



The Manager

Afrimat Aggregates (Pty) Limited – Bethlehem Quarry

Bethlehem

FS

27th July 2025

Sir

ENVIRONMENTAL NOISE – JULY 2025

Herewith the environmental noise report for your Concern conducted during the month of July 2025

Should you require more information regarding this report please do not hesitate to contact our Centurion office.

Yours faithfully

P. H Meyer

IMEC (MVS), P.Grad. OH (USQ), MSHE (USQ), Nat. Dip. IT (TUT)

SURVEY: PM10/PM2.5 FALL-OUT DUST
REPORT No: BH/EN0725.

1 Introduction.

1.1 Surveyors.

R Behr of Health and Occupational Hygiene Laboratory CC.

1.2 Purpose.

The purpose of this survey was to determine the environmental impact of mining and plant operations from Afrimat Bethlehem quarry on the surrounding areas. Sound Pressure Levels were measured at 4 test sites selected and demarcated to ensure that repeated readings were taken at the same positions around the mine.

1.3 Objectives of the survey.

Management of Afrimat requested HOHL to conduct an environmental noise survey to determine environmental impact of Afrimat Bethlehem operations.

1.4 Description of work process.

This Quarry is in operation during daytime only.
Deliveries and collecting takes place by means of road transport.



2 Environmental Noise

2.1 Method employed.

For the purpose of this survey the ambient noise rating level was analysed against SABS Code SABS 10103:2008 6th Edition for Environmental Noise in Table 2, and SANS 10083-2013

Table 2.1: Typical rating levels for ambient noise in districts as per SANS 10103:2008

Type of district	Outdoors		In-doors, with open windows.	
	Day	Evenings /weekends	Day	Evenings /weekends
Rural	45	40	35	30
Suburban with little road traffic	50	45	40	35
Urban	55	50	45	40
Urban with some workshops, business premises and main roads	60	55	50	45
Central business	65	60	55	50
Industrial	70	65	60	55

Table 2.2: Estimated community/group response. $\Delta L_r^{(1)}$ dB as per SANS 10103:2008

1	2	3
Excess $\Delta L_r^{(1)}$ dB	Category	Description
$0 \leq 5$	None	No observed action
$> 5 \leq 10$	Little	Sporadic complaints
$> 10 \leq 15$	Medium	Widespread complaints
$> 15 \leq 20$	Strong	Threats of community/group action
> 20	Very strong	Vigorous community/group action.

2.2 Sampling process.

Test stations were selected around mine and measurements were conducted at each station to determine average levels at each sampling point



2.3 Equipment used.

Svanteck fully integrating sound level meter 41974 Calibration date: 06/06/25.

Complies with the accuracy requirements specified for a Type 1 instrument in IEC 651 and IEC 804. Use was made of a windscreen of a type specified and supplied by the manufacturer for the microphone used which do not detectably influence the accuracy of the meter under ambient conditions of the survey. Microphone frequency response: 31.5 Hz – 16 kHz.

The sound level meter was checked prior to and immediately after the survey for calibration and was within the 1 dB limit prescribed for this type of survey. The microphone was positioned 1.4 m above ground level as required in the Code. In all instances the microphone was more than 3.5 m away from any walls or other flat surfaces, which could have had an influence on the readings obtained.

2.4 Results of Environmental Noise

Table 2.3: Daytime (06:00 – 22:00)

Remarks	Peak dB (A)	Max dB (A)	Min dB (A)	Laeq dB (A)	Urban with Main Road Limit
Test Station 1	93.7	85.4	46.9	56.7	60
Test Station 2	94.8	86.2	47.7	58.9	60
Test Station 3	85.7	80.1	35.5	36.7	60
Test Station 4	85.6	80.2	35.4	36.6	60

2.5 Conclusion

- a) Sound Pressure Levels did not exceed the recommended levels stated in SANS Code 10103 for Urban areas with main roads
- b) Test station 1 and 2 high readings due to traffic on the public road as well as plant activity
- c) It is our considerate opinion that Sound Pressure levels from activities from Bethlehem operations does not exceed the prescribed SPL's for Urban areas at the boundaries
- d) Peaks recorded during this survey were from traffic on public road;

3 General

Results reflected in this report are correct for the day and times this survey was conducted, should conditions change results will alter accordingly.

P. H Meyer
Occupational Hygienist.

