

Resource Consent: AUTH139551.06.01

Consent type: Discharge Permit

Consent subtype: Land - other

Activity authorised: To discharge surface water from the Ohinemuri River and treated water from the Water Treatment Plant into the Martha Pit completion of mining for the purposes of flooding the underground workings and to accelerate filling of the pit lake

Location: Waihi

Lapse Period: Five years from the date of commencement

Spatial Reference: NZTM 18511702 E 5858472 N

Consent Duration: This consent shall:

- i) commence 15 years from the date of grant unless the consent holder has by notification to the Waikato Regional Council nominated an earlier commencement date; and
- ii) expire 20 years from the date of commencement.

Subject to the following conditions:

CONDITIONS

GENERAL

- 1 The activities to which this consent relates shall be generally undertaken in accordance with "Project Martha: Applications for Resource Consents and Assessment of Environmental Effects" and associated appendices dated 25 May 2018 and recorded as document number 12546836 on the Waikato Regional Council's document management system, and as identified in the resource consent conditions below which shall prevail in the event of any inconsistency between the aforementioned documentation and the conditions.
- 2 The consent holder shall notify the Waikato Regional Council in writing at least 10 working days in advance of the first exercise of this consent.

SCHEDULE ONE

- 3 The consent holder shall comply with the common conditions between the Waikato Regional Council and Hauraki District Council in Schedule One ~~as relevant~~ which relate to the management of the mining and rehabilitation activities authorised by this consent.

UNDERGROUND MINE FLOODING, PIT LAKE FILLING AND DISCHARGE MANAGEMENT PLAN

- 4 The consent holder shall prepare an Underground Mine Flooding, Pit Lake Filling and Discharge Management Plan. The Underground Mine Flooding, Pit Lake Filling and Discharge Management Plan shall be submitted to the Waikato Regional Council for approval (acting in a technical certification capacity) at least six months prior to the first exercise of this consent. The Plan shall be updated on an annual basis and shall be submitted to the Waikato Regional Council for approval acting in a technical certification capacity.
- 5 The Underground Mine Flooding, Pit Lake Filling and Discharge Management Plan shall:
 - (a) Include a re-watering strategy that considers the effects of re-watering on the relative groundwater levels within the underground workings and the Martha Pit, and:
 - (b) Include a monitoring programme to:
 - (i) Monitor the effects of re-watering on groundwater levels;
 - (ii) Monitor the effects of the discharge of water from the backfilled and flooded underground workings on groundwater quality;
 - (iii) Monitor the effects of settlement rebound during flooding of the underground workings and filling of the pit lake;
 - (iv) Assess the potential for springs and other groundwater connections that may be reactivated as a result of connections from the pit lake during the period of lake filling and for at least a further five years following the first discharge from the pit lake to the Mangatoetoe Stream;
 - (v) Monitor the water quality of the pit lake at a range of depths during filling;
 - (vi) Detail triggers to indicate when mitigation actions will be required for the purposes of maintaining pit lake water quality;
 - (vii) Detail the actions that will take place in the event that discharges from springs and other connections are identified during, and following, lake filling;
 - (viii) Assess the water quality of the Mangatoetoe Stream ~~from the time of following~~ the first pit lake discharge to the stream ~~and for at least a further five years~~ for the purposes of confirming that as a result of the pit lake discharge (and after

- reasonable mixing) the quality of the Mangatoetoe Stream meets the receiving water standards defined in Table 1; and
- (ix) Monitor the aquatic life found in the pit lake on an annual basis from the time of the first pit lake discharge to the Mangatoetoe Stream. ~~The monitoring of aquatic life may cease with the written approval of the Waikato Regional Council.~~

The monitoring required under Condition 5b(i) to (ix) may cease with the written approval of the Waikato Regional Council.

- (c) Include mitigation actions to ensure that the water quality of any discharge from the pit lake to the Mangatoetoe Stream meets the relevant standards (Table 1). The proposed mitigation actions may include, but are not limited to, the addition of alkalinity to the pit lake during lake filling (AUTH139551.07.01).

UNDERGROUND MINE FLOODING, PIT LAKE FILLING AND DISCHARGE MANAGEMENT REPORT

- 6 The consent holder shall prepare an Underground Mine Flooding, Pit Lake Filling and Discharge Management Report. This report shall be submitted within three months following the first anniversary of the commencement of this consent, and annually thereafter for as long as the monitoring under Condition 5(b) is required.
- 7 The Underground Mine Flooding, Pit Lake Filling and Discharge Management Report shall include the following information:
- (a) Groundwater levels and the rate of rise in the underground workings and the pit lake;
 - (b) Filling progress (e.g. percentage filled and predicted 'lake full' date);
 - (c) The effects of the discharge of water from the backfilled and flooded workings on groundwater quality,
 - (d) The effects of settlement rebound during flooding of the underground workings and filling of the pit lake,
 - (e) What, if any, springs and other connections have been identified, the effect (actual and predicted) on pit lake water levels and the impact of the springs and other connections on the area at which they occur;
 - (f) Any water quality trends that are apparent from the results of the monitoring, with the emphasis on detecting any deterioration of the pit lake water quality that may require timely mitigation;
 - (g) What, if any, mitigation measures have been implemented in the previous 12 months and a prediction of what, if any, mitigation measures may be required in the following 12 months;
 - (h) The water quality of the Mangatoetoe Stream (both upstream and downstream of the discharge) after the pit lake first overflows; and
 - (i) The aquatic life found in the lake at the time of the first pit lake overflow to the Mangatoetoe Stream and any resulting comparison with subsequent years.

DISCHARGE

- 8 Prior to commencing any discharge from the pit lake the consent holder shall complete, to the satisfaction of Waikato Regional Council, an updated assessment of the potential impact that the discharge will have on the flood capacity of the Mangatoetoe Stream.

The consent holder shall, if necessary, prepare a plan of works designed to mitigate the impacts of the discharge to the Mangatoetoe Stream on any potentially affected properties or public utilities in the Mangatoetoe Stream catchment.

Subject to the grant of any necessary consents, and at least six months prior to commencing any discharge from pit lake, the consent holder shall implement those measures to the satisfaction of the Waikato Regional Council.

ADMINISTRATIVE CHARGES

- 9 The consent holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with Section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under Section 360 of that Act.

REVIEW OF CONDITIONS

- 10 Pursuant to Section 128(1)(a)(i) and (iii) of the Act, the Waikato Regional Council may, 12 months from the commencement of this consent and annually thereafter, or on receipt of any of the reports required by this consent, review any or all of the conditions of this consent for the following purposes:
- (a) To review the effectiveness of the conditions of this resource consent in avoiding, remedying or mitigating any adverse effects on the environment that may arise from the exercise of this consent, and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions. In deciding to undertake a review and where further or amended conditions are deemed necessary, the Waikato Regional Council shall have regard to all of the information contained in the reports required under the conditions of this consent;
 - (b) To address any adverse effects on the environment which have arisen as a result of the exercise of this consent that were not anticipated at the time of commencement of this consent; or
 - (c) To review the adequacy of, and the necessity for, any of the monitoring programmes or management plans that are part of the conditions of this consent.
- 11 Pursuant to Section 128(1)(a)(i) and (iii) of the Act, the Waikato Regional Council may review Conditions 40 to 45 in Schedule One of this consent following any change made to the Trust Deed referred to in Condition 40 of Schedule One.

Dated at Hamilton this **x** day of **Month** 2018

Table 1 : Mangatoetoe Receiving Water Quality Standards

Parameter	Receiving Water Concentration ⁽²⁾	
	(g/m ³ unless otherwise stated)	
	Hardness 20 g/m ³ CaCO ₃	Hardness 100 g/m ³ CaCO ₃
Temperature	less than 3°C increase	less than 3°C increase
pH	6.5 to 9.0	6.5 to 9.0
suspended solids	For upstream concentrations of less than or equal to 100g/m ³ the increase shall be no greater than 10g/m ³ . For upstream concentrations of greater than 100g/m ³ the increase shall be no greater than 10%	For upstream concentrations of less than or equal to 100g/m ³ the increase shall be no greater than 10g/m ³ . For upstream concentrations of greater than 100g/m ³ the increase shall be no greater than 10%
Cyanide (CN _{WAD}) ⁽¹⁾	0.093	0.093
Iron	1.0	1.0
Manganese	2.0	2.0
Copper	0.003	0.011
Nickel	0.040	0.160
Zinc	0.027	0.100
Silver ¹	0.0002	0.0024
Total Ammonia	Refer Table 2	Refer Table 2
Antimony	0.030	0.030
Arsenic	0.190	0.190
Selenium	0.005	0.005
Mercury	0.000012	0.000012
Cadmium	0.0003	0.001
Chromium (VI)	0.010	0.010
Lead	0.0004	0.0025

Notes :

- (1) Site specific derived criteria using US EPA (1985) methodology.
- (2) Monitoring of metals shall be based on the soluble test method, defined as the concentration of dissolved metals measured in that fraction which passes through a 0.45 µm filter, except for mercury (Hg) which shall be based on acid soluble concentrations determined on unfiltered samples.
- (3) Current analytical procedures for mercury have a practical quantification limit (PQL) of 0.0005 ppm. This PQL is acceptable for the purposes of reporting mercury concentrations. The reporting 'limit' for mercury concentrations shall be reviewed

annually by the consent holder and shall be adjusted in line with improvements in analytical technology.

Table 2 : Criteria For Total Ammonia

Chronic Criterion - g/m ³ as Ammonia							
Temp °C	0	5	10	15	20	25	30
pH							
6.50	3.0	2.8	2.7	2.5	2.5	2.5	2.4
6.75	3.0	2.8	2.7	2.6	2.5	2.5	2.5
7.00	3.0	2.8	2.7	2.6	2.5	2.5	2.5
7.25	3.0	2.8	2.7	2.6	2.5	2.5	2.5
7.50	3.0	2.8	2.7	2.6	2.5	2.5	2.5
7.75	2.8	2.6	2.5	2.4	2.3	2.3	2.4
8.00	1.82	1.70	1.62	1.57	1.55	1.55	1.59
8.25	1.03	0.97	0.93	0.90	0.90	0.91	0.94
8.50	0.58	0.55	0.53	0.53	0.53	0.55	0.58
8.75	0.34	0.32	0.31	0.31	0.32	0.35	0.38
9.00	0.19 5	0.18 9	0.18 9	0.19 5	0.21	0.23	0.27

Note: To convert these values to mg/l as nitrogen, multiply by 0.822.