



# Analysis and Testing Report - Walker Quarries Bi Annual Groundwater & Surface Monitoring, November 2023

Report To: Wayne Chapman

Address: Lot 6 Great Western Highway,  
Wallerawang NSW 2845

Report On: Walker Quarries  
Bi Annual Groundwater & Surface  
Monitoring, November 2023

Report No: 2400-7303-04-02

Report Status: Final Report

Date Sampled: 27/11/2023


Unique ID of Sample(s): As per Result tab

Sampled By: B. Collins & L. Pyne

Testing & Analysis Requirements: Client Instructions

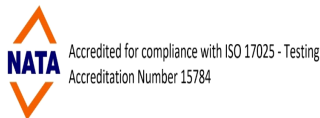
Report Prepared By: Adriana Hernandez

Date Reported: 7/12/2023

Reported By :   
Adriana Hernandez  
Environmental Project/Quality Officer -  
Lithgow NSW

**These reported results only relate to the items sampled and tested.**

Sampling performed by: ACIRL Lithgow NSW NATA Accreditation No. 15784, Site No. 11436 in accordance with AS Standards listed on Page 4.



right solutions.  
right partner.

ACIRL Lithgow NSW  
ABN 66 003 451 876

Analysis and Testing Report-  
Walker Quarries  
Bi Annual Groundwater Monitoring



	Units							
Date of Sample		27/11/2023						
Report No:		2400-7303-04-02						
ALS Sydney Report No.		ES2341121						
Site Reference		SD3 Cox River Downstream	SD4 Upstream	SD1	SB2	GW1	GW2	GW3
Sampled by		B. Collins & L. Pyne						
General Comments/ Observations		Clear	Clear	Sampled with monthly	Sampled with monthly	Clear	Clear	Clear
Standing Water Level	m					29.36	26.43	16.81
Total Volume Purged	L					3.0	3.0	3.0
pH	pH Unit	8.2	8.1	----	----	6.4	6.3	6.1
Electrical Conductivity	µS/cm	492	486	----	----	730	735	536
Total Suspended Solids	mg/L	<5	46	----	----			
Turbidity	NTU-	9.3	8.7	----	----			
Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	mg/L					<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L					<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L					298	298	198
Total Alkalinity as CaCO3	mg/L					298	298	198
Sulfate (Turbidimetric) as SO4								
Sulfate as SO4 - Turbidimetric	mg/L	102	102	----	----	82	81	12
Chloride by Discrete Analyser								
Chloride	mg/L					17	18	36
Dissolved Major Cations								
Calcium	mg/L					100	99	59
Magnesium	mg/L					14	13	15
Sodium	mg/L					56	55	30
Potassium	mg/L					4	4	3



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Site Reference		<b>SD3 Cox River Downstream</b>	<b>SD4 Upstream</b>	<b>SD1</b>	<b>SB2</b>	<b>GW1</b>	<b>GW2</b>	<b>GW3</b>
<b>Dissolved Metals by ICP-MS</b>								
Arsenic	mg/L	<0.001	<0.001			<0.001	<0.001	0.003
Cadmium	mg/L	<0.0001	<0.0001			<0.0001	<0.0001	<0.0001
Chromium	mg/L	<0.001	<0.001			0.00	0.004	0.00
Copper	mg/L	0.001	<0.001			0.002	0.001	0.005
Lead	mg/L	<0.001	<0.001			<0.001	<0.001	0.001
Nickel	mg/L	0.008	0.009			0.020	0.019	0.033
Zinc	mg/L	0.012	<0.005			0.074	0.071	0.254
<b>Dissolved Mercury by FIMS</b>								
Mercury	mg/L	<0.0001	<0.0001			<0.0001	<0.0001	0.0002
<b>EN055: Ionic Balance</b>								
Total Anions	meq/L					8.14	8.15	5.22
Total Cations	meq/L					8.68	8.5	5.56
Ionic Balance	%					3.21	2.14	3.14
<b>Oil and Grease (O&amp;G)</b>								
Oil & Grease	mg/L	<5	<5					



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## METHODS OF ANALYSIS

Tests for results issued in this report have been carried out at the following NATA accredited laboratories in accordance with the methods as detailed below:-

TEST	METHOD	ACIRL Lithgow NATA Accreditation #11436	Measure of Uncertainty
Electrical Conductivity uS/cm	CBM-E006	APHA 2510 B	2.0%
pH value	CBM-E005	APHA 4500 H	0.10 pH Units

The remaining analysis performed at ALS Environmental, 277-289 Woodpark Rd, Smithfield, NSW 2164.

Low yielding bores have been purged to dryness, otherwise bores purged to constant Electrical Conductivity

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Samples were analysed in accordance with the following Australian Standards or equivalent:

Australian Standards	Description
AS/NZS 5667.1	Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
ISO 5667-3	Part 3: Preservation and handling of water samples
AS/NZS 5667.11	Part 11: Guidance on sampling of ground waters