

**Fingerboards Mineral Sands Project Inquiry and Advisory Committee
Technical note**

TN No: TN 07

Date: 23 February 2021

Subject: Predicted dust deposition rates

Attached is a memorandum from Simon Welchman of Katestone, which includes the tables referred to in the Proponent's response to the IAC requests for information No. 57 and 61, namely:

- **Table A1** — Fingerboards Project Predicted Maximum Monthly Dust Deposition Rates (g/m²/month) and Comparison to PEM Mining and Extractive Industries Guideline (PEM, Page 12)
- **Table A2** — Fingerboards Project Predicted Annual Average Dust Deposition Rates (kg/ha/year)



MEMORANDUM

To	Chris Cook, [REDACTED]
From	Simon Welchman, [REDACTED]
Client name	Kalbar Resources Pty Ltd
Deliverable No.	D20011-9
Subject	Dust deposition rates due to the Fingerboards Project
Date	19 February 2021

Dear Chris,

Please find attached dust deposition rates predicted at receptors assessed in the EES air quality assessment, and at the additional eight receptors recently identified to be within 2km of the Project boundary.

If you have any questions, please do not hesitate to contact the undersigned.

Yours sincerely,

Simon Welchman - Director

ATTACHMENT

Table A1 Fingerboards Project Predicted Maximum Monthly Dust Deposition Rates (g/m²/month) and Comparison to PEM Mining and Extractive Industries Guideline (PEM, Page 12)

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
1	0.01	1.60	0.34	1.94	0.24	1.84	0.48	2.08
5	0.08	1.68	0.20	1.79	0.12	1.72	0.21	1.81
6	0.16	1.76	0.14	1.73	0.09	1.69	0.16	1.76
7	0.07	1.67	0.46	2.06	0.18	1.78	0.21	1.81
8	0.01	1.61	0.08	1.67	0.04	1.64	0.09	1.68
9	0.00	1.60	0.07	1.67	0.04	1.64	0.08	1.67
10	0.00	1.60	0.05	1.65	0.03	1.63	0.06	1.66
11	0.00	1.60	0.06	1.66	0.03	1.63	0.06	1.66
12	0.00	1.60	0.05	1.65	0.03	1.63	0.06	1.66
13	0.00	1.60	0.05	1.65	0.02	1.62	0.05	1.65
14	0.01	1.60	0.06	1.65	0.03	1.63	0.07	1.67
15	0.02	1.62	0.77	2.37	0.44	2.04	0.35	1.95
16	0.01	1.61	0.58	2.18	0.53	2.13	0.52	2.12
17	0.00	1.60	0.16	1.76	0.07	1.67	0.18	1.78
18	0.00	1.60	0.15	1.74	0.06	1.66	0.16	1.76
19	0.00	1.60	0.03	1.63	0.01	1.61	0.05	1.65
20	0.01	1.61	0.05	1.65	0.03	1.62	0.04	1.63
21	0.00	1.60	0.07	1.67	0.04	1.64	0.07	1.67
22	0.00	1.60	0.05	1.65	0.01	1.61	0.09	1.69
23	0.00	1.60	0.07	1.67	0.07	1.67	0.06	1.66
24	0.00	1.60	0.06	1.66	0.07	1.67	0.06	1.66
25	0.01	1.61	0.09	1.69	0.05	1.65	0.10	1.70

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
26	0.01	1.61	0.07	1.67	0.04	1.64	0.06	1.66
27	0.00	1.60	0.04	1.64	0.02	1.62	0.03	1.63
28	0.00	1.60	0.10	1.70	0.22	1.82	0.19	1.79
29	0.01	1.61	0.27	1.87	0.25	1.85	0.28	1.88
30	0.01	1.61	0.10	1.70	0.66	2.26	0.26	1.86
31	0.01	1.61	0.12	1.72	0.26	1.86	0.15	1.75
32	0.00	1.60	0.04	1.64	0.05	1.65	0.07	1.67
33	0.00	1.60	0.03	1.63	0.05	1.65	0.04	1.64
34	0.00	1.60	0.05	1.64	0.07	1.67	0.05	1.65
35	0.01	1.60	0.05	1.64	0.02	1.62	0.04	1.63
36	0.03	1.63	0.12	1.72	0.07	1.67	0.13	1.73
37	0.01	1.61	0.06	1.66	0.04	1.64	0.08	1.68
38	0.03	1.63	0.07	1.67	0.05	1.65	0.08	1.68
39	0.01	1.61	0.13	1.73	0.06	1.66	0.11	1.71
40	0.02	1.62	0.15	1.74	0.06	1.66	0.11	1.71
41	0.07	1.67	0.08	1.68	0.06	1.66	0.11	1.70
42	0.03	1.63	0.20	1.80	0.09	1.69	0.14	1.74
43	0.00	1.60	0.06	1.66	0.03	1.63	0.07	1.67
44	0.00	1.60	0.17	1.77	0.04	1.63	0.30	1.90
45	0.00	1.60	0.09	1.69	0.05	1.65	0.12	1.72
46	0.02	1.62	0.15	1.75	0.06	1.66	0.11	1.71
47	0.01	1.60	0.11	1.71	0.36	1.96	0.17	1.77
48	0.00	1.60	0.16	1.75	0.06	1.66	0.18	1.78
49	0.00	1.60	0.03	1.63	0.01	1.61	0.05	1.65
P2001	0.004	1.60	0.06	1.66	0.15	1.75	0.27	1.87
P2002	0.004	1.60	0.06	1.66	0.04	1.64	0.08	1.67
P2003	0.006	1.61	0.06	1.65	0.04	1.64	0.07	1.67

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
P2004	0.019	1.62	0.06	1.66	0.03	1.63	0.06	1.66
R2001	0.005	1.60	0.07	1.67	0.03	1.63	0.06	1.66
R2002	0.005	1.60	0.07	1.67	0.04	1.63	0.07	1.67
R2003	0.01	1.61	0.23	1.83	0.05	1.64	0.07	1.67
R2004	0.16	1.76	0.23	1.83	0.20	1.80	0.22	1.82
Guideline	2	4	2	4	2	4	2	4

Table A2 Fingerboards Project Predicted Annual Average Dust Deposition Rates (kg/ha/year)

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
1	0.3	107.1	16.0	122.8	8.4	115.2	22.6	130.6
5	5.9	112.7	13.1	119.9	7.0	113.8	11.2	119.2
6	7.4	114.2	8.9	115.7	4.7	111.5	8.2	116.2
7	2.4	109.2	26.0	132.8	12.0	118.8	14.9	122.9
8	0.4	107.2	4.5	111.3	2.0	108.8	4.2	112.2
9	0.3	107.1	4.0	110.8	1.7	108.5	3.7	111.7
10	0.2	107.0	3.0	109.8	1.3	108.1	2.8	110.8
11	0.2	107.0	3.2	110.0	1.4	108.2	3.0	111.0
12	0.2	107.0	3.1	109.9	1.3	108.1	2.9	110.9
13	0.2	107.0	2.7	109.5	1.1	107.9	2.5	110.5
14	0.3	107.1	3.4	110.2	1.6	108.4	3.3	111.3
15	0.7	107.5	55.9	162.7	29.6	136.4	26.6	134.6
16	0.5	107.3	54.3	161.1	46.1	152.9	47.4	155.4
17	0.2	107.0	8.3	115.1	3.2	110.0	9.4	117.4
18	0.2	107.0	7.3	114.1	2.9	109.7	8.4	116.4
19	0.1	106.9	2.8	109.6	0.5	107.3	4.2	112.2

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
20	0.3	107.1	3.8	110.6	1.5	108.3	3.0	111.0
21	0.3	107.1	4.7	111.5	2.0	108.8	4.2	112.2
22	0.1	106.9	4.3	111.1	0.7	107.5	6.9	114.9
23	0.1	106.9	3.0	109.8	2.8	109.6	3.0	111.0
24	0.1	106.9	2.9	109.7	2.7	109.5	2.9	110.9
25	0.6	107.4	5.3	112.1	2.5	109.3	5.0	113.0
26	0.5	107.3	5.2	112.0	2.1	108.9	4.2	112.2
27	0.2	107.0	3.0	109.8	1.2	108.0	2.4	110.4
28	0.1	106.9	5.0	111.8	8.2	115.0	6.9	114.9
29	0.3	107.1	19.9	126.7	19.0	125.8	19.8	127.8
30	0.2	107.0	5.2	112.0	20.8	127.6	9.9	117.9
31	0.2	107.0	6.4	113.2	10.3	117.1	6.5	114.5
32	0.1	106.9	2.4	109.2	2.8	109.6	3.3	111.3
33	0.1	106.9	2.0	108.8	1.9	108.7	2.0	110.0
34	0.1	106.9	2.5	109.3	2.6	109.4	2.6	110.6
35	0.3	107.1	3.5	110.3	1.4	108.2	2.7	110.7
36	1.2	108.0	6.9	113.7	3.3	110.1	6.2	114.2
37	0.5	107.3	4.1	110.9	2.1	108.9	4.0	112.0
38	0.9	107.7	4.5	111.3	2.4	109.2	4.4	112.4
39	0.7	107.5	7.3	114.1	3.5	110.3	5.8	113.8
40	0.9	107.7	7.8	114.6	3.7	110.5	6.1	114.1
41	2.3	109.1	5.9	112.7	3.3	110.1	5.7	113.7
42	1.0	107.8	11.6	118.4	5.5	112.3	8.3	116.3
43	0.2	107.0	3.9	110.7	1.5	108.3	3.7	111.7
44	0.2	107.0	7.8	114.6	1.7	108.5	12.4	120.4
45	0.2	107.0	5.6	112.4	3.0	109.8	6.9	114.9
46	0.8	107.6	7.9	114.7	3.7	110.5	6.2	114.2

Receptor	Construction		2024		2027		2031	
	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg	Increment	Inc + Bg
47	0.2	107.0	6.0	112.8	14.2	121.0	7.6	115.6
48	0.2	107.0	7.0	113.8	2.6	109.4	8.6	116.6
49	0.1	106.9	3.1	109.9	0.6	107.4	4.6	112.6
P2001	0.2	106.9	3.2	110.0	1.3	108.1	3.0	109.8
P2002	0.2	106.9	3.3	110.1	1.4	108.2	3.1	109.9
P2003	0.3	106.9	3.5	110.3	1.7	108.5	3.5	110.3
P2004	0.7	106.9	4.1	110.9	2.2	109.0	4.0	110.8
R2001	0.3	106.9	4.1	110.9	1.8	108.6	3.7	110.5
R2002	0.3	106.9	4.0	110.8	1.7	108.5	3.7	110.5
R2003	0.3	106.9	18.5	125.3	17.1	123.9	18.3	125.1
R2004	12.0	106.9	16.3	123.1	9.3	116.1	14.2	121.0