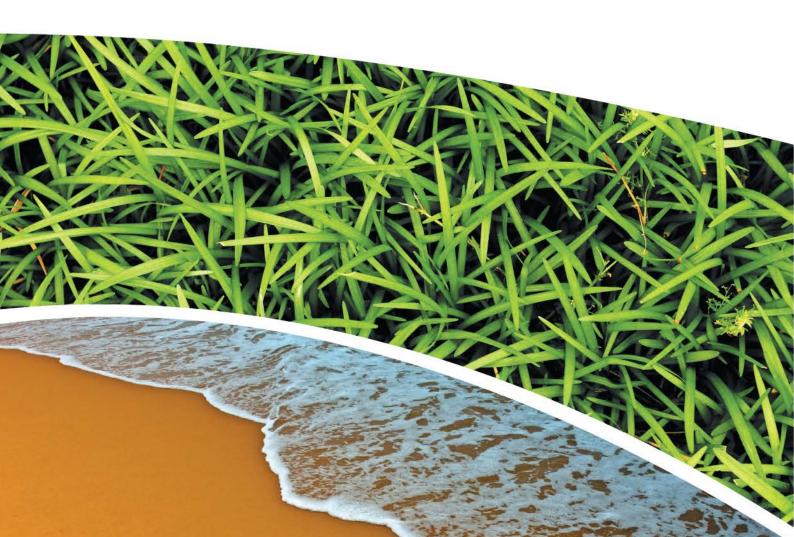


CONCRUSH FACILITY, TERALBA

Prepared for CONCRUSH PTY LTD
Prepared by RCA Australia
RCA ref 13001a-411/0
APRIL 2021





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## **Contents**

1	INTR	ODUCTION	1
2	SITE	IDENTIFICATION AND DESCRIPTION	1
3	MON	IITORING DETAILS	3
		GUIDELINES WEATHER	
4	MON	IITORING RESULTS	6
		DEPOSITIONAL DUST GAUGESREAL TIME DUST MONITOR	
5	ASS	ESSMENT OF DUST MANAGEMENT EFFECTIVENESS	11
6	LIMI	TATIONS	13
REF	EREN	CES	13

## **APPENDIX A**

LOG OF ADJUSTED 'B' DUST GAUGES

**APPENDIX B** 

FIELD SHEET

**APPENDIX C** 

**LABORATORY REPORT SHEETS** 



RCA ref 13001a-411/0



Geotechnical Engineering

**Engineering Geology** 

**Environmental Engineering** 

Hydrogeology

**Construction Materials Testing** 

**Environmental Monitoring** 

Sound & Vibration

Occupational Hygiene

## 27 April 2021

Concrush Pty Ltd 21 Racecourse Road Teralba NSW 2284

Attention: Mr Kevin Thompson

## MARCH DUST MONITORING REPORT CONCRUSH FACILITY, TERALBA

## 1 INTRODUCTION

This report presents the findings of dust monitoring undertaken at the Concrush resource recovery facility, situated in Teralba.

The site is an operational facility over approximately half of the monitored area; the remainder of the site is currently vacant land and has been approved for an expansion to the operations. At the time of site attendance there had been works undertaken on the expansion component of the site comprising the removal of vegetation, grading of the site including placement of material, crushing of concrete identified within stockpiles on the site, and partial excavation of a proposed sediment basin.

The monitoring undertaken has been detailed in an Operational Air Quality Management Plan (OAQMP, Ref [1]) which has been submitted as part of the approval process.

## 2 SITE IDENTIFICATION AND DESCRIPTION

The site is described as at 21 Racecourse Road, Teralba and part Lot 2, DP 220347. Additional site details are shown in **Table 1** and the site extent is shown in **Figure 1** below.

Table 1Site Details

Current zoning (Ref [2])	IN1 – General Industrial
Current and proposed use	Current: Existing Concrush facility and vacant/unused land within the proposed expansion area
	Proposed: Expanded Concrush facility over entire portion of site.
Size of site	Approximately 4.8ha (existing Concrush facility 2.4ha)
Surrounding land use to the:	Lot 1 DP220347
North	Industrial – car wreckers operated by others.
	Part of Lot 2 DP220347
South	Industrial – scrap metal recycling yard operated by others
East	Racecourse Road and then Cockle Creek
West	Main Northern Rail line and then wetlands
Nearest sensitive receptor (human health)	Residential housing located approximately 360m south east across Cockle Creek.
Nearest sensitive receptor (environmental)	Cockle Creek located approximately 35m east and wetland approximately 30m west

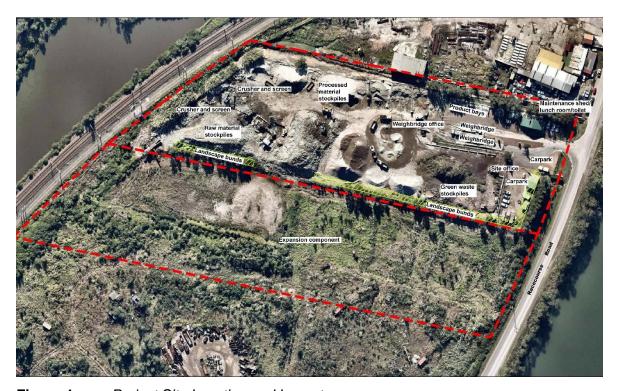


Figure 1 Project Site Location and Layout



## 3 MONITORING DETAILS

A total of five (5) monitoring locations are situated on site as shown in **Figure 2** below. At four (4) of these locations (DG1-DG4) there are two (2) dust depositional bottles situated on stands installed in accordance with the relevant Australian Standard (Ref [3]). An additional, singular, dust gauge (DG5A) and a real time dust monitor are situated on the southern portion of the roof of the office adjacent to the weigh station.



**Figure 2** Approximate Placement of Dust Deposition Gauges and Real Time Monitor.

The 'B' gauges are managed by Concrush personnel to specifically monitor only the times that the Concrush facility is operational. This is achieved by placing a cover (plastic and steel) over the top of the funnel and bottle at the end of the Concrush operations (~4.00-4.30 p.m.) and removing the cover at the commencement of the Concrush operations (~6.00-6.30 a.m.). A log of the adjustments has been kept for the month of March and this is included as **Appendix A**: it is noted that monitoring has not been facilitated on most weekends, along with two days (Thursday 18<sup>th</sup> and Friday 19<sup>th</sup> March) during the week. Based on the data provided, the 'B' gauges were not actively monitoring dust deposition for approximately 71% of the monitoring period.

The 'A' gauges are not adjusted by Concrush personnel and have continuously monitored the site for the full period between deployment and removal.



#### 3.1 **GUIDELINES**

The NSW EPA guidelines (Ref [4]) nominates the criteria for depositional dust as detailed in Table 2 below.

Table 2 Depositional Dust: Impact Assessment Criteria

Average Period	Maximum increase in deposited dust level	Maximum total deposited dust level	Sampling Frequency
Annual	2 g/m²/month	4 g/m <sup>2</sup> /month	Monthly

The NSW EPA guidelines (Ref [4]) nominate additional criteria:

- PM<sub>2.5</sub> daily average 0.025mg/m<sup>3</sup>, annual average 0.008 mg/m<sup>3</sup>.
- PM<sub>10</sub> daily average 0.05 mg/m<sup>3</sup>, annual average 0.025 mg/m<sup>3</sup>.
- TSP<sub>annual</sub> average 0.09 mg/m<sup>3</sup>.

It is noted that there is no relevant Australian Standard for the methodology employed by the real time monitor, nor is the methodology included in the NSW EPA guidelines (Ref [5]); however, concentrations recorded by the real time monitor are considered appropriate for comparative purposes to trigger a review of dust control measures.

#### 3.2 **WEATHER**

The real time dust monitor recorded conditions every five (5) minutes<sup>1</sup> continuously through until the end of the month. The monitor provides data with regards to wind direction and speed, air temperature, relative humidity and air pressure.

A summary of the March results is presented in **Table 3** below and **Figure 3**.

Table 3 March Weather Summary Data

	Maximum (date and time)	Minimum (date and time)		
Wind Speed (m/s)	4.392 (14 <sup>th</sup> March 4.55 p.m.)	0 (multiple occasions)		
Air Temperature (°C)	34.4 (1 <sup>st</sup> March 2.55 p.m.)	13.1 (28 <sup>th</sup> March 6.10 a.m., 6.15 a.m.)		
Relative Humidity (%)	99.7 (23 <sup>rd</sup> March, multiple occasions in the morning)	35.1 (27 <sup>th</sup> March 2.05 p.m.)		
Air Pressure (mBar)	1025 (16 <sup>h</sup> March, multiple occasions in the morning.)	998.3 (24 <sup>th</sup> February, multiple occasions in the morning)		

<sup>&</sup>lt;sup>1</sup> Data was not recorded at midnight for any of the days within the monitoring period.







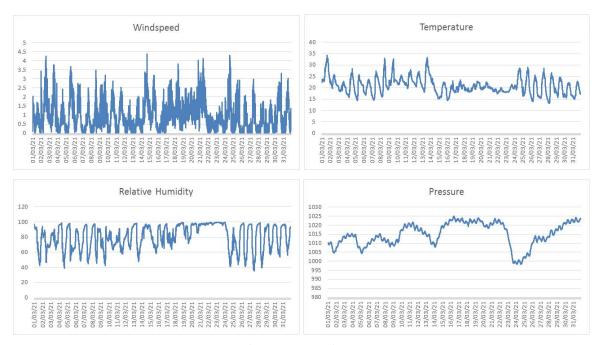
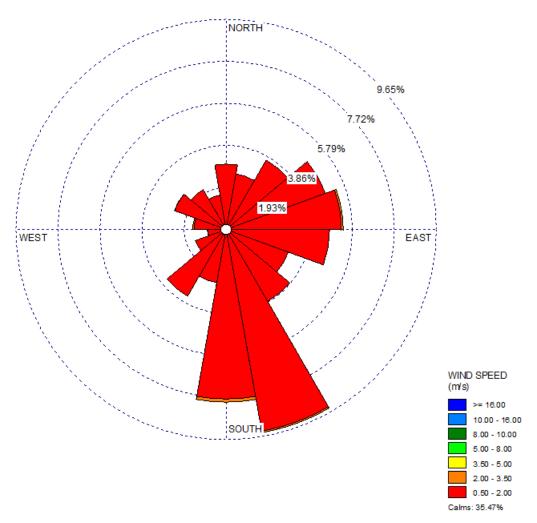


Figure 3 Weather Summary 1<sup>st</sup> March – 31<sup>st</sup> March

The wind speed was below the 5m/s (18km/h, Ref [1]) threshold for application of dust suppression measures for the entirety of the monitoring period.

The winds were predominantly from the south-south east and south with the highest winds also from the south-south east and south. South-south east winds were recorded for approximately 9.5% and southerly winds were recorded for approximately 8% of the monitoring period. The wind rose for the monitoring period is shown as **Figure 4**.



**Figure 4** Wind Rose 1<sup>st</sup> March – 31<sup>st</sup> March

## 4 MONITORING RESULTS

## 4.1 DEPOSITIONAL DUST GAUGES

RCA collected the bottles from 6.55 a.m. to 8.25 a.m. on the 31<sup>st</sup> March 2021 which was the 33<sup>rd</sup> day following the previous collection of the gauges on the 26<sup>th</sup> February 2021. All gauges, were observed to be unbroken and the cover that has been used to cover the 'B' gauges was located at each of those gauges. The field sheet is included as **Appendix B**.

The results of the monitoring at each of the locations for this month is presented below in **Table 4**. Laboratory report sheets are included in **Appendix C**.



 Table 4
 March Dust Monitoring Results

	Water Volume (mL)	Insoluble Solids (g/m²)	Ash (g/m²)	Combustible Matter (g/m²)
DG1A	5050	2.5	1.5	1.0
DG1B	4250	1.7	1.1	0.6
DG2A	4300	1.0	0.6	0.4
DG2B	2850	0.8	0.6	0.2
DG3A	4870	1.1	0.8	0.3
DG3B	4000	1.3	1.0	0.3
DG4A	4820	4.1	3.0	1.1
DG4B	3200	2.0	1.6	0.4
DG5A	5100	5.2	3.5	1.7

**BOLD** identifies where results of the 'A' gauges are in excess of annual average criterion (Ref [4]) which does not apply to individual results.

All concentrations of the 'A' gauges are below the annual average criterion (Ref [4]), with the possibility of DG5A exceeding with continued higher levels, should the concentrations be maintained at this level as shown on **Figure 5** below. There is insufficient data to be able to assess the results to the maximum increase criterion (Ref [4]). Of note: all dust gauges were out of the recommended monitoring period of between 28 – 32 days in March as the bottles were collected on the 31<sup>st</sup> March, that being the 33<sup>rd</sup> day, with the previous collection date being the 26<sup>th</sup> February, the last weekday of the month. It is further noted that, due to the adjustment occurring at the 'B' gauges, that it is not considered appropriate to compare the results to the criteria (Ref [4]).

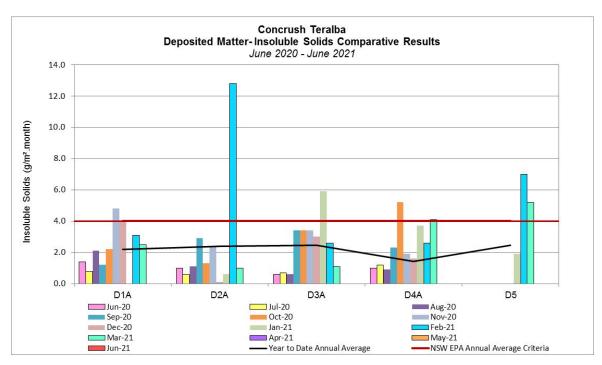


Figure 5 Year to Date Dust Monitoring Results



The water volume collected in the bottles indicates that the 'B' gauges have been monitoring for a lesser period that the 'A' gauges. The dust monitoring results from the 'B' gauges are generally below the 'A' gauges at each location with the exception of DG3B being higher than DG3A. The reason for this is unknown however this has been an issue with the previous monitoring rounds.

The majority of detected insoluble solids are related to 'ash' which comprises non-combustible matter and would include the types of particles that may originate from the Concrush site however would also be present in dust from other sources. Some coal dust, such as may be originating from adjacent sites, may also remain in the 'ash' component of the sample.

It is noted that Concrush personnel have previously observed birds ('willy wagtails') using the gauges as baths and this may have had some impact on the water and dust content of the gauges.

## 4.2 REAL TIME DUST MONITOR

The real time dust monitor recorded conditions every five (5) minutes $^2$  continuously through until the end of the month. The monitor provides data with regards to  $PM_{2.5}$ ,  $PM_{10}$  and  $PM_{total}$ . The  $PM_{total}$  concentration has been compared to the TSP annual average criterion.

A summary of the March results is presented in **Table 5** below and **Figure 6** below presents the  $PM_{2.5}$  and  $PM_{10}$  data. Noting that the results have been not been obtained by a listed approved method for air quality (Ref [5]) and not considered directly comparable with criteria (Ref [4]):

- The daily average of PM<sub>2.5</sub> and PM<sub>10</sub> are below the relevant criteria (Ref [4]).
- The annual average of the data for the period 1<sup>st</sup> March − 31<sup>st</sup> March is less than the relevant annual average criteria (Ref [4]) for PM<sub>2.5</sub>, PM<sub>10</sub> and PM<sub>total</sub>.

 Table 5
 February Particle Summary Data

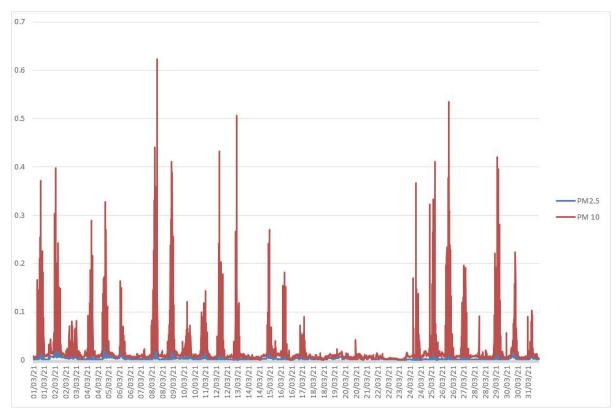
	Maximum (date and time)	Minimum (date and time)	Maximum Daily Average
PM <sub>2.5</sub>	0.079 (4 <sup>th</sup> March 7.55 a.m.)	0 (multiple occasions)	0.0085 (2 <sup>nd</sup> March)
PM <sub>10</sub>	0.624 (8 <sup>th</sup> March 2.10 p.m.)	0 (multiple occasions)	0.047 (8 <sup>th</sup> March)
PM <sub>total</sub>	0.835 (8 <sup>th</sup> March 2.10 p.m.)	0 (multiple occasions)	0.054 (8 <sup>th</sup> March)

**BOLD** identifies where results are in excess of criteria (Ref [4]). Concentrations in mg/m<sup>3</sup>

<sup>&</sup>lt;sup>2</sup> Data was not recorded at midnight for any of the days within the monitoring period.



\_



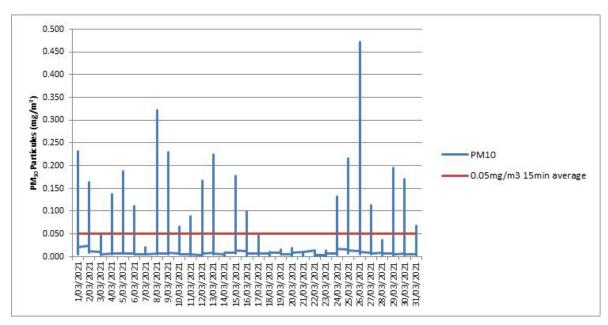
**Figure 6**  $PM_{2.5}$  and  $PM_{10}$  1<sup>st</sup> March – 31<sup>st</sup> March

PM<sub>10</sub> is the dominant particle size of those monitored by the real time monitor.

A summary of the March PM<sub>10</sub> results in 15 minute increments is presented **Figure 7** noting that this increment correlates with the alarms set to notify Concrush of:

- $PM_{10} > 0.05 \text{ mg/m}^3$
- Wind speed >5m/s.





**Figure 7** *PM*<sub>10</sub> 15 *Minute Daily Average* 1<sup>st</sup> *March* – 31<sup>st</sup> *March* 

The PM<sub>10</sub> 15 minute daily average appears to coincide with the maximum and minimum 5 minute data with the highest 15 minute average recorded on the 26<sup>th</sup> March and lowest recorded on multiple occasions through March (18<sup>th</sup> to the 23<sup>rd</sup>).

The data has also been graphed for an eight (8) hour average based on a work day cycle and a twenty-four (24) hour average in **Figure 8** and **Figure 9** below.

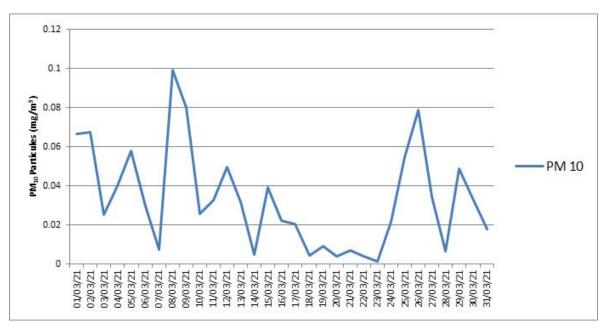


Figure 8 PM<sub>10</sub> 8 Hour Average 1<sup>st</sup> March – 31<sup>st</sup> March



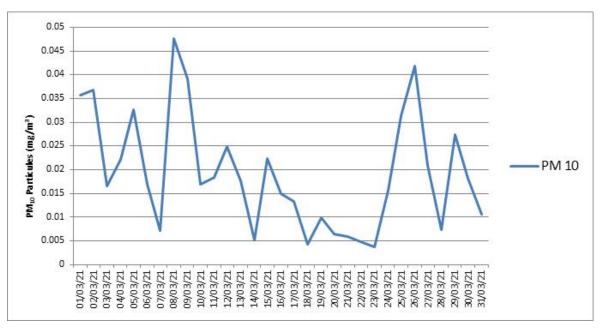


Figure 9 PM<sub>10</sub> 24 Hour Average 1<sup>st</sup> March – 31<sup>st</sup> March

The higher  $PM_{10}$  8 hour average and 24 hour average does not appear to coincide with higher wind speeds, though the wind direction primarily a northerly and north easterly direction during the higher recording within the March monitoring period, which may coincide with stockpiles of crushed aggregate located on the northern boundary and stockpiles of concrete observed in the northern neighbours site.

## 5 ASSESSMENT OF DUST MANAGEMENT EFFECTIVENESS

The monitoring data for the month of March indicates some uncertainty with regards to the effectiveness of dust controls. It is noted that the OAQMP (Ref [1]) hasn't yet been fully implemented as the expansion has not yet been commenced.

All the depositional dust gauges indicate results which are below the relevant criterion (Ref [4]). It is noted that the March results represent a significant decrease compared to last month. It is unclear as to what has resulted in the higher 'B' gauge results and it has been decided that monitoring of the 'B' gauges will be ceased as these are not providing an understanding of potential off-site sources of dust as was anticipated.

The real time monitor, which does not use a NSW EPA approved (Ref [5]) sampling methodology, indicates that there were no periods of dust which are in excess of the 24hr average criterion (Ref [4]) for  $PM_{10}$  in March. These dust conditions have decreased in general from those observed in February. Rainfall at Nobbys Head in March (129mm) with rainfall data was not complete, though thought to be high and likely has been above average and as such there should be a lower than average potential for dust generation at the site.

RCA's observations on the 31<sup>st</sup> March regarding site activities that are associated with dust generation and suppression were:

Movement of concrete and aggregate by frontend loader and excavators.



- Spraying of roads by watercart was being not undertaken at time of inspection, roads were wet at the time of inspection.
- Sweeper truck observed when RCA personnel was leaving site to be sweeping Racecourse Road of debris dropped by vehicles when leaving site.

No visible dust was observed by RCA during the time of fieldwork: photographs taken during the period RCA were on site are shown in **Figure 10** below.



Figure 10 Site Photographs 31<sup>st</sup> March 2021

The wind at the time of inspection was from the east north east in the order of 0.009-1.1m/s and readings of  $PM_{2.5}$  reached a maximum of 0.019mg/m³,  $PM_{10}$  reached a maximum of 0.09 mg/m³ and TSP reached a maximum of 0.095 mg/m³.

## 6 LIMITATIONS

This report has been prepared for Concrush Pty Ltd in accordance with an agreement with RCA Australia (RCA). The services performed by RCA have been conducted in a manner consistent with that generally exercised by members of its profession and consulting practice.

This report has been prepared for the sole use of Concrush Pty Ltd. The report may not contain sufficient information for purposes of other uses or for parties other than Concrush Pty Ltd. This report shall only be presented in full and may not be used to support objectives other than those stated in the report without written permission from RCA Australia.

Yours faithfully

**RCA AUSTRALIA** 

Richie Lamont
Environmental Scientist

Fiona Brooker Environmental Services Manager

Jisnooke

## **REFERENCES**

- [1] RCA Australia, Operational Air Quality Management Plan (OAQMP) for Expansion of the Concrush Resource Recovery Facility, V2.0, July 2020.
- [2] Lake Macquarie City Council Local Environmental Plan 2014, under the Environmental Planning and Assessment Act 1979, published 2014.
- [3] AS/NZS 3580.1.1:2016 Methods for sampling and analysis of ambient air: Guide to siting air monitoring equipment, May 2016.
- [4] NSW EPA, Approved Methods for the Modelling and Assessment of Air Pollutants in NSW January 2017.
- [5] NSW EPA, Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, January 2007.



## Appendix A

Log of Adjusted 'B' Dust Gauges



## Monthly Dust Gauge Document

## The dust gauges are on the blue marked poles

Date	Lid Off – Time & Initial	Lid Closed – Time, & Initial
01-00-21	6.30	4.30
02-03-21	6.00	4:20
03.02-21	6:00 14	4.30
04.03-21	6.00 14	4:30 1/7
05-00-21	6-00 /1	400 1
08-03-21	6.00 gl	4.30 /
09.63.21	6.00 1	5.00 1
10-07-21	6-00 11	5.00
11-03-21	6.00	5.00
12-07-21	6.co //	4-00 /
15-03-21	6.0013	4-3096
16-03-21	600111	4-36/
17-67-21	6.00/1(	4-70/6
22-03-21	600 gl 2m	xtleful 5-00/1
23-03-21	6.00/1	5.00 ge
24-03-21	6-00 M	4.70'96
25-03-21	6.00 //	4-30 /
26-03-21	6.001	4.00 /
77-02-21	7-08 /	4-001
29-03-21	6.00 90	400
30-03-21	6.00 46	3.00/1
	ν	V

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ABN 29 097 606 543 E: <u>info@concrush.com.au</u> www.concrush.com.au YARD LOCATION 21 Racecourse Rd, Teralba NSW 2284 P: (02) 4958 3777 (Sales) M: 0401 804 556

# Appendix B

Field Sheet



## STATIC DUST GAUGES - FIELD SHEET

ENV-F075-1

Client:

Concrush

Job Number:

13001a

Location:

21 Racecourse Road, Teralba

Month/Year:

March

Date On:

26/02/2021

Technician:\_\_\_\_

RJL

Date Off:

31/03/2021

Field Sheet: Page 1 of 1

Field ID (Job No + Gauge No.)	Lab ID (To be entered by Lab Technician on receipt of samples)	Time Serviced	Funnel Number (if replaced)	Approx. Volume	Notes	Comments
DG1A		7-15		100/	I	
DG1B		7-15		80%	I	
DG2A		6-55		80%	I	-
DG2B		6.55		701	I	hotrepheed, Bgages being brought in
DG3A		7-25		95%	I	
DG3B		7.25		80%	I	
DG4A		8-25		90%	I	
DG4B		8-25		60%	I	
DG5A		7.05		100%	I	
8						
		8				

## Notes:

# Appendix C

Laboratory Report Sheets



Concrush Pty Ltd PO Box 362 Merewether NSW 2291

Attention Helen Milne

Project: RCA ref 13001a-311/0

**Date:** 23/04/2021

Client reference: Dust Report March 2021

Received date: 31/03/2021 Number of samples: 9

Client order number: N/A Testing commenced: 6/04/2021

## **CERTIFICATE OF ANALYSIS**

## 1 ANALYTICAL TEST METHODS

ANALYSIS	METHOD	UNITS ANALYSING LABORATOR		NATA ANALYSIS / NON NATA
Dust Depositional Gauge (DDG)	ENV-LAB004*	g/m².month	RCA Laboratories - Environmental	NATA

<sup>\*</sup> The analytical procedures used by RCA Laboratories - Environmental are based on established internationally recognised procedures such as APHA and Australian Standards





## 2 RESULTS

ANALYSIS	UNITS	DG1A	DG1B	DG2A	DG2B
Depositional Dust Gauge (DDG)					
Sample Number	-	032113001a001	032113001a002	032113001a003	032113001a004
Date sample started	-	26/02/2021	26/02/2021	26/02/2021	26/02/2021
Date sample finished	-	31/03/2021	31/03/2021	31/03/2021	31/03/2021
Sampled By		RL	RL	RL	RL
Number of days	-	33	33	33	33
Notes	-	I	I	I	I
Insoluble solids	(g/m <sup>2</sup> .month)	2.5	1.7	1.0	0.8
Ash	(g/m <sup>2</sup> .month)	1.5	1.1	0.6	0.6
Combustible matter	(g/m <sup>2</sup> .month)	1.0	0.6	0.4	0.2
Volume	mL	5050	4250	4300	2850

ANALYSIS	UNITS	DG3A	DG3B	DG4A	DG4B		
Depositional Dust Gauge (DDG)							
Sample Number	-	032113001a005	032113001a006	032113001a007	032113001a008		
Date sample started	-	26/02/2021	26/02/2021	26/02/2021	26/02/2021		
Date sample finished	-	31/03/2021	31/03/2021	31/03/2021	31/03/2021		
Sampled By		RL	RL	RL	RL		
Number of days	-	33	33	33	33		
Notes	-	1	I	1	I		
Insoluble solids	(g/m².month)	1.1	1.3	4.1	2.0		
Ash	(g/m <sup>2</sup> .month)	0.8	1.0	3.0	1.6		
Combustible matter	(g/m <sup>2</sup> .month)	0.3	0.3	1.1	0.4		
Volume	mL	4870	4000	4820	3200		

ANALYSIS	UNITS	DG5				
Depositional Dust Gauge (DDG)						
Sample Number	-	032113001a009				
Date sample started	-	26/02/2021				
Date sample finished	-	31/03/2021				
Sampled By		RL				
Number of days	-	33				
Notes	-	1				
Insoluble solids	(g/m².month)	5.2				
Ash	(g/m².month)	3.5				
Combustible matter	(g/m <sup>2</sup> .month)	1.7				
Volume	mL	5100				

## **Depositional Dust Gauge (DDG)**

Analysis on samples is on an as received basis.

NOTE: This is outside the recommended 28-32 days technical holding times

Depositional Dust Gauge (DDG) Qualifier Codes

I = Insects (eg. Ants, spiders



## **Depositional Dust Gauge Quality Control**

A blank crucible, containing no deposited matter, is analysed with every batch of 10 samples analysed. The acceptable mass difference between the first and second weighing of a blank crucible, at the indicated steps, in the analysis procedure is +/- 0.001g.

## Blank Crucibles Analysis

METHOD STEP	PRE-DETER	RMINATION		NATION OF LE SOLIDS	DETERMINATION OF ASH AND COMBUSTIBLE MATTER					
	1 <sup>st</sup> weighing	2 <sup>nd</sup> weighing	1 <sup>st</sup> weighing	2 <sup>nd</sup> weighing	1 <sup>st</sup> weighing	2 <sup>nd</sup> weighing				
Crucible No.	Mass of Crucible(g)	Mass of Crucible(g)								
156	18.3404	18.3404	18.3404	18.3403	18.3405	18.3404				

Please contact the undersigned if you have any queries.

Yours sincerely

Laura Schofield Environmental Laboratory Manager Robert Carr & Associates Pty Ltd Trading as RCA Laboratories – Environmental Neena Tewari Senior Environmental Microbiologist Robert Carr & Associates Pty Ltd Trading as RCA Laboratories - Environmental

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## **RCA Internal Quality Review**

#### General

- Laboratory QC results for Method Blanks, Duplicates and Laboratory Control Samples are included in this QC report where applicable. Additional QC data maybe available on request.
- 2. RCA QC Acceptance / Rejection Criteria are available on request.
- 3. Proficiency Trial results are available on request.
- Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
- When individual results are qualified in the body of a report, refer to the qualifier descriptions that follow.
- Samples were analysed on an 'as received' basis.
- Sampled dates in this report are those listed on the COC or sample jars; if no sample dates are noted, the date the samples are received at the laboratory have been used.
- 8. All soil results are reported on a dry basis, unless otherwise stated. (ACID SULPHATE SOILS)
- 9. This report replaces any interim results previously issued.

#### Holding Times.

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample

Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

##NOTE: pH duplicates are reported as a range NOT as RPD

## QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

## QC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

## Glossary

## UNITS

mg/kg: milligrams per Kilogram

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/L: milligrams per Litre

## TERMS

Dry Where moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting.

RPD Relative Percent Difference between two Duplicate pieces of analysis can be obtained upon request.

QCS Quality Control Sample - reported as value recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands.

In the case of water samples these are performed on de-ionised water

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

**USEPA** United States Environment Protection Authority

APHA American Public Health Association

**COC** Chain of Custody

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

< indicates less than

> Indicates greater than

ND Not Detected



Ph: (02) 4902 9200 Fax: 02 4902 9299 92 Hill Street, Carrington NSW 2294 www.rca.com.au Email: labenviro@rca.com.au

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