

OCEANAGOLD (NEW ZEALAND)
LIMITED

MACRAES PHASE FOUR (MP4)

Surface Water Hydrology

Evidence of Jeffrey Tuck Regarding
Technical Assessment of Surface
Water Hydrology Effects and Proposed
Conditions

INTRODUCTION

1. My name is Mr Jeffrey Tuck
2. My role in relation to Macraes Phase 4 (“**MP4**”) has been to provide expert advice in relation to surface water hydrology and contaminant transport. I wrote or oversaw sections relating to surface water and contaminant transport in the Macraes Phase 4 FTA Surface and Groundwater Assessment Report (“**the Report**”) which is provided within *Part B – Technical Reports* of the application.
3. This evidence has been prepared to accompany the Report and the application by Oceana Gold (New Zealand) Limited (“**OGNZL**”) for approvals required for MP4 under the Fast-track Approvals Act 2024 (“**FTAA**”).
4. Section 4.1(h) of the FTAA Panel Conveners’ Practice and Procedure note (July 2025) says all technical experts authoring reports should include a statement regarding compliance with the Code of Conduct for Expert Witnesses. This evidence has been prepared to fulfil this requirement, and if a hearing is not held, this evidence confirms that, relative to my area of expertise the Report provides an appropriate description of the relevant environment, the proposed activities comprising the effects of the MP4 on that environment, and the way those effects are proposed to be managed.
5. My findings are set out in full in the Macraes Phase 4 FTA Surface and Groundwater Assessment Report included within *Part B – Technical Reports* of the application.
6. While this application is not being considered by the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing the Report. Other than when I state I am relying on the advice of another person, the Report is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

QUALIFICATIONS AND EXPERIENCE

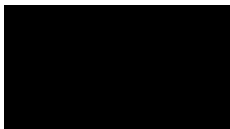
7. I hold a Bachelor of Engineering with honours in Civil Engineering (2010) and Master of Engineering (2016) from the University of Canterbury, New Zealand.
8. I am currently employed as a Senior Water Engineer and have been employed by GHD since 2017.

9. My previous work experience includes undertaking stormwater design, water balance modelling and surface water hydrology assessments for multiple mining operations. Experience of particular relevance to this project includes:
 - (a) Macraes Operation projects including; Macraes site wide water balance and contaminant transport model development; Deepdell North Stage 3; Frasers Co-disposal; Macraes Phase IV (RMA Application). Through these projects I have developed the water balance model and technically led the surface water assessments.
 - (b) New Zealand Battery Project, Lake Onslow, New Zealand – lead hydrologist and water balance modeller to inform design and operation of the proposed scheme, including assessing the effect of the scheme on river flow regimes.
 - (c) Lake Pūkaki Hydro Storage and Dam Resilience Works FTAA Project – Water specialist for hydrology and erosion and sediment control design.
10. In providing this evidence, I have considered the following matters as relevant to that topic:
 - (d) The project description provided by OGNZL as set out in Section 6 of the Substantive Application prepared by Mitchell Daysh Limited;
 - (e) The description of the existing environment as set out in Section 4 of the Substantive Application, the effects of MP4 on that environment and their significance, and the proposals to manage those effects as all set out in the assessment of effects in Section 9 of the Substantive Application;
 - (f) The technical assessments of (in draft form and/or through discussions with technical experts through this project);
 - a. MP4 FTA - Recommended Surface Water Quality Compliance Framework prepared by Viridis (2026)
 - b. MP4 FTA – Assessment of Aquatic Environmental Effects prepared by Viridis (2026)
 - c. MP4 FTA – Environmental Geochemistry Overview Report prepared by MWM (2026)
 - d. MP4 FTA - Hydrogeochemical Pit Lake Modelling Report prepared by MWM (2026)
 - e. MP4 FTA - Arsenic Removal by Ferric Chloride Dosing of Pit Lakes Report prepared by MWM (2026)
 - f. MP4 FTA - Waste Rock Stack Topography Assessment Report prepared by MWM (2026)
 - g. MP4 FTA - WRS Assessment – Seepage Quality Report prepared by MWM (2026)

- h. MP4 FTA – Active Water Treatment Study prepared by Process Flow (2026)
- i. MP4 FTA - Macraes Mine Water Treatability Study prepared by Process Flow (2026)
- j. MP4 FTA - Frasers Tailings Storage Facility Stage 3 Technical Report by EGL (2026)
- k. MP4 FTA - MTI and SP11A Technical Report prepared by EGL (2026)
- l. MP4 FTA – Erosion and Sediment Control Report prepared by EGL (2026)
- m. MP4 FTA – Erosion and Sediment Control Management Plan prepared by Southern Skies Environmental (2026)
- n. MP4 FTA – Water Treatment Plant Brine Disposal prepared by WGA (2026), and
- o. MP4 FTA – Surface and Groundwater Assessment Report – (surface water assessment components), prepared by GHD (2026)

CONFIRMATION OF CONTENTS OF REPORT AND PROPOSED CONDITIONS

- 11. I confirm that in my opinion the Report contains an accurate and appropriate description of the environment, the actual and potential effects of MP4, and the recommended actions to manage those effects within my area of expertise.
- 12. I confirm that in my opinion the contents of the Report may be relied on in making a decision on the approvals sought for MP4, and confirm that provided effects within my area of expertise are managed as proposed in the application those effects will not be unacceptable and will be managed to a standard that I consider meets good practice.
- 13. I confirm that I have reviewed the conditions that OGNZL proposes for the various approvals being sought as they relate to my area of expertise. I confirm that in my opinion those proposed conditions are appropriate.



Jeffrey Tuck

Dated this 07 day of September 2026