CDE GLOBAL

TYPICAL NOISE EMISSIONS

M2500 – AGGMAX

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NOISE ASSESSMENT REPORT

Introduction

The following report represents the noise level measurement emitted by a CDE aggregate washing plan i.e. M2500 and AggMax 83 installed in the UK operating in its normal conditions which are similar to the SP-631 project. Further measurements were taken at specified distances to investigate the propagation of noise emissions.

In relation to the water treatment machinery noise emission, it hasn't been included in the report and should be expected to be less than the generated by an M2500 or an AggMax i.e. <75 dB (A).

2.0 Manual noise measurements

2.1 Procedure

The noise level measurements were undertaken at the positions shown on the indicative M2500 AggMax site layout plan noise emissions. Measurements at each location lasted for at least 1-2 minutes and it was ensured that durations were long enough to encapsulate the noise from the aggregate washing processes under normal operation.

Measurements were undertaken at various locations around the plant in order to best depict the noise levels associated with various parts of the washing process.

Operational modes were typical and all processes were operated at a setting deemed typical for normal conditions.

During this noise survey, there was some influence from other sources associated with the aggregate washing plant. These included an auxiliary hopper, a tracked excavator/loader vehicle, a pump and a diesel generator all within the vicinity. Although these are deemed necessary accessories to the washing plant, their influence has been indicated on the relevant measurements.

2.2 Equipment

The equipment calibration was verified before and after use and no abnormalities were observed.

The equipment used was as follows.

- 1 Pulsar Model 14 - Class 2 Sound Level Meter
- 1 Pulsar Model 16 – Class 2 Acoustic Calibrator
- 50 mm wind shield

3.0 Results

The summarised results of measurements in each location are shown in Table 3.1. Measurements are given as overall sound pressure at close range to the sources in order to give the best impression of the noise emissions unaffected by surrounding sources.

Comments shown in red mark measurements where the influence of nearby sources not directly associated with the aggregate washing plant was noted.

ITEM	LOCATION NUMBER	POSITION	DISTANCE FROM SOURCE	MEASURED ONSITE NOISE LEVEL LAEQ,T
M2500 E4X	1	Side of hopper (close to auxiliary hopper)	1m	76.9 dB(A)
M2500 E4X	2	Side unit	1m	80.6 dB(A)
M2500 E4X	3	Side unit	1m	81.2 dB(A)
M2500 E4X	4	Conveyor belt	1m	75.8 dB(A)
M2500 E4X	5	Conveyor belt	1m	76.6 dB(A)
M2500 E4X	6	End unit	1m	75.8 dB(A)
M2500 E4X	7	Conveyor belt	2m	74.6 dB(A)
M2500 E4X	8	Side unit	1m	84.1dB(A)
M2500 E4X	9	Side unit	1m	84.4 dB(A)
M2500 E4X	10	Conveyor belt	1m	82.3 dB(A)
P2-75	11	On unit	0.5m	87.1 dB(A)
P2-75	12	On unit	0.5m	87.7 dB(A)
RX 80	15	Side unit (non CDE pump operating)	1m	81.9 dB(A)
RX 80	16	Side unit (without non CDE pump operating)	1m	78.6 dB(A)
RX 80	17	Side unit	1m	82.4 dB(A)
RX 80	18	Side unit	1m	82 dB(A)
RX 80	19	Side unit (next to non CDE equipment)	1m	81.8 dB(A)
RX 80	20	Side unit (next to non CDE equipment)	1m	85.4 dB(A)
RX 80 - Aggregate screen	21	On unit	1m	90.8 dB(A)
RX 80- Aggregate screen	22	On unit side	1m	88 dB(A)
M1508	23	Conveyor belt	1m	81.4 d(B)A

Table 3.1 Measured source noise levels at close range to the plant

Note is red are related to non-CDE equipment.

In addition to the above measured levels, ambient noise levels were also taken at various distances from the aggregate washing facility where feasible. This was undertaken in one direction from the plant only due to the terrain and surrounding boundaries of the quarry site, the direction of measurements is indicated on the attached site plan.

MEASUREMENT LOCATION	COMMENTS	MEASURED NOISE LEVEL LAEQ,T
10 m	Some intermittent bangs from digger (when loading)	71.9 dB(A) - 73 dB(A)
50 m	Some intermittent bangs from digger (when loading)	66.6 dB(A) - 69 dB(A)
100 m	Some intermittent bangs from digger (when loading)	62.2 dB(A) - 63 dB(A)

Table 3.2 Measured source noise level at various distances from the plant

The above measurements were taken in order to obtain measurements at distance while maintaining a direct line of sight with ongoing operations.

Close to the aggregate washing facility, measured noise levels are complex due to the contribution of many sources and localised screening. However at distances greater than 50m, the noise generated will begin to behave more like a point source. This is demonstrated in the measurements at 50m and 100m, where the doubling of distance has caused a 6dB drop in noise emissions levels, which is in line with acoustic theory of noise propagation.

It can therefore be predicted that, at 200m (a further doubling of distance) noise levels would be expected to be in the region of 57 dB(A).

4.0 Conclusion

Noise measurements have been taken at and around an existing aggregate washing facility in order to investigate the propagation of noise around the site.

Measurements have assessed noise levels at source due to individual parts of the aggregate washing process. Further measurements have also been undertaken to demonstrate how overall noise levels propagate at set distances from the site.

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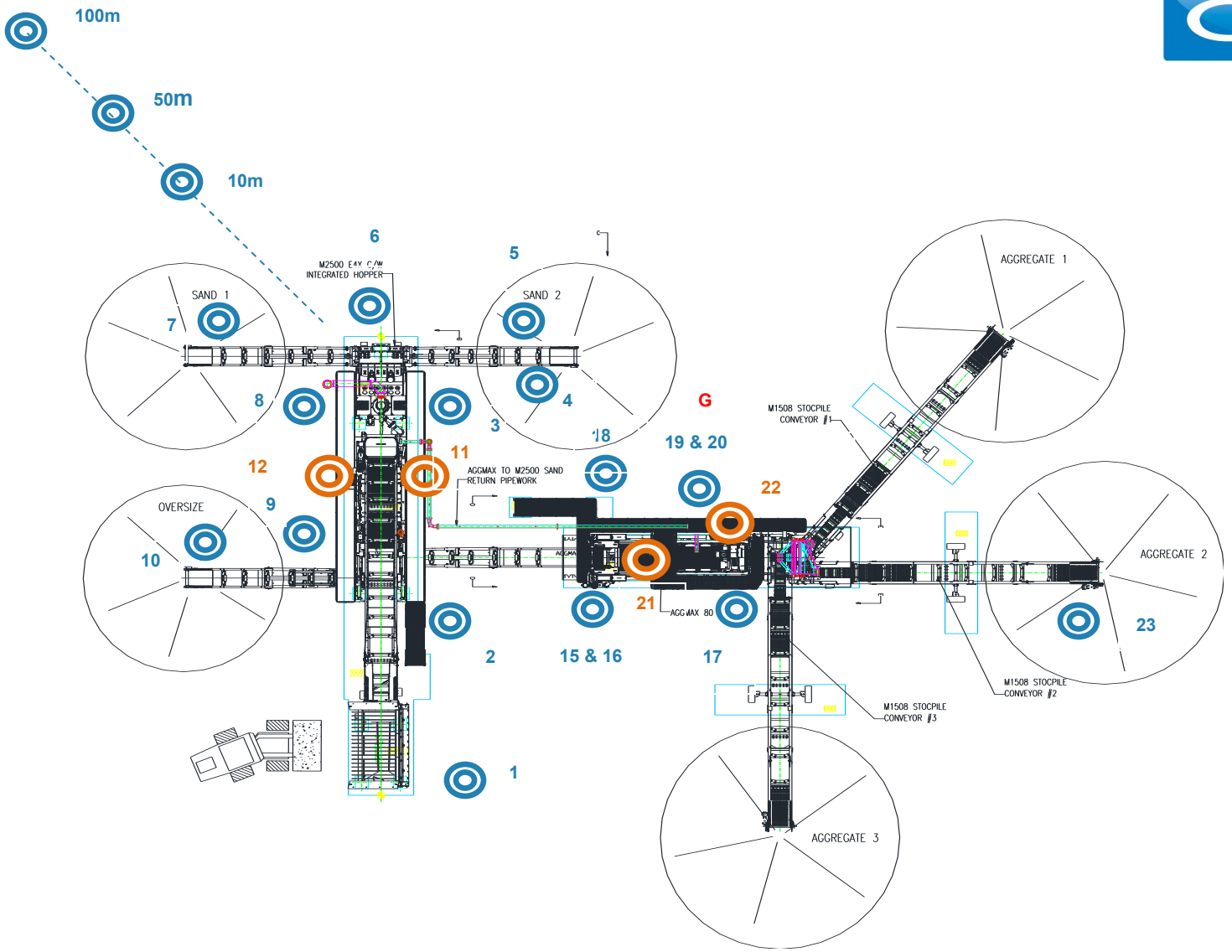

M2500 – AGGMAX layout plan noise emission

Noise Measurement Position (On unit)

Noise Measurement Position (Ground level)

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