RIG Waste and Minerals Recovery Facility, St Eval

Noise Assessment for Environment Agency

3rd September 2025

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1. INTRODUCTION

1.1. Overview

inacoustic has been commissioned to prepare a technical Noise Impact Assessment (NIA) in support of an Environmental Permit for the waste management facility at RIG Waste and Minerals Recovery, St Eval, Wadebridge, Cornwall, PL27 7UN ('the Site').

The assessment has been undertaken in accordance with the EA's published guidance on:

- Noise and Vibration Management: Environmental Permits
- Noise Impact Assessments Involving Calculations or Modelling

Accordingly, the following technical noise assessment has been produced for submission to the Environment Agency. This report details the sound emissions associated with the Development.

This noise assessment is necessarily technical in nature; therefore, a glossary of terms is included in Appendix A to assist the reader.

1.2. Scope and Objectives

The scope of the noise assessment can be summarised as follows:

- A sound monitoring survey was undertaken at locations associated with the closest noise-sensitive residential receptor to the site;
- A 3-dimensional noise modelling exercise has been undertaken, in order to quantify the potential noise generation of the proposed uses associated with the Development;
- An assessment of potential noise impacts with respect to the prevailing acoustic conditions at existing off-site receptors; and
- Recommendation of outline mitigation measures, where necessary, to comply with the requirements of the Noise and Vibration Management: Environmental Permits[1], and BS 4142:2014+A1:2019[2].

[1] Environment Agency, Scottish Environment Protection Agency (SEPA), Natural Resources Wales and Northern Ireland Environment Agency, 2021. Noise and Vibration Management: Environmental Permits.
[2] British Standards Institution, 2019. BS 4142:2014+A1:2019: Method for Rating and Assessing Industrial and Commercial Sound.

2. ASSESSMENT FRAMEWORK

2.1. National Policy

2.1.1. Noise and Vibration Management: Environmental Permits

Environmental Permitting and Noise Control

Environmental permits require operators to manage pollution, including noise and vibration. To support compliance, the Environment Agency, Scottish Environment Protection Agency (SEPA), Natural Resources Wales, and the Northern Ireland Environment Agency have jointly issued updated guidance for permit applicants and holders. This guidance outlines:

- How environmental agencies assess noise from industrial processes;
- Legal obligations for managing noise and vibration;
- Best practices for noise management, including conducting noise impact assessments and preparing noise management plans; and
- This guidance replaces the now-withdrawn Environment Agency Horizontal Guidance for Noise (H3) Parts 1 and 2.

Best Available Techniques (BAT) and Noise Management

Permitting regulations require operators to implement Best Available Techniques (BAT) to minimize environmental impact, balancing noise control with other environmental considerations such as air, land, and water pollution. BAT aims to ensure that noise emissions do not cause unreasonable annoyance beyond the installation boundary.

For noise control, BAT includes:

- Implementing good practice, such as maintaining plant and equipment to prevent noise increases;
- Ensuring noise levels do not cause undue annoyance to nearby communities, aligning with environmental standards beyond statutory nuisance laws; and
- Preventing creeping background noise—the gradual rise in ambient sound levels due to industrial expansion.

While BAT applies to both new and existing activities, new installations must meet BAT standards from the outset, incorporating noise prevention into process design. For existing sites, the focus remains on best practices and ensuring noise does not cause undue disturbance.

Noise Impact Assessment and Standards

Assessing noise impacts typically involves monitoring existing levels and applying adjustments rather than relying solely on predictions. The guidance references BS 4142:2014+A1:2019 as the primary standard for noise impact assessments.

2.2. Assessment Criteria

2.2.1. BS 4142:2014+A1:2019

BS 4142:2014+A1:2019 provides a method for rating and assessing industrial and commercial sound to determine its potential impact on people in nearby dwellings or premises used for residential purposes. It applies to noise from factories, industrial sites, mechanical and electrical installations, and loading/unloading activities. The standard does not apply to transport noise, entertainment, or construction activities.

The BS 4142:2014+A1:2019 methodology compares the measured or predicted *specific sound level* ($L_{Aeq,T}$) from the industrial or commercial source with the *background sound level* ($L_{A90,T}$) at an outdoor assessment location near a dwelling or other noise-sensitive receptor. Adjustments for acoustic characteristics such as tonality, impulsivity, or intermittency may be applied to determine the *rating level* ($L_{Ar,Tr}$). The difference between the rating level and background sound level is then used to assess potential impact.

BS 4142 recognises that measurements and calculations are subject to uncertainty. Factors that can introduce variability include:

- Weather conditions (wind speed, temperature, precipitation);
- Variability in background sound levels (e.g., road traffic fluctuations);
- Measurement position (reflections, screening, distance to source); and
- Instrumentation accuracy (calibration, microphone response).

Annex B of BS 4142 provides guidance on minimising uncertainty, such as using long-term monitoring, multiple measurement locations, and considering different weather conditions.

BS 4142:2014+A1:2019 states: *"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs"*. An estimation of the impact of the specific sound can be obtained by the difference of the rating sound level and the background sound level and considering the following:

- *"Typically, the greater this difference, the greater the magnitude of the impact."*
- *"A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."*
- *"A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context."*
- *"The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

The periods associated with day or night, for the purposes of the Standard, are considered to be 07.00 to 23.00 and 23.00 to 07.00, respectively.

For assessment purposes, BS 4142 defines the following time periods:

- Daytime: 07:00 – 23:00 (reference period = 1 hour).
- Night-time: 23:00 – 07:00 (reference period = 15 minutes).

2.3. Relevant Planning Condition

2.3.1. Planning Condition 14 of PA11/02308

Planning Condition 14 of application PA11/02308 is relevant to noise and states that:

"The total noise arising from the site shall not exceed 39 dB $L_{Aeq,1\text{-}hour}$ measured free field at the closest noise-sensitive receptors to the site.

Reason: To minimise the potential for pollution and disturbance to local amenity."

3. Site Description

3.1. Site and Surrounding Area

The Development is located at RIG Waste & Minerals Recovery, St Eval, Wadebridge, Cornwall, TR8 4JN. The Site lies within a rural setting adjacent to the former St Eval airfield and St Eval Kart Circuit. It will comprise external areas for a wash plant and associated mineral recovery equipment, stockpiles, and site infrastructure, together with ancillary cabins and bunding for screening.

The location of the Development and the nearest receptors can be seen below in Figure 1.

Figure 1: Plan of Site and Surrounding Area

There are numerous residential receptors in close proximity to the Development, however, three properties have been selected as being representative of the nearest noise-sensitive receptors, as detailed below in Table 1.

Table 1: Nearest Noise-Sensitive Receptors

ID	Receptor Name	Direction	Easting	Northing
R1	The Old Vicarage	North East	187011	069402
R2	Downhill Cottage	South West	186223	069086
R3	Larks End	South West	186368	068935

3.2. Site Operations Overview

The site overview for the Development can be seen below in Figure 2.

FIGURE 2: SITE LAYOUT PLAN

The Development seeks to apply for a wash plant, which cleans and screens the primary imported waste material, to extract topsoil, hardcore and aggregate, for secondary processing. The clean materials will be able to be reused as a secondary aggregate.

The inert imported material will be crushed, screened and cleaned, and will involve the use of mobile plant such as excavators, loading shovels and telescopic loaders etc.

The imported material will be delivered to and collected from site through a combination of HGVs and LGVs.

3.3. Noise Generating Elements

The site incorporates a mixture of predominantly external noise-generating elements, which are summarised below in Table 2.

TABLE 2: SUMMARY OF NOISE-GENERATING ELEMENTS

Reference	Description	Location	% On Time	Operational Profile	Grid Coordinates	
					Easting	Northing
1	4026 Conveyor 1	External	100	Continuous	186656	69227
2	4026 Conveyor 2	External	100	Continuous	186660	69224
3	Rubblemaster RM120Go! Crusher	External	50	Continuous	186669	69280
4	Excavator	External	50	Continuous	186671	69291
5	Floc Dosing Unit	External	100	Continuous	186634	69225
6	Press	External	100	Continuous	186641	69208
7	Rubblemaster 16*5 Screener	External	50	Continuous	186661	69286
8	AggWash 60 Wash Plant	External	100	Continuous	186641	69229
9	Waterpump	External	100	Continuous	186625	69230
10	HGV Movements	External	-	10 per hour	Site One-Way Route	
11	Materials Distribution Loading Shovel	External	100	Continuous	Outside Waste Management Building	

4. Measurement Methodology

4.1. General

The prevailing background noise conditions in the area have been determined by an environmental noise survey conducted during both daytime and night-time periods between Friday 15th August 2025 and Monday 18th August 2025.

4.2. Measurement Details

All noise measurements were undertaken by a consultant certified as competent in environmental noise monitoring, and, in accordance with the principles of BS 7445[3].

All acoustic measurement equipment used during the noise survey conformed to Type 1 specification of British Standard 61672[4]. A full inventory of this equipment is shown in Table 3 below.

Table 3: Inventory of Sound Measurement Equipment

Measurement Position	Make, Model & Description	Serial Number	Calibration Certificate Number	Calibration Due Date
MP1	Brüel & Kjær 2238 Sound Level Meter	2328256	1157793	14/02/2026
	Brüel & Kjær 4188 Microphone	2274651		
MP2	Rion NL-5 Sound Level Meter	00453871	1165092	15/07/2026
	Rion NH-25 Preamplifier	43913		
	Rion UC-59 Microphone	7960		
All	Norsonic 1251 Acoustic Calibrator	34676	1170247	28/10/2025

Measurement equipment used during the survey was field calibrated at the start and end of the measurement period. A calibration laboratory has calibrated the field calibrator used within the twelve months preceding the measurements. The weather conditions during the survey were conducive to noise measurement; it being predominantly dry, with low wind speeds. When periods of inclement weather occurred, they have been removed from the dataset used to derive the typical background sound level.

[3] British Standard 7445: 2003: *Description and measurement of environmental noise.* BSI.
[4] British Standard 61672: 2013: *Electroacoustics. Sound level meters.* Part 1 *Specifications.* BSI.

The measurement equipment used during the survey was field-calibrated at the start and end of the measurement period, with the results outlined in Table 4, below.

TABLE 4: CALIBRATION SUMMARY

Make, Model & Description	Serial Number	Calibration Start (1 kHz, dB)	Calibration End (1 kHz, dB)
Brüel & Kjær 2238 Sound Level Meter	2328256	114.0	113.9
Rion NL-52 Sound Level Meter	00453871	114.0	114.0

The drift in calibration of the sound level meters used during the survey period remained within expected and acceptable parameters.

The microphones were fitted with protective windshields for the measurement, which are described in Table 5, with an aerial photograph indicating their locations shown in Figure 3.

TABLE 5: MEASUREMENT POSITION DESCRIPTIONS

Measurement Position	Description
MP1	An attended measurement of sound under free-field conditions, at a height of 1.5 metres above local ground level, located to the north-east of R1. The residual sound was noted to be relatively quiet rural background, with sources including St Eval Karting (intermittent), tractors in nearby fields, distant road traffic, and occasional domestic animals.
MP2	An unattended measurement of sound under free-field conditions, at a height of 1.5 metres above local ground level, on land at Larks End. The residual sound was noted to be relatively quiet rural background, with sources including St Eval Karting (intermittent), tractors in nearby fields, distant road traffic, and occasional domestic animals.

FIGURE 3: MEASUREMENT POSITIONS

4.3. Summary of Measurement Results

4.3.1. Background Sound Levels

The summarised results of the unattended, environmental noise measurements are presented in Table 6, with full time histories presented under Appendix B. The L_{A90} statistics have been derived from an analysis of the spread of typical measured values, throughout the entire survey period, as advocated by BS 4142:2014+A1:2019. It should be noted that the daytime statistics have been derived whilst the existing operations associated when the Development site was **not** operational.

TABLE 6: UNATTENDED SOUND SUMMARY OF MEASUREMENT RESULTS

Position	Period	Noise Level, dB		
		L_{Amax}	$L_{Aeq,T}$	L_{A90}
MP1	Day	70	51	35
MP2	Day	79	53	38

5. Operational Noise Assessment

As the Development seeks to incorporate proposed potentially noise-generating sources, a predictive exercise has been undertaken to quantify the potential impact associated with the Proposed Development.

5.1. Methodology

5.1.1. Source Data

The sources noise considered as part of this noise assessment are as follows:

- 32t Tipper Lorry;
- Komatsu PC250 Excavator;
- CAT 972 Loading Shovel;
- JCB 420 Telescopic Loader;
- Rubblemaster RM120Go! Crusher;
- Rubblemaster 16*5 Screener;
- AggWash 60 Wash Plant with integrated conveyors;
- Terex H9 Hopper;
- 4026 Conveyors;
- Clean Water Pump;
- Floc Dosing Unit;
- Filter Press;
- Tipping of Import Materials;
- Loading of Import Materials to Wash plant; and
- Loading of Clean Materials for Export.

Typical source noise levels for the plant items have been referenced from BS 5228 Part 1 Annex C or from manufacturers data, and are presented in Table 7, below.

Table 7: Typical Source Noise Levels Associated with Proposed Development

Source	Source Reference	Sound Power Level, L_{WA} (dB)	Linear Octave Band, Hz, Sound Power Level, L_W (dB)							
			63	125	250	500	1k	2k	4k	8k
HGV	Table C.8 Ref 20	107	116	110	102	102	102	101	98	95
32t Tipper Unloading	Table C.2 Ref 32	102	108	104	101	98	97	94	91	86
Excavator	Table C.6 Ref 7	104	112	108	103	102	98	95	92	84
Loading Shovel	Table C.6 Ref 32	103	111	105	98	98	98	96	92	86
Telescopic Loader	Table C.4 Ref 54	107	107	101	94	93	106	94	82	75
Loading HGV	Table C.6 Ref 33	110	120	112	111	105	104	102	99	90
Filter Press	Manufacturer	96	108	94	96	91	90	88	87	84
Wash Plant	Manufacturer	96	108	94	96	91	90	88	87	84
4026 Conveyors	Manufacturer	97	91	89	88	91	95	87	83	77
Clean Water Pump	Manufacturer	88	96	91	85	85	84	79	76	64

Source	Source Reference	Sound Power Level, L_{WA} (dB)	Linear Octave Band, Hz, Sound Power Level, L_W (dB)							
			63	125	250	500	1k	2k	4k	8k
Floc Dosing Unit	Manufacturer	81	89	84	78	78	77	72	69	57
Rubblemaster RM120Go! Crusher	Manufacturer	109	110	110	107	106	104	102	97	87
Rubblemaster 16*5 Screener	Manufacturer	108	111	109	106	106	101	101	98	91

It has been assumed that a peak of 10 HGV movements will occur in any given 1-hour assessment period, which represents a worst-case scenario.

5.1.2. Calculation Process

Calculations were carried out using iNoise 2024.3, which undertakes its calculations in accordance with guidance given in ISO9613-1:1993 and ISO9613-2:2024.

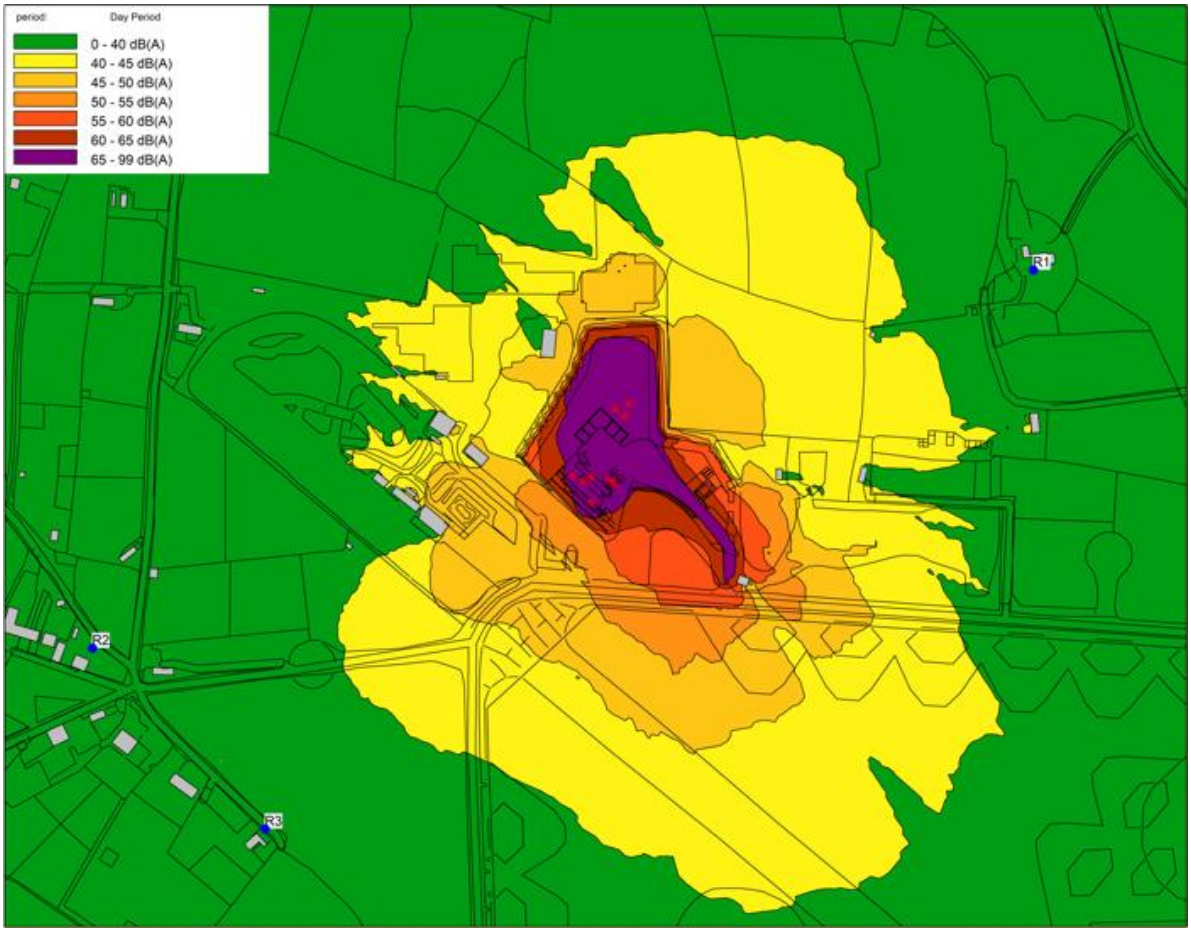
5.1.3. Assumptions

Given that the land between the development and the nearest receptors is mixed, the ground factor has been set according to ground type, using 'ground areas' in the calculation software. The ground area associated with the development has been set to 'hard'. It has been assumed that all processes will occur simultaneously, representing a worst-case scenario. In order to accurately model the land surrounding the development, an AutoCAD DXF drawing was produced, which was based on data provided by the Ordnance Survey.

5.1.4. Specific Sound Level Map

The sound map showing the specific sound level emissions from the Development a height 1.5 m above ground level, can be seen below in Figure 4.

FIGURE 4: SPECIFIC SOUND LEVEL MAP



5.1.5. Specific Sound Level Summary

A summary of the predicted specific sound levels at the NSRs, based on the sound map shown in and Figure 4, can be seen below in Table 8.

TABLE 8: PREDICTED SPECIFIC SOUND LEVEL SUMMARY

NSR	Specific Sound Level (dB)
R1	37
R2	33
R3	37

5.2. Assessment

5.2.1. Rating Penalty Principle

Section 9 of BS 4142:2014+A1:2019 describes how the rating sound level should be derived from the specific sound level, by determining a rating penalty. BS 4142:2014+A1:2019 states:

"Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, add a character correction to the specific sound level to obtain the rating level. This can be approached in three ways:

a) subjective method;
b) objective method for tonality;
c) reference method."

The subjective method has been adopted to derive the rating sound level from the specific sound level. This is discussed in Section 9.2 of BS 4142:2014+A1:2019, which states that BS 4142:2014+A1:2019 defines four characteristics that should be considered when deriving a rating penalty, namely; tonality; impulsivity; intermittency; and other sound characteristics, which are defined as:

Tonality

A rating penalty of +2 dB is applicable for a tone which is *"just perceptible"*, +4 dB where a tone is *"clearly perceptible"*, and +6 dB where a tone is *"highly perceptible"*.

Impulsivity

A rating penalty of +3 dB is applicable for impulsivity which is *"just perceptible"*, +6 dB where it is *"clearly perceptible"*, and +9 dB where it is *"highly perceptible"*.

Other Sound Characteristics

BS 4142:2014+A1:2019 states that where *"the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distance against the residual acoustic environment, a penalty of +3 dB can be applied."*

Intermittency

BS 4142:2014+A1:2019 states that when the *"specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time … if the intermittency is readily distinctive against the residual acoustic environment, a penalty of +3 dB can be applied."*

5.2.2. Rating Penalty Assessment

In accordance with the Environment Agency's guidance on the application of BS 4142:2014+A1:2019, an additional +3 dB correction for *"Other Sound Characteristics"* has been applied. This reflects the possibility that site operations may, at times, be audible and clearly distinguishable at nearby receptors, even though the absolute noise level remains low. The inclusion of this correction ensures that the assessment is precautionary and consistent with EA expectations.

5.2.3. Uncertainty in Calculations

BS 4142:2014+A1:2019 requires that the level of uncertainty in the measured data and associated calculations is considered in the assessment. The Standard recommends that steps should be taken to reduce the level of uncertainty.

Measurement Uncertainty

BS 4142:2014+A1:2019 states that measurement uncertainty depends on a number of factors, including the following, which are applicable to the Proposed Development:

"
...
b) the complexity and level of variability of the residual acoustic environment;
...
d) the location(s) selected for taking the measurements;
...
g) the measurement time intervals;
h) the range of times when the measurements have been taken;
i) the range of suitable weather conditions during which measurements have been taken;
...
k) the level of rounding of each measurement recorded; and
l) the instrumentation used."

Each of the measurement uncertainty factors outlined above have been considered, and the good practice employed for reducing uncertainty is discussed in Table 9 below.

TABLE 9: MEASUREMENT UNCERTAINTY FACTORS

Measurement Uncertainty Factor Reference	Discussion
b)	Residual acoustic environment is relatively constant, hence no correction for a complex residual acoustic environment.
d)	Measuring at locations representative of the closest affected receptors to the site has enabled the determination of robust background sound levels.
g)	Measurement time intervals were set in accordance with BS 4142:2014+A1:2019, hence no further correction needs to be made.
h)	Measurements were undertaken over consecutive daytime and night-time periods, inclusive of a weekend period.
i)	The weather throughout the survey period was within the parameters outlined in BS 4142:2014+A1:2019.
k)	Measured values were rounded to 0.1 dB, therefore rounding would not have had a significant impact on the overall typical background sound levels.
l)	The acoustic measurement equipment accorded with Type 1 specification of British Standard 61672.

In this instance the level of measurement uncertainty is not expected to affect the conclusions of the assessment.

Calculation Uncertainty

BS 4142:2014+A1:2019 states that calculation uncertainty depends on a number of factors, including the following, which are applicable to the Proposed Development:

"
...
b) uncertainty in the operation or sound emission characteristics of the specific sound source and any assumed sound power levels;
c) uncertainty in the calculation method;
d) simplifying the real situation to "fit" the model (user influence on modelling); and
e) error in the calculation process."

Each of the calculation uncertainty factors outlined above have been considered, and the good practice employed for reducing uncertainty is discussed in Table 10 below.

TABLE 10: CALCULATION UNCERTAINTY FACTORS

Calculation Uncertainty Factor Reference	Discussion
b)	Sound power levels for all plant are based on a combination of manufacturer data and reference data from BS 5228-1.
c)	Calculations were undertaken in accordance with ISO 9613-2, which is considered a *"validated method"* by BS 4142:2014+A1:2019. Restricting attention to moderate downwind conditions of propagation, limits the effect of variable meteorological conditions along the propagation path on sound attenuation to reasonable values.
d)	The real situation has not been simplified for the purposes of this assessment.
e)	ISO 9613-2 estimates the accuracy of use of the calculation method, which varies based on the separation distance between the source and receiver, up to a maximum of 1km.

In this instance the level of calculation uncertainty is not expected to affect the conclusions of the assessment. It is also noted that because the assessment considers a worst-case scenario, such as downwind sound propagation (which in reality cannot happen at all NSRs at the same time) the relevance of the uncertainty is further reduced.

5.3. Rating Sound Level

Incorporating the rating penalties detailed in Section 5.2.2 with the predicted specific sound levels, as detailed in Table 8, the rating sound levels have been derived and have been detailed in Table 11 below.

TABLE 11: RATING SOUND LEVELS

NSR	Rating Sound Level (dB)
R1	40
R2	36
R3	40

5.3.1. BS 4142:2014+A1:2019 Assessment

The rating sound level, as calculated from the predicted specific sound level, has been assessed in accordance with BS 4142:2014+A1:2019, at the closest and most potentially affected NSRs.

The resultant assessment summary for the Development can be seen in Table 12 below.

TABLE 12: BS 4142:2014+A1:2019 ASSESSMENT SUMMARY

NSR	Rating Sound Level (dB)	Daytime Background Sound Level (dB)	Excess of Rating over Daytime Noise Limit (dB)
R1	40	35	+5
R2	36	38	-2
R3	40	38	+2

The assessment indicates that the Development is likely to give rise to noise effects at a level corresponding to the boundary between *'Low Impact'* and *'Adverse Impact'* in BS 4142 terms. However, BS 4142 makes clear that the numerical outcome must be interpreted in light of the specific context. The following section therefore considers the results within the wider framework of national planning policy, Minerals Planning Practice Guidance, and the Environment Agency's expectations.

5.4. Context

The Noise Policy Statement for England (NPSE) and associated Planning Practice Guidance (NPPG) provide the overarching framework for managing noise, with the objective of avoiding significant adverse effects, minimising and mitigating adverse effects, and contributing to a good standard of amenity. The Minerals Planning Practice Guidance (MPPG) develops this further for mineral and waste sites, setting operational benchmarks: during normal daytime operations noise should not normally exceed the background level by more than +10 dB, and in any case should not exceed 55 dB $L_{Aeq,1h}$ at the nearest noise-sensitive properties.

At St Eval, the Local Planning Authority has imposed a significantly more stringent requirement through Planning Condition 14, which limits site noise to 39 dB $L_{Aeq,1h}$ at the closest receptors. On the basis of the measured background sound levels, the equivalent MPPG +10 dB limit would be ~45 dB $L_{Aeq,1h}$. The site therefore complies both with the local planning condition and with national MPPG policy.

The EA guidance requires assessment in accordance with BS 4142:2014+A1:2019. On a strict numerical basis, the BS 4142 assessment indicates a potentially *Adverse Impact* (+5 dB above background) at receptor R1. However, EA guidance also recognises that *"no noise, or barely audible or detectable noise"* corresponds to *'low impact or no impact'* in BS 4142 terms, once context is taken into account. In this case, the contextual evidence moderates the outcome:

- The absolute noise level is very low (≤ 39 dB $L_{Aeq,1h}$), well below the 55 dB MPPG threshold and below the MPPG-derived limit of 45 dB at R1.
- The site operates under a planning condition more restrictive than national guidance requires.
- The character of the noise is controlled and minimised through the adoption of Best Available Techniques (BAT).

The BAT package applied at St Eval includes earth bunding to provide screening, the use of modern low-noise mobile plant, enclosure and damping of fixed plant, and broadband reversing alarms. Maintenance procedures and operational controls are in place to ensure performance is sustained.

These measures represent the application of Appropriate Measures required by the EA, ensuring that noise emissions are reduced as far as reasonably practicable.

Taking the above together, while BS 4142 indicates a modest exceedance of background, the policy, planning and BAT context confirms that the residual effect is best described, in EA terms, as *"no noise, or barely audible or detectable noise."* The site therefore satisfies the planning and permitting tests, with only a low-level effect that is effectively minimised.

6. CONCLUSION

inacoustic has been commissioned to prepare a technical Noise Impact Assessment (NIA) in support of an Environmental Permit application for the proposed RIG Waste & Minerals Recovery facility at St Eval, Wadebridge, Cornwall, PL27 7UN.

The assessment has considered the noise generation from the plant associated with the Development in the context of existing sound levels in the surrounding area. The methodology contained in British Standard 4142:2014+A1:2019 has been applied, with additional consideration of the Environment Agency's guidance on noise and relevant national and local planning policy.

The assessment identifies that, while the BS 4142 rating level is predicted to exceed the measured background sound level at the closest residential receptor by up to +5 dB, the absolute sound level remains low (≤39 dB $L_{Aeq,1h}$) and within both the stringent planning condition and the Minerals Planning Practice Guidance benchmark. When this context is applied, and taking into account the adoption of Best Available Techniques (BAT) to minimise noise at source, the residual effect is best described, in EA terminology, as *"no noise, or barely audible or detectable noise."*

Accordingly, the assessment concludes that noise emissions from the Development should not present a constraint to the approval of the Environmental Permit variation.

7. APPENDICES

7.1. Appendix A – Definition of Terms

Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level (Sound Level)	The sound level is the sound pressure relative to a standard reference pressure of 20μPa ($20x10^{-6}$ Pascals) on a decibel scale.
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1 / s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,T}$	A noise level index defined as the maximum noise level during the period T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period T. L_{90} can be considered to be the "average minimum" noise level and is often used to describe the background noise.
$L_{10,T}$	A noise level index. The noise level exceeded for 10% of the time over the period T. L_{10} can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Facade	At a distance of 1m in front of a large sound reflecting object such as a building façade.
Fast Time Weighting	An averaging time used in sound level meters. Defined in BS 5969.

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

TABLE A1: TYPICAL SOUND LEVELS FOUND IN THE ENVIRONMENT

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

In accordance with logarithmic addition, combining two sources with equal noise levels would result in an increase of 3 dB(A) in the noise level from a single source.

A change of 3 dB(A) is generally regarded as the smallest change in broadband continuous noise which the human ear can detect (although in certain controlled circumstances a change of 1 dB(A) is just perceptible). Therefore, a 2 dB(A) increase would not be normally be perceptible. A 10 dB(A) increase in noise represents a subjective doubling of loudness.

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs.

For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest. In the UK, traffic noise is measured as the L_{A10}, the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq}.

This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound.

To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3 dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1 dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS 4142 specifies background noise measurement periods of 1 hour during the day and 15 minutes during the night. The noise levels are commonly symbolised as $L_{A90,1hour}$ dB and $L_{A90,15mins}$ dB. The noise measurement should be recorded using a 'FAST' time response equivalent to 0.125 ms.

7.2. Appendix B – Full Measurement Results

FIGURE 5: MP2 - MEASURED TIME HISTORY

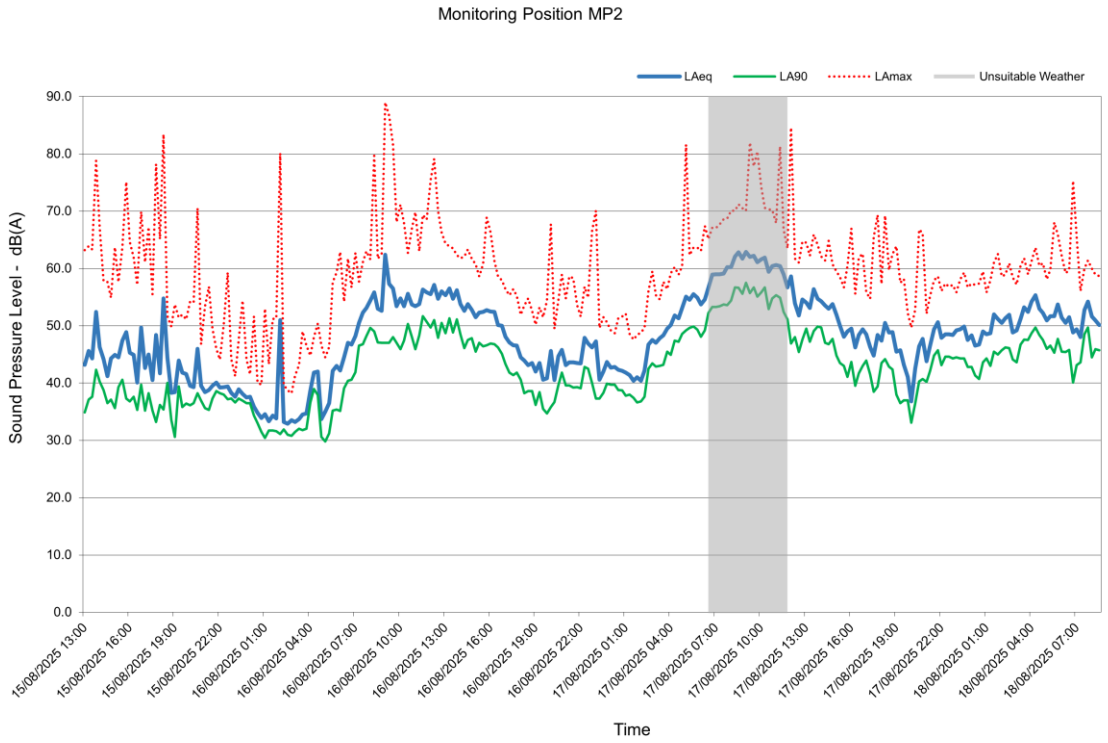
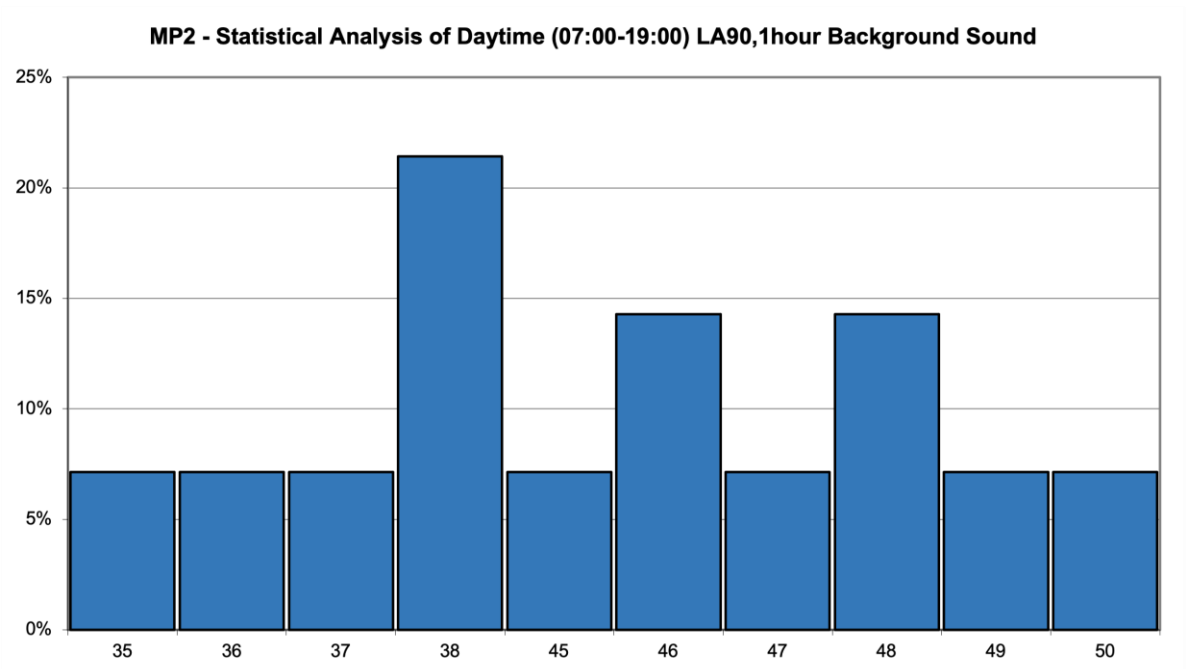


FIGURE 6: MP2 - STATISTICAL ANALYSIS OF L_{A90} BACKGROUND – DAYTIME



7.2.1. Weather Monitoring

TABLE 13: WIND AND RAIN ON-SITE MONITORING

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
15/08/2025 12:00	299.9	1.2	NW	N
15/08/2025 12:15	307.2	1.2	NW	N
15/08/2025 12:30	250.5	0.8	W	N
15/08/2025 12:45	219.0	0.7	SW	N
15/08/2025 13:00	238.9	0.6	SW	N
15/08/2025 13:15	216.6	0.7	SW	N
15/08/2025 13:30	217.7	0.7	SW	N
15/08/2025 13:45	226.4	0.6	SW	N
15/08/2025 14:00	235.6	0.7	SW	N
15/08/2025 14:15	225.2	0.6	SW	N
15/08/2025 14:30	219.9	0.6	SW	N
15/08/2025 14:45	231.4	0.7	SW	N
15/08/2025 15:00	230.9	0.6	SW	N
15/08/2025 15:15	228.5	0.7	SW	N
15/08/2025 15:30	237.1	0.7	SW	N
15/08/2025 15:45	246.3	0.9	SW	N
15/08/2025 16:00	248.4	0.8	W	N
15/08/2025 16:15	236.6	0.7	SW	N
15/08/2025 16:30	244.9	0.7	SW	N
15/08/2025 16:45	262.4	0.8	W	N
15/08/2025 17:00	241.1	0.6	SW	N
15/08/2025 17:15	248.4	0.6	W	N
15/08/2025 17:30	215.5	0.6	SW	N
15/08/2025 17:45	191.8	0.6	S	N
15/08/2025 18:00	191.7	1.0	S	N
15/08/2025 18:15	193.0	1.0	S	N
15/08/2025 18:30	192.3	1.3	S	N
15/08/2025 18:45	193.8	0.9	S	N
15/08/2025 19:00	201.2	0.9	S	N
15/08/2025 19:15	197.2	1.3	S	N
15/08/2025 19:30	198.1	1.2	S	N
15/08/2025 19:45	196.7	1.2	S	N
15/08/2025 20:00	198.8	1.1	S	N
15/08/2025 20:15	204.1	1.3	SW	N
15/08/2025 20:30	199.9	1.2	S	N
15/08/2025 20:45	203.6	1.1	SW	N
15/08/2025 21:00	208.7	1.0	SW	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
15/08/2025 21:15	215.0	0.7	SW	N
15/08/2025 21:30	207.2	1.2	SW	N
15/08/2025 21:45	206.8	1.4	SW	N
15/08/2025 22:00	208.0	1.4	SW	N
15/08/2025 22:15	212.3	1.3	SW	N
15/08/2025 22:30	212.0	1.0	SW	N
15/08/2025 22:45	208.5	1.3	SW	N
15/08/2025 23:00	211.3	1.2	SW	N
15/08/2025 23:15	215.0	1.2	SW	N
15/08/2025 23:30	209.8	1.4	SW	N
15/08/2025 23:45	208.9	1.2	SW	N
16/08/2025 00:00	208.5	1.3	SW	N
16/08/2025 00:15	224.6	0.6	SW	N
16/08/2025 00:30	240.4	0.6	SW	N
16/08/2025 00:45	223.8	0.5	SW	N
16/08/2025 01:00	236.2	0.5	SW	N
16/08/2025 01:15	208.3	0.8	SW	N
16/08/2025 01:30	204.5	0.9	SW	N
16/08/2025 01:45	203.3	0.8	SW	N
16/08/2025 02:00	205.7	0.8	SW	N
16/08/2025 02:15	206.0	1.1	SW	N
16/08/2025 02:30	205.9	1.0	SW	N
16/08/2025 02:45	203.9	0.9	SW	N
16/08/2025 03:00	202.5	1.1	SW	N
16/08/2025 03:15	201.1	1.0	S	N
16/08/2025 03:30	205.0	1.3	SW	N
16/08/2025 03:45	226.9	0.9	SW	N
16/08/2025 04:00	237.7	1.1	SW	N
16/08/2025 04:15	226.3	1.1	SW	N
16/08/2025 04:30	214.0	1.4	SW	N
16/08/2025 04:45	225.3	0.8	SW	N
16/08/2025 05:00	227.8	0.8	SW	N
16/08/2025 05:15	235.5	1.0	SW	N
16/08/2025 05:30	245.0	1.7	SW	N
16/08/2025 05:45	247.0	1.8	SW	N
16/08/2025 06:00	247.5	1.8	SW	N
16/08/2025 06:15	251.3	2.3	W	N
16/08/2025 06:30	249.3	2.4	W	N
16/08/2025 06:45	249.7	2.3	W	N
16/08/2025 07:00	252.1	2.5	W	N
16/08/2025 07:15	253.4	3.0	W	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
16/08/2025 07:30	255.6	3.4	W	N
16/08/2025 07:45	257.2	3.5	W	N
16/08/2025 08:00	257.2	3.8	W	N
16/08/2025 08:15	257.5	3.6	W	N
16/08/2025 08:30	258.3	3.4	W	N
16/08/2025 08:45	257.4	3.2	W	N
16/08/2025 09:00	256.3	3.4	W	N
16/08/2025 09:15	255.2	3.5	W	N
16/08/2025 09:30	256.5	3.7	W	N
16/08/2025 09:45	258.6	3.4	W	N
16/08/2025 10:00	257.3	3.6	W	N
16/08/2025 10:15	255.3	3.5	W	N
16/08/2025 10:30	257.2	4.1	W	N
16/08/2025 10:45	255.2	3.6	W	N
16/08/2025 11:00	255.1	3.5	W	N
16/08/2025 11:15	257.9	3.6	W	N
16/08/2025 11:30	248.5	3.9	W	N
16/08/2025 11:45	253.0	3.9	W	N
16/08/2025 12:00	256.5	4.1	W	N
16/08/2025 12:15	251.8	4.0	W	N
16/08/2025 12:30	253.7	3.9	W	N
16/08/2025 12:45	257.0	4.2	W	N
16/08/2025 13:00	256.9	4.0	W	N
16/08/2025 13:15	256.8	4.5	W	N
16/08/2025 13:30	256.0	3.9	W	N
16/08/2025 13:45	258.1	4.3	W	N
16/08/2025 14:00	257.1	3.8	W	N
16/08/2025 14:15	254.6	3.4	W	N
16/08/2025 14:30	254.6	3.6	W	N
16/08/2025 14:45	256.2	3.6	W	N
16/08/2025 15:00	257.1	3.2	W	N
16/08/2025 15:15	258.0	3.5	W	N
16/08/2025 15:30	259.7	3.4	W	N
16/08/2025 15:45	256.7	3.3	W	N
16/08/2025 16:00	254.6	3.4	W	N
16/08/2025 16:15	257.9	3.4	W	N
16/08/2025 16:30	255.2	3.3	W	N
16/08/2025 16:45	257.0	3.1	W	N
16/08/2025 17:00	256.2	2.8	W	N
16/08/2025 17:15	253.3	2.7	W	N
16/08/2025 17:30	248.0	2.4	W	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
16/08/2025 17:45	245.3	2.4	SW	N
16/08/2025 18:00	251.6	2.4	W	N
16/08/2025 18:15	254.5	2.2	W	N
16/08/2025 18:30	250.4	2.3	W	N
16/08/2025 18:45	255.1	2.2	W	N
16/08/2025 19:00	252.9	2.1	W	N
16/08/2025 19:15	249.0	2.2	W	N
16/08/2025 19:30	251.4	2.0	W	N
16/08/2025 19:45	247.8	1.8	W	N
16/08/2025 20:00	247.4	1.9	SW	N
16/08/2025 20:15	251.3	2.0	W	N
16/08/2025 20:30	247.2	2.3	SW	N
16/08/2025 20:45	247.6	2.3	W	N
16/08/2025 21:00	249.1	2.1	W	N
16/08/2025 21:15	252.4	2.2	W	N
16/08/2025 21:30	250.7	2.2	W	N
16/08/2025 21:45	249.4	2.1	W	N
16/08/2025 22:00	248.6	2.1	W	N
16/08/2025 22:15	246.6	2.5	SW	N
16/08/2025 22:30	245.8	2.3	SW	N
16/08/2025 22:45	246.2	2.0	SW	N
16/08/2025 23:00	249.8	1.8	W	N
16/08/2025 23:15	247.8	1.8	W	N
16/08/2025 23:30	245.1	1.8	SW	N
16/08/2025 23:45	246.2	2.1	SW	N
17/08/2025 00:00	245.3	1.9	SW	N
17/08/2025 00:15	244.4	1.8	SW	N
17/08/2025 00:30	245.8	1.7	SW	N
17/08/2025 00:45	246.6	1.9	SW	N
17/08/2025 01:00	245.2	1.7	SW	N
17/08/2025 01:15	239.1	1.3	SW	N
17/08/2025 01:30	240.3	1.4	SW	N
17/08/2025 01:45	241.0	1.5	SW	N
17/08/2025 02:00	240.3	1.5	SW	N
17/08/2025 02:15	246.0	2.0	SW	N
17/08/2025 02:30	248.3	2.6	W	N
17/08/2025 02:45	246.4	2.5	SW	N
17/08/2025 03:00	244.9	2.4	SW	N
17/08/2025 03:15	245.7	2.5	SW	N
17/08/2025 03:30	247.4	2.8	SW	N
17/08/2025 03:45	248.7	3.0	W	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
17/08/2025 04:00	249.5	3.1	W	N
17/08/2025 04:15	247.3	3.3	SW	N
17/08/2025 04:30	248.0	3.2	W	N
17/08/2025 04:45	250.1	3.5	W	N
17/08/2025 05:00	251.6	3.7	W	N
17/08/2025 05:15	252.4	3.8	W	N
17/08/2025 05:30	252.5	4.0	W	N
17/08/2025 05:45	252.7	4.0	W	N
17/08/2025 06:00	254.4	3.7	W	N
17/08/2025 06:15	256.0	3.8	W	N
17/08/2025 06:30	256.7	4.5	W	N
17/08/2025 06:45	256.0	5.0	W	N
17/08/2025 07:00	258.4	4.8	W	N
17/08/2025 07:15	259.6	4.7	W	N
17/08/2025 07:30	259.8	4.8	W	N
17/08/2025 07:45	260.3	5.0	W	N
17/08/2025 08:00	259.5	5.2	W	N
17/08/2025 08:15	259.8	5.6	W	N
17/08/2025 08:30	261.9	5.4	W	N
17/08/2025 08:45	262.1	5.2	W	N
17/08/2025 09:00	260.0	5.8	W	N
17/08/2025 09:15	260.3	5.4	W	N
17/08/2025 09:30	262.4	5.1	W	N
17/08/2025 09:45	260.8	5.2	W	N
17/08/2025 10:00	258.9	5.5	W	N
17/08/2025 10:15	257.8	6.1	W	N
17/08/2025 10:30	256.0	5.3	W	N
17/08/2025 10:45	254.4	5.7	W	N
17/08/2025 11:00	256.1	5.8	W	N
17/08/2025 11:15	252.5	5.3	W	N
17/08/2025 11:30	256.4	5.4	W	N
17/08/2025 11:45	254.2	4.6	W	N
17/08/2025 12:00	257.2	3.9	W	N
17/08/2025 12:15	252.4	3.7	W	N
17/08/2025 12:30	253.5	3.4	W	N
17/08/2025 12:45	258.6	4.0	W	N
17/08/2025 13:00	255.8	3.9	W	N
17/08/2025 13:15	259.5	3.8	W	N
17/08/2025 13:30	257.5	4.4	W	N
17/08/2025 13:45	257.9	4.3	W	N
17/08/2025 14:00	253.8	4.1	W	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
17/08/2025 14:15	252.4	3.9	W	N
17/08/2025 14:30	248.3	3.6	W	N
17/08/2025 14:45	251.9	3.8	W	N
17/08/2025 15:00	247.0	3.2	SW	N
17/08/2025 15:15	251.6	3.1	W	N
17/08/2025 15:30	253.3	2.9	W	N
17/08/2025 15:45	254.0	2.8	W	N
17/08/2025 16:00	255.9	2.9	W	N
17/08/2025 16:15	257.2	2.6	W	N
17/08/2025 16:30	254.8	2.8	W	N
17/08/2025 16:45	256.9	3.1	W	N
17/08/2025 17:00	254.3	3.2	W	N
17/08/2025 17:15	253.1	2.8	W	N
17/08/2025 17:30	251.3	2.3	W	N
17/08/2025 17:45	252.5	2.7	W	N
17/08/2025 18:00	251.1	3.0	W	N
17/08/2025 18:15	246.5	3.1	SW	N
17/08/2025 18:30	249.7	2.9	W	N
17/08/2025 18:45	249.9	2.9	W	N
17/08/2025 19:00	250.0	2.2	W	N
17/08/2025 19:15	249.6	2.4	W	N
17/08/2025 19:30	247.5	2.1	W	N
17/08/2025 19:45	246.4	1.9	SW	N
17/08/2025 20:00	243.2	1.4	SW	N
17/08/2025 20:15	244.5	1.9	SW	N
17/08/2025 20:30	247.6	2.3	W	N
17/08/2025 20:45	244.2	2.1	SW	N
17/08/2025 21:00	243.8	1.9	SW	N
17/08/2025 21:15	249.6	2.7	W	N
17/08/2025 21:30	251.1	3.2	W	N
17/08/2025 21:45	251.4	3.3	W	N
17/08/2025 22:00	250.4	2.8	W	N
17/08/2025 22:15	248.9	2.9	W	N
17/08/2025 22:30	249.0	2.9	W	N
17/08/2025 22:45	253.5	3.0	W	N
17/08/2025 23:00	257.7	3.2	W	N
17/08/2025 23:15	258.7	3.2	W	N
17/08/2025 23:30	258.5	3.2	W	N
17/08/2025 23:45	257.5	2.9	W	N
18/08/2025 00:00	256.8	2.9	W	N
18/08/2025 00:15	255.6	2.8	W	N

Date & Time	Wind Direction (°)	Wind Speed (ms^{-1})	Direction	Rain
18/08/2025 00:30	256.8	2.9	W	N
18/08/2025 00:45	252.3	3.1	W	N
18/08/2025 01:00	255.2	3.1	W	N
18/08/2025 01:15	257.0	3.1	W	N
18/08/2025 01:30	257.0	3.6	W	N
18/08/2025 01:45	258.6	3.5	W	N
18/08/2025 02:00	258.2	3.4	W	N
18/08/2025 02:15	257.9	3.6	W	N
18/08/2025 02:30	257.4	3.6	W	N
18/08/2025 02:45	257.3	3.2	W	N
18/08/2025 03:00	254.9	3.2	W	N
18/08/2025 03:15	253.1	3.6	W	N
18/08/2025 03:30	253.1	3.7	W	N
18/08/2025 03:45	250.4	3.7	W	N
18/08/2025 04:00	252.5	4.0	W	N
18/08/2025 04:15	252.9	4.2	W	N
18/08/2025 04:30	255.1	3.8	W	N
18/08/2025 04:45	252.2	3.6	W	N
18/08/2025 05:00	251.8	3.4	W	N
18/08/2025 05:15	249.4	3.4	W	N
18/08/2025 05:30	248.2	3.2	W	N
18/08/2025 05:45	251.1	3.6	W	N
18/08/2025 06:00	251.7	3.4	W	N
18/08/2025 06:15	252.5	3.3	W	N
18/08/2025 06:30	252.3	3.4	W	N
18/08/2025 06:45	250.2	2.7	W	N
18/08/2025 07:00	249.0	2.9	W	N
18/08/2025 07:15	252.9	3.1	W	N
18/08/2025 07:30	253.3	3.9	W	N
18/08/2025 07:45	250.0	3.8	W	N
18/08/2025 08:00	250.4	3.4	W	N
18/08/2025 08:15	248.2	3.3	W	N
18/08/2025 08:30	247.7	3.1	W	N
18/08/2025 08:45	247.5	3.0	SW	N

7.3. Appendix C – Qualifications etc

The company is directed and led by Antony Best BSc (Hons) MIOA, Neil Morgan MSc MIOA and Victor Valeron BEng MSc MIOA, who have a combined experience of over 50 years in the acoustic industry; covering a range of project types and assessment scenarios, including numerous submissions to the Environment Agency.

Antony Best BSc (Hons) MIOA produced this report, and it was reviewed by Neil Morgan MSc MIOA. The site work was undertaken wholly by Antony Best.

Professional Qualifications for Antony Best

- BSc (Hons) in Acoustics from the University of Salford
- Corporate Member of the Institute of Acoustics

Professional Experience for Antony Best

- 2015 to Present Inacoustic Ltd (Director)
- 2013 to 2015 MLM Acoustics (Principal Acoustic Consultant)
- 2010 to 2013 Eddie Jewell Acoustics (Director)
- 2008 to 2009 Sandy Brown Associates LLP (Acoustic Technician)

Professional Qualifications for Neil Morgan

- MSc in Applied Acoustics from the University of Derby
- Institute of Acoustics Post Graduate Diploma in Acoustics and Noise Control, Institute of Acoustics, University of the West of England
- BSc (Hons) in Surveying for Resource Development from the University of Glamorgan
- Corporate Member of the Institute of Acoustics (MIOA)

Professional Experience for Neil Morgan

- 2017 to Present Inacoustic Ltd (Director)
- 2013 to 2017 MLM Acoustics (Technical Director)
- 2009 to 2013 Innovate Acoustics (Associate Director)
- 2007 to 2009 SLR Consulting (Senior Consultant)
- 2006 to 2007 Grontmij (Senior Engineer)
- 1996 to 2006 Capita Symonds (Various Positions)

7.4. Appendix D – Calibration Certificates

CERTIFICATE OF CALIBRATION

ISSUED BY: **CALIBRATION MAINTENANCE & REPAIR LTD**

DATE OF ISSUE: 15 February 2024 CERTIFICATE NUMBER: **1157793**

BS EN ISO 9001:2015 APPROVED BY **LRQA**

CERT No 10045223

11 Frensham Road
Norwich
Norfolk
NR3 2BT

Tel: +44 1603 279557

Approved Signatory

Electronically Authorised Document

☐ P K CLARK ☐ J FRYER
☐ R J WADE ☐ M FOY
☐ M A FROST
☒ M S PARDOE

Customer	**INACOUSTIC (BS8)**
Order No	**240212**
Equipment Description	**INTEGRATING SOUND LEVEL METER**
Manufacturer	**BRUEL & KJAER**
Model	**2238 MEDIATOR**
Serial No	**2328256**
Ident No	**2238 (2)**
Calibrated By	**Ross Osborne**
Date Of Calibration	**15 February 2024**

INSTRUMENT CONDITION

Adjustments Made	**YES**
Repairs Made	**NO**

ENVIRONMENT

The instrument was placed in the laboratory environment for a minimum period of 4 hours and was operated prior to calibration.

Measurements were made in ambient conditions of 22 °C ± 3 °C and 45 %RH ± 15 %RH.

PROCEDURE

Measurements were performed in accordance with the in house laboratory procedure 0223
All equipment used has been calibrated/verified against measurement standards or reference equipment traceable to International or National Measurement Standards as specified in our control procedure WI64
The results attached to this certificate refer to measurements made at the time of test and not to the instrument's ability to maintain calibration.
The attached results are a true record of the levels required to confirm the instrument meets the original stated manufacturer's specification and accuracy where shown.

CERTIFICATE OF CALIBRATION

ISSUED BY: **CALIBRATION MAINTENANCE & REPAIR LTD**

DATE OF ISSUE: 15 July 2024 CERTIFICATE NUMBER: **1165092**

BS EN ISO 9001:2015 APPROVED BY **LRQA**

CERT No 10045223

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☒ M S PARDOE

Customer	**INACOUSTIC**
Order No	**AB-TRU-SLM24**
Equipment Description	**SOUND LEVEL METER**
Manufacturer	**RION CO LTD**
Model	**NL-52**
Serial No	**00453871**
Ident No	**NL52 (3)**
Calibrated By	**Ross Osborne**
Date Of Calibration	**15 July 2024**

INSTRUMENT CONDITION

Adjustments Made	**NO**
Repairs Made	**NO**

ENVIRONMENT

The instrument was placed in the laboratory environment for a minimum period of 4 hours and was operated prior to calibration.

Measurements were made in ambient conditions of 22 °C ± 3 °C and 45 %RH ± 15 %RH.

PROCEDURE

Measurements were performed in accordance with the in house laboratory procedure 4642
All equipment used has been calibrated/verified against measurement standards or reference equipment traceable to International or National Measurement Standards as specified in our control procedure WI64
The results attached to this certificate refer to measurements made at the time of test and not to the instrument's ability to maintain calibration.
The attached results are a true record of the levels required to confirm the instrument meets the original stated manufacturer's specification and accuracy where shown.

CERTIFICATE OF CALIBRATION

ISSUED BY: **CALIBRATION MAINTENANCE & REPAIR LTD**

DATE OF ISSUE: 28 October 2024 CERTIFICATE NUMBER: **1170247**

BS EN ISO 9001:2015 APPROVED BY **LRQA**

CERT No 10045223

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Approved Signatory

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Customer	**INACOUSTIC**
Order No	**231024**
Equipment Description	**ACOUSTIC CALIBRATOR**
Manufacturer	**NORSONIC**
Model	**1251**
Serial No	**34676**
Ident No	**NOT KNOWN**
Calibrated By	**Ross Osborne**
Date Of Calibration	**28 October 2024**

INSTRUMENT CONDITION

Adjustments Made	**NO**
Repairs Made	**NO**

ENVIRONMENT

The instrument was placed in the laboratory environment for a minimum period of 4 hours and was operated prior to calibration.

Measurements were made in ambient conditions of 22 °C ± 3 °C and 45 %RH ± 15 %RH.

PROCEDURE

Measurements were performed in accordance with the in house laboratory procedure 1095
All equipment used has been calibrated/verified against measurement standards or reference equipment traceable to International or National Measurement Standards as specified in our control procedure WI64
The results attached to this certificate refer to measurements made at the time of test and not to the instrument's ability to maintain calibration.
The attached results are a true record of the levels required to confirm the instrument meets the original stated manufacturer's specification and accuracy where shown.

inacoustic | **truro**
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