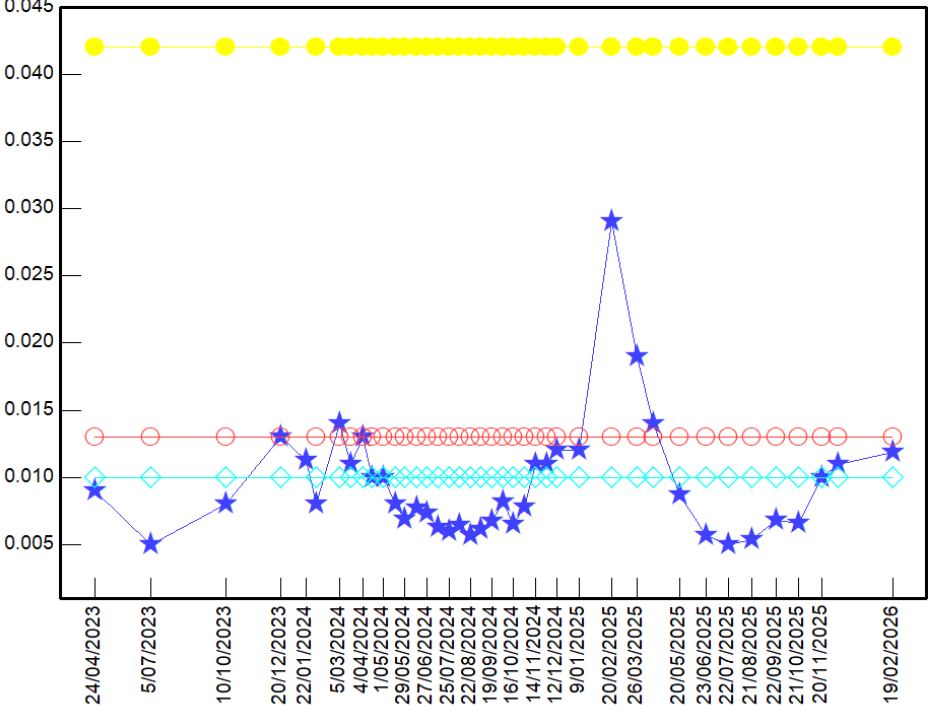


Water workshop held 24-25 February

Present	Agreed Actions	Completed / Response
<p>Santana Cheryl Low Mary Askey Mark Chrisp Paul Weber Ryan Burgess Eric van Torvelainen Jens Rekker Greg Ryder ORC Shay McDonald Alexandra Badenhop Michael Greer</p>	<p>Ryan to provide additional information in relation to number of wells, target interval, anticipated depth, screening depths, number of wells at each location, targeted GW unit.</p>	<p>Ryan Burgess -HGG Groundwater performance monitoring locations can be separated into two categories:</p> <ol style="list-style-type: none"> i. Those that will primarily monitor for changes in groundwater level (i.e., drawdown). These locations will include fully grouted VWP strings (in bedrock) and shallow drive point piezometers (in wetlands). ii. Those that will primarily monitor for changes in groundwater quality (e.g., mine waste storage facility seepage bypass). These locations will focus on key potential seepage bypass pathways, namely valley bottom alluvium and weathered bedrock units. Given the importance of the Shepherds Seepage Collection system, fresh bedrock will also be monitored at this location to provide assurance deeper potential pathways are not impacted (despite the lower permeability nature of fresh bedrock). <p>Ultimately, the encountered ground will dictate the most appropriate installation design for either monitoring category. The requested (nominal) monitoring installation details will be incorporated into an updated Water Management Plan.</p>
	<p>Soil Management Plan (MP) needs to be updated to show where the As rich stockpiles will be located.</p>	<p>Useful feedback has been obtained from the administering agencies and consent authorities for several aspects of management plans, including agreed matters to be updated. MGL is not proposing amendments to management plans at this time but anticipates making amendments to various management plans at a later date as part of the processing of BOGP application.</p>
	<p>MGL to consider annual periphyton and macroinvertebrate monitoring as a “baseline” before commencement of water treatment at end of mine life.</p>	<p>MGL sent out a request for tender to several parties in March 2026 to undertake a freshwater stream ecological evaluation (SEV) for Rise and Shine and Shepherds Creeks. MGL are now undertaking discussions to complete the work in the coming month. This will form a baseline of stream value prior to any disturbance within the streams in the direct disturbance footprint.</p>
	<p>As, Sb, Mo, SO₄ – limits for surface water compliance should be the same as GW limits.</p>	<p>Arsenic (As) The current proposed Surface Water (SW) limit is 0.042 mg/L Default Guideline Value (DGV) 90% Protection, Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018). The proposed As Groundwater (GW) of 0.01 mg/L Maximum Acceptable Value (MAV) NZ Drinking Water Standards is not achievable. RSO3 baseline arsenic data exceeds the proposed GW limit 0.01mg/L (see table and graph below). RSO3 baseline data also exceeds ANZG 2018 DGV 95% Protection 0.013 mg/L.</p>

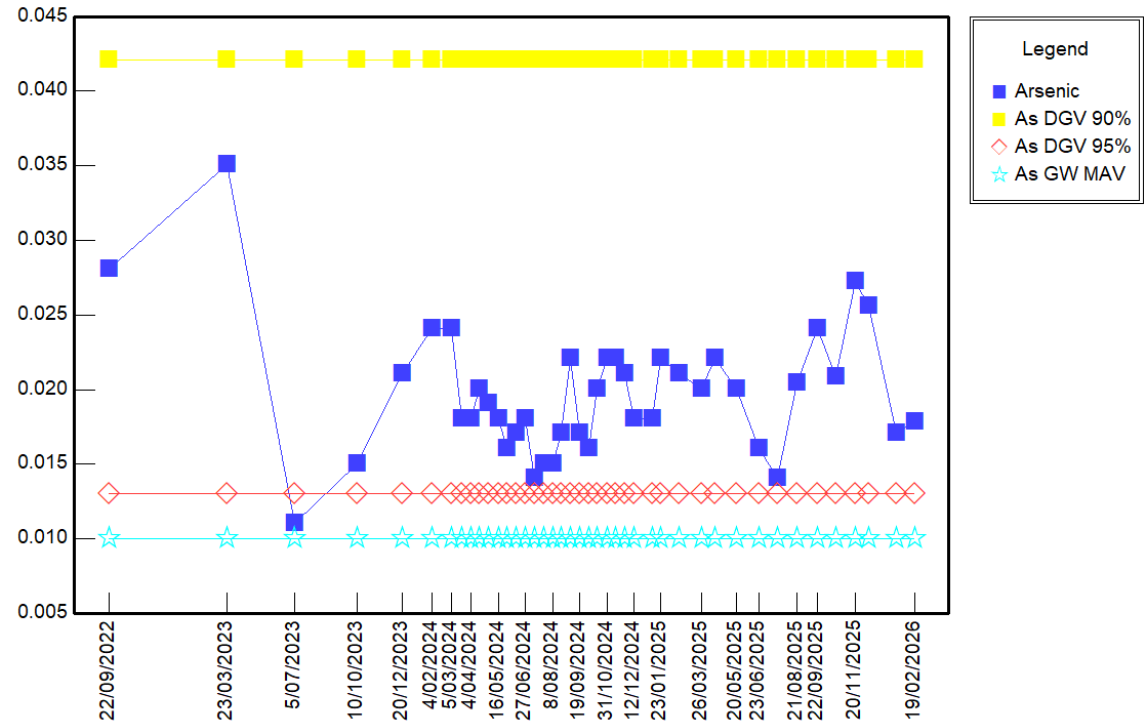
Present	Agreed Actions	Completed / Response																																			
		<p data-bbox="891 236 1984 288">RSO1 graph is also shown exceeding all limits except the proposed SW 0.042 mg/L. RSO1 is not a proposed compliance monitoring location.</p> <table border="1" data-bbox="891 360 1895 512"> <thead> <tr> <th>Arsenic</th> <th>Samples</th> <th>Non-detects</th> <th>Date range</th> <th>Minimum</th> <th>Median</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>RSO3</td> <td>40</td> <td>0</td> <td>24/4/2023-19/2/2026</td> <td>0.005</td> <td>0.0081</td> <td>0.029</td> </tr> <tr> <td>SC01</td> <td>41</td> <td>1</td> <td>22/9/2022-19/2/2026</td> <td><0.001</td> <td>0.0024</td> <td>0.0061</td> </tr> <tr> <td>CC01</td> <td>26</td> <td>2</td> <td>5/3/2024-19/2/2026</td> <td><0.001</td> <td>0.0009</td> <td>0.0014</td> </tr> <tr> <td>RSO1</td> <td>42</td> <td>0</td> <td>22/9/2022-19/2/2026</td> <td>0.011</td> <td>0.0195</td> <td>0.035</td> </tr> </tbody> </table> <p data-bbox="1274 523 1547 555">RSO3 Arsenic mg/L</p>  <div data-bbox="1845 579 2013 762"> <p>Legend</p> <ul style="list-style-type: none"> ★ Arsenic ○ As DGV 95% ● As DGV 90% ◇ As GW MAV... </div>	Arsenic	Samples	Non-detects	Date range	Minimum	Median	Max	RSO3	40	0	24/4/2023-19/2/2026	0.005	0.0081	0.029	SC01	41	1	22/9/2022-19/2/2026	<0.001	0.0024	0.0061	CC01	26	2	5/3/2024-19/2/2026	<0.001	0.0009	0.0014	RSO1	42	0	22/9/2022-19/2/2026	0.011	0.0195	0.035
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Present

Agreed Actions

Completed / Response

RS01 Arsenic mg/L



Antimony (Sb)

Sb proposed SW limit is 0.074 mg/L(chronic) and 0.250 (acute). Proposed GW MAV is 0.02 mg/L limit. All SW sites could meet the 0.02 GW MAV limit (see table below).

Sb	Samples	Non-detects	Date range	Minimum	Median	Max
RS03	37	35	24/4/2023-19/2/2026	<0.0001	<0.0001	<0.002
SC01	38	9	22/9/2022-19/02/2026	<0.0001	0.00018	0.006
CC01	25	25	5/3/2024-19/2/2026	<0.0001	<0.0001	<0.002

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		<p>Molybdenum (Mo) Mo Proposed SW is 0.034 mg/L. Proposed GW is 0.01 mg/L. All SW sites could meet the GW MAV 0.01 mg/L.</p> <table border="1" data-bbox="891 325 1883 448"> <thead> <tr> <th>Mo</th> <th>Samples</th> <th>Non-detects</th> <th>Date range</th> <th>Minimum</th> <th>Median</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>RS03</td> <td>40</td> <td>40</td> <td>24/4/2023-19/2/2026</td> <td><0.0002</td> <td><0.0002</td> <td><0.0005</td> </tr> <tr> <td>SC01</td> <td>41</td> <td>6</td> <td>22/9/2022-19/2/2026</td> <td><0.0005</td> <td>0.00048</td> <td>0.0008</td> </tr> <tr> <td>CC01</td> <td>26</td> <td>25</td> <td>5/3/2024-19/2/2026</td> <td><0.0002</td> <td><0.0002</td> <td>0.00049</td> </tr> </tbody> </table> <p>Sulfate (SO₄) Proposed SW is 500 mg/L. Proposed GW limit is 250 mg/L. All SW sites could meet the GW MAV 250 mg/L.</p> <table border="1" data-bbox="891 580 1883 703"> <thead> <tr> <th>SO₄</th> <th>Samples</th> <th>Non-detect</th> <th>Date range</th> <th>Minimum</th> <th>Median</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>RS03</td> <td>40</td> <td>0</td> <td>24/3/2023-19/2/2026</td> <td>0.27</td> <td>0.955</td> <td>4.05</td> </tr> <tr> <td>SC01</td> <td>41</td> <td>1</td> <td>22/1/2022-19/2/2026</td> <td><0.02</td> <td>44.9</td> <td>63.5</td> </tr> <tr> <td>CC01</td> <td>26</td> <td>0</td> <td>5/3/2024-19/2/2026</td> <td>0.23</td> <td>0.56</td> <td>4.0</td> </tr> </tbody> </table>	Mo	Samples	Non-detects	Date range	Minimum	Median	Max	RS03	40	40	24/4/2023-19/2/2026	<0.0002	<0.0002	<0.0005	SC01	41	6	22/9/2022-19/2/2026	<0.0005	0.00048	0.0008	CC01	26	25	5/3/2024-19/2/2026	<0.0002	<0.0002	0.00049	SO ₄	Samples	Non-detect	Date range	Minimum	Median	Max	RS03	40	0	24/3/2023-19/2/2026	0.27	0.955	4.05	SC01	41	1	22/1/2022-19/2/2026	<0.02	44.9	63.5	CC01	26	0	5/3/2024-19/2/2026	0.23	0.56	4.0
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	Send Mine Environment Neutral Drainage paper to Alexandra	Provided to Alexandra (e3 Scientific) and Shay (ORC) 8/3/2026																																																								
	Two paragraph explanation for location for RS03 – why it is a suitable location in the context of the diluting effects of clearwater creek and effects from WELF and CIT battery and CIT pit. H&S access issues are relevant to the site selection.	<p>Ryan Burgess - HGG The RS03 location was chosen as the surface water compliance site for the Clearwater Creek catchment as it represents a location that has the following favourable characteristics:</p> <ul style="list-style-type: none"> • Downstream of all mine influences. This site is downstream of the WELF, SREX Pit and SREX ELF. It is also downstream of the historic CIT Battery. • Ease of access and minimal additional disturbance needed. This site is relatively easy and safe to access along an existing farm track. • A strong dataset exists with which to establish baseline conditions. This site was part of the baseline characterisation effort, with >25 samples collected since 2022. <p>Alternatives with a long baseline dataset, such as RS01, will be greatly influenced by the RAS Pit and would not capture any influence of the WELF. Other locations are typically more challenging to reach (steep valley sides) and would require additional track construction (i.e., more disturbance) to reach these locations. It is also noted that performance monitoring is proposed at all mine domain water sources to provide an early warning of potential water quality impacts.</p>																																																								
	Michael to provide one para scope on what’s missing from Boothroyd’s report before Thursday COB	<p>Michael provided 24 February 2026 <i>What still remains missing is an overall summary of what Shepherds Creek will actually “look like” once the predicted changes in habitat, water quality, and hydrology are realised. This assessment does not need to quantify the magnitude of effects (e.g., “more than minor”) but should instead</i></p>																																																								

Present	Agreed Actions	Completed / Response
		<p><i>describe the plant and animal communities likely to be supported by a larger stream with poorer water quality and more stable flows once all mitigations are fully implemented, and explain how these will differ from the current state. Of note, it appears that the stream will shift from having a hill-fed hydrology, with ecological communities heavily influenced by drought frequency, to a more spring-fed hydrology with higher, more stable baseflows and lower flood frequency. This shift will almost certainly influence the plants and animals the stream supports. It would be good to have this acknowledged clearly for the panel</i></p>
	<p>MGL to respond Michael’s scope to summarise the final outcome proposed by project - memo style.</p>	<p>Sent updated memo to ORC from Ian Boothroyd 16/03/2026.</p>
	<p>Look at TSS in ECSP – end of pipe, wording to be practical</p> <p>rejig conditions – Attachment 2 to Schedule of ORC conditions to delete turbidity limit and change to conspicuous change in visual turbidity. Revise to meet TSS standard in ECSP. Change NTU limit and come up with something more meaningful – 33% change between upstream and downstream? Difficult in high flow situations (H&S issues). Mostly visual – inspected by ORC taking photos.</p>	<p>We are still working through the most appropriate TSS limit to apply in order to align with the TSS standards in the ECSP. At this stage we are reviewing options for replacing the existing NTU limit in Attachment 2 to the ORC conditions, including whether a “conspicuous change in visual turbidity” standard would be more practical and enforceable—particularly given the challenges of collecting representative NTU data during high-flow events due to H&S constraints.</p> <p>To ensure the revised condition remains measurable and technically robust, we are seeking further input from ORC on what threshold or assessment method they consider suitable (e.g., visual assessment protocols or percentage change between upstream and downstream). Once we receive clarification from ORC, we can finalise the wording and update the schedule accordingly.</p>
	<p>Clarify if seeps / wetlands on northern side are in a wetland in a MP – maintain a photographic record to ensure arial extent and quality is maintained.</p>	<p>To ensure transparency and to demonstrate that the aerial extent and condition of these areas are being maintained, we will commit to keeping a photographic record. This will involve periodic photos from consistent locations to provide a clear visual record over time. This approach offers a practical and effective way to monitor any changes and supports our intent to maintain these seepage/wetland features in their current state.</p>
	<p>Summarise seepage management over time with diagrams, including contingencies. Include examples</p>	<p>Seepage management memo sent to ORC 5/3/2026.</p> <p>The Seepage Risk Assessment memo prepared by Ryan Burgess dated 5 March 2026 (submitted to EPA 10/03/2026) concludes that the risk of seepage migration off the BOGP site to down valley</p>

Present	Agreed Actions	Completed / Response
	from literature. Memo – Seepage Escape Management	receptors is considered to be low. One of the reasons for that conclusion is that a range of secondary / contingency seepage inceptions system measures could be undertaken in the event that monitoring shows a higher than expected levels of contaminants seeping from underneath the TSF.
	Include a condition for contingency measures if issues arise.	<p>Mark Chrisp – Mitchell Daysh</p> <p>It was agreed that a consent condition should be included (in Schedule 2 – General Conditions for ORC Consents) which requires the installation of secondary / contingency seepage inceptions system measures in the event that monitoring shows a higher than expected levels of contaminants seeping from underneath the TSF. Such a condition will be drafted and advanced at a later date (either before or during any Conditions Workshop) and will need to include appropriate trigger levels which will require further action to be undertaken. It is anticipated that the appropriate trigger levels will be the subject of expert caucusing.</p>
	Downstream monitoring – performance monitoring – MGL to propose a program. Include in Water MP, set out proposed performance monitoring regime for Lindus River and Bendigo Creek. (Lindus – trend analysis).	<p>Ryan Burgess</p> <p>There is a low risk to further downstream surface water receptors such as the Lindis River and Bendigo Creek, with the proposed BOGP water management. If water quality compliance limits are achieved at upstream sites (i.e., SC01 and RS03) as proposed, then downstream, where more dilution will occur, will show even lower levels of potential constituents of concern. However, MGL recognises the perceived risks the public may place on these important waterways. As such, MGL have indicated they will commit to additional monitoring in Bendigo Creek and the Lindis River to provide reassurance to the public that water quality in these waterways does not deteriorate as a result of the BOGP. Full monitoring details will be incorporated into an updated Water Management Plan.</p> <p>Jens Rekker</p> <p>Memo instituting water quality monitoring of Lindis River and Bendigo Creek was sent to ORC 19/03/2026.</p> <p>The memo outlines the need to establish a comprehensive surface water quality monitoring programme for the Lindis River and Bendigo Creek in connection with activities at the BOGP. The memo explains that existing surface-water quality monitoring on the Lindis River is carried out by two organisations: Otago Regional Council (ORC), which monitors the Lindis River at Ardgour Road, and Earth Science New Zealand (formerly NIWA), which monitors the Lindis River at Lindis Peak (shows long-term data for nutrients, pH, and E. coli, with nitrate showing the strongest seasonal pattern influenced by river flows and groundwater–surface water interactions. Bendigo Creek currently lacks independent monitoring, so a new site is proposed upstream of infiltration zones. Future monitoring would continue monthly sampling at Ardgour Road and introduce monthly</p>

Present	Agreed Actions	Completed / Response
		sampling at Bendigo Creek, using an expanded suite of analytes aligned with the BOGP Water Management Plan.
	End of pipe TSS compliance limit, conspicuous change in colour or clarity. (Not practical to measure 30% change). MGL to review TSS information to see where we won't meet.	MGL still reviewing TSS information
	Review – Condition 30 Schedule 2 – following memo regarding the seepage management / contingency measures.	Currently under review
	Condition 17 be amended to reflect consent conditions requiring performance monitoring in relation to untreated seepage in the vicinity of SC01. Further – what is the threshold that triggers action?	<p>A memo was prepared that considered the potential for undertaking drilling and piezometer installation at SC-01 across the basement rock 'neck' present at the surface water monitoring site (Sent tot ORC 19/03/2026). Up to five positions would allow characterisation of depths of alluvium, weathered rock, and unweathered consolidated rock. The memo noted: "The piezometers would also be available for the undertaking of slug tests and potentially a pumping test to characterise hydraulic conductivity. In the long-term the piezometers would be available for the taking of water samples to delineate the composition of any bypass flow. Ultimately, investigations to characterise subsurface seepage would have the ability to quantify any underflow rates and the mass load of defined potential contaminants."</p> <p>The objective of this fence of piezometers was to determine:</p> <ol style="list-style-type: none"> a) Whether unmonitored underflow of SC-01 could or was occurring, b) Whether the underflow was significant, and if so whether it could be monitored with piezometers, and c) What thresholds or performance criteria could be attached to the observation of underflow. <p>In the meeting it was commented by Eric Torvelainen that weak and porous materials at the neck could be dug out and replaced with less permeable backfill such as an inground wall. Ryan commented that sulphate (SO4) and nitrate nitrogen (NO3-N) were available or suitable as triggers (TARPs?) to evaluate risk.</p>
	– Condition 58 Schedule 2 – needs to be replicated in relation to the WELF.	MGL commits to amending condition.

