

**BEFORE DUNEDIN CITY COUNCIL
LUC-2017-319**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application for resource consent by BP Oil New Zealand Limited for redevelopment at BP Mosgiel, 70 – 76 Gordon Road, Mosgiel, Dunedin

**MEMORANDUM ON BEHALF OF
BP OIL NEW ZEALAND LIMITED**

Dated: 21 December 2017



Simpson Grierson
Barristers & Solicitors

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MAY IT PLEASE THE PANEL

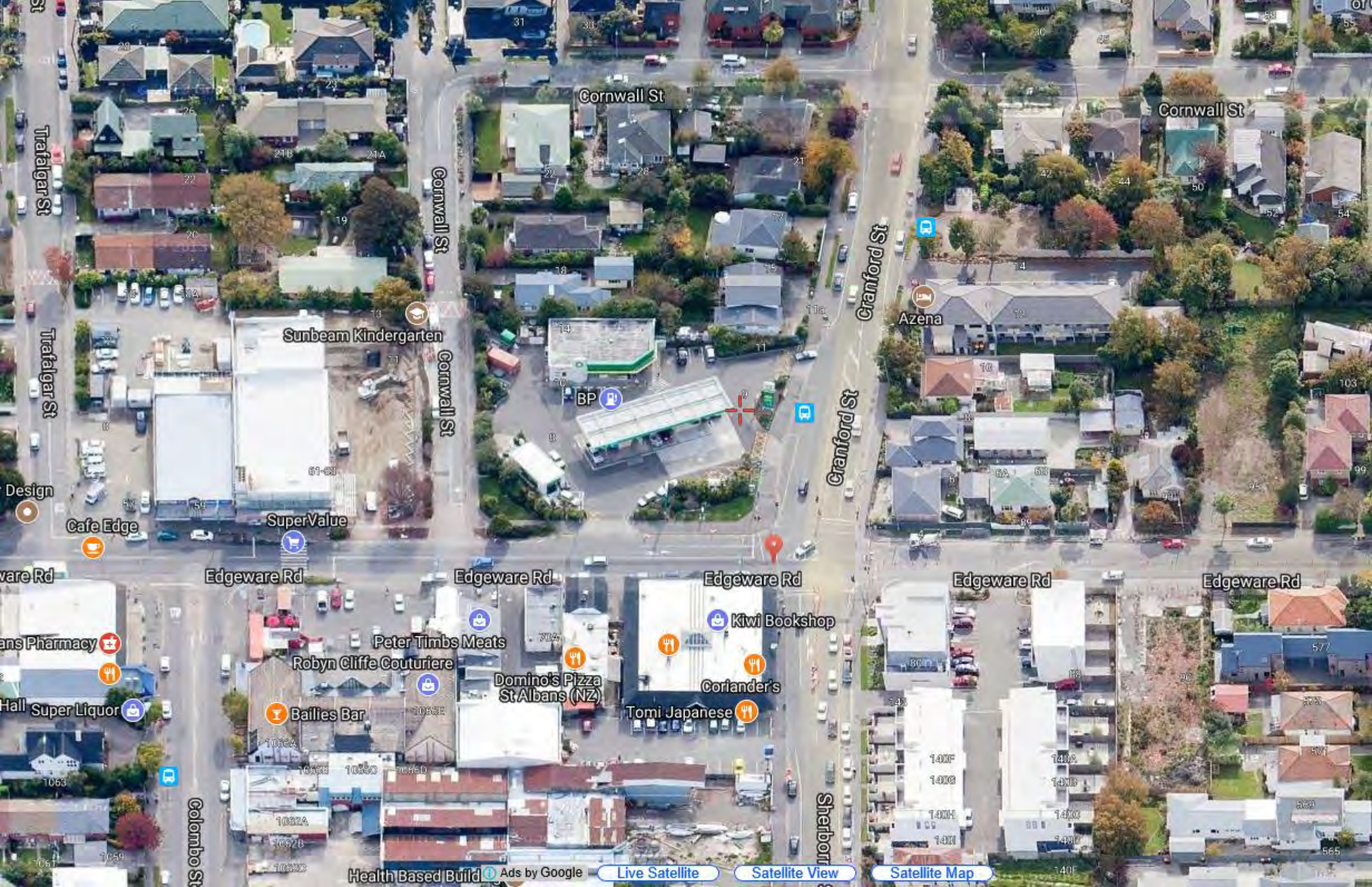
1. BP Oil New Zealand Limited (BP) attach to this memorandum, as requested by the Hearings Panel, photographs from BP Connect service stations which have been developed recently and further information from the BP acoustic expert, Peter Runcie.
2. Photos from the following BP Connect service stations are attached at Appendices 1 – 6:
 - (a) (a) BP Edgeware, at 79 Edgeware Road, Christchurch;
 - (b) (b) BP Fendalton, at 1 Memorial Ave, Fendalton, Christchurch;
 - (c) (c) BP Greenlane, at 93 Greenlane East, Remuera, Auckland;
 - (d) (d) BP Mt Maunganui, at 570 Maunganui Road, Mt Maunganui, Tauranga;
 - (e) (e) BP Pakuranga, at 322 Pakuranga Road, Pakuranga, Auckland;
and
 - (f) (f) BP Tirau, at 54 – 70 Main Road, Tirau.
3. The service stations are all within and surrounded by residential properties. The context of each service station is different, however BP expects this assists the Panel in viewing the service stations in a residential environment regardless. The aerial view of BP Edgeware and BP Fendalton shows the site predevelopment, however BP considers they still show the context of the service stations.
4. Appendix 7 contains further information from BP's acoustic expert, Peter Runcie, regarding a comparison between noise output on a carwash with and without acoustic doors.

Dated 21 December 2017



J G A Winchester / C G Coyle
Counsel for BP Oil New Zealand Limited

Appendix 1: BP Edgeware, at 79 Edgeware Road, Christchurch





Appendix 2: BP Fendalton, at 1 Memorial Ave, Fendalton, Christchurch



Memorial Ave

Memorial Ave

Clyde Rd

Clyde Rd

Clyde Rd

Clyde Rd

Fendalton Rd

Fendalton Rd

xwells Drycleaning

Fendalton Takeaways

Fendalton Rugs

Goom Landscapes

Room 205
The Fitting Room

BP

ATM

ANZ





Appendix 3: BP Greenlane, at 93 Greenlane East, Remuera, Auckland











bp

bp connect

WILD BEAN
CAFE

unleaded at **184.9**

ultimate diesel **105.9**

ultimate

Superwash

Relaxing bumps

Ready to go for your

**Appendix 4: BP Mt Maunganui, at 570 Maunganui Road, Mt Maunganui,
Tauranga**









bp

bp connect

WILD BEAN CAFE

unleaded 181.9

ultimate diesel 107.9

ultimate

Smart

AKZ

LPG

Yes we are open

Come on in!

MERCE

ZIP



**Appendix 5: BP Pakuranga, at 322 Pakuranga Road, Pakuranga,
Auckland**



St Mark's Catholic Church

Centre Ct

Village Dr

Centre Ct

BP

Pakuranga Rd

Vector Rapid EV Charger

Flower Power

Village Dr

Village Dr

anga Rd





Appendix 6: BP Tirau, at 54 – 70 Main Road, Tirau



Tirau Church

BP

Tirau Motor Inn

Alley Cats Cafe

Twisted Cafe

Bexhill Terrace





bp connect

WILD BEAN CAFE

WILD BEAN CAFE







bp

bp connect

WILD BEAN CAFE

unleaded 91 20 1.9

ultimate diesel 128.9

bp ultimate

Smart pay

LPG

Yes
we are
open

24 hours a day
7 days a week

Appendix 7: Carwash Noise Measurements

22 December 2017

710.10262-L02-v1.1 BP Mosgiel Carwash Noise Measurements.docx

BP Oil NZ Limited
Watercare House
73 Remuera Road
Newmarket
Auckland 1050

Attention: John Chandler

Dear John

BP Mosgiel Carwash Noise Measurements

At the hearing for the proposed redevelopment at BP Mosgiel, 70 – 76 Gordon Road, Mosgiel, Dunedin on Thursday 14th December 2017 the commissioners requested evidence and information about the difference in noise levels generated by the proposed carwash with and without doors. It was noted in the hearing that this was typically at least 10 dBA.

In order to provide this further information SLR Consulting NZ Limited (SLR) visited the BP Green Lane facility¹ on Thursday 21st December 2017 to undertake noise measurements. The Green Lane carwash type and wash cycles are equivalent to that proposed at BP Mosgiel; however the situation regarding the positioning of the carwash relative to surrounding structures is different. At BP Green Lane acoustic screening sits directly alongside the carwash on the site boundary and the adjoining road is busier than Gordon Road. A view from the measurement location is shown in **Figure 1**.

A Svan 957 sound level meter (serial number 20670) was set-up approximately 10 m from the entrance to the carwash. This position was selected to ascertain the car wash noise levels generated by the carwash whilst minimising, as far as practicable, contributions from road traffic noise on Green Lane East. However, during the site visit, it was observed that road traffic on Green Lane East was the principal source of ambient noise at the measurement position both when the carwash was not operating and during the quieter washing part of the wash cycle.

Noise measurements were undertaken in general accordance with the NZS 6802:2008 *Acoustics - Measurement of environmental sound*. The calibration of the sound level meter was checked before and after the measurements and was found to be within ± 0.5 dB of the reference signal.

Table 1 shows the measured carwash noise levels over a 10 minute period that included a complete “Megawash Ultra” cycle lasting approximately 9 minutes. The measurements were taken with the doors open and then the cycle was repeated with the doors closed.

¹ BP Green Lane located at 93 Green Lane East, Auckland.

Figure 1 View from measurement location



The measurement results are presented in **Table 1** in terms of the LA10 noise levels which reflects the statistical noise descriptor used in the Dunedin City Plan. The LA10 noise level describes the sound pressure level exceeded for a 10% of the measurement period, i.e. one minute of the 10 minute measurement period. Where necessary, the measured levels have been adjusted to account for the effect of residual sound (i.e. sound without the carwash operating, in this case dominated by road traffic noise) in accordance with NZS 6802: 2008.

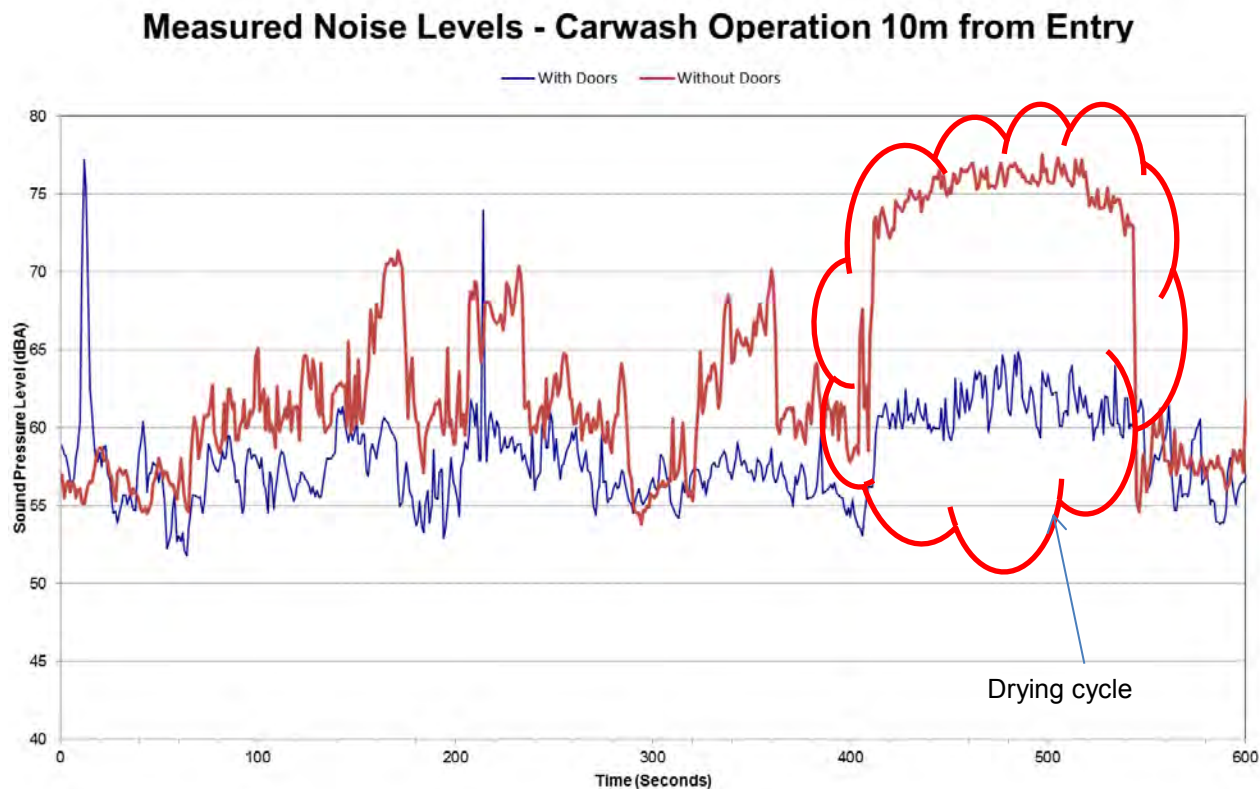
Table 1 Noise Measurement Results

Scenario	Noise Level, dB LA10,10min
10 m directly in front of carwash entrance – door	61 ¹
10 m directly in front of carwash entrance – no door	76

1. Measured total level (64 dB) adjusted to remove noise contribution from vehicles on Green Lane East (60 dB).

An annotated time-trace graphical plot of the 10 minute measurement periods is also provided in **Figure 2**. This shows the difference provided by the doors and also that the drying cycle is the dominant noise source associated with the carwash operation.

Figure 2 Carwash Noise Levels at 10 m



The results show a reduction of 15 dBA was achieved when the roller shutter doors are closed – this would be perceived by most observers to be more than a halving in the received noise level. The results are consistent with those used by SLR in the BP Mosgiel carwash noise assessment.

SLR trusts that the above serves to answer the query raised by the commissioners regarding the reduction provided by the installation of roller shutter doors. If you have any further queries, please do not hesitate to contact the undersigned.

Yours sincerely

PETER RUNCIE
Associate

Checked/
Authorised by: MB