

**Before the Hearing Panel appointed by Canterbury
Regional Council**

IN THE MATTER OF The Resource Management
Act 1991

**AND
IN THE MATTER OF** Applications CRC192408,
CRC192409, CRC192410,
CRC192411, CRC192412,
CRC192413 and CRC192414
by Fulton Hogan Limited for a
suite of resource consents to
establish a quarry operation

Addendum to Section 42A Officer's Report dated 2 September 2019

Report of Hannah Louise Goslin

INTRODUCTION

1. This report is an addendum to my primary section 42A report dated 2 September 2019 and should be read in conjunction with that report.
2. In general, this addendum addresses:
 - a. Updates to Appendix 7: Recommended Condition Table; and
 - b. Updates to submissions following the notification of my primary section 42A report on 2 September 2019.
3. This addendum report is prepared in accordance with section 42A of the Resource Management Act 1991.

Updates to Appendix 7: Recommended Condition Table

4. Shortly after the release of my primary section 42A report, the applicant identified some inconsistencies between the latest version of conditions proposed by the applicant¹ and the 'Applicant's proposed conditions' set out in the Recommended Condition Table².
5. I highlight that the changes required are minor in nature and are as follows:
 - a. CRC192408 & CRC192409:
 - i. Condition (7) has been updated to refer to 'highest recorded groundwater level', I have updated my recommendation on the basis of this amendment;
 - ii. Condition (11) has been updated to refer to condition (4);
 - iii. Condition (16)(b) has been updated to refer to condition (7); and
 - iv. Conditions (23) to (25) have been updated to refer to other conditions as proposed by the applicant.
 - b. CRC192410:

¹ In the applicant's second response to further information, dated August 2019

² Appended to my main section 42A Report as Appendix 7.


- i. Condition (18)(c) has been amended to include 'and when moving material';
- ii. Condition (18)(h) has been amended to include 'at least';
- iii. Condition (18)(k) has been amended to include 'or spraying loads with water'; and
- iv. Condition (18)(v) has been amended to include 'and clearly signpost this limit on all internal roads'.

Updates to submissions following the notification of my primary section 42A report on 2 September 2019

6. Following the release of my section 42A report, it was identified that submitter had incorrectly identified that they would like to be heard. As a result, the submission summary at paragraph 34 of my section 42A report requires an update as follows (update identified in ~~strikeout~~ and underline):

In total 454 submissions were received. A brief summary of these submissions is outlined below:

- a. 354 oppose the application;
- b. 92 support the application;
- c. 8 indicate they are neutral to the application;
- d. ~~478~~ 177 indicated in their submission that they wish to be heard; and
- e. ~~276~~ 277 indicated in their submission that they do not wish to be heard.

Signed:  Date: 12/09/2019
Name: _____
Hannah Goslin
Consultant Planner

APPENDIX 7: RECOMMENDED CONDITION TABLE

CRC192408 & CRC192409 Land use consent to excavate material and deposit cleanfill material over an unconfined/semi-confined aquifer	
Applicant's proposed conditions	Reporting Officer comments and recommendation
Description	
<p>1) <i>The use of land for the construction works associated with development of the quarry, extraction of overburden and aggregate material, stockpiling of extracted aggregate, the deposition of cleanfill, and remediation of completed quarrying areas shall be at located on the land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the Site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which forms part of this consent.</i></p>	<p>I recommend this condition could be simplified to list the activities which are authorised by CRC192408 and CRC192409 and refer to a plan depicting the site instead of referring to the application. I am also uncertain what is meant by the reference to 'construction works' in the condition. I recommend the following amendments:</p> <p><i>The activities shall be only:</i></p> <ul style="list-style-type: none"> (a) <i>Site preparation works including the excavation of topsoil and overburden material for the purpose of constructing bunds and storage of soil for site rehabilitation;</i> (b) <i>Excavation of aggregate;</i> (c) <i>Temporary stockpiling of excavated aggregate;</i> (d) <i>Deposition of cleanfill; and</i> (e) <i>Remediation at the completion of extracting aggregate</i> <p><i>At 107 Dawsons Road and 220 Jones Road, Templeton, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZTM2000 1555356mE, 5177132mN. As shown on Plan CRC192408A, attached to and forming part of this resource consent.</i></p> <p><i>For the avoidance of doubt, no blasting is authorised by this consent.</i></p>
<p>2) <i>Prior to works commencing, warning notices that can be read from a distance of 5m shall be erected and maintained at all entrances to the quarry excavation site. These notices shall state:</i></p> <ul style="list-style-type: none"> a) <i>The name of the site;</i> b) <i>The name of the quarry operator;</i> c) <i>No unauthorised material sourced from offsite shall be placed in the</i> 	<p>I recommend this condition is moved to a section titled 'Preliminary Works' or similar and amended as follows:</p> <p><i>Site Management</i></p> <ul style="list-style-type: none"> (a) <i>The perimeter of the quarry site shall be surrounded by secure fencing, with lockable access gates;</i> (b) <i>The consent holder shall ensure that warning notices are erected and maintained at all entrances to the site;</i>

<p>quarry excavation areas;</p>	<p>(c) Warning notices shall be able to be read from a distance of five metres; (d) The warning notices shall state: (i) Name of the site; (ii) Name of the owner of the site and a contact telephone number; (iii) Groundwater is vulnerable to contamination; (iv) Only clean soil may be deposited at this site; general refuse and hazardous waste shall not be dumped at this site.</p>
<p>3) Access to the quarry excavation areas shall be secured by fencing and lockable gates.</p>	<p>Given my recommended condition above, I consider this condition can be deleted.</p>
<p>Extraction depth</p>	
<p>4) The consent holder shall survey the site prior to excavation, and annually thereafter, to determine the elevations of the site relative to the:</p> <p>a) Mean Sea Level, including the depth of excavations;</p> <p>b) The survey shall be undertaken by a registered surveyor;</p> <p>c) The survey results shall be to an accuracy of +/- 50 millimetres vertically;</p> <p>d) The results of each survey shall be provided to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, in February of each year or on request;</p> <p>e) Natural ground levels of the site shall be recorded and reported in terms of metres above mean sea level;</p> <p>f) The consent holder shall establish a surveyed datum point at local ground level in an area that will not be excavated. This point shall be used to certify the depth of excavation and cleanfill at any point within the consent holder's site.</p>	<p>I consider this condition is generally consistent with the recommendations made by Dr Scott. I recommend the following amendments:</p> <p><i>The consent holder shall ensure the natural ground level of the site is surveyed prior to excavation of overburden material, and annually thereafter to determine elevations of the site relative to Mean Sea Level, including the depth of excavations. The survey:</i></p> <p>(a) Shall be undertaken by a registered surveyor; (b) Results shall be to an accuracy of +/- 50 millimetres vertically; (c) Results of each survey shall be provided to the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, in February of each year or on request; and provide a contour map showing the surveyed maximum quarry depth relative to the highest groundwater level.</p> <p>In terms of proposed condition (4)(f), it is my understanding that the consent holder would establish a surveyed datum point at natural ground level once at the commencement of the consent, not annually as currently required by the condition. Given this, I recommend condition (4)(f) is a standalone condition as follows:</p> <p><i>Prior to undertaking the activities authorised by this consent at the site, the consent holder shall establish a surveyed datum point at natural ground level in an area that will not be excavated. This point shall be used to certify the depth of excavation at any point within the site described in condition (1).</i></p>
<p>5) During at least the first five years after commencement of consent and until a different depth is certified in writing by the Canterbury Regional</p>	<p>A more detailed iteration of this condition is recommended to replace condition (7) below. Based on Dr Scott's advice, I do not support conditions allowing a revised</p>

<p><i>Council, the depth of quarrying shall not exceed a depth of between 8.1 and 9.9 metres below natural ground level, across the site, in accordance with the contour plan included as Figure CRCXXXXXX.</i></p>	<p>excavation depth and recommend the deletion of conditions that relate to enabling a depth of 9.9 metres across the entire quarry site.</p>
<p>6) <i>The consent holder shall monitor water levels for the first five years after commencement of consent in the four bores specified below:</i></p> <p><i>Upgradient</i></p> <p>a) <i>BX23/0833 (Bore ID DRBH1). Located at or about map reference: NZTM X and Y 1554612 – 5177022</i></p> <p>b) <i>BX23/0836 (Bore ID DRBH2). Located at or about map reference: NZTM X and Y 1554914 – 5177686</i></p> <p><i>Downgradient</i></p> <p>c) <i>BX23/0835 (Bore ID DRBH4). Located at or about map reference: NZTM X and Y 1556077 – 5177047</i></p> <p>d) <i>BX23/0834 (Bore ID DRBH3). Located at or about map reference: NZTM X and Y 1555397 – 5176416</i></p> <p><i>Based on this information the consent holder may submit a report to the Canterbury Regional Council by an independently qualified person with expertise in groundwater monitoring that, having regard to the water level monitoring information, recommends a revised maximum depth of quarrying. Provided that the Canterbury Regional Council certifies in writing that the findings of the independent report are accepted, the depth of quarrying may be amended in accordance with the report recommendations. Notwithstanding the aforementioned certification process, at all times and in all circumstances the consent holder shall limit quarrying to 1 metre above the seasonal high water table referenced to the datum point in Condition 7).</i></p>	<p>Based on advice from Dr Scott, I recommend the deletion of this condition.</p>
<p>7) <i>No excavation shall occur below 1 m above the seasonal high water table at the site, as at the date of this consent being granted.</i></p>	<p>I recommend the reference to ‘seasonal high water table’ be amended to ‘highest recorded groundwater level’. I also recommend this condition refers to the Indicative Quarry Floor Surface and Groundwater Level Plan provided with the first further information response as follows:</p>

	<p><i>Excavation of aggregate and deposition of cleanfill shall only occur where the quarry floor maintains at least 1 metre separation depth to the highest recorded groundwater level. This shall be achieved by ensuring the base of the quarry is no deeper than:</i></p> <p><i>(a) 9.9 metres below natural ground level in the northwest area of the site; and</i></p> <p><i>(b) 8.1 metres below natural ground level in the southeast area of the site</i></p> <p><i>As shown on Plan CRC192408B, attached to and forming this resource consent.</i></p>
<p>8) <i>Should the groundwater water level increase (at times of high-water table) so that the separation is less than 1 m between the measured groundwater levels and the base of the quarry floor, the consent holder shall apply virgin materials (aggregate sourced from within the site, opposed to imported cleanfill) in these areas, so as to re-establish a 1 m separation distance. This requirement shall not apply to any areas which have already been rehabilitated.</i></p>	<p>I agree condition (8) should be included and recommend an additional condition to define virgin quarry materials. I recommend the following condition:</p> <p><i>For the purpose of this consent, virgin materials is aggregate sourced from the quarry pit that is of comparable quality and composition to aggregate which was excavated or replacement of the same material.</i></p>
<p>9) <i>If groundwater levels rise within the 1 m separation distance, then any machinery (other than that used for backfilling) shall be moved away from these areas and contingency backfilling measures shall be undertaken in accordance with those set out in Condition 8).</i></p>	<p>I agree condition (9) should be included, but recommend the reference to 'backfilling' should specify that 'backfilling of virgin materials' as follows:</p> <p><i>If groundwater levels rise within the 1 metre separation depth, then any machinery, other than that used for backfilling of virgin materials, shall be moved away from these areas and contingency backfilling shall be undertaken in accordance with Condition (8).</i></p> <p>I recommend an additional condition is required which requires CRC to be notified in such an event. I recommend a condition along the lines of:</p> <p><i>If groundwater should rise into the quarry floor during excavation or deposition of cleanfill, the consent holder shall notify the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance within 24 hours.</i></p>
<p>10) <i>Once aggregate extraction has commenced the consent holder shall provide, at three-monthly intervals, and on request from the Canterbury Regional Council Manager Monitoring and Compliance (The Manager), a laser level survey of all depths of excavated and filled areas on the site. Such a survey shall not be required if there has been no excavation in the preceding three-month period. Alternative methods for achieving this condition, such as GPS depth technology on excavation machinery may be used subject to approval in writing from the Manager.</i></p>	<p>I support the intent of this condition being a less precise check at a higher frequency to determine excavation depths a compliant with condition (7). Based on Dr Scott's advice, I recommend this condition should be extended to require a minimum frequency of daily water level measurements.</p>

<p>11) <i>The Consent Holder shall survey all excavated and filled areas of the site annually to determine the elevations of the site relative to datum established under condition (7)), including the depth of excavation. The survey shall be undertaken by a registered surveyor. The survey result shall be to an accuracy of +/- 50 millimetres vertically. The results of such survey shall be provided to the Manager, annually and otherwise on request.</i></p>	<p>I consider this proposed condition (11) is a duplicate of proposed condition (4). I recommend proposed condition (11) should be deleted.</p>
<p>Excavation of Aggregate</p>	
<p>12) <i>Excavation of aggregates shall commence with extraction in the centre of the site (adjacent to the central processing area shown in green) and shall occur in a progressive sequence (moving southward and then anticlockwise) generally in accordance with the three-part diagram in Figure 1 below. Full staging beyond Stage 3 shall be provided to the Manager at least one month prior to Stage 4 commencing. Excavation of aggregates shall occur from the quarry floor, once the pit is established.</i></p>	<p>I agree that a condition should be included which specifies proposed quarry staging. I consider the wording of this condition could be improved to clarify how staging will be undertaken and the diagram needs to be amended to show the 100 metre exclusion areas for 319 Maddisons Road and 153 Curraghs Road. I recommend Figure 1 should be amended and included as a Plan appended to this resource consent.</p>

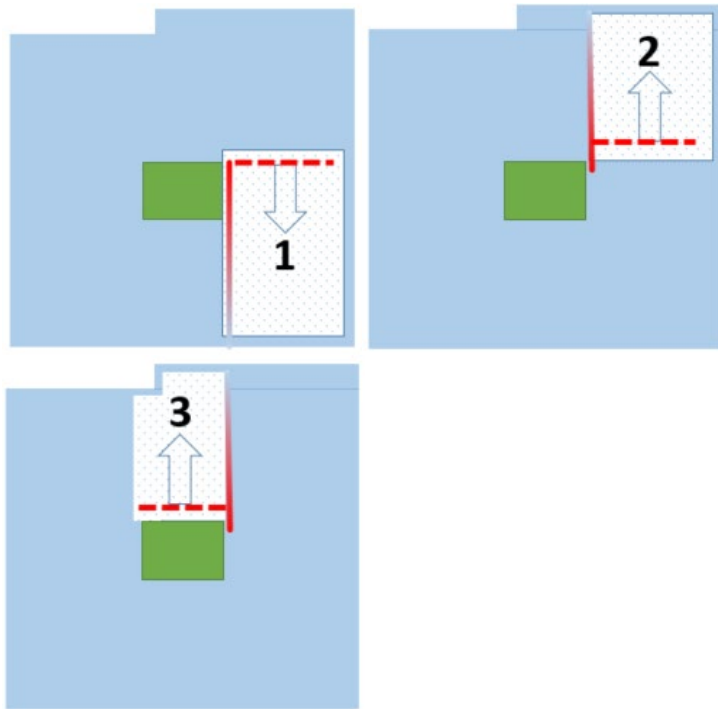


Figure 1: Three-part diagram showing quarrying staging.

13) *Site areas shall be limited to a maximum area in accordance with the following specified open ground limitations, at any one time, as set out in the table below:*

Table 1: Open area limits for active quarrying.

Purpose	Area (ha)
Central processing area, its fixed plant, stockpiles, mobile plant etc.,	7

I agree with the intent of this condition, but consider the wording could be simplified and refer to the table setting out the open area limits.

Excavation in process	5	
Fill and rehabilitation in process	5	
Site roads – unsealed	5	
Field conveyor, service lanes	4	
Total active area	26	
Note: The above areas exclude the sealed access road(s) and any site buildings.		
14) <i>No excavation of aggregates shall occur within 20 metres of the boundaries of the Site. This condition does not apply to earthworks involved in the rehabilitation of the Site.</i>	<p>I support the inclusion of such a condition. I note, this condition is not consistent with the applicant's proposal to set excavation back 100 metres from the dwellings at 319 Maddisons Road and 153 Curraghs Road and should include the deposition of cleanfill and stockpiling of aggregate. I recommend the following alternative wording:</p> <p><i>The excavation of aggregate, deposition of cleanfill and stockpiling of aggregate and cleanfill material shall be setback:</i></p> <ul style="list-style-type: none"> <i>a. 20 metres from site boundaries; and</i> <i>b. 100 metres from the dwellings at 319 Maddisons Road and 153 Curraghs Road, unless written approval is sought from these parties.</i> 	
15) <i>Any roads within the central processing area shall be sealed as shall the access road(s) into the site.</i>	This condition is inconsistent with the proposed conditions on the air discharge permit. I recommend that all conditions related to hard standing internal roads should be consistent.	
Cleanfilling		
16) <i>Where additional fill is required to be brought to the site for rehabilitation purposes, the consent holder shall ensure that all material deposited in the excavated area is:</i>	I consider several of the conditions are fundamental and recommend they become stand alone conditions. I recommend the advice note that sets out the 'cleanfill acceptance criteria' should also include a list of unacceptable materials (based on the advice of Dr Scott and Mr Freeman) and become a consent condition. Based on the advice of Mr Freeman, I recommend a condition is included that ensures cleanfill shall meet background concentrations at the applicant's site and not the site of origin.	
<ul style="list-style-type: none"> <i>a) Only material defined as 'Cleanfill' as set out in the advice note attached to this condition;</i> <i>b) The material is not deposited into groundwater; and is at least one metre above the seasonal high water table recorded at the site, subject to Condition 6);</i> 		

- c) *Material is deposited in accordance with a Cleanfill Management Plan (CMP) which has been prepared in accordance with Section 8.1 and Appendix B of "A Guide to the Management of Cleanfills", Ministry for the Environment, January 2002;*
- d) *Assessed against the fill acceptance criteria and inspected in accordance with the procedures contained in the draft Roydon Quarry Cleanfill Management Plan (submitted as Appendix F of the AEE and revised (V2) as at 12 March 2019); and rejected from the site if load description is contrary to actual content in truck;*
- e) *Checked by the site manager or nominated person prior to deposition in the pit. If the material is not classified as Cleanfill, the consent holder shall immediately remove the material and arrange for the disposal of it at an appropriate location;*
- f) *And recorded by an electronic weighing system. The record shall include a detailed record of all materials deposited into the Cleanfill site and shall be provided to the Canterbury Regional Council upon request. This record shall include the following information:*
- i. The name of the company delivering the material;*
 - ii. The date of deposition;*
 - iii. The physical address of the land the material was sourced from;*
 - iv. A description of the material;*
 - v. Any laboratory reports;*
 - vi. Any authorisation under which the material was removed from the source site (e.g., resource consent); and*
 - vii. The weight or volume of the material deposited.*
- g) *Copies of this documentation shall be made available to the Council on request.*

Advice note: 'Cleanfill' is defined as:

Material that when buried will have no adverse effect on

<p><i>people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:</i></p> <ul style="list-style-type: none"> <i>– combustible, putrescible, degradable or leachable components</i> <i>– hazardous substances</i> <i>– products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices</i> <i>– materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances and liquid waste.</i> <p><i>h) No cleanfill material shall be deposited at the site which has been sourced from a site defined as 'potentially contaminated'.</i></p> <p><i>For the purpose of this consent, 'potentially contaminated' means a part of a site where an activity or industry described in the list in Schedule 3 of the Canterbury Land and Water Regional Plan, which is attached as Attachment 1 and forms part of this resource consent, has or is being undertaken on it or where it is more likely than not an activity or industry described in the list in Schedule 3, is being or has been undertaken on it, but excludes any site where a detailed site investigation has been completed and reported and which demonstrates that any contaminants in or on the site are at, or below, background concentrations.</i></p>	
<p><i>17) Any mixed fill arriving at the site shall be thoroughly inspected to ensure it contains no unacceptable materials or shall otherwise be rejected. This inspection shall include a review of the fill disposal application and information related to the material source and site use, a visual inspection to identify unacceptable material, and adequate analytic testing guided by potential sources of contamination, to confirm the material meets the relevant acceptance criteria.</i></p>	<p>I recommend this condition is simplified and amended to clearly set out the protocol to be undertaken to ensure cleanfill complies with the cleanfill criteria.</p>

<p>18) <i>Any contractor depositing material at the site shall have a written contract with the consent holder and shall be provided with a copy of this consent prior to entering the site. Site inductions will be held on a quarterly basis for contractors using the site, and records of these inductions shall be kept and made available to Council on request.</i></p>	<p>I recommend this condition is combined with proposed condition (17) to clearly set out the process to be undertaken when a load of cleanfill arrives at the site.</p>
<p>19) <i>At least one month prior to the commencement of any cleanfilling activity authorised by this consent the consent holder shall submit a CMP to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager. The CMP shall include but not be limited to the following:</i></p> <ul style="list-style-type: none"> a) <i>Describing the content and purpose of the CMP;</i> b) <i>Detailing the operation of the site including details of staging of works, area, depth and proposed start and finish date of deposition of cleanfill material;</i> c) <i>Discussing the actions to be undertaken to ensure compliance with the conditions of this resource consent and actions to be undertaken in response to any incident that may adversely affect the environment;</i> d) <i>identifying and providing contact details of the staff member responsible for each action;</i> e) <i>Discussing the steps to be undertaken to correct incidences of non-compliance;</i> f) <i>Identifying timeframes for site rehabilitation;</i> g) <i>The specific location of the cleanfill placement area;</i> h) <i>A description of operational procedures and monitoring that will be implemented to prevent unauthorised material from entering the site;</i> i) <i>How rejected material will be stored pending disposal to an authorised landfill;</i> j) <i>Where rejected material will be disposed of;</i> k) <i>The maximum length of time that rejected material will be stored on site pending removal;</i> l) <i>Construction procedures to ensure the long-term stability of cleanfill</i> 	<p>I recommend this condition is moved to a section titled 'Prior to Works' or similar. I am supportive of a condition which requires the submissions of a CMP.</p>

<p>areas;</p> <p>m) <i>Timetable of works and re-vegetation measures;</i></p> <p>n) <i>Procedures for improving and/or reviewing the CMP;</i></p> <p>o) <i>A list of all material accepted in the cleanfill; and</i></p> <p>p) <i>Procedure for responding to complaints.</i></p> <p><i>The consent holder shall ensure that a copy of the CMP is held at the site and all personnel working on the site are made aware of and have access to this consent document and the CMP.</i></p>	
<p>20) <i>The CMP shall be:</i></p> <p>a) <i>Reviewed and updated at least once every two years for the duration of the consent; and</i></p> <p>b) <i>Retained on the site at all times.</i></p> <p><i>Any updated versions of the CMP shall be forwarded to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager, within 30 days of completing a review.</i></p>	<p>I support the intent of this condition, but recommend the updated CMP should be provided to CRC to ensure it complies with proposed conditions (16) to (19).</p>
<p>Groundwater Quality Monitoring</p>	
<p>21) <i>The following groundwater sampling regime is proposed:</i></p> <p>a) <i>Representative samples of groundwater shall be taken at six-monthly intervals, for a period of two years after quarrying activities commence, and thereafter at a 12-monthly interval, from the two upgradient and two downgradient bores;</i></p> <p>b) <i>Samples shall be taken after adequate purging to remove all stagnant water from the bores or by using an alternative method, such as low-flow sampling technique, to ensure that fresh groundwater is drawn through the bore screens; and</i></p> <p>c) <i>All samples shall be taken by a suitably qualified practitioner and analysed by an accredited laboratory. Groundwater samples shall</i></p>	<p>I support the inclusion of conditions that require groundwater monitoring. I recommend this condition is amended to reflect Dr Scott's evidence. I recommend amendments as follows:</p> <ul style="list-style-type: none"> • Setting out the bores where representative samples shall be taken, including onsite bore (M36/2743); • Requiring representative samples of groundwater to be taken three monthly for the first 5 years of commencement of the consent, then reduce to six monthly; • Amendments to the Table 1 contaminants in accordance with the table in Dr Scott' evidence (Para 123, Pg. 18).

<p><i>be analysed for the contaminants shown in Table 1.</i></p> <p>d) <i>The water quality monitoring results shall be supplied annually to the Canterbury Regional Council, RMA Compliance and Monitoring Manager.</i></p>	
<p>Responses to Monitoring</p>	
<p>22) <i>The results of analysis of groundwater samples tested shall be compared with the contaminant trigger values in Table 1. Any contaminant concentration in the downgradient bores shall be deemed an exceedance if:</i></p> <p>a) <i>The tested result is in excess of the trigger values for a contaminant given in Table 1 if the same contaminant upgradient concentration is less than the Table 1 trigger levels; or</i></p> <p>b) <i>Any contaminant concentration in the upgradient bore exceeds the Table 1 trigger values for that contaminant and if the downgradient bore exceeds the upgradient bore contaminant concentration by more than 10 percent of the respective Table 1 contaminant trigger value.</i></p>	<p>I agree with the intent of the condition proposed by the applicant. I recommend references to Table (1) should refer to the trigger value table recommended by Dr Scott.</p>
<p>23) <i>If there is an exceedance in a downgradient bore as determined by Condition 21), the consent holder shall:</i></p> <p>a) <i>Obtain a second sample of groundwater from the bore sampled in accordance with Condition 19); and</i></p> <p>b) <i>Obtain a sample of groundwater from the upgradient bore specified in Condition 21); and</i></p> <p>c) <i>Analyse these samples in accordance with Condition 21).</i></p>	<p>I agree with the intent of the conditions proposed by the applicant. In accordance with Dr Scott, I recommend the additional sampling in the event of an exceedance should be timebound. I recommend the following amendments:</p> <ul style="list-style-type: none"> • If there is an exceedance in a downgradient bore, then within one month of receiving the results that identify the exceedance, the consent holder must obtain a second sample; • If there is an exceedance of the health-related triggers in a downgradient bore (as per MAV values in Table 1), sampling of all domestic wells within 500 metres downgradient of that bore should also be sampled. In the event domestic wells sampled also exceed the same health -based trigger, the immediate provision of an appropriate treatment system or alternate water supply should be required. • Proposed condition (25)(c) should refer to reducing contaminants to a level below the Table (1) trigger values; • An additional condition is recommended which requires all analytical results taken as a result of this suite of conditions to be provided to CRC within one month of them being received in an electronic format, suitable for automatic upload to a water quality database (preferably directly from the analytical laboratory immediately after quality checking).
<p>24) <i>If the results of analysis of groundwater samples carried out in accordance with Condition 21) show that none of the concentrations of contaminants analysed exceed the trigger concentrations given in Table 1, the consent holder shall continue to sample groundwater in accordance with Condition 21).</i></p>	
<p>25) <i>If the results of analysis of groundwater in down-gradient bores sampled in accordance with Condition (19), for any contaminant analysed show an</i></p>	

<p><i>exceedance, as determined by Conditions 19) above, the consent holder shall :</i></p> <p>a) <i>Notify the Manager; and</i></p> <p>b) <i>Notify the residential occupiers with water supply bores of all adjoining properties to the south and south-east of the cleanfill site; and</i></p> <p>c) <i>Implement necessary measures to reduce the concentration of the contaminant in groundwater. Such measures may include:</i></p> <ul style="list-style-type: none"> <i>i. cessation of activities that may have caused the excessive concentrations;</i> <i>ii. removal of the contaminant source(s),</i> <i>iii. stabilisation or capping of the contaminant source(s); and</i> <i>iv. revision of cleanfill management procedures.</i> <p>d) <i>Undertake additional monitoring beyond the routine sampling.</i></p> <p><i>Any material removed in accordance with Condition (22a) shall be disposed of at an appropriate facility, and the consent holder shall provide the Manager, with written confirmation of such disposal within ten working days of the disposal taking place.</i></p>	
<p>Rehabilitation</p>	
<p>26) <i>Rehabilitation of the site shall be undertaken generally in accordance with the Quarry Rehabilitation Plan (QRP), as certified by Selwyn District Council under RMAXXXXXXX.</i></p>	<p>I consider the reference to 'generally in accordance' is vague and provides difficulties in assessing compliance. I recommend this condition is deleted.</p>
<p>27) <i>Following completion of quarrying and cleanfilling in a sub-stage, a minimum 300 mm topsoil layer shall be applied over the finished surface level and sown with a suitable grass species or planted with another suitable vegetation.</i></p>	<p>I support the intent of this condition, although recommend a timeframe component should be included. In its current state, at the conclusion of cleanfilling the site surface could be left indefinitely prior to grassing or vegetating.</p>
<p>28) <i>Each sub-stage, with the exception of any active haul roads, shall be rehabilitated within six months of the completion of cleanfilling.</i></p>	<p>I support the intent of this condition, however there is no timeframe to complete cleanfilling, prior to undertaking rehabilitation. I recommend the condition should</p>

<p><i>Rehabilitation shall include but not be limited to:</i></p> <ul style="list-style-type: none"> a) <i>Reshaping the relevant areas;</i> b) <i>Spreading of topsoil;</i> c) <i>Re-vegetating; and</i> d) <i>Undertaking all practicable measures to prevent a dust nuisance from the rehabilitated area, including but not limited to watering of exposed soil to prevent production of dust.</i> <p><i>If this work is required outside of spring or autumn, the area can be suitably mulched or covered with another form of material to suppress dust from the area until it is appropriate to re sow grass.</i></p>	<p>be expanded to ensure the re-vegetated areas are maintained post rehabilitation as follows:</p> <p><i>The rehabilitated grassed areas shall be monitored and maintained to ensure they are functioning appropriately for a period of 24 months following rehabilitation being completed.</i></p>
<p>29) <i>All finished surfaces to be designed and constructed to be free draining, and the final finished floor level shall not be above the ground level that predated quarrying.</i></p>	<p>I support this condition and recommend the condition is expanded to require rehabilitation of the entire site prior to expiry of the consents. I consider this provides an additional safeguard that the site will be rehabilitated as follows:</p> <p><i>The total rehabilitation of the site shall be completed prior to the expiry of this consent.</i></p>
<p>Spills</p>	
<p>30) <i>All reasonably practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery.</i></p>	<p>Based on the advice of Dr Scott and Mr Freeman, I recommend this condition is expanded as follows:</p> <p><i>The consent holder shall take all practicable measures to prevent leaks and avoid spills of fuel or any other hazardous substances in accordance with a Spill Management Plan. This shall include but not be limited to:</i></p> <ul style="list-style-type: none"> (a) <i>Refuelling or maintenance of vehicles or machinery maintenance shall not occur on the quarry pit floor;</i> (b) <i>Appropriate servicing and maintenance of vehicles and machinery such that they do not result in leaks or spills;</i> (c) <i>Only undertaking refuelling or maintenance on vehicles or machinery on hardstand surfaces that are roofed;</i> (d) <i>A spill kit capable of absorbing all fuel and oil products shall be kept on site and available at all times. All staff involved in the implementation of activities in condition (1) are to be trained in the use of spill kits.</i>
<p>31) <i>A spill kit, that is capable of absorbing the quantity of oil and petroleum products that may leak or be spilt shall be kept on site at all times.</i></p>	<p>Given the amendments recommended for condition (30), I recommend this condition should be deleted.</p>

<p>32) <i>The consent holder shall inform the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within 24 hours of any leak or spill greater than 4 litres and shall provide the following information:</i></p> <ul style="list-style-type: none"> a) <i>The date, time, location and estimated volume of the spill;</i> b) <i>The cause of the spill;</i> c) <i>The type of contaminant(s) spilled;</i> d) <i>Clean up procedures undertaken;</i> e) <i>Details of the steps taken to control and remediate the effects of the spill on the receiving environment;</i> f) <i>An assessment of any potential effects of the spill; and</i> g) <i>Measures to be undertaken to prevent a recurrence.</i> 	<p>There is no requirement in proposed condition (32) to clean up the spill. I recommend the following condition:</p> <p><i>In the event of a spill of fuel or any other hazardous substances:</i></p> <ul style="list-style-type: none"> (a) <i>The spill shall be cleaned up as soon as practicable, and measures taken to prevent a recurrence;</i> (b) <i>The Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance shall be informed within 24 hours of a spill event exceeding four litres and the following information provided:</i> <ul style="list-style-type: none"> (i) <i>The date, time, location and estimated volume of the spill;</i> (ii) <i>The cause of the spill;</i> (iii) <i>The type of hazardous substance(s) spilled;</i> (iv) <i>Clean up procedures undertaken;</i> (v) <i>Details of the steps taken to control and remediate the effects of the spill on the receiving environment;</i> (vi) <i>An assessment of any potential effects of the spill;</i> (vii) <i>Measures to be undertaken to prevent a recurrence.</i>
<p>Accidental Discovery</p>	
<p>33) <i>Immediately following the discovery of material suspected to be a taonga, kōiwi or Māori archaeological site, the following steps shall be taken:</i></p> <ul style="list-style-type: none"> a) <i>All work in the vicinity of the discovery will cease;</i> b) <i>Immediate steps will be taken to secure the site to ensure the archaeological material is not further disturbed:</i> <ul style="list-style-type: none"> i. <i>Notify the Kaitiaki Rūnanga and the Area Archaeologist of the New Zealand Historic Places Trust (NZHPT). In the case of kōiwi (human remains), the New Zealand Police must be notified. The Kaitiaki Rūnanga and NZHPT will jointly appoint / advise a qualified archaeologist who will confirm the nature of the accidentally discovered material;</i> ii. <i>If the material is confirmed as being archaeological, the consent holder will ensure that an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from NZHPT before work resumes (as per the Historic Places Act 1993);</i> 	<p>I agree with the addition of this condition, although recommend it is updated with the following Accidental Discovery Protocol:</p> <p><i>In the event of any discovery of archaeological material:</i></p> <ul style="list-style-type: none"> (a) <i>The Consent Holder shall immediately:</i> <ul style="list-style-type: none"> (i) <i>Cease earthmoving operations in the affected area and mark off the affected area; and</i> (ii) <i>Advise the Canterbury Regional Council of the disturbance; and</i> (iii) <i>Advise the New Zealand Heritage New Zealand Pouhere Taonga of the disturbance.</i> (b) <i>If the archaeological material is determined to be Koiwi Tangata (human bones) or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the consent holder shall immediately advise the office of the appropriate Runanga (office contact information can be obtained from the Canterbury Regional Council) of the discovery.</i> (c) <i>If the archaeological material is determined to be Koiwi Tangata (human bones) by the New Zealand Historic Places Trust, the consent holder shall immediately advise the New Zealand Police of the disturbance.</i>

<p>iii. The consent holder will also consult the Kaitiaki Rūnanga on any matters of tikanga (protocol) that are required in relation to the discovery and prior to the commencement of any investigation;</p> <p>iv. If kōiwi (human remains) are uncovered, in addition to the steps above, the area must be treated with utmost discretion and respect, and the kōiwi dealt with according to both law and tikanga, as guided by the Kaitiaki Rūnanga;</p> <p>v. Works in the site area shall not recommence until authorised by the Kaitiaki Rūnanga, the NZHPT (and the NZ Police in the case of kōiwi) and any other authority with statutory responsibility, to ensure that all statutory and cultural requirements have been met;</p> <p>vi. All parties will work towards work recommencing in the shortest possible time frame while ensuring that any archaeological sites discovered are protected until as much information as practicable is gained and a decision regarding their appropriate management is made, including obtaining an archaeological authority under the Historic Places Act 1993 if necessary. Appropriate management may include recording or removal of archaeological material;</p> <p>vii. Although bound to uphold the requirements of the Protected Objects Act 1975, the contractor/works supervisor/owner recognises the relationship between Ngāi Tahu whānui, including its Kaitiaki Rūnanga, and any taonga (Māori artefacts) that may be discovered.</p>	<p>(d) Work may recommence if Heritage New Zealand Pouhere Taonga (following consultation with Runanga if the site is of Maori origin) provides a statement in writing to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance that appropriate action has been undertaken in relation to the archaeological material discovered. The Canterbury Regional Council shall advise the consent holder on written receipt from Heritage New Zealand Pouhere Taonga that work can recommence.</p> <p>Advice Note: This may be in addition to any agreements that are in place between the consent holder and the Papatipu Runanga. (Cultural Site Accidental Discovery Protocol).</p> <p>Advice Note: Under the Heritage New Zealand Pouhere Taonga Act 2014 an archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. For sites solely of Maori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles or broken glass, ceramics, metals, etc, may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/koiwi may date to any historic period. It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction.</p>
<p>Reporting and Review</p>	
<p>34) The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to officers of the Canterbury Regional Council on request.</p>	<p>I agree with the addition of this condition, but I consider the reference to ‘officers’ is vague and unhelpful. I recommend the following amendments:</p> <p><i>The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to the Canterbury Regional Council on request.</i></p>
<p>35) The Canterbury Regional Council may, once per year, on any of the last five working days of May or September serve notice of its intention to</p>	<p>I agree a review condition should be included. I recommend the following slightly amended wording:</p>

<p><i>review the conditions of this consent for the purposes of:</i></p> <p>a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i></p> <p>b) <i>Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>	<p><i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of the consent for the purpose of:</i></p> <p>(a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i></p> <p>(b) <i>Requiring the adopting of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>
<p>36) <i>The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.</i></p>	<p>I support the inclusion of the lapse date condition proposed.</p>
<p>Recommended conditions not proposed by the applicant</p>	
<p>As recommended in the section 42A report I recommend the inclusion of the following conditions:</p> <p><i>A copy of this consent shall be provided to all persons operating or carrying out the activities as authorised by the consent holder</i></p>	
<p><i>The Consent Holder shall inform the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, of the date on which this consent is first exercised.</i></p>	
<p><i>At least one month prior to commencement of works authorised by this consent, the Consent Holder or their agent shall arrange and conduct a pre-construction site meeting between the Canterbury Regional Council and all relevant parties. At a minimum, the following shall be covered at the meeting:</i></p> <p>(a) <i>Scheduling and staging of the works, including the proposed start date;</i></p> <p>(b) <i>Responsibilities of all relevant parties;</i></p> <p>(c) <i>Contact details for all relevant parties;</i></p> <p>(d) <i>Expectations regarding communication between all relevant parties;</i></p> <p>(e) <i>Procedures for implementing any amendments;</i></p> <p>(f) <i>Site inspection; and</i></p> <p>(g) <i>Confirmation that all relevant parties have copies of the contents of this consent document and all associated cleanfill management and dust management plans and methodology; and</i></p> <p>(h) <i>Methods for resolution of non-compliance with the conditions of this consent.</i></p>	
<p><i>The consent holder shall prepare and implement a Spill Management Plan for the site. The Spill Management Plan shall:</i></p> <p>(a) <i>Document the measures to prevent leaks and avoid spills of fuel or any other hazardous substance (including fuel reconciliations);</i></p> <p>(b) <i>Set out the procedure to be undertaken in the event of a spill of fuel of any hazardous substance, in accordance with condition (x);</i></p> <p>(c) <i>Set out staff training requirements for responding to spills; and</i></p>	

(d) Be provided to Canterbury Regional Council on request.

I recommend a suite of conditions requiring a covenant as follows:

Once all extraction and rehabilitation activities are complete, the land shall not be used for the following activities:

- (a) Intensive pastoral farming (irrigated pasture and/or stock rates of more than 10 stock per hectare);*
- (b) Intensive animal farming, such as cattle feedlots, pig farms, poultry farms or any other farming operation where animals are housed and their collected effluent disposed of on the site;*
- (c) Activities with high application rates of other potential contaminants (e.g. pesticides);*
- (d) Any activity involving the use or storage of hazardous chemicals, including petroleum products, in quantities greater than normal on rural-residential property.*

An encumbrance or covenant in favour of the consent authority under section 108(2)(d) of the Resource Management Act 1991 shall be registered against all land titles of the site to give effect to the limitations on subsequent land use activities set out in Condition (above), within six months of the commencement of this resource consent.

I recommend a suite of conditions requiring a bond as follows:

Prior to the first exercise of this consent, the consent holder shall enter into an enforceable written agreement acceptable to the Canterbury Regional Council, that provides for a bond in favour of Canterbury Regional Council pursuant to sections 108(2)(b) and 108A of the Resource Management Act 1991. The purpose of the bond is to secure the rehabilitation of the site, and remediation of any groundwater quality effects in accordance with conditions (X) and (X) of this consent in the event of any default by the consent holder.

The bond shall be: a cash bond; or bank bond provided by a registered trading bank of New Zealand; acceptable to the Canterbury Regional Council.

The bond amount shall be sufficient to cover the estimated costs of groundwater quality remediation and rehabilitating the maximum area that can be disturbed at any one time in accordance with condition (X) of this consent. The rehabilitation shall be carried out in accordance with conditions (X) and (X).

The enforceable written agreement shall be developed as follows:

- (a) The consent holder shall provide a report to the Canterbury Regional Council which deals with all matters covered by conditions (X) and (X), estimate of costs and recommends the initial bond amount;*
- (b) The Canterbury Regional Council shall engage a suitably qualified and experienced person to peer review the bond amount proposed by the consent holder.*

The bond amount may be adjusted by the Canterbury Regional Council giving notice on fifth anniversary of the commencement of this consent and every five years thereafter. The consent holder shall provide a report to the Canterbury Regional Council which addresses whether the bond quantum should be revised. The

purpose of the adjustment is to reflect changes in the risk profile of the project or to the Consumer Price Index. The Canterbury Regional Council shall engage a suitably qualified and experienced person to peer review the report and respond within two months of receipt of the report on the appropriateness of any proposed revised bond quantum.

If the consent holder and the Canterbury Regional Council cannot agree on the terms of the bond as per conditions (x) to (x), the dispute shall be resolved through an agreed disputes resolution process or referred to arbitration.

The costs of, and incidental to, the preparation of documentation to meet condition (X) to (X), including the consent authority's costs, shall be met by the consent holder.

If the consent is transferred in part or whole to another party or person, the bond lodged by the transferor shall be retained until a replacement bond is entered into by the transferee to ensure compliance with conditions of the consent unless condition (X) and (X) is already complied with.

For the avoidance of doubt, the enforceable written agreement may provide for the bond to be held after the expiry of this consent if conditions (X) and (X) above are not complied with.

I recommend conditions are included requiring the submission of a RAP to CRC prior to contaminated land remediation works being undertaken, and for all works to be undertaken in accordance with the RAP.

CRC192410 Discharge permit to discharge contaminants into air from an industrial or trade premise or process

Applicant's Proposed Conditions

Reporting Officer comments and recommendation

1) *The discharge of contaminants to air shall only be from quarrying activities located on the land between Curragh's, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which is attached to these conditions. The contaminants authorised by this discharge to air consent shall only be generated onsite from the following quarrying activities:*

I recommend this condition be divided into two separate conditions and amended to refer to a plan of the site appended to the condition set instead of referring to the application. I also recommend the map reference is updated to NZTM 2000 as follows:

The discharge of contaminants into air shall only be from quarry activities at 107 Dawsons Road and 220 Jones Road, Templeton, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZTM2000 1555356mE, 5177132mN. As shown on Plan CRC192408A, attached to and forming part of this resource consent.

<p>a) Site preparation and overburden removal and storage;</p> <p>b) Construction and maintenance of bunds and stockpiles;</p> <p>c) Extraction, loading and transportation of material;</p> <p>d) Processing of aggregates (including crushing and screening of aggregates);</p> <p>e) Forming stockpiles of raw and processed aggregates;</p> <p>f) Deposition of cleanfill;</p> <p>g) Site rehabilitation; and</p> <p>h) Movement of vehicles associated with the above activities.</p>	<p>The discharge of contaminants into air shall only be generated from the following quarry activities:</p> <p>(a) Site preparation, topsoil stripping, overburden removal and storage;</p> <p>(b) Construction and maintenance of bunds and stockpiles;</p> <p>(c) Extracting, loading and transportation of material;</p> <p>(d) Processing of aggregates (including crushing and screening of aggregates);</p> <p>(e) Combustion products from the operation of no more than four 0.26 megawatt diesel fired generators</p> <p>(e) Forming stockpiles of aggregates;</p> <p>(f) Deposition of cleanfill;</p> <p>(g) Site rehabilitation; and</p> <p>(h) Movement of vehicles associated with the above activities.</p>
<p>2) The discharge of dust beyond the consent holder's site shall not be offensive or objectionable.</p>	<p>I recommend the scope of this condition is extended in accordance with the objectives and policies of the CARP as follows:</p> <p>The discharge of contaminants into air beyond the boundary of the site described in condition (1) shall not be offensive, objectionable, noxious or dangerous.</p>
<p>Prior to Works</p>	
<p>3) At least 48 hours prior to the commencement of activities authorised under this resource consent, the consent holder shall inform the Canterbury Regional Council, Attention RMA Monitoring and Compliance Manager (the Manager), in writing of the start date of the works.</p>	<p>I support such a condition and recommend the following amendments for consistency with submitting the Dust Management Plan:</p> <p>At least one month prior to the commencement of activities authorised under this resource consent, the consent holder shall inform the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, in writing of the start date of the works.</p>
<p>Monitoring</p>	
<p>4) Prior to the commencement of activities listed in Condition 1) of this resource consent, a meteorological monitoring station, which measures and records wind direction and wind speed is to be installed on the site at a representative location free from interference from nearby structures, trees etc. The station must:</p>	<p>The applicant proposes to also monitor rainfall which isn't required by the proposed condition. I recommend the following amendments:</p> <p>Prior to the commencement of quarrying activities, instruments capable of continuously monitoring and providing representative metrological data for the site and surrounding area shall be installed. The instruments shall be capable of measuring the following:</p>

<p>a) <i>Be installed at a height of at least four metres above pre-quarrying ground level and in accordance with AS 2923 – 1987 Ambient Air Guide for Measurement of Horizontal Wind for Air Quality Applications.</i></p> <p>b) <i>Wind speed resolution of measurement shall be not more than 0.1 metres per second and wind speed accuracy of measurement shall be at least within +/-0.2 metres per second.</i></p> <p>c) <i>Wind speed and direction shall be continuously recorded with an averaging time for each parameter of one minute.</i></p> <p>d) <i>Record daily rainfall and evaporation.</i></p> <p>e) <i>Provide an alarm to site staff (for example via mobile phone) if the hourly rolling average wind speed trigger level is exceeded.</i></p> <p>f) <i>This data shall be:</i></p> <p style="padding-left: 40px;"><i>i. recorded using an electronic data logging system and retained for the duration of this consent; and</i></p> <p style="padding-left: 40px;"><i>ii. provided to the Canterbury Regional Council upon request.</i></p>	<p>(a) <i>Wind speed;</i> (b) <i>Wind direction;</i> (c) <i>Rainfall; and</i> (d) <i>Temperature.</i></p> <p>I recommend the other content in proposed condition (4) not covered by the recommended condition above should be included in a separate condition. I recommend a condition which is largely similar to that proposed by the applicant, but specifies that data should be available to the consent holder in real time and capable of sending alerts to site staff if the hourly rolling average wind speed trigger level is exceeded.</p> <p>I support the inclusion of a condition that requires the data to be provided to CRC on request.</p>
<p>5) <i>The instruments specified in condition 4) shall be installed and maintained in accordance with the manufacturer's specifications.</i></p>	<p>I support the inclusion of a condition which requires the metrological monitoring station to be maintained. I recommend the condition should be extended to require the applicant to keep a record of when and what maintenance is undertaken and provide this to CRC on request.</p>
<p>Dust Management Plan</p>	
<p>6) <i>The consent holder shall prepare and implement a Dust Management Plan (DMP).</i></p>	<p>I recommend this condition be combined with proposed condition (7) below.</p>
<p>7) <i>The DMP shall be</i></p> <ul style="list-style-type: none"> ■ <i>Reviewed every two years, or more frequently if required, by the consent holder in consultation with the Community Liaison Group as required under Condition 64 of Selwyn District Council resource</i> 	<p>I recommend this condition is reworded and be combined with conditions (8), (9) and (10) below.</p>

<p><i>consent Rc185627.</i></p> <ul style="list-style-type: none"> ■ <i>Retained on the site at all times; and</i> ■ <i>Forwarded at least one month prior to the exercise of this consent to the Canterbury Regional Council Attention: RMA Monitoring and Compliance Manager. Any updated versions of the DMP shall be forwarded to this Manager within 30 days of completing a review.</i> 	
<p>8) <i>The DMP and any revisions shall include all measures necessary to achieve compliance with the conditions of this consent.</i></p>	<p>As above.</p>
<p>9) <i>The DMP shall include, but not be limited to:</i></p> <ul style="list-style-type: none"> <i>i. A description of the dust sources on site;</i> <i>ii. The methods to be used for controlling dust at each source during site construction, operation of the quarry, aggregate crushing and screening, cleanfill deposition and rehabilitation including dust reduction through design methodologies;</i> <i>iii. A description of the site rehabilitation;</i> <i>iv. A description of the monitoring requirements;</i> <i>v. A system of training for employees and contractors to make them aware of the requirements of the DMP;</i> <i>vi. Identifying staff responsible for implementing and reviewing the DMP;</i> <i>vii. Procedures, processes and methods for managing dust when staff are not on site;</i> <i>viii. Methods for determining the weather conditions that will trigger a restriction of potentially dusty activities;</i> <i>ix. A method for recording and responding to complaints from the</i> 	<p>As above.</p>

<p><i>public; and</i></p> <p>x. <i>A maintenance schedule for meteorological monitoring instruments and PM₁₀ monitoring.</i></p>	
<p>10) <i>This consent shall not be exercised until the DMP has been certified by a Suitably Qualified and Experienced Practitioner (SQEP) on air quality at the Canterbury Regional Council. If the Canterbury Regional Council confirms receipt but then fails to provide any further response to the consent holder within a period of one month then the DMP shall be deemed to be certified.</i></p>	<p>As above. From the proposed condition, I consider it is unclear what the purpose of the certification by the SQEP at CRC is. I recommend this condition is further amended to require the Consent Holder to provide an independently reviewed DMP to CRC to certify that the DMP will not result in the effects listed in amended condition (2) or similar.</p>
<p>11) <i>The Quarry Manager, or nominated person, shall be available at all times (including outside quarry operation hours) to respond to dust emission issues</i></p>	<p>I am supportive of a condition that requires someone to be available at all times to respond to dust emission issues.</p>
<p>Excavation and Rehabilitation</p>	
<p>12) <i>The consent holder shall establish at least 3 m high vegetated earth bunds around the site perimeter, with the exception of site accessways, which shall be constructed with a 1 m wide flat top around the site. The bunds shall have a profile with an outside slope of up to 1:3 (one vertical to three horizontal) and a 1 m wide top and shall have a minimum width of 15 m, to remain in place for the duration of extraction and rehabilitation activities.</i></p>	<p>I support the intent of this condition, but I consider it is unclear how the proposed staging of excavation will be achieved, whilst construction earth bunds around the entire site perimeter. Based on Ms Ryan's evidence, limiting exposed areas is a critical dust control measure, therefore the area disturbed to create bunds should be minimised. I recommend amendments to this condition to require the following:</p> <ul style="list-style-type: none"> • Require bunds to be at least 1 metre in width; • To assist with the storage of soil, I recommend the condition should require bunds to be compacted; and • Any other amendments resulting from limiting exposed areas.
<p>13) <i>As soon as practicable following construction, the bunds are to be sown with grass (or another suitable vegetative cover) or hydro-seeded to achieve swift grass cover and watered regularly to ensure grass cover is established.</i></p>	<p>I support the intent of this condition, but recommend the action to grass or vegetate bunds is timebound.</p>
<p>14) <i>To assist in achieving swift grass cover, construction of the bunds shall take place outside of summer months and in favourable weather, to avoid significant potential dust risk (e.g. during the months of February to November inclusive) and enable grassing of the bunds to occur in autumn or spring, in order to align with periods of good grass strike.</i></p>	<p>I support the intent of this condition, but recommend the condition should also apply to establishing swift vegetative cover.</p>

<p>15) <i>The grassed bunds shall be watered, when required to suppress potential dust, until a grass cover has been established.</i></p>	<p>I support the intent of this condition, but recommend the condition should also relate to watering vegetation to suppress potential dust and maintaining the grass/vegetative cover of the bunds.</p>
<p>16) <i>Each sub-stage, with the exception of any active haul roads, shall be rehabilitated within six months of the completion of cleanfilling. Rehabilitation shall include but not be limited to:</i></p> <p>a) <i>Reshaping the relevant areas;</i></p> <p>b) <i>Spreading of topsoil;</i></p> <p>c) <i>Re-vegetating; and</i></p> <p>d) <i>Undertaking all reasonably practicable measures to prevent a dust nuisance from the rehabilitated area, including but not limited to watering of exposed soil to prevent production of dust.</i></p> <p><i>If this work is required outside of spring or autumn, the area can be suitably mulched or covered with another form of material to suppress dust from the area until it is appropriate to re sow grass.</i></p>	<p>I support the intent of this condition, being to require rehabilitation to be undertaken. However, there is no timeframe for the completion of cleanfilling. I recommend this condition is amended to provide a timeframe which the cleanfilling must be completed within, prior to moving onto the next sub stage.</p>
<p>Dust Mitigation</p>	
<p>17) <i>The consent holder shall take all reasonably practicable measures to minimise the discharge of dust from stockpiles. These shall include but not be limited to:</i></p> <p>a) <i>After the initial site preparation and establishment, locating stockpiles of processed aggregate below natural ground level;</i></p> <p>b) <i>During initial site preparation, limiting the height of stockpiles to no more than three metres above natural ground level at any one time;</i></p> <p>c) <i>Vegetating any long term over burden or soil stockpiles, including any unprocessed aggregate up to a height of 3 m above natural ground; and</i></p> <p>d) <i>Spraying stockpiles with water as required.</i></p>	<p>I support the intent of this condition; however I recommend the following amendments as proposed in the application:</p> <ul style="list-style-type: none"> • Stockpile volumes will have a maximum total volume of 200,000m³ at any one time; • All stockpiles associated with the fixed plant will be setback at least 400 metres from site boundaries and stockpiles associated with the mobile plant will be setback 250 metres from site boundaries; and • Condition (17)(a) should apply to all excavated aggregate and not just be limited to 'processed' aggregate.
<p>18) <i>The consent holder shall take all reasonably practicable measures to minimise the discharge of dust from the site. These measures shall include but not be limited to:</i></p>	<p>As I understand it, the intent of this condition is to set out all dust mitigation measures that the consent holder must undertake to suppress dust and ensure compliance with condition (2). I consider that several of these measures are integral to suppressing</p>

- a) *Maintaining haul roads so that they are comprised of an aggregate base, with surfaces that are generally graded and free of pot holes;*
- b) *Using field conveyors as the primary form of transporting aggregate for processing within the site. Note: this does not apply to stripping or overburden material;*
- c) *Minimising drop heights when loading trucks and conveyor hoppers;*
- d) *Pre-dampening soil prior to removing overburden and carrying out land stripping and land rehabilitation during favourable weather conditions and at times of least vulnerability to neighbouring properties;*
- e) *Locating the fixed plant in the centre of the site and below ground level;*
- f) *Any fixed processing plant and associated stockpiling shall be set back at least 500 m from the site boundaries;*
- g) *Only using mobile processing plant with the use of water dust suppression (either sprays or high pressure fogging system) fixed to the plant or located beside the plant;*
- h) *All mobile processing plant and stockpiled processed aggregates will be located within the quarry floor and set back 250 m from site boundaries;*
- i) *All processed aggregate products shall be stockpiled by grade within the quarry floor area. All stockpile volumes shall have a maximum total volume of 200,000 m³ at any one time and shall be located below the height of the level of the bunds, following the establishment of the quarry pit;*
- j) *Maintaining, establishing and enhancing shelter belt plants around the site boundaries;*
- k) *Measures will be taken to ensure trucks leaving the site are appropriately loaded, such as covering sands and fine material and any such load content, to reduce the potential for material to be windblown from vehicles when leaving the site;*
- l) *Regularly applying dust suppression measures such as water to unsealed haul and access roads during any conditions when dust is likely to be discharged from them (dry and windy);*

the production of dust at the site and should form their own condition. I have provided comments in relation to each proposed condition below.

- **Condition (18)(a):** It is unclear from the proposed conditions which roads are proposed to be formed of hardstand. As I understand it, the application proposes for 100 metres of the access road to be sealed, which is not provided for in this condition.
- **Condition (18)(d):** I consider it is unclear what is meant by 'pre-dampening soil' and 'favourable weather conditions' and how these terms would be measured.
- **Condition (18)(e) and (f):** I recommend these two conditions should be combined and a standalone condition, as it is integral to the conclusions made by Ms Ryan in relation to the effects on air quality.
- **Condition (18)(g):** I recommend this condition is a standalone condition and is expanded to also require such dust suppression measures to be used on the fixed plant.
- **Condition (18)(i):** I consider the relationship between condition (17) and this condition is unclear. I recommend both conditions are combined as a standalone condition that relates to the suppression of dust from stockpiles.
- **Condition (18)(l):** I refer to my comments relating to condition (18)(a).
- **Condition (18)(m):** I recommend this condition is more appropriate in the dust monitoring section.
- **Condition (18)(o):** I consider the relationship between this condition and condition (16) is unclear. I recommend condition (16) is relied on for rehabilitation.
- **Condition (18)(p):** I consider the use of 'as appropriate' and 'pea gravel' is vague and unhelpful. I recommend more certain wording should be used.
- **Condition (18)(q):** I consider this proposed condition is uncertain as currently worded, but integral to minimising the production of dust at the site. I recommend the certainty of this condition is improved and should be a standalone condition.
- **Condition (18)(r):** I agree with the intent of this condition, however recommend a more certain term than 'disturbed' should be used.
- **Condition (18)(s):** I refer to my comments relating to condition (18)(a).

- m) *Undertaking routine site inspections of visible dust emissions throughout each day of operation, and logging findings and any mitigation actions electronically;*
- n) *Overburden stockpiles and bunds are to be re-vegetated or planted;*
- o) *The site will be rehabilitated as soon as reasonably practicable to limit potential for dust generation by minimising exposed surfaces;*
- p) *The use of pea gravel and dust suppressants as appropriate on exposed surfaces;*
- q) *Taking wind conditions into account in planning and carrying out work to minimise dust dispersion;*
- r) *Using water and/or dust suppressants on all disturbed surfaces including extraction areas, roads and stockpiles when required;*
- s) *Regularly maintaining unsealed internal roads and yard areas by grading and laying fresh gravel;*
- t) *Maintaining an adequate supply of water and equipment on the Roydon Quarry site for the purposes of dust suppression at all times;*
- u) *Using chemical stabilisers or other equivalent measures on unsealed road surfaces, if water application is insufficient or unavailable;*
- v) *Applying a speed restriction on all internal roads of 15 kilometres per hour at all times;*
- w) *Keeping paved roads and yard areas free of dust by either washing or use of sweepers;*
- x) *Sections of the internal site access road will be sealed and used in conjunction with a rumble strip to assist in removing muddy material from vehicle wheels before entering and exiting the site;*

- **Condition (18)(t):** I consider this condition is integral to achieving compliance with condition (2) and should be a standalone condition.
- **Condition (18)(u):** I refer to my comments relating to condition (18)(a).
- **Condition (18)(x):** I refer to my comments relating to condition (18)(a) and consider the reference to 'sections' is vague.

19) *No extraction shall occur within 100 m of any dwelling existing at [the date of consent being granted], without the prior written consent of the*

I do not consider a condition requiring third party approval to reflect best practice condition drafting¹, however I do not consider the proposed condition seeking third party approval would prevent the consent holder from exercising the consent, and the

¹ Qualityplanning.org.nz, August 2019

<p><i>owners and occupiers of these dwellings.</i></p>	<p>applicant has proposed the condition. Given this, I consider the condition can be included as a recommended condition.</p>
<p>20) <i>A permanent real-time PM₁₀ monitor (US EPA or National Environmental Standards for Air Quality 2004 (NES)) compliance equipment) shall be installed and operated at the eastern boundary directly downwind of the active quarry area for southwest wind conditions. This monitor is to record hourly and 24-hourly average PM₁₀ concentrations.</i></p>	<p>I support this condition.</p>
<p>21) <i>Wind speed and direction will be monitored continuously on site by equipment fitted with an alarm system to advise site personnel when the above triggers are exceeded.</i></p>	<p>I support the intent of this condition, but consider the relationship between condition (4) and this condition is unclear.</p>
<p>22) <i>A real-time Total Suspended Particles (TSP) and PM₁₀ monitor (referred to as the "mobile monitor") shall be operated on the quarry's site boundary and shall be located between the active quarrying/clean filling area and off-site sensitive locations that are less than 500 m away from the active quarrying/clean filling area. This mobile monitor can be of a type that is suitable for dust management but does not need to meet the standard for NES compliance monitoring.</i></p>	<p>I consider this approach is consistent with CRC's sensitive boundary monitoring requirements for quarries.</p>
<p>23) <i>When quarrying and/or clean filling operations cause continuously recorded PM₁₀ concentrations at the site boundary, to reach or exceed the trigger levels listed below, then additional dust control measures shall be implemented:</i></p> <p>a) <i>Ten-minute rolling PM₁₀ concentration of 150 micrograms per cubic metre (1-hour average);</i></p> <p>b) <i>Ten-minute rolling TSP concentration of 200 micrograms per cubic metre (1-hour average);</i></p> <p>c) <i>One hour rolling TSP concentration of 60 micrograms per cubic metre (24-hour average).</i></p>	<p>As I understand it, these conditions are less conservative than those initially proposed in the application. Ms Ryan' conclusions are made on the basis of the more conservative higher trigger values, therefore I recommend the condition be amended to refer to the higher trigger values as follows:</p> <ul style="list-style-type: none"> • 60 µ/m³ as a 1-hour average for taking immediate actions to investigate and reduce dust emissions; and • 70 µ/m³ as a 1-hour average for ceasing all quarry activities other than dust suppression activities) and taking immediate actions to investigate and reduce site dust emissions.
<p>24) <i>All dust-generating activities (except dust mitigation measures) being undertaken within 250 m of sensitive receptor locations, shall cease when either of the following criteria are exceeded:</i></p>	<p>As above, Ms Ryan's conclusions are based on the more conservative trigger values initially proposed in the application. I recommend this condition is revised when trigger values are agreed.</p>

<p>a) <i>Trigger concentrations listed in Condition 23) are exceeded at the boundary location that is directly upwind from the sensitive locations and downwind of active quarrying/clean-filling areas;</i></p> <p>b) <i>The wind direction (10-minute average) places active quarrying/clean filling areas directly upwind of these sensitive locations when the wind speed exceeds 7 m/s and following a period of 12 hours or more of there being no rain at the quarry site.</i></p>	
<p>25) <i>Condition 24) does not apply when investigations by site personnel, or council enforcement officers, confirms that there are no visible dust impacts or related dust nuisance effects occurring at the downwind sensitive receptor locations. This can include confirmation from occupants that they are not concerned with any nuisance dust effects occurring at the time of investigation and/or else when the criteria listed in Condition 23) are breached.</i></p>	<p>I consider the wording of this condition to be vague and unclear. I recommend this condition is deleted.</p>
<p>26) <i>Water carts as a back-up will be used, as required, for dust suppression during dry weather, so that dust emissions from working areas, haul roads and stockpiles do not cause breaches of the trigger level listed in Condition 24) or any visible dusty plumes more than 30 m beyond the site boundary. Water will be available for dust suppression from an existing bore (M36/0257) on the site, in association with stored water (i.e. water tanks or similar vessels) in accordance with the conditions of CRCXXXXXX.</i></p>	<p>As I understand it, water is a primary measure to suppress dust at the site. I consider the condition as currently worded is unclear, but a condition which refers to the water permit would be useful from a compliance perspective.</p>
<p>27) <i>Where the take of groundwater from the existing bore (M36/0257) is reduced in accordance with Condition 2(a) or (b) of CRC182422, the consent holder shall undertake dust suppression measures using the reduced bore take and water storage capacity on site (i.e. water tanks or similar vessels) and if deemed necessary, dust suppressants can be used to minimise dust suppression water requirements to achieve compliance with limits specified in Condition 23) or else the confirmation of no visible dust impacts or related dust nuisance effects occurring at the downwind sensitive receptor locations.</i></p>	<p>I support the intent of this condition and recommend the wording could be simplified to assist in managing compliance.</p>
<p>28) <i>Should the ability to take water authorised under CRC182422 cease at</i></p>	<p>I support the intent of this condition and recommend the wording could be simplified</p>

<p><i>any time in accordance with Condition 2(c) the consent holder shall assess the need to temporarily cease some or all parts of site operations requiring water usage to manage dust, including any mobile processing and acceptance of cleanfill, until such time when water can be taken again.</i></p>	<p>to assist in managing compliance.</p>
<p>Planning of Activities</p>	
<p>29) <i>The consent holder shall assess weather and ground conditions (dryness and wind) at the start of each day and ensure that applicable dust mitigation measures and methods are ready for use prior to commencing works for the day.</i></p>	<p>I recommend a condition is included which requires the consent holder to take into account weather conditions when planning daily works. I consider this condition could be reworded to improve clarity.</p>
<p>30) <i>At any time, including outside normal operating hours, if visible dust is blowing beyond the site boundary or if targeted monitoring triggers are reached, and irrespective of it being a dry, windy day, the consent holder shall:</i></p> <p>a) <i>Cease all dust generating activities;</i></p> <p>b) <i>Continue all dust suppression activities;</i></p> <p>c) <i>Carry out the investigation of possible causes immediately and respond with appropriate corrective and preventive actions (Note: This may include immediate watering of both active and inactive exposed surfaces, even if dust generating activities have been ceased);</i></p> <p>d) <i>Only resume site activities (other than dust suppression) once the appropriate mitigation measures are in place to prevent visible dust blowing beyond the site boundary.</i></p>	<p>I support the intent of such a condition and recommend the following amendments:</p> <ul style="list-style-type: none"> • Condition (30)(d) should also include a reference to monitoring triggers no longer being breached; and • CRC should be notified within one working day of the event including the cause of the event and results of the investigation.
<p>Reporting and Review</p>	
<p>31) <i>The consent holder shall keep a record of any complaints relating to dust, and shall include:</i></p> <p>a) <i>the location where the dust was detected by the complainant;</i></p> <p>b) <i>the date and time when the dust was detected;</i></p> <p>c) <i>a description of the wind speed and wind direction when the dust</i></p>	<p>I support this condition.</p>

<p>was detected by the complainant;</p> <p>d) the most likely cause of the dust detected;</p> <p>e) any corrective action undertaken by the consent holder to avoid, remedy or mitigate the dust detected by the complainant; and</p> <p>f) This record shall be provided to the Canterbury Regional Council upon request.</p>	
<p>32) A notice is to be erected at the entrance advising the public how quarry management can be contacted. The consent holder shall ensure a 24-hour contact is available, with contact details posted in clear view at the site entrance.</p>	<p>I recommend proposed condition (2) of CRC192408 replaces this condition as follows:</p> <p><i>Site Management</i></p> <p>(a) The perimeter of the quarry site shall be surrounded by secure fencing, with lockable access gates;</p> <p>(b) The consent holder shall ensure that warning notices are erected and maintained at all entrances to the site;</p> <p>(c) Warning notices shall be able to be read from a distance of five metres;</p> <p>(d) The warning notices shall state:</p> <p>(i) Name of the site;</p> <p>(ii) Name of the owner of the site and a contact telephone number;</p>
<p>33) The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.</p>	<p>I support the inclusion of the lapse date condition proposed.</p>
<p>34) The Canterbury Regional Council may, once per year, on any of the last five working days of May or September, serve notice of its intention to review the conditions of this consent for the purposes of:</p> <p>a) Dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or</p> <p>b) Dealing with dust suppression requirements;</p> <p>c) Altering the suspended particulate monitoring requirements of the relevant condition;</p> <p>d) Ensuring compliance with any relevant National Environmental Standards.</p>	<p>I agree a review condition should be included. I recommend the following slightly amended wording:</p> <p><i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or September, serve notice of its intention to review the conditions of this consent for the purposes of:</i></p> <p>(a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or</i></p> <p>(b) <i>Dealing with dust suppression requirements;</i></p> <p>(c) <i>Altering the suspended particulate monitoring requirements of the relevant condition;</i></p> <p>(d) <i>Ensuring compliance with any relevant National Environmental Standards.</i></p>

Recommended conditions not proposed by the applicant

I recommend additional conditions are required as follows:

- To constrain the scope of the operation of large-scale fuel burning devices at the site including:
 - Limiting the duration generators may be operated for within any 24-hour period;
 - Conditions requiring the maintenance of the generators to ensure they do not result in non-compliance with condition (2).
- To set out the dust suppression measures that will be relied on for the operation of the fixed plant.
- To provide a record of any exceedances of trigger values to CRC, including the report documenting the cause of the exceedance and measures to prevent exceedances in future.

CRC192411 & CRC192412 Discharge permit to discharge stormwater to land where contaminants may enter groundwater and discharge contaminants which may enter water from an industrial or trade process

Applicant's proposed conditions	Reporting Officer comments and recommendation
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Description

<p>1) <i>The discharge of contaminants and of stormwater shall only be from quarrying activities located on the land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which is attached to these conditions.</i></p>	<p>I recommend this condition could be simplified to list the discharges authorised by CRC192411 and CRC192412 and refer to a plan depicting the site instead of referring to the application. I am also uncertain what is meant by 'quarrying activities' as this could potentially include multiple discharges, I consider this wording should be amended to provide more certainty on what discharges are authorised by these permits. I recommend the following amendments:</p> <p><i>The activity shall be limited to the discharge of stormwater and contaminants from hardstand surfaces and rooves to land at 107 Dawsons Road and 220 Jones Road, Templeton, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZTM2000 1555356mE, 5177132mN. As shown on Plan CRC192411A and CRC192612A, attached to and forming part of this resource consent.</i></p>
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Stormwater

<p>2) <i>Stormwater that falls on unsealed surfaces will infiltrate to ground. Stormwater runoff from road surfaces shall infiltrate to ground along the road edges. Stormwater runoff from roofs and hardstand areas shall be conveyed to stormwater detention basins.</i></p>	<p>I recommend this condition is amended to provide certainty and improve clarity as follows:</p> <p><i>Stormwater from roofs, roads and other hardstand surfaces shall be discharged into land via stormwater basins.</i></p>
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<p>3) <i>All stormwater detention basins to be installed at the site are 'dry ponds' in which stormwater will infiltrate and no ponding occurs for more than 48 hours.</i></p>	<p>To limit the scope of this discharge permit I recommend a maximum area of stormwater basins should be included. To improve the enforceability of this condition, I recommend a condition is included that specifies the required depth of soil at the basin invert to enable the removal of contaminants. I recommend this condition is amended to provide certainty and improve clarity as follows:</p>
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	<p><i>The stormwater basins shall:</i></p> <ul style="list-style-type: none"> (a) <i>Be no greater than XX m²;</i> (b) <i>Provide no less than 1 metre of separation between the highest recorded groundwater level at the site at the basin invert;</i> (c) <i>Result in ponding for no longer than 48 hours;</i> (d) <i>Be lined with soil to XX mm depth</i>
<p>4) <i>Stormwater detention ponds shall be lined with soils to ensure the removal of contaminants. The removal efficiencies of these systems shall be in accordance with the Ministry for the Environment On-Site Stormwater Management Guidelines (NZWERF 2004).</i></p>	<p>I agree with the intent of this condition, but recommend the following to provide more certainty:</p> <p><i>The stormwater basin shall provide the following minimum removal efficiencies in accordance with the Ministry for the Environment On-Site Stormwater Management Guidelines (NZWERF 2004):</i></p> <ul style="list-style-type: none"> (a) <i>90% removal of Total Suspended Solids;</i> (b) <i>90% removal of Biochemical Oxygen Demand (BOD);</i> (c) <i>75% removal of hydrocarbons; and</i> (d) <i>85% removal of heavy metals (zinc, copper, lead).</i>
<p>Hazardous Activities</p>	
<p>5) <i>A concrete and bunded truck wash pad shall be located close to the site workshop and shall be designed and constructed so that any contaminated water from the wash down process is collected in an appropriately sized holding tank with a water-oil separator. Both the oil and separated water shall be discharged as trade waste, and shall be collected in holding tanks and trucked offsite, to be appropriately disposed in accordance with the relevant environmental guidelines. The truck wash pad will be roofed and stormwater runoff from the roof will be conveyed to stormwater detention ponds.</i></p>	<p>I recommend this condition be simplified as follows:</p> <p><i>Truck washing shall be undertaken on a roofed wash pad formed of hardstand. Truck wash water shall be collected in holding tanks and transported offsite to be discharged as trade waste.</i></p>
<p>6) <i>All sediment collected from the sump of the washdown pad shall be periodically excavated and disposed of to an approved offsite facility.</i></p>	<p>I recommend this condition is extended to also include the maintenance of stormwater ponds at the site as follows:</p> <p><i>The stormwater ponds shall be maintained by:</i></p> <ul style="list-style-type: none"> (a) <i>Inspecting the stormwater ponds once every three months;</i> (b) <i>Replacing the soil layer regularly in accordance with condition (3)(d);</i> (b) <i>Removing any visible hydrocarbons, debris, sediment or litter within 1 working day of the inspection;</i> (c) <i>Repairing any erosion or scour within 1 working day of the inspection.</i>

<p>7) <i>No concrete barrels shall be washed out on site.</i></p>	<p>I agree with the inclusion of such a condition, but recommend the amended version below:</p> <p><i>For the avoidance of doubt, this discharge permit does not authorise:</i></p> <ul style="list-style-type: none"> <i>(a) The discharge of wastewater from staff amenity blocks; or</i> <i>(b) The discharge of concrete washwater; or</i> <i>(c) The discharge of truck washdown water.</i>
<p>8) <i>When any mobile tankers are used on site, refuelling with such tankers shall take place well above the bottom of the quarry pit floor, and in roofed facilities with spill management provisions. Mobile tankers shall not be present on site outside of refuelling areas.</i></p>	<p>I support such a condition, but recommend the condition could be separated into two conditions as below:</p> <p><i>The refuelling and maintenance of machinery and vehicles at the site shall be undertaken:</i></p> <ul style="list-style-type: none"> <i>(a) At natural ground level; and</i> <i>(b) Within a roofed facility; and</i> <i>(c) On a hardstand surface.</i> <p><i>Mobile fuel tankers shall not be present on site outside of refuelling areas.</i></p>
<p>9) <i>The management and inspection of all fuel tanks shall be undertaken in accordance with the Spill Management Plan developed for the site, as required under Condition 11).</i></p>	<p>Given the amendment to condition (10) below, I recommend this condition can be deleted.</p>
<p>Spills</p>	
<p>10) <i>The consent holder shall take all practicable measures to prevent leaks and spills of oil and fuel. In the event of a spill of fuel or any other hazardous substance, the consent holder shall:</i></p> <ul style="list-style-type: none"> <i>a) Clean up the spill as soon as practicable and take measures to prevent a recurrence.</i> <i>b) Inform the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, within 24 hours of a spill event and provide the following information:</i> 	<p>To achieve consistency with proposed condition (32) of CRC192408/CRC192409, I recommend the following slightly amended wording.</p> <p><i>The consent holder shall take all practicable measures to prevent leaks and avoid spills of fuel or any other hazardous substances in accordance with a Spill Management Plan developed for the site, as required by the conditions of CRC192408 and CRC192409. In the event of a spill of fuel or any other hazardous substances:</i></p> <ul style="list-style-type: none"> <i>(a) The spill shall be cleaned up as soon as practicable, and measures taken to prevent a recurrence;</i> <i>(b) The Canterbury Regional Council, Attention: Regional Leader -</i>

<ul style="list-style-type: none"> i. <i>The date, time, location and estimated volume of the spill;</i> ii. <i>The cause of the spill and the type of hazardous substance(s) spilled;</i> iii. <i>The clean-up procedures undertaken, and steps taken to control and remediate the effects of the spill on the receiving environment;</i> iv. <i>An assessment of any potential effects of the spill; and</i> v. <i>Measures to be undertaken to prevent a recurrence.</i> 	<p><i>Monitoring and Compliance shall be informed within 24 hours of a spill event exceeding four litres and the following information provided:</i></p> <ul style="list-style-type: none"> (i) <i>The date, time, location and estimated volume of the spill;</i> (ii) <i>The cause of the spill;</i> (iii) <i>The type of hazardous substance(s) spilled;</i> (iv) <i>Clean up procedures undertaken;</i> (v) <i>Details of the steps taken to control and remediate the effects of the spill on the receiving environment;</i> (vi) <i>An assessment of any potential effects of the spill;</i> (vii) <i>Measures to be undertaken to prevent a recurrence.</i>
<p>11) <i>A Spill Management Plan shall be developed for the site, which is to incorporate the management and inspection of fuel tanks, including fuel reconciliation, spill management and containment, and visual inspection of the tank.</i></p>	<p>I have recommended a condition regarding the content of the Spill Management Plan in CRC192408/CRC192409. I recommend this condition is able to be deleted.</p>
<p>12) <i>The Spill Management Plan shall detail appropriate contingency measures in the form of operational practices, spill kits and staff training that will be in place to manage any hydraulic oil or fuel leaks.</i></p>	<p>As above.</p>
<p>13) <i>The spillage of any hazardous substances shall be dealt with in accordance with the Spill Management Plan for the site.</i></p>	<p>As above.</p>
<p>Reporting and Review</p>	
<p>14) <i>The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to officers of the Canterbury Regional Council on request.</i></p>	<p>I agree with the addition of this condition, but I consider the reference to 'officers' is vague and unhelpful. I recommend the following amendments:</p> <p><i>The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to the Canterbury Regional Council on request.</i></p>
<p>15) <i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or September serve notice of its intention to review the conditions of this consent for the purposes of:</i></p> <ul style="list-style-type: none"> a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i> 	<p>For consistency across all resource consents, I recommend this condition is amended to provide a consistent timeframe for CRC to serve notice of its intention to review the conditions of consent as follows:</p> <p><i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of the consent for the purpose of:</i></p> <ul style="list-style-type: none"> (a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i>

<p><i>b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>	<p><i>(b) Requiring the adopting of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>
<p><i>16) The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.</i></p>	<p>I support the inclusion of the lapse date condition proposed.</p>
<p>Recommended conditions not proposed by the applicant</p>	
<p>I recommend the inclusion of the following condition not proposed by the applicant:</p> <p><i>The discharge of roof stormwater shall not arise from:</i></p> <ul style="list-style-type: none"> <i>(a) Copper building materials; or</i> <i>(b) Unpainted galvanised sheet materials.</i> 	
<p>To ensure the soil used to line the stormwater basins is not sourced from a contaminated or potentially contaminated site, I recommend the following condition:</p> <p><i>Soils referred to in condition (3)(d) shall not be sourced from contaminated land or potentially contaminated land.</i></p> <p><i>For the purpose of this consent ‘contaminated land’ is defined as land that has a hazardous substance in or on it that-</i></p> <ul style="list-style-type: none"> <i>(a) has significant adverse effects on the environment; or</i> <i>(b) is reasonably likely to have significant adverse effects on the environment.</i> <p><i>For the purpose of this consent ‘potentially contaminated land’ means that part of a site where an activity or industry described in the list in Schedule 3 of the Canterbury Land and Water Regional Plan, attached to and forming part of this resource consent, has been or is being undertaken on it or where it is more likely than not that an activity or industry described in the list in Schedule 3 is being or has been undertaken on it, but excludes any site where a detailed site investigation has been completed and reported and which demonstrates that any contaminants in or on the site are at, or below, background concentrations.</i></p>	
<p>To ensure trade waste and material removed from the stormwater basin are disposed of at an appropriate location, I recommend the following condition:</p> <p><i>Tradewaste from the truck wash pad and any material removed from stormwater basins in accordance with condition (7) shall be disposed from at an appropriate location.</i></p>	
<p>In accordance with Dr Scott’s evidence, I recommend a condition is included to require no vehicle or machinery maintenance or refuelling be undertaken on the quarry pit floor as follows:</p> <p><i>The following shall not be undertaken on the quarry pit floor:</i></p> <ul style="list-style-type: none"> <i>(a) Refuelling of vehicles or machinery; or</i> 	

- (b) Maintenance of vehicles or machinery; or
- (c) The storage of hazardous substances.

CRC192413 Discharge permit to discharge contaminants to land that may enter groundwater associated with the deposition of cleanfill for site rehabilitation

Applicant's proposed conditions	Reporting Officer comments and recommendation
<p>1) <i>The discharge of contaminants shall only be from quarrying activities located on the land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which is attached to these conditions.</i></p>	<p>I recommend this condition could be amended to clarify that the scope of this discharge permit is limited to the discharge of contaminants resulting from the deposition of cleanfill at the site. I recommend the following amended condition:</p> <p><i>The activity shall be limited to the discharge of contaminants into land, where contaminants may enter groundwater as a result of cleanfilling activities at 107 Dawsons Road and 220 Jones Road, Templeton, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZTM2000 1555356mE, 5177132mN. As shown on Plan CRC192413A, attached to and forming part of this resource consent.</i></p>
<p>2) <i>Where additional fill is required to be brought to the site for rehabilitation purposes, the consent holder shall ensure that all material deposited in the excavated area is:</i></p> <ul style="list-style-type: none"> a) <i>Only material defined as 'Cleanfill' as set out in the advice note attached to this condition;</i> b) <i>The material is not deposited into groundwater; and is at least one metre above the seasonal high water table recorded at the site, subject to Condition 5);</i> c) <i>Material is deposited in accordance with a Cleanfill Management Plan (CMP) which has been prepared in accordance with Section 8.1 and</i> 	<p>Conditions (2) – (4), (7) and (8) replicate conditions already proposed for CRC192409. I do not consider duplicating the conditions in another resource consent provides any added resource management purpose. Further, I consider reliance on one resource consent document will assist in achieving and establishing compliance with the relevant conditions. I recommend these conditions are deleted and the conditions in CRC192409 are relied on. However, dependant on the duration (in the event consents are granted) this may need to be reconsidered as future plan changes may permit the land use aspects of the proposal.</p>

Appendix B of "A Guide to the Management of Cleanfills", Ministry for the Environment, January 2002;

- d) Strictly assessed against the fill acceptance criteria and inspected in accordance with the procedures contained in the draft Roydon Quarry Cleanfill Management Plan (submitted as Appendix F of the AEE and revised (V2) as at 12 March 2019); and rejected from the site if load description is contrary to actual content in truck.*
- e) Checked by the site manager or nominated person prior to deposition in the pit. If the material is not classified as Cleanfill, the consent holder shall immediately remove the material and arrange for the disposal of it at an appropriate location;*
- f) And recorded by an electronic weighing system. The record shall include a detailed record of all materials deposited into the Cleanfill site and shall be provided to the Canterbury Regional Council upon request. This record shall include the following information:
 - i. The name of the company delivering the material;*
 - ii. The date of deposition;*
 - iii. The physical address of the land the material was sourced from;*
 - iv. A description of the material;*
 - v. Any laboratory reports;*
 - vi. Any authorisation under which the material was removed from the source site (e.g., resource consent); and*
 - vii. The weight or volume of the material deposited.**
- g) Copies of this documentation shall be made available to the Council on request.*

<p><i>Advice note: 'Cleanfill' is defined as:</i></p> <p><i>Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:</i></p> <ul style="list-style-type: none"> - <i>combustible, putrescible, degradable or leachable components</i> - <i>hazardous substances</i> - <i>products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices</i> - <i>materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances and liquid waste.</i> 	
<p>3) <i>No cleanfill material shall be deposited at the site which has been sourced from a site defined as 'potentially contaminated'.</i></p> <p><i>For the purpose of this consent, 'potentially contaminated' means a part of a site where an activity or industry described in the list in Schedule 3 of the Canterbury Land and Water Regional Plan, which is attached as Attachment 1 and forms part of this resource consent, has or is being undertaken on it or where it is more likely than not an activity or industry described in the list in Schedule 3, is being or has been undertaken on it, but excludes any site where a detailed site investigation has been completed and reported and which demonstrates that any contaminants in or on the site are at, or below, background concentrations.</i></p>	As per above.
<p>4) <i>Any mixed fill arriving at the site shall be thoroughly inspected to ensure it contains no unacceptable materials or shall otherwise be rejected. This inspection shall include a review of the fill disposal application and information related to the material source and site use, a visual inspection to identify unacceptable material, and adequate analytic testing guided by potential sources of contamination, to confirm the material meets the relevant acceptance criteria.</i></p>	As per above.
<p>5) <i>All cleanfill stockpiles shall be inspected and pushed over the working face on</i></p>	I recommend conditions related to undertaking cleanfilling at the site are included

<i>a regular basis.</i>	on CRC192409.
<p>6) <i>Any contractor depositing material at the site shall have a written contract with the consent holder and shall be provided with a copy of this consent prior to entering the site. Site inductions will be held on a quarterly basis for contractors using the site, and records of these inductions shall be kept and made available to Council on request.</i></p>	<p>I recommend conditions related to undertaking cleanfilling at the site are included on CRC192409.</p>
<p>7) <i>At least one month prior to the commencement of any cleanfilling activity authorised by this consent the consent holder shall submit a CMP to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager. The CMP shall include but not be limited to the following:</i></p> <ul style="list-style-type: none"> <i>a) Describing the content and purpose of the CMP;</i> <i>b) Detailing the operation of the site including details of staging of works, area, depth and proposed start and finish date of deposition of cleanfill material;</i> <i>c) Discussing the actions to be undertaken to ensure compliance with the conditions of this resource consent and actions to be undertaken in response to any incident that may adversely affect the environment;</i> <i>d) identifying and providing contact details of the staff member responsible for each action;</i> <i>e) Discussing the steps to be undertaken to correct incidences of non-compliance;</i> <i>f) Identifying timeframes for site rehabilitation;</i> <i>g) The specific location of the cleanfill placement area;</i> <i>h) A description of operational procedures and monitoring that will be implemented to prevent unauthorised material from entering the site;</i> <i>i) How rejected material will be stored pending disposal to an authorised landfill;</i> 	<p>As per above.</p>

<p>j) <i>Where rejected material will be disposed of;</i></p> <p>k) <i>The maximum length of time that rejected material will be stored on site pending removal;</i></p> <p>l) <i>Construction procedures to ensure the long-term stability of cleanfill areas;</i></p> <p>m) <i>Timetable of works and re-vegetation measures;</i></p> <p>n) <i>Procedures for improving and/or reviewing the CMP;</i></p> <p>o) <i>A list of all material accepted in the cleanfill; and</i></p> <p>p) <i>Procedure for responding to complaints.</i></p> <p><i>The consent holder shall ensure that a copy of the CMP is held at the site and all personnel working on the site are made aware of and have access to this consent document and the CMP</i></p>	
<p>8) <i>The CMP shall be:</i></p> <p>a) <i>Reviewed and updated at least once every two years for the duration of the consent; and</i></p> <p>b) <i>Retained on the site at all times.</i></p> <p><i>Any updated versions of the CMP shall be forwarded to the Canterbury Regional Council, Attention: RMA Monitoring and Compliance Manager, within 30 days of completing a review.</i></p>	As per above.
<p>9) <i>Specific staff training as required under the CMP shall be provided in accordance with Section 8.2.2 of “A Guide to the Management of Cleanfills” (MfE Guide), Ministry for the Environment, January 2002. All records of staff training shall be retained on site and provided to the Canterbury Regional Council on request.</i></p>	I recommend conditions related to undertaking cleanfilling and staff training at the site are included on CRC192409.

<p>10) <i>Annual refresher training shall be provided by a Suitably Qualified and Experienced Practitioner (SQEP) as part of the training programme and as specified in the MfE Guide. The consent holder shall maintain a complaints register at the Roydon Quarry site office and make this available to officers of the Canterbury Regional Council on request.</i></p>	<p>I recommend conditions related to undertaking cleanfilling and staff training at the site are included on CRC192409.</p>
<p>11) <i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or September serve notice of its intention to review the conditions of this consent for the purposes of:</i></p> <p>a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i></p> <p>b) <i>Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>	<p>For consistency across all resource consents, I recommend this condition is amended to provide a consistent timeframe for CRC to serve notice of its intention to review the conditions of consent as follows:</p> <p><i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of the consent for the purpose of:</i></p> <p>(a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i></p> <p>(b) <i>Requiring the adopting of the best practicable option to remove or reduce any adverse effect on the environment.</i></p>
<p>12) <i>The lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 5 years from the date of issue of this consent.</i></p>	<p>I support the inclusion of the lapse date condition proposed.</p>
<p>Recommended conditions not proposed by the applicant</p>	
<p>I recommend the following condition be included on this consent:</p>	
<p><i>The deposition of cleanfill shall be undertaken in accordance with CRC192413.</i></p>	

<p>CRC192414 Water permit to use water</p>	
<p>Applicant's proposed conditions</p>	<p>Reporting Officer comments and recommendation</p>
<p>New conditions</p>	
<p>1) <i>The volume of water taken in terms of this permit from bore M36/0257 shall be in accordance with CRC182422 and at a rate not exceeding 9.5 litres per second, with a volume not exceeding 752 cubic metres in any one day and 5,267 cubic metres in any period of seven consecutive days, and 274,642 cubic metres between 1 July and the following 30 June.</i></p>	<p>I support the intent of this condition, but propose the following amendments as per the recommendations made in the section 42A report:</p> <p><i>The volume of water taken in terms of this permit from bore M36/0257 shall be in accordance with CRC182422 and at a rate not exceeding 9.5 litres per second,</i></p>

	<p>with a volume not exceeding 6,772 cubic metres in any period of nine consecutive days, and 96,489 cubic metres between 1 July and the following 30 June.</p>
<p>2) <i>Water used under this permit shall be used for dust suppression, quarrying operations and ancillary activities and <u>irrigation of rehabilitation areas</u>; and shall only be applied to the area of land between Curraghs, Dawsons, Maddisons and Jones Road, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZMS 260 M26:6505-3830, shown as the area inside the site boundary in red on the Site Location Plan prepared by Golder Associates, dated November 2018, which is attached to these conditions.</i></p>	<p>I recommend the following amendments to assist with clarity and consistency:</p> <p><i>Water shall only be used for:</i></p> <ul style="list-style-type: none"> (a) <i>dust suppression;</i> (b) <i>truck washing;</i> (c) <i>staff amenities; and</i> (d) <i>Irrigation of vegetated bunds and rehabilitated areas</i> <p><i>At 107 Dawsons Road and 220 Jones Road, Templeton, legally described as Rural Section 6475 and Rural Section 6324, Lot 1 Deposited Plan 4031, Rural Section 6342, Section 7 Survey Office Plan 510345, Rural Section 5381 and Section 6 Survey Office Plan 510345, at or about map reference NZTM2000 1555356mE, 5177132mN. As shown on Plan CRC192414A, attached to and forming part of this resource consent.</i></p>
<p>Recommended conditions not proposed by the applicant</p>	
<p>I recommend the following condition is included on the water permit:</p> <p><i>The Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, shall be informed within five days of first exercise of this consent by the consent holder.</i></p>	
<p>I recommend the following condition is included on the water permit:</p> <p><i>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of the consent for the purpose of:</i></p> <ul style="list-style-type: none"> (a) <i>Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or</i> (b) <i>Requiring the adopting of the best practicable option to remove or reduce any adverse effect on the environment.</i> 	

CRC182422 Water permit to take and use water

Recommended conditions not proposed by the applicant

I recommend the following amendments to conditions (1) and (2) of CRC182422:

I recommend a new condition (1) as follows:

Water shall be taken only from bore M36/0257, 200 millimetres diameter and 63.4 metres deep, at or about map reference NZTM 2000 1555089mE, 5176712mN.

I recommend a new condition (2) as follows:

Water taken from bore M36/0257 shall not exceed a rate of 9.5 litres per second, with a volume not exceeding 6,772 cubic metres in any period of nine consecutive days, and with a volume not exceeding 96,489 cubic metres between 1 July and following 30 June.

To accord with the Resource Management Measurement and Reporting of Water Takes Regulations 2010, I recommend the following conditions:

I recommend a new condition as follows:

The consent holder shall before the first exercise of this consent:

- a.
 - i. *install a water meter(s) that has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus five percent as part of the pump outlet plumbing, or within the mainline distribution system, at a location(s) that will ensure the total take of water is measured; and*
 - ii. *install a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 60 minutes, and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).*
- b. *The recording device(s) shall:*
 - i. *be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and*
 - ii. *store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or,*
 - iii. *shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.*
- c. *The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.*

- d. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.*
- e. All practicable measures shall be taken to ensure that the water meter and recording device(s) are fully functional at all times.*

Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:

- a. The measuring and recording device(s) has been installed in accordance with the manufacturer's specifications; and*
- b. Data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition (6).*