Social Impact Assessment

for Vulcan South

May 2022

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TABLES

FIGURES

1 INTRODUCTION

Mining and Energy Technical Services Pty Ltd (METServe) has been engaged by Vitrinite Pty. Ltd., owner of Qld Coal Aust No.1 Pty. Ltd. and Queensland Coking Coal Pty. Ltd. (Vitrinite, the Proponent) to manage the environmental approvals process for Vulcan South (the Project). As part of the Project's approval application, Vitrinite is required to conduct a Social Impact Assessment (SIA).

1.1 PROJECT OVERVIEW

The Project site, as defined by the Project Mining Lease Application (MLA) boundary, is located north of Dysart and approximately 35 km south of Moranbah in Queensland's Bowen Basin (**Figure 1**). The Project lies to the immediate west of several established mining operations, including BHP's Peak Downs and Saraji mines.

The Project is located immediately to the south of Vitrinite's initial mining project, the Vulcan Coal Mine (VCM), located on ML700060. The Project MLA area abuts ML700060 however proposed activities will be largely implemented separately.

The Vulcan hard coking coal target has been defined and selected for open cut development via 3 separate open cut pits that form the primary mining focus of the Project. The Project will operate for approximately nine years, including primary rehabilitation works, following a 2 year construction period and will extract approximately 13.5 Mt of Run of Mine (ROM) coal consisting predominately of hard coking coal with an incidental thermal secondary product at a rate of up to 1.95 Mtpa. The Project will target the Alex and multiple Dysart Lower coal seams. Truck and shovel mining operations will be employed to develop the pits. A mine infrastructure area (MIA) will be established along with a modular coal handling and preparation plant (CHPP), rail loop and train load-out facility (TLO) at a location between the northern and central pits. The CHPP will include tailings dewatering technologies to maximise water recycling and to produce a dry tailings waste product for permanent storage within active waste rock dumps. No wet tailings wastes are proposed and therefore no tailings dams are required.

At each of the three pits, out-of-pit waste rock dumps will be established prior to commencing in-pit dumping activities that will continue for the life of the operation. Ancillary infrastructure, including a ROM pad, offices, roads and surface water management infrastructure will be established to support the operation.

A realignment of the existing Saraji Road and services infrastructure to the eastern boundary of the proposed Mining Lease Application (MLA) area, adjacent to the existing rail easement, is also proposed in a number of locations. The re-alignment will occur within the MLA area.

In-pit dumping will fill the majority of the pit volumes during operations with the remaining final voids to be backfilled upon cessation of mining, resulting in the establishment of low waste rock dump landforms over the former pit areas. Following backfill of the final voids, the remaining material stored in the initial out-of-pit waste rock dumps will be rehabilitated in-situ.

The Project includes a small-scale highwall mining trial program in the north of the MLA. The trial will involve the establishment of 4 highwall mining benches across a number of hillsides to facilitate extraction of coal utilising a CAT HW300 highwall miner, or similar. The highwall mining trial will target up to 750 kt of coal which will be transported by truck to the Project CHPP via a dedicated haul road within the MLA area. The trial is scheduled to be completed within the first year of mining operations.

The predominant pre-mining land use within the Project area is low intensity cattle grazing. A number of small-scale commercial operations are located on the site. Rehabilitated coal exploration sites are also located across the Project area. Following mining activities, the land is proposed to be rehabilitated and returned to a post-mine land use which will be safe, stable, self-sustaining and capable of supporting the pre-mining land use of low intensity cattle grazing.

The Project is anticipated to require a workforce of 190 personnel (both permanent employees and contractors). As such, it is classified as a "large resource project" under the *Strong and Sustainable Resource Communities Act 2017 (*SSRC Act*)*. It is anticipated that less than approximately one third of this workforce would be present on site at any one time due to shift and roster arrangements and the inclusion of off-site haulage positions in this total. The Project's workforce will be primarily sourced from the regional area (i.e. Isaac and Mackay regions) and make use of the existing accommodation camp facilities and private housing at Moranbah and Dysart. Whilst sourcing of local people will be prioritised, it is anticipated that a combination of regional workforce solutions (Drive-in / Drive-out (DIDO) from Mackay and Fly-in / Fly-out (FIFO) from Moranbah Airport) will be required.

For the purposes of this plan, it is assumed the workforce will reside in a mixture of accommodation facilities from camp (80%) to private residences (20%). It is assumed there will be a 50% / 50% split between Dysart and Moranbah. Travel to site from Dysart and Moranbah will be approximately 80% bus/work vehicles and 20% private vehicles (approx.). There would be two 12 hour shifts per day, with crews operating on a 7 days on / 7 days off roster.

The following indicative workforce breakdown is proposed:

- Staff – 30; and
- Mining contractor – 160

The Project will require a mining lease (ML) as well as environmental approvals under Queensland and Commonwealth legislation. The Project site is currently the subject of an MLA, and a site specific Environmental Authority (EA) application will be submitted for approval in accordance with the Queensland *Environmental Protection Act 1994* (EP Act). It is anticipated that this will not trigger the requirement for a supporting Environmental Impact Statement (EIS).

The Project will also be referred to the Commonwealth Department of the Environment and Energy (DoEE) for approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.2 EXISTING LAND USE AND TENURE

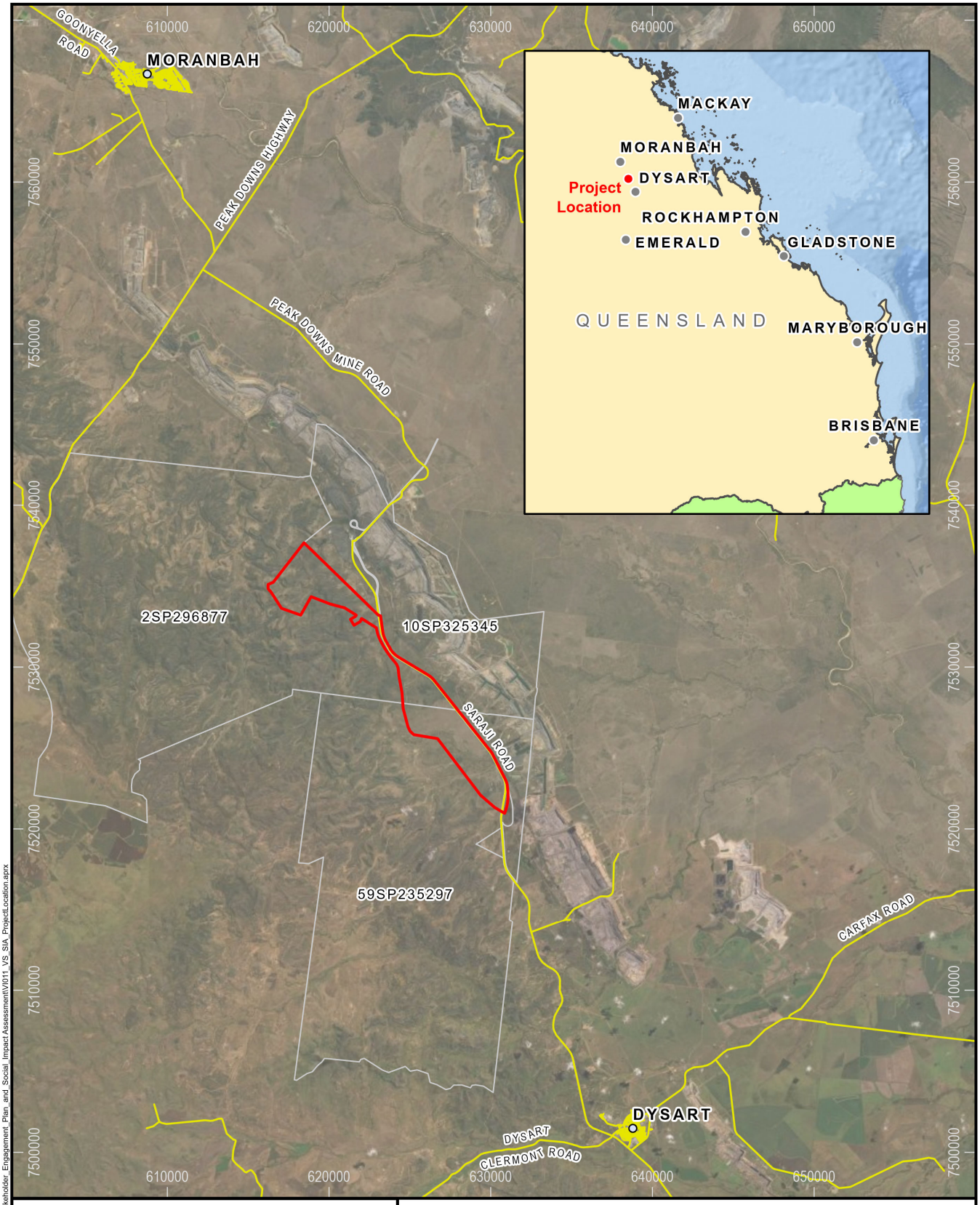
The Project MLA covers an area of approximately 3800 hectares (ha) and is situated over multiple underlying Exploration Permit for Coal (EPC) tenures (EPC 1732, 1233 and 1234). The EPCs are held by companies owned by the proponent, Vitrinite. The Project disturbance footprint is 1756.7 ha.

A list of the properties, tenure, usage and owners/managers within the proposed ML boundary are outlined in **Table 1-1**.

Table 1-1 Land Tenure and Real Property Descriptions for the Project

Lot/Plan	Tenure	Usage	Owner
2/SP296877	Lands Lease	Pastoral	O'Sullivan
59/SP235297	Lands Lease	Pastoral	O'Sullivan
72/SP137467	Reserve	Railway	Aurizon
Saraji Road	Road Licence	Road for public use	Isaac Regional Council
26/CNS125	Lands Lease	Norwich Park Branch Railway	Aurizon
2/CNS109	Lands Lease	Norwich Park Branch Railway	Aurizon
3/CNS109	Lands Lease	Saraji Mine Balloon Loop Railway	Aurizon

The Project falls within the Isaac Regional Council local government area. The region has a distinct mining influence with multiple significant coal mining operations in the immediate vicinity of the Project. A majority of the land within the MLA has been previously disturbed by agriculture and mining related activities. There are a small number of rural or residential dwellings located within 5 km of the southern extent of the Project activities.



Legend

- Town
- Road
- MLA Area
- Cadastral Boundary

Source: State of Queensland (Department of Resources) 2021-2022, Vitrinite 2022, METServe 2022, Esri, GEBCO, DeLorme, NaturalVue, Earthstar Geographics.

Vulcan South

Project Location

0 3 6 12

Kilometers

Scale: 1:340,000 (A4)

11/03/2022

Datum: GDA2020
Projection: MGA55

FIGURE 1-1

VITRINITE BRIGHTER COAL

METSERVE Mining & Energy Technical Services Pty Ltd

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2 OBJECTIVES

This SIA has been developed to support the Project EA application process under the EP Act. The intention is to design and define the Project in close consideration of the identified local and regional social and environmental values.

The SIA describes the current (pre-Project) social environment and assesses the potential impacts and changes that may result during Project operations and closure. The objectives of the SIA include:

- Collect and analyse information about the current (baseline) social environment;
- Collect and analyse information about key social and cultural issues, population change and potential social changes (both positive and negative) as a direct or indirect result of the Project proceeding; and
- Develop strategies for mitigation, management, monitoring and review of social impacts, where appropriate, to manage any potential negative impacts of significance.

3 METHODOLOGY

This SIA has been developed in consideration of the *Social Impact Assessment Guideline* (Department of State Development, Manufacturing, Infrastructure and Planning [DSDMIP], 2018) and other relevant policies and publications.

Figure 3-1 presents the conceptual model behind the process of developing the SIA. It outlines the collaborative and holistic approach undertaken by Vitrinite, government and related agencies and community stakeholders throughout the development of this SIA.

Figure 3-1 SIA context

3.1 STUDY AREAS

In order to describe the baseline social environment and assess potential Project impacts, this SIA has considered social and cultural areas of interest (study areas) relevant to the Project. The study areas were determined by taking into consideration the scale and context of the Project as well as the below factors:

- The potential for social and cultural impacts to occur;
- Potential cumulative impacts of other relevant projects or proposals in the surrounding area;
- The location and types of existing physical and social infrastructure, settlement and land use patterns;
- The social values that might be affected by the Project (e.g. the social infrastructure, amenity and liveability, social harmony and wellbeing, and sense of community); and
- Indigenous social and cultural characteristics such as Native Title rights and interest, and cultural heritage.

The two study areas considered for the Project include:

- A 'Local Study Area' (LSA), comprising of the Isaac Regional Council (IRC) Local Government Area (LGA) (Isaac Region), with a particular focus on the townships of Dysart and Moranbah; and
- A 'Regional Study Area' (RSA), which identifies specific points of interest outside of the LSA that may be impacted by Project activities.

The LSA and RSA are described in further detail in **Section 3.1.1** and **Section 3.1.2**, respectively. The approach taken to describe the baseline conditions involved collation of detailed statistics and analysis for the LSA, and broad discussion and trend analysis for the RSA.

Given the scope and scale of the Project, a state-scale study area was not considered relevant to the SIA.

3.1.1 Local Study Area

The Isaac Region LSA has been defined to assess potential direct and indirect social impacts associated with the Project and cumulative impacts from nearby mining projects (Refer to **Figure 3-2 and Figure 3-3**). The LSA focusses on:

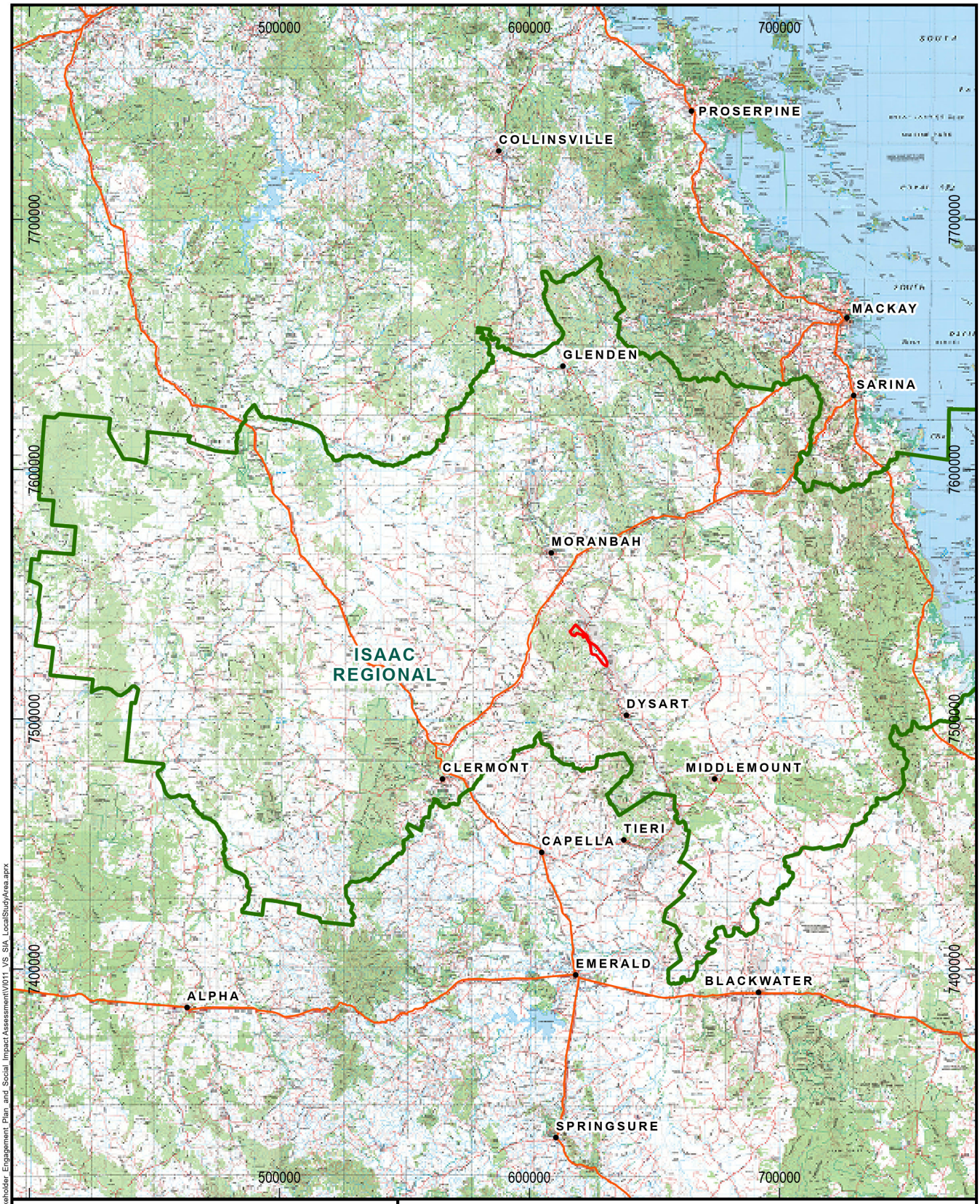
- Moranbah and Dysart, being the closest population centres and accommodation locations for the Project; and
- Affected landholders (i.e. landholders within or adjacent to the MLA area).

As described in **Section 3.2.2,** the quantitative data used to characterise the LSA is primarily sourced from the 2016 census data from the Australian Bureau of Statistics (ABS) for the Isaac Region. Quantitative information for Moranbah and Dysart was also sourced from the 2016 census data.

Table 3-1 and Figure 3-3 identify the underlying properties to the Project. The LSA is illustrated in **Figure 3-2**.

Table 3-1 Landholders by Lot/Plan and Property Name

Lot / Plan	Landholder / Reserve	Property Name
Underlying Landholders/ Reserves		
26 CNS125	Aurizon Holdings Limited	Norwich Park Branch Railway
Saraji Road	Isaac Regional Council	Saraji Road Reserve
2 SP296877	Robert A & Raye M O'Sullivan	Saraji Station



Legend

- Town
- Road
- Mining Lease Application Area
- Local Government Area

Source: Geoscience Australia 2016, State of Queensland (Department of Resources) 2021-2022, Vitrinite 2022, METServe 2022, Earthstar Geographics.

Vulcan South

Local Study Area

0 20 40 80

Kilometers

Scale: 1:2,200,000 (A4)

11/03/2022

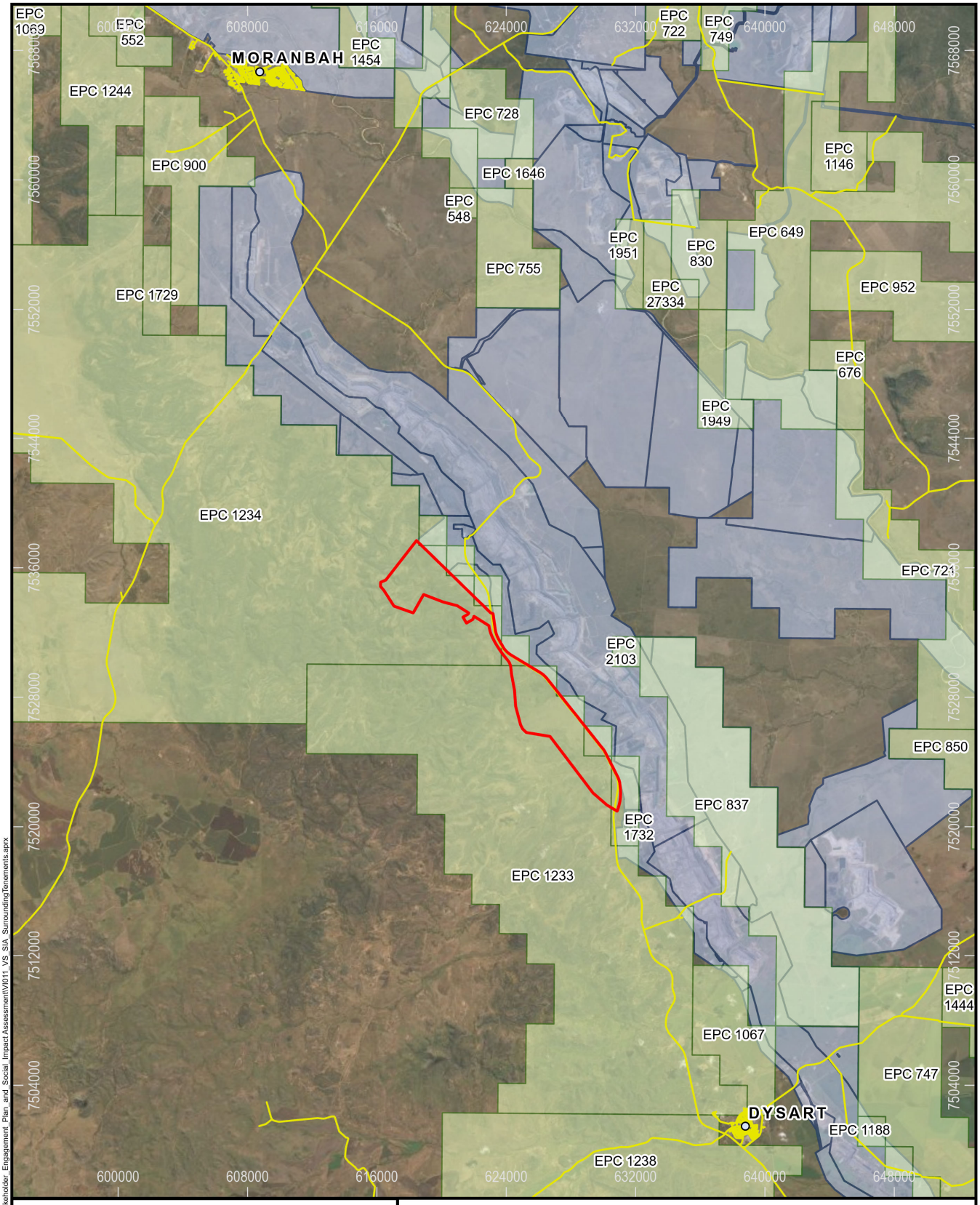
Datum: GDA2020
Projection: MGA55

FIGURE 3-2

VITRINITE BRIGHTER COAL

METSERVE Mining & Energy Technical Services Pty Ltd

Path: S:\Projects\VI011_VCP_Stage2\ArcGIS\ProjectFiles\Projects\Stakeholder_Engagement_Plan_and_Social_Impact Assessment\VI011_VS_SIA_LocalStudyArea.aprx



Legend

- Town
- Road
- MLA Area

Tenements

- Mining Lease
- Exploration Permit for Coal

Source: State of Queensland (Department of Resources) 2021-2022, Vitrinite 2022, METServe 2022, Earthstar Geographics.

Vulcan South

Surrounding Tenements

0 3 6 12

Kilometers

Scale: 1:340,000 (A4)

14/03/2022

Datum: GDA2020
Projection: MGA55

FIGURE 3-3

VITRINITE BRIGHTER COAL

METSERVE Mining & Energy Technical Services Pty Ltd

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3.1.2 Regional Study Area

The RSA has been defined to assess the potential social impacts to regions outside of the local study area. These impacts are typically associated with the workforce, service provisions and transportation.

Given the scale and scope of the Project, assessment of the RSA has only been undertaken where it is considered that impacts will occur.

The RSA focuses on Mackay and Emerald (the expected service provisioning centres for the region) as well as specific points of regional interest including the selected port facility or rail facilities that exist within specific LGA's.

The workforce will be sourced from the local regions and the Isaac Region LSA as far as practicable, however Fly In Fly Out (FIFO) personnel from Mackay are assumed to be required to meet the skill demands of the project. It is acknowledged that some LGAs may not be assessed as comprehensively as others because of the proximity to the Project.

3.2 Sources of Baseline and Impact Assessment Information

The sources of information (including both qualitative and quantitative information) used to undertake this assessment are described in **Section 3.2.1** and **Section 3.2.2**. In addition, **Section 3.3** provides an overview of the Project's stakeholder engagement program, which provided input data in order to complete the Project impact assessment.

3.2.1 Qualitative Information

The qualitative information for this SIA was obtained from a variety of sources including stakeholder engagement, relevant publications, documents, websites and observations.

3.2.2 Quantitative Information

The quantitative data presented was primarily sourced from the ABS 2016 Census information. The Census data used was obtained through the 2016 'General Community Profile's' and 2011 'Basic Community Profile's' (noting that Basic Community Profiles were not included in the 2016 Census).

The Census data used was based on the "place of usual residence" which is defined by the geographic area where a person usually lives. This applied to all persons (excluding overseas visitors) surveyed at the time of the Census.

From the 2016 Census onwards, ABS annotate that there have been small random adjustments made to all cell values to protect the confidentiality of the data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals. While this SIA bases its data from the most detailed and reliable source (being the ABS) it should be noted that small scale numerical analysis may not be able to portray the most accurate interpretation of actual data.

The ABS uses various approximations of localities and geographies for the Census of Population and Housing. Throughout this SIA, reference has been made to locations that the ABS data has been derived from. These locations are typically referred to as State Suburbs (SSC) or LGAs. State Suburbs are an approximation of localities gazetted by the Geographical Place Name Authority in each State and Territory, and are the officially recognised boundaries of suburbs and localities. These gazetted locations cover most of Australia. LGAs are an ABS approximation of officially gazetted LGAs as defined by each State and Territory Local Government Department.

The ABS uses the Australian Statistical Geography Standard (ASGS), which enables the publication of ABS statistics to be comparable and spatially integrated. The ASGS replaced the Australian Standard Geographical Classification (ASGC) in 2011. As such, the 2011 ABS data and the 2016 ABS data will have a different framework of statistical areas.

Data from the Queensland Government Statisticians Office (QGSO) has also been used throughout this SIA.

The QGSO is a part of the Queensland Treasury that provides research services and statistics to the general public across various topics. This data includes reports, raw data and maps across demography, economy, industry and development, regional Queensland and societal data.

3.3 STAKEHOLDER ENGAGEMENT

A Project Stakeholder Engagement Plan (SEP) was developed to provide a framework for the Project stakeholder engagement process. The objectives of this process were to:

- Identify and record key stakeholders;
- Identify challenges and opportunities;
- Establish and implement communication and consultation practices that promote an ongoing relationship with stakeholders;
- Provide timely and accurate information to stakeholders;
- Provide convenient and identifiable avenues for feedback from stakeholders;
- Record and respond to community complaints in a timely and professional manner; and
- Establish strong consultation feedback and input into mine rehabilitation and closure plans.

The Project's Stakeholder Engagement Report (METServe, 2020) details the engagement activities undertaken to date and provides mechanisms for ongoing engagement.

3.4 IMPACT ASSESSMENT PROCESS

Based on analysis of the baseline environment, and taking into consideration the project description and workforce profile, a list of relevant potential impacts was developed. The potential impact assessment and associated mitigation requirements are detailed in **Section 6**. **Table 6-1** to **Table 6-7** use a risk assessment framework to generate an overall impact significance ranking, based on type, probability and consequence of the impact. The impacts are presented in order of their overall impact significance ranking (highest to lowest). A summary of the assessment framework is provided in **Table 3-2**.

Table 3-2 Social Impact Assessment Framework

Impact Assessment Criteria	Parameter	Rationale
Type of Impact	Positive	The potential impact is expected to result in positive outcome/s.
	Negative	The potential impact is expected to result in negative outcome/s.
Probability	High	The potential impact is expected to occur or will probably occur in all or most circumstances.
	Medium	The potential impact may occur in some circumstances.
	Low	The potential impact is not expected to occur or could possibly occur in some circumstances.
Consequence	High	The potential impact is predicted to result in significant changes to the social environments, which are irreversible, widespread and/or severe.
	Medium	The potential impact is predicted to result in detectable changes to the social environment.
	Low	The potential impact is predicted to result in minor or undetectable changes to the social environment, within the range of natural variation.
Overall Impact Significance	High	Mitigation and/or management measures expected to be required to address impact. Monitoring required to measure the impact and the effectiveness of mitigation/management measures.
	Medium	Some mitigation and/or management measures expected to be required to address impact.
	Low	Specific mitigation and/or management measures not expected to be required.

4 BASELINE SOCIAL ENVIRONMENT

The following section describes the baseline social environment through the provision of detailed statistics and analysis for the LSA and broad discussion and trend analysis only for the RSA.

The broad spectrum of potential social values has been discussed in the context of a number of key aspects, including:

- Demographics;
- Education and Training;
- Economy, Employment and Income;
- Infrastructure and Services;
- Housing and Accommodation;
- Community Health and Safety; and
- Culture and Community.

4.1 DEMOGRAPHICS

This section outlines and analyses the existing demographic profiles of the study areas, including:

- Population and population trends;
- Age and gender distribution;
- Family structure;
- Registered marital status;
- Cultural and ethnic characteristics; and
- Indigenous population, age and gender.

4.1.1 Population and Population trends

The resident population of the Isaac LGA is summarised in **Table 4-1.** At the time of the 2016 Census, Isaac's resident population was 20,940, comprising 11,419 (approximately 55%) males and 9,516 (approximately 45%) females (ABS, 2016a). Between 2011 and 2016, there was a decline in the population of approximately 7%. A 4-5% growth in the population is estimated over the next three to five year projected periods (**Table 4-2**), or an increase of 0.6% per year (QGSO, 2016a, 2018b). This projected growth appears to be below the State average of approximately 1.6% per year over a similar timeframe (QGSO, 2018a).

Table 4-1 Total Population in Isaac LGA, 2011-2016

Sex	Resident Population					
	2011		2016		Overall Change	
	Number	% of Total	Number	% of Total	Number	% of Total
Male	12,549	56	11,419	55	-1,130	-9
Female	10,039	44	9,516	45	-523	-5
Total	**22,588**	**100**	**20,940**	**100**	**-1,648**	**-7**

Source: ABS (2011a, 2016a)

Table 4-2 Isaac LGA Population Projections

Year	Isaac LGA	
	Projected Population	Difference (%)
2016	20,940	N/A
2021	20,762	-1
2026	21,556	4
2031	22,709	5
2036	23,852	5

(a) 2016 data are estimated resident population (ERP).

Source: QGSO (2016a)

As indicated in **Table 4-3**, Dysart's total enumerated population in 2016 was 2,991, comprising 1,691 (approximately 57%) males and 1,297 (approximately 43%) females (ABS, 2016b). **Table 4-4** indicates Moranbah's total enumerated population was 8,735 at the time of the 2016 Census, comprising 4,650 (approximately 53%) males and 4,081 (approximately 47%) females.

The townships of Dysart and Moranbah have both experienced a decline in total population between the 2011 and 2016 Censuses. Dysart's population decline was relatively minor therefore the population could be referred to as stable, whereas Moranbah experienced a greater decline of approximately 3%. Population decreases in regional Queensland towns are not unusual and often associated with reductions in employment opportunities in surrounding resources industries (e.g. mining operations) or routine migration patterns associated with urbanisation.

Table 4-3 Total Population in Dysart, 2011-2016

Sex	Resident Population					
	2011		2016		Overall Change	
	Number	% of Total	Number	% of Total	Number	% of Total
Male	1,668	56	1,691	57	23	1
Female	1,335	44	1,297	43	-38	-3
Total	**3,003**	**100**	**2,991**	**100**	**-12**	**< -1**

Source: ABS (2011b, 2016b)

Table 4-4 Total Population in Moranbah, 2011-2016

Sex	Resident Population					
	2011		2016		Overall Change	
	Number	% of Total	Number	% of Total	Number	% of Total
Male	4,975	55	4,650	53	-325	-7
Female	3,990	45	4,081	47	90	2
Total	**8,965**	**100**	**8,735**	**100**	**-230**	**-3**

Source: ABS (2011c, 2016c)

4.1.2 Age and Gender Distribution

Table 4-5 presents the age and gender composition in Dysart, Moranbah and Isaac LGA.

Table 4-5 Age and Gender Composition – Dysart, Moranbah and Isaac LGA

Age Group	Dysart (SSC)						Moranbah (SSC)						Isaac LGA					
	2011			2016			2011			2016			2011			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4 years	168	141	309	147	132	277	518	475	993	499	487	979	1,154	1,066	2,220	1,036	991	2,034
5-9 years	138	138	276	173	143	313	462	386	848	456	437	892	1,038	948	1,986	984	938	1,926
10-14 years	101	101	202	103	91	198	341	302	643	323	307	626	780	725	1,505	693	646	1,338
15-19 years	109	84	193	78	80	144	267	242	509	223	240	461	662	559	1,221	511	509	1,020
20-24 years	110	90	200	112	99	216	369	303	672	260	258	521	849	697	1,546	647	631	1,273
25-29 years	155	122	277	154	119	170	435	436	871	416	429	846	1,111	1,002	2,113	959	895	1,855
30-34 years	158	126	284	163	155	320	486	432	918	488	474	963	1,124	906	2,030	1,156	999	2,153
35-39 years	160	123	283	161	92	251	480	381	861	453	382	835	1,152	920	2,072	1,041	761	1,802
40-44 years	148	112	260	129	93	219	469	306	775	425	298	722	1,077	760	1,837	950	723	1,670
45-49 years	139	99	238	127	80	201	380	271	651	325	264	594	1,006	695	1,701	803	591	1,396
50-54 years	98	66	164	123	96	217	308	208	516	307	233	535	893	623	1,516	807	583	1,390
55-59 years	91	66	157	102	54	157	246	134	380	222	132	357	695	427	1,122	707	449	1,154
60-64 years	62	38	100	67	67	114	149	60	209	153	87	233	500	295	795	494	303	797
65-69 years	21	12	33	40	40	54	42	23	65	77	36	114	249	161	410	313	201	514
70-74 years	6	9	15	10	10	23	9	13	22	20	36	33	117	93	210	155	129	286
75-79 years	3	9	12	7	7	16	6	6	12	7	12	11	68	71	139	88	83	168
80-84 years	0	0	0	0	0	4	5	8	13	3	3	7	43	60	103	41	48	93
85+ years	0	0	0	0	0	0	3	4	7	0	0	3	32	29	145	26	44	77
Total	**1,667**	**1,336**	**3,003**	**1,691**	**1,297**	**2,991**	**4,975**	**3,990**	**8,965**	**4,650**	**4,081**	**8,735**	**12,550**	**10,037**	**22,587**	**11,419**	**9,516**	**20,940**

Source: ABS (2011d; 2011e; 2011f; 2016d; 2016e; 2016f)

Gender distribution in the LSA is somewhat evenly distributed; although age distribution is highly varied with a low proportion of the population in the 10-24 year old age brackets and as expected, in the older ages. LSA age and gender distribution is represented graphically in **Figure 4-1** to **Figure 4-3**. There is a consistent lower representation of youth age brackets throughout Isaac LGA, Dysart and Moranbah, which is likely indicative of young adults leaving the areas for work or study opportunities, and the higher proportion of working age people associated with the resources sector. The underrepresented 15-19 age groups could be attributed to the migration of young families bringing younger children into the area, as opposed to natural increases in child numbers from the established population.

High numbers of people in the 30-44 age groups provides further evidence of young family groups present.

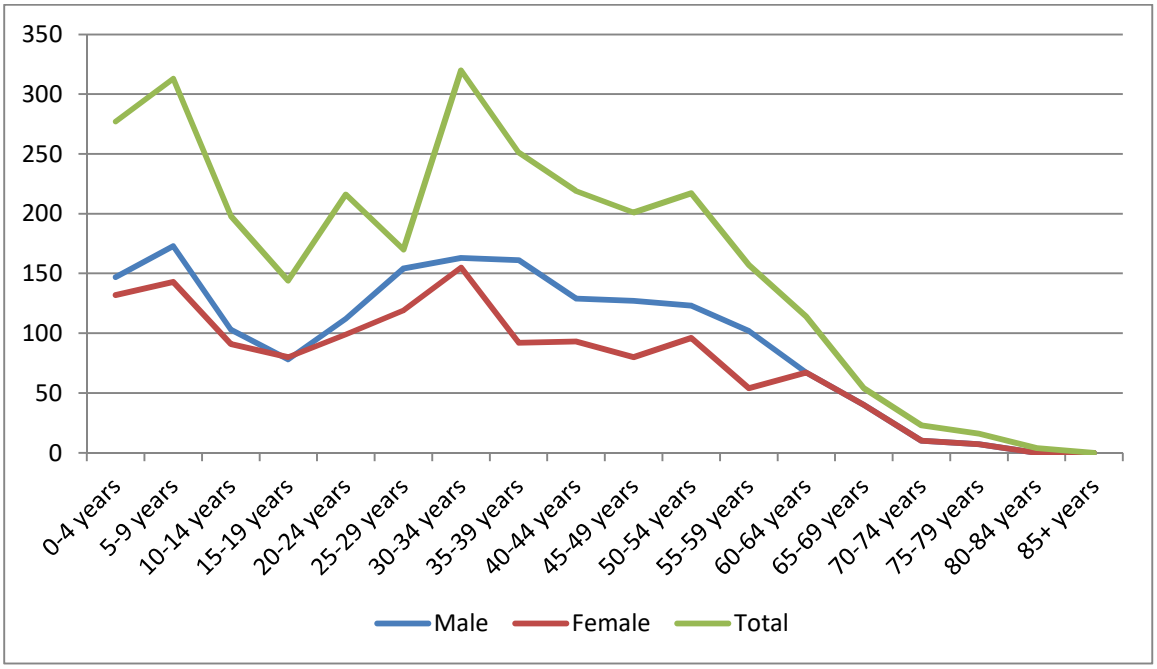


Figure 4-1 Age and Gender Composition Dysart (SSC), 2016

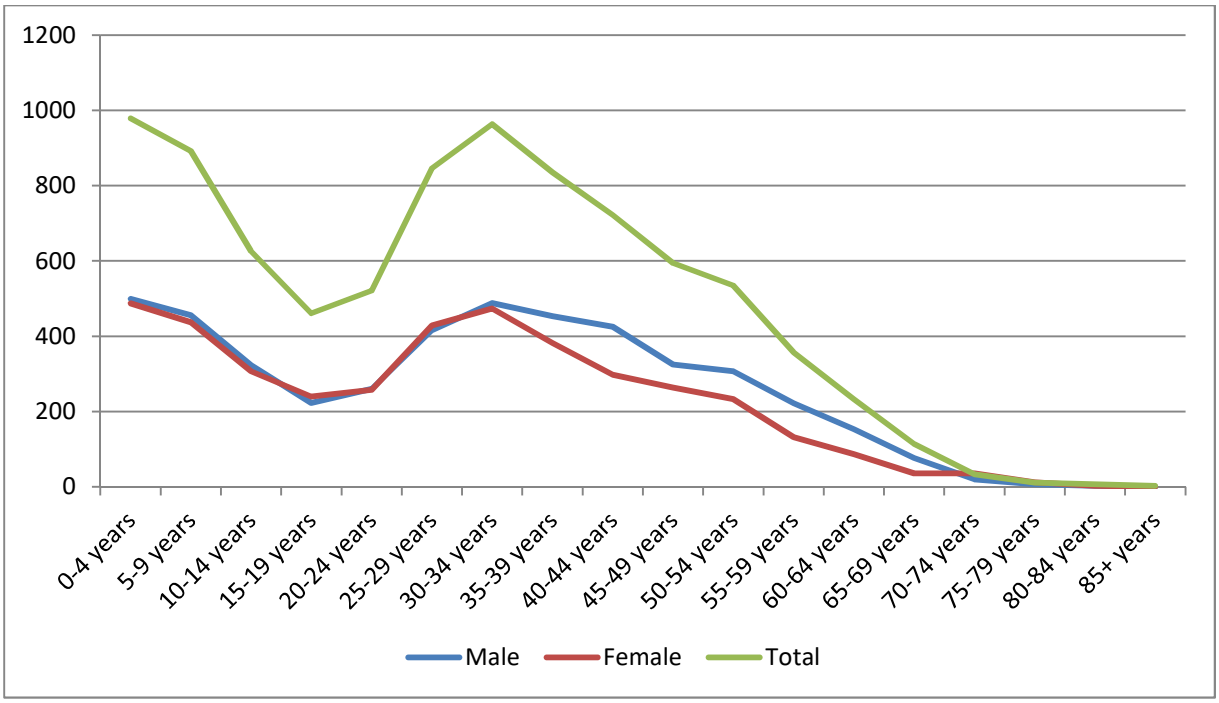


Figure 4-2 Age and Gender Composition Moranbah (SSC), 2016

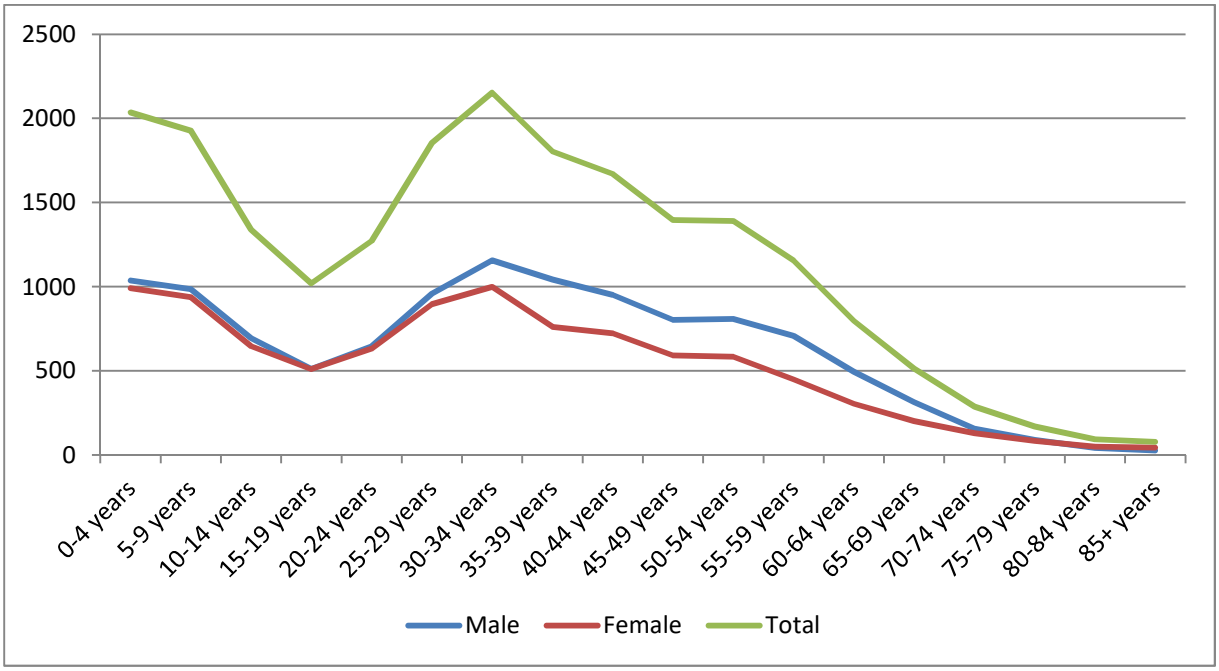


Figure 4-3 Age and Gender Composition Isaac LGA, 2016

Figure 4-4 graphically compares the region's age compositions between the 2011 and 2016 Census'. Comparisons of the age and gender structures in the LSA suggest there is little variation of the age composition over the five year period. As indicated in **Section 4.1.1,** population decline in the region is also represented with the downward shift in the 2016 composition curves.

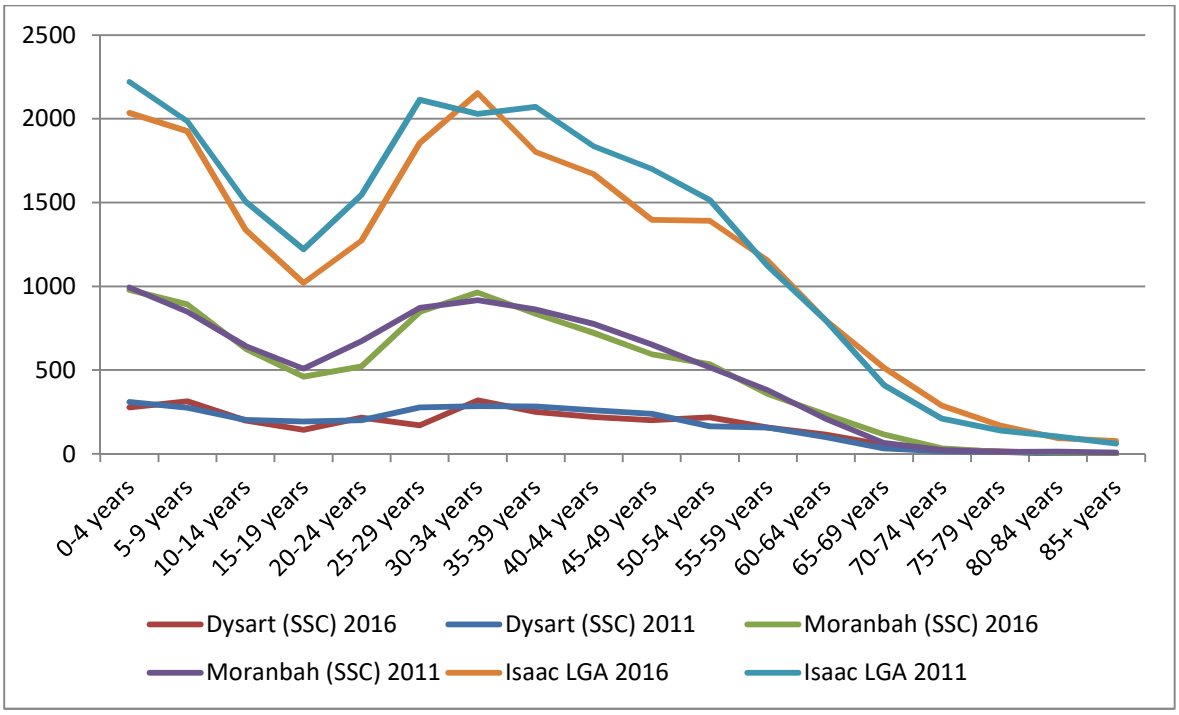


Figure 4-4 Age Composition Comparison in LSA, 2011-2016

4.1.3 Indigenous Population

As indicated in **Table 4-6**, approximately 4% of people within the Isaac LGA identified as being Aboriginal and/or Torres Strait Islander during the 2016 Census (ABS, 2016g). A similar percentage of the population in Dysart and Moranbah have identified as Aboriginal and/or Torres Strait Islander (ABS, 2016h, 2016i). This percentage reflects the State wide statistical identification rate of 4% (QGSO, 2018c).

Table 4-6 Indigenous Status in Dysart, Moranbah and Isaac LGA, 2016

Population	Resident Population					
	Dysart		Moranbah		Isaac LGA	
	Number	%	Number	%	Number	%
Indigenous	134	4	342	4	744	4
Non-indigenous	2,213	74	7,336	84	17,142	82
Not stated	646	22	1,056	12	3,051	15
Total	**2,991**	**100**	**8,735**	**100**	**20,940**	**100**

Source: ABS (2016g; 2016h; 2016i)

The indigenous age and gender composition for Dysart, Moranbah and Isaac LGA are presented in **Table 4-7**. The indigenous population in Isaac is characterised by larger proportions of the younger age groups. The most populated age group across the region is 0-4 year olds, with ages 0-14 accounting for approximately 40% of the entire population across the Isaac LGA. This is generally consistent with Dysart and Moranbah, where representation is approximately 51% and 38% respectively.

Table 4-7 Age and Gender Composition of Indigenous Population in Dysart, Moranbah and Isaac LGA, 2016

Age Group	Dysart			Moranbah			Isaac LGA		
	No. of Males	No. of Females	Total	No. of Males	No. of Females	Total	No. of Males	No. of Females	Total
0-4 years	15	16	32	25	29	54	51	64	116
5-9 years	15	9	24	23	17	39	49	46	90
10-14 years	4	7	12	19	26	45	35	50	88
15-19 years	3	7	7	11	14	29	22	31	52
20-24 years	3	6	7	9	20	25	30	34	61
25-29 years	3	8	13	21	16	37	38	31	70
30-34 years	10	4	14	13	21	35	35	33	69
35-39 years	0	0	6	15	9	28	25	23	49
40-44 years	4	0	4	4	11	14	18	20	36
45-49 years	8	0	4	11	8	15	19	17	39
50-54 years	0	7	9	9	7	15	19	17	35
55-59 years	0	3	3	3	3	7	9	7	20
60-64 years	3	0	3	5	3	6	10	9	15
65+	0	0	0	0	0	3	5	5	11
Total	**72**	**63**	**134**	**161**	**176**	**342**	**366**	**379**	**744**

Source: ABS (2016g; 2016h; 2016i)

4.1.4 Marital Status and Family Composition

Family composition across the LSA is represented in **Table 4-8** and confirms trends visible in **Figures 4-1 to 4-3** where the most common family unit are couples with children under 15, followed by couples with no children.

Table 4-8 Family composition in Dysart (SSC), Moranbah (SSC), Isaac LGA, 2016

Family Composition	Number of Families		
	Dysart (SSC)	Moranbah (SSC)	Isaac LGA
Couple with no children	400	1,157	3,154
Couple with children under 15	1,138	4,129	8,555
One parent family with children under 15	139	453	936
One parent family with no children under 15	192	144	362
Other family	4	25	56
Total	**1,864**	**6,349**	**14,230**

Source: ABS (2016j; 2016k; 2016l)

Table 4-9 and **Table 4-10** present the registered marital status for Dysart and Moranbah residents respectively as at the 2016 Census. The most common marital status across the two towns was 'Married', followed by 'Never Married' and 'Divorced'.

Table 4-9 Registered Marital Status in Dysart, 2016

Age Group	Number of People per Category					
	Married	Separated	Divorced	Widowed	Never Married	Total
15-19 years	0	0	0	0	144	144
20-24 years	11	3	0	0	202	216
25-34 years	256	17	9	0	308	587
35-44 years	265	45	44	0	130	473
45-54 years	244	28	67	6	72	422
55-64 years	168	16	57	7	24	268
65-74 years	40	4	14	7	13	69
75-84 years	5	0	0	3	4	14
85 years and over	0	0	0	0	0	4
Total	**974**	**105**	**200**	**28**	**893**	**2,198**

Source: ABS (2016m)

Table 4-10 Registered Marital Status in Moranbah, 2016

Age Group	Number of People per Category					
	Married	Separated	Divorced	Widowed	Never Married	Total
15-19 years	3	3	0	0	454	461
20-24 years	37	6	0	0	475	521
25-34 years	897	45	42	5	821	1,807
35-44 years	1,048	91	108	3	299	1,562
45-54 years	724	66	141	21	179	1,127
55-64 years	375	35	114	20	42	592
65-74 years	80	14	29	23	3	145
75-84 years	3	0	3	6	0	14
85 years and over	4	0	0	4	0	8
Total	**3,170**	**26**	**441**	**73**	**2,282**	**6,237**

Source: ABS (2016n)

4.1.5 Cultural Ethnic Characteristics

The Isaac LGA predominantly comprises persons born in Australia. 15,606 persons (approximately 75%) stated Australia as their country of birth in the 2016 census. Other countries of birth in the Isaac LGA include New Zealand (3.4%), England (1%) and India (0.5%), with countries such as Philippines and South Africa also listed (ABS, 2016o). English was the only language spoken at home in the Isaac LGA for approximately 80% of the population. Tagalog (0.7%), Afrikaans (0.5%), Filipino (0.4%) and Indonesian (0.2%) were also recorded as being spoken at home (ABS, 2016p).

Dysart and Moranbah also closely reflect the cultural ethnic characteristics of the Isaac LGA. 2,056 persons in Dysart (approximately 69%) stated Australia as their country of birth in the 2016 census. Other countries of birth in Dysart include New Zealand (3%), Philippines (2%), South Africa (<1%) and England (<1%) (ABS, 2016q). 6,540 persons in Moranbah (approximately 75%) stated Australia as their country of birth, with other notable countries of birth again including, New Zealand (4%), Philippines (2%), England (1%), South Africa (1%) and India (<1%) (ABS, 2016s). A majority of residents in Dysart (75%) and Moranbah (82%) only spoke English at home, with Filipino, Tagalog, Indonesian and Afrikaans also recorded as being spoken at home (ABS, 2016r; 2016t).

4.2 EDUCATION AND TRAINING

This section details the existing education and training profiles within the study areas, including:

- Level of Education;
- Education and Training Facilities; and
- School enrolments.

4.2.1 Level of Education

A breakdown of the highest level of schooling attained by people in the LSA is provided in **Table 4-11**. A schooling level of Year 12 or equivalent was the most prevalent schooling level, followed by Year 10 or equivalent for Moranbah and Isaac LGA. Dysart's second highest attainment of schooling was 'Highest year of school not stated'. The percentage of total persons in Queensland with a level of schooling at Year 11 or 12 was approximately 58.9%, higher than the Dysart and Isaac LGA levels of attainment (QGSO, 2018c). **Table 4-12** presents an overview of the non-school qualifications attained by people in the LSA region.

Table 4-11 Highest Level of School Completed in Dysart (SSC), Moranbah (SSC) and Isaac LGA, 2016

Highest level of School completed	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
Year 12 or equivalent	785	37	3,055	51	6,456	43
Year 11 or equivalent	174	8	477	8	1,098	7
Year 10 or equivalent	476	22	1,289	22	3,686	24
Year 9 or equivalent	89	4	183	3	614	4
Year 8 or below	47	2	92	2	513	3
Did not go to school	12	1	5	<0.5	33	<1
Highest year of school not stated	547	26	885	15	2,718	18
Total	**2,130**	**100**	**5,993**	**100**	**15,118**	**100**

Source; ABS (2016u; 2016v; 2016x)

Table 4-12 Non-school qualifications completed in Dysart (SSC), Moranbah (SSC) and Isaac LGA, 2016

Non-school Qualification	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
Postgraduate Degree	11	1	93	2	165	2
Graduate Diploma and Graduate Certificate	19	1	71	2	148	2
Bachelor Degree	131	10	656	16	1,307	14
Advanced Diploma	96	7	376	9	799	8
Certificate III & IV[1]	476	35	1,608	40	3,633	38
Certificate I & II[2]	37	2	107	3	235	2
Certificate, nfd	25	2	109	3	256	3
Level of education inadequately described	11	1	17	1	73	1
Level of education not stated	566	41	965	24	2917	30
Total	**1,372**	**100**	**4,002**	**100**	**9,533**	**100**

[1]Includes Certificate III & IV Level, not further defined (nfd)
[2]Includes Certificate I & II Level, nfd
Source: ABS (2016y, 2016z, 2016aa)

Discounting the levels of education that were not stated, the LSA region comprises a high representation of people having attained a Certificate III or IV, followed by moderate representations of bachelor degrees (ABS, 2016y; 2016z; 2016aa).

Common fields of study for the region are engineering and related technologies, management and commerce, and education (ABS, 2016ab).

4.2.2 Education and Training Facilities

Within the Isaac LGA there are 12 early childhood and active care services, 20 primary and secondary education centres, and no tertiary educational facilities (Isaac Regional Council, 2019). There are however, facilities located outside the LGA that are primary services for the greater region.

Of the 12 early childhood services, only a few will be suited to young families and workers located in Dysart and Moranbah. These will likely be:

- Lady Gowrie Dysart Child Centre and Community Space;
- Dysart Kindergarten;
- Bright Kids Afterschool Care;
- Moranbah Early Learning Centre;
- C&K Moranbah Community Kindergarten and Preschool;
- Moranbah Early Learning Centre Outside School Hours Care; and
- Simply Sunshine Childcare Centre.

Early childhood care service capacity across Dysart and Moranbah is approximately 219 places for long day care options, and 233 for outside hours school care. This is currently underservicing the region with the community concerned about capacity and current waitlists (Meixner, 2019).

There are a number of schools in close proximity to Moranbah and Dysart that could be utilised by incoming worker family members. The following are within an approximate 45 minute drive from Moranbah or Dysart:

- Dysart State School;
- Dysart State High School;
- Moranbah State School;
- Moranbah East State School;
- Moranbah State High School;
- Coppabella State School; and
- Middlemount Community School.

The three existing primary and secondary schools within Moranbah have capacity for approximately 550 to 650 students. The two existing Dysart schools have capacity for approximately 150 to 350 students (ACARA, 2019; Isaac Regional Council, 2019a).

The region's tertiary educational needs are serviced primarily by Central Queensland University (CQU), which operates both as a University and a public provider of technical and further education (TAFE) training. This is as a result of CQU and Central Queensland Institute of TAFE merging in 2014.

CQU operates as a TAFE and University at a number of campuses including Rockhampton, Mackay, Emerald and the Whitsundays.

4.3 ECONOMY, EMPLOYMENT AND INCOME

This section describes the current economy, employment and industry profile within the study areas, using the following indicators:

- Industry breakdown;
- Local businesses;
- Labour force status (Employment by occupation); and
- Income.

4.3.1 Industry Breakdown

The main industries within the Isaac LGA include mining (38%); agriculture, farming and forestry (10%), accommodation and food services (7%) and education and training (7%) (ABS, 2016ac). Isaac LGA's gross regional product for 2018 was worth an estimated $5.95 billion, with much of the economic output attributed to the resource sector, with a particular emphasis on coal mining.

As of June 2018, the region hosted 27 operating coal mines and four other resource operations, producing 54% of Queensland's total saleable coal and generating approximately $1.1 billion in royalty payments each year (Isaac Regional Council, 2019). Agriculture also plays a significant role in the economic contributions from the region, accounting for approximately $502.6 million of the region's economic output (Isaac Regional Council, 2019).

These statistics are equally reflected in Dysart and Moranbah, where the mining industry employs approximately 48% and 44% of the working population, respectively (ABS, 2016ad; 2016ae). The Agriculture, farming and forestry industry is the second highest employer for Dysart (7%), as is education and training (7%) followed by accommodation (6%). Accommodation and food services (8%) and education and training (7%) are also significant employers within Moranbah.

4.3.2 Local Businesses

As at June 30, 2018, there were 442 registered businesses within the statistical area of Moranbah, with approximately 27% of these (122 businesses) employing one to four employees. 9.3% of businesses generate a turnover of $2 million or more, which is higher than the Queensland average of 6.5% (QGSO, 2018d). Data on Dysart businesses is less accessible due to the size of the town and the fact that it is located within the statistical area of Broadsound-Nebo, which incorporates areas as far north as Collinsville and as far east as the coast. Searches of community directories and on-line business websites for Dysart indicate that approximately 50 businesses and services are located in the immediate area.

Isaac Regional Council released a document outlining the economic development plan of the region for 2019-2024. This *Economic Development Framework* (2019b) details current economic approaches, the regional profile and drivers of the local economy, and the future strategic direction.

4.3.3 Employment by Occupation

Table 4-13 provides a breakdown of employment by occupation in Dysart and Moranbah for 2016. Both towns are characterised by high proportions of 'technicians and trade workers' and 'machinery operators and drivers', with both categories accounting for approximately half of all occupations between the two areas. Other notable occupations are 'managers', 'clerical and administrative workers' and 'labourers' which account for approximately 32% of all occupations in Dysart and 34% in Moranbah. Unemployment in Isaac LGA was 1.6% for the March quarter of 2019; with 204 people registered as unemployed.

Table 4-13 Employment by Occupation in Dysart (SSC) and Moranbah (SSC), 2016

Occupation	Dysart (SSC)		Moranbah (SSC)	
	Number of employees	%	Number of employees	%
Managers	95	8	358	8
Professionals	131	10	554	13
Technicians and trade workers	247	20	1,042	24
Community and personal service workers	67	5	293	7
Clerical and administrative workers	111	9	513	12
Sales workers	61	5	217	5
Machinery operators and drivers	376	30	987	23
Labourers	158	13	404	9
Inadequately described/ Not stated	11	1	54	1
Total	**1,256**	**100**	**4,328**	**100**

Source: ABS (2016af; 2016ag)

4.3.4 Income

The average weekly income for individuals in Dysart, Moranbah and the Isaac LGA are presented in **Table 4-14**.

Wealth distribution is relatively evenly spread across wealth brackets, with a consistent distribution between income earners of $1 to $1,199 per week (accounting for 41% of total income earners in Dysart and 51% in Moranbah and Isaac LGA). Notable income brackets for the LSA are those that earn a negative or nil income (approximately 9-10%), $2,000 - $2,999 per week (12-15%) and $3,000 per week or more (6-11%). High proportions (15-25%) of people in the region did not state their income on census night, which if accounted for, would likely change the current wealth distribution.

Table 4-14 Total Personal Income (Weekly) in Dysart (SSC), Moranbah (SSC) and Isaac LGA, 2016

Total Personal Income (Weekly)	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number of People	%	Number of People	%	Number of People	%
Negative/Nil income	209	10	609	10	1,477	9
$1-$149	67	3	244	4	553	4
$150 - $299	70	3	244	4	656	4
$300-$399	73	3	182	3	658	4
$400 - $499	84	4	213	3	673	4
$500 - $649	96	4	243	4	696	4
$650 - $799	76	3	284	5	755	5
$800 - $999	104	5	316	5	807	5
$1,000 - $1,249	113	5	371	6	994	6
$1,250 – $1,499	120	5	329	5	807	5
$1,500 - $1,749	120	5	326	6	795	5
$1,750 - $1,999	114	5	358	6	812	5
$2,000 - $2,999	278	13	912	15	1,955	12
$3,000 or more	137	6	661	11	1,154	7
Income not stated	554	25	942	15	2,843	18
Total	**2,198**	**100**	**6,237**	**100**	**15,641**	**100**

Source: ABS (2016ah; 2016ai; 2016aj)

The median total personal weekly income for the Isaac LGA in 2016 was $1,030 with the median total personal income being $53,560 per year, both above the Queensland median personal weekly income ($660) and personal annual income ($34,320)(QGOS, 2018b).

Total median family income in Isaac was $122,980 per year, also higher than the Queensland median total family income of $86,372. Isaac also outperforms Queensland in low-income family representation, with only 267 low-income families (5.8%), compared to the Queensland average of 9.4% (QGOS, 2018b).

4.4 INFRASTRUCTURE AND SERVICES

4.4.1 Transport

4.4.1.1 Road

Isaac LGA has a high proportion of motor vehicles per dwelling, with 94% of all households possessing one or more vehicles. This high proportion of motor vehicle ownership also applies to Dysart (92%) and Moranbah (95%) (ABS, 2016ak; 2016al; 2016am). This indicates that private motor vehicle travel is the primary method of transport within the area.

Dysart and Moranbah are primarily serviced by the Fitzroy Development Road / Dingo Mount Flora Road running from north to south to the east of Dysart, and the Peak Downs Highway running east to west to the south of Moranbah. Other notable road connections in the region include the Gregory Highway, which connects Dysart and Moranbah to the towns of Emerald, Capella and Clermont.

Dysart is intersected by four main roads including:

- Saraji Road (running north to Moranbah and beside the MLA);
- Dysart Middlemount Road;
- Dysart Clermont Road; and
- Golden Mile Road.

Moranbah is located off the Moranbah Access Road which connects the town to the Peak Downs Highway.

It is understood that an Emerald – Mackay coach service which stops in Moranbah and several nearby towns including Capella, Clermont and Coppabella is available.

4.4.1.2 Rail

The existing mines along Saraji Road are serviced by a freight line owned by Aurizon. The Goonyella Coal Rail System is one of four systems in Aurizon's Central Queensland Coal Network. The system connects to export terminals at Hay Point and Dalrymple bay in Mackay, and Abbot Point in Bowen.

4.4.1.3 Air

The Isaac region has one airport, one aerodrome and two airstrips designated as Aircraft Landing Areas (ALAs) (Isaac Regional Council, 2019). The airport at Moranbah and the aerodrome at Clermont primarily cater for Emergency Services, FIFO charter flights and other light aircraft. Moranbah airport is also serviced by regular public transport (RPT) flights by Qantas Q400 (medium sized turbo-prop) flights.

The nearest major airport is located at Emerald, which services most of the region.

4.4.2 Power

Power infrastructure is relatively diverse within Isaac LGA and includes:

- 20 solar farms (proposed, under construction and operational);
- Five bagasse plants that service the greater region; and
- Two waste coal mine gas plants, with one in Moranbah and one in Mackay (DNRME, 2019).

Ergon Energy are the primary regional service provider for power in Moranbah and while there is reliability, there has been dissatisfaction over power prices (Bradley, 2018).

4.4.3 Water

BHP Billiton Mitsubishi Alliance (BMA) currently has a water agreement in place with Isaac Regional Council. This agreement commenced on 2 March 2016 and extends until 2040 (Isaac Regional Council, 2019). BMA also supply water to Dysart. Isaac Regional Council has also upgraded Dysart's water supply network by improving the Dysart Water Treatment Plant to increase water supply over the summer season.

4.4.4 Telecommunications and Media

As at the 2016 Census, 85% of people in the Isaac LGA could access the internet from their dwelling, while 12% could not (ABS, 2016an). This is similar to Dysart (86% access) and Moranbah (90% access) (ABS, 2016ao; 2016ap). These access rates are higher than the Queensland average of 83.7% (QGSO, 2018c).

Moranbah and Dysart are also serviced by several local and regional newspapers including:

- Blackwater Herald;
- Central Queensland News;
- Coalfields Express, which is delivered five times a year covering Central Queensland mining towns;
- Mackay Bush Telegraph;
- Mackay Daily Mercury;
- Miners Midweek; and
- Rockhampton Morning Bulletin.

Digital TV and radio are also available in the region.

4.4.5 Social Infrastructure

Social infrastructure includes the community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community well-being. The relevant aspects of social infrastructure are discussed in the following sections:

- Education and training (including facilities/services for children) – **Section 4.2**;
- Health, safety and emergency services (including aged care and disability services – **Section 4.6**; and
- Arts and cultural facilities – **Section 4.7.**

4.5 HOUSING AND ACCOMMODATION

This section provides an overview of housing and accommodation within the LSA, including:

- Household types and tenures;
- Household size;
- Rental market;
- Median house price, availability and housing repayments;
- New building approvals (residential and non-residential); and
- Availability of social housing.

Note should be taken on the analysis of the rental markets and available houses in Dysart and Moranbah for the purposes of accommodating the Project's workforce within the two townships.

4.5.1 Current Household Type and Tenure

A summary of current dwelling structure types for Dysart, Moranbah and the Isaac LGA is presented in **Table 4-15**.

Table 4-15 Dwelling Structure for Dysart (SSC), Moranbah (SSC), and Isaac LGA, 2016

Dwelling structure	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
Separate house	739	91	2,106	81	5,339	86
Semi-detached, row or terrace house, townhouse, etc.	22	3	280	11	353	6
Flat or apartment	43	5	172	7	312	5
Other dwelling	4	<1	31	1	128	2
Dwelling structure not stated	5	<1	4	<1	52	1
Total occupied private dwellings	**813**	**100**	**2,593**	**100**	**6,184**	**100**
Unoccupied private dwellings	574	-	1,069	-	3,253	-
Total private dwellings	**1,387**	**-**	**3,662**	**-**	**9,437**	**-**

Source: ABS (2016aq; 2016r; 2016s)

Across the LSA the most common dwelling structures are 'Separate houses', with 'semi-detached, row or terrace houses and townhouses' the second most common dwelling structure in Moranbah and the whole of the Isaac LGA. As **Table 4-15** indicates, the region has a relatively high rate of unoccupied private dwellings.

Tenure and landlord type details are presented in **Table 4-16**. Rental properties accounted for 64% of the tenure type in the Isaac region as a whole, with 68% recorded in Dysart and 77% recorded in Moranbah.

Table 4-16 Tenure and Landlord Type in Dysart (SSC), Moranbah (SSC) and Isaac LGA, (2016)

Tenure and landlord type	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
Owned outright	133	16	220	8	1,093	18
Owned with a mortgage[1]	97	12	320	12	913	15
Rented:						
Real estate agent	195	24	728	28	1,192	19
State or territory housing authority	17	2	65	3	119	2
Person not in same household[2]	53	7	92	4	325	5
Housing cooperative/community/church group	3	<1	3	<1	19	<1
Other landlord type[3]	280	34	1,061	41	2,153	35
Landlord type not stated	7	1	37	1	117	2
Other tenure type[4]	6	1	7	<1	66	1
Tenure type not stated	18	2	64	2	192	3
Total	**809**	**100**	**2,597**	**100**	**6189**	**100**

[1] Includes dwellings being purchased under a shared equity scheme
[2] Comprises dwellings being rented from a parent/other relative or other person
[3] Comprises dwellings being rented through a 'Residential park (includes caravans and marinas)', 'Employer – Government (includes Defence Housing Authority)' and 'Employer – other employer'
[4] Includes dwellings being occupied under life tenure scheme
Source: ABS (2016at; 2016au; 2016av)

4.5.2 Rental Market

Of the rental properties in the LSA the most common types are those that are rented through 'other landlord types' followed by those that are rented through a 'real estate agent'. **Table 4-17** presents a breakdown of the weekly rental payments in the LSA. Rental prices in the LSA are relatively low, with the majority of rental tenants paying from $0-$149 per week. Approximately 79% of rental tenants in Dysart pay from $0-$199 per week, considerably lower than the Queensland median of $360 per week (QGSO, 2018c).

Table 4-17 Weekly Rental Payments in Dysart (SSC), Moranbah (SSC) and Isaac LGA, (2016)

Weekly Rent	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
$0-$74	244	44	743	38	1,736	44
$75-$99	24	4	173	9	248	6
$100-$149	53	9	142	7	287	7
$150-$199	129	23	106	5	328	8
$200-$224	43	8	137	7	262	7
$225-$274	28	5	189	10	328	8
$275-$349	6	1	190	10	296	8
$350-$449	3	1	139	7	171	4
$450-$549	0	-	41	2	48	1
$550-$649	0	-	9	<1	11	<1
$650-$749	0	-	5	<1	5	<1
$750-$849	0	-	0	-	0	-
$850-$949	0	-	0	-	0	-
$950 and over	0	-	0	-	3	<1
Rent not stated	28	5	94	5	206	5
Total	**558**	**100**	**1,968**	**100**	**3,929**	**100**

Source: ABS (2016aw, 2016ax, 2016ay)

Vacancy rates for rental properties in Dysart have fallen from 6.5% in June 2018 to 4.9% in December 2018. Vacancy rates were previously at their highest (20%) in July 2013. As of March 2020 there were 34 dwellings available for rent in Dysart including:

- One two-bedroom home;
- 19 three-bedroom homes;
- 12 four-bedroom homes; and
- Two units.

This equates to approximately 6% of total dwellings in Dysart. The average market price for rental properties is approximately $170 per week and has been stable since April 2018 (Isaac Regional Council, 2019c).

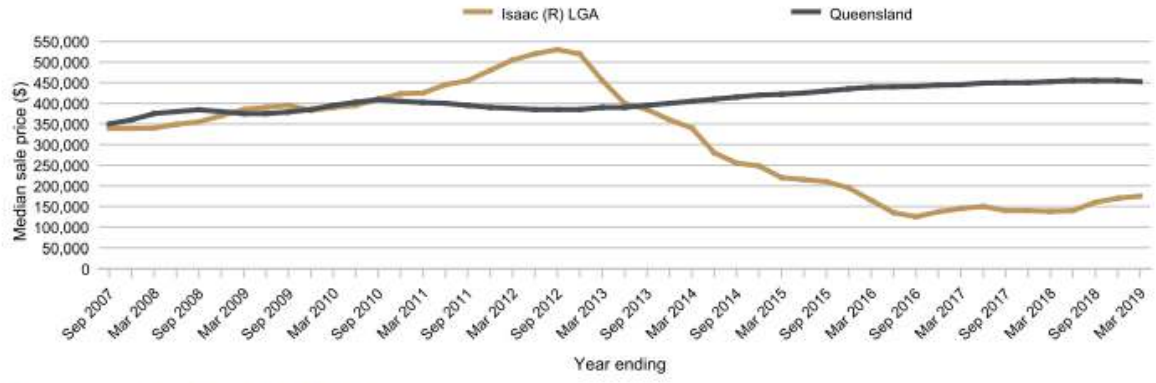
Vacancy rates for rental properties in Moranbah have fallen from 1.2% in June 2018 to 1% in December 2018. Vacancy rates were previously at their highest (12%) in January 2013. As of March 2020 there were 27 dwellings available for rent in Moranbah including:

- Three two-bedroom homes;
- Seven three-bedroom homes;
- 10 four-bedroom homes;
- Two five-bedroom homes; and
- Five units.

This equates to approximately 1.4% of dwellings in Moranbah. The average market price for rental properties has fallen dramatically in Moranbah since June 2012 from a high of $750 per week, and has stabilised to approximately $300 per week in January 2018 (Isaac Regional Council, 2019c).

4.5.3 House Price, Availability and Repayments

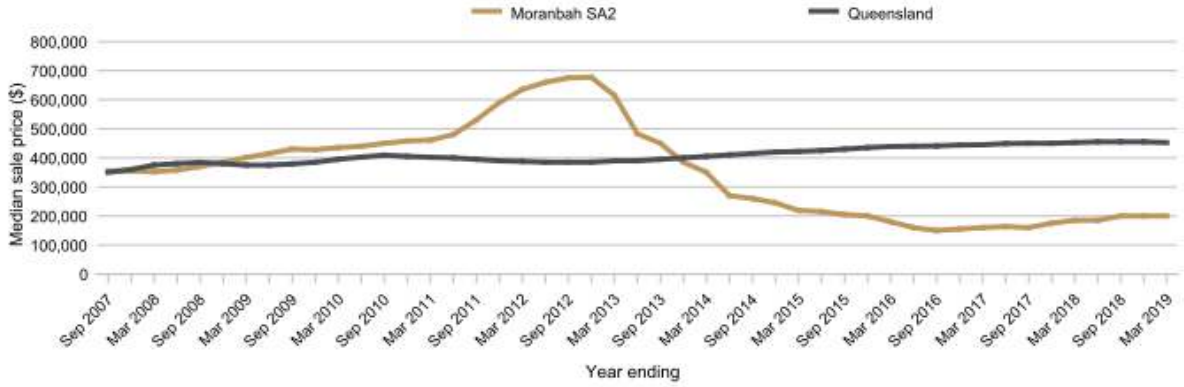
Central Queensland has historically experienced fluctuations in its housing market due to its reliance on the resource industry and the unstable commodity prices which underpin the strength of the local economy. In 2013 coal prices dropped, which resulted in several mines closing in the region, with subsequent postponement or abandonment of a number of Central Queensland infrastructure developments. In 2017 coal prices stabilised and, with renewed interest in new coal projects, this created some stabilisation in the regional property market. 2018 valuations have still seen Dysart and Moranbah property values decrease, as well as other surrounding mining towns (DNRME, 2018). **Figure 4-4** and **Figure 4-5** present median sale price data and trends for residential dwelling sales in the Isaac LGA and Moranbah respectively.



Refer to explanatory notes for additional information.

Source: Department of Natural Resources and Mines, Office of the Valuer-General, Property Sales

Figure 4-4 Median value of residential dwelling sales, Isaac LGA and Queensland (2018)



Refer to explanatory notes for additional information.

Source: Department of Natural Resources and Mines, Office of the Valuer-General, Property Sales

Figure 4-5 Median value of residential dwelling sales, Moranbah and Queensland (2018)

Post 2013, when coal prices dropped, housing prices dropped significantly in Moranbah from a high $500,000 - $600,000. Over the following three years, until mid-late 2016, median prices fell until they stabilised at approximately $100,000 - $150,000 (QGSO, 2018b; 2018d).

Dysart has also experienced this trend with prices dropping from a median high of approximately $500,000 to a median low of well below $90,000 (**Figure 4-7**). The current median property price in Dysart is approximately $95,000, with a median of $211,000 in Moranbah.

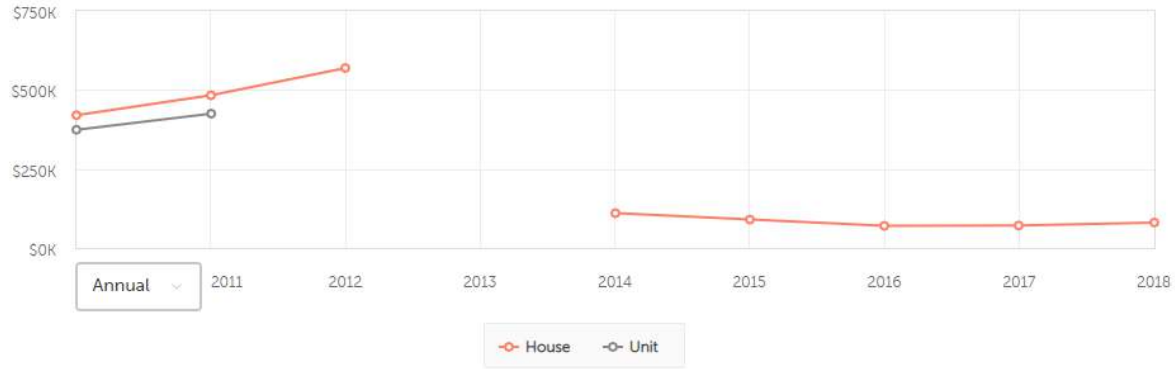


Figure 4-6 Median property price, Dysart, 2019 (Hometrack Australia, 2019)

The median residential sale price in the Isaac LGA in the 12 months ending 31 March 2019 was $175,000. Moranbah's median residential sale price was slightly higher over the same period, at $200,000 (QGSO, 2018b; 2018d). Dysart's median property price was significantly lower, at approximately $90,000 (realestate.com.au, 2019).

As at March 2020, there were 17 dwellings for sale in Dysart including:

- Twelve three-bedroom homes;
- Four four-bedroom homes; and
- One townhouse.

The average house price listed was between $80,000 and $90,000, with the average unit price listed at $180,000. Property prices have started to increase since October 2018 (Isaac Regional Council, 2019c).

As at March 2020 there were 109 dwellings available for sale in Moranbah including:

- 56 x three-bedroom homes;
- 44 x four-bedroom homes;
- One townhouse; and
- Eight units.

This is approximately 4.2% of Moranbah's total number of dwellings. The average listed house price was between $250,000 and $280,000, while the average unit price listed at $250,000.

Table 4-18 presents the monthly mortgage repayments for the LSA.

Table 4-18 Monthly Mortgage Repayments in Dysart (SSC), Moranbah (SSC) and Isaac LGA, (2016)

Monthly Repayment	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	Number	%	Number	%	Number	%
$0-$299	6	7	13	4	76	8
$300-$449	15	17	0	0	26	3
$450-$599	7	8	5	2	22	2
$600-$799	14	16	17	5	58	6
$800-$999	8	9	18	6	59	6
$1,000-$1,399	10	11	52	16	130	14
$1,400-$1,799	5	6	50	16	127	14
$1,800-$2,399	7	8	69	22	168	18
$2,400-$2,999	4	4	39	12	88	10
$3,000-$3,999	0	0	25	8	58	6
$4,000 and over	4	5	3	1	22	2
Mortgage repayments not stated	8	9	24	8	97	11
Total	**88**	**100**	**315**	**100**	**931**	**100**

Source: ABS (2016az; 2016ba; 2016bb)

Monthly mortgage repayments for Moranbah and Isaac LGA properties were consistent with the Queensland median monthly mortgage repayment of $1,733, with a high representation in the $1,400 to $1,799 bracket and the $1,800 to $2,399 bracket (QGSO, 2018b). 66% of all mortgage repayments in Moranbah were in the $1,000 - $2,999 brackets, with a high representation in Isaac as well (56%). Dysart has a significantly lower representation in those brackets (approximately 26%) but a high representation in the $0 - $1,000 brackets (60%). This is likely correlated to lower property values in Dysart (**Figure 4-6**).

4.5.4 New Building Approvals

Isaac LGA had three building approvals for new houses in the 12 months ending 31 July 2019. No new houses were approved in Moranbah for that same period. New building approvals have been considerably lower since the end of 2013 (QGSO, 2018d).

4.5.5 Social Housing

Table 4-19 provides a summary of social housing in Dysart, Moranbah and the Isaac LGA. In Dysart, 2.4% of all dwellings (20 dwellings) were social housing dwellings, which is well below the state average percentage. Moranbah had a slightly higher percentage of dwellings allocated as social housing (2.6%), although this is also below the state average. Both towns had a higher representation of 'Housing cooperative/community/church/rental' categories than the overall Isaac LGA. This is due to Moranbah being the main population hub in the area with the highest facilitation of social housing. The presence of any social housing in this area is likely to be a result of the stalled housing market over the past five years and limited new economic (including mining) development in the area.

Table 4-19 Social housing for Dysart (SSC), Moranbah (SSC), Isaac LGA, QLD, (2016)

Tenure	Dysart (SSC)		Moranbah (SSC)		Isaac LGA		QLD
	Number	%	Number	%	Number	%	%
State authority rental	17	2	65	2.5	119	1.9	3.2
Housing cooperative/community/church rental	3	0.4	3	0.1	19	0.3	0.5
Total social housing	**20**	**2.4**	**68**	**2.6**	**138**	**2.2**	**3.7**

Source: ABS (2016bc; 2016bd; 2016be)

Social housing providers in the area include Emergency and Long Term Accommodation Moranbah (ELAM) and the Isaac Affordable Housing Trust (IAHT). ELAM's purpose is to support those who are homeless or in imminent risk of homelessness, by providing accommodation until there is a degree of self-reliance and independence. IAHT's purpose is to provide affordable housing in the Isaac region for financially disadvantaged people. As at 30 June 2019, there were a total of seven applications, three of which were assessed as having a very high need for social housing (DHPW, 2019).

Estimates of the prevalence of homelessness in the LSA, based on the 2011 and 2016 census data are shown in **Table 4-20**. Approximately 131 people in the Isaac LGA, 74 in the Moranbah SA, and 25 in the Broadsound-Nebo SA (the statistical area that incorporates Dysart) were estimated homeless in 2011. These numbers had decreased significantly at the time of the 2016 census; with the higher estimates likely to reflect the housing shortages between 2007 and 2012, where resident displacement occurred due to affordability.

Table 4-20 Homelessness estimates 2011 & 2016, Isaac LGA, Moranbah (SSC) and Broadsound-Nebo (SSC)

Homelessness estimates	2011	2016
Isaac LGA	131	48
Moranbah (SA2)	74	29
Broadsound – Nebo (SA2)	25	14

Source: ABS (2018a; 2018b; 2018c; 2018d)

4.6 COMMUNITY HEALTH AND SAFETY

This section provides a summary of the community health and safety services in the region, including information on:

- Health infrastructure and services;
- Health and well-being;
- Disability prevalence; and
- Community safety statistics, infrastructure and services.

4.6.1 Health Infrastructure and Services

Three public hospitals operate in the LSA area providing the local community with health services and allied health. These are located in Moranbah, Dysart and Clermont. Health service profiles are provided for these three hospitals in **Table 4-21.**

Table 4-21 LSA Area Public Hospital Services Profile

Moranbah Hospital		Dysart Hospital		Clermont Hospital	
Beds	12	Beds	9	Beds	10 (6 aged care)
Type	Public	Type	Public	Type	Public
Services	**Frequency**	**Services**	**Frequency**	**Services**	**Frequency**
24 hour accident and emergency services	Permanent	24 hour accident and emergency services	Permanent	24 hour accident and emergency services	Permanent
General medical and surgical services	Permanent	General medical and surgical services	Permanent	General medical and surgical services	Permanent
Medical imaging – radiology and ultrasound	Permanent	Palliative care	Permanent	Non-surgical admissions	Permanent
Midwife / antenatal clinic	Permanent	Respite care	Permanent	Post-natal admissions	Permanent
Pharmacy	Permanent	Pharmacy	Permanent	Antenatal / Postnatal	Visiting
Pathology	Permanent	Telehealth	Permanent	Alcohol tobacco and other drugs	Visiting
Primary health care	Permanent	Alcohol tobacco and other drugs	Visiting	Hearing	Visiting
Respite care	Permanent	Antenatal / Postnatal	Visiting	Mental health	Visiting
Would management	Permanent	Children's health	Visiting	Radiography	Visiting
Mobile breast screening van	Visiting	Counselling / social work	Visiting	Women's health doctors clinic	Visiting
Obstetrician/gynaecologist	Visiting	Mental health – Adult / Youth	Visiting	Surgical services	Visiting
Paediatrician	Visiting	Occupational Therapist	Visiting	Women's health lactation consultant	Visiting
Psychiatrist	Visiting	Physiotherapist	Visiting	Allied health assistant	Visiting
		Radiology	Visiting		
		Royal flying doctor women's health	Visiting		
		School base youth health nurse	Visiting		
		Speech pathology	Visiting		
		Wound management	Visiting		

Source: Mackay Hospital and Health Service (2019a), Mackay Hospital and Health Service (2019b), Source: Mackay Hospital and Health Service (2019c)

These hospitals also provide various community and allied health services including:

- Aged care;
- Antenatal classes;
- Child health nurse;
- Child protection liaison officer;
- Community mental health;
- Community nursing;
- Community health nurse;
- Health promotion;
- Home medical aids;
- Immunisation;
- Meals on wheels;
- New mother's support group;
- Occupational therapy;
- Physiotherapy;
- Podiatry;
- School based vaccination program;
- School dental van;
- Social worker;
- Speech therapy;
- School based youth health nurse;
- Triple P program; and
- Well baby clinic.

Moranbah also has a private General Practitioner (GP) clinic (Oak Tree Family Medical) that provides general medical services, occupational health services and monthly specialist services. Moranbah also has an occupational health service centre (Sonic Health Plus).

4.6.2 Health and Well-being

Over the period 2016-2017 there were 404 admissions to Moranbah hospital, comprising:

- 352 (87%) 'medical emergency' admissions;
- 36 (9%) 'medical non-emergency' admissions; and
- 16 (4%) admissions for mental health (Australia Institute of Health and Welfare, 2018a).

Over the same 2016-2017 period, Dysart hospital received 379 admissions, comprising:

- 342 (90%) 'medical emergency' admissions;
- 15 (5%) 'Medical non-emergency' admissions; and
- 19 (5%) admissions for mental health treatment (Australian Institute for Health and Welfare, 2018b).

In 2016-2017 Clermont hospital had 378 admissions, comprising:

- 320 (85%) 'medical emergency' admissions;
- 51 (13%) 'medical non-emergency' admissions; and
- Seven (2%) admissions for subacute or non-acute health treatment (Australian Institute for Health and Welfare 2018c).

Isaac Regional Council's *Community Strategic Plan* (2015) has sighted that healthcare in the region is a recognised weakness, with limited health services or professionals in the region. It has also identified that the FIFO workers in the coal industry create further strain on these health services.

4.6.3 Aged Care Services

As at June 30 2018, Isaac LGA was supported by three aged care services with 61 aged care service operational places (QGSO, 2018b). Of these 61 operational places, 43 were classified as residential care and 18 classified as home care. Aged care in the Isaac LGA received $2.2 million in recurrent government funding, accounting for <0.1% of total state funding.

The Department of Social Services records indicated that there were 574 recipients of the age pension as at the December quarter of 2018 (QGSO, 2018b).

4.6.4 Disability Prevalence

A person with a profound or severe disability is defined as needing assistance in one or more of the three core activity areas of self-care, mobility and communication as a result of:

- A long term (six months or more) health condition;
- A disability (lasting six months or more); or
- Old age.

At the time of the 2016 census, 374 persons were in need of assistance in the Isaac LGA, accounting for approximately 1.8% of the population. 204 people in Isaac LGA were receiving a disability support pension as at the December quarter of 2018. 218 people in Isaac were also recipients of the Carer Allowance.

4.6.5 Community Safety Statistics

Crime data in Queensland is recorded over five main regions, with data sourced from police districts and divisions, which are the lowest level of administrative boundary used by the Queensland Police Service (QPS). Moranbah and Dysart both comprise suburbs within the Mackay police district.

Figure 4-4-7 provides crime statistics in Moranbah and Dysart for the period January 2018 to August 2019. The number of recorded crimes in Moranbah in this time period was 1,426 and 311 in Dysart. The main recorded offense type for both towns was drug offences (294 recorded in Moranbah and 67 recorded in Dysart), followed by traffic related offences in Moranbah (217) and unlawful entry in Dysart (36) (QPS, 2019a; 2019b).

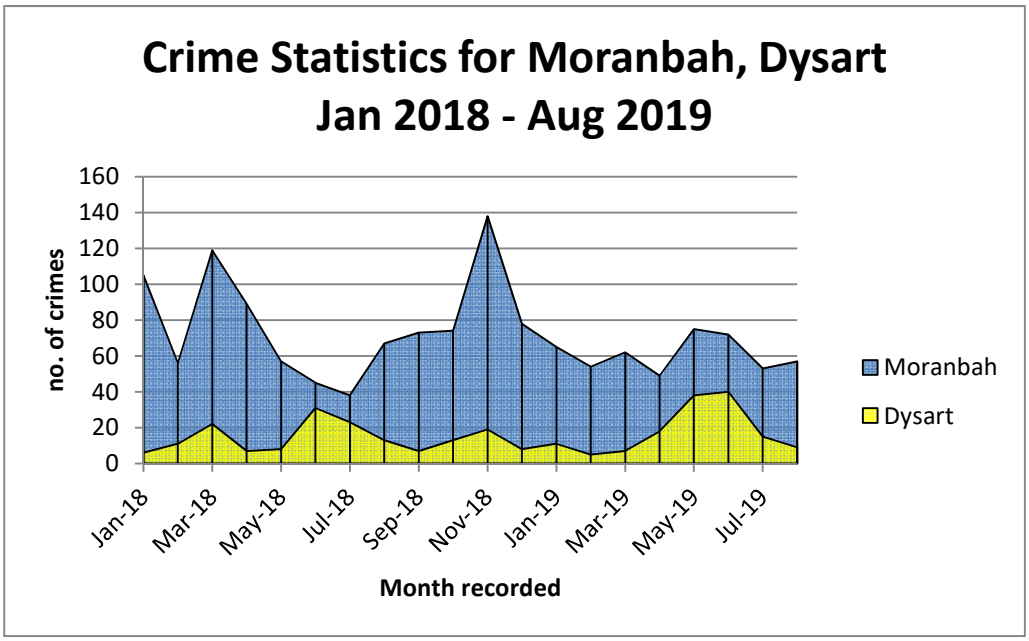


Figure 4-4-7 Crime statistics for Moranbah and Dysart, Jan 2018 - Aug 2019

Source: QPS (2019a; 2019b)

4.6.6 Community Safety Services

The Queensland Government provides multiple services to support community safety and responses to emergencies, both locally and regionally. These services include the Queensland Ambulance Services (QAS), Queensland Police Service (QPS), Queensland Corrective Services (QCS) and Queensland Fire and Emergency Services (QFES).

4.6.6.1 Queensland Ambulance Service

The QAS operates 290 ambulance service response locations across its Local Ambulance Service Network. The LSA is serviced by a number of ambulance stations including:

- Dysart Ambulance Station;
- Clermont Ambulance Station;
- Capella Ambulance Station;
- Middlemount Ambulance Station;
- Moranbah Ambulance Station;
- Nebo Ambulance Station; and
- Tieri Ambulance Station.

QAS also operates its operational centre out of Rockhampton, which is responsible for the receipt of emergency calls, operational deployment and dispatch and coordination of rotary and fixed-wing aero-medical responses.

4.6.6.2 Queensland Police Service

Police stations in the LSA are located in the following townships:

- Clermont;
- Capella;
- Dysart;
- Middlemount;
- Moranbah;
- Nebo; and
- Tieri.

4.6.6.3 Queensland Fire and Emergency Services

Under Mackay Country Command central office, the LSA is serviced by:

- Clermont Fire Station;
- Capella Fire Station;
- Dysart Fire Station;
- Glenden Fire Station;
- Middlemount Fire Station;
- Moranbah Fire Station; and
- Tieri Fire Station.

4.6.6.4 Queensland Corrective Services

Capricornia Correctional Centre is the only facility in the region that offers custodial services for sentenced prisoners. It is located 20 km north of Rockhampton and includes high and low security facilities.

4.7 CULTURE AND COMMUNITY

Isaac Regional Council released its 20 year strategic plan in 2015. This *Community Strategic Plan* outlines the prospective blueprint for the region to 2035. It is divided into four key thematic areas including Communities, Economy, Infrastructure and Environment.

Isaac LGA communities are identified as one of the major strengths in the area and the strategic plan aims to create communities that are open, welcoming, inclusive and resilient. Strategies adopted by council to achieve these goals include:

- Providing safe and cost effective community facilities and venues;
- Provide a range of services to cater for the diverse needs of communities;
- Partner with a range of stakeholders to build-sustainable community groups;
- Deliver a range of programs and services that promote community safety, health and well-being; and
- Celebrate communities and their uniqueness.

Additional to community objectives, the community plan has outlined how important a thriving economy is to provide the necessary resources to enable improvements in other areas of the plan, such as community. The maintenance of Isaac LGA's status as the top performing regional economy in the state will ensure the region has job opportunities, rising incomes and the funds for essential services (Isaac Regional Council, 2015).

Table 4-24 presents data on the respective volunteer numbers in the LSA. The average rates of volunteers are approximately 1 in 5 people across Dysart, Moranbah and the greater LGA; which are similar to the Queensland average.

Table 4-24 Numbers of volunteers in Dysart (SSC), Moranbah (SSC) and Isaac LGA, (2016)

Age Group	Dysart (SSC)		Moranbah (SSC)		Isaac LGA	
	No. of Male Volunteers	No. of Female Volunteers	No. of Male Volunteers	No. of Female Volunteers	No. of Male Volunteers	No. of Female Volunteers
15-19 years	18	23	55	55	121	126
20-24 years	15	12	33	32	85	92
25-34 years	33	63	126	205	311	496
35-44 years	69	63	203	243	455	537
45-54 years	43	37	142	124	333	308
55-64 years	21	15	50	37	173	174
65-74 years	7	6	18	7	67	67
75-84 years	0	3	0	0	12	19
85 years and over	0	0	0	0	3	13
Total	**203**	**233**	**621**	**707**	**1,556**	**1,818**

Source: ABS (2016bf; 2016bg; 2016bh)

5 PROJECT WORKFORCE PROFILE

As described in Section 1, the Project is anticipated to require a workforce of more than 190 construction and operational personnel (both permanent employees and contractors). As such, it will be classified as a "large resource project" under the SSRC Act.

The peak operational workforce is anticipated to comprise 190 positions. This would be comprised of approximately:

- Staff – 30; and
- Mining contractors – 160.

It is anticipated that less than a quarter (approximately) of this workforce would be present on site at any one time due to shift and roster arrangements and the inclusion of off-site haulage positions in this total.

The construction and operational workforces will be primarily based within in the surrounding towns of Dysart and Moranbah (approximately 50%/ 50% split), subject to housing market conditions and available accommodation facilities. The objective of this accommodation strategy is to ensure that the Project maximises benefit to the surrounding communities and the Isaac LGA.

Subject to availability of required skills, the Project's workforce will be primarily sourced from the regional area (i.e. Isaac and Mackay regions) and make use of the existing accommodation camp facilities and private housing at Moranbah and Dysart. Project workforce related transport is anticipated to include a combination of local residents based in Dysart and Moranbah, Drive-in / Drive-out (DIDO) from Mackay and Fly-in / Fly-out (FIFO) from Moranbah Airport. Travel to site from Dysart and Moranbah will be 80% bus and 20% private vehicle (approx.).

The Project will operate on two 12 hour shifts per day, with crews operating on a seven days on, seven days off roster.

6 POTENTIAL IMPACTS AND MITIGATION REQUIREMENTS

Social impacts refer to any changes in the way people live, work, relate to each other, organise to meet their needs and cope with challenges presented by greater society. Impacts may be positive or negative and differ in both scale and time. An assessment of potential impacts on each key aspect is provided in **Section 6.1** to **Section 6.7**. For each key aspect, a risk assessment framework (as described in **Section 3.4**) has been used to generate an overall impact significance ranking.

6.1 DEMOGRAPHIC IMPACTS

The primary demographic impacts will be those associated with the additional workforce residing in towns close to the Project. This however will be spread across multiple locations under the current workforce strategy which will reduce the impact in any given location. Many of the other social impacts of the Project are a consequence of this predicted growth, albeit minor.

Resident population increase in the LSA is comprised of the following components:

- Natural population variation unrelated to the Project's development;
- Direct population growth associated with the Project's workforce who relocate to Dysart or Moranbah, of up to approximately 30 construction staff and 160 operational staff (this would assume no existing local personnel are employed at the Project and hence is considered to be very conservative);
- Secondary population growth associated with additional family members of the Project's workforce relocating to Dysart or Moranbah over the life of the mine (e.g. partners or families of employees); and
- Indirect population growth as a result of mining in the region (e.g. business relocation, development or expansion, additional education and health service providers, and other community services).

Potential direct population increase as a result of the Project is relatively straightforward to quantify, however secondary and indirect population growth is more difficult to predict due to the following factors:

- Uncertainty associated with unpredictability of future workforce composition (age, gender, marital status, family composition);
- Geographical location;
- Distance from larger regional service centres;
- Urban and coastal migration trends;
- Levels and availability of services;
- Limitations of schooling options;
- Opportunities for employment outside of mining;
- Housing supply;
- Provision of infrastructure and services such as electricity, water and sewerage;
- Personal choice; and
- Limited business opportunities.

Population increase has both positive and negative impacts. Project driven population growth in Dysart and Moranbah is anticipated to be relatively minor with the total Project workforce (which is relatively small) likely to be split between Moranbah, Dysart (in a mix of housing and existing camp accommodation), Mackay and further afield (potentially Brisbane where the Proponent is based). It will provide minor increases in funding for the Isaac Regional Council in the form of rates. However, it may potentially have minor adverse effects on housing availability (although occupation of houses in regional towns is encouraged, particularly in Dysart), culture and community (driven by occupation of camp facilities) and existing facilities, services and infrastructure. Given the scale and duration of the Project and the existing communities foundation on mining and agricultural industries, all potential impacts are anticipated to be of low significance and are anticipated to be well within the natural fluctuation of population and associated secondary impacts within in town.

Table 6-1 provides a summary of the Project's potential demographic impacts.

Table 6-1 Social Impact Assessment - Demography

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Direct impact population increase in Moranbah or Dysart associated with relocation of permanent staff.	Positive	High	Low	Medium	Considered not required.
Secondary population increase associated with the relocation of employees (e.g. employees' partners or families).	Positive	Medium	Low	Medium	Considered not required.
Indirect population growth as a result of mining in the region (e.g. business relocation, development or expansion, additional education and health service providers, etc.).	Positive	Low	Low	Low	Considered not required.
Source location impacts associated with recruitment strategy.	Negative	Low	Low	Low	Recruitment strategy with a preference for local employees will assist with alleviating minor impacts.
Population growth may counteract existing demographic trends (e.g. population decline due to diminished tourism demand) and support/facilitate regional population growth in some source locations.	Positive	Low	Low	Low	Considered not required.

6.2 EDUCATION AND TRAINING IMPACT

Cumulative population growth as a result of the Project is anticipated to result in minor increased demand for local childcare and primary/secondary schooling facilities. This demand may occur for all early childhood facilities in the immediate area, as well as possible secondary school enrolments for Moranbah. Currently the area is not being serviced adequately for its childcare needs and there are waiting lists that may affect employees with young children who are unable to source care for them during work hours. At the time of writing, Dysart primary and secondary schools have capacity for an additional approximate 13 students, while Moranbah primary schools have approximate capacity for an additional 70 students. However, secondary schooling in Moranbah is experiencing close to peak enrolments.

The development of mining in the region has maintained the high demand for mining-related vocational and training qualifications; this is likely to be serviced outside of the LSA. The local community is likely to benefit from some forms of training provided to mine personnel, such as first aid response training.

Table 6-2 provides a summary of the Project's potential education and training related impacts.

Table 6-2 Social Impact Assessment - Education and Training

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Increased demand for early childhood facilities/services associated with secondary and indirect population growth.	Negative	Medium	High	High	It is anticipated that the proportion of workers families that will require these services is small. Vitrinite is aware that further investigation may be required if impacts are greater than expected. Consultation with the workforce will include discussion of this issue.
Increased demand for primary schooling facilities/services associated with secondary and indirect population growth.	Positive	Medium	Medium	Medium	Considered not required.
Increased demand for secondary schooling facilities/services associated with secondary and indirect population growth.	Negative	Low	Low	Low	It is anticipated that the proportion of workers families that will require these services is small. Vitrinite is aware that further investigation may be required if impacts are greater than expected. Consultation with the workforce will include discussion of this issue.
Increased opportunity for traineeships/apprenticeships.	Positive	Low	Low	Low	Considered not required.
Increased demand for mining-related vocational training and qualifications.	Positive	Low	Medium	Low	Considered not required.

6.3 ECONOMY, EMPLOYMENT AND INCOME IMPACT

The key potential economic benefits of the Project for the LSA include:

- Increase in gross personal income levels due to direct employment at the Project;
- Flow-on economic impacts (e.g. increased spending, opportunities for local business development/expansion);
- Diversification of the local economy; and
- Contributions delivered to government.

Local small business in the Moranbah and Dysart service/support industries will likely see small benefits associated with the Project; however, the relative benefit in the larger regional towns will likely be low.

The Project also has the potential to result in negative impacts in the LSA, including:

- Minor contribution to income disparity between mining and non-mining employees; and
- Loss of skilled labour from other industries which generally cannot afford to pay the same salaries as mining companies.

With the workforce to be located in the region for the duration of the Project, to the greatest extent practicable, it is expected that Moranbah and Dysart will see economic benefits associated with servicing the Project.

Table 6-3 provides a summary of the Project's potential economic, employment and income related impacts.

Table 6-3 Social Impact Assessment - Economy, Employment and Income Impact

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Increase in personal income levels in the LSA, particularly Dysart and Moranbah.	Positive	Medium	Low	Low	Considered not required
Contribution to government incomes (via royalties, income taxes, etc.).	Positive	High	Medium	Medium	Considered not required
Increased cost of living due to inflationary pressures from higher disposable incomes (with a particular impact on low income groups).	Negative	Low	Low	Low	Considered not required
Loss of skilled labour from other industries (who general cannot afford to pay the same salaries as mining employers) or difficulty attracting employees to the area.	Negative	Low	Low	Low	Considered not required
Creation of employment opportunities.	Positive	High	Low	Medium	Considered not required
Flow-on economic impacts (e.g. increased spending, opportunities for local business, development/expansion.	Positive	High	Low	Medium	Considered not required
Business development and employment opportunities in service and support industries.	Positive	Low	Medium	Low	Vitrinite will encourage the use of local business where they are technically capable and commercially competitive. Vitrinite has already engaged with surrounding businesses for their services and products. Vitrinite will ensure that local businesses are aware of expectations and requirements for accreditation.

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Promotion of Indigenous business opportunities and increased training/employment for indigenous Australians.	Positive	Low	Medium	Low	Vitrinite has executed an ILUA with the Barada Barna people. This includes indigenous employment targets. Vitrinite will develop HR policies and procedures to facilitate recruitment (such as Equal Opportunities Policy and/ or Workforce Diversity Strategy). Vitrinite will encourage Indigenous business opportunities and recruitment where practicable.

6.4 INFRASTRUCTURE AND SERVICES IMPACT

Given that the Project workforce will be housed in Dysart and Moranbah, the direct population growth associated with the Project may have a minor impact on local infrastructure and services and affect community members' access to these facilities.

Indirect and secondary population growth may also result in minor impact on infrastructure and services in the following ways:

- Affect road transport (e.g. disruptions associated with the transport of construction materials, increased load of traffic related to employees and employees' families, delivery vehicles, and dust subsidence vehicles);
- Minor increases in use of local and regional airports;
- Increased traffic within Dysart and Moranbah potentially accelerating the degradation of roads;
- Increased potential for accidents;
- Increased demand for emergency services, particularly capacity, staffing, and equipment; and
- Increased demand on community infrastructure such as water, power, waste, sewerage and telecommunications.

Table 6-4 provides a summary of the Project's potential infrastructure and service related impacts.

Table 6-4 Social Impact Assessment - Infrastructure and Services

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Disruption to road users (e.g. transport of construction materials, delivery vehicles, etc.).	Negative	Medium	Low	Low	Preparation and implementation of a Transport Management Plan. All over-sized loads would be coordinated with relevant local governments, DTMR and QPS. Delivery of over-sized loads would be undertaken outside of school drop-off and pick-up times.
Increased traffic leading to accelerated degradation of roads.	Negative	Low	Low	Low	Preparation and implementation of a Transport Management Plan. TIA and PIA completed and appropriate compensation for road use and maintenance agreed to avoid degradation.
Increased potential for traffic accidents.	Negative	Low	High	Medium	Preparation and implementation of a Transport Management Plan. TIA and PIA completed. Appropriate safeguards and mitigation measures for all vehicles associated with the Project: • Employee and contractor education and training; • Limit travel on school bus routes during pick up and set down times; • Appropriate management of night-time transport; • Speed restrictions; and • Vehicle signage, lights, warning lights etc. Impact on increase traffic accidents due to the Project is expected to be minimal.

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Increased demand for emergency services impacting on capacity and/or staffing.	Negative	Low	Medium	Low	The Project will have its own first aid personnel/team for all minor incidents. Emergency response capability will be held on site.
Increased demand for community infrastructure (e.g. sewerage, waste infrastructure etc.) associated with the direct, indirect and secondary population growth in Dysart and Moranbah.	Negative	Low	Low	Low	The impact from the workforce is expected to be minimal due to existing housing and camp facilities having already secured access to these services.
Increased demand for utilities (e.g. power, water, etc.) as a result of population growth.	Negative	Low	Low	Low	The impact from the workforce is expected to be minimal due to existing housing and camp facilities having already secured access to these services.

6.5 HOUSING AND ACCOMMODATION IMPACT

With Vitrinite aiming to facilitate the needs of its workforce within the existing townships of Dysart and/or Moranbah, minor impacts affecting housing and accommodation may be noticeable. While Dysart and Moranbah have sufficient capacity in the available housing markets for both rentals and sales, the additional workforce may still place minor pressures the housing markets in regard to reduced availability, suitability and affordability. Current accommodation camp facilities also hold sufficient capacity for the portion of the Project workforce that would reside in these facilities.

The reduction in availability in Dysart and Moranbah is unlikely to result in significant inflation of housing prices and accommodation.

Recent mining activity in the region, as well as expected growth, has already led to minor increases in the price of housing and rent and this is potentially likely to continue if uptake increases.

Table 6-5 provides a summary of the Project's potential housing and accommodation related impacts.

Table 6-5 Social Impact Assessment - Housing and Accommodation

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Increased demand for accommodation/housing.	Positive	High	Low	Medium	Considered not required, however Vitrinite are open to discussions surrounding unexpected impacts related to housing.
Reduced availability, suitability and affordability of housing.	Negative	Medium	Low	Low	Considered not required. Vitrinite are open to discussions surrounding unexpected impacts related to housing.
Increased demand for short-term accommodation associated with support services/staff travelling to site.	Negative	Low	Low	Medium	Considered not required. Vitrinite are open to discussions surrounding unexpected impacts related to housing.

6.6 IMPACT ON COMMUNITY HEALTH AND SAFETY

Impacts on local health and safety services associated with direct, indirect and secondary population growth will have a minor effect on the existing medical facilities in the LSA, particularly those such as Dysart Hospital which only has a small number of beds. Potential minor impacts associated with the increased demand for health services due to population growth are:

- Increased non-emergency visits to emergency wards in hospitals;
- Increased waiting times;
- Service downtimes (Royal Flying Doctor Service, Emergency Department and ambulance services);
- Increased strain on emergency services facilities, staffing and resources;
- Increased volunteer rates from incoming population; and
- Increased funding for services and facilities.

Vitrinite expects there to be minor impacts to facilities, services and resources to the QFES as a result of the Project.

Vitrinite will also consult with the QPS regarding potential safety impacts and concerns throughout the life of the mine, including:

- Police resourcing to facilitate wide load transports and traffic disruptions;
- Increase in the general demand for police services due to population growth (e.g. crime, domestic violence, drink driving, drug and alcohol abuse); and
- Road safety for employees commuting to work from Dysart and Moranbah.

Where the Project experiences serious or emergency health problems beyond the capacity of emergency services, personnel will be transported to health centres outside of the LSA as required. This will reduce any potential adverse impacts on the hospitals in the LSA.

Workforce health and wellbeing issues, including those that occur off-site and off-duty, are regarded as Project health and safety matters and will be addressed by forthcoming management plans and policies.

These policies will address off-site and out-of-hours issues including but not limited to: fatigue, due to day/night shift transitions, travel to and from site, and shift and stint length; mental health issues that are associated with FIFO or DIDO workforces such as isolation in mining camp accommodation and separation from family units; and general encouragement of healthy practices related to sleep, diet, and responsible alcohol consumption.

Table 6-6 provides a summary of the Project's potential community health and safety related impacts.

Table 6-6 Social Impact Assessment - Impact on Community Health and Safety

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Increased demand for medical services associated with population growth (e.g. Dysart, Clermont and Moranbah hospitals, ambulance service and Royal Flying Doctors Service).	Negative	Low	High	Medium	Minor injuries and incidents would be dealt with on-site by first aid officers and more serious injuries would be transported to health centres at employees' source location for treatment. Vitrinite will actively promote healthy lifestyle choices through education and training. Vitrinite will actively promote occupational health and safety through education and training, in order to minimise the incidence of workplace accidents.
Additional demand on QPS resourcing due to wide load transport, general policing requirements and road safety.	Negative	Low	Low	Low	Vitrinite will transport as much material/equipment as practicable using small trucks, in order to minimise the requirements for QPS escort. Vitrinite will establish a relationship with QPS staff prior to the commencement of construction in order to manage any incidents effectively.
Increased traffic and traffic hazards.	Negative	Low	Low	Low	Vitrinite will develop a Traffic Management Plan. Vitrinite will aim to minimise road safety impacts associated with fatigue through education and training of employees. Drive times and managing fatigue will be relevant to this education.
Management of workforce health and safety.	Negative	Low	High	Medium	Vitrinite will institute safety management plans and policies to address work-related health and safety issues, both on and off site.

6.7 IMPACT ON CULTURE AND COMMUNITY

The Isaac region identifies its communities' as a key strength in its Community Strategic Plan. The identity of the region resonates with being safe, young and a good place to bring up a young family. The communities of Dysart and Moranbah are likely to remain largely unchanged and only see minor impacts to the local culture from the incoming workforce. It is important that incoming employees, and associated families, are equally as responsive to the community's needs as the community will be to them. Having part of the workforce permanently established in Dysart and Moranbah aims to instil a mentality of ownership and sense of community, potentially avoiding the poorer social integration often associated with FIFO or temporary workforces.

Vitrinite will provide inductions to all employees to make them aware of acceptable standards of behaviour both on and off site. Employees will also be contractually obliged to comply with a Code of Conduct and Drug and Alcohol Policy.

Table 6-7 provides a summary of the Project's potential culture and community related impacts.

Table 6-7 Social Impact Assessment - Impact on Culture and Community

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Introduction of new cultural values, aspirations, lifestyles and sense of community.	Positive	Low	Low	Low	Vitrinite will prepare a Code of Conduct for all Project employees and contractors and would apply to behaviour in and outside of the workplace. Provision of induction training to all employees which would describe acceptable behaviours and the requirements of the Code of Conduct. Vitrinite encourage employees to engage in positive recreational and community facilities and activities.
People that relocate to the area experiencing a period of adjustment and isolation.	Negative	Low	Low	Low	Vitrinite will provide support for any employees and their families during their relocation.
Small direct and indirect resident population increases could result in the increase in the membership and viability of some recreational, sporting and cultural pursuits.	Positive	Medium	Low	Low	Vitrinite encourage employees to engage in positive recreational and community facilities and activities.

Potential Impact	Primary Impact Outcome (positive or negative)	Probability (high, medium or low)	Consequence (high, medium or low)	Overall Impact Significance	Mitigation Measure Required?
Incoming workforce (and families) may detrimentally impact the social values of local townships (e.g. potential to increase threats to property and public safety).	Negative	Low	Low	Low	Vitrinite will prepare a Code of Conduct which would be implemented for all Project employees and contractors and would apply to behaviour in and outside of the workplace. Provision of induction training to all employees which would describe acceptable behaviours and the requirements of the Code of Conduct. Company expectations include the need to maintain good relationships with the local communities. This will be communicated regularly to employees and contractors. Vitrinite will encourage employees to engage in positive recreational and community facilities and activities. Vitrinite will make copies of The Survival Guide for Mining Families available where needed to all employees as part of relocation service and encourage the use of www.miningfm.com.au to accessing support services.
Impact on cultural heritage sites due to Project activities.	Negative	Low	Low	Low	Management of cultural heritage at the Project site will be undertaken in accordance with the requirements of the ILUA.

7 REFERENCES

Aurizon (n.d.). *Goonyella Rail Corridor.* [ebook] Brisbane: Aurizon. Available at: https://www.aurizon.com.au/-/media/project/aurizon/files/what-we-do/services/coal/coal-rail-corridor-fact-sheets/goonyella-rail-corridor-fact-sheet.pdf [Accessed 16 Oct, 2020].

Australian Bureau of Statistics (2011a) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2011b) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2011c) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2011d) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – By age by sex,* ABS, Canberra

Australian Bureau of Statistics (2011e) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – By age by sex,* ABS, Canberra

Australian Bureau of Statistics (2011f) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – By age by sex,* ABS, Canberra

Australian Bureau of Statistics (2016a) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016b) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSc) Local Government Area – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016c) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) Local Government Area – Selected Person Characteristics by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016d) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – by age by sex,* ABS, Canberra

Australian Bureau of Statistics (2016e) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb -by age by sex,* ABS, Canberra

Australian Bureau of Statistics (2016f) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – by age by sex,* ABS, Canberra

Australian Bureau of Statistics (2016g) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Indigenous Status by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016h) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Indigenous Status by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016i) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Indigenous Status by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016j) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Family Composition,* ABS, Canberra

Australian Bureau of Statistics (2016k) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Family Composition,* ABS, Canberra

Australian Bureau of Statistics (2016l) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Family Composition,* ABS, Canberra

Australian Bureau of Statistics (2016m) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Registered Marital Status by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016n) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Registered Marital Status by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016o) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Country of Birth of Person by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016p) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Language Spoken at Home by Proficiency in Spoken English/Language by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016q) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Country of Birth of Person by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016r) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Language Spoken at Home by Proficiency in Spoken English/Language by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016s) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Country of Birth of Person by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016t) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Language Spoken at Home by Proficiency in Spoken English/Language by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016u) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Highest Year of School Completed by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016v) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Highest Year of School Completed by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016x) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Highest Year of School Completed by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016y) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Non-School Qualification: Level of Education by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016z) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Non-School Qualification: Level of Education by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016aa) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Non-School Qualification: Level of Education by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ab) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Non-School Qualification: Field of Study by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ac) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Industry of Employment by Age by Sex*, Canberra

Australian Bureau of Statistics (2016ad) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Industry of Employment by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ae) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Industry of Employment by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016af) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Occupation by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ag) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Occupation by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ah) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Personal Income (Weekly) by Age by Sex*, ABS, Canberra

Australian Bureau of Statistics (2016ai) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Personal Income (Weekly) by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016aj) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Personal Income (Weekly) by Age by Sex,* ABS, Canberra

Australian Bureau of Statistics (2016ak) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Number of Motor Vehicles by Dwelling*, ABS, Canberra

Australian Bureau of Statistics (2016al) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Number of Motor Vehicles by Dwelling,* ABS, Canberra

Australian Bureau of Statistics (2016am) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Number of Motor Vehicles by Dwelling,* ABS, Canberra

Australian Bureau of Statistics (2016an) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Dwelling Internet Connection by Dwelling Structure*, ABS, Canberra

Australian Bureau of Statistics (2016ao) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Dwelling Internet Connection by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016ap) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Dwelling Internet Connection by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016aq) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Dwelling Structure*, ABS, Canberra

Australian Bureau of Statistics (2016ar) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb –Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016as) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb –Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016at) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Tenure and Landlord Type by Dwelling Structure*, ABS, Canberra

Australian Bureau of Statistics (2016au) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Tenure and Landlord Type by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016av) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Tenure and Landlord Type by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016aw) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Rent (Weekly) by Landlord Type*, ABS, Canberra

Australian Bureau of Statistics (2016ax) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Rent (Weekly) by Landlord Type,* ABS, Canberra

Australian Bureau of Statistics (2016ay) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Rent (Weekly) by Landlord Type,* ABS, Canberra

Australian Bureau of Statistics (2016az) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Mortgage repayment (Monthly) by Dwelling Structure*, ABS, Canberra

Australian Bureau of Statistics (2016ba) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Mortgage repayment (Monthly) by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016bb) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Mortgage repayment (Monthly) by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016bc) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Tenure and Landlord Type by Dwelling Structure*, ABS, Canberra

Australian Bureau of Statistics (2016bd) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Tenure and Landlord Type by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016be) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Tenure and Landlord Type by Dwelling Structure,* ABS, Canberra

Australian Bureau of Statistics (2016bf) *2011 Census of Population and Housing – Basic Community Profile – Isaac (R) Local Government Area – Numbers of volunteers*, ABS, Canberra

Australian Bureau of Statistics (2016bg) *2011 Census of Population and Housing – Basic Community Profile – Dysart (SSC) State Suburb – Numbers of volunteers,* ABS, Canberra

Australian Bureau of Statistics (2016bh) *2011 Census of Population and Housing – Basic Community Profile – Moranbah (SSC) State Suburb – Numbers of volunteers,* ABS, CanberraAustralian Bureau of Statistics (2018a) *2016 Census of Population and Housing: Estimating homelessness – All Homeless Persons, by place of enumeration, Local Government area, 2011*

Australian Bureau of Statistics (2018b) *2016 Census of Population and Housing: Estimating homelessness – All Homeless Persons, by place of enumeration, Local Government area, 2016*

Australian Bureau of Statistics (2018c) *2016 Census of Population and Housing: Estimating homelessness – All Homeless Persons, by place of enumeration, Statistical Area Level 2, 2011*

Australian Bureau of Statistics (2018d) *2016 Census of Population and Housing: Estimating homelessness – All Homeless Persons, by place of enumeration, Statistical Area Level 2, 2016*

Australian Curriculum, Assessment and Reporting Authority (ACARA) (2019). *School search | My School*. [online] Myschool.edu.au. Available at: https://www.myschool.edu.au/school-search?FormPosted=True&SchoolSearchQuery=moranbah&SchoolSector=&SchoolType=&State= [Accessed 23 Sep. 2019]..

Australian Institute of Health and Welfare (2018a), *Moranbah Hospital | MyHospitals/gove.au* [online] myhospitals.gov.au. Available at: https://www.myhospitals.gov.au/hospital/310000173/moranbah-hospital/admissions [accessed 11 Oct. 2019]

Australian Institute of Health and Welfare (2018b), *Dysart Hospital | MyHospitals/gove.au* [online] myhospitals.gov.au. Available at: https://www.myhospitals.gov.au/hospital/310000176/dysart-hospital/admissions [accessed 11 Oct. 2019]

Australian Institute of Health and Welfare (2018c), *Clermont Hospital | MyHospitals/gove.au* [online] myhospitals.gov.au. Available at: https://www.myhospitals.gov.au/hospital/310000171/clermont-hospital/admissions [accessed 11 Oct. 2019]

Bradley, Z. (2018). Residents fuming over hefty power bills. *Daily mercury*. [online] Available at: https://www.dailymercury.com.au/news/residents-fuming-over-hefty-power-bills/3362887/ [Accessed 27 Sep. 2019].

Department for Housing and Public Works (2019), *Queensland Housing Profiles – Housing Profile – dwelling and household characteristics – Isaac (R) Local Government Area (LGA),* Brisbane: DHWP

DNRME (2019). *Electricity Generation Map*. [ebook] Brisbane: DNRM. Available at: https://maps.dnrm.qld.gov.au/electricity-generation-map/# [Accessed 27 Sep. 2019].

DNRME (2018). *Valuer-General's 2018 Property Market Movement Report*. Brisbane: State of Queensland, p.7.

Isaac Regional Council (2015) *Community Strategic Plan – Isaac's 20 year vision*. Isaac Regional Council

Isaac Regional Council (2019a). *Community Schools – Isaac*. [online] Isaac. Available at: https://www.isaac.qld.gov.au/community/community-schools [Accessed 23 Sep. 2019]

Isaac Regional Council (2019b), *Economic Development Framework 2019-2024.* Moranbah: Isaac Regional Council.

Isaac regional council (2019c). *Economic Indicators Profile | Land Development Advisory Committee*. Brisbane: Isaac Regional Council.

Mackay Hospital and Health Service (2019a). *Moranbah Hospital | Mackay Hospital and Health Services*. [online] Mackay Hospital and Health Services. Available at: http://www.mackay.health.qld.gov.au/your-hospitals/moranbah-hospital/ [Accessed 8 Oct. 2019].

Mackay Hospital and Health Service (2019b). *Dysart Hospital | Mackay Hospital and Health Services*. [online] Mackay Hospital and Health Services. Available at: http://www.mackay.health.qld.gov.au/your-hospitals/dysart-hospital/ [Accessed 8 Oct. 2019].

Mackay Hospital and Health Service (2019c). *Clermont Hospital | Mackay Hospital and Health Services*. [online] Mackay Hospital and Health Services. Available at: http://www.mackay.health.qld.gov.au/your-hospitals/clermont-hospital/ [Accessed 8 Oct. 2019].

Mackay Transit Coaches (2013). *Emerald - Mackay Route Map*. [ebook] Brisbane: Department of Transport and Main Roads. Available at: https://mackaytransit.com.au/resources/emerald-mackay-route-map.pdf [Accessed 27 Sep. 2019].

Meixner, S. (2019). *In Moranbah, getting a job is not the problem, childcare is*. [online] ABC News. Available at: https://www.abc.net.au/news/2019-09-01/mining-town-parents-turning-down-jobs-because-of-childcare/11437660 [Accessed 15 Oct. 2019].

METServe (2020) *Vulcan South Project Stakeholder Engagement Plan*

Queensland Government Statisticians Office (2016a) *Projected population (medium series), by five-year age group (males, females and persons), by local government area, Queensland, 2016-2041* [online], available at: https://www.qgso.qld.gov.au/statistics/theme/population/population-projections/regions (2019, September 17)

Queensland Government Statisticians Office (2018a) *Queensland Government population projection, 2018 edition: Queensland SA4s*, [online], available at: https://www.qgso.qld.gov.au/issues/5276/qld-population-projections-regions-reports-qld-sa4s-2018-edn.pdf (2019, September 17)

Queensland Government Statisticians Office (2018b), *Queensland Regional Profiles – Isaac (R) Local Government Area (LGA),* Brisbane: Queensland Treasury

Queensland Government Statisticians Office (2018c), *Queensland Regional Profiles – Queensland (State),* Brisbane: Queensland Treasury

Queensland Government Statisticians Office (2018d), *Queensland Regional Profiles – Moranbah Statistical Area Level 2 (SA2),* Brisbane: Queensland Treasury