



# **Rustlers Roost and Quest 29 Open-Cut Mine Redevelopment**

## **Statement of Reasons**

*Prepared pursuant to the Environment Protection Act 2019*

February 2021

## DOCUMENT INFORMATION

<b>Job</b>	EZ20143
<b>Document ID</b>	196807-11
<b>Author(s)</b>	Kylie Welch

## DOCUMENT HISTORY

Rev	Reviewed by	Approved by	Issued to	Date
1	Suzanne Barber	Kylie Welch	Primary Gold	2/2/2021
2	Primary Gold – Charles Hastie	Kylie Welch	NT EPA	3/2/2021

Using information provided by Primary Gold, this document was prepared by:

EcOz Pty Ltd.  
ABN: 81 143 989 039  
Level 1, 70 Cavenagh Street  
DARWIN NT 0800  
GPO Box 381, Darwin NT 0800

Telephone: +61 8 8981 1100  
Facsimile: +61 8 8981 1102  
Email: [ecoz@ecoz.com.au](mailto:ecoz@ecoz.com.au)  
Internet: [www.ecoz.com.au](http://www.ecoz.com.au)



QMS Certification Services



QMS Certification Services



QMS Certification Services

## 1 Introduction

Primary Gold (PGO) has submitted a proponent initiated Environmental Impact Statement (EIS) Referral for their Rustlers Roost & Quest 29 mine redevelopment proposal (the Proposal) to be assessed under the *Environment Protection Act 2019* (EP Act). In accordance with the NT Environmental Protection Authority (NT EPA) guidance, the Referral includes a referral form, referral report, Terms of Reference (TOR) and Statement of Reasons (SOR) (this document).

This Statement of Reasons (SOR) addresses the requirements of the *Environment Protection Regulations 2020* (Section 43) to provide a statement of reasons why assessment by EIS is required and why the draft TOR (submitted with the referral) are appropriate.

## 2 Proposal

PGO are proposing to redevelop and expand a former open pit gold mining operation in the Mount Bunday locality, 100 km south-east of Darwin. The Proposal involves open cut mining of ore from a number of pits located across two separate mineral lease areas, referred to as Rustlers Roost and Quest 29. Ore from both areas will be processed at a central processing facility to produce gold bullion. The forecast life of mine is approximately seven years, after which PGO will rehabilitate the site. Full details of the Proposal are provided in the referral document submitted with this Statement of Reasons.

## 3 Justification

Primary Gold has assessed the Proposal against the requirements of the *Environment Protection Act 2019* and has determined that the action has the potential to significantly impact environmental values associated with the following 5 environmental factors:

Theme	Factor and Objective	Potentially significant impacts/uncertainties
Land	<p><b>Terrestrial Environmental Quality</b> Objective: Protect the quality and integrity of land and soils so that environmental values are supported and maintained.</p>	<ul style="list-style-type: none"> <li>Soil quality and integrity may be significantly impacted within the mining lease through erosion of mining landforms; disturbance of existing contamination; leaks/spills of hazardous materials and acid metalliferous / mine drainage (AMD). To provide certainty regarding the significance of potential impacts associated with AMD, further geochemical analysis of waste rock and ore is required to inform design criteria for surface waste storage structures, materials management and closure requirements.</li> </ul>
	<p><b>Terrestrial Ecosystems</b> Objective: Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.</p>	<ul style="list-style-type: none"> <li>Riparian habitats could be impacted through poor water quality associated with mine site discharges and groundwater drawdown from pit dewatering. To provide certainty regarding the significance of potential impacts, further assessment of impacts to hydrological processes and inland water quality is required</li> <li>The threatened plant species <i>Helicteres macrothrix</i> and <i>Stylidium ensatum</i> have been identified as potentially occurring in the proposal area and if present could be significantly impacted by land clearing and habitat disturbance. To provide certainty regarding the significance of potential impacts to threatened species, field surveys are required to confirm the presence/absence of these species.</li> </ul>
Water	<p><b>Hydrological Processes</b> Objective: Protect the hydrological regimes of groundwater and surface water so that environmental including ecological health, land uses and the welfare and amenity of people are maintained.</p>	<ul style="list-style-type: none"> <li>Groundwater hydrology will be altered by drawdown associated with mine dewatering. To provide certainty regarding the significance of potential impacts, groundwater modelling is required to determine the zone of impact (drawdown) and surface/groundwater connections.</li> </ul>

Theme	Factor and Objective	Potentially significant impacts/uncertainties
	<b>Inland Water Environmental Quality</b> Objective: Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	<ul style="list-style-type: none"> <li>• Surface water and groundwater quality may be significantly impacted by mine site discharges (from sediment basins and controlled discharge of excess water) and AMD. To provide certainty regarding the significance of potential impacts, further assessment is required to determine water quality objectives and demonstrate these can be met during operations and post-closure.</li> </ul>
	<b>Aquatic Ecosystems</b> Objective: Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	<ul style="list-style-type: none"> <li>• Aquatic ecosystems may be impacted through poor water quality associated with mine site discharges. To provide certainty regarding the significance of potential impacts to aquatic ecosystems, further assessment of impacts to inland water quality is required.</li> </ul>

The draft TOR provided with the referral documentation details the information requirements to provide certainty regarding the significance of potential impacts to each of these factors.

The Referral Report submitted by PGO considered potential impacts to each of the other 9 environmental factors and objectives covered by the *Guide to NT EPA environmental factors and objectives*. Impacts to those factors are not considered to be significant and can be avoided and mitigated through routine management measures documented in the Mining Management Plan (MMP) required to obtain a Mining Authorisation under the *Mining Management Act*. As a result the draft TOR does not include any further information requirements for these factors.

A standard assessment by EIS is considered appropriate to address the requirements of section 42 and section 43 of the *EP Act*. PGO have undertaken a range of studies and assessments as part of developing the mine plan that is documented in the referral made under the Act. However, it is acknowledged that there are information gaps that need to be addressed to ensure that the mine is designed, planned, constructed, operated and rehabilitated/closed, in a manner that does not have an unacceptable impact on the environment. The EIS process will allow PGO to demonstrate to the NT EPA and stakeholders that the mine has been planned and will be carried out taking into account the following:

- principles of ecologically sustainable development
- environmental decision-making hierarchy
- waste management hierarchy
- ecosystem-based management
- impacts of a changing climate.

The EIS process will also allow PGO to meet its obligations to ensure that the community is provided information about the proposal and is consulted in relation to potential impacts and how they should be avoided or mitigated.

## 4 Conclusion

PGO considers that the proposal has the potential to have a significant impact on Terrestrial Environmental Quality, Terrestrial Ecosystems, Hydrological Processes, Inland Water Quality and Aquatic Ecosystems. Further studies and assessments are required to inform mine planning and closure requirements, and to provide certainty with respect to the significance of potential environmental impacts to each of these factors. The proposed EIS process will allow impacts, management and mitigation measures to be developed taking into consideration the information provided by additional studies and stakeholder engagement.



## EcOz Environmental Consultants

**EcOz Pty Ltd.**

ABN 81 143 989 039

Level 1, 70 Cavenagh St,  
GPO Box 381,  
Darwin, NT 0801

T: +61 8 8981 1100

E: [ecoz@ecoz.com.au](mailto:ecoz@ecoz.com.au)

[www.ecoz.com.au](http://www.ecoz.com.au)



QMS Certification Services



QMS Certification Services



QMS Certification Services