



# IMPACT ASSESSMENT

## SECTION 4.7 SOCIAL, ECONOMIC AND CULTURAL SURROUNDS

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## 4.7 Social, Economic and Cultural Surrounds

### 4.7.1. Introduction

The NT EPA's objective in relation to social, economic and cultural surrounds as outlined in the ToR are to:

- *improve the social amenity of the Northern Territory*
- *protect the natural and historical heritage of the Northern Territory*
- *recognise, respect and maintain the cultural and heritage values of the Northern Territory; and*
- *achieve ecologically sustainable development.*

A Social Impact Assessment (SIA) was completed for the Project which involved communication and engagement strategies including stakeholder meetings and briefings to ensure relevant stakeholders were informed of the Project; and third-party individual stakeholder interviews to gather unbiased feedback. The communication and engagement process also included a Project fact sheet, individual stakeholder phone calls and emails, a presentation by KGL at the Central Australian Regional Mining Seminar in Alice Springs, updates to the KGL Resources website, ASX announcements and PowerPoint presentations to key stakeholders. Stakeholder briefings and interviews were held in Alice Springs, Bonya, the Project site and at locations along the Plenty Highway such as Harts Range, Gemtree Caravan Park and the Atitjere community.

Key stakeholders that were identified and contacted during the SIA process include:

- Central Desert Regional Council
- Regional Coordination Group - consisting of Executive Directors of all NT government departments in Central Australia
- Central Australian Regional Economic Development Committee
- Arid Lands Environment Centre
- Member for Lingiari, Warren Snowdon
- Northern Territory Police, Southern Desert Division
- Harts Range Community Store
- Community members from Bonya
- Arramwelke Aboriginal Corporation
- Jervois Station
- Lucy Creek Station
- Harts Range Police Station
- Gemtree Caravan Park
- Central Australia Health Service
- Central Desert Regional Council
- Industry Capability Network NT (ICNNT)
- Tourism Central Australia
- Housing and Community Development
- My Pathway

- Central Land Council
- Chamber of Commerce NT; and
- Alice Springs/Central Australia Regional Economic Development Committee (informal networking event) – consisting of local business people, Department of Trade Business and Innovation, Department of Prime Minister and Cabinet and representatives from other major resource projects.

Particular focus was placed on the local Bonya community and the pastoral lease holders of the Jervois and Lucy Creek properties. A visit was made to the Bonya community and an informal barbeque was held there with the community members. A separate barbeque was held on the Project site for the Jervois and Lucy Creek pastoralists, their station hands and their families.

Other key stakeholders that were contacted during the SIA process but with whom meetings did not result during this process include:

- Federal Minister for Resources and Northern Australia
- Northern Territory Chief Minister
- NT Minister for Primary Industry and Resources (the Minister was briefed by KGL in February 2018)
- Minister for Environment and Natural Resources
- Member for Namatjira, Assistant Minister for Aboriginal Affairs
- CEO, Department of Primary Industry and Resources
- Deputy CEO, NT Department of Primary Industry and Resources
- NT Department of Environment and Natural Resources
- Water Resources NT
- CEO NT Department of Infrastructure, Planning and Logistics
- General Manager, Transport Infrastructure, NT Department of Infrastructure, Planning and Logistics
- Central Australia Manager, NT Department of Infrastructure, Planning and Logistics
- Executive Director, Logistics, Strategy, Policy and Legislation, NTDIPL
- Director Regions Transport Services & Safety Alice Springs, NTDIPL
- Department of Education
- Department of Business, Alice Springs
- Department of Resources; and
- Minerals Council Australia, NT Division.

The International Association for Public Participation (IAP2) principles of *inform*, *consult* and *involve* were used as guidance for the consultation process. The goal of consultation with stakeholders was to gain an understanding of the likely, actual and perceived social impacts of the Project.

The economic impact assessment process involved desktop research, liaison with the SIA authors and stakeholders including KGL and ICN NT. Standard input/output multiplier models for the Alice Springs and NT regional economies and the Australian economy were constructed to estimate relevant flow on effects of the Project. The complete economic impact assessment is located in Appendix C-10 with impacts addressed in Section 4.7.3.1.

### 4.7.2. Relevant Activities

The Jervois Project has a long history of exploration and mining dating back to 1929 as detailed in the Introduction (Section 1) of this EIS. KGL Resources intend to re-open the Jervois Mine and develop the Jervois Base Metal Project (the Project). As a result of the historic activity and disturbance, some impacts are expected to have a lower impact than if it were a greenfield site.

As the Jervois Mine has been in operation intermittently since 1929, there is significant disturbance across the site. This historic disturbance includes tailings storage facilities, waste rock dumps, decommissioned processing plants and equipment, pits, prospecting trenches, ROMs, water storages and evaporation ponds, an exploration camp, exploration disturbances, roads and tracks.

Activities that are proposed as part of the Project that have the potential to impact the social, economic and cultural surrounds include:

- Reopening of the Jervois Mine to extract copper and other base metals
- Construction of mine infrastructure – processing plant, camp accommodation, administration buildings, sediment and tailings dams, access and haul roads, ore and waste rock stockpiles, power generation and supply facilities, workshops, hardstands, laydown areas, water supply facilities
- Open cut and underground mining
- Ongoing exploration
- Direct and indirect employment and training
- Local procurement of goods and services
- Transport of workers to and from the Project
- Accommodation of workers on site
- Road and rail freight of ore, construction equipment and general freight
- Payment of royalties; and
- Mine closure and rehabilitation.

Project workforce numbers have the potential to peak at 360 during construction and 300 at peak production which would include all contractors, subcontractors, offsite support, supply, fabrication and engineering support personnel employed directly and indirectly by the Project. Extra workforce numbers will also be imported to site to meet critical construction and production deadlines if required. Specific workforce numbers are provided in Section 3.4.

Indirect jobs will cover operational roles and personnel employed by businesses who provide support and services to the Project and specifically may include the following:

- Transport of ore by road and rail
- Freight services for general freight and mining and construction equipment
- Personnel transport by road and air
- On-site support such as cooks, catering and cleaning services
- Fabrication and engineering support
- Drilling equipment supply and drillers
- Maintenance staff
- Geologists and field assistants; and
- Administration such as management, accountants and human resources personnel.

Over the life of the Project, employment source targets have been estimated at 60% locally (Alice Springs and surrounds), 30% from other regions of the NT and 10% from other areas of Australia such as Queensland and Western Australia.

### 4.7.3. Potential Impacts and Risks

The SIA risk assessment which was informed by methodology in line with *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines*, identified opportunities of significance and risks with potentially negative impacts which were then integrated into the whole of Project risk assessment (Appendix C-11). Identified risks were direct and indirect, long and short term. The high risk social and economic impact ratings raised by stakeholders related to increased potential for trauma on local roads due to traffic generated by the Project, a reduction in tourist activity in the region due to Project traffic and fears of impacts to water resources.

Impacts to people whose lives, livelihoods and lifestyles that will be affected by the Project will be managed in accordance with the strategies outlined in Section 4.7.4 and the Social Impact Management Plan (SIMP) provided in Section 5. The essence of this SIMP is to avoid or minimise negative impacts and enhance positive impacts. This SIMP covers all stages of construction, extraction, processing and transport of concentrate.

Overall, feedback on the Project from stakeholders was mostly optimistic due to the positive benefits it could bring to Central Australia such as those to local businesses and people, the economy and communities in general. There is an expectation that the Project will provide local employment and work for local suppliers and services although there was some scepticism and reserved optimism about the Project proceeding due to its long history and lack of development to a stage where these benefits come to fruition.

#### 4.7.3.1. Economic impacts

Within the Bonya and Atitjere communities, there is an expectation of local jobs and the residents have indicated an interest in working on the Project, particularly as there are limited local job or small contracting opportunities in the area.

Three Bonya residents are already employed by the Project and as a result, there is a sense of enthusiasm about the potential for future job opportunities for Bonya residents. There is a high level of unemployment among Indigenous people in the region as a result of the disadvantage barriers including education, work readiness and industry experience.

Unemployment among non-indigenous residents in the immediate vicinity of the Project is almost non-existent as many are transient and come to the region for work then leave for either work reasons or because their children have reached school age and they move away to be closer to family.

Economic opportunities arising from the Project have the potential to provide benefit to the Harts Range community store, the Bonya store and Indigenous artwork sales, the Bonya Enterprise Development Program, the Jervois Station store and fuel stop, local pastoralists through the use of them for some services and minor works, Alice Springs through FIFO worker transition, the Gemtree fossicking area and the Alcoota fossil site, local community groups and events. Furthermore, the Project has the potential to contribute to the turnaround of the recent downturn in construction and commercial development in Alice Springs.

The economic value of the Project during the construction phase is in the order of \$189.5 million overall being \$55.6 million in direct expenditure to the Alice Springs Region, \$55.3 million to the remainder of the Northern Territory, \$37.6 million to the rest of Australia and \$41 million overseas. Operating cost expenditure has been estimated at \$127.7m with \$117.4m to be spent Australia wide.

Of this \$107.7m would be spent in the whole of the NT and \$73.3m in the Alice Springs Region. \$10.3m of the total estimated operating costs would be spent on shipping outside of Australia. Economic opportunities in monetary terms and the percentage increases to regional, Territory and Australian Gross Regional Product are described in detail in Section 3.4.

Modelling has estimated that the company will pay a total of \$413 million in royalties and corporate taxes (Royalties \$215m, Corporate Taxes \$198m) over the life of the Project. In addition, it is expected that the company will pay payroll tax in the order of \$8 million over the life of the Project.

The Jervois Project is expected to contribute to Australia’s export earnings an amount of \$2.39 billion over the concept life plan.

The Project has the potential to offer great opportunities for local jobs and realistic expectations will be met through the development of a local employment and training plan, liaison with employment and training providers to support workers and to accommodate cultural and family obligations. The opportunities identified in the SIA process and their risk ratings are detailed in the following Table 4.7-1.

**Table 4.7-1 Potential Economic Opportunities Ratings**

Opportunity	Initial Rating
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Low
Distribution of sponsorship funds and royalties to local community	Low
Boost to local business being awarded contracts from the Project	Low

Other potential economic opportunities may involve residual infrastructure such as:

- Substantial contribution to the development of community infrastructure at Bonya through amounts paid to Traditional Owners and to the extent that this is invested in infrastructure; and
- Royalty payments to the Northern Territory Government and taxes to the Commonwealth providing revenue which would justifiably be invested in completion of the sealing of the Plenty Highway to the mine turnoff and further sealing of the remainder of the eastern arm of the Outback Way to the Northern Territory border.

Sealing of the Outback Way also has major potential benefits to the Northern Territory and national economy to the ongoing viability and development of the pastoral industry in the Plenty pastoral district and to major improvements in tourism flow between Queensland and the Red Centre/Alice Springs region. Once sealed and capable of being used by 2WD vehicles, visitor numbers using the route would be expected to increase very strongly to the benefit of the Plenty and Alice Springs region.

These Project economic opportunities will be enhanced through the following measures:

- Development of an Indigenous employment and training plan
- Working with local employment and training providers to provide advanced notice of jobs
- Communication with other major resource projects to identify the potential for the coordination of Indigenous employment opportunities
- Workforce planning to reduce structural and cultural barriers
- Development of a Local Industry Participation Plan
- The MOU between KGL and Bonya
- Working with NT Government business development representatives; and
- Working with ICN NT, Chamber of Commerce and REDCs to package and promote tenders to suit local capacity.

Potential economic impacts that may result from the Project include reduced visitor number and subsequent spending at Harts Range and the Gemtree Caravan Park (also discussed in Traffic Impacts in Section 4.7.3.3), reduced productivity to pastoralists due to increased traffic, the attraction of locally employed professionals due to potentially higher wages offered by the Project, Indigenous people leaving their local government jobs to work on their own country and the potential for a “mining tax” on goods and services due to increased demand and competition.

Some stakeholder feedback on the potential impacts from the Project include the inability of local businesses to win contracts because of a lack of capacity or specialist skills, they are ill-prepared or not competitive or because they anticipate and prepare for the development and the Project does not proceed.

Whilst there is an expectation that the Project will source local workers wherever possible, some Alice Springs residents indicated that they would not like a large fly in/fly out workforce if there is local labour available.

It is not anticipated that business productivity will be impacted by local businesses prioritising work for the Project. Likewise, the displacement of tourism by the Project is unlikely given the number of jobs that will be available, the commitment to local employment and the availability of accommodation and flights to and from Alice Springs.

Potential impacts to pastoral productivity through an increase in traffic on local roads is likely to be confined to the winter months when cattle truck traffic is at its highest. Similar can be said for tourist traffic and potential impacts to local businesses such as the Gemtree Caravan Park as the winter months are the peak tourist season.

Although it has a low risk rating as it is unlikely to happen, there is potential that the Project will place pressure on flight availability and short-term accommodation in Alice Springs as a result of transient fly in /fly out workers, particularly during peak tourist seasons.

The specific impacts that have been identified during the SIA process include those outlined in the Table below with full details provided in the SIA and Risk Assessment in Appendix C-9 and Appendix C-11. These potential impacts will relate mostly to the construction and operational phases of the Project.

**Table 4.7-2 Potential Economic Impacts Risk Ratings**

Impact	Initial Risk Rating
Reduction in tourist traffic due to increased Project traffic	High
Mobilisation of workforce and paid work resulting in displacement of other sectors through crowding out	Low
Direct and indirect jobs and training - expectations of local jobs not met, low take up of jobs by local Indigenous people due to lack of work-readiness, structural and cultural issues	Low
Project activities - reduced productivity of pastoralists	Low
Local content targets not met due to lack of capacity or skills – loss of opportunity to local businesses	Medium
Expectations of boost to local and/or regional economy not met	Medium
Project activities affect other sectors - reduced productivity of other sectors (e.g. loss of staff)	Very Low
Uncontrolled fire caused by mining operations - financial loss to property owner	High



Lack of awareness of mine closure concept and timing - unexpected loss of financial support	Medium
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As they can be related, specific impacts related to traffic are also discussed separately in Section 4.7.3.3.

#### 4.7.3.2. Social impacts

The SIA identified opportunities for the community and provides pre-mitigation risk ratings as identified in Table 4.7-3 with full details provided in Appendix C-9. Enhancing these opportunities will include the creation of a community sponsorship plan, working with the community to identify community infrastructure that would be beneficial, working with government and the Outback Way committee to provide a case for the early sealing of the Plenty Highway, creating an Indigenous employment plan, liaising with local employment and training providers, and collaborating with other major resource projects on training and education programs.

**Table 4.7-3 Potential Social Opportunities Ratings**

Opportunity	Initial Rating
Distribution of sponsorship funds and royalties to local community	Low
Early sealing of Plenty Highway from Jervois to Stuart Highway and upgrade to the Bonya or Lucy Creek airstrip - benefit to communities, tourism and property owner	Low
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Low

Other flow-on social opportunities resulting from the Project may include:

- Return of community members to Bonya, Harts Range and surrounds
- Raised level of excitement in local communities, particularly Bonya and Harts Range
- Education and upskilling of local residents, particularly in Bonya and Harts Range
- Potential for an earlier than anticipated upgrade of the Plenty Highway to bitumen
- Upgrading of the Lucy Creek or Bonya airstrip (also referred to by some sources as Baikal airport)
- Potential for improved telecommunications in the area due to the Projects requirements
- Local population growth; and
- Post mining infrastructure constructed with Project contributions for the development of community infrastructure at Bonya and surrounds.

Whilst the employment of local Indigenous community members can be beneficial, tensions in local communities as a result of some people being employed and receiving wages has the potential to lead to jealousy, humbugging for money and increased access to alcohol which can lead to alcohol related violence.

Pastoralists and other local residents may also be impacted if they have the feeling that their quality of life has been reduced by the presence of the Project and the workforce being nearby, although this may be a reduced risk due to the extent of previous mining activity and their experience with this.

Concerns regarding water resources can be quite common in such a low rainfall area, particularly on stock bores. This appears to have escalated with the public debate on to the recent decision regarding fracking in the NT. Another resource related concern raised was the potential for another legacy mine in the NT.

The health of workers has the potential to be impacted as a result of living away from their families which could result in loneliness and mental health issues which may not necessarily be directly work related. Indirect impacts which can result include the effect on their families.

A reduced sense of safety and wellbeing in nearby communities may result from alcohol-related violence as a result of financial enhancements through wages and royalties. The ability to afford drugs, workers bringing drugs to site for selling or sharing, increased use of inhalants and an influx of families have the potential to increase friction and domestic violence in a community and result in this reduced sense of safety and wellbeing.

Impact assessments are paying increased attention to potential, intentional or inadvertent breaches of human rights including breaches of labour laws, racism, recruitment and workplace practices that may create inequitable opportunities or burdens for female workers. Whilst unlikely, proactive management practices provided in Section 4.7.4.2 will be implemented to avoid the occurrence of such issues.

Negative social impacts that were identified by the SIA include those in Table 4.7-4 with associated mitigation and monitoring measures outlined in Section 4.7.4.2. Impacts on people and communities relating to traffic are provided in Section 4.7.3.3. These potential social impacts will relate mostly to the construction and operational phases but some have the potential to continue on indefinitely through rehabilitation and beyond the closure phase of the Project.

Potential human health impacts such as the workforce mental health, workplace deaths or injuries and human rights issues are discussed in Section 4.8 Human Health.

**Table 4.7-4 Potential Social Impacts Risk Ratings**

Impact	Initial Risk Rating
Dust and noise from Project traffic	Low
Influx of Indigenous people back to communities - high expectation of benefits such as job opportunities from the community/honeypot effect	Low
Fears of impacts to water resources	High
Aquifer depressurisation due to mining activities - reduced groundwater availability	Low
Mobilisation of workforce and paid work - reduced community or social cohesion	Low
Rumours and misinformation received by Native Title holders - anxiety by Native Title holders about potential impacts	Low
Increased pressure on local services (health, police) - drawing on local services and infrastructure, inadequate emergency response	Low
Drugs or alcohol brought to site by mine worker - reduced sense of safety and wellbeing in nearby communities	Low
Disturbance to Indigenous heritage items - upsetting of local Indigenous community and reduced cultural and spiritual connections to country or cultural offence	Low
Disturbance to non-indigenous heritage items during mining operations	Low
Uncontrolled fire caused by mining operations, third party or natural disaster – damage to sacred sites	High
Influx of predominantly male workforce - health and social impacts arising from interaction between locals and workforce	Low

Lack of awareness of mine closure concept and timing – unexpected population decline in communities	Medium
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As identified in the Archaeological desktop assessment and field survey conducted by Earthsea Pty Ltd in March 2018, Aboriginal people hunted and gathered across Central Australia, including within EL25429 and this has potentially left archaeological sites and artefacts. During the field survey, five archaeological sites, four background scatters and 41 isolated artefacts of Aboriginal origin were recorded. The archaeological assessment assigned significance ratings of low and low-medium to these archaeological sites and did not believe that the sites were likely to satisfy any of the heritage significance criteria prescribed by the NT Heritage Act. More detailed information on the Aboriginal occupation of Central Australia and detailed descriptions of these sites can be found in Section 3.3 and the Archaeological assessment report located in Appendix C-8.

As identified by the SIA, there is potential for negative impacts on cultural and spiritual connection by the Project and its workforce through inadvertent disturbance of Aboriginal archaeological sites or trespassing. The archaeological assessment also identified the potential for the disturbance of previously undetected Aboriginal archaeological sites, although it was considered that there is a low to medium risk of this occurring.

The Archaeological assessment identified 62 historical features which relate to past mining activities and possibly pastoral activities. The majority of these historical features relate to early prospecting between 1929 and 1950, the Kurt Johannsen period of mining between 1950 and 1963 and activities by the Plenty River Mining Company Pty Ltd. These features include mining equipment, vehicles and vehicle parts, mine infrastructure, generators, tanks, drums, mine workings, a camp site, refuse sites, food cans, lamps, bottles and other bits and pieces associated with human occupation on site. The archaeological assessment considered that these historical features were mostly of relatively low heritage significance and rated them all as low with the exception of an automobile and associated parts which were rated at low-medium. The assessment did not believe any of the features were significant enough to be gazetted to the NT Heritage Register. Full details of the historical mining activities and the historic features recorded can be found in Section 3.3 and Appendix C-8.

#### 4.7.3.3. Traffic impacts

Approximately 200 kilometres of the Plenty Highway is unsealed to the Project turnoff onto Road 194. Users of the Plenty Highway which may be at risk include pastoralists with cattle trucks, people travelling between communities, tourists who are mostly inexperienced in traversing dirt roads and government employees. In addition to the potential risk to these users, there is a risk to the Project workforce travelling on the road, particularly if they are tired after a shift or if their vehicles are not suited to remote driving.

A key potential traffic impact associated with the development and operation of the Project is the health, safety and wellbeing of the workforce and the public due to road trauma potential due to poor road conditions, the volume and mix of traffic and the consequences of any incidents. Other impacts may include the increase in dust and noise from mine traffic on locations such as the Gemtree Caravan Park, the avoidance of this route by caravan tourists and accelerated road degradation.

Impacts created by trucks hauling ore on unsealed roads from site into Alice Springs was a concern raised by many stakeholders including the Northern Territory and Harts Range Police, Jervois and Lucy Creek pastoral lease holders, the Gemtree Caravan Park, Central Australian Tourism and the Regional

Coordination Group amongst others. The Plenty Highway is a major tourist route, particularly between the cooler months of June and August, with many travellers towing caravans and camper trailers. In addition, approximately 200 kilometres of the Plenty Highway from the Project turnoff to the Stuart Highway is unsealed which adds another dimension to the potential traffic impacts.

Average annual daily traffic (AADT) for the years 2006 to 2016 obtained from the NT Department of Infrastructure, Planning and Logistics (DIPL) are provided in Table 4.7-5 below. No information is available for the Lucy Creek Access Road and as the road accesses only two sites (Lucy Creek Station and the Project), existing traffic volumes are estimated to be less than ten vehicles per day (Pekol Traffic and Transport, 2018).

**Table 4.7-5 2006 – 2016 Average Annual Daily Traffic Estimates**

Location	AADT
Stuart Highway, 3km north of Alice Springs	1,100
Stuart Highway, 1.5km north of Tanami Road	594
Plenty Highway, 16km east of the Stuart Highway	129
Plenty Highway, 56km east of the Stuart Highway	100
Plenty Highway, 10km east of Huckitta Station (east of Atitjere)	39

Source: Pekol Traffic and Transport Jervois Base Metal Project Traffic Impact Assessment

Road crash history was determined through the assessment of data provided by Road Safety Northern Territory (2018) between 2013 and 2017. This data indicated there were 38 casualty crashes (those excluding crashes which only involve property damage) on the Plenty and Stuart Highways between the Project and Alice Springs as provided in the following table. The majority of these were single vehicle crashes.

**Table 4.7-6 Road Crash History between the Project and Alice Springs**

Location	Estimate
Stuart Highway between Alice Springs and the Plenty Highway	14
Stuart Highway/Plenty Highway intersection	3
Plenty Highway between the Project and the Stuart Highway	21

Source: Pekol Traffic and Transport Jervois Base Metal Project Traffic Impact Assessment

Product ore will be transported from the Project into Alice Springs in half-height lidded containers on triple road trains. Project consumables, including diesel fuel will be transported to the Project using double or triple road trains whilst buses will be used to transport administration and management staff from Alice Springs. The majority of the operational workforce will fly or be bussed to site. Some staff and contractors will also travel to site from Alice Springs in light vehicles. Traffic between the accommodation village and the mine operations will be via the Lucy Creek Access Road. No direct access between the accommodation village and the operational mine will be available to ensure only authorised vehicles travel on or across mine haul roads and to minimise interaction between low visibility mining equipment and other traffic.

Modelling has provided estimates of 35% increase in background traffic on the Stuart Highway and 56% on the Plenty Highway between 2018 and 2030 (Pekol Traffic and Transport, 2018). Daily trip generation by the Project was estimated using expected annual production, staffing requirements and average road train capacity. Predicted daily and peak hour traffic generation estimates are provided in Table 4.7-7. These estimates provide a worst case scenario for the purposes of the traffic impact assessment.

**Table 4.7-7 Project Trip Generation Estimates**

Use	Vehicle Type	VPD	VPH
<b>Construction Phase</b>			
Input – Materials	Double Road Train	6	1
Input – Diesel	Double Road Train	2	1
Transport – Operational Staff	Bus	2	1
Transport – Admin & Camp Staff	Bus	2	1
Transport – Management	Light Vehicle	4	2
Transport – Contractors	Light Vehicle	6	3
<b>Total</b>		<b>22</b>	<b>9</b>
<b>Operational Phase</b>			
Output – Ore Concentrate	Triple Road Train	16	2
Input – Diesel	Double Road Train	2	1
Input – Other	Double Road Train	2	1
Transport – Operational Staff	Bus	2	1
Transport – Admin & Camp Staff	Bus	2	1
Transport – Management	Light Vehicle	4	2
Transport – Contractors	Light Vehicle	6	3
<b>Total</b>		<b>34</b>	<b>11</b>

Source: Pekol Traffic and Transport Jervois Base Metal Project Traffic Impact Assessment, 2018

During the construction phase of the Project, it has been anticipated that all vehicles will travel to site from Alice Springs. Once the upgrade to the Bonya or the Lucy Creek airstrip is completed, operational staff will fly in from Alice Springs.

Estimated daily traffic movement increases on the Stuart and Plenty Highways pre and post development are provided in Table 4.7-8.

**Table 4.7-8 Predicted Increase in Traffic Volumes**

Location	Pre-Development 2030		Post Development 2030	
	AADT	%HV	AADT	%HV
<b>Stuart Highway, 3km north of Alice Springs</b>				
Northbound	728	17.1%	744	18.2%
Southbound	757		773	
Total	1,485		1,517	
<b>Stuart Highway, 1.5km north of Tanami Road</b>				
Northbound	394	20.5%	410	22.4%
Southbound	408		424	
Total	802		834	
<b>Plenty Highway, 1.6km east of Stuart Highway</b>				
Eastbound	97	19.3%	113	26.2%
Westbound	99		115	
Total	196		228	
<b>Plenty Highway, 5.6km east of Stuart Highway</b>				
Eastbound	79	19.3%	95	27.7%
Westbound	76		92	
Total	155		188	
<b>Plenty Highway, 5.6km east of Huckitta Station</b>				
Eastbound	28	19.3%	45	37.7%
Westbound	33		50	
Total	61		95	

Source: Pekol Traffic and Transport Jervois Base Metal Project Traffic Impact Assessment

The Traffic Impact Assessment (Appendix C-2) determined that the existing basic right-turn treatment at the Stuart/Plenty Highway intersection will be sufficient to cater for the additional turning volumes associated with the Project. The swept path analysis also found that the existing Plenty Highway/Lucy Creek Access Road intersection geometry should be sufficient for quadruple road train access and egress. The low traffic volumes and lack of history of crashes at this intersection also does not warrant any upgrades.

A summary of the potential traffic impacts and their risk ratings are contained in Table 4.7-9 with the full social risk analysis details contained in Appendix C-9. Proposed mitigation and monitoring methods are detailed in Section 4.7.4.3. These potential impacts on traffic will relate mostly to the construction and the operational phases of the Project. It is not anticipated that traffic impacts will continue beyond the mine closure and rehabilitation phase as traffic levels will diminish significantly after the conclusion of the operation of the Project.

**Table 4.7-9 Potential Traffic Impacts Risk Ratings**

Impact	Initial Risk Rating
Project traffic - increased road trauma on local roads	Medium
Project traffic - reduction in tourist activity in the region	High
Dust and reduced amenity for nearby communities and residents due to Project traffic	Low
Project activities - reduced productivity of pastoralists	Low

Other potential impacts that were identified through the impact and risk assessment process include:

- Increased pressure on emergency response capabilities;
- Potential clashes with the timing of any upgrades to the Plenty Highway; and
- Impacts of wet weather periods on the ability to haul ore.

Impacts on traffic and road users may provide local benefit should the remainder of the Plenty Highway be upgraded and sealed. A media release from the NT Department for Infrastructure, Planning and Logistics in June 2018 announced the approval of funding towards the Plenty Highway Upgrading Project. Works to be delivered under the Australian Government’s \$600 million Northern Australia Roads Program (NARP) includes approximately 20 kilometres of sealing and flood resilience works to be completed on a priority section of the highway. These works will also reduce the need for vehicle weight restrictions and road closure following heavy rainfall. The Deputy Prime Minister and Minister for Infrastructure and Transport, Michael McCormack stated this project was specifically targeting high-priority roads essential to the movement of people and freight in order to support the development of the North. Minister for Resources and Northern Australia, Matthew Canavan stated that the funding was part of the Australian Government’s \$170 million commitment to the upgrade of the Outback Way.

#### 4.7.3.4. Cumulative impacts

As detailed in section 4.7.1, the Northern Territory Government has identified five significant resource projects in the Central Australian and Barkly Regions which have received NT major project status and have expected commencement dates in the coming two to five years. Combined, these projects have the potential to generate over 2,000 jobs throughout their construction and operational phases. In response to the potential job demands of these projects, the NT Government created the “Five Mines Project” which aims to provide a collaboration and coordination tool to ensure businesses and

individuals who wish to become involved in the projects have the appropriate skill level, capabilities and knowledge to enable them to benefit from the opportunities created. As the Jervis Base Metal Project has been identified by the Northern Territory Government as one of these “Five Mines”, KGL will cooperate with the NT Government to contribute to this process where required.

Northern Territory Government reporting as at September 2018 indicates that the other major projects are unlikely to commence within the Projects construction timetable.

Cumulative influences from several projects commencing and operating at the same time in the same region has the potential to compound ecological, social and environmental benefits or impacts. This may result in gradual social or ecological degradation of the region.

Timing of the five major projects in the NT will be of a greater concern should they all require a workforce at the same time and the capacity to fill the demand. With the Northern Gas Pipeline expected to finish at the end of 2018 these projects may benefit from this timing when job numbers progressively ramp down.

Cumulative impacts and opportunities of the Project from a social and economic perspective were addressed in the SIA and the associated risk assessment process. Cumulative impacts and opportunities identified are outlined in Tables 4.7-10 and 4.7-11 below. Whole of Project cumulative impacts are further addressed in Section 4.9.

Whilst it is not anticipated that the Project on its own will have a major impact on the Central Australian economy, cumulative impacts may arise if other major resource projects proceed.

Although not specifically raised by stakeholders, there is the potential for the Project traffic to impact road safety at the Stuart Highway/Plenty Highway and Plenty Highway/Lucy Creek Access intersections. Given the low background traffic flows, the additional vehicle volumes are expected to have a negligible impact on intersection delay and road link capacity (Pekol Traffic and Transport, 2018). Based on the existing crash scores on the Stuart Highway and the sealed section of the Plenty Highway, the addition of Project traffic is not expected to negatively impact road safety on these road Sections. Although the existing crash score on the unsealed section of the Plenty Highway to the west of the Project is significantly higher than average, given the vast majority of crashes on this road section are single vehicle crashes, the addition of Project traffic is not expected to impact road safety for existing traffic (Pekol Traffic and Transport, 2018).

**Table 4.7-10 Potential Cumulative Impacts Risk Ratings**

Impact	Initial Risk Rating
Cumulative impact of the five major projects in Central Australia coming on line at the same time - pressure on workforce availability, services and inflationary pressures	Low

Cumulative impacts can also create potential opportunities and whilst possibly not realistic, ideally there would be a balance between the impacts and the opportunities on the local and regional communities. The cumulative opportunity resulting from the development of the Project is outlined in the Table below.

**Table 4.7-11 Potential Cumulative Opportunities Ratings**

Opportunity	Initial Rating
Cumulative impacts can enhance the opportunities – local jobs, economic benefits, Indigenous employment and education outcomes	Low

#### 4.7.4. Mitigation and Monitoring

KGL is committed to implementing strategies to guide their social performance and retain their social licence to operate throughout the life of the Project. In response to stakeholder feedback on the Project, KGL will implement the following strategies to manage and reduce potentially negative impacts:

- Incorporate feedback into Project planning processes, specifically in relation to the impacts of trucks on the Plenty Highway, local employment opportunities, capacity to manage health, safety and emergency responses on site, economic opportunities and water use
- Continue to engage with key stakeholders to keep them informed through meetings, newsletters and the KGL website
- Provide clear and up-front information to stakeholders and the wider community to avoid misinformation
- Campaign the NTG for improved telecommunications in the region; and
- Pursue the option to construct a rail siding on the Ghan Railway Line where it crosses the Plenty highway north of Alice Springs, in conjunction with other potential users of this infrastructure.

Project impacts will be managed in accordance with the Social Impact Management Plan (SIMP) provided in Section 5 which addresses all stages of construction, mining, processing and transport of concentrate. The essence of this SIMP is to avoid or minimise negative impacts and enhance potential impacts created by the Project. Regular stakeholder liaison and the indicators listed in the following sections will be used to detect any early warning signs that the management and mitigation measures designed are not achieving the outcomes which have been anticipated for the Project.

##### 4.7.4.1. Economic

The potential economic risks outlined in Section 4.7.3.1 will be managed through the implementation of strategies such as:

- A Traffic Management Plan including a road safety strategy
- Regular liaison and communication with the community, pastoralists and key tourism stakeholders
- Liaison with the NT and Federal Governments on early sealing of the Plenty Highway
- A Local Industry Participation Plan
- Continued work with ICN NT, NT Government departments, the Chamber of Commerce and the REDC to promote tenders which suit local capacity, boost skills, prepare businesses for an increase in competition and standards required by KGL
- Forward planning and communication
- Joint training initiatives to address backfilling; and
- A recruitment strategy focussing on locals and the encouragement of FIFO workers to relocate.

Supply and procurement opportunities for the Project are likely to suit small businesses in Alice Springs which should lead to good local content outcomes so a focus will be made on communication strategies to ensure any unrealistic expectations are managed.

Potential opportunities for local businesses and the economy of local and regional communities will be maximised through the development of a Local Participation Plan, the MOU with Bonya and



working with NT Government business development staff, ICN NT, the Chamber of Commerce and REDCs to package and promote locally suited tenders.

Small contracting opportunities provided by the Project for the Bonya and Atitjere communities may require assistance through NT Government business support programs. The Bonya community and broader Traditional Owner group may also be able to leverage off the Project and community benefits package as negotiation under the ILUA. These opportunities could include mining services such as horticulture, facilities management, transport and labour hire. KGL will work with these communities to support any realistic business opportunities.

Potential opportunities provided by the Project, their initial and residual risk ratings are provided in Table 4.7-12.

**Table 4.7-12 Potential Economic Opportunities Residual Ratings**

Opportunity	Initial Rating	Residual Rating
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Low	High
Distribution of sponsorship funds to local community	Low	High
Boost to local business being awarded contracts from the Project	Low	High

The potential economic impacts highlighted through the SIA process, their pre-mitigation and residual risk ratings are detailed below in Table 4.7-13.

**Table 4.7-13 Potential Economic Impact Residual Risk Ratings**

Impact	Initial Risk Rating	Residual Risk Rating
Reduction in tourist traffic due to increased Project traffic	High	Low
Mobilisation of workforce and paid work resulting in displacement of other sectors through crowding out	Low	Low
Direct and indirect jobs and training - expectations of local jobs not met, low take up of jobs by local Indigenous people due to lack of work-readiness, structural and cultural issues	Low	Very Low
Project activities - reduced productivity of pastoralists	Low	Very Low
Local content targets not met due to lack of capacity or skills – loss of opportunity to local businesses	Medium	Low
Expectations of boost to local and/or regional economy not met	Medium	Low
Project activities affect other sectors - reduced productivity of other sectors (e.g. loss of staff)	Very Low	Very Low
Uncontrolled fire caused by mining operations - financial loss to property owner	High	Low
Lack of awareness of mine closure concept and timing - unexpected loss of financial support	Medium	Low

The economic indicators by which management will track changes in the baseline conditions outlined in the SIA and any emerging issues are listed in the following tables. The process of monitoring these will include a grievance procedure or complaints system so the community can continue to raise

potential issues. An ongoing community engagement and communication strategy will also be a focus for KGL.

**Table 4.7-14 Economic Opportunity Indicators**

Opportunity	Indicators
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Number of locals who win jobs. Retention rates for local workers. Local Indigenous proportion of workforce. Number of Alice Springs residents who win jobs. Retention rates for Alice Springs workers. Alice Springs proportion of workforce. Number of families who relocate.
Boost to local business being awarded contracts from the Project	Number of local contracts awarded. Value of local contracts awarded. Change in regional GSP.

**Table 4.7-15 Economic Impact Indicators**

Impact	Indicators
Reduction in tourist traffic due to increased Project traffic	Economic indicators
Mobilisation of workforce and paid work resulting in displacement of other sectors through crowding out	Occupancy rates of short-term accommodation. Number of bed nights used by the Project in Alice Springs. Number of seats taken up on regional flights. Cost and availability of regional flights.
Direct and indirect jobs and training - expectations of local jobs not met, low take up of jobs by local Indigenous people due to lack of work-readiness, structural and cultural issues	Number of locals who win jobs. Number of unsuccessful local applicants. Number of training courses attended by local people. Retention rates for local workers. Proportion of workforce that is local. Number of local Indigenous people who win jobs. Number of unsuccessful local Indigenous applicants. Retention rates for local Indigenous workers. Proportion of workforce that is local Indigenous.
Project activities - reduced productivity of pastoralists	Feedback from pastoralists Economic indicators
Local content targets not met due to lack of capacity or skills – loss of opportunity to local businesses	Number of local contracts awarded. Value of local contracts awarded. Complaints from local companies.
Expectations of boost to local and/or regional economy not met	Number of local contracts awarded. Value of local contracts awarded. Complaints from local companies. Number of locals employed.
Project activities affect other sectors - reduced productivity of other sectors (e.g. loss of staff)	Number of staff coming from other local jobs. Job vacancies. Job vacancies.

Uncontrolled fire caused by mining operations - financial loss to property owner	Economic indicators
Lack of awareness of mine closure concept and timing - unexpected loss of financial support	Economic indicators

4.7.4.2. Social

Improved educational outcomes for local Indigenous people, opportunities for direct and indirect job training for local Indigenous people and job opportunities for residents of Alice Springs will be enhanced through an Indigenous employment and training plan. The Indigenous employment and training plan will address barriers to employment and include support mechanisms to address cultural and family obligations. Training courses will aim to match jobs with individual skills and capabilities.

The opportunities for local communities to benefit through the distribution of sponsorship funds will be managed through a sponsorship plan and liaison with the community and the CLC to support local community events and to identify community infrastructure needs.

Initial and residual risk ratings for social opportunities identified in the SIA process are detailed below in Table 4.7-16.

**Table 4.7-16 Potential Social Opportunities Residual Ratings**

Opportunity	Initial Rating	Residual Rating
Distribution of sponsorship funds and royalties to local community	Low	High
Early sealing of Plenty Highway from Jervois to Stuart Highway and upgrade to the Bonya or Lucy Creek airstrip - benefit to communities, tourism and property owner	Low	Low
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Low	High

Mitigation measures which will be implemented for potential impacts created by the Project on people and communities will include:

- Implementation of the Environmental Management Plan which will address:
  - speed limits for workers and contractors;
  - road watering to manage dust; and
  - stakeholder liaison practices.
- Road safety initiatives
- Regular community liaison and stakeholder engagement throughout the life of the Project.
- Occupational Health and Safety Management Plans
- Transporting workers directly to site
- A Worker Code of Conduct to address:
  - Adherence to the MOU with the Bonya community
  - Offsite behaviour expectations
  - Legal obligation of personnel avoid trespassing on culturally significant areas or interfering with pastoral activities; and
  - Strict adherence to the site drug and alcohol policy.
- Cross cultural training of workers

- Implementation of an Environmental Management Plan including a Cultural Heritage Management Plan
- Liaison with the CLC, the AAPA and Traditional Owners
- Regular monitoring of local groundwater resources
- Lobbying of the Northern Territory and Federal Governments for the early sealing of the Plenty Highway
- Restricting the use of private vehicles to travel to site, particularly from Alice Springs; and
- Working with the CLC regarding education programs, community development and social infrastructure investments.

Potential impacts on local infrastructure and social services such as health and police services, particularly emergency response requirements will be managed through strategies including:

- On site health and emergency response capabilities
- Implementation of an Emergency Response Plan in consultation with Harts Range Police and health service providers; and
- Construction of fire breaks and safety precautions to reduce the risk of bushfires.

The enthusiasm about job opportunities and willingness of the Indigenous community to work, and in particular that of the Bonya residents, will need to be matched with the work-ready skills to ensure their successful employment. Potential risks for employment and education such as not meeting local job expectations and the low take up of jobs by local Indigenous people due to a lack of work-readiness and cultural issues will be managed through mitigation measures such as:

- Implementation of a local employment and training plan
- Working with local employment and training providers
- Open communication on job availability
- Workforce planning to address employment barriers
- Collaboration with communities, the Territory and Federal Governments
- Development of policies and procedures to include mentoring and provide a safe and welcoming workplace for Indigenous men and women; and
- Collaboration with other major resource projects on regional training and education programs and employment opportunities.

Realistic job opportunity expectations will be further managed through open and regular communication with the community.

Potentially negative impacts on the health, safety and wellbeing of the workforce and the local and regional community detailed in Section 4.7.3.2 will be mitigated and managed through the implementation of:

- Human resource practices including staff mentoring, support and mental health issues
- Designing lifestyle rosters that focus on workforce welfare
- Worker Codes of Conduct
- Workplace health and safety standards
- Staff safety inductions
- Construction of a gymnasium and introduction of a fitness programs on site
- Drug and alcohol policies and testing
- Community liaison and stakeholder engagement
- Regular communication with CLC and the local Police; and
- An Environmental Management Plan.

While reduced enjoyment of the natural environment was listed as a potential risk in the SIA process, it was reported that no concerns were raised by any stakeholders about the disturbance to the area. This is most likely due to the level of existing disturbance which exists across the Project site. (True North Strategic Communication, 2018)

Cultural risks that may arise from the reduction in cultural and spiritual connections to country or cultural offence will be managed through ongoing liaison and communication, the Bonya community MOU, cross cultural staff inductions and worker codes of conduct.

Potential impacts on Aboriginal Archaeological sites will be managed through the Environmental Management Plan for the Project which is provided in Section 5. This plan includes management measures such as avoiding identified sites where possible and if this is not feasible, a permit to disturb will be sought from the NT Minister for Environment under Section 72-75 of the NT Heritage Act. If previously undetected Aboriginal archaeological sites are located during Project development activities, the control strategies outlined in the Cultural Heritage Management Plan will be triggered and implemented. These strategies include an assessment of the site, the alteration of activities to avoid the site if possible, and if not feasible an application will be made for a permit to salvage the site.

Proposed mitigation measures to address potentially negative human rights impacts as nominated in Section 4.7.3.2 will include the implementation of cross-cultural inductions, worker codes of conduct, human resources plans, regular liaison with the CLC and Traditional Owners and culturally appropriate communication.

Continuous community engagement will be carried out to ensure mine closure concept and timing communicated. Assistance will be provided to support the community to manage the transition period from mine production to closure, including the implication on jobs, financial support and population change.

During mine closure, an extensive closure monitoring program will be incorporated into the Mine Rehabilitation and Closure Plan (MCRP) to investigate the success of rehabilitation and whether completion criteria are being achieved and to identify any additional work required to meet success criteria. Rehabilitation will be monitored during operations and after final rehabilitation has been completed. The need for ongoing monitoring and the frequency of monitoring will be continuously assessed. Monitoring will include:

- Plant establishment, growth, diversity and cover
- Evidence and type of erosion
- Water quality including groundwater and surface water
- Air quality
- Landform stability including cover system performance
- Soil quality; and
- Fauna.

Monitoring location, frequency and parameters will be confirmed with the relevant authorities during decommissioning and closure planning stage. The proposed monitoring criteria for closure are outlined in **Error! Reference source not found.** Reports on monitoring results and progress towards mine closure criteria will be issued to relevant stakeholders annually. Details on post closure monitoring is outlined in MRCP.

Detail contingency measures will be developed during decommissioning and closure planning stage and will be undertaken if monitoring demonstrates that objectives are not being met. Monitoring will continue to occur until two consecutive sampling events show criteria being met.

The only stakeholder identified risk to the environment as nominated in the SIA is the fear of impacts to water resources which will be managed and mitigated through the strategies nominated in the Environmental Management Plan associated with this EIS and provided in Section 5. These strategies will include:

- Open and transparent communication plan about hydrological studies and monitoring program, water source for the Project and impacts of drawdown on pastoral bores, soaks and other beneficial users
- Implementation of the Environmental Management Plan; and
- Continuous communication on monitoring results.

Additional environmental concerns to the community will include legacy mine issues and impacts to local and regional environmental values such as surface water, groundwater, terrestrial flora and fauna, air quality, land and soils. These impacts are addressed in their relevant Sections throughout this EIS.

The Project Mine Rehabilitation and Closure Plan provided in Section 5 outlines the Project rehabilitation and objectives, indicators and completion criteria. The purpose of this MRCP is to alleviate community concern in line with the National Strategy for Ecologically Sustainable Development to promote economic growth whilst safeguarding the wellbeing of future generations, protecting biological diversity and maintaining essential ecological processes. The MRCP will be a dynamic document that is reviewed regularly to ensure the plan remains relevant to the activities being undertaken and planned to be undertaken. A stakeholder engagement plan will be implemented during operations and closure phase of the Project. The plan will include the mine closure and rehabilitation process and results of the consultations will be incorporated into the progressive rehabilitation process and the MRCP. A specific closure consultation will be undertaken two years prior the planned mine closure.

The potential social impacts identified in the SIA, their initial risks and post-mitigation residual risks are detailed below in Table 4.7-17.

**Table 4.7-17 Potential Social Impacts Residual Risk Ratings**

Impact	Initial Risk Rating	Residual Risk Rating
Dust and noise from Project traffic	Low	Very Low
Influx of Indigenous people back to communities - high expectation of benefits such as job opportunities from the community/honeypot effect	Low	Very Low
Fears of impacts to water resources	High	Low
Aquifer depressurisation due to mining activities - reduced groundwater availability	Low	Very Low
Mobilisation of workforce and paid work - reduced community or social cohesion	Low	Low
Rumours and misinformation received by Native Title holders - anxiety by Native Title holders about potential impacts	Low	Very Low
Increased pressure on local services (health, police) - drawing on local services and infrastructure, inadequate emergency response	Low	Very Low
Drugs or alcohol brought to site by mine worker - reduced sense of safety and wellbeing in nearby communities	Low	Very Low
Disturbance to Indigenous heritage items - upsetting of local Indigenous community and reduced cultural and spiritual connections to country or cultural offence	Low	Very Low
Disturbance to non-indigenous heritage items during mining operations	Low	Very Low
Uncontrolled fire caused by mining operations, third party or natural disaster – damage to sacred sites	High	Medium
Influx of predominantly male workforce - health and social impacts arising from interaction between locals and workforce	Low	Very Low
Lack of awareness of mine closure concept and timing – unexpected population decline in communities	Medium	Low

The Cultural Heritage Management Plan prepared as a part of archaeological assessment report includes recommendations on mitigating the impact of the Project activities on significant sites and features. Site specific mitigation measures will include the maintenance of records of the locations of Aboriginal archaeological sites protected under the NT Heritage Act, mine planning to include the consideration of recorded sites and employee inductions to address the protection of Aboriginal archaeological sites and Aboriginal culture and history. These sites have already been fenced off to avoid inadvertent damage. Although not anticipated, if avoidance of sites is not possible, an application under Sections 72-75 of the NT Heritage Act will be lodged with the Director of Heritage, NT Heritage Branch, along with a copy of the archaeological report. In addition, the Project Environmental Management Plan provided in Section 5 addresses the management and protection of Aboriginal archaeological sites.

In August 2016 an AAPA Authority Certificate was issued for EL25429 for ‘all operations, activities and incidental matters’ of the ILUA between CLC and KGL. This Authority Certificate states that no works can be undertaken and no damage shall occur within the nominated Restricted Works Area. An additional Authority Certificate has been issued for activities associated with the development of the Project in areas adjacent to EL25429. Should any future activities require additional Certificates, application will be made to ensure there is no accidental damage to sites that are sacred or otherwise significant to Aboriginal tradition.

The Cultural Heritage Management Plan also includes procedures for the discovery of unrecorded surface and sub-surface archaeological sites. These procedures include:

- Worker induction to include a briefing on the existence of Aboriginal Sacred Sites and procedures for the protection of these sites
- Avoiding identified sites where possible and if this is not feasible, a permit to disturb will be sought from the NT Minister for Environment under Section 72-75 of the NT Heritage Act
- Assessment of previously undetected Aboriginal archaeological sites, alteration of activities to avoid these sites if possible, and if not feasible an application will be made for a permit to salvage the site
- Retention of a GIS file recording the location of Aboriginal Archaeological Sites protected under the NT Heritage Act; and
- Commissioning field surveys if works are planned outside of the planned footprint.

If the automobile and associated parts identified in the archaeological assessment report as having a low-medium significance under the NT Heritage Act are to be disturbed by the construction of Project infrastructure, they will be relocated to a secure area. KGL will also consider donating the vehicle to the NT Transport Museum in Alice Springs.

As the local pastoralists have some experience in dealing with previous mining and exploration activities on the Project, the risk of them feeling that their quality of life has been reduced is mitigated to some extent.

The social opportunity and impact indicators by which management will track changes in conditions and emerging issues are provided in the following Tables. Again, monitoring processes will include a grievance procedure or complaints system so the community can have direct access to the Project and continue to raise potential issues. The number of community complaints will be reported on a monthly basis to management and the Project operators and workforce to maintain an awareness of community feedback.

**Table 4.7-18 Social Opportunity Indicators**

<b>Opportunity</b>	<b>Indicator</b>
Distribution of sponsorship funds and royalties to local community	Number of sponsorship projects and expenditure on community events and infrastructure projects.
Early sealing of Plenty Highway from Jervois to Stuart Highway and upgrade to the Bonya or Lucy Creek airstrip - benefit to communities, tourism and property owner	Early sealing of the Plenty Highway.
Direct and indirect jobs and training for local Indigenous people and residents in Alice Springs	Number of relevant training courses attended by local Indigenous people. Employment and retention rates of local Indigenous people. Number of local Indigenous people in paid employment compared to previously.



**Table 4.7-19 Social Impact Indicators**

Impact	Indicators
Dust and noise from Project traffic	Concerns about dust and noise.
Influx of Indigenous people back to communities - high expectation of benefits such as job opportunities from the community/honeypot effect	Demographic data and trends.
Fears of impacts to water resources	Concerns about Projects use of water (survey). Aquifer levels. Pumping rates for bores. Complaints.
Aquifer depressurisation due to mining activities - reduced groundwater availability	Concerns about Projects use of water (survey). Aquifer levels. Pumping rates for bores. Complaints
Mobilisation of workforce and paid work - reduced community or social cohesion	Number of complaints from community. Level of community concern (as measured in a survey). Reports of conflict. Feelings of safety and wellbeing.
Rumours and misinformation received by Native Title holders - anxiety by Native Title holders about potential impacts	Number of complaints. Feelings of safety and wellbeing. Reports of conflict.
Increased pressure on local services (health, police) - drawing on local services and infrastructure, inadequate emergency response	Project staff presenting to local health services. Number of medical evacuations requiring health triage. Number of incidents requiring emergency services response. Number and severity of road trauma incidents involving Project vehicles.
Drugs or alcohol brought to site by mine worker - reduced sense of safety and wellbeing in nearby communities	Number of complaints from community. Level of community concern (as measured in a survey). Increase in complaints or reports to police.
Disturbance to Indigenous heritage items - upsetting of local Indigenous community and reduced cultural and spiritual connections to country or cultural offence	Number of complaints from community. Level of community concern (as measured in a survey).
Disturbance to non-indigenous heritage items during mining operations	Number of complaints from community. Level of community concern.
Uncontrolled fire caused by mining operations, third party or natural disaster – damage to sacred sites	Number of complaints from community. Level of community concern.
Influx of predominantly male workforce - health and social impacts arising from interaction between locals and workforce	Reports of issues concerning interactions between locals and workers. Complaints about worker behaviour. Level of community concern (survey).
Lack of awareness of mine closure concept and timing – unexpected population decline in communities	Demographic data and trends.

#### 4.7.4.3. Traffic

Site administration staff and the majority of the senior management team will work a five-day week. In order to reduce the quantity of road traffic travelling to and from the Project site administration staff will be based in Alice Springs transported by bus to site departing early Monday mornings and returning to Alice Springs on Friday afternoon. The senior management team will have access to site vehicles and have the option to either drive, fly (with rostered operations/maintenance team) or bus from Alice to site and back.

Operations and maintenance staff on a shift roster (two weeks on/one week off) will be FIFO from Alice Springs then bussed to and from site. As part of the major engineering and construction services contract, the Lucy Creek or Bonya airstrip will be upgraded to all-weather and include an airport departure shed, baggage area and associated parking facilities. Should the Lucy Creek airstrip become the preferred option, it will also require resurfacing and upgrading.

Access roads to the Project will be designed in accordance with Austroads Guide to Road Design Part 3: Geometric Design (2010). Based on the recommendations in the Traffic Impact Assessment (Appendix C-2), minimum 8.7 metre wide access roads to the Project will be provided, consisting of a single 3.7 metre wide unsealed lane with 2.5 metre shoulders. Passing opportunities sufficient to allow two road trains to pass will also be provided on the access road. In addition, these access roads will be located to achieve appropriate site distances on the Lucy Creek Access Road and on the access roads themselves.

A Traffic Management Plan will be prepared to address potentially negative social and economic impacts such as public health and safety, degradation of unsealed roads, dust, pastoral productivity and impacts on tourist numbers. This Management Plan will address factors such as:

- Speed limits for workers and contractors
- Road watering to manage dust; and
- Stakeholder liaison practices.

Traffic impacts will be further managed through road safety initiatives, the direct transport of workers to site, restricting the use of private vehicles to travel to site, particularly for those workers travelling from Alice Springs, a public relations strategy regarding road safety around haul trucks and to promote the use of radio channels on the Plenty Highway.

In an attempt to contribute to improving local infrastructure which would benefit local pastoralists, the community, tourists, government services and workers visiting local communities, KGL will continue to work with the Outback Way Committee, Territory and Federal Governments to provide a case for the early sealing of the remainder of the Plenty Highway.

The potential impacts created by an increase in traffic created by the Project, their initial risks and post-mitigation residual risks are detailed below in Table 4.7-20.

**Table 4.7-20 Potential Traffic Impacts Residual Risk Ratings**

Impact	Initial Risk Rating	Residual Risk Rating
Project traffic - increased road trauma on local roads	Medium	Medium
Project traffic - reduction in tourist activity in the region	High	Low
Dust and reduced amenity for nearby communities and residents due to Project traffic	Low	Very Low
Project activities - reduced productivity of pastoralists	Low	Very Low

The potential impacts created by additional traffic will be monitored through the indicators listed in Table 4.7-21. Changes in conditions and emerging issues will be tracked and monitored with complaints addressed through a formal complaints system to they can be addressed in a timely manner and reported internally.

**Table 4.7-21 Traffic Impact Indicators**

Impact	Indicators
Project traffic - increased road trauma on local roads	Number of road trauma incidents involving property damage, death or injury
Project traffic - reduction in tourist activity in the region	Tourism visitation figures. Reduction in road traffic on the Plenty Highway during peak tourist period. Feedback from tourism operators
Dust and reduced amenity for nearby communities and residents due to Project traffic	Number of complaints on amenity issues; Level of community concern (survey).
Project activities - reduced productivity of pastoralists	Feedback from pastoralists.

#### 4.7.4.4. Cumulative Impacts

Potential cumulative impacts and opportunities arising through the development of the Project will be managed through stakeholder engagement and communication and liaison with other proponents to take into consideration impacts such as staff competition, compounding pressure on services and the environment. The strategies outlined in the above sections will also contribute to the management of cumulative economic and social impacts.

KGL will continue to cooperate with the NT Government through the “Five Mines Project” and contribute to this project where required.

The economic and social cumulative impacts identified through the SIA process, their pre-mitigation and residual risk ratings are provided in Tables 4.7-22 and 4.7-23 below. The potential opportunities and impacts will be monitored and reported against the indicators provided in Tables 4.7-24 and 4.7-25.

**Table 4.7-22 Potential Cumulative Impacts Residual Risk Ratings**

Impact	Initial Risk Rating	Residual Risk Rating
Cumulative impact of the five major projects in Central Australia coming on line at the same time - pressure on workforce availability, services and inflationary pressures	Low	Low

**Table 4.7-23 Potential Cumulative Opportunities Residual Ratings**

Opportunity	Initial Rating	Residual Rating
Cumulative impacts can enhance the opportunities – local jobs, economic benefits, Indigenous employment and education outcomes	Low	Low

**Table 4.7-24 Cumulative Social and Economic Opportunity Indicators**

Opportunity	Indicators
Cumulative impacts can enhance the opportunities – local jobs, economic benefits, Indigenous employment and education outcomes.	Number of projects operating in the region at the same time.

#### 4.7.5. Conclusion

Whilst mining projects have the potential to create impacts on the community, they also have the opportunity to provide benefits to communities and the local economy. The board of KGL have a reputation for prioritising any issue which may trouble the local community and they have a history of working closely with local pastoralists and Aboriginal people. A good working relationship already exists with the local Indigenous community and pastoralists and the continuation of these relationships will be made a priority.

All social and economic impacts created by the Project will be monitored against the key indicators and enable KGL to report on their social performance and any commitments made. Monitoring processes will also identify any emerging issues and address community grievances including local content and jobs, worker behaviour, pressure on government services and the implementation of commitments.

As KGL is a publicly listed company on the ASX, it is obliged to provide an Annual Report to Shareholders. A summary of the company's social performance will be included as part of this report and will be available to the general public through several means including on the KGL website. In addition, KGL will prepare internal monthly reports and provide a separate and more detailed annual report for stakeholders which will also be made available on the KGL website. Specific requests for information will also be accommodated wherever feasible to ameliorate any concerns and address public enquiries.

In order to assist in managing potential social and economic impacts which result from the development of the Project, KGL commits to the responsibilities detailed in the SIMP. A summary of these commitments include the following:

- Establish a liaison committee.
- Establish and monitor a grievance/complaints register.
- Establish relevant management plans to address particular aspects including:
  - Traffic Management Plan
  - Occupational Health and Safety Plan
  - Local Industry Participation Plan
  - Indigenous Employment and Training Plan
  - Cultural Heritage Management Plan

- Environmental Management Plan
- Worker Codes of Conduct; and
- Site Inductions.
- Processes for regular community consultation and Project updates.
- Annual stakeholder surveys.
- Direct lines of communication through email, the Project website and a telephone enquiry line.

KGL places a high emphasis on respecting their social licence to operate and is committed to implementing the strategies outlined within this section to guide their social performance throughout the life of the Project in order to meet community expectations.