

Table 6.3 has been updated to use precise locations for the descriptor positions so that a meaningful comparison can be made between the various mitigation options.

Mitigation A uses deck venting (6 dB) and enclosures (11 dB) to give a total of 17 dB mitigation.

Mitigation C adds ANC with a pressure amplitude on all loudspeakers of 2.5 Pa. This results in only a modest improvement at the far field receptors.

Mitigation D also uses ANC on each screen, but here care is needed to avoid the cancelling being significantly larger than source resulting in an emissions increase. Tests with the new lightweight diaphragm loudspeaker have shown that a pressure amplitude of 100 Pa is possible at maximum amplifier output. Any amplitude is possible up to that level as an input setting.

Different screens generate different characteristic pressures and all are mitigated by deck venting. Of the resulting pressure generated, it would be unrealistic to expect the loudspeaker to cancel all the noise, and the model input has been set to half of the source value. In practice, each setting would be optimised to give the minimum transmitted sound level.

The values for the ANC level settings are shown for each screen in the model input table shown below. It can be seen that all screens do not require the full output power of the loudspeaker.

All screens running	Easting	Northing	Screen rpm	Stroke normal to deck(mm)	Vibrating Area (m ²)	Phase (degrees)	Acoustic Efficiency	Active Noise Control (Pa peak)	Deck venting (dB)	Enclosure (dB)
140-SN-01 DMS Feed Preparation Screen	56899.87	58963.89	936.12	6.98	11.52	0	0.30	10	6	11
140-SN-06 Secondary DMS Screen	56912.2	58956.66	1000.8	3.96	8.64	0	0.30	4	6	11
140-SN-07 Scavenger DMS Screen	56914.9	58958.64	990.96	3.76	8.64	0	0.30	4	6	11
150-SN-01 Primary Mill Sizing Screen	56920.26	58955.83	948.54	6.57	9	0	0.30	7	6	11
115-SN-02 Secondary Crusher Scalping Screen	57124.2	59103.8	738	8.5	18	0	0.30	15	6	11
125-SN-11 Ore Sorter Sizing Screen	57058.3	58979.4	738	8.5	14	0	0.30	11	6	11
125-SN-01 Pebble Ore Sorter 1 Dewatering Screen	57040.6	59019.9	960	5.7	3.6	0	0.30	3	6	11
125-SN-02 Pebble Ore Sorter 2 Dewatering Screen	57036.6	59017.9	960	5.7	3.6	0	0.30	3	6	11
125-SN-03 Cobble Ore Sorter 3 Dewatering Screen	57033.5	59016.6	960	5.7	3.6	0	0.30	3	6	11
125-SN-04 Cobble Ore Sorter 4 Dewatering Screen	57029.1	59014.7	960	5.7	3.6	0	0.30	3	6	11
130-SN-12 Tertiary Crusher Sizing Screen	56958	58926.4	740	8.5	18	0	0.30	15	6	11
130-SN-13 Tertiary Crusher Deatering Screen	57013.5	58965.7	740	8.5	18	0	0.30	15	6	11

Receptor	Easting	Northing	Predicted SPL with Mitigation (A)	Predicted SPL with Mitigation and ANC1 (C)	Predicted SPL with Mitigation and ANC2 (D)	Wolf Minerals SPL (B)	Difference (A-B)	Difference (C-B)	Difference (D-B)
A: Birchland Farm	57916	58311	55.5	54.4	49.5	74.7	-19.2	-20.3	-25.2
B: Galva House	56535	58008	56.8	55.9	50.8	77.2	-20.4	-21.3	-26.4
C: Newnham House	55646	57967	42.2	40.8	36.2	71.3	-29.1	-30.5	-35.1
D: Boringdon Hall	54767	59349	40.5	39.3	34.5	57.8	-17.3	-18.5	-23.3
E: Mumford Cottage	57797	60766	46.9	45.9	40.9	66.0	-19.1	-20.1	-25.1
F: Portworthy Farmhouse	55442	60180	41.5	40.0	35.5	67.3	-25.8	-27.3	-31.8
G: Windwhistle Farm	55941	57846	46.9	45.7	40.9	70.8	-23.9	-25.1	-29.9
H: Dartmoor Zoo	58022	58685	49.7	48.4	43.7	75.9	-26.2	-27.5	-32.2
I: Wotter	55390	61907	33.2	31.7	27.2	57.5	-24.3	-25.8	-30.3
J: Broadoaks Cottages	57394	61660	36.0	34.0	30	62.6	-26.6	-28.6	-32.6
K: East of Lee Moor	58045	61650	40.1	39.5	34.1	59.6	-19.5	-20.1	-25.5
L: Lutton	59739	59550	39.7	38.7	33.7	59.5	-19.8	-20.8	-25.8
M: Cornwood Inn	60534	59667	35.5	34.6	29.5	55.2	-19.7	-20.6	-25.7
N: Gorah Cottages	58855	59101	45.3	44.3	39.3	66.3	-21	-22	-27

O: Yondertown	59250	59090	42.2	41.3	36.2	62.6	-20.4	-21.3	-26.4
P: Road Junction	55799	57215	43.7	42.7	37.7	65.1	-21.4	-22.4	-27.4
Q: Colebrook	54915	57289	34.2	32.8	28.2	60.9	-26.7	-28.1	-32.7
R: Elfordleigh Hotel	54495	58214	37.4	36.3	31.4	61.8	-24.4	-25.5	-30.4