

# 1. EXPLORATION RATIONALE

The target area in Exploration Licence Application (ELA) 006184 (CRESWICK) is around some of the historic workings within the forested area in the western portion of the tenement (Fig. 1). The target sought is gold-bearing quartz reefs beneath historic workings. The basaltic volcanic plains and cones in the eastern portion of the tenement beneath open farmland are of no economic interest. The proposed activity area is shown in figure 1.

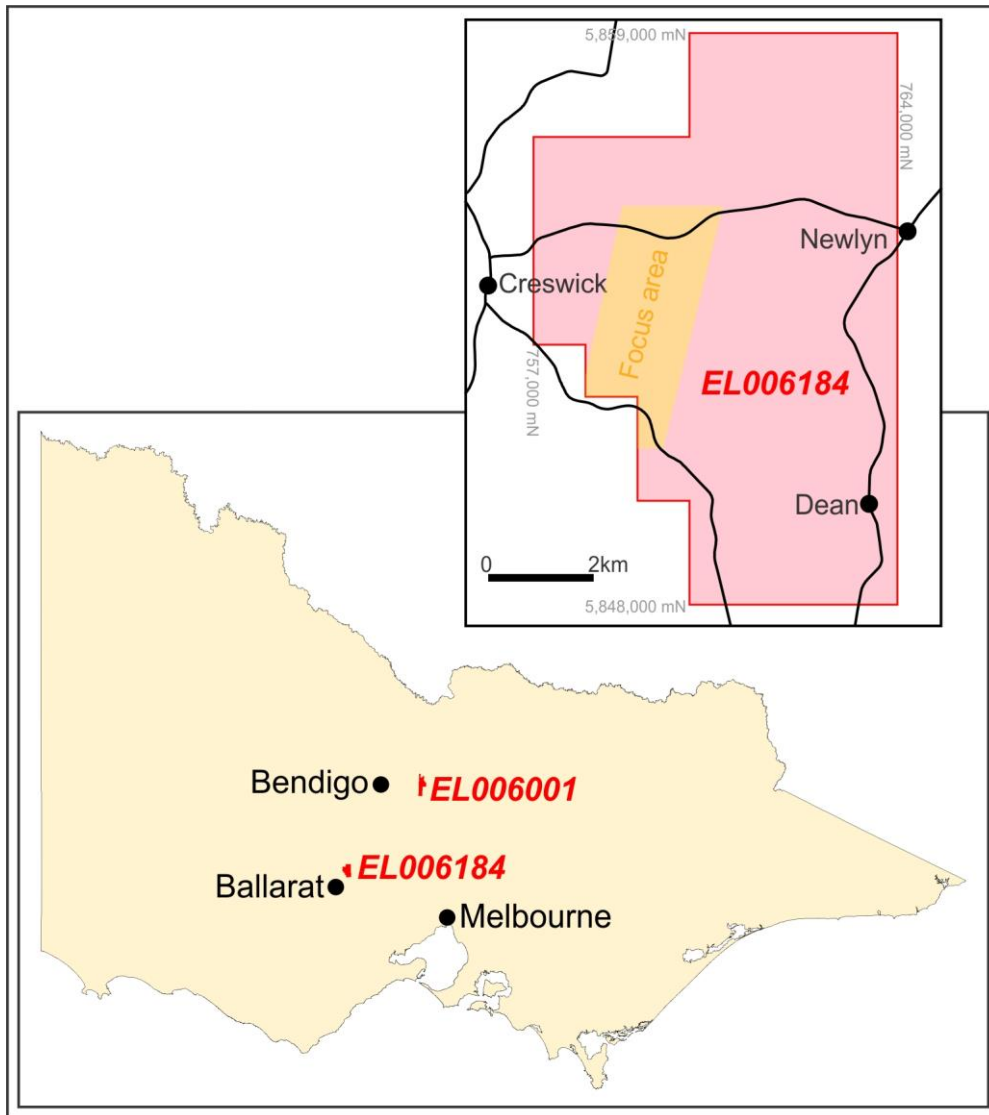


Figure 1. Location map showing Cartwheel Exploration's tenements including ELA006184 – CRESWICK.

**Mineralisation age:** 415 Ma (million years)

**Host rock:** Castlemaine Group – deep marine sandstones and shales. Folded rocks are steeply dipping and intersected by faults. Structures within the sandstones and shales host gold-bearing quartz veins.

**Gold occurrence:** Historic mining in the tenement has targeted two styles of gold distribution: gold-bearing quartz veins (quartz reefs) and alluvial gold eroded from the quartz reefs into the adjacent gullies and streams. The latter have been extensively mined and mostly worked out. There is very little opportunity for remnant alluvial gold and this is not a target for Cartwheel Exploration. Historic shafts sunk on quartz reefs are mostly shallow, typically less than 30 m deep. Cartwheel Exploration will seek remnant veins between historic workings and beneath historic workings within the focus area shown in figure 1.

**Exploration rationale:** Exploration will focus on the quartz reefs that were partly mined over a century ago. The reefs will be delineated by detailed mapping of the historic workings, both the reef workings themselves and the alluvial workings that lead to the gold source. Exploration will then focus on delineating rich gold shoots in and around the historic workings to assess their viability for future mining.

## 2. WORK PROGRAM

### 2.1 Office studies:

- Collation of previous exploration results conducted by approximately 10 companies over recent decades, including exploration conducted by BHP and CRA (now Rio Tinto).
- Collation of historic mining reports. Due to the small nature of the workings, there are very few historic records and Cartwheel Exploration do not expect to gain much from this work.
- Review of modern geological evaluations, for example University Research and Government Mapping.
- Satellite image interpretation, in particular Lineament Analysis.

**Timing:** 3-4 months

### 2.2 Field mapping:

- Mapping drainage and alluvial workings. The alluvial workings lead upstream to the gold source, usually gold-bearing quartz reefs. Unworked gullies indicate areas of no gold source.
- Mapping reef workings to delineate lines of reef. The alluvial workings should provide confirmatory data to support the positions of the reefs.

Much of the field work over key areas has been completed from previous prospecting conducted by Rodney Boucher. Some peripheral mapping will be done to complete this study.

Field mapping results will be integrated with the Office Studies to ascertain targets for drilling.

**Timing:** 3-4 months

### **2.3 RC/Diamond drilling program**

Scout drilling will test the targets identified from the Office Studies and Field Mapping. Initially 10 drill holes up to 100 m deep will test the targets. If the results are positive, infill drilling of priority areas will be conducted.

**Timing:** 1-12 months, pending Government and related approvals.

### **2.4 Resource RC/Diamond drilling program**

If the drilling proves to be successful, detailed resource drilling may be conducted prior to mining studies commencing.

**Timing:** 1 – 5 years.

## **3. ENVIRONMENTAL AND COMMUNITY IMPACTS, MITIGATION AND CONTROL MEASURES**

Cartwheel Exploration conduct exploration under approved Work Plans in full consultation with the land managers, the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and consult experts in areas of flora, fauna and cultural heritage as required. Each exploration work site is different and requires differing levels of permitting to conduct exploration work. Some of the potential environmental and community impacts and mitigation/control measures are discussed below.

### **3.1 Potential environmental impacts and mitigation measures:**

- Soil contamination
- Loss of native vegetation
- Noise
- Light
- Erosion and sediment inflow to water courses from road or drill pad construction
- Disturbance of fauna.

Proposed measures to mitigate or control environmental impacts include:

- Planning work sites to avoid clearing and to minimise the extent of disturbance.
- Identifying and avoiding sensitive areas such as threatened flora.
- Maintenance of vehicles and machinery to prevent oil spillage.
- Constructing noise barriers around drill rigs near residential areas.
- Scheduling works to coincide with most appropriate field season (for example, avoiding wet periods or breeding periods of sensitive fauna).
- Installing drainage to divert water around earth works.
- Sealing drill holes to prevent aquifer contamination.

### **3.2 Consultation and community engagement:**

Under section 39A of the MRSDA, all licensees have a duty to consult with the community throughout the period of the licence. The type and level of consultation needed depends on the complexity of the project, the potential risks and who may be affected. Cartwheel Exploration use the guidelines provided in the code and publication *Community Engagement Guidelines for Mining and Exploration in Victoria* (2008) to design appropriate community consultation material. This may include the use of:

- Print media
- The company web site
- Discussions with local authorities and agencies
- Meetings with key individuals and groups
- Mail outs (print and electronic)
- Discussions with local community organisations
- Community meetings

Cartwheel Exploration commence the consultation phase at the design stage of an exploration program to ensure that any risks associated with an operation are identified early in the process, concerns of land owners / occupiers and local residents are appropriately considered, and exploration works will not cause unnecessary adverse effects or conflict with other land users.

All relevant regulatory agencies and stakeholders that are potentially affected by the proposed exploration will be identified and appropriately consulted about the design of the proposal, inclusive of establishing appropriate ongoing consultation after the exploration project.

A list of relevant organisations / stakeholders that may be contacted / consulted as part of the proposed exploration activities appears below:

- Department of Economic Development, Jobs, Transport and Resources (DEDJTR)
- Department of Environment, Land, Water and Planning (DELWP)
- Parks Victoria
- Private land owners / occupiers
- Indigenous communities
- Local residents
- Special interest groups
- The local water authority
- The local municipal council
- VicRoads
- Catchment Management Authority.