

**October 6, 2019**

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**Subject: Mt Todd Project Mining Management Plan – Post-Closure Pit Lake Response to Comment**

Dear Mr. Rozelle,

The Department of Primary Industry and Resources (DPIR) Request for Additional Information associated with the Mt Todd Project Mining Management Plan (MMP) included the following comment related to the post-closure pit lake:

*Lack of evidence of discussion on methods to improve water quality of pit lake post closure.*

As requested by Vista Gold, a response to this DPIR comment is provided herein.

Several site-specific factors highlight why the need for improvements to pit lake water quality following closure is not expected, including:

- Batman Pit is in metamorphosed (hornfelsed) rock, that is uncommonly strong as noted by the project Geotechnical Engineer (Rippere, 2019). Therefore, the reactive rock mass of the ultimate pit wall rock is likely to be low compared to waste rock, which will have higher fines content/surface area available to undergo weathering and sulfide oxidation. As a result, solute loading from wall rock to the pit lake should be low. This conclusion is supported by Vista Gold observations of continued alkaline pH water in the current Batman pit lake without recent alkaline reagent addition, and minimal iron staining currently visible on the exposed pit walls.
- The post-closure pit lake is predicted to be a terminal sink, with net evaporation from the lake exceeding the contributions from precipitation and runoff into the lake (Tetra Tech, 2018). Therefore, outward migration of pit lake water to groundwater or surface water is not anticipated. In addition, the simulated ultimate pit water level is predicted to rise relatively rapidly following cessation of pit dewatering (Tetra Tech, 2018). Thus, sulfide oxidation that has occurred will effectively stop once wall rock is inundated by water.

Based on these considerations, there appears to be low risk to human and environmental health associated with the Batman Pit lake; therefore, post closure water quality improvements should not be required.

Sincerely,



Patsy Moran, Ph.D.  
Practical Geochemistry LLC

**References Cited**

Tetra Tech. (2018). NI 43-101 Technical Report, Mt Todd Gold Project, 50,000 tpd Preliminary Feasibility Study, Northern Territory, Australia, Appendix K, Hydrogeology, Project No. 114-910589. March 2018.

Rippere, K. (2019). Response to NT Regulators regarding Stability of Pit Walls and the Waste Rock Dump. Prepared for Vista Gold Corp. August 29, 2019.