

JHCPB Joint Venture

# Dust Deposition Monitoring Report

Reporting Period: 16<sup>th</sup> February 2021 – 15<sup>th</sup> August 2021

Project	Rozelle Interchange and WHT Enabling Works – Design and Construct
Document No.	RIC-JHC-RPT-20-EN-001-105
Revision Date	07/09/2021

## Document Approval

Rev	Date	Prepared by	Reviewed by	Approved by	Remarks
00	03/09/2021	R. Posgate	C. Moriarty		Internal Review
01	07/09/2021	R. Posgate	K. Lloyd	K. Lloyd	For Issue

## Contents

1. Introduction .....	2
2. Dust deposition monitoring.....	3
2.1. Location of dust deposition gauges .....	3
2.2. Performance criteria .....	4
3. Construction Update .....	5
4. Dust deposition gauge results .....	7
5. Data analysis and management responses .....	8
5.1. Exceedance of the criterion .....	8
5.2. Management Response .....	13
5.3. Incidents related to air quality .....	13
6. Updates and amendments to the dust deposition program .....	14
Annexure A – Laboratory Certificates.....	15

## Table of Figures

Figure 1 Map showing locations of the dust deposition gauges.....	3
Figure 2 RRY1 Total residual depositional dust annual average .....	10
Figure 3 RRY2 Total residual depositional dust annual average .....	10
Figure 4 ICL Total residual depositional dust annual average .....	11
Figure 5 CWL Total residual depositional dust annual average.....	11
Figure 6 VRE Total residual depositional dust annual average .....	12

## Table of Tables

Table 1 Locations of dust deposition gauges .....	3
Table 2 Long-term impact assessment criterion for deposited dust.....	4
Table 3 Typical construction activities during reporting period.....	5
Table 4 Dust deposition gauge results table.....	7
Table 5 Comments on exceedances .....	8
Table 6 Comparison of Total Insoluble Matter, Ash Content and Combustible Material .....	8

## Annexures

Annexure A – Laboratory Certificates

## 1. Introduction

The purpose and scope of the Dust Deposition Monitoring Program (the Program) is to monitor the effectiveness of mitigation measures applied during the construction phase of the WestConnex Rozelle Interchange Project (the Project).

As specified in Section 5.5 of the Dust Deposition Monitoring Program (RIC-JHC-MPL-00-PL-410-002), Dust Deposition Monitoring Reports will be produced every six months. Therefore, this Report will present the findings from the Program for the reporting period of 16th February 2021 through to 15th August 2021.

## 2. Dust deposition monitoring

This section presents a summary of the Program. Dust is assessed as insoluble solids as defined by AS 3580.10.1-1991 AM-19 Particulates – deposited matter – gravimetric method.

### 2.1. Location of dust deposition gauges

Monitoring will be undertaken using dust deposition gauges located at each of the Project ancillary facilities as identified in Table 1 and shown in Figure 1. Dust gauges will be collected monthly for the duration of construction.

Table 1 Locations of dust deposition gauges

Ancillary facility	Description
Rozelle civil and tunnel site	Two (2) gauges will be installed within the Rozelle civil and tunnel site on the 'northern' / Lilyfield Roadside of the site. One gauge will be located in the eastern half of the site and one gauge in the western half of the site.
The Crescent civil site	One (1) gauge will be installed within The Crescent civil site. This gauge is also expected to capture any potential dust deposition from the 'southern' / City West Link side of the Rozelle civil and tunnel site.
Victoria Road civil site	One (1) gauge will be installed within the Victoria Road civil site.
Iron Cove Link civil site	One (1) gauge will be installed within the Iron Cove Link civil site.

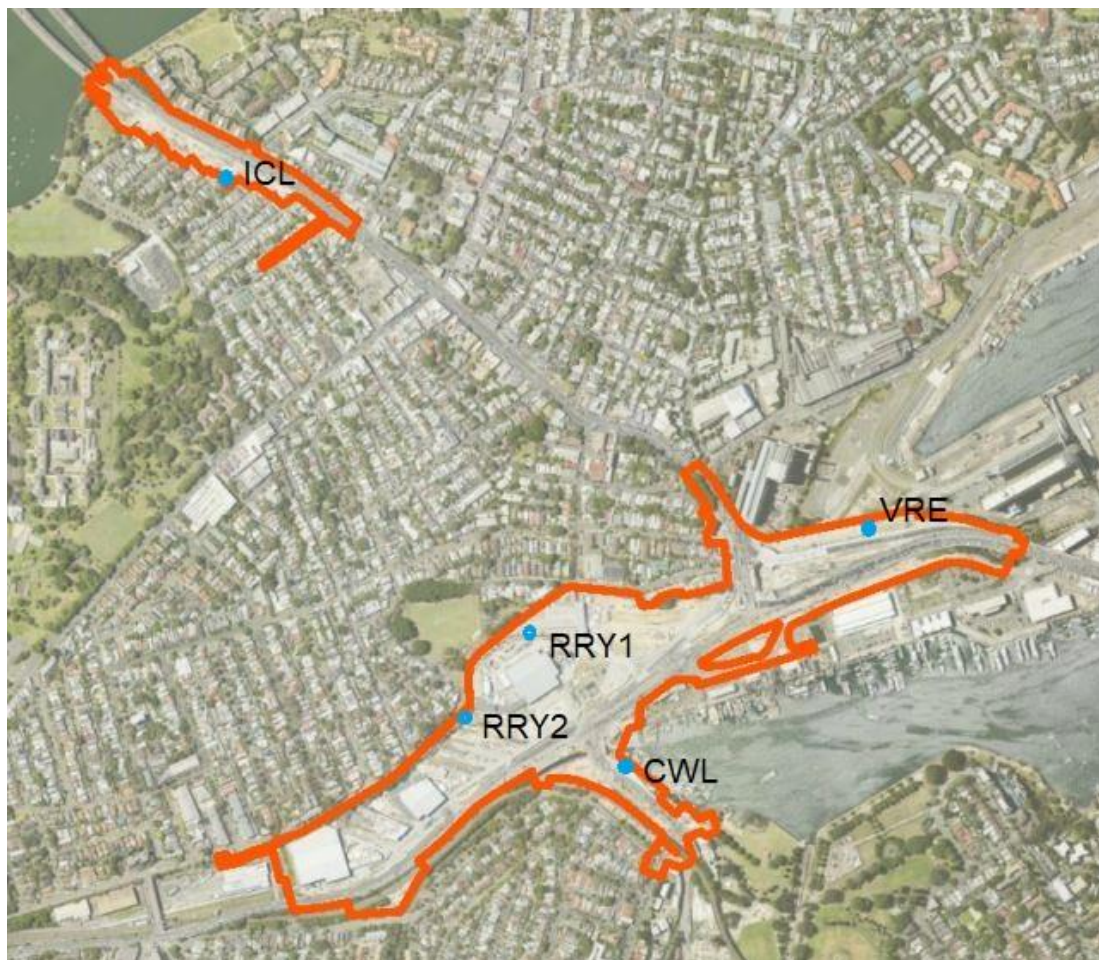


Figure 1 Map showing locations of the dust deposition gauges

## 2.2. Performance criteria

The adopted criterion is a measure of maximum total dust deposition levels. This is based on the long-term (annual average) EPA criterion for depositional dust specified in Table 2.

*Table 2 Long-term impact assessment criterion for deposited dust*

Pollutant	Averaging period	Maximum total* deposited dust level
Deposited dust	Annual	4g/m <sup>2</sup> /month

\* Total impact (i.e. concentrations due to the Project plus background concentrations due to other sources)

### 3. Construction Update

A summary of the construction activities which took place across the Project during the reporting period, is presented in Table 3 below.

Table 3 Typical construction activities during reporting period

Location	Activities
Tunnels	<ul style="list-style-type: none"> <li>All 22 Road headers operational</li> <li>Entered peak production period for tunnel excavation</li> <li>ICL tunnel connected to the mainline tunnels</li> <li>ICL Tunnelling Site demobilised August 2021</li> <li>Back End Works commenced across all three tunnelling sites</li> <li>Tunnel breakthrough to M4 cut and cover</li> <li>WHT excavation commenced</li> </ul>
Victoria Road East	<ul style="list-style-type: none"> <li>Installation of drainage and stormwater networks</li> <li>Bulk earthworks and piling pad preparation</li> <li>Bored piling and sheet piling works</li> <li>Pillow wall demolition</li> <li>Victoria Road Bridge demolition</li> <li>Victoria Road Bridge construction</li> <li>Installation of groundwater dewatering systems</li> <li>Installation of Intelligent Transport Systems (ITS)</li> <li>Hornsey Street cul-de-sac cladding and landscaping</li> <li>Temporary and permanent retaining wall construction</li> <li>Victoria Road Bridge Underpass permanent power installation</li> <li>Temporary and permanent roadworks</li> <li>Cut and cover construction</li> <li>Bulk excavation from cut and cover structures</li> </ul>
Iron Cove Link	<ul style="list-style-type: none"> <li>Cut and Cover works</li> <li>Asphalting works</li> <li>Pavement subgrade and pavement works</li> <li>Bulk excavation works and establishment of retaining walls</li> <li>Shared user path works</li> <li>Permanent road works</li> <li>Lighting installation</li> <li>Sub-station preparation</li> <li>Gate switches</li> <li>Temporary barriers and bus bay</li> <li>Tunnel support works for access/slip lane</li> <li>Commencement of landscaping activities in Block 3, 4 and KGP. Completion in Block 4 and KGP.</li> <li>Site Audit Report &amp; Statement issued for KGP.</li> <li>HS01 and OMCS building construction commenced with basic structure now complete. Fit-out of each building has commenced.</li> <li>External civil work for HS01 and OMCS building</li> <li>Preparation and planning underway for the delivery and installation of transformers to HS01 transformer bays.</li> <li>Permanent power in Toelle Street – procurement and design finalised, construction works commenced and is near completion</li> <li>Sydney Water potable supply continued and near completion</li> <li>Existing Balmain Sewer decommissioning continued and is now complete</li> </ul>

Location	Activities
	<ul style="list-style-type: none"> <li>Utility underboring works were completed</li> <li>Utilities sewer bypass and commissioning of sewer</li> <li>Continued permanent restoration works for utility areas</li> <li>ITS works have commenced and will indicatively continue until Q1 2022.</li> <li>Ausgrid package (overhead wires on Vic Road, near Drummoyne) has commenced.</li> </ul>
Rozelle Rail Yard	<ul style="list-style-type: none"> <li>M4 Vent shaft excavation completed</li> <li>Western Harbour Tunnel (WHT) substation excavation complete</li> <li>WHT dive excavation commenced</li> <li>Ventilation Facility construction underway and shaft excavation commenced</li> <li>Bulk Earthworks and excavation</li> <li>M5 + WHT Cut &amp; Cover construction, roof slab installation completed</li> <li>M4 cut and cover, roof slab installation commenced</li> <li>Spoil load out</li> <li>Utilities work</li> </ul>
City West Link	<ul style="list-style-type: none"> <li>Johnston Street Stage 3A switch</li> <li>Utilities works (Ausgrid, Sydney Trains, Jemena, Sydney Water)</li> <li>ITS &amp; TCS works</li> <li>Drainage works</li> <li>Bulk earthworks – including works in Rozelle Bay &amp; Whites Creek duplication</li> <li>Piling works</li> <li>Abutments, capping beams and piers for bridge scope</li> <li>Installation of girders for Whites Creek Bridge &amp; Green Bridge</li> <li>Demolition works</li> <li>Temporary and permanent pavement works</li> <li>Remediation and landscaping works</li> </ul>

## 4. Dust deposition gauge results

Dust deposition gauge results are presented below in Table 4. The raw dust monitoring results include all insoluble matter. Analysis and further discussion on the types of insoluble matter, application of reasonable and feasible mitigation measures and management responses is provided in Section 5, below.

Laboratory certificates are provided in Annexure A.

Table 4 Dust deposition gauge results table

Monitoring Period	Location	Total Insoluble Matter (g/m <sup>2</sup> /mth)
February 21 – March 21	RRY1	3.6
	RRY2	1.1
	ICL	0.6
	CWL	0.9
	VRE	4.1
March 21 – April 21	RRY1	2.0
	RRY2	1.2
	ICL	0.4
	CWL	1.9
	VRE	2.1
April 21 – May 21	RRY1	1.2
	RRY2	1.8
	ICL	0.8
	CWL	1.9
	VRE	2.0
May 21 – June 21	RRY1	1.0
	RRY2	1.7
	ICL	0.6
	CWL	1.9
	VRE	0.8
June 21 – July 21	RRY1	0.6
	RRY2	2.8
	ICL	0.4
	CWL	2.4
	VRE	0.8
July 21 – August 21	RRY1	0.7
	RRY2	1.1
	ICL	0.4
	CWL	0.8
	VRE	1.5

## 5. Data analysis and management responses

Results from the construction monitoring program have been compared with the criterion identified in Table 2.

### 5.1. Exceedance of the criterion

Table 5 provides commentary for the exceedance during the monitoring period.

Table 5 Comments on exceedances

Monitoring Period and Notable Weather Observations	Location	Total Insoluble Matter (g/m <sup>2</sup> /mth)	Mitigation measures implemented during the monitoring period
08/02/2021 – 08/03/2021	VRE	4.1	<ul style="list-style-type: none"> <li>No Project related activities with the potential for generating dust were occurring in the area during this period.</li> <li>Construction activities involving excavation and road construction, unrelated to the Project, were occurring during this period in the nearby vicinity of the monitoring location.</li> <li>Minor exceedance was attributed to external sources beyond the Project's control.</li> <li>Monitoring location is approximately 205m to nearest residential receiver.</li> </ul>

Table 6 provides a comparison of the total insoluble matter, ash content and combustible material. This indicates the amount of dust versus ash content versus combustible material which is not being monitored for this project. Ash content is generally used for mine sites, particularly coal.

Total insoluble material is comprised of ash content and combustible organic material i.e. organic material, leaves, pollen, and bugs. Combustible content is not the best analyte to use as dust is not combustible therefore combustible should not be included in the total residual.

Table 6 Comparison of Total Insoluble Matter, Ash Content and Combustible Material

Monitoring Period	Location	Total Insoluble Matter (TIM) (g/m <sup>2</sup> /mth)	Ash Content (g/m <sup>2</sup> /mth)	Combustible Material (annual av. g/m <sup>2</sup> /mth)	Total residual (TIM – Combustible Material)
February 21 – March 21	RRY1	3.6	3.3	0.3	3.3
	RRY2	1.1	1.0	0.1	1.0
	ICL	0.6	0.5	0.1	0.5
	CWL	0.9	0.7	0.2	0.7
	VRE	4.1	3.6	0.5	3.6
March 21 – April 21	RRY1	2	1.8	0.2	1.8
	RRY2	1.2	0.9	0.3	0.9
	ICL	0.4	0.3	0.1	0.3
	CWL	1.9	1.8	0.1	1.8
	VRE	2.1	1.8	0.3	1.8

April 21 – May 21	RRY1	1.2	1.0	0.2	1.0
	RRY2	1.8	1.3	0.5	1.3
	ICL	0.8	0.5	0.3	0.5
	CWL	1.9	1.4	0.5	1.4
	VRE	2.0	1.6	0.4	1.6
May 21 – June 21	RRY1	1	0.9	0.1	0.9
	RRY2	1.7	1.6	0.1	1.6
	ICL	0.6	0.4	0.2	0.4
	CWL	1.9	1.6	0.3	1.3
	VRE	0.8	0.8	<0.1	0.8
June 21 – July 21	RRY1	0.6	0.5	0.1	0.5
	RRY2	2.8	2.5	0.3	0.3
	ICL	0.4	0.3	0.1	0.3
	CWL	2.4	1.7	0.7	1.7
	VRE	0.8	0.5	0.3	0.5
July 21 – August 21	RRY1	0.7	0.5	0.2	0.5
	RRY2	1.1	0.9	0.2	0.9
	ICL	0.4	0.3	0.1	0.1
	CWL	1	0.8	0.2	0.8
	VRE	0.8	0.7	0.1	0.7

Over the 12-month period from August 2020 to August 2021, Figures 2 – 6 show that the rolling annual average at all monitoring locations for the total residual material was below the long-term (annual average) EPA criterion for depositional dust of 4g/m<sup>2</sup>/month at the end of the reporting period and therefore compliant.

For further detail from the past reporting period shown in the Figures 2 - 6 below, refer to RIC-JHC-RPT-20-EN-001-073 Dust Deposition Monitoring Report 16th August 2020 –15th February 2021.

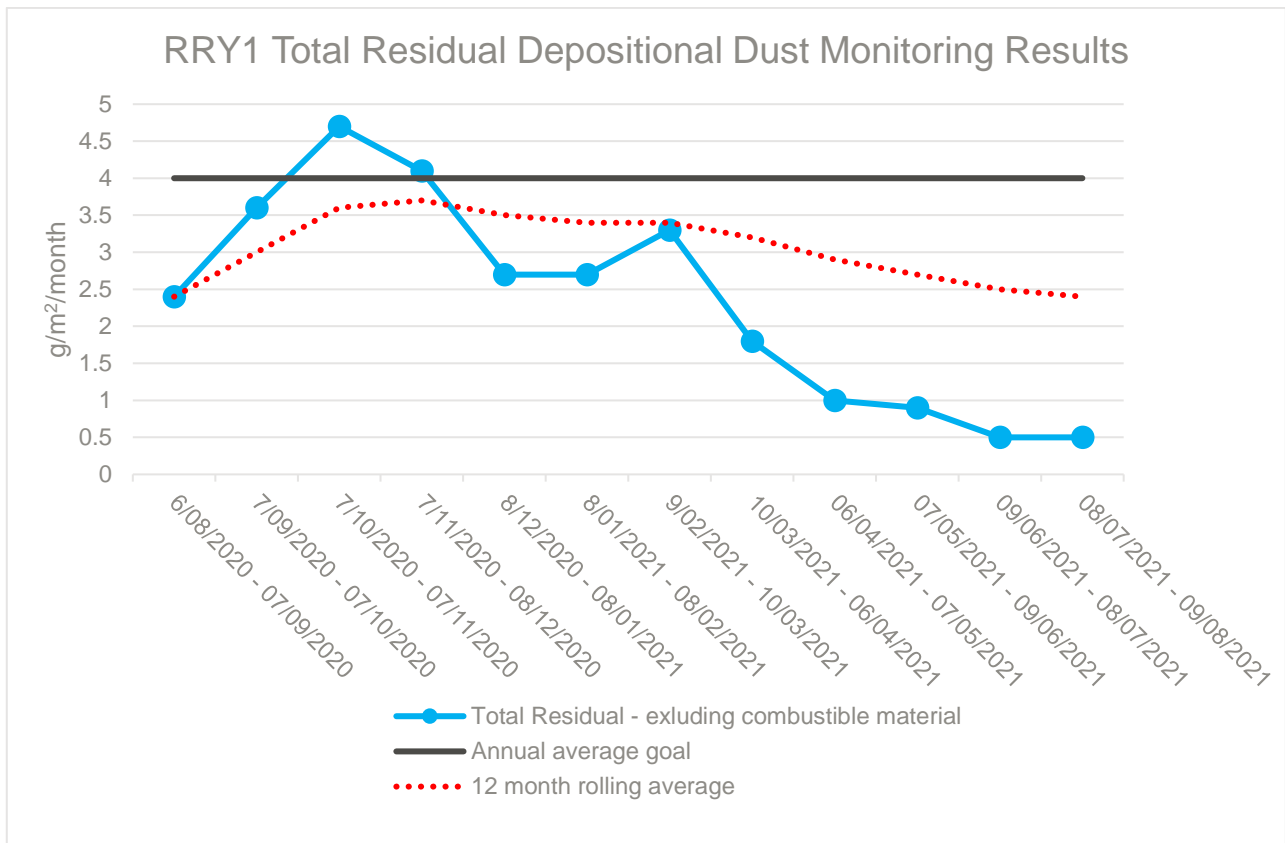


Figure 2 RRY1 Total residual depositional dust annual average

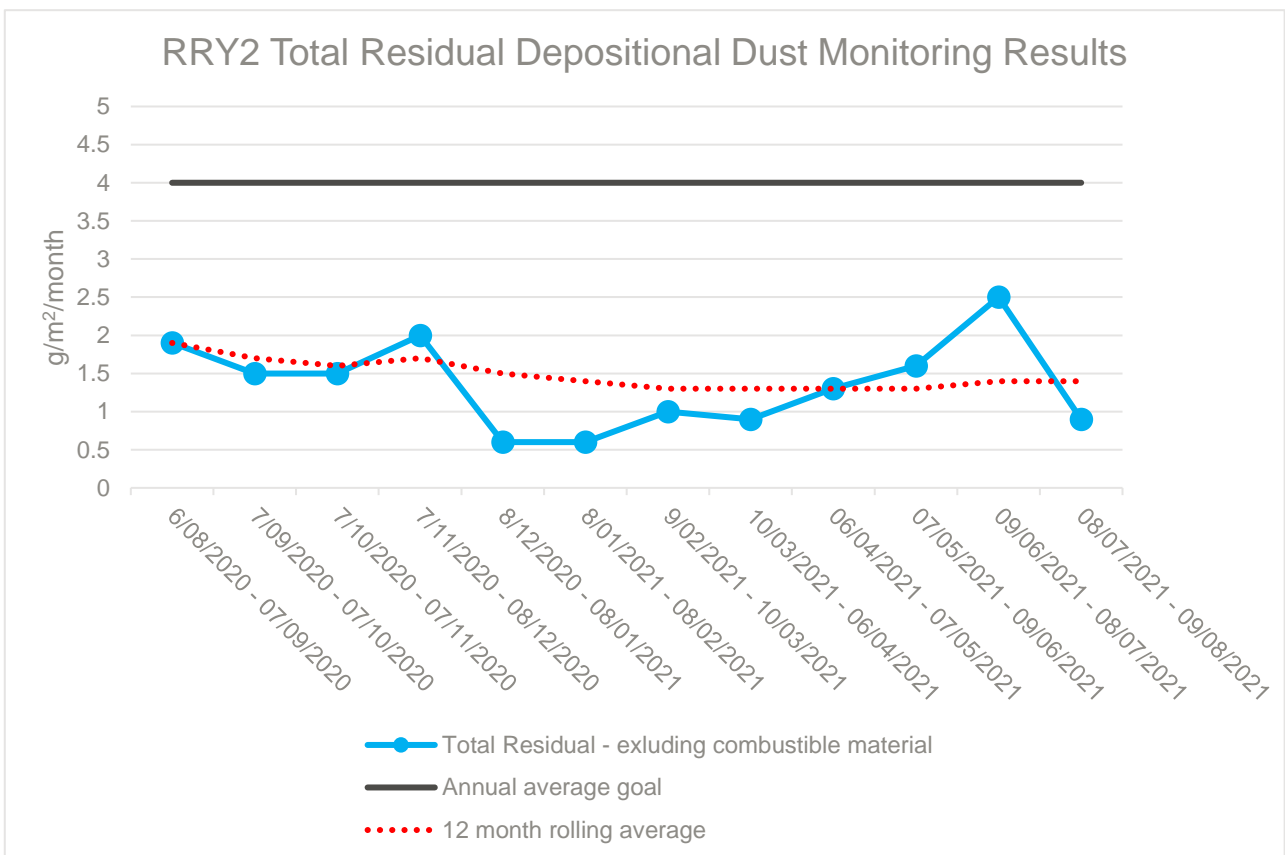


Figure 2 RRY2 Total residual depositional dust annual average

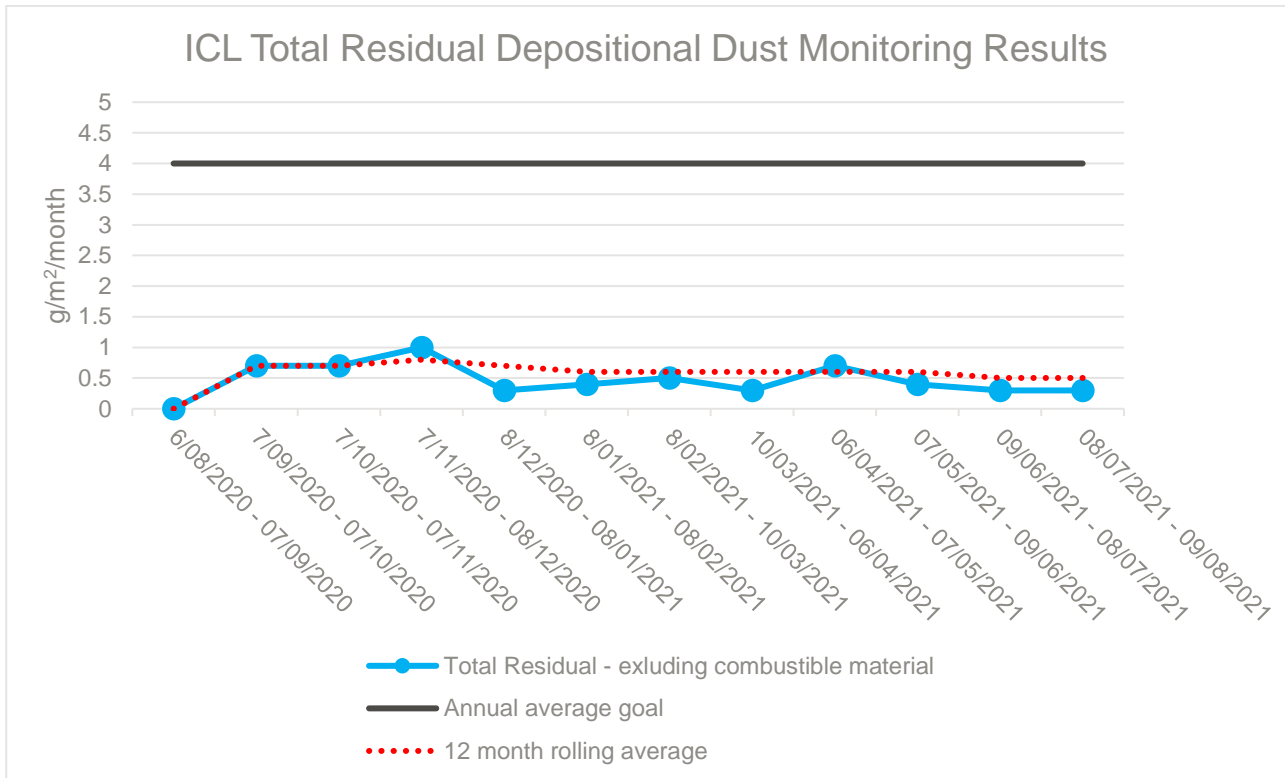


Figure 3 ICL Total residual depositional dust annual average

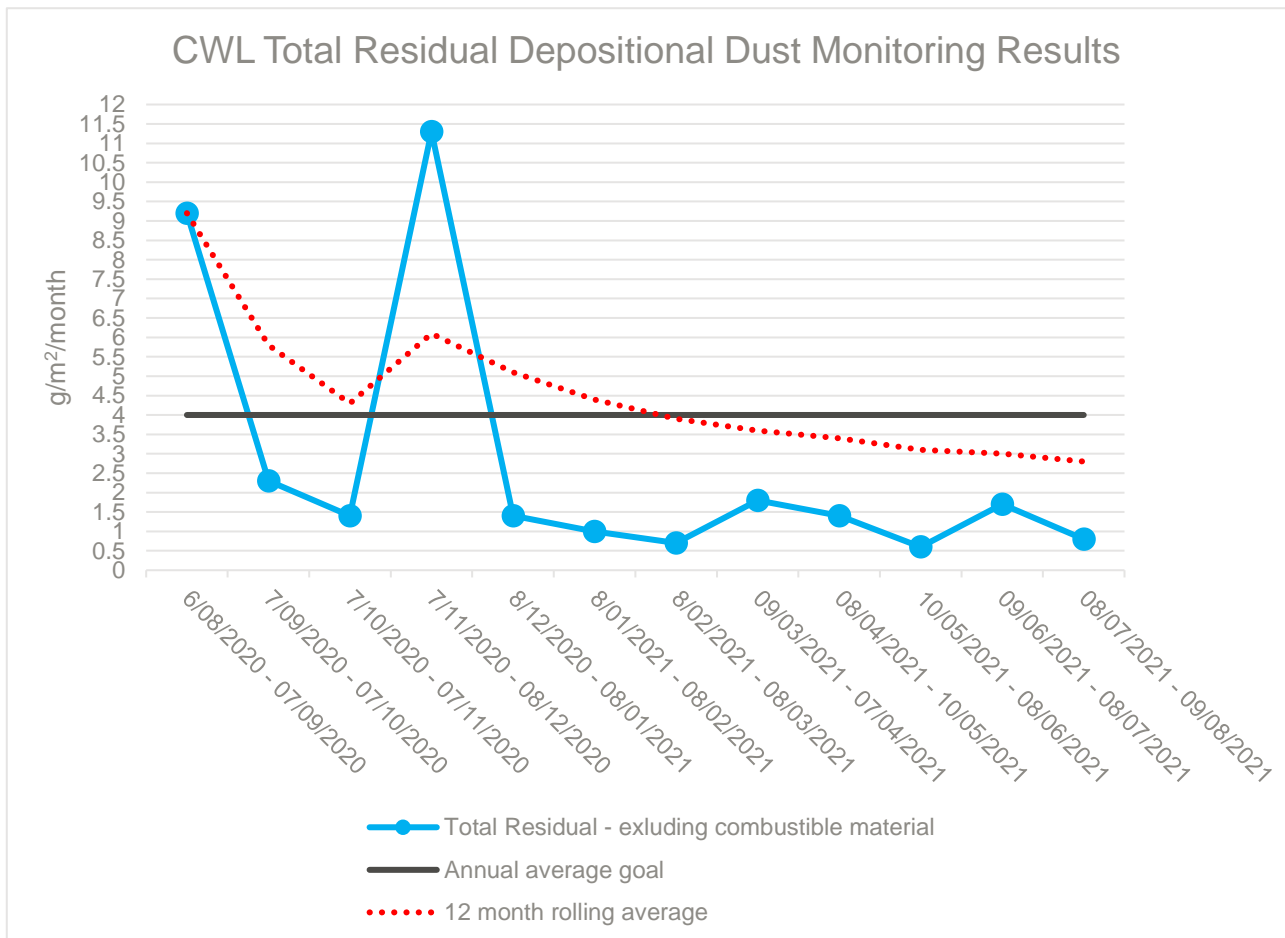


Figure 4 CWL Total residual depositional dust annual average

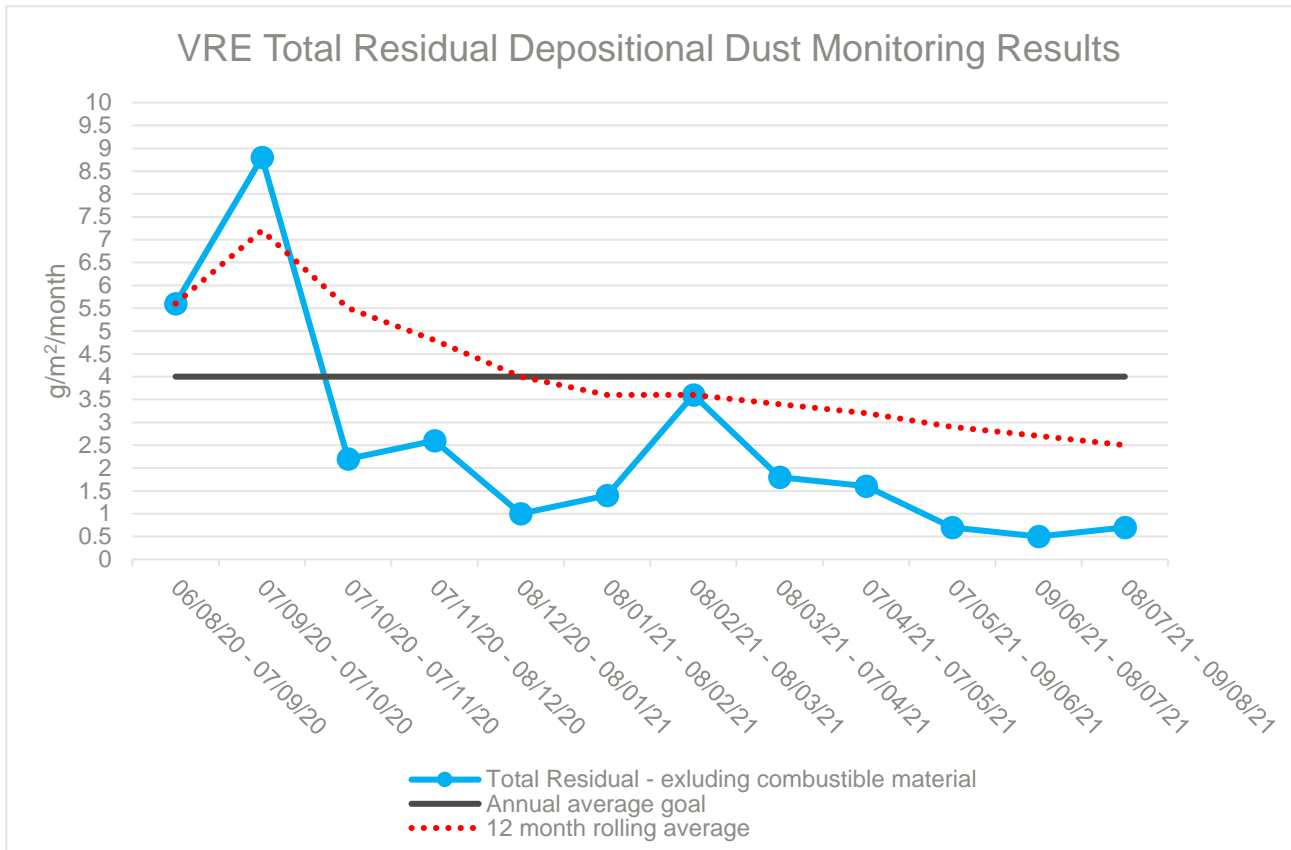


Figure 5 VRE Total residual depositional dust annual average

## 5.2. Management Response

There were no exceedances of the performance criteria in this reporting period.

Where high winds were experienced, ongoing mitigation measures for the Project included:

- Additional water carts and access points to water,
- Continuous use of street sweepers across the sites,
- Wetting systems (hoses, gurneys, sprinklers, water misters on excavator rock hammer attachments and misters) for specific tasks e.g. rock hammering with misters.
- The use of polymer binding agent,
- Progressive stabilisation (concrete hardstand) and completion of earthworks and excavation of M5 Cut and Cover and WHT Cut and Cover, The Crescent & City West Link pavement works and Iron Cove Link westbound lanes;
- Progressive permanent landscaping and finishing works including the Iron Cove Link pocket parks and shared user path adjacent to the new Victoria Road westbound alignment and King George Park and The Crescent/Chapman Road landscaping and shared user path and Hornsey Street cul-de-sac and shared user path and ramp; and
- Pausing of works or dust generating activities (e.g. lime application to PASS, demolition) when conditions were forecast to have high wind speeds.

## 5.3. Incidents related to air quality

No incidents relating to air quality were recorded during this reporting period. The Project continues to have a strong commitment to compliance and minimising community impact.

## **6. Updates and amendments to the dust deposition program**

No updates or amendments to the dust deposition program occurred during this reporting period.

# Annexure A – Laboratory Certificates

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2101942**  
**Client** : **John Holland & CPB Contractors JV - Rozelle Interchange**  
**Contact** : Lawson Gill  
**Address** : 68-72 Lilyfield Road  
                   Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : ----  
**C-O-C number** : ----  
**Sampler** : Lawson Gill  
**Site** : ----  
**Quote number** : SY/512/19 V8  
**No. of samples received** : 4  
**No. of samples analysed** : 4

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Shane Ellis  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 11-Mar-2021 17:00  
**Date Analysis Commenced** : 12-Mar-2021  
**Issue Date** : 22-Mar-2021 15:45



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- General Comments
- Analytical Results

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
 LOR = Limit of reporting  
 ^ = This result is computed from individual analyte detections at or above the level of reporting  
 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

Sub-Matrix: DEPOSITIONAL DUST (Matrix: AIR)				Sample ID	WCX3B-RIC-RRY1 09/02/21 - 10/03/21	WCX3B-RIC-RRY2 09/02/21 - 10/03/21	WCX3B-RIC-VRE1 08/02/21 - 08/03/21	JHCPB-RIC CWL 08/02/21 - 08/03/21	----
Sampling date / time				10-Mar-2021 00:00	10-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	----	
Compound	CAS Number	LOR	Unit	EN2101942-001	EN2101942-002	EN2101942-003	EN2101942-004	-----	
				Result	Result	Result	Result	----	
EA120: Ash Content									
Ash Content	----	0.1	g/m².month	3.3	1.0	3.6	0.7	----	
Ash Content (mg)	----	1	mg	56	17	59	12	----	
EA125: Combustible Matter									
Combustible Matter	----	0.1	g/m².month	0.3	0.1	0.5	0.2	----	
Combustible Matter (mg)	----	1	mg	5	2	8	3	----	
EA139: Total Soluble Matter									
Total Soluble Matter	----	0.1	g/m².month	2.6	1.4	2.5	0.3	----	
Total Soluble Matter (mg)	----	1	mg	44	24	41	6	----	
EA141: Total Insoluble Matter									
Total Insoluble Matter	----	0.1	g/m².month	3.6	1.1	4.1	0.9	----	
Total Insoluble Matter (mg)	----	1	mg	61	19	67	15	----	
EA142: Total Solids									
Total Solids	----	0.1	g/m².month	6.2	2.5	6.6	1.2	----	
Total Solids (mg)	----	1	mg	105	43	108	21	----	

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2102074**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : Julian Paul  
**Address** : 68-72 Lilyfield Road  
 Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : ----  
**C-O-C number** : ----  
**Sampler** : Julian Paul  
**Site** : ----  
**Quote number** : SY/512/19 V8  
**No. of samples received** : 1  
**No. of samples analysed** : 1

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Shane Ellis  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 16-Mar-2021 17:00  
**Date Analysis Commenced** : 19-Mar-2021  
**Issue Date** : 26-Mar-2021 12:45



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- General Comments
- Analytical Results

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### Signatories

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Signatories	Position	Accreditation Category
Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

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Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

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Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
 LOR = Limit of reporting  
 ^ = This result is computed from individual analyte detections at or above the level of reporting  
 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

				WCX3B-RIC-ICL 08/02/21 - 10/03/21	----	----	----	----
Sampling date / time				10-Mar-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EN2102074-001	-----	-----	-----	-----
				Result	----	----	----	----
<b>EA120: Ash Content</b>								
Ash Content	----	0.1	g/m <sup>2</sup> .month	0.5	----	----	----	----
Ash Content (mg)	----	1	mg	8	----	----	----	----
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	0.1	g/m <sup>2</sup> .month	0.1	----	----	----	----
Combustible Matter (mg)	----	1	mg	2	----	----	----	----
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	0.1	g/m <sup>2</sup> .month	1.8	----	----	----	----
Total Soluble Matter (mg)	----	1	mg	32	----	----	----	----
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	0.1	g/m <sup>2</sup> .month	0.6	----	----	----	----
Total Insoluble Matter (mg)	----	1	mg	10	----	----	----	----
<b>EA142: Total Solids</b>								
Total Solids	----	0.1	g/m <sup>2</sup> .month	2.4	----	----	----	----
Total Solids (mg)	----	1	mg	42	----	----	----	----

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2102991**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : Julian Paul  
**Address** : 68-72 Lilyfield Road  
 Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : ----  
**C-O-C number** : ----  
**Sampler** : Julian Paul  
**Site** : ----  
**Quote number** : SY/512/19 V8  
**No. of samples received** : 4  
**No. of samples analysed** : 4

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Shane Ellis  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 13-Apr-2021 17:00  
**Date Analysis Commenced** : 16-Apr-2021  
**Issue Date** : 23-Apr-2021 15:55



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- General Comments
- Analytical Results

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

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 LOR = Limit of reporting  
 ^ = This result is computed from individual analyte detections at or above the level of reporting  
 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.
- Sample exposure period for 002-004 is 27 days which is outside the typical exposure period of 30 +/- 2 days as per AS3580.10.1.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

Sub-Matrix: DEPOSITIONAL DUST (Matrix: AIR)				Sample ID	WCX3B-RIC-VRE01 08/03/21 - 07/04/21	WCX3B-RIC-ICL 10/03/21 - 06/04/21	WCX3B-RIC-RRY1 10/03/21 - 06/04/21	WCX3B-RIC-RRY2 10/03/21 - 06/04/21	----
Sampling date / time				07-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	----	
Compound	CAS Number	LOR	Unit	EN2102991-001	EN2102991-002	EN2102991-003	EN2102991-004	-----	
				Result	Result	Result	Result	----	
EA120: Ash Content									
Ash Content	----	0.1	g/m².month	1.8	0.3	1.8	0.9	----	
Ash Content (mg)	----	1	mg	31	4	28	15	----	
EA125: Combustible Matter									
Combustible Matter	----	0.1	g/m².month	0.3	0.1	0.2	0.3	----	
Combustible Matter (mg)	----	1	mg	6	2	4	4	----	
EA139: Total Soluble Matter									
Total Soluble Matter	----	0.1	g/m².month	2.3	0.2	0.8	<0.1	----	
Total Soluble Matter (mg)	----	1	mg	41	3	13	<1	----	
EA141: Total Insoluble Matter									
Total Insoluble Matter	----	0.1	g/m².month	2.1	0.4	2.0	1.2	----	
Total Insoluble Matter (mg)	----	1	mg	37	6	32	19	----	
EA142: Total Solids									
Total Solids	----	0.1	g/m².month	4.4	0.6	2.8	1.2	----	
Total Solids (mg)	----	1	mg	78	9	45	19	----	

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2103087**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : **ROGER POSGATE**  
**Address** : **68-72 Lilyfield Road**  
**Rozelle 2039**  
**Telephone** : **----**  
**Project** : **WestConnex 3B**  
**Order number** : **----**  
**C-O-C number** : **----**  
**Sampler** : **ROGER POSGATE**  
**Site** : **----**  
**Quote number** : **EN/222**  
**No. of samples received** : **1**  
**No. of samples analysed** : **1**

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Shane Ellis  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 19-Apr-2021 07:30  
**Date Analysis Commenced** : 20-Apr-2021  
**Issue Date** : 28-Apr-2021 10:42



Accreditation No. 825  
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 ISO/IEC 17025 - Testing

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- General Comments
- Analytical Results

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### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

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- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

				JHCPB - RIC-CWL				
				09/03/2021 - 07/04/2021				
				07-Apr-2021 00:00				
Compound	CAS Number	LOR	Unit	EN2103087-001				
				Result				
<b>EA120: Ash Content</b>								
Ash Content	----	0.1	g/m <sup>2</sup> .month	1.8	----	----	----	----
Ash Content (mg)	----	1	mg	31	----	----	----	----
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	0.1	g/m <sup>2</sup> .month	0.1	----	----	----	----
Combustible Matter (mg)	----	1	mg	1	----	----	----	----
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	0.1	g/m <sup>2</sup> .month	1.6	----	----	----	----
Total Soluble Matter (mg)	----	1	mg	28	----	----	----	----
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	0.1	g/m <sup>2</sup> .month	1.9	----	----	----	----
Total Insoluble Matter (mg)	----	1	mg	32	----	----	----	----
<b>EA142: Total Solids</b>								
Total Solids	----	0.1	g/m <sup>2</sup> .month	3.5	----	----	----	----
Total Solids (mg)	----	1	mg	60	----	----	----	----

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2103937**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : Julian Paul  
**Address** : 68-72 Lilyfield Road  
 Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : .  
**C-O-C number** : ----  
**Sampler** : Julian Paul  
**Site** : ----  
**Quote number** : SY/512/19 V15  
**No. of samples received** : 5  
**No. of samples analysed** : 5

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Shane Ellis  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 11-May-2021 17:00  
**Date Analysis Commenced** : 13-May-2021  
**Issue Date** : 21-May-2021 11:02



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Signatories	Position	Accreditation Category
Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

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 LOR = Limit of reporting  
 ^ = This result is computed from individual analyte detections at or above the level of reporting  
 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.
- No copper sulfate correction was applied to samples #001 and 002.

## Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

				WCX3B-RIC-RRY1 06/04/21 - 07/05/21	WCX3B-RIC-VRE01 07/04/21 - 07/05/21	WCX3B-RIC-ICL 06/04/21 - 07/05/21	WCX3B-RIC-CWL 08/04/21 - 10/05/21	WCX3B-RIC-RRY2 06/04/21 - 07/05/21
Sampling date / time				07-May-2021 00:00	07-May-2021 00:00	07-May-2021 00:00	10-May-2021 00:00	07-May-2021 00:00
Compound	CAS Number	LOR	Unit	EN2103937-001	EN2103937-002	EN2103937-003	EN2103937-004	EN2103937-005
				Result	Result	Result	Result	Result
<b>EA120: Ash Content</b>								
Ash Content	----	0.1	g/m <sup>2</sup> .month	1.0	1.6	0.5	1.4	1.3
Ash Content (mg)	----	1	mg	19	28	10	27	24
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	0.1	g/m <sup>2</sup> .month	0.2	0.4	0.3	0.5	0.5
Combustible Matter (mg)	----	1	mg	3	8	5	9	8
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	0.1	g/m <sup>2</sup> .month	2.1	2.7	<0.1	<0.1	0.6
Total Soluble Matter (mg)	----	1	mg	39	48	<1	<1	11
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	0.1	g/m <sup>2</sup> .month	1.2	2.0	0.8	1.9	1.8
Total Insoluble Matter (mg)	----	1	mg	22	36	15	36	32
<b>EA142: Total Solids</b>								
Total Solids	----	0.1	g/m <sup>2</sup> .month	3.3	4.7	0.8	1.9	2.4
Total Solids (mg)	----	1	mg	61	84	15	36	43

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2105028**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : **ROGER POSGATE**  
**Address** : **68-72 Lilyfield Road**  
**Rozelle 2039**  
**Telephone** : **----**  
**Project** : **WestConnex 3B**  
**Order number** : **RIC-0065A-PWD**  
**C-O-C number** : **----**  
**Sampler** : **Sven Carlson**  
**Site** : **----**  
**Quote number** : **SY/512/19 V15**  
**No. of samples received** : **5**  
**No. of samples analysed** : **5**

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Christopher Redford  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 10-Jun-2021 17:00  
**Date Analysis Commenced** : 15-Jun-2021  
**Issue Date** : 21-Jun-2021 17:39



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 Accredited for compliance with  
 ISO/IEC 17025 - Testing

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Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

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 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.
- Sample exposure period for 001-003 and 005 is 33 days which is outside the typical exposure period of 30 +/- 2 days as per AS3580.10.1.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

				RRY1 07/05/21 - 09/06/21	RRY2 07/05/21 - 09/06/21	VRE01 07/05/21 - 09/06/21	RIC/CWL 10/05/21 - 08/06/21	ICL 07/05/21 - 09/06/21
Sampling date / time				09-Jun-2021 00:00	09-Jun-2021 00:00	09-Jun-2021 00:00	08-Jun-2021 00:00	09-Jun-2021 00:00
Compound	CAS Number	LOR	Unit	EN2105028-001	EN2105028-002	EN2105028-003	EN2105028-004	EN2105028-005
				Result	Result	Result	Result	Result
<b>EA120: Ash Content</b>								
Ash Content	----	0.1	g/m <sup>2</sup> .month	0.9	1.6	0.8	1.6	0.4
Ash Content (mg)	----	1	mg	17	31	15	27	8
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	0.1	g/m <sup>2</sup> .month	0.1	0.1	<0.1	0.3	0.2
Combustible Matter (mg)	----	1	mg	3	3	1	5	3
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	0.1	g/m <sup>2</sup> .month	0.3	0.1	<0.1	0.3	0.5
Total Soluble Matter (mg)	----	1	mg	6	1	<1	5	10
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	0.1	g/m <sup>2</sup> .month	1.0	1.7	0.8	1.9	0.6
Total Insoluble Matter (mg)	----	1	mg	20	34	16	32	11
<b>EA142: Total Solids</b>								
Total Solids	----	0.1	g/m <sup>2</sup> .month	1.3	1.8	0.8	2.2	1.1
Total Solids (mg)	----	1	mg	26	35	16	37	21

## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2106106**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : Lawson Gill  
**Address** : 68-72 Lilyfield Road  
 Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : RIC-0065A-PWD  
**C-O-C number** : ----  
**Sampler** : Lawson Gill  
**Site** : ----  
**Quote number** : SY/512/19 V17  
**No. of samples received** : 5  
**No. of samples analysed** : 5

**Page** : 1 of 3  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Christopher Redford  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 14-Jul-2021 17:00  
**Date Analysis Commenced** : 15-Jul-2021  
**Issue Date** : 26-Jul-2021 15:35



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 ISO/IEC 17025 - Testing

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Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

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 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.
- No copper sulfate correction was applied to sample #003.
- Date Range: 09/06/21 - 08/07/21

## Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

				ICL JHCPB	RRY2 WCX3B	RRY1 WCX3B	RIC-CWL JHCPB	VRE1 WCX3B
Sampling date / time				08-Jul-2021 00:00	08-Jul-2021 00:00	08-Jul-2021 00:00	08-Jul-2021 00:00	08-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EN2106106-001	EN2106106-002	EN2106106-003	EN2106106-004	EN2106106-005
				Result	Result	Result	Result	Result
<b>EA120: Ash Content</b>								
Ash Content	----	0.1	g/m <sup>2</sup> .month	0.3	2.5	0.5	1.7	0.5
Ash Content (mg)	----	1	mg	5	42	8	29	9
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	0.1	g/m <sup>2</sup> .month	0.1	0.3	0.1	0.7	0.3
Combustible Matter (mg)	----	1	mg	2	6	3	12	5
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	0.1	g/m <sup>2</sup> .month	0.1	1.3	2.7	0.7	0.9
Total Soluble Matter (mg)	----	1	mg	2	22	46	11	15
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	0.1	g/m <sup>2</sup> .month	0.4	2.8	0.6	2.4	0.8
Total Insoluble Matter (mg)	----	1	mg	7	48	11	41	14
<b>EA142: Total Solids</b>								
Total Solids	----	0.1	g/m <sup>2</sup> .month	0.5	4.1	3.3	3.1	1.7
Total Solids (mg)	----	1	mg	9	70	57	52	29

Page : 3 of 3  
Work Order : EN2106106  
Client : JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE  
Project : WestConnex 3B

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## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2107046**  
**Client** : **JOHN HOLLAND & CPB CONTRACTORS JV - ROZELLE INTERCHANGE**  
**Contact** : CIARA MORIARTY  
**Address** : 68-72 Lilyfield Road  
 Rozelle 2039  
**Telephone** : ----  
**Project** : WestConnex 3B  
**Order number** : RIC-0065A-PWD  
**C-O-C number** : ----  
**Sampler** : CIARA MORIARTY  
**Site** : ----  
**Quote number** : SY/512/19 V17  
**No. of samples received** : 5  
**No. of samples analysed** : 5

**Page** : 1 of 2  
**Laboratory** : Environmental Division Newcastle  
**Contact** : Christopher Redford  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 8784 8555  
**Date Samples Received** : 11-Aug-2021 17:00  
**Date Analysis Commenced** : 12-Aug-2021  
**Issue Date** : 23-Aug-2021 09:44



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Zoran Grozdanovski	Laboratory Operator	Newcastle - Inorganics, Mayfield West, NSW



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 LOR = Limit of reporting  
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 Ø = ALS is not NATA accredited for these tests.  
 ~ = Indicates an estimated value.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in g/m<sup>2</sup>.mth as sampling data was provided by the client.
- No copper sulfate correction was applied to sample #003.

## Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**  
 (Matrix: **AIR**)

Sample ID

Sub-Matrix: DEPOSITIONAL DUST (Matrix: AIR)				Sample ID	RRY1 - WCX3B 08/07/21 - 09/08/21	RRY2 - WCX3B 08/07/21 - 09/08/21	VRE1 - WCX3B 08/07/21 - 09/08/21	CWL - WCX3B 08/07/21 - 09/08/21	ICL 1 - WCX3B 08/07/21 - 09/08/21
Sampling date / time				09-Aug-2021 00:00	09-Aug-2021 00:00	09-Aug-2021 00:00	09-Aug-2021 00:00	09-Aug-2021 00:00	09-Aug-2021 00:00
Compound	CAS Number	LOR	Unit	EN2107046-001	EN2107046-002	EN2107046-003	EN2107046-004	EN2107046-005	
				Result	Result	Result	Result	Result	
EA120: Ash Content									
Ash Content	----	0.1	g/m².month	0.5	0.9	0.7	0.8	0.3	
Ash Content (mg)	----	1	mg	10	17	13	15	6	
EA125: Combustible Matter									
Combustible Matter	----	0.1	g/m².month	0.2	0.2	0.1	0.2	0.1	
Combustible Matter (mg)	----	1	mg	4	4	2	4	2	
EA139: Total Soluble Matter									
Total Soluble Matter	----	0.1	g/m².month	1.7	<0.1	1.1	<0.1	0.1	
Total Soluble Matter (mg)	----	1	mg	33	<1	21	<1	2	
EA141: Total Insoluble Matter									
Total Insoluble Matter	----	0.1	g/m².month	0.7	1.1	0.8	1.0	0.4	
Total Insoluble Matter (mg)	----	1	mg	14	21	15	19	8	
EA142: Total Solids									
Total Solids	----	0.1	g/m².month	2.4	1.1	1.9	1.0	0.5	
Total Solids (mg)	----	1	mg	47	21	36	19	10	

# CHAIN OF CUSTODY

ALS Laboratory: please tick →

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Ph: 02 4225 3125 E: [wollongong@alsglobal.com](mailto:wollongong@alsglobal.com)

CLIENT: JHCPB Contractors JV - Rozelle Interchange		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)	
OFFICE: 66-68 Lilyfield Rd, Security Hut		(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)		Custody Seal Intact? Yes No N/A	
PROJECT: WestConnex 3B	PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)		Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUSTRALIA	COC: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Lawson Gill		CONTACT PH: 0449948636		OF: 1 2 3 4 5 6 7	
SAMPLER: Lawson Gill		SAMPLER MOBILE: 0449948636		RECEIVED BY: JUSTIN	
COC Emailed to ALS? ( YES / NO)		EDD FORMAT (or default):		RELINQUISHED BY: JUSTIN	
Email Reports to (will default to PM if no other addresses are listed):		DATE/TIME: 10/03/2021 13:00		DATE/TIME: 10/3/21 5pm	
Chetan.Jayaram@rozelleinterchange.com.au; lawson.gill@rozellechange.com.au				DATE/TIME: 10/3/21 5pm	
Email Invoice to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au				DATE/TIME: 11-3-21 5pm	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:					

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL BOTTLES	Standard Dust Analysis A01								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
RRY1	WCX3B-RIC	09/02/2021 - 10/03/2021	W	CuSO <sub>4</sub> solution	1	X								
RRY2	WCX3B-RIC	09/02/2021 - 10/03/2021	W	CuSO <sub>4</sub> solution	1	X								
VRE1	JHCPB	08/02/2021 - 08/03/2021	W	CuSO <sub>4</sub> solution	1	X								
RIC CWL	JHCPB	08/02/2021 - 08/03/2021	W	CuSO <sub>4</sub> solution	1	X								
TOTAL					4									

Environmental Division  
Newcastle  
Work Order Reference  
EN2101942

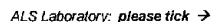
  
Telephone : + 61 2 4014 2500

Environmental Division  
Newcastle  
Work Order Reference  
**EN2101942**  
  
Telephone : +61 2 4014 2500

**Water Container Codes:** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

[illegible]





**WOLLONGONG** 1/19-21 Ralph Black Drive, Nth Wollongong NSW 2500  
Ph: 02 4225 3125 E: wollongong@alsglobal.com

DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

Telephone : + 61 2 4014 2500

Water Container Codes: F = Unpreserved Plastic; N = Nitric Preserved Plastic (CVC - Nitric Preserved Glass); CH = Sodium Hypochlorite Preserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; VSG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

## CHAIN OF CUSTODY

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 Ph: 07 4978 7944 E: [gladstone@alsglobal.com](mailto:gladstone@alsglobal.com)

☐ MACKAY 78 Harbour Road Mackay QLD 4740  
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☐ **MELBOURNE:** 2-4 Westall Road Springvale VIC 3171  
 Ph: 03 8549 9600 E: [samples.melbourne@alsglobal.com](mailto:samples.melbourne@alsglobal.com)

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☐ **TOWNSVILLE** 14-15 Desma Court Bohle QLD 4818  
 Ph. 07 4796 0600 E: [townsville.environmental@alsglobal.com](mailto:townsville.environmental@alsglobal.com)


WOLLONGONG 1/19-21 Ralph Black Drive, Nth Wollongong NSW 2500  
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: JHCPB Contractors JV - Rozelle Interchange		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)	
OFFICE: 66-68 Lilyfield Rd, Security Hut		(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):		Custody Seal Intact? Yes No	
PROJECT: WestConnex 3B	PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)		Free ice / frozen ice bricks present upon receipt? Yes No
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUSTRALIA	COC: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Julian Paul		CONTACT PH: 0409 195 132		OF: 1 2 3 4 5 6 7	
SAMPLER: Julian Paul		SAMPLER MOBILE: 0409 195 132		RECEIVED BY:	
COC Emailed to ALS? ( YES / NO)		EDD FORMAT (or default):		RELINQUISHED BY:	
Email Reports to (will default to PM if no other addresses are listed):		Chetan.Jayaram@rozelleinterchange.com.au;		DATE/TIME: 10/05/2021 16:00	
Julian.Paul@rozelleinterchange.com.au				DATE/TIME: 11/5/21 17:00	
Email Invoice to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au				DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: (K7)

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Standard Dust Analysis A01								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
WCX-3B	RRY1	06/04/2021 - 07/05/2021	W	CuSO <sub>4</sub> solution	1	X								
WCX-3B	VRE01	07/04/2021 - 07/05/2021	W	CuSO <sub>4</sub> solution	1	X								
WCX-3B	WCX3B_RIC_ICL	06/04/2021 - 07/05/2021	W	CuSO <sub>4</sub> solution	1	X								
WCX-3B	RIC-CWL	08/04/2021 - 10/05/2021	W	CuSO <sub>4</sub> solution	1	X								
WCX-3B	RRY2	06/04/2021 - 07/05/2021	W	CuSO <sub>4</sub> solution	1	X								
TOTAL					4									

Environmental Division  
Newcastle  
Work Order Reference  
**EN2103937**



Telephone : + 61 2 4014 2500

**Water Container Codes:** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic  
V = VOA Aqueal HCl Preserved; VB = VOA Aqueal Sodium Bisulfate Preserved; VS = VOA Aqueal Sulfuric Preserved; VA = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;  
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag; L = Luquols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

## CHAIN OF CUSTODY

ALS Laboratory: please tick →

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230 SYDNEY 277-289 Woodpark Road Smithfield NSW 2164  
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CLIENT: JHCPB Contractors JV - Rozelle Interchange		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)	
OFFICE: 66-68 Lilyfield Rd, Security Hut		(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):		Custody Seal Intact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
PROJECT: WestConnex 3B	PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)		
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUSTRALIA	COC: 1 2 3 4 5 6 7		
PROJECT MANAGER: Roger Posgate		CONTACT PH: 0437 291 354	OF: 1 2 3 4 5 6 7		
SAMPLER: Sven Carlsen	SAMPLER MOBILE: 0418 658 703	RELINQUISHED BY: Sven Carlsen	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? ( YES / NO)	EDD FORMAT (or default):	DATE/TIME: 09/06/2021 13:00	DATE/TIME: 10/6/21 17:00	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au					
Email Invoice to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au					

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Standard Dust Analysis A01								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	RRY1	07/05/2021 - 09/06/2021	W	CuSO <sub>4</sub> solution	1	X								
2	RRY2	07/05/2021 - 09/06/2021	W	CuSO <sub>4</sub> solution	1	X								
3	VRE01	07/05/2021 - 09/06/2021	W	CuSO <sub>4</sub> solution	1	X								
4	RIC/CWL	10/05/2021 - 08/06/2021	W	CuSO <sub>4</sub> solution	1	X								
5	ICL	07/05/2021 - 09/06/2021	W	CuSO <sub>4</sub> solution	1	X								
TOTAL					5									

Environmental Division  
Newcastle  
Work Order Reference  
**EN2105028**



Telephone : + 61 2 4014 2500

Environmental Division  
Newcastle  
Work Order Reference  
**EN2105028**



Telephone : + 61 2 4014 2500

**Water Container Codes:** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic  
V = VOA Vol HCl Preserved; VB = VOA Vol Sodium Bisulphate Preserved; VS = VOA Vol Sulfuric Preserved; AV = Airfreight Unpreserved Vol Sg = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;  
7 = 70cc Acetate Preserved Bottle; F = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Luquols Lined Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.






## CHAIN OF CUSTODY

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 Ph: 07 3243 7222 E: [samples.brisbane@alsglobal.com](mailto:samples.brisbane@alsglobal.com)

□GLADSTONE 48 Callemondah Drive Gladstone QLD 4680  
Ph: 07 4978 7944 E: gladstone@alsglobal.com

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Ph: 02 8784 8555 E: [samples.sydney@alsglobal.com](mailto:samples.sydney@alsglobal.com)

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 Ph: 07 4796 0600 E [townsville.environmental@alsglobal.com](mailto:townsville.environmental@alsglobal.com)

QWOLLONGONG 1/19-21 Ralph Black Drive, Nth Wollongong NSW 2500  
Ph: 02 4225 3125 E. wollongong@alsglobal.com


CLIENT: JHCPB Contractors JV - Rozelle Interchange		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)	
OFFICE: 66-68 Lilyfield Rd, Security Hut		(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):		Custody Seal Intact? Yes No N/A	
PROJECT: WestConnex 3B	PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)		Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUSTRALIA	COC: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Ciara Moriarty		CONTACT PH: 0417738136		OF: 1 2 3 4 5 6 7	
SAMPLER: Ciara Moriarty		SAMPLER MOBILE: 0417738136		RECEIVED BY:	
COC Emailed to ALS? ( YES / NO)		EDD FORMAT (or default):		RELINQUISHED BY:	
Email Reports to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au ciara.moriarty@rozelleinterchange.com.au		DATE/TIME: 10/08/2021 09:00		DATE/TIME: 5pm	
Email Invoice to (will default to PM if no other addresses are listed): Chetan.Jayaram@rozelleinterchange.com.au				DATE/TIME: 11/08/21	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:														
ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Standard Dust Analysis A01								
RRY1	WCX3B	08/07/2021 - 09/08/2021	W	CuSO <sub>4</sub> solution	1	X								
RRY2	WCX3B	08/07/2021 - 09/08/2021	W	CuSO <sub>4</sub> solution	1	X								
VRE1	WCX3B	08/07/2021 - 09/08/2021	W	CuSO <sub>4</sub> solution	1	X								
CWL	WCX3B	08/07/2021 - 09/08/2021	W	CuSO <sub>4</sub> solution	1	X								
ICL 1	WCX3B	08/07/2021 - 09/08/2021	W	CuSO <sub>4</sub> solution	1	X								
TOTAL					5									

(123)

Two containers - one has 4 bottles the second has 1 bottle . 5 bottles in total

Environmental Division  
Newcastle  
Work Order Reference  
**EN2107046**



Telephone : + 61 2 4014 2500

**Water Container Codes:** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic

**Vials:** Corning® Glass; V = Unpreserved Vial; VS = Sulfuric Preserved Plastic; VOA = Vial HCl Preserved; VB = Vial Borate Preserved; VSA = Vial Sodium Bisulfate Preserved; VS = Vial Sulfuric Preserved; VA = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glasses; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;  
**Bottles:** Corning® Glass; B = Unpreserved Bottle; BS = Sulfuric Preserved Plastic; BOA = Bottle HCl Preserved; BVB = Bottle Borate Preserved; BSA = Bottle Sodium Bisulfate Preserved; BVS = Bottle Sulfuric Preserved; BA = Airfreight Unpreserved Bottle SG = Sulfuric Preserved Amber Glasses; HT = Sterile Sodium Thiosulfate Preserved Bottles.

Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; b = Unpreserved Bag; CI = Lugol's Iodine Preserved Bottles; STI = Sterile Sodium Thiosulfate Preserved bottles

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