

### **CRD TO MORANBAH PIPELINE**

# **APPENDIX C**

**Laboratory Test Results** 



(MANSFIELD LABORATORY)
Unit 1/51 Secam Street
MANSFIELD QLD 4122

(P.O. Box 2034, MANSFIELD DC QLD 4122)

ABN: 64 006 107 857



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Job Number: 077632049 Client Address: PO Box 15536 City East Old 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Page 1 of 30 Location Connors River , Collaroy Lab No: 0937554 Sample Location внстро2 Date Sampled: 27/07/2009 Date Tested: 05/08/2009 0.0 - 0.1m Sampled By: G.A.P

Sample Method: Material Source: Insitu
For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

Passing Test Method: AS1289.3.6.1 75.00 mm Coarse Sand Fine Gravel Medium Gravel Coarse Gravel 100-53.00 mm 95 37.50 mm 100 85 26.50 mm 88 75 19.00 mm 97 13.2 mm 65 50 9.50 mm 96 55 4.75 mm 95 50 45 2.36 mm 90 40 1.18 mm 69 35 30 0.600 mm 28 25 0.425 mm 12 20 15 5 0.300 mm 0.150 mm 1 0.075 mm 1 4 76 тіп AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



Approved Signatory Form Number



NATA Accred No:1446

(MANSFIELD LABORATORY)
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MANSFIELD QLD 4122

(P.O. Box 2034, MANSFIELD DC QLD 4122)

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Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

### **Particle Size Distribution Report**

Job Number: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 **Connors River Dam and Pipeline** Report Date: 20/08/2009 Project: Page 2 of 30 Connors River , Collaroy Location 0937555 Sample Location Lab No: внстроз Date Sampled: 27/07/2009 Date Tested: 05/08/2009 1.4 - 1.5m Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent

75.00 mm							
75.00 mm	Cobbles	Coarse Gravel	Medium Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand
53.00 mm	//			113			
37.50 mm							
26.50 mm						+H	-
19.00 mm							
13.2 mm							
9.50 mm		/ :					
4.75 mm							
2.36 mm							
1.18 mm							
0.600 mm							
0.425 mm							
0.300 mm	+					$\mathcal{A}$	
0.150 mm							
0.075 mm					- E		
	75 mm-	37.5 mm-	0 5 mm 0.01	2 36	1.18 mm.	0 300 mm- 0 425 mm- 0 600 mm-	0 150mm
Moisture Content (				AS Sieve Size(mm)			

Visual Classification:

NATA

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James Angus NATA Accred No:1446 R77-RL-2

Passing

71 66

53

Material Source:

(MANSFIELD LABORATORY) Unit 1/51 Secam Street MANSFIELD QLD 4122 (P.O. Box 2034, MANSFIELD DC QLD 4122) ABN: 64 006 107 857

Insitu



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

20/08/2009

Percent Passing

### **Particle Size Distribution Report**

Client: Job Number: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62

Project: **Connors River Dam and Pipeline** Report Date: Location Connors River , Collaroy Page 3 of 30

Sample Location Lab No: 0937556

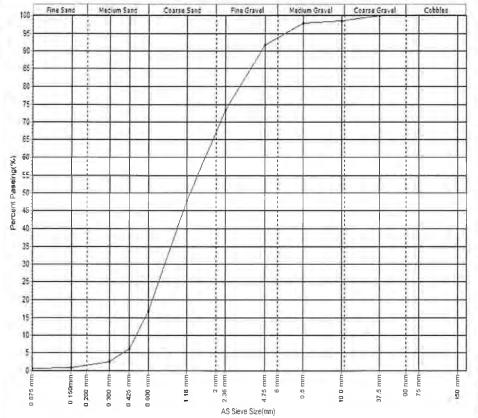
Date Sampled: 27/07/2009 BHAH01

Date Tested: 05/08/2009 0.5 - 0.6m

Sampled By: G.A.P Sample Method:

For Use As: **Bedding** Remarks: Sample mass received does not meet the requirements of the test method.

A.S. Sieve Sizes Test Method: AS1289.3.6.1 Fine Gravel Coarse Gravel Coarse Sand



75.00 mm	
53.00 mm	
37.50 mm	100
26.50 mm	
19.00 mm	99
13.2 mm	-
9.50 mm	98
4.75 mm	92
2.36 mm	73
1.18 mm	48
0.600 mm	17
0.425 mm	6
0.300 mm	2
0.150 mm	1
0.075 mm	1
Moisture Content (%)	

Visual Classification:



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0.0 - 0.1m

A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Job Number: Client: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 4 of 30 Lab No: 0937557 Sample Location FCTP01

 Date Sampled:
 27/07/2009

 Date Tested:
 05/08/2009

 Sampled By:
 G.A.P

Sample Method:

Material Source:

Insitu

For Use As: Bedding
Remarks: Sample mass received does not meet

Remarks: Sample mass received does not meet the requirements of the test method.

Passing Test Method: AS1289.3.6.1 75.00 mm Coarse Sand Fine Gravel Medium Gravel Coarse Gravel 100 53.00 mm 95 90 37.50 mm 85 26.50 mm 80 75 19.00 mm 76 13.2 mm 86 60 9.50 mm 55 4.75 mm 100 50 45 2.36 mm 98 1.18 mm 84 30 29 0.600 mm 25 0.425 mm 11 20 15 7 0.300 mm 0.150 mm 4 0.075 mm 4 50 AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



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### **Particle Size Distribution Report**

Client: Job Number: Sunwater 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 5 of 30 Lab No: 0937558 Sample Location Date Sampled: 27/07/2009 FCTP03 Date Tested: 05/08/2009 0.3 - 0.4m Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes

Fine Sand	Medium Sar	d Co	arse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	
			4					53.00 mm	
				-				37.50 mm	100
								26.50 mm	-
								19.00 mm	94
		1						13.2 mm	-
		1/						9.50 mm	92
		-/-						4.75 mm	91
								2.36 mm	89
								1.18 mm	81
								0.600 mm	48
								0.425 mm	21
	-//							0.300 mm	9
								0.150 mm	2
0 150mm	0 300 mm-	Ē	та 1 1 mm - 1 1 mm - 2	2 38 тт		37 5 mm-	75 mm-	0.075 mm	2

Visual Classification:



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R77-RL-2

Percent

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### **Particle Size Distribution Report**

Job Number: Client: Sunwater 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Project: Page 6 of 30 Connors River , Collaroy Location Sample Location Lab No: 0937559 FCTP04 Date Sampled: 27/07/2009 Date Tested: 05/08/2009 0.9 - 1.0m G.A.P Sampled By: Sample Method: Material Source: Insitu For Use As: **Bedding** Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent

	Test Me									75.00 mm	ſ
-	Fine Sand	Medium S	and	Coarse	Sand	Fine Gravel	Medium Graval	Coarse Gravel	Cobbles	75.00 mm	L
1			-		1					53.00 mm	
-	-15		$\vdash$							37.50 mm	
										26.50 mm	
-			H			+A				19.00 mm	
	200									13.2 mm	
-					1	4				9.50 mm	
					/					4.75 mm	
			-		/					2.36 mm	
				1						1.18 mm	Ī
-				1						0.600 mm	
				/						0.425 mm	T
-			1							0.300 mm	T
1										0.150 mm	T
E										0.075 mm	T
0.075 mm	0.150mm	D.300 mm	0.425 mm		2 mm	2 36 mm 4 75 mm	EEE 8,0	37 5 mm	75 mm-		t
0			0 0	•		AS Sieve Size(mm)	)		÷	Moisture Content (%)	1

	Passing
75.00 mm	
53.00 mm	100
37.50 mm	96
26.50 mm	-
19.00 mm	92
13.2 mm	-
9.50 mm	86
4.75 mm	78
2.36 mm	63
1.18 mm	41
0.600 mm	18
0.425 mm	10
0.300 mm	6
0.150 mm	3
0.075 mm	2

Visual Classification:



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# **Particle Size Distribution Report**

Job Number: 077632049 Client Address: PO Box 15536 City East Old 4002 Report Number: Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Connors River , Collaroy Page 7 of 30 Location Sample Location Lab No: 0937560 FCAH01 Date Sampled: 27/07/2009 0.5 - 0.6m Date Tested: 05/08/2009 Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent

Fine Sand	Medium Sand	Coarse Sand 8	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	
			1			+	53.00 mm	
							37.50 mm	
							26.50 mm	
							19.00 mm	
							13.2 mm	
		1/11					9.50 mm	100
							4.75 mm	98
		- / H					2.36 mm	87
							1.18 mm	39
							0.600 mm	4
							0.425 mm	2
		/					0.300 mm	1
							0.150 mm	1
E		2 mm 2 mm 86 mm 86 mm 86 mm 96	76 mm	E	7 5 тт.	75 mm-	0.075 mm	1
0 160mm	0 300 mm- 0 425 mm-	- 8	Sieve Size(mm)	0 0	37 6 mm-	75 mm-		

Visual Classification:



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Passing

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077632049

Page 8 of 30

Sample Location

077632049 - 62

20/08/2009

Percent Passing

> > 1 1

Job Number:

Report Date:

FCAH03

0.3 - 0.4m

A.S. Sieve Sizes

Report Number:

### **Particle Size Distribution Report**

Client:

Client Address:

PO Box 15536 City East Qld 4002

Project: Location Connors River Dam and Pipeline

Connors River , Collaroy

Lab No:

0937561

Date Sampled: Date Tested:

27/07/2009 05/08/2009

Sampled By:

G.A.P

Sample Method: Material Source:

Insitu

For Use As:

Bedding

Remarks:

Sample mass received does not meet the requirements of the test method.

Fine Sand   Medium Sand   Coarse Sand   Fine Gravel   Medium Gravel   Coarse Gravel   Cobblex															75.00
37.50 mm  26.50 mm  19.00 mm  13.2 mm  9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	10	Fine Sand	Ma	dium 5	and	Coar	se Sand	1	Fine Gravel	Med	lum Gravel	Coarse (	ravel	Cobbles	75.00 mm
37.50 mm  26.50 mm  19.00 mm  13.2 mm  9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	5		-	H	-		+	+							53.00 mm
26.50 mm  19.00 mm  13.2 mm  9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	1							17							37.50 mm
19.00 mm  13.2 mm  9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	1							1							26.50 mm
13.2 mm  9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	1		-	H	-		+	/							19.00 mm
9.50 mm  4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm	1		1				1								13.2 mm
4.75 mm  2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.150 mm	1		-				1/	1		_					9.50 mm
2.36 mm  1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm			1				1	1						+ +	1
1.18 mm  0.600 mm  0.425 mm  0.300 mm  0.150 mm							1								
0.600 mm  0.425 mm  0.300 mm  0.150 mm	-			-		-	4	1							-
0.425 mm  0.300 mm  0.150 mm	1					1	+	+							1.18 mm
0.425 mm 0.300 mm 0.150 mm	1					1		İ							0.600 mm
0.150 mm						1		:							0.425 mm
0.150 mm	-				1	_	+	1					-		0.300 mm
0.075 mm	1				1			1							0.150 mm
	L	_	-				ļ.	- u				\$			0.075 mm

Visual Classification:

James Angus NATA Accred No: 1446

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A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Client: Job Number: Sunwater 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 9 of 30 Lab No: 0937562 Sample Location Date Sampled: 27/07/2009 CRTP01 Date Tested: 05/08/2009 1.2 - 1.3m Sampled By: G.A.P

Sample Method: Material Source: Insitu
For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

Test Me	thod:	AS1289	.3.6.1					Passir
Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	100
						1/1	53.00 mm	87
							37.50 mm	81
					X		26.50 mm	-
							19.00 mm	57
							13.2 mm	- , -
= 1							9.50 mm	43
							4.75 mm	36
							2.36 mm	30
							1.18 mm	23
							0.600 mm	12
							0.425 mm	8
							0.300 mm	6
							0.150 mm	4
E E			E E	i l			0.075 mm	3
а 150mm	0 425 mm	1 18 mm	2 36 шт-4 76 шт-	E E E E E E E E E E E E E E E E E E E	37 5 mm	60 mm-75 mm-150 mm-		
			AS Sieve Size(mm)				Moisture Content (%)	

Visual Classification:



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### **Particle Size Distribution Report**

Client:

Client Address: PO Box 15536 City East Qld 4002 Project:

**Connors River Dam and Pipeline** 

Location Connors River , Collaroy

Lab No: 0937563

Date Sampled: 27/07/2009 Date Tested: 03/08/2009

Sampled By: G.A.P

Sample Method:

Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.

Page 10 of 30 Sample Location

077632049

077632049 - 62

20/08/2009

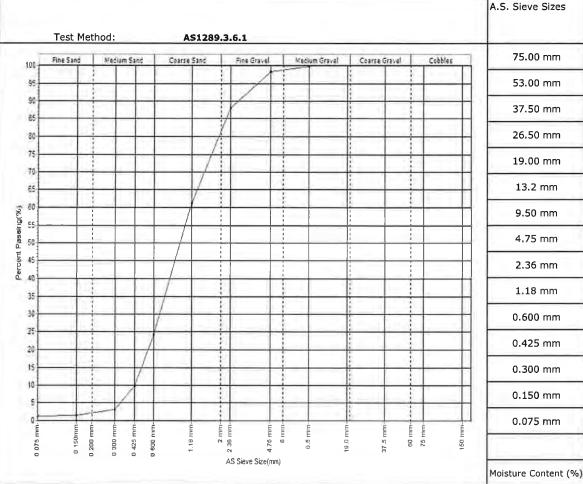
Percent

CRTP02A 0.0 - 0.1m

Job Number:

Report Date:

Report Number:



	Passing
75.00 mm	
53.00 mm	
37.50 mm	
26.50 mm	
19.00 mm	
13.2 mm	
9.50 mm	100
4.75 mm	98
2.36 mm	88
1.18 mm	61
0.600 mm	24
0.425 mm	10
0.300 mm	3
0.150 mm	1
0.075 mm	1

Visual Classification:



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ABN: 64 006 107 857

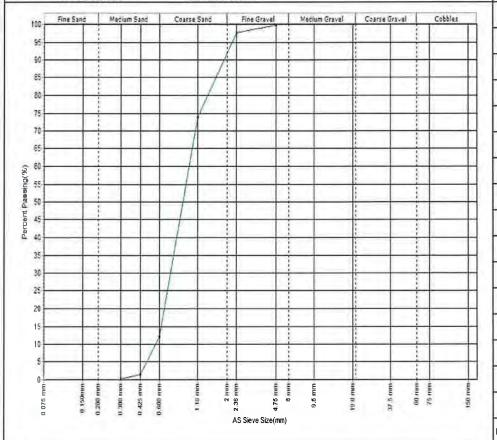


Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

### **Particle Size Distribution Report**

Job Number: 077632049 Client: Sunwater PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Client Address: Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Connors River , Collaroy Location Page 11 of 30 Lab No: 0937564 Sample Location Date Sampled: 27/07/2009 CRTP05 03/08/2009 0.0 - 0.1m Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent

Test Method: AS1289.3.6.1



	Passing
75.00 mm	
53.00 mm	
37.50 mm	
26.50 mm	
19.00 mm	
13.2 mm	
9.50 mm	
4.75 mm	100
2.36 mm	98
1.18 mm	74
0.600 mm	12
0.425 mm	2
0.300 mm	0
0.150 mm	0
0.075 mm	0
Moisture Content (%)	

Visual Classification:



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A.S. Sieve Sizes

# **Particle Size Distribution Report**

Job Number: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Connors River , Collaroy Page 12 of 30 Location Sample Location 0937565 Lab No: CRTP06 27/07/2009 Date Sampled: 0.0 - 0.1m Date Tested: 03/08/2009 Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks: Sample mass received does not meet the requirements of the test method.

				3.6.1	AS1289.	hod:	Test Met	-
75.00 mm	Cobbles	Coarse Gravel	Medium Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	F
53.00 mm				1	-			
37.50 mn								
26.50 mn								
19.00 mn								-
13.2 mm								
9.50 mm	1				-H			-
4.75 mm								İ
2.36 mm	1-11							H
1.18 mn								
0.600 mr								-
0.425 mr								
0.300 mr							-	-
0.150 mr								
0.075 mr						- $   $ $ $		0.075 mm
	75 mm	37.5 mm	E 6 6	2.38	1.18 mm	0.425 mm	0.150mm	
Moisture Conter				AS Sieve Size(mm)				

	Passing
75.00 mm	
53.00 mm	
37.50 mm	
26.50 mm	
19.00 mm	
13.2 mm	
9.50 mm	
4.75 mm	100
2.36 mm	99
1.18 mm	86
0.600 mm	13
0.425 mm	1
0.300 mm	0
0.150 mm	0
0.075 mm	0
Moisture Content (%)	

Percent

Visual Classification:



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ABN: 64 006 107 857



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A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Job Number: Client: Sunwater 077632049 PO Box 15536 City East Qld 4002 Report Number: Client Address: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Connors River , Collaroy Location Page 13 of 30 Lab No: 0937566 Sample Location Date Sampled: 27/07/2009 CRTP07 03/08/2009 0.0 - 0.1m Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.

Passing Test Method: AS1289.3.6.1 75.00 mm Medium Gravel Coarse Gravel 53.00 mm 90 37.50 mm 85 26.50 mm 75 19.00 mm 70 13.2 mm 85 9.50 mm 55 4.75 mm 100 50 45 98 2.36 mm 84 1.18 mm 35 30 0.600 mm 27 25 0.425 mm 4 20 0.300 mm 1 10 0.150 mm 0 0.075 mm 0 AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



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James Angus NATA Accred No:1446

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A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Client: Job Number: 077632049 Sunwater Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: Report Date: Connors River Dam and Pipeline 20/08/2009 Location Connors River , Collaroy Page 14 of 30 Lab No: 0937567 Sample Location Date Sampled: 27/07/2009 CRTP07 Date Tested: 03/08/2009 1.0 - 1.1m Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.

Test Me	thod:	_AS1289	.3.6.1					Passin
Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	150.00 mm	100
							75.00 mm	84
							53.00 mm	84
							37.50 mm	67
					/		19.00 mm	44
					1		13.2 mm	-
							9.50 mm	37
							4.75 mm	35
					/		2.36 mm	32
							1.18 mm	25
							0.600 mm	7
					,		0.425 mm	3
							0.300 mm	2
	1						0.150 mm	1
É			Ė Ė	E E	E	E	0.075 mm	1
0 150mm	0 300 mm 0 425 mm	1 18 mm	AS Sieve Size(mm)	0.5 mm	Б 2 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6 В 3 6	75 mm-75 mm-150 mm-		
			A CO CONTROL DESCRIPTION				Moisture Content (%)	

Visual Classification:



Approved Signatory Form Number

J\_ Q\_ James Angus

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(P.O. Box 2034, MANSFIELD DC QLD 4122)

ABN: 64 006 107 857



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

077632049

Page 15 of 30

Sample Location

20/08/2009

Job Number:

Report Date:

IRTP 02

0.0 - 0.1m

Report Number:

# **Particle Size Distribution Report**

Client: Sunwater PO Box 15536 City East Qld 4002 Client Address: **Connors River Dam and Pipeline** 

Project: Connors River , Collaroy Location

Lab No: 0937568

Date Sampled: 27/07/2009 03/08/2009 Date Tested:

Sampled By:

G.A.P Sample Method:

Test Method:

Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.

AS1289.3.6.1

A.S. Sieve Sizes Percent Passing 75.00 mm 53.00 mm 37.50 mm 26.50 mm 19.00 mm 13.2 mm 9.50 mm 4.75 mm 100 2.36 mm 1.18 mm 99 84 0.600 mm 56 0.425 mm 23 0.300 mm 0.150 mm 1 0.075 mm 1 Moisture Content (%)

Fine Gravel Medium Gravel Crarse Gravel Coarse Sand 95 90 85 05 75 70 55 50 45 40 35 30 25 20 19 10 20 0 200 0 425 0 000 AS Sieve Size(mm)

Visual Classification:

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R77-RL-2

James Angus

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For Use As:

(MANSFIELD LABORATORY) Unit 1/51 Secam Street MANSFIELD QLD 4122 (P.O. Box 2034, MANSFIELD DC QLD 4122) ABN: 64 006 107 857

**Bedding** 



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

20/08/2009

Percent

# **Particle Size Distribution Report**

Client: Job Number: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62

Project: **Connors River Dam and Pipeline** Report Date: Location

Connors River , Collaroy Page 16 of 30

Lab No: 0937569 Sample Location Date Sampled: 27/07/2009 IRTP04

Date Tested: 03/08/2009 1.2 - 1.3m

Sampled By: G.A.P Sample Method: Material Source: Insitu

Remarks: Sample mass received does not meet the requirements of the test method.

Test Met	thod:		AS1289.3.6.1										Passing
Fine Sand	and Medium Sand		ind	Coarse	Sand	Fine Gravel	Mi	edium Graval	Coarse Grave		Cobbles	75.00 mm	
										+		53.00 mm	
				/								37.50 mm	
				1			-					26.50 mm	
				1								19.00 mm	
							-				- 44	13.2 mm	100
			1				1			1		9.50 mm	99
			1				1			1		4.75 mm	99
			1				H			$^{+}$		2.36 mm	97
		1										1.18 mm	88
		1					1			+		0.600 mm	66
							1					0.425 mm	40
	1						-			+		0.300 mm	16
							1					0.150 mm	1
	E	Ė				Ė Ė	-6	É	Ē	E E	<u> </u>	0.075 mm	1
0 150mm	шш 0,000 0	0.425 mm.			2 mm	2 36	g H	, mm 8 g	37 5 тт	75 mm	150 тт	1 4	
						AS Sieve Size(mm	1)					Moisture Content (%)	

Visual Classification:



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Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

### **Particle Size Distribution Report**

Job Number: 077632049 Client: Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Connors River , Collaroy Page 17 of 30 Location 0937570 Sample Location Lab No: IRTP06 Date Sampled: 27/07/2009 0.0 - 0.1m 03/08/2009 Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.

Fine Sand	Medium Send	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	
							53.00 mm	
							37.50 mm	
- 1015							26.50 mm	
							19.00 mm	
							13.2 mm	
							9.50 mm	
							4.75 mm	
	- 1						2.36 mm	100
							1.18 mm	97
	1					+ +	0.600 mm	72
							0.425 mm	33
							0.300 mm	10
							0.150 mm	1
_/							0.075 mm	0
D 150mm	0.425 mm	0.800 mm; 1 18 mm; 2 mm;	2 36 mm- 4 75 mm-	На 6.9 На 6.9	37 5 mm-	75 mm-		

Visual Classification:



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Percent

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## **Particle Size Distribution Report**

Job Number: Sunwater 077632049 Client: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Client Address: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Project: Page 18 of 30 Connors River , Collaroy Location Sample Location Lab No: 0937571 IRTP07 27/07/2009 Date Sampled: 03/08/2009 0.8 - 0.9m Date Tested: Sampled By: G.A.P Sample Method: Insitu Material Source: For Use As: **Bedding** Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent

Test Method: AS1289.3.6.1 75.00 mm Fine Gravel Medium Gravel Coarse Gravel Medium Sand Coarse Sand 100 53.00 mm 95 90 37.50 mm 26.50 mm 80 75 19.00 mm 70 13.2 mm 60 9.50 mm 55 4,75 mm 50 45 2.36 mm P. 40 1.18 mm 35 30 0.600 mm 25 0.425 mm 20 0.300 mm 10 0.150 mm

AS Sieve Size(mm)

Visual Classification:

0.200



Approved Signatory Form Number

0.075 mm

Moisture Content (%)

50

James Angus NATA Accred No:1446 R77-RL-2

Passing

100

99

98

94

68

37

14

1

1

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### **Particle Size Distribution Report**

Job Number: 077632049 Client: Sunwater Report Number: 077632049 - 62 PO Box 15536 City East Qld 4002 Client Address: Report Date: 20/08/2009 **Connors River Dam and Pipeline** Project: Page 19 of 30 Connors River, Collaroy Location Sample Location 0937572 Lab No: IRTP08 27/07/2009 Date Sampled: 1.5 - 1.6m Date Tested: 03/08/2009 G.A.P Sampled By: Sample Method: Material Source: Insitu For Use As: **Bedding** Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent Passing

Test Method: AS1289.3.6.1 75.00 mm Medium Sand Coarse Sand Medium Gravel Coarse Gravel Cobbles Fine Gravel 53.00 mm 95 90 37.50 mm 100 85 26.50 mm 75 19.00 mm 96 70 13.2 mm 93 9.50 mm 65 90 4.75 mm 50 45 86 2.36 mm 40 1.18 mm 73 35 43 30 0.600 mm 25 15 0.425 mm 20 4 0.300 mm 10 0.150 mm 1 0.075 mm 0 0 200 AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



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A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

 Client:
 Sunwater
 Job Number:
 077632049

 Client Address:
 PO Box 15536 City East Qld 4002
 Report Number:
 077632049 - 62

Project: Connors River Dam and Pipeline Report Date: 20/08/2009

Location Connors River , Collaroy Page 20 of 30

 Lab No:
 0937573
 Sample Location

 Date Sampled:
 27/07/2009
 IRTP12

Date Tested: 03/08/2009 0.0 - 0.1m

Sampled By: G.A.P
Sample Method: -

Material Source: Insitu
For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobblex	75.00 mm	
							53.00 mm	
							37.50 mm	
							26.50 mm	
							19.00 mm	
							13.2 mm	
							9.50 mm	
							4.75 mm	
							2.36 mm	100
							1.18 mm	97
							0.600 mm	82
							0.425 mm	47
							0.300 mm	6
							0.150 mm	0
0 (Stamm	0.300 mm	1 18 mm	2.36 mm 4 75 mm	0.5	37.5 mm	75 mm	0.075 mm	0

Visual Classification:



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A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Job Number: 077632049 Sunwater Client: Report Number: 077632049 - 62 PO Box 15536 City East Qld 4002 Client Address: Report Date: 20/08/2009 **Connors River Dam and Pipeline** Project: Page 21 of 30 Connors River , Collaroy Location Sample Location 0937574 Lab No: BCAH01 27/07/2009 Date Sampled: 0.0 - 0.1m 03/08/2009 Date Tested:

Sampled By: G.A.P
Sample Method: -

Material Source: Insitu
For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

Passing Test Method: AS1289.3.6.1 75.00 mm Medium Gravel Coarse Gravel Cobbles Fine Gravel Medium Sand Coarse Sand 53.00 mm 90 37.50 mm 85 26.50 mm 98 75 19.00 mm 70 13.2 mm 65 60 9.50 mm 55 1 100 4.75 mm 50 45 98 2.36 mm 87 1.18 mm 35 58 30 0.600 mm 25 27 0.425 mm 20 5 0.300 mm 0 0.150 mm 0.075 mm 0 3 AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



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BCAH02

0.8 - 0.9m

### **Particle Size Distribution Report**

Job Number: Client: Sunwater 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 22 of 30 Lab No: 0937575 Sample Location

 Date Sampled:
 27/07/2009

 Date Tested:
 03/08/2009

Sampled By: G.A.P
Sample Method: -

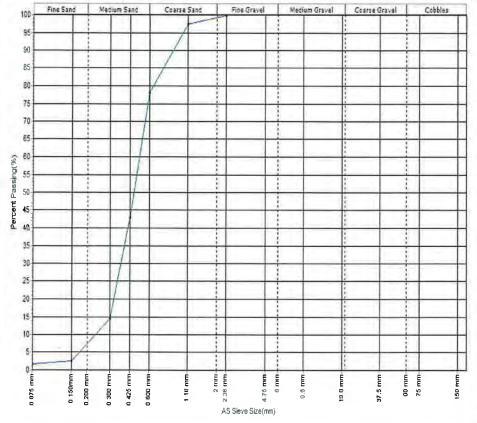
Material Source: Insitu
For Use As: Bedding

Test Method:

Remarks: Sample mass received does not meet the requirements of the test method.

AS1289.3.6.1

Percent A.S. Sieve Sizes Passing 75.00 mm 53.00 mm 37,50 mm 26.50 mm 19.00 mm 13.2 mm 9.50 mm 4.75 mm 100 2.36 mm 97 1.18 mm 0.600 mm 78 0.425 mm 43 0.300 mm 15 0.150 mm 2 0.075 mm 2



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Visual Classification:



1 \

00 0%

Moisture Content (%)

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Job Number:

Report Date:

BCAH03

0.4 - 0.5m

Report Number:

### **Particle Size Distribution Report**

Client: Sunwater

Client Address: PO Box 15536 City East Qld 4002

Project: Connors River Dam and Pipeline

Location Connors River , Collaroy

Lab No: 0937576

Date Sampled: 27/07/2009
Date Tested: 03/08/2009

Sampled By: G.A.P

Sample Method: Material Source: Insitu

For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

A.S. Sieve Sizes Percent
Passing

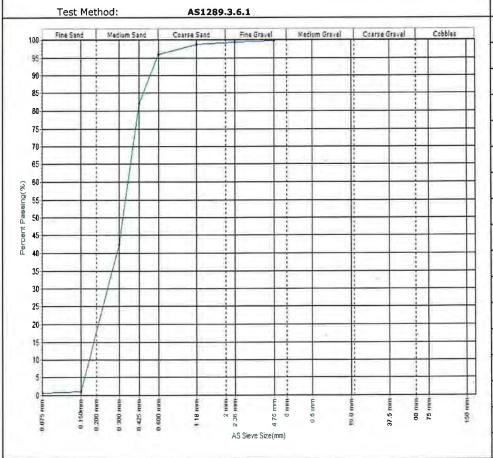
Page 23 of 30

Sample Location

077632049

077632049 - 62

20/08/2009



75.00 mm	
53.00 mm	
37.50 mm	
26.50 mm	
19.00 mm	
13.2 mm	
9.50 mm	
4.75 mm	100
2.36 mm	99
1.18 mm	99
0.600 mm	96
0.425 mm	82
0.300 mm	43
0.150 mm	1
0.075 mm	1
Moisture Content (%)	

Visual Classification:

NATA

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0.2 - 0.3m

A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Client: Job Number: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 24 of 30 Lab No: 0937577 Sample Location HCAH02

Date Sampled: 27/07/2009 Date Tested: 03/08/2009

Sampled By: G.A.P Sample Method:

Material Source: Insitu For Use As: Bedding

Sample mass received does not meet the requirements of the test method. Remarks:

Fine Sand	Medium	Sand	Coarse Sand		ine Gravel	Mad	Madium Gravel (		Coarse Gravel	Cobbles	75.00 mm	
											53.00 mm	
											37.50 mm	
		$\mathbb{H}$		-							26.50 mm	
									Ť		19.00 mm	
											13.2 mm	
											9.50 mm	
									_		4.75 mm	
		$\forall$		+					Ť	+	2.36 mm	100
											1.18 mm	99
				+					-		0.600 mm	96
		П									0.425 mm	86
									-		0.300 mm	61
											0.150 mm	4
0 150mm	0 300 mm-	0 425 mm-	1 18 mm	2 mm-	4 75 mm		E E	37.6 mm	00 mm	75 mm	0.075 mm	1

Visual Classification:



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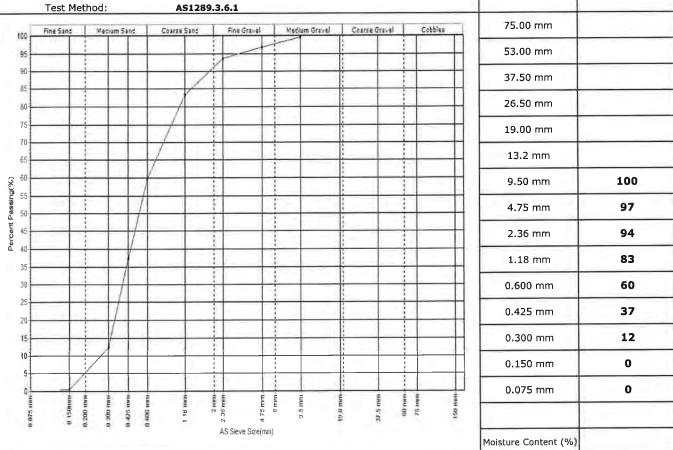
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(P.O. Box 2034, MANSFIELD DC QLD 4122)
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# **Particle Size Distribution Report**

Job Number: Sunwater 077632049 Client: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Client Address: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Project: Page 25 of 30 Connors River , Collaroy Location Sample Location Lab No: 0937578 HCAH03 Date Sampled: 27/07/2009 03/08/2009 0.4 - 0.5m Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: **Bedding** Remarks: Sample mass received does not meet the requirements of the test method. A.S. Sieve Sizes Percent Passing Test Method: AS1289.3.6.1 75.00 mm Cobbles



Visual Classification:



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ABN: 64 006 107 857



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

Percent Passing

### **Particle Size Distribution Report**

Client: Job Number: Sunwater 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: Connors River Dam and Pipeline Report Date: 20/08/2009 Location Connors River , Collaroy Page 26 of 30 Lab No: 0937579 Sample Location Date Sampled: 27/07/2009 HCAH05 Date Tested: 03/08/2009 0.0 - 0.1m Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding Remarks:

Sample mass received does not meet the requirements of the test method.

Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	
							53.00 mm	
							37.50 mm	
							26.50 mm	
							19.00 mm	
							13.2 mm	
							9.50 mm	
							4.75 mm	
							2.36 mm	
							1.18 mm	100
							0.600 mm	93
							0.425 mm	57
							0.300 mm	13
							0.150 mm	1
-	E E		38 mm	2 E	E E	75 mm P81	0.075 mm	1
о 150тт-	0 425 mm	1 16 mm 4	AS Sieve Size (mm)	0 5	37.5 mm	75 mm -150 mm-		

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ABN: 64 006 107 857



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

Percent

### **Particle Size Distribution Report**

Job Number: Client: 077632049 Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River, Collaroy Page 27 of 30 0937580 Sample Location Lab No: NCAH01 Date Sampled: 27/07/2009 0.8 - 0.9m 03/08/2009 Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: Bedding

Remarks: Sample mass received does not meet the requirements of the test method.

Passing Test Method: AS1289.3.6.1 75.00 mm Coarse Sand Fine Gravel Medium Gravel Coarse Gravel 100 53.00 mm 95 90 37.50 mm 85 26.50 mm 80 75 19.00 mm 70 13.2 mm 65 68 9.50 mm 55 4.75 mm 100 50 45 98 2.36 mm 40 1.18 mm 93 35 30 72 0.600 mm 25 43 0.425 mm 20 20 15 0.300 mm 10 0.150 mm 0.075 mm 3 AS Sieve Size(mm) Moisture Content (%)

Visual Classification:



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ABN: 64 006 107 857



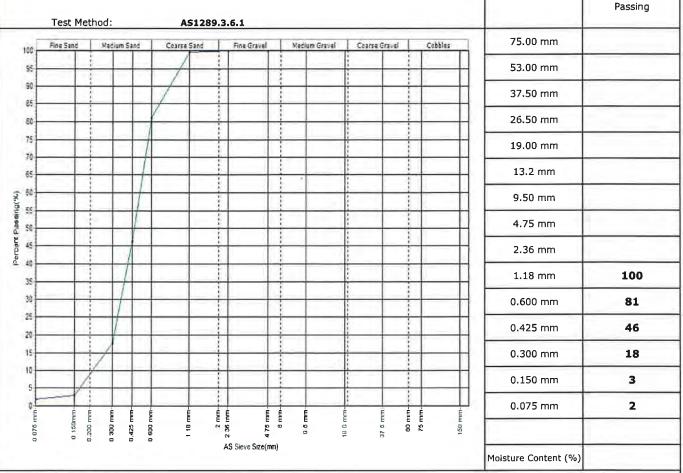
Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

A.S. Sieve Sizes

### **Particle Size Distribution Report**

Job Number: Client: 077632049 Sunwater Client Address: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Project: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Location Connors River , Collaroy Page 28 of 30 Lab No: 0937581 Sample Location Date Sampled: 27/07/2009 NCAH02 0.6 - 0.7m Date Tested: 03/08/2009 Sampled By: G.A.P Sample Method: Material Source: Insitu For Use As: **Bedding** 

Remarks: Sample mass received does not meet the requirements of the test method.



Visual Classification:



Approved Signatory Form Number

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NATA Accred No: 1446

R77-RL-2

Percent

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ABN: 64 006 107 857



Telephone: (61-7) 3343 3166 Facsimile: (61-7) 3849 4705

# **Particle Size Distribution Report**

Job Number: 077632049 Sunwater Client: PO Box 15536 City East Qld 4002 Report Number: 077632049 - 62 Client Address: **Connors River Dam and Pipeline** Report Date: 20/08/2009 Project: Page 29 of 30 Connors River , Collaroy Location Sample Location Lab No: 0937582 DCAH01 27/07/2009 Date Sampled: 0.4 - 0.5m 03/08/2009 Date Tested: Sampled By: G.A.P Sample Method: Material Source: Insitu Bedding For Use As: Remarks: Sample mass received does not meet the requirements of the test method. Percent A.S. Sieve Sizes

Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	75.00 mm	
			-				53.00 mm	
			1				37.50 mm	
							26.50 mm	
						+ +	19.00 mm	100
		1					13.2 mm	-
							9.50 mm	99
							4.75 mm	95
						+ +	2.36 mm	74
							1.18 mm	51
							0.600 mm	23
							0.425 mm	12
							0.300 mm	7
	1						0.150 mm	3
							0.075 mm	2
a 150mm	0.225 mm 0.425 mm	0 600 mm	4 75 mm	9 96	37.5 mm	75 mm		

Visual Classification:



Approved Signatory Form Number

James Angus NATA Accred No:1446 R77-RL-2

Passing

This document is issued in accordance with NATA's accreditation requirements.

(MANSFIELD LABORATORY)
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077632049

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Sample Location

077632049 - 62

20/08/2009

Job Number:

Report Date:

DCAH03

0.8 - 0.9m

Report Number:

### **Particle Size Distribution Report**

Client: Sunwater
Client Address: PO Box 15536 City East Qld 4002

Project: Connors River Dam and Pipeline

Location Connors River , Collaroy

Lab No: **0937583** 

Date Sampled: 27/07/2009
Date Tested: 03/08/2009

Sampled By: G.A.P

Sample Method:

Material Source: Insitu
For Use As: Bedding

Test Method:

100

95

Medium Sand

Remarks: Sample mass received does not meet the requirements of the test method.

Fine Gravel

Medium Gravel

This document is issued in accordance with NATA's accreditation requirements.

Coarse Gravel

AS1289.3.6.1

Coarse Sand

A.S. Sieve Sizes Percent Passing 75.00 mm 53.00 mm 37.50 mm 26.50 mm 19.00 mm 100 13.2 mm 97 9.50 mm 4.75 mm 91 73 2.36 mm 1.18 mm 40 0.600 mm 8 2 0.425 mm 0 0.300 mm 0 0.150 mm 0.075 mm 0

90 80 75 70 55 1 î 50 45 40 35 30 20 15 10 8 % 0.800 150 0.200 AS Sieve Size(mm)

Visual Classification:



Approved Signatory

Moisture Content (%)

Form Number

James Angus NATA Accred No:1446

s Angus R77-



### **CRD TO MORANBAH PIPELINE**

# **APPENDIX D**

**Limitations** 



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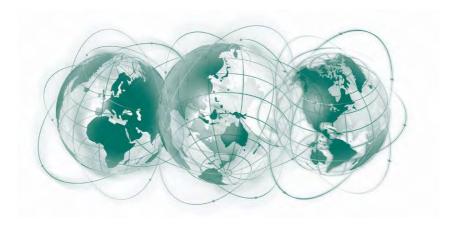
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