heritage
- Preservation of the natural environment; and
- Safeguarding the community from the impacts of natural hazards.

25.5.8 Napranum Aboriginal Shire Council

The Napranum Aboriginal Shire Council is the main governing body responsible for Napranum. The Council 10 Year Community Plan outlines what Napranum would like to see for their community for the future as promoting:

- community engagement
- community ownership
- accountability

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10 Department of Aboriginal and Torres Strait Islander and Multicultural Affairs: Aboriginal and Torres Strait Islander Community Profiles: a Resource for the Courts; Aurukun (October 2014) (Draft- update scheduled for February 2016).
12 Department of Aboriginal and Torres Strait Islander and Multicultural Affairs: Aboriginal and Torres Strait Islander Community Profiles: a Resource for the Courts; Napranum (October 2014)
- fairness
- working together
- honesty
- shared vision
- empowerment
- respect
- environmental awareness
- open communication
- shared values
- trust.

The Napranum Draft Planning Scheme\textsuperscript{13} identifies strategic outcomes for any development in relation to community, lifestyle and economic considerations in making Napranum an accessible, connected and economically viable community.

Community and lifestyle-services and facilities should be accessible and designed to support all residents and contribute to a safe and healthy living environment for all residents:

Economically, Napranum should have a vibrant local economy underpinned by reliable and affordable infrastructure with sustainable businesses that provide diverse employment opportunities, including traditional activities and more contemporary uses (such as agriculture and tourism).

Natural resources should be protected, so that development does not stop opportunities for or prevent local people from hunting, fishing, gathering or growing food or from continuing to manage Country.

\textbf{25.5.9 Cairns Regional Shire LGA}

It is anticipated that the majority of the Project workforce will be fly in fly out (FIFO) and resident in Cairns.

The Cairns Regional Council was created in March 2008 following the amalgamation of the former Cairns City and Douglas Shire Councils. Douglas Shire de-amalgamated from Cairns on 1 January 2014.

The Council’s population (165,388 in 2012) is concentrated around Cairns. The Council covers an area of around 4,135 km\textsuperscript{2}.

The Cairns Regional Council Community Development Strategic Plan 2011 – 2016\textsuperscript{14} identifies a number of goals; those which are most relevant to the Project are detailed below:

- **Caring for the Social Environment.** The term ‘social environment’ refers to living and working conditions and the communities in which the Cairns’ population lives. The Community Development Unit is committed to managing and protecting the social environment in a sustainable manner for the benefit of the entire community.

- **Delivering Services and Infrastructure.** Cairns Regional Council will work with the community to promote better accessibility of community infrastructure, to promote community ownership of that infrastructure and to promote the integration of that infrastructure into the fabric of our communities.

- **Creating a Socially Prosperous and Socially Sustainable Region.** Cairns Regional Council will work with groups across the region to assess group and community needs and assist those groups and


\textsuperscript{14} Reference: \url{http://www.cairns.qld.gov.au/__data/assets/pdf_file/0019/41734/ComDev-Strategic-Plan.pdf}
communities grow and develop. Social prosperity is about communities maintaining their quality of life and being able to develop new opportunities to enhance that quality of life. The Community Development Unit will:

- work collaboratively with the diverse groups and communities across the region to improve their access to training and resources
- support the development of a community employment strategy for groups that are traditionally under represented.

25.6 EIS Community Consultation and Stakeholder Engagement

The stakeholder and community consultation program is fully detailed in Chapter 3 and includes historical consultation activities relating to kaolin mining as well as the consultations undertaken as part of the EIS process.

25.6.1 Key Stakeholders and Community Consultation Findings

Key Stakeholders and Community Consultation Findings are summarised below.

Stakeholders were identified as:

- affected persons defined under section 38 of the Environmental Protection Act 1994 (EP Act)
- interested persons, as defined under section 38 of the EP Act, and as nominated by the proponent as part of the Terms of Reference (ToR) process for the EIS.
- any other stakeholders not nominated defined as affected or interested persons.

The stakeholder consultation program considered the following groups:

- Landholders and occupiers
- Government land managers
- Government agencies and bodies
- Statutory and utility authorities
- Local and State government elected representatives
- Indigenous groups (including native title holders or claimants), including Ankamuthi, Northern Cape York Group #1; Mapoon tribes Warrangku and Tjungundji, and Cape York Land Council (CYLC)
- Cultural bodies
- Port operator for the Port of Skardon River
- Transport operators in Weipa and Cairns
- Health and emergency services in the Cape, Weipa and Cairns
- Local community and natural resource management groups
- Local chamber of commerce and government
- State and national non-government organisations (NGOs)
- Adjacent mining lease applicants
- Broader community.

Negotiations to extend the mining to include bauxite mining were held with traditional owner groups, OMAC and native title claimants from Warrangku, Tjungundji and Ankamuthi, with input from the Cape York Land Council, from 2008 onwards. These meetings included extensive discussions on environmental management, training, employment, and social impacts as well as financial compensation.
Meetings were also held with Gulf and representatives of training providers (records of meetings show 20 attendees representing a variety of organisations) and Queensland Government departments including (but not limited to) EHP, DNRM, DSDIP and Ports Corporations.

A summary of the key discussions and outcomes of those meetings is provided below:

- Initial discussions regarding the proposed bauxite Project began with representatives of the Warrangku and Tjungundji peoples and representatives of OMAC. OMAC held the lands underlying the Project area at that time as a Deed of Grant in Trust under the *Land Act 1994* as the lands were not transferred under the *Aboriginal Land Act 1991* (Qld) until May 2013.
- Negotiations included discussion about the potential for an Indigenous Land Use Agreement (ILUA) and future royalty entitlements for the Mapoon DOGIT lands.
- Negotiations included the Cape York Land Council and State agency representatives on native title and land trust issues, and agencies engaged in identifying opportunities for Aboriginal employment and training.
- The ILUA discussions eventuated in a comprehensive agreement with the Ankamuthi as the registered native title claimants for the mining lease areas. The documents signed included a Section 31 Deed and an Ancillary Agreement.
- Those negotiations included a cultural heritage agreement, together with a package of employment, training and contracting opportunities available not only for the Ankamuthi as the native title holders of the Project area but also any local Aboriginal people from the Western Cape.
- The proponent also continues to work closely with OMAC as the trustee for the lands which underlie the Project area on the southern side of the Skardon River.
- The proponent has been in close discussion the Mapoon land and Sea Rangers relating to ongoing management of inland and coastal areas.
- The proponent is also consulting with the Apudthama Land Trust (ALT) as the trustees for the neighbouring lands on the northern side of the Skardon River.

### 25.6.2 Stakeholder Consultation during the EIS

The proponent’s stakeholder engagement and consultation activities undertaken during the EIS process, and outcomes from this consultation are detailed in Chapter 3.

### 25.6.3 Consultation Plan

Gulf Alumina will prepare a Consultation Plan within 3 months of Gulf Alumina being provided an EIS Assessment Report under the EP Act. The Consultation Plan will:

- address who will be consulted, frequency of consultation and methods for consultation
- identify issues requiring ongoing consultation
- describe recording, monitoring and reporting on consultation
- will include provision of information on the types of skills required for construction and operation, and the means by which people can obtain those skills (e.g. external providers or in-house training provided by Gulf).

However, it should be recognised that whilst a formal consultation plan is being prepared, Gulf Alumina will continue to consult with stakeholders identified in Chapter 3.
Gulf Alumina will undertake additional consultation with the Aboriginal Shire Councils of Napranum, Mapoon and the Northern Peninsula Area in order to further understand local socio-economic conditions. This will be part of the consultation plan.

The consultation plan will include information and discussion on flight options from local communities to the site. Should workers and their families elect to move to local communities, then Gulf Alumina will consult with the relevant Aboriginal Shire Councils on potential impacts.

Gulf Alumina will seek additional consultation with the Weipa Town Authority and Rio Tinto on potential impacts to social services. Gulf Alumina is committed to ongoing consultation with health services providers, the police services and other local service providers.

25.7 Existing Socio-Economic Environment

25.7.1 Historical Background and Settlement Pattern - Overview

Aboriginal settlement of Australia (estimated to have occurred between 30,000 and 120,000 years ago) was likely to have been via the land bridges between Papua New Guinea and the tip of Cape York.

Later settlement of some areas of northern Cape York by Torres Strait Islander groups (possibly around 1,000 years ago) preceded the first recorded Chinese boats (in the early 15th Century), followed by the earliest European explorers, who arrived off northern Australia in the early 1600s, (about 100 years prior to Cook’s landing in the late 1700’s). At the time of first European contact, it is estimated that between 250,000 and 1 million people lived in Australia, (by comparison, the estimated resident Aboriginal and Torres Strait Islander population of Australia in 2011 was 669,900 people, or 3% of the total Australian population)\(^{15}\).

The history of European settlement and administration in the Cape has led to the migration, relocation and displacement\(^{16}\) of individuals, sometimes in significant numbers, (in notable proximity to the Project area were the underfunding and relocation events associated with the Presbyterian Mission between Mapoon and New Mapoon in the mid 1950s to early 1960s)\(^{16}\)\(^5\) which have influenced the existing settlement pattern of both Aboriginal and Torres Strait Islander people regionally and in local area.

European settlement\(^{17}\) in Cape York was first proposed at Albany Island (off the far northern tip of the peninsula) to establish a harbour, supply depot and a coaling station to service international shipping which later led to the establishment of a settlement at Somerset in 1864 and nearby cattle station.

Later, gold mining brought further settlement to the south of the Cape York Peninsula, initially around the Palmer Goldfield. The rapid population growth associated with gold mining promoted settlements such as Cooktown to grow, which in turn created increased demand for outlying cattle stations. The collapse of gold mining at the beginning of the 19th century, resulted in regional population decline.

The WW2 resulted in the establishment of aerodromes at Cooktown, Coen, Iron Range, Higgensfield and Horn Island, enabling regular public transport and making remote communities more accessible.

Between 1950 and 1970, United States’ investment in the beef industry led to a resurgence in the pastoral sector, which declined again in the 1980s.

The town of Weipa was constructed by Rio Tinto Aluminium to house its mining workforce, but today is the regional hub of the Western Cape hosting many businesses and government services. Bauxite mining at Weipa started in the early 1960s, and Rio Tinto Alcan at Weipa is currently a major contributor to the regional economy with 1,100 full time employees\(^{18}\). The associated activities support a population of


\(^{16}\) Reference: [http://www.mapoon.com/37.html](http://www.mapoon.com/37.html)


about 2,000$^{19}$. Based on the 2012 population of Cape York region (Table 25-2) around 25% of the entire Cape York population is involved directly with bauxite mining or associated industries (i.e. industries dependant of the presence of bauxite mining in the area).

The Rio Tinto Alcan Weipa operations consist of two continuous mining operations at East Weipa and Andoom, two beneficiation plants, 19 kilometres of railway to transport mined bauxite to port, and two ship loaders.

Some product is shipped to international customers but the majority of Weipa bauxite is supplied to the Queensland Alumina Limited and Rio Tinto Alcan Yarwun refineries, both located in Gladstone.

In addition to mining activities, the Western Cape’s other significant industries include tourism, fishing and cattle. Respect for the land and its Traditional Owners is a very important component of life for those who live and work on the Western Cape. The land surrounding Weipa is not open public space, but belongs to Traditional Owners. A permit system is in operation to allow access for recreational purposes.

**25.7.2 Demographic and Demographic Change**

Changes to population and migration patterns are stimulated by numerous variables including employment opportunities, family ties, age and climate. Table 25-2 details the population at the time of the 2008 - 2012 census events conducted by the ABS.

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### Table 25-2  Estimated Resident Population (2008-2012) - Persons - Total (no.)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>1,252</td>
<td>N/A</td>
<td>1,365</td>
<td>1,398</td>
<td>1,394</td>
<td>142</td>
<td>11</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>152,398</td>
<td>157,078</td>
<td>160,089</td>
<td>162,178</td>
<td>165,388</td>
<td>12,990</td>
<td>9</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>3,787</td>
<td>3,988</td>
<td>4,135</td>
<td>4,409</td>
<td>4,432</td>
<td>645</td>
<td>17</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>262</td>
<td>271</td>
<td>276</td>
<td>281</td>
<td>285</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>890</td>
<td>901</td>
<td>910</td>
<td>908</td>
<td>919</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>NPA (LGA) ABS Data</td>
<td>2234</td>
<td>2273</td>
<td>2391</td>
<td>2463</td>
<td>2493</td>
<td>259</td>
<td>12</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>3,246</td>
<td>3,303</td>
<td>3,337</td>
<td>3,423</td>
<td>3,600</td>
<td>354</td>
<td>11</td>
</tr>
<tr>
<td>Cape York (Region)</td>
<td>6,784</td>
<td>7,056</td>
<td>7,261</td>
<td>7,505</td>
<td>7,602</td>
<td>818</td>
<td>12</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>4,219,505</td>
<td>4,328,771</td>
<td>4,404,744</td>
<td>4,476,778</td>
<td>4,565,529</td>
<td>346,024</td>
<td>8</td>
</tr>
</tbody>
</table>

Source ABS 2015.

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20 Cape York ABS data excludes Aurukun.
All LGAs in the socio-economic study area (as well as the Cape York region as a whole) have had population increases since 2008 which have exceeded the average Queensland rate of increase (8%) - apart from Napranum which has seen a population growth rate (3%) which is less than the Queensland average growth rate.

25.7.2.1 Projected Populations

The Office of Economic and Statistical Research (OESR)\textsuperscript{21} has produced population projections for the LGAs including those in the Project socio-economic study area. Medium series projections predicting population from 2011 to 2036 are provided in Table 25-3.

The population projections indicate that each of the LGAs are likely to have slower population growth in the period from 2011 to 2036 than the rate predicted for Queensland as a whole (58%), (i.e. between 22\% in Napranum to 54\% in Weipa); except for Cairns, which is expected to grow at a rate (62\%) which is faster than the Queensland population growth rate.

A number of fast-growing LGAs (including Cairns and Weipa), are towns that are developing rapidly to service the construction, mining, processing and transport industries associated with the resource industries being developed in the hinterland, however, population growth tends to diminish with distance from the major service centres, hence the contraction of the mining sector in recent years is likely to have a decreased effect in terms of population growth for LGAs (such as Aurukun, Cook, Mapoon, Napranum and NPA) further from those service centres.

Table 25-3  Projected Population (Medium Series), by Local Government Area, Queensland, 2011 to 2036. At 30 June.

<table>
<thead>
<tr>
<th>Local Government Area (a)</th>
<th>2011 (b)</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2031</th>
<th>2036</th>
<th>Nos. change (2011-2036)</th>
<th>% change (2011-2036)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (S)</td>
<td>1,398</td>
<td>1,511</td>
<td>1,611</td>
<td>1,701</td>
<td>1,784</td>
<td>1,860</td>
<td>462</td>
<td>33</td>
</tr>
<tr>
<td>Cairns (R) (c)</td>
<td>150,992</td>
<td>167,794</td>
<td>186,575</td>
<td>205,735</td>
<td>225,006</td>
<td>244,083</td>
<td>93,091</td>
<td>62</td>
</tr>
<tr>
<td>Cook (S)</td>
<td>4,409</td>
<td>4,765</td>
<td>5,037</td>
<td>5,320</td>
<td>5,526</td>
<td>5,754</td>
<td>1,345</td>
<td>30</td>
</tr>
<tr>
<td>Mapoon (S)</td>
<td>281</td>
<td>310</td>
<td>337</td>
<td>358</td>
<td>389</td>
<td>414</td>
<td>133</td>
<td>47</td>
</tr>
<tr>
<td>Napranum (S)</td>
<td>908</td>
<td>927</td>
<td>983</td>
<td>1,021</td>
<td>1,070</td>
<td>1,105</td>
<td>197</td>
<td>22</td>
</tr>
<tr>
<td>NPA (R)</td>
<td>2,463</td>
<td>2,621</td>
<td>2,758</td>
<td>2,884</td>
<td>3,000</td>
<td>3,110</td>
<td>647</td>
<td>26</td>
</tr>
<tr>
<td>Weipa (T)</td>
<td>3,423</td>
<td>3,853</td>
<td>4,258</td>
<td>4,631</td>
<td>4,973</td>
<td>5,285</td>
<td>1,862</td>
<td>54</td>
</tr>
<tr>
<td><strong>Queensland</strong></td>
<td>4,476,778</td>
<td>4,946,319</td>
<td>5,477,082</td>
<td>6,007,578</td>
<td>6,548,220</td>
<td>7,095,177</td>
<td>2,618,399</td>
<td>58</td>
</tr>
</tbody>
</table>

(C) City: (R) Regional Council: (S) Shire: (T) Town

(a) Boundaries are based on 2014 Queensland local government areas.
(b) Estimated resident population (ERP).
(c) 2011 ERPs for this local government area are derived using published Statistical Area Level 2 and local government area ERP data.

25.7.2.2 Age and Gender Distribution

Age and gender are key demographic variables which influence the character of a community and the needs of its residents (see Table 25-4). In summary ABS data (2012) indicated that compared to Queensland as a whole;

- for the 0-24 age cohort:
  - NPA, Napranum and Aurukun have relatively high numbers compared to the Queensland rate.
  - other LGAs were underrepresented compared to the Queensland rate especially Cook LGA.
- for the 25-64 age cohort:
  - Cook, Mapoon, Weipa (and generally the other LGAs) were well represented compared to the Queensland rate, however NPA, Aurukun, and Napranum became underrepresented at the upper end of the cohort (ages 45-64);
- for the 65+ age cohort:
  - Generally LGAs and Cape York Region as a whole were underrepresented compared to the Queensland rate.

For age cohorts over 55 years: all of the population groups in the Project socio-economic study area are at, or below the Queensland average (in terms of % population represented). For the same age range Cairns and Cook are the only populations which exceed the Cape York regional average.

Employment opportunities and housing affordability are likely to be factors attracting working age cohorts.

Access to leisure activities, public infrastructure and healthcare facilities are likely factors attracting retirement age cohorts.
### Table 25-4  Age in Years as % Population (2012)

| Locality                        | Age (years) | 0 to 14 years | 15 to 24 years | 25 to 34 years | 35 to 44 years | 45 to 54 years | 55 to 64 years | 65 to 74 years | 75 to 84 years | 85 + years |
|--------------------------------|-------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------|------------|
| Aurukun (LGA) ABS data         |             | 27.9          | 19.8           | 16.5           | 16.8           | 9.5            | 5.7            | 2.7            | 0.6            | 0.6        |
| Cairns (LGA) ABS data          |             | 21.4          | 12.7           | 14.1           | 15.5           | 14.6           | 11.3           | 6.5            | 2.8            | 1.1        |
| Cook (LGA) ABS data            |             | 18.1          | 11             | 17.4           | 14.8           | 14.5           | 13.9           | 7.7            | 2.4            | 0.3        |
| Mapoon (LGA) ABS data          |             | 23.2          | 11.9           | 17.2           | 12.3           | 18.2           | 11.6           | 3.2            | 0.7            | 1.8        |
| Napranum (LGA) ABS data        |             | 30.9          | 18.2           | 15.7           | 14.5           | 10.4           | 6.7            | 2.3            | 1.1            | 0.2        |
| NPA (LGA) ABS data             |             | 33.4          | 19.4           | 14.2           | 11.4           | 9.9            | 6.9            | 2.9            | 1.3            | 0.6        |
| Weipa Town (LGA) ABS data      |             | 25.4          | 13.1           | 19.3           | 17.8           | 13.5           | 8.8            | 2.1            | 0.2            | 0          |
| Cape York (Region)²⁹           |             | 21.8          | 14.4           | 16.7           | 14.3           | 13.3           | 11.6           | 5.9            | 1.8            | 0.4        |
| Queensland ABS data            |             | 19.9          | 13.9           | 14.1           | 14.1           | 13.4           | 11.3           | 7.7            | 4              | 1.6        |
The ratio of males to females between 2008 and 2012 for the Project socio-economic study area is presented in Table 25-5. Most notable features of the gender profiles for the region include;

- the increase in males to females ratio in Cook from 54:46 in 2008 to 59:41 in 2012
- decrease in males to females ratio in Mapoon from 62:38 in 2008 to 50:50 in 2012
- NPA is the only region with (marginally) more females compared to males between 2008 and 2012.
- Cape York as a whole has a high male to female ratio (generally 5-6% more males over the 2008 to 2012 period) than Queensland as a whole (50:50).

<table>
<thead>
<tr>
<th>Locality</th>
<th>2008 population</th>
<th>2009 population</th>
<th>2010 population</th>
<th>2011 population</th>
<th>2012 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>50:50</td>
<td>na</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>54:46</td>
<td>54:46</td>
<td>55:45</td>
<td>55:45</td>
<td>59:41</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>51:49</td>
<td>51:49</td>
<td>52:48</td>
<td>52:48</td>
<td>51:49</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>54:46</td>
<td>54:46</td>
<td>54:46</td>
<td>53:47</td>
<td>54:46</td>
</tr>
<tr>
<td>Cape York (Region)</td>
<td>54:46</td>
<td>55:45</td>
<td>55:45</td>
<td>56:44</td>
<td>56:44</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
<td>50:50</td>
</tr>
</tbody>
</table>

Gender bias is likely to be due to the prevalence of mining and agricultural industries in the Cape York region. Notably in 2013 the Northern Territory and Western Australia were the only State/Territory areas where males outnumbered females.22

25.7.2.3 Cultural Diversity (People Born Overseas)

In 2011, the Census revealed that over a quarter (26%) of Australia's population was born overseas. The degree of cultural diversity in a community provides an insight into the cultural characteristics of residents and an indication of the type of services which may be required.

ABS statistical data is arranged so that indigenous population numbers are separate from the dataset, so that cultural diversity is an indicator focusing on people born overseas.

The proportion of persons born overseas was recorded as lower than the state average (26.3%) across all LGAs within the Project study, with the exception of Cairns (28.4%) which was above the state average.

Aurukun, Mapoon, Napranum and NPA LGAs had very low proportions of persons born overseas in their profiles.

Table 25-6 Overseas Born Population: Percentage of Total Population (Census 2011)

<table>
<thead>
<tr>
<th>Locality</th>
<th>2011 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>0.2</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>28.4</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>31.3</td>
</tr>
</tbody>
</table>

In 2011, 82% of the overseas-born population lived in capital cities compared with 66% of all people in Australia. Some of the factors affecting where migrants choose to live are the location of family members or people with the same ethnic background, the point of entry into the country, the economic attractiveness of the destination in terms of employment opportunities, and certain visa conditions.

Within the overseas-born population, those who arrived in Australia in the past 20 years were more likely to live in a capital city than those who arrived before 1992 (85% compared to 79%).

In 2011, the United Kingdom was the leading country of birth for the overseas-born population (21%). It was followed by New Zealand (9.1%), China (6.0%), India (5.6%) and Italy (3.5%).

### 25.7.2.4 Family Structure and Household Composition

The way in which households and families are structured can provide an indication as to the character of the built environment along with social relationships and latent social capital within a community. Table 25–7 provides information as to household type.

<table>
<thead>
<tr>
<th>Locality</th>
<th>% Lone person households</th>
<th>% Group households</th>
<th>% Family households</th>
<th>Total households (no.)</th>
<th>Average Household Size (no.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>11.82</td>
<td>4.09</td>
<td>84.09</td>
<td>220</td>
<td>5</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>26.03</td>
<td>4.95</td>
<td>69.01</td>
<td>57,129</td>
<td>2.5</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>33.91</td>
<td>3.53</td>
<td>62.57</td>
<td>1,333</td>
<td>2.3</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>27.78</td>
<td>0.00</td>
<td>72.22</td>
<td>72</td>
<td>3.2</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>12.15</td>
<td>0.00</td>
<td>87.85</td>
<td>181</td>
<td>4.2</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>19.54</td>
<td>2.66</td>
<td>77.80</td>
<td>563</td>
<td>3.7</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>18.20</td>
<td>3.90</td>
<td>77.90</td>
<td>1,000</td>
<td>2.8</td>
</tr>
<tr>
<td>Cape York (Region)²⁰</td>
<td>28.03</td>
<td>2.87</td>
<td>69.09</td>
<td>2,019</td>
<td>2.8</td>
</tr>
</tbody>
</table>
The highest proportion of family households was Napranum (87.85 %) and Aurukun (84.09 %), compared to a state average (72.44 %). The lowest proportion was found in Cook (62.57 %).

The highest average household size (in terms of numbers of people) was found in Aurukun (5.0) and Napranum (4.2), compared to a state average of (2.6). The lowest average household size was found in Cook (2.3).

The housing numbers in Aurukun, Napranum and NPA indicate a prevalence of family based households in the community with relatively large numbers of people occupying those households, possibly a result of the presence of more children in the home and/or children and other family members being retained in the family home for longer.

The highest proportion of lone person households was Cook (33.91 %), compared to a state average (22.85 %). The lowest proportions were found in Aurukun (11.82 %) and Napranum (12.15 %).

Two factors (cited by ABS) which may contribute to a higher proportion of lone person households are relative increases in the ageing of a population, and divorce.

The highest proportion of group households (i.e. a household consisting of two or more unrelated people where all persons are aged 15 years and over, where there are no reported couple relationships, parent-child relationships or other blood relationships) was Cairns (4.95 %), compared to a state average (4.72 %). The lowest proportion was found in Mapoon and Napranum (both 0.0 %).

25.7.2.5 Native Title and Indigenous Community

The Traditional Owner groups with native title claims or determinations in the mining lease areas are as follows:

- Ankamuthi People (Registered Native Title Claimants - Federal Court Proceedings QUD6158 of 1998 and includes any amendment of that application)
- Northern Cape York Group #1 (Native Title Claimants - Federal Court Proceedings QUD157/2011)

The Ankamuthi People are the registered native title claimants for the Project’s mining leases south of the Skardon River. Gulf Alumina signed native title Traditional Owner agreements with the Ankamuthi in December 2013, including a Section 31 Deed and an Ancillary Agreement.

North Cape York Group #1 holds the recognised native title determination for areas within and north of the Skardon River. The North Cape York Group #1 comprises a number of different Indigenous peoples, with the areas of the Skardon River and north of the Skardon River represented by the Ankamuthi People. The other peoples are the McDonnell Atampaya group and the Gudang/Yadhaigana people.

A Cultural Heritage Management Plan (CHMP) has been negotiated with the Ankamuthi People. Gulf Alumina will continue to discuss cultural heritage management with all relevant aboriginal parties. CHMPs will detail any impact that the Project may have upon artefact sites or places of cultural heritage significance and mitigation steps taken to minimise impact wherever possible.

Mapoon, Napranum and Aurukun have indigenous populations over 90% of the population (Table 25-8). A brief history for these shires is provided below.

<table>
<thead>
<tr>
<th>Locality</th>
<th>% Lone person households</th>
<th>% Group households</th>
<th>% Family households</th>
<th>Total households (no.)</th>
<th>Average Household Size (no.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queensland ABS data</td>
<td>22.85</td>
<td>4.72</td>
<td>72.44</td>
<td>1,547,304</td>
<td>2.6</td>
</tr>
</tbody>
</table>

The highest proportion of family households was Napranum (87.85 %) and Aurukun (84.09 %), compared to a state average (72.44 %). The lowest proportion was found in Cook (62.57 %).

The highest average household size (in terms of numbers of people) was found in Aurukun (5.0) and Napranum (4.2), compared to a state average of (2.6). The lowest average household size was found in Cook (2.3).

The housing numbers in Aurukun, Napranum and NPA indicate a prevalence of family based households in the community with relatively large numbers of people occupying those households, possibly a result of the presence of more children in the home and/or children and other family members being retained in the family home for longer.

The highest proportion of lone person households was Cook (33.91 %), compared to a state average (22.85 %). The lowest proportions were found in Aurukun (11.82 %) and Napranum (12.15 %).

Two factors (cited by ABS) which may contribute to a higher proportion of lone person households are relative increases in the ageing of a population, and divorce.

The highest proportion of group households (i.e. a household consisting of two or more unrelated people where all persons are aged 15 years and over, where there are no reported couple relationships, parent-child relationships or other blood relationships) was Cairns (4.95 %), compared to a state average (4.72 %). The lowest proportion was found in Mapoon and Napranum (both 0.0 %).
25.7.2.5.1 Mapoon

Mapoon\(^5\) was established on the traditional homelands of the Tjungundji people at Cullen Point in November 1891. The name ‘Mapoon’ is believed to be an anglicised translation of a Tjungundji word meaning ‘place where people fight on the sand-hills’. Mapoon is also locally known as Marpuna.

Before it came to be known as Mapoon, the site of this community had previously been called Batavia River Mission. Established in 1891, founding Moravian missionaries, James Gibson Ward and Reverend John Nicholas Hey, were said to have brought several South Sea Islander men to Mapoon to assist them.

In the early 1960s, people from Mapoon were involuntarily moved (after some had voluntarily moved) to form the township of New Mapoon, so that mining could be carried out around Mapoon. Some people returned to Mapoon in the 1970s to re-establish a community there.

The Mapoon Aboriginal reserve, previously held by the Queensland Government, was transferred on 26 April 1989 to the trusteeship of the Mapoon Land Trust under a Deed of Grant in Trust (DOGIT).

On 25 March 2000, after many years of lobbying for their own council, members of the Mapoon community elected five councillors to constitute an autonomous Mapoon Aboriginal Council under the *Community Services (Aborigines) Act 1984*.

After its establishment, the Mapoon Aboriginal Council became one of the trustees of the Mapoon Land Trust.


An active Native Title claim lodged by the Northern Cape York Group #2 covering approximately 3,949.7 km\(^2\) of land encompassing the community of Mapoon has been registered.

In 2008, the people of Mapoon were one of many Traditional Owner groups who agreed to the Papua New Guinea Gas Pipeline Indigenous Land Use Agreement. This project has not progressed.

25.7.2.5.2 Northern Peninsula Area

The Injinoo community was established (without government intervention) in the 1910s and was the first township in the area. It was formed by three traditional groups of the area:

- Red Island (Gudang, Yadhaigana and Wathathi-Whitesand people)
- Seven Rivers people, including the Anakamuthi people
- MacDonald River (Gumathi) people.

Missionaries from the Anglican Church arrived at the settlement in 1923. In 1949 Bamaga was founded by people from the Torres Strait Island of Saibai. Seisia was established in 1951 when more people moved from Saibai. Involuntary relocation of people from Mapoon occurred in the 1960s (see Section 25.7.2.5.1) to form the township of New Mapoon. Umagico was established in 1963, when people from the Lockhart River Mission were resettled. In the 1970s, people from Moa Island in the Torres Strait were also moved to Umagico.

In the mid 1980s, the five townships were each given ownership of a parcel of land containing their township via a Deed of Grant in Trust (DOGIT). In 2008, the five councils of the townships were amalgamated into the Northern Peninsula Area Regional Council\(^23\).

25.7.2.5.3 Aurukun

Aurukun is located on the far west coast of Cape York approximately 200 km south of Weipa along the Peninsula Developmental Road.

The Wik and Wik Way people are recognised as the Traditional Owners for the area between Pormpuraaw and Weipa. The area has five recognised clan groups; the Apalech, Winchanam, Wanam, Chara and Puutch.

Aurukun was originally named Archer River Mission in 1904 following the establishment of a Presbyterian mission on the coastline at the Archer River. The mission was poorly funded throughout its history resulting in extremely poor living conditions amongst the population.

Northern sections of the Aurukun mission reserve were excised in 1958, when Comalco (now Rio Tinto Alcan) was granted a bauxite mining lease which also incorporated the majority of Weipa and Mapoon mission reserves, this caused uncertainty about the future of the missions, and increased existing tensions between the Presbyterian Church, the government and mission residents.

After the government passed legislation which facilitated bauxite mining on the Aurukun Aboriginal Reserve in 1975, Federal and State disputes around land rights, compensation and governance of the area were further heightened. In March 1978, at state level, the Queensland government withdrew funding to the Presbyterian Church and assumed administrative control of Aurukun and Mornington Island missions.

During April 1978 the Federal Parliament acted to pass the Aboriginal and Torres Strait Islanders (Queensland Reserves and Communities Self-Management) Act 1978 to provide Aboriginal Councils or residents of reserves the option of applying to the Australian government for self-management.

Prior to the act being passed, the Queensland government revoked the reserve status of Aurukun and Mornington Island Reserves, rendering the Act powerless.

25.7.2.5.4 Napranum

Napranum is a small community located on the west coast of Cape York Peninsula, 6 km from the main centre of Weipa. The Traditional Owners of the Napranum township are believed to be the Alngith people. The community now known as Napranum was settled at Jessica Point in 1932 on the traditional lands of the Alngith people, after the Weipa Mission was relocated from Spring Creek (Twenty Mile) about 30 km inland.

Many people living at Napranum today are not the Traditional Owners of this area. Many Thaynakwith people from further north came to live at Napranum. The Thaynakwith peoples are divided into three major estates: western Thaynakwith (Pine River), central Thaynakwith of Andoom, Bouchat and Red Beach; as well as the eastern Thyanakwith of the Luenh area.

Some Napranum people are descended from South Sea Islanders who helped establish the original mission; others are related to the culturally diverse group of people who were relocated to Napranum from Mapoon in 1964.

There are also some people who arrived in Napranum from Aboriginal communities such as Aurukun, to take up employment with Comalco.

Weipa Mission was established by Moravian missionary Edwin Brown in 1898 on the Embley River; the second of four Presbyterian missions established by the government to curb the abuse of Aboriginal people working in the beche-de-mer and pearling industries. The mission was officially named ‘Weipa’ in 1899, which was believed to be a language name for the area. After a cyclone destroyed many of the mission buildings, a decision was made in 1930 to relocate to Jessica Point.

In 1954, the government began planning the closure of both Mapoon and Mornington Island missions. Residents were to be relocated to Weipa and Aurukun missions.
Comalco and Alcan began prospecting for bauxite on the Mapoon and Weipa reserves in 1956. By early 1957, Jessica Point had become the favoured location for a mining town and port. Comalco rejected a request by the Presbyterian Church seeking financial compensation from Comalco to improve mission facilities and housing and instead offered to fund the relocation of Weipa mission residents to Aurukun, and to build a new village at Jessica Point. In 1962, residents accepted Comalco’s offer to rebuild the Jessica Point village. Later, the Presbyterian Church’s relinquished administrative responsibility for the mission to the Queensland government. The community became known as Weipa South after this time.

On 30 March 1985, the Weipa South community elected five councillors to constitute Weipa South Aboriginal Council. The Aboriginal reserve held by the Queensland government was transferred to the Weipa South Aboriginal Council on 27 October 1988 under a Deed of Grant in Trust (DOGIT).

In 1990, the Weipa South community became known as Napranum, which translates to ‘meeting place of the people’. The DOGIT lands became known as the Napranum DOGIT in 1991.

On 1 January 2005, the Napranum Aboriginal Council became the Napranum Aboriginal Shire Council.

On 14 March 2001, the Napranum Aboriginal Shire Council became a signatory to the Comalco ILUA.

### 25.7.2.6 Indigenous Population Numbers

A summary of the Indigenous population numbers within the Project socio-economic study area is included in Table 25-8 below.

<table>
<thead>
<tr>
<th>Locality</th>
<th>2011 Indigenous proportion of total population (%)</th>
<th>Number of Indigenous Residents (persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>92.1</td>
<td>1,288</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>9.2</td>
<td>14,920</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>20</td>
<td>882</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>90.1</td>
<td>253</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>95.9</td>
<td>871</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>85.5</td>
<td>2,106</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>18.6</td>
<td>637</td>
</tr>
<tr>
<td>Cape York (Region)²⁰</td>
<td>49.7</td>
<td>3,730</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>3.6</td>
<td>161,164</td>
</tr>
</tbody>
</table>

Napranum (95.9 %), Aurukun (92.1 %), Mapoon (90.1 %) and NPA (85.5 %) have the largest proportion of Indigenous persons, while Cairns has the lowest (9.2 %), with a proportion which is five times less than the Cape York average (49.7%).

A notable feature of the Indigenous population of the region is the low representation of persons aged 55 and over (see Section 25.7.2.2). This is reflective of national trends where socioeconomic disadvantage and poor health is resulting in Indigenous Australians having a notably shorter life expectancy compared to the mainstream population.

Historically, in Mapoon, Napranum and Aurukun, the trend (between 2008 and 2012) in the ratio of males to females was biased towards male overrepresentation in the population with levels at or above the Australian average, (see Table 25-4). More recently the gender bias has lessened and in 2012 was very close to the Queensland average ratio.

This may be a result of historical workforce demands of mining becoming more representative for women, or due to the movement of more families into these areas.
25.7.3 Employment, Income and Housing

25.7.3.1 Labour Force and Unemployment

A notable feature of the socio-economic study area is the comparatively high levels of unemployment across the LGAs (between 6.6 % in Cairns and Cook, up to 22.5 % in Aurukun) and across the Cape York Region as a whole (12.6 %) compared to the state average (6.1 %), (see Table 25-9). The exception is that of Weipa where the unemployment rate is 2.5 % which is well below the state average, and unusually low for the Cape York region generally.

In describing employment rates in Weipa, it is noted that the town is administered by Rio Tinto to house its workforce population which is primarily engaged at the nearby bauxite mine and port facilities.

Table 25-9 Labour Force Statistics - Census 2011

<table>
<thead>
<tr>
<th>Locality</th>
<th>Labour Force (no.)</th>
<th>Unemployed (no.)</th>
<th>Unemployment rate (%)</th>
<th>Participation rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>302</td>
<td>68</td>
<td>22.5</td>
<td>33.5</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>79,770</td>
<td>5,264</td>
<td>6.6</td>
<td>65.2</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>1,702</td>
<td>113</td>
<td>6.6</td>
<td>50.1</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>91</td>
<td>7</td>
<td>7.7</td>
<td>45.1</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>230</td>
<td>47</td>
<td>20.4</td>
<td>40.6</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>833</td>
<td>71</td>
<td>8.5</td>
<td>56.1</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>1,891</td>
<td>47</td>
<td>2.5</td>
<td>77</td>
</tr>
<tr>
<td>Cape York (Region)20</td>
<td>2,769</td>
<td>350</td>
<td>12.6</td>
<td>50.7</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>2,171,073</td>
<td>131,799</td>
<td>6.1</td>
<td>62.8</td>
</tr>
</tbody>
</table>

In terms of employment by occupation (see Table 25-10), the Cape York Region as a whole has a strong bias towards Labourers (20.4 %) which is well above the Queensland average (10.6 %). Managers (14.1 %), Community and Personal Service Workers (12.8 %), and Machinery Operators and Drivers (8.8%), also feature at above Queensland average rates in the Cape York region.
### Table 25-10  Occupation of Employed Persons: as % of Total Employed - Census 2011

<table>
<thead>
<tr>
<th>Locality</th>
<th>Managers</th>
<th>Professionals</th>
<th>Technicians and Trades Workers</th>
<th>Community and Personal Service Workers</th>
<th>Clerical and Administrative Workers</th>
<th>Sales Workers</th>
<th>Machinery Operators and Drivers</th>
<th>Labourers</th>
<th>Inadequately Described, Not Stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>8.6</td>
<td>26.9</td>
<td>5.6</td>
<td>16.7</td>
<td>6.4</td>
<td>4.7</td>
<td>4.7</td>
<td>21.4</td>
<td>5.1</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>11.5</td>
<td>17.3</td>
<td>16</td>
<td>12.3</td>
<td>14.2</td>
<td>10.9</td>
<td>5.9</td>
<td>10.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>17.6</td>
<td>15.7</td>
<td>12.4</td>
<td>11.1</td>
<td>9.6</td>
<td>5.2</td>
<td>8.4</td>
<td>17.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>11.9</td>
<td>19.1</td>
<td>4.8</td>
<td>8.3</td>
<td>16.7</td>
<td>0</td>
<td>8.3</td>
<td>27.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>6</td>
<td>10.9</td>
<td>9.2</td>
<td>14.7</td>
<td>8.2</td>
<td>0</td>
<td>20.7</td>
<td>26.6</td>
<td>3.8</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>7.2</td>
<td>17</td>
<td>10</td>
<td>20.8</td>
<td>10.8</td>
<td>6.2</td>
<td>4.2</td>
<td>18.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>8.1</td>
<td>15</td>
<td>23.6</td>
<td>7.3</td>
<td>10</td>
<td>5.1</td>
<td>21.4</td>
<td>7.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Cape York (Region)²⁰</td>
<td>14.1</td>
<td>15.6</td>
<td>11.5</td>
<td>12.8</td>
<td>9.5</td>
<td>4</td>
<td>8.8</td>
<td>20.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>12</td>
<td>18.9</td>
<td>14.9</td>
<td>10</td>
<td>14.7</td>
<td>9.8</td>
<td>7.3</td>
<td>10.6</td>
<td>1.8</td>
</tr>
</tbody>
</table>
In terms of the most strongly represented occupational cohorts of employed persons for individual LGAs in the socio-economic study area, the following observations are noted:

- **Aurukun** had strong representation of Professionals (26.9 %) and Labourers (21.4 %) in the workforce, (both parameters were above Cape York and Queensland rates).
- **Cairns** had an even spread across most categories with Professionals (17.3 %) the most prevalent category represented, however this rate was still below the Queensland rate.
- **Cook** had strongest representation in the Managers (17.6 %) Professionals (15.7 %) and Labourers (17.4 %) occupational cohorts. All occupational cohort rates were closely comparable to the Queensland average rates.
- **Mapoon** had strong representation of Professionals (19.1 %), Clerical and Administrative Workers (16.7 %- high for the socio-economic study area and above Cape York and Queensland averages) and Labourers (27.4 % - more than twice the Queensland average). It is also noted that low numbers of Sales Workers are evident in the LGA (0 %).
- **Napranum** had strong representation of Machinery Operators and Drivers (20.7 %), and Labourers (26.6 % - more than twice the Queensland average). It is also noted that low numbers of Sales Workers are evident in the LGA (0 %).
- **NPA Region** had strong representation of Community and Personal Service Workers (20.8 %), and Labourers (18.5 %).
- **Weipa** had strong representation of Technicians and Trades Workers (23.6 %) and Machinery Operators and Drivers (21.4 %) both well above Cape York Region and Queensland rates.

### 25.7.3.1.1 Cairns and Regional Queensland Unemployment

**Figure 25-1** presents the unemployment rate for Cairns, Regional Queensland, Queensland and Australia between 2011 and 2015. The unemployment rate in Cairns was 7.39% in September 2015. There is an increasing trend in unemployment, particularly in Regional Queensland where there has been a downturn in mining.

The unemployment rate shown in **Figure 25-1** is the proportion of the labour force (those in work or looking for work, and aged over 15) who are looking for work. Unemployment does not include people who don’t have a job but are not seeking a job. **Figure 25-2** shows the number of people unemployed in Cairns, which in September 2015 was 5,864 (out of a workforce of 79,391). As the Project requires an operational workforce of approximately 160 people, this is only 2.7% of the number of unemployed people in Cairns.

**Figure 25-3** shows unemployment rates by labour force region in Queensland in December 2015. The areas with the highest unemployment are Outback, Mackay and Cairns – all areas associated with the resource / mining sector. There are many more thousands of unemployed people in Queensland, including those formerly working in the mining sector who do not currently reside in Cairns but may choose to commute from their place of residence or move to Cairns whilst working on the Project. In addition, there are thousands more unemployed people in Australia, including those formerly employed in the mining sector in Western Australia.

Cumulative impacts are described in **Section 25.10**. It is noted that Rio Tinto’s South of Embley project involves a shift of the existing workforce from its current operations to the South of Embley project at a production rate of 15 Mtpa. Metro Mining’s Bauxite Hills project involves a workforce of between 200 and 260 people. Given the unemployment rates described above, particularly areas from which labour may be drawn for the Project, the additional labour requirements by bauxite projects in Cape York are

---

highly unlikely to stretch the capacity of Cairns, regional Queensland and other areas in Australia to supply labour.

**Figure 25-1**  Quarterly Unemployment Rates

---

**Quarterly unemployment rate**

- Cairns
- Regional QLD
- Queensland
- Australia

---

**Quarterly unemployment**

- Cairns

---

Figure 25-2  Number of People Unemployed – Cairns


Figure 25-3  Unemployment Rate by Labour Force Region
25.7.3.2 Income

The average personal income recorded in 2011 for Queensland was $49,864 which was slightly higher than that for the Cape York Region ($46,993) (see Table 25-11).

Incomes in Mapoon, Napranum, and Weipa were more than 20% higher than the state average in 2011. It is likely that high wages associated with employment in the mining sector is the explanation for such high average incomes.

Incomes in Aurukun, NPA, Cairns and Cook were lower than the Queensland average rate. NPA had the lowest personal income in the socio-economic study area ($37,350) more than 25% less than the state average. This is potentially because the communities in these areas are not benefiting directly from mining sector employment.

There is wide degree of variability in personal incomes across the socio-economic study area. A difference of more than 40% exists between the highest (Napranum at $63,511) and lowest (NPA) average income estimates.

Table 25-11  Estimates of Personal Income - Average Wage and Salary Income ($)

<table>
<thead>
<tr>
<th>Locality</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>% increase since 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>29,787.80</td>
<td>NA</td>
<td>34,682.40</td>
<td>37,434.60</td>
<td>20.43</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>39,605.80</td>
<td>41,636.60</td>
<td>43,890.00</td>
<td>46,160.10</td>
<td>14.20</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>33,647.00</td>
<td>35,586.20</td>
<td>41,179.80</td>
<td>43,886.20</td>
<td>23.33</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>54,681.20</td>
<td>58,100.60</td>
<td>59,020.00</td>
<td>63,442.50</td>
<td>13.81</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>54,762.20</td>
<td>58,285.80</td>
<td>58,796.20</td>
<td>63,511.10</td>
<td>13.78</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>27,866.90</td>
<td>30,445.10</td>
<td>33,786.80</td>
<td>37,350.30</td>
<td>25.39</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>54,688.20</td>
<td>58,249.30</td>
<td>58,867.70</td>
<td>63,463.50</td>
<td>13.83</td>
</tr>
<tr>
<td>Cape York (Region)</td>
<td>36,612.60</td>
<td>38,673.70</td>
<td>43,805.10</td>
<td>46,993.40</td>
<td>22.09</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>42,011.90</td>
<td>44,815.10</td>
<td>47,053.90</td>
<td>49,863.50</td>
<td>15.75</td>
</tr>
</tbody>
</table>

In general (since 2008) the trend has been for incomes in the Cape York Region to increase faster than Queensland average rates. However the rate of increase varies between LGAs in the region, with NPA, Aurukun and Cook income increasing at a faster rate than the Cape York Regional rate, whereas income in Cairns, Mapoon, Napranum and Weipa have also increased since 2008, but at a much slower rate (around 14%) which is below the Queensland rate of increase (15.75%).

25.7.3.3 Disadvantage

The Socio-economic Index for Areas (SEIFA) developed by the ABS (see Table 25-12) provides a measure of comparative social and economic wellbeing across localities. One such index focuses upon indicators of advantage/disadvantage with relative disadvantage being associated with a low score.
### Table 25-12  Local Government Area (LGA) SEIFA Summary, 2011

<table>
<thead>
<tr>
<th>2011 Local Government Area Code(LGA)</th>
<th>Index of Relative Socio-economic Advantage and Disadvantage</th>
<th>Index of Relative Socio-economic Disadvantage</th>
<th>Index of Economic Resources</th>
<th>Index of Education and Occupation</th>
<th>Usual Resident Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Decile</td>
<td>Score</td>
<td>Decile</td>
<td>Score</td>
</tr>
<tr>
<td>Aurukun</td>
<td>586</td>
<td>1</td>
<td>483</td>
<td>1</td>
<td>521</td>
</tr>
<tr>
<td>Cairns</td>
<td>975</td>
<td>6</td>
<td>981</td>
<td>6</td>
<td>967</td>
</tr>
<tr>
<td>Cook</td>
<td>898</td>
<td>2</td>
<td>902</td>
<td>2</td>
<td>891</td>
</tr>
<tr>
<td>Mapoon</td>
<td>740</td>
<td>1</td>
<td>699</td>
<td>2</td>
<td>684</td>
</tr>
<tr>
<td>Napranum</td>
<td>602</td>
<td>1</td>
<td>535</td>
<td>1</td>
<td>589</td>
</tr>
<tr>
<td>NPA</td>
<td>750</td>
<td>1</td>
<td>705</td>
<td>1</td>
<td>655</td>
</tr>
<tr>
<td>Weipa</td>
<td>1,049</td>
<td>9</td>
<td>1,064</td>
<td>10</td>
<td>1,037</td>
</tr>
<tr>
<td>Cape York (excl Aurukun)</td>
<td>798</td>
<td>1</td>
<td>776</td>
<td>1</td>
<td>768</td>
</tr>
</tbody>
</table>

**Scores**: a lower score indicates that an area is relatively disadvantaged compared to an area with a higher score.

**Deciles**: all areas are ordered from lowest to highest score, the lowest 10% of areas are given a decile number of 1 and so on, up to the highest 10% of areas which are given a decile number of 10. This means that areas are divided up into ten groups, depending on their score. Decile 1 is the most disadvantaged relative to the other deciles. Note that deciles have equal number of areas, not people.
At the national level Aurukun, Mapoon, Napranum and NPA LGAs all scored in the lowest decile (i.e. most disadvantaged) across the majority of indices.

The indices for Cook LGA were also generally low. The low LGA scores were reflected in the Cape York Regional scores, which were also in the lowest decile across all indices.

Cairns scored better than average and Weipa scored very highly (generally in the top 80% of scores).

Rio Tinto Alcan owns and manages most of the accommodation in Weipa and is also responsible for the administration of the town (e.g. water supply, town planning, bin collection, road, public swimming pool and parks maintenance), which it does through Town Office which acts as the Local Authority.

It is likely that the high standard of living in Weipa is tied to the relatively high (mining based) income of its residents compared to regional and State income levels, and possibly also due to the accommodation and administration arrangements of Weipa.

### 25.7.3.4 Housing and Accommodation

Housing (see Table 25-13) is almost exclusively rental in Aurukun (97.3 %) Mapoon (87.8 %) Napranum (100.0 %) and NPA (94.1%) consisting ‘State or territory housing authority’ and ‘housing co-operative, community or church group’ housing.

Conversely, Cairns and Cook LGAs accommodation ownership rates (i.e. both fully owned and mortgaged) are comparable to the Cape York Region as a whole (56.8 % ownership) which is below the State average (67.0. %).

Weipa has lower a rate of ownership (38.1 %) which correlates with the incidence of ‘other landlord type’ likely comprising ‘employer’ housing (i.e. owned by Rio Tinto Alcan) associated with the workforce accommodation for the local bauxite mining activities.
### Table 25-13  Tenure and Landlord Type by Local Government Area, 2011 (2011 Boundaries) Count of Occupied Private Dwellings (a)

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Owned</th>
<th>Rented</th>
<th>Other tenure type</th>
<th>Tenure type not stated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Owned outright</td>
<td>Owned with a mortgage(b)</td>
<td>Owned: Total</td>
<td>Real estate agent</td>
<td>State or territory housing authority</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>1.3</td>
<td>0.0</td>
<td>1.3</td>
<td>0.0</td>
<td>27.4</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>23.2</td>
<td>33.7</td>
<td>57.0</td>
<td>23.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>32.4</td>
<td>20.0</td>
<td>52.4</td>
<td>9.2</td>
<td>7.4</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>4.1</td>
<td>0.0</td>
<td>4.1</td>
<td>0.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>90.2</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>2.1</td>
<td>0.5</td>
<td>2.7</td>
<td>0.0</td>
<td>29.7</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>7.0</td>
<td>31.1</td>
<td>38.1</td>
<td>14.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Cape York (Region) (incl Aurukun)</td>
<td>26.2</td>
<td>30.6</td>
<td>56.8</td>
<td>17.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>32.1</td>
<td>34.9</td>
<td>67.0</td>
<td>16.1</td>
<td>4.0</td>
</tr>
</tbody>
</table>

(a) Excludes 'Visitors only' and 'Other non-classifiable' households.
(b) Includes dwellings being purchased under a rent/buy scheme.
(c) Comprises dwellings being rented from a parent/other relative or other person.
(d) Comprises dwellings being rented through a 'Residential park (includes caravan parks and marinas)', 'Employer - Government (includes Defence Housing Authority)' and 'Employer - other employer'.
(e) Includes dwellings being occupied under a life tenure scheme.
Source: Census of Population and Housing, 2006
Note: This table is based on place of enumeration.
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. As such numbers may differ slightly to other outputs from ABS website.
25.7.4 Education

25.7.4.1 Youth Working and Education

In 2011 the Cape York region proportion of population aged 15-19 years engaged in work and/or study was 44% compared to the Queensland state average of 73.7% (see Table 25-14). The total number of people in the 15-19 year old cohort across the region was 452 individuals. All LGAs were below the Queensland average rate of youth engagement.

The LGAs within the socio-economic study area generally had higher proportion of 15-19 year olds engaged in work/education than the Cape York Region as a whole, the exceptions being Aurukun (23%) and Mapoon (0%).

Table 25-14  Youth (15-19 Years) Engagement in Work/Study - Census 2011

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Fully engaged (%) (see note)</th>
<th>Total - aged 15-19 years (no.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>23</td>
<td>113</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>69.3</td>
<td>10,338</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>52.9</td>
<td>174</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>58.6</td>
<td>87</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>49.8</td>
<td>221</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>66.2</td>
<td>207</td>
</tr>
<tr>
<td><strong>Cape York (Region)</strong></td>
<td><strong>44</strong></td>
<td><strong>452</strong></td>
</tr>
<tr>
<td><strong>Queensland ABS data</strong></td>
<td><strong>73.7</strong></td>
<td><strong>293,917</strong></td>
</tr>
</tbody>
</table>

Note total % of the following breakdowns

- Working full-time & studying part-time
- Working part-time & studying part-time
- Working part-time & studying full-time
- Working full-time (not studying)
- Studying full-time (not working)
- Working full-time & studying full-time

25.7.4.2 Persons with Post School Qualifications

Table 25-15 shows persons with post school qualifications in the by LGA in the Cape York Region, the Cape York Region and Queensland.

This demonstrates that:

- Arukun, Mapoon, NPA and Naprunum have a lower percentage of people over the age of 15 (i.e. a high number of people of school going age or younger) than Cape York Region and Queensland
- All LGAs within the Cape York region have lower levels of postgraduate degrees, graduate diplomas, graduate certificates and bachelor degrees than Queensland, with particularly low levels in Arukun, Cook Shire, Mapoon, NPA and Naprunum.
- LGAs in the Cape York Region have levels of advanced diplomas and certificates similar to the Queensland percentage.
In summary, education levels in the Cape York Region, other than Weipa are lower than regional and State levels.
### Table 25-15  Persons with Post School Qualifications (ABS data)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of total population aged 15 years and over (%)</td>
<td>29.0</td>
<td>57.3</td>
<td>59.5</td>
<td>32.8</td>
<td>47.1</td>
<td>17.6</td>
<td>62.5</td>
<td>50.0</td>
<td>54.3</td>
</tr>
<tr>
<td>Postgraduate degree (%)</td>
<td>0.3</td>
<td>2.0</td>
<td>1.5</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>1.2</td>
<td>1.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Graduate Diploma, Graduate Certificate (%)</td>
<td>0.7</td>
<td>1.3</td>
<td>0.9</td>
<td>1.5</td>
<td>0.7</td>
<td>0.5</td>
<td>1.1</td>
<td>0.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Bachelor Degree (%)</td>
<td>3.3</td>
<td>10.6</td>
<td>6.2</td>
<td>2.0</td>
<td>6.2</td>
<td>1.4</td>
<td>10.4</td>
<td>4.7</td>
<td>11.7</td>
</tr>
<tr>
<td>Advanced Diploma, or Diploma (%)</td>
<td>2.1</td>
<td>8.0</td>
<td>5.3</td>
<td>2.5</td>
<td>5.1</td>
<td>1.2</td>
<td>6.1</td>
<td>4.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Certificate (%)</td>
<td>7.2</td>
<td>22.1</td>
<td>18.2</td>
<td>16.4</td>
<td>22.9</td>
<td>12.5</td>
<td>27.5</td>
<td>19.0</td>
<td>19.9</td>
</tr>
<tr>
<td>Inadequately described, not stated (%)</td>
<td>15.3</td>
<td>13.5</td>
<td>27.5</td>
<td>10.5</td>
<td>11.6</td>
<td>1.9</td>
<td>16.2</td>
<td>19.8</td>
<td>11.0</td>
</tr>
</tbody>
</table>
25.7.5 Health

25.7.5.1 Queensland Health

Queensland Health and Cape York indicators are detailed and compared in Table 25-16. Generally for weight, smoking and alcohol indices, the Cape York population is less healthy than for Queensland as a whole.

A number of Cape York Region LGAs were not included in the Queensland Health Local Government Area Summary Report due to insufficient sample size at the LGA level, specifically: Aurukun, Lockhart River, Kowanyama, Mapoon, Napranum, NPA, Pormpuraaw, and Wujal Wujal.

It is therefore difficult to draw strong comparisons about the Aurukun, Mapoon, Napranum and NPA compared to the rest of Cape York and Queensland.
### Table 25-16 Summary of Health Indicators 2011–12 Queensland and Cape York

<table>
<thead>
<tr>
<th>Health indicator (self reported, 18+ years)</th>
<th>Age group (years)</th>
<th>Queensland</th>
<th>Population-weighted prevalence (95% CL)</th>
<th>Cape York</th>
<th>Age-standardised comparison with Queensland (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body mass index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underweight (&lt;18.5)</td>
<td>18+</td>
<td>2.8 (2.5-3.2)</td>
<td>*3.1 (1.5-6.6)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Healthy weight (BMI 18.5–&lt;25)</td>
<td>18+</td>
<td>39.3 (39.0-40.8)</td>
<td>29.5 (22.8-37.2)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td>Overweight (BMI 25–&lt;30)</td>
<td>18+</td>
<td>34.7 (33.9-35.5)</td>
<td>33.6 (26.8-41.1)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Obese (BMI 30+)</td>
<td>18+</td>
<td>22.6 (21.9-23.3)</td>
<td>33.8 (27.0-41.4)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td>Overweight/obese (BMI 25+)</td>
<td>18+</td>
<td>57.3 (56.4-58.1)</td>
<td>67.4 (59.7-74.3)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td>Unhealthy weight</td>
<td>18+</td>
<td>60.1 (59.2-61.0)</td>
<td>70.5 (62.8-77.2)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td><strong>Health conditions (a)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes/high blood sugar</td>
<td>18+</td>
<td>9 (8.6-9.5)</td>
<td>12.5 (8.2-18.6)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>High blood pressure</td>
<td>18+</td>
<td>29 (28.0-30.0)</td>
<td>29.9 (23.2-37.6)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>High cholesterol</td>
<td>18+</td>
<td>29 (27.9-30.0)</td>
<td>20.5 (14.4-28.3)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Any cancer (ever)</td>
<td>18+</td>
<td>16.2 (15.5-16.9)</td>
<td>10.7 (7.5-14.9)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Skin cancer (ever)</td>
<td>18+</td>
<td>10.2 (9.6-10.8)</td>
<td>5.5 (3.6-8.4)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Skin cancer (melanoma) (b)</td>
<td>18+</td>
<td>2.9 (2.6-3.3)</td>
<td>**</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Skin cancer (non-melanoma) (b)</td>
<td>18+</td>
<td>5.7 (5.3-6.2)</td>
<td>*2.5 (1.5-4.2)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td><strong>Smoking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily smoking</td>
<td>18+</td>
<td>14.4 (13.8-15.0)</td>
<td>26.9 (20.1-35.1)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol consumption—2009 Australian guidelines to reduce health risks from drinking alcohol (c).</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime risk</td>
<td>18+</td>
<td>21.5 (20.6-22.4)</td>
<td>31.7 (24.7-39.6)</td>
<td>Less healthy</td>
<td></td>
</tr>
<tr>
<td>Single occasion risk—at least yearly but not weekly</td>
<td>18+</td>
<td>36.4 (35.4-37.5)</td>
<td>34.9 (27.6-43.1)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Single occasion risk—at least weekly</td>
<td>18+</td>
<td>15.6 (14.8-16.5)</td>
<td>22.1 (16.3-29.3)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td><strong>Physical activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sufficient activity for health benefit</td>
<td>18-75</td>
<td>56.6 (55.6-57.6)</td>
<td>53.4 (45.0-61.5)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td><strong>Fruit and vegetable consumption</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate fruit intake (2+ serves/day)</td>
<td>18+</td>
<td>52 (51.2-52.9)</td>
<td>47.6 (40.1-55.2)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Adequate vegetable intake (5+ serves/day)</td>
<td>18+</td>
<td>9.4 (9.0-9.9)</td>
<td>11.9 (7.5-18.2)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Adequate fruit and vegetable intake</td>
<td>18+</td>
<td>7 (6.6-7.5)</td>
<td>*7.2 (4.2-12.0)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Mean daily fruit intake (serves)</td>
<td>18+</td>
<td>1.7 (1.7-1.7)</td>
<td>1.6 (1.4-1.8)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Mean daily vegetable intake (serves)</td>
<td>18+</td>
<td>2.4 (2.4-2.4)</td>
<td>2.5 (2.3-2.7)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td><strong>Quality of life (d)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Health indicator (self reported, 18+ years)

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Queensland Prevalence % (95% Confidence Limit) (CL)</th>
<th>Population-weighted prevalence % (95% CL)</th>
<th>Cape York Age-standardised comparison with Queensland (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>18+ 83.1 (82.4-83.9)</td>
<td>86.2 (79.5-91.0)</td>
<td>–</td>
</tr>
<tr>
<td>Quality of life</td>
<td>18+ 90.3 (89.8-90.8)</td>
<td>91.0 (83.3-95.4)</td>
<td>–</td>
</tr>
<tr>
<td>Satisfaction with health</td>
<td>18+ 79.3 (78.4-80.2)</td>
<td>81.6 (74.8-86.9)</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Unsafe sun exposure

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Queensland Prevalence % (95% CL)</th>
<th>Population-weighted prevalence % (95% CL)</th>
<th>Cape York Age-standardised comparison with Queensland (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunburnt previous year</td>
<td>18+ 51.9 (50.9-52.9)</td>
<td>63.0 (55.4-70.1)</td>
<td>–</td>
</tr>
<tr>
<td>Sunburnt previous weekend</td>
<td>18+ 8 (7.5-8.6)</td>
<td>*12.6 (7.2-21.2)</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Sun safety behaviours (e).

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Queensland Prevalence % (95% CL)</th>
<th>Population-weighted prevalence % (95% CL)</th>
<th>Cape York Age-standardised comparison with Queensland (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or more—summer</td>
<td>18+ 52.4 (51.3-53.5)</td>
<td>70.5 (63.1-77.0)</td>
<td>More healthy</td>
</tr>
<tr>
<td>All 5—summer</td>
<td>18+ 6 (5.6-6.5)</td>
<td>15.0 (10.3-21.4)</td>
<td>More healthy</td>
</tr>
<tr>
<td>3 or more—winter</td>
<td>18+ 27.3 (26.4-28.2)</td>
<td>58.8 (50.9-66.2)</td>
<td>More healthy</td>
</tr>
<tr>
<td>All 5—winter</td>
<td>18+ 2.8 (2.5-3.1)</td>
<td>7.5 (4.8-11.5)</td>
<td>More healthy</td>
</tr>
</tbody>
</table>

### Notes

* Rosenberg Self-Esteem (RSE of 25–50% and should be used with caution. ** RSE or sample size criteria not met. Included in totals where applicable.

a) High blood pressure/cholesterol and cancer from Self Reported Health Status (SRHS) 2012 data only. Cancer and skin cancer includes non-melanoma skin cancer.

b) Will not sum to total skin cancer due to unknown cancer type (20%) or multiple cancer types (4%) statewide.

c) For alcohol consumption estimates based on the National Health and Medical Research Council (NHMRC) 2001 alcohol consumption guidelines see the Queensland report.

d) Self rated health: excellent, very good or good. Quality of life: very good or good. Satisfaction with health: very satisfied or satisfied.

e) Best practice sun safety behaviours (use of sunglasses, a hat, sun-protective clothing, sunscreen and shade).

f) ‘-’ indicates no difference observed based on non-overlap of 95% CIs.
25.7.5.2 Alcohol Restricted Areas

Alcohol restrictions ban or limit the amount and type of alcohol allowed into a community. In some communities, alcohol is completely banned.

A restricted area is where alcohol restrictions apply. This includes the entire area controlled by the local shire council, unless an area is specifically included or excluded. Homes are included in restricted areas. Beaches, wharves and riverbeds can also be included in the restricted area.

The maximum amount of alcohol a person can carry within the restricted area is known as an alcohol 'carriage limit'. In some communities no alcohol is allowed (an alcohol carriage limit of zero).

Alcohol carriage limits apply to:
- individuals, and
- maximum amounts that can be transported in a vehicle, boat or aircraft (no matter how many passengers there are).

Within the socio-economic study area:
- Alcohol restrictions apply throughout Mapoon including the Mapoon airstrip.
- No alcohol is allowed in Aurukun Shire.
- No alcohol is allowed in Napranum.
- Alcohol restrictions apply throughout NPA communities (Bamaga, Injinoo, New Mapoon, Seisia and Umagico) and include all public and private places within these communities. This includes the Bamaga/Injinoo Airport and Seisa Wharf.

25.7.6 Land Use and Land Ownership

The landscape surrounding the Project area is designated in the Cook Shire planning scheme as ‘rural’. The Project area is situated on part of the Weipa Plateau at 10-20 mAHD, is low lying and flat, close to the coast, and is partly dissected by drainage channels.

The Project area is at the southern end of the Mapoon Plain which is typified by swamp country defined by two sets of beach reaches. The area between the ridges is intertidal with salty mud flats, mangroves, and vegetated swales. Surface geology consists of sands, silty sands and clays of the Pleistocene and Quaternary.

The area occupied by the Project mining leases has historically been used for extractive industry, mining and exporting kaolin. The historical kaolin mining infrastructure within the Project area has been decommissioned, however legacy kaolin stockpiles, overburden stockpiles, mine pits containing water, mine infrastructure and plant remain.

The mine accommodation camp, airstrip and Port facility are currently maintained in ‘caretaker’ mode and are used only intermittently. Lighting in these Project areas is therefore at a minimal level.

The existing kaolin mine is the only resource activity in the area. No other existing resource activities exist within a 20 km buffer of the Project area.

25.7.6.1 Regional and Local Property Tenure

The proponent is currently the sole holder of the Environmental Authority (EA) EPML 00967013 for the Project’s three mining leases (MLs) - ML 40082, ML 40069 and ML 6025 (the Project area). These MLs are located on Lot 11 SP204113 and Lot 13 SP204113, although no Project activities will occur on Lot 13 SP204113, which is on the opposite side of the Skardon River. Other proposed off-tenement Project
activities will occur within the Skardon River (bed levelling in the mouth of the River, barging of bauxite and supply vessels) and not on other designated properties.

The mining leases are situated on land held under a Deed of Grant under the *Aboriginal Land Act 1991* by the Old Mapoon Aboriginal Corporation (OMAC). Prior to 27 May 2013 this land was held under a Deed of Grant in Trust (DOGIT) under the *Land Act 1994* by OMAC, and hence the land is sometimes referred to as ‘DOGIT’ land. OMAC is the Trustee for the benefit of Aboriginal people particularly concerned with the land and their ancestors and descendants under the *Aboriginal Land Act 1991*. The OMAC comprises people from a number of tribal groups including Yupungathi, Taepaddhighi, Warrangku and Tjungundji.

OMAC, as owners of the land under the *Aboriginal Land Act 1991* directly impacted by the Project, will receive a share of the royalty payments paid to the State government.

OMAC is the Trustee for a large number of land parcels in the region including Lot 11 SP204113 and Lot 13 SP204113. OMAC land parcels are referred to as ‘Mapoon DOGIT land’. Throughout this document the landowner for the land in the Project area is referred to as OMAC.

Mapoon DOGIT land is the traditional land of a number of tribal groups including the the Warrangku and Tjungundji peoples. The Mapoon Aboriginal Shire Council manages lands in the Mapoon township / community. Mapoon community is situated on the traditional lands of the Tjungundji people. Gulf notes that neither the Warrangku nor Tjungundji peoples have brought a native title claim over Gulf’s Project area.

The Apudthama Land Trust (ALT) is the Trustee for the benefit of Aboriginal people particularly concerned with the land and their ancestors and descendants under the *Aboriginal Land Act 1991*. The ALT is the Trustee for a large number of land parcels in the region including Lot 1 SP120090, which is the property to the north of the Skardon River (but not within the Skardon River). The Apudthama Land Trust Board includes representatives of the Ankamuthi people.

Lot 7024 on MP41159 is State mapped as Mines Tenure (MT) land type - being land leased as ‘Mining Homestead Tenement Leases’ by the State of Queensland to RTA Weipa Pty Ltd, and administered by the DNRM.
Figure 25-4  Regional and Local Property Tenure
25.7.6.2 Vegetation

Various vegetation communities exist across the Project area, with further information provided in the Chapter 15. Land clearance and habitat loss associated with the establishment of the open cut pit and supporting infrastructure will result in the loss of approximately 1,210 ha of remnant native vegetation from within the footprint.

25.7.6.3 Watercourses

To the north of the Project is the Skardon River which divides into three principal tributaries to the east which are populated by mangroves in estuarine areas. Namalata Creek drains an east-west orientated area which lies at the southern end of the Project area. The creek flows west and then at the Mapoon Plain, changes direction sharply to flow to the south through mangroves, to discharge at the Ducie River mouth to the north of Mapoon. The Skardon River flows all year while the Namaleta Creek and the Ducie River are ephemeral.

Catchments and watercourses are further described in Chapter 12.

25.7.6.4 Landmarks

The proponent is not aware of any significant landmarks identified within 5 km of the Project (i.e. within likely viewing distance).

25.7.6.5 Cultural Heritage

Indigenous and historical cultural heritage are described in Chapter 24.

25.7.7 Community Infrastructure and Social Services

25.7.7.1 Health Facilities

The provision of infrastructure and services which support and maintain community health and wellbeing is often a challenge in sparsely populated rural and remote areas.

Cape York has a number of health care facilities (see Figure 25-5) offering a range of core services, specialist services, clinics, community health services, visiting services and Flying Doctors services at the following places:

- Aurukun Primary Health Care Centre
- Mapoon Primary Health Care Centre
- Weipa Integrated Health Service
- Lockhart River Primary Health Care Centre
- Coen Primary Health Care Centre
- Pormpuraaw Primary Health Care Centre
- Kowanyama Primary Health Care Centre
- Laura Primary Health Care Centre
- Hope Vale Primary Health Care Centre
- Cooktown Multipurpose Health Service
- Wujal Wujal Primary Health Centre
- Cairns Hospital.

In addition the Torres Strait Northern Peninsula area supports the following facilities:

- Bamaga Hospital
Thursday Island Hospital

Weipa Integrated Health Service (see Section 25.7.7.1.1) would be the main focus of local medical treatment for the Project for incidents which could not be dealt with on site. Major emergency incidents may require onward referral to Cairns (see Section 25.7.7.1.2) or direct referral to Cairns from the Project on site first aid facility26.

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Figure 25-5  Cape York Health Facilities

25.7.7.1.1 Weipa Integrated Health Service

Weipa Integrated Health Service is a multipurpose health service facility providing 24-hour inpatient, outpatient, residential aged care, emergency and primary healthcare services.

Weipa offers clinic facilities from Monday to Friday, including a visiting team of specialists.

A community services team provides access to social work, Aboriginal and Torres Strait Islander liaison and support, dietetics, physiotherapy, diabetics education, child health, Indigenous health assessments, antenatal services and nurse-led medical officer clinics.

Additional services include palliative care, surgical and medical services, respite care, medical imaging, chronic disease management, child and maternal health, and dental.

Weipa hosts a suite of regular visiting medical, community and allied health clinics, including mental health, alcohol and drug services, obstetrics and gynaecology, optometrist, paediatrics, orthopaedics, psychology, thoracic, and theatre, including ear nose and throat, ophthalmology, dental and scopes.

The Aboriginal and Torres Strait Islander communities of Mapoon and Napranum (Malakoola) are in the catchment and receive services from the Weipa Integrated Health Service.

The Centre’s services (including community services, Clinics and Visiting Services is detailed in Table 25-17 below.

<table>
<thead>
<tr>
<th><strong>Centre Services and Clinics</strong></th>
<th><strong>Visiting Services</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>12 bed inpatient services</td>
<td>Breast Screening</td>
</tr>
<tr>
<td>10 bed residential aged care</td>
<td>Chest Clinic</td>
</tr>
<tr>
<td>Emergency and After Hours Care</td>
<td>Colonoscopies</td>
</tr>
<tr>
<td>Outpatient / Primary Health Care - Mon to Fri 08.00 - 17.00</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Medical / Surgical</td>
<td>ENT</td>
</tr>
<tr>
<td>Palliative Care</td>
<td>Endocrinologist</td>
</tr>
<tr>
<td>Respite Care</td>
<td>Endoscopies</td>
</tr>
<tr>
<td>Allied Health</td>
<td>General Physician</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>Obstetric &amp; Gynaecological</td>
</tr>
<tr>
<td>Dietitian</td>
<td>Ophthalmic Surgery</td>
</tr>
<tr>
<td>Social Worker</td>
<td>Optometrist</td>
</tr>
<tr>
<td>Indigenous Liaison Officer</td>
<td>Orthopaedic</td>
</tr>
<tr>
<td>Medical Imaging - X-Ray and Sonography</td>
<td>Paediatric</td>
</tr>
<tr>
<td>Antenatal Clinic</td>
<td>Podiatry (Apunipima)</td>
</tr>
<tr>
<td>Child Health / Immunisation Clinic</td>
<td>Rheumatology</td>
</tr>
<tr>
<td>Chronic Disease Management</td>
<td>Women's Health</td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
</tr>
<tr>
<td>General Medicine</td>
<td></td>
</tr>
</tbody>
</table>
25.7.7.1.2 Cairns Hospital

The $454.6 million redevelopment of Cairns Hospital will provide an additional 168 beds by 2015, bringing the total to 531 beds.

Patients are spending less time in the emergency department with 78% who presented in January 2014 being treated, admitted or discharged within four hours—up from 65% in September 2013.

The surgical 'long wait' patient list has reduced by 90% between September 2013 and April 2014. Additional funding will be provided to further reduce the remaining backlog.

Plasma exchange services commenced at the end of 2013, eliminating the need for patients to travel to Townsville or Brisbane for this procedure.

The hospital services (including community services, Clinics and Visiting Services is detailed in Table 25-18 below.

**Table 25-18 Cairns Hospital Services**

<table>
<thead>
<tr>
<th>Centre Services and Clinics</th>
<th>Visiting Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 hour acute care</td>
<td>Amputee Clinics</td>
</tr>
<tr>
<td>Accident and emergency</td>
<td>Cardiology Clinics</td>
</tr>
<tr>
<td>Aged care</td>
<td>Cystic fibrosis Clinics</td>
</tr>
<tr>
<td>Alcohol, tobacco and other drug service</td>
<td>Diabetes Clinics</td>
</tr>
<tr>
<td>Cardiac Services</td>
<td>Ear, nose, throat (ENT) Clinics</td>
</tr>
<tr>
<td>Child and youth health</td>
<td>Emergency medicine Clinics</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Endocrinology Clinics</td>
</tr>
<tr>
<td>Intensive care</td>
<td>Gastroenterology Clinics</td>
</tr>
<tr>
<td>Medical</td>
<td>General surgery Clinics</td>
</tr>
<tr>
<td>Mental health</td>
<td>Genetics Clinics</td>
</tr>
<tr>
<td>Obstetric</td>
<td>Geriatrics Clinics</td>
</tr>
<tr>
<td>Centre Services and Clinics</td>
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<tr>
<td>--------------------------------------------------------</td>
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</tr>
<tr>
<td>Oncology</td>
<td>Gynaecology Clinics</td>
</tr>
<tr>
<td>Peri-operative</td>
<td>Haematology Clinics</td>
</tr>
<tr>
<td>Rehabilitation unit</td>
<td>Infectious diseases Clinics</td>
</tr>
<tr>
<td>Special Care Baby Unit</td>
<td>Intensive care Clinics</td>
</tr>
<tr>
<td>Surgical</td>
<td>Metabolic Clinics</td>
</tr>
<tr>
<td>Aged care</td>
<td>Neurology Clinics</td>
</tr>
<tr>
<td>Alcohol, tobacco and other drug (ATOD) service</td>
<td>Neurosurgery Clinics</td>
</tr>
<tr>
<td>Cardiac Health Team (Heart Failure, Cardiac Rehabilitation)</td>
<td>Obstetrics Clinics</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Oncology Clinics</td>
</tr>
<tr>
<td>Continence advisory service</td>
<td>Ophthalmology Clinics</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Oral surgery Clinics</td>
</tr>
<tr>
<td>Emergency medicine</td>
<td>Orthopaedic oncology Clinics</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>Orthopaedics Clinics</td>
</tr>
<tr>
<td>ENT surgery</td>
<td>Paediatric cardiology Clinics</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>Paediatric dermatology Clinics</td>
</tr>
<tr>
<td>General medicine</td>
<td>Paediatric ophthalmology Clinics</td>
</tr>
<tr>
<td>General surgery</td>
<td>Paediatric surgery Clinics</td>
</tr>
<tr>
<td>Genetic counselling</td>
<td>Paediatrics Clinics</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>Pathology Clinics</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Psychiatry Clinics</td>
</tr>
<tr>
<td>Haematology</td>
<td>Radiation oncology Clinics</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>Radiology Clinics</td>
</tr>
<tr>
<td>Intensive care</td>
<td>Renal medicine Clinics</td>
</tr>
<tr>
<td>Medical imaging</td>
<td>Renal transplant Clinics</td>
</tr>
<tr>
<td>Mental health</td>
<td>Rheumatology Clinics</td>
</tr>
<tr>
<td>Neonatal</td>
<td>Scoliosis Clinics</td>
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<tr>
<td>Neurology</td>
<td>Sleep clinic Clinics</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Thoracic medicine Clinics</td>
</tr>
<tr>
<td>Oncology</td>
<td>Urology Clinics</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Vascular surgery Clinics</td>
</tr>
<tr>
<td>Oral surgery</td>
<td>Anaesthetics</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>Cardiac Outreach including Echo Service</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>Dental</td>
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### Centre Services and Clinics

<table>
<thead>
<tr>
<th>Service</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain service</td>
<td>General medicine</td>
</tr>
<tr>
<td>Pathology</td>
<td>General surgery</td>
</tr>
<tr>
<td>Plastic corrective surgery</td>
<td>Geriatrics</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Gynaecology</td>
</tr>
<tr>
<td>Radiology</td>
<td>Mental health</td>
</tr>
<tr>
<td>Renal medicine</td>
<td>Obstetric</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Orthopaedic</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>Paediatrics</td>
</tr>
<tr>
<td>Sexual health</td>
<td>Thoracic medicine</td>
</tr>
<tr>
<td>Thoracic medicine</td>
<td>Alcohol, tobacco and other drug (ATOD) service</td>
</tr>
<tr>
<td>Urology</td>
<td>Dental</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>Hepatitis C</td>
</tr>
<tr>
<td>Wound management</td>
<td>Sexual health</td>
</tr>
<tr>
<td></td>
<td>Alcohol, tobacco and other drug (ATOD) service</td>
</tr>
<tr>
<td></td>
<td>Dental</td>
</tr>
</tbody>
</table>

#### 25.7.7.2 Education

Local education facilities are available throughout the communities within the study area including (but not limited to) the following:

- Early Childhood Education and Care
- Primary and Secondary Education
- TAFE and Vocational Studies
- University (nearest is James Cook University on Cairns)

Weipa is a local hub in terms of education particularly beyond primary school level. The FIFO workforce during the construction and operational phases for the Project is not expected to create any additional burden on any of the existing education facilities in Aurukun, Mapoon, Napranum, NPA or Weipa since the Project is not expected to cause any increase to the local populations in any of these communities.

#### 25.7.7.3 Emergency Services

##### 25.7.7.3.1 Police

Weipa and Aurukun Police Stations each have around 10 staff (including an Indigenous female police liaison officer on-site at Weipa). The Aurukun Shire Council also funds the employment of Aboriginal Community Police Officers, who work to maintain positive relationships between culturally specific communities and the Queensland Police Service.

In the NPA there is a state police station at Bamaga, with community police also operating from Umagico.

Napranum and Mapoon have no permanent police presence and all services are provided through the police station in Weipa.
Due to proximity, staff capacity and ease of access it is likely that the Project will draw on police officers located at Weipa if required.

25.7.7.3.2 Fire

Weipa fire and rescue services team comprises fire and rescue officers and a fire and rescue crew leader. Fire and rescue officers are based at both Lorim Point and Andoom stations. The stations are manned 24 hours a day, seven days a week.

The primary role of the fire and rescue team is to provide emergency (fire and first aid) response to the Weipa operations, deliver training on-site and issue permits (e.g. confined space, hot work). In specific prescribed circumstances the fire and rescue team may be requested to support the local Queensland Ambulance Service in responding to community incidents.

Due to proximity, staff capacity and ease of access it is likely that the Project will draw on the fire and rescue services located at Weipa if required.

25.7.7.3.3 Ambulance

An ambulance service is provided to the Weipa local area, including Napranum and is on call 24 hours a day, seven days a week. There is also an ambulance station at Bamaga ambulance station.

Access to the Project site by road from Weipa is estimated to take approximately 4 hours. Vehicular access by road is possible during the dry season only. During the wet season the existing dirt road becomes impassable in a number of sections.

Access to the Project in the wet season would therefore be by air. During the wet season a patient would need to be airlifted by Royal Flying Doctor Service (RFDS) or by the Horn Island Rescue Helicopter R700. Gulf Alumina will consult with the RFDS about inspections of the site runway for suitability to land a king-air aircraft, the need for runway lighting and fuel storage onsite. Should any upgrades to the runway or airstrip infrastructure be required, then these will be made by Gulf Alumina.

While the closest medical facility to the Project site is the Mapoon Health clinic, direct (road) vehicular access is not possible without travelling almost back to Weipa to access the Peninsular Development Road.

Any injured workers will initially be treated onsite by first aid officers and transported, using the all weather haul roads, in light mine site vehicles (e.g. a four wheel drive vehicle) to the airstrip. It is expected that medical response (other than first aid provided on site) would be from Cairns RFDS.

Gulf Alumina will investigate all practical and viable means for transport of workers in an emergency. This may include emergency vessels from Weipa (approximately three hours travel by fast boat).

25.7.7.3.4 Emergency Response

The Weipa Town Authority Local Disaster Management Plan identifies that there is an adequate emergency services response capacity\(^{27}\), with a permanent full-time Queensland Police Service and Queensland Ambulance Service presence, along with Rio Tinto’s Weipa Fire & Emergency Services, which also form a group of the Queensland Fire & Rescue Service (Rural Division) and State Emergency Service and Volunteer Marine Rescue volunteer groups.

There is also a small military detachment in the town, which may be called on to assist under ‘Defence Assistance to the Civil Community’ (DACC) arrangements. Because of the nature of the role of the

\(^{27}\) Reference

detachment, most of the resources may be out of the area at any given time, so may not always be available to assist.

Due to Weipa’s remoteness, Rio Tinto’s Emergency Services team in Weipa also provides essential support to the surrounding communities. The team constitutes the regions only fire-fighting and road accident rescue service in a 400 kilometre radius, and supports the services provided by the police and ambulance officers in the region.

The relatively limited medical facilities and response capacity would require urgent external assistance for any serious multi-casualty events, such as a major transportation incident.

Assistance would also be required in the community’s recovery from a major event, and it is identified that Community Recovery personnel from the Department of Communities would be required to coordinate psycho-social recovery activities.

Under normal circumstances most food supplies for the Project will come from Cairns on the FIFO flights. The Woolworths facility in Weipa is the main source of provisions for the town, and normally carries a minimum two-week supply. Processes are in place through the Queensland Government’s ‘Resupplying Isolated Communities Policy and Procedures’ (State Resupply Policy) to replenish supplies should the town be isolated by both road and sea.

25.7.7.4 Recreational Facilities and Services

The LGAs within the socio-economic study area afford a range of recreational facilities and services, which include, but are not limited to, galleries and museums, national parks, local parks and playgrounds, walking trails, golf, fishing and sailing clubs, swimming pools, tennis courts and sports grounds, banking services, churches shopping outlets and community spaces.

In addition to recreational facilities, natural areas and reserves offer opportunities for informal recreational pursuits such as cultural pursuits, fishing, hiking and swimming.

Due to the use by the Project of a FIFO workforce (for construction and operational phases) no additional burden is expected to be placed on recreation facilities within the study area.

25.7.7.5 Communications Infrastructure

Compared to the Queensland average of 75%, the proportion of households with connection to the internet is low (between 14.9 % in Napranum and 74 % in Weipa).

Across the region, the proportion of people in Cape York with no internet connection is 54.7 %.

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Broadband connection</th>
<th>Dial-up connection</th>
<th>Other</th>
<th>Total with connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>14</td>
<td>0</td>
<td>5.7</td>
<td>19.7</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>64.9</td>
<td>2.7</td>
<td>4.8</td>
<td>72.4</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>44.3</td>
<td>2.2</td>
<td>3.7</td>
<td>50.2</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>26.7</td>
<td>3.3</td>
<td>14.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>13.2</td>
<td>0</td>
<td>1.7</td>
<td>14.9</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>29.7</td>
<td>3.8</td>
<td>6.6</td>
<td>40.1</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>65.9</td>
<td>2.4</td>
<td>5.7</td>
<td>74</td>
</tr>
<tr>
<td>Cape York (Region)(^2)</td>
<td>37.5</td>
<td>2</td>
<td>5.8</td>
<td>45.3</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>68.1</td>
<td>2.8</td>
<td>4.1</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 25-19 Access to Internet at Home: Proportion (%) of Occupied Private Dwellings - Census 2011
25.7.7.6 Transport Infrastructure and Services

A transport assessment has been undertaken and is detailed in Chapter 22. Below is a summary of the key findings of the transport assessment as they relate to the social and economic values of the socio-economic study area.

25.7.7.6.1 Road

Access to the Project area by road is extremely difficult. The public roads and tracks servicing the Project area are of a very poor standard. Road access to the Project area is not considered practical, (other than for a limited number of four wheel drive vehicles in the dry season only).

25.7.7.6.2 Public Transportation

There is no public transportation to the Project area. Weipa has a full taxi service.

25.7.7.6.3 Airport

Flights from Cairns, Weipa and potentially Bamaga will be means by which workers are transported to site. An assessment of impacts on regional air service operators and infrastructure is provided in Chapter 22.

25.7.7.6.4 Sea - Port and Near Shore Transport

Equipment, materials and fuel will be transported to site by sea. Barges will be used to transport bauxite to the offshore transhipment area. An assessment of potential impacts and proposed measures to mitigate impacts on other users of marine and / or estuarine areas is provided in Chapter 22.

25.7.7.7 Police and Crime

It is expected that the Project will draw on current police resources (10 police officers) from Weipa where required.

In 2012 the ratio\(^{28}\) of police officers to population in Queensland was 10,695 officers to 4,524,000 people or 0.23%.

In 2012 the ratio of police officers to population Weipa was 10 officers for 3,600 people or 0.28%, (see Table 25-2 and Section 25.7.7.3.1) which was comparable to (slightly above) the State average.

Comparative rates based on police officers per head of population are provided as contextual information, since factors such as local crime rates, population density, community remoteness, community demographics and area of coverage per officer can also contribute to effectiveness of policing in an area.

Types of crime by frequency (as an average location rate per 100,000 head of population) for dates between January 2001 and February 2015\(^ {29}\) are shown in Figure 25-6.

The results are ordered by prevalence in Queensland as a whole, showing (by comparison) how each of the areas' categorised crime incidence is distributed, relative to each of the other areas.

In general crime rates (in Bamaga, Weipa, and Aurukun) are higher than those in Queensland taken as a whole – this trend is particularly pronounced in Aurukun.


Figure 25-6  Crime by Frequency (Ave. Rate per 100,000 Population (Jan 01 - Feb 15)) – Ordered by Prevalence in Queensland

Note: ‘Other Offences’ (second column) include Prostitution Offences, Gaming Racing & Betting Offences, Trespassing and Vagrancy, Stock Related Offences, Miscellaneous Offenses.
25.7.7.8 Volunteering

Participation in volunteer activities provides a measure of social capital in a community. Identifying volunteer activities provides insight into the opportunities for social participation and of the importance placed in the valued of community ownership and assistance.

Table 25-20 provides comparative rates of participation in voluntary activities.

### Table 25-20 Rates of Participation in Voluntary Activities (% of Total Population Aged 15 Years and Over) - Census 2011

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Persons undertaking voluntary work for an organisation or group (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurukun (LGA) ABS data</td>
<td>17.9</td>
</tr>
<tr>
<td>Cairns (LGA) ABS data</td>
<td>17.8</td>
</tr>
<tr>
<td>Cook (LGA) ABS data</td>
<td>19.6</td>
</tr>
<tr>
<td>Mapoon (LGA) ABS data</td>
<td>15.8</td>
</tr>
<tr>
<td>Napranum (LGA) ABS data</td>
<td>11.3</td>
</tr>
<tr>
<td>NPA (LGA) ABS data</td>
<td>16.6</td>
</tr>
<tr>
<td>Weipa Town (LGA) ABS data</td>
<td>20.7</td>
</tr>
<tr>
<td>Cape York (Region)²⁰</td>
<td>16.5</td>
</tr>
<tr>
<td>Queensland ABS data</td>
<td>18.7</td>
</tr>
</tbody>
</table>

Volunteering rates are highest in Cook (19.6 %) and Weipa (20.7 %), both are above the Queensland average rate (18.7 %). Aurukun (17.9 %) and Cairns (17.8 %) are both above the Cape York Region rate (16.5 %). NPA was around the average level for Cape York (16.6%), but Mapoon (15.8 %) and Napranum (11.3 %) are both below the Cape York Region rate.

25.7.8 Community Values

The Cape York Region has iconic natural areas and a variety of regional landscapes of high conservation value together with a rich Indigenous heritage and a wealth of natural assets, particularly mineral resources.

Community values therefore tend to centre on improvement of the economic development of local communities (such as developing training opportunities for the community and promoting social programs to improve the health and education of local communities) whilst protecting and maintaining the integrity of areas with important natural and cultural values.

Examples of issues relating to community values (which have arisen through stakeholder engagement between the proponent and various affected and interested parties), have included the following:

- Environmental issues raised included enquiry over environmental management, (e.g. supporting bush rangers and review of options relating management of the beach between Namaleta Creek and the Skardon River), general concern for wetlands, notably Namaleta Creek and the potential for proposed rehabilitation to include reducing the size of, or filling, the fluvial pit. Ongoing pest, emergency and fire management issues were also identified.

- Social and Economic issues included the need for continued access across the Project MLs, royalty entitlements, employment, training and contracting opportunities, maintenance and management of tourism (including camping permits and fees) and Project legacy including infrastructure retention by Traditional Owners.
Community values have been identified through the stakeholder engagement process, (collected through consultation with members of the community and associated stakeholders (see Section 25.6 and Chapter 3).

25.7.9 Project Details

This section describes particular aspects of the Project which will influence the direct or indirect effects the Project may have on the social and cultural environment. In particular, this relates to Project timeframes, the required workforce and workforce accommodation. More detailed information is described in Chapter 5.

Construction of the infrastructure for handling and transfer of DSO bauxite is planned for the 2016 dry season. Bauxite mining is expected to start in early 2017. The operational Project life is expected to be 10 years. Mine site rehabilitation will be undertaken progressively during the life of the mine, and completed 3 years following end of mining operations.

The Project would require approximately 100 employees during construction and 160 employees during operation. Employees will be on a shift roster and hence not all employees will be at site at any one time.

The Project workforce will be transported to the site by air and will be accommodated in camp on the Project area. As access to the site by road is not practical, the safest and most efficient method for transporting workers to site is by air. Workers living in local areas (e.g. Mapoon, Weipa, Bamaga) will also be flown to site from either Weipa or Bamaga. The workforce will be 100% FIFO, even though the workforce will include people residing in local areas.

Approximately two flights per week, assuming 40 seater plane, will be required for the Project workforce. Charter flights will be arranged from Cairns directly to site, or going via Weipa or Bamaga (depending on demand). Mapoon airstrip is not considered to be suitable for a 40 seater aircraft however there is potential that smaller aircraft could use this airstrip. Alternatively residents of Mapoon could be bussed to Weipa to link with flights from Weipa to site. This will allow the local populations residing in or near Mapoon, Weipa and Bamaga to become part of the Project workforce.

25.8 Potential Impacts and Mitigation

This section discusses the potential social and economic impacts associated with the construction, operation and decommissioning of the Project.

The issues and impacts discussed in this section have been identified through a number of concurrent processes including direct engagement with potentially affected stakeholders (see Chapter 3).

The assessment has drawn upon the knowledge and insight held by members of the Project team and the application of impact assessment methodology to identify and evaluate social-economic impacts associated with the Project.

The significance of an impact is assessed by considering the sensitivity of social values and the magnitude of a predicted impact in accordance with the methodology in Table 25-1.

Measures have been proposed to mitigate negative socio-economic impacts or enhance the beneficial socio-economic impacts of the Project.

25.8.1 Workforce Recruitment and Management Strategy

The Project has the potential for medium to long term beneficial impacts to local and regional communities associated with workforce employment opportunities and supply of goods and services to the Project. Measures to enhance these potential benefits are described in this section, and following implementation of these measures it is expected that the Project will have moderate socio-economic benefits.
25.8.1.1 Workforce Recruitment Strategy

The proponent will actively encourage local and regional residents to take up employment opportunities at the Project through the procurement of contractors who enhance employment opportunities for all groups including underrepresented groups.

Contractors would be expected to have a strong commitment to providing training, skills development and employment organisations with regular updates about workforce requirements.

The contractors’ workforce management plans should include:

- Likely locations from which the workforce could be sourced.
- Contact details for local recruitment and skills development organisations with which partnerships would be established to ensure awareness of requirements and opportunities.
- Equal opportunity employment policy.
- Details of opportunities for structured training (e.g. apprenticeships, traineeships, graduate support programs) related to the workforce needs of the Project.

Within the workforce management plan it is expected local and regional employment opportunities will be maximised by:

- Timely and regular communication of employment opportunities in each phase of the Project and advice as to how such opportunities may be secured to members of the local and regional community.
- Notification of opportunities to relevant schools and TAFE colleges for graduate students forward planning.
- Collaboration with the Department of Aboriginal and Torres Strait Islander Partnerships (DATSI) to inform about skills required and support matching of those with indigenous residents of the local and regional area.
- Consultation with Skills Queensland to assess employment requirements in the region.
- Collaboration with relevant agencies to promote access to nationally accredited courses for staff and local job seekers.
- Collaboration with relevant training providers to identify skills gaps and promote targeted training programs.
- Investigation of partnership arrangements with registered training organisations (RTOs) to conduct training for local businesses in procurement and HSSE standards.
- Provision of updates on required roles where there are shortages by:
  - Consultation with DETE and Skills Queensland.
  - Liaison with local, regional and state TAFE colleges offering the relevant certificate courses.
  - Liaison with James Cook University and other Queensland based universities offering the relevant professional degree courses.
- Provision of in-house training where required.
- Information meetings on special topics if required.
- Forward planning to backfill from the local and regional employment base.

25.8.1.2 Indigenous Employment

The proponent will encourage its contractors to be culturally sensitive in terms of communication and process to the recruitment of indigenous people and to mentor, up-skill and retain indigenous employees. The proponent will require that the principal mining contractor provides opportunity for indigenous
people to be employed at the Project as well as adhere to the commitments set out in the Cultural Heritage Management Plans and Section 31 Deed and Ancillary Agreement (see Section 25.8.1.3 below).

The proponent will continue to work in collaboration with relevant traditional owners to increase the number of indigenous workers at the mine and will establish a revised employment target once the mine is operational. This target will be set and amended based on a number of factors including:

- response levels by indigenous workers to advertised employment opportunities
- response and performance in relation to mentoring and training programs
- existing number of indigenous employees at the mine
- average duration of employment.

25.8.1.3 Native Title Act (1993 Cth) Section 31 Deed and Ancillary Agreement

Gulf Alumina signed native title Traditional Owner agreements with the Ankamuthi (as Registered Claimants) in December 2013, including a Section 31 Deed and an Ancillary Agreement. Both parties have agreed to the following scheduled provisions:

- Schedule 1 – Project Area.
- Schedule 2 – Financial Benefits.
- Schedule 3 – Cultural Heritage Management Agreement (CHMA).
- Schedule 4 – Training and Development.
- Schedule 5 – Local Aboriginal Business Development.
- Schedule 6 – Decommissioning.
- Schedule 7 – Traditional Owner (TO) Relationship Committee.
- Schedule 8 – Executive Officer.

The mitigation measures in this EIS have been designed to provide for the requirements of Schedules 1-8 indicated above.

In alignment with the Ancillary Agreement - the aspiration of the parties is to achieve an employment participation rate of Local Aboriginal People of 40% (including employees, long term contractors of the proponent (Project Workforce) during all phases of the Project from commencement of construction of the Project to its completion.

In order to achieve this aspiration, the proponent in adherence with the Ancillary Agreement – Gulf Alumina will establish an Indigenous Training Program (ITP) in consultation with the TO Relationship Committee.

In the native title Ancillary Agreement, provision is made for the proponent (with assistance from the TO relationship committee), to take all reasonable action to facilitate and maximise involvement of ‘Local Aboriginal Businesses’ in providing goods and services and in performing work in connection with the Project and businesses which are ancillary or incidental to the Project (such as catering, cleaning, transport of personnel to the Project and transport of ore and materials from the Project), where:

- ‘Local Aboriginal Businesses’ is defined in the Ancillary Agreement as (owned by) Local Aboriginal People, or a corporation association or joint venture whether incorporated or not, in which at least 40% of the beneficial ownership is held by or on behalf of ‘Local Aboriginal People’.
- ‘Local Aboriginal People’ is defined in the Ancillary Agreement as Aboriginal people who either have Traditional Rights, or are normally resident in ‘North Western Cape York’.
‘North Western Cape York’ is defined in the Ancillary Agreement as the area of land on the Australian mainland north from (and including) Napranum and generally west of the Cape York Development Road, but including the NPA.

Further, a ‘Preferential Contracting Policy’ is described in the Ancillary Agreement, whereby in assessing tenders relating to a ‘Contracting Opportunity’, the proponent has agreed to give first preference to tenders from a ‘Local Aboriginal Business’ and thereafter to the tenderer who best involves Traditional Owners and Local Aboriginal Business in its tender. At all times preference will be given to the Ankamuthi Traditional Owners when tenders from Local Aboriginal Businesses are assessed and where a tenderer best involves the Ankamuthi traditional owners in their tender.

These recruitment and business development measures will be delivered through a Local Aboriginal Business Opportunity Plan (Business Opportunity Plan).

Schedule 6 allows for the transfer of infrastructure at the end of mine life to the Traditional Owners. Infrastructure includes airstrip, haul roads, camp, plant, dams, pipelines and wharf.

The proponent will monitor the performance of all its obligations under the Ancillary Agreement and shall provide reports in relation to each obligation:

a) quarterly – providing data as to the application and performance of the obligation and
b) annually – providing a summary of the data provided in the quarterly reports and interpretive comments as to the success or otherwise of meeting the goals of the general obligation.

25.8.1.4 Employment of Women

The proponent is committed to supporting and encouraging female workers to continue a career in mining and related disciplines. The proponent wishes to encourage more women into these careers and to increase the proportion of female workers at the Project by promoting career development opportunities for women.

The proponent will establish an employment target for women once the mine is operational. This target will be set and amended based on a number of factors including:

- response levels by women to advertised employment opportunities
- response and performance in relation to employee mentoring and training programs
- existing number of female employees at the mine
- average duration of employment.

25.8.1.5 Employment Opportunities for Persons with a Disability

The proponent will encourage its contractors to liaise with disability employment organisations to assist job seekers with disabilities, learning difficulties, injury or medical condition gain employment at the mine.

25.8.1.6 Workers Code of Conduct

A code of conduct will be developed for both the construction and operational workforce. The code of conduct will be linked to employee contract conditions and will include:

- Compliance with relevant State and Commonwealth laws.
- ‘Zero tolerance’ for drug and alcohol use whilst working, monitored through mandatory drug and alcohol testing.
- Minimum workforce behavioural standards with consequences for non-compliance including dismissal for serious non-conformances or repeated offences.
- Being respectful of the communities within which they work and visit and refrain from any behaviour which could be harmful and/or result in negative impacts on the communities.
- Using work vehicles appropriately and in accordance with the company’s policies.

All workers will be required to adhere to the code of conduct when on shift, staying in onsite accommodation, travelling to and from onsite accommodation and when undertaking work related responsibilities (e.g. when in uniform or attending work related functions). The code of conduct will be applicable to all employees, contractors, sub-contractors and consultants with penalties for non-adherence.

25.8.1.7 Worker Health, Safety and Wellbeing

In order to retain and attract workers the proponent and its contractors will include conditions around worker health, safety and wellbeing strategies in their employment approach. These would include, but are not limited to:

- Provision of first aid medical services for workforce while at work.
- Provision of air transport from Cairns, Weipa Airports and potentially Bamaga and / or Mapoon to the onsite accommodation facility at the start and end of shift rosters.
- Provision of on-site transport.
- Access to counselling services.
- Development and implementation of safety and health policies.
- Provision of information about programs such as:
  - Financial planning and management.
  - Superannuation.
  - Housing or other financial investments.
  - Health and fitness programs.
  - Fatigue management.
- Health care providers and other representatives will be invited to make presentations to workers to educate on preventative health and wellbeing initiatives.

25.8.1.8 Education and Training

The proponent will maintain regular liaison with educational and training organisations about future workforce requirements to assist them in shaping their programs to respond to demand. There are numerous organisations and facilities offering educational and training services in the region, such as the Barrier Reef Institute of TAFE and Registered Training Organisations. These facilities offer courses ranging from basic certification courses to apprenticeships and associate degrees. In addition federal and state government programs are available to assist with fees and other expenses. However, in order to attract and retain staff and ensure that an appropriately skilled workforce is engaged, the proponent will encourage the contractors to provide Project-specific training opportunities. The principal mining contractor will be required to:

- Maintain regular contact with organisers of training programs for up-skilling workforce, obtaining appropriate health and safety education and appropriate certification.
- Provide the opportunity for apprentices across their operations.
- Provide employee induction and toolbox meetings (covering aspects of worker behaviour, company expectations, community perceptions of behaviour, health record, etc.). The proponent will aim to support trainees and graduate students in its operations.
25.8.1.9 Indigenous Education and Training

The proponent is committed to improving opportunities for indigenous people (see Section 25.8.1.3) and its contractors will:

- Comply with the requirements of the Section 31 Deed and an Ancillary Agreement.
- Maintain regular contact with organisers of indigenous training programs for up-skilling workforce, obtaining appropriate health and safety education and obtaining the appropriate certification.
- Consult with local schools (including Western Cape College) and indigenous school students about relevant education, training and work opportunities at the mine.
- Provide employee induction and toolbox meetings (covering aspects of worker behaviour, company expectations, community perceptions of behaviour, health record, etc.).

25.8.1.10 Regional Procurement Program

Along with increased local and regional employment opportunities the Project will also provide local and regional business the opportunity to supply goods and services to construction and operations contractors.

25.8.1.11 Australian Industry Participation

The proponent will encourage its contractors to maximise local industry participation and give preference to suppliers of Australian-manufactured equipment that is competitively priced and complies with the relevant standards and specifications via best practice approaches.

Contractors will be required to outline how they will source sub-contractors with a focus on local and regional suppliers as part of the tendering process.

The proponent and/or its contractors will implement procurement procedures to include the following provisions:

- Promote supply opportunities to suppliers within the region and provide local industry with full, fair and reasonable opportunity to provide goods and services.
- Identify suppliers and to provide them the opportunity to submit expressions of interest and/or tenders.
- Promote local and regional suppliers.
- Provide Project progress updates to local and regional suppliers via email updates and presentations to industry groups.
- Support economic development initiatives and work with relevant organisations that assist local businesses to identify and prepare for business opportunities.
- Monitor and evaluate the effectiveness of the program through a count of the number of suppliers from the local and regional areas.

25.8.1.12 Selection Criteria

The proponent and/or its contractors will engage product and service providers on the basis of the following criteria:

- Safety - all products will be assessed in relation to compliance with the Work Health and Safety Act 2011 (Qld) and all its regulations.
- Performance – assessed on capacity to match or exceed specification and/or performance standards.
- Environment – products will be assessed with regard to relevant environmental considerations.
- Life-cycle costing – analysis to ensure that optimum cost efficiencies are obtained for the projected life of capital equipment items.
- Capital cost comparison – assessed on capital cost considerations including manufacture, supply, installation and commissioning costs, and for imported goods in regard also to risk associated with transportation and currency exchange.
- Availability – assessed on availability of the equipment, parts and services for operation, repair and maintenance.
- Proven reliability and on-time delivery.
- Demonstration that they have the resources available to perform the work required.
- Best practice processes to deliver safe, efficient and socially responsible services.

25.8.1.13 Contractors’ Conditions of Engagement
The proponent’s construction and mining contractors’ contract documents will include the Environmental Authority, Commonwealth Approval Conditions, any other relevant approval conditions for various activities and relevant environmental management plans.

Contractors will be commercially bound to comply with the conditions of these authorities, approvals and plans and will regularly report on their performance.

The proponent will select contractors with proven track record in successfully delivering mining contracts and with aligned values including a demonstrated commitment to best practice in workplace safety, training and development initiatives, workforce wellbeing and management, equal opportunity employment processes to be inclusive of under-represented groups, the local and regional economy and to being environmentally and socially responsible.

25.8.2 Demographic and Demographic Change
The following provides an overview of the likely changes to population and demography attributable to the constructions and operations phases of the Project.

In general, the construction and operational phase workers would return to their point of permanent residence when off-roster. Those hired in Cairns would FIFO to the site and are expected to reside in areas within and surrounding Cairns, but may also commute from other regional centres. Workforce members sourced from local communities (e.g. Mapoon, NPA, Weipa and Napranum) would FIFO to site but are likely to already be housed in the local communities and would be unlikely to create additional pressure on housing stocks.

25.8.2.1 Construction
Construction employees will be housed in the upgraded accommodation camp. Employees will be on a shift roster (likely 14 days on 7 days off) and hence not all employees will be at site at any one time. The camp will cater for approximately 100 people, although there are likely to be fewer than this at any one time during construction.

It is anticipated that approximately 40% of the construction workforce will be sourced from local populations residing in or near Mapoon, NPA, Napranum Weipa and Aurukun, to become part of the Project workforce. This would achieve alignment with the Section 31 Ancillary Agreement.

Given that the construction workforce will either draw on people living in the area already, or from further afield via FIFO arrangements, the actual number of people permanently moving into or out of local communities during construction as a direct result of the Project is anticipated to be negligible and hence have negligible impacts on local demographics.
25.8.2.2 Operations

Operational employees will also be housed in the accommodation camp. The Project will require approximately 160 employees during operation.

The mining operations personnel are anticipated to work on a 14 day on, 7 day off roster flying back to Cairns, Weipa and potentially Bamaga and Mapoon. Mining will operate on two 12 hours shifts for approximately nine months each year.

Maintenance personnel work either with the mining crews on the 14/7 roster to provide on shift support or as part of a day shift only crew on a 9 days on, 5 days off roster to carry out workshop based maintenance and overhauls.

The owner’s management and technical services team will cover mine planning, geology, grade control and survey. There will also be a Mine Superintendent and maintenance and warehouse staff who would be employed by the mining contractor. All these staff positions are assumed to work a 9/5 roster.

It is anticipated that approximately 40% of the operational workforce will be sourced from local (non FIFO) populations residing in or near Aurukun, Mapoon, Napranum, NPA and Weipa, become part of the Project workforce. This would achieve alignment with the Section 31 Ancillary Agreement.

During the three month wet season shutdown each year all of the operators will leave site. However, it is assumed that 12 maintenance employees and 5 management and supervisory staff will remain on site to carry out preventative maintenance, meet statutory requirements and ensure the mine area is set up for commencement of operations in April.

Given that the vast majority of the operational workforce will either draw on people living in the area already, or from further afield via FIFO arrangements, the number of people permanently moving into or out of local communities during operations as a direct result of the Project is anticipated to be a small percentage of the existing population.

If people did move permanently to the region, it is expected that they would move to Weipa as this is the main accommodation and service centre in the region. Based on an estimate of 20 people (around 12% of the operational workforce) becoming permanent new residents in Weipa, that would constitute less than 0.5% of the existing Weipa population and is not therefore expected to result in a significant additional burden to existing infrastructure or services. The estimate of 20 people moving to Weipa is considered to be a conservative overestimate.

Adverse changes to the present demographic characteristics of the resident population of local communities through the construction and operational phases (including increases in population arising from people linked to new permanent residents and indirect increases in service industry jobs) is assessed as being of low significance.

This small increase in population (assumed to take effect at Weipa) is considered for each potentially affected socio-economic value described (as applicable) in the sections below.

25.8.2.3 Rosters

A 14 day off 7 day on roster is proposed for construction and operations for the Project, which is typical of mining operations. The impact of FIFO work practices on mental health by the Education and Health Standing Committee in Western Australia states:

“The Committee heard that one of the main sources of concern for FIFO workers, regardless of job, is the length of rosters worked. Rosters were identified by most submitters as a key source of stress impacting on their personal relationships and mental wellbeing…..

The effects of higher compression rosters [meaning 3 weeks on 1 week off, or 4 weeks on 1 week off] have been reported in research conducted by the FIFO Australian Community of Excellence Network (FACE), which found that these rosters impacted on work-life balance, led to feelings of
isolation and loneliness, higher levels of psychological distress and adverse effects on family
relationships.”

Finding 21 of the report states “The roster compression that best supports mental wellbeing appears to
be an even-time, or a two weeks on, one week off roster.”

Therefore, Gulf Alumina’s proposed roster is preferable for reducing mental health impacts of FIFO work.
Within the roster period, Gulf Alumina will also seek to minimise the potential for mental health issues by
focussing on the following:

- length of shifts and hours worked
- work start and finish times and length of breaks
- the flight times of FIFO personnel
- sleeping arrangements in the camp.

Gulf Alumina will consider workforce policies such as maximum working time per 24 hours not greater
than 14 hours inclusive of travel time, a maximum of 14 consecutive dayshifts, a minimum of 10 hours
between shifts, and a maximum of 7 consecutive nightshifts.

Fatigue management, through regulation of work hours, encouragement of adequate sleep practices, and
comfort of sleeping arrangements will assist in improving the mental health of FIFO workers.

It is noted that, for the workforce residing locally (e.g. Weipa, Mapoon, Bamaga), flight times would be
very short (approximately 30 minutes). For a large percentage of the remainder of the workforce residing
in Cairns, the flight time to Cairns is approximately 2 hours.

The accommodation camp will have recreational facilities (e.g. sports facilities, gym) (**Section 25.8.3.2,**
**Section 25.8.9.9**). This can improve the mental health of FIFO workers.

Gulf Alumina will engage with government mental health service providers as a means to develop
programs to assist workers with mental health issues related to FIFO work. These programs would provide
greater understanding of mental health for FIFO workers and their families. Programs may involve peer
based support groups and information for families of FIFO workers. Gulf Alumina will provide training for
leaders, middle management and supervisors in mental health issues, prevention and management. Gulf
Alumina will provide an Employee Assistance Program, offering a confidential counselling service.

### 25.8.3 Indigenous Communities

In contemporary Australian society Indigenous populations show lower life expectancy, poorer self-
assessed health, higher psychological distress, lower levels of education and literacy, and poorer social
and emotional wellbeing than non-Indigenous Australians. Indigenous peoples also are more likely to live
in areas of socio-economic disadvantage, have a reported disability and long-term health conditions at
greater rates than non-Indigenous people.

The Project has capacity to impact on Indigenous people residing in the socio-economic study area in a
positive way via the provision of increased business opportunities, employment, education and training
opportunities. The provision of such opportunities considered to be a beneficial impact of moderate
significance.

#### 25.8.3.1 Cultural Heritage

The proponent has entered into Cultural Heritage Management Plans with the relevant Aboriginal Parties
for the Project area

Cultural heritage management is described in **Chapter 24** and impacts to cultural heritage are expected
to have a low adverse impact to the relevant Aboriginal Parties.
25.8.3.2 Land and Coastal Management

There is potential for off-shift mine workers to seek recreational activities (camping, fishing, quad biking, etc) along the coast line and Skardon River west of the Project’s mining leases and on the land parcel owned by OMAC. Unauthorised (often recreational) access to private property or culturally important areas, including Shire Council and DOGIT land as well as culturally and ecologically important landscapes and seascapes, has the potential to cause damage to the integrity of those areas, (e.g. damage to the coastline (particularly turtle nests)).

Due to the remoteness of the Project area and the FIFO workforce, it is highly unlikely that workers will bring their own vehicles to site, including recreational vehicles such as quad bikes.

The accommodation camp will have some sport and recreation facilities to provide an alternative to off-site recreation.

A robustly enforced construction and operational phase recreational vehicle permitting system will be implemented for the Project. This will effectively preclude workers from using the mine site as a base for recreational activities in the Skardon River. Workers may still access the Skardon River area for recreational purposes, but only in their private capacity, with approval from OMAC, and using public access routes. This is likely to limit the additional number of recreational users of the Skardon River area who are also workers at the Project.

Following mitigation, the potential impact would result in a low socio-economic significance of impact.

25.8.4 Housing and Accommodation

Housing (see Table 25-13) is almost exclusively rental in the Aboriginal Shire Councils of Aurukun, Mapoon, and Napranum consisting ‘State or territory housing authority’ and ‘housing co-operative, community or church group’ housing, whereas in Cairns and Cook accommodation ownership are comparable to the Cape York Region as a whole but are below the State average.

Weipa has lower a rate of ownership which correlates with the workforce accommodation (owned by the mining operator) for the local bauxite mining activities

The population effects associated with any project have the potential to impact upon the local availability and affordability of housing and accommodation. The Project is expected to draw on a predominantly FIFO workforce mainly (around 60%) from Cairns, with the remainder sourced from people already housed within the more local communities in the socio-economic study area.

The existing communities within the socio-economic study area vary in sensitivity where a potential influx of population is concerned due to the relative sizes of those communities. Aurukun, Mapoon, NPA towns and Napranum would be considered sensitive whereas Weipa would not be considered as sensitive in this regard.

In terms of accommodation availability, local amenity, services provision, transport accessibility and post operational employment prospects, Weipa is considered the only likely destination for longer term settlement by workers and therefore the assessment of the impacts on accommodation and housing are based on a low sensitivity at Weipa.

The change in demographics detailed in Section 25.7.2 above for the construction and operational phases of the Project are not expected to result in any significant numbers of people settling in the area over the longer term. The impact of the Project is therefore assessed as being of negligible socio-economic significance on property availability and accommodation prices within the socio-economic study area and therefore no mitigation for housing availability is proposed.
25.8.5 Residential Amenity

Residential amenity links with environmental health and refers to all aspects of the natural and built environment that may affect human health and wellbeing. This includes factors such as town facilities plus air quality, noise levels, contamination of land or water sources, offensive odours or lighting and any other environmental factors which have the potential to alter the health status of members of the community.

Impacts relating to the physical characteristics such as visual amenity, noise, air, and water quality are detailed in Chapter 21, Chapter 20, Chapter 19, and Chapter 12. Impacts on residential amenity from visual amenity, noise, air quality and/or water quality impacts are predicted to be insignificant.

With regards to the impacts on air quality and noise from the airport, mine and port operations on the nearest sensitive receptors (at Mapoon), air and noise modelling has predicted that all air and noise objectives and criteria would be met. The proponent will implement an air quality and noise monitoring programme, including attended monitoring at sensitive receptor sites (as applicable) in the unlikely event of any complaints.

The nearest residences are in and surrounding Mapoon on the south side of the Port of Musgrave, where there is insignificant potential for impacts to marine water quality from the Project and no predicted impact on freshwater supplies.

The Project will not result in any construction or operational activities in or close (within 10 km) of any existing residences or communities.

The on-duty shift roster workforce accommodation will be entirely within the Project footprint (at the accommodation camp). Off-duty shift worker accommodation will be accommodation which is already occupied by or available to local or FIFO workforce in the socio-economic study area.

Impacts arising from the Project are expected to be of negligible socio-economic significance on existing residential amenity during the construction and operational phases.

25.8.6 Employment, Education and Training

The construction phase will generate employment and training for communities in Mapoon, NPA, Weipa Aurukun, Cairns and Napranum. The majority of FIFO workers will be from Cairns with around 40% of the workforce being from Mapoon, Weipa, NPA, Napranum and Aurukun.

See the workforce procurement strategy in Section 25.8.1.

The construction phase impact is assessed as being of negligible to moderate socio-economic benefit.

The operations phases of the Project will also generate and maintain employment and training opportunities in the region. This overall impact for the Cape York Region and in particular at the local (LGA) level, is assessed as being of moderate (long term) socio-economic benefit.

Coupled with the creation of employment is the potential of the Project to contribute to the creation of a regional or local skills shortage. With the current decline in mining investment and new mining projects in Queensland, this negative impact has been assessed as of negligible socio-economic significance at the regional level, where it is expected all relevant skills can be found.

It is expected that the beneficial effects of on-the-job training and skills development for less experienced workforce members will offset any skills shortage experienced at regional and local levels particularly over the medium and long term. This beneficial impact has been assessed to be of negligible socio-economic benefit at the Regional level and to be of moderate (long term) socio-economic benefit at the LGA level.

It is noted that the use of wholly FIFO based workforces has been a contentious issue since, in some cases, 100% FIFO can lock local communities out of the recruitment process and hence preclude those communities from the positive socio-economic effects which a new development may be able to offer.
The Project is different to most 100% FIFO projects as, due to the inaccessible nature of the roads to the proposed Project site, FIFO is not a choice but the only practical means of site access.

Even a workforce drawn entirely from local communities would still almost exclusively be flown into and out of the site and since the proponent is offering FIFO from Weipa and other local communities, local recruitment will be a key feature of the overall recruitment process for the proposed Project.

25.8.7 Local Economic Conditions

Communities within the socio-economic study area vary in ranking compared to the state average in Socio-Economic Index for Areas (SEIFA) quintiles (the base indicator of socio-economic advantage and disadvantage).

At the national level Aurukun, Mapoon, Napranum and NPA LGAs all scored in the lowest decile (i.e. most disadvantaged) across most indices. The indices for Cook LGA were also generally low. The low LGA scores were reflected in the Cape York Regional scores, which were also in the lowest decile across all indices.

Cairns scored better than average and Weipa scored in the top 80% of all scores. It is likely that the high standard of living in Weipa is tied to the relatively high (mining based) income of its residents compared to regional and State income levels, and possibly also due to the accommodation and administration arrangements of Weipa.

In Aurukun and Napranum the unemployment rate is particularly high (over 20%) compared to the Queensland rate of 6.1% (2011, ABS), (reference Table 25-9).

The Project will have a direct impact on local economic conditions in the socio-economic study area and the broader region through the creation of employment and local business opportunities.

This economic stimulation generated as a result of wages and additional demand for goods and services is expected to have beneficial effects which are assessed as being of moderate socio-economic benefit at the local level.

Further negative effects may arise due to the potential for an increase in the cost of living in the local area during the construction and operations phases. This negative impact has been assessed as being of low socio-economic significance.

25.8.8 Health and Safety

The proponent will restrict unauthorised public access to the mining lease, whilst allowing for access for persons granted permits by Traditional Owners.

The proponent will implement and enforce policies for employees and contractors in relation to fitness for work, including alcohol and other drugs, with strict pre-employment medical programs and an ongoing random drug and alcohol testing regime.

The additional construction and operation workforce numbers using local roads, or waters whilst commuting or during leisure time (off shift roster) has the potential to create traffic or boating related incidents during the construction and operations phases. However, as the majority of the workforce will be FIFO or existing permanent residents of local communities, the incremental impact in extra vehicles and boats will be negligible, therefore resulting in negligible impact.

Social health effects may be generated via an increase in challenges to family life particularly where workers are engaged in shift work and commuting arrangements. As workers will be drawn from local communities as far as possible, this is expected to result in a low adverse impact.
25.8.9 Community Infrastructure and Services

Community health and wellbeing is reflective of living in a community which is cohesive, resilient and provides an environment with infrastructure and social services which are conducive to attaining a sense of fulfilment.

As part of the Section 31 Ancillary Agreement provision has been made for the Traditional Owners to be able to take ownership of Project ‘infrastructure’ after the completion of the Project following consultation and agreement between the parties in the Ancillary Agreement.

25.8.9.1 Health Services

The increase in (on-site and offsite) population created by the Project construction and operational workforces may impact on the demand for medical health services including allied health, mental and emergency health services located in the socio-economic study area, particularly Weipa which is the nearest hub to the Project offering hospital care. In some cases, emergency evacuation of patients may be required from the Project to Cairns for more specialist healthcare provision.

This increased demand will therefore draw on the existing supply of such services. However, many workers will already reside in local communities and draw on existing medical services, the number of non-local workers is fairly small in comparison to Weipa population size and first aid services will be provided on site for minor health issues. Therefore the increased demand on health services is assessed as being of low socio-economic significance and no mitigation is proposed.

25.8.9.2 Essential Services

Essential services such as water supply, sewage, electricity, telecommunications and waste management will typically be limited in terms of the number of people it has the capacity to supply. The requirement of essential services for the Project will be almost entirely limited to within the (on-site) Project footprint area as follows:

- Power will be supplied via on site generator(s).
- Water will be supplied from onsite borehole(s).
- Sewage will be treated and managed onsite.
- Telecoms will be supplied via onsite installations.
- Waste will be managed through onsite landfill arrangements unless the waste is regulated – in which case it will be transported by barge to the nearest regulated waste disposal (by prior agreement with the disposal facility).

Any additional load placed on essential services is therefore not expected to significantly affect the existing supply of these services at any of the communities within the socio-economic study area, as the load will be borne at the Project site.

The increased demand on essential services outside the Project area associated with the Project construction and operation is therefore likely to be of negligible socio-economic significance and no mitigation is proposed.

25.8.9.3 Emergency Services

There is likely to be an increased demand on emergency services within the socio-economic study area during the construction and operations phases of the Project. For example, regional emergency services such as ambulance, police, sea rescue and fire services may incur higher call out rates.

30 ‘Infrastructure’ being termed as any buildings, erections, and other improvements erected in the project area the subject of the Project.
Responding paramedic, police or other emergency response staff (most likely from either Weipa or Bamaga) would result in a construction and/or operational phase impacts on community emergency response resources for those areas.

Any major medical emergencies are expected to call on local or regional air rescue services such as the Royal Flying Doctor Service or by the Horn Island Rescue Helicopter R700.

In terms of police or ambulance response it is estimated that a case at the Project site (by road) could take between 8 to 10 hours to complete in the dry season. In the wet season air ambulance by plane or helicopter would have a similar effect for the Royal Flying Doctor Service or by the Horn Island Rescue Helicopter R700.

The Project approach in dealing with emergencies will in the first instance be for on-site staff to manage incidents relating to fires, natural hazards, chemical spills and onsite security issues from response capabilities on site.

On site emergency services mitigation measures will be managed through a Project Emergency Response Management Plan. It is expected that the on-site response capabilities at the site will help to minimise any burden on the emergency services particularly at Weipa and Bamaga.

Mine, airport and port facilities would inevitably bring an increase in air and sea traffic and, with this, an increase in the numbers of people who may require emergency assistance due to mechanical failure or weather conditions.

However due to strict workplace health and safety requirements for mine sites, and marine vessel safety requirements, it is expected that major emergencies requiring medical air support will be rare. In addition those responsible for first aid on site will undergo additional training above and beyond basic first aid, which may result in fewer call outs.

Designated site personnel will enforce camp alcohol restriction codes, and public access restrictions relating to the port and mine infrastructure.

The overall impact on emergency services has been assessed as being of low socio-economic significance.

25.8.9.4 Education Services

There is unlikely to be any significant influx of additional permanent residents to any of the communities within the socio-economic study area and therefore there is unlikely to be additional patronage of local schools.

The Project is therefore expected to have negligible socio-economic significance in terms of the increased demand on educational, child care, or kindergarten services, and therefore no mitigation is proposed.

25.8.9.5 Recreational Facilities and Services

Recreation and leisure is associated with the provision of community and municipal infrastructure.

There is unlikely to be an increased local population in any of the communities within the socio-economic study area and therefore the Project is unlikely to result in additional load on existing recreational activities. However, the potential exists for a limited number of off-shift workers to use existing recreational facilities within the socio-economic study area.

This is likely to result in a minor increased usage of local recreational infrastructure and additional maintenance and upkeep requirements of those facilities (e.g. sporting and leisure facilities).

The Project is likely to have a negligible socio-economic significance impact on the community due to increased usage of recreational facilities and services and therefore no mitigation is proposed.
25.8.9.6 Roads

The Project will not make use of public roads (see Chapter 22) for access to the site. Ongoing use of existing tracks on the mining leases, including crossing of the proposed mine site haul road, will be facilitated through arrangements under permits granted by Traditional Owners.

As the Project will not place any significant additional burden on public roads, no further assessment has been undertaken for potential impacts to roads and other road users.

25.8.9.7 Airport Facilities

As identified in Chapter 22, the Project will not place any significant additional burden on passenger or aircraft movements through Cairns Airport. Therefore the Project will have a negligible socio-economic impact on Cairns Airport.

The Project will result in an estimated increase of 2% in passenger numbers and 9% in the number of aircraft using Weipa airport. The Project will therefore have a low impact on Weipa Airport as there is capacity to handle the additional flights serving the Projects.

Use of Mapoon and Northern Peninsula Airports will be for the benefit transporting workers from the local community to site and hence any impacts from the small volume of increased air traffic will be offset by the employment opportunities offered. Therefore the Project will have a negligible socio-economic impact on Mapoon and Northern Peninsula Airports.

25.8.9.8 Port - Near Shore Transport and Bulk Vessel Transport

Potential exists for interference of recreational boating and fishing as a result of increased traffic arising from the Project on the Skardon River (downstream of the Port of Skardon River to the offshore transhipment location).

In order to minimise potential impacts, Port and marine safety regulations and requirements will be adhered to (refer Chapter 22). In addition, use of the Port of Skardon River wharf and loading area will be restricted to authorised personnel. Access will be provided for emergency response vehicles and personnel.

Security measures would be implemented at the Port and signage installed to ensure that the public is informed about the restricted usage of the boat ramp and wharf, controls on alcohol, and the restricted access to the mine site and access road.

It is anticipated that given the relatively low frequency and transience of recreational fishing vessels specifically in the vicinity of the proposed port shipping route, it is unlikely that any significant impact will arise. The overall impact is expected to be of low socio-economic significance.

25.8.9.9 Alcohol and Drug Management

Increased Project activity may lead to increased illegal alcohol transportation from Weipa to Aurukun, NPA, Napranum, and Mapoon. Alcohol and substance abuse can be contributory factors for other social cohesion issues such as erosion of law and order, domestic violence, child safety, health and safety and youth crime.

Drinking camps (usually located in the bush a short way from roads), may have the potential to become established during construction and operational phases of the Project. The remoteness of the Project haul road (and port facility) are potentially attractive access points into the surrounding bush for drinking camps.

Potential exists for any increase in employment of people in the construction phase to lead to an increase in disposable income, which may result in the purchase of alcohol and drugs. This may lead to increases in domestic violence, child safety breaches and alcohol-related accidents.
This is also reflective of concerns the adequacy of current police numbers to deal with any potential increase in incidents.

The accommodation camp is likely to serve alcohol under with a limit per person per day.

The accommodation camp will be designated as an alcohol restricted camp for the duration of the construction and operational phases of the Project. Therefore, no alcohol will be allowed to be taken from camp or brought to the camp by workers (or visitors). Strict controls will also be applied to airport and port use to ensure alcohol is not brought to site in contravention of the accommodation camp codes. Mine roads will be monitored by on-site personnel to ensure they are not accessed by people for the purpose of establishing drinking camps.

In order to reduce reliance on alcohol as a recreational activity the camp will be provided with other recreation facilities as an alternative to drinking in leisure time.

Gulf Alumina will also develop a drug and alcohol support/awareness program for the workers.

Following mitigation (as described above), impacts arising from the Project construction and operational phases are assessed as being of low socio-economic significance.

25.8.9.10 Police Capacity

Public consultation has identified that there is a perception that current police numbers are inadequate and that the Project may exacerbate this situation due to the increase in travel between communities and the site. Off shift recreation time spent in communities (most likely Weipa) away from the Project area may also contribute to a strain on police resources in the Project socio-economic study area.

It is anticipated that the beneficial impacts of continued employment and job training will ultimately help in reducing issues relating to law and order, domestic violence, child safety, health and safety and youth crime.

A Code of Conduct specific to off-site work behaviour targeting alcohol abuse and unauthorised activities on the mining lease will form part of the contractual arrangements (upon which continued employment would be contingent) for all workers and will be part of site the induction programme for new staff and visitors. It is anticipated that this measure will reduce any additional load placed on police as a result of the Project.

Designated personnel will have responsibility on the mine site for worker behaviour, which should reduce the burden on local police.

Impacts on police resources are assessed as being of low socio-economic significance.

25.8.10 Monitoring

In accordance with the Coordinator-General’s (CG) social impact assessment guideline, Gulf has developed a monitoring framework to monitor the progress and effectiveness of mitigation strategies relating to social impacts and to ensure that stakeholder input is considered as part of the ongoing implementation process. This monitoring framework is provided in Table 25-21.

Table 25-21 Social Impact Monitoring Framework

<table>
<thead>
<tr>
<th>Management Aspect</th>
<th>Monitoring</th>
<th>Performance Indicators</th>
<th>Timing Frequency / data collection</th>
</tr>
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<tbody>
<tr>
<td>Workforce Recruitment and</td>
<td>Local and regional employees</td>
<td>Number and percentage of employees (local and regional)</td>
<td>Quarterly – data collection.</td>
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<td>Management Aspect</td>
<td>Monitoring</td>
<td>Performance Indicators</td>
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<td>Management Strategy.</td>
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|                                               |                            | Contractor compliance with contractual reporting obligations to Gulf.                 | Quarterly – data collection.  
|                                               |                            |                                                                                       | Annually summarise and report data |
|                                               |                            | Evidence of communication, meetings, consultation database                              | Ongoing consultation. Quarterly review. |
|                                               |                            |                                                                                       |                    |
| Communications with relevant training organisations and government departments | Evidence of communication, meetings, consultation database                              | Ongoing consultation. Quarterly review.                                               |                    |
|                                               |                            |                                                                                       | Annually summarise and report data |
| Monitoring required by Native Title Ancillary Agreement | Data collected on application and performance of the obligations under the Agreement. | Quarterly – data collection.  
<p>|                                               |                            |                                                                                       | Annually summarise and report data |
|                                               |                            |                                                                                       | Annually summarise and report data |
| Worker Code of Conduct – compliance with Code | Number and type of workforce breaches, investigations, incidents.           |                                                                                       | Annually           |
| Worker Health, Safety and Wellbeing           | Incident reports, near misses, injuries, fatalities, time off work.         |                                                                                       | Ongoing as part of WHS systems. |
|                                               | Drug and alcohol policy breaches – number of incidents.                     |                                                                                       | Ongoing as part of WHS systems. |
| Education and training, including for Indigenous people | Evidence of communications and meetings with training organisation. Consultation database. |                                                                                       | Ongoing consultation management. Quarterly review. |</p>
<table>
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<tr>
<th>Management Aspect</th>
<th>Monitoring</th>
<th>Performance Indicators</th>
<th>Timing / Frequency</th>
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<td>Number of apprenticeships, in-house trainees and graduates (Indigenous and non-Indigenous)</td>
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<td>Local/ regional procurement and Australian Industry Participation Number of suppliers from the local and regional areas – as reported by lead contractors and Gulf.</td>
<td>Annual reporting Annual review.</td>
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<td>Demographic and Demographic Change</td>
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<td>Gulf and lead contractors collect data on workers place of residence.</td>
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<td></td>
<td>Local and regional workers</td>
<td>Number and percentage of local and regional workers.</td>
<td>Quarterly – data collection. Annually – summarise and report data</td>
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<td>Workers choosing to change residence</td>
<td>Number and percentage of workers moving location for employment reasons. Locations moving from and to. Number of family members also moving.</td>
<td>Annually</td>
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<td>Indigenous Communities</td>
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<td>Annual reporting of non-compliance</td>
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<td></td>
<td>Land and coastal management – managing workforce activities off tenement. Vehicle permitting system and use of mine vehicles.</td>
<td>Compliance with rules on recreational activities and vehicle use.</td>
<td>Annual reporting of non-compliance</td>
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<tr>
<td>Housing and Accommodation</td>
<td>Place of residence of workers</td>
<td>Gulf and contractors collect data on workers place of residence.</td>
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<tr>
<td>Residential Amenity</td>
<td>Air quality and noise complaints from residents</td>
<td>Number of family members also moving.</td>
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<tr>
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<td></td>
<td>Emergency services</td>
<td>Number of on-site medical incidents requiring off-site health services. Location of off-site health services.</td>
<td>Annual reporting</td>
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<td>Nature of emergency services requirements.</td>
<td>Annual reporting</td>
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<td>Communication with emergency service providers. Consultation database.</td>
<td>Ongoing</td>
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<td>Compliance with emergency response plan, investigations following an emergency.</td>
<td>Ongoing. Annual reporting</td>
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<td>Education Services</td>
<td>Workers moving permanently with children.</td>
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<tr>
<td>Roads – access to mining lease via local tracks</td>
<td>Compliance with permit system from landowner (OMAC) and mine site rules. Number of incidents of non-compliance.</td>
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<tr>
<td>Port - Near Shore Transport and Bulk Vessel Transport</td>
<td>Incidents involving vessels. Non-compliance with access restrictions.</td>
<td></td>
<td>Ongoing. Annual reporting</td>
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</tbody>
</table>
25.9 Economic Impact Assessment

This section describes the Project’s economic impacts / benefits based on the Project’s financial and workforce estimates.

25.9.1 Agricultural Value of Land

The area surrounding the Project area is designated in the Cook Shire planning scheme as ‘rural’.

The land within the Project mining leases is not improved for agriculture. No evidence of historical agricultural activity is evident from aerial photography of the area within the mining leases.

In the absence of nearby unimproved rural land for sale in the immediate area, it has not been possible to assign a monetary value on the land covered by the Project’s mining leases.

25.9.2 Royalties

The Project will generate revenue for the state and federal government in the form of taxes and royalties. The Project is predicted to result in approximately $325 million of royalty payments to state government over the life of the Project, a portion of which will be returned to Traditional Owners.

The contributions through proceeds from royalty payments are expected to assist in the funding of a wide range of services to the benefit of the community. This includes the management and maintenance of critical social and economic infrastructure such as local roads, libraries, sporting grounds and swimming pools, parks and playgrounds, community halls, and street lighting, as well as providing services such as waste collection, information and economic development.

25.9.3 Taxes

25.9.3.1 State Payroll Tax

Companies that pay $1 million or more a year in Australian wages must pay payroll tax. There are deductions, concessions and exemptions available to eligible entities. As per the Queensland Office of State Revenue, the current payroll tax is 4.75% of total taxable wages.

Based on estimated annual wage of $80,000 and a construction workforce of 100 employees (over a 1 year construction phase) and an operational workforce of 160 employees (over a 10 year operational phase), the Queensland State Government could expect to receive approximately $600,000 per annum in payroll tax per annum over the Project life. This figure is calculated based only on the mine’s direct employment effects. Any flow-on effects created by the Project may also generate significant amounts of payroll taxes to the Queensland government.

Additional revenue is expected to be generated through the following:

- Port Dues
  - Harbour Dues
  - Tonnage Dues
25.9.3.2 Australian Government Revenues

It is estimated that Project will contribute $434 million in Federal taxes over the life of the Project.

The company tax rate in Australia is 30% of profits. Over the life of the Project, a number of firms will be liable to pay company tax, including:

- the proponent
- firms providing goods and services directly to the Project
- support firms benefiting indirectly by the Project.

Other Australian Government taxes and duties that the proponent, employees and suppliers may be liable for include:

- personal Income Tax
- Goods and Services Tax
- import duties.

25.9.4 Payments to the Traditional Owners of the Land

In regard to Section 31 Native Title Act (1993 Cth) Deed and Ancillary Agreement between the Ankamuthi People (as Registered Claimants) and Gulf Alumina (the proponent), compensation in the form of financial payments will be made by the proponent to the Registered Claimants. The details of these payments are held in confidence and are excluded from the economic analysis in Section 25.9.5.

25.9.5 Economic Analysis

25.9.5.1 Methodology

The method used to measure the economic impacts of constructing and operating the Project is based on input-output (I-O) analysis used for another mining project’s in Queensland, namely QCoal’s Byerwen Project31.

I-O analysis is a well-established and widely used technique for estimating economic impacts of an existing, expanding or new economic activity in a region. It examines how the Project affects an economy through both backward and forward linkages between all industries in the economy. It takes the initial effect of the Project, and traces all the multiplier or ‘flow-on’ direct and indirect effects. The final result is an overall picture of the Project’s expected contribution for the economy.

The framework implies the initial expenditure on the Project creates a first round, or direct flow-on effect, across all businesses and employees in the supply chain (e.g. construction or mining). This in turn encourages further indirect expansionary effects to other sectors of the economy supporting the Project.

The direct and indirect effects, including ‘pay-packet’ effects, are expected to be realised in terms of the consumption of goods and services by the household sector (e.g. retail trade, cafes and restaurants).

25.9.5.2 Type of Impacts
The economic impact of the Project can be traced through the economic system in several different ways. For the purpose of this assessment, the following types of impacts are used:

- The direct multiplier effect represents the increase in economic activity (value added and output) and employment which is directly generated across all supplying sectors in the industry receiving the initial impact;
- The indirect multiplier effect represents the second round that occurs across all secondary industries in the economy to support the direct impact;
- The total multiplier effect is the sum of the direct and indirect multiplier effects outlined above.

25.9.5.3 Economic Indicators
In applying the I-O method, the economic impact is measured by means of four key economic indicators:

- Value Added
- Output
- Impact on Household Incomes
- Employment

25.9.5.3.1 Value Added and Output Impact
The value added measure can be defined as the net revenue of goods and a service provided by all industries resulting directly and indirectly from a change in final demand and is equivalent to Gross Regional Product (GRP). The output measure, by contrast, is defined as the gross revenue of goods and services produced by all industries of the economy that is required to satisfy the change in final demand for the output of that industry.

25.9.5.3.2 Household Income Impacts
Household Income estimates include both direct and indirect impacts. Households will benefit through additional wages and salaries paid by the proposed Project during both construction and operation, as well as flow-on employment, or income earning opportunities created by the Project.

25.9.5.3.3 Employment Impacts
Employment flow-on effects occur because businesses adjust the level of resources used to accommodate for changes in the value added and output impacts. For instance, during the operational phase of the mine development, employment increases to enable the production of goods and services to service maintenance workers. Employment includes the number of working proprietors, and may encompass managers, directors, and other employees in terms of full-time equivalents. Employment flow-on effects also have direct and indirect effects. The direct flow-on effect is defined as the change in employment associated with those industries directly supporting the activities of the expanding sector. The indirect effects represent the increase in employment across all indirect support sectors (i.e. sectors providing inputs to supply sectors).

25.9.6 Assumptions for Economic Analysis and Economic Estimates

25.9.6.1 General I-O Model Assumptions
The key assumptions for I-O modelling include:
The inputs purchased by each industry are a function only of the level of output of that industry. The input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs).

Each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies that there is only one method used to produce each commodity and that each sector has only one primary output.

The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the additivity assumption. This generally does not reflect real world operations.

The system is in equilibrium at given prices. This is not the case in an economic system subject to external influences.

In the static I-O model, there are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions. This assumption would come into play depending upon the magnitude of the changes in quantities demanded.

This technique provides a reasonable approach for considering the inter-relationships between the various sectors of the economy in the short-term and provides useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by the Project.

25.9.6.2 Economic Data Assumptions

The economic I-O modelling for the Byerwen Project was considered appropriate for use in developing high level economic assessment assumptions for the Project as the Byerwen Project, in common with the Project:

- is a proposed mining (coal) Project based in regional, rural Queensland
- intends to export product from Australia
- intends to source equipment and materials locally (subject to economic forces)
- intends to source workers locally and house workers in nearby accommodation provided by the company.

The key drivers in estimating the Project’s economic impacts are:

- capital expenditure (capex), which drives estimated of output and value added during construction
- operational expenditure (opex), which drives estimated of output and value added during operations
- workforce numbers, which drive household income and employment effects.

The following high level assumptions were made in using the Byerwen Project economic impact assessment data as the basis for estimating Project impacts:

- The ratios of Project capex to direct and indirect output were the same as the ratios modelled for the Byerwen Project.
- The ratios of Project capex to direct and indirect value added were the same as the ratios modelled for the Byerwen Project.
- The ratios of Project opex to direct and indirect output were the same as the ratios modelled for the Byerwen Project.
The ratios of Project opex to direct and indirect value added were the same as the ratios modelled for the Byerwen Project.

The ratio of Project workforce estimates (construction and operations) to employment and household income were the same as the ratios modelled for the Byerwen Project.

It is recognised the I-O model developed for the Byerwen Project was itself subject to a number of limitations and assumptions. Never-the-less this model provides reasonable estimate of economic impacts from a mining Project.

25.9.6.3 Calculation Ratio Assumptions

A number of calculation ratio assumptions have been made in making the assessment, using the Byerwen Project data. The ratios identified below (in **bold**) have been applied in estimating the output, value added, employment and household income calculations for the Project.

The construction phase (capital expenditure) benefits to the economy are calculated as follows:

- **Output**
  - Direct Output ($) = Capex
  - Indirect Output = Direct Output x **1.189**
  - Total Output = Direct Output + Indirect Output

- **Value Added**
  - Direct Value Added = Direct Output x **0.655**
  - Indirect Value Added = Indirect Output x **0.396**
  - Total Value Added = Direct Value Added + Indirect Value Added

- **Employment**
  - Employment (Total Construction Workforce)
    - Direct Employment (Effect) = Employment x **7.816**
    - Indirect Employment (Effect) = Employment x **8.207**
    - Total Employment (Effect) = Direct Employment (Effect) + Indirect Employment (Effect)

- **Household Income**
  - Direct Household Income = Direct Employment x **$69,834**
  - Indirect Household Income = Indirect Employment x **$69,834**
  - Total Household Income = Direct Household Income + Indirect Household Income

The operational phase (operational expenditure) benefits to the economy are calculated as follows:

- **Output**
  - Direct Output ($) = Operational Expenditure (Opex)
  - Indirect Output = Direct Output x **1.347**
  - Total Output = Direct Output + Indirect Output

- **Value Added**
  - Direct Value Added = Direct Output x **0.405**
  - Indirect Value Added = Indirect Output x **0.525**

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Note: $69,834 is the average mine wage in the construction phase.
Total Value Added = Direct Value Added + Indirect Value Added

- **Employment**
  - Employment (Total Construction Workforce)
  - Direct Employment (Effect) = Employment x 4.737
  - Indirect Employment (Effect) = Employment x 6.647
  - Total Employment (Effect) = Direct Employment (Effect) + Indirect Employment (Effect)

- **Household Income**
  - Direct Household Income = Direct Employment x $84,905
  - Indirect Household Income = Indirect Employment x $84,905
  - Total Household Income = Direct Household Income + Indirect Household Income

### 25.9.6.4 Project Data

The Project’s capex, opex and workforce estimates were supplied by the proponent and are summarised as:
- capex of $60.8 million for the construction phase
- opex of $133.8 million per annum for the life of the Project
- construction workforce of 100
- operational workforce of 160.

### 25.9.6.5 Construction Phase Output or Consumption Effects

Construction phase output or consumption impacts resulting from pre-construction, procurement and construction expenditure are anticipated to be $132.9 million. Expenditure is comprised of $60.8 million in direct output (i.e. capex) effects and $72.2 million from indirect output (or consumption) effects.

The main expenditures during the construction phase are associated with mine and port infrastructure and purchase of mining and haulage equipment.

### 25.9.6.6 Construction Phase Value Added Effects

Value added measures the net activity at each stage of production resulting from a stimulus, the principal components of which are compensation to employees and gross operating surplus.

In the construction phase, total value added impacts associated with the Project are estimated to be $68.4 million. Total value added impacts comprise $39.8 million in direct and $28.6 million in indirect value added effects.

### 25.9.6.7 Construction Phase Employment Effects

Employment estimates are based on full time equivalent positions (FTEs). Due to the nature of labour markets, the support of an FTE position generated by a project may not manifest in an additional person being employed. In an increasingly casualised labour force, economic stimulus created by a construction type project is often manifested in existing workers working additional hours (or shifts). Employment impacts include the on-site workforce and increases in employment in those sectors supporting the construction of the mine and associated facilities.

Total employment impacts of construction and capital expenditure associated with the Project are estimated to be 1,602 direct and indirect FTE positions.

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33 Note: $84,905 is the average mine wage in the operational phase.
The FTE’s represented above are outputs of the I-O model’s indirect multipliers and the on-site construction workforce is expected to stabilise at 100 workers.

25.9.6.8 Construction Phase Household Income Effects
Construction phase total household income associated with the Project are estimated to be $111.9 million.
Total household income impacts comprises $54.6 million in direct, and $57.3 million in indirect, household income effects.

25.9.6.9 Operational Phase Output or Consumption Effects
The total annual output (or consumption) impacts associated with the operation of the Project are estimated at $314.1 million. Annual expenditure is comprised of $133.8 million in direct output (opex) effects and $180.3 million from indirect output (or consumption) effects.
The main expenditures during the operations phase are associated with mining costs, wharf operations, payment of royalties, barging & shipping costs and other fixed costs (such as site administrative costs).

25.9.6.10 Operational Phase Value Added Effects
During steady state operations the total annual value added impacts associated with the operation of the Project are estimated at $148.8 million.
Total annual value added impacts comprise $54.2 million in direct impacts and $94.6 million in indirect impacts.

25.9.6.11 Operational Phase Household Income Effects
In operations the total annual steady state household income impacts associated with the operation of the Project are estimated at $154.65 million.

25.9.6.12 Operational Phase Employment Effects
Employment impacts include the on-site workforce and increases in employment in those sectors supporting the operation of the mine and associated facilities.
The on-site operational workforce is expected to stabilise at 160 people.
During operations the combined annual direct and indirect FTE positions associated with the operation of the Project are estimated at 1,821.

25.9.7 Economic Assessment Summary
Economic data for the Far North region\(^\text{34}\) has been reported by Queensland Treasury and Trade. The Nominal GRP\(^\text{35}\) of the Far North Region was estimated at approximately $12.286 billion in 2010/11. The average annual percent growth for the region (2000-01 to 2010-11) was 6.3%. During operations, when the Project’s value added is estimated as $148.8 million, the Project will contribute an additional 1.2% to the Far North Region’s GRP.

\(^{34}\) Note: The Far North region consists of 19 Local Government Areas: Aurukun Shire, Cairns Regional Council, Cassowary Coast Regional Council, Cook Shire, Croydon Shire, Etheridge Shire, Hope Vale Shire, Kowanyama Shire, Lockhart River Shire, Mapoon Shire, Napranum Shire, Northern Peninsula Area Regional Council, Pormpuraaw Shire, Tablelands Regional Council, Torres Shire, Torres Strait Island Regional Council, Weipa Town, Wujal Wujal Shire and Yarrabah Shire.

The Far North region contributed approximately 4.6% of the Gross State Product for Queensland in 2010/11 ($269.9 billion).

The Queensland Gross State Product (GSP) per capita was around $60,300 2010/11 compared to the Far North GRP per capita which was around $46,197. With an average household income of approximately $85,000 generated by the Project’s FTE positions, the Project will contribute to reducing the income gap between Queensland as a whole and the Far North Region.

Gross Value Added (GVA) is used to analyse industry contributions to regional production as there is no adequate method to allocate taxes less subsidies on products across industries. For 2010-11 in Queensland; mining (10.7 %), construction (9.3 %) ownership of dwellings (9.2 %) and manufacturing (8.1 %) were the largest contributors to the economy.

In the Far North region for the same period; ownership of dwellings (10.3 %), health care and social assistance (8.1 %), public administration and safety (7.9 %) and construction (7.5 %) were the largest contributors to the economy with mining at 5.3 %. The Project will result in a greater proportion of contributions to the economy in the Far North Region being from mining.

The Project will have a moderate beneficial contribution to the local and regional economy through increased economic activity, employment and incomes and direct benefits for industries other than mining (e.g. construction, port activities and retail).

### 25.10 Cumulative Impacts

#### 25.10.1 Identification of Projects Considered

This section provides a high level qualitative assessment of the cumulative socio-economic impacts of the Project, when considered with other projects in the region.

To assess the cumulative impacts, consideration has been given to the likely socio-economic effects of the Project when combined with the existing (i.e. Project baseline) mining operations at Rio Tinto Alcan’s Weipa36 mining project (which currently accounts for 23 Mtpa bauxite with 1,000 full time workers), and two other projects which are likely to have simultaneous programmes and similar socio-economic areas of influence, namely:

- Rio Tinto Alcan’s South of Embley (SoE)37 project
- Metro Mining’s Bauxite Hills 38 project.

#### 25.10.1.1 Rio Tinto Alcan’s South of Embley (SoE) project

Located south of Weipa the SoE project’s aim is to extend the life of Rio Tinto Alcan’s mining operations in Weipa (beyond depletion of East Weipa and Andoom reserves) by about 40 years.

The proposed SoE project would be for a bauxite mine and associated processing facilities, barge and ferry terminals, and a port with a production rate of up to 50 Mtpa.

The construction workforce would be accommodated in an on-site camp and negligible effect on the local housing market is expected. The operational workforce would move across from the existing mining operations when those bauxite pits come to the end of operational production.

At 50 Mtpa, the expected population increase would require development of more residential land and housing, industrial land, and provision of expanded government services. Rio Tinto Alcan would work with

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Weipa Town Authority (WTA) to develop additional subdivisions as required to allow for the construction of additional houses and industrial lot developments if required.

Construction phase direct employment averages more than 300 per annum over three years. Operations phase (15 Mtpta production scenario) direct employment (including contractors) would be approximately 500 in local region. This scenario balances the workforce shift from the current Rio Tinto mining operations to the SoE Project.

25.10.1.2 Metro Mining’s Bauxite Hills Project

Based on publically available information, the Metro Mining Bauxite Hills project would be for an integrated bauxite mine adjacent (east and west) to the Project and port located to the immediate south of the Skardon River. The EPBC Act Referral information for the Bauxite Hills project describes a 2 Mtpta bauxite mine with over 20 year mine life and a 47 Mt inferred resource (subsequently amended to a 5 Mtpta project for 12 years). The Bauxite Hills project includes the following elements:

- upgrade of Mapoon airstrip
- a ferry facility
- an export barge facility (about 2km upstream to the south of the existing port of Skardon River)
- a stockpile area
- ancillary infrastructure including a beneficiation plant
- a transport corridor
- a 260-person on site accommodation village

Direct employment would be for 200 people in construction and 260 people in operations.

25.10.2 Cumulative Impacts Assessment Scenario

In terms of mine production rates (Mtpta) as a measure of the relative scale in output and impacts from the various projects, the Project could produce up to 5 Mtpta output over the 10 years mine life.

The ongoing Rio Tinto Alcan Weipa operation of 25 Mtpta (supporting around 1,000 workers), will diminish in output but is likely to be superseded (and output balanced) by the SoE project (15 – 50 Mtpta) as its production ramps up. The Bauxite Hills project could add another 2 Mtpta.

It is possible that around 50 to 80 Mtpta output rates could exist during the transition phase between current Rio Tinto Weipa operations and the start of the SoE project, but a cumulative steady state output rate in the area (including the Skardon River Bauxite Project and Bauxite Hills project) is likely to be at the lower end of that estimate and would extend to around 30 years beyond the life of the Project.

The Project’s steady state contribution would therefore be around 8% of the total cumulative output across the projects identified for 10 years.

25.10.3 Cumulative Impacts Assessment

The post mitigation impacts (identified in Section 25.8) of ‘low’ or ‘moderate’ negative and beneficial significance have been considered in more detail (below) as these are most likely to materially contribute to any cumulative effects. It is noted that none of the impacts identified for the Project were of greater than moderate significance following mitigation.

25.10.3.1 Economic Impacts

The cumulative economic benefits of all proposed projects to the region and local areas is expected to be of high beneficial significance.
The cumulative revenue from all projects generated for the state and federal government in the form of taxes and royalties is expected to result in moderate to high beneficial impacts.

25.10.3.2 Demographic Change
Cumulative impacts to the demographic characteristics of the resident population of local communities from all projects in the region (including increases in population arising from people linked to new permanent residents and indirect increases in service industry jobs) is expected to be of moderate adverse significance. However the majority of demographic change is expected to occur in Weipa with major contribution expected to arise from the proposed SoE project.

25.10.3.3 Indigenous Communities
The Project is expected to have a beneficial impact on Indigenous people residing in the socio-economic study area through the provision of increased business opportunities, employment, education and training opportunities. This effect is expected to be additive in relation to the SoE and Bauxite Hills projects.

All projects are expected to control access to alcohol and use of drugs amongst the workforce.

The provision of such opportunities is cumulatively considered to be a beneficial impact of high socio-economic significance.

25.10.3.4 Land and Coastal Management
Cumulative impacts to land and coastal management will largely occur at a property / mining lease scale and hence be a function of the Skardon River Project and adjacent Bauxite Hills Project. It is assumed that the Bauxite Hills Project will implement similar mitigation measures for land and sea management to those proposed for the Skardon River Project and hence cumulative impacts are expected to have low adverse significance.

25.10.3.5 Employment, Education and Training
The beneficial effects of on-the-job training and skills development for less experienced workforce members is expected to offset any skills shortage experienced at regional and local levels particularly over the medium and long term.

Cumulatively the beneficial impact is expected to be of moderate to high socio-economic benefit at the LGA level.

25.10.3.6 Local Economic Conditions
The cumulative economic stimulation generated as a result of wages and additional demand for goods and services is expected to have beneficial effects which are of moderate to high socio-economic significance at the local level. Cumulative costs of living impacts in local towns, including Weipa, may be of moderate significance, however the majority of this cumulative impact is expected to arise from the proposed SoE project.

25.10.3.7 Health Services
Cumulative impacts to health services in local towns, particularly Weipa, may be of moderate significance, however the majority of this cumulative impact is expected to arise from the proposed SoE project.

25.10.3.8 Emergency Services
The Project is likely to cause an increase demand on emergency services such as ambulance, police, sea rescue and fire services. This is expected to be an additive effect cumulatively with the Bauxite Hills and SoE projects.
The overall cumulative impact on emergency services is expected to be of moderate socio-economic significance.

**25.11 Conclusion**

This socio-economic impact assessment identifies the nature and extent to which Project impacts the social and economic environment.

The socio-economic baseline was assessed for the local and regional areas, it characterised social values (through desktop assessment and direct consultation) and identified potential Project effects against those values.

Project related impacts were identified using an impact significance assessment methodology by considering the sensitivity of a particular social value and the magnitude of a predicted impact.

Mitigation and management measures were derived through direct consultation with the community, examination of Project’s potential effects and negotiations between the proponent and governmental and non-governmental stakeholders.

The most significant adverse impacts identified as arising from the Project relate to population growth placing demand on social infrastructure, such as housing, commercial property, education, healthcare and ports.

However, it has been assessed that following the application of appropriate mitigation and management measures, the Project will have a generally positive social and economic effect on the local and regional area through increased economic activity, employment and incomes and direct benefits for industries other than mining (e.g. construction, port activities and retail).

The most significant positive social and economic impacts within the study area includes the following:

- The Project has the potential for medium to long term beneficial impacts to local and regional communities through employment of construction (100 people) and operational phase (160 people) workers and the associated economic benefits in the supply of goods and services to the Project.
- It is anticipated that approximately 40% of the workforce will be sourced from local populations residing in or near Mapoon, NPA, Napranum, Weipa and Aurukun. Workforce members would FIFO to site but those sourced from local communities are anticipated to already be residing in the local area and would be unlikely to create additional pressure on housing stocks.
- The proponent will actively encourage local and regional residents to take up employment opportunities at the Project through the procurement of contractors who enhance employment opportunities for all groups including underrepresented groups. The procurement of contractors will include an Indigenous Training Program (ITP) and ‘Preferential Contracting Policy’ as described in the Section 31 Deed and an Ancillary Agreement for ‘Local Aboriginal People’ (defined in the Ancillary Agreement as Aboriginal people who either have Traditional Rights, or are normally resident in ‘North Western Cape York’).
- For tenders relating to a ‘Contracting Opportunity’, the proponent has agreed to give first preference to tenders from a ‘Local Aboriginal Business’ and thereafter to the tenderer who best involves Traditional Owners and Local Aboriginal Business in its tender. These recruitment and business development measures will be delivered through a Local Aboriginal Business Opportunity Plan (Business Opportunity Plan).
- The Project will generate revenue for the state and federal government in the form of taxes and royalties. The Project is predicted to result in approximately $325 million of royalty payments to state
government over the life of the Project, a portion of which will be returned to Traditional Owners. The contributions through proceeds from royalty payments are expected to assist in the funding of a wide range of services to the benefit of the community. This includes the management and maintenance of critical social and economic infrastructure such as local roads, libraries, sporting grounds and swimming pools, parks and playgrounds, community halls, and street lighting, as well as providing services such as waste collection, information and economic development.

- Based on estimated annual wages of the construction and operational workforce the Queensland State Government could expect to receive approximately $600,000 per annum in payroll tax per annum over the Project life (based only on the mine’s direct employment effects). Additional revenue is expected to be generated through the following port dues and other state duties and taxes. It is estimated that Project will contribute $434 million in Federal taxes over the life of the Project.

The cumulative impacts assessment considered the effects of the Project in combination with the ongoing Rio Tinto Alcan’s South of Embley (SoE) project and Metro Mining’s Bauxite Hills project.

The most significant cumulative effects (in terms of the Project’s contribution to those effects), are that the Project is likely to cause a moderate increase in demand on health services and emergency services such as ambulance, police, sea rescue and fire services.

The Project’s steady state contribution is expected to be around 8% of the total cumulative output across the projects identified for the 10 years mine life. The cumulative economic benefits of the three projects at federal, state, regional and local levels is expected to be of highly beneficial in terms of revenue, taxes and royalties. Economic stimulation generated as a result of wages and additional demand for goods and services is expected to have beneficial effects which are of moderate to high socio-economic significance at the local level.

The Project is expected to have a beneficial impact on Indigenous people residing in the socio-economic study area through the provision of increased business opportunities, employment, education and training opportunities. This effect is expected to be additive in relation to the SoE and Bauxite Hills projects. The provision of such opportunities is cumulatively considered to be a beneficial impact of high socio-economic significance.

Overall the Project is expected to meet the environmental objectives and performance outcomes for social and economic values identified in Section 25.2.