Appendix 5-1

Spreadsheets showing breakdown of calculations

Operational Phase Fixed Noise Impact Assessment

Operatonal Phase Fixed Noise Impact Assessment (Daytime) Scenario 1 - with concurrent reclamations works

Prediction of Noise Level at Existing Residential use, Oscar by the Sea (F1), at 1/F

NSR	x	y	z
F1	845523	818590	32.0

Reclamation

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	3345.3	-9.4	-10.0	26.1
CNP081	Backacter	845994	815278	6.0	1	100%	112	0.0	0.0	112.0	3345.3	-9.4	-10.0	14.1
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	3345.3	-9.4	-10.0	21.9
CNP081	Loader	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	3345.3	-9.4	-10.0	14.9
													Sum	28
													Facade Correction	3
													Sub-total	**31**

Stockpiling

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	3501.8	-9.8	-10.0	11.3
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	3501.8	-9.8	-10.0	14.3
CNP067	Dump truck	846237	814535	6.0	30	50%	117	14.8	-3.0	128.8	4117.7	-11.5	-10.0	26.9
CNP030	Bulldozer	846237	814535	6.0	5	100%	115	7.0	0.0	122.0	4117.7	-11.5	-10.0	20.2
CNP081	Loader	846237	814535	6.0	4	100%	112	6.0	0.0	118.0	4117.7	-11.5	-10.0	16.2
CNP186	Roller	846237	814535	6.0	3	100%	108	4.8	0.0	112.8	4117.7	-11.5	-10.0	10.9
CNP050	Compactor	846237	814535	6.0	2	100%	105	3.0	0.0	108.0	4117.7	-11.5	-10.0	6.2
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	4117.7	-11.5	-10.0	13.2
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Operation of the C&DMSF

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	4186.9	-11.7	-10.0	4.8
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	4186.9	-11.7	-10.0	7.8
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	4186.9	-11.7	-10.0	17.8
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	4186.9	-11.7	-10.0	12.8
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	4186.9	-11.7	-10.0	15.9
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	4186.9	-11.7	-10.0	2.8
													Sum	21
													Facade Correction	3
													Sub-total	**24**

Sorting Facility (Vibratory Scrapper)

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	4271.3	-12.0	-10.0	6.4
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	6
													Facade Correction	3
													Sub-total	**9**

Crushing Plant

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	4271.3	-12.0	-10.0	12.4
													Sum	12
													Facade Correction	3.0
													Sub-total	**15**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

	Starrt				end									
Segment[1]	x	y	x	y	z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)	
R1	846241	815409	845958	815343	6	240	11	3265.3	5.1	-9.1	-10	3	30.6	
R2	845958	815343	845807	815148	6	240	11	3363.8	2.9	-9.4	-10	3	27.8	
R3	845807	815148	845553	815135	6	200	11	3451.7	4.2	-9.7	-10	3	28.2	
R4	846241	815409	846242	815082	6	240	11	3420.5	1.1	-9.6	-10	3	23.5	
R5	846242	815082	846507	815016	6	240	11	3641.6	3.8	-10.2	-10	3	27.8	
R6	846507	815016	846597	814699	6	240	11	3871.5	0.1	-10.8	-10	3	8.1	
R7	846597	814699	846527	814529	6	240	11	4109.0	1.6	-11.5	-10	3	22.1	
R8	846527	814529	846729	814134	6	240	11	4399.0	1.3	-12.3	-10	3	20.1	
R9	846729	814134	846627	813963	6	240	11	4685.9	1.7	-13.1	-10	3	20.4	
R10	846627	813963	846281	813793	6	240	11	4803.0	4.4	-13.4	-10	3	24.0	
R11	846281	813793	846027	814233	6	240	11	4620.0	2.4	-12.9	-10	3	22.0	
R12	845807	815148	845910	814892	6	440	11	3585.5	1.3	-10.0	-10	3	25.9	
R13	845910	814892	845700	814806	6	440	11	3751.5	3.3	-10.5	-10	3	29.4	
R14	845700	814806	846027	814233	6	440	11	4084.5	3.9	-11.4	-10	3	28.9	
R15	846578	814823	845981	814468	6	450	11	4016.5	9.3	-11.2	-10	3	33.0	
												Sub-total	**39**	
												Overall $L_{eq(30)}$, dB(A)	**40**	

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Evening) Scenario 1 - with concurrent reclamation works

Prediction of Noise Level at Existing Residential use, Oscar by the Sea (F1), at 1/F

NSR	x	y	z
F1	845523	818590	32.0

Reclamation

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	3345.3	-9.4	-10.0	26.1
CNP081	Backacter	845994	815278	6.0	1	100%	112	0.0	0.0	112.0	3345.3	-9.4	-10.0	14.1
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	3345.3	-9.4	-10.0	21.9
CNP081	Loader	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	3345.3	-9.4	-10.0	14.9
													Sum	28
													Facade Correction	3
													Sub-total	**31**

Stockpiling

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	3501.8	-9.8	-10.0	11.3
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	3501.8	-9.8	-10.0	14.3
CNP067	Dump truck	846237	814535	6.0	30	50%	117	14.8	-3.0	128.8	4117.7	-11.5	-10.0	26.9
CNP030	Bulldozer	846237	814535	6.0	5	100%	115	7.0	0.0	122.0	4117.7	-11.5	-10.0	20.2
CNP081	Loader	846237	814535	6.0	4	100%	112	6.0	0.0	118.0	4117.7	-11.5	-10.0	16.2
CNP186	Roller	846237	814535	6.0	3	100%	108	4.8	0.0	112.8	4117.7	-11.5	-10.0	10.9
CNP050	Compactor	846237	814535	6.0	2	100%	105	3.0	0.0	108.0	4117.7	-11.5	-10.0	6.2
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	4117.7	-11.5	-10.0	13.2
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Operation of the C&DMSF

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	4186.9	-11.7	-10.0	4.8
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	4186.9	-11.7	-10.0	7.8
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	4186.9	-11.7	-10.0	17.8
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	4186.9	-11.7	-10.0	12.8
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	4186.9	-11.7	-10.0	15.9
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	4186.9	-11.7	-10.0	2.8
													Sum	21
													Facade Correction	3
													Sub-total	**24**

Sorting Facility (Vibratory Scrapper)

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	4271.3	-12.0	-10.0	6.4
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	6
													Facade Correction	3
													Sub-total	**9**

Crushing Plant

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	4271.3	-12.0	-10.0	12.4
													Sum	12
													Facade Correction	3.0
													Sub-total	**15**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

	Starrt				end								
Segment[1]	x	y	x	y	z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)
R1	846241	815409	845958	815343	6	125	11	3265.3	5.1	-9.1	-10	3	27.8
R2	845958	815343	845807	815148	6	125	11	3363.8	2.9	-9.4	-10	3	25.0
R3	845807	815148	845553	815135	6	200	11	3451.7	4.2	-9.7	-10	3	28.2
R4	846241	815409	846242	815082	6	125	11	3420.5	1.1	-9.6	-10	3	20.7
R5	846242	815082	846507	815016	6	125	11	3641.6	3.8	-10.2	-10	3	25.0
R6	846507	815016	846597	814699	6	125	11	3871.5	0.1	-10.8	-10	3	5.3
R7	846597	814699	846527	814529	6	125	11	4109.0	1.6	-11.5	-10	3	19.3
R8	846527	814529	846729	814134	6	125	11	4399.0	1.3	-12.3	-10	3	17.3
R9	846729	814134	846627	813963	6	125	11	4685.9	1.7	-13.1	-10	3	17.6
R10	846627	813963	846281	813793	6	125	11	4803.0	4.4	-13.4	-10	3	21.2
R11	846281	813793	846027	814233	6	125	11	4620.0	2.4	-12.9	-10	3	19.2
R12	845807	815148	845910	814892	6	325	11	3585.5	1.3	-10.0	-10	3	24.6
R13	845910	814892	845700	814806	6	325	11	3751.5	3.3	-10.5	-10	3	28.1
R14	845700	814806	846027	814233	6	325	11	4084.5	3.9	-11.4	-10	3	27.5
R15	846578	814823	845981	814468	6	450	11	4016.5	9.3	-11.2	-10	3	33.0
												Sub-total	**38**
												Overall $L_{eq(30)}$, dB(A)	**40**

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Daytime) Scenario 1 - with concurrent reclamation works

Prediction of Noise Level at Existing Residential use, Island Resort (F2), at 1/F

NSR	x	y	z
F2	843977	814181	11.0

Reclamation

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	2296.2	-6.4	0.0	42.3
CNP081	Backacter	845994	815278	6.0	1	100%	112	0.0	0.0	112.0	2296.2	-6.4	0.0	30.4
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	2296.2	-6.4	0.0	38.1
CNP081	Loader	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	2296.2	-6.4	0.0	31.1
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Stockpiling

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	1952.9	-5.5	0.0	30.7
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	1952.9	-5.5	0.0	33.7
CNP067	Dump truck	846237	814535	6.0	30	50%	117	14.8	-3.0	128.8	2287.9	-6.4	0.0	47.2
CNP030	Bulldozer	846237	814535	6.0	5	100%	115	7.0	0.0	122.0	2287.9	-6.4	0.0	40.4
CNP081	Loader	846237	814535	6.0	4	100%	112	6.0	0.0	118.0	2287.9	-6.4	0.0	36.4
CNP186	Roller	846237	814535	6.0	3	100%	108	4.8	0.0	112.8	2287.9	-6.4	0.0	31.2
CNP050	Compactor	846237	814535	6.0	2	100%	105	3.0	0.0	108.0	2287.9	-6.4	0.0	26.4
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	2287.9	-6.4	0.0	33.4
													Sum	49
													Facade Correction	3
													Sub-total	**52**

Operation of the C&DMSF

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	1998.1	-5.6	0.0	27.4
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	1998.1	-5.6	0.0	30.4
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	1998.1	-5.6	0.0	40.4
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	1998.1	-5.6	0.0	35.4
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	1998.1	-5.6	0.0	38.4
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	1998.1	-5.6	0.0	25.4
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Sorting Facility (Vibratory Scrapper)

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	2035.0	-5.7	0.0	29.1
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Crushing Plant

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	2035.0	-5.7	-10.0	25.1
													Sum	25
													Facade Correction	3.0
													Sub-total	**28**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

		Starrt			end								
Segment[1]	x	y	x	y	z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)
R1	846241	815409	845958	815343	6	240	11	2435.7	1.9	-6.8	0	3	40.0
R2	845958	815343	845807	815148	6	240	11	2182.3	2.5	-6.1	0	3	42.4
R3	845807	815148	845553	815135	6	200	11	1955.3	3.3	-5.5	0	3	43.9
R4	846241	815409	846242	815082	6	240	11	2502.4	6.8	-7.0	0	3	45.1
R5	846242	815082	846507	815016	6	240	11	2549.5	3.4	-7.1	0	3	42.0
R6	846507	815016	846597	814699	6	240	11	2662.3	7.1	-7.5	0	3	44.6
R7	846597	814699	846527	814529	6	240	11	2621.0	3.4	-7.3	0	3	41.6
R8	846527	814529	846729	814134	6	240	11	2655.0	8.8	-7.4	0	3	45.6
R9	846729	814134	846627	813963	6	240	11	2704.0	3.7	-7.6	0	3	41.7
R10	846627	813963	846281	813793	6	240	11	2495.2	4.8	-7.0	0	3	43.7
R11	846281	813793	846027	814233	6	240	11	2183.5	11.0	-6.1	0	3	48.7
R12	845807	815148	845910	814892	6	440	11	2060.0	7.7	-5.8	0	3	50.4
R13	845910	814892	845700	814806	6	440	11	1946.4	0.3	-5.4	0	3	36.3
R14	845700	814806	846027	814233	6	440	11	1916.8	18.5	-5.4	0	3	54.9
R15	846578.2	814823	845981.3	814468	6	450	11	2349.1	5.7	-6.6	0	3	47.9
												Sub-total	**59**
												Overall, dB(A)	**60**

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

[1] Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Evening) Scenario 1 - with concurrent reclamation works

Prediction of Noise Level at Existing Residential use, Island Resort (F2), at 1/F

NSR	x	y	z
F2	843977	814181	11.0

Reclamation

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	2296.2	-6.4	0.0	42.3
CNP081	Backacter	845994	815278	6.0	1	100%	112	0.0	0.0	112.0	2296.2	-6.4	0.0	30.4
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	2296.2	-6.4	0.0	38.1
CNP081	Loader	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	2296.2	-6.4	0.0	31.1
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Stockpiling

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	1952.9	-5.5	0.0	30.7
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	1952.9	-5.5	0.0	33.7
CNP067	Dump truck	846237	814535	6.0	30	50%	117	14.8	-3.0	128.8	2287.9	-6.4	0.0	47.2
CNP030	Bulldozer	846237	814535	6.0	5	100%	115	7.0	0.0	122.0	2287.9	-6.4	0.0	40.4
CNP081	Loader	846237	814535	6.0	4	100%	112	6.0	0.0	118.0	2287.9	-6.4	0.0	36.4
CNP186	Roller	846237	814535	6.0	3	100%	108	4.8	0.0	112.8	2287.9	-6.4	0.0	31.2
CNP050	Compactor	846237	814535	6.0	2	100%	105	3.0	0.0	108.0	2287.9	-6.4	0.0	26.4
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	2287.9	-6.4	0.0	33.4
													Sum	49
													Facade Correction	3
													Sub-total	**52**

Operation of the C&DMSF

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	1998.1	-5.6	0.0	27.4
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	1998.1	-5.6	0.0	30.4
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	1998.1	-5.6	0.0	40.4
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	1998.1	-5.6	0.0	35.4
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	1998.1	-5.6	0.0	38.4
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	1998.1	-5.6	0.0	25.4
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Sorting Facility (Vibratory Scrapper)

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	2035.0	-5.7	0.0	29.1
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Crushing Plant

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	2035.0	-5.7	-10.0	25.1
													Sum	25
													Facade Correction	3.0
													Sub-total	**28**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

		Starrt			end									
Segment[1]	x	y	x	y	z	Q	V	d	a_s	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)	
R1	846241	815409	845958	815343	6	125	11	2435.7	1.9	-6.8	0	3	37.1	
R2	845958	815343	845807	815148	6	125	11	2182.3	2.5	-6.1	0	3	39.5	
R3	845807	815148	845553	815135	6	200	11	1955.3	3.3	-5.5	0	3	43.9	
R4	846241	815409	846242	815082	6	125	11	2502.4	6.8	-7.0	0	3	42.3	
R5	846242	815082	846507	815016	6	125	11	2549.5	3.4	-7.1	0	3	39.2	
R6	846507	815016	846597	814699	6	125	11	2662.3	7.1	-7.5	0	3	41.8	
R7	846597	814699	846527	814529	6	125	11	2621.0	3.4	-7.3	0	3	38.8	
R8	846527	814529	846729	814134	6	125	11	2655.0	8.8	-7.4	0	3	42.8	
R9	846729	814134	846627	813963	6	125	11	2704.0	3.7	-7.6	0	3	38.8	
R10	846627	813963	846281	813793	6	125	11	2495.2	4.8	-7.0	0	3	40.9	
R11	846281	813793	846027	814233	6	125	11	2183.5	11.0	-6.1	0	3	45.9	
R12	845807	815148	845910	814892	6	325	11	2060.0	7.7	-5.8	0	3	49.1	
R13	845910	814892	845700	814806	6	325	11	1946.4	0.3	-5.4	0	3	34.9	
R14	845700	814806	846027	814233	6	325	11	1916.8	18.5	-5.4	0	3	53.6	
R15	846578.2	814823	845981.3	814468	6	450	11	2349.1	5.7	-6.6	0	3	47.9	
												Sub-total	**57**	
												Overall, dB(A)	**59**	

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_s = angle of view, degree

[1] Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Daytime) Scenario 2 - with concurrent decommissioning works

Prediction of Noise Level at Existing Residential use, Oscar by the Sea (F1), at 1/F

NSR	x	y	z
F1	845523	818590	32.0

Stockpiling

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	3501.8	-9.8	-10.0	11.3
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	3501.8	-9.8	-10.0	14.3
CNP067	Dump truck	845994	815278	6.0	30	50%	117	14.8	-3.0	128.8	3345.3	-9.4	-10.0	30.9
CNP030	Bulldozer	845994	815278	6.0	5	100%	115	7.0	0.0	122.0	3345.3	-9.4	-10.0	24.1
CNP081	Loader	845994	815278	6.0	4	100%	112	6.0	0.0	118.0	3345.3	-9.4	-10.0	20.2
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	3345.3	-9.4	-10.0	14.9
CNP050	Compactor	845994	815278	6.0	2	100%	105	3.0	0.0	108.0	3345.3	-9.4	-10.0	10.2
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
													Sum	32
													Facade Correction	3
													Sub-total	**35**

Decommissioning

						% on time						Air		
I.D. Code	PME	x	y	z	No. of PME		SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	846237	814535	6.0	10	50%	117	10.0	-3.0	124.0	4117.7	-11.5	-10.0	22.2
CNP030	Bulldozer	846237	814535	6.0	3	100%	115	4.8	0.0	119.8	4117.7	-11.5	-10.0	17.9
CNP081	Loader	846237	814535	6.0	8	100%	112	9.0	0.0	121.0	4117.7	-11.5	-10.0	19.2
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	4117.7	-11.5	-10.0	13.2
													Sum	25
													Facade Correction	3
													Sub-total	**28**

Operation of the C&DMSF

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	4186.9	-11.7	-10.0	4.8
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	4186.9	-11.7	-10.0	7.8
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	4186.9	-11.7	-10.0	17.8
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	4186.9	-11.7	-10.0	12.8
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	4186.9	-11.7	-10.0	15.9
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	4186.9	-11.7	-10.0	2.8
													Sum	21
													Facade Correction	3
													Sub-total	**24**

Sorting Facility (Vibratory Scrapper)

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	4271.3	-12.0	-10.0	6.4
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	6
													Facade Correction	3
													Sub-total	**9**

Crushing Plant

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	4271.3	-12.0	-10.0	12.4
													Sum	12
													Facade Correction	3
													Sub-total	**15**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

		Start			end								
Segment[1]	x	y	x	y	z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	façade, dB(A)	L_{eq}, dB(A)	
R1	846241	815409	845958	815343	6	240	11	3265.3	5.1	-9.1	-10	3	30.6	
R2	845958	815343	845807	815148	6	240	11	3363.8	2.9	-9.4	-10	3	27.8	
R3	845807	815148	845553	815135	6	200	11	3451.7	4.2	-9.7	-10	3	28.2	
R4	846241	815409	846242	815082	6	240	11	3420.5	1.1	-9.6	-10	3	23.5	
R5	846242	815082	846507	815016	6	240	11	3641.6	3.8	-10.2	-10	3	27.8	
R6	846507	815016	846597	814699	6	240	11	3871.5	0.1	-10.8	-10	3	8.1	
R7	846597	814699	846527	814529	6	240	11	4109.0	1.6	-11.5	-10	3	22.1	
R8	846527	814529	846729	814134	6	240	11	4399.0	1.3	-12.3	-10	3	20.1	
R9	846729	814134	846627	813963	6	240	11	4685.9	1.7	-13.1	-10	3	20.4	
R10	846627	813963	846281	813793	6	240	11	4803.0	4.4	-13.4	-10	3	24.0	
R11	846281	813793	846027	814233	6	240	11	4620.0	2.4	-12.9	-10	3	22.0	
R12	845807	815148	845910	814892	6	440	11	3585.5	1.3	-10.0	-10	3	25.9	
R13	845910	814892	845700	814806	6	440	11	3751.5	3.3	-10.5	-10	3	29.4	
R14	845700	814806	846027	814233	6	440	11	4084.5	3.9	-11.4	-10	3	28.9	
R15	846578	814823	845981	814468	6	450	11	4016.5	9.3	-11.2	-10	3	33.0	
R16	845807	815148	845988	815099	6	200	11	3486.7	2.9	-9.8	-10	3	26.4	
												Sub-total	**39**	
												Overall $L_{eq(30)}$, dB(A)	**41**	

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Evening) Scenario 2 - with concurrent decommissioning works

Prediction of Noise Level at Existing Residential use, Oscar by the Sea (F1), at 1/F

NSR	x	y	z
F1	845523	818590	32.0

Stockpiling

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	3501.8	-9.8	-10.0	11.3
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	3501.8	-9.8	-10.0	14.3
CNP067	Dump truck	845994	815278	6.0	30	50%	117	14.8	-3.0	128.8	3345.3	-9.4	-10.0	30.9
CNP030	Bulldozer	845994	815278	6.0	5	100%	115	7.0	0.0	122.0	3345.3	-9.4	-10.0	24.1
CNP081	Loader	845994	815278	6.0	4	100%	112	6.0	0.0	118.0	3345.3	-9.4	-10.0	20.2
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	3345.3	-9.4	-10.0	14.9
CNP050	Compactor	845994	815278	6.0	2	100%	105	3.0	0.0	108.0	3345.3	-9.4	-10.0	10.2
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
													Sum	32
													Facade Correction	3
													Sub-total	**35**

Decommissioning

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	846237	814535	6.0	10	50%	117	10.0	-3.0	124.0	4117.7	-11.5	-10.0	22.2
CNP030	Bulldozer	846237	814535	6.0	3	100%	115	4.8	0.0	119.8	4117.7	-11.5	-10.0	17.9
CNP081	Loader	846237	814535	6.0	8	100%	112	9.0	0.0	121.0	4117.7	-11.5	-10.0	19.2
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	4117.7	-11.5	-10.0	13.2
													Sum	25
													Facade Correction	3
													Sub-total	**28**

Operation of the C&DMSF

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	4186.9	-11.7	-10.0	4.8
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	4186.9	-11.7	-10.0	7.8
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	4186.9	-11.7	-10.0	17.8
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	4186.9	-11.7	-10.0	12.8
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	4186.9	-11.7	-10.0	15.9
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	4186.9	-11.7	-10.0	2.8
													Sum	21
													Facade Correction	3
													Sub-total	**24**

Sorting Facility (Vibratory Scrapper)

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	4271.3	-12.0	-10.0	6.4
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	6
													Facade Correction	3
													Sub-total	**9**

Crushing Plant

Location of notional source

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	4271.3	-12.0	-10.0	12.4
													Sum	12
													Facade Correction	3
													Sub-total	**15**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

		Start			end					Air Absorption, dB(A)	Screening, dB(A)	façade, dB(A)	L_{eq}, dB(A)	
Segment[1]	x	y	x	y	z	Q	V	d	a_v					
R1	846241	815409	845958	815343	6	125	11	3265.3	5.1	-9.1	-10	3	27.8	
R2	845958	815343	845807	815148	6	125	11	3363.8	2.9	-9.4	-10	3	25.0	
R3	845807	815148	845553	815135	6	200	11	3451.7	4.2	-9.7	-10	3	28.2	
R4	846241	815409	846242	815082	6	125	11	3420.5	1.1	-9.6	-10	3	20.7	
R5	846242	815082	846507	815016	6	125	11	3641.6	3.8	-10.2	-10	3	25.0	
R6	846507	815016	846597	814699	6	125	11	3871.5	0.1	-10.8	-10	3	5.3	
R7	846597	814699	846527	814529	6	125	11	4109.0	1.6	-11.5	-10	3	19.3	
R8	846527	814529	846729	814134	6	125	11	4399.0	1.3	-12.3	-10	3	17.3	
R9	846729	814134	846627	813963	6	125	11	4685.9	1.7	-13.1	-10	3	17.6	
R10	846627	813963	846281	813793	6	125	11	4803.0	4.4	-13.4	-10	3	21.2	
R11	846281	813793	846027	814233	6	125	11	4620.0	2.4	-12.9	-10	3	19.2	
R12	845807	815148	845910	814892	6	325	11	3585.5	1.3	-10.0	-10	3	24.6	
R13	845910	814892	845700	814806	6	325	11	3751.5	3.3	-10.5	-10	3	28.1	
R14	845700	814806	846027	814233	6	325	11	4084.5	3.9	-11.4	-10	3	27.5	
R15	846578	814823	845981	814468	6	450	11	4016.5	9.3	-11.2	-10	3	33.0	
R16	845807	815148	845988	815099	6	200	11	3486.7	2.9	-9.8	-10	3	26.4	
												Sub-total	**38**	
												Overall $L_{eq(30)}$, dB(A)	**40**	

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Daytime) Scenario 2 - with concurrent decommissioning works

Prediction of Noise Level at Existing Residential use, Island Resort (F2), at 1/F

NSR	x	y	z
F2	843977	814181	11.0

Stockpiling

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	1952.9	-5.5	0.0	30.7
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	1952.9	-5.5	0.0	33.7
CNP067	Dump truck	845994	815278	6.0	30	50%	117	14.8	-3.0	128.8	2296.2	-6.4	0.0	47.1
CNP030	Bulldozer	845994	815278	6.0	5	100%	115	7.0	0.0	122.0	2296.2	-6.4	0.0	40.3
CNP081	Loader	845994	815278	6.0	4	100%	112	6.0	0.0	118.0	2296.2	-6.4	0.0	36.4
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	2296.2	-6.4	0.0	31.1
CNP050	Compactor	845994	815278	6.0	2	100%	105	3.0	0.0	108.0	2296.2	-6.4	0.0	26.4
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
													Sum	49
													Facade Correction	3
													Sub-total	**52**

Decommissioning

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	846237	814535	6.0	10	50%	117	10.0	-3.0	124.0	2287.9	-6.4	0.0	42.4
CNP030	Bulldozer	846237	814535	6.0	3	100%	115	4.8	0.0	119.8	2287.9	-6.4	0.0	38.2
CNP081	Loader	846237	814535	6.0	8	100%	112	9.0	0.0	121.0	2287.9	-6.4	0.0	39.4
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	2287.9	-6.4	0.0	33.4
													Sum	45
													Facade Correction	3
													Sub-total	**48**

Operation of the C&DMSF

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	1998.1	-5.6	0.0	27.4
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	1998.1	-5.6	0.0	30.4
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	1998.1	-5.6	0.0	40.4
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	1998.1	-5.6	0.0	35.4
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	1998.1	-5.6	0.0	38.4
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	1998.1	-5.6	0.0	25.4
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Sorting Facility (Vibratory Scrapper)

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	2035.0	-5.7	0.0	29.1
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Crushing Plant

		Location of notional source											
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	2035.0	-5.7	0.0	35.1
													Sum	35
													Facade Correction	3
													Sub-total	**38**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

Segment[1]	x	Start y	x	y	end z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)	
R1	846241	815409	845958	815343	6	240	11	2435.7	1.9	-6.8	0	3	40.0	
R2	845958	815343	845807	815148	6	240	11	2182.3	2.5	-6.1	0	3	42.4	
R3	845807	815148	845553	815135	6	100	11	1955.3	3.3	-5.5	0	3	40.9	
R4	846241	815409	846242	815082	6	240	11	2502.4	6.8	-7.0	0	3	45.1	
R5	846242	815082	846507	815016	6	240	11	2549.5	3.4	-7.1	0	3	42.0	
R6	846507	815016	846597	814699	6	240	11	2662.3	7.1	-7.5	0	3	44.6	
R7	846597	814699	846527	814529	6	240	11	2621.0	3.4	-7.3	0	3	41.6	
R8	846527	814529	846729	814134	6	240	11	2655.0	8.8	-7.4	0	3	45.6	
R9	846729	814134	846627	813963	6	240	11	2704.0	3.7	-7.6	0	3	41.7	
R10	846627	813963	846281	813793	6	240	11	2495.2	4.8	-7.0	0	3	43.7	
R11	846281	813793	846027	814233	6	240	11	2183.5	11.0	-6.1	0	3	48.7	
R12	845807	815148	845910	814892	6	340	11	2060.0	7.7	-5.8	0	3	49.3	
R13	845910	814892	845700	814806	6	340	11	1946.4	0.3	-5.4	0	3	35.1	
R14	845700	814806	846027	814233	6	340	11	1916.8	18.5	-5.4	0	3	53.8	
R15	846578	814823	845981	814468	6	240	11	2349.1	5.7	-6.6	0	3	45.1	
R16	845807	815148	845988	815099	6	200	11	2138.8	3.3	-6.0	-10	3	33.0	
												Sub-total	**58**	
Remarks												**Overall, dB(A)**	**60**	

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A

Operatonal Phase Fixed Noise Impact Assessment (Evening) Scenario 2 - with concurrent decommissioning works

Prediction of Noise Level at Existing Residential use, Island Resort (F2), at 1/F

NSR	x	y	z
F2	843977	814181	11.0

Stockpiling

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP061	Barge	845704	815093	2.0	4	100%	104	6.0	0.0	110.0	1952.9	-5.5	0.0	30.7
CNP221	Tug Boat	845704	815093	1.0	4	50%	110	6.0	-3.0	113.0	1952.9	-5.5	0.0	33.7
CNP067	Dump truck	845994	815278	6.0	30	50%	117	14.8	-3.0	128.8	2296.2	-6.4	0.0	47.1
CNP030	Bulldozer	845994	815278	6.0	5	100%	115	7.0	0.0	122.0	2296.2	-6.4	0.0	40.3
CNP081	Loader	845994	815278	6.0	4	100%	112	6.0	0.0	118.0	2296.2	-6.4	0.0	36.4
CNP186	Roller	845994	815278	6.0	3	100%	108	4.8	0.0	112.8	2296.2	-6.4	0.0	31.1
CNP050	Compactor	845994	815278	6.0	2	100%	105	3.0	0.0	108.0	2296.2	-6.4	0.0	26.4
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
													Sum	49
													Facade Correction	3
													Sub-total	**52**

Decommissioning

I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP067	Dump truck	846237	814535	6.0	10	50%	117	10.0	-3.0	124.0	2287.9	-6.4	0.0	42.4
CNP030	Bulldozer	846237	814535	6.0	3	100%	115	4.8	0.0	119.8	2287.9	-6.4	0.0	38.2
CNP081	Loader	846237	814535	6.0	8	100%	112	9.0	0.0	121.0	2287.9	-6.4	0.0	39.4
CNP081	Excavator	846237	814535	6.0	2	100%	112	3.0	0.0	115.0	2287.9	-6.4	0.0	33.4
													Sum	45
													Facade Correction	3
													Sub-total	**48**

Operation of the C&DMSF

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
CNP081	Hydraulic Excavator	845960	814426	6.0	2	100%	104	3.0	0.0	107.0	1998.1	-5.6	0.0	27.4
CNP028	Percussion breaker	845960	814426	6.0	1	100%	110	0.0	0.0	110.0	1998.1	-5.6	0.0	30.4
CNP081	Wheel Loading Shevel	845960	814426	6.0	2	100%	117	3.0	0.0	120.0	1998.1	-5.6	0.0	40.4
CNP141	Grab Lorry	845960	814426	6.0	1	100%	115	0.0	0.0	115.0	1998.1	-5.6	0.0	35.4
CNP067	Dump truck	845960	814426	6.0	8	50%	112	9.0	-3.0	118.0	1998.1	-5.6	0.0	38.4
CNP141	Water Lorry	845960	814426	6.0	1	50%	108	0.0	-3.0	105.0	1998.1	-5.6	0.0	25.4
													Sum	44
													Facade Correction	3
													Sub-total	**47**

Sorting Facility (Vibratory Scrapper)

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Vibrating Feeder	846005	814346	7.5	1	100%	109	NA	0.0	109.0	2035.0	-5.7	0.0	29.1
NA	Size Separation Plant				1									
NA	Magnetic Separator				1									
NA	Air Classifier				2									
NA	Conveyor Belt				5									
													Sum	29
													Facade Correction	3
													Sub-total	**32**

Crushing Plant

		Location of notional source												
I.D. Code	PME	x	y	z	No. of PME	% on time	SWL per PME, dB(A)	Correction for number of machines, dB(A)	Correction on time, dB(A)	SWL(overall), dB(A)	Distance, m	Air Absorption, dB(A)	Screening, dB(A)	SPL, dB(A)
NA	Stone Crusher	846005	814346	7.5	1	100%	115	NA	0.0	115.0	2035.0	-5.7	0.0	35.1
													Sum	35
													Facade Correction	3
													Sub-total	**38**

Truck movement

I.D. Code	PME	SWL per Truck, dB(A)
CNP067	Dump truck	117

		Starrt			end									
Segment[1]	x	y	x	y	z	Q	V	d	a_v	Air Absorption, dB(A)	Screening, dB(A)	facade, dB(A)	L_{eq}, dB(A)	
R1	846241	815409	845958	815343	6	125	11	2435.7	1.9	-6.8	0	3	37.1	
R2	845958	815343	845807	815148	6	125	11	2182.3	2.5	-6.1	0	3	39.5	
R3	845807	815148	845553	815135	6	200	11	1955.3	3.3	-5.5	0	3	43.9	
R4	846241	815409	846242	815082	6	125	11	2502.4	6.8	-7.0	0	3	42.3	
R5	846242	815082	846507	815016	6	125	11	2549.5	3.4	-7.1	0	3	39.2	
R6	846507	815016	846597	814699	6	125	11	2662.3	7.1	-7.5	0	3	41.8	
R7	846597	814699	846527	814529	6	125	11	2621.0	3.4	-7.3	0	3	38.8	
R8	846527	814529	846729	814134	6	125	11	2655.0	8.8	-7.4	0	3	42.8	
R9	846729	814134	846627	813963	6	125	11	2704.0	3.7	-7.6	0	3	38.8	
R10	846627	813963	846281	813793	6	125	11	2495.2	4.8	-7.0	0	3	40.9	
R11	846281	813793	846027	814233	6	125	11	2183.5	11.0	-6.1	0	3	45.9	
R12	845807	815148	845910	814892	6	325	11	2060.0	7.7	-5.8	0	3	49.1	
R13	845910	814892	845700	814806	6	325	11	1946.4	0.3	-5.4	0	3	34.9	
R14	845700	814806	846027	814233	6	325	11	1916.8	18.5	-5.4	0	3	53.6	
R15	846578	814823	845981	814468	6	450	11	2349.1	5.7	-6.6	0	3	47.9	
R16	845807	815148	845988	815099	6	200	11	2138.8	3.3	-6.0	-10	3	33.0	
												Sub-total	**57**	
												Overall, dB(A)	**59**	

Remarks

Q = veh/hr

V = vehicle speed, km/hr

d = distance of receiving position from centre of haul road, m

a_v = angle of view, degree

1 - Please refer to Figure 6A