MEMORANDUM	
TO:	Central Otago District Council and Otago Regional Council
FROM:	Tim Vial, Senior Planner, Aukaha
DATE:	10th July 2024
SUBJECT:	**RC230325 - Land use consent to establish and operate an alluvial gold mining operation and RM23.819 – Regional consents to construct a bore (mine pit pond), to take and use groundwater, and to discharge water containing sediment to water in a bore and to land - Hawkeswood Mining Limited.**

1. Background

Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga (Kā Rūnaka) submitted on the above resource consent applications and presented evidence at the hearing.

Following the hearing, Aukaha on behalf of Kā Rūnaka and Dr Murchison on behalf of Te Rūnanga o Ngāi Tahu reviewed and provided feedback on the management plans and conditions provided by the applicant. The applicant has constructively addressed the feedback of Aukaha and Te Rūnanga o Ngāi Tahu which has narrowed the issues of concern for Kā Rūnaka.

The remaining issues of concern for Kā Rūnaka can be addressed through amendments to the conditions of the land use and regional consents. The outstanding issues are discussed below.

Having reviewed the supplementary information and management plans provided by the applicant, Kā Rūnaka neither support nor oppose the proposed alluvial gold mining operation at Millers Flat.

2. Effects on Wāhi Tūpuna Values

The operation is required to be undertaken in accordance with an Archaeological Management Plan approved by Heritage New Zealand Pouhere Taonga[1] and the recommendations of the Archaeological Report, prepared by New Zealand Heritage Properties Ltd. Manawhenua representatives will be invited to attend test trenching adjoining the Tima Burn.

Comment

The proposed test trenching and archaeological monitoring address potential adverse effects on archaeology of Māori origin and wāhi tūpuna values.

[1] As required by Archaeological Authority 2024/438.

3. Restoration Planting of the Tima Burn

The Tima Burn is an integral part of this wāhi tūpuna landscape. Restoration planting of the Tima Burn is proposed as part of the Rehabilitation and Enhancement Management Plan (REMP). The Nursery Manager from Kāti Huirapa Rūnaka ki Puketeraki has reviewed and provided recommendations on the proposed restoration planting.

However, the proposed CODC consent conditions now promote restoration of the Tima Burn as one of three potential rehabilitation options:

"The objectives of the Rehabilitation and Enhancement Management Plan must be to: … Provide for an ecological enhancement project in the surrounding area, either adjoining the Tima Burn or adjoining the Clutha / Mata-au or on the Consent Holder's land adjacent to the Clutha / Mata-au margin." [2]

Comment

The proposed closure and rehabilitation conditions lack clarity. The proposed Tima Burn restoration planting supports the health and well-being of this waterbody and enhances the values of this wāhi tūpuna landscape. The consent conditions should secure the Tima Burn restoration planting as an off-set for the mining operation and enable opportunities for further restoration planting adjoining the Clutha / Mata-au or on the applicant's land adjacent to the Clutha / Mata-au margin.

Further, it is noted that there is no consent condition that requires the covenanting of the restoration planting to ensure its retention by the landowner.

4. Effects on Wai Māori and Te Mana o te Wai

4.1 Augmentation

The applicant is required to provide environmental flow augmentation where groundwater abstraction results in a decline in the water table adjacent to the Tima Burn, as a result of mine dewatering.[3]

Comment

The requirement to establish a causal link between the decline in the water table and mine dewatering creates an unnecessary point of conjecture. If groundwater levels decline during groundwater abstraction adjacent to the Tima Burn, augmentation should be required.

4.2 Flow Monitoring

The assessed natural flow within the Tima Burn is required to be verified by at least three months of flow monitoring and supported by an analysis and report undertaken by a suitably qualified hydrologist.[4]

Comment

The requirement to provide a report and analysis within three months of the commencement of the consent will not capture the natural flow variability of the Tima Burn.[5] Continuous flow monitoring

[2] RC230325, Conditions 35(c) and 36(e).
[3] RM23.819.02, Condition 8.
[4] RM23.819.02, Condition 8(a), 9, 10
[5] RM23.819.02, Condition 9

should be undertaken from commencement of the consent and an analysis and report undertaken by a suitably qualified hydrologist should be provided prior to mining commencing adjacent to the Tima Burn.

The applicant is of the opinion that flow level monitoring and conversion to a flow rate can be undertaken by a non-expert and that an automated flow meter on the Tima Burn is not considered necessary.[6] Flow monitoring needs to be undertaken by suitably qualified hydrologist to provide robust data for decision-making. The installation of a telemetered flow meter and datalogger to provide continuous flow monitoring of the Tima Burn is sought by Kā Rūnaka.

4.3 Water Quality Monitoring

The applicant is required to take representative water samples from the water quality monitoring network following commencement of RM23.819.03 and prior to undertaking any discharge authorised by this consent, and samples must be analysed by a laboratory with IANZ accreditation.

The following contaminants must be analysed:

a. total petroleum hydrocarbons, total suspended solids, turbidity, major ions (sodium, potassium, calcium, magnesium, alkalinity, chloride, sulphate, nitrate), copper, chromium, zinc, Arsenic and E-coli, iron and manganese. Samples must be analysed for both total and dissolved metals.[7]

b. Total suspended solids and turbidity.[8]

Comment

There needs to be contaminant limits specified in the consent for drinking water and landfill leachate to enable an assessment of the effects of the mining operation on water quality.

A breach of water quality limits for either drinking water or landfill leachate should trigger an investigation by the applicant of the cause of the breach and appropriate management action.

4.4 Template Conditions

Template conditions for a planting covenant and water quality parameters are attached in Appendix 1 as a starting point.

[6] RM23.819.02, Condition 10
[7] RM23.819.03, Condition 12
[8] RM23.819.03, Condition 13

Appendix 1 – Template Conditions – TIGA Minerals and Metals

1. Landscape Planting Covenant

At the completion of mining and before the expiry of this consent, the consent holder must arrange for a section 108(2)(d) Resource Management Act 1991 covenant in favour of Grey District Council which is to be registered on the Certificate of Title 447182 (RS 2847) affecting the area shown as Proposed Covenant Area identified on the Planting Covenant Area Plan enclosed as Schedule 6. The covenant must provide for the following:

a. In respect of the Proposed Covenant Area (2.88ha) identified on the Planting Covenant Area plan prepared by Tai Poutini Resources dated 15 March 2024, the area must be fenced to exclude livestock, and no pastoral farming must occur within the wetland area.

2. Water Quality Parameters

During mining, treated mine water is only permitted to be discharged directly to the drain beyond Pond 4, or to Collins Creek or the Northern Drain or to the Canoe Creek infiltration basin if:

a. metal and metalloid water quality parameters in Table A below are complied with at the Pond 4 monitoring sites (as required by Condition 26.2) and the sites shown in Schedule 8: Canoe Creek Lagoon, Collins Creek Downstream, N Boundary Drain and Canoe Creek Downstream.
b. the non-metal water quality parameters in Table B below are complied with at the Pond 4 monitoring sites (as required by Condition 26.2) and the locations defined in Table B; and
c. in the circumstances of Condition 25.5 below.

Table A - metals and metalloids

Parameter	Threshold mg/L	Dependency
Aluminium	0.62[B]	Hardness, pH, Dissolved Organic Carbon
Arsenic	0.013	As arsenic (V)
Boron	0.94	NA
Cadmium	0.0002[D]	Hardness
Chromium	0.0033[D]	Hardness, as chromium (III)
Copper	0.0039[E]	Hardness, pH, Dissolved Organic Carbon
Iron	1.0	As total fraction
Lead	0.0034[D]	Hardness
Manganese	1.9	NA
Nickel	0.011[D]	Hardness
Zinc	0.008[D]	Hardness

[A] dissolved fraction, unless stated
[B] at hardness = 25 g/m^3, pH = 7.0, Dissolved Organic Carbon = 1.0 g/m^3
[C] 95%-ile trigger value
[D] at hardness = 30 g/m^3
[E] at hardness = 25 g/m^3, pH = 7.0, Dissolved Organic Carbon = 2.0 g/m^3

Table B – Non-metals

Parameter	Threshold	Notes/Monitoring Location
Total Suspended Solids	20 mg/L	Applies to discharges to Collins Creek, Northern Boundary Drain or to the overland flow path to Canoe Creek Lagoon. Does not apply to the discharge

		from Canoe Creek infiltration basin. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, shown in Schedule 8.
Turbidity	20 NTU	Applies to discharges to Collins Creek, Northern Boundary Drain or to the overland flow path to Canoe Creek Lagoon. Does not apply to the discharge from Canoe Creek infiltration basin. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, shown in Schedule 8.
Visual clarity	Conspicuous visual change	In the receiving water bodies above based on visual inspection at the upstream and downstream monitoring sites (see advice note 3 below). Monitoring locations are Canoe Creek Lagoon Upstream, Canoe Creek Lagoon, Collins Creek Upstream, Collins Creek Downstream, Northern Boundary Drain Upstream, Northern Boundary Drain Downstream shown in Schedule 8.
	Relevant NPS-FM (2020) attribute state for visual clarity	No change in the attribute states of the receiving surface water bodies, as an annual median and a 95%-ile, versus the baseline states. See advice note 2 below. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, Canoe Creek Downstream shown in Schedule 8.
Dissolved Reactive Phosphorus (DRP)	Relevant NPS-FM (2020) attribute state	No change in the attribute states of the receiving surface water bodies, as an annual median and a 95%-ile, versus the baseline states. See advice note 2 below. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, Canoe Creek downstream shown in Schedule 8.

Advice Notes:

d. Water quality monitoring conditions to establish the ability to discharge under this condition are contained in Condition 26.0 below.

e. The attribute state for visual clarity and DRP must be either *a) defined via at least 12 months of baseline monitoring in Collins Creek, Northern Boundary Drain, Canoe Creek and Canoe Creek Lagoon; or b) assumed to be of pristine water quality (A Band*). *In the case of a), the monitoring data and attribute state assessment must be submitted to WCRC for approval at least 4 weeks prior to the start of mining operations.*