Appendix 5-8

Spreadsheets showing breakdown of calculations

Decommissioning Phase Fixed Noise Impact Assessment

Decommissioning Phase Fixed Noise Impact Assessment

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

Removal of Public Fill

		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	2	50%	110	3.0	-3.0	110.0	3501.8	-9.8	-10.0	11.3
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	3345.3	-9.4	-10.0	26.1
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	8	100%	112	9.0	0.0	121.0	3345.3	-9.4	-10.0	23.2
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
													Sum	29
													Facade Correction	3
													Sub-total	**32**

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	30	11	3265.3	5.1	-9.1	-10	3	21.6
R2	845958	815343	845807	815148	6	30	11	3363.8	2.9	-9.4	-10	3	18.8
R3	845807	815148	845553	815135	6	83	11	3451.7	4.2	-9.7	-10	3	24.4
R4	846241	815409	846242	815082	6	30	11	3420.5	1.1	-9.6	-10	3	14.5
R5	846242	815082	846507	815016	6	30	11	3641.6	3.8	-10.2	-10	3	18.8
R6	846507	815016	846597	814699	6	30	11	3871.5	0.1	-10.8	-10	3	-0.9
R7	846597	814699	846527	814529	6	30	11	4109.0	1.6	-11.5	-10	3	13.1
R8	846527	814529	846729	814134	6	30	11	4399.0	1.3	-12.3	-10	3	11.1
R9	846729	814134	846627	813963	6	30	11	4685.9	1.7	-13.1	-10	3	11.4
R10	846627	813963	846281	813793	6	30	11	4803.0	4.4	-13.4	-10	3	15.0
R11	846281	813793	846027	814233	6	30	11	4620.0	2.4	-12.9	-10	3	13.0
R12	845807	815148	845910	814892	6	113	11	3585.5	1.3	-10.0	-10	3	20.0
R13	845910	814892	845700	814806	6	113	11	3751.5	3.3	-10.5	-10	3	23.5
R14	845700	814806	846027	814233	6	113	11	4084.5	3.9	-11.4	-10	3	23.0
R15	846578	814823	845981	814468	6	30	11	4016.5	9.3	-11.2	-10	3	21.2
												Sub-total	**31**
												Overall	**35**

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

Decommissioning Phase Fixed Noise Impact Assessment (Evening)

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

Removal of Public Fill

		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	2	50%	110	3.0	-3.0	110.0	3501.8	-9.8	-10.0	11.3
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	3345.3	-9.4	-10.0	26.1
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	8	100%	112	9.0	0.0	121.0	3345.3	-9.4	-10.0	23.2
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	3345.3	-9.4	-10.0	17.2
													Sum	29
													Facade Correction	3
													Sub-total	**32**

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	15	11	3265.3	5.1	-9.1	-10	3	18.6
R2	845958	815343	845807	815148	6	15	11	3363.8	2.9	-9.4	-10	3	15.8
R3	845807	815148	845553	815135	6	83	11	3451.7	4.2	-9.7	-10	3	24.4
R4	846241	815409	846242	815082	6	15	11	3420.5	1.1	-9.6	-10	3	11.5
R5	846242	815082	846507	815016	6	15	11	3641.6	3.8	-10.2	-10	3	15.8
R6	846507	815016	846597	814699	6	15	11	3871.5	0.1	-10.8	-10	3	-3.9
R7	846597	814699	846527	814529	6	15	11	4109.0	1.6	-11.5	-10	3	10.1
R8	846527	814529	846729	814134	6	15	11	4399.0	1.3	-12.3	-10	3	8.0
R9	846729	814134	846627	813963	6	15	11	4685.9	1.7	-13.1	-10	3	8.3
R10	846627	813963	846281	813793	6	15	11	4803.0	4.4	-13.4	-10	3	12.0
R11	846281	813793	846027	814233	6	15	11	4620.0	2.4	-12.9	-10	3	10.0
R12	845807	815148	845910	814892	6	98	11	3585.5	1.3	-10.0	-10	3	19.4
R13	845910	814892	845700	814806	6	98	11	3751.5	3.3	-10.5	-10	3	22.9
R14	845700	814806	846027	814233	6	98	11	4084.5	3.9	-11.4	-10	3	22.3
R15	846578	814823	845981	814468	6	15	11	4016.5	9.3	-11.2	-10	3	18.2
												Sub-total	**30**
												Overall	**34**

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

Decommissioning Phase Fixed Noise Impact Assessment

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

NSR	x	y	z
F2	843977	814181	11.0

Removal of Public Fill

		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	2	50%	110	3.0	-3.0	110.0	1952.9	-5.5	0.0	30.7
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	2296.2	-6.4	0.0	42.3
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	8	100%	112	9.0	0.0	121.0	2296.2	-6.4	0.0	39.4
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
													Sum	46
													Facade Correction	3
													Sub-total	**49**

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	30	11	2435.7	1.9	-6.8	0	3	30.9
R2	845958	815343	845807	815148	6	30	11	2182.3	2.5	-6.1	0	3	33.3
R3	845807	815148	845553	815135	6	83	11	1955.3	3.3	-5.5	0	3	40.1
R4	846241	815409	846242	815082	6	30	11	2502.4	6.8	-7.0	0	3	36.1
R5	846242	815082	846507	815016	6	30	11	2549.5	3.4	-7.1	0	3	33.0
R6	846507	815016	846597	814699	6	30	11	2662.3	7.1	-7.5	0	3	35.6
R7	846597	814699	846527	814529	6	30	11	2621.0	3.4	-7.3	0	3	32.6
R8	846527	814529	846729	814134	6	30	11	2655.0	8.8	-7.4	0	3	36.6
R9	846729	814134	846627	813963	6	30	11	2704.0	3.7	-7.6	0	3	32.6
R10	846627	813963	846281	813793	6	30	11	2495.2	4.8	-7.0	0	3	34.7
R11	846281	813793	846027	814233	6	30	11	2183.5	11.0	-6.1	0	3	39.7
R12	845807	815148	845910	814892	6	113	11	2060.0	7.7	-5.8	0	3	44.5
R13	845910	814892	845700	814806	6	113	11	1946.4	0.3	-5.4	0	3	30.4
R14	845700	814806	846027	814233	6	113	11	1916.8	18.5	-5.4	0	3	49.1
R15	846578	814823	845981	814468	6	30	11	2349.1	5.7	-6.6	0	3	36.1
												Sub-total	**52**
												Overall, dB(A)	**54**

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

Decommissioning Phase, Fixed Noise Impact Assessment (Evening)														
Prediction of Noise Level at Existing Residential use, Island Resort (F2), at 1/F														
NSR	x	y	z											
F2	843977	814181	11.0											
Removal of Public Fill														
		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	2	50%	110	3.0	-3.0	110.0	1952.9	-5.5	0.0	30.7
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	2296.2	-6.4	0.0	42.3
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	8	100%	112	9.0	0.0	121.0	2296.2	-6.4	0.0	39.4
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	2296.2	-6.4	0.0	33.4
													Sum	46
													Facade Correction	3
													Sub-total	**49**
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	15	11	2435.7	1.9	-6.8	0	3	27.9	
R2	845958	815343	845807	815148	6	15	11	2182.3	2.5	-6.1	0	3	30.3	
R3	845807	815148	845553	815135	6	83	11	1955.3	3.3	-5.5	0	3	40.1	
R4	846241	815409	846242	815082	6	15	11	2502.4	6.8	-7.0	0	3	33.1	
R5	846242	815082	846507	815016	6	15	11	2549.5	3.4	-7.1	0	3	30.0	
R6	846507	815016	846597	814699	6	15	11	2662.3	7.1	-7.5	0	3	32.6	
R7	846597	814699	846527	814529	6	15	11	2621.0	3.4	-7.3	0	3	29.6	
R8	846527	814529	846729	814134	6	15	11	2655.0	8.8	-7.4	0	3	33.5	
R9	846729	814134	846627	813963	6	15	11	2704.0	3.7	-7.6	0	3	29.6	
R10	846627	813963	846281	813793	6	15	11	2495.2	4.8	-7.0	0	3	31.7	
R11	846281	813793	846027	814233	6	15	11	2183.5	11.0	-6.1	0	3	36.7	
R12	845807	815148	845910	814892	6	98	11	2060.0	7.7	-5.8	0	3	43.9	
R13	845910	814892	845700	814806	6	98	11	1946.4	0.3	-5.4	0	3	29.8	
R14	845700	814806	846027	814233	6	98	11	1916.8	18.5	-5.4	0	3	48.4	
R15	846578	814823	845981	814468	6	15	11	2349.1	5.7	-6.6	0	3	33.1	
Remarks												**Sub-total**	**51**	
Q = veh/hr														
V = vehicle speed, km/hr												**Overall, dB(A)**	**53**	
d = distance of receiving position from centre of haul road, m														
a_v = angle of view, degree														
1 - Please refer to Figure 6A														

Decommissioning Phase Fixed Noise Impact Assessment

Prediction of Noise Level at Planned Residential use, Area 86 (F3), at 1/F

NSR	x	y	z		Stockpiling and removal
F3	845653	817043	24.0		

Removal of Public Fill

		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	1951.1	-5.5	-10.0	20.8
CNP221	Tug Boat	845704	815093	1.0	2	50%	110	3.0	-3.0	110.0	1951.1	-5.5	-10.0	20.7
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	1797.9	-5.0	-10.0	35.9
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	1797.9	-5.0	-10.0	31.6
CNP081	Loader	845994	815278	6.0	8	100%	112	9.0	0.0	121.0	1797.9	-5.0	-10.0	32.9
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	1797.9	-5.0	-10.0	26.9
													Sum	39
													Facade Correction	3
													Sub-total	**42**

Truck movement

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

		Starrt			end					Air Absorption,	Screening,		
Segment[1]	x	y	x	y	z	Q	V	d	a_v	dB(A)	dB(A)	facade, dB(A)	L_{eq}, dB(A)
R1	846241	815409	845958	815343	6	30	11	1726.1	9.6	-4.8	-10	3	31.4
R2	845958	815343	845807	815148	6	30	11	1812.3	5.5	-5.1	-10	3	28.6
R3	845807	815148	845553	815135	6	83	11	1901.6	7.6	-5.3	-10	3	33.9
R4	846241	815409	846242	815082	6	30	11	1891.3	3.1	-5.3	-10	3	25.6
R5	846242	815082	846507	815016	6	30	11	2120.4	6.1	-5.9	-10	3	27.5
R6	846507	815016	846597	814699	6	30	11	2363.2	0.9	-6.6	-10	3	17.9
R7	846597	814699	846527	814529	6	30	11	2593.2	2.8	-7.3	-10	3	21.8
R8	846527	814529	846729	814134	6	30	11	2881.1	1.1	-8.1	-10	3	16.7
R9	846729	814134	846627	813963	6	30	11	3165.1	2.8	-8.9	-10	3	19.3
R10	846627	813963	846281	813793	6	30	11	3264.9	6.6	-9.1	-10	3	22.7
R11	846281	813793	846027	814233	6	30	11	3071.1	3.3	-8.6	-10	3	20.6
R12	845807	815148	845910	814892	6	113	11	2033.5	2.2	-5.7	-10	3	29.2
R13	845910	814892	845700	814806	6	113	11	2199.4	5.6	-6.2	-10	3	32.5
R14	845700	814806	846027	814233	6	113	11	2532.3	6.4	-7.1	-10	3	31.5
R15	846578	814823	845981	814468	6	30	11	2478.3	15.4	-6.9	-10	3	29.8
												Sub-total	**40**
												Overall, dB(A)	**44**

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

Decommissioning Phase, Fixed Noise Impact Assessment (Evening)														
Prediction of Noise Level at Planned Residential use, Area 86 (F3), at 1/F														
NSR	x	y	z		Stockpiling and removal									
F3	845653	817043	24.0											
Removal of Public Fill														
		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	1951.1	-5.5	-10.0	20.8
CNP221	Tug Boat	845704	815093	1.0	2	50%	110	3.0	-3.0	110.0	1951.1	-5.5	-10.0	20.7
CNP067	Dump truck	845994	815278	6.0	10	50%	117	10.0	-3.0	124.0	1797.9	-5.0	-10.0	35.9
CNP030	Bulldozer	845994	815278	6.0	3	100%	115	4.8	0.0	119.8	1797.9	-5.0	-10.0	31.6
CNP081	Loader	845994	815278	6.0	8	100%	112	9.0	0.0	121.0	1797.9	-5.0	-10.0	32.9
CNP081	Excavator	845994	815278	6.0	2	100%	112	3.0	0.0	115.0	1797.9	-5.0	-10.0	26.9
													Sum	39
													Facade Correction	3
													Sub-total	**42**
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	15	11	1726.1	9.6	-4.8	-10	3	28.4	
R2	845958	815343	845807	815148	6	15	11	1812.3	5.5	-5.1	-10	3	25.6	
R3	845807	815148	845553	815135	6	83	11	1901.6	7.6	-5.3	-10	3	33.9	
R4	846241	815409	846242	815082	6	15	11	1891.3	3.1	-5.3	-10	3	22.6	
R5	846242	815082	846507	815016	6	15	11	2120.4	6.1	-5.9	-10	3	24.5	
R6	846507	815016	846597	814699	6	15	11	2363.2	0.9	-6.6	-10	3	14.9	
R7	846597	814699	846527	814529	6	15	11	2593.2	2.8	-7.3	-10	3	18.8	
R8	846527	814529	846729	814134	6	15	11	2881.1	1.1	-8.1	-10	3	13.7	
R9	846729	814134	846627	813963	6	15	11	3165.1	2.8	-8.9	-10	3	16.3	
R10	846627	813963	846281	813793	6	15	11	3264.9	6.6	-9.1	-10	3	19.7	
R11	846281	813793	846027	814233	6	15	11	3071.1	3.3	-8.6	-10	3	17.6	
R12	845807	815148	845910	814892	6	98	11	2033.5	2.2	-5.7	-10	3	28.6	
R13	845910	814892	845700	814806	6	98	11	2199.4	5.6	-6.2	-10	3	31.9	
R14	845700	814806	846027	814233	6	98	11	2532.3	6.4	-7.1	-10	3	30.9	
R15	846578	814823	845981	814468	6	15	11	2478.3	15.4	-6.9	-10	3	26.8	
Remarks												**Sub-total**	**39**	
Q = veh/hr														
V = vehicle speed, km/hr												**Overall, dB(A)**	**44**	
d = distance of receiving position from centre of haul road, m														
a_v = angle of view, degree														
1 - Please refer to Figure 6A														