

Before the Hearing Commissioners
Appointed by the Grey District Council
and West Coast Regional Council

Under the Resource Management Act 1991

In the matter of Resource consent applications by TiGa Minerals and Metals
Ltd to establish and operate a mineral sands mine on State
Highway 6, Barrytown (RC-2023-0046; LUN3154/23)

Supplementary Statement of Nicholas Peter Fuller

07 March 2024

Applicant's solicitor:
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**anderson
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Matters of response

- 1 My name is Nicholas Peter Fuller.
- 2 I have been asked to provide a response / additional information regarding the increase in vehicle movements during the hours of darkness (associated with the proposed Mine) and the resultant increase in traffic of State Highway 6 at those times.

Hours of Darkness

- 3 The hours of darkness have been defined as ending 30 minutes before sunrise and starting 30 minutes after sunset. The timing of the average hours of darkness for each month in 2024 are set out in **Table 1** (accounting for daylight savings). This table also includes the traffic volumes from Ms K Simister's Evidence¹.

Table 1: Hours of Darkness & Existing Traffic Volumes

Month	Average Hours of Darkness	K Simister Count ²
January	21:40 to 5:46	41 vehicles
February	21:10 to 6:25	-
March	20:23 to 7:02	95 vehicles
April	18:26 to 6:40	113 vehicles
May	17:49 to 7:13	115 vehicles
June	17:38 to 7:37	108 vehicles
July	17:55 to 7:26	92 vehicles
August	18:26 to 6:50	71 vehicles
September	19:03 to 6:04	67 vehicles
October	20:32 to 6:07	48 vehicles
November	21:11 to 5:30	32 vehicles
December	21:40 to 5:33	36 vehicles

- 4 I have not sought to verify the above traffic volumes, because the traffic data is collected in hourly intervals meaning assumptions would need to be made regarding when to include / exclude data. For example, the February hour of darkness ends at 06:25 meaning it is unclear whether the whole of the hourly count

¹ Appendix 2 of that Evidence.

² Average vehicles per day during hours of darkness.

from 06:00 to 07:00 was included, none of it or whether the volume was factored to match the 25 minutes of the hour. Furthermore, the proposed increases are small (as I set out at paragraph 10) such that I consider the verification of these existing volumes is not necessary.

Shift Patterns & Travel Times

- 5 The proposed staff roster at the Mine site has been amended as follows in order to minimise the number of shift changes during the hours of darkness:
- (a) Processing Plant Roster:
 - (i) 19 staff working a dayshift from 07:00 to 19:00; and
 - (ii) 8 staff working a nightshift from 19:00 to 07:00.
 - (b) Mine Roster: 18 staff working from 07:00 to 17:00.
- 6 Furthermore, the Applicant is committed to requiring staff to travel to / from the site in a company mini-bus during the hours of darkness. I have assumed that each mini-bus would accommodate up to ten staff, which is based on the typical passenger numbers for a Toyota Hiace (ten to 13 seats³), although I note that a Ford Transit mini-bus could accommodate up to 18 people⁴ and further reduce the staff traffic volumes.
- 7 I have also assumed that staff would arrive at the site in the 15 minutes ahead of their shift and depart the site in the 15 minutes after their shift.
- 8 The above leads to the following assumptions regarding staff travel:
- (a) 06:45 to 07:00: Four mini-buses would arrive at the site (19 processing plant dayshift staff, plus 18 mine staff);
 - (b) 07:00 to 07:15: One mini-bus would depart the site (eight processing plant nightshift staff);
 - (c) 17:00 to 17:15: Two mini-buses would depart the site (18 mine staff);
 - (d) 18:45 to 19:00: One mini-bus would arrive at the site (eight processing plant nightshift staff); and

³ <https://www.hireace.co.nz/Vehicles/12-Seater-Minibus-Minivan.html>

⁴ <https://www.ford.co.uk/vans-and-pickups/transit-minibus>

(e) 19:00 to 19:15: Two mini-buses would depart the site (19 processing plant dayshift staff).

- 9 **Attachment 1** is a graphic view of the site shift staff travel throughout the day (in 15-minute blocks), with shading provided to illustrate the average hours of darkness for each month. The summation at the bottom of the diagram indicates that the typical daily staff travel during the hours of darkness varies between no vehicle movements to eight movements per day, depending on the month.
- 10 For clarity, some of the numbers are odd (such as the five trips per day in March and three trips per day in April), which occurs because not all trips occur during the hours of darkness. Using March as an example, four arrivals plus one departure occur during the hours of darkness, with the remaining five trips (i.e. the opposite journeys) occurring during daylight hours.
- 11 **Table 2** sets out the existing average number of vehicles per day during the hours of darkness (as per Table 1), along with the staff shift vehicles per day during the hours of darkness. I consider these increases in traffic to be low, on an already low baseline volume.

Table 2: Hours of Darkness, Existing Traffic Volumes & Staff Shift Travel

Month	K Simister Count ⁵	Staff Shift Vehicles ⁶
January	41 vehicles	0 vehicles
February	-	0 vehicles
March	95 vehicles	5 vehicles
April	113 vehicles	3 vehicles
May	115 vehicles	8 vehicles
June	108 vehicles	8 vehicles
July	92 vehicles	8 vehicles
August	71 vehicles	7 vehicles
September	67 vehicles	2 vehicles
October	48 vehicles	0 vehicles
November	32 vehicles	0 vehicles
December	36 vehicles	0 vehicles

⁵ Average vehicles per day during hours of darkness.

⁶ Staff vehicles per day during the hours of darkness.

Nicholas Peter Fuller

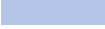
Dated this 07th day of March 2024

ATTACHMENT 1: STAFF TRAVEL DURING HOURS OF DARKNESS CALCULATIONS

746-001: Barrytown Mineral Extraction

Traffic Volumes in Hours of Darkness

Plant Roster 07:00 to 19:00, Mine Roster 07:00 to 17:00

 = Hours of Darkness

Time		January	February	March	April	May	June	July	August	September	October	November	December
0:00	0:15												
0:15	0:30												
0:30	0:45												
0:45	1:00												
1:00	1:15												
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6:30	6:45												
6:45	7:00	4	4	4	4	4	4	4	4	4	4	4	4
7:00	7:15	1	1	1	1	1	1	1	1	1	1	1	1
7:15	7:30												
7:30	7:45												
7:45	8:00												
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17:15	17:30												
17:30	17:45												
17:45	18:00												
18:00	18:15												
18:15	18:30												
18:30	18:45												
18:45	19:00	1	1	1	1	1	1	1	1	1	1	1	1
19:00	19:15	2	2	2	2	2	2	2	2	2	2	2	2
19:15	19:30												
19:30	19:45												
19:45	20:00												
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23:30	23:45												
23:45	0:00												

Staff Travel in Hours of Darkness 0 0 5 3 8 8 8 7 2 0 0 0
 January February March April May June July August September October November December