90 Jedda Road
PRESTONS NSW 2170
PO Box 156
HOXTON PARK NSW 2171
Ph: 02 9607 1950
Fax: 02 9607 1960

Prestons Asphalt Laboratory
Accredited Laboratory No. 14660
Report number: 29602

Client : J&E Excavations & Plant Hire

Production Test Report

Sample Date : 16-Mar-15
Test Date : 16-Mar-15

Mix Type : Dense Grade
Mix Size : 10 mm

Mix Sampled to AS2891.1.1

Test Methods	Sample No : 01 - 005 - 49347 Reference No: 0281429		AUS-SPEC-245 Production Tolerances
AS2891.2.2 AS2891.9.2	Bulk density (t/m^3) (80 Cycles)	2.344	
AS2891.8	Air voids (%) (80 Cycles)	4.6	3 - 6
	VBF (%) (80 Cycles)	71.7	65 - 80
	VMA (%) (80 Cycles)	16.0	
AS2891.7.3	Max density (g/ml)	2.457	
AS2891.3.1 (Toluene)	Bitumen content (%)	5.9	5.7 - 6.3
	Combined aggregate grading		
	37.5 m m	100	100 - 100
	26.5 m m	100	100 - 100
	19.0 m m	100	100 - 100
	13.2 m m	100	100 - 100
	9.5 m m	97	91 - 100
	6.7 m m	87	76 - 90
	4.75 m m	74	62 - 76
	2.36 m m	52	43 - 53
	1.18 m m	38	30 - 40
	600 µ m	30	23 - 31
	300 µ m	18	13 - 21
	150 µ m	8.2	6.2 - 11.2
	75 µ m	6.1	4.5 - 7.5
AS2891.3.1	Filler / binder content ratio	1.0	0.6 - 1.2

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Approved signatory : .....

James Stanley

Date : 18-3-15

Accredited for compliance with ISO/IEC 17025.

File name :49347
Date : 18/03/2015

Dixon Sand - Quality Control

Particle Size Distribution

Client: arlea Sand and Soil	Date Sampled:
Project:	Date Tested: 23/07/2014
Quarry: Maroota	Tested By: Colin Massingham
Product: falcon	Sample No: 140723F

AS 1141.11 - Particle Size Distribution (Dry Sieving)

Sieve Size (mm)	Weight of Sieve (g)	Weight Sieve + Sand (g)	Weight Retained (g)	Weight Retained (%)	Cumulative Weight Retained (%)	Cumulative Passing (%)	Required Specification
6.7			0	0.00	0.00	100.00	
4.75	447.5	448	0.5	0.20	0.20	99.80	
2.36	421.5	431.5	10	3.95	4.15	95.85	
1.18	387	401	14	5.53	9.68	90.32	
600um	350	372	22	8.70	18.38	81.62	
300um	321	402	81	32.02	50.40	49.60	
150um	301	363.5	62.5	24.70	75.10	24.90	
75um	230	266.5	36.5	14.43	89.53	10.47	
Pan	270.5	297	26.5	10.47	100.00	0.00	
Total	2728.5	2981.5	253	100			

Specific Notes:

Resource Laboratories

ABN: 25 131 532 020
Sydney: 12/1 Boden Road Seven Hills NSW 2147 | PO Box 45 Pendle Hill NSW 2145
Ph: (02) 9674 7711 | **Fax:** (02) 9674 7755 | **Email:** info@resourcelab.com.au

Test Report

Customer: Dial A Dump Industries
Project: Material Testing
Location: Wonderland Drive , Eastern Creek

Job number: 11-0014
Report number: 52
Page: 1 of 1

Material Quality Summary

Sampling method: Samples tested as received

Laboratory sample number		4711	4712			RMS QA Specification R11	
Customer sample number		GEN Bedding 1	GEN Bedding 2				
Date sampled		01/08/2014	01/08/2014				
Material description		Crushed concrete/brick, grey-brown	Crushed concrete/brick, grey-brown			Material for Bed and Haunch Zones	Material for Side and Overlay Zones
Particle size distribution	Test method						
% Passing AS Sieve	T201						
53.0mm							100
19.0mm						100	
13.2mm		100	100				
9.5mm		97	98				
6.7mm		92	93				
4.75mm		83	85				
2.36mm		70	73			100-50	
600µm		50	53			90-20	
300µm		34	36			60-10	
150µm		21	23			25-0	
75µm		16.3	17.9			10-0	
Soil index properties							
Liquid limit (%)	T108	n/a	n/a				
Plastic limit (%)	T109	n/a	n/a				
Plasticity index (%)	T109	NP	NP			≤ 6	2 to 12
Sample history		Oven dried	Oven dried				
Preparation		Dry sieved	Dry sieved				

Notes: n/a Liquid limit/plastic limit not obtainable, NP Non-plastic

Approved Signatory: E. Maldonado **Date:** 08/08/2014

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NATA Accredited Laboratory Number: **17062**

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TEST REPORT

CLIENT: BORAL RECYCLING PTY LTD (Widemere)
PROJECT: Quality Control Testing
MATERIAL: Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base

FILE No: 7/15
REQUEST No: 60565
DATE SAMPLED: 7.1.15
DATE TESTED: 12.1.15 to 20.1.15

SPECIFICATION: Roads and Traffic Authority NSW QA Specification **3051**. Unbound and Modified Base and Sub-Base Materials for Surfaced Road Pavements (Edition 5, June 1998). Table 3051.2 Unbound and Modified Material (Based on Shear Strength).

Test Method RMS T106				**Results**				
Coarse particle distribution of road construction materials (by dry sieving).				**Client Sample No.** P254225	P254226	P254227	P254228	P254229
				Laboratory Sample No. 161742	161743	161744	161745	161746
	RTA QA Spec. 3051.2	**Nominated Grading**	**Grading Tolerance RTA QA Spec. 3051.2**					
A. S. Sieve	**% Passing**	**% Passing**	**% Variation**	**% Passing**				
26.5mm	**100**	100	**± 10**	100	100	100	100	100
19.0mm	-	97	**± 10**	97	97	97	98	96
13.2mm	-	84	**± 8(2)**	83	83	84	86	84
9.5mm	-	72	-	71	71	72	74	70
6.7mm	**50-80**	60	**± 5(2)**	59	59	61	62	59
4.75mm	-	50	-	50	50	51	52	49
2.36mm	-	38	**± 4(2)**	38	37	39	39	36
425µm	-	19.5	**± 3(1)**	19.0	19.5	19.5	20	18.5
75µm	-	7.0	**± 2(1)**	6.5	7.0	7.0	7.0	7.0
13.5µm	-	3.0	-	3.0	3.0	2.5	3.0	3.5
Total defect points (as per Spec. RTA 3051.2 **Max. 5.0 per sample**).				0.0	0.0	0.0	0.0	0.0
Average defect points (as per Spec. RTA 3051.2 **Max. average of 3.0**).						0.0		
Note :	Numerical value in brackets refers to defect weighting values as per RTA Table 3051.2.							

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Approved Signatory _____
Date 21.1.15 Serial No. 132678

Artemio Mendoza
NATA Accredited Laboratory
Number: 547

Accredited for compliance with ISO/IEC 17025

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base	DATE SAMPLED:	7.1.15
		DATE TESTED:	12.1.15 to 20.1.15

Test Method RMS T107	**Results**				
Fine particle distribution in road materials (distribution for portion of material <2.36mm).	**Client Sample No.**				
	P254225	P254226	P254227	P254228	P254229
	Laboratory Sample No.				
	161742	161743	161744	161745	161746
Amount passing 425µm (%)	50	53	50	52	51
Amount passing 75µm (%)	17.0	18.5	18.0	18.0	19.5
Amount less than 13.5µm (%)	7.5	8.0	7.0	7.5	10.0
Flocculation observations			Mild		
Ratio (%)					
A	50	53	50	51	51
B	34	36	36	35	38
C	46	43	36	43	50

Test Methods RMS T108 and T109		**Results**				
Liquid Limit, Plastic Limit and Plasticity Index of road materials. (RMS T108 and T109 now refer to AS1289.3.1.1 Liquid Limit, AS1289.3.2.1 Plastic Limit and AS1289.3.3.1 Plasticity Index)		**Client Sample No.**				
		P254225	P254226	P254227	P254228	P254229
		Laboratory Sample No.				
		161742	161743	161744	161745	161746
	RTA QA Spec. 3051.2					
Liquid Limit (%)	**Max. 27 if non-plastic**		**N/A***		**N/A***	
Plastic Limit (%)	**Max. 20 if plastic**		**N/A****		**N/A****	
Plasticity Index (%)	**Max. 6 for Categories 1, 2a, 2b, 2c and 2d**		**NP**		**NP**	
Sample history			**OD**			
Preparation method			**DS**			
Method used for moisture content determination			**N/App.**			

N/A* - Test is not applicable due to continual slippage in bowl. Liquid Limit could not be obtained. **NP** - Non-plastic.
N/A** - Unable to roll, plastic limit could not be obtained. **N/App.** - Not Applicable.
Sample history:- NS = Natural state, AD = Air dried, **OD** = Oven dried at 50°C, UN = Unknown
Preparation method:- WS = Wet sieved, **DS** = Dry sieved

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base	DATE SAMPLED:	7.1.15
		DATE TESTED:	12.1.15 to 20.1.15

Test Method RMS T215		**Results**				
Wet / Dry Strength Variation.		**Client Sample No.**	P254225	P254226	P254227	P254228	P254229
		Laboratory Sample No.	161742	161743	161744	161745	161746
	RTA QA Spec. 3051.2	Samples combined				
Wet / Dry Strength Variation (%)	**Maximum 35**	**31**				
Average Dry Strength (kN)	**-**	**140**				
Average Wet Strength (kN)	**Minimum 70**	**97**				
Size of test fraction (mm)		-19.0 to +9.5				
Significant breakdown (%)		>0.2				
Diameter of cylinder used (mm)		150				

Test Method RMS T114		**Results**				
Maximum Dry Compressive Strength (MDCS) of Road Construction Materials.		**Client Sample No.**	P254225	P254226	P254227	P254228	P254229
		Laboratory Sample No.	161742	161743	161744	161745	161746
	RTA QA Spec. 3051.2	Samples combined				
MDCS (MPa)	**Minimum 1.7**	**3.5**				
Optimum Moisture Content at MDCS (%)		10.5				
Straddling achieved ? Yes or No.		Yes.				

Test Method RMS T111	**Results**				
Dry Density / Moisture Relationship of Road Construction Materials.	**Client Sample No.**	P254225	P254226	P254227	P254228	P254229
	Laboratory Sample No.	161742	161743	161744	161745	161746
	Samples combined				
Maximum Dry Density (t/m^3)	**1.830**				
Optimum Moisture Content (%)	**14.1**				
Method used for moisture content determination	RMS T120				
Amount of material retained on 19.0mm sieve (%)	3				

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base	DATE SAMPLED:	7.1.15
		DATE TESTED:	12.1.15 to 20.1.15

Test Method RMS T171 - Texas TXL	**Results**				
Modified Texas Triaxial Compression Test for Pavement Materials.	**Client Sample No.** P254225	P254226	P254227	P254228	P254229
	Laboratory Sample No. 161742	161743	161744	161745	161746
	Samples combined				
Modified Texas Triaxial Classification No.			**1.9**		
Angle of shear resistance (deg.)			50.6		
Apparent cohesion (KPa)			89.3		
Average compressive modulus (MPa)			38.9		
Average Relative Density (% MDD)			100.2		
Average Relative Moisture content % OMC (at moulding)			85.3		
Target density (t/m^3)			1.830		
Target Moisture content (%)			12.0		
Amount of material retained on 37.5mm sieve (%)			0		
Normal Stress (kPa)	10	30	60	90	
Compressive Modulus (MPa)	21.1	29.0	45.6	60.0	
Dry Density of Specimen (t/m^3)	1.841	1.831	1.830	1.830	
Relative Dry Density of specimen (%MDD)	100.6	100.1	100.0	100.0	
Moisture content after testing (%)	12.0	11.9	12.2	12.0	

Table 3051.2 - Unbound and Modified Materials (based on shear strength) specification requirements.
(For interpretation of results refer to RTA 3051).

Modified Texas Triaxial Classification No.	**1.9**
For Category 1 materials	Maximum 2.0
For Category 2a materials	Maximum 2.2
For Category 2b materials	Maximum 2.5
For Category 2c and 2d materials	Maximum 3.0

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base	DATE SAMPLED:	7.1.15
		DATE TESTED:	12.1.15 to 20.1.15

Test Method AS1289.3.6.1				**Results**				
Determination of the particle size distribution of a soil (standard method of analysis by sieving).				**Client Sample No.** P254225	P254226	P254227	P254228	P254229
				Laboratory Sample No. 161742	161743	161744	161745	161746
A. S. Sieve	**RTA QA Spec. 3051.2** **% Passing**	**Nominated Grading** (refer to page 1) **% Passing**	**Grading Tolerance RTA QA Spec. 3051.2** **% Variation**	Samples combined AS1289.3.6.1 Particle size distribution of material after RTA T171 (Texas Triaxial Test), as per notes in Table 3051.2 (viii). **% Passing**				
26.5mm	**100**	100	**± 10**	100				
19.0mm	-	97	**± 10**	97				
13.2mm	-	84	**± 8 (2)**	84				
9.5mm	-	-	-	72				
6.7mm	**50-80**	60	**± 5 (2)**	61				
4.75mm	-	-	-	52				
2.36mm	-	38	**± 4 (2)**	40				
1.18mm	-	-	-	31				
600µm	-	-	-	24				
425µm	-	19.5	**± 3 (1)**	20				
300µm	-	-	-	16				
150µm	-	-	-	10				
75µm	-	7.0	**± 2 (1)**	7				
Total defect points (as per Spec. RTA 3051-13.2. **Max. 5.0 per sample**).				0.0				
Note :	1. Numerical value in brackets refers to defect weighting values as per RTA Table 3051.2. 2. Dry sieving done on materials retained on 2.36mm sieve as per item 5.5.3 of the Standard.							

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4000 tonnes) as Unbound Base	DATE SAMPLED:	7.1.15
		DATE TESTED:	12.1.15 to 20.1.15

Test Method RMS T276		**Results**	
Foreign materials content in recycled crushed concrete (material retained on 4.75mm sieve).		**Client Sample No.** P254227 **Laboratory Sample No.** 161744	
	RTA QA Spec. 3051.3 Maximum Content (%)	**Content (%)**	
Type I Foreign Material			
Traffic categories 1, 2a, 2b	**3.0**	**0.1**	Glass = 0.131
Traffic categories 2c, 2d	**5.0**		Metal = 0.002
Type II Foreign Material			
Traffic categories 1, 2a, 2b	**0.2**	**0.0**	
Traffic categories 2c, 2d	**0.5**		
Type III Foreign Material			
Traffic categories 1, 2a, 2b	**0.1**	**0.0**	Plastic = 0.006
Traffic categories 2c, 2d	**0.2**		Wood = 0.005

Type I Foreign Material - Metal, glass, asphalt, stone, ceramics and slag (other than blast furnace slag).
Type II Foreign Material - Plaster, clay lumps, and other friable material.
Type III Foreign Material - Rubber, plastic, bitumen, paper, cloth, paint, wood and other vegetable matter.

Note : Samples provided by client.

C. BOUNASSIF, J. BARKLEY, T. MEEHAN, A. WALLACE, A. SPRINGFIELD, M. HOLZ, M .WRIGHT, M. FORMOSA, FILE.

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TEST REPORT

CLIENT:	BORAL RECYCLING PTY LTD (Widemere)	FILE No:	7/15
PROJECT:	Quality Control Testing	REQUEST No:	60565
MATERIAL:	Unbound Base S/P 296 (0 - 4,000 tonnes)	DATE SAMPLED:	7.1.15
		DATE COMPACTED:	13.1.15
		DATE TESTED:	20.1.15

Test Method RMS T116	**Results**
Determination of Unconfined Compressive Strength (UCS) of Remoulded Road Construction Materials.	**Client Sample No.** P254225 . . . P254229 **Laboratory Sample No.** 161742 . . . 161746
Material description	Samples combined
Material retained on 19.0mm sieve (%)	Unbound Base S/P 296
	3
Test Method RMS T111	**Dry Density / Moisture Relationship of Road Construction Materials.**
Maximum Dry Density (t/m^3)	1.830
Optimum Moisture Content (%)	14.1
Method used to determine moisture content	RMS T120
Compactive effort	Standard
Test Method RMS T116	**Unconfined Compressive Strength (UCS)**
Curing conditions of UCS specimens	Specimens wrapped in protective cover & cured at 65°C ± 5°C
Time between mixing binder & completion of moulding	Self cementing
Compactive effort	Standard
Curing period	7 days ± 6 hours accelerated
Dry density at compaction (t/m^3)	1.87 , 1.87
Moisture content at compaction (%)	13.5 , 13.5
Method used to determine moisture content	RMS T120
Condition of specimen after curing	Moist
UCS (MPa)	0.55 , 0.50
Average UCS (MPa)	**0.5**

Note : Samples provided by client.

C. BOUNASSIF, J. BARKLEY, T. MEEHAN, A. WALLACE, A. SPRINGFIELD, M. HOLZ, M. WRIGHT, M. FORMOSA, FILE.

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Approved Signatory _____ **Artemio Mendoza**

Date 21.1.15 Serial No. 132679

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NATA Accredited Laboratory Number: 547

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TEST REPORT

CLIENT: Boral Recycling Pty. Ltd. (Widemere) FILE No.: 7 / 15

PROJECT: Testing of Unbound Base S/P 296 (0-4,000t) ex. Widemere REQUEST No.: 60565

SPECIFICATION: RMS QA Specification 3051 - Granular Base and Subbase Materials for Surfaced Road Pavements - Edition 5 - June 1998 - Unbound Base - 3051.2

TEST PROCEDURE:
RMS T219 – Acid Soluble Sulfate content in Road Construction Materials
AS 5101.3.2 – 2008 Method 3.2: Lime or Cement content of Stabilised Pavement Materials EDTA Method

Laboratory Sample No.:	161742-6
Date Sampled:	7.1.15
Sample Description:	Unbound Base S/P 296 Bulk 1-5 0-4,000t Client Sample No. P254225-9
Field No.:	1-5

TEST RESULTS

Sulfate as SO_3 (%)	0.32
Calcium as CaO (%)	8.2

Samples submitted by the Client.

C.Bounassif, J.Barkley, T.Meehan, A.Wallace, M.Holz, A.Springfield, M.Wright, M.Formosa, Mat.File, File.

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Approved Signatory Kdhai S.Krishnamoorthy

Date 22/1/15. Serial No. 132680

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NATA Accredited Laboratory Number: 547

Boral Construction Materials

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TEST REPORT

CLIENT: Boral Recycling Pty. Ltd. (Widemere) FILE No.: 7 / 15

PROJECT: Testing of Unbound Base S/P 296 (0-4,000t) ex. Widemere REQUEST No.: 60565

SPECIFICATION: RMS QA Specification 3051 - Edition 5 - June 1998 - Unbound Base - 3051.2

TEST PROCEDURE:
ASTM C114 – 2011 - Determination of Free Lime

Laboratory Sample No.:	161742-6
Date Sampled:	7.1.15
Sample Description:	Unbound Base S/P 296 Bulk 1-5 0-4,000t Client Sample No. P254225-9
Field Number:	1-5

TEST RESULTS

Free Lime as CaO (%)	0.4

Samples submitted by the Client.

S.Krishnamoorthy
Analytical Chemist
22nd January 2015

C.Bounassif, J.Barkley, T.Meehan, A.Wallace, M.Holz, A.Springfield, M.Wright, M.Formosa, Mat.File, File.

Budget Waste Control

P.O. Box 155
DOONSIDE NSW 2767

PHONE : 9672 1555
FAX : 9672 1268

A.B.N. 21 001 090 017

Tax Invoice

Invoice #: 00023692

Date: 25/11/2014

Bill To:

Western Earthmoving Pty Ltd
P. O. Box 230
SEVEN HILLS NSW 2147

Ship To:

Cassar Road
Cranebrook

Description	Amount	Code
1 9 M Bin to Cranebrook as per Order No. 121047		GST

ORDER No.	121047
CRED CODE	BUDG
JOB No.	109534
OVERHEAD JOB	
DISSECTION CODE	70300

POSTED

Your Order #: 121047 Customer ABN:

Shipping Date: Terms: Net 30

COMMENT	CODE	RATE	GST	SALE AMOUNT
	GST	10%		

GST:

Total Inc

Amount Applied: $0.00

Balance Due:

Budget Waste Control

P.O. Box 155
DOONSIDE NSW 2767

PHONE : 9672 1555
FAX : 9672 1268

A.B.N. 21 001 090 017

Tax Invoice

Invoice #: 00023677

Date: 21/11/2014

Bill To:

Western Earthmoving Pty Ltd
P. O. Box 230
SEVEN HILLS NSW 2147

Ship To:

Cassar Road
Cranebrook

Description	Amount	Code
1 9 M Bin to Cranebrook as per Order No. 120973		GST

ORDER No.	120973
CRED CODE	BUDG
JOB No.	19534
OVERHEAD JOB	
DISSECTION CODE	30300

POSTED

Your Order #: 120973 Customer ABN:

Shipping Date: Terms: Net 30

COMMENT	CODE	RATE	GST	SALE AMOUNT
	GST	10%	$72.27	$722.73

GST:

Total Inc

Amount Applied: $0.00

Balance Due:

Budget Waste Control

P.O. Box 155
DOONSIDE NSW 2767

PHONE : 9672 1555
FAX : 9672 1268

Tax Invoice

A.B.N. 21 001 090 017

Invoice #: 00023910

Date: 30/01/2015

Bill To:

Western Earthmoving Pty Ltd
P. O. Box 230
SEVEN HILLS NSW 2147

Ship To:

Cassar Road
Cranebrook

Description	Amount	Code
1 9 M Bin to Cranebrook as per Order No. 121891		GST

NO.	121891
CRED CODE	BUDG1
JOB No.	19534
OVERHEAD JOB	
TION CODE	70300

POSTED

Your Order #: 121891 Customer ABN:

Shipping Date: Terms: Net 30

COMMENT	CODE	RATE	GST	SALE AMOUNT
	GST	10%		

GST:

Total Inc

Amount Applied: $0.00

Balance Due:

HACKETT LABORATORY SERVICES PTY LTD

BAY 4, 8 BELLBOWRIE STREET PORT MACQUARIE N.S.W. 2444
PHONE: 02 6583 2635 FAX: 02 6583 7453

NATA ACCREDITED FOR TECHNICAL COMPETENCE

CLIENT

OBERON QUARRIES PY LTD
315 COMMERCIAL ROAD
VINEYARD NSW 2764

CLIENT NO: K-1395
REPORT NO: A-2503
DATE SAMPLED: 17/12/2014
SAMPLED BY: CLIENT

PROJECT: MATERIAL ASSESSMENT - BASALT - OBERON QUARRY

MATERIAL TYPE: AGGREGATE 7mm / LOT 159 / 250m³ STOCKPILE

SAMPLING METHOD: NOT KNOWN SPECIFICATION: RMS 3151

PRE-TREATMENT: NIL

AGGREGATE FOR ROAD PAVEMENTS

METHOD	TABULATED DATA		Limits	AS 2117	*	*	*	*
AS1141.11.1	Pass 37.5mm Sieve	%	*	*	*	*	*	*
	Pass 26.5mm Sieve	%	*	*	*	*	*	*
	Pass 19.0mm Sieve	%	*	*	*	*	*	*
	Pass 13.2 mm Sieve	%	*	*	*	*	*	*
	Pass 9.50 mm Sieve	%	100	100	*	*	*	*
	Pass 6.70 mm Sieve	%	90-100	93	*	*	*	*
	Pass 4.75 mm Sieve	%	0-35	32	*	*	*	*
	Pass 2.36 mm Sieve	%	0-10	1	*	*	*	*
	Pass 1.18mm Sieve	%	0-2	0	*	*	*	*
AS1141.20.1	Average Least Dimension	%	Min 3.5	3.5	*	*	*	*
AS1141.20.2	Average Least Dimension	%	*	*	*	*	*	*
AS1141.14	Particle Shape (2:1) Misshapen	%	*	*	*	*	*	*
AS1141.14	Particle Shape (3:1) Misshapen	%	*	*	*	*	*	*
AS1141.12	Material Finer than 75um	%	*	0	*	*	*	*
AS1141.32	Weak Particles	%	*	*	*	*	*	*
AS1141.32	Original Sample Pass 2.36 Sieve	%	*	*	*	*	*	*
AS1141.22	Size Fraction of Test Portion	mm	*	*	*	*	*	*
	Cylinder Size	mm	*	*	*	*	*	*
	Nature of Bulk Sample		*	*	*	*	*	*
	Sample Crushing Required	Y/N	*	*	*	*	*	*
	Breakdown During Preparation	Y/N	*	*	*	*	*	*
	Dry Strength	kN	*	*	*	*	*	*
	Wet Strength	kN	*	*	*	*	*	*
	Wet/Dry Strength Variation	%	*	*	*	*	*	*

REMARKS: *

APPROVED SIGNATORY: D Farr

POSITION: Laboratory Manager

SIGNATURE: .....

DATE REPORTED: 29/01/2015

Accreditated for compliance with ISO/IEC 17025.

NATA Accredited for compliance with ISO/IEC 17025 Accreditation Number 5598

SAMI BITUMEN TECHNOLOGIES

SAMI Bitumen Technologies

12 Grand Ave, Camellia
NSW 2142 Or PO Box 163
Granville, NSW 2142

Laboratory @samibitumen.com.au

Ph: 02 9638 0150
Fax: 02 9638 4983
Fax: 02 8209 4873

PRODUCT TEST REPORT

Test Report No.: 29060
Product: Bitumen Cutter Marked (kerosene)
Order No.: 62364
SAMI Sample No.: ME50224
Date of Receipt: 03-03-2015
Sample Details: Ex Camellia
Date Tested: 05-03-2015
Specification: AS 3568 & MRTS19

Method	Property	Result	Specification
ASTM D1319*	Aromatic content, vol%	16.1	10 min.
AS 2341.9	Water Content, vol%	<0.1	0.1 max.
AS 2341.4	Viscosity at 40C, mm^2/s	<2.0	2.0 max.
ASTM D86*	Initial boiling point by distillation, C	152	140 min.
	% of orig. vol. recovered at 150C	0	10 max
	% of orig. vol. recovered at 200C	40	80 max.
	% of orig. vol. recovered at 250C	93	80 min.
	Final boiling point, C	260	280 max.
AS 2341.7	Density at 15C, kg/L	0.7991	0.775 – 0.830
AS 2106*	Flash Point, C	39.0	38 min.

Certificate Issued Date: 06-03-2015
Sampling Method: Test as received
Testing Operator Name: G. Y. & B. C.
Special information: *Frequency tests

Authorised Officer of the Company
B. Chik, Lab Manager

Accredited for compliance with ISO/IEC 17025 Accreditation Number 5598

SAMI Bitumen Technologies

12 Grand Ave, Camellia
NSW 2142 Or PO Box 163
Granville, NSW 2142

Laboratory @samibitumen.com.au

Ph: 02 9638 0150
Fax: 02 9638 4983
Fax: 02 8209 4873

PRODUCT TEST REPORT

Test Report No.: 29059
Product: Redicote 422/60
Order No.: 62351
SAMI Sample No.: ME50223
Date of Receipt: 26-02-2015
Sample Details: Ex Plant
Date completed on: 05-03-2015
Specification: RMS 3259, SAMI-PC-08F-7

Method	Property	Result	Specification
RMS T590	Presence of segregation Presence of lumpiness skins Presence of settlement	Nil Nil Nil	Nil Nil Nil
RMS T230	Resistance to stripping using SAMI C170 and four precoated standard aggregates, namely Microgranite Quartzite Nepean River Gravel Basalt And the two surface conditions of dusty and saturated surface wet	 <2% 2% 2% <2%	Maximum 10% stripping
SAMI-IT-09B-71	Total amine value in mg KOH equivalent/g** for a 2.4% solution	1.1	1.0 min.

Certificate Issued Date: 06-03-2015
Sampling Method: Test as received
Testing Operator Name: G. Y. & B. C.
**Concentration of the active component; 1% Redicote 422/60 in binder;
Softening point of binder = 47.0; Tendency for aggregates to crumble when pulled <2%

Authorised Officer of the Company
B. Chik, Lab Manager

SRS ROAD PTY LTD

ABN 16 064 662 148

SRS-F-08/1F

12 Grand Ave
Camellia, NSW 2142
Australia

P.O. Box 163
Granville, NSW 2412

Ph +61 2 9638 0255
Fx +61 2 9638 4971

SPRAY RECORD DELIVERY DOCKET

White Copy: Office
Yellow Copy: Customer
Blue Copy: Book

40389

CUSTOMER W.E.M. DATE 11/3/15

CUSTOMER JOB No. SUB DIVISION SHEET No. 1 of 1

ROAD/LOCATION OFF CASSAR ST. CRANEBROOK

PRODUCT C170 SPRAYER No. 8/C

TYPE OF WORK

SUPPLY & SPRAY ☐ SPRAY ONLY ☐
SPRAY & COVER ☒ DELIVER ONLY ☐
PLANT HIRE ☐ OTHER.....
TYPE OF SEAL 1 Coat 7mm

SERVICES PERFORMED – TICK APPROPRIATE BOX

CUTTER SUPPLIED BY	ADDITIVE SUPPLIED BY	RUBBER SUPPLIED BY	PRECOAT SUPPLIED BY
SRS ☐ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☐ OTHERS ☐	SRS ☒ OTHERS ☐
AGGREGATE SUPPLIED BY	**SWEPT BY**	**ROLLED BY**	**COVERED BY**
SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐

LOAD No.	AREA SPRAYED			TEMPERATURE °C			RATE COLD APP	% CUTTER USED	% ADDITIVE USED	RATE HOT APP	QUANTITY IN SPRAY		LITRES MATERIAL SPRAYED						
	LENGTH m	WIDTH m	SQUARE METRES	ROAD	AIR	SPRAYER					START	FINISH	ACTUAL HOT	REQ'D HOT	RESULT + or -	COLD	NEAT PRODUCT BITUMEN	NEAT PRODUCT CUTTER	NEAT PRODUCT ADDITIVE
			1578	31°	26°	18°	1.05	–	1	1.17			1800	1788	1620	1620	1604		16
TOTAL			1578										1800			1620	1604		16

AGGREGATE RECORD: Specifications; Coarse Size (CS) ..... Rate .....
Fine Size (FN) 7mm Rate 1.9 TONS

RUBBER BLEND = _____ % RESIDUAL

CUBIC METRES SPREAD

LOAD No.																			SHEET TOTAL	
TRUCK	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN
	16.9																			
TOTAL	16.9																		16.9	

16.9T

PLANT HIRE:

START TIME: ..... FINISH TIME: ..... (ON JOB)
START TIME: ..... FINISH TIME: .....(DEPOT TO DEPOT)

PLANT/LABOUR HIRED FROM CUSTOMER:

DETAILS OF TIMES etc .....

PRODUCT DELIVERY RECORD

Fleet or Reg. No.	Refinery Docket No.	Volume Cold	Tankers	
			Arrive	Depart

SPRAY SEALING CHECKLIST

Pre-commencement Activities

1) Check Agg. Stockplie for quality and quantity. Yes / No
2) Check pavement temperature if applicable, calculate cutter/flux percentage. °C
3) Check correct quantities of cutter, flux, bitumen and additives are available. Yes / No

Work Checklist

4) Traffic control in place. Yes / No
5) Inspect pavement after brooming. Yes / No
6) Ensure pavement has been correctly set out. Yes / No
7) Ensure spray operator has spray rate. Yes / No
8) Ensure spreader hand is informed of AGG spread rate. Yes / No
9) Check for adequate aggregate spreading and take any appropriate remedial action. Yes / No
10) Ensure adequate rolling takes place. Yes / No
11) Complete documentation. Yes / No

Details of non-conformities: .....

VOLUME IN SPRAYER/DOG AT START: _____ COLD LITRES
CARRY OVER FROM: _____
VOLUME IN SPRAYER/DOG AT END: _____ COLD LITRES

NOTE: A COPY OF ALL DELIVERY DOCKETS MUST BE ATTACHED TO OFFICE COPY OF SPRAY RECORD

SRS Representative Signature: _____
Customer's Representative Signature: _____
Acknowledgement of Satisfactory Performance

RECORD OF PERFORMANCE MUST BE SIGNED BY BOTH PARTIES

HACKETT LABORATORY SERVICES PTY LTD

BAY 4, 8 BELLBOWRIE STREET PORT MACQUARIE N.S.W. 2444
PHONE: 02 6583 2635 FAX: 02 6583 7453

NATA ACCREDITED FOR TECHNICAL COMPETENCE

CLIENT

OBERON QUARRIES PY LTD
315 COMMERCIAL ROAD
VINEYARD NSW 2764

CLIENT NO: K-1395
REPORT NO: A-2503
DATE SAMPLED: 17/12/2014
SAMPLED BY: CLIENT

PROJECT: MATERIAL ASSESSMENT - BASALT - OBERON QUARRY

MATERIAL TYPE: AGGREGATE 7mm / LOT 159 / 250m³ STOCKPILE

SAMPLING METHOD: NOT KNOWN SPECIFICATION: RMS 3151

PRE-TREATMENT: NIL

AGGREGATE FOR ROAD PAVEMENTS

METHOD	TABULATED DATA		Limits	AS 2117	*	*	*	*
AS1141.11.1	Pass 37.5mm Sieve	%	*	*	*	*	*	*
	Pass 26.5mm Sieve	%	*	*	*	*	*	*
	Pass 19.0mm Sieve	%	*	*	*	*	*	*
	Pass 13.2 mm Sieve	%	*	*	*	*	*	*
	Pass 9.50 mm Sieve	%	100	100	*	*	*	*
	Pass 6.70 mm Sieve	%	90-100	93	*	*	*	*
	Pass 4.75 mm Sieve	%	0-35	32	*	*	*	*
	Pass 2.36 mm Sieve	%	0-10	1	*	*	*	*
	Pass 1.18mm Sieve	%	0-2	0	*	*	*	*
AS1141.20.1	Average Least Dimension	%	Min 3.5	3.5	*	*	*	*
AS1141.20.2	Average Least Dimension	%	*	*	*	*	*	*
AS1141.14	Particle Shape (2:1) Misshapen	%	*	*	*	*	*	*
AS1141.14	Particle Shape (3:1) Misshapen	%	*	*	*	*	*	*
AS1141.12	Material Finer than 75um	%	*	0	*	*	*	*
AS1141.32	Weak Particles	%	*	*	*	*	*	*
AS1141.32	Original Sample Pass 2.36 Sieve	%	*	*	*	*	*	*
AS1141.22	Size Fraction of Test Portion	mm	*	*	*	*	*	*
	Cylinder Size	mm	*	*	*	*	*	*
	Nature of Bulk Sample		*	*	*	*	*	*
	Sample Crushing Required	Y/N	*	*	*	*	*	*
	Breakdown During Preparation	Y/N	*	*	*	*	*	*
	Dry Strength	kN	*	*	*	*	*	*
	Wet Strength	kN	*	*	*	*	*	*
	Wet/Dry Strength Variation	%	*	*	*	*	*	*

REMARKS: *

APPROVED SIGNATORY: D Farr

POSITION: Laboratory Manager

SIGNATURE: .....

DATE REPORTED: 29/01/2015

Accreditated for compliance with ISO/IEC 17025.

NATA Accredited for compliance with ISO/IEC 17025 Accreditation Number 5598

SAMI BITUMEN TECHNOLOGIES

SAMI Bitumen Technologies

12 Grand Ave, Camellia
NSW 2142 Or PO Box 163
Granville, NSW 2142

Laboratory @samibitumen.com.au

Ph: 02 9638 0150
Fax: 02 9638 4983
Fax: 02 8209 4873

PRODUCT TEST REPORT

Test Report No.: 29060
Product: Bitumen Cutter Marked (kerosene)
Order No.: 62364
SAMI Sample No.: ME50224
Date of Receipt: 03-03-2015
Sample Details: Ex Camellia
Date Tested: 05-03-2015
Specification: AS 3568 & MRTS19

Method	Property	Result	Specification
ASTM D1319*	Aromatic content, vol%	16.1	10 min.
AS 2341.9	Water Content, vol%	<0.1	0.1 max.
AS 2341.4	Viscosity at 40C, mm^2/s	<2.0	2.0 max.
ASTM D86*	Initial boiling point by distillation, C	152	140 min.
	% of orig. vol. recovered at 150C	0	10 max
	% of orig. vol. recovered at 200C	40	80 max.
	% of orig. vol. recovered at 250C	93	80 min.
	Final boiling point, C	260	280 max.
AS 2341.7	Density at 15C, kg/L	0.7991	0.775 – 0.830
AS 2106*	Flash Point, C	39.0	38 min.

Certificate Issued Date: 06-03-2015
Sampling Method: Test as received
Testing Operator Name: G. Y. & B. C.
Special information: *Frequency tests

Authorised Officer of the Company
B. Chik, Lab Manager

Accredited for compliance with ISO/IEC 17025 Accreditation Number 5598

SAMI Bitumen Technologies

12 Grand Ave, Camellia
NSW 2142 Or PO Box 163
Granville, NSW 2142

Laboratory @samibitumen.com.au

Ph: 02 9638 0150
Fax: 02 9638 4983
Fax: 02 8209 4873

PRODUCT TEST REPORT

Test Report No.: 29059
Product: Redicote 422/60
Order No.: 62351
SAMI Sample No.: ME50223
Date of Receipt: 26-02-2015
Sample Details: Ex Plant
Date completed on: 05-03-2015
Specification: RMS 3259, SAMI-PC-08F-7

Method	Property	Result	Specification
RMS T590	Presence of segregation Presence of lumpiness skins Presence of settlement	Nil Nil Nil	Nil Nil Nil
RMS T230	Resistance to stripping using SAMI C170 and four precoated standard aggregates, namely Microgranite Quartzite Nepean River Gravel Basalt And the two surface conditions of dusty and saturated surface wet	 <2% 2% 2% <2%	Maximum 10% stripping
SAMI-IT-09B-71	Total amine value in mg KOH equivalent/g** for a 2.4% solution	1.1	1.0 min.

Certificate Issued Date: 06-03-2015
Sampling Method: Test as received
Testing Operator Name: G. Y. & B. C.
**Concentration of the active component; 1% Redicote 422/60 in binder;
Softening point of binder = 47.0; Tendency for aggregates to crumble when pulled <2%

Authorised Officer of the Company
B. Chik, Lab Manager

SRS ROAD PTY LTD

ABN 16 064 662 148

SRS-F-08/1F

12 Grand Ave
Camellia, NSW 2142
Australia

P.O. Box 163
Granville, NSW 2412

Ph +61 2 9638 0255
Fx +61 2 9638 4971

SPRAY RECORD DELIVERY DOCKET

White Copy: Office
Yellow Copy: Customer
Blue Copy: Book

40389

CUSTOMER W.E.M. DATE 11/3/15

CUSTOMER JOB No. SUB DIVISION SHEET No. 1 of 1

ROAD/LOCATION OFF CASSAR ST. CRANEBROOK

PRODUCT C170 SPRAYER No. 8/C

TYPE OF WORK

SUPPLY & SPRAY ☐ SPRAY ONLY ☐
SPRAY & COVER ☒ DELIVER ONLY ☐
PLANT HIRE ☐ OTHER.....
TYPE OF SEAL 1 Coat 7mm

SERVICES PERFORMED – TICK APPROPRIATE BOX

CUTTER SUPPLIED BY	ADDITIVE SUPPLIED BY	RUBBER SUPPLIED BY	PRECOAT SUPPLIED BY
SRS ☐ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☐ OTHERS ☐	SRS ☒ OTHERS ☐
AGGREGATE SUPPLIED BY	**SWEPT BY**	**ROLLED BY**	**COVERED BY**
SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐	SRS ☒ OTHERS ☐

LOAD No.	AREA SPRAYED			TEMPERATURE °C			RATE COLD APP	% CUTTER USED	% ADDITIVE USED	RATE HOT APP	QUANTITY IN SPRAY		LITRES MATERIAL SPRAYED						
	LENGTH m	WIDTH m	SQUARE METRES	ROAD	AIR	SPRAYER					START	FINISH	ACTUAL HOT	REQ'D HOT	RESULT + or -	COLD	NEAT PRODUCT BITUMEN	NEAT PRODUCT CUTTER	NEAT PRODUCT ADDITIVE
			1578	31°	26°	18°	1.05	–	1	1.17			1800	1788	1620	1620	1604		16
TOTAL			1578										1800			1620	1604		16

AGGREGATE RECORD: Specifications; Coarse Size (CS) ..... Rate .....
Fine Size (FN) 7mm Rate 1.9 TONS

RUBBER BLEND = _____ % RESIDUAL

CUBIC METRES SPREAD

LOAD No.																			SHEET TOTAL	
TRUCK	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN	CS	FN
	16.9																			
TOTAL	16.9																		16.9	

16.9T

PLANT HIRE:

START TIME: ..... FINISH TIME: ..... (ON JOB)
START TIME: ..... FINISH TIME: .....(DEPOT TO DEPOT)

PLANT/LABOUR HIRED FROM CUSTOMER:

DETAILS OF TIMES etc .....

PRODUCT DELIVERY RECORD

Fleet or Reg. No.	Refinery Docket No.	Volume Cold	Tankers	
			Arrive	Depart

SPRAY SEALING CHECKLIST

Pre-commencement Activities

1) Check Agg. Stockplie for quality and quantity. Yes / No
2) Check pavement temperature if applicable, calculate cutter/flux percentage. °C
3) Check correct quantities of cutter, flux, bitumen and additives are available. Yes / No

Work Checklist

4) Traffic control in place. Yes / No
5) Inspect pavement after brooming. Yes / No
6) Ensure pavement has been correctly set out. Yes / No
7) Ensure spray operator has spray rate. Yes / No
8) Ensure spreader hand is informed of AGG spread rate. Yes / No
9) Check for adequate aggregate spreading and take any appropriate remedial action. Yes / No
10) Ensure adequate rolling takes place. Yes / No
11) Complete documentation. Yes / No

Details of non-conformities: .....

VOLUME IN SPRAYER/DOG AT START: _____ COLD LITRES
CARRY OVER FROM: _____
VOLUME IN SPRAYER/DOG AT END: _____ COLD LITRES

NOTE: A COPY OF ALL DELIVERY DOCKETS MUST BE ATTACHED TO OFFICE COPY OF SPRAY RECORD

SRS Representative Signature: _____
Customer's Representative Signature: _____
Acknowledgement of Satisfactory Performance

RECORD OF PERFORMANCE MUST BE SIGNED BY BOTH PARTIES

Cardno Construction Sciences
ABN: 74 128 806 735
Address:
7/68 Industry Road,
Vineyard NSW 2765

Laboratory: Vineyard Laboratory
Phone: 02 4577 3555 Fax: 02 4577 9055
Email: david.heathcote@cardno.com.au
Website: www.cardno.com.au

ATTERBERG LIMITS REPORT

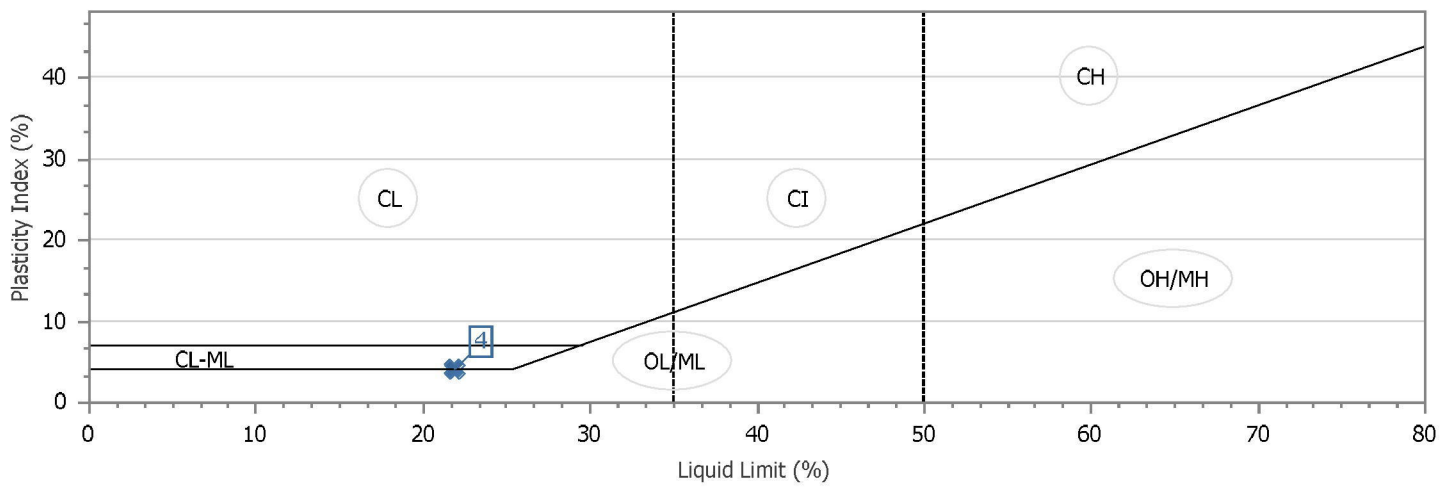
Client:	Superior Sandstone Suppliers	Report Number:	12385/R/9045-1
Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
Project:	65-76 Dunheved Circuit	Lot Number:	
Location:	St Marys	Internal Test Request:	12385/T/5762
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	21/11/2014 Page 1 of 1

Test Procedures:	AS1289.3.1.2, AS1289.3.2.1, AS1289.3.4.1, AS1289.2.1.1, AS 1289.3.3.1		
Sample Number	12385/S/21781	Sample Location	
Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
Date Sampled	07/11/2014	Quantity	(Tonnes)
Sampled By	Tristan Piat		
Date Tested	17/11/2014		
Att. Drying Method	Oven Dried	Material Source	Imported
Atterberg Preparation	Dry Sieved	Material Type	RMS 3071 (Type A)
Material Description	gravelly SAND (Sandstone)		

Atterberg Limits Results

Atterberg Limit	Specification Minimum	Test Result	Specification Maximum
Liquid Limit (%)		**22**	
Plastic Limit (%)		**18**	
Plasticity Index (%)	3.0	**4**	15.0
Linear Shrinkage (%)		**2.0**	
Linear Shrinkage Defects:	none		

Atterberg Limits 'A-Line' Graph



Remarks

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
Accredited for compliance with ISO/IEC 17025

Accreditation Number: 1986
Corporate Site Number: 12385

Approved Signatory: Jack McKillop
Form ID: W11Rep Rev 1

Cardno Shaping the Future

Cardno Construction Sciences
ABN: 74 128 806 735

Address:
7/68 Industry Road,
Vineyard NSW 2765

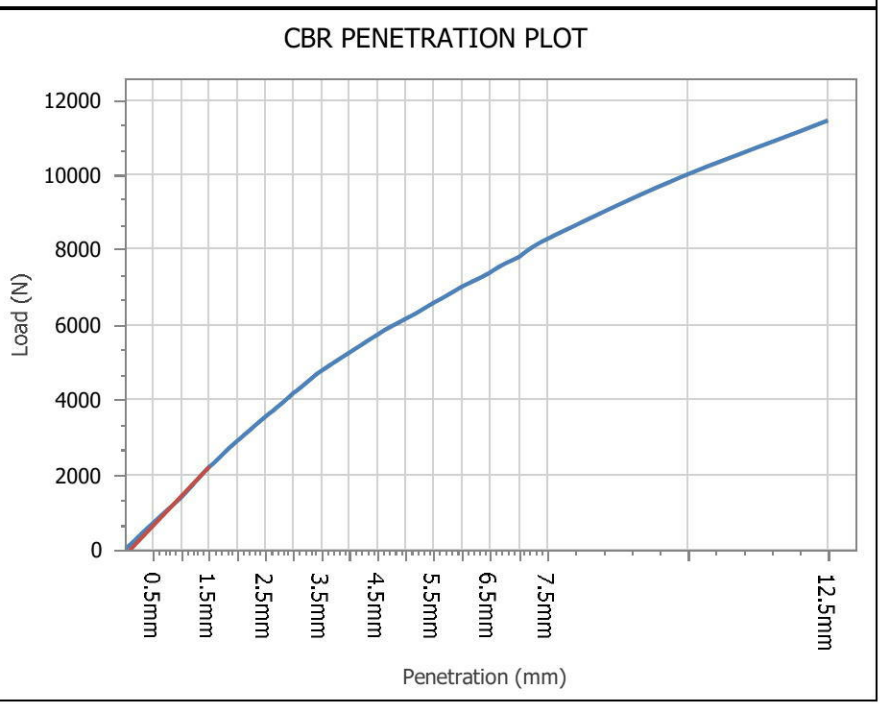
Laboratory: Vineyard Laboratory
Phone: 02 4577 3555 **Fax:** 02 4577 9055
Email: david.heathcote@cardno.com.au
Website: www.cardno.com.au

CALIFORNIA BEARING RATIO REPORT

Client:	Superior Sandstone Suppliers	Report Number:	12385/R/9204-1
Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
Project:	65-76 Dunheved Circuit	Lot Number:	
Location:	St Marys	Internal Test Request:	12385/T/5966
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	02/12/2014 Page 1 of 1

Test Procedures	AS1289.6.1.1, AS1289.5.1.1, AS1289.2.1.1		
Sample Number	12385/S/22821	Sample Location	
Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
Date Sampled	25/11/2014	Quantity	(Tonnes)
Sampled By	Jack McKillop		
Date Tested	01/12/2014		
Material Source	Imported	Material Limit Start	-
Material Type	RMS 3071 (Type A)	Material Limit End	-
Client Reference	-	Compactive Effort	Standard
Material Description	clayey GRAVEL, yellow-brown		

Maximum Dry Density (t/m³)	2.02
Optimum Moisture Content (%)	9.0
Field Moisture Content (%)	7.3
Sample Percent Oversize (%)	38.0
Oversize Included / Excluded	Excluded
Target Density Ratio (%)	100
Target Moisture Ratio (%)	100
Placement Dry Density (t/m³)	2.02
Placement Dry Density Ratio (%)	100
Placement Moisture Content (%)	9.0
Placement Moisture Ratio (%)	100
Test Condition / Soaking Period	Soaked / 4 Days
CBR Surcharge (kg)	4.5
Dry Density After Soak (t/m³)	2.02
Moisture (top 30mm) After Soak (%)	10.9
Moisture (remainder) After Soak (%)	10.3
CBR Swell (%)	0.5
Minimum CBR Specification (%)	30.0
CBR Value @ 5.0mm (%):	**30**



Remarks

NATA

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
Accredited for compliance with ISO/IEC 17025

Accreditation Number: 1986
Corporate Site Number: 12385

Approved Signatory: Jack McKillop
Form ID: W7Rep Rev 1

Cardno
Shaping the Future

Cardno Construction Sciences
ABN: 74 128 806 735
Address:
7/68 Industry Road,
Vineyard NSW 2765

Laboratory: Vineyard Laboratory
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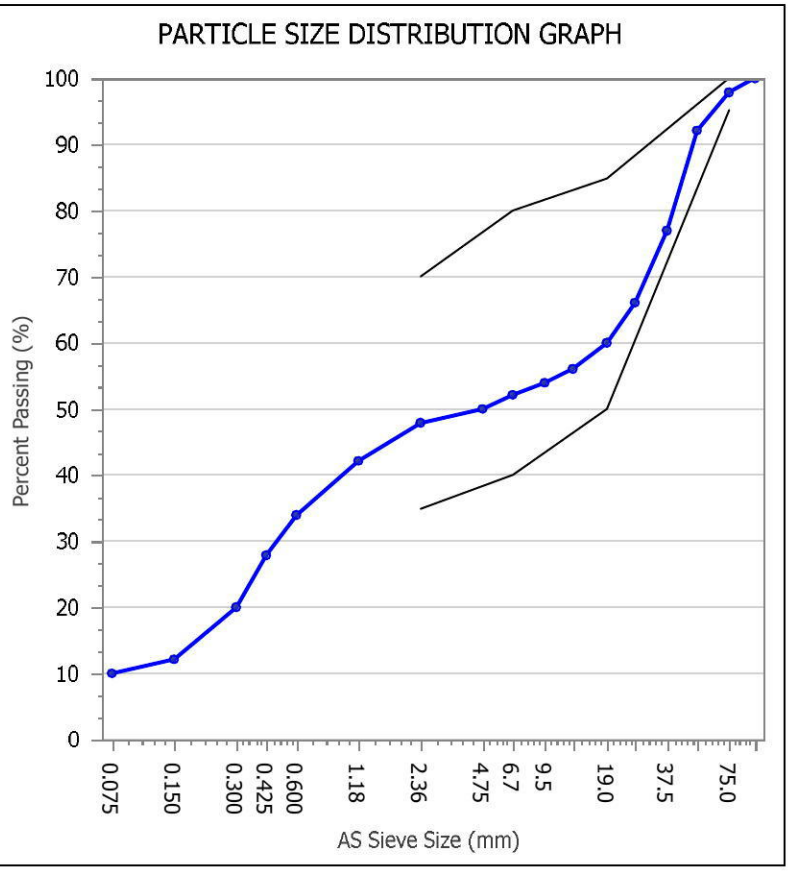
PARTICLE SIZE DISTRIBUTION REPORT

Client:	Superior Sandstone Suppliers	Report Number:	12385/R/9044-1
Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
Project:	65-76 Dunheved Circuit	Lot Number:	
Location:	St Marys	Internal Test Request:	12385/T/5762
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	21/11/2014 Page 1 of 1

Test Procedures:	AS1289.3.6.1		
Sample Number	12385/S/21781	Sample Location	
Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
Date Sampled	07/11/2014	Quantity	(Tonnes)
Sampled By	Tristan Piat		
Date Tested	07/11/2014		
Material Source	Imported	Material Type	RMS 3071 (Type A)

AS Sieve (mm)	Specification Minimum	**Percent Passing (%)**	Specification Maximum
100.0		**100**	
75.0	95.0	**98**	100.0
53.0		**92**	
37.5		**77**	
26.5		**66**	
19.0	50.0	**60**	85.0
13.2		**56**	
9.5		**54**	
6.7	40.0	**52**	80.0
4.75		**50**	
2.36	35.0	**48**	70.0
1.18		**42**	
0.600		**34**	
0.425		**28**	
0.300		**20**	
0.150		**12**	
0.075		**10**	
Grading Result Analysis			
0.075/0.425 Ratio		**0.36**	
D10 (mm)		**-**	
D60 (mm)		**18.71**	
UC (D60/D10)		**-**	



Remarks

NATA

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Accreditation Number: 1986
Corporate Site Number: 12385

Approved Signatory: Jack McKillop
Form ID: W9UCRep Rev 1

Cardno Shaping the Future

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Laboratory: Vineyard Laboratory
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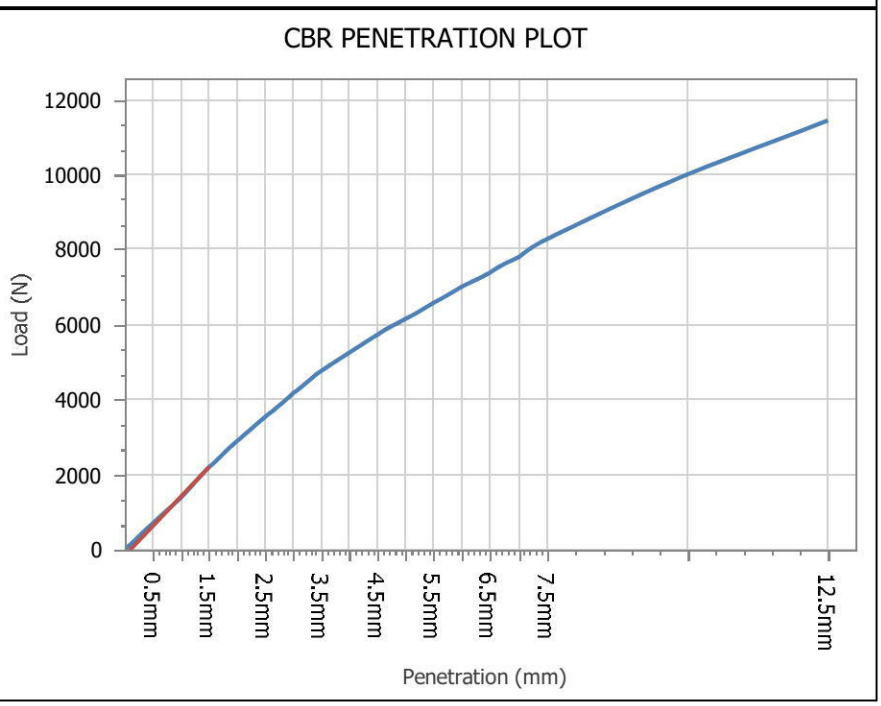
Email: david.heathcote@cardno.com.au
Website: www.cardno.com.au

CALIFORNIA BEARING RATIO REPORT

Client:	Superior Sandstone Suppliers	Report Number:	12385/R/9204-1
Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
Project:	65-76 Dunheved Circuit	Lot Number:	
Location:	St Marys	Internal Test Request:	12385/T/5966
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	02/12/2014 Page 1 of 1

Test Procedures	AS1289.6.1.1, AS1289.5.1.1, AS1289.2.1.1		
Sample Number	12385/S/22821	Sample Location	
Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
Date Sampled	25/11/2014	Quantity	(Tonnes)
Sampled By	Jack McKillop		
Date Tested	01/12/2014		
Material Source	Imported	Material Limit Start	-
Material Type	RMS 3071 (Type A)	Material Limit End	-
Client Reference	-	Compactive Effort	Standard
Material Description	clayey GRAVEL, yellow-brown		

Maximum Dry Density (t/m³)	2.02
Optimum Moisture Content (%)	9.0
Field Moisture Content (%)	7.3
Sample Percent Oversize (%)	38.0
Oversize Included / Excluded	Excluded
Target Density Ratio (%)	100
Target Moisture Ratio (%)	100
Placement Dry Density (t/m³)	2.02
Placement Dry Density Ratio (%)	100
Placement Moisture Content (%)	9.0
Placement Moisture Ratio (%)	100
Test Condition / Soaking Period	Soaked / 4 Days
CBR Surcharge (kg)	4.5
Dry Density After Soak (t/m³)	2.02
Moisture (top 30mm) After Soak (%)	10.9
Moisture (remainder) After Soak (%)	10.3
CBR Swell (%)	0.5
Minimum CBR Specification (%)	30.0
CBR Value @ 5.0mm (%):	**30**



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Website: www.cardno.com.au

ATTERBERG LIMITS REPORT

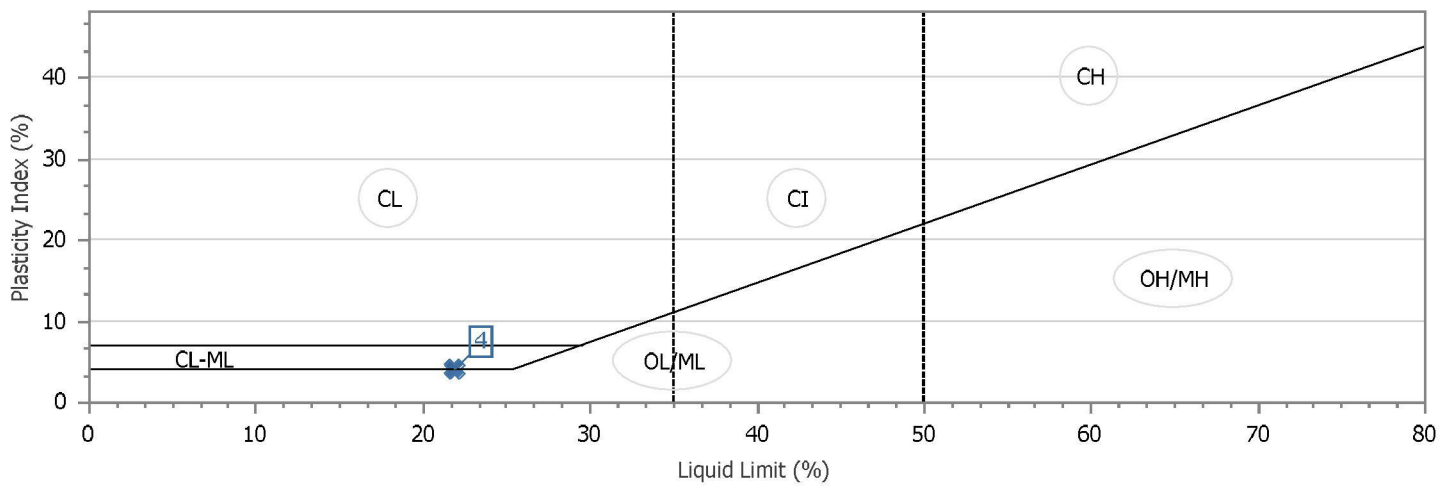
Client:	Superior Sandstone Suppliers	Report Number:	12385/R/9045-1
Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
Project:	65-76 Dunheved Circuit	Lot Number:	
Location:	St Marys	Internal Test Request:	12385/T/5762
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	21/11/2014 Page 1 of 1

Test Procedures:	AS1289.3.1.2, AS1289.3.2.1, AS1289.3.4.1, AS1289.2.1.1, AS 1289.3.3.1		
Sample Number	12385/S/21781	Sample Location	
Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
Date Sampled	07/11/2014	Quantity	(Tonnes)
Sampled By	Tristan Piat		
Date Tested	17/11/2014		
Att. Drying Method	Oven Dried	Material Source	Imported
Atterberg Preparation	Dry Sieved	Material Type	RMS 3071 (Type A)
Material Description	gravelly SAND (Sandstone)		

Atterberg Limits Results

Atterberg Limit	Specification Minimum	Test Result	Specification Maximum
Liquid Limit (%)		**22**	
Plastic Limit (%)		**18**	
Plasticity Index (%)	3.0	**4**	15.0
Linear Shrinkage (%)		**2.0**	
Linear Shrinkage Defects:	none		

Atterberg Limits 'A-Line' Graph



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PARTICLE SIZE DISTRIBUTION REPORT

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Client Address:	5/143 Bowden Street, Meadowbank	Project Number:	12385/P/655
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Location:	St Marys	Internal Test Request:	12385/T/5762
Component:	Material Quality Testing	Client Reference/s:	
Area Description:	Stockpile	Report Date / Page:	21/11/2014 Page 1 of 1

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Sampling Method	AS1141.3.1 Cl 9.3	Stockpile Reference	
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Sampled By	Tristan Piat		
Date Tested	07/11/2014		
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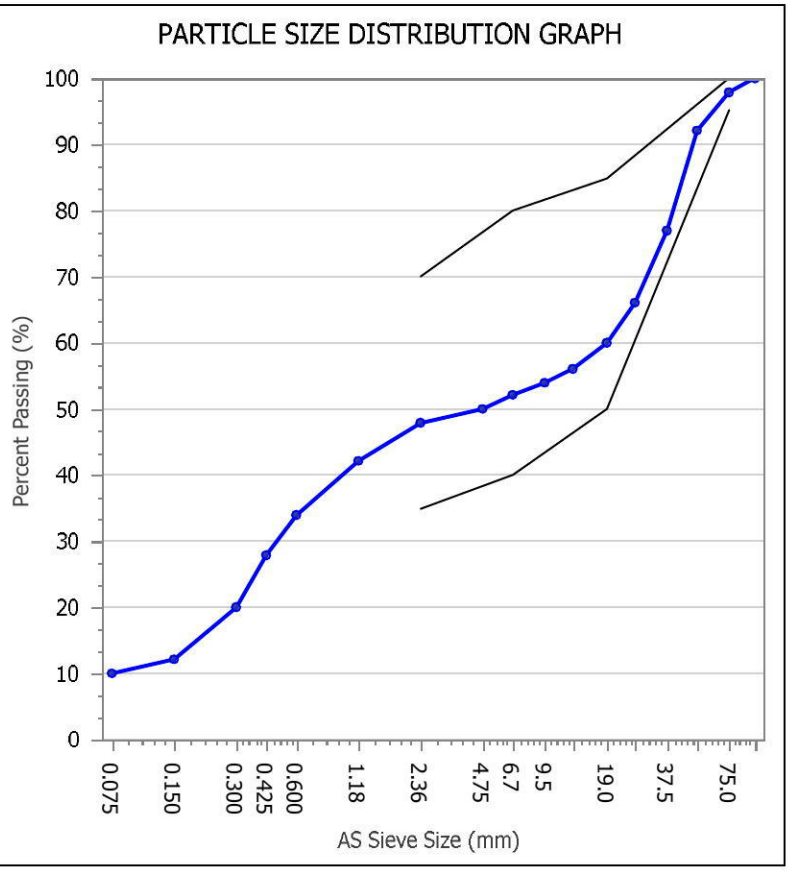

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