

Annual Truck Noise Measurements

Clyde Transfer Terminal

August 2016



Annual Truck Noise Measurements

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1. Introduction

The Clyde Transfer Terminal was issued with Conditions of Development Consent (Conditions) by the Department of Planning and Environment (DPE) formerly known as the Department of Planning, which are attached to the Development Consent. The Conditions include a requirement to assess heavy vehicle noise with limits specified in Australian Design Rule 28/01 (ADR 28/01).

The requirements of Condition 112 are as follows:

The Applicant shall implement a Heavy Vehicle Noise Monitoring Management Program for the development to the satisfaction of the Director-General. This program must:

- (a) monitor heavy vehicle noise on site, in accordance with the methods outlined in the “Truck Noise Monitoring – Proposed Test and Management Plan” prepared by Heggies and dated 26 May 2008;
- (b) be undertaken quarterly for a year starting in October 2008, and annually thereafter, unless otherwise agreed by the Director-General;
- (c) measure at least 25% of the heavy vehicles visiting the site;
- (d) identify heavy vehicles exceeding the relevant noise criteria specified in the Australian Design Rule 28/01, or its successor, and ensure that the owners of these subsequently comply with the relevant noise criteria;
- (e) report the number of non-compliant heavy vehicles identified and the actions undertaken to address these non-compliances in the Annual Environmental Monitoring Report; and
- (f) be amended, should the monitoring activities not achieve the aim of the program to the satisfaction of the Director-General.

This Annual Truck Noise Measurements report (the Report) presents the results of the eleventh round of heavy vehicle noise monitoring at the Terminal. Monitoring was completed by the Veolia on the 17 August 2016 between 7:30am and 12:00 pm, in accordance with the Proposed Test Management Plan (PTMP) developed by Heggies. This is the seventh sampling event and report prepared by Veolia under Condition 112 since assuming the responsibility of monitoring from Heggies.

2. Noise Limit Criteria

The noise limit criteria for maximum allowable noise levels for Goods Vehicles described in the PTMP (2008) are provided in Table 1 below.

Table 1: LAmax Noise Limits (dBA) – ADR 28/01

Vehicle Category Code	Vehicle Type	Vehicles In Motion	Stationary Vehicles			
		Direct Injection & Spark Ignition Diesel Engines	Spark Ignition Engines Exhaust Outlet Height		Direct Injection Engines Exhaust Outlet Height	
			<1500mm	≤1500mm	<1500mm	≤1500mm
NA	Light Goods Vehicles GVM ≤3.5t on road use	78 to 80	89	85	99	95
NB	Medium Goods Vehicles GVM >3.5t ≤12t on road use	81 to 84	95	91	101	97
NC	Heavy Goods Vehicles GVM >12t on road use	81 to 87	95	91	103	99

Note: For vehicles in motion test, LAmax noise limits are based on the Gross Vehicle Mass (GVM) and the Nett Engine Power (NEP). The noise limits in the table are expressed as a range where the lower noise level refers to the minimum GVM and NEP in each category and the upper noise level refers to the maximum GVM and NEP in each category.

Waste collection trucks entering the Terminal are loaded vehicles with a Gross Vehicle Mass (GVM) over 12 tonnes, based on tare weights of incoming vehicles on the site weighbridge. Hence, for the purpose of conducting a vehicle noise assessment at the Terminal, Vehicle Category Code “NC”, for heavy goods vehicles with a GVM of 12 tonnes or more on road, with a Net Engine Power (NEP) of greater than 150 kilowatts (kW) has been applied. The upper limit (87dBA) of the NC range provided in Table 1 will be used to assess truck noise measurements. This is consistent with the assessment criteria applied by Heggies in previous monitoring rounds.

3. Measurement Methodology

The monitoring location from which the truck noise was measured was consistent with previous monitoring rounds conducted by Veolia and Heggies. Measurements were taken at a distance of 7.5 metres from the centre of vehicle travel path and a height of 1.2 metres above the vehicle entrance ramp from the weighbridge to the Terminal building, which was the test site surface. Trucks accelerating at this location, which is shown in Appendix A, were measured where the vehicle was accelerating in line with the microphone of the sound level meter. For further information regarding measurement location and methodology refer to the PTMP prepared by Heggies (Heggies, 2008).

Measurements were taken with a Casella CEL 633SC Sound Level Meter, using an A-weighted (LA) filter network and fast response time constant as required under ADR 28/01. The (LA) filter ensured that the sound level meter was less sensitive to very high and very low frequencies which would be outside the range of noise emitted by the heavy vehicles entering and exiting the Terminal, while the fast response time constant enabled a more accurate reading of noise from each vehicle movement. Calibration of the Sound Level Meter was completed by Thermofisher Scientific prior to monitoring. The calibration certificate is included in Appendix B.

For each truck movement a LA maximum noise level measurement was recorded. Additional information on each truck movement was noted (where possible) to assist in identification of trucks exceeding noise criteria, including:

- Company;
- Vehicle Make and Type;
- Registration; and
- Exhaust Location.

The collected data was cross referenced with the Terminal's weighbridge records for vehicles entering the facility on 17 August 2016, a copy of which is provided in Appendix C, to identify trucks measured during this sampling period and to calculate the percentage of trucks sampled.

4. Noise Measurements Results

A total of 108 truck movements were recorded entering the Terminal and a measurement for each vehicle movement past the monitoring location was taken as the trucks accelerated on the entrance ramp. Thirty-five (35) of these measurements were under impeded traffic conditions causing distorted noise emissions, caused by queuing of waste trucks waiting to enter the Terminal building during busy periods or idling of engines past the testing zone. Impeded traffic conditions affected the representative quality of the noise measurements. The measured sound levels of each pass-by event were recorded on field sheets, which have been tabulated in Appendix D.

A total measurement of 34.07% of all truck movements (317) was achieved during this monitoring round, which satisfies the minimum requirements of Condition 112 (25% of daily truck movements).

Figure 1 presents the distribution of recorded sound level frequencies which were measured in A-weighted decibels (dBA). Measurements of 'normal' truck acceleration ranged from 70.1dBA to 85.9dBA with the highest frequency occurring between 76dBA to 80dBA. Impaired acceleration readings due to the impeded traffic conditions ranged from 65.2dBA to 81.2dBA. Impaired acceleration readings were plotted separately from the normal accelerating vehicles on Figure 1.

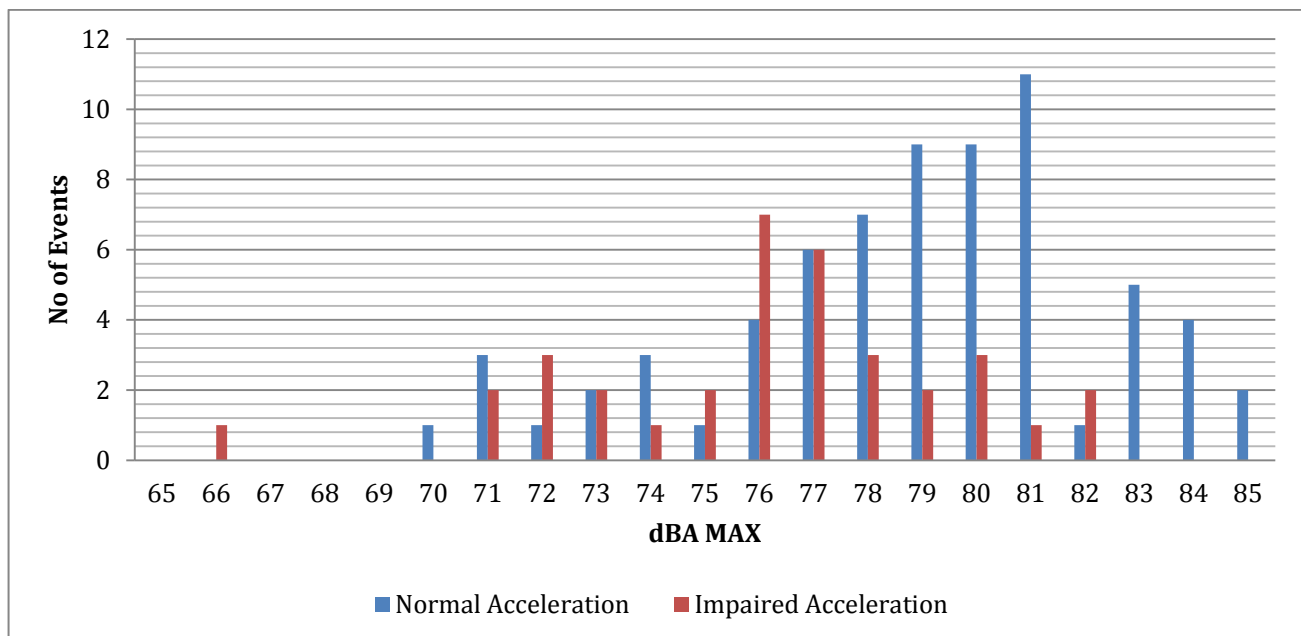


Figure 1: Noise level distribution from Truck Noise Monitoring – 17 August 2016

5. Discussion

Comparison of the heavy vehicle noise measurement results against the limits specified in ADR 28/01 (refer to Table 1) indicates that all trucks entering the Terminal in this monitoring round were within the acceptable noise criteria for the NC category vehicles (<87dBA). Driver behaviour also influenced noise measurements, with faster acceleration leading to higher noise recordings and less acceleration leading to lower noise recordings.

Eight smaller waste vehicles (ranging from approximately 6 – 11 tonnes when loaded) were observed entering the facility during this monitoring event. For the purpose of this assessment it is considered that these vehicles would fall within the NB category with a noise limit of 84dBA. All noise emitted from vehicles assigned to this category was measured below this threshold as indicated in Table 2.

Table 2: NB class vehicle noise measurements

Time	Company	Make	Lift Type	Registration	L _A Max (dBA)	Impeded Movement
8:01	City of Canada Bay Council - TS&O	Kino	Rear	BY51RY	69.4	N
8:09	Ku-ring-gai Council	Mitsubishi	Rear	AA43JJ	76.0	N
9:03	Remondis Australia Pty Ltd		Rear	YLN839	71.5	N
9:32	Hornsby Council	Mitsubishi	Side	GG109	75.2	Y
9:49	Enfield RearLift	Isuzu	Rear	BH82RI	75.0	Y
9:51	Ku-ring-gai Council	Mitsubishi	Rear	AA42JJ	65.2	Y
9:53	Ku-ring-gai Council	Mitsubishi	Rear	YCP248	71.0	Y
10:05	Parramatta City Council Depot V#101	Hino	Rear	BB46JJ	70.4	N

Noise from the Terminal's operations such as plant noise (forklift, compactor, front end loader and road sweeper) and surrounding areas (Parramatta Road, train tracks) were not significant enough to influence waste truck noise measurements at this location. The noise wall located adjacent to the exit ramp, on the North-western boundary of the Terminal, also assisted in focussing noise measurements on truck movements into the facility by limiting interference noise sources.

No noise complaints pertaining to the Terminal's operations were received between the annual truck noise monitoring rounds. This indicates that noise impacts from waste truck movements at the Terminal boundary are within the Terminal and surrounding area background noise levels.

6. Conclusions

Truck noise monitoring was conducted on 17 August 2016 between 7:30am and 12:00am. The results indicated:

- Noise from 108 truck movements was measured;
- A total of 34.07% of truck movements were measured, which satisfies the minimum 25% requirement of Condition 112;
- All measured trucks were identified against weighbridge records to verify the accuracy of field data for reporting.
- All truck noise measurements were within the noise criteria of ADR 28/01 and hence did not exceed the trigger limits.
- Noise from the Terminal's operations was not significant enough to influence the truck noise assessment.
- No noise complaints pertaining to the Terminal's operations were received since the previous truck noise monitoring round.
- Truck noise impacts at the Terminal boundary are considered to be within background levels.

7. References

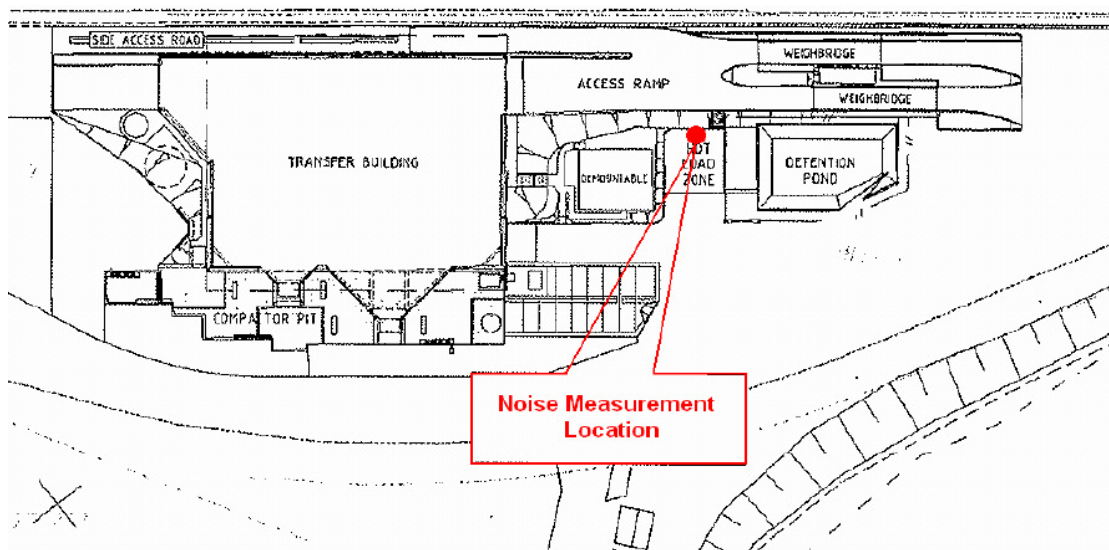
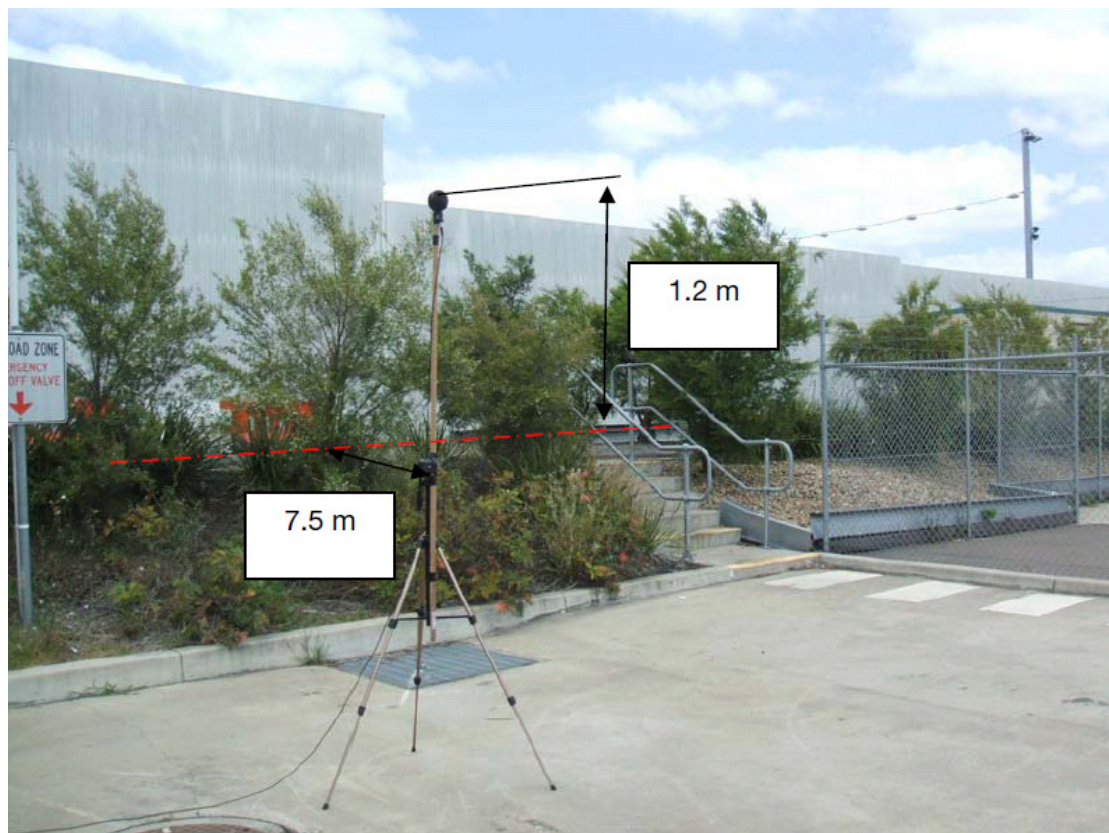
- ADR 28/01 Vehicle Standard Australian Design Rule 28/01 – External Noise of Motor Vehicles), 2006. Federal Register of Legislative Instruments F2006L01279. Australian Government.
- PTMP (2008) Clyde Waste Transfer Facility – Truck Noise Monitoring Proposed Test and Management Plan, 2008. Heggies Pty Ltd.



Appendix A Truck Noise Monitoring Location



Truck Noise Monitoring Location





Appendix B Sound Level Meter Calibration Certificates

RENTALS

Equipment Certification Report – Casella CEL-633 Sound Level Meter

This Sound Level Meter has been checked as follows:

- ☒ Batteries Installed
☒ Data cleared

- ☒ Date and Time checked
☒ Field Calibration at 114.0dB
☒ Date and Time checked

Calibration Variation	<u>114.0</u> dB	Date: <u>15/08/2016</u> <u>16</u> : <u>30</u> h
	<input checked="" type="checkbox"/> OK*	

* Less than ± 0.5 dB

Date: 15/08/2016

Signed: [Signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum \$30 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sound Level Meter with fixed lanyard
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Windsock
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Spare AA Alkaline batteries (Qty 3)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Calibration Certificate
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Class 2C Acoustic Calibrator with Calibration Certificate, Serial #: <u>0131815</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Spare 9 Volt Battery
<input checked="" type="checkbox"/>	<input type="checkbox"/>	USB download cable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Casella Insight software CD
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Manual
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Calibrator User Instructions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Downloading Instruction Guide
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Field Guide
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Carry Case

Date: 16/08/2016

Signed: [Signature]

TFS Reference	<u>CS005280</u>	Return Date:	<u>/ /</u>
Customer Reference		Return Time:	
Equipment ID	<u>SLM633SA</u>	Condition on return:	
Equipment Serial No.	<u>1139331</u>		

"We do more than give you great equipment... We give you great solutions!"

Phone: (Free Call) 1300 735 295		Fax: (Free Call) 1800 675 123		Email: RentalsAU@Thermofisher.com	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5067	Brisbane Branch Unit 2/5 Ross St Newstead 4006	Perth Branch 121 Beringarra Ave Malaga WA 6090	

CERTIFICATE OF CALIBRATION

CERTIFICATE No.: SLM 41666 & FILT 1382

Equipment Description: Sound Level Meter

Manufacturer: Casella

Model No: CEL-63X **Serial No:** 1139331

Microphone Type: CEL-251 **Serial No:** 00829

Filter Type: 1/3 Octave **Serial No:** 1139331

Comments: All tests passed for type 1.
(See over for details)

Owner: Thermo Fisher Scientific Pty Ltd
Unit 5, 4 Talavera Road
North Ryde, NSW 2113

Ambient Pressure: 998 hPa ± 1.5 hPa

Temperature: 22 °C $\pm 2^\circ$ C **Relative Humidity:** 46% $\pm 5\%$

Date of Calibration: 01/08/2016 **Issue Date:** 01/08/2016

Acu-Vib Test Procedure: AVP05 (SLM) & AVP06 (Filters)

CHECKED BY: *[Signature]*

AUTHORISED SIGNATURE: *[Signature]*
Jack Kelt

Accredited for compliance with ISO/IEC 17025

The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.



ACU-VIB

ELECTRONICS

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Accredited Lab. No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE No.: SLM 41666 & FILT 1382

The performance characteristics listed below were tested. The tests are based on the relevant clauses of A.S. 1259.1 and A.S. 1259.2 - 1990

1. RMS Performance	clause 10.4.5
2. Time Weighting Response, F&S	clause 10.4.2
3. Time Weighting I	clause 10.4.3
4. Time Weighting P	clause 10.4.4
5. Input Attenuator Accuracy	clause 10.3.3
6. Detector & Differential Linearity	clause 10.4.1
7. Weighting Networks & Linearity	clause 10.2.3
8. Overload Indication	clause 10.3.2
9. AC Output & Weighted Noise Level	clause 11. (c). (ii) 10.3.4
10. Time Averaging	clause 9.3.2
11. Absolute Sensitivity	clause 10.2.2

Note: Absolute Sensitivity as found was 93.3 dB and adjusted to 94.1 dB
Least Uncertainty: ± 0.13 dB (at 95% c.l.) $k=2$


This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 1260: 1995 and AS/NZS 4476 - 1997 and were conducted to test the following performance characteristics:

1. Relative attenuation	clause 5.3
-------------------------	------------

Least uncertainty for relative attenuation (at 95% c.l.) $k=2$:

- ± 0.1 dB for attenuation equal to or less than 6 dB
- ± 0.3 dB for RA from above 6 dB to 18 dB
- ± 0.6 dB for RA from above 18 dB to 80 dB

Date of Calibration: 01/08/2016 Issue Date: 01/08/2016

Checked by: 

Accredited for compliance with ISO/IEC 17025

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CERTIFICATE OF CALIBRATION

CERTIFICATE No: 19335

EQUIPMENT TESTED: Sound Level Calibrator

Manufacturer: Casella
Type No: CEL-120/1 Serial No: 0131815
Owner: Thermo Fisher Scientific Pty Ltd
Unit 5, 4 Talavera Road
North Ryde, NSW 2113

Tests Performed: Measured output pressure level was found to be:

Parameter	Pre-Adj	Adj Y/N	Output: (db re 20 μ Pa)	Frequency: (Hz)	THD&N (%)
Level 1:	NA	N	93.96	1000.0	1.58
Level 2:	NA	N	113.99	1000.0	0.08
Uncertainty:			± 0.11 dB	± 0.05 Hz	± 0.2 %
Uncertainty (at 95% c.l.) k=2					

CONDITION OF TEST:

Ambient Pressure: 1000 hPa ± 1.5 hPa Relative Humidity: 39% ± 5 %

Temperature: 24 $^{\circ}$ C $\pm 2^{\circ}$ C

Date of Calibration: 01/08/2016

Issue Date: 01/08/2016

Acu-Vib Test Procedure: AVP02 (Calibrators)

Test Method: AS IEC 60942 - 2004

CHECKED BY: AUTHORISED SIGNATURE:

Jack Kieft

Accredited for compliance with ISO/IEC 17025

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Appendix C Weighbridge Records

Date : 17/08/2016

Plant: Clyde PWS Report

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	0:07	BI10VG	Enfield Bulk
Clyde	17/08/2016	0:09	URM020	URM Environmental Services Pty Limi
Clyde	17/08/2016	0:16	CB18SE	Enfield FrontLift
Clyde	17/08/2016	0:21	CH99NJ	Remondis Australia Pty Ltd
Clyde	17/08/2016	0:27	BS97WD	Bingo Recycling Pty Ltd
Clyde	17/08/2016	0:39	AA42JJ	Ku-ring-gai Council
Clyde	17/08/2016	0:50	BP93PW	The Council of the City of Sydney
Clyde	17/08/2016	0:53	BV02JR	Enfield Bulk
Clyde	17/08/2016	1:04	CD69KW	Enfield FrontLift
Clyde	17/08/2016	1:10	BY25PU	Remondis Australia Pty Ltd
Clyde	17/08/2016	1:11	BR35PO	Remondis Australia Pty Ltd
Clyde	17/08/2016	1:16	ISTINK	Remondis Australia Pty Ltd
Clyde	17/08/2016	1:17	CC75DT	ORG Organic Recycling Group Pty Ltd
Clyde	17/08/2016	1:24	2URM	URM Environmental Services Pty Limi
Clyde	17/08/2016	1:27	URM414	URM Environmental Services Pty Limi
Clyde	17/08/2016	1:43	BD96ZZ	Enfield RearLift
Clyde	17/08/2016	1:47	AO09YC	Remondis Australia Pty Ltd
Clyde	17/08/2016	1:52	BV45NI	Capital City Waste Services Pty Ltd
Clyde	17/08/2016	1:55	YLN839	Remondis Australia Pty Ltd
Clyde	17/08/2016	1:56	URM039	URM Environmental Services Pty Limi
Clyde	17/08/2016	1:59	WTRANS	Enfield Bulk
Clyde	17/08/2016	2:04	WTRANS	Enfield Bulk
Clyde	17/08/2016	2:06	CF47UC	Enfield RearLift
Clyde	17/08/2016	2:07	URM406	URM Environmental Services Pty Limi
Clyde	17/08/2016	2:17	CG21CX	Remondis Australia Pty Ltd
Clyde	17/08/2016	2:29	BIN749	Bingo Recycling Pty Ltd
Clyde	17/08/2016	2:30	AR09AM	Enfield FrontLift
Clyde	17/08/2016	2:31	BV02JR	Enfield Bulk
Clyde	17/08/2016	2:33	YCP248	Ku-ring-gai Council
Clyde	17/08/2016	2:40	AZ13JG	Enfield RearLift
Clyde	17/08/2016	2:51	CG21CX	Remondis Australia Pty Ltd
Clyde	17/08/2016	3:00	BI10VG	Enfield Bulk
Clyde	17/08/2016	3:01	CB18SE	Enfield FrontLift
Clyde	17/08/2016	3:02	CI15WC	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	3:12	AO09YC	Remondis Australia Pty Ltd
Clyde	17/08/2016	3:17	ISTINK	Remondis Australia Pty Ltd
Clyde	17/08/2016	3:19	CA76RA	Ku-ring-gai Council
Clyde	17/08/2016	3:20	AV18XT	Enfield FrontLift
Clyde	17/08/2016	3:24	BL63SB	Enfield Bulk
Clyde	17/08/2016	3:24	BIN744	Bingo Recycling Pty Ltd
Clyde	17/08/2016	3:25	AA43JJ	Ku-ring-gai Council
Clyde	17/08/2016	3:31	CD69KW	Enfield FrontLift
Clyde	17/08/2016	3:35	BK19BD	Enfield Bulk
Clyde	17/08/2016	3:38	CD98FV	ORG Organic Recycling Group Pty Ltd
Clyde	17/08/2016	3:41	BH82RI	Enfield RearLift
Clyde	17/08/2016	3:49	YLN839	Remondis Australia Pty Ltd
Clyde	17/08/2016	3:59	AA42JJ	Ku-ring-gai Council
Clyde	17/08/2016	3:59	CE39XP	Enfield FrontLift
Clyde	17/08/2016	4:01	BH61CA	Enfield Bulk

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	4:04	BN30GB	Canterbury City Council
Clyde	17/08/2016	4:15	BIN734	Bingo Recycling Pty Ltd
Clyde	17/08/2016	4:24	AV19XT	Enfield FrontLift
Clyde	17/08/2016	4:25	BD88RL	Enfield FrontLift
Clyde	17/08/2016	4:27	BN31GB	Canterbury City Council
Clyde	17/08/2016	4:28	BR90UA	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	4:29	BX79VE	Canterbury City Council
Clyde	17/08/2016	4:32	URM039	URM Environmental Services Pty Limi
Clyde	17/08/2016	4:37	YCP248	Ku-ring-gai Council
Clyde	17/08/2016	4:38	AO09YC	Remondis Australia Pty Ltd
Clyde	17/08/2016	4:38	AY75CT	Auburn Council
Clyde	17/08/2016	4:39	BS02DN	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	4:40	BK19BD	Enfield Bulk
Clyde	17/08/2016	4:46	URM076	URM Environmental Services Pty Limi
Clyde	17/08/2016	4:49	BQ69KC	Canterbury City Council
Clyde	17/08/2016	4:58	BE48SD	Ashfield Council
Clyde	17/08/2016	5:03	CC20KM	Enfield Bulk
Clyde	17/08/2016	5:11	BI22FV	Earthpower Technologies Sydney Pty.
Clyde	17/08/2016	5:13	BP02LI	Canterbury City Council
Clyde	17/08/2016	5:15	AY88AM	Auburn Council
Clyde	17/08/2016	5:22	URM355	URM Environmental Services Pty Limi
Clyde	17/08/2016	5:24	BQ15DM	Canterbury City Council
Clyde	17/08/2016	5:36	CB18SE	Enfield FrontLift
Clyde	17/08/2016	5:38	BX76XT	Remondis Australia Pty Ltd
Clyde	17/08/2016	5:47	BK19BD	Enfield Bulk
Clyde	17/08/2016	5:48	AY29JL	Auburn Council
Clyde	17/08/2016	5:52	BG05HG	Strathfield Municipal Council
Clyde	17/08/2016	5:57	BI10VG	Enfield Bulk
Clyde	17/08/2016	5:57	BP10AW	Enfield FrontLift
Clyde	17/08/2016	6:11	CE42GN	Auburn Council
Clyde	17/08/2016	6:15	CH17DE	Remondis Australia (Taren Point) Pt
Clyde	17/08/2016	6:16	AY89AM	Auburn Council
Clyde	17/08/2016	6:21	BV02JR	Enfield Bulk
Clyde	17/08/2016	6:27	YCP248	Ku-ring-gai Council
Clyde	17/08/2016	6:27	GG169	Hornsby Council
Clyde	17/08/2016	6:28	ISTINK	Remondis Australia Pty Ltd
Clyde	17/08/2016	6:29	CE62XY	The Council of the City of Sydney
Clyde	17/08/2016	6:32	CE69JK	Auburn Council
Clyde	17/08/2016	6:34	BX99UJ	Enfield FrontLift
Clyde	17/08/2016	6:38	BI82JD	Hunter's Hill Council
Clyde	17/08/2016	6:41	CI23DH	Leichhardt Municipal Council
Clyde	17/08/2016	7:06	AY75CT	Auburn Council
Clyde	17/08/2016	7:11	CD42KE	Parramatta City Council Depot V#101
Clyde	17/08/2016	7:12	BD88RL	Enfield FrontLift
Clyde	17/08/2016	7:13	CB46UN	City of Ryde
Clyde	17/08/2016	7:20	CF33PN	City of Canada Bay Council - Domest
Clyde	17/08/2016	7:21	CD28PG	City of Ryde
Clyde	17/08/2016	7:26	CD29PG	City of Ryde
Clyde	17/08/2016	7:26	BN18VS	Enfield RearLift
Clyde	17/08/2016	7:27	AY88AM	Auburn Council
Clyde	17/08/2016	7:28	ZJH172	Canterbury City Council
Clyde	17/08/2016	7:32	BG05HG	Strathfield Municipal Council
Clyde	17/08/2016	7:35	CF32CS	Burwood Council - Trade Waste Servi

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	7:35	CF47UC	Enfield RearLift
Clyde	17/08/2016	7:39	BN29GB	Canterbury City Council
Clyde	17/08/2016	7:39	AR09LS	The Hills Shire Council
Clyde	17/08/2016	7:43	AL78KF	Remondis Australia Pty Ltd
Clyde	17/08/2016	7:44	CE98GR	City of Ryde
Clyde	17/08/2016	7:54	CD26PG	City of Ryde
Clyde	17/08/2016	7:56	BI46EF	City of Ryde
Clyde	17/08/2016	8:01	BY51RY	City of Canada Bay Council - TS&O
Clyde	17/08/2016	8:01	BD96ZZ	Enfield RearLift
Clyde	17/08/2016	8:02	CE42GN	Auburn Council
Clyde	17/08/2016	8:04	MT2750	Remondis Australia Pty Ltd
Clyde	17/08/2016	8:05	AK69BL	City of Ryde
Clyde	17/08/2016	8:09	AA43JJ	Ku-ring-gai Council
Clyde	17/08/2016	8:12	URM137	Lane Cove Council
Clyde	17/08/2016	8:18	BE48SD	Ashfield Council
Clyde	17/08/2016	8:22	BR68TD	Strathfield Municipal Council
Clyde	17/08/2016	8:22	AY29JL	Auburn Council
Clyde	17/08/2016	8:23	BL63RQ	Strathfield Municipal Council
Clyde	17/08/2016	8:23	AR09AM	Enfield FrontLift
Clyde	17/08/2016	8:24	CH03VX	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	8:28	BR90UA	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	8:29	CD34SC	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	8:33	BF41VN	Burwood Council
Clyde	17/08/2016	8:35	BS48WI	The Hills Shire Council
Clyde	17/08/2016	8:35	AW67CF	Burwood Council
Clyde	17/08/2016	8:37	CD85SC	City of Ryde
Clyde	17/08/2016	8:45	CI27XY	Leichhardt Municipal Council
Clyde	17/08/2016	8:46	AR36AI	Hornsby Council
Clyde	17/08/2016	8:48	CF65GX	Auburn Council
Clyde	17/08/2016	8:48	CB18SE	Enfield FrontLift
Clyde	17/08/2016	9:03	YLN839	Remondis Australia Pty Ltd
Clyde	17/08/2016	9:04	CB51AC	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	9:09	AR97WK	The Hills Shire Council
Clyde	17/08/2016	9:11	BT19EZ	Remondis Australia Pty Ltd
Clyde	17/08/2016	9:14	BM69KE	Remondis Australia Pty Ltd
Clyde	17/08/2016	9:16	CE72ZF	City of Canada Bay Council - Domestic
Clyde	17/08/2016	9:17	BX79VE	Canterbury City Council
Clyde	17/08/2016	9:17	BE24HU	Canterbury City Council
Clyde	17/08/2016	9:18	BP01LI	Canterbury City Council
Clyde	17/08/2016	9:21	URM468	Lane Cove Council
Clyde	17/08/2016	9:21	CF33PN	City of Canada Bay Council - Domestic
Clyde	17/08/2016	9:22	BN30GB	Canterbury City Council
Clyde	17/08/2016	9:22	BN88CO	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	9:23	CE19XX	Ashfield Council
Clyde	17/08/2016	9:23	AZ44YE	Express Waste Pty Limited
Clyde	17/08/2016	9:25	AR35AI	Hornsby Council
Clyde	17/08/2016	9:28	BY36TZ	Enfield Bulk
Clyde	17/08/2016	9:29	AY29JL	Auburn Council
Clyde	17/08/2016	9:29	AR48AI	The Hills Shire Council
Clyde	17/08/2016	9:30	CD64NX	Leichhardt Municipal Council
Clyde	17/08/2016	9:32	BN31GB	Canterbury City Council
Clyde	17/08/2016	9:32	CA51HK	Leichhardt Municipal Council
Clyde	17/08/2016	9:32	GG109	Hornsby Council

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	9:33	AR10LS	The Hills Shire Council
Clyde	17/08/2016	9:37	AR49AI	The Hills Shire Council
Clyde	17/08/2016	9:41	CI23DH	Leichhardt Municipal Council
Clyde	17/08/2016	9:44	AR22LS	The Hills Shire Council
Clyde	17/08/2016	9:44	BS30HM	Leichhardt Municipal Council
Clyde	17/08/2016	9:45	CB46UN	City of Ryde
Clyde	17/08/2016	9:46	CE65RY	City of Canada Bay Council - Domestic
Clyde	17/08/2016	9:49	CE54QB	Hornsby Council
Clyde	17/08/2016	9:49	BH82RI	Enfield RearLift
Clyde	17/08/2016	9:49	BP02LI	Canterbury City Council
Clyde	17/08/2016	9:51	AA42JJ	Ku-ring-gai Council
Clyde	17/08/2016	9:53	YCP248	Ku-ring-gai Council
Clyde	17/08/2016	9:54	AY75CT	Auburn Council
Clyde	17/08/2016	9:58	CD82YN	Ku-ring-gai Council
Clyde	17/08/2016	9:58	CE57RY	City of Canada Bay Council - Domestic
Clyde	17/08/2016	9:59	CE39XP	Enfield FrontLift
Clyde	17/08/2016	9:59	AR38AI	The Hills Shire Council
Clyde	17/08/2016	10:04	BE21KN	Hornsby Council
Clyde	17/08/2016	10:05	BB46JJ	Parramatta City Council Depot V#101
Clyde	17/08/2016	10:05	CE28CW	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	10:06	BH14HJ	City of Canada Bay Council - Domestic
Clyde	17/08/2016	10:11	BE74KO	Hornsby Council
Clyde	17/08/2016	10:13	BL63SB	Enfield Bulk
Clyde	17/08/2016	10:15	BN56QO	Canterbury City Council
Clyde	17/08/2016	10:17	BS98WE	Enfield RearLift
Clyde	17/08/2016	10:18	1EQQ706	Ku-ring-gai Council
Clyde	17/08/2016	10:23	CE74GO	Remondis Australia Pty Ltd
Clyde	17/08/2016	10:28	BN73GB	Canterbury City Council
Clyde	17/08/2016	10:33	CGG4053	Ku-ring-gai Council
Clyde	17/08/2016	10:35	BL49JB	Lane Cove Council
Clyde	17/08/2016	10:36	CGG4052	Ku-ring-gai Council
Clyde	17/08/2016	10:38	URM577	Hunter's Hill Council
Clyde	17/08/2016	10:39	AY89AM	Auburn Council
Clyde	17/08/2016	10:41	AZ13JG	Enfield RearLift
Clyde	17/08/2016	10:44	AQ97PD	Parramatta City Council Depot V#101
Clyde	17/08/2016	10:46	URM393	Hunter's Hill Council
Clyde	17/08/2016	10:48	BE93DJ	Hornsby Council
Clyde	17/08/2016	10:51	ZKG100	The Hills Shire Council
Clyde	17/08/2016	10:53	URM450	Lane Cove Council
Clyde	17/08/2016	10:54	BE73KP	Hornsby Council
Clyde	17/08/2016	10:54	BR90UA	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	10:57	URM020	Lane Cove Council
Clyde	17/08/2016	10:59	AA66JF	Ku-ring-gai Council
Clyde	17/08/2016	10:59	YHL611	Remondis Australia Pty Ltd
Clyde	17/08/2016	11:00	AP96TO	Parramatta City Council Depot V#101
Clyde	17/08/2016	11:03	CH99NJ	Remondis Australia Pty Ltd
Clyde	17/08/2016	11:08	BB05GH	Ashfield Council
Clyde	17/08/2016	11:08	AY73LY	Remondis Australia Pty Ltd
Clyde	17/08/2016	11:15	URM237	Lane Cove Council
Clyde	17/08/2016	11:15	BL54KN	Ashfield Council
Clyde	17/08/2016	11:22	AZ41AD	Enfield RearLift
Clyde	17/08/2016	11:22	CE98GR	City of Ryde
Clyde	17/08/2016	11:28	BH63QY	Parramatta City Council Depot V#101

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	11:28	CD28PG	City of Ryde
Clyde	17/08/2016	11:29	BE15HT	Hornsby Council
Clyde	17/08/2016	11:31	BE57KP	Hornsby Council
Clyde	17/08/2016	11:31	BX99UJ	Enfield FrontLift
Clyde	17/08/2016	11:35	AK69BL	City of Ryde
Clyde	17/08/2016	11:35	AP47PT	Canterbury City Council
Clyde	17/08/2016	11:37	BX77NO	Enfield FrontLift
Clyde	17/08/2016	11:38	CD29PG	City of Ryde
Clyde	17/08/2016	11:45	CH50VI	Remondis Australia Pty Ltd
Clyde	17/08/2016	11:48	AR09LS	The Hills Shire Council
Clyde	17/08/2016	11:51	CI15WC	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	11:52	CD26PG	City of Ryde
Clyde	17/08/2016	11:53	BE24HU	Canterbury City Council
Clyde	17/08/2016	11:58	2URM	URM Environmental Services Pty Limi
Clyde	17/08/2016	12:04	AV19XT	Enfield FrontLift
Clyde	17/08/2016	12:14	BY49NW	Enfield Bulk IRR
Clyde	17/08/2016	12:15	BA98FZ	Enfield FrontLift
Clyde	17/08/2016	12:15	CD85SC	City of Ryde
Clyde	17/08/2016	12:16	BJ99XU	Lane Cove Council
Clyde	17/08/2016	12:19	BE48SD	Ashfield Council
Clyde	17/08/2016	12:22	BD88RL	Enfield FrontLift
Clyde	17/08/2016	12:22	CJ58CB	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	12:23	CE28CW	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	12:23	BU43PS	Enfield FrontLift
Clyde	17/08/2016	12:27	URM474	URM Environmental Services Pty Limi
Clyde	17/08/2016	12:32	AP58YU	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	12:34	AR35AI	Hornsby Council
Clyde	17/08/2016	12:37	CI16WF	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	12:37	BS48WI	The Hills Shire Council
Clyde	17/08/2016	12:44	BD49ZB	Hornsby Council
Clyde	17/08/2016	12:44	CE72ZF	City of Canada Bay Council - Domestic
Clyde	17/08/2016	13:01	BX75PI	Leichhardt Municipal Council
Clyde	17/08/2016	13:02	CE19XX	Ashfield Council
Clyde	17/08/2016	13:07	1EQQ706	Ku-ring-gai Council
Clyde	17/08/2016	13:09	AW67CF	Burwood Council
Clyde	17/08/2016	13:12	URM737	Hunter's Hill Council
Clyde	17/08/2016	13:14	CD26ZC	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	13:15	CA56NV	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	13:20	BN29GB	Canterbury City Council
Clyde	17/08/2016	13:22	CA63MP	Ashfield Council
Clyde	17/08/2016	13:26	BB21FO	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	13:38	BX79VE	Canterbury City Council
Clyde	17/08/2016	13:39	BP91NN	Remondis Australia Pty Ltd
Clyde	17/08/2016	13:45	CH16DE	Remondis Australia Pty Ltd
Clyde	17/08/2016	13:45	YXC545	J.J. Richards & Sons Pty Ltd
Clyde	17/08/2016	13:48	AR97WK	The Hills Shire Council
Clyde	17/08/2016	13:50	WTRANS	Enfield Bulk
Clyde	17/08/2016	13:52	CE57RY	City of Canada Bay Council - Domestic
Clyde	17/08/2016	13:54	BP01LI	Canterbury City Council
Clyde	17/08/2016	13:55	AR21LS	The Hills Shire Council
Clyde	17/08/2016	13:58	BN31GB	Canterbury City Council
Clyde	17/08/2016	14:04	CE65RY	City of Canada Bay Council - Domestic
Clyde	17/08/2016	14:04	BH14HJ	City of Canada Bay Council - Domestic

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	14:08	AA66JF	Ku-ring-gai Council
Clyde	17/08/2016	14:09	CD82YN	Ku-ring-gai Council
Clyde	17/08/2016	14:12	CGG4052	Ku-ring-gai Council
Clyde	17/08/2016	14:14	AR38AI	The Hills Shire Council
Clyde	17/08/2016	14:15	AR22LS	The Hills Shire Council
Clyde	17/08/2016	14:16	WUK075	Hornsby Council
Clyde	17/08/2016	14:16	AU57QJ	Enfield FrontLift
Clyde	17/08/2016	14:17	BE21KN	Hornsby Council
Clyde	17/08/2016	14:18	BE94DJ	Hornsby Council
Clyde	17/08/2016	14:18	BE74KO	Hornsby Council
Clyde	17/08/2016	14:20	BE93DJ	Hornsby Council
Clyde	17/08/2016	14:29	AR09AM	Enfield FrontLift
Clyde	17/08/2016	14:36	AR09LS	The Hills Shire Council
Clyde	17/08/2016	14:37	ZKG100	The Hills Shire Council
Clyde	17/08/2016	14:37	BD49ZB	Hornsby Council
Clyde	17/08/2016	14:38	AR10LS	The Hills Shire Council
Clyde	17/08/2016	14:39	AR48AI	The Hills Shire Council
Clyde	17/08/2016	14:40	BF41VN	The Hills Shire Council
Clyde	17/08/2016	14:42	URM137	Lane Cove Council
Clyde	17/08/2016	14:44	AR49AI	The Hills Shire Council
Clyde	17/08/2016	14:44	BE57KP	Hornsby Council
Clyde	17/08/2016	15:18	BE73KP	Hornsby Council
Clyde	17/08/2016	15:39	ISTINK	Remondis Australia Pty Ltd
Clyde	17/08/2016	15:50	AP96TO	Parramatta City Council Depot V#101
Clyde	17/08/2016	16:28	MT2750	Remondis Australia Pty Ltd
Clyde	17/08/2016	17:51	ZLD406	Remondis Australia Pty Ltd
Clyde	17/08/2016	17:56	BA98FZ	Enfield FrontLift
Clyde	17/08/2016	18:08	WTRANS	Enfield Bulk
Clyde	17/08/2016	19:04	BN52RX	Enfield RearLift
Clyde	17/08/2016	19:44	BS30HM	Leichhardt Municipal Council
Clyde	17/08/2016	19:55	BIN706	Bingo Recycling Pty Ltd
Clyde	17/08/2016	20:22	CA51HK	Leichhardt Municipal Council
Clyde	17/08/2016	20:31	CE46AG	Enfield FrontLift
Clyde	17/08/2016	20:33	ZLD406	Remondis Australia Pty Ltd
Clyde	17/08/2016	20:47	WTRANS	Enfield Bulk
Clyde	17/08/2016	20:48	CI27XY	Leichhardt Municipal Council
Clyde	17/08/2016	21:00	CAL068	Enfield RearLift
Clyde	17/08/2016	21:03	BI10VG	Enfield Bulk
Clyde	17/08/2016	21:12	WTRANS	Enfield Bulk
Clyde	17/08/2016	21:15	URM039	URM Environmental Services Pty Limi
Clyde	17/08/2016	22:10	AA77JG	Ku-ring-gai Council
Clyde	17/08/2016	22:37	URM049	URM Environmental Services Pty Limi
Clyde	17/08/2016	22:45	AV19XT	Enfield FrontLift
Clyde	17/08/2016	22:47	WTRANS	Enfield Bulk
Clyde	17/08/2016	22:52	WTRANS	Enfield Bulk
Clyde	17/08/2016	23:01	WTRANS	Enfield Bulk
Clyde	17/08/2016	23:04	BH82RI	Enfield RearLift
Clyde	17/08/2016	23:08	URM079	URM Environmental Services Pty Limi
Clyde	17/08/2016	23:11	WTRANS	Enfield Bulk
Clyde	17/08/2016	23:12	DCK010	Remondis Australia Pty Ltd
Clyde	17/08/2016	23:30	AA82JI	Ku-ring-gai Council
Clyde	17/08/2016	23:33	1EQR123	Ku-ring-gai Council
Clyde	17/08/2016	23:33	AA43JJ	Ku-ring-gai Council

Facility	Trans.Date	Time	License No	Customer Name
Clyde	17/08/2016	23:36	URM406	URM Environmental Services Pty Limi
Clyde	17/08/2016	23:47	URM414	URM Environmental Services Pty Limi
Clyde	17/08/2016	23:49	AR09AM	Enfield FrontLift



Appendix D Truck Noise Measurement Field Sheets

Noise Measurement Results

Time	Company	Make	Lift Type	Registration	Exhaust Location	L _A Max (dBA)	Impeded Movement
9:51	Ku-ring-gai Council	Mitsubishi	Rear	AA42JJ	Front Left	65.2	Y
8:01	City of Canada Bay Council - TS&O	Kino	Rear	BY51RY	Front Right	69.4	N
9:18	Canterbury City Council	Dennis	Rear	BP01LI	Bottom Left	70.1	Y
8:23	Strathfield Municipal Council	Hino	Side	BL63RQ		70.2	N
9:09	The Hills Shire Council	Ivenco	Rear	AR97WK	Front Right	70.2	N
9:45	City of Ryde	Isuzu		CB46UN		70.2	Y
10:05	Parramatta City Council Depot V#101	Hino	Rear	BB46JJ	Front Right	70.4	N
11:28	Parramatta City Council Depot V#101	Hino	Rear	BH63QY	Bottom Centre	70.5	N
11:15	Ashfield Council	Hino	Front	BL54KN		70.7	Y
9:17	Canterbury City Council	Isuzu	Rear	BE24HY	Front Right	71.0	Y
9:53	Ku-ring-gai Council	Mitsubishi	Rear	YCP248	Front Left	71.0	Y
9:03	Remondis Australia Pty Ltd		Rear	YLN839	Front Right	71.5	N
11:53	Canterbury City Council	Isuzu	Rear	BE24HU	Front Right	71.5	N
8:45	Leichhardt Municipal Council		Rear	CI27XY		72.1	Y
9:30	Leichhardt Municipal Council	Hino	Rear	CD64NX		72.2	Y
11:08	Ashfield Council		Side	BB05GH		72.7	N
8:12	Lane Cove Council	Mitsubishi	Rear	URM137	Front Left	72.9	N
8:48	Enfield FrontLift		Front	CB18SE	Front Right	73.0	Y
8:48	Auburn Council	Isuzu	Rear	CF65GX	Bottom Right	73.3	N
9:22	J.J. Richards & Sons Pty Ltd	Ivenco	Rear	BN88CO	Front Right	74.0	Y
10:13	Enfield Bulk	Volvo	Rear	BL63SB	Front Right	74.0	N
10:54	J.J. Richards & Sons Pty Ltd	Ivenco	Rear	BR90UA		74.2	Y
9:59	The Hills Shire Council	Ivenco	Side	AR38AI	Front Right	74.9	Y
9:49	Enfield RearLift	Isuzu	rear	BH82RI	Front Right	75.0	Y
9:59	Enfield FrontLift		Front	CE39XP	Bottom Right	75.0	Y
9:11	Remondis Australia Pty Ltd		Rear	BT19EZ	Front Left	75.1	N
11:45	Remondis Australia Pty Ltd	Mercedes	Rear	CH50VI		75.1	N
9:21	Lane Cove Council	Ivenco	Side	URM468	Front Right	75.2	N
9:22	Canterbury City Council	Dennis	Side	BN30GB	Front Right	75.2	Y
9:23	Ashfield Council			CE19XX	Front Right	75.2	Y
9:32	Hornsby Council	Mitsubishi	Side	GG109	Front Right	75.2	Y
9:41	Leichhardt Municipal Council	Hino	Rear	CI23DH		75.2	N
9:49	Hornsby Council	Ivenco	Rear	CE54QB	Front Right	75.2	Y
9:32	Leichhardt Municipal Council	Hino	Rear	CA51HK		75.6	Y
11:00	Parramatta City Council Depot V#101	Isuzu	Rear	AP96TO	Front Left	75.8	Y
11:03	Remondis Australia Pty Ltd	Mercedes	Rear	CH99NJ		75.8	N
8:04	Remondis Australia Pty Ltd	Isuzu		MT2750	Front Right	76.0	N
8:09	Ku-ring-gai Council	Mitsubishi	Rear	AA43JJ	Front Left	76.0	N
9:14	Remondis Australia Pty Ltd	Mitsubishi	Rear	BM69KE	Front Left	76.0	N
11:08	Remondis Australia Pty Ltd	Mercedes	Front	AY73LY	Front Right	76.0	N
11:22	City of Ryde	Dennis	Rear	CE98GR	Front Left	76.1	Y
9:29	The Hills Shire Council	Iveco	Side	AR48AI	Front Right	76.2	Y
9:44	Leichhardt Municipal Council		Rear	BS30HM		76.2	Y
9:49	Canterbury City Council	Dennis	Rear	BP02LI	Front Right	76.2	Y
10:53	Lane Cove Council			URM450	Front Right	76.3	N
8:35	Burwood Council	Ivenco	Side	AW67CF	Front Right	76.5	Y
9:21	City of Canada Bay Council - Domest			CF33PN		76.7	Y
8:46	Hornsby Council	Ivenco	Side	AR36AI	Front Right	76.8	N
10:39	Auburn Council	Ivenco	Side	AY89AM	Front Right	76.8	N
8:23	Enfield FrontLift		Front	AR09AM	Back Right	77.0	Y
9:04	J.J. Richards & Sons Pty Ltd	Iveco	Front	CB51AC	Front Right	77.1	N
10:15	Canterbury City Council	Dennis	Side	BN56QO	Front Right	77.1	N
11:28	City of Ryde	Ivenco	Side	CD28PG	Front Right	77.1	N
8:01	Veolia	Isuzu	Rear	BD96ZZ	Front Right	77.2	N
10:41	Veolia	Isuzu	Rear	AZ13JG	Front Right	77.3	N
8:05	City of Ryde	Ivenco	Side	AK69BL	Front Right	77.5	N
9:33	The Hills Shire Council	Ivenco	Side	AR10LS	Front Right	77.5	Y
8:18	Ashfield Council	Ivenco	Side	BE48SD	Front Right	77.7	N
9:17	Canterbury City Council			BX79VE		77.7	Y
11:52	City of Ryde	Ivenco	Side	CD26PG	Front Right	77.7	N
10:44	Parramatta City Council Depot V#101	Isuzu	Rear	AQ97PD	Front Left	77.8	N
8:22	Strathfield Municipal Council	Hino	Side	BR68TD	Front Right	78.0	N
8:02	Auburn Council	Ivenco	Side	CE42GN	Front Right	78.2	N
10:28	Canterbury City Council	Dennis	Side	BN73GB	Front Right	78.2	N
10:33	Ku-ring-gai Council	Ivenco	Side	CGG4053	Front Right	78.3	N
11:38	City of Ryde	Ivenco	Side	CD29PG	Front Right	78.4	N
8:29	J.J. Richards & Sons Pty Ltd	Dennis	Rear	CD34SC	Front Right	78.5	N
8:37	City of Ryde	Dennis	Rear	CD85SC		78.5	Y
10:17	Enfield RearLift	Isuzu	Rear	BS98WE	Front Right	78.5	N

Time	Company	Make	Lift Type	Registration	Exhaust Location	L _A Max (dBA)	Impeded Movement
10:05	J.J. Richards & Sons Pty Ltd	Dennis	Rear	CE28CW	Front Right	78.7	N
11:35	The Hills Shire Council	Ivenco	Side	AP47PT	Front Right	78.7	N
9:44	The Hills Shire Council	Ivenco	Side	AR22LS	Front Right	78.8	N
10:48	Hornsby Council	Ivenco	Side	BE93DJ	Front Right	78.9	N
8:35	The Hills Shire Council	Ivenco	Side	BS48WI	Front Right	79.0	N
11:51	J.J. Richards & Sons Pty Ltd	Ivenco	Front	CI15WC		79.0	N
9:32	Canterbury City Council	Dennis	Side	BN31GB	Front Right	79.2	Y
10:11	Hornsby Council	Ivenco	Side	BE74KO	Front Right	79.2	N
10:36	Ku-ring-gai Council	Ivenco	Side	CGG4052	Front Right	79.2	Y
8:33	Burwood Council	Ivenco	Side	BF41VN	Front Right	79.5	N
10:35	Lane Cove Council	Ivenco	Side	BL49JB	Front Right	79.5	N
11:31	Hornsby Council	Ivenco	Side	BE57KP	Front Right	79.6	N
9:58	City of Canada Bay Council - Domestic	Ivenco	Side	CE57RY	Front Right	79.7	N
10:57	Lane Cove Council	Ivenco	Rear	URM020	Front Right	80.0	N
9:46	City of Canada Bay Council - Domestic	Ivenco	Side	CE65RY	Front Right	80.1	N
10:38	Hunter's Hill Council	Ivenco	Side	URM577	Front Right	80.1	N
11:37	Enfield FrontLift	Volvo	Front	BX77NO	Front Right	80.1	N
9:16	City of Canada Bay Council - Domestic	Dennis	Rear	CE72ZF		80.2	N
9:28	Enfield Bulk	Volvo	Truck	BY36TZ		80.2	N
9:29	Auburn Council	Ivenco	Rear	AY29JL	Front Right	80.2	Y
10:51	The Hills Shire Council	Ivenco	Side	ZKG100	Front Right	80.2	N
8:24	J.J. Richards & Sons Pty Ltd	Dennis	Rear	CH03VX		80.5	Y
10:18	Ku-ring-gai Council	Ivenco	Side	1EQQ706	Front Right	80.9	N
10:54	Hornsby Council	Ivenco	Side	BE73KP	Front Right	81.2	Y
9:37	The Hills Shire Council	Iveco	Side	AR49AI	Front Right	81.7	N
7:56	City of Ryde	Ivenco	Side	BI46EF	Front Right	81.9	N
11:29	Hornsby Council	Ivenco	Rear	BE15HT	Front Right	82.1	N
10:06	City of Canada Bay Council - Domestic	Ivenco	Side	BH14HJ	Front Right	82.4	N
10:46	Hunter's Hill Council	Ivenco	Side	URM393	Front Right	82.4	N
9:58	Ku-ring-gai Council	Ivenco	Side	CD82YN	Front Right	82.5	N
10:04	Hornsby Council	Ivenco	Side	BE21KN	Front Right	82.6	N
11:35	City of Ryde	Ivenco	Side	AK69BL	Front Right	82.6	N
10:59	Ku-ring-gai Council	Ivenco	Side	AA66JF	Front Right	83.4	N
8:28	J.J. Richards & Sons Pty Ltd	Ivenco	Rear	BR90UA		83.5	N
11:48	The Hills Shire Council	Ivenco	Side	AR09LS	Front Right	84.4	N
8:22	Auburn Council	Ivenco	Rear	AY29JL	Front Right	84.5	N
10:23	Remondis Australia Pty Ltd	Mercedes	Front	CE74GO		85.2	N
7:54	City of Ryde	Ivenco	Side	CD26PG	Front Right	85.5	N
9:54	Auburn Council	Ivenco	Side	AY75CT	Front Right	85.9	N

Measured Truck Movements

108

Total Truck Movements (17/08/2016)

317

Percent of truck movements measured (05/08/2015)

34.07 %

Total Impeded Truck Movements

35

Unimpeded Measurements

73

Total Small Truck Measurements

8