



Heidelberg Materials

TYTHERINGTON QUARRY: 6 MILLION TONNES ADDITIONAL RESERVES

Environmental Statement: Appendix 7B Noise
Level Predictions





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Predictions

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 62282762

OUR REF. NO. 6MT ES / APPENDIX 7B NOISE LEVEL PREDICTIONS

DATE: MAY 2024

WSP

Canon Court West

Abbey Lawn

Shrewsbury

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WSP.com

Prediction of quarry noise levels from quarry area: Predicted Sound Levels

Select >>>	Free-field
Select >>>	L _{Aeq}

PHASE / ACTIVITY	@10m	Quarry Activities	SAMPLE RECEPTORS																	
			R1	R9	R16															
			Distance between working area and receptor (m)	830	700	400														
			Additional correction distance inside of working area (m)	0	0	0														
			Source to receptor calculation distance (m)	830	700	400														
Single point operating distances assumed for prediction of construction noise	73	Predicted construction noise level at receptors, dB L _{Aeq} Free-field	44	46	50															

@10m																								
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items or Veh/h	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level free-field (dB)	Receptor noise level façade (dB)	
1	ADT CAT 745	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader				10	66.0	94.0	100.0	10.0	50.0	9	10	180									
2	ADT BELL 845 E							10	66.0	94.0	100.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400							10	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M							10	66.0	94.0	100.0	15.0	50.0	3	1	180	29.7	0.0	9.5	62.5	-3.0	4.8	64.3	67.3
5	FEL Liebherr 586 X Power			C.09 #27	87.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	4	1	180									
6	EXC Luigong 995F	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	60.5	-3.0	0.0	57.5	60.5	
7	EXC Kobelco 850	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	2	1	180	29.7	0.0	9.5	66.5	-3.0	3.0	66.5	69.5	
8	EXC Komatsu PC 360	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	60.5	-3.0	0.0	57.5	60.5	
9	Crusher GPO P 170	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB L _{Aeq}	10	66.0	94.0	100.0	15.0	50.0	2	1	180	29.7	0.0	9.5	65.5	-3.0	3.0	65.5	68.5	
10	Crusher GPO 130						10	66.0	94.0	100.0	10.0	50.0	0	1	180									
11	Crusher Powerscreen Maxtrack 1300	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB L _{Aeq}	10	66.0	94.0	100.0	15.0	50.0	1	1	180	29.7	0.0	9.5	71.5	-3.0	0.0	68.5	71.5	
12	Crusher Powerscreen Maxtrack 1150						10	66.0	94.0	100.0	10.0	50.0	1	1	180									
13	Screen Terex Finlay 693+						10	66.0	94.0	100.0	10.0	100.0	1	1	180									
14	Screen Powerscreen Warrior 2400	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	61.5	-3.0	0.0	58.5	61.5	
15	Stacker Belt Terex Finlay Tc65	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	56.5	-3.0	0.0	53.5	56.5	
16	Tractor John Deere 6930						10	66.0	94.0	100.0	10.0	50.0	1	1	180									
17	Telehandler Manitou 935						10	66.0	94.0	100.0	10.0	50.0	1	1	180									
18	MiniDigger Luigong 9018F						10	66.0	94.0	100.0	10.0	50.0	1	1	180									
19	Pump Flygt BS2201	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	10.0	1	1	180	29.7	0.0	9.5	49.5	-10.0	0.0	39.5	42.5	
20	Pump Flygt 2400						10	66.0	94.0	100.0	10.0	10.0	0	1	180									

dB L _{Aeq}	73	76
dB L _{Aeq} Haul Road		
dB L _{Aeq} Total		
dB L _{Amax}		

Receptor			R1	Doddsmoor																			
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level free-field (dB)	Receptor noise level façade (dB)
1	ADT CAT 745						830	66.0	94.0	100.0	10.0	50.0	9	10	180								
2	ADT BELL 845 E						830	66.0	94.0	100.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						830	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB L _{Aeq}	830	66.0	94.0	100.0	15.0	50.0	3	1	180	830.5	0.0	38.4	33.6	-3.0	4.8	35.4	38.4
5	FEL Liebherr 586 X Power						830	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	50.0	1	1	180	830.5	0.0	38.4	31.6	-3.0	0.0	28.6	31.6
7	EXC Kobelco 850	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	50.0	2	1	180	830.5	0.0	38.4	37.6	-3.0	3.0	37.6	40.6
8	EXC Komatsu PC 360	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	50.0	1	1	180	830.5	0.0	38.4	31.6	-3.0	0.0	28.6	31.6
9	Crusher GIPO P 170	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB L _{Aeq}	830	66.0	94.0	100.0	15.0	50.0	2	1	180	830.5	0.0	38.4	36.6	-3.0	3.0	36.6	39.6
10	Crusher GIPO 130						830	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Crusher Powerscreen Maxtrack 1300	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB L _{Aeq}	830	66.0	94.0	100.0	15.0	50.0	1	1	180	830.5	0.0	38.4	42.6	-3.0	0.0	39.6	42.6
12	Crusher Powerscreen Maxtrack 1150						830	66.0	94.0	100.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						830	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	50.0	1	1	180	830.5	0.0	38.4	32.6	-3.0	0.0	29.6	32.6
15	Stacker Belt Terex Finlay Tc65	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	50.0	1	1	180	830.5	0.0	38.4	27.6	-3.0	0.0	24.6	27.6
16	Tractor John Deere 6930						830	66.0	94.0	100.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						830	66.0	94.0	100.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						830	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB L _{Aeq}	830	66.0	94.0	100.0	10.0	10.0	1	1	180	830.5	0.0	38.4	20.6	-10.0	0.0	10.6	13.6
20	Pump Flygt 2400						830	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB L _{Aeq}	44	47
dB L _{Aeq} Haul Road		
dB L _{Aeq} Total		
dB L _{Amax}		

Receptor			R9	Ruth's Close																			
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level free-field (dB)	Receptor noise level façade (dB)
1	ADT CAT 745						700	66.0	94.0	100.0	10.0	50.0	9	10	180								
2	ADT BELL 845 E						700	66.0	94.0	100.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						700	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB L _{Aeq}	700	66.0	94.0	100.0	15.0	50.0	3	1	180	700.6	0.0	36.9	35.1	-3.0	4.8	36.9	39.9
5	FEL Liebherr 586 X Power						700	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	700	66.0	94.0	100.0	10.0	50.0	1	1	180	700.6	0.0	36.9	33.1	-3.0	0.0	30.1	33.1

7	EXC Kobelco 850	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB LAeq	700	66.0	94.0	100.0	10.0	50.0	2	1	180	700.6	0.0	36.9	39.1	-3.0	3.0	39.1	42.1
8	EXC Komatsu PC 360	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB LAeq	700	66.0	94.0	100.0	10.0	50.0	1	1	180	700.6	0.0	36.9	33.1	-3.0	0.0	30.1	33.1
9	Crusher GIPO P 170	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB LAeq	700	66.0	94.0	100.0	15.0	50.0	2	1	180	700.6	0.0	36.9	38.1	-3.0	3.0	38.1	41.1
10	Crusher GIPO 130						700	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Crusher Powerscreen Maxtrack 1300	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB LAeq	700	66.0	94.0	100.0	15.0	50.0	1	1	180	700.6	0.0	36.9	44.1	-3.0	0.0	41.1	44.1
12	Crusher Powerscreen Maxtrack 115k						700	66.0	94.0	100.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						700	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB LAeq	700	66.0	94.0	100.0	10.0	50.0	1	1	180	700.6	0.0	36.9	34.1	-3.0	0.0	31.1	34.1
15	Stacker Belt Terex Finlay Tc65	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB LAeq	700	66.0	94.0	100.0	10.0	50.0	1	1	180	700.6	0.0	36.9	29.1	-3.0	0.0	26.1	29.1
16	Tractor John Deere 6930						700	66.0	94.0	100.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						700	66.0	94.0	100.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						700	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB LAeq	700	66.0	94.0	100.0	10.0	10.0	1	1	180	700.6	0.0	36.9	22.1	-10.0	0.0	12.1	15.1
20	Pump Flygt 2400						700	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB LAeq	46	49
dB LAeq Haul Road		
dB LAeq Total		
dB L _{Amax}		

Receptor	R16	Itchington Road
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#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level free-field (dB)	Receptor noise level façade (dB)
1	ADT CAT 745						400	66.0	94.0	100.0	10.0	50.0	9	10	180								
2	ADT BELL 845 E						400	66.0	94.0	100.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						400	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	400	66.0	94.0	100.0	15.0	50.0	3	1	180	401.0	0.0	32.1	39.9	-3.0	4.8	41.7	44.7
5	FEL Liebherr 586 X Power						400	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB LAeq	400	66.0	94.0	100.0	10.0	50.0	1	1	180	401.0	0.0	32.1	37.9	-3.0	0.0	34.9	37.9
7	EXC Kobelco 850	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB LAeq	400	66.0	94.0	100.0	10.0	50.0	2	1	180	401.0	0.0	32.1	43.9	-3.0	3.0	43.9	46.9
8	EXC Komatsu PC 360	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB LAeq	400	66.0	94.0	100.0	10.0	50.0	1	1	180	401.0	0.0	32.1	37.9	-3.0	0.0	34.9	37.9
9	Crusher GIPO P 170	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB LAeq	400	66.0	94.0	100.0	15.0	50.0	2	1	180	401.0	0.0	32.1	42.9	-3.0	3.0	42.9	45.9
10	Crusher GIPO 130						400	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Crusher Powerscreen Maxtrack 1300	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB LAeq	400	66.0	94.0	100.0	15.0	50.0	1	1	180	401.0	0.0	32.1	48.9	-3.0	0.0	45.9	48.9
12	Crusher Powerscreen Maxtrack 115k						400	66.0	94.0	100.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						400	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB LAeq	400	66.0	94.0	100.0	10.0	50.0	1	1	180	401.0	0.0	32.1	38.9	-3.0	0.0	35.9	38.9
15	Stacker Belt Terex Finlay Tc65	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB LAeq	400	66.0	94.0	100.0	10.0	50.0	1	1	180	401.0	0.0	32.1	33.9	-3.0	0.0	30.9	33.9
16	Tractor John Deere 6930						400	66.0	94.0	100.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						400	66.0	94.0	100.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						400	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB LAeq	400	66.0	94.0	100.0	10.0	10.0	1	1	180	401.0	0.0	32.1	26.9	-10.0	0.0	16.9	19.9
20	Pump Flygt 2400						400	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB LAeq	50	53
dB LAeq Haul Road		
dB LAeq Total		
dB L _{Amax}		

Prediction of quarry noise levels from quarry area: Predicted Sound Levels

Select >>>	Free-field
Select >>>	LAeq

PHASE / ACTIVITY	@10m	Phase/Activity #2	SAMPLE RECEPTORS															
			R1	R9	R16													
			10	Distance between working area and receptor (m)	1335	700	404											
				Additional correction distance inside of working area (m)	0	0	0											
				Source to receptor calculation distance (m)	1335	700	404											
Single point operating distances assumed for prediction of construction noise		75	Predicted construction noise level at receptors, dB LAeq Free-field	41	47	52												

@10m

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items or Veh/h	Vehicle Speed for Lmax calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745						10	70.0	94.0	0.0	10.0	50.0	9	10	180								
2	ADT BELL B45 E						10	70.0	94.0	0.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						10	70.0	94.0	0.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	10	70.0	94.0	0.0	10.0	50.0	1	1	180	26.0	0.0	8.3	68.7	-3.0	0.0	65.7	68.7
5	FEL Liebherr 586 X Power	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	10	70.0	94.0	0.0	10.0	50.0	4	1	180	26.0	0.0	8.3	68.7	-3.0	6.0	71.7	74.7
6	EXC Luigong 995F						10	70.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						10	70.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						10	70.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						10	70.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB LAeq	10	70.0	94.0	0.0	10.0	50.0	1	1	180	26.0	0.0	8.3	71.7	-3.0	0.0	68.7	71.7
11	Crusher Powerscreen Maxtrack 1300						10	70.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 1150	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB LAeq	10	70.0	94.0	0.0	15.0	50.0	1	1	180	26.0	0.0	8.3	72.7	-3.0	0.0	69.7	72.7
13	Screen Terex Finlay 693+						10	70.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						10	70.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						10	70.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930						10	70.0	94.0	0.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						10	70.0	94.0	0.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						10	70.0	94.0	0.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201						10	70.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400	General	Pumping surface water: Diesel water pump	C.11 #1	81.0	dB LAeq	10	70.0	94.0	0.0	10.0	10.0	1	1	180	26.0	0.0	8.3	62.7	-10.0	0.0	52.7	55.7

50	51.7	54.08255081	dB LAeq	75	78
			dB LAeq Haul Road		
			dB LAeq Total		
			dB L _{max}		

Receptor R1 Dods Moor

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for Lmax calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745						1335	70.0	94.0	0.0	10.0	50.0	9	10	180								
2	ADT BELL B45 E						1335	70.0	94.0	0.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						1335	70.0	94.0	0.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	1335	70.0	94.0	0.0	10.0	50.0	1	1	180	1335.2	0.0	42.5	34.5	-3.0	0.0	31.5	34.5
5	FEL Liebherr 586 X Power	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	1335	70.0	94.0	0.0	10.0	50.0	4	1	180	1335.2	0.0	42.5	34.5	-3.0	6.0	37.5	40.5
6	EXC Luigong 995F						1335	70.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						1335	70.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						1335	70.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						1335	70.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB LAeq	1335	70.0	94.0	0.0	10.0	50.0	1	1	180	1335.2	0.0	42.5	37.5	-3.0	0.0	34.5	37.5
11	Crusher Powerscreen Maxtrack 1300						1335	70.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 1150	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB LAeq	1335	70.0	94.0	0.0	15.0	50.0	1	1	180	1335.2	0.0	42.5	38.5	-3.0	0.0	35.5	38.5
13	Screen Terex Finlay 693+						1335	70.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						1335	70.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						1335	70.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930						1335	70.0	94.0	0.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						1335	70.0	94.0	0.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						1335	70.0	94.0	0.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201						1335	70.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400	General	Pumping surface water: Diesel water pump	C.11 #1	81.0	dB LAeq	1335	70.0	94.0	0.0	10.0	10.0	1	1	180	1335.2	0.0	42.5	28.5	-10.0	0.0	18.5	21.5

dB LAeq	41	44
dB LAeq Haul Road		
dB LAeq Total		
dB L _{max}		

Receptor R9 Ruth's Close

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for Lmax calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745						700	70.0	94.0	0.0	10.0	50.0	9	10	180								
2	ADT BELL B45 E						700	70.0	94.0	0.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						700	70.0	94.0	0.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	700	70.0	94.0	0.0	10.0	50.0	1	1	180	700.4	0.0	36.9	40.1	-3.0	0.0	37.1	40.1
5	FEL Liebherr 586 X Power	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB LAeq	700	70.0	94.0	0.0	10.0	50.0	4	1	180	700.4	0.0	36.9	40.1	-3.0	6.0	43.1	46.1
6	EXC Luigong 995F						700	70.0	94.0	0.0	10.0	50.0	1	1	180								

7	EXC Kobelco 850					700	70.0	94.0	0.0	10.0	50.0	2	1	180										
8	EXC Komatsu PC 360					700	70.0	94.0	0.0	10.0	50.0	3	1	180										
9	Crusher GIPO P 170					700	70.0	94.0	0.0	10.0	50.0	2	1	180										
10	Crusher GIPO 130	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	d8 LAeq	700	70.0	94.0	0.0	10.0	50.0	1	1	180	700.4	0.0	36.9	43.1	-3.0	0.0	40.1	43.1	
11	Crusher Powerscreen Maxtrack 1300					700	70.0	94.0	0.0	10.0	50.0	1	1	180										
12	Crusher Powerscreen Maxtrack 115K	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	d8 LAeq	700	70.0	94.0	0.0	15.0	50.0	1	1	180	700.4	0.0	36.9	44.1	-3.0	0.0	41.1	44.1	
13	Screen Terex Finlay 693+					700	70.0	94.0	0.0	10.0	100.0	1	1	180										
14	Screen Powerscreen Warrior 2400					700	70.0	94.0	0.0	10.0	100.0	1	1	180										
15	Stacker Belt Terex Finlay Tc65					700	70.0	94.0	0.0	10.0	100.0	1	1	180										
16	Tractor John Deere 6930					700	70.0	94.0	0.0	10.0	50.0	1	1	180										
17	Telehandler Manitou 935					700	70.0	94.0	0.0	10.0	50.0	1	1	180										
18	MiniDigger Luigong 9018F					700	70.0	94.0	0.0	10.0	50.0	1	1	180										
19	Pump Flygt BS2201					700	70.0	94.0	0.0	10.0	10.0	1	1	180										
20	Pump Flygt 2400	General	Pumping surface water: Diesel water pump	C.11 #1	81.0	d8 LAeq	700	70.0	94.0	0.0	10.0	10.0	1	1	180	700.4	0.0	36.9	34.1	-10.0	0.0	24.1	27.1	

dB LAeq	47	50
dB LAeq Haul Road		
dB LAeq Total		
dB LAmax		

Receptor	R16	Itchington Road
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#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for Lmax calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745						404	70.0	94.0	0.0	10.0	50.0	9	10	180								
2	ADT BELL 845 E						404	70.0	94.0	0.0	10.0	50.0	4	10	180								
3	Water Bowser CAT D400						404	70.0	94.0	0.0	10.0	10.0	2	1	180								
4	FEL CAT 980 M	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	d8 LAeq	404	70.0	94.0	0.0	10.0	50.0	1	1	180	404.7	0.0	32.1	44.9	-3.0	0.0	41.8	44.8
5	FEL Liebherr 586 X Power	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	d8 LAeq	404	70.0	94.0	0.0	10.0	50.0	4	1	180	404.7	0.0	32.1	44.9	-3.0	6.0	47.9	50.9
6	EXC Luigong 995F						404	70.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						404	70.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						404	70.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						404	70.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	d8 LAeq	404	70.0	94.0	0.0	10.0	50.0	1	1	180	404.7	0.0	32.1	47.9	-3.0	0.0	44.8	47.8
11	Crusher Powerscreen Maxtrack 1300						404	70.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 115K	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	d8 LAeq	404	70.0	94.0	0.0	15.0	50.0	1	1	180	404.7	0.0	32.1	48.9	-3.0	0.0	45.8	48.8
13	Screen Terex Finlay 693+						404	70.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						404	70.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						404	70.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930						404	70.0	94.0	0.0	10.0	50.0	1	1	180								
17	Telehandler Manitou 935						404	70.0	94.0	0.0	10.0	50.0	1	1	180								
18	MiniDigger Luigong 9018F						404	70.0	94.0	0.0	10.0	50.0	1	1	180								
19	Pump Flygt BS2201						404	70.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400	General	Pumping surface water: Diesel water pump	C.11 #1	81.0	d8 LAeq	404	70.0	94.0	0.0	10.0	10.0	1	1	180	404.7	0.0	32.1	38.9	-10.0	0.0	28.9	31.9

dB LAeq	52	55
dB LAeq Haul Road		
dB LAeq Total		
dB LAmax		

Prediction of quarry noise levels from quarry area: Predicted Sound Levels

Select >>>	Free-field
Select >>>	L _{Aeq}

PHASE / ACTIVITY	@10m	Phase/Activity #3	SAMPLE RECEPTORS															
			R1	R9	R16													
			10	Distance between working area and receptor (m)	1140	640	340											
				Additional correction distance inside of working area (m)	0	0	0											
				Source to receptor calculation distance (m)	1140	640	340											
Single point operating distances assumed for prediction of construction noise	62	Predicted construction noise level at receptors, dB L _{Aeq} Free-field	25	30	36													

@10m

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items or Veh/h	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745	Opencast Coal Sites	Haulage : Articulated dump truck (empty) ж	C.06 #16	88.0	dB L _{max}	10	81.0	94.0	0.0	10.0	50.0	9	10	180	16.4	0.0	4.3	73.7	-3.0	9.5	67.4	70.4
2	ADT BELL 845 E	Opencast Coal Sites	Haulage : Articulated dump truck ж	C.06 #18	86.0	dB L _{max}	10	81.0	94.0	0.0	10.0	50.0	4	10	180	16.4	0.0	4.3	71.7	-3.0	6.0	61.9	64.9
3	Water Bowser CAT D400	Opencast Coal Sites	Water bowser : Water bowsters (discharging)	C.06 #37	81.0	dB L _{Aeq}	10	81.0	94.0	0.0	10.0	10.0	2	1	180	16.4	0.0	4.3	66.7	-10.0	3.0	59.7	62.7
4	FEL CAT 980 M						10	81.0	94.0	0.0	10.0	50.0	4	1	180								
5	FEL Liebherr 586 X Power						10	81.0	94.0	0.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F						10	81.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						10	81.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						10	81.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						10	81.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130						10	81.0	94.0	0.0	10.0	50.0	1	1	180								
11	Crusher Powerscreen Maxtrack 1300						10	81.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 1150						10	81.0	94.0	0.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						10	81.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						10	81.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						10	81.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930	General Site Activities	Moving equipment : Tractor (towing equipment) ж	C.04 #74	80.0	dB L _{max}	10	81.0	94.0	0.0	10.0	50.0	1	1	180	16.4	0.0	4.3	65.7	-3.0	0.0	59.8	62.8
17	Telehandler Manitou 935	General Site Activities	Lifting : Telescopic handler	C.04 #55	70.0	dB L _{Aeq}	10	81.0	94.0	0.0	10.0	50.0	1	1	180	16.4	0.0	4.3	55.7	-3.0	0.0	52.7	55.7
18	MiniDigger Luigong 9018F	General Site Activities	Trenching : Mini tracked excavator	C.04 #67	74.0	dB L _{Aeq}	10	81.0	94.0	0.0	10.0	50.0	1	1	180	16.4	0.0	4.3	59.7	-3.0	0.0	56.7	59.7
19	Pump Flygt BS2201						10	81.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400						10	81.0	94.0	0.0	10.0	10.0	1	1	180								

dB L _{Aeq}	62	65
dB L _{Aeq} Haul Road	69	72
dB L _{Aeq} Total	70	73
dB L _{max}	83	86

Receptor R1 Didsmoor

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745	Opencast Coal Sites	Haulage : Articulated dump truck (empty) ж	C.06 #16	88.0	dB L _{max}	1140	81.0	94.0	0.0	10.0	50.0	9	10	180	1140.1	0.0	41.1	36.9	-3.0	9.5	49.0	52.0
2	ADT BELL 845 E	Opencast Coal Sites	Haulage : Articulated dump truck ж	C.06 #18	86.0	dB L _{max}	1140	81.0	94.0	0.0	10.0	50.0	4	10	180	1140.1	0.0	41.1	34.9	-3.0	6.0	43.4	46.4
3	Water Bowser CAT D400	Opencast Coal Sites	Water bowser : Water bowsters (discharging)	C.06 #37	81.0	dB L _{Aeq}	1140	81.0	94.0	0.0	10.0	10.0	2	1	180	1140.1	0.0	41.1	29.9	-10.0	3.0	22.9	25.9
4	FEL CAT 980 M						1140	81.0	94.0	0.0	10.0	50.0	4	1	180								
5	FEL Liebherr 586 X Power						1140	81.0	94.0	0.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F						1140	81.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						1140	81.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						1140	81.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						1140	81.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130						1140	81.0	94.0	0.0	10.0	50.0	1	1	180								
11	Crusher Powerscreen Maxtrack 1300						1140	81.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 1150						1140	81.0	94.0	0.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						1140	81.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						1140	81.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						1140	81.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930	General Site Activities	Moving equipment : Tractor (towing equipment) ж	C.04 #74	80.0	dB L _{max}	1140	81.0	94.0	0.0	10.0	50.0	1	1	180	1140.1	0.0	41.1	28.9	-3.0	0.0	41.4	44.4
17	Telehandler Manitou 935	General Site Activities	Lifting : Telescopic handler	C.04 #55	70.0	dB L _{Aeq}	1140	81.0	94.0	0.0	10.0	50.0	1	1	180	1140.1	0.0	41.1	18.9	-3.0	0.0	15.9	18.9
18	MiniDigger Luigong 9018F	General Site Activities	Trenching : Mini tracked excavator	C.04 #67	74.0	dB L _{Aeq}	1140	81.0	94.0	0.0	10.0	50.0	1	1	180	1140.1	0.0	41.1	22.9	-3.0	0.0	19.9	22.9
19	Pump Flygt BS2201						1140	81.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400						1140	81.0	94.0	0.0	10.0	10.0	1	1	180								

dB L _{Aeq}	25	28
dB L _{Aeq} Haul Road	51	54
dB L _{Aeq} Total	51	54
dB L _{max}	46	49

Receptor R9 Ruth's Close

#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of Items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745	Opencast Coal Sites	Haulage : Articulated dump truck (empty) ж	C.06 #16	88.0	dB L _{max}	640	81.0	94.0	0.0	10.0	50.0	9	10	180	640.1	0.0	36.1	41.9	-3.0	9.5	51.5	54.5
2	ADT BELL 845 E	Opencast Coal Sites	Haulage : Articulated dump truck ж	C.06 #18	86.0	dB L _{max}	640	81.0	94.0	0.0	10.0	50.0	4	10	180	640.1	0.0	36.1	39.9	-3.0	6.0	45.9	48.9
3	Water Bowser CAT D400	Opencast Coal Sites	Water bowser : Water bowsters (discharging)	C.06 #37	81.0	dB L _{Aeq}	640	81.0	94.0	0.0	10.0	10.0	2	1	180	640.1	0.0	36.1	34.9	-10.0	3.0	27.9	30.9
4	FEL CAT 980 M						640	81.0	94.0	0.0	10.0	50.0	4	1	180								
5	FEL Liebherr 586 X Power						640	81.0	94.0	0.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F						640	81.0	94.0	0.0	10.0	50.0	1	1	180								

7	EXC Kobelco 850									640	81.0	94.0	0.0	10.0	50.0	2	1	180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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dB LAeq	30	33
dB LAeq Haul Road	53	56
dB LAeq Total	53	56
dB LAmax	51	54

Receptor	R16	Itchington Road
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#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for Lmax calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1	ADT CAT 745	Opencast Coal Sites	Haulage : Articulated dump truck (empty) ж	C.06 #16	88.0	dB LAmax	340	81.0	94.0	0.0	10.0	50.0	9	10	180	340.2	0.0	30.6	47.4	-3.0	9.5	54.2	57.2
2	ADT BELL 845 E	Opencast Coal Sites	Haulage : Articulated dump truck ж	C.06 #18	86.0	dB LAmax	340	81.0	94.0	0.0	10.0	50.0	4	10	180	340.2	0.0	30.6	45.4	-3.0	6.0	48.7	51.7
3	Water Bowser CAT D400	Opencast Coal Sites	Water bowser : Water bowzers (discharging)	C.06 #37	81.0	dB LAeq	340	81.0	94.0	0.0	10.0	10.0	2	1	180	340.2	0.0	30.6	40.4	-10.0	3.0	33.4	36.4
4	FEL CAT 980 M						340	81.0	94.0	0.0	10.0	50.0	4	1	180								
5	FEL Liebherr 586 X Power						340	81.0	94.0	0.0	10.0	50.0	4	1	180								
6	EXC Luigong 995F						340	81.0	94.0	0.0	10.0	50.0	1	1	180								
7	EXC Kobelco 850						340	81.0	94.0	0.0	10.0	50.0	2	1	180								
8	EXC Komatsu PC 360						340	81.0	94.0	0.0	10.0	50.0	3	1	180								
9	Crusher GIPO P 170						340	81.0	94.0	0.0	10.0	50.0	2	1	180								
10	Crusher GIPO 130						340	81.0	94.0	0.0	10.0	50.0	1	1	180								
11	Crusher Powerscreen Maxtrack 1300						340	81.0	94.0	0.0	10.0	50.0	1	1	180								
12	Crusher Powerscreen Maxtrack 1150						340	81.0	94.0	0.0	10.0	50.0	1	1	180								
13	Screen Terex Finlay 693+						340	81.0	94.0	0.0	10.0	100.0	1	1	180								
14	Screen Powerscreen Warrior 2400						340	81.0	94.0	0.0	10.0	100.0	1	1	180								
15	Stacker Belt Terex Finlay Tc65						340	81.0	94.0	0.0	10.0	100.0	1	1	180								
16	Tractor John Deere 6930	General Site Activities	Moving equipment : Tractor (towing equipment) ж	C.04 #74	80.0	dB LAmax	340	81.0	94.0	0.0	10.0	50.0	1	1	180	340.2	0.0	30.6	39.4	-3.0	0.0	46.7	49.7
17	Telehandler Manitou 935	General Site Activities	Lifting : Telescopic handler	C.04 #55	70.0	dB LAeq	340	81.0	94.0	0.0	10.0	50.0	1	1	180	340.2	0.0	30.6	29.4	-3.0	0.0	26.4	29.4
18	MiniDigger Luigong 9018F	General Site Activities	Trenching : Mini tracked excavator	C.04 #67	74.0	dB LAeq	340	81.0	94.0	0.0	10.0	50.0	1	1	180	340.2	0.0	30.6	33.4	-3.0	0.0	30.4	33.4
19	Pump Flygt BS2201						340	81.0	94.0	0.0	10.0	10.0	1	1	180								
20	Pump Flygt 2400						340	81.0	94.0	0.0	10.0	10.0	1	1	180								

dB LAeq	36	39
dB LAeq Haul Road	56	59
dB LAeq Total	56	59
dB LAmax	57	60

Prediction of quarry noise levels from quarry area: Predicted Sound Levels

Select >>>	Free-field
Select >>>	L _{Aeq}

PHASE / ACTIVITY	@10m	Phase/Activity #4	SAMPLE RECEPTORS																
			R1	R9	R16														
			10	Distance between working area and receptor (m)	820	660	500												
				Additional correction distance inside of working area (m)	0	0	0												
				Source to receptor calculation distance (m)	820	660	500												
Single point operating distances assumed for prediction of construction noise	73	Predicted construction noise level at receptors, dB L _{Aeq} Free-field	44	46	48														

@10m																								
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items or Veh/h	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level		
																						free-field (dB)	façade (dB)	
1	Wheeled loader	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	9	10	180		29.7	0.0	9.5	62.5	-3.0	4.8	64.3	67.3
2							10	66.0	94.0	100.0	10.0	50.0	4	10	180									
3							10	66.0	94.0	100.0	10.0	10.0	2	1	180									
4							10	66.0	94.0	100.0	15.0	50.0	3	1	180									
5							10	66.0	94.0	100.0	10.0	50.0	4	1	180									
6	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	60.5	-3.0	0.0	57.5	60.5	
7	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	2	1	180	29.7	0.0	9.5	66.5	-3.0	3.0	66.5	69.5	
8	Tracked hydraulic excavator	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	60.5	-3.0	0.0	57.5	60.5	
9	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB L _{Aeq}	10	66.0	94.0	100.0	15.0	50.0	2	1	180	29.7	0.0	9.5	65.5	-3.0	3.0	65.5	68.5	
10	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB L _{Aeq}	10	66.0	94.0	100.0	15.0	50.0	1	1	180	29.7	0.0	9.5	71.5	-3.0	0.0		68.5	71.5
11							10	66.0	94.0	100.0	10.0	50.0	1	1	180									
12							10	66.0	94.0	100.0	10.0	100.0	1	1	180									
13							10	66.0	94.0	100.0	10.0	50.0	1	1	180									
14							10	66.0	94.0	100.0	10.0	100.0	1	1	180									
15	Screen stockpiler	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	61.5	-3.0	0.0	58.5	61.5	
16	Conveyor drive unit	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	50.0	1	1	180	29.7	0.0	9.5	56.5	-3.0	0.0	53.5	56.5	
17							10	66.0	94.0	100.0	10.0	50.0	1	1	180									
18							10	66.0	94.0	100.0	10.0	50.0	1	1	180									
19							10	66.0	94.0	100.0	10.0	50.0	1	1	180									
20							10	66.0	94.0	100.0	10.0	10.0	1	1	180									
21							10	66.0	94.0	100.0	10.0	10.0	0	1	180									
19	Electric water pump	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB L _{Aeq}	10	66.0	94.0	100.0	10.0	10.0	1	1	180	29.7	0.0	9.5	49.5	-10.0	0.0	39.5	42.5	
20							10	66.0	94.0	100.0	10.0	10.0	0	1	180									

dB L _{Aeq}	73	76
dB L _{Aeq} Haul Road		
dB L _{Aeq} Total		
dB L _{Amax}		

Receptor			R1	Doddsmoor																			
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1							820	66.0	94.0	100.0	10.0	50.0	9	10	180								
2							820	66.0	94.0	100.0	10.0	50.0	4	10	180								
3							820	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	Wheeled loader	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB L _{Aeq}	820	66.0	94.0	100.0	15.0	50.0	3	1	180	820.5	0.0	38.3	33.7	-3.0	4.8	35.5	38.5
5							820	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	1	1	180	820.5	0.0	38.3	31.7	-3.0	0.0	28.7	31.7
7	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	2	1	180	820.5	0.0	38.3	37.7	-3.0	3.0	37.7	40.7
8	Tracked hydraulic excavator	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	1	1	180	820.5	0.0	38.3	31.7	-3.0	0.0	28.7	31.7
9	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	2	1	180	820.5	0.0	38.3	36.7	-3.0	3.0	36.7	39.7
10							820	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	dB L _{Aeq}	820	66.0	94.0	100.0	15.0	50.0	1	1	180	820.5	0.0	38.3	42.7	-3.0	0.0	39.7	42.7
12							820	66.0	94.0	100.0	10.0	50.0	1	1	180								
13							820	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen stockpiler	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	1	1	180	820.5	0.0	38.3	32.7	-3.0	0.0	29.7	32.7
15	Conveyor drive unit	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	50.0	1	1	180	820.5	0.0	38.3	27.7	-3.0	0.0	24.7	27.7
16							820	66.0	94.0	100.0	10.0	50.0	1	1	180								
17							820	66.0	94.0	100.0	10.0	50.0	1	1	180								
18							820	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Electric water pump	General	Pumping surface water: Electric water pump	C.11 #3	69.0	dB L _{Aeq}	820	66.0	94.0	100.0	10.0	10.0	1	1	180	820.5	0.0	38.3	20.7	-10.0	0.0	10.7	13.7
20							820	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB L _{Aeq}	44	47
dB L _{Aeq} Haul Road		
dB L _{Aeq} Total		
dB L _{Amax}		

Receptor			R9	Ruth's Close																			
#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	L _{Aeq} @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant L _{Aeq} (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level	
																						free-field (dB)	façade (dB)
1							660	66.0	94.0	100.0	10.0	50.0	9	10	180								
2							660	66.0	94.0	100.0	10.0	50.0	4	10	180								
3							660	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	Wheeled loader	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	dB L _{Aeq}	660	66.0	94.0	100.0	15.0	50.0	3	1	180	660.6	0.0	36.4	35.6	-3.0	4.8	37.4	40.4
5							660	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	dB L _{Aeq}	660	66.0	94.0	100.0	10.0	50.0	1	1	180	660.6	0.0	36.4	33.6	-3.0	0.0	30.6	33.6

7	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	d8 LAeq	660	66.0	94.0	100.0	10.0	50.0	2	1	180	660.6	0.0	36.4	39.6	-3.0	3.0	39.6	42.6
8	Tracked hydraulic excavator	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	d8 LAeq	660	66.0	94.0	100.0	10.0	50.0	1	1	180	660.6	0.0	36.4	33.6	-3.0	0.0	30.6	33.6
9	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	d8 LAeq	660	66.0	94.0	100.0	15.0	50.0	2	1	180	660.6	0.0	36.4	38.6	-3.0	3.0	38.6	41.6
10							660	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	d8 LAeq	660	66.0	94.0	100.0	15.0	50.0	1	1	180	660.6	0.0	36.4	44.6	-3.0	0.0	41.6	44.6
12							660	66.0	94.0	100.0	10.0	50.0	1	1	180								
13							660	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen stockpiler	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	d8 LAeq	660	66.0	94.0	100.0	10.0	50.0	1	1	180	660.6	0.0	36.4	34.6	-3.0	0.0	31.6	34.6
15	Conveyor drive unit	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	d8 LAeq	660	66.0	94.0	100.0	10.0	50.0	1	1	180	660.6	0.0	36.4	29.6	-3.0	0.0	26.6	29.6
16							660	66.0	94.0	100.0	10.0	50.0	1	1	180								
17							660	66.0	94.0	100.0	10.0	50.0	1	1	180								
18							660	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Electric water pump	General	Pumping surface water: Electric water pump	C.11 #3	69.0	d8 LAeq	660	66.0	94.0	100.0	10.0	10.0	1	1	180	660.6	0.0	36.4	22.6	-10.0	0.0	12.6	15.6
20							660	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB LAeq	46	49
dB LAeq Haul Road		
dB LAeq Total		
dB L _{Amax}		

Receptor	R16	Itchington Road
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#	Plant description	Activity (BS 5228)	Plant type (BS 5228)	Ref. BS 5228	LAeq @ 10m (dB)	Avg. / Max.	s to r distance (m)	s height (m)	r height (m)	Soft ground (%)	Screening corr. (dB)	Duration on-time %	Number of items	Vehicle Speed for L _{max} calcs	Angle of View (degrees)	slant distance (m)	Soft grd corr. (dB)	Distance corr. (dB)	Resultant LAeq (dB)	On-time corr. (dB)	Number corr. (dB)	Receptor noise level free-field (dB)	Receptor noise level façade (dB)
1							500	66.0	94.0	100.0	10.0	50.0	9	10	180								
2							500	66.0	94.0	100.0	10.0	50.0	4	10	180								
3							500	66.0	94.0	100.0	10.0	10.0	2	1	180								
4	Wheeled loader	Hard Rock Quarries	Loading chippings into dump trucks : Wheeled loader	C.09 #27	87.0	d8 LAeq	500	66.0	94.0	100.0	15.0	50.0	3	1	180	500.8	0.0	34.0	38.0	-3.0	4.8	39.8	42.8
5							500	66.0	94.0	100.0	10.0	50.0	4	1	180								
6	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #4	80.0	d8 LAeq	500	66.0	94.0	100.0	10.0	50.0	1	1	180	500.8	0.0	34.0	36.0	-3.0	0.0	33.0	36.0
7	Tracked excavator	Opencast Coal Sites	Breaking out and loading : Tracked excavator	C.06 #5	86.0	d8 LAeq	500	66.0	94.0	100.0	10.0	50.0	2	1	180	500.8	0.0	34.0	42.0	-3.0	3.0	42.0	45.0
8	Tracked hydraulic excavator	Other Quarries	Face shovel extracting/loading dump trucks : Tracked hydraulic excavator	C.10 #1	80.0	d8 LAeq	500	66.0	94.0	100.0	10.0	50.0	1	1	180	500.8	0.0	34.0	36.0	-3.0	0.0	33.0	36.0
9	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #15	90.0	d8 LAeq	500	66.0	94.0	100.0	15.0	50.0	2	1	180	500.8	0.0	34.0	41.0	-3.0	3.0	41.0	44.0
10							500	66.0	94.0	100.0	10.0	50.0	0	1	180								
11	Tracked semi-mobile crusher	Hard Rock Quarries	Breaking boulders/oversized material : Tracked semi-mobile crusher	C.09 #16	96.0	d8 LAeq	500	66.0	94.0	100.0	15.0	50.0	1	1	180	500.8	0.0	34.0	47.0	-3.0	0.0	44.0	47.0
12							500	66.0	94.0	100.0	10.0	50.0	1	1	180								
13							500	66.0	94.0	100.0	10.0	100.0	1	1	180								
14	Screen stockpiler	Other Quarries	Semi-mobile screen/stockpiler : Screen stockpiler	C.10 #15	81.0	d8 LAeq	500	66.0	94.0	100.0	10.0	50.0	1	1	180	500.8	0.0	34.0	37.0	-3.0	0.0	34.0	37.0
15	Conveyor drive unit	Other Quarries	Field conveyor system : Conveyor drive unit	C.10 #21	76.0	d8 LAeq	500	66.0	94.0	100.0	10.0	50.0	1	1	180	500.8	0.0	34.0	32.0	-3.0	0.0	29.0	32.0
16							500	66.0	94.0	100.0	10.0	50.0	1	1	180								
17							500	66.0	94.0	100.0	10.0	50.0	1	1	180								
18							500	66.0	94.0	100.0	10.0	50.0	1	1	180								
19	Electric water pump	General	Pumping surface water: Electric water pump	C.11 #3	69.0	d8 LAeq	500	66.0	94.0	100.0	10.0	10.0	1	1	180	500.8	0.0	34.0	25.0	-10.0	0.0	15.0	18.0
20							500	66.0	94.0	100.0	10.0	10.0	0	1	180								

dB LAeq	48	51
dB LAeq Haul Road		
dB LAeq Total		
dB L _{Amax}		

Predicted Quarry Noise Levels - Individual areas

Receptor	Predicted noise levels per area, dB L _{Aeq,T}			
	Current Woodleaze	Grovesend	Railyard Area	Future Woodleaze
Dodsmoor	44	41	25	44
Ruth's Close	46	47	30	46
Itchington Road	50	52	36	48

Summation of above levels to predict current and future quarry noise levels:

Current quarry works: Current Woodleaze + Grovesend + Railyard Area

Future quarry works: Grovesend + Railyard Area + Future Woodleaze

Predicted Quarry Noise Levels - Current & Future

Receptor	Predicted noise levels from quarry, dB L _{Aeq,T}	
	Current	Future
Dodsmoor	46	46
Ruth's Close	49	50
Itchington Road	54	53



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