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PO Box 5963 Lambton Quay  
Wellington 6145, New Zealand



23 August 2019

Environment Canterbury  
P. O. Box 345  
CHRISTCHURCH 8140  
**By email:** [adele@incite.co.nz](mailto:adele@incite.co.nz)

For: Adele Dawson

Dear Adele

**CRC200500 – Application for Air Discharge Consent at the Canterbury Coal Mine – Further Information**

Please find further information below in response to your letter dated 5 August 2019.

**1. Potential Effect on Air Quality**

A letter from Prue Harwood of BECA, who prepared the original Air Discharges AEE, is provided as Attachment A. This addresses the information requested in items a) - e).

**2. Land Ownership**

Completed written approval forms from Evan Frew (Avoca Trust) and Matariki Forests are attached in Attachment B.

**Other Matters**

We have considered your request to extend the processing times for this application under s37A of the RMA. We consider that the application for renewal of the discharge to air consent is able to be progressed, and accordingly decline this request and seek that ECan continue processing the application in accordance with normal processing timeframes.

We trust this adequately addresses the questions you have raised, however don't hesitate to get in touch if you require any further information.

Yours faithfully

A handwritten signature in dark ink, appearing to read 'Craig Pilcher', written over a light blue horizontal line.

**Craig Pilcher**  
**BATHURST COAL LIMITED**

## **Attachments**

Attachment A: Letter from Beca addressing item 1.

Attachment B: Written Approval to Consent Application from Matariki Forests and Evan Frew (Avoca Trust)

Attachment A: Letter from Beca addressing item 1.

Team Leader Consents Planning  
Environment Canterbury  
P O Box 345  
Christchurch 8140

19 August 2019

**Attention: Catherine de Graf**

Dear Catherine

**Bathurst Coal - Response to Request for Further Information CRC200500**

The following information has been collated in response to your letter dated 5 August 2019 requesting further information regarding the application for consent to discharge dust to air made by Bathurst Coal Limited (CRC200500).

The information requested regarding potential effects on air quality is as follows

*"In order to understand the actual and potential adverse effects on air quality please provide the following:*

- a. A summary of the numbers, types and sizes of motorised equipment used at the site (diggers, excavators, trucks, watering equipment, etc).*
- b. A table showing the frequency distribution of wind speeds and directions, and summaries of these frequencies at the identified dwellings.*
- c. Analysis of the duration of wind events with speeds that exceed the identified dust threshold of 5 metres per second.*
- d. A discussion of the offensiveness of the dust discharges.*
- e. A unified FIDOL assessment. The application refers to the frequency, intensity, duration, offensiveness and location of the discharges and effects (the FIDOL factors) but does not tie this information together."*

The response to each request is provided below.

**Equipment List**

The motorised equipment used at the site (other than the road trucks used to transport the products off site) is as follows:

- 1x100-120 tonne excavator
- 5x50 -80 tonne excavators
- 2x20-40 tonne excavator
- 2x20-40 tonne bulldozer
- 1x20 tonne grader
- 2x20-40 tonne loaders
- 4x50 tonne (tare) rigid dump trucks
- 4x70 tonne (tare) rigid dump trucks
- 4x40 tonne (tare) articulated dump trucks

- 1x road truck used as a water cart.

### Frequency Table of Wind Speeds and Directions

Table 1 shows the frequency of winds from all directions and all wind speeds measured at the site meteorological station for the period March 2018 to February 2019. The information in Table 1 was used to produce the windrose provided in Figure 3-5 of the report prepared by Beca Limited (Beca) entitled “*Malvern Hills Coal Mine – Assessment of Environmental Effects for Discharges to Air*” (Beca AEE).<sup>1</sup>

**Table 1 Frequency of winds from all directions and wind speeds measured on site between March 2018 – February 2019 (inclusive)**

Directions / Wind Classes (m/s)	0.50 - 1.50	1.50 - 3.00	3.00 - 5.00	5.00 - 8.00	8.00 - 10.00	>= 10.00	Total (%)
348.75 - 11.25	0.00	0.26	0.94	0.64	0.08	0.01	1.93
11.25 - 33.75	0.09	1.16	2.63	1.50	0.03	0.05	5.46
33.75 - 56.25	0.22	1.29	0.90	0.15	0.02	0.02	2.60
56.25 - 78.75	0.26	1.82	1.46	0.63	0.00	0.01	4.18
78.75 - 101.25	0.80	2.28	1.14	0.22	0.06	0.01	4.51
101.25 - 123.75	1.11	3.25	2.47	1.13	0.11	0.02	8.09
123.75 - 146.25	0.73	1.64	1.78	1.45	0.37	0.13	6.10
146.25 - 168.75	0.59	1.15	1.86	1.76	0.49	0.31	6.16
168.75 - 191.25	0.72	1.67	2.59	2.35	0.34	0.13	7.80
191.25 - 213.75	0.67	1.45	1.58	1.24	0.33	0.10	5.38
213.75 - 236.25	0.62	2.44	2.98	2.24	1.11	1.83	11.21
236.25 - 258.75	0.68	1.93	2.10	1.59	0.83	0.94	8.07
258.75 - 281.25	0.64	2.21	2.19	1.10	0.46	0.19	6.79
281.25 - 303.75	0.37	2.61	3.23	2.07	0.50	0.18	8.96
303.75 - 326.25	0.30	2.11	1.96	1.48	0.24	0.03	6.13
326.25 - 348.75	0.14	1.37	2.98	0.67	0.10	0.03	5.30
Sub-Total	7.93	28.66	32.79	20.21	5.08	4.00	98.66
Calms							0.17
Missing/Incomplete							1.16
Total							100

The frequency of winds greater than 5 m/s from the southwest to west southwest (213.75° - 258.75°) and west to northwest (258.75° - 303.75°) which blow towards the residences located to the northeast to east northeast of the site and to the east southeast of the site, are shown in Table 2.

<sup>1</sup> Beca Limited “*Malvern Hills Coal Mine – Assessment of Environmental Effects for Discharges to Air*” 5 July 2019.

**Table 2 Frequency of winds greater than 5 m/s from directions that blow towards residences measured on site between March 2018 – February 2019 (inclusive)**

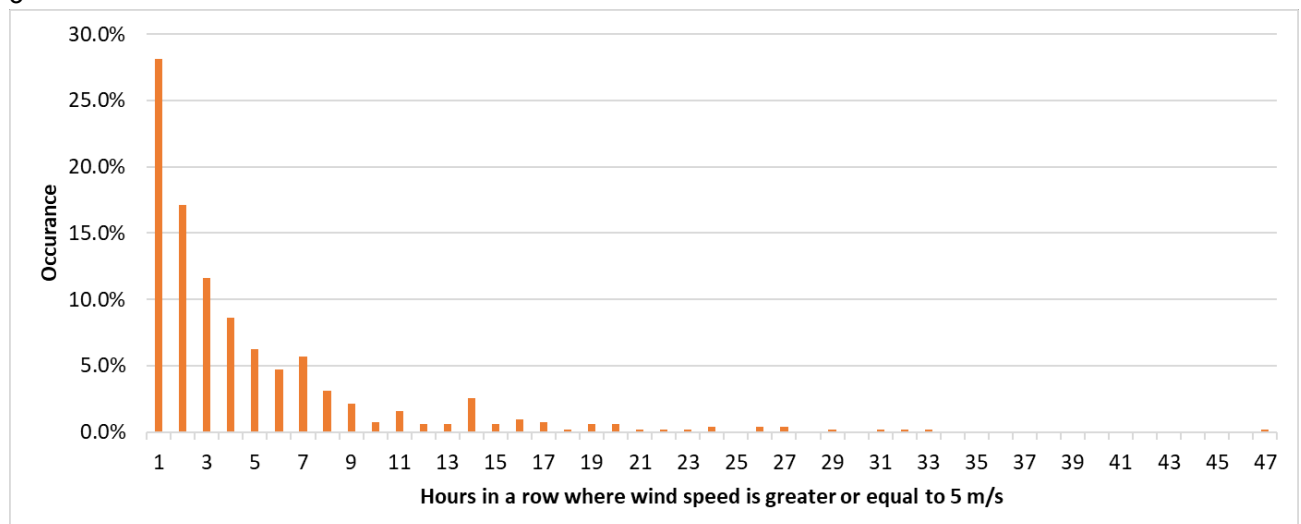
Directions / Wind Classes (m/s)	5.00 - 8.00	8.00 - 10.00	>= 10.00	Total (%)
213.75° - 236.25°	2.24	1.11	1.83	5.18
236.25° - 258.75°	1.59	0.83	0.94	3.36
<b>Total for houses located to the northeast</b>				<b>8.54</b>
258.75° – 281.25°	1.10	0.46	0.19	1.75
281.25° – 303.75°	2.07	0.50	0.18	2.75
<b>Total for houses located to the east southeast</b>				<b>4.5</b>

### Duration of wind events with speeds that exceed 5 m/s

The duration of wind events, from all directions, when wind speeds are greater than or equal to 5 m/s, is illustrated in Figure 1

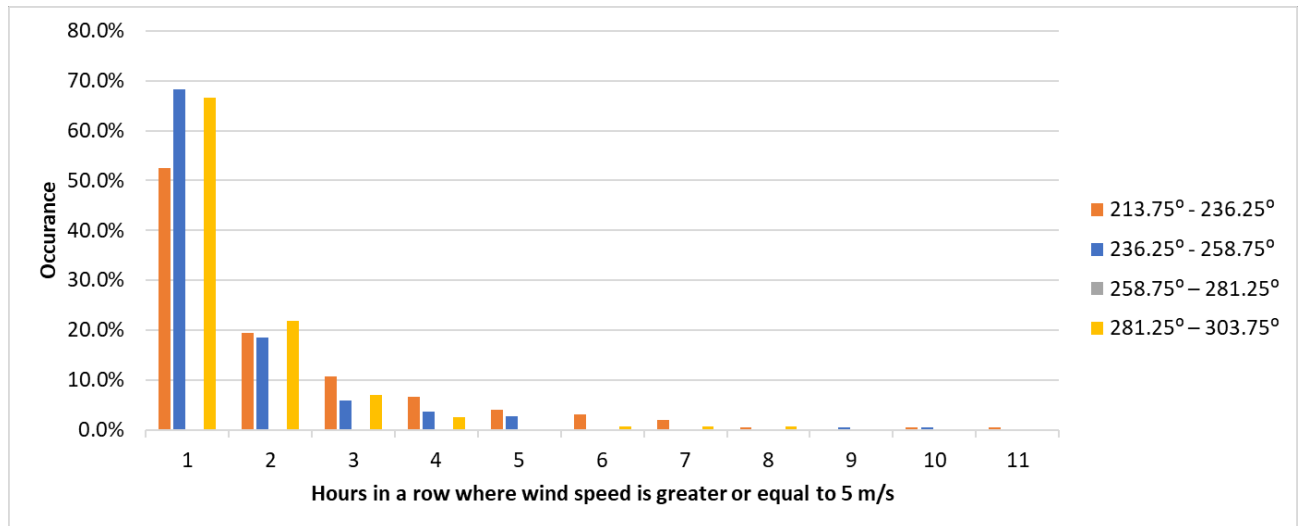
Figure 1 shows that the highest frequency of wind events last for no more than an hour but on occasion, wind speeds can exceed 5m/s for periods of more than a day. The average duration of wind speeds greater than, or equal to 5 m/s, is 4.9 hours and the median duration is 2.6 hours.

3



**Figure 1 Frequency distribution of the duration of wind events with wind speeds greater than or equal to 5 m/s**

Figure 2 shows the duration of winds greater than or equal to 5 m/s that blow towards the houses and Table 3 provides a summary of the data.



**Figure 2 Frequency distribution of wind events for winds that blow towards residences and are greater than or equal to 5 m/s**

**Table 3**

Directions / Wind Classes (m/s)	Maximum consecutive hours	Average consecutive hours	Median consecutive hours
213.75° - 236.25°	11	2.2	2.0
236.25° - 258.75°	10	1.6	1.7
258.75° – 281.25°	0	0	0
281.25° – 303.75°	8	1.6	1.8

Figure 2 and Table 3 show that winds that blow towards the houses with a windspeed of greater than or equal to 5 m/s occur most frequently for periods of one to two hours and only rarely last for a whole day.

### Offensiveness of dust discharges

Dust deposits inside houses and on clean surfaces outside houses such as window ledges, cars and household washing can cause offence in some circumstances. The offensiveness of dust is related to the source of the dust, its visibility and the sensitivity of the receiving environment. Some dusts, such as coal dust, are more visible and will cause visible soiling at lower concentrations than other dusts, such as those sourced from soil, unsealed roads or rock. At the coal mine, the dust produced will include coal particles generated from the mining and handling of coal and soil particles generated from the excavation and handling of overburden, unsealed yard areas and haul roads.

Dust from the mine and access roads has the potential to cause offence at residential dwellings if it is not well controlled and deposits beyond the boundary in sufficient quantities to be visible. However, Bathurst uses a range of mitigation methods to limit the generation of dust from the mine and access roads (refer Section 6 of the Beca AEE) which are recognised as industry good practice and consequently, the risk of dust from the mine causing offence is considered to be negligible.

A list of complaints received from neighbours since November 2016 is attached in the Complaints Register in Appendix 4 of the AEE. From this list, it can be seen that while there have been relatively few complaints, most relate to dust nuisance from excessive driving speeds on the mine access roads. Bathurst responds to all complainants with the proposed mitigation as soon as possible (see Comments section of Complaints Register)

## **FIDOL assessment of dust effects**

### **Frequency**

The frequency of conditions when winds may blow dust generated from the mine, if it is not controlled, towards the closest dwellings (which are most likely to be sensitive to dust) is shown in Table 2, i.e. 8.54% of time for the houses located to the northeast of the mine and 4.5% of time for the houses located to the east southeast of the mine. The Institute of Air Quality Management's "*Guidance on the Assessment of Mineral Dust Impacts for Planning*" (IAQM Guide)<sup>2</sup> categorises the frequency of potentially dusty winds below 5% of the time as "infrequent" and between 5% and 12% as "moderately frequent". Hence, the frequency of winds blowing towards the houses closest to the mine can be classified as "moderately frequent".

### **Intensity**

The intensity of a potential dust event is related to the concentration of the deposited dust, which in turn is related to the distance of the source of dust from the receptor, the potential for dust to be generated and the effectiveness of the mitigation measures. The IAQM Guide categorises the distances between a source and a receptor as "close", "intermediate" or "distant" with "distant" receptors being located between 200m and 400m from the source. The closest house to the mine is located at least 1.3km from the mine and well beyond the distance that dust from the mine would be expected to carry (refer Section 5.4 of the Beca AEE). The coal extracted by Bathurst has a low potential to generate dust due to its high moisture content (refer Section 3.11 of the Beca AEE) and this coupled with the mitigation measures implemented by Bathurst means that the amount of dust generated from the mine is small. Overall, the likely intensity of any dust deposited beyond the boundary of the site is considered to be negligible.

### **Duration**

The duration of potential dust events is related to the duration of episodes of winds which exceed the critical wind speed for generation of dust from unconsolidated surfaces of 5 m/s. As discussed above wind speeds greater than or equal to 5 m/s that blow towards the closest houses occur for periods most frequently for no more than one to two hours but on rare occasions last for up to a day.

### **Offensiveness**

The offensiveness of the dust from the mine is discussed above.

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<sup>2</sup> Institute of Air Quality Management "*Guidance on the Assessment of Mineral Dust Impacts for Planning*", May 2016.



## Location

The potential for dust to cause an offensive or objectionable effect depends on the sensitivity of the receiving environment. The Ministry for the Environment's "*Good Practice Guide for Assessing and Managing Dust*" (GPG Dust)<sup>3</sup> provides guidance on categorising the sensitivity of different land uses. Rural areas, which surround the site, are classified as having a low sensitivity, while rural residential dwellings such as the houses in the vicinity of the mine are classified as having a moderate to high sensitivity to dust.

## Overall FIDOL assessment of dust effects

The risk that dust discharges from the mine have the potential to cause offensive or objectionable effects on the closest sensitive receptors is considered to be negligible, due to the large distance between the mine and the receptors, the moderate to low frequency of winds that are likely to blow dust towards the receptors, the short duration of wind events that blow towards the houses and the mitigation measures employed by Bathurst.

Yours sincerely



### Prue Harwood

Senior Associate – Environmental Engineering

on behalf of

### Beca Limited

Direct Dial: +64 3 4773138

Email: prue.harwood@beca.com

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<sup>3</sup> Ministry for the Environment "*Good Practice Guide for Assessing and Managing Dust*", 2016

Attachment B: Written Approval to Consent Application from Matariki Forests and Evan Frew (Avoca Trust)

## CON510: WRITTEN APPROVAL OF PERSON(S) LIKELY TO BE AFFECTED

SECTION 95E RESOURCE MANAGEMENT ACT 1991

TO: Consents Operations Section  
Environment Canterbury  
P O Box 345  
CHRISTCHURCH 8140

Ph: (03) 353 9007 Fax: (03) 365 3194

FOR OFFICE USE ONLY

Application No:

### Information for Consent Applicant:

In accordance with s95E of the Resource Management Act, an application need not be publicly notified if the adverse effects on the environment are minor and if written approval has been obtained from every person who, in the opinion of the consent authority, may be adversely affected by the granting of the resource consent (unless, in the Council's opinion, it is unreasonable to require the obtaining of every such approval).

The Council provides this form "Written Approval of Person(s) Likely to be Adversely Affected" to help obtain such approvals. The documented approval of persons who could be adversely affected by any proposed activity could assist the processing of the application. Please note that any approval given subject to conditions will be accepted **only if the application contains those conditions**. A copy of the application should be made available with this form.

### PART A: Information for person(s) or organisation(s) giving approval. Please ensure that you have read the following notes before deciding whether or not to sign this form.

- The persons and/or properties listed in Part C are those which the applicant considers could be adversely affected by the proposed activity described above. The applicant may seek approval before lodging the application, but it is the Council which must decide which persons or properties may be adversely affected and whether approval is required if the application is **not** to be publicly notified (advertised).
- The undersigned acknowledge that they have been informed of the above proposal and/or have been shown a copy of the application and hereby given their written approval in terms of the Resource Management Act 1991.
- I/We further understand that in giving my/our written approval to the application the Council cannot take into account any actual or potential adverse effect(s) that this proposal may have on me/us.
- You may wish to seek legal advice before you sign this form.
- If there is a hearing, you may withdraw your written approval before the date of the hearing (s104 (4) RMA).
- If there is no hearing, you may withdraw your written approval any time before the consent is decided (s104 (4) RMA).
- It is not appropriate to impose conditions on this form.
- Contact Customer Services if you have any questions or concerns (0800 324 636).

**PART B: To be completed by the applicant prior to this form being completed by the person(s) or organisation(s) giving approval.**

Applicant's surname: \_\_\_\_\_ All first names (in full): \_\_\_\_\_ ○○○○  
Mr/Mrs/Ms/Miss

Applicant's surname: \_\_\_\_\_ All first names (in full): \_\_\_\_\_ ○○○○  
Mr/Mrs/Ms/Miss

**OR:**

Registered Company name & number: Bathurst Coal Limited (1851760)

Property to which the application relates: Canterbury Coal Mine  
Road/Street address: Bush Gully Road, Selwyn District  
Legal description: Various, as shown on the attached plan  
Locality (nearest town or settlement): Glentunnel

Description of proposed activity for which application is made: \_\_\_\_\_  
Renewal of consent CRC146449, to discharge contaminants to air from coal mining operations at  
the Canterbury Coal Mine. The predominant discharge to air at CCM is dust. Minor emissions of  
products of combustion also occur from machinery onsite.

**PART C: To be completed by person(s) or organisation(s) giving approval. Please ensure that you have read Part A before deciding whether or not to sign this form.**

Full name of person likely to  
be adversely affected

Postal address or address of property likely to be  
adversely affected (with legal description)

Signature/s

*Avoca Trust*

*13 Avoca Place*

*DARFIELD 7510*

*EM Frew*  
DATE: *19/08/2019*

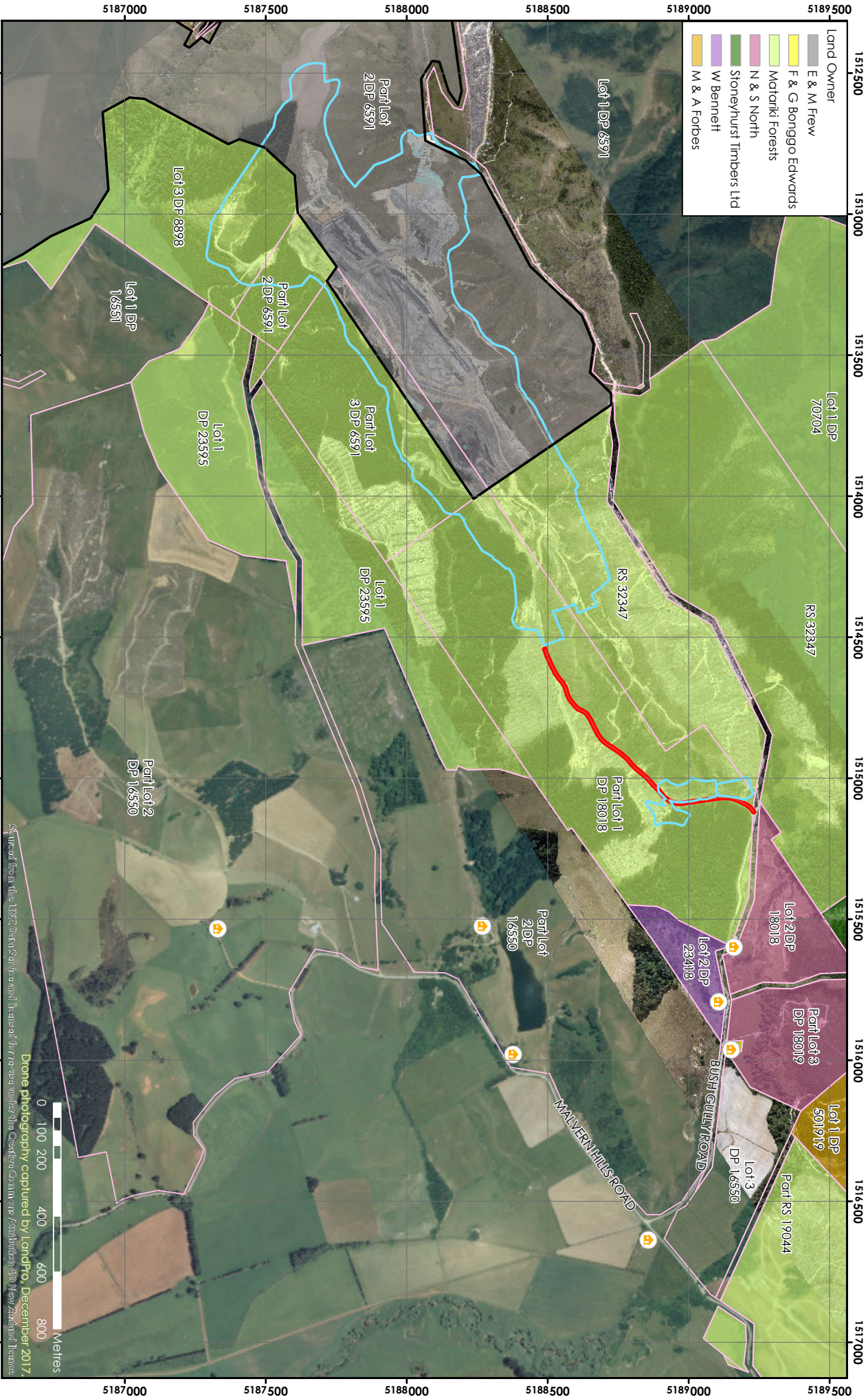
DATE: / /

DATE: / /

DATE: / /

*Note: If the details of the application change during the consent process, the above written approvals may no longer be valid. You may need to seek written approvals for the changed proposal.*





- Land Owner
- E & M Few
  - F & G Bonggo Edwards
  - Matariki Forests
  - N & S North
  - Stonehurst Timbers Ltd
  - W Bennett
  - M & A Forbes

**BATHURST**  
RESOURCES LIMITED

**Legend**

- Dwelling
- Mine road corridor
- Existing mine operations area (102.63 ha)

- Mining Permit 41372
- Parcel boundary

0 100 200 400 600 800 Metres

Drone photography captured by LandPro, December 2017.

Scanned from the LINZ Data Service and licensed for reuse under the Creative Commons Attribution 4.0 New Zealand license.

NZGD 2000 Transverse Mercator

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SCALE: 1:12,500  
DATE: 20 June 2019  
DRAWN BY: Candrak  
DRAWING NUMBER: 00966-3a

Canterbury Coal Mine  
Existing Titles



## CON510: WRITTEN APPROVAL OF PERSON(S) LIKELY TO BE AFFECTED

SECTION 95E RESOURCE MANAGEMENT ACT 1991

TO: Consents Operations Section  
Environment Canterbury  
P O Box 345  
CHRISTCHURCH 8140

Ph: (03) 353 9007 Fax: (03) 365 3194

FOR OFFICE USE ONLY

Application No:

### Information for Consent Applicant:

In accordance with s95E of the Resource Management Act, an application need not be publicly notified if the adverse effects on the environment are minor and if written approval has been obtained from every person who, in the opinion of the consent authority, may be adversely affected by the granting of the resource consent (unless, in the Council's opinion, it is unreasonable to require the obtaining of every such approval).

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- The undersigned acknowledge that they have been informed of the above proposal and/or have been shown a copy of the application and hereby given their written approval in terms of the Resource Management Act 1991.
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Applicant's surname: \_\_\_\_\_ All first names (in full): \_\_\_\_\_ ○○○○  
Mr/Mrs/Ms/Miss


Applicant's surname: \_\_\_\_\_ All first names (in full): \_\_\_\_\_ ○○○○  
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**OR:**  
Registered Company name & number: Bathurst Coal Limited (1851760)

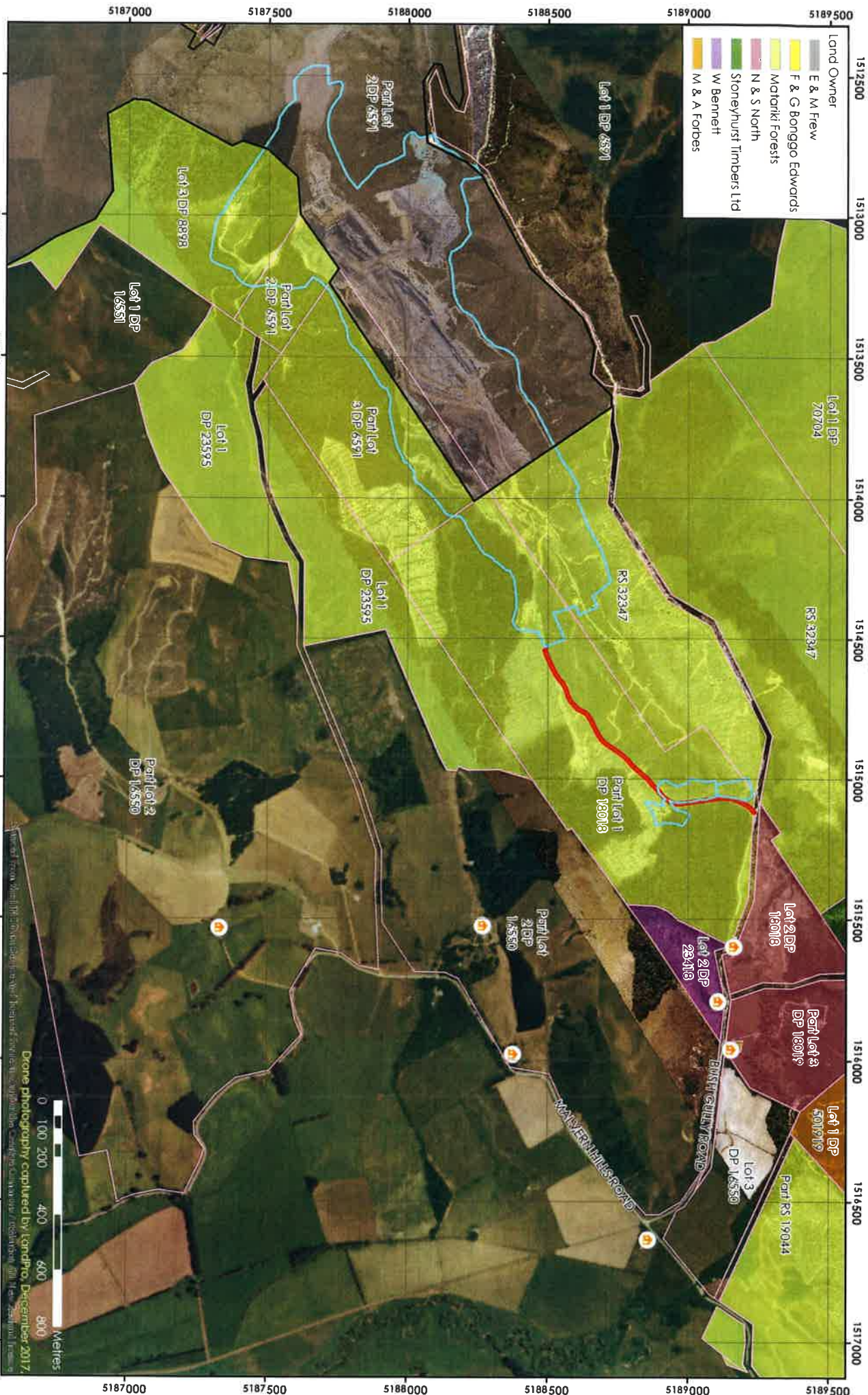
Property to which the application relates: Canterbury Coal Mine  
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Description of proposed activity for which application is made: \_\_\_\_\_  
Renewal of consent CRC146449, to discharge contaminants to air from coal mining operations at the Canterbury Coal Mine. The predominant discharge to air at CCM is dust. Minor emissions of products of combustion also occur from machinery onsite.

**PART C: To be completed by person(s) or organisation(s) giving approval. Please ensure that you have read Part A before deciding whether or not to sign this form.**

Full name of person likely to be adversely affected	Postal address or address of property likely to be adversely affected (with legal description)	Signature/s
Amy Jackson Matariki Forests	13 Kingsford Smith Drive, Rangiora	20/8/19 DATE: 
_____	_____	DATE: / /
_____	_____	DATE: / /
_____	_____	DATE: / /

*Note: If the details of the application change during the consent process, the above written approvals may no longer be valid. You may need to seek written approvals for the changed proposal.*



- Land Owner
- E & M Frew
  - F & G Bonggo Edwards
  - Matariki Forests
  - N & S North
  - Stonehurst Timbers Ltd
  - w Bennett
  - M & A Forbes

**BATHURST**  
RESOURCES LIMITED

**Legend**

- Dwelling
- Mine road corridor
- Existing mine operations area (102.63 ha)

- Mining Permit 41372
- Parcel boundary

0 100 200 400 600 800 Metres

Drone photography captured by LegendPro, December 2017

NZGS 2000 Transverse Mercator

Canterbury Coal Mine

Existing Titles

SCALE: 1:12,500  
DATE: 20 June 2019  
DRAWN BY: CNOGRD  
DRAWING NUMBER: 00966-30

