

NOISE ASSESSMENT

**SECTION 73 APPLICATION TO VARY CONDITIONS 1, 3, 11
AND 15 FOR THE PROCESSING OF STONE APPROVED BY
2009/93289/WO AND AMENDED BY
2015/90640/WO, RELATING TO THE PROPOSED
CHANGE TO THE WORKING SCHEME**

JOHNSONS WELLFIELD LTD

MAY 2025

LF Acoustics Ltd
Pond Farm
7 High Street
Pulloxhill, Beds
MK45 5HA

t: 01525 888046
e: mail@lfacoustics.co.uk

Registered in England
Company Reg: 8434608



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Revision	Prepared By	Date
2.0	L Jephson BEng (Hons) MIOA	6/5/25
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1. Introduction

Johnsons Wellfield Quarries Limited currently operates Crosland Moor Quarry (Airfield Site) at Crosland Moor near Huddersfield. Hereafter, referred to as Airfield Quarry (the Site). The Site forms part of the wider quarry complex with stone processing facilities based at Wellfield Quarry.

At present, secondary aggregate, extracted from the Site is processed within Wellfield Quarry and transported between the extraction area and processing site using dump trucks.

Johnsons Wellfield are proposing to amend the working scheme within the northern area of the site, with some limited screening proposed to screen out the materials used for restoration purposes, with the remaining stone extracted transported to the main quarry complex for processing.

The present planning permission for the Site does not allow screening operations and a Section 73 Application has been submitted to vary Conditions 1, 3, 11 and 15 of the current planning permission to extract further mineral reserves and to enable processing to be carried out and to extend the life of the quarry.

There would be no change to the operational working hours stipulated in Condition 42, from 0730-1800 Mondays to Fridays and 0730-1300 Saturdays. Whilst no operations shall take place on Sundays and Bank/Public Holidays.

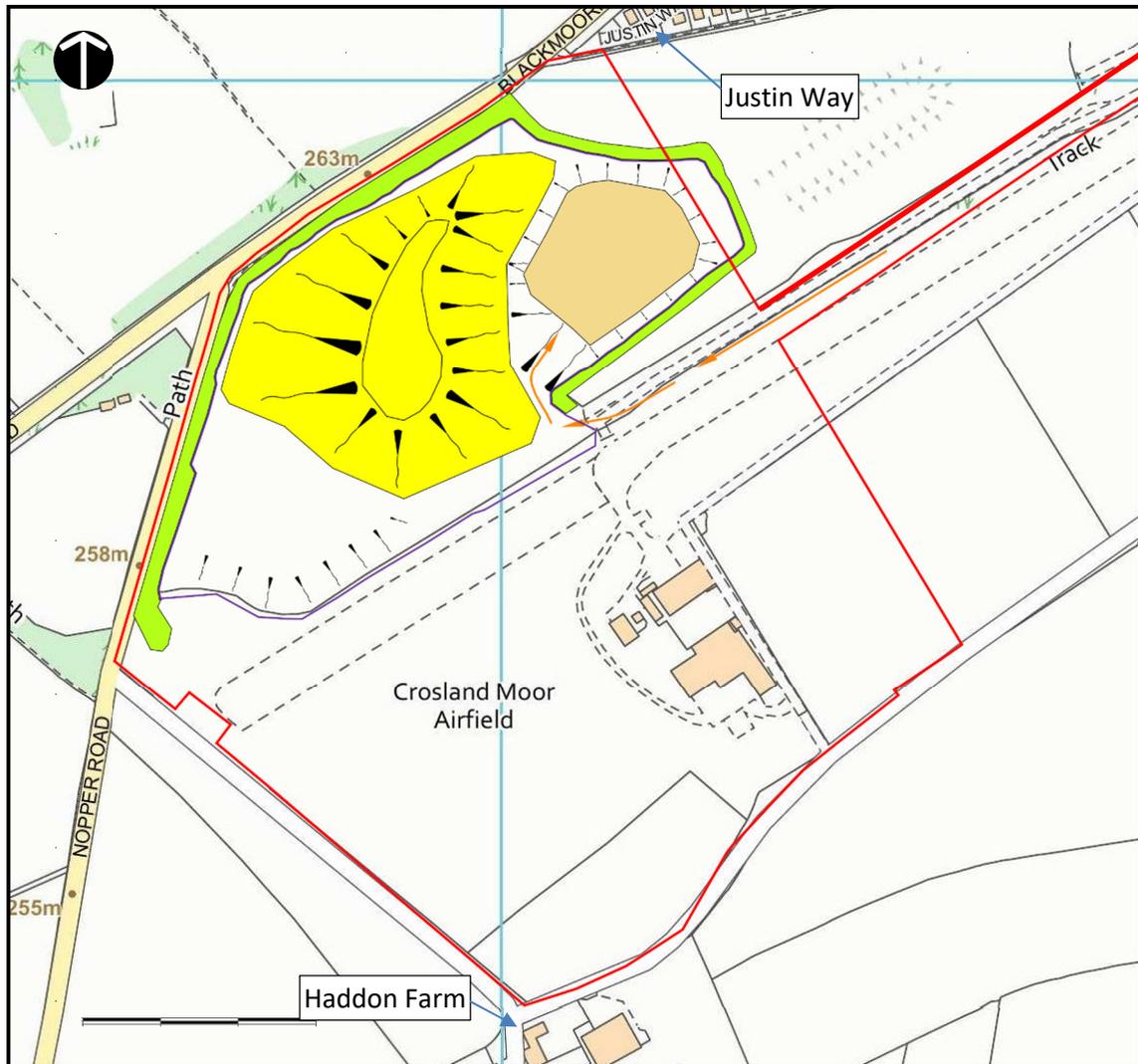
In addition, there will be no change to current noise conditions (43 – 48), which specify noise limits at surrounding noise sensitive receptors, control measures and the requirement for periodic noise monitoring.

This report presents an assessment of the noise levels attributable to the proposed amended operations, including screening, within the Site.

A description of the noise units referred to in this report is provided in Appendix A.

2. Site Location and Noise Sensitive Properties

The site is located to the east of the main Johnsons Wellfield operations within Wellfield Quarry, as indicated below.



The existing noise sensitive receptors, identified on approved plan no 11541/P17a 'Noise Monitoring Positions' are located to the north along Justin Way within Hill Tree Park residential park and at Haddon Farm to the south, as indicated above.

3. Present Noise Conditions

Noise levels attributable to operations within the Site are controlled through conditions imposed within the current planning permission, as follows:

Noise

41 Noise screening mounds shall be constructed in accordance with Condition 26 using subsoil stripped from the first phase of mineral working and maintained until mineral extraction has ceased.

42 Except in emergencies to maintain safe quarry working, which shall be notified to the Mineral Planning Authority as soon as practicable, or unless otherwise agreed in writing by the Mineral Planning Authority:

a) no operations, other than water pumping, servicing and environmental monitoring shall be carried out on the site except between the following times:

0730-1800 Mondays to Fridays

0730-1300 Saturdays

b) no operations other than water pumping and environmental monitoring shall take place on Sundays and Bank/Public Holidays.

43 The site attributable free field equivalent continuous A weighted sound pressure level ($L_{Aeq,T}$) when measured at a height of 1.3-1.5m above ground and at least 3.5m from any reflecting structure other than the ground, measured at or projected to any noise sensitive property, including residential accommodations and buildings housing farm animals as shown on approved plan no 11541/P17a 'Noise Monitoring Positions', or at equivalent positions agreed with the Mineral Planning Authority, shall not exceed:

a) 70dB(A) in any one hour period at any noise sensitive property during exceptionally noisy operations such as the construction and removal of screen mounds and soil stripping and replacement, as agreed in advance with the Mineral Planning Authority (this noise limit is only permitted for a maximum of 8 weeks in any 12 month period);

b) 45 dB(A) in any one hour period at any noise sensitive property, during all other site operations.

44 Except with the prior written approval of the Mineral Planning Authority, exceptionally noisy operations (as defined in Condition 43) shall only be carried out between the hours of:

0900-1730 Mondays to Fridays

0900-1230 Saturdays

and at no time on Sundays or Bank Holidays.

45 All vehicles, plant and machinery operated within the site shall be maintained in accordance with the manufacturer's specifications at all times, and shall be fitted with and use effective silencers.

- 46 All vehicle reversing warning systems and/or alarms shall be operated in accordance with specifications to be submitted to and approved in writing with the Mineral Planning Authority within one month of the date of this permission.
- 47 Unless otherwise agreed in writing by the Mineral Planning Authority there shall be no blasting on the site.
- 48 Unless otherwise agreed in writing by the Mineral Planning Authority noise monitoring/management at the site shall be carried out in accordance with the 'Noise Management and Monitoring Scheme' dated July 2010 produced by Silkstone Environmental Ltd.

The operator shall retain the results of noise monitoring for a minimum of 12 months for inspection by the Mineral Planning Authority.

No amendments to these planning conditions are being sought within this application. This will ensure that the noise levels attributable to the operations within the Site remain acceptable at the surrounding noise sensitive properties and thus minimise the potential for any adverse noise impacts.

4. Calculation and Assessment of Noise Levels

4.1. Introduction

The current noise limits at the properties surrounding the Site are low.

In consideration of the relocation of the plant into the Site, the noise generation has been carefully considered to ensure that the noise levels are minimised in order that the current noise limits are not exceeded. This has been achieved through the provision of appropriate noise mitigation and control measures.

The proposed working scheme is indicated on Figure 1.

Infilling operations would continue initially within the eastern area of the quarry. Materials would be brought into this area either by articulated dump trucks (ADT), transporting material from the excavation area or 8-wheeled HGVs, which would access from the main quarry complex along the access road. A dozer would operate within this area periodically to spread the materials. To ensure the plant was effectively screened whilst operating, the existing boundary bunding would be maintained along the northern quarry boundary.

Extraction operations would be within the western area, to the north of the airfield runway. An excavator would be used to extract the material and load into a mobile screen, which would be sited at the base of the working face. The screen would be used to separate the remaining rock from the soils and other materials. The processed material would be handled with a loading shovel, with the rock loaded onto ADTs and transported to the main quarry complex and the restoration materials loaded onto ADTs and transported to the area under restoration.

To ensure noise levels attributable to the operation of the screening plant were minimised, it would be operated at the base of the working face, which would ensure it was effectively screened from the properties within Justin Way. The site would be more open towards Haddon Farm to the south of the quarry. To minimise noise levels at this property, effective screening would be maintained to ensure there was no line of sight between the screening plant and properties. This would either be utilising stockpiles or providing temporary bunding alongside the plant.

To minimise noise associated with the material being loaded into the hopper of the screen, whilst it is not possible to line the insides of the hoppers, due to the likely rapid degradation of the materials, it is proposed to line the outsides of the hopper with a sound dampening material, which will reduce the impact noise from the stone hitting the sides of the hoppers. This measure would reduce noise levels from the loading operation by at least 3 dB(A).

4.2. Noise Modelling

Calculations of the noise levels attributable to the operations within the Site, which would include the processing operations and extraction of material, have been calculated using the SoundPlan computer modelling package.

The software utilises the calculation procedures from ISO 9613-2:2024.

Ground levels for the Site and surrounding area have been obtained from LiDAR mapping, and include consideration of the existing bunding constructed along the site boundary adjacent to Hill Tree Park, which would be retained whilst the operations continue on site.

Source term noise levels for the plant which will operate on site have been obtained from either measurements taken adjacent to plant operating within the main quarry complex or from similar quarries. The assumed source term information is provided in Appendix B.

The calculation results are also presented in Appendix C and summarised below:

- Closest Properties in Hill Tree Park – 42.6 dB $L_{Aeq, 1 hr}$; and
- Hadden Farm – 41.1 dB $L_{Aeq, 1 hr}$

4.3. Assessment

The calculations above indicate with the proposed control / mitigation measures for the screening plant and maintaining the existing boundary bunding, noise levels at the properties would remain very low.

The calculated noise levels attributable to the normal operations would remain below the planning condition limit of 45 dB $L_{Aeq, 1 hr}$ attributable to the normal operations on the site and would thus be acceptable in ensuring potential adverse impacts were minimised and comply with the requirements of the planning condition.

To ensure noise levels remain acceptable, appropriate controls would continue to be operated in accordance with the requirements of the current planning conditions.

In addition, when setting up the plant, the conveyors on the screening plant would be set at the lowest height permissible to maintain correct operations, to minimise the height of the falling stone, with the excavator operator also ensuring that the material is loaded carefully within the screen hopper, again to minimise drop heights.

The linings on the hopper would also be checked regularly to ensure they are in place securely and replaced promptly if they become damaged.

Periodic noise monitoring would also continue to be carried out in accordance of the scheme previously agreed and specified in Condition 48.

5. Summary

Johnsons Wellfield Quarries Limited currently operates Crosland Moor Quarry at Crosland Moor near Huddersfield (Airfield Quarry). The Site forms part of the wider quarry complex with stone processing facilities based at Wellfield Quarry.

At present, secondary aggregate, extracted from the quarry is processed within Wellfield Quarry and transported between the extraction area and processing site using dump trucks.

Johnsons Wellfield are proposing to amend the working scheme to allow the excavated material to be screened within the quarry, to separate out the rock from the restoration materials. The rock would be transported into the main quarry complex for processing within the existing plant.

The present planning permission for the Site does not allow screening operations and a Section 73 Application has been submitted to vary Conditions 1, 3, 11 and 15 of the current planning permission to extract further mineral reserves, enable processing to be carried out and extend the life of the quarry.

There would be no change to the operational working hours stipulated in Condition 42, from 0730-1800 Mondays to Fridays and 0730-1300 Saturdays, and no operations shall take place on Sundays and Bank/Public Holidays.

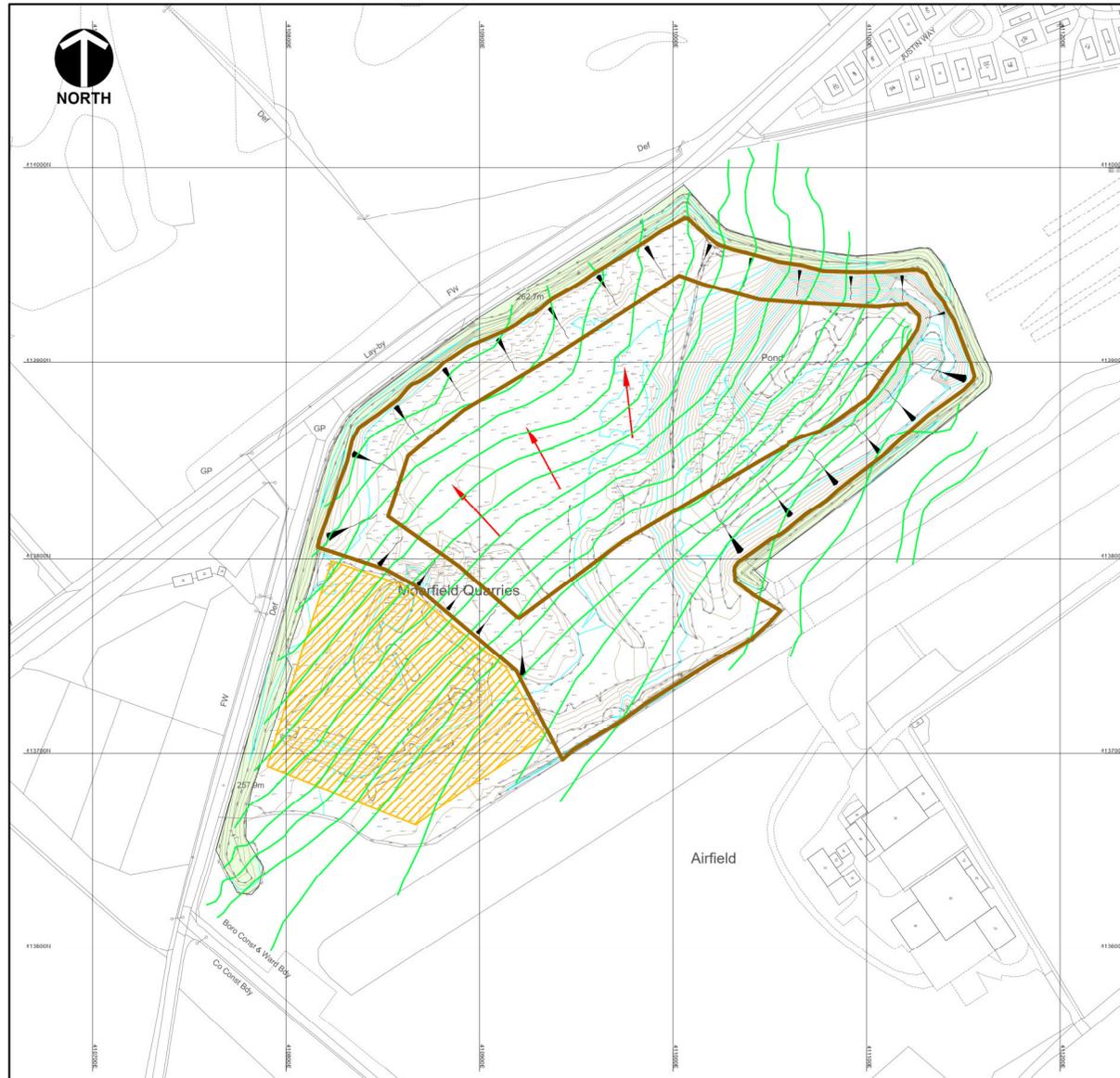
In addition, there will be no change to current noise conditions (43 – 48), which specify noise limits at surrounding noise sensitive receptors, control measures and the requirement for periodic noise monitoring.

The screening plant would operate at the base of the working face and would be loaded using an excavator. To ensure noise levels were minimised, the plant would be located to ensure there was no line of sight to neighbouring properties, with additional screening provided through the use of temporary screening bunds, as required, to achieve this.

Further control measures will be implemented, including the lining of the hopper to the screening plant and minimising drop heights when loading materials to reduce noise.

Calculations of the noise levels have been made, which demonstrate that the noise from the operation of the plant would remain below the current planning condition noise limits and thus be acceptable.

Figure



Key

- Permitted planning boundary combined with CLEUD boundary
- Topographic site survey data
- Area that will be restored during the preparation phase prior to infilling for restoration
- General direction of working for mineral working
- Ultimate top and bottom slope of final quarry with indicative extraction slope direction
- Permitted final restoration levels (as permitted)

NOTE:
Stage 1 Ongoing mineral extraction and processing of remaining quarry reserves and preparing the quarry void for commencement of infilling for restoration.
Stage 2 removal of siltstones for use in engineering of quarry and enable early restoration of the western sector.
Stage 3 Infilling with inert waste of the remaining quarry void to achieve final restoration
Stage 4 Complete restoration and bio-diversity enhancements

DRAFT PLAN

Based upon the Ordnance Survey maps with the permission of the controller of His Majesty's Stationery Office. © Crown Copyright reserved. Licence number AB100010006.

Client: JOHNSONS WELLFIELD		
Project: Airfield Quarry Amendment to Existing Planning Consent		
Title: Proposed Working Scheme		
B&A CAD Ref: AF1231-D9v3	Version: 3	Drawn by: RB
Scale @ A3: Plan 1:2000	Origin Date: April 2025	Amendment Date: -----
 Landscape and Environmental Consultants 01881 482 773 www.brightandassociates.co.uk Registered Practice		Drawing: Plan P4

Figure 1

Appendix A Noise Units

Decibels (dB)

Noise can be defined as unwanted sound. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level, will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness. A 5 dB change is generally considered to be clearly discernible.

A-weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit which has a frequency response similar to the human auditory system.

Units Used to Describe Noises Which Change Their Level with Time

The Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is the principal measurement index for environmental noise. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise which is present even during the quieter parts of the measurement period.

The L_{Amax} is the single maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax,F}$, or Fast, is averaged over 0.125 of a second and $L_{Amax,S}$, or Slow, is averaged over 1 second. The measured L_{Amax} noise levels in this assessment are Fast.

Appendix B
Source Term Information

Airfield Quarry Johnsons Wellfield
 Emis91.abs - SoundPLAN Emission Library

No.	Element name	Unit	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	Sum
5	Kleemann Mobiscreen MS212 (Lined)	dB(A)/ Lw/unit	79.0	92.0	96.6	104.5	107.7	105.0	101.7	116.5
			84.7	94.0	100.5	105.7	108.2	104.6	99.3	
			89.7	94.5	103.7	106.8	107.0	103.6	96.8	
7	ADT Movement	dB(A)/ Lw/unit	63.9	73.6	86.8	89.2	89.0	95.5	89.2	110.0
			60.1	81.1	108.7	95.6	94.9	92.8	86.7	
			69.2	76.9	96.7	92.8	94.2	90.8	82.7	
9	LoadingShovel	dB(A)/ Lw/unit	60.6	80.6	84.4	82.9	87.4	88.6	92.1	101.2
			67.3	85.6	84.4	84.5	88.0	89.6	93.9	
			73.7	77.7	83.8	86.8	89.9	91.5	92.5	
10	HGV Movement	dB(A)/ Lw/unit	64.7	79.6	85.1	87.3	91.1	89.6	86.6	101.2
			73.0	85.0	88.1	87.9	93.5	89.8	84.8	
			74.8	85.9	89.0	89.4	91.8	89.0	83.0	
11	Komatsu Dozer	dB(A)/ Lw/unit	74.8	84.3	93.9	94.8	97.9	95.0	91.0	108.1
			74.4	88.9	94.2	101.5	96.5	95.1	90.0	
			81.0	92.5	93.3	100.4	95.8	93.6	89.7	

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Appendix C
Calculation Details

Airfield Quarry Johnsons Wellfield
Mean propagation Leq - Unmitigated 060525

10

Legend

Source		Source name
Source type		Type of source (point, line, area)
Time slice		Name of time slice
L _w	dB(A)	Sound power level per m, m ²
L _w	dB(A)	Sound power level per unit
l or A	m, m ²	Size of source (length or area)
S	m	Distance source - receiver
A _{div}	dB	Mean attenuation due to geometrical spreading
A _{gr}	dB	Mean attenuation due to ground effect
A _{bar}	dB	Mean attenuation due to screening
A _{atm}	dB	Mean attenuation due to air absorption
L _s	dB(A)	Unassessed sound pressure level at receiver $L_s = L_w + K_o + A_{div} + A_{gr} + A_{bar} + A_{atm} + A_{fol_site_house} + A_{wind} + d_{ref}$
dL _w	dB	Correction due to source operation time
L _r	dB(A)	Assessed level of time slice

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Airfield Quarry Johnsons Wellfield Mean propagation Leq - Unmitigated 060525

Source	Source ty	Time slice	L'w dB(A)	Lw dB(A)	I or A m,m ²	S m	Adv dB	Agr dB	Abar dB	Aatm dB	Ls dB(A)	dLw dB	Lr dB(A)
Receiver Hadden Farm FI GF LAeq,1hr dB(A) LAeq,1hr 41.1 dB(A)													
ADT / HGV Movements	Line	LAeq,1hr	68.2	95.3	506.2	454.04	-84.1	-7.9	-3.5	-1.4	18.4	13.0	31.4
Dozer	Point	LAeq,1hr	108.1	108.1		515.27	-85.2	-2.7	-0.7	-2.4	37.1	0.0	37.1
Dump Truck Movement	Line	LAeq,1hr	68.2	87.9	91.5	483.68	-84.7	-8.9	-4.2	-1.5	10.6	13.0	23.6
Kleemann Screen Loaded with Excavator	Point	LAeq,1hr	116.5	116.5		486.14	-84.7	-1.4	-11.3	-1.3	37.7	0.0	37.7
Loading Shovel	Point	LAeq,1hr	101.2	101.2		474.11	-84.5	-0.3	-9.0	-2.8	24.7	0.0	24.7
Receiver Mobile Home Park FI GF LAeq,1hr dB(A) LAeq,1hr 42.6 dB(A)													
ADT / HGV Movements	Line	LAeq,1hr	68.2	95.3	506.2	226.05	-58.1	-7.4	-5.5	-0.3	24.0	13.0	37.0
Dozer	Point	LAeq,1hr	108.1	108.1		159.88	-55.1	-1.7	-17.5	-0.3	33.5	0.0	33.5
Dump Truck Movement	Line	LAeq,1hr	68.2	87.9	91.5	189.56	-56.5	-8.0	-9.8	-0.2	15.3	13.0	28.3
Kleemann Screen Loaded with Excavator	Point	LAeq,1hr	116.5	116.5		218.66	-57.8	-0.7	-17.6	-0.6	39.8	0.0	39.8
Loading Shovel	Point	LAeq,1hr	101.2	101.2		234.02	-58.4	0.0	-14.7	-1.2	27.0	0.0	27.0