



IMPACT ASSESSMENT

SECTION 4.9

CUMULATIVE IMPACTS - LANDSCAPE, BIOPHYSICAL, SOCIAL, ECONOMIC

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Jervois Base Metal Project

VOLUME 2 Impact Assessment

SECTION 4.9 | Cumulative Impacts

4.9 Cumulative Impacts

Cumulative impact assessment is the process of using probabilistic conceptualisation models in combination with pre-determined zones of influence to calculate a measure of estimated risk or probability (likelihood) of impacts to existing environment and socio-economic and heritage aspects of the Project's environment and surrounds (Anthony, Dambacher, Walshe and Beeden, 2013).

In this instance the conceptualisation was guided by the ToR which required that the proposed Project was considered in the context of existing developments, and reasonably foreseeable future developments. The following sections discuss the methodology and findings regarding the potential for cumulative impacts in this context.

4.9.1. Introduction

The potential cumulative impacts for the Project were considered in the context of existing developments and those which are reasonably foreseeable in the near future. The approach to the cumulative impact assessment was to firstly identify projects that were within 500km of Alice Springs which propose a similar development timeframe. The likelihood and consequence of the cumulative impacts in the context of environmental amenity, biophysical, social and economic impacts are provided in the detailed assessments in Sections 4.1 to 4.8 and their associated appendices.

4.9.2. Potential Cumulative Impacts

In March 2018 the Northern Territory Government provided notification that they had 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. They estimated that these projects have a capital expenditure of \$2.2 billion and the potential to create over 2,000 jobs throughout their construction and operational phases. The five projects identified are detailed in Table 4.9-1.

Table 4.9-1: Major Projects

Project (Operator)	Proposed Start Date	Approximate Location	Construction Employment	Operation Employment
Jervois Base Metal Project (KGL Resources Limited)	Proposed 2019	380km north-east of Alice Springs	Up to 360	Up to 300
Ammaroo Phosphate Project (Verdant Minerals)	2019	270km north-east of Alice Springs	Up to 300	Up to 165
Nolans Rare Earths Project (Arafura Resources)	2019	135km north-west of Alice Springs	Up to 500	Up to 300
Mount Peake Vanadium Project (TNG Limited)	2019	235km north north-west of Alice Springs	Up to 225	Up to 170
Chandler Salt Mine (Tellus Holdings)	2019	120km south of Alice Springs	Up to 270	150-180

The purpose of this “Five mines Project” is to design a coordinated program which will ensure businesses and individuals have appropriate skill levels, capabilities and knowledge to enable them to benefit from opportunities created by these projects. The Jervois Base Metal Project has been identified by the Northern Territory Government as one of these “Five mines” and as such, a link to other projects in the NT has been created.

The closest proposed development to the Project is the Ammaroo Phosphate Project located over 100km away. The closest operating mine in the region is The Granites Gold Mine which is operated by Newmont Tanami Pty Ltd located approximately 550km north-west of Alice Springs. The other major project in the region is the 622 kilometre Northern gas pipeline which links Tennant Creek to Mount Isa which is currently under construction and estimated to be completed in 2018. Due to the distance from the Project to the proposed and operating projects, the cumulative impacts on biodiversity, water quality, dust, air quality, heritage, noise, vibration, greenhouse gases and scenic amenity are considered to be negligible.

In June 2018, the NT Department for Infrastructure, Planning and Logistics released an announcement on the approval of funding toward the upgrade of the Plenty Highway. These works are to include approximately 20 kilometres of sealing and flood resilience works to be completed on a priority section of the highway. This project is part of the plan to target high-priority roads essential to the movement of people and freight which supports the development of the North. The proposed roadworks have the potential to coincide with the construction or operational phases of the Project. At the time of preparation of this EIS, the timeframe for these works is not known and it is therefore not known to what degree the Project and these works may contribute to regional cumulative impacts.

Other than the Northern Territory Government Five mines Project and the proposed Plenty Highway upgrade, the Jervois Base Metal Project does not directly relate to any other third-party proposals or actions that have been or are being undertaken or approved in the region (current as at August 2018). KGL Resources may instigate relationships with other projects in the region should they proceed with their investigations into an option to construct a rail siding on the Ghan Railway Line where it crosses

the Plenty highway north of Alice Springs. The construction of this proposed rail siding would be dependent on the development of agreements with other third-party users in the region.

4.9.2.1. Cumulative Positive Impacts

The cumulative impacts of the Five mines Projects have the ability enhance local direct and indirect job opportunities, boost local business, benefit the local and Northern Territory economies, provide Indigenous and Non-Indigenous employment and education outcomes. In total, the five projects are anticipated to employ over 2,000 workers in their construction phases and potentially 1000 during their operation. It is anticipated that a large portion of the workers would be sourced from the Northern Territory, including the Alice Spring region. More detailed information on these cumulative impacts are provided in Section 4.7 and the Social Impact Assessment provided in Appendix C-9.

Other potential benefits to the community may include the development and the improvement of infrastructure such as roads and telecommunications as a result of the Project's needs.

In addition to the potential infrastructure, education, business and employment opportunities, there will be royalty benefits, taxation, Australian export earnings and infrastructure upgrades associated with the development of the five projects. The proposed developments would contribute over AUD\$2 billion towards the Australian economy for the entire life of the Project. These would have significant cumulative positive social and economic impacts to the local Alice Spring region, the Northern Territory and Australia.

4.9.2.2. Cumulative Negative Impacts

Cumulative negative impacts have the potential to arise when multiple projects are operating in an area at the same time. These impacts may include competition for staff, compounding pressure on local services and environmental pressures.

Cumulative social and economic impacts, particularly for Alice Spring, may arise if the five projects are operational at the same time. The region might experience shortages in affordable accommodation and housing, skills shortages in trades, difficulties in retaining staff in the non-mining sectors and pressure on community services such as child care, employment and skills training, health and education.

KGL will liaise with the proponents of the other projects, local authorities, training and employment providers and local organisations to contribute to any joint planning activities that have the potential to mitigate these impacts.

4.9.2.3. Mitigation Measures

Mitigation Measures to manage social and economic cumulative impacts include:

- Regular stakeholder engagement and communication
- Collaboration with other proponents
- Working with industry groups such as ICN NT, Regional Economic Development Corporations and the Chamber of Commerce
- Liaison with the NT and Australian Governments
- Development of a Local Industry Participation Plan
- Implementation of employment and training plans

- Development of a Social Impact Management Plan
- Development of a Traffic Management Plan
- Road safety initiatives
- Lobbying the NT Government for early sealing of the Plenty Highway; and
- Site specific management plans to address impacts to the environment.

KGL will continue to cooperate with the NT Government through the “Five mines Project” and provide contributions as required. KGL will also liaise with other proponents to provide joint planning of activities if possible or to transition workers and contractors from one project to the next. Training programs will be developed through consultation with local organisations and employment service providers to address skills shortages. Site accommodation and FIFO workforce will be part of the mitigation measures to manage pressure on staffing, accommodation and services in the region.