07 Water Management Conditions

Reference	Condition
	DISCHARGE WATER QUALITY AND QUANTITY
	General
DIS1	The Approval Holder must ensure than no drilling mud or associated discharges enter any surface water bodies, and that any drilling site is left in a tidy condition after completion of drilling operations within the Stockton, ESE, MFS and UWHR Sub-Areas.
	ESE, MFS
DIS2	The discharge from the ESE water treatment plant polishing pond must remain within the pH range of 4.5 – 7.0, at all times.
DIS3	The discharge from the MFS water treatment plant polishing pond must remain within the pH range of 4.5 – 7.0, at all times.
DIS4	1. The Approval Holder must install, operate and maintain continuous instrumental monitoring of pH at the point of discharge from both the ESE water treatment plant polishing pond and the MFS water treatment plant polishing pond. 2. This monitoring must be operational prior to the commissioning of the permanent water treatment plant(s) and remain in place until after the decommissioning of the permanent water treatment plant(s). 3. This continuous instrumental pH monitoring must include real-time telemetry to enable prompt operational response to non-compliance with **Condition DIS2 or DIS3**. 4. The annual data capture rate must achieve at least 90%, after quality control procedures have been applied to exclude spurious values arising from factors such as sensor fouling, calibration drift, instrument maintenance downtime, and outages in power or telemetry. 5. The instruments must receive calibration and inspection at a frequency no less than 3-monthly.

Reference	Condition
DIS5	1. When the flow of the Waimangaroa River is > 7190 litres per second (the non-exceedance 90th percentile flow as measured at monitoring site 2W) the Approval Holder may operate a controlled bypass of the MFS water treatment plant during the Operating and Active Closure Phases, with discharge to the Waimangaroa River without treatment from either the West Pit Sump or the East Pit Sump. 2. The rate of the pumped bypass must not exceed the design maximum rate of pumping to the MFS water treatment plant. ***Advice note**: the non-exceedance 90th percentile flow is a metric that describes the flow of a waterway that is exceeded 10% of the time, i.e. the flow that is not exceeded 90% of the time.*
	Stockton
DIS6	When the flow in the Mangatini Stream is > 1140 litres per second (the non-exceedance 70th percentile flow as measured at monitoring site S14B) the Approval Holder may operate a controlled discharge of LDS from the Mangatini Sump to the Mangatini Stream, subject to the receiving water criteria specified in **Condition QUA20**. ***Advice note**: the non-exceedance 70th percentile flow is a metric that describes the flow of a waterway that is exceeded 30% of the time, i.e. the flow that is not exceeded 70% of the time.*
	RECEIVING WATER QUALITY
	ESE, MFS, UWHR - General
QUA1	The water quality compliance limits set out in this Approval and the associated Compliance monitoring locations set out in **Condition MON5** apply to the ESE, MFS, and UWHR Sub-Areas for the duration of these Approvals.
	ESE, MFS, UWHR - Suspended Sediment
QUA2	The turbidity at Compliance monitoring site M-M1 must not, as a result of BPCP activities, exceed a 15-sample rolling median of 25 NTU, based on weekly grab sampling.

Reference	Condition
QUA3	The turbidity at Compliance monitoring sites SW01, SW03, 2W, 17W, KEL, V62, and W07 must not, as a result of BPCP activities, exceed 550 NTU, as measured by both continuous monitoring and discrete sampling.
QUA4	The turbidity seven-day rolling median at Compliance monitoring sites SW01, SW03, 2W, 17W, KEL, V62, and W07 must not, as a result of BPCP activities, exceed 100 NTU, as measured by continuous monitoring.
QUA4A	1. The turbidity 14-day rolling median at Compliance monitoring site KEL must not, as a result of BPCP activities, exceed 30 NTU, as measured by continuous monitoring. 2. The pH 14-day rolling median at Compliance monitoring site KEL must not, as a result of BPCP activities, fall below 4.5, as measured by continuous monitoring.
QUA5	The annual median turbidity at Compliance monitoring sites SW01, SW03, 2W, 17W, KEL, V62, and W07, as measured by continuous monitoring, must not, as a result of BPCP activities, be more than 5 NTU greater than the annual median turbidity at the associated background monitoring site (**Condition MON9**).
QUA6	The annual 95th percentile turbidity at Compliance monitoring sites SW01, SW03, 2W, 17W, KEL, V62, and W07, as measured by continuous monitoring, must not, as a result of BPCP activities, be more than 20 NTU greater than the background annual 95th percentile turbidity at the associated background monitoring site (**Condition MON9**).
QUA7	All assessments of compliance for turbidity and pH (**Conditions QUA2, QUA3, QUA4, QUA4A, QUA5, and QUA6**) must exclude data collected during (and two hours following) a rainfall event of 10-year return period or greater. ***Advice note**: for the Buller Plateaux, a 10-year return period rainfall event is 374 mm over 24-hours, with 16 mm in 10-minutes or 34 mm in 30 minutes.*
QUA8	1. Prior to commencement of Construction in the ESE, MFS and UWHR Sub-Areas, the Approval Holder must develop site-specific relationships between turbidity and black disk visual clarity from representative samples covering a range of low and high flow conditions.

Reference	Condition
	2. A site-specific relationship must be developed for both the Whareatea River (monitoring site WM-3) and the Waimangaroa River (monitoring site 18W) as these will be used for clarity compliance assessment (as described in **Condition QUA10**) once BPCP activities commence in the ESE, MFS and UWHR Sub-Areas.
QUA9	1. Prior to commencement of BPCP activities in the ESE, MFS and UWHR Sub-Areas, the Approval Holder must undertake continuous turbidity monitoring at the lowland Performance monitoring sites WM-3 (Whareatea River) and 18W (Waimangaroa River) for a minimum of twelve (12) months to establish the pre-mining background annual median and 95th percentile turbidity. 2. The pre-mining background annual median and 95th percentile clarity, to be used for clarity compliance assessment (**Condition QUA10**) once BPCP activities commence in the ESE, MFS and UWHR Sub-Areas, can be calculated by applying the site-specific relationship developed as described in **Condition** QUA8 to the measured pre-mining background annual median and 95th percentile turbidity.
QUA10	1. The Approval Holder must manage the activities undertaken at the ESE, MFS, and UWHR Sub-Areas such that as a result of BPCP activities the visual clarity at the lowland performance monitoring sites WM-3 (Whareatea River) and 18W (Waimangaroa River) does not result in greater than a 50% change in the annual median visual clarity compared with the background annual median visual clarity. 2. The annual median visual clarity at each site must be calculated from the measured annual median continuous turbidity monitoring record at WM-3 and 18W by applying the site-specific relationships developed as per **Condition QUA8**. The calculated annual visual clarity statistics must then be compared to the pre-mining background annual visual clarity statistics (**Condition QUA9**) to assess compliance with **QUA10(1)**.
	ESE, MFS, UWHR - Nutrients
QUA11	The nitrate-nitrogen concentration at the Compliance monitoring sites 17W (Waimangaroa River), KEL (Whareatea River) and V62 (V62 Stream) must not exceed 11.3 milligrams per litre.
QUA12	1. The annual median of the nitrate-nitrogen NEQ must be less than 1 at each of the Compliance monitoring sites. Compliance with the nitrate-nitrogen NEQ limits must be assessed as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**).

Reference	Condition
	2. For each discrete measurement of nitrate-nitrogen, the NEQ must be calculated with reference to the guideline value and incorporating the TMF, using equation **QUA12.** $$Equation\ QUA12: NEQ = \frac{Measured\ nitrate\ nitrogen\ concentration}{TMF\ modified\ nitrate\ nitrogen\ guideline\ value}$$ 3. The nitrate-nitrogen guideline value varies depending on the hardness of the water: a. 95% species protection: 1.1 milligrams per litre (soft waters), 2.6 milligrams per litre (moderately hard waters), and 29 milligrams per litre (hard waters); b. 80% species protection: 2.3 milligrams per litre (soft waters), 7.1 milligrams per litre (moderately hard waters), and 56 milligrams per litre (hard waters). 4. Soft waters are those with a hardness of less than 30 milligrams per litre as $CaCO_3$. Moderately hard waters are those with a hardness of 30 – 150 milligrams per litre as $CaCO_3$. Hard waters are those with a hardness of greater than 150 milligrams per litre as $CaCO_3$. ***Advice note**: "NEQ" is Nutrient Ecotoxicity Quotient, and "TMF" is toxicity modifying factor(s).*
QUA13	1. The annual median of the ammoniacal-nitrogen NEQ must be less than 1 at each of the Compliance monitoring sites. Compliance with the ammoniacal-nitrogen NEQ limits must be assessed as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**). 2. For each discrete measurement of ammoniacal-nitrogen, the NEQ must be calculated with reference to the guideline value and incorporating the TMF, using equation **QUA13.** $$Equation\ QUA13: NEQ = \frac{Measured\ ammoniacal\ nitrogen\ concentration}{TMF\ modified\ guideline\ value}$$ 3. For ammoniacal-nitrogen, the TMF are pH and temperature. Should the field-measured pH at the time of sampling be less than 6.0, the adjustment applicable to pH 6.0 applies. Should the field-measured temperature at the time of sampling be less than 10 degrees Celsius, the adjustment applicable to 10 degrees Celsius applies. 4. The ammoniacal nitrogen default guideline value (at pH 8.0 and temperature 20 degrees Celsius) is:

Reference	Condition
	a. 95% species protection: 0.40 milligrams per litre; and b. 80% species protection: 1.3 milligrams per litre. ***Advice note:*** *"NEQ" is Nutrient Ecotoxicity Quotient, and "TMF" is toxicity modifying factor(s). The TMF modification to be applied is described in ANZG (2026) Toxicant default guideline values for aquatic ecosystem protection: Ammonia in freshwater - Table E.2 (95% species protection), Table E.3 (90% species protection) and Table E.4 (80% species protection).*
QUA14	The Approval Holder must manage the activities undertaken at the ESE Sub-Area, the MFS Sub-Area, and the UWHR Sub-Area such that nutrient concentrations at the monitoring sites WM-3 (Whareatea River) and 18W (Waimangaroa River) meet the following: a. An annual median nitrate-nitrogen concentration of no more than 2.4 milligrams per litre; b. An annual 95th percentile nitrate-nitrogen concentration of no more than 3.5 milligrams per litre; c. An annual median ammoniacal-nitrogen concentration of no more than 0.24 milligrams per litre; d. An annual 95th percentile ammoniacal-nitrogen concentration of no more than 0.40 milligrams per litre. ***Advice note****: discretely measured ammoniacal-nitrogen concentrations must each have pH adjustment applied prior to determining the annualised statistics. Should the field-measured pH at the time of sampling be less than 6.0, the adjustment applicable to pH 6.0 applies. The pH adjustment to be applied to the discretely measured ammoniacal-nitrogen concentrations is described in the Ministry for the Environment (2018) A Guide to Attributes in Appendix 2 of the National Policy Statement for Freshwater Management, as 'Appendix – Ammonia adjustment calculations'.*
	ESE, MFS, UWHR - AMD
QUA15	1. At Compliance monitoring sites SW01 and SW03 (Deep Stream), KEL (Whareatea River), W07 (Rapid Stream), and V62 (V62 Stream), a 95% level of protection for dissolved metals is required (**Schedule C**). 2. At Compliance monitoring sites 2W and 17W (Waimangaroa River) and M-M1 (V8 Creek), an 80% level of protection for dissolved metals is required (**Schedule C**).

Reference	Condition
QUA16	The annual median concentration of dissolved iron at each of the Compliance monitoring sites (SW01, SW03, 2W, 17W, KEL, W07, V62, M-M1) must not be greater than 0.5 milligrams per litre.
QUA17	The Approval Holder must determine the Metal Ecotoxicity Quotient (**MEQ**) with respect to both the chronic guideline value and the acute guideline value for each of the dissolved metals (aluminium, copper, zinc, cobalt, nickel, manganese, cadmium) measured on each monitoring occasion at each Compliance monitoring site (SW01, SW03, 2W, 17W, KEL, W07, V62, M-M1). $$Equation\ QUA17: MEQ = \frac{Measured\ dissolved\ metal\ concentration}{TMF\ modified\ guideline\ value}$$ If a dissolved metal analytical result is reported as below the detection limit, half of the detection limit value should be used for the MEQ calculation and compliance assessment.
QUA18	1. The annual 95th percentile acute MEQ at each of the Compliance monitoring sites must be no greater than 1 for each of the dissolved metals (aluminium, copper, zinc, cobalt, nickel, manganese, cadmium). 2. The annual median chronic MEQ at each of the Compliance monitoring sites must be no greater than 1 for each of the dissolved metals (aluminium, copper, zinc, cobalt, nickel, manganese, cadmium). 3. Compliance with the Metal Ecotoxicity Quotient limits must be reported on as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**) and in accordance with the algorithms described in **Schedule C**.
	Stockton – General
QUA19	When undertaking statistical analyses involving water quality monitoring datasets for determining compliance at the monitoring site NR2 (Ngākawau River), for both continuous monitoring and the analytical results of grab sampling, the Approval Holder must exclude all data relating to periods when there is tidal influence.

<table>
<tr><th>Reference</th><th>Condition</th></tr>
<tr><td></td><td>Stockton – Suspended Sediment</td></tr>
<tr><td>QUA20</td><td>Based on daily grab sampling, the turbidity at monitoring site NR2 (Ngākawau River) must achieve:
a. A rolling annual median of < 10 NTU; and
b. A rolling annual 95th percentile of < 48 NTU; and
c. A 15-sample rolling median of < 25 NTU.</td></tr>
<tr><td>QUA21</td><td>Whenever a LDS discharge is occurring to the Mangatini Stream from the Mangatini Sump (Condition DIS6), the Approval Holder must:
a. Adhere to the operating regime and monitoring procedures set out in the Mangatini Sump Management Plan; and
b. Comply with the turbidity limits at monitoring site NR2 (Ngākawau River) as set out in Table QUA21.
Table QUA21: Flow conditions at monitoring site S14B and turbidity at monitoring site NR2 during LDS discharge
<table>
<tr><th>Flow percentile band (%)</th><th>Flow rates S14B (m^3s^{-1})</th><th>LDS discharge to stream</th><th>Turbidity averaged over 8 hours at NR2 (NTU)</th></tr>
<tr><td>95+</td><td>7.349+</td><td>Yes</td><td>N/A</td></tr>
<tr><td>90 – 95</td><td>3.373 to 7.349</td><td>Yes</td><td>100</td></tr>
<tr><td>80 – 90</td><td>1.672 to 3.373</td><td>Yes</td><td>50</td></tr>
<tr><td>70 – 80</td><td>1.139 to 1.672</td><td>Yes</td><td>25</td></tr>
<tr><td>0 -70</td><td>0 to 1.139</td><td>No</td><td>25</td></tr>
</table>
</td></tr>
<tr><td>QUA22</td><td>Based on daily grab sampling, the turbidity at monitoring site S16 (St Patrick Stream) must achieve:
a. A rolling annual median of < 6.9 NTU; and
b. A rolling annual 95th percentile of < 44 NTU; and</td></tr>
</table>

Reference	Condition
	c. A 15-sample rolling median of < 24 NTU.
QUA23	Based on daily grab sampling, turbidity must achieve a 15-sample rolling median of < 25 NTU at the following monitoring sites: a. MC1 (Mine Creek) b. S25 (Granity Stream) c. S24A (Miller Stream)
QUA24	Based on weekly grab sampling, turbidity must achieve a 15-sample rolling median of < 25 NTU at the following Compliance monitoring sites: a. T1 (Twins Stream) b. S28U (Rudolph Stream)
	Stockton - Nutrients
QUA25	Based on weekly grab sampling, the nitrogen concentration at monitoring site NR2 (Ngākawau River) must achieve: a. An annual median nitrate nitrogen concentration of < 2.4 milligrams per litre; b. An annual 95th percentile nitrate nitrogen concentration of < 3.5 milligrams per litre; c. An annual median ammoniacal nitrogen concentration of < 0.69 milligrams per litre; and d. An annual 95th percentile ammoniacal nitrogen concentration of < 1.1 milligrams per litre. ***Advice note**: discretely measured ammoniacal-nitrogen concentrations must each have pH adjustment applied prior to determining the annualised statistics. Should the field-measured pH at the time of sampling be less than 6.0, the adjustment applicable to pH 6.0 applies. The pH adjustment to be applied to the discretely measured ammoniacal-nitrogen concentrations is described in the Ministry for the Environment (2018) A Guide to Attributes in Appendix 2 of the National Policy Statement for Freshwater Management, as 'Appendix – Ammonia adjustment calculations'.*

Reference	Condition
	Stockton - AMD
QUA26	Based on daily grab sampling, the dissolved aluminium concentration at Compliance monitoring site NR2 (Ngākawau River) must achieve: a. A rolling annual 75th percentile of < 1 milligram per litre; and b. A 15-sample rolling median of < 1 milligram per litre.
QUA27	Based on daily grab sampling, the pH at monitoring site NR2 (Ngākawau River) must achieve: a. A rolling annual 5th percentile of > 4.5; and b. A rolling annual 95th percentile of < 7.5; and c. A 15-sample rolling median within the range 4.5 – 7.5.
QUA28	Based on daily grab sampling, the pH at monitoring site S14B (Mangatini Stream) must achieve: a. A rolling annual 5th percentile of > 4.0; and b. A rolling annual 95th percentile of < 7.0; and c. A 15-sample rolling median within the range 4.0 – 7.0.
QUA29	Based on weekly grab sampling, the dissolved aluminium concentration at monitoring site S28U (Rudolph Stream) must achieve a rolling annual median of < 30 milligrams per litre.
QUA30	Based on weekly grab sampling, the dissolved aluminium concentration at monitoring site T1 (Twins Stream) must achieve a rolling annual median of < 28 milligrams per litre.
QUA31	Based on daily grab sampling, the dissolved aluminium concentration at monitoring site S16 (St Patrick Stream) must achieve:

Reference	Condition
	a. A rolling annual median of < 5 milligrams per litre; b. A rolling annual 95th percentile of < 8 milligrams per litre; and c. A 15-sample rolling median of < 8 milligrams per litre.
QUA32	Based on daily grab sampling, the pH at monitoring site S16 (St Patrick Stream) must achieve: a. A rolling annual 5th percentile of > 3.4; and b. A rolling annual 95th percentile of < 7.0; and c. A 15-sample rolling median within the range 3.4 – 7.0.
QUA33	1. The Approval Holder must ensure that the water quality at each Performance and Compliance monitoring location (excluding the monitoring site MGD, which is a discharge monitoring location rather than within a receiving waterway) that is Ecologically Recovered (as defined in **Condition AQE10**) does not deteriorate from the water quality at that location benchmarked at the time that the site was confirmed as being Ecologically Recovered. 2. Ongoing water quality monitoring at Performance and Compliance monitoring locations that are Ecologically Recovered must continue as described within the Stockton Mine AMD Environment Management Plan. 3. Compliance with this condition must be assessed by trend analysis by the Approval Holder on an annual basis as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**).
	MONITORING – AQUATIC ECOLOGY
	General
AQE1	All aquatic ecology monitoring undertaken to meet the requirements of this Approval must be performed by a SQEP.

Reference	Condition
	ESE, MFS, UWHR
AQE2	1. The Approval Holder must undertake annual aquatic ecological surveys associated with the ESE Sub-Area, as described in the AEMP. 2. The survey locations must include the Compliance monitoring sites KEL, W07, V62, the Performance monitoring site DS.V37, and the Reference sites V70, RAP.R1. 3. The results of aquatic ecological surveying must be provided to the Approval Authority as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**). 4. Following the transition into the Passive Closure Phase at the ESE sub-area (as defined in WAT4), and upon the recording of no less than two years of compliance with all receiving water compliance limits during the Passive Closure Phase, the Approval Holder may reduce the frequency of aquatic ecological surveys to once every six years.
AQE3	1. The Approval Holder must undertake annual aquatic ecological surveys associated with the MFS and UWHR Sub-Areas, as described in the AEMP. 2. The survey locations must include the Compliance monitoring sites 2W, 17W, SW01, SW03, the Local Reference site 16W, and the Reference sites WIL.MS1, CED.MS1, and BIL.L1 (later replaced by SW02, as described in **Condition MON6**). 3. The results of aquatic ecological surveying must be provided to the Approval Authority as part of the Annual Ecohydrology Monitoring Report (**Condition REP1**). 4. Following the transition into the Passive Closure Phase at the MFS sub-area (as defined in WAT5), and upon the recording of no less than two years of compliance with all receiving water compliance limits during the Passive Closure Phase, the Approval Holder may reduce the frequency of aquatic ecological surveys to once every six years.
AQE4	1. Aquatic ecological surveying specified in **Condition AQE2 and AQE3** must be undertaken within the period November to March. 2. The approach and methodology for annual ecological surveying must be as described within the AEMP, with measured parameters including water quality, instream habitat, bryophytes, periphyton, macroinvertebrates, kōura, and fish.

Reference	Condition
AQE5	The Approval Holder must undertake a programme of ecological Performance monitoring within the ESE Sub-Area, the MFS Sub-Area and the UWHR Sub-Area in accordance with the AEMP to: a. Inform and support adaptive management that minimises the potential for adverse effects on aquatic ecology arising from BPCP activities; b. Monitor the recovery pathway of waterways with legacy AMD impacts from historic mining activity where water quality may be improved as a result of BPCP activities; and c. Monitor reinstated streams to assess any progressive return of aquatic species.
AQE6	1. Prior to the commissioning of the first mussel shell bioreactor after the commencement of this Approval, the Approval Holder must assess the tolerance of bryophyte cover in streams exposed to sustained pH conditions greater than 6.5. 2. The results of this assessment must be used by the Approval Holder to inform adaptive management measures as described in the AEMP to ensure existing bryophyte mats persist in waterways downstream of passive treatment systems.
AQE7	1. Prior to the commissioning of any mussel shell bioreactor after the commencement of this Approval, the Approval Holder must develop a Passive Treatment Bryophyte Monitoring Programme that describes the monitoring to be undertaken to establish how bryophyte communities respond to changes in water quality during passive treatment, as well as any further investigation and/or adaptive management measures to be implemented should there be notable decline in bryophyte cover identified. 2. The Passive Treatment Bryophyte Monitoring Programme must initially require bryophyte cover surveys at three-month intervals at selected Reference and Compliance sites from the time of commissioning any new passive treatment system, with site selection being based on whether passively treated water is entering upstream and consideration of the available mixing of the discharge with the receiving water. 3. Prior to implementation, the Passive Treatment Bryophyte Monitoring Programme (and any subsequent revised versions thereof) must be certified by the Approval Authority that it meets the requirements of this Approval. 4. Once certified, the Approval Holder must implement the Passive Treatment Bryophyte Monitoring Programme. 5. At no less than twelve (12) months following the commissioning of a mussel shell bioreactor, and taking into consideration the results of the three-monthly bryophyte cover surveying completed to date, the Approval Holder may review the frequency of bryophyte cover surveying associated with

Reference	Condition
	that mussel shell bioreactor, update the Passive Treatment Bryophyte Monitoring Programme accordingly, and provide the revised version of the Passive Treatment Bryophyte Monitoring Programme to the Approval Authority for certification.
	Stockton
AQE8	1. The Approval Holder must ensure that there is no statistically and ecologically significant decline in fish or macroinvertebrate community condition at the Ngākawau River mouth (as measured at monitoring site NRB) attributable to BPCP activities. 2. To inform determination of compliance with this condition, the Approval Holder must undertake an annual aquatic ecological survey within the period October to March at monitoring site NRB (Ngākawau River). The survey must include monitoring of macroinvertebrate and fish communities, as described in the Stockton Mine AMD Environment Management Plan.
AQE9	1. Notwithstanding **Condition AQE8**, the Approval Holder must undertake aquatic ecological surveys at monitoring sites within waterways associated with the Stockton sub-area. Surveying must take place within the period October to March, and must include monitoring of macroinvertebrates, periphyton, bryophytes, fish, water quality and habitat, as described in the Stockton Mine AMD Environment Management Plan. 2. The frequency of surveying at a site (and its associated Reference site) is dependent upon the status of water quality recovery (**Condition MON20**) at that site, which may change over time as an outcome of the 6-yearly Stockton Mine Waterways Review (**Condition REP4**): 3. Water quality Impacted and Water quality Recovering sites must be surveyed at least once every 6-years; and 4. Water quality Recovered sites must be surveyed at least once every three (3) years. 5. At the commencement of the Approval, the three (3) yearly monitoring frequency applies only to NR (Ngākawau River) and the Reference site Ngākawau River U/S St Patrick confluence. 6. A report detailing the results of aquatic ecological surveying must be provided to the Approval Authority within one (1) month of receipt by the Approval Holder.

Reference	Condition
AQE10	1. In addition to the criteria that define the water quality recovery status of Stockton waterways (**Condition MON20**), the recovery status of Stockton waterways from an **ecological** perspective is further defined as: a. Ecologically Impacted: an AMDI < 20; b. Ecologically Recovering: an AMDI < 40 and/or an EPT < 8; c. Ecologically Recovered: an AMDI > 40 and an EPT > 8, and/or and AMDI and EPT comparable to Reference sites. 2. The results of aquatic ecological surveys undertaken in accordance with **Condition AQE9** on Water quality Recovered sites must be considered in relation to these ecological recovery criteria, in addition to their comparability to Reference sites. ***Advice note**: AMDI and EPT are ecological metrics. "AMDI" is the Acid Mine Drainage Index. "EPT" is Ephemeroptera (Mayflies), Plecoptera (Stoneflies) and Trichoptera (Caddisflies). AMDI and EPT are to be calculated using the taxa list in Gray and Harding (2012), as included in the Stockton Mine AMD Environment Management Plan.*
AQE11	1. All Ecologically Recovered sites and any associated Reference sites must undergo 3-yearly tissue testing of mahinga kai species, as described in the Stockton Mine AMD Environment Management Plan, with comparison of analytical results to both food safety standards and reference stream conditions. 2. Tissue testing must include analysis for aluminium, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, silver, thallium, tin, zinc. 3. Mahinga kai species for tissue testing must be agreed with Te Rūnanga o Ngāti Waewae prior to commencement of this monitoring. 4. The results of tissue testing must be provided to the Approval Authority and Te Rūnanga o Ngāti Waewae within 1 month of receipt by the Approval Holder. ***Advice note**: Likely candidates for mahinga kai species for tissue testing include eel, mature galaxiids and kōura.*

Reference	Condition
AQE12	1. The Approval Holder must undertake a Ngākawau River fish survey, as described in the Stockton Mine AMD Environment Management Plan, on an annual basis for at least the first six years following the commencement of this Approval, or for the duration of Mining within the Stockton Sub-Area, whichever is the longer. Thereafter, the survey frequency may reduce to 3-yearly. 2. The objective of the Ngākawau River fish survey is to measure the maintenance of successful fish passage to unimpacted and/or recovered catchment headwaters, with koaro noted as a key species for monitoring. 3. A report detailing the results of the Ngākawau River fish survey must be reported to the Approval Authority and Te Rūnanga o Ngāti Waewae within 1 month of receipt by the Approval Holder.
AQE13	1. The Approval Holder must undertake a St Patrick tributaries fish survey, as described in the Stockton Mine AMD Environment Management Plan, on a 6-yearly basis. The timing of St Patrick tributaries fish surveying must occur contemporarily with a Ngākawau River fish survey (**Condition AQE12**). 2. The objective of the St Patrick tributaries fish survey is to identify the establishment of successful fish passage to the unimpacted catchment tributaries. 3. A report detailing the results of the St Patrick tributaries fish survey must be reported to the Approval Authority within 1 month of receipt by the Approval Holder. The results of the St Patrick tributaries fish survey may be reported together with the results of the contemporary Ngākawau River fish survey.
	REPORTING AND REVIEW
REP1	1. The Approval Holder must prepare an Annual Ecohydrology Monitoring Report that summarises the results and findings of all water quality, meteorology and aquatic ecology monitoring undertaken during the course of the reporting year in accordance with the conditions of this approval. 2. Each Annual Ecohydrology Monitoring Report must cover a hydrological year: 1 July – 30 June, inclusive. 3. A copy of the Annual Ecohydrology Monitoring Report must be provided to both the Approval Authority and Te Rūnanga o Ngāti Waewae by 31 August each year. 4. The Approval Holder may submit a single Annual Ecohydrology Monitoring Report for the BPCP, or multiple reports for each Project Sub-Area.

Reference	Condition
REP2	1. The Approval Holder must provide a monthly water quality monitoring report to the Approval Authority no later than the end of the following month. 2. The monthly water quality monitoring report must: a. Summarise the results of all continuous and discrete water quality monitoring undertaken at each of the Compliance sites associated with the Stockton, MFS, ESE and UWHR Sub-Areas. Annual water quality compliance statistics must be summarised on a rolling basis each month, incorporating all monitoring data from the prior 12-month period; and b. Describe any discrete water quality monitoring results at Compliance monitoring sites that did not meet receiving water criteria, and detail whether these identify non-compliance in an instantaneous context, or non-compliance is anticipated in the context of a rolling median or rolling 95th percentile.
REP3	Notwithstanding **Condition REP2**, the Approval Holder must notify the Approval Authority within 24 hours of becoming aware of receiving any water quality monitoring results that exceed the compliance limits specified in this Approval, and of the actions taken or to be undertaken by the Approval Holder to achieve compliance with this Approval.
REP4	1. The Approval Holder must undertake a Stockton Mine Waterways Review on a 6-yearly basis for the duration of this Approval, as described within the Stockton Mine AMD Environment Management Plan. 2. The first Stockton Mine Waterways Review must consider (but may not be limited to) all Stockton sub-area water quality and aquatic ecology Performance and Compliance monitoring data collected in accordance with the conditions of this Approval, as well as the extent of the Mining and Mining Operations being undertaken within each catchment, during the period 1 July 2027 – 30 June 2033. 3. Each subsequent review must be undertaken in the same manner described in **Condition REP4(2)**, but applied to subsequent six-year periods: a. 1 July 2033 – 30 June 2039 b. 1 July 2039 – 30 June 2045 c. 1 July 2045 – 30 June 2049 d. 1 July 2049 – 30 June 2055

Reference	Condition
	e. 1 July 2055 – 30 June 2059 4. The objectives of the Stockton Mine Waterways Review are to: a. Provide ongoing assessment of the long-term improvement to waterways impacted by AMD by collating and presenting monitoring trends across a lengthier available data record than that of the Annual Ecohydrology Monitoring Report (**Condition REP1**); b. Review the water quality recovery status (**Condition MON20**) at each of the Stockton monitoring sites; c. Review the ecological recovery status (**Condition AQE10**) at each of the Stockton monitoring sites; d. Determine if the outcome of (b) and/or (c) requires a change to the monitoring regime (as described in Stockton Mine AMD Environment Management Plan) to be applied at any of the Stockton monitoring sites; e. Make comparison with progress against ecological recovery trajectories at monitoring site S16 (St Patrick Stream) and monitoring site S14B (Mangatini Stream) and determine whether the comparison demonstrates that long term ecological recovery is on track; f. Make comparison with progress against betterment reference values at monitoring site T1 (Twins Stream), S25 (Granity Stream), S24A (Miller Stream), and MC1 (Mine Creek) and determine whether the comparison demonstrates that betterment is on track; g. Review and update the long term betterment and recovery forecast for Stockton waterways to take into account the latest monitoring data, mine planning and rehabilitation; h. Provide an action plan to be implemented during the next 6-year period that seeks to address any 'not on track' discrepancy that may be identified through the determination required by (e) and/or (f); i. Report on the implementation and effectiveness of any action plan that may have arisen as per (h) from the previous Stockton Mine Waterways Review; j. Assess the water quality monitoring results for any Ecologically Recovered sites against the site-specific ecologically protective metal concentration criteria for an 80% level of protection (**Schedule C**) to add further refinement to the overall water quality recovery trajectory; and

Reference	Condition
	k. Assess the results over time of any mahinga kai tissue testing undertaken at any Ecologically Recovered sites to inform broader consideration (in conjunction with Te Rūnanga o Ngāti Waewae) of progress toward the long-term (three-generations) objective of restoring mahinga kai values to Stockton waterways. 5. Each Stockton Mine Waterways Review report must be independently reviewed by a suitably qualified aquatic ecologist and provided to the Approval Authority and Te Rūnanga o Ngāti Waewae within 12 months of the last date to which the review period applies. Any action plan provided as per (h) requires certification by the Approval Authority prior to implementation. ***Advice note**: The term 'betterment' has been applied to rivers in New Zealand (i.e., Waikato River) that have experienced long term anthropogenic contamination. It is recognised that managed improvement will take 3 generations (80-100 years) and require a collective, sustained, and sustainable effort between stakeholders. Betterment is the process of active and progressive improvement of river health over the long-term. The betterment pathway for a given waterbody is marked by a combination of discrete events and long-term decay in AMD sources. Performance monitoring is used to track short- to medium-term water quality improvements along the betterment pathway. These improvements are site / project specific, but contribute to overall long-term recovery.*
	KŌURA
KOU1	Where kōura are present in any stream length that will be removed as a result of Construction, Mining and Mining Operations, the Approval Holder must as far as is practicable, subject to obtaining any necessary additional approvals, undertake the removal of kōura from that part of the stream to an alternative suitable habitat.
KOU2	Where practicable, the Approval Holder must provide for the passage of kōura within any new culverts installed: a. Within the Stockton, ESE, MFS and UWHR Sub-Areas; and b. As part of the pest exclusion fences described in **Condition RES7**.
KOU3	Notwithstanding **Condition KOU2**, the Approval Holder must provide for the passage of kōura in a manner consistent with the New Zealand Fish Passage Guidelines (version 2.0, June 2024) within the following culverts to be installed during the Construction of the UWHR and the MFS Access Road:

Reference	Condition
	a. Culvert #1: MFS, Waimangaroa River crossing, in the vicinity of E1503694 N5377661 (Waimangaroa River) b. Culvert #7: UWHR, road section C2B, in the vicinity of E1500979 N5376332 (Burnett Stream) c. Culvert #8: UWHR, road section C2B, in the vicinity of E1501012 N5376325 (Burnett Stream) d. Culvert #15: UWHR, road section B2B, in the vicinity of E1502283 N5377138 (Hut Stream) e. Culvert #17: UWHR, road section B2B, in the vicinity of E1502800 N5377307 (Gomorrah Creek) f. Culvert #21: UWHR, road section B2B, in the vicinity of E1503401 N5377403 g. Culvert #25: UWHR, road section B2B, in the vicinity of E1504115 N5377409 h. Culvert #26: UWHR, road section B2F, in the vicinity of E1504310 N5377319 (Cedar Creek) i. Culvert #30: UWHR, road section B2F, in the vicinity of E1504571 N5377746 j. Culvert #31: UWHR, road section B2F, in the vicinity of E1504599 N5377828 k. Culvert #32: UWHR, road section B2F, in the vicinity of E1504771 N5378018 l. Culvert #38: UWHR, road section F2C, in the vicinity of E1505748 N5379241 (Wilson Creek) ***Advice note:*** *the New Zealand Fish Passage Guidelines (version 2.0, June 2024) was prepared for the Ministry for the Environment and can be found at https://niwa.co.nz/freshwater/fish-passage-home/new-zealand-fish-passage-guidelines*
KOU4	For each culvert that is placed, altered, extended or reconstructed in the bed of any river or connected area as part of BPCP activities (including the Whareatea Road widening, the UWHR Construction, the MFS Access Road Construction, and the construction of pest exclusion fences), the Approval Holder must collect and provide the following information to the Approval Authority within twenty (20) working days from when the activity is finished, along with the time and date when the information was collected: a. The type of structure (i.e. culvert); b. The geographical coordinates of the culvert;

Reference	Condition
	c. The culvert's asset identification number, if known; d. Whether the culvert's ownership is: i. Held by the Crown (for example the Department of Conservation), a regional council, a territorial authority, the New Zealand Transport Agency, or KiwiRail Holdings Limited; or ii. Held publicly by another person or organisation; or iii. Held privately; or iv. Unknown. e. The number of barrels that make up the culvert; f. The culvert's shape; g. The culvert's length; h. The culvert's diameter or its width and height; i. The slope of the culvert; j. The alignment of the culvert; k. The height of the drop (if any) from the culvert's outlet; l. The length of the undercut or erosion (if any) from the culvert's outlet; m. The material from which the culvert is made; n. The numbers of each other structure to which fish passage provision applies (for example, a weir, a flap gate, a dam, a ford, a wingwall, a screen) on the culvert; o. The flow of the river or connected area (whether none, low, normal, or high); p. The mean depth of water through the culvert;

Reference	Condition
	q. The mean water velocity in the culvert; r. Whether there are low-velocity zones downstream of the culvert; s. Whether the water is tidal at the culvert's location; t. At the culvert's location: i. The width of the river or connected area at the water's surface; and ii. The width of the bed of the river or connected area. u. The type of bed substrate that is in most of the culvert; v. Whether the culvert has wetted margins; w. Whether there are improvements to the culvert to mitigate any effects the structure may have on the passage of fish; x. Whether there are remediation features (for example, baffles or spat rope) in the culvert; y. Whether the culvert protects particular species, or prevents access by particular species to protect other species; z. The likelihood that the culvert will impede fish; and aa. Visual evidence (for example, photographs) that shows both ends of the culvert, viewed upstream and downstream.
KOU5	1. The Approval Holder must fund PhD research into kōura ecology, movement and passage. 2. The Approval Holder must consult with Te Rūnanga o Ngāti Waewae regarding the objectives of the research. 3. The research must be undertaken through a tertiary institution established by New Zealand government legislation, subject to: a. A signed services agreement between the Approval Holder and the tertiary institution; and b. The identification of a suitable PhD candidate by the tertiary institution. 4. The objective of the research must include the evaluation of kōura movement and potential remediation measures for successful kōura passage.

Reference	Condition
	5. Any research findings must be shared with the Approval Authority and Te Rūnanga o Ngāti Waewae within 1 month of publication.
	STRATEGIC FISH PASSAGE BARRIER REMEDIATION PROGRAMME
FIS1	1. The Approval Holder must design and implement a Strategic Fish Passage Barrier Remediation Programme to enhance native fish populations across the West Coast region. 2. Following the Management Plan Certification Date, the Strategic Fish Passage Barrier Remediation Programme must adopt a three-stage approach: a. Within one year of the Management Plan Certification Date: remediation of three high-priority fish passage barriers to the value of $200,000 (inclusive of GST), subject to the approval of any further required authorisations for the undertaking of the remediation works; b. Within two years of the Management Plan Certification Date: undertaking of a West Coast regional assessment and prioritisation of instream structures that present barriers to fish passage, to the value of $200,000 (inclusive of GST); and c. Within four years of the Management Plan Certification Date: implementation of future remediation projects to the value of $600,000 (inclusive of GST) based on ecological value and feasibility, while also incorporating cultural, economic, social, and other relevant considerations to ensure a holistic and inclusive approach.
	STOCKPILING
STO1	The Approval Holder may stockpile mussel shells within the Stockton, ESE and MFS Sub-Areas for the purpose of ensuring adequate supply is on hand to construct and maintain mussel shell bioreactors used for the passive treatment of AMD.
STO2	The Approval Holder must ensure that mine water and stormwater are diverted away from any mussel shell stockpile location(s) (**Condition STO1**) and that any discharge from the mussel shell stockpile(s) is directed toward the water management system for the associated sub-area.