

18 August 2015

OneSteel Recycling Pty Ltd
55 – 57 Riverside Road,
Chipping Norton, NSW 2170

Attention: Roger Baines

**QUARTERLY NOISE MONITORING REPORT
ONESTEEL RECYCLING, HEXHAM
APRIL TO JUNE 2015**

1 INTRODUCTION

This letter report provides the results of attended surveys conducted on the days of the 3rd and 23rd of June 2015 to assess the noise impact of operations at the OneSteel Recycling Pty Ltd facility located at No.14 and No.41 Sparke Street, Hexham.

The surveys have been conducted in response to the noise monitoring requirements in the Environment Protection License for the site and have been conducted in accordance with the requirements of AS 1055 - Acoustics - Description and Measurement of Environmental Noise. The target noise goals for the premises are set out in **Table 2** below.

This report also contains details of the data obtained from the permanent noise monitoring station located at the St. Joseph's Retirement Village over the April to June 2015 reporting period.

2 EQUIPMENT

The equipment used for monitoring sound levels is shown below in **Table 1**.

Table 1 *Equipment Used for Sound Pressure Level Measurements*

Type of monitoring	Make/Model	Serial Number	Last Calibrated
Attended surveys	01dB SLS 95	30422	December 2014
Unattended Logging	Ngara	878121	March 2014

3 SOUND LEVEL TARGETS

The target noise goals for the premises are set out in **Table 2** below.

Table 2 *Target Noise Goals*

Location	Day L _{Aeq} (15min)	Evening L _{Aeq} (15min)	Night L _{Aeq} (15min)
Any residence in Shamrock Street	47	48	45
St. Joseph's Retirement Village & any associated residence on Old Maitland Road	53	42	41

4 RESULTS

4.1 METEOROLOGY

The weather conditions for all surveys conducted were suitable for noise monitoring over the entire survey period and are shown below in **Table 3**.

Table 3 *Weather Conditions*

Survey Date	Start Time	Location	Cloud	Temp	Wind Speed	Wind Direction	Effects of Weather
3 Jun 2015	11:48	Shamrock St	1 Octa	19 °C	1.5 to 3 m/s	WNW	Reduced OneSteel Levels
3 Jun 2015	11:00	St. Joseph's	1 Octa	17 °C	0 to 1 m/s	WNW	NIL
23 Jun 2015	12:35	Shamrock St	1 Octa	23 °C	0.5 to 2.8 m/s	NNW	Reduced OneSteel Levels
23 Jun 2015	11:52	St. Joseph's	2 Octa	17 °C	0 to 1.6 m/s	NE to W	NIL

4.2 MEASURED SOUND LEVELS

Table 4 shown below gives the results of the attended noise surveys conducted on the 3rd and 23rd of June 2015. Marked time traces of the attended noise surveys are shown in **Figure 1** to **Figure 4** at the end of this report.

Table 4 Measured Sound Levels

Survey Date	Survey Start Time	Location	Overall			OneSteel L _{Aeq} 15min Contribution	OneSteel L _{Aeq} 15min Limit	Trains & Aircraft L _{Aeq} 15min Contribution	Traffic & Other L _{Aeq} 15min Contribution	Noise Sources and Level Range dB(A)	
			L _{Aeq} 15min	L _{A10} 15min	L _{A90} 15min						
3 June, 2015	11:49	Shamrock St	62	66	51	Nil	47	62	50	OneSteel	Nil
										Trains	49 to 86
										Traffic & Other	48 to 65
3 June, 2015	12:04	Shamrock St	59	64	50	35	47	58	52	OneSteel	48 to 51
										Trains	50 to 73
										Traffic & Other	47 to 67
3 June, 2015	11:01	St. Joseph's	52	54	46	51	53	44	34	OneSteel	46 to 60
										Trains	49 to 65
										Traffic & Other	47 to 53
3 June, 2015	11:16	St. Joseph's	52	54	45	50	53	47	41	OneSteel	46 to 63
										Trains	49 to 66
										Traffic & Other	48 to 58
23 June, 2015	12:35	Shamrock St	67	65	48	38	47	67	49	OneSteel	46 to 55
										Trains & Aircraft	48 to 82
										Traffic & Other	47 to 62
23 June, 2015	12:50	Shamrock St	57	57	49	18	47	56	49	OneSteel	49 to 50
										Trains & Aircraft	49 to 79
										Traffic & Other	47 to 58
23 June, 2015	11:52	St. Joseph's	52	54	50	51	53	46	36	OneSteel	47 to 69
										Trains	49 to 65
										Traffic & Other	48 to 55
23 June, 2015	12:07	St. Joseph's	54	55	50	50	53	50	39	OneSteel	46 to 64
										Trains	50 to 64
										Traffic & Other	50 to 56

4.2.1 OPERATING EQUIPMENT AND NOISE SOURCE IDENTIFICATION

The equipment that was observed to be operating at the OneSteel Recycling plant and the Sound Pressure Levels associated with that equipment are listed in **Table 5** below.

Table 5 *Plant Activity*

Activity	3 June 2015 Shamrock St dB(A)	3 June St. Joseph's dB(A)	23 June 2015 Shamrock St dB(A)	23 June 2015 St. Joseph's dB(A)
Metal Handling	Not Audible	Intermittently Audible 48 – 53	Barely Audible 48 – 52	Audible 50 – 67
Mill	Not Audible	Audible 58 – 61	Barely Audible 48 – 52	Audible 50-60
Loader Beepers	Not Audible	Intermittently Audible 50 – 56	Barely Audible 43-47	Intermittently Audible 46 – 58
Z-Box Conveyor	Not Audible	Not Audible	Not Audible	Not Audible
Mag Drum	Not Audible	Intermittently Audible 55 –60	Barely Audible 43-47	Intermittently Audible 48 – 57
Mill Siren	Not Audible	Not Audible	Barely Audible 43-47	Intermittently Audible 53-59
Trucks Unloading/Loa ding	Barely Audible 47 – 49	Intermittently Audible 50 – 57	Barely Audible 48 – 51	Intermittently Audible 50 – 55

5 DISCUSSION

5.1 SURVEYS ON THE 3RD OF JUNE 2015

5.1.1 SHAMROCK STREET

The survey on the 3rd of June 2015 at Shamrock Street showed that Traffic and Trains & Aircraft were both dominant noise sources over the survey period. The Mill at OneSteel Recycling was seen to be operational for the entire survey period, yet most plant activity was inaudible during the survey period and contributed very little to the acoustic climate. OneSteel Recycling had $L_{Aeq\ 15min}$ contributions of Nil & 35 dB(A) for the 15 minute periods of the survey. Trains & Aircraft were intermittently audible with $L_{Aeq\ 15min}$ contributions of 62 & 58 dB(A) and Traffic from Maitland Road was constantly audible with $L_{Aeq\ 15min}$ contributions of 50 & 52 dB(A).

5.1.2 ST JOSEPH'S RETIREMENT VILLAGE

The survey on the 3rd of June 2015 at St Joseph's Retirement Village showed that the Mill at OneSteel Recycling was the dominant noise source over the survey period. The Mill at OneSteel Recycling was seen to be operational for the entire survey period, with most plant activity clearly audible during the survey period and therefore the main contributor to the acoustic climate with $L_{Aeq, 15min}$ contributions of 51 & 50 dB(A). Trains were intermittently audible with $L_{Aeq, 15min}$ contributions of 44 & 47 dB(A), while Traffic was constantly audible with $L_{Aeq, 15min}$ contributions of 33 & 40 dB(A).

5.2 SURVEYS ON THE 23TH OF JUNE 2015

5.2.1 SHAMROCK STREET

The survey on the 23rd of June 2015 at Shamrock Street showed that trains and aircraft was the dominant noise source over the survey period. The Mill at OneSteel Recycling was seen to be operational for the entire survey period, with all plant activity barely audible during the survey period and therefore contributed very little to the acoustic climate with $L_{Aeq, 15min}$ contributions of 37 & 17 dB(A). Trains were frequently audible with $L_{Aeq, 15min}$ contributions of 66 & 55 dB(A), while Traffic and Other noise was constantly audible with $L_{Aeq, 15min}$ contributions of 49 & 48 dB(A).

5.2.2 ST JOSEPH'S RETIREMENT VILLAGE

The survey on the 23rd of June 2015 at St. Joseph's Retirement Village showed that the mill was the dominant noise source over the survey period. The Mill at OneSteel Recycling was seen to be operational for the entire survey period, with Metal Handling and the Mill audible over the whole length of the survey period with beepers, siren and trucks unloading intermittently audible. OneSteel Recycling contributed to the acoustic climate with $L_{Aeq, 15min}$ contributions of 51 & 50 dB(A). Trains were intermittently audible with $L_{Aeq, 15min}$ contributions of 46 & 50 dB(A), while Traffic and Other noise was barely audible with $L_{Aeq, 15min}$ contributions of 36 & 39 dB(A).

5.3 LOGGED SOUND LEVEL DATA AT ST JOSEPH'S RETIREMENT VILLAGE

Regular downloading of the long term acoustic data from the ARL Ngarra Real Time Sound Acquisition System located at St Joseph's Retirement Village is undertaken during each reporting period. This includes the downloading of the data to a laptop, test calibration of the microphone and the clearing of the logger's internal memory before resuming data logging.

Time traces of the logged 15 minute L_{Aeq} and L_{A90} statistical Sound Pressure Levels at the permanent noise monitoring station located at St Joseph's Retirement Village are shown by month in **Figure 5**, **Figure 6** and **Figure 7** for the months of April, May and June 2015 respectively.

Data from the ARL Ngarra Real Time Sound Acquisition System at the St. Joseph's Retirement Village has shown that due to the 12 volt battery running flat, the logger was not operational during the periods from the 20th to the 28th of April, from the 16th to the 21st of May and from the 8th to the 23rd of June.

Acoustic levels recorded at the logger show that the $L_{Aeq, 15 min}$ values during the daytime period are generally consistent with the noise level target of 53 dB(A) at St. Joseph's Retirement Village, with several periods exceeding the target level which are

likely attributable to wind conditions, increasing the received noise levels of either OneSteel Recycling or traffic from Maitland Road.

6 CONCLUSION

6.1 COMPLIANCE WITH NOISE LIMITS

All attended surveys at Shamrock Street and St Josephs Retirement Village show that OneSteel Recycling complies with its Environment Protection Licence during this reporting period, and in our opinion, is unlikely to be a consistent source of offensive or intrusive noise at nearby residential receptors.

Thank you for the opportunity to provide this assessment. Please do not hesitate to contact the undersigned if you have any questions regarding this report or any other acoustic matter.

Yours Sincerely

RCA Acoustics

Document Control

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Reviewed and Authorised by



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Date 18 August 2015

7 REFERENCES

dB(A)	Unit of sound pressure level, modified by the A-weighting network to represent the sensitivity of the human ear.
SPL.....	Sound Pressure Level (SPL), the incremental variation of sound pressure from the reference pressure level, 20 μ Pa, expressed in decibels.
SWL (L_W)	Sound Power Level (SWL) of a noise sources per unit time expressed in decibels from reference level W_0 of 10^{-12} W.
L_x	Statistical noise descriptor. Where (x) represents the percentage of the time for which the specified noise level is exceeded.
L_{eq}	Equivalent continuous noise level averaged over time on an equivalent energy basis.
L_1	Average Peak Noise Level in a measurement period.
L_{10}	Average Maximum Noise Level in a measurement period.
L_{90}	Average Minimum Noise Level in a measurement period.
L_{max}	Maximum Noise Level in a measurement period.
Background Noise Level	Noise level determined for planning purposes as the one tenth percentile of the ambient L_{A90} noise levels.
P_0	Reference Sound Pressure for the calculation of SPL in decibels.
W_0	Reference Sound Power, 10^{-12} W, for the calculation of SWL in decibels.

Figure 1 Sound Level Chart, Attended Survey at Shamrock Street 03/06/2015

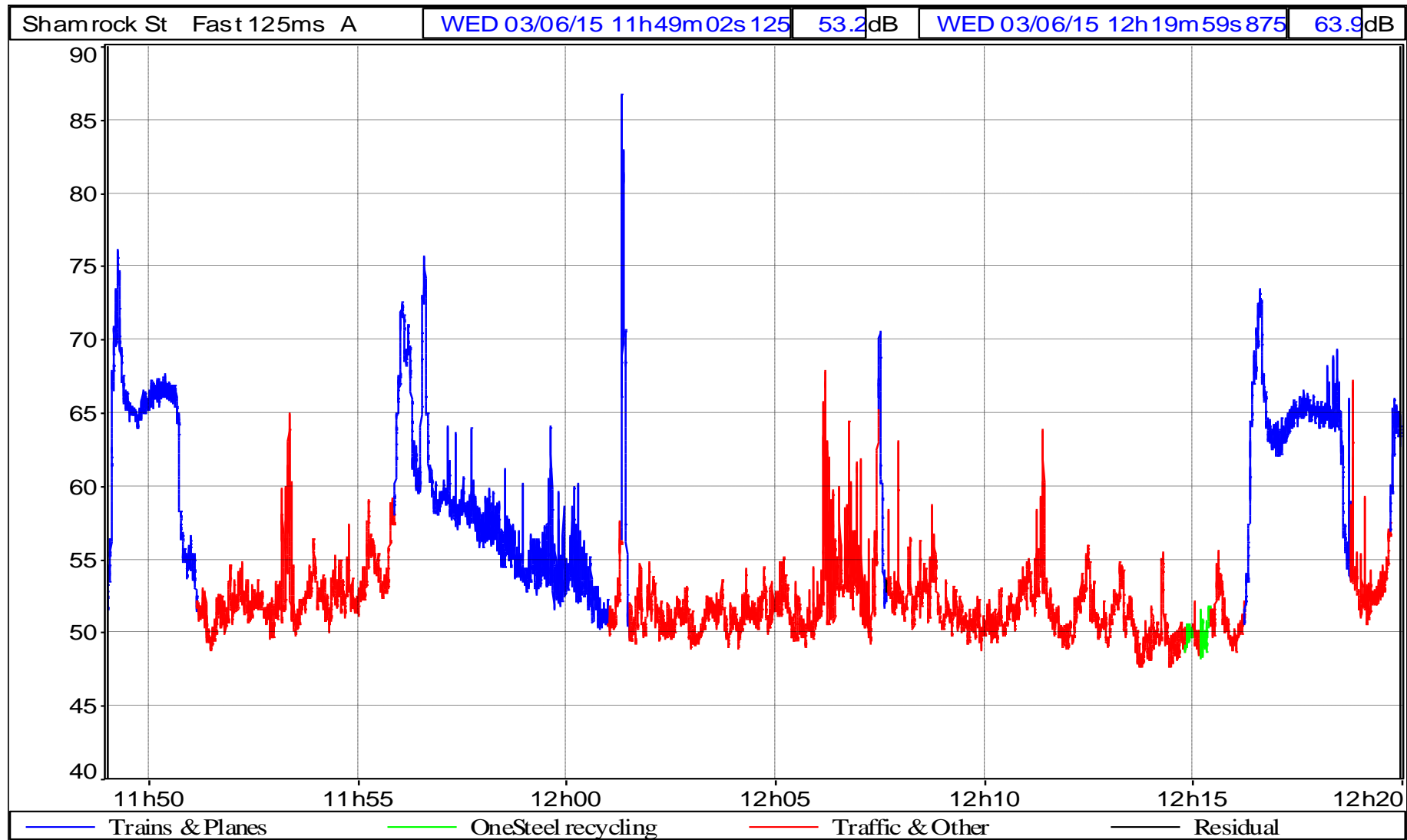


Figure 2 Sound Level Chart, Attended Survey at St Joseph's Retirement Village 03/06/2015

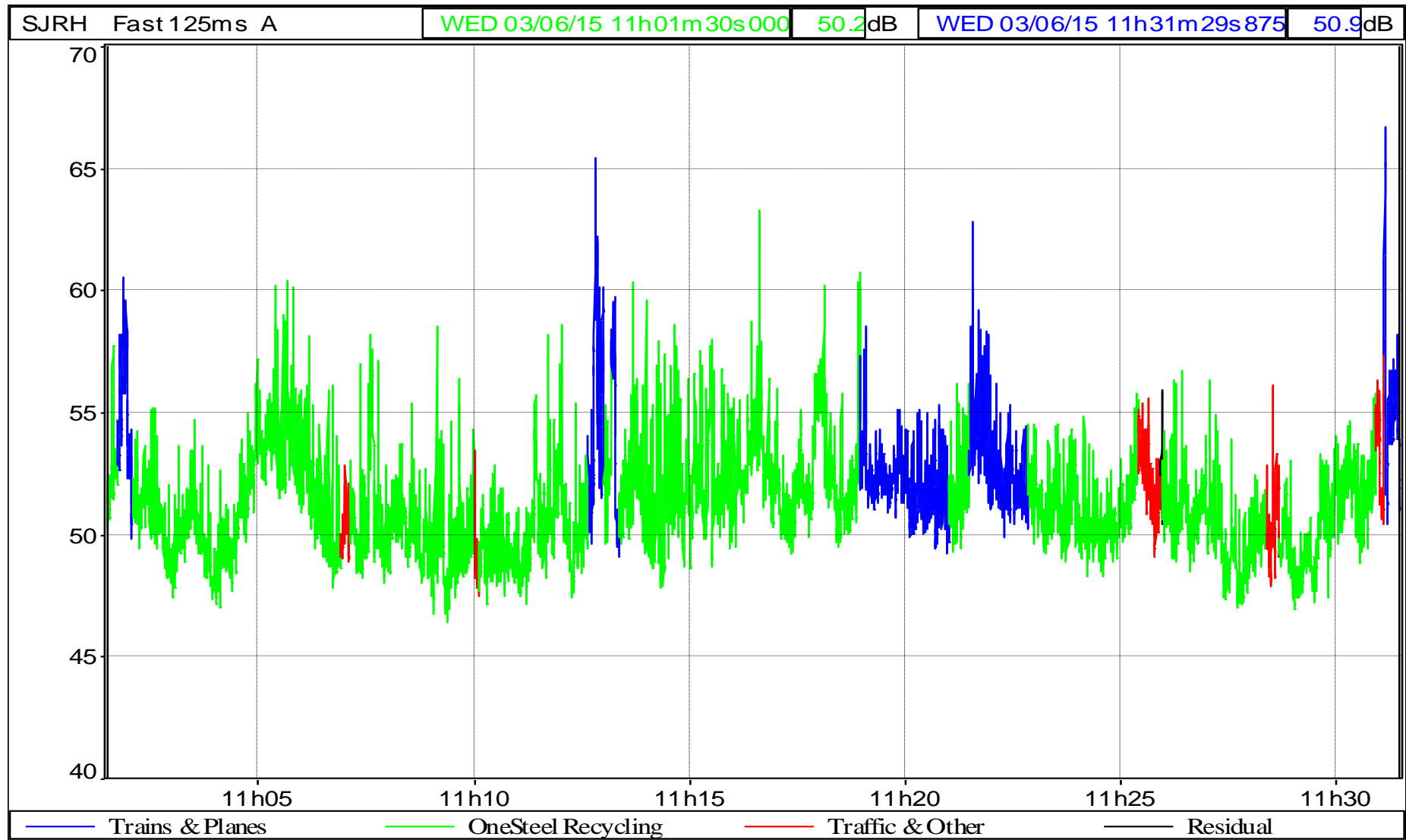


Figure 3 Sound Level Chart, Attended Survey at Shamrock Street 23/06/2015

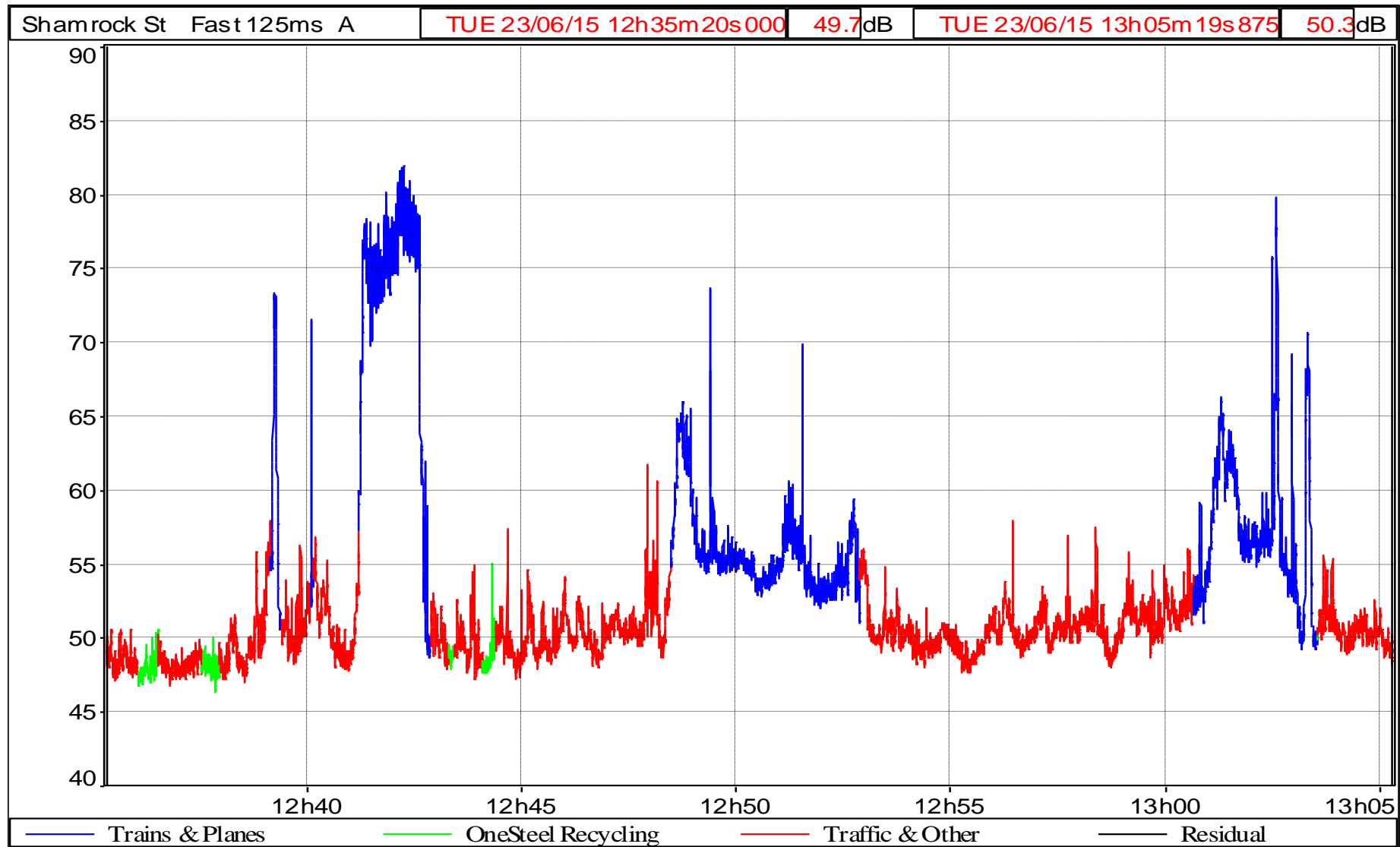


Figure 4 Sound Level Chart, Attended Survey at St Joseph's Retirement Village 23/06/2015

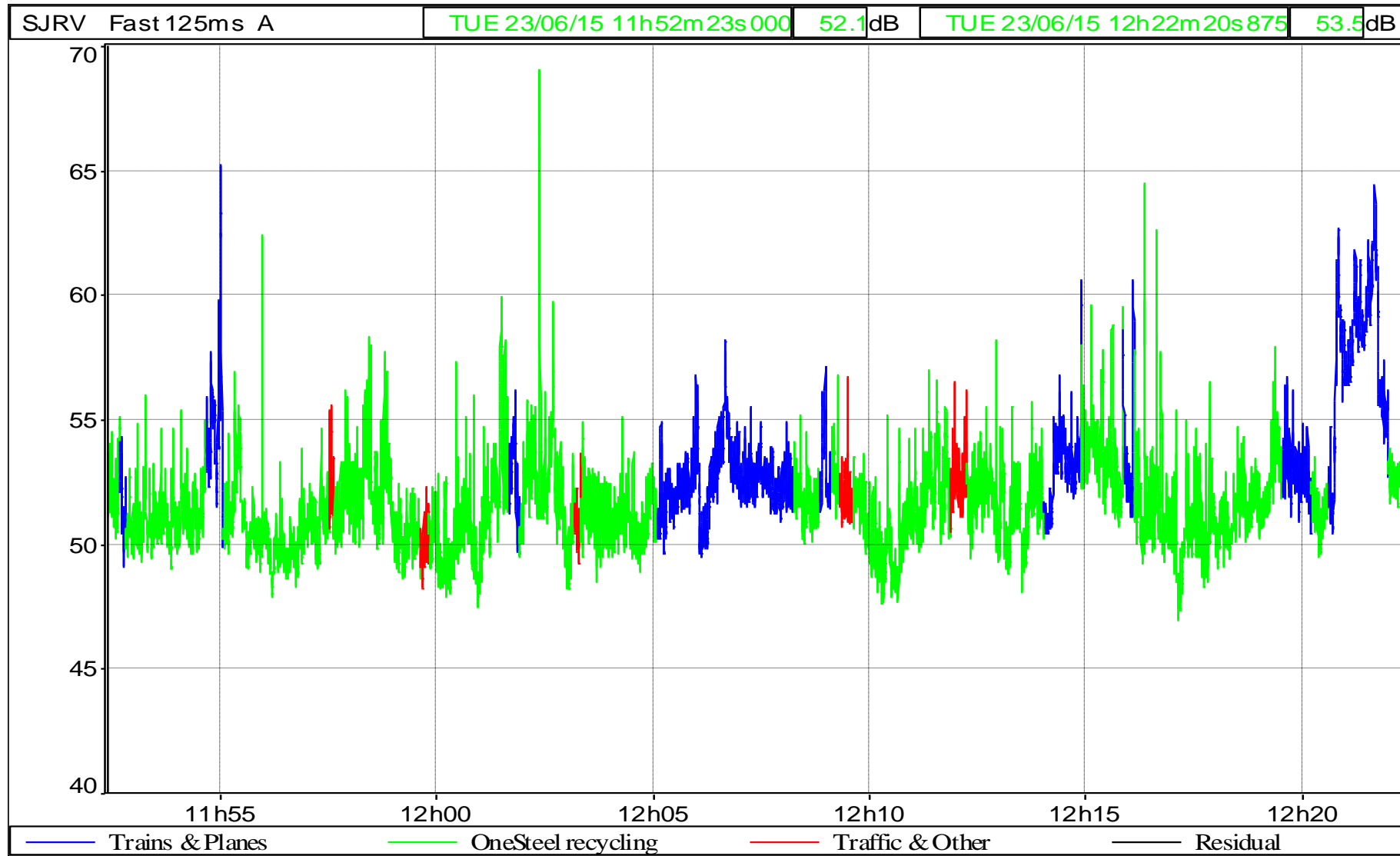


Figure 5 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for April 2015

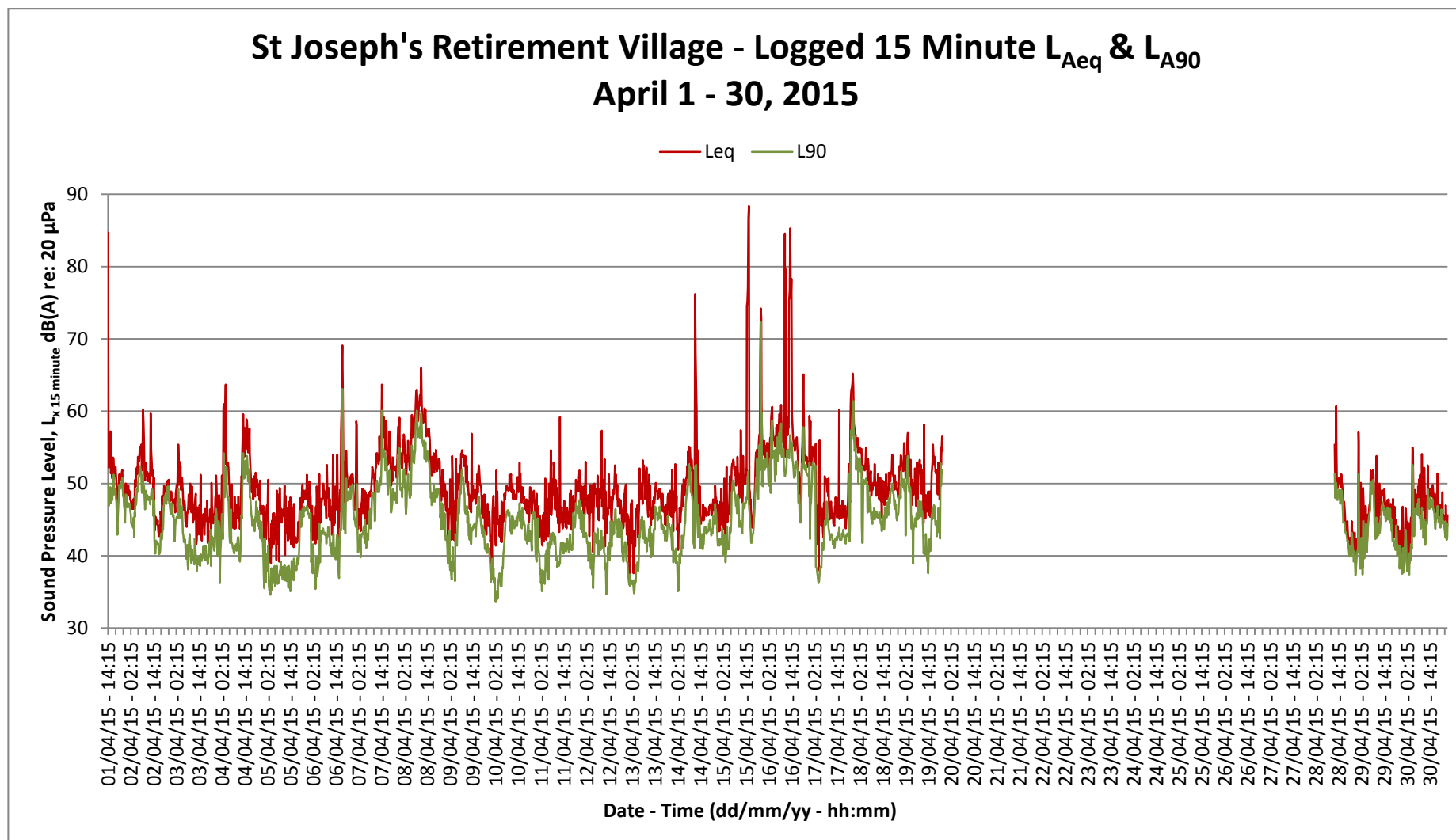


Figure 6 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for May 2015

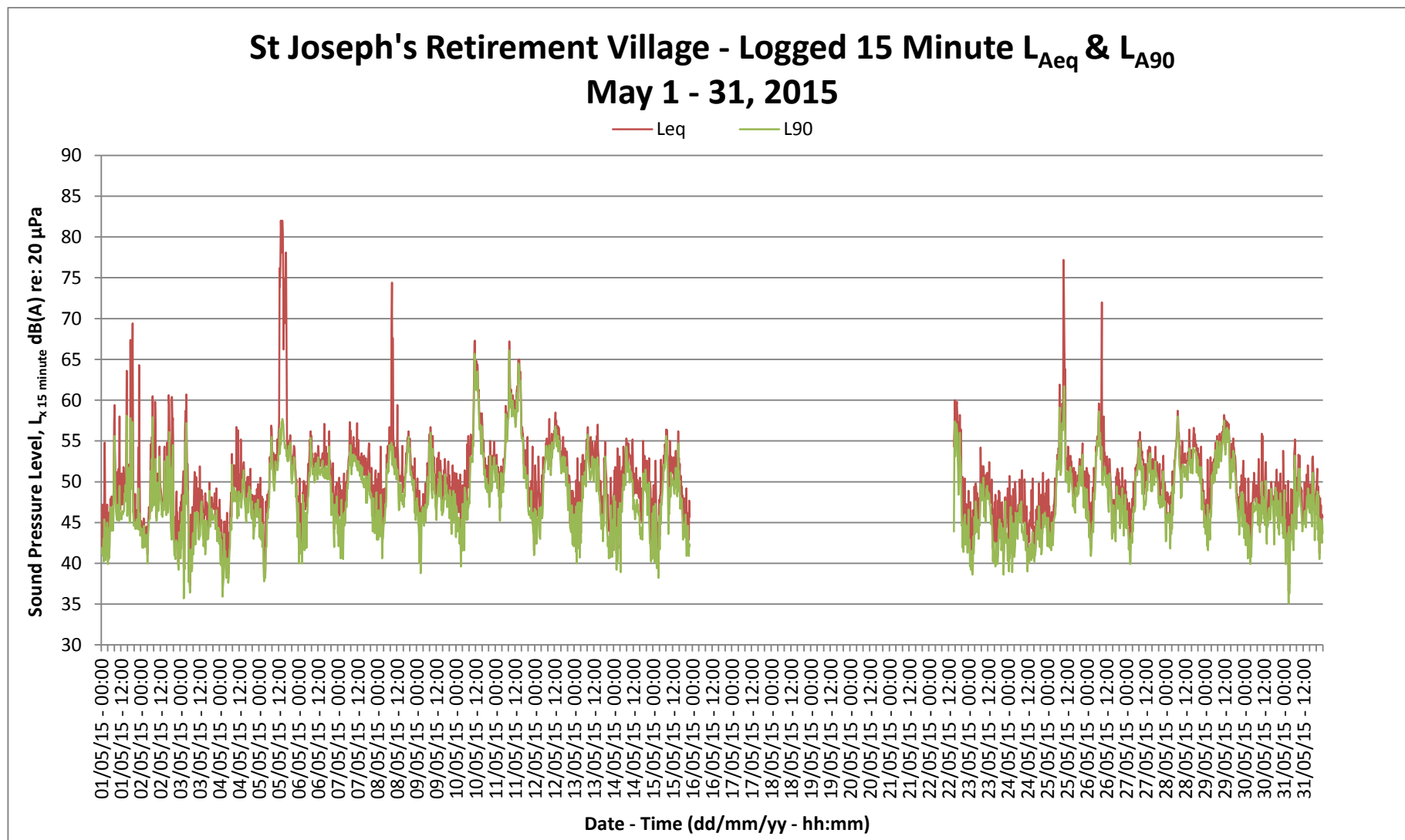


Figure 7 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for June 2015

