06 Water Management Conditions

Reference	Condition
	WATER MANAGEMENT
	Water Management - General
WAT1	1. For the purposes of monitoring surface water, groundwater and aquatic ecology in accordance with the conditions of this Approval, the following definitions of periodicity apply: a. Daily: on each 'working day', namely Monday to Friday (inclusive) excluding public holidays. b. Weekly: at least once during each week, namely Monday to Friday (inclusive). c. Monthly: at least once during each calendar month. d. Annually: at least once within each hydrological year, namely the period 1 July – 30 June (inclusive). 2. A daily sampling occurrence may be foregone if it is deemed by the Approval Holder that sampling is unsafe for personnel to undertake. The safety reasoning for foregoing a daily sampling occurrence must be recorded by the Approval Holder and made available to the Approval Authority on written request.
WAT2	The Approval Holder must use existing access routes as far as is practicable while undertaking any works authorised by these approvals in relation to the Stockton, ESE, MFS, and UWHR Sub-Areas of the BPCP.
	Water Management – ESE, MFS, UWHR
WAT3	The Approval Holder must install and commission a permanent water treatment plant at both the ESE Sub-Area and the MFS Sub-Area within three years of the commencement of Mining activities in the respective Sub-Area. Until that time, the Approval Holder must operate temporary water treatment systems as required to ensure the downstream receiving water quality limits specified by this Approval are met.

Reference	Condition
WAT4	From a **water management perspective**, the ESE Sub-Area phases are: a. Initial Phase: starts with the commencement of earthworks within the ESE Sub-Area and continues until the permanent ESE water treatment plant is commissioned; b. Operating Phase: starts once the permanent ESE water treatment plant is commissioned and continues until the construction of all final landforms and rehabilitation is completed within the ESE Sub-Area; c. Active Closure Phase: starts once the construction of all final landforms and rehabilitation is complete within the ESE Sub-Area and continues until the permanent ESE water treatment plant has been decommissioned; d. Passive Closure Phase: starts once the permanent ESE water treatment plant has been decommissioned and all water treatment in the ESE Sub-Area is being undertaken by passive treatment systems. Confirmation of a successful transition to Passive Closure is described in **Condition WAT7**. ***Advice note**: The definitions of the water management phases described in this condition are relevant to **Conditions TRE6, MON15, AQE2, and WET5**.*
WAT4A	The Approval Holder must undertake BPCP activities within the ESE Sub-Area in a manner that: 1. Maintains no less than the pre-BPCP low flow in the Whareatea River, as measured at the KEL monitoring location; and 2. Ensures the Whareatea River water quality as measured at the KEL monitoring location meets the requirements set out in **Condition QUA4A**.
WAT5	From a **water management perspective**, the MFS Sub-Area phases are: a. Initial Phase: starts with the commencement of earthworks within the MFS Sub-Area and continues until the permanent MFS water treatment plant is commissioned; b. Operating Phase: starts once the permanent MFS water treatment plant is commissioned and continues until the construction of all final landforms and rehabilitation is complete within the MFS Sub-Area; c. Active Closure Phase: starts once the construction of all final landforms and rehabilitation is complete within the MFS Sub-Area and continues until the permanent MFS water treatment plant has been decommissioned;

Reference	Condition
	d. Passive Closure Phase: starts once the permanent MFS water treatment plant has been decommissioned and all water treatment at the MFS Sub-Area is being undertaken by passive treatment systems. Confirmation of a successful transition to Passive Closure is described in **Condition WAT7**. ***Advice note**: The definitions of the water management phases described in this condition are relevant to **Conditions WAT11, TRE7, MON16, DIS5, AQE3 and WET5**.*
WAT6	From a **water management perspective**, the UWHR Sub-Area phases are: a. Initial Phase: starts with the commencement of earthworks within the UWHR Sub-Area and continues until the commencement of coal haulage between the ESE Sub-Area and/or the MFS Sub-Area through to the Stockton Sub-Area; b. Operating Phase: starts with the commencement of coal haulage between the ESE Sub-Area and/or the MFS Sub-Area through to the Stockton Sub-Area and continues until the road corridor has been rehabilitated in accordance with the Rehabilitation Management Plan (Condition RHM1); c. Closure Phase: starts from when the road corridor has been rehabilitated in accordance with the Rehabilitation Management Plan (**Condition RHM1**). ***Advice note**: The definitions of the water management phases described in this condition are relevant to **Condition WAT11**.*
WAT7	From a **water management perspective**, the ESE Sub-Area and the MFS Sub-Area can each be confirmed as being in 'Passive Closure' phase when the receiving water quality meets the compliance limits specified within the Approval using only passive treatment systems for a period of two years. Once this condition is achieved at either or both of these sub-areas, the Approval Holder can decommission the relevant active water treatment plant(s). a. For the ESE Sub-Area, the monitoring data from the following Compliance monitoring locations must be used to confirm the transition to Passive Closure: KEL, W07, V62, M-M1. b. For the MFS Sub-Area, the monitoring data from the following Compliance monitoring locations must be used to confirm the transition to Passive Closure: SW01, SW03, 2W, 17W. ***Advice note**: provision for a change in compliance monitoring frequency associated with the confirmed transition to Passive Closure is described in **Condition MON15**.*

Reference	Condition
	***Advice note**: passive treatment systems may include mechanical assistance such as pumped transfer within a sub-area and/or chemical dosing (trimming) of the system to optimise passive treatment.*
WAT8	1. Within the ESE, MFS and UWHR Sub-Areas, the Approval Holder must implement the AMD Engineered Landform Management Plan (**AMD-ELFMP**) referred to in **Condition MP1**, subject to any amendments made in accordance with **Conditions MP13 to MP16**). All works and activities carried out under this Approval must be undertaken in accordance with the AMD-ELFMP to the extent they relate to engineered landforms and AMD. 2. The objectives of the AMD-ELFMP must include: a. Delivery of geotechnically safe landforms; b. Delivery of geochemically stable landforms that enable a transition to passive treatment of basal seepage; c. Provision of a framework to inform the sign-off of final engineered landforms and water management infrastructure by a SQEP; and d. Ensuring water quality discharging to receiving waterways complies with the conditions of this Approval.
WAT9	1. Within the ESE, MFS and UWHR Sub-Areas, the Approval Holder must implement the AMD Water Management Plan (**AMD-WMP**) referred to in **Condition MP1**, subject to any amendments made in accordance with **Conditions MP13 to MP16**. All works and activities carried out under this Approval must be undertaken in accordance with the AMD-WMP to the extent they relate to water and AMD. 2. The objectives of the AMD-WMP must include: a. Characterisation of potential AMD sources through a comprehensive water management classification system; b. Source definition and indication of pathways to environmental receptors to inform mine planning and water management; c. Minimisation of AMD risks through mine design, planning and production scheduling and implementation of AMD prevention or mitigation strategies throughout Construction, Mining and Mining Operations; d. Closure planning that integrates mine development and operations through an adaptive life of mine plan to manage potential AMD risks according to established design principles and procedures; and

Reference	Condition
	e. Ensuring water quality discharging to receiving waterways complies with the conditions of this Approval.
WAT10	1. Within the ESE, MFS and UWHR Sub-Areas, the Approval Holder must implement the Aquatic Ecology Management Plan (**AEMP**) referred to in **Condition MP1**, subject to any amendments made in accordance with **Conditions MP13 to MP16**. All works and activities carried out under this Approval must be undertaken in accordance with the AEMP to the extent they relate to aquatic ecology and aquatic habitat. 2. The objectives of the AEMP must include: a. Protection and preservation of ecological values in streams with diverse bryophyte and macroinvertebrate communities, including kōura, except where otherwise provided for by these Approvals; b. Protection of kōura populations and maintain habitat connectivity through kōura passage where practicable, except where otherwise provided for by these Approvals; c. Managing the effects of the BPCP activities on aquatic ecology; and d. Provision of a monitoring programme and adaptive management framework to enable early detection and timely, effective responses to changing environmental conditions.
WAT11	1. Prior to the commencement of the Operating Phase of either the UWHR and the MFS Access Road, the Approval Holder must prepare a road maintenance and monitoring plan for the relevant road. 2. The objectives of the road maintenance and monitoring plan must include: a. Ensuring the functionality and operability of the UWHR and the MFS Access Road to enable access and egress to and from the Project Sub-Areas and transportation within the Project Area; b. Ensuring water quality discharging to receiving waterways complies with the conditions of this Approval. 3. The road maintenance and monitoring plan must include the following: a. An inspection and monitoring regime of road surface, stormwater diversions, bunds, channels, stormwater treatment devices, surfaces stabilised against erosion, and culverts;

Reference	Condition
	b. Procedures for maintaining the efficacy of stormwater diversions, channels, bunds and stormwater treatment devices; c. Procedures for the removal of accumulated sediment within stormwater treatment devices; d. Roles and responsibilities; e. Records of maintenance; f. Incident response procedures; and g. Adaptive management procedures. 4. The Approval Holder must implement the road maintenance and monitoring plan throughout the Operating Phase of the road, as defined in **Condition WAT6**. The road maintenance and monitoring plan must be made available to the Approval Authority on written request.
	Water Management - Stockton
WAT12	1. Within the Stockton Sub-Area, the Approval Holder must implement the Stockton Mine Environmental Water Management Plan referred to in **Condition MP1**, subject to any amendments made in accordance with **Conditions MP13 to MP16**. All works and activities carried out under this Approval must be undertaken in accordance with the Stockton Mine Environmental Water Management Plan to the extent they relate to water management. 2. The objectives of the Stockton Mine Environmental Water Management Plan must include: a. Optimisation of site water management to ensure maintenance of operational capacity; b. Ensuring infrastructure is appropriately designed and fit for purpose, covering design needs in the short term, long term and for permanent landforms; c. Ensuring facilitation of an adaptive management approach to manage environmental variations associated with water; and d. Ensuring water quality discharging to receiving waterways complies with the conditions of this Approval.

Reference	Condition
WAT13	1. Within the Stockton Sub-Area, the Approval Holder must implement the Stockton Mine AMD Environment Management Plan referred to in **Condition MP1** or as amended in accordance with **Conditions MP13 to MP16.** All works and activities carried out under this Approval must be undertaken in accordance with the Stockton Mine AMD Environment Management Plan to the extent they relate to AMD management. 2. The objectives of the Stockton Mine AMD Environment Management Plan must include: a. Ensuring AMD is identified, prevented, minimised and/or treated wherever practicable to minimise associated environmental impacts; b. Ensuring facilitation of an adaptive management approach to manage environmental uncertainty associated with water and AMD; c. Ensuring facilitation of a water and AMD management approach for the Millerton Area specifically focussed to achieve betterment in associated waterways; and d. Ensuring water quality discharging to receiving waterways complies with the conditions of this Approval. ***Advice note**: The focussed water and AMD management approach for the Millerton Area required by (c) may be presented in a separate sub-plan: the Millerton Block Water and AMD Management Plan.* ***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*
WAT14	1. Within twelve (12) months of the issue of this Approval, the Approval Holder must prepare an updated Mangatini Sump Management Plan. 2. The Mangatini Sump Management Plan must function as a sub-plan of the Stockton Mine AMD Environmental Management Plan (**Condition WAT13**), and as such is subject to the review and certification process that is described in **Conditions MP2 – MP10**. 3. The Mangatini Sump Management Plan must include: a. A description of the water management infrastructure that comprises the Mangatini treatment system;

Reference	Condition
	b. The basis of design of the Mangatini Sump, including sump capacity and provision for bypass flows; c. A description of the operating regime for the Mangatini treatment system, including: i. The catchment the system services, including both surface flows and pumped inputs; ii. The treatment chemicals to be used and where and how they will be applied; iii. How sump operational freeboard is managed; and iv. How discharges will function, including the managed discharge of low-density solids; d. The process for management and disposal of AMD sludge; e. A maintenance programme for the Mangatini Sump and treatment system to ensure ongoing functionality and compliance with the conditions of this Approval; f. A monitoring programme to measure the performance of the Mangatini Sump and treatment system to ensure ongoing compliance with the conditions of this Approval; and g. Roles and responsibilities associated with the Mangatini Sump and treatment system.
WAT15	1. Within twelve (12) months of the issue of this Approval, the Approval Holder must prepare a McCabes Sump Management Plan. 2. The McCabes Sump Management Plan must function as a sub-plan of the Stockton Mine AMD Environmental Management Plan (**Condition WAT13**), and as such is subject to the review and certification process that is described in **Conditions MP2 – MP10**. 3. The McCabes Sump Management Plan must include: a. A description of the water management infrastructure that comprises the McCabes treatment system; b. The basis of design of the McCabes Sump, including sump capacity and provision for bypass flows; c. A description of the operating regime for the McCabes treatment system, including: i. The catchment the system services, including both surface flows and pumped inputs;

Reference	Condition
	ii. The treatment chemicals to be used and where and how they will be applied; iii. How sump operational freeboard is managed; and iv. How discharges will function; d. The process for management and disposal of AMD sludge; e. A maintenance programme for the McCabes Sump and treatment system to ensure ongoing functionality and compliance with the conditions of this Approval; f. A monitoring programme to measure the performance of the McCabes Sump and treatment system to ensure ongoing compliance with the conditions of this Approval; and g. Roles and responsibilities associated with the McCabes Sump and treatment system.
WAT16	1. No less than twelve (12) months prior to the commencement of water management within the MW16 Sump, the Approval Holder must prepare a MW16 Sump Management Plan. 2. The MW16 Sump Management Plan must function as a sub-plan of the Stockton Mine AMD Environment Management Plan (**Condition WAT13**), and as such is subject to the review and certification process that is described in **Conditions MP2 – MP10**. 3. The MW16 Sump Management Plan must include: a. A description of the water management infrastructure that comprises the MW16 treatment system; b. The basis of design of the MW16 Sump, including sump capacity and provision for bypass flows; c. A description of the operating regime for the MW16 treatment system, including: i. The catchment the system services, including both surface flows and pumped inputs; ii. The treatment chemicals to be used and where and how they will be applied; iii. How sump operational freeboard is managed; and

Reference	Condition
	iv. How discharges will function; d. The process for management and disposal of AMD sludge; e. A maintenance programme for the MW16 Sump and treatment system to ensure ongoing functionality and compliance with the conditions of this Approval; f. A monitoring programme to measure the performance of the MW16 Sump and treatment system to ensure ongoing compliance with the conditions of this Approval; and g. Roles and responsibilities associated with the MW16 Sump and treatment system.
	WATER TAKES
TAK1	The Approval Holder may abstract water from any of the sumps or pits within the Stockton, ESE, MFS and UWHR Sub-Areas for use as process water to support BPCP activities.
TAK2	1. The Approval Holder may abstract up to 140 litres per second of water from the Waimangaroa River, in the vicinity of NZTM N5377653 E1503681, for use as process water to support BPCP activities. 2. If the flow of the Waimangaroa River (as measured at monitoring location 2W) is < 178 litres per second (Q95 low flow), the abstraction of water must cease. 3. A fish screen must be installed, operated and maintained on the Waimangaroa River water intake to ensure that kōura are prevented from passing into the intake.
TAK3	1. The Approval Holder may abstract up to 20 litres per second of water from Granity Stream, in the vicinity of NZTM E1505225 N5388813, for use as process water to support BPCP activities. 2. If the flow of Granity Stream at the point of abstraction is < 2 litres per second (Q95 low flow), the abstraction of water must cease.

Reference	Condition
TAK4	1. The Approval Holder may abstract up to 50 litres per second of water from Miller Stream, in the vicinity of NZTM E1506178 N5389286, for use as process water to support BPCP activities. 2. If the flow of Miller Stream at the point of abstraction is < 34 litres per second (Q95 low flow), the abstraction of water must cease.
TAK5	1. The Approval Holder may abstract up to 20 litres per second of water from Mine Creek, in the vicinity of NZTM E1507005 N5388853, for use as process water to support BPCP activities. 2. If the flow of Mine Creek at the point of abstraction is < 1 litre per second (Q95 low flow), the abstraction of water must cease.
TAK6	1. The Approval Holder may abstract up to 150 litres per second of water from Mangatini Stream, in the vicinity of NZTM E1507758 N5387940, for use as process water to support BPCP activities. 2. If the flow of Mangatini Stream at the point of abstraction is < 11 litres per second (Q95 low flow), the abstraction of water must cease.
TAK7	1. For each consumptive take of water from a natural waterbody authorised by **Conditions TAK2, TAK3, TAK4, TAK5 and TAK6**, where the authorised rate of take is 5 litres per second or greater, the Approval Holder must install, operate and maintain a water measuring and recording system that complies with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, including any amendments to those regulations. 2. For the avoidance of doubt, this condition does not apply to: a. takes from sumps, pits, ponds or other artificial water management infrastructure authorised by **Condition TAK1**; b. a non-consumptive take, where the same water is returned to the same natural waterbody in substantially the same quantity and quality, and the Approval Holder maintains records sufficient to demonstrate that the take is non-consumptive. 3. The Approval Holder must: a. install the water meter at the point of abstraction, unless the Approval Authority has approved an alternative location that is as near as practicable to the point of abstraction; b. maintain a water meter that measures the rate and volume of water taken to within an accuracy of ±5% over the meter's nominal flow range;

Reference	Condition
	c. ensure the water meter is capable of output to a datalogger or equivalent recording device; d. provide a datalogger or equivalent recording device that: i. records water use at intervals of no more than 15 minutes; ii. time-stamps each recorded measurement; iii. records the volume and rate of water taken, including periods when no water is taken; and iv. has sufficient capacity to store at least 12 months of water take data; e. electronically transmit the recorded water take data to the Approval Authority at the frequency and in the format required by the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, including any amendments to those regulations; f. provide water take records to the Approval Authority at any time upon written request, in an electronic format that identifies the date, time, flow rate and volume of water taken at intervals of no more than 15 minutes, unless the relevant data logger has malfunctioned and the Approval Authority has been informed in accordance with **TAK7(k);** g. within 20 working days of installation or replacement of any water meter, datalogger or telemetry device, provide written certification to the Approval Authority signed by a suitably qualified person that confirms, and demonstrates by means of a clear diagram, that: i. each device has been installed in accordance with the manufacturer's specifications or any applicable water measurement code of practice; ii. data from the recording device can be readily accessed, retrieved and transmitted in accordance with this condition; and iii. the water meter has been verified as accurate to within ±5%; h. ensure that each water meter is verified as accurate: i. following installation or replacement; ii. at least once every five years thereafter for an electromagnetic meter or other non-mechanical meter; iii. at least once every year thereafter for a mechanical meter; and

Reference	Condition
	iv. at any other time if requested by the Approval Authority; i. install, operate and maintain the water meter, datalogger and any telemetry device in accordance with the manufacturer's specifications for the duration of the relevant water take; j. take all practicable measures to ensure that the water meter, datalogger and any telemetry device are fully functional at all times when water is being taken; k. report any malfunction of the water meter, datalogger or telemetry device to the Approval Authority within 5 working days of becoming aware of the malfunction; l. repair or replace any malfunctioning water meter, datalogger or telemetry device as soon as practicable and, unless otherwise agreed by the Approval Authority, within 10 working days of becoming aware of the malfunction; and m. provide proof of the repair or replacement, including photographic evidence where practicable, to the Approval Authority within 5 working days of completion of the repair or replacement. ***Advice note:*** *The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 apply to consented freshwater takes of 5 litres per second or greater, but do not apply to permits for non-consumptive takes. The regulations require water use to be measured at 15-minute intervals and electronically reported to the relevant regional council.*
	DIVERSIONS
DIV1	The Approval Holder may divert up to 200 litres per second of water from Fly Creek via the Fly Creek Weir for the purpose of AMD treatment in the St Patricks catchment of the Stockton Sub-Area. All other flows must continue down the existing channel of Fly Creek.
DIV2	1. As part of the Mine Closure Management Plan (**Condition CLO1**), the Approval Holder must prepare a Diversion Drain Decommissioning Plan. 2. The Diversion Drain Decommissioning Plan must detail whether each drain will be decommissioned, retained for ongoing water treatment services, or retained as part of stream reinstatement.

Reference	Condition
	3. For each drain that is proposed for decommissioning, the Diversion Drain Decommissioning Plan must provide a detailed design for the decommissioning process. 4. For each drain that is proposed for retention as part of stream reinstatement, the Diversion Drain Decommissioning Plan must provide a detailed design for the transition of function, in alignment with **Condition WET3**.
DIV3	At the completion of the works to disestablish and/or decommission diversion channels as part of the BPCP, the Approval Holder must ensure that the banks of any associated natural waterways are reinstated to prevent erosion and ensure bank stability.
	DAMMING OF WATER
	ESE, MFS, UWHR
DAM1	The Approval Holder may impound water within the following sumps and ponds within the ESE Sub-Area: a. Multiple, progressive in-pit and ex-pit sumps and ponds within the ESE Sub-Area; b. Multiple sediment retention devices along haul road routes; c. ESE Water Treatment Plant surge pond (also known as the Ex-Pit Seal), at approximately NZTM E1499610 N5375250; d. ESE Water Treatment Plant polishing pond, at approximately NZTM E1499400 N5375280; e. Lake Brazil, at approximately NZTM E1499581 N5374701; f. Pit 3 Pit Lake, at approximately NZTM E1499310 N5374790; g. Multiple passive treatment mussel shell bioreactors and polishing ponds to be progressively established throughout the ESE Sub-Area; h. Multiple closure waterbodies to be retained for ecosystem purposes beyond the completion of Mining within the ESE Sub-Area; and i. Multiple constructed tarns to be established as part of final landforms as part of rehabilitation within the ESE Sub-Area.

Reference	Condition
	***Advice note**: a closure waterbody is an artificial waterbody (e.g. sump, pond, void, pit) created as water management infrastructure during Mining that remains as a waterbody for the purpose of providing ecosystem purposes, rather than being backfilled upon the completion of Mining. Ecosystem purposes may include water management and storage, aquatic habitat and biodiversity, or renewable energy generation.*
DAM2	The Approval Holder may impound water within the following sumps and ponds within the MFS Sub-Area: a. Multiple, progressive in-pit and ex-pit sumps and ponds within the MFS Sub-Area; b. Multiple sediment retention devices along haul road routes; c. MFS Water Treatment Plant surge pond, at approximately NZTM E1503366 N5377945; d. MFS Water Treatment Plant polishing pond, at approximately NZTM E1503265 N5377669; e. West Pit Sump, at approximately NZTM E1502554 N5379503; f. East Pit Sump, at approximately NZTM E1503235 N5380348; g. Multiple passive treatment mussel shell bioreactors and polishing ponds to be progressively established throughout the MFS Sub-Area; h. Multiple closure waterbodies to be retained for ecosystem purposes beyond the completion of active Mining within the MFS Sub-Area; and i. Multiple constructed tarns to be established as part of final landforms as part of rehabilitation within the MFS Sub-Area. ***Advice note**: a closure waterbody is an artificial waterbody (e.g. sump, pond, void, pit) created as water management infrastructure during Mining that remains as a waterbody for the purpose of providing ecosystem purposes, rather than being backfilled upon the completion of Mining. Ecosystem purposes may include water management and storage, aquatic habitat and biodiversity, or renewable energy generation.*
DAM3	The Approval Holder may impound water within multiple sediment retention devices within the UWHR Sub-Area.
	Stockton
DAM4	The Approval Holder may impound water within sumps and ponds within the Mangatini Area of the Stockton Sub-Area, including:

Reference	Condition
	a. Multiple, progressive in-pit and ex-pit sumps and ponds; b. Multiple sediment retention devices along haul road routes, including along the 2-5 Haul Road; c. 4WP2 Sump, at approximately NZTM E1505153 N5388092; d. A18 Coal Fines Storage Facility, at approximately NZTM E1504965 N5386059; e. Campbells #2 Sump, at approximately NZTM E1507455 N5386697; f. Campbells #3 Sump, at approximately NZTM E1507632 N5387157; g. Coal Handling Processing Plant infeed ponds, at approximately NZTM E1506156 N5386112; h. Duncan's Sump, at approximately NZTM E1507277 N5387515; i. Ford Creek #1 Sump, at approximately NZTM E1506849 N5385828; j. Ford Creek #2 Sump, at approximately NZTM E1506804 N5385855; k. Ford Creek #3 Sump, at approximately NZTM E1506868 N5385972; l. Ford Creek #4 Sump, at approximately NZTM E1506921 N5386331; m. Mangatini East Sump, at approximately NZTM E1507586 N5387967; n. Mangatini Sump, at approximately NZTM E1506738 N5387411; o. Mangatini Quarry Sump, at approximately NZTM E1506228 N5387459; p. MG15 Sump, at approximately NZTM E1505910 N5387471; q. Mumm's Sump, at approximately NZTM E1506261 N5387571; r. R6 Sump, at approximately NZTM E1504989 N5386990; and s. WE12 Sump, at approximately NZTM E1505597 N5387363.

Reference	Condition
DAM5	The Approval Holder may impound water within sumps and ponds within the St Patrick's Area of the Stockton Sub-Area, including: a. Multiple, progressive in-pit and ex-pit sumps and ponds; b. Multiple sediment retention devices along haul road routes; c. A-Drive Coal Fines Storage Facility #1, at approximately NZTM E1505766 N5384299; d. A-Drive Coal Fines Storage Facility #2, at approximately NZTM E1505584 N5384373; e. A-Drive Coal Fines Storage Facility #3, at approximately NZTM E1505890 N5384438; f. A-Drive East Sump, at approximately NZTM E1505839 N5384280; g. A-Drive Sump, at approximately NZTM E1506238 N5385244; h. Bath House Dam, at approximately NZTM E1507922 N5387368; i. C-Drive Sump, at approximately NZTM E1505566 N5383893; j. Fly Creek Weir, at approximately NZTM E1506527 N5385238; k. Herbert #2 Sump, at approximately NZTM E1505277 N5382763; l. Lake Cumming, at approximately NZTM E1506142 N5384793; m. McCabe's Coal Fines Storage Facility, at approximately NZTM E1507201 N5385650; n. McCabe's Sump, at approximately NZTM E1507985 N5385491; o. McCabe's #4 Sump, at approximately NZTM E1508163 N5385462; p. No.1 North Dam, at approximately NZTM E1505491 N5383186; q. SN14 Pit Lake, at approximately NZTM E1505057 N5383235; r. Sump D, at approximately NZTM E1508175 N5385471;

Reference	Condition
	s. T31 East Sump, at approximately NZTM E1507829 N5385676; t. T31 West Sump, at approximately NZTM E1507804 N5385714; u. Water Tower #2 Sump, at approximately NZTM E1506057 N5385364; v. Water Tower #3 Sump, at approximately NZTM E1505998 N5385401; and w. Z9 Sump, at approximately NZTM E1505318 N5383067.
DAM6	The Approval Holder may impound water within sumps and ponds within the Waimangaroa Area of the Stockton Sub-Area, including: a. Whirlwind Mussel Shell Reactor polishing pond, at approximately NZTM E1505335 N5382868; and b. Whirlwind Sump, at approximately NZTM E1505347 N5382853.
DAM7	The Approval Holder may impound water within sumps and ponds within the Millerton Area of the Stockton Sub-Area, including: a. Multiple, progressive in-pit and ex-pit sumps and ponds; b. Multiple sediment retention devices along haul road routes; c. Hope Lyons Pump Sump, at approximately NZTM E1505419 N5388668; d. Hope Lyons Sump, at approximately NZTM E1505301 N5388796; e. Twins Sump, at approximately NZTM E1504644 N5388635; f. Rockies East Sump, at approximately NZTM E1504935 N5388444; g. Granity North Sump, at approximately NZTM E1505492 N5389021; h. Granity South Sump, at approximately NZTM E1505609 N5388820; i. Miller Sump, at approximately NZTM E1506164 N5389016;

Reference	Condition
	j. MW16 Sump, at approximately NZTM E1506710 E5388682; and k. Hope Lyons West Sump, at approximately NZTM E1505265 N5388476.
DAM8	1. The Approval Holder must maintain those dam structures listed in (a) – (f) below in sound working order to ensure that their potential impact category remains "low" as assessed in accordance with the guidelines published by the New Zealand Society on Large Dams (NZSOLD, 2024). 2. The Approval Holder must maintain the dam structure listed in (g) below in sound working order in alignment with the requirements of its "high" potential impact category, as assessed in accordance with the guidelines published by the New Zealand Society on Large Dams (NZSOLD, 2024). 3. Should there be a change in the potential impact category of any of the dam structures listed in (a) – (g), the Approval Holder must inform the Approval Authority within twenty (20) working days of confirmation of the change: a. A-Drive Sump b. Duncans Sump c. Ford Creek #4 Dam d. No 1 North Dam e. Mangatini Sump f. McCabes Coal Fines Storage Facility g. A18 Coal Fines Storage Facility ***Advice note**: The guidelines published by the New Zealand Society on Large Dams (NZSOLD, 2024) can be found at https://nzsold.org.nz/*
	General
DAM9	1. As part of the Final Mine Closure Management Plan (**Condition CLO1**) prepared for the Stockton, ESE, MFS or UWHR Sub-Areas, the Approval Holder must prepare a Sump Decommissioning Plan.

Reference	Condition
	2. The scope of the Sump Decommissioning Plan must include each of the impoundments identified in **Condition DAM1, DAM2, DAM4, DAM5, DAM6, DAM7 and DAM8**, as is relevant for the Sub-Area(s) to which the Final Mine Closure Management Plan relates. 3. The Sump Decommissioning Plan must detail whether each impoundment will be decommissioned, retained for ongoing water treatment services, or retained as a closure waterbody. 4. For each impoundment that is proposed for decommissioning, the Sump Decommissioning Plan must provide a detailed design for the decommissioning process. 5. For each impoundment that is proposed for retention as a closure waterbody, the Sump Decommissioning Plan must provide a detailed design for the transition of function, in alignment with **Conditions WET5 and WET6**.
	WATER TREATMENT
	General
TRE1	1. Prior to each mussel shell discharge to land as part of the establishment of any passive treatment system within the Stockton, ESE, MFS and UWHR Sub-Areas, the Approval Holder must provide the Approval Authority with a detailed scale plan or aerial photograph showing: a. The location of the proposed passive treatment system(s) containing mussel shells and the associated discharge point(s); b. The location(s) of natural watercourses in proximity to (a); and c. The proposed receiving environment monitoring location(s).
TRE2	1. Annually thereafter the provision of any initial detailed scale plan or aerial photograph as required by **Condition TRE1**, in an addendum to the Annual Ecohydrology Monitoring Report (**Condition REP1**), the Approval Holder must supply an updated detailed scale plan or aerial photograph showing: a. The locations of all established and commissioned passive treatment systems containing mussel shells and the associated discharge point(s); b. The locations of any mussel shell stockpiles (**Condition STO1**);

Reference	Condition
	c. The locations of natural watercourses in proximity to (a) and (b); d. The receiving environment monitoring location(s); e. The quantity of shells deposited in passive treatment systems in the previous 12 months; and f. The quantity of shells stockpiled in the previous 12 months. 2. The Approval Holder must provide the Approval Authority with any further information regarding the discharge of mussel shells to land, which the Approval Authority may reasonably request in writing after reviewing any Annual Ecohydrology Monitoring Report (**Condition REP1**). This information must be provided in a timely manner as required by the Approval Authority. 3. From the commencement of this Approval, this condition must apply to both the existing Whirlwind mussel shell reactor associated with the Stockton Sub-Area and the existing Barren Valley ELF mussel shell reactor associated with the ESE Sub-Area.
TRE3	The Approval Holder may use the water treatment chemicals listed in (a) – (k) below for water treatment purposes as part of BPCP activities (including, but not necessarily limited to, the treatment of AMD, sediment management, and water treatment at the CHPP), provided that they are used in accordance with the manufacturer's specifications: a. Calcium oxide; b. Calcium hydroxide; c. Sodium hydroxide; d. Polyaluminium chloride; e. Metalsorb FZ; f. Rheomax 1030, Rheomax 1050 or Rheomax 9030; g. Magnafloc 338, Magnafloc 800 HP or Magnafloc 10; h. Crystalfloc B610 or Crystalfloc L3RC;

Reference	Condition
	i. SNF Floquat FL4440 or SNF Flopam AN923VHM; j. Acidified ferric chloride; and k. Sulfuric acid. ***Advice note**: Water treatment chemicals includes (but may not be limited to) neutralising agents, coagulants, flocculants, and metal chelating agents.*
TRE4	1. The Approval Holder may trial the use of alternative water treatment chemicals not listed in Condition TRE3 for up to three (3) months provided that: a. The trial water treatment chemical has first undergone laboratory bench testing to assess its likely effectiveness; b. The trial water treatment chemical is not a Class 9 hazardous substance (substances toxic to the environment), as defined by the Hazardous Substances and New Organisms Act 1996 or the Globally Harmonised System; and c. The trial water treatment chemical is used in accordance with the manufacturer's specifications. 2. The Approval Holder must notify the Approval Authority in writing at least 5 working days prior to trialling any new water treatment chemical(s). The notification must include the purpose of the trial, the type and chemical composition of the trial water treatment chemical, the manufacturers Safety Data Sheet for the trial water treatment chemical, the proposed location of dosing (including the dosing equipment and chemical dosing rates) for the trial, and an outline of how the requirements of (a) – (c) have been met. 3. The Approval Holder must cease the trial immediately upon identification that the trial has resulted in non-compliance with any condition of this Approval.
TRE5	1. The Approval Holder may propose to use alternative water treatment chemicals not listed in **Condition TRE3** on an ongoing basis by outlining this change within, or as a variation to, the Annual Work Plan (**Condition GEN7**). The proposal within the Annual Work Plan must include: a. The purpose of the water treatment; b. The type and chemical composition of the water treatment chemical(s); c. The manufacturers Safety Data Sheet for the water treatment chemical(s);

Reference	Condition
	d. The location(s) where the chemical(s) will be dosed (including the dosing equipment and chemical dosing rates); and e. The findings with regard to treatment effectiveness of any laboratory bench testing and/or the results of any trial undertaken in accordance with **Condition TRE4.** 2. Upon certification of the Annual Work Plan (or variation thereof), the Approval Holder may implement the use of the alternative water treatment chemical(s).
	ESE, MFS, UWHR
TRE6	1. Prior to its construction, the Approval Holder must prepare a detailed design for the permanent ESE water treatment plant. The detailed design must be prepared by a SQEP in general accordance with the concept design submitted as part of the BPCP application for approvals under the Fast-track Approvals Act 2024, dated xxxxxx. 2. The objective of the detailed design is to ensure that treated water discharged from the permanent ESE water treatment plant will meet the conditions of this Approval, including compliance at the monitoring sites KEL and M-M1 during both the ESE Operating phase and the ESE Active Closure phase. 3. The Approval Holder must provide a copy of the detailed design for the ESE water treatment plant to the Approval Authority upon written request.
TRE7	1. Prior to its construction, the Approval Holder must prepare a detailed design for the permanent MFS water treatment plant. The detailed design must be prepared by a SQEP in general accordance with the concept design submitted as part of the BPCP application for approvals under the Fast-track Approvals Act 2024, dated xxxxxx. 2. The objective of the detailed design is to ensure that treated water discharged from the permanent MFS water treatment plant will meet the conditions of this Approval, including compliance at the monitoring sites 2W and 17W during the MFS Operating phase and the MFS Active Closure phase. 3. The Approval Holder must provide a copy of the detailed design for the MFS water treatment plant to the Approval Authority upon written request.

Reference	Condition
	MONITORING – METEOROLOGY
MON1	1. The Approval Holder must install, operate and maintain meteorological monitoring stations for purposes that include water management and management of erosion and sediment control. 2. Meteorological monitoring must occur at each of the following locations: a. Ngākawau (Ngākawau Met): NZTM E1506341 N5392934 b. Millerton (Millerton Met): NZTM E1506864 N5388997 c. Stockton (Stockton Met): NZTM E1506474 N5385326 d. Cypress (Cypress Met): NZTM E1507724 N5383191 e. Escarpment (Lake Brazil Met): NZTM E1499587 N5374633 f. Mount Frederick: NZTM E1503919 N5381817 g. MFS: NZTM E1503192 N5379929 3. Stations 2(a) – (f) must involve measurement of rainfall, relative humidity, air temperature, wind speed, maximum wind gust, and wind direction. 4. Station 2(g) may involve measurement only of rainfall. 5. Station 2(d) must also involve measurement of net radiation, for the purpose of determining local evapotranspiration for the Buller Plateaux. 6. Meteorological monitoring data at Stations 2(a) – (g) must operate continuously and be telemetered to enable consideration of current meteorological conditions in real time, along with data logging at 10-minute intervals with date and time stamps to enable robust meteorological analysis. 7. A summary of the meteorological monitoring required by this condition must be included in the Annual Ecohydrology Monitoring Report (**REP1**). ***Advice note**: Additional meteorological monitoring requirements specific to the management of dust are detailed in **Condition DM6**.*

Reference	Condition
	MONITORING – GEOCHEMISTRY
	General
MON2	1. The approval Holder must undertake a programme of Performance monitoring and record keeping associated with the construction of engineered landforms at the Stockon, ESE and MFS Sub-Areas of the BPCP, as detailed within the Stockton Mine AMD Environment Management Plan for the Stockton Sub-Area and the AMD Engineered Landform Management Plan for the ESE and MFS Sub-Areas. 2. The purpose of this Performance monitoring programme is to: a. Confirm engineered landforms and engineered fill areas are built in accordance with design objectives; b. Inform ongoing validation and refinement of the effects assessment; c. Inform adaptive management to ensure closure objectives for the final landforms and water quality will be achieved; and d. To ensure compliance with the conditions of this Approval.
	MONITORING – SURFACE WATER
	General
MON3	1. The Approval Holder must prepare a standard operating procedure for BPCP water quality monitoring to describe: a. Field sampling procedures, including discrete field measurements of pH, electrical conductivity and temperature; b. Discrete field monitoring equipment calibration; c. Deployment, calibration and maintenance of continuous monitoring instrumentation; d. Quality control procedures for (a) – (c); and e. Analytical results database management, data analysis and reporting.

<table>
<tr><th>Reference</th><th>Condition</th></tr>
<tr><td></td><td>2. The standard operating procedure for water quality monitoring must be provided to the Approval Authority upon written request.</td></tr>
<tr><td>MON4</td><td>All water quality and sediment quality analyses must be performed by an IANZ accredited laboratory (or equivalent).

Advice note: 'IANZ' is International Accreditation New Zealand. IANZ accreditation ensures testing laboratories meet international standards and can demonstrate they are competent.</td></tr>
<tr><td></td><td>ESE, MFS, UWHR</td></tr>
<tr><td>MON5</td><td>The Approval Holder must establish and maintain water quality and ecology monitoring sites for the ESE, MFS and UWHR Sub-Areas of the BPCP at the following locations (also depicted in Attachment 22):

<table>
<tr><th>Site</th><th>Location (in the vicinity of)</th></tr>
<tr><td>Compliance sites:</td><td></td></tr>
<tr><td>SW01 (Deep Stream)</td><td>NZTM E1503241 N5379689</td></tr>
<tr><td>SW03 (Deep Stream)</td><td>NZTM E1502374 N5378434</td></tr>
<tr><td>2W (Waimangaroa River)</td><td>NZTM E1503231 N5377490</td></tr>
<tr><td>17W (Waimangaroa River)</td><td>NZTM E1502336 N5377702</td></tr>
<tr><td>KEL (Whareatea River)</td><td>NZTM E1497601 N5376485</td></tr>
<tr><td>W07 (Rapid Stream)</td><td>NZTM E1498106 N5377188</td></tr>
<tr><td>V62 (V62 Stream), subject to Condition MON7</td><td>NZTM E1496490 N5376504</td></tr>
<tr><td>M-M1 (V8 Creek)</td><td>NZTM E1500193 N5373978</td></tr>
<tr><td>Reference Sites:</td><td></td></tr>
<tr><td>WIL.MS1 (Wilsons Creek)</td><td>NZTM E1505784 N5379235</td></tr>
</table>
</td></tr>
</table>

Reference	Condition	
	CED.MS1 (Cedar Creek)	NZTM E1504329 N5377257
	16W (Waimangaroa River, Local Reference site for 2W add-to-background considerations)	NZTM E1503576 N5377549
	BIL.L1 (unnamed tributary of Billo Stream), an initial reference site which will be replaced by SW02	NZTM E1502816 N5380565
	SW02 (unnamed Waimangaroa River tributary), subject to **Condition MON6**	NZTM E1502374 N5379933
	V70 (V70 Stream)	NZTM E1496426 N5376448
	RAP.R1 (unnamed tributary of Rapid Stream)	NZTM E1497898 N5378511
	Performance Sites:	
	WRBBC (Waimangaroa River)	NZTM E1506578 N5381080
	14W (Waimangaroa River)	NZTM E1505624 N5379475
	15W (Waimangaroa River)	NZTM E1504458 N5377613
	BS01 (Billo Stream)	NZTM E1503227 N5380031
	SW04 (Deep Stream)	NZTM E1503340 N5380036
	SW02 (unnamed Waimangaroa River tributary), performance monitoring during construction phase, to become a reference site prior to BIL.L1 being impacted by Project activities.	NZTM E1502374 N5379933
	BUR.L1 (Burnett Stream)	NZTM E1501398 N5377112
	W08 (Rapid Stream)	NZTM E1498127 N5377220
	V37-F (V37 Creek), subject to **Condition MON8**	NZTM E1498648 N5374202

Reference	Condition

V37-G (V37 Creek), subject to **Condition MON8**	NZTM E1498954 N5374145
Upper Cascade (Cascade Creek)	NZTM E1500857 N5374512
Cascade D/S V8 (Cascade Creek)	NZTM E1500378 N5373532
V37 (V37 Creek)	NZTM E1500006 N5373231
DS.V37 (Cascade Creek)	NZTM E1499907 N5372763
Cascade 2km D/S V37 (Cascade Creek)	NZTM E1499327 N5371995
Cascade U/S Rochfort (Cascade Creek)	NZTM E1498256 N5370136
Rochfort (Rochfort Creek)	NZTM E1497311 N5370159
Cascade D/S Rochfort (Cascade Creek)	NZTM E1497377 N5369833
Performance Sites (lowland reaches):	
18W (Waimangaroa River)	NZTM E1498674 N5379970
W09 (Rapid Stream)	NZTM E1496424 N5380511
WM-3 (Whareatea River)	NZTM E1495299 N5378778

***Advice note**: disturbance in the catchment of V62 Stream is scheduled to commence later in the mine plan for the ESE Sub-Area, so the establishment of the V62 Compliance monitoring site may be deferred as described in **Condition MON7**.*

***Advice note**: monitoring at the Performance sites on V37 Stream is not feasible until such time as a discharge commences from the ESE Sub-Area to these locations, as there is negligible flow at these locations under pre-mining conditions, so the establishment of the V37-F and V37-G Performance monitoring sites may be deferred as described in **Condition MON8**.*

Reference	Condition
MON6	1. After the completion of the Construction Phase at the MFS Sub-Area, and also prior to the Reference site BIL.L1 (unnamed tributary of Billo Stream) being impacted by Mining and Mining Operations at the MFS Sub-Area, the Approval Holder must relocate all reference monitoring associated with BIL.L1 to occur at the former Performance monitoring site SW02 (unnamed Waimangaroa River tributary). 2. Following this transition, the monitoring site SW02 must continue to operate as a water quality and aquatic ecology Reference site for the MFS Sub-Area, and the BIL.L1 monitoring site may be decommissioned.
MON7	The Approval Holder must establish and commence compliance monitoring at the Compliance monitoring site V62 (V62 Stream) no less than twelve (12) months prior to the commencement of disturbance within the V62 catchment of the ESE Sub-Area.
MON8	The Approval Holder may defer the establishment of, and the commencement of monitoring at, the Performance monitoring sites V37-F and V37-G (V37 Stream) until such time as there is a discharge occurring to these locations from BPCP activities within the ESE Sub-Area.
MON9	When making comparison to a background for the purposes of turbidity compliance assessment against the conditions of this Approval, the following relationships must be applied: a. BIL.L1 (later replaced by SW02, **Condition MON6**) is the background monitoring site for SW01 and SW03; b. 16W is the background monitoring site for 2W and 17W; and c. V70 is the background monitoring site for KEL, W07 and V62.
MON10	Subject to **Conditions MON6, MON7 and MON8**, the Approval Holder must undertake continuous instrumental monitoring of flow for the duration of this Approval at: a. For the ESE Sub-Area: KEL, V62, W07 and M-M1; and b. For the MFS Sub-Area: 2W, 17W, SW01 and SW03. ***Advice note**: this flow monitoring will require the establishment and regular calibration of a flow rating curve at each of these Compliance monitoring locations.*

Reference	Condition
MON11	Subject to **Conditions MON6, MON7 and MON8**, the Approval Holder must install, operate and maintain continuous instrumental monitoring of pH, electrical conductivity and temperature for the duration of this Approval at: a. For the ESE Sub-Area: KEL and M-M1; and b. For the MFS Sub-Area: 2W, SW01 and SW03.
MON12	Subject to **Conditions MON6, MON7 and MON8**, the Approval Holder must install, operate and maintain continuous instrumental monitoring of turbidity for the duration of this Approval at: a. For the ESE Sub-Area: KEL, W07, V62, the lowland Performance site WM-3, and the Reference site V70; and b. For the MFS Sub-Area: SW01, SW03, 2W, 17W, the Local Reference site 16W, the lowland Performance site 18W, and the Reference site BIL.L1 to be replaced by SW02, as described in **Condition MON6**).
MON13	1. The continuous instrumental monitoring required by **Conditions MON10, MON11 and MON12** must include real-time telemetry and data logging at 10-minute intervals. 2. For the annual reporting period (**Condition REP1**), the continuous instrumental monitoring data capture rate must target at least 90%, with a minimum acceptable data capture rate of 80%, 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. 3. All continuous monitoring instruments providing compliance monitoring data must receive calibration and inspection at a frequency no less than 3-monthly.
MON14	1. Subject to **Conditions MON6, MON7 and MON8**, the Approval Holder must undertake a programme of weekly water quality grab sampling and analysis for the duration of these Approvals: a. For the ESE Sub-Area at: KEL, W07, V62, M-M1 and the Reference site V70; and b. For the MFS Sub-Area at: SW01, SW03, 2W, 17W, the Local Reference site 16W, and the Reference site BIL.L1 (to be replaced by SW02, as described in **Condition MON6**).

<table>
<tr><th>Reference</th><th>Condition</th></tr>
<tr><td></td><td>2. These samples must be analysed for the parameters detailed in Schedule B.

Advice note: provision for a change to this monitoring frequency during the Passive Closure Phase is described in Condition MON15.</td></tr>
<tr><td>MON15</td><td>Following the transition into the Passive Closure phase at the ESE Sub-Area (Condition WAT7), and upon the recording of no less than two years of compliance with all receiving water compliance limits for the ESE Sub-Area during the Passive Closure phase, or otherwise to the satisfaction of the Approval Authority, the Approval Holder may:

a. Cease the continuous instrumental monitoring described in Conditions MON10, MON11 and MON12; and

b. Reduce the programme of water quality grab sampling and analysis at the Compliance and Reference monitoring sites described in Condition MON14 from weekly to monthly.</td></tr>
<tr><td>MON16</td><td>Following the transition into the Passive Closure phase at the MFS Sub-Area (Condition WAT6), and upon the recording of no less than two (2) years of compliance with all receiving water compliance limits for the MFS Sub-Area during the Passive Closure phase, or otherwise to the satisfaction of the Approval Authority, the Approval Holder may:

a. Cease the continuous instrumental monitoring described in Conditions MON10, MON11 and MON12; and

b. Reduce the programme of water quality grab sampling and analysis at the Compliance and Reference monitoring sites described in Condition MON14 from weekly to monthly.</td></tr>
<tr><td></td><td>Stockton</td></tr>
<tr><td>MON17</td><td>The Approval Holder must establish and maintain water quality and ecology monitoring sites for the Stockton Sub-Area at the following locations (also depicted in Attachment 23):

<table>
<tr><th>Site</th><th>Location (in the vicinity of)</th></tr>
<tr><td>Compliance sites</td><td></td></tr>
<tr><td>NR (Ngākawau River)</td><td>NZTM E1507669 N5393195</td></tr>
</table>
</td></tr>
</table>

Reference	Condition

NR2 (Ngākawau River)	NZTM E1507254 N5393258
S14B (Mangatini Stream)	NZTM E1509871 N5391003
S16 (St Patrick Stream)	NZTM E1509106 N5385616
MC1 (Mine Creek)	NZTM E1507171 N5392767
S24A (Miller Stream)	NZTM E1505834 N5390422
S25 (Granity Stream)	NZTM E1505794 N5390397
T1 (Twins Stream)	NZTM E1504667 N5388926
S28U (Rudolph Stream)	NZTM E1504558 N5388366
Performance Sites	
NRB (Ngākawau River)	NZTM E1506408 N5393243
MGD (discharge point to Mangatini Stream)	NZTM E1506892 N5387503
S14C (Mangatini Stream), subject to **Condition MON18.**	NZTM E1507740 N5387847
S6 (Mine Creek)	NZTM E1507473 N5390576
S23 (Mine Creek)	NZTM E1507077 N5390526
GS1 (Granity Stream)	NZTM E1504700 N5390870
T3 (Twins Stream)	NZTM E1504116 N5389820
S4 (Whirlwind Stream)	NZTM E1505382 N5382743
UC2 (Herbert Stream)	NZTM E1505270 N5382416
Whirlwind U/S Cypress (Whirlwind Stream)	NZTM E1506650 N5381866
6W (Waimangaroa River)	NZTM E1506660 N5381161
WRBBC (Waimangaroa River) (also required under **Condition MON18**)	NZTM E1506578 N5381080

<table>
<tr><th>Reference</th><th>Condition</th></tr>
<tr><td></td><td>
<table>
<tr><td>St Pats D/S T35 (St Patrick Stream)</td><td>NZTM E1510215 N5386094</td></tr>
<tr><td>St Pats D/S Erin (St Patrick Stream)</td><td>NZTM E1513763 N5388185</td></tr>
<tr><td>St Pats U/S Ngākawau confluence (St Patrick Stream)</td><td>NZTM E1514658 N5390349</td></tr>
<tr><td>Ngākawau D/S St Pats (Ngākawau River)</td><td>NZTM E1514487 N5390792</td></tr>
<tr><td>Mangatini D/S Repo (Mangatini Stream)</td><td>NZTM E1509651 N5391588</td></tr>
<tr><td>Mangatini U/S Ngākawau confluence (Mangatini Stream)</td><td>NZTM E1509645 N5393230</td></tr>
<tr><td>Reference Sites:</td><td></td></tr>
<tr><td>MT6 (Mangatini Stream tributary)</td><td>NZTM E1509654 N5391105</td></tr>
<tr><td>GT1 (Granity Stream tributary)</td><td>NZTM E1505414 N5390029</td></tr>
<tr><td>T35 Trib. (T35 Stream tributary)</td><td>NZTM E1508650 N5386930</td></tr>
<tr><td>S1 (S1 Stream)</td><td>NZTM E1508940 N5390761</td></tr>
<tr><td>Ngākawau U/S St Pats (Ngākawau River)</td><td>NZTM E1514862 N5390435</td></tr>
</table>
Advice note: The monitoring sites NR and NR2 on the Ngākawau River are paired. Ecology monitoring occurs at monitoring site NR so the ecological dataset is not impacted by tidal influence. Water quality monitoring occurs at monitoring site NR2 due to safer access for personnel for routine sampling requirements and the ability for connectivity to continuous instrumental monitoring equipment.
</td></tr>
<tr><td>MON18</td><td>

Water quality monitoring at site S14C (Mangatini Stream) must initially align with that outlined in Schedule B for Compliance monitoring site S14B (Mangatini Stream).
Once a water quality benchmarking period has been completed at the Compliance monitoring site S14B (Mangatini Stream), the water quality monitoring at monitoring site S14C may cease, except as required for Performance monitoring purposes as described in the Stockton Mine AMD Environment Management Plan. The benchmarking period must consist of no less than 500 daily grab samples with analysis for dissolved aluminium.

</td></tr>
</table>

Reference	Condition
MON19	The Approval Holder must undertake a programme of Performance monitoring associated with BPCP activities within the Stockton Sub-Area in accordance with the Stockton Mine Environmental Water Management Plan, the Stockton Mine AMD Environment Management Plan, and the ESCPLDA to inform and support adaptive management to ensure compliance with the receiving water quality limits, and the defined recovery and betterment pathways for waterways specified in this Approval.
MON20	1. The water quality recovery status of Stockton waterways determines the monitoring regime that must be applied by the Approval Holder at monitoring sites within each waterway. 2. From a **water quality** perspective, the recovery status of Stockton waterways is defined as: a. Water quality Impacted: an annual median pH < 4.0 or an annual 75th percentile dissolved aluminium concentration > 2.8 milligrams per litre; b. Water quality Recovering: an annual median pH ≥ 4.0 and an annual 75th percentile dissolved aluminium concentration ≤ 2.8 milligrams per litre for three consecutive years; c. Water quality Recovered: an annual median pH ≥ 4.5 and an annual 75th percentile dissolved aluminium concentration ≤ 1.0 milligrams per litre for three consecutive years. 3. Prior to the commencement of this Approval, the paired monitoring locations NR and NR2 have been assessed to have met the status "Water quality Recovered", with other locations subject to change as an outcome of the 6-yearly Stockton Mine Waterways Review (**Condition REP4**).
MON21	The Approval Holder must undertake continuous instrumental monitoring of flow for the duration of these Approvals at the Compliance monitoring locations NR2 (Ngākawau River) and S14B (Mangatini Stream). This monitoring must inform the management of the discharge of low-density solids from the Mangatini Sump (**Condition DIS6**).
MON22	The Approval Holder must install, operate and maintain continuous instrumental monitoring of turbidity for the duration of these Approvals at monitoring site NR2 (Ngākawau River), for the purpose of determining compliance with **Condition QUA20** relating to the discharge of low density solids from the Mangatini Sump.

Reference	Condition
MON23	The Approval Holder must install, operate and maintain continuous instrumental monitoring of turbidity, pH and electrical conductivity for the duration of these Approvals at monitoring site S14B (Mangatini Stream), for the purpose of Performance monitoring relating to the discharge of low-density solids from the Mangatini Sump.
MON24	1. The continuous instrumental monitoring required by **Condition MON21, MON22 and MON23** must include real-time telemetry and data logging at 10-minute intervals, and receive calibration and inspection at a frequency no less than once every three months. 2. The continuous instrumental monitoring annual data capture rate must target at least 90%, with a minimum acceptable annual data capture rate of 80%, 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.
MON25	1. The Approval Holder must undertake a programme of daily water quality grab sampling at monitoring sites NR2, NRB, S14B, S16, MC1, S25, S24a. 2. These samples must be analysed for the parameters detailed in **Schedule B**.
MON26	1. The Approval Holder must undertake a programme of weekly water quality grab sampling at monitoring sites NR2, NRB, S14B, MGD, S16, MC1, T1, S28U. 2. These samples must be analysed for the parameters detailed in **Schedule B**.
MON27	1. The Approval Holder must undertake a programme of monthly water quality grab sampling at monitoring sites MC1, S25, S24a, S4, UC2. 2. These samples must be analysed for the parameters detailed in **Schedule B**.
MON28	The frequency and/or list of analytical parameters to be monitored via the grab sample regime required by **Conditions MON25, MON26 and MON27**, may be altered as result of a change in the water quality recovery status of Stockton waterways, as determined by the 6-yearly Stockton Mine Waterways Review (**Condition REP4**) and as described within the Stockton Mine AMD Environment Management Plan.

Reference	Condition
MON29	1. The Approval Holder must undertake a programme of monthly water quality grab sampling for a period of at least two (2) years at the Reference monitoring sites MT6, GT1, T35 Trib., S1 and Ngākawau U/S St Pats, with analysis for the parameters detailed in **Schedule B**, to establish a reference background. 2. After the two (2) year period of reference background monitoring is completed: a. The monthly water quality grab sampling at the Reference monitoring sites MT6, GT1, T35 Trib. and S1 must continue, but the suite of analytes may be reduced to align with that of the Compliance and Performance monitoring site(s) with which the Reference site is intended to be compared (**Condition MON30**); and b. The water quality grab sampling at the Reference monitoring site Ngākawau U/S St Pats must continue at least annually, but the suite of analytes may be reduced to align with that of the Compliance and Performance monitoring site(s) with which the Reference site is intended to be compared (**Condition MON30**).
MON30	When making comparison to a background for the purposes of assessment against the conditions of this Approval, the following relationships must be applied: a. MT6 (Mangatini Stream tributary) is a reference site for S14B, S16; b. GT1 (Granity Stream) is a reference site for MC1, T1, S28U, S25, S24a; c. T35 Trib. (T35 Stream tributary) is a reference site for S14B, S16, S4, UC2; d. S1 (S1 Stream) is a reference site for S14B, S16; and e. Ngākawau U/S St Pats is a reference site for NR, NR2, NRB.
MON31	1. The Approval Holder must undertake a three (3) yearly Performance monitoring programme of waterway sediment at monitoring locations within water quality "Recovered" waterways associated with the Stockton Sub-Area, and any associated Reference monitoring site(s) in accordance with the Stockton Mine AMD Environment Management Plan. 2. At the commencement of this Approval, this monitoring programme only applies to the monitoring site NR (Ngākawau River) and its associated Reference monitoring site Ngākawau River u/s St Patrick, but the applicability of this monitoring programme may be broadened to include other

Reference	Condition
	monitoring sites in accordance with the Stockton Mine AMD Environment Management Plan and as a result of a change in the water quality recovery status of Stockton waterways, as determined by the 6-yearly Stockton Mine Waterways Review (**Condition REP4**). 3. Sediment samples must be analysed for: a. Grain size distribution; b. In the < 2 millimetre fraction: total organic carbon, total recoverable aluminium, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, silver, thallium, tin and zinc; and c. In the < 63 micrometre fraction: total organic carbon, total recoverable aluminium, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, silver, thallium, tin and zinc. 4. All sediment quality analyses for metals must be performed by an IANZ accredited laboratory (or equivalent). 5. Performance reporting of sediment quality results for the < 2 millimetre fraction should be compared to the default guideline value (**DGV**) and guideline value high (**GV-high**) as defined by ANZG, the reference condition, and any ecological monitoring results for the site(s). ***Advice note**: 'IANZ' is International Accreditation New Zealand. IANZ accreditation ensures testing laboratories meet international standards and can demonstrate they are competent.* ***Advice note**: ANZG is the Australian and New Zealand Guidelines for Fresh & Marine Water Quality. The sediment Default Guideline Values (DGVs) indicate the concentrations below which there is a low risk of unacceptable effects occurring, and should be used, with other lines of evidence, to protect aquatic ecosystems. In contrast, the 'upper' guideline values (GV-high), provide an indication of concentrations at which you might already expect to observe toxicity-related adverse effects. As such, the GV-high value should only be used as an indicator of potential high-level toxicity problems, not as a guideline value to ensure protection of ecosystems.*
MON32	1. Should the sediment monitoring undertaken on the < 2 millimetre fraction in accordance with **Condition MON31** identify that a result at monitoring site NR is elevated above the GV-High for any parameter analysed, and that this is limiting ecological recovery, the Approval Holder must undertake a Stockton sediment metal source attribution study in accordance with the Stockton Mine AMD Environment Management Plan. 2. The objectives of the Stockton sediment metal source attribution study are to:

Reference	Condition
	a. Inform the relative influence on metal concentrations measured in sediments at monitoring site NR from the sources that include (but may not be limited to): i. Background geology; ii. Historic and contemporary AMD discharges; iii. The low-density solids (**LDS**) discharge from the Mangatini Sump. b. Contextualise sediment metal source sampling with suitable upstream Reference site(s) (**Condition MON30**); c. Inform the review and updating of the Mangatini Sump Management Plan with respect to the discharge of low-density solids. 3. A report detailing the findings of the Stockton sediment metal source attribution study must be provided to the Approval Authority upon written request. Any changes proposed to AMD and/or LDS discharge management arising from the study findings must be incorporated into the Stockton Mine AMD Environment Management Plan and/or the Mangatini Sump Management Plan.
	MONITORING – GROUNDWATER
GRO1	At any time following the completion of final landforms at the relevant Project Sub-Area, the Approval Holder may review the frequency of groundwater monitoring required by **Conditions GRO2 and GRO4**.
	ESE, MFS
GRO2	The Approval Holder must establish and maintain a groundwater Performance monitoring network at both the ESE Sub-Area and the MFS Sub-Area for the duration of these Approvals, in accordance with the AMD Water Management Plan, to monitor long-term groundwater levels and groundwater quality.
GRO3	1. Groundwater level monitoring must be undertaken using a combination of automatic pressure transducers with data loggers, and manual measurements.

Reference	Condition
	2. The Approval Holder must undertake manual monitoring no less than once every three months of both groundwater level and sampling for groundwater quality at all groundwater monitoring locations at both the ESE Sub-Area and the MFS Sub-Area, in accordance with the AMD Water Management Plan. 3. Field measurements made at all groundwater monitoring locations must include the groundwater level, pH, temperature, electrical conductivity, oxidation reduction potential and dissolved oxygen. 4. Groundwater sampling must be undertaken by a SQEP and in accordance with NEMS (2019). 5. All groundwater samples collected must receive laboratory analyses for alkalinity, acidity (to pH 8.3), sodium, potassium, chloride, sulfate, nitrate nitrogen, ammoniacal nitrogen, total nitrogen, dissolved aluminium, dissolved zinc, dissolved iron, dissolved nickel, dissolved copper, dissolved cadmium, dissolved manganese, dissolved calcium, dissolved magnesium, dissolved arsenic, dissolved chromium, dissolved selenium, dissolved organic carbon, total suspended solids, and turbidity. 6. All groundwater quality analyses for dissolved metals must be performed by an IANZ accredited laboratory (or equivalent). ***Advice note**: 'IANZ' is International Accreditation New Zealand. IANZ accreditation ensures testing laboratories meet international standards and can demonstrate they are competent.* ***Advice note**: NEMS (2019) is the National Environmental Monitoring Standards, and for the purposes of this condition relates to Water Quality, Part 1 of 4: Sampling, Measuring, Processing and Archiving of Discrete Groundwater Quality Data. The current suite of National Environmental Monitoring Standards documents can be found at http://www.nems.org.nz*
	Stockton
GRO4	1. The Approval Holder must continue to monitor for the duration of these Approvals the existing groundwater Performance monitoring network at the Stockton Sub-Area, as is already established at the time of the commencement of this Approval and as described in the Stockton Mine AMD Environment Management Plan. 2. In addition, the Approval Holder must establish as described in the Stockton Mine AMD Environment Management Plan the following new groundwater monitoring locations associated with BPCP activities in the Stockton Sub-Area:

Reference	Condition
	a. Up-gradient and down-gradient of the MW16 Sump in the Millerton Block: paired monitoring bores with one screened into the Brunner Coal Measures and the other screened into Basement rock; b. Beneath the middle of the Millerton Engineered Landform in the Millerton Block: paired monitoring bores with one screened into the Brunner Coal Measures and the other screened into Basement rock; c. Monitoring bores in Millerton Block pit floor that is left open after mining, screened into Brunner Coal Measures; d. Down-gradient of the Webb Engineered Landform in the Mangatini catchment (in addition to the existing bore STK7163): paired monitoring bores with one screened into the Brunner Coal Measures and the other screened into Basement rock; e. Down-gradient of the A18 Coal Fines Storage Facility and up-gradient of Ford Creek in the Mangatini catchment, screened into Brunner Coal Measures; f. Down-gradient of the McCabes Coal Fines Storage Facility and up-gradient of T31 Stream in the St Patricks catchment: paired monitoring bores with one screened into the Brunner Coal Measures and the other screened into Basement rock; g. Down-gradient of the A Drive Coal Fines Storage Facilities and up-gradient of Fly Creek in the St Patricks catchment: paired monitoring bores with one screened into the Brunner Coal Measures and the other screened into Basement rock; and h. Two monitoring bores located between lower Granity Stream and lower Twins Stream, if access can be gained to the land, screened into coastal sediments.
GRO5	1. Following the undertaking of at least two (2) years of the groundwater monitoring required by **Condition GRO4(h)**, the Approval Holder may have the monitoring results reviewed by a SQEP to assess whether there is influence from BPCP activities undertaken in the Stockton Sub-Area on groundwater level or quality in coastal sediments. 2. The Approval Holder must provide a SQEP-authored report to the Approval Authority that outlines the findings of the monitoring review within one month of completion of the review. If the SQEP determines that there is no influence from BPCP activities in the Stockton Sub-Area on groundwater level or quality in coastal sediments, the Approval Holder may cease the monitoring required by **Condition GRO4(h)**.

Reference	Condition
GRO6	1. Groundwater level monitoring must be undertaken using a combination of automatic pressure transducers with data loggers, and manual measurements. 2. The Approval Holder must undertake manual monitoring no less than once every three months of both groundwater level and sampling for groundwater quality at all groundwater monitoring locations at the Stockton Sub-Area. 3. Field measurements made at all groundwater monitoring locations must include the groundwater level, pH, temperature, electrical conductivity, oxidation reduction potential and dissolved oxygen. 4. Groundwater sampling must be undertaken by a SQEP and in accordance with NEMS (2019). 5. All groundwater samples collected must receive laboratory analyses for alkalinity, acidity (to pH 8.3), sodium, potassium, chloride, sulfate, nitrate nitrogen, ammoniacal nitrogen, total nitrogen, dissolved aluminium, dissolved zinc, dissolved iron, dissolved nickel, dissolved copper, dissolved cadmium, dissolved manganese, dissolved calcium, dissolved magnesium, dissolved arsenic, dissolved chromium, dissolved selenium, dissolved organic carbon, total suspended solids, and turbidity. 6. All groundwater quality analyses for dissolved metals must be performed by an IANZ accredited laboratory (or equivalent). ***Advice note**: 'IANZ' is International Accreditation New Zealand. IANZ accreditation ensures testing laboratories meet international standards and can demonstrate they are competent.* ***Advice note**: NEMS (2019) is the National Environmental Monitoring Standards, and for the purposes of this condition relates to Water Quality, Part 1 of 4: Sampling, Measuring, Processing and Archiving of Discrete Groundwater Quality Data. The current suite of National Environmental Monitoring Standards documents can be found at http://www.nems.org.nz*