

7 July 2014

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 2014**

1 INTRODUCTION

This letter report provides the results of attended surveys conducted on the days of the 9th of April and the 11th of June 2014 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.

2 EQUIPMENT

2.1 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	November 2012
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
9 April 2014	08:02	St. Joseph's	7 Octa	18 °C	NIL	NIL	NIL
9 April 2014	09:00	Shamrock St	6 Octa	18 °C	NIL	NIL	NIL
11 June 2014	11:15	St. Joseph's	6 Octa	17 °C	NIL	NIL	NIL
11 June 2014	12:15	Shamrock St	6 Octa	20 °C	0.5 to 1 m/s	SSE	Slightly Increased OneSteel Levels

4.2 MEASURED SOUND LEVELS

Table 4 shown below gives the results of the attended noise surveys conducted on the 9th of April and the 11th of June 2014. Marked time traces of the attended noise surveys are shown in **Figures 1- 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						
9 April 2014	08:02	St. Joseph's	49.3	51.2	45.9	42.4	53	41.1	47.4	OneSteel 45 to 53 Trains & Aircraft 47 to 56 Traffic & Other 44 to 63	
9 April 2014	08:17	St. Joseph's	50.8	52.7	46.3	35.7	53	48.8	46.0	OneSteel 44 to 50 Trains & Aircraft 44 to 62 Traffic & Other 44 to 65	
9 April 2014	09:00	Shamrock St	61.3	65.7	45.6	NIL	47	61.0	49.5	OneSteel NIL Trains & Aircraft 47 to 82 Traffic & Other 43 to 70	
9 April 2014	09:15	Shamrock St	56.4	61.5	44.8	NIL	47	55.8	47.6	OneSteel NIL Trains & Aircraft 47 to 73 Traffic & Other 42 to 66	
11 June 2014	11:15	St. Joseph's	48.1	49.8	45.4	32.9	53	43.6	46.1	OneSteel 44 to 58 Trains 44 to 55 Traffic & Other 43 to 64	
11 June 2014	11:30	St. Joseph's	49.0	51.3	45.4	37.5	53	41.7	47.7	OneSteel 44 to 57 Trains 44 to 57 Traffic & Other 43 to 63	
11 June 2014	12:15	Shamrock St	62.4	60.6	44.9	NIL	47	62.3	47.5	OneSteel NIL Trains 49 to 80 Traffic & Other 42 to 73	
11 June 2014	12:30	Shamrock St	64.3	58.0	45.4	43.8	47	64.1	46.8	OneSteel 43 to 64 Trains 47 to 84 Traffic & Other 41 to 66	

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	9 April 2014 St. Joseph's dB(A)	9 April 2014 Shamrock St dB(A)	11 June 2014 St. Joseph's dB(A)	11 June 2014 Shamrock St dB(A)
Metal Handling	Intermittently Audible 50 – 54	Not Audible	Intermittently Audible 50 – 57	Intermittently Audible 52 – 56
Mill	Barely Audible 46 – 49	Not Audible	Barely Audible 46 – 51	Barely Audible 48 – 53
Loader Beepers	Barely Audible 44 – 45	Not Audible	Barely Audible 48 – 50	Intermittently Audible 51 – 64
Z-Box Conveyor	Not Audible	Not Audible	Barely Audible 47 – 49	Not Audible
Mag Drum	Barely Audible 46 – 48	Not Audible	Barely Audible 44 – 46	Barely Audible 50 – 52
Mill Siren	Not Audible	Not Audible	Barely Audible 45 – 46	Not Audible
Trucks Unloading/Loading	Not Audible	Not Audible	Intermittently Audible 50 – 52	Intermittently Audible 54 – 56

5 DISCUSSION

5.1 SURVEYS ON THE 9TH OF APRIL 2014

5.1.1 ST JOSEPH'S RETIREMENT VILLAGE

The survey on the 9th of April, 2014 at St. Joseph's Retirement Village showed that Trains and Traffic were both dominant noise sources over the survey period. The Mill at OneSteel Recycling was seen to be operational for the entire survey period, with Metal Handling, Mill, Loader Beepers and Mag Drum intermittently audible over most of the survey period. OneSteel Recycling had $L_{Aeq\ 15min}$ contributions of 36 & 42 dB(A) for the 15 minute periods of the survey. Trains were intermittently audible with $L_{Aeq\ 15min}$ contributions of 41 & 49 dB(A), while Traffic was constantly audible with $L_{Aeq\ 15min}$ contributions of 46 & 47 dB(A).

5.1.2 SHAMROCK STREET

The survey on the 9th of April, 2014 at Shamrock Street showed that Traffic and Trains 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 all plant activity was inaudible

during the survey period and therefore did not contribute to the acoustic climate. Trains were intermittently audible with $L_{Aeq\ 15min}$ contributions of 56 & 61 dB(A) and Traffic from Maitland Road was constantly audible with $L_{Aeq\ 15min}$ contributions of 48 & 50 dB(A).

5.2 SURVEYS ON THE 11TH OF JUNE 2014

5.2.1 ST JOSEPH'S RETIREMENT VILLAGE

The survey on the 11th of June, 2014 at St. Joseph's Retirement Village showed that Traffic dominated the acoustic climate over the survey period with $L_{Aeq\ 15min}$ contributions of 46 & 48 dB(A). OneSteel was intermittently audible during the survey period, with plant activity measurable for short periods over the survey period. A few bangs and crashes were noticeable from OneSteel Recycling with $L_{Aeq\ 15min}$ contributions ranging between 33 & 38 dB(A). Trains were intermittently audible with $L_{Aeq\ 15min}$ contributions of 42 & 44 dB(A).

5.2.2 SHAMROCK STREET

The survey on the 11th of June, 2014 at Shamrock Street showed that Trains dominated the acoustic climate over the survey period with $L_{Aeq\ 15min}$ contributions of 62 & 64 dB(A). The Mill at OneSteel Recycling was seen to be operational for the entire survey period, with Metal Handling, Loader Beepers, the Mag Drum and Trucks unloading intermittently audible only throughout the second 15 minute survey period which had a $L_{Aeq\ 15min}$ contribution of 44 dB(A). Traffic was constantly audible with $L_{Aeq\ 15min}$ contributions of 47 & 48 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 Ngara 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 below by month in **Figures 5 to 7** for the months of April to June 2014 respectively.

Data from the ARL Ngara Real Time Sound Acquisition System at the St. Joseph's Retirement Village has shown that the logger was not operational during the period from 6:15AM on the 22nd of June to 1:15PM on the 25th of June. This is due to low solar charging rates caused by a high number of cloudy days prior, reducing the battery voltage to a level that was insufficient to power the monitor. Other than this 3 day period, the logger has been operating satisfactorily for the April to June 2014 reporting period.

Acoustic levels recorded at the logger show that the 15 minute L_{Aeq} 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 St. Joseph's Retirement Village and Shamrock Street 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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Date 7 July 2014

7 REFERENCES

dB(A)	Unit of sound pressure level, modified by the A-weighting network to represent the sensitivity of the human ear.
SPL.....	The incremental variation of sound pressure from the reference pressure level expressed in decibels.
SWL (L_W)	Sound Power Level of a noise sources per unit time expressed in decibels from reference level W_0 .
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 for the calculation of SWL in decibels.

Figure 1 Sound Level Chart, Attended Survey at St Joseph's Retirement Village

09/04/2014

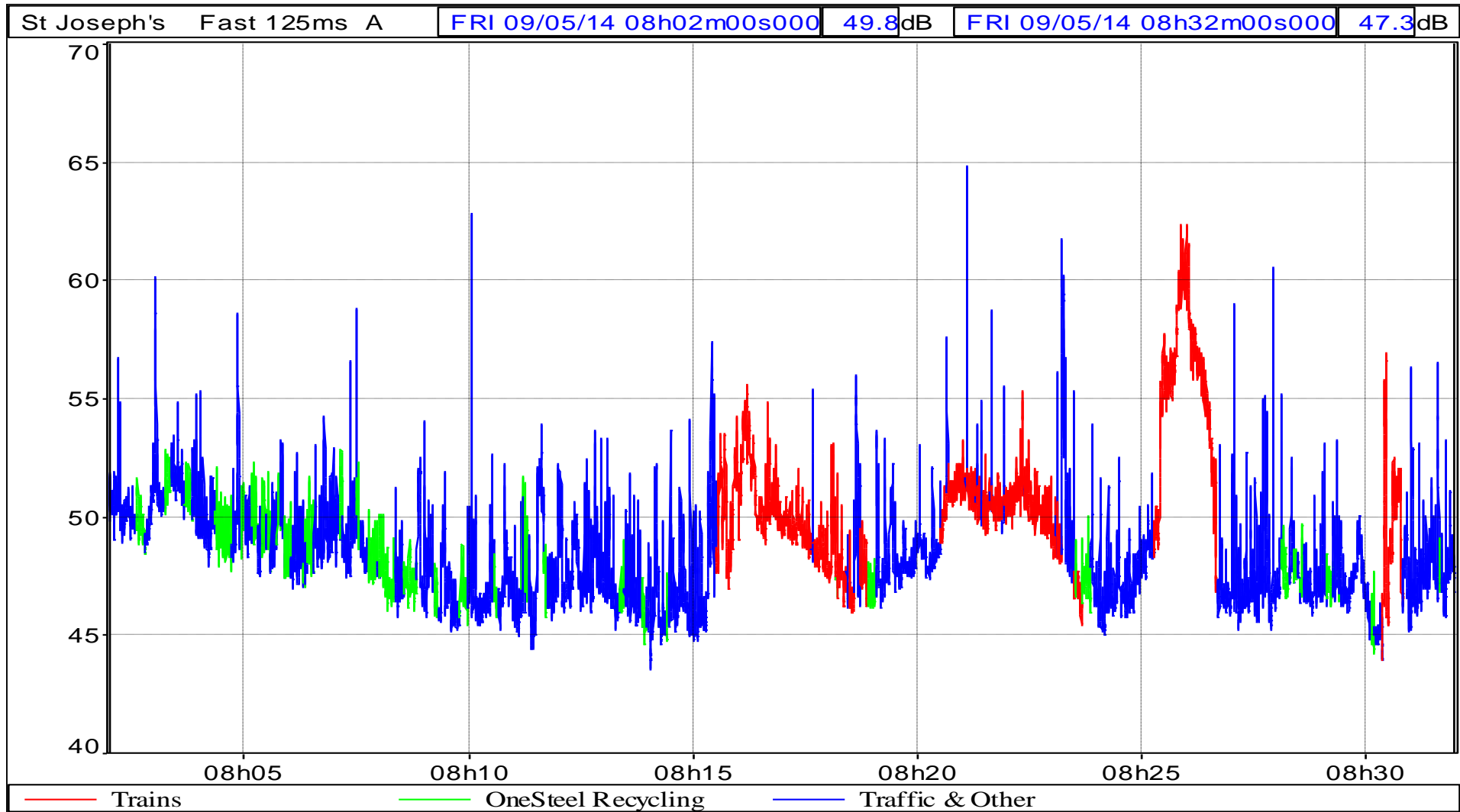


Figure 2 Sound Level Chart, Attended Survey at Shamrock Street 09/04/2014

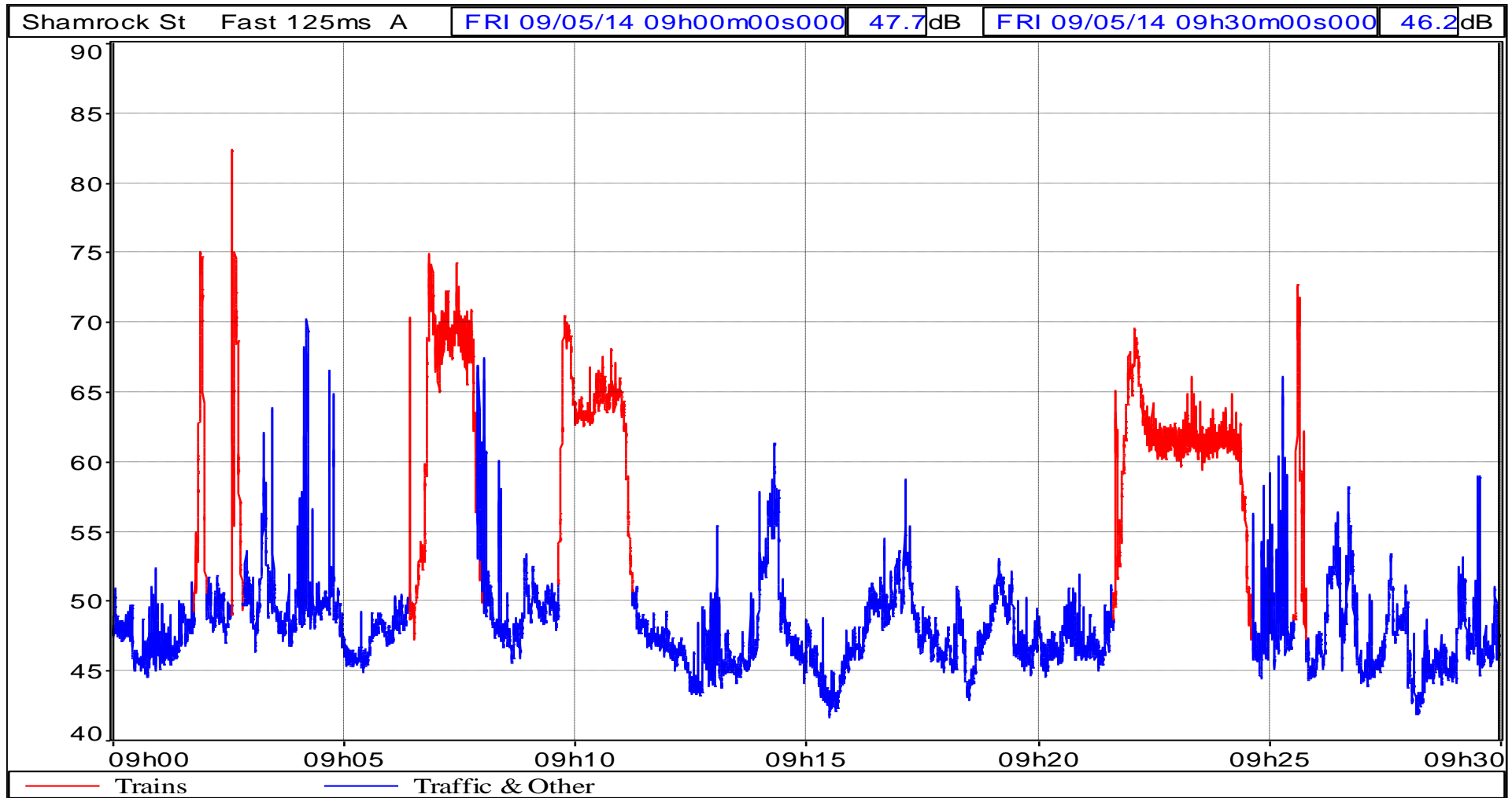


Figure 3 Sound Level Chart, Attended Survey at St Joseph's Retirement Village 11/06/2014

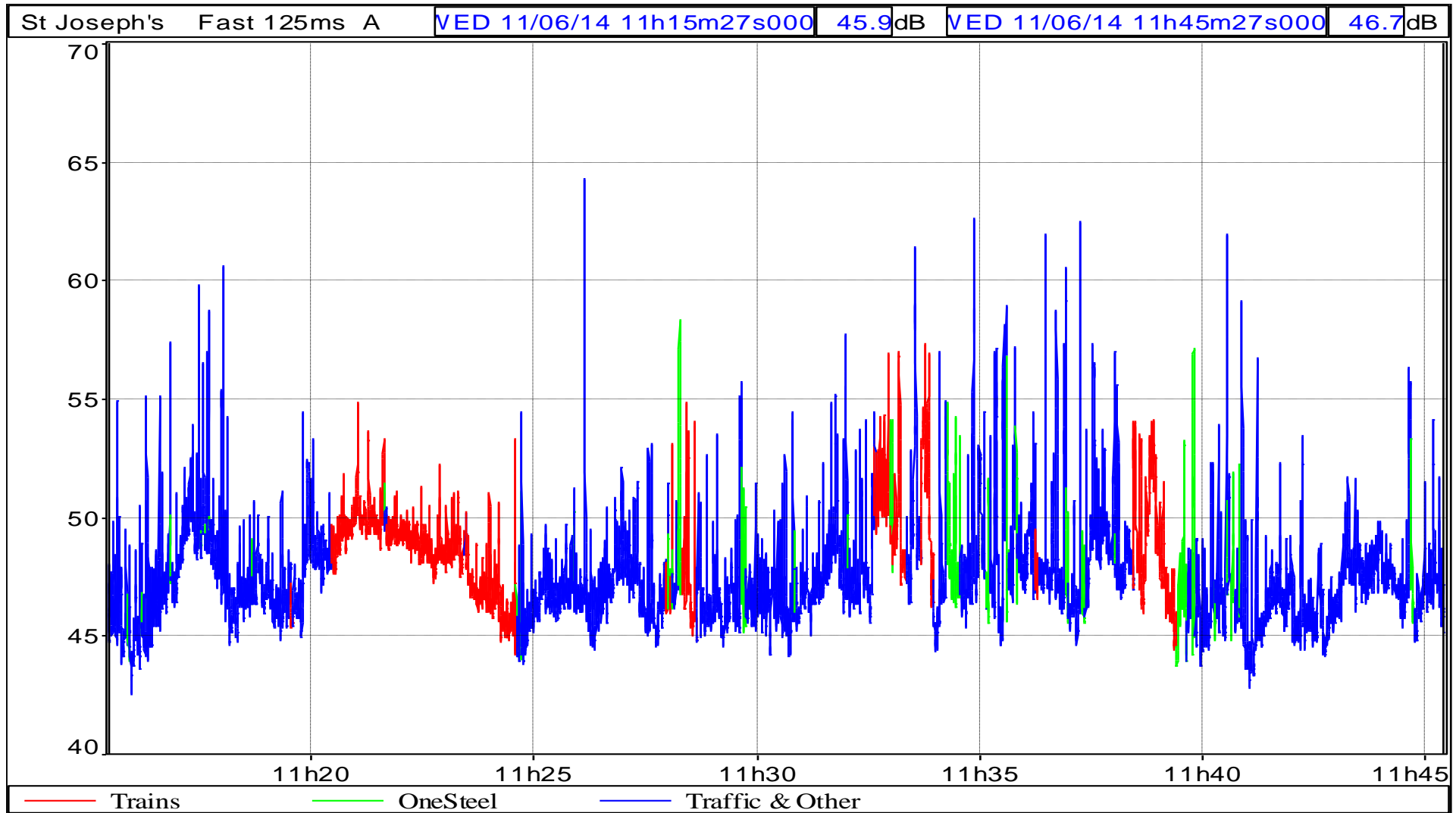


Figure 4 Sound Level Chart, Attended Survey at Shamrock Street 11/06/2014

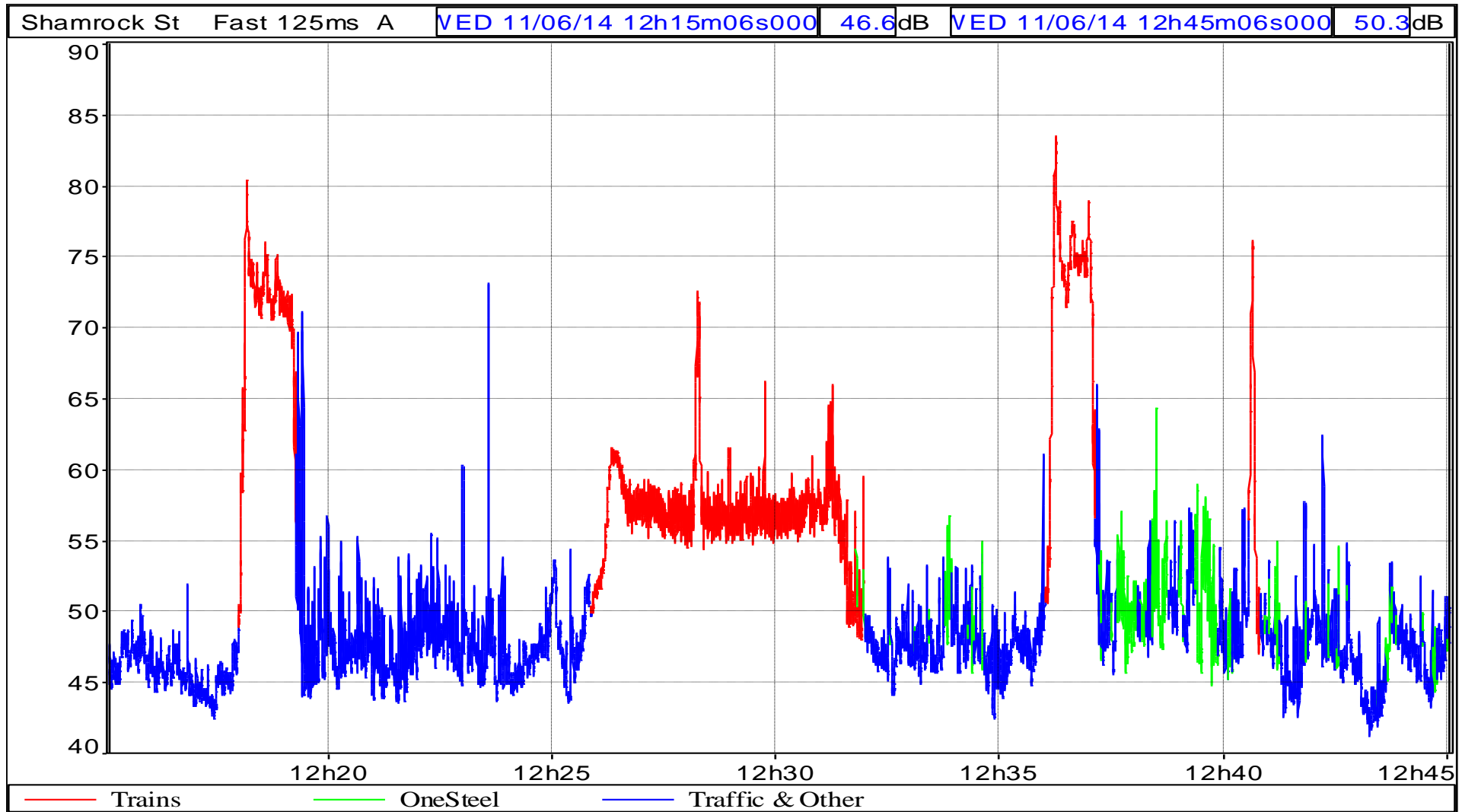


Figure 5 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for April 2014

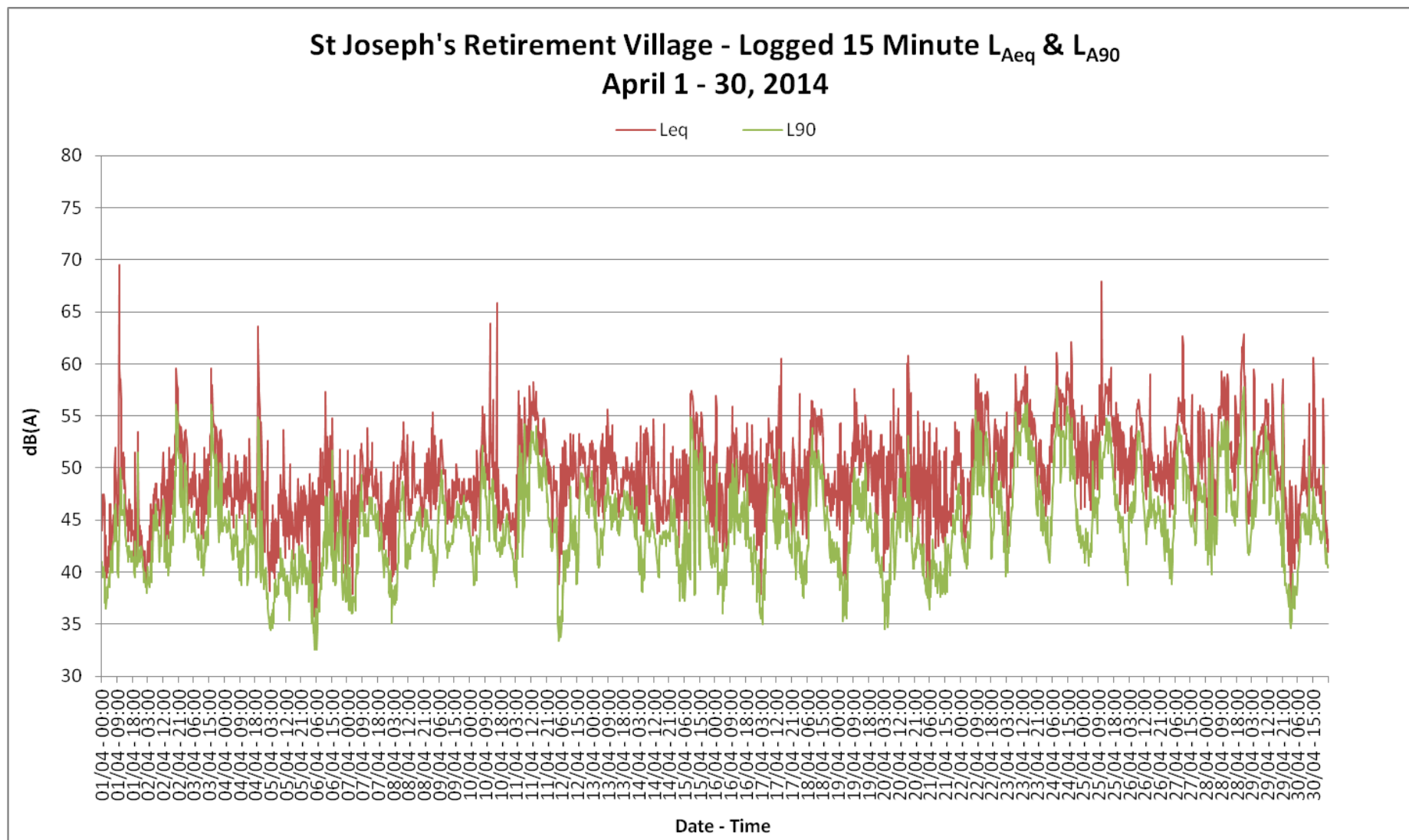


Figure 6 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for May 2014

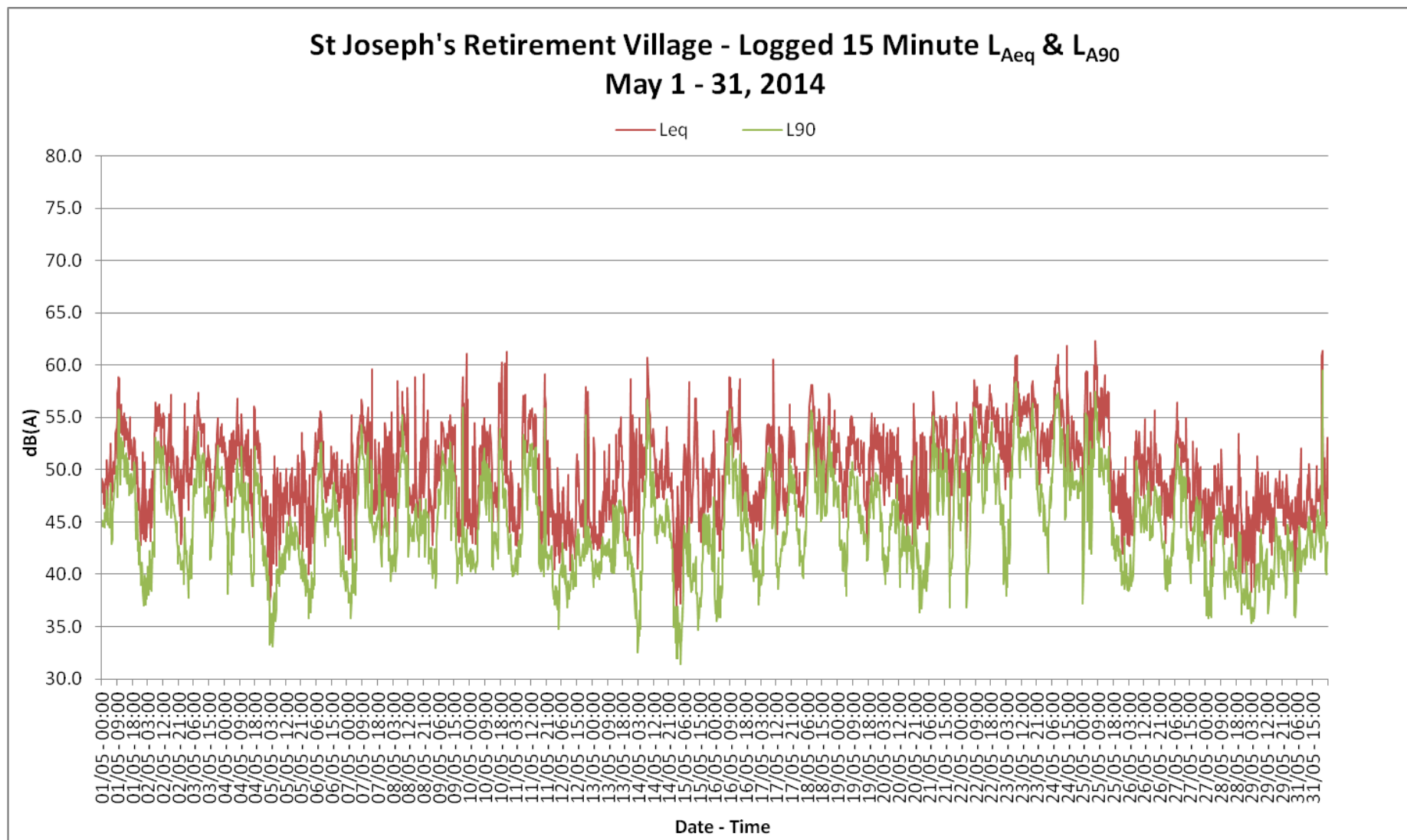


Figure 7 Sound Level Chart, St Joseph's Retirement Village Noise Logger Data for June 2014

