

Ms Kylie Fitzpatrick
Department of Environment, Parks and Water Security
GPO Box 3675
Darwin NT 0801

Dear Ms Fitzpatrick

Re: Draft EIS - Primary Gold - Rustlers Roost and Quest 29 Open-Cut Mine Redevelopment

The Department of Environment, Parks and Water Security (DEPWS) has assessed the additional information submitted for the above draft Environmental Impact Statement (EIS) and provides the following comments:

Flora and Fauna Division

The Flora and Fauna Division recommends that the Northern Territory Environment Protection Authority (NT EPA) request further information relating to the risks to biodiversity, aquatic health and significant and sensitive vegetation.

Section of Referral	Theme or issue	Comment
7.1	Terrestrial Ecosystems	<p>The Terms of Reference (ToR) required the proponent to: "Provide details of survey program timing, locations and methodology to demonstrate appropriate and statistically sufficient survey designs. Results and interpretation of surveys should be presented in the draft EIS including survey effort and absence records. In particular, detail the outcomes of targeted surveys undertaken for the threatened plant species <i>Helicteres macrothrix</i> and <i>Styloidium ensatum</i>."</p> <p>The Flora and Fauna Division has reviewed the results of targeted surveys provided with the draft EIS. The surveys appear to have been undertaken at an appropriate time of year and at an effort necessary to detect the relevant threatened species. The risk to threatened species from the proposal is considered to be low.</p>
7.1	Terrestrial Ecosystems	<p>The Terms of Reference require the proponent to: "Describe and map the extent of terrestrial ecosystems of the proposal footprint and area of influence following the appropriate guidelines (e.g. Brocklehurst et al 2007, Land Clearing Guidelines (DENR 2019) with detail on: • riparian vegetation and any other significant vegetation types"... and</p>

		<p>“Provide an assessment of potential impacts and risks, and quantify the significance of impacts and risks, to terrestrial ecosystems using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should consider: • the extent to which groundwater drawdown and seepage or discharge of mine affected water could impact riparian vegetation over time”.</p> <p>Table 4.4 of the Flora and Fauna Survey Report identifies four main vegetation types that contain flora species that are indicative of being partially or regularly subject to inundation. Under the NT Planning Scheme Land Clearing Guidelines, these vegetation types are referred to as “wetlands” and are considered to be significant/sensitive. With the exception of describing and mapping the features, the draft EIS provides no assessment of their value (using the criteria outlined in the Land Clearing Guidelines) and does not assess the impact from all phases of the proposal (i.e. construction, operation, rehabilitation and post closure).</p>
Table 7-62	Terrestrial Ecosystems Aquatic Health	<p>The proponent proposes to manage poor water quality released from the site by adhering to the buffer widths recommended in the Land Clearing Guidelines. It should be noted that the buffer widths specified in the Guidelines were not intended to manage the stormwater discharge of poor water quality. The buffers in the Guidelines are intended to provide for the protection of riparian vegetation from clearing impacts, edge effects, invasive flora, etc.</p> <p>If the proponent intends to use vegetation buffers to manage poor water quality discharges, it is recommended that further information is provided demonstrating that the proposed buffers in the EIS will be effective for protecting riparian vegetation and aquatic systems.</p>
7.5.7	Aquatic Ecosystems	<p>Section 7.5.7 states: “Section 7.3 states that the Project is unlikely to significantly affect surface water flows and therefore the aquatic ecosystem assessment has assumed that there is unlikely to be any significant impact to aquatic ecosystems from runoff quantity/flow changes”. This statement appears inconsistent with the results of the modelled discharge scenarios in the EIS which suggests that the volume of surface water will double and potentially triple to 13.3GL/year.</p> <p>As the modelling suggests that there will be a change in the volume of surface water due to the proposal, it is unclear why the draft EIS has not considered the change as a risk to aquatic ecosystems and riparian vegetation. It is recommended that further information is requested by the NT EPA including an assessment of how increased surface flows may impact on riparian vegetation and aquatic ecosystems.</p>
5.3.13.1 7.3.2.5	Aquatic Ecosystems Terrestrial Ecosystems	<p>The ToR for the proposal requested that the EIS provide the following: “As a minimum, the assessment should consider: • the extent to which groundwater drawdown and seepage or discharge of mine affected water could impact riparian vegetation over time”. This requirement does not appear to have been addressed with the applicant providing the following response: Section 7.3.2.6 states: “There are no recorded GDE’s within the Quest 29 Project area. The GDE atlas (BOM 2021) maps a low-moderate potential for terrestrial GDEs at two locations on ephemeral watercourses that drain north of the lease (ML 29783) between 2 km to 3 km downstream from the Project area (Appendix H).</p>

		Groundwater modelling in Appendix H suggest that drawdown contours (1m) extend towards the location of the potential terrestrial GDEs and states that the proposal has the “potential of affecting terrestrial and aquatic GDEs”. The EIS describes and maps potential GDE’s (Types 1-3) adjacent to the proposal area but provides no quantification or assessment of the risk to those habitats. It is recommended that further information is sought to quantify the extent and value of GDEs at risk of being impacted by drawdown and changes in groundwater quality.
Table 7-28	Aquatic Health	Table 7-28 (Risk HP-9) lists the inherent and residual risk from groundwater drawdown as being high. This appears inconsistent with the stated “summary of controls” which notes that the “hydrogeological assessment indicated minimal connection of groundwater to Mount Bunday Creek Water” and “No documented drawdown impacts from previous operations”. It is recommended that further information is requested to be included in the Supplement clarifying why the proponent believes the risk from drawdown is high despite there being minimal connection of groundwater to the Mount Bunday Creek Water. Further evidence should also be provided to justify the proponent’s claim that there have been no documented drawdown impacts from previous operations.
Table 3	Terrestrial Ecosystems Aquatic Ecosystems	Formatting in Appendix B of the draft EIS appears to have covered up some of the text for the “Discussion” in Risk# HP-2 making it difficult to read. It is recommended that the proponent provide a full summary of the risk in the Supplement.

Water Resources Division

The project area does not fall within a water control district or water allocation plan area.

The mine is located within a declared Beneficial Use area – Mary River (NT Gazette G6, 13 February 2022). The beneficial uses are environment, riparian and cultural for surface water and environment, riparian and agriculture for groundwater.

Section of Referral	Theme or issue	Comment
General – Groundwater Assessment		The BoM Groundwater Dependent Ecosystems (GDEs) Atlas (comprised of mostly coarse national-scale datasets in this area) should not be relied on solely to survey potential GDEs in the project area and the receiving environment. More thorough site-specific surveys (combination of field-based and publicly available remote sensing) should be undertaken.
		Any unregistered bores (i.e. bore with no RN number assigned by the NT Government) in the proponent’s lease need to be registered with the Water Resources Division (water.regulation@nt.gov.au).
		Where potentiometric surfaces and groundwater flow directions are referred to in the text, also provide a map showing this information. Text-only descriptions make it difficult to visualise the information.
		On maps that show maximum extent of 1m drawdown, also include all nearby bores (highlighting which bores are the proponent’s and which belong to nearby users) for reference.
Page 99 (Section 4.10.1)		Potential typo reads ‘4,8881’ ML/year. Is this figure correct?

- Water Demand).		
Appendix H, Figure 4-17 (Hydrogeochemistry)		Cations on the piper diagram on the right look incorrect - very unlikely that they all cluster on the same point.
General - Mining and Petroleum	Interference with a waterway	<p>The draft EIS provides limited information in regards to the management and impact on existing surface water drainage lines on site as a result of the project. Further, potential impacts to waterways due to construction of the haul roads is not sufficiently considered.</p> <p>Under the <i>Water Act 1992</i>, activities which cause a material change to the shape; volume speed or direction of flow; or alter the stability of bed and banks constitute an interference with a waterway. Permitting requirements under the act apply to such activities.</p> <p>The draft EIS does not provide sufficient detail to determine what if any activities associated with the project may constitute an interference with a waterway. This is reflected further in subsequent comments below.</p>
General, and: Table 2-1 Summary of Other Legislation and Approvals Applicable to the Project	Applicability of the <i>Water Act 1992</i> to the project	<p>Throughout the EIS, and specifically documented in Table 2-1, the proponent indicates that surface water and groundwater extraction licences will not be required to support the project, this is incorrect. The project is not within a declared water control district however, this does not impact on the requirements to obtain licences, permits or other authorisations under the <i>Water Act 1992</i> unless specific exemptions apply.</p> <p>Current exemptions are listed on the DEPWS website at: https://depws.nt.gov.au/water/legislation/exemptions.</p> <p>Relevant approvals and licences which are likely to be required to support the activity include:</p> <ul style="list-style-type: none"> • Surface water extraction licences for extraction from existing pit lakes on Rustlers Roost and Quest 29; • Groundwater extraction licence for take of water from bores in excess of 5ML p.a.; • Permit to interfere with a waterway; and • Bore work permits.
Figure E-7 – potential indirect and cumulative interactions with surrounding projects and activities.	Impact of erosion on waterways	Potential for the key issue of erosion to impact surface water appears to not be considered in the figure. Erosion has the potential to impact the flow regime of water ways as well as water quality and should be further considered. Refer to the 'General - Mining and Petroleum' comment above in relation to interference with a waterway permitting requirements.

Parks and Wildlife Division

The Rustlers Roost and Quest 29 project has the potential to significantly impact the values of a number of parks and reserves along with the Mary River and Adelaide River Coastal Floodplains, which are recognised

as international Sites of Conservation Significance. The following list of parks and reserves are located downstream of the project sites:

- Mary River National Park is located 6.5km to the east;
- Djukbinj National Park is located 14km to the north;
- Leaning Tree Lagoon Nature Park is located 25km to the north;
- Harrison Dam Conservation Area is located 32km to the north east;
- Adelaide River Foreshore Conservation Area is located 24km to the east and north east;
- Black Jungle / Lambell's Lagoon Conservation Reserves is located 42km to the north east;
- Fogg Dam Conservation Reserve is located 45km to the north east; and
- Melacca Swamp Conservation Area is located 65km to the north east.

The significant values located downstream of the project areas must be adequately protected both now and into the future. Water quality and aquatic ecosystems surrounding the mining pits, and within the wider catchments, must be managed and monitored in accordance with industry best practice standards.

Section of Referral	Theme or issue	Comment
Sections 1 – 4 Page 43 Table 3-1 Key Project Stakeholders		Under Group 'Indigenous Stakeholders, Traditional Owners or representative organisations': <ul style="list-style-type: none"> • Delete 'Limilngan and Uqynmil Traditional Owners (Local Management Committees of the Mary River and Djukbinj National Parks)' and replace with 'Mary River Joint Management Committee and Djukbinj Local Management Committee (Djukbinj Board)'
Sections 5 and 6 Page 122	5.1.4.1	Small typo – under 5.1.4.1 Mount Bunday Creek – Mary River change reference from '5.2.4' to '5.2.5'.
	5.1.4.2	Recommended wording change – 'The majority of the Quest 29 mine site (eastern and southern parts) are located in the McKinlay River catchment. Unnamed ephemeral drainage lines downstream of the site discharge to the east through floodplains towards the McKinlay River main branch, which is approximately 15 km downstream of the Project area. From this location, the McKinlay River flows north through Mary River National Park, and discharging into the Mary River at a location 2km upstream from the Arnhem Highway Mary River Bridge'.
Page 132	5.2.5	Recommend replacing the first paragraph to: 'Mary River National Park is managed by the Limilngan and Uwynmil Traditional Owners and the Parks and Wildlife Commission of the Northern Territory through a joint management agreement and guided by a Joint Management Plan and the Mary River Joint Management Committee. The national park protects and conserves outstanding natural, cultural and visitor values and provides opportunities for the public to enjoy high quality experiences. The national park protects part of Chambers Bay and the Mary River Coastal Floodplains, which are defined as international SoCS. The floodplain and Chambers Bay include a complex mosaic of wet and dry habitats which support large and diverse populations of waterbirds'.
Page 132	5.26	Recommend changing the section name to be 'Adelaide River Floodplain System and Djukbinj National Park '

		Recommend changing the paragraph to: 'Located 14km downstream (north) of the Rustlers Roost portion (ML 1803) of the Project area is Djukbinj National Park (Marrakai sector). Owned by the Limilngan-Wulna Landholding Aboriginal Corporation, the national park is jointly managed by the Limilngan-Wulna Traditional Owners and the Parks and Wildlife Commission of the Northern Territory. Managed under the terms of a Memorandum of Lease and a Deed of Management, the Djukbinj Local Management Committee (Djukbinj Board) and a plan of management provide direction for the parks management. The national park is situated on the Adelaide River coastal floodplain and is part of the Adelaide River wetlands system. A biodiverse area, nearly 40% of the park is contained within two internationally important SoCS (Chambers Bay and Adelaide River Coastal Floodplain) and provide habitat for large numbers of shore and waterbirds. The Adelaide River floodplain is also a major tourist attraction for recreational fishing in the region'.
Page 134	5.3	Recommend the following changes to the list of parks and reserves: <ul style="list-style-type: none"> ▪ Mary River Crossing Reserve (15 km); ▪ Mary River National Park (156.5km); ▪ Djukbinj National Park (14 km); ▪ Leaning Tree Lagoon Nature Park (25km); ▪ Harrison Dam Conservation Area (32km); ▪ Manton Dam Recreation Area (36km); ▪ Adelaide River Foreshore Conservation Area (24km); ▪ Wildman Reserve (40 km); and ▪ Black Jungle / Lambell's Lagoon Conservation Reserves (42km); and ▪ Fogg Dam Conservation Reserve (45 km); The boundary of the Kakadu National Park, managed by the Commonwealth Government Parks Australian National Parks and Wildlife Service , lies 60km east of the Project area along the lowlands of the Wildman River. The park currently covers 1.3 million hectares, encompassing the drainage systems associated with the Wildman, West Alligator and South Alligator Rivers.
Section 7.5 Page 408	7.5.2.2	The following conservations areas should be added to the list of downstream receiving environments: Djukbinj National Park around 14km to the north; Harrison Dam Conservation Area around 32km to the north east.

Should you have any further queries regarding these comments, please contact Rebecca de Vries by email Rebecca.deVries@nt.gov.au or phone (08) 8999 4454.

Yours sincerely



Maria Wauchope
A/Executive Director, Rangelands

14 January 2022