

**From:** Josie Burrows [REDACTED]  
**Sent:** Thursday, 3 August 2023 10:24 a.m.  
**To:** Josie Burrows  
**Subject:** E from applicant containing s92 response part 2  
**Attachments:** e3\_190723\_Consent\_conditions\_letter JULY2023.pdf

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Sensitivity: General

**From:** Darryl Sycamore [REDACTED]  
**Sent:** Tuesday, 25 July 2023 2:21 pm  
**To:** Josie Burrows [REDACTED]  
**Cc:** Kirstyn Royce [REDACTED]; Peter Hall <[REDACTED]>; Rebecca Jackson [REDACTED]  
**Subject:** RE: [#TM-230327] Response to further s92 request

Hi Josie

I cannot recall the Nevis River consent decision number, but I do know the applicant was Mark Skinner. Another in the Nevis is Mokihinui Gold Ltd which recently has a renewal and TMOTW was certainly considered.

The other decisions are-

RM20.325  
RM21.235  
RM21.243.01-01  
RM21.431.01-03

Attached is the E3 report.

We do not intend to consult further with Aukaha as Hokonui have a blanket position to oppose dredging consents.

I do not see the need for a pre-application meeting and are eager to get the hearing date set.

Kind regards

**Darryl Sycamore**

*Resource Management Planner*

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021 125 5554  
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330 Moray Place  
Dunedin 9016  
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Sensitivity: General

**From:** Josie Burrows [REDACTED]  
**Sent:** Tuesday, July 25, 2023 2:08 PM  
**To:** Darryl Sycamore [REDACTED]  
**Cc:** Kirstyn Royce [REDACTED]; Peter Hall [REDACTED]; Rebecca Jackson [REDACTED]  
**Subject:** RE: [#TM-230327] Response to further s92 request

Hi Darryl,

Thank you for the s92 response.

Are you please able to:

- Provide the ORC consent numbers for the mining permits referenced in relation to the mauri / Te Mana o te Wai question.
- Send another copy of the E3 memo – it has just come through quite blurred and difficult to read Table 1.

Also could you please advise us as to your intentions around further engagement with Aukaha and whether you would like us to organise any pre-hearing meetings with the submitters? Following confirmation of this matter we can look to organise potential hearing dates.

Kā mihi,  
Josie

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Sensitivity: General

**From:** Darryl Sycamore [REDACTED]  
**Sent:** Tuesday, 25 July 2023 9:15 am  
**To:** Josie Burrows [REDACTED]  
**Cc:** Kirstyn Royce [REDACTED]; Peter Hall [REDACTED]  
**Subject:** [#TM-230327] Response to further s92 request

Hi Josie and Kirstyn

Please find attached my reply to your most recent s92 request.

Kirstyn I have included you as I have made comment to the noise complaint that I advised you both of last week as a clarification for the panel.

Cheers and kind regards

**Darryl Sycamore**

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**Resource Management Planner**

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Ref: 21141  
19 July, 2023

Darryl Sycamore  
Terramark  
330 Moray Place  
Dunedin 9016



Dear Darryl,

## **RE: Cold Gold Consent conditions**

As per your email dated 17/07/2023 here is my response to clarify a few of your questions around freshwater ecology aspects of the application, namely:

1. Do you think the proposed conditions (Appendix 1, attached) are sound ecologically?
2. Do you have an opinion on what time interval is appropriate for Secchi disk assessments to assess water clarity?
3. Please confirm the level of effect on aquatic ecology values, as per the EIANZ guideline criteria, associated with a 200 m zone of reasonable mixing, and justify why this is an appropriate zone of reasonable mixing distance.
4. Map of proposed tributaries to be avoided by the suction dredge activity.

Here are my responses.

1. As assessed in the freshwater assessment (Jager & Doheny, 2022) the waterway reach has high ecological values; however, with the proposed mitigations and avoidance measures the residual ecological impacts will be low. Namely avoiding sensitive areas such as stream mouths, the Bendigo wetland area and shallow gravel edges suitable for trout spawning during the trout spawning season. Indigenous birds are not my area of expertise; however, after discussing with e3Scientific terrestrial ecologists I suggest the proposed land use condition 13 to avoid nesting

colonies by 250 m is adequate. This could potentially be reduced to 100 m if a suitably qualified ecologist undertook a survey during the breeding season.

2. In terms of assessing the sediment plume effects on water clarity via the frequency of Secchi disk assessments - I suggest once in the morning and once in the afternoon would be sufficient. Also, if the dredge moves to a new location or operators notice a change in substrate to finer material.
3. With regard to the zone of reasonable mixing and EIANZ guideline criteria – the e3Scientific ecological assessment (Jager & Doheny, 2022) follows the EIANZ guidelines as included in Table 10 of that report (Table 1 below). This assessment remains valid as the majority of the time the sediment plume will be less than 100 m and fish will be able to swim away and avoid the plume. The plume has maximum turbidity levels of 1.62 NTU which is 0.5 NTU higher than the upstream control. Kjelland et al., (2015) reported that in British Columbia the recommended increase above measured background levels should not be more than 8 NTU and average less than 2 NTU above upstream control samples to protect aquatic life. 20 NTU is known to influence salmonid foraging efficiencies (Kjelland et al., 2015). The proposed activity will be well less than those figures, with the sediment plume generally not discernible by 50 m and further reduced by 200 m. Therefore, the EIANZ assessment still stands as having low residual impact between 100 m and 200 m downstream.

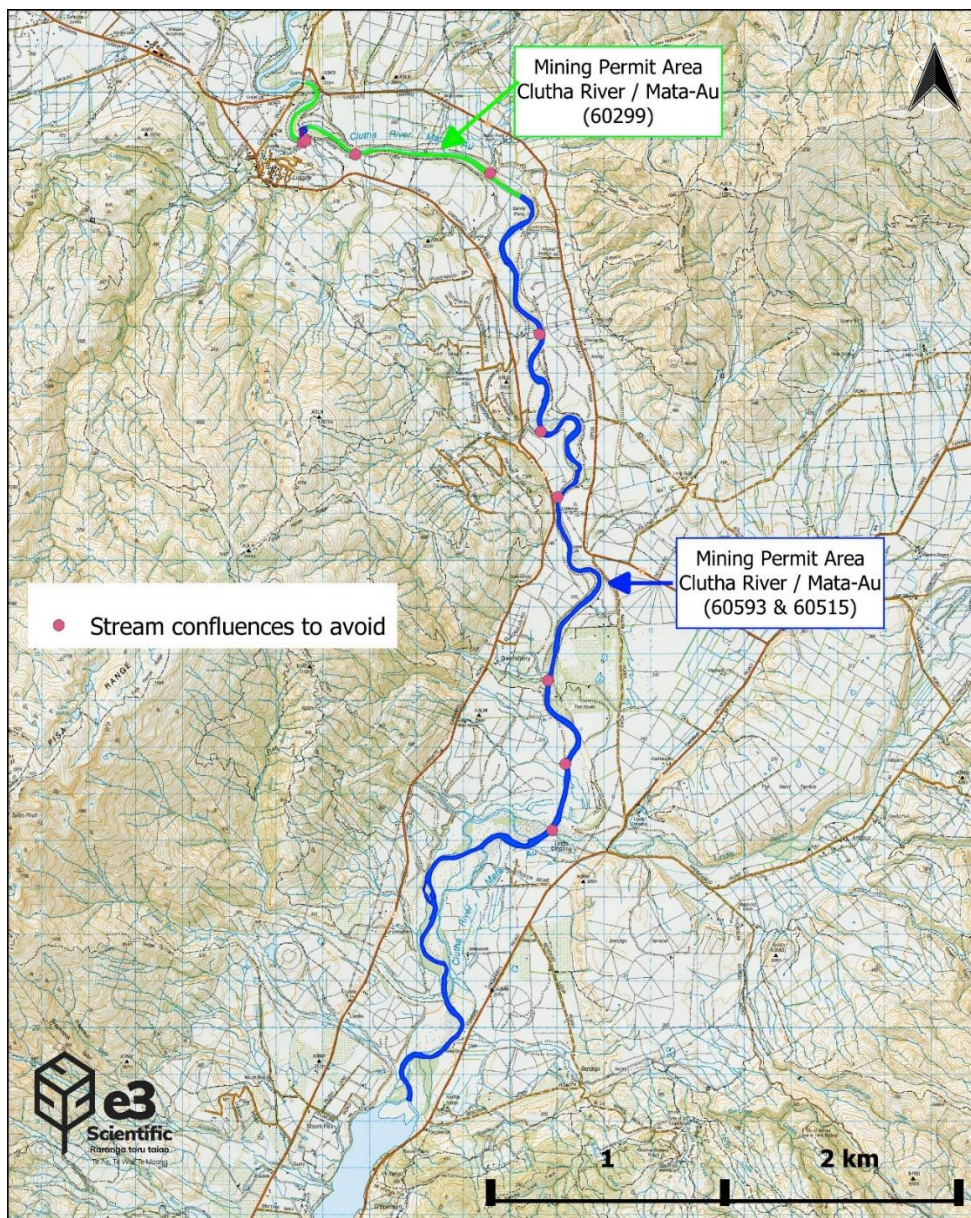
**Table 1: Copy of Table 10 from Jager and Doheny (2022).**

Table 10: Summary of potential effects on the Clutha River / Mata-Au from the proposed suction dredge mining.

Proposed Activity	Potential Impacts	Rationale	Ecological Value	Magnitude of Effect	Level of Effect	Proposed Impact Management	Residual Impact
Disturbance of benthic substrate.	Sedimentation and sediment plumes.	Section dredge mining of the benthic substrate will result in sediment plumes and sedimentation onto downstream habitat. <ul style="list-style-type: none"> <li>• Gravels and cobbles will settle immediately behind the dredge.</li> <li>• Suspended sediments have been shown to largely fall out of the water column within 20 m.</li> <li>• The visible plume is not likely to exceed 100 m.</li> <li>• Due to the currents, the sediment plume remains a similar width to the dredge of approximately 6 m.</li> </ul>	High	Low	Low	<ul style="list-style-type: none"> <li>• No impact management required.</li> </ul>	Low

4. With regard to the map of tributaries to be avoided, ecologically for the majority of fish, permanently flowing water is more important than stream

size. There are some tributaries in the area that support the threatened Clutha flathead galaxias; however, I suggest (and NZFFDB records support) that those populations are limited to the headwaters above sections that dry up or barriers are present that trout can't move upstream past. There would be some smaller streams that flow into the Clutha River that would not be visible under willows and others are only present during wet periods which may have inputs that are not ecologically relevant to avoid (temporary rain induced overland flow via rills etc). I have attempted to identify the tributaries likely to flow year round and suggest these should be avoided. I have located those on Figure 1 and provided the GPS locations that will be avoided to give more certainty in Table 2.



**Figure 1: Map showing locations of proposed stream confluences to be avoided by the suction dredge.**

**Table 2: List of proposed stream confluences to be avoided by the suction dredge.**

<b>Waterway name</b>	<b>Easting (NZTM)</b>	<b>Northing (NZTM)</b>
Lindis River (proposed exclusion zone from here downstream)	1310887	5024225
Schoolhouse Creek	1311169	5025645
Albert Burn	1310796	5027432
Unnamed watercourse 2,800m d/s of Poison Creek confluence	1311002	5031354
Poison Burn	1310643	5032755
Unnamed watercourse 2,360 u/s of Poison Creek confluence	1310619	5034837
Sheepskin Creek	1306683	5038687
Trig Burn	1309559	5038286
Luggate Creek (proposed exclusion zone)	1305552	5038937
Dead horse Creek (proposed exclusion zone)	1305618	5038978

In summary, it is my opinion that the residual aquatic ecological impacts of the suction mining dredge operation will be low with the proposed mitigations and avoidance measures as outlined in the attached (Appendix 1) proposed consent conditions.

Yours sincerely,



Mark Hamer  
Senior Freshwater Ecologist  
E3 Scientific

## References

- Jager, M., & Doheny, B. (2022). *Suction Dredge Mining Upper Clutha River Freshwater Ecological Assessment*. Arrowtown: Prepared for Cold Gold Clutha Ltd, e3Scientific Report No. 21141.
- Kjelland, M. E., Woodley, C. M., Swannack, T. M., & Smith, D. L. (2015). A review of the potential effects of suspended sediment on fishes: potential dredging-related physiological, behavioral, and transgenerational implications. *Environment Systems and Decisions*, 35: 334–350.



Appendix 1: Proposed consent conditions.

## Appendix 1 - Promoted Conditions of Consent

### Land Use

1. The use of the bed of the Clutha River/ Mata-Au for suction dredge mining must be carried out in accordance with the plans and all information submitted with the application. If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.
2. In order to minimise the amount of benthic habitat disturbed, no more than 1,500 metres length of the wet bed and 9,000 square metres area must be disturbed and worked at one time.
3. Works must only be carried out between the hours of 7:00 am and 10:00 pm.
4. No mining is to occur during public holidays.
5. No beaches above the normal upper flow level must be disturbed or mined. For the purpose of this consent the level is defined as 400 cubic metres per second.
6. Mining or direct effects of mining must not adversely affect any bridge foundation, intake structure or compromise the quality of water taken up by any permitted or consented water takes.
7. Except as provided for by Discharge Permit RM23.XXX.OX, during the exercise of this consent, the consent holder must ensure that no contaminants, including fuel or oil, enter the Clutha River/ Mata-Au. In the event of contamination, the consent holder must undertake immediate remedial action, and must notify the Consent Authority and Otago Fish & Game Council within 24 hours of the discharge.
8. Mining must not take place within 50 metres upstream or downstream of the confluence of
  - a. Schoolhouse Creek (1,311,169-5,025,645 NZTM 2000)
  - b. Albert Burn (1,310,796 - 5,027,432)
  - c. Un-named watercourse 2,800m d/s of Poison Creek confluence (1,311,002–5,031,354)
  - d. Poison Burn (1,310,643–5,032,755)
  - e. Un-named watercourse 2,360 u/s of Poison Creek confluence (1,310,619–5,034,837)
  - f. Sheepskin Creek (1,306,683–5,038,687)
  - g. Trig Burn (1,309,559–5,038,286)

Or any other watercourse with a width greater than 1m measured 1m beyond the confluence with the Clutha River/ Mata-Au.

9. No mining is permitted within 100m upstream of the eastern edge of the confluence of Luggate Creek with the Clutha River/Mata-Au to 50m downstream of the river island at the Devils Nook (approximately 315m downstream of the western edge of the Luggate Creek and Clutha River/Mata-Au).
10. No mining is permitted downstream of the confluence with the Lindis River.

11. During the sports fish spawning season (being 1 May to 31 August), no dredging should occur in water less than 1m deep.
12. Dredging is not to occur within 150m of an angler if the dredge is relocating and an angler is actively fishing at the proposed mining location.
13. No mining is permitted within 250m of any bird nesting colonies between 1 September and 31 January.
14. The consent holder must not excavate or disturb any riverbanks except for providing access.
15. There must be no disturbance of vegetated areas adjoining the Clutha River/ Mata-Au.
16. The consent holder must ensure that any mining event authorised by this consent does not cause any flooding, erosion, scouring, land instability or property damage.
17. The consent holder must take all reasonable precautions to minimise the spread of pest plants and aquatic weeds. In particular, the consent holder must:
  - a) Water blast all machinery to remove any visible dirt and/or vegetation prior to being brought on-site to reduce the potential for pest species being introduced to the bed of the watercourse. Machinery and equipment that has worked in watercourses must, prior to entering the site, also be cleaned with suitable chemicals or agents to kill didymo;
  - b) No disturbance of *Lagarosiphon major* beds is to occur (for information, contact the Consent Authority's Biosecurity Team); and
  - c) To avoid the spread of the *Didymosphenia geminata* or any other pest plant, not use machinery in the berm or bed of the river that has been used in any area where the pest plants are known to be present in the previous 20 working days, unless the machinery has been thoroughly cleansed with a decontamination solution (for information on decontamination contact the Consent Authority's Biosecurity Team);
  - d) Remove any vegetation caught on the machinery at the completion of works;
  - e) Prior to leaving the site, water blast all machinery following the completion of works to reduce the potential for pest species being spread from the bed of the watercourse.
18. The consent holder must ensure that any bed disturbance is limited to the extent necessary to carry out the works.
19. A GPS device must be on or near the dredge to continuously record the location of the dredge in relation to areas of operation authorised by this consent.
20. The total height of the dredge, including any antenna or other fixtures that can articulate and extend vertically above the craft, must be no more than 7.5 metres vertically above the water line.
21. The consent holder must ensure no structure comes within 15 metres of any high voltage line.

22. Vessels performing work under other electricity lines must maintain a 4 metres minimum approach distance from the conductors as per New Zealand Electrical Code of Practice for Electrical Safe Distances 34.
23. When vessels are performing work within 4 metres of electricity lines, the applicant and/or their contractors are to hold at all times, an active and approved Aurora overhead close approach permit.
24. The applicant must take all measures to ensure the dredge and associated equipment is secured in high flows and flooding events to prevent any obstruction or blockage in river channel and to any bridges, dams or other structures.
25. Prior to the exercise of this consent, the Consent Holder must ensure that:
  - a) an industry standard hose and filler nozzle with automatic cut-off is fitted for refuelling equipment;
  - b) an additional shutoff valve is fitted to the handle and a remote stop push button and cable accessible at the filler nozzle location to stop the pump at the bulk tank;
  - c) the bulk onshore fuel tank is double skinned or banded and is located in an area that is above 1 in 50 year flood levels, in a safely accessible location;
  - d) spill kits are located at the bulk tank and onboard the dredge; and
  - e) all staff receive training in the location and use of spill kits.
26. The annual work program must at minimum include, but not be limited to:
  - a) Maps highlighting the upper and lower extents of each 1,500 metre section and also the associated GPS coordinates;
  - b) Monitoring requirements and procedures for refuelling;
  - c) Contingency plans in the event of system malfunctions or breakdowns;
  - d) The means of receiving and dealing with any complaints; and
  - e) Emergency contact phone numbers.
27. A record of activity undertaken in accordance with this consent must be submitted to the Consent Authority by 28 February annually and made available for inspection at other times upon request. The report must at a minimum include:
  - a) Records showing the location of dredging activity complied with the annual work program, including the provision of GPS coordinates.
  - b) Records of any malfunctions and breakdowns in the refuelling system and any remedial action undertaken.
  - c) A record of any complaints received including:
    - i. The date, time, location and nature of the complaint;
    - ii. The name, phone number, and address of the complainant, unless the complainant elects not to supply this information;
    - iii. Action taken by Consent Holder to remedy the situation and any policies or methods put in place to avoid or mitigate the problem occurring again.
28. All persons operating the dredge must read and be familiar with the conditions of these consents. A copy must be kept on the dredge at all times.
29. On completion of each mining area, all plant, equipment, signage, debris, rubbish and any other material brought on site must be removed from the site.
30. This consent does not confer any right of access over any land. Any arrangements necessary for access are the responsibility of the consent holder.

31. In the event that an unidentified archaeological site is located during works, the following will apply;
- (i) Work must cease immediately at that place and within 20 metres around the site.
  - (ii) All machinery must be shut down, the area must be secured, and the Heritage New Zealand Pouhere Taonga Regional Archaeologist and the Consent Authority must be notified.
  - (iii) If the site is of Maori origin, the Consent Holder must also notify the appropriate iwi groups or kaitiaki representative [insert iwi groups/Kaitiaki representative if known to assist Consent Holder as to who to contact] of the discovery and ensure site access to enable appropriate cultural procedures and tikanga to be undertaken, as long as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975).
  - (iv) If human remains (koiwi tangata) are uncovered the Consent Holder must advise the Heritage New Zealand Pouhere Taonga Regional Archaeologist, NZ Police, the Consent Authority and the appropriate iwi groups or kaitiaki representative and the above process under (c) will apply. Remains are not to be disturbed or moved until such time as iwi and Heritage New Zealand Pouhere Taonga have responded.
  - (v) Works affecting the archaeological site and any human remains (koiwi tangata) must not resume until Heritage New Zealand Pouhere Taonga gives written approval for work to continue. Further assessment by an archaeologist may be required.
  - (vi) Where iwi so request, any information recorded as the result of the find such as a description of location and content, must be provided for their records.
32. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year on the first, second or fifth anniversary, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, [insert if required- or on receiving monitoring results], for the purpose of:
- (i) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
  - (ii) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
  - (iii) Reviewing the frequency of monitoring or reporting required under this consent.

## Discharge Permit

1. Prior to commencing mining for the day, the dredge operator shall make a visual clarity assessment using a weighted Secchi disk to determine the baseline visual clarity following the method and standards outlined in the National Environmental Monitoring Standards (NEMS) 2019. Once the suction dredge is operating Secchi disk readings shall be made at 200m downstream from the point of discharge once in the morning and afternoon mining period. The difference between these readings shall not exceed 10%.
2. Should there be a  $\geq 10\%$  difference in the Secchi readings 200m from the point of discharge, the consent holder shall-
  - (a) Immediately cease operating,
  - (b) Make a record in a logbook of the breach specifying date and time, and a GPS location,
  - (c) Assess whether there have been any events or failures that could have resulted in the greater discharge plume and record the findings in the logbook,
  - (d) Assess the nature of the sediments and bed substrate,
  - (e) Make alterations to the engine speed or hydraulic nozzle to minimise the discharge, and
  - (f) Carry out an assessment as described in condition 1 to obtain a baseline reading prior to recommencing operation.

### Water Permit

1. The rate of abstraction must not exceed:
  - a) 400 litres per second; and
  - b) 18,000 cubic metres per day.
2. All water taken while exercising this consent must immediately be returned to the watercourse it was sourced from.