



**s26 MRSD Act  
Sustainability Report  
1 July 2015 to 30 June 2016**

## 1) Introduction

This report has been prepared to comply with section 26 of the Minerals Resources and Sustainable Development Act. The report format is based on the Department Economic Development Jobs Training and Resources (DEDJTR)-Earth Resources Regulation (ERR) Public Sustainability Reporting 2015-16 Guidelines.

Castlemaine Goldfields Pty Ltd (CGT) is the authority holder of Mining Licence 5396 (MIN5396).

The mining and exploration licences occupied by CGT cover almost the entire historic gold mining areas of the city of Ballarat. While the underground footprint of the mine extends around 3.5 km from Mt Clear in the south to Bakery Hill in the north, the actual mine site's foot print in Mt Clear is relatively small at around 80 Hectares.

## 2) Economic Benefit of the operation

CGT currently produces around 40-50,000 oz of Gold per annum. Gold dore produced by the site is forwarded to an Australian refiner for melting and further refinement in accordance with London Bullion Market Association standards and Commonwealth Acts. The refined gold bullion is purchased by the Australian refiner for their use locally and internationally.

Total 2015/16 annual expenditure for the project was approximately A\$70 million with direct salaries comprising around A\$18M. At the end of the 2015/16 reporting period CGT employed 155 people, and 81 (FTE) contractors, 79% of CGT's staff live locally to Ballarat.

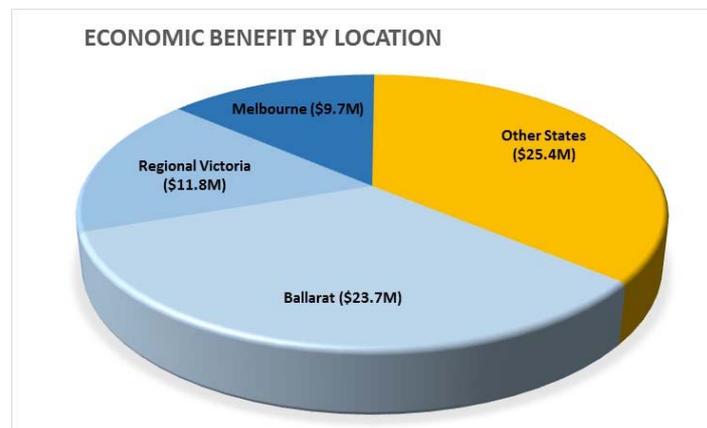


Fig 1: CGT expenditure (goods, services and wages).

The direct economic benefit to the Ballarat economy without any multiplier effect is estimated at \$23.7M and the benefit to Victoria is approximately \$45M.

### 3) Environmental Management Overview

The approved Environmental Management Plan (EMP) has been prepared to address operational and environmental risks associated with MIN5396. The aim of the EMP is to provide a basis for environmental management applied at CGT's Ballarat Mine. It outlines the various risks and controls required to ensure compliance with environmental legislation and for CGT's social licence to operate.

The key areas in the EMP are;

<b>Risk/Issue</b>	<b>Controls</b>	<b>Monitoring and Reporting</b>
Noise	Restricted work times for tasks that do not meet strict noise criteria, design and procurement of equipment, licence conditions	There are seven monitoring locations.
Air quality	Water cart, polymer application on service road, sprinklers, vehicle speed restrictions, processing plant is primarily a wet circuit, licence conditions	There are seven permanent monitoring stations.
Vibration	Restricted firing times, design criteria for production firings, use of electronic detonators for control of frequencies, licence conditions	Up to six vibration monitors are installed within close proximity to each firing.
Surface Water	Extensive surface water storage dams and wetlands, defined work areas, spill controls, zero discharge from processing water circuit, licence conditions	CGT collect a range of surface water quality data from insitu daily tests to NATA accredited samples for licence compliance reporting.
Ground Water	Defined work areas, spill controls, Tailings Storage Facility is lined with >0.6m clay liner to protect groundwater from contamination	There are eight groundwater bores that are regularly monitored for levels and quality.
Traffic Management	A single point of entry, signage, all purchase orders stipulate directions and curfew restrictions.	Results and exceedances of the limits are reported to the regulatory authorities.
Flora & Fauna	Flora & Fauna assessments, weed control, rehabilitation efforts use indigenous species in an effort to improve the biodiversity values of the site	Annual revegetation and weed programs are monitored for success and reported to regulatory authorities.

CGT has an extensive monitoring network for the various environmental and community risks identified above. Monitoring data sets range from 5 minute online weather and water monitoring to annual usage of energy. It is impractical to present all monitoring data in this report.

In line with licence conditions, environmental monitoring results are reported quarterly to the Environmental Review Committee and annually to the EPA- Annual Performance Statement and the National Pollution Inventory and the DEDJTR-ERR as part of the Schedule 15 Reporting requirements.

CGT's established procedures and regular monitoring and reporting of environment and community matters is an effective way of identifying the efficacy of controls. Should a control be identified as ineffective, CGT implements an investigation to identify corrective actions and ensure the site's standards and licence conditions are maintained.



Fig 2: Left-Groundwater monitoring. Fig 3: Right-Rehabilitation using indigenous species.

#### **4) Rehabilitation**

The approved work plan for the mine site states at the end of the project all areas affected by the site will be left in a safe and sustainable state and returned to the pre-mining land use of commercial forestry.

To date the site has completed progressive rehabilitation using Ecological Vegetation Class based revegetation of the waste rock bund, batters, topsoil stockpiles and areas surrounding the TSF.

During the reporting period, 1.5 Ha of pine willdings were removed from within the approved TSF footprint in preparation for a lift to the embankment. At the end of the reporting period the total disturbed land area was 53.1 Ha.

The opportunity to undertake further rehabilitation is limited as the disturbed areas are within the current active mining area.

#### **5) Community Engagement**

During 2015/16 a total of 676 community interactions were undertaken with 51% being initiated by the company a further 39% of community engagement activities were community members providing feedback and 10% were complaints. The activities included distribution of over 3000 community newsletters, letter drops for specific projects, meetings, direct face to face contacts, proactive emails and phone contacts, tours and presentations on and offsite to community groups and educational institutions.

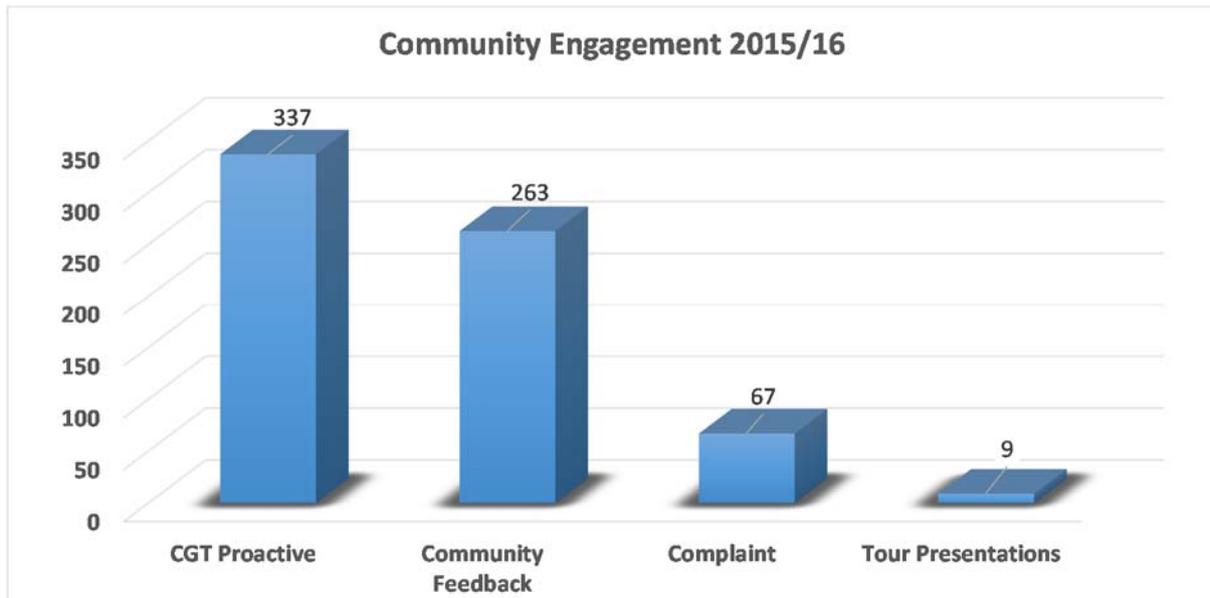


Fig 4: CGT Community Engagement activities.

Ninety one percent of the complaints received for the reporting period were in relation to vibration and noise associated with blasting activity. A single complaint for a land management issue and two for noise from the mine site were also received. All complaints were taken seriously, the information was recorded and investigated and a response was issued, usually within 24hrs.

In response to vibration related community feedback; CGT have undertaken monitoring at residents properties, provided information around blast vibration and licence limits and where practical and safe to do so, modified mining methods. The modifications included using a low density explosive, using smaller multiple firings rather than taking the ore in one larger firing, and altering the duration and pace of the firings. These modifications have achieved mixed results in reducing the number of complaints received. CGT remains committed to reviewing and refining this work in an effort to ease community concerns regarding our activities.

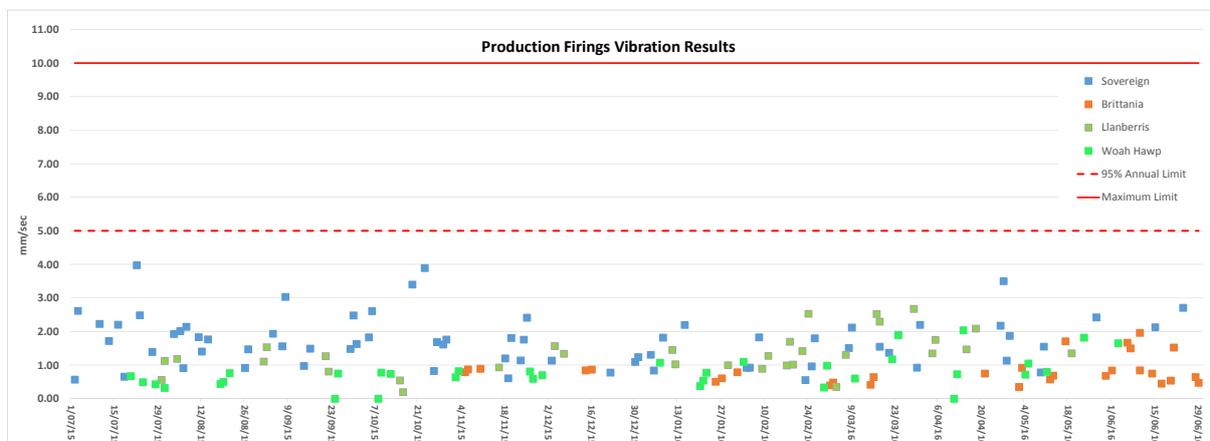


Fig 5: Highest vibration result for each production firing by location.

## 6) Compliance record

There were no compliance notices received under section 110 of the MRSD Act 1990 (Vic) for the reporting period.

There were five reportable events under s41AC of the MRSDA Act.

Four of the events pertained to the City of Ballarat Planning Permit Heavy Vehicle Access and Curfew conditions. All events were internally reported by CGT staff and not members of the community.

The fifth event related to a plastic fibre that became lodged in an air breather valve on the rising main causing a discharge of water from site other than via the approved discharge point. The pipeline was isolated and the spill was cleaned up immediately. There was negligible impact to the environment as the water did not enter any waterway. The valve was replaced and the planned inspection and preventive maintenance interval have been revised.

All non-compliance events were reported to the relevant regulator and included in the company's Annual Report, EPA-Annual Performance Statement, DEDJTR-ERR Schedule 15 and the ERC reports. Follow up investigations and corrective actions were also forwarded to the EPA and DEDJTR-ERR and the ERC.