

Attachment B, Tabulated results

No.	Date	Time	Temperature (°C)	pH	Electrical Conductivity (mS/cm)	Visible Oil and Grease	Depth from TOC (m)
GW1	19/08/2020	3:22pm	21.8	8.11	2.51	No	6.45
GW2	19/08/2020	11:42am	17.2	7.94	0.97	No	1.45
GW3	19/08/2020	9:29am	N/A	N/A	N/A	N/A	Well Dry
GW4	19/08/2020	8:21am	20.8	7.94	2.64	No	8.40
GW5	19/08/2020	01:32pm	22.1	4.16	18.10	No	8.94
BH318	19/08/2020	12:36pm	20.2	7.16	3.95	No	6.54

GW2 Dissolved Metals results

Dissolved Metals	mg/L
Arsenic	0.002
Cadmium	<0.0001
Chromium	<0.001
Copper	0.009
Nickel	0.006
Lead	<0.001
Zinc	0.006
Mercury	<0.0001

Attachment C, Field sheets

Groundwater Sampling Record Sheet

Project: APRB				Well Number: AW1					
Property name/owner:				Purging Date: 18/8/2020					
Contact details:				Sampling Date: 19/8/2020					
Depth to groundwater from TOC (m): 6.45				PVC Stickup (m): 0					
Well depth from TOC (PVC) (m): 7.90				Casing diameter (mm): 50mm					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input checked="" type="radio"/> YES <input type="radio"/> NO				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Start time: 3:10				Purging depth:					
Finish time: 3:22									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
3:10		21.0					7.7		<i>slightly turbid</i>
3:16		21.2					7.7		" "
3:22		21.6					7.7		" "
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected: 1					
Sampling time: 3:22				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: Tom Dewhurst				Signature:					

Groundwater Sampling Record Sheet

Project: APR6				Well Number: CW2					
Property name/owner:				Purging Date: 18/8/2020					
Contact details:				Sampling Date: 19/8/2020					
Depth to groundwater from TOC (m): 11.45				PVC Stickup (m):					
Well depth from TOC (PVC) (m): 11.39				Casing diameter (mm): 50mm					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input checked="" type="radio"/> YES <input type="radio"/> NO				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Start time: 11:21				Purging depth:					
Finish time: 11:42									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
11:21		16.7					7.8		clear
11:29		16.9					7.8		clear
11:36		17.1					7.9		clear
11:42		17.2					7.9		clear
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected: 1					
Sampling time: 11:42				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: Tom Dewhurst				Signature: [REDACTED]					

Groundwater Sampling Record Sheet

Project: APRb					Well Number: CW3				
Property name/owner:					Purging Date: 18/8/2020				
Contact details:					Sampling Date:				
Depth to groundwater from TOC (m): 7.6					PVC Stickup (m): 50 mm				
Well depth from TOC (PVC) (m): 7.6					Casing diameter (mm): \varnothing				
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$				
Logger download: <input type="radio"/> YES <input checked="" type="radio"/> NO					1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L				
Start time:					Purging depth:				
Finish time:									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
NO					SAMPLE				
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Bottles collected:				
Sampling time:					QA/QC details				
Other comments and observations (environmental/climatic conditions): <div style="text-align: center; font-size: 1.2em;">No water</div>									
Sampler's name: Tom Dewhurst					Signature: [REDACTED]				

Groundwater Sampling Record Sheet

Project: <u>APRb</u>				Well Number: <u>AW4</u>					
Property name/owner:				Purging Date: <u>18/8/2020</u>					
Contact details:				Sampling Date: <u>19/8/2020</u>					
Depth to groundwater from TOC (m): <u>12.8</u>				PVC Stickup (m):					
Well depth from TOC (PVC) (m):				Casing diameter (mm): <u>50mm</u>					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input checked="" type="radio"/> YES <input type="radio"/> NO				Purged dry					
Start time: <u>8:01</u>									
Finish time: <u>08:21</u>									
				1 bore volume (L):					
				3 bore volumes (L):					
				1m ³ = 1000L					
				Purging depth:					
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
<u>8:01</u>		<u>19.4</u>					<u>7.8</u>		<u>slightly turbid</u>
<u>8:06</u>		<u>19.9</u>					<u>7.8</u>		<u>" "</u>
<u>8:12</u>		<u>20.0</u>					<u>7.9</u>		<u>clear</u>
<u>8:16</u>		<u>20.6</u>					<u>7.9</u>		<u>clear</u>
<u>8:21</u>		<u>20.8</u>					<u>7.9</u>		<u>clear</u>
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected:					
Sampling time: <u>8:21 a.m</u>				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: <u>Tom Dewhurst</u> Signature: [REDACTED]									

Groundwater Sampling Record Sheet

Project: <i>APRL</i>				Well Number: <i>CW5</i>					
Property name/owner:				Purging Date: <i>18/8/2020</i>					
Contact details:				Sampling Date: <i>19/8/2020</i>					
Depth to groundwater from TOC (m): <i>8.94</i>				PVC Stickup (m):					
Well depth from TOC (PVC) (m): <i>11.03</i>				Casing diameter (mm): <i>50 mm</i>					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input type="radio"/> YES <input checked="" type="radio"/> NO				<i>Purged dry</i>					
Start time: <i>1:14</i>									
Finish time: <i>1:32</i>				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Purging depth:									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
<i>1:14</i>		<i>20.3</i>					<i>4.1</i>		<i>slightly turbid</i>
<i>1:18</i>		<i>20.9</i>					<i>4.2</i>		<i>" "</i>
<i>1:22</i>		<i>21.4</i>					<i>4.2</i>		<i>" "</i>
<i>1:28</i>		<i>21.9</i>					<i>4.2</i>		<i>" "</i>
<i>1:32</i>		<i>22.1</i>					<i>4.2</i>		<i>" "</i>
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected:					
Sampling time: <i>1:32</i>				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: <i>Tom Dewhurst</i>				Signature: [REDACTED]					

Groundwater Sampling Record Sheet

Project: <i>APRS</i>				Well Number: <i>BH318</i>					
Property name/owner:				Purging Date: <i>18/8/2020</i>					
Contact details:				Sampling Date: <i>19/8/2020</i>					
Depth to groundwater from TOC (m): <i>6.54</i>				PVC Stickup (m):					
Well depth from TOC (PVC) (m): <i>13.77</i>				Casing diameter (mm): <i>50mm</i>					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input checked="" type="radio"/> YES <input type="radio"/> NO				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Start time: <i>12:20</i>									
Finish time: <i>12:36</i>				Purging depth:					
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
<i>12:20</i>		<i>18.9</i>					<i>7.4</i>		<i>clear</i>
<i>12:26</i>		<i>19.3</i>					<i>7.4</i>		<i>clear</i>
<i>12:31</i>		<i>19.7</i>					<i>7.4</i>		<i>clear</i>
<i>12:36</i>		<i>20.2</i>					<i>7.4</i>		<i>clear</i>
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected:					
Sampling time: <i>12:36</i>				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: <i>Tom Dewhurst</i>				Signature: [REDACTED]					

Attachment D, Laboratory results



CERTIFICATE OF ANALYSIS

Work Order	: EW2003788	Page	: 1 of 2
Client	: FULTON HOGAN PTY LTD	Laboratory	: Environmental Division NSW South Coast
Contact	: MR JAMES DIAMOND	Contact	: Glenn Davies
Address	: LEVEL 3 - 90 BOURKE ROAD ALEXANDRIA NSW, AUSTRALIA 2015	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 4/13 Geary Pl, North Nowra 2541 Australia NSW Australia
Telephone	: +61 02 8346 9400	Telephone	: 02 42253125
Project	: Albion Park Rail Bypass	Date Samples Received	: 19-Aug-2020 15:57
Order number	: ----	Date Analysis Commenced	: 19-Aug-2020
C-O-C number	: ----	Issue Date	: 25-Aug-2020 14:07
Sampler	: ----		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 5		
No. of samples analysed	: 5		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- 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
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

Page : 2 of 2
 Work Order : EW2003788
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



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.

● Analytical work for this work order will be conducted at ALS Sydney.

Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Client sample ID				
				GW1	GW2	GW4	GW5	BH318
				19-Aug-2020 00:00	19-Aug-2020 00:00	19-Aug-2020 00:00	19-Aug-2020 00:00	19-Aug-2020 00:00
Compound	CAS Number	LOR	Unit	EW2003788-001	EW2003788-002	EW2003788-003	EW2003788-004	EW2003788-005
Client sampling date / time				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	8.11	7.94	7.94	4.17	7.40
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	2510	977	2640	18100	3950
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	0.002	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	----	0.009	----	----	----
Nickel	7440-02-0	0.001	mg/L	----	0.006	----	----	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	----	0.009	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	----	----	----

Groundwater Monitoring

Construction Event 8

The purpose of groundwater quality monitoring during the construction phase is to determine impacts resulting from construction of the project. (i.e. road construction). Other sources such as agricultural operations etc. will not be monitored but possibly referred to if contributing impacts are found. Potential impacts to groundwater from road construction activities will most likely result from spills, water extraction and PASS disturbance.

Date of Monitoring: 11th December 2020

Scope and Limitations

During the construction phase of the project, groundwater quality will be monitored at the same locations as the baseline-monitoring program. Groundwater quality will be monitored at six locations (i.e. GW1-GW5 and BH318).

This report presents the information collected during the monitoring event with some discussion on field observations and results with respect to conditions.

Field Programme

Groundwater sampling was undertaken at all groundwater monitoring wells in the third quarter of 2019; refer to Attachment A for monitoring well locations. This quarterly sampling event was conducted in accordance with the sampling program and protocols provided in:

- 2018, Baseline Monitoring Program – Albion Park Rail Bypass;
- 2018 Appendix B4 Soil and Water Management Sub-plan Albion Park Rail bypass (Stage 2 – Princes Motorway between Yallah and Oak Flats) Appendix B Construction water quality monitoring program

Water samples were submitted to a NATA certified testing laboratory (Australian Laboratory services (ALS)) to be analysed for:

- pH
- electrical conductivity
- temperature
- no visible oil and grease
- dissolved metals for GW2 only, which is located in a PASS risk area

Groundwater levels were also measured at each groundwater monitoring wells.

Groundwater sampling results

Results for the water quality monitoring event are located as attachments at the end of this document, they are:

- Attachment A, Location maps
- Attachment B, Tabulated results
- Attachment C, Field sheets
- Attachment D, Laboratory results

Results summary

Q4 2020 results indicate that there are no impacts from construction activities however seasonal and climate impacts are affecting the groundwater across site. For the first time during the monitoring program GW3 was observed to have groundwater in the well. Monitoring against these results will occur in the next reporting period. There were three exceedances in metal concentrations in GW2 against the third quarter of 2020. Arsenic levels increased very slightly compared to Q3 202. Copper was stable with Q3 results however still consistent with levels found prior to construction commencing in the area. Nickel levels reduced compared to Q3 levels that are just above the nominated trigger level. Zinc levels had reduced to below trigger levels during Q4 2020. The concentrations were generally only marginally greater than the nominated trigger levels and associated laboratory reporting limits and are considered representative of natural groundwater quality variations rather than related to potential impacts from project construction works. GW4 Height has stabilised with Q3 heights.

GW1: All levels remained consistent and were below limit of recording or within nominated guidelines with no impact from construction

GW2: As stated above there were three exceedances in metal concentrations which were representative of natural groundwater quality variations.

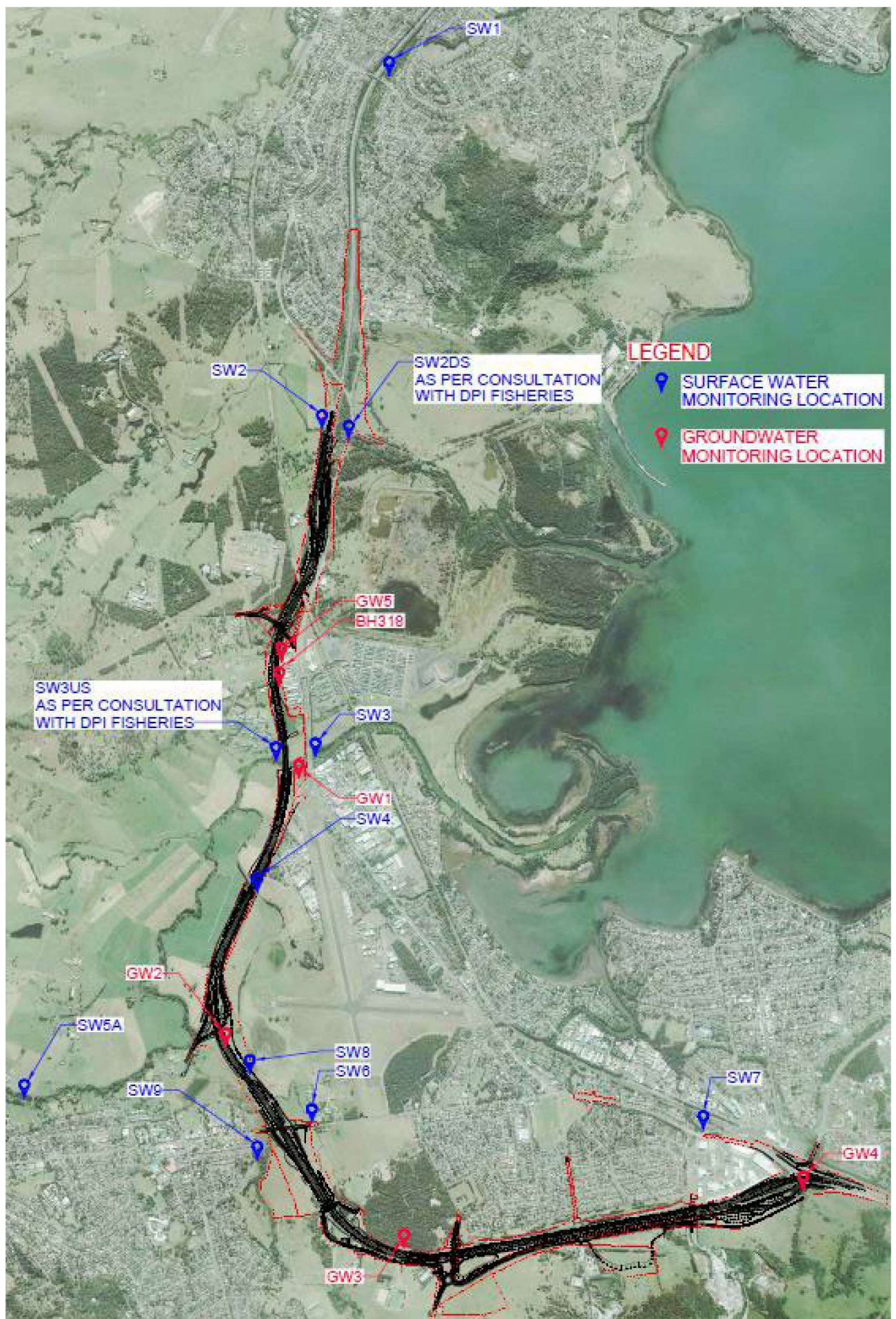
GW3: First time during the monitoring program GW3 was able to be sampled. Monitoring against these results will occur in the next reporting period

GW4: All levels were below limit of recording or within nominated guidelines with no impact from construction. Height has stabilised in comparison to the last quarter.

GW5: All levels were below limit of recording or within nominated guidelines with no impact from construction.

BH318: All levels were below limit of recording or within nominated guidelines with no impact from construction.

Attachment A, Location maps



Attachment B, Tabulated results

No.	Date	Time	Temperature (°C)	pH	Electrical Conductivity (mS/cm)	Visible Oil and Grease	Depth from TOC (m)
GW1	11/12/2020	1:31pm	22.4	7.97	2.51	No	5.90
GW2	11/12/2020	10:39am	19.8	7.85	1.26	No	2.82
GW3	11/12/2020	10:01am	19.3	7.88	16.9	N/A	2.30
GW4	11/12/2020	9:21am	20.8	7.96	2.68	No	12.01
GW5	11/12/2020	12:20pm	20.1	4.23	21.7	No	7.84
BH318	11/12/2020	11:45am	20.2	7.48	5.29	No	6.93

GW2 Dissolved Metals results

Dissolved Metals	mg/L
Arsenic	0.003
Cadmium	<0.0001
Chromium	<0.001
Copper	0.009
Nickel	0.004
Lead	<0.001
Zinc	<0.005
Mercury	<0.0001

Attachment C, Field sheets

Groundwater Sampling Record Sheet

Project: APR6				Well Number: CW1					
Property name/owner:				Purging Date: 10/12/2020					
Contact details:				Sampling Date: 11/12/2020					
Depth to groundwater from TOC (m): 5.90				PVC Stickup (m):					
Well depth from TOC (PVC) (m): 7.9				Casing diameter (mm): 50mm					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$ Purged dry					
Logger download: <input type="radio"/> YES <input checked="" type="radio"/> NO				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Start time: 1:10 pm				Purging depth:					
Finish time: 1:31 pm									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
1:10		20.6					7.8		slightly turbid
1:14		20.9					7.8		" "
1:20		21.3					7.9		" "
1:26		21.9					7.9		" "
1:31		22.4					8.0		" "
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected: 1					
Sampling time: 1:31				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: Tom Newhurst				Signature: [REDACTED]					

Groundwater Sampling Record Sheet

Project: APR6					Well Number: GW2				
Property name/owner:					Purging Date: 10/12/2020				
Contact details:					Sampling Date: 11/12/2020				
Depth to groundwater from TOC (m): 2.82					PVC Stickup (m):				
Well depth from TOC (PVC) (m): 11.39					Casing diameter (mm): 50mm				
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$				
Logger download: <input type="radio"/> YES <input type="radio"/> NO					1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L				
Start time: 10:09					Purged dry				
Finish time: 10:39									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
10:09		18.8					7.8		clear
10:16		19.1					7.8		clear
10:22		19.4					7.9		" "
10:30		19.7					7.9		" "
10:39		19.8					7.9		" "
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Bottles collected: <div style="text-align: center; font-size: 2em; color: red;">1</div>				
Sampling time: 10:39					QA/QC details				
Other comments and observations (environmental/climatic conditions): 									
Sampler's name: Tom Dewhurst					Signature: [REDACTED]				

Groundwater Sampling Record Sheet

Project: APRB				Well Number: GW3					
Property name/owner:				Purging Date: 10/12/2020					
Contact details:				Sampling Date: 11/12/2020					
Depth to groundwater from TOC (m): 2.30				PVC Stickup (m):					
Well depth from TOC (PVC) (m): 7.6				Casing diameter (mm): 50mm					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input type="radio"/> YES <input type="radio"/> NO				1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L					
Start time: 9:51				Purging depth:					
Finish time: 10:01									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
9:51		18.9					7.9		slightly slightly turbid
9:56		19.2					7.9		" "
10:01		19.3					7.9		" "
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected: 1					
Sampling time: 10:01				QA/QC details					
Other comments and observations (environmental/climatic conditions):									
Sampler's name: Tom Dewhurst				Signature: [REDACTED]					

Groundwater Sampling Record Sheet

Project: APR5				Well Number: GW4					
Property name/owner:				Purging Date: 10/12/2020					
Contact details:				Sampling Date: 11/12/2020					
Depth to groundwater from TOC (m): 12.01				PVC Stickup (m):					
Well depth from TOC (PVC) (m): 30.03				Casing diameter (mm):					
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$					
Logger download: <input type="radio"/> YES <input type="radio"/> NO				1 bore volume (L): 3 bore volumes (L):					
Start time: 8:57				1m ³ = 1000L					
Finish time: 9:21				Purging depth:					
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
8:57		19.1					7.7		Slightly turbid
9:02		19.3					7.8		" "
9:07		19.5					7.8		clear
9:12		19.8					7.8		clear
9:16		20.1					7.8		clear
9:21		20.8					7.9		clear
CO ₂ (mg/L) = mL in syringe x 10 =									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample				Bottles collected: <div style="text-align: center; font-size: 2em; color: red;">1</div>					
Sampling time: 9:21				QA/QC details					
Other comments and observations (environmental/climatic conditions): 									
Sampler's name: Tom Dewhurst				Signature: [REDACTED]					

Groundwater Sampling Record Sheet

Project: APR6					Well Number: AW5				
Property name/owner:					Purging Date: 10/12/2020				
Contact details:					Sampling Date: 11/12/2020				
Depth to groundwater from TOC (m): 7.84					PVC Stickup (m):				
Well depth from TOC (PVC) (m): 11'03					Casing diameter (mm): 50mm				
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$				
Logger download: <input type="radio"/> YES <input checked="" type="radio"/> NO					1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L				
Start time: 11:58					Purged dry				
Finish time: 12:20									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
11:58		19.6					4.2		slightly turbid
12:03		19.8					4.2		
12:07		19.9					4.2		
12:13		20.1					4.2		
12:20		20.1					4.2		
$\text{CO}_2 \text{ (mg/L)} = \text{mL in syringe} \times 10 =$									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Bottles collected: <div style="text-align: center; font-size: 2em; color: red;">1</div>				
Sampling time: 12:20					QA/QC details				
Other comments and observations (environmental/climatic conditions): 									
Sampler's name: Tom Dewhurst					Signature: [REDACTED]				

Groundwater Sampling Record Sheet

Project: APR6					Well Number: BH318				
Property name/owner:					Purging Date: 10/12/2020				
Contact details:					Sampling Date: 11/12/2020				
Depth to groundwater from TOC (m): 6.93					PVC Stickup (m):				
Well depth from TOC (PVC) (m): 13.77					Casing diameter (mm): 50 mm				
Purging Information									
Purging method: <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Calculated bore volume (m ³) = $\pi r^2 h$ $\pi = 3.14$ $r = 0.5 \times \text{casing diameter (m)}$ $h = \text{well depth} - \text{depth to GW (m)}$				
Logger download: <input type="radio"/> YES <input checked="" type="radio"/> NO					1 bore volume (L): 3 bore volumes (L): 1m ³ = 1000L				
Start time: 11:30					Purging depth:				
Finish time: 11:45									
Field Results While Purging									
Time	Vol (L)	Temp. °C	EC (uS/cm)	TDS (g/L)	DO		pH	Redox (mV)	Colour/odour/turbidity
					%sat	mg/L			
11:30		18.4					7.4		clear
11:36		18.5					7.5		clear
11:41		18.7					7.5		clear
11:45		18.7					7.5		clear
$\text{CO}_2 \text{ (mg/L)} = \text{mL in syringe} \times 10 =$									
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.									
Sampling Details									
Sampling method (if different from purging method): <input type="radio"/> Micropurge <input type="radio"/> Grundfos <input checked="" type="radio"/> 12V pump <input type="radio"/> Bailer <input type="radio"/> Flowing <input type="radio"/> Grab sample					Bottles collected: 11				
Sampling time: 11:45					QA/QC details				
Other comments and observations (environmental/climatic conditions):									
Sampler's name: Tom Dewhurst					Signature:				

Attachment D, Laboratory results



CERTIFICATE OF ANALYSIS

Work Order	: EW2005667	Page	: 1 of 4
Client	: FULTON HOGAN PTY LTD	Laboratory	: Environmental Division NSW South Coast
Contact	: MR JAMES DIAMOND	Contact	: Glenn Davies
Address	: LEVEL 3 90 BOURKE ROAD ALEXANDRIA NSW, AUSTRALIA 2015	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 4/13 Geary Pl, North Nowra 2541 Australia NSW Australia
Telephone	: +61 02 8346 9400	Telephone	: 02 42253125
Project	: Albion Park Rail Bypass	Date Samples Received	: 11-Dec-2020 15:38
Order number	: ----	Date Analysis Commenced	: 11-Dec-2020
C-O-C number	: ----	Issue Date	: 21-Dec-2020 19:07
Sampler	: TOM DEWHURST		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 6		
No. of samples analysed	: 6		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- 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
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

Page : 2 of 4
Work Order : EW2005667
Client : FULTON HOGAN PTY LTD
Project : Albion Park Rail Bypass



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.

- Analytical work for this work order will be conducted at ALS Sydney.

Page : 3 of 4
 Work Order : EW2005667
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW1	GW2	GW3	GW4	GW5
Compound	CAS Number	LOR	Unit	Sampling date / time	EW2005667-001	EW2005667-002	EW2005667-003	EW2005667-004	EW2005667-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	---	0.01	pH Unit	11-Dec-2020 13:31	7.97	7.85	7.88	7.96	4.23
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	---	1	µS/cm	11-Dec-2020 10:39	2800	1260	16900	2680	21700
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L	11-Dec-2020 10:01	---	0.003	---	---	---
Cadmium	7440-43-9	0.0001	mg/L	11-Dec-2020 09:21	---	<0.0001	---	---	---
Chromium	7440-47-3	0.001	mg/L	11-Dec-2020 09:21	---	<0.001	---	---	---
Copper	7440-50-8	0.001	mg/L	11-Dec-2020 09:21	---	0.009	---	---	---
Nickel	7440-02-0	0.001	mg/L	11-Dec-2020 09:21	---	0.004	---	---	---
Lead	7439-92-1	0.001	mg/L	11-Dec-2020 09:21	---	<0.001	---	---	---
Zinc	7440-66-6	0.005	mg/L	11-Dec-2020 09:21	---	<0.005	---	---	---
Iron	7439-89-6	0.05	mg/L	11-Dec-2020 09:21	---	3.83	---	---	---
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	11-Dec-2020 09:21	---	<0.0001	---	---	---

Page : 4 of 4
 Work Order : EW2005667
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID				
				BH318	----	----	----	----
				Sampling date / time	11-Dec-2020 11:45	----	----	----
Compound	CAS Number	LOR	Unit	EW2005667-006	-----	-----	-----	-----
				Result	----	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	7.48	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	5290	----	----	----	----

Annexure D Noise Monitoring Results

Noise monitoring results – July 2020

EPA ID#	LOCATION DESCRIPTION	Date	L(A) _{eq(15min)}	Comments
2	L1 - 20 Westwood Drive, Blackbutt	23/07/2020	56	No construction noises audible at time of monitoring.
3	L2 - 78 Jarrah Way, Albion Park Rail	21/07/2020	59	Construction noises audible: Hammer (48-55), Dozer (48-54) and Squawker (46-48)
4	L3 - 17 Gumnut Street, Albion Park Rail	21/07/2020	61	Street sweeper (51-73) most dominant construction noise source during monitoring. Other noise sources dogs barking (50-57), airplanes (48-56) and builder in a neighbouring house (53-56)
5	L4 - 152 Croome Road, Albion Park	21/07/2020	68	No construction noises audible at time of monitoring. Most dominant noise source traffic on Croome Rd (50-81).
6	L5 - 59 Burdekin Drive, Albion Park	23/07/2020	63	No construction noises audible at time of monitoring. Most dominant noise source traffic on Burdekin Dr (53-77).
7	L6 - 25 Fraser Crescent, Albion Park	23/07/2020	52	No construction noises audible at time of monitoring. Most dominant noise source birds (42-53) and airplanes (52-68).
8	L7 - 52 Tongarra Road, Albion Park	23/07/2020	76	No construction noises audible at time of monitoring. Most dominant noise source traffic on Croome Rd (60-88)
9	L8 - 24 Terry Street, Albion Park	23/07/2020	73	No construction noises audible at time of monitoring. Most dominant noise source traffic on Terry St (55-81)
10	L9 - 42 Larkins Lane, Yallah	24/07/2020	53	Cut 1 SMZ and drainage blanket placement. 2x graders 4x truck and dogs on turnaround (only 1 circuit recorded) 50-56dB. Tail slap register at 67dB. Highway traffic (48-52dB)
11	L10 - 4 Semillon Place, Mount Brown	23/07/2020	57	No construction audible at time of monitoring. Traffic along Princes HWY (52-63) most dominant noise source.

Noise monitoring results – August 2020

EPA ID#	LOCATION DESCRIPTION	Date	L(A) _{eq(15min)}	Comments
2	L1 - 20 Westwood Drive, Blackbutt	26/08/2020	52	Hammers (44-47) audible at time of monitoring. Most dominant noise source, traffic (48-60).
3	L2 - 78 Jarrah Way, Albion Park Rail	21/08/2020	51	Construction noises audible: Hammer (47-52), Moxie (49-55) and Squawker (48-50)
4	L3 - 17 Gumnut Street, Albion Park Rail	3/08/2020	49	Barrier removal (39-53) only construction noise audible. Dogs barking (48-70) most dominant noise source.
5	L4 - 152 Croome Road, Albion Park	21/08/2020	71	Tracking machine on bridge 12 (44-47) only construction noise audible. Most dominant noise is traffic on Croome Rd (52-81).
6	L5 - 59 Burdekin Drive, Albion Park	21/08/2020	62	No construction noises audible at time of monitoring. Most dominant noise source traffic on Burdekin Dr (49-80).
7	L6 - 25 Fraser Crescent, Albion Park	21/08/2020	64	No construction noises audible at time of monitoring. Most dominant noise source was a tractor slashing grass in reserve (50-78).
8	L7 - 52 Tongarra Road, Abion Park	27/08/2020	74	No construction noises audible at time of monitoring. Most dominant noise source traffic on Tongarra Rd (49-82)
9	L8 - 24 Terry Street, Albion Park	26/08/2020	73	Dozer (53-62) audible at time of monitoring. Traffic (60-87) most dominant noise source.
10	L9 - 42 Larkins Lane, Yallah	31/08/2020	56	Drainage works in Cut 1, Excavator (54-56)dBA, Grader idling inaudible. Noise from traffic on Highway dominant noise source
11	L10 - 4 Semillon Place, Mount Brown	27/08/2020	58	No construction audible at time of monitoring. Traffic along Princes HWY (54-66) most dominant noise source.

Noise monitoring results – September 2020

EPA ID#	LOCATION	Date	L(A) _{eq(15min)}	Comments
2	L1 - 20 Westwood Drive, Blackbutt	17/09/2020	51	No construction noises audible at time of monitoring. Most dominant noise sources: birds (38-47) and traffic (42-52)
3	L2 - 78 Jarrah Way, Albion Park Rail	17/09/2020	44	No construction noises audible at time of monitoring. Most dominant noise sources: birds (44-49 and traffic (47-54)
4	L3 - 17 Gumnut Street, Albion Park Rail	16/09/2020	56	Construction noises audible: Long Reach Excavator (50-73) and Crew Truck (56-66)
5	L4 - 152 Croome Road, Albion Park	15/09/2020	69	No construction audible at time of monitoring. Most dominant noise source: Traffic on Croome Rd (48-82)
6	L5 - 59 Burdekin Drive, Albion Park	16/09/2020	59	No construction noises audible at time of monitoring. Most dominant noise source traffic on Burdekin Dr (50-76).
7	L6 - 25 Fraser Crescent, Albion Park	17/09/2020	53	No construction noises audible at time of monitoring. Most dominant noise source was a traffic (44-51) and birds (40-51). Squawker (38-41) was the only construction noise audible.
8	L7 - 52 Tongarra Road, Abion Park	15/09/2020	74	No construction audible at time of monitoring. Most dominant noise source: Traffic on Tongarra Rd (50-84)
9	L8 - 24 Terry Street, Albion Park	16/09/2020	71	Construction noises audible: Excavator (46-55). Most dominant noise source: Traffic on Terry St (53-84)
10	L9 - 42 Larkins Lane, Yallah	29/09/2020	60	Construction noises audible: Dozer (52-54). Most dominant noise source: Traffic on Princes HWY (52-59)
11	L10 - 4 Semillon Place, Mount Brown	18/09/2020	61	No construction audible at time of monitoring. Traffic along Princes HWY (55-69) most dominant noise source.

Noise monitoring results – October 2020

EPA ID#	LOCATION	Date	L(A) _{eq(15min)}	Comments
2	L1 - 20 Westwood Drive, Blackbutt	12/10/2020	58	No construction noises audible at time of monitoring. Most dominant noise sources: birds (39-45) and traffic (43-54)
3	L2 - 78 Jarrah Way, Albion Park Rail	12/10/2020	55	Construction noises audible: Hammer (49-54), and Squawker (48-50)
4	L3 - 17 Gumnut Street, Albion Park Rail	12/10/2020	55	No construction noises audible at time of monitoring. Dogs barking (48-58) and traffic (51-64) most dominant noise sources
5	L4 - 152 Croome Road, Albion Park	12/10/2020	54	No construction audible at time of monitoring. Most dominant noise source: Traffic on Croome Rd (50-89)
6	L5 - 59 Burdekin Drive, Albion Park	12/10/2020	45	No construction noises audible at time of monitoring. Most dominant noise source traffic on Burdekin Dr (46-77).
7	L6 - 25 Fraser Crescent, Albion Park	12/10/2020	45	No construction noises audible at time of monitoring. Most dominant noise source was a traffic (43-53) and birds (40-49).
8	L7 - 52 Tongarra Road, Abion Park	12/10/2020	62	No construction audible at time of monitoring. Most dominant noise source: Traffic on Tongarra Rd (52-87)
9	L8 - 24 Terry Street, Albion Park	12/10/2020	62	No construction audible. Most dominant noise source Traffic on Terry St (55-88)
10	L9 - 42 Larkins Lane, Yallah	12/10/2020	62	Construction noise audible: squaker (49-53)
11	L10 - 4 Semillon Place, Mount Brown	12/10/2020	57	No construction audible at time of monitoring. Traffic along Princes HWY (52-68) most dominant noise source.

Noise monitoring results – November 2020

EPA ID#	LOCATION	Date	L(A) _{eq} (15min)	Comments
2	L1 - 20 Westwood Drive, Blackbutt	11/11/2020	56	Construction noise audible; hammering (46-52). Most dominant noise source; Traffic (44-74)
3	L2 - 78 Jarrah Way, Albion Park Rail	11/11/2020	59	Construction noises audible: Hammering (54-63) and squawker (50-53)
4	L3 - 17 Gumnut Street, Albion Park Rail	11/11/2020	52	Construction noises audible: 4 inch pump (48-50) and HydroMulcher filling up water (49-54)
5	L4 - 152 Croome Road, Albion Park	12/11/2020	72	No construction audible at time of monitoring. Most dominant noise source: Traffic on Croome Rd (50-81)
6	L5 - 59 Burdekin Drive, Albion Park	11/11/2020	59	No construction at time of monitoring. Most dominant noise source: Traffic on Burdekin Dr (56-80)
7	L6 - 25 Fraser Crescent, Albion Park	11/11/2020	51	No construction at time of monitoring. Most dominant noise source: Traffic on Frasers Cr (52-60)
8	L7 - 52 Tongarra Road, Abion Park	11/11/2020	74	No construction audible at time of monitoring. Most dominant noise source: Traffic on Tongarra Rd (52-85)
9	L8 - 24 Terry Street, Albion Park	13/11/2020	74	Construction noise audible: Trencher (50-53). Most dominant noise source: Traffic on Terry St (53-86)
10	L9 - 42 Larkins Lane, Yallah	13/11/2020	63	Construction noise audible: 5 tonne excavator hammering (55-66).
11	L10 - 4 Semillon Place, Mount Brown	27/11/2020	71	No construction audible at time of monitoring. Traffic along Princes HWY (53-76) and insects (63-69) most dominant noise source.

Noise monitoring results – December 2020

EPA ID#	LOCATION	Date	L(A) _{eq} (15min)	Comments
2	L1 - 20 Westwood Drive, Blackbutt	10/12/2020	55	No construction noises audible at time of monitoring. Most dominant noise sources: dogs barking (58-65) and traffic (50-54)
3	L2 - 78 Jarrah Way, Albion Park Rail	10/12/2020	57	Construction noises audible: Hammering (44-48) and 20T Excavator (43-50)
4	L3 - 17 Gumnut Street, Albion Park Rail	10/12/2020	50	Construction noises audible: Moxies (44-55). Most dominant noise sources birds (41-50) and traffic (44-52)
5	L4 - 152 Croome Road, Albion Park	10/12/2020	72	No construction audible at time of monitoring. Most dominant noise source: Traffic on Croome Rd (44-82)
6	L5 - 59 Burdekin Drive, Albion Park	10/12/2020	58	No construction at time of monitoring. Most dominant noise source: Traffic on Burdekin Dr (46-78)
7	L6 - 25 Fraser Crescent, Albion Park	10/12/2020	50	No construction at time of monitoring. Most dominant noise source: Birds (35-56)
8	L7 - 52 Tongarra Road, Abion Park	10/12/2020	73	Construction audible at time of monitoring: Vac truck (43-51) Most dominant noise source: Traffic on Tongarra Rd (60-83)
9	L8 - 24 Terry Street, Albion Park	10/12/2020	76	No construction audible at time of monitoring. Most dominant noise source: Traffic on Terry St (45-91) and Cicadas (50-66)
10	L9 - 42 Larkins Lane, Yallah	10/12/2020	60	Construction noise audible: 5 tonne excavator (44-56) and squawker (42-49). Most dominant noise sources: Princes HWY (50-56) and cicadas (45-56)
11	L10 - 4 Semillon Place, Mount Brown	10/12/2020	58	No construction audible at time of monitoring. Traffic along Princes HWY (65-68) and insects (54-66) most dominant noise source.