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Ref No.: DQG 110226 – AB

5 October 2026

DIXON QUARRY GROUP

Re: ***Haerses Road Quarry***
45 Haerses Road
Maroota NSW
BANDED SANDSTONE COMPLIANCE REPORT

This report presents a summary and assessment of laboratory test results carried out on banded sandstone material sampled from the Haerses Road Quarry. The works were requested by Dixon Quarry Group (the client). Momentum Geotechnical Pty Ltd has reviewed and assessed the laboratory test results carried out on the banded sandstone material. It is understood that the sandstone is to be quarried for use as a dimension stone product in various conditions and applications.

Australian laboratory test methods specific to dimension stone and rock strength were chosen where applicable. All tests have been carried out by NATA accredited facilities. The laboratory tests carried out are as follows:

Laboratory Test	Test Method	Reference
Uniaxial Compressive Strength	AS 4133.4.2.1 AS 4133.4.2.2	Alliance Specialised Testing Report No: P265706-1 Work Request No: 67856 Sample Nos: 26-67856A to 26-67856E
Resistance to Salt Attack	AS 4456.10 – 2003 – Method A	Boral Client No: 912/26 Request No: 126370 Lab Sample No: 342315-9
Water Absorption	AS 4046.4	Boral File No: 912/26 Request No: 125989 Lab Sample No: 341447-341451

Detailed laboratory test results are attached to this report.

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Assessment of Results

The laboratory test results for the banded sandstone are summarised in the table below:

Property	Test Method	Result
Uniaxial compressive strength (dry)	AS 4133.4.2.1 / AS 4133.4.2.2	32 to 53 MPa, mean 47 MPa (5 specimens)
Dry density	AS 4133.4.2	2.21 to 2.25 g/cm^3, mean 2.23 g/cm^3
Water absorption	AS 4046.4	3.4% (mean of 5 specimens)
Resistance to salt attack (sodium chloride)	AS 4456.10 – 2003 – Method A	0.2% average mass loss at 15 cycles, no damage recorded

The uniaxial compressive strength testing was carried out on cube specimens with a height to length ratio of 1.0. The laboratory has noted that the cubical geometry and a length to diameter ratio of less than 2.5 represent deviations from AS 4133.4.2. Cube specimens typically return higher strengths than standard cored specimens, and the reported values should be read as indicative of the rock strength rather than as a standard uniaxial compressive strength result. All specimens nonetheless returned strengths consistent with a high strength sandstone.

Based on the laboratory test results, the samples are considered to be **"Exposure Grade (EXP)"** in accordance with AS/NZS 4455.1 – 2008 in regards to resistance to salt attack. Therefore, the sample banded sandstone is considered to be **suitable for (but not limited to) use in aggressive, high salt environments** such as:

- Masonry in contact with saline or contaminated water or subject to saline wetting and drying
- Within 1 km of a surf coast (coastline with breaking surf)
- Within 100 m of a non-surf coast (bays and rivers)
- Applications where the product is subjected to salts in the soils, adjacent material or groundwater
- Below the damp proof course of a wall
- Retaining walls

The Exposure Grade assessment is based on testing in sodium chloride solution. Testing in sodium sulphate solution was not carried out on the banded sandstone as part of this round of testing. Where a project specification requires demonstrated resistance to sulphate attack, additional testing in sodium sulphate solution is recommended.

All banded sandstone samples assessed as part of this report are considered to be Exposure Grade. The hierarchy of resistance to salt attack grades are noted in the table below:

Grade	Usage
Exposure Grade (EXP)	The highest grade of resistance to salt attack. Suitable for (but not limited to) use in aggressive, high salt and severe marine environments including being

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	in contact with saline or contaminated water. May also be used in environments where GP or PRO grades are acceptable.
General Purpose Grade (GP)	Suitable for use in an external wall, in some mild non-saline marine environments, interior applications subject to non-saline wetting and drying and when in contact with non-aggressive soils. May also be used in environments where PRO grades are acceptable.
Protected Grade (PRO)	The lowest grade of resistance to salt attack. Suitable for use above damp-proof course in non-marine environments. May be used in other environments provided it is protected with a waterproof coating, properly flashed junctions with other elements and a covering such as a roof protecting the masonry.

The samples are considered to be **suitable for use on council jobs**, subject to confirmation of the specific requirements of the relevant council. Specific requirements can be tested upon request. The banded sandstone samples achieve a range of common council specifications as set out in the table below:

Common council requirement	Result	Status
Wet crushing strength of at least 25 MPa	Not tested	Dry strength 32 to 53 MPa. Soaked testing not carried out
Minimum point load strength of 1 MPa	Not tested directly	Indicated by correlation with the measured compressive strength
Minimum relative density of 2.2	2.21 to 2.25 g/cm^3	Achieved
Mean wet/dry strength variation of less than 45%	Not tested	Soaked testing not carried out
Demonstrate durability against a saline environment as per AS 4456.10	Exposure Grade (NaCl)	Achieved

Where a council specification calls for wet crushing strength, wet to dry strength variation, or a measured point load strength index, soaked compressive strength testing and point load testing should be carried out to confirm compliance. The dry strength results indicate that the material is likely to satisfy these requirements, however this has not been verified by testing.

In accordance with AS 1726 – 2017, the banded sandstone sample material is considered to be slightly weathered to fresh and high strength. Based on the Pells classification system for sandstone in Sydney, the sample material is considered to be Class I Sandstone, which is the highest quality Sydney Sandstone Class.

Defect spacing and seam content were assessed by observation of the quarry excavation faces, which were observed to be essentially free of seams and defects. Although this classification system is typically used for foundation design purposes, it is a sound indication of the high strength, quality and consistency of the sandstone. See below table:

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Class	Unconfined compressive strength qu (MPa)	Defect spacing	Allowable seams
I	>24	>600mm	<1.5%
II	>12	>600mm	<3%
III	>7	>200mm	<5%
IV	>2	>60mm	<10%
V	>1	N.A.	N.A.

Limitations

This report has been prepared by Momentum Geotechnical Pty Ltd (MG) for the exclusive use of Dixon Quarry Group in connection with the above-referenced project. It must not be used, copied, or relied upon by any third party without the prior written consent of Momentum Geotechnical Pty Ltd.

The findings, opinions, and recommendations presented in this report are based on the laboratory test results referenced herein, which were carried out on samples provided to the laboratories by others, and on observation of the quarry excavation faces. The results reflect the properties of the sampled material only. No warranty or guarantee is expressed or implied as to the consistency of the material across the full extent of the quarry or across future extraction areas.

Material properties can vary within a quarry, both laterally and with depth. Where consistency of supply is critical to a project outcome, periodic verification testing of production material is recommended.

The findings should not be applied to any other site or project without the written approval of Momentum Geotechnical Pty Ltd. This report should be read in full, including all appendices, to ensure proper understanding of the findings. Third parties reviewing or relying on this report do so at their own risk and Momentum Geotechnical Pty Ltd disclaims all responsibility for any such unauthorised use or reliance.

The professional opinions expressed in this report represent the reasonable judgement of a qualified geotechnical engineer based on the available information at the time of preparation. They do not constitute a warranty, express or implied, regarding the accuracy or completeness of the information, nor the performance of the material in any particular application.

This report has been prepared in accordance with the generally accepted standard of professional care applicable to geotechnical engineering practice in New South Wales at the time of preparation. MG's liability in connection with this report is limited to the amount of indemnity available under MG's professional indemnity insurance policy current at the date of this report. Details of that policy can be provided on request.

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Reported by:



Slaiman Shirzai
Senior Geotechnical Engineer

Reviewed by:



James Tricker
Director & Geotechnical Engineer

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TEST REPORT

CLIENT: MOMENTUM GEOTECHNICAL PTY LTD

PROJECT: Testing of Masonry Cubes for Water Absorption.

SAMPLE DESCRIPTION: Masonry Cubes – Banded C

TEST METHOD: AS4046.4 – Water Absorption

DATE OF TEST: 14.8.26

FILE NO: 912/26

LAB SAMPLE NO: 341447-341451

REQUEST NO: 125989

DATE REC'D: 27.7.26

AS4046.4 – DETERMINATION OF WATER ABSORPTION

DATE IN WATER: 13.8.26

DATE OUT OF OVEN: 17.8.26

CLIENT SAMPLE NO:	WET WEIGHT (grams) A	DRY WEIGHT (grams) B	DECREASE IN MASS (grams) A-B	WATER ABSORPTION FOR EACH SPECIMEN (TO 0.1%)
1	305.9	295.5	10.4	3.4
2	306.9	296.4	10.5	3.4
3	307.4	297.0	10.4	3.4
4	308.0	297.8	10.2	3.3
5	303.1	292.7	10.4	3.4
Average Water Absorption (%)				3.4

Sample submitted by client.

S. Tricker, File

Alex Liu
Principal Technical Officer – Construction Materials
17th August 2026

Material Test Report

Alliance Specialised Testing

Date Issued:	29/09/2026
Report Number:	P265706-1
Issue Number:	1
Reissue Reason:	N/A

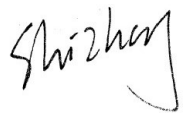
Client:	Momentum Geotechnical Pty Ltd
Client Address:	512/12 Century Cct Norwest NSW 2153
Client Contact:	James Tricker <james@momentumgeo.com.au>
Client Project Number:	N/A

Project Number:	P265706
Project Name:	UCS Testing
Project Location:	Maroota

Page	Test Date	Sample Number	Sample Source	Test
2	28/09/2026	26-67856A	Sample 1	Rock Strength - AS 4133.4.2.2
3	28/09/2026	26-67856B	Sample 2	Rock Strength - AS 4133.4.2.2
4	28/09/2026	26-67856C	Sample 3	Rock Strength - AS 4133.4.2.1
5	28/09/2026	26-67856D	Sample 4	Rock Strength - AS 4133.4.2.1
6	28/09/2026	26-67856E	Sample 5	Rock Strength - AS 4133.4.2.1

Work Request:	67856
Date Sampled:	N/A
Sampling Method:	Sampled by Client
	The results apply to the sample as received
Specification:	-

Approved Signature:



Dr. Zhang (Simon) Shi
Specialty Lab Manager

alliance Specialty Testing

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Specialised Testing - 1800 288 188

Uniaxial Compressive Strength of Rock Strength less than 50MPa

Test Method: AS4133.4.2.2

Report Number:	P265706-1	Sample Date:	N/A
Sample Number:	26-67856A	Test Date:	28/09/2026
Sample Source:	Sample 1	Report Date:	29/09/2026

Project Name:	UCS Testing
Client:	Momentum Geotechnical Pty Ltd
Identification:	Rock cube sample
Storage History, Curing and Environment:	Stored in laboratory at room temperature

Specimen Details	
Length (mm)	50.7
Width (mm)	50.2
Height (mm)	51.7
Height to Length Ratio	1.0
Moisture Content at Time of Test (%)	2.4
Dry Density (g/cm^3)	2.23

Results	
Uniaxial Compressive Strength (MPa)	44
Rate of Displacement (mm/min)	0.10
Time to Failure (min)	5.1
Description of Failure	Mixed Mode
Pertinent Observations	N/A

Photos

Before Testing	After Testing
	

Comments

Specimen cubical geometry and L/D ratio of less than 2.5 represent deviations from the test method: AS 4133.4.2

Approved Signature:

Dr. Zhang (Simon) Shi
Specialty Lab Manager

alliance

Specialised Testing - 1800 288 188

Uniaxial Compressive Strength of Rock Strength less than 50MPa

Test Method: AS4133.4.2.2

Report Number:	P265706-1	Sample Date:	N/A
Sample Number:	26-67856B	Test Date:	28/09/2026
Sample Source:	Sample 2	Report Date:	29/09/2026

Project Name:	UCS Testing
Client:	Momentum Geotechnical Pty Ltd
Identification:	Rock cube sample
Storage History, Curing and Environment:	Stored in laboratory at room temperature

Specimen Details	
Length (mm)	50.0
Width (mm)	50.2
Height (mm)	52.2
Height to Length Ratio	1.0
Moisture Content at Time of Test (%)	2.7
Dry Density (g/cm^3)	2.21

Results	
Uniaxial Compressive Strength (MPa)	32
Rate of Displacement (mm/min)	0.10
Time to Failure (min)	4.1
Description of Failure	Mixed Mode
Pertinent Observations	N/A

Photos

Before Testing	After Testing
	

Comments

Specimen cubical geometry and L/D ratio of less than 2.5 represent deviations from the test method: AS 4133.4.2

Approved Signature:

Dr. Zhang (Simon) Shi
Specialty Lab Manager

alliance

Specialised Testing - 1800 288 188

Uniaxial Compressive Strength of Rock Strength greater than 50MPa

Test Method: AS4133.4.2.1

Report Number:	P265706-1	Sample Date:	N/A
Sample Number:	26-67856C	Test Date:	28/09/2026
Sample Source:	Sample 3	Report Date:	29/09/2026

Project Name:	UCS Testing
Client:	Momentum Geotechnical Pty Ltd
Identification:	Rock cube sample
Storage History, Curing and Environment:	Stored in laboratory at room temperature

Specimen Details	
Length (mm)	50.7
Width (mm)	50.1
Height (mm)	51.9
Height to Length Ratio	1.0
Moisture Content at Time of Test (%)	2.5
Dry Density (g/cm^3)	2.24

Results	
Uniaxial Compressive Strength (MPa)	52
Rate of Displacement (mm/min)	0.10
Time to Failure (min)	2.6
Description of Failure	Mixed Mode
Pertinent Observations	N/A

Photos

Before Testing	After Testing
	

Comments

Specimen cubical geometry and L/D ratio of less than 2.5 represent deviations from the test method: AS 4133.4.1

Approved Signature:

Dr. Zhang (Simon) Shi
Specialty Lab Manager

alliance

Specialised Testing - 1800 288 188

Uniaxial Compressive Strength of Rock Strength greater than 50MPa

Test Method: AS4133.4.2.1

Report Number:	P265706-1	Sample Date:	N/A
Sample Number:	26-67856D	Test Date:	28/09/2026
Sample Source:	Sample 4	Report Date:	29/09/2026

Project Name:	UCS Testing
Client:	Momentum Geotechnical Pty Ltd
Identification:	Rock cube sample
Storage History, Curing and Environment:	Stored in laboratory at room temperature

Specimen Details	
Length (mm)	50.3
Width (mm)	50.3
Height (mm)	51.5
Height to Length Ratio	1.0
Moisture Content at Time of Test (%)	2.8
Dry Density (g/cm^3)	2.24

Results	
Uniaxial Compressive Strength (MPa)	53
Rate of Displacement (mm/min)	0.10
Time to Failure (min)	3.5
Description of Failure	Mixed Mode
Pertinent Observations	N/A

Photos

Before Testing	After Testing
	

Comments

Specimen cubical geometry and L/D ratio of less than 2.5 represent deviations from the test method: AS 4133.4.1

Approved Signature:

Dr. Zhang (Simon) Shi

Specialty Lab Manager

alliance

Specialised Testing - 1800 288 188

Uniaxial Compressive Strength of Rock Strength greater than 50MPa

Test Method: AS4133.4.2.1

Report Number:	P265706-1	Sample Date:	N/A
Sample Number:	26-67856E	Test Date:	28/09/2026
Sample Source:	Sample 5	Report Date:	29/09/2026

Project Name:	UCS Testing
Client:	Momentum Geotechnical Pty Ltd
Identification:	Rock cube sample
Storage History, Curing and Environment:	Stored in laboratory at room temperature

Specimen Details	
Length (mm)	50.7
Width (mm)	50.2
Height (mm)	52.0
Height to Length Ratio	1.0
Moisture Content at Time of Test (%)	3.4
Dry Density (g/cm^3)	2.25

Results	
Uniaxial Compressive Strength (MPa)	52
Rate of Displacement (mm/min)	0.10
Time to Failure (min)	2.9
Description of Failure	Mixed Mode
Pertinent Observations	N/A

Photos

Before Testing	After Testing
	

Comments

Specimen cubical geometry and L/D ratio of less than 2.5 represent deviations from the test method: AS 4133.4.1

Approved Signature:

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Specialty Lab Manager

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TEST REPORT

CLIENT: Momentum Geotechnical Pty. Ltd. CLIENT No.: 912 / 26

ADDRESS: 512/12 Century CCt Norwest NSW 2153

PROJECT: Testing of Masonry Sand Cubes for Resistance to Salt Attack REQUEST No.: 126370

TEST PROCEDURE:

AS 4456.10 – 2003 – Method A - Determining Resistance to Salt Attack

Laboratory Sample No.:			342315-9	
Date Sampled:			Unknown	
Date Received:			27.7.26	
Date Tested:	From	26.8.26	to	17.9.26
Date of Manufacture:			Unknown	
Sample Description:			Banded-C Cream Colour Cubes	
Client Sample No.:			1-5	
Lot No.:			Unknown	
Work Size:			Unknown	
Field No.:			1-5	

TEST RESULTS:

Solution Used	Specimen No.	Total Mass Loss (g)	Total Mass Loss (%)	Average Percentage Mass Loss (C15) (%)	Description of any Damage to Sample	Cycle No. at which testing stopped	Salt Attack Resistance Grade AS/NZS 4455.1-2008
Sodium Chloride (NaCl)	1	0.5	0.2	0.2	-	15	Exposure
	2	0.4	0.1		-	15	
	3	0.5	0.2		-	15	
	4	0.6	0.2		-	15	
	5	0.6	0.2		-	15	

Samples were provided by the Client.

This test report replaces Boral MTS Laboratory test report with Issue No. 1 dated 18.9.26 as per Client's request to reflect only Sodium Chloride Solution tested results.

This report shall not be reproduced in full without the approval of the Boral MTS Laboratory.

Test results in this Test Report relate only to the samples tested.

Name: Sudha Krishnamoorthy Issue Date: 22.9.26

Signature:  Issue No.: 2