Ground Science

GEOTECHNICAL INVESTIGATION REPORT

EGSC COMPOST FACILITY, FORGE CREEK

Prepared for SMEC Australia (Docklands, VIC)

4 July 2023
GSSW1879
Reports GSSW1879-1

GROUND SCIENCE SOUTH WEST PTY LTD
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APPENDICIES

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1.0 INTRODUCTION

Ground Science South West Pty Ltd (Ground Science) has prepared this report to present the results of a limited scope geotechnical investigation undertaken for the project identified as EGSC Compost Facility, located at 175 Johnstons Road, Forge Creek (the site). The scope of works herein was commissioned by SMEC Australia Pty Ltd (the Client).

2.0 PROJECT BACKGROUND & UNDERSTANDING

It is understood the project involves the construction of a new composting facility for the East Gippsland Shire Council, including a site processing shed, a weighbridge, a leachate treatment pond, composting facility and an internal access road with a driveway tie in to the existing Johnstons Road. A site map is provided in Appendix A of this report.

3.0 SCOPE OF WORK

Ground Science was commissioned to excavate a series of pavement dippings, shoulder dippings and test pits within the section defined by our client to establish the existing pavement and subsoil profile. Works were completed inside the private property at 175 Johnstons Road, Forge Creek and along the existing Johnstons Road, Forge Creek. In summary, the following scope of works were performed:

- Excavation of 2 pavement dippings (PD) within the existing Johnstons Road sealed pavement to a target depth of 1.0m or prior refusal;
- Excavation of 2 shoulder dippings (SD) within the existing Johnstons Road unsealed shoulders to a target depth of 1.0m or prior refusal;
- Excavation of 16 test pits (TP) along the proposed internal access road to a target depth of 1.5m below existing surface levels or prior refusal;
- The continuation of 5 of the above test pits to a target depth of 2.0m below existing surface levels or prior refusal, to determine founding conditions of manhole chambers;
- Excavation of 10 test pits (TP) within the proposed hard stand to a target depth of 1.5m below existing surface levels or prior refusal;
- Excavation of 4 test pits (LPTP) to within the proposed leachate treatment pond to a target depth of 3.0m below existing surface levels or prior refusal;
- Each pavement and shoulder dipping was cut by hand using concrete saws, jackhammers and hand augers to ensure an accurate pavement profile determination;
- Each test pit excavated with a 1.7T Yanmar ViO17 excavator using a 300mm wide toothed bucket or a 450mm toothed bucket and a 300mm power auger attachment to ensure a minimum site footprint;
- Logging of pavement/shoulder dippings and test pits and soil profiles in accordance with AS1726 (2017), including depth to bedrock and/or groundwater (where encountered);
- The performance of Dynamic Cone Penetrometer (DCP) tests from the top of subgrade to a depth of 1.5m below or refusal;

Granular fill material from the pavement and shoulder dippings was recovered for laboratory testing including Particle Size Distribution, Atterberg Limits tests, Soaked California Bearing Ratio (CBR) and Field Moisture Content tests.

In-situ subgrade materials from the test pits was recovered for laboratory testing including Particle Size Distribution, Atterberg Limits tests, Soaked California Bearing Ratio (CBR), Triaxial Permeability and Field Moisture Content tests.

A laboratory test summary is provided in Appendix B of this report.

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4.0 FIELD INVESTIGATION

A field investigation was undertaken between the 15th of May and the 19th of May 2023. The locations of the pavement dippings, shoulder dippings and test pits were in accordance with the scope of works.

The site along the existing Johnstons Road was observed to be generally undulating, with shrubs to large-sized vegetation present on both sides of the pavement. Drainage conditions were observed to be generally fair with fair surface runoff. At the time of our investigation, the pavement condition of the existing Johnstons Road was observed to be generally fair. Total fill depth observed in Johnstons Road road reserve varied between 200mm to 800mm below existing surface level.

The site inside of 175 Johnstons Road was observed to be generally undulating. Shrubs were located throughout the proposed test area inside 175 Johnstons Road, with medium to large trees on the fence line surrounding the property and two large trees inside the property boundary. Drainage conditions were observed to be generally poor with poor surface runoff. Total topsoil depth observed in 175 Johnstons Road varied between 200mm to 400mm below existing surface level.

Groundwater was not observed in the scope of the investigation.

An understanding of the regional geological conditions was obtained via review of the GeoVic online seamless geology (2014) map sheet. The results of the review show that the site consists of Pliocene to Quaternary aged alluvial trace deposits overlying the Pliocene to Pleistocene aged Haunted Hills Formation deposits. A boundary between these two units was noted to be located to the north and east of the site. Deposits from both units was observed at the site and have been included in soil classifications of the observed subsoils present in the engineering logs.

Engineering Logs of the pavement dippings, shoulder dippings and test pits are presented in Appendix C of this report.

5.0 DISCLOSURE

This document is detailed for the sole use of the intended recipient(s) or its authorised representatives. Distribution of this report may be carried out at the Clients discretion and must be reproduced in full. Should you have any questions related to this report please do not hesitate to contact the undersigned.

For and on behalf of

Ground Science South West Pty Ltd

AUTHOR:	**REVIEWED:**
Michael Knez	**Thomas Seitz**
Geotechnical Engineer	**Geotechnical Engineer**

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6.0 LIMITATIONS

This type of investigation (as per our commission) is not designed or capable of locating all soil conditions, (which can vary even over short distances). The advice given in this report is based on the assumption that the test results are representative of the overall soil conditions. However, it should be noted that actual conditions in some parts of the Site might differ from those found. If further sampling reveals soil conditions significantly different from those shown in our findings, Ground Science must be consulted.

The scope and the period of Ground Science services are described in the proposal and are subject to restrictions and limitations. Ground Science did not perform a complete assessment of all possible conditions or circumstances that may exist at the site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Ground Science South in regards to it.

Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by Ground Science for incomplete or inaccurate data supplied by others.

It is recognised that the passage of time affects the information and assessment provided in this document. Ground Science's assessment is based on information that existed at the time of the preparation of this document. It is understood that the services provided allowed Ground Science to form no more than an opinion of the actual site conditions observed during sampling and observations of the site visit and cannot be used to assess the effects of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

Any drawings or figures presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

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APPENDIX A

Site Plan & Dipping Locations

175 Johnstons Road

Forge Creek

Legend

- Pavement Dipping (PD)
- Shoulder Dipping (SD)
- Test Pit (TP)

LPTP04
LPTP02
LPTP01
TP25
TP22
TP20
TP24
TP17
TP19
TP26
TP23
TP21
TP16
TP18
TP15
TP14
TP13
TP12
TP11
TP09
TP10
TP07
TP06
TP08
TP05
TP04
TP01
SD02
TP02
PD01
TP03
SD01
PD02
JOHNSTONS ROAD
N
200 m

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APPENDIX B

Laboratory Testing

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LABORATORY TESTING SUMMARY

Client:	SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)	**Job No**	GSSW1879
Project:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY	**Sampled By**	MK & GD
Location:	FORGE CREEK		

Site No.	Layer (m)	Lab Ref No.	Soil Class.	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425um	75um	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)	Permeability
PD01	0.025m - 0.6m	1879-S1	GC	100	99	83	67	55	49	25	13	23	13	10	30	0.0	-
PD02	0.025m - 0.3m	1879-S2	GM-GC	100	94	78	63	52	47	28	15	20	12	8	45	0.0	-
SD01	0.1m - 0.8m	1879-S3	GM-GC	100	96	80	65	54	48	27	14	20	14	6	30	0.0	-
TP01	0.3m - 1.25m	1879-S4	CH	-	-	-	-	100	99	97	91	66	24	42	1.5	3.0	-
TP02	1.15m - 1.8m	1879-S5	CL	-	-	-	-	-	100	98	90	33	17	16	-	-	-
TP03	1.1m - 1.5m	1879-S6	CL	-	-	-	100	99	99	96	80	31	17	14	5	0.5	-
TP04	1.2m - 1.9m	1879-S7	CI	-	-	-	-	-	100	95	81	41	15	26	-	-	-
TP05	0.55m - 1.2m	1879-S8	CI	-	-	-	-	-	100	91	64	36	14	22	3.0	1.0	-
TP07	0.4m - 1.1m	1879-S9	CH	-	-	-	-	-	100	95	77	53	19	34	3.0	2.0	-
TP09	0.35m - 1.3m	1879-S10	CH	-	-	-	-	-	100	93	65	56	19	37	2.5	2.0	-

NO – Denotes Not Obtainable
NP – Denotes Non-Plastic

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Location:	FORGE CREEK		

Site No.	Layer (m)	Lab Ref No.	Soil Class.	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425um	75um	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)	Permeability
TP10	0.7m - 1.7m	1879-S11	CI	-	-	-	-	-	100	97	75	48	17	31	-	-	-
TP12	1.5m - 1.7m	1879-S12	CH	-	100	97	94	93	92	88	77	58	15	43	-	-	-
TP13	0.3m - 1.5m	1879-S13	CI	-	-	-	-	-	100	95	77	50	17	33	3.5	1.0	-
TP14	1.0m - 1.6m	1879-S14	CL	-	-	100	99	99	98	89	58	34	13	21	-	-	-
TP15	0.6m - 1.25m	1879-S15	CI	-	-	-	100	99	99	90	54	36	12	24	2.5	1.5	-
TP19	0.7m - 1.2m	1879-S16	CI	-	-	-	-	-	100	96	86	41	17	24	-	-	-
TP20	1.2m - 1.5m	1879-S17	CH	100	95	92	88	84	82	71	62	96	26	70	-	-	-
TP23	0.4m - 1.5m	1879-S18	CH	-	-	100	99	98	98	92	85	88	27	61	-	-	-
TP24	0.4m - 1.1m	1879-S19	CH	-	100	99	97	92	91	58	77	78	47	31	-	-	-
TP25	0.8m - 1.3m	1879-S20	CH	100	97	89	83	78	74	60	50	70	27	43	-	-	-

NO – Denotes Not Obtainable
NP – Denotes Non-Plastic

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LABORATORY TESTING SUMMARY

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Project:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY	**Sampled By**	MK & GD
Location:	FORGE CREEK		

Site No.	Layer (m)	Lab Ref No.	Soil Class.	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425um	75um	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)	Permeability (m/sec)
LPTP01	0.4m - 2.0m	1879-S21	CI	-	-	-	-	-	100	90	56	40	12	28	4.5	1.0	$1x10^{-10}$
LPTP02	1.2m - 3.0m	1879-S22	CH	-	-	-	-	-	100	641	44	61	20	41	2.5	2.5	-
LPTP03	1.2m - 2.5m	1879-S23	CH	-	-	-	-	100	99	60	45	52	16	36	3.0	1.5	-
LPTP04	0.55m - 2.5m	1879-S24	CH	-	-	-	-	-	100	93	65	61	18	43	1.5	2.0	$4x10^{-11}$
LPTP01	0.4m - 2.0m	1879-S25	CI	-	-	-	-	-	100	90	56	40	12	28	4.5	1.0	$9x10^{-11}$
LPTP04	0.55m - 2.0m	1879-S26	CH	-	-	-	-	-	100	93	65	61	18	43	1.5	2.0	$2x10^{-11}$
TP19 + TP24 + TP25 + TP26	0.4m - 1.5m	1879-S27	CH	-	100	99	96	92	80	81	74	69	28	41	-	-	$3x10^{-10}$
TP19 + TP24 + TP25 + TP26	0.4m - 1.5m	1879-S28	CH	-	100	99	96	92	80	81	74	69	28	41	-	-	$2x10^{-10}$

NO – Denotes Not Obtainable
NP – Denotes Non-Plastic

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APPENDIX C

Engineering Logs

Ground Science South West
Pavement Investigation Report

Job Information

Client	SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)	Job No	GSSW1879
Project	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY	Site No	PD01 – Westbound Lane
Location	FORGE CREEK	Date Sampled	15/06/2023
GPS Coordinates	-37.878788°, 147.620237° Offset – 1.2m South of Centre Line	Sampled By	MK & GD

Site Information

Topography	In General – Undulating Locally – Dip	Trees	Shrubs, Small to Large
		Site Code	MS
Drainage	In General – Fair Locally – Fair, Vegetation	Drainage Type	RHS: Spoon Drain LHS: Spoon Drain
Surface Condition	In General – Fair, Transverse Shape – Fair, Longitudinal Shape – Fair Faults – Rutting <10mm, Slick/Flushing & Edge Drop Off	Width of Seal Formation Width	5.3m 7.2m

Field Pavement Profile Logs

Layer (mm) From	Layer (mm) To	Layer Description	Lab Reference No.	NMC (%)	Depth (mm)
0	25	ASPHALT.	-	-	-
25	600	FILL: GC - sandy, clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 36% fine to coarse grained, dense, dry.	1879-S1, 1879-S29	3.5	220
600	750	silty SAND, with gravel, dark brown, fine to coarse grained, low plasticity, gravel rounded fine to coarse, medium dense, dry (inferred alluvial deposits).	-	-	-
750	850	sandy SILT/CLAY, pale grey, low plasticity, sand fine to coarse grained, hard, dry (inferred alluvial deposits).	-	-	-
850	1000	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine grained, gravel fine, very stiff to hard, dry to moist (inferred alluvial deposits).	1879-S30	18.5	950
1000	-	TERMINATED.	-	-	-

Laboratory Test Results

Lab Ref. No.	Soil Class	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425µm	75µm	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)
1897-S1	GC	100	99	83	67	55	49	25	13	23	13	10	30	0.0

GroundScience

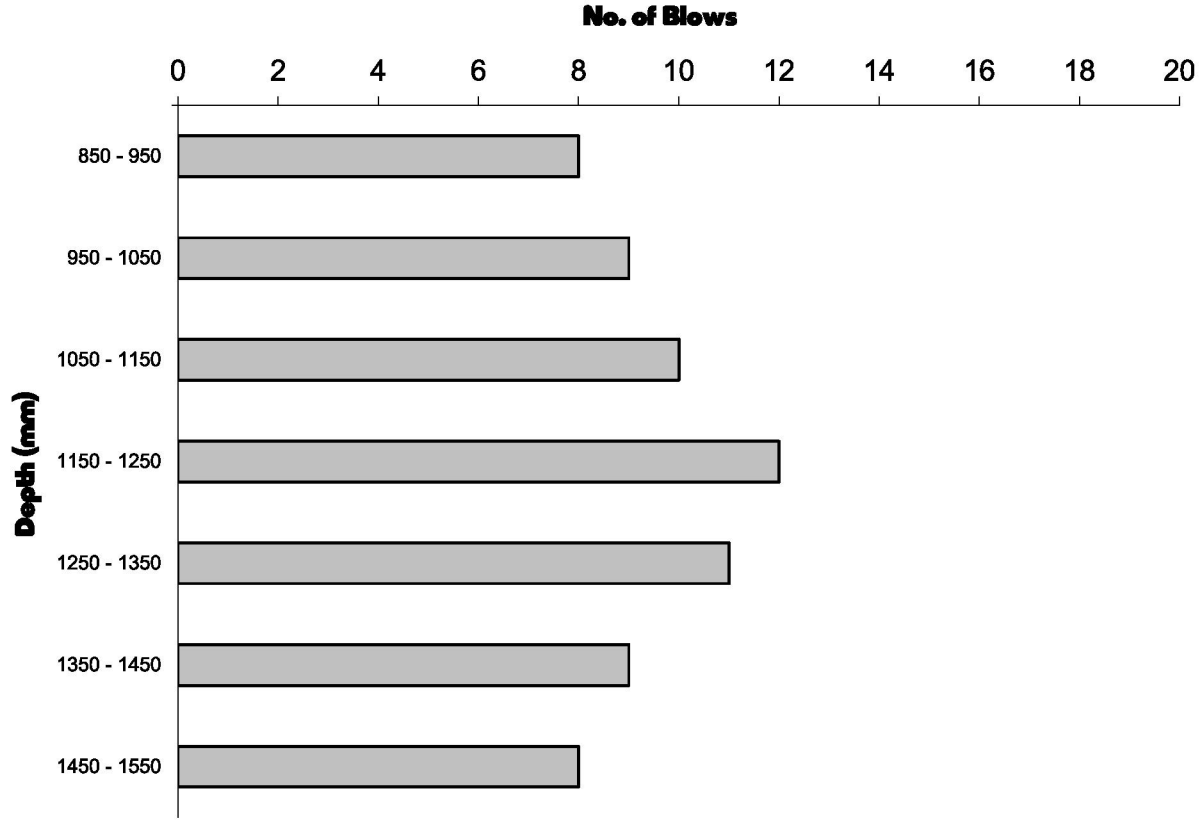
DYNAMIC CONE PENETROMETER - AS1289 6.3.2

A C N 612 825 313
10 Dowsett Street, South Geelong, VIC 3220

Client: SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)
Project: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Location: FORGE CREEK
Test Number: -
Test Location: PD01
Datum: 850

Job No: GSSW1879
Report No: GSSW1879-1
Date Tested: 15/05/2023
Tested By: MK & GD

Dynamic Cone Penetrometer (DCP) Profile



Notes:

NATA Accredited Laboratory No. 20109
Accredited for compliance with ISO/IEC 17025 - Testing

Chris Mamalis
Approved Signatory
Date 30-Jun-23

Site Photographs

Site Photographs

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
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Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

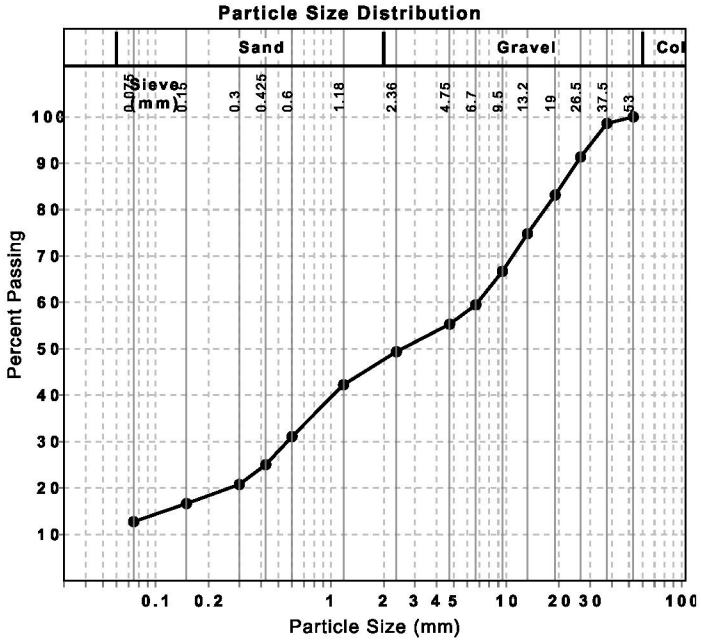
Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S1
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**PD01, Depth: 0.025m - 0.6m**
Material:	FILL: GC - sandy, clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 36% fine to coarse grained, dense, dry.

Particle Size Distribution (AS1141.11.1)						
Sample Washing	Sample was Washed					
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
53 mm	**100**			0		
37.5 mm	**99**			1		
26.5 mm	**91**			7		
19 mm	**83**			8		
13.2 mm	**75**			8		
9.5 mm	**67**			8		
6.7 mm	**59**			7		
4.75 mm	**55**			4		
2.36 mm	**49**			6		
1.18 mm	**42**			7		
0.6 mm	**31**			11		
0.425 mm	**25**			6		
0.3 mm	**21**			4		
0.15 mm	**17**			4		
0.075 mm	**13**			4		



Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	23		
Plastic Limit (%)	13		
Plasticity Index (%)	**10**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**4.0**		
Cracking Crumbling Curling	Cracking		

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

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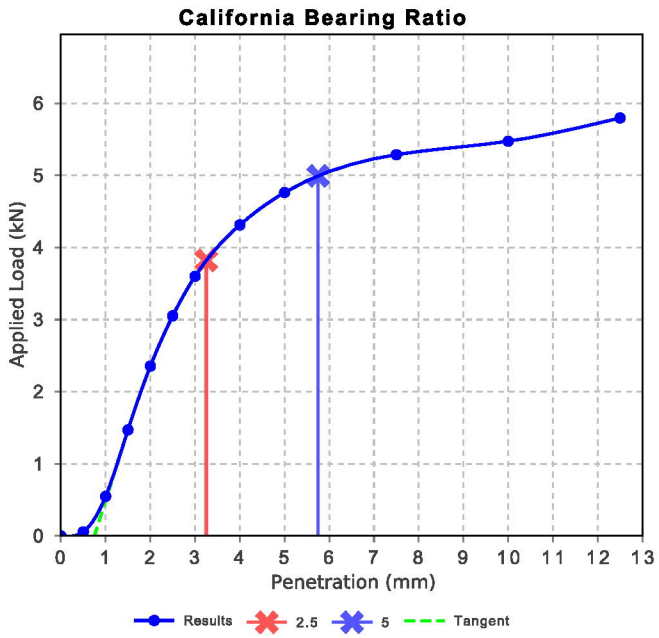
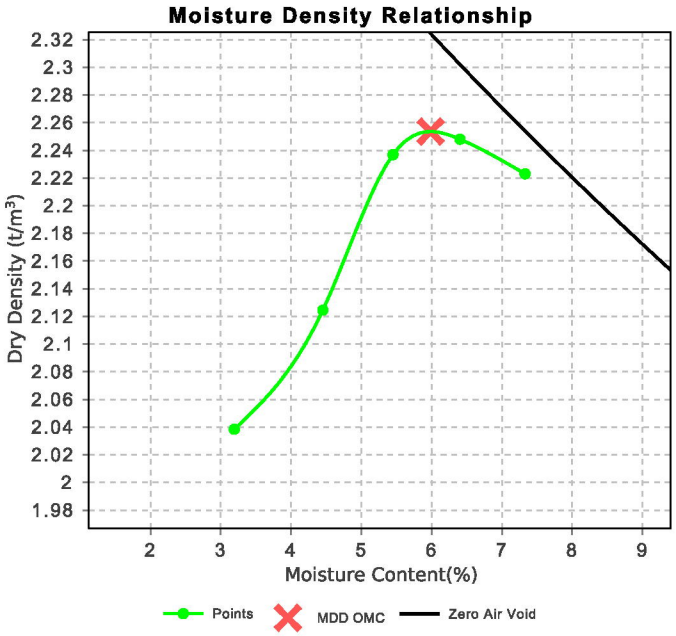
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S1
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 09/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**PD01, Depth: 0.025m - 0.6m**
Material:	FILL: GC - sandy, clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 36% fine to coarse grained, dense, dry.

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**30**		
Method of Compactive Effort	Modified		
Method used to Determine MDD	AS 1289 5.2.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	2.25		
Optimum Moisture Content (%)	6.0		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	97.5		
Dry Density after Soaking (t/m^3)	2.21		
Field Moisture Content (%)			
Moisture Content at Placement (%)	5.9		
Moisture Content Top 30mm (%)	6.6		
Moisture Content Rest of Sample (%)	6.3		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	153.2		
Swell (%)	0.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	16.2		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.2.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Modified		
Maximum Dry Density (t/m^3)	2.25		
Optimum Moisture Content (%)	6.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	16		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	95.1		





Ground Science South West
Pavement Investigation Report

Job Information

Client	SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)		Job No	GSSW1879
Project	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY		Site No	PD02 – Eastbound Lane
Location	FORGE CREEK		Date Sampled	15/06/2023
GPS Coordinates	-37.878596°, 147.619039°	Offset – 1.3m North of Centre Line	Sampled By	MK & GD

Site Information

Topography	In General – Undulating Locally – Steep Slope	Trees	Shrubs, Small to Large
		Site Code	MS
Drainage	In General – Fair Locally – Fair, Vegetation	Drainage Type	RHS: Spoon Drain LHS: Spoon Drain
Surface Condition	In General – Fair, Transverse Shape – Fair, Longitudinal Shape – Fair Faults – Rutting <10mm, Slick/Flushing & Edge Drop Off	Width of Seal Formation Width	5.2m 7.4m

Field Pavement Profile Logs

Layer (mm)		Layer Description	Lab Reference No.	NMC (%)	Depth (mm)
From	To				
0	25	SPRAY SEAL	-	-	-
25	300	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 32% fine to coarse grained, dense, dry.	1879-S2, 1879-S33	3.6	210
300	1000	CLAY, trace sand, orange mottled brown, low plasticity, sand fine grained, gravel fine, stiff to very stiff, moist (inferred alluvial deposits).	1879-S34	13.9	950
1000	-	TERMINATED.	-	-	-

Laboratory Test Results

Lab Ref. No.	Soil Class	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425µm	75µm	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)
1897-S2	GM-GC	100	94	78	63	52	47	28	15	20	12	8	45	0.0

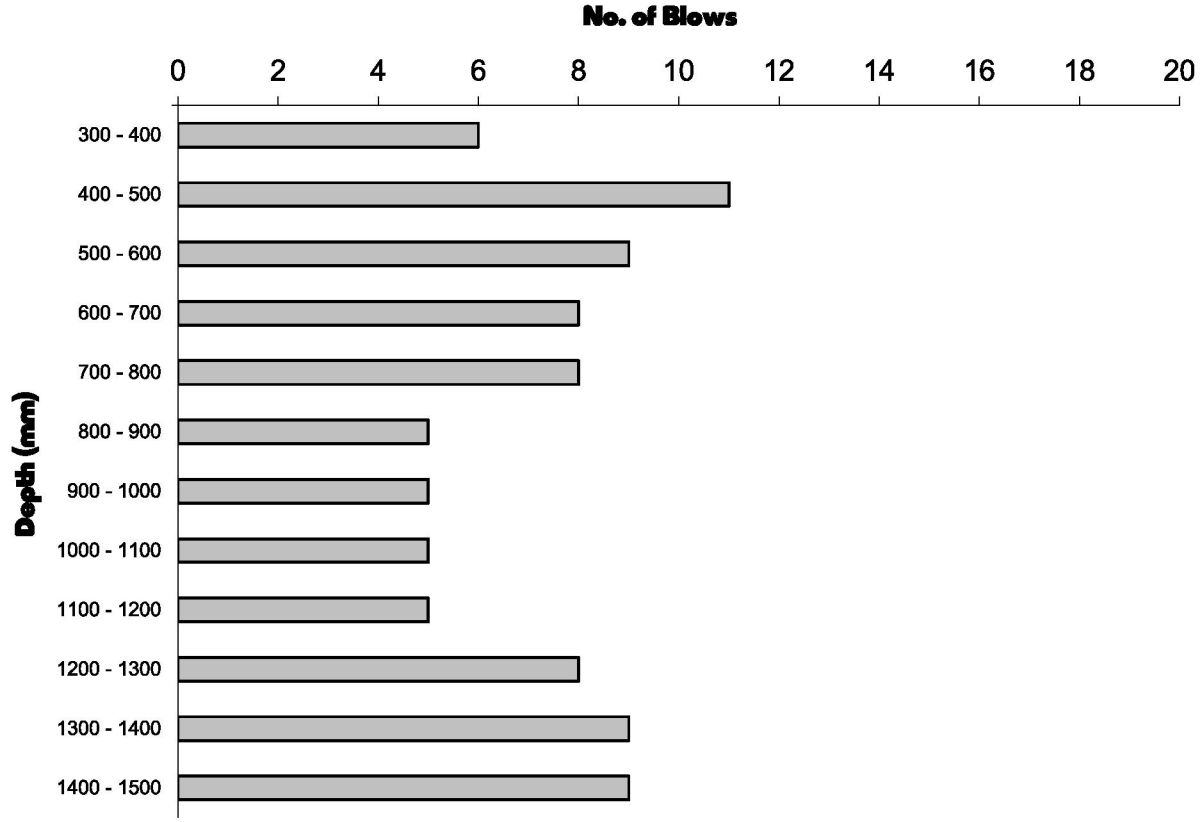
DYNAMIC CONE PENETROMETER - AS1289 6.3.2

GroundScience
A C N 612 825 313
10 Dowsett Street, South Geelong, VIC 3220

Client: SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)
Project: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Location: FORGE CREEK
Test Number: -
Test Location: PD02
Datum: 300

Job No: GSSW1879
Report No: GSSW1879-1
Date Tested: 15/05/2023
Tested By: MK & GD

Dynamic Cone Penetrometer (DCP) Profile



Notes:

NATA Accredited Laboratory No. 20109
Accredited for compliance with ISO/IEC 17025 - Testing

Chris Mamalis
Approved Signatory
Date 30-Jun-23

Site Photographs

Site Photographs

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

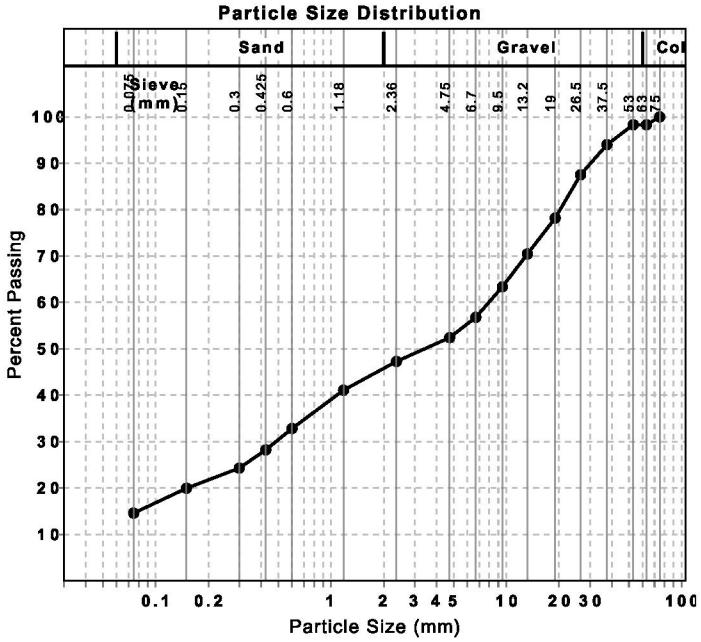
Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S2
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**PD02, Depth: 0.025m - 0.3m**
Material:	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 32% fine to coarse grained, dense, dry.

Particle Size Distribution (AS1141.11.1)						
Sample Washing	Sample was Washed					
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
75 mm	**100**			0		
63 mm	**98**			2		
53 mm	**98**			0		
37.5 mm	**94**			4		
26.5 mm	**88**			6		
19 mm	**78**			9		
13.2 mm	**70**			8		
9.5 mm	**63**			7		
6.7 mm	**57**			7		
4.75 mm	**52**			4		
2.36 mm	**47**			5		
1.18 mm	**41**			6		
0.6 mm	**33**			8		
0.425 mm	**28**			5		
0.3 mm	**24**			4		
0.15 mm	**20**			4		
0.075 mm	**15**			5		



Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	20		
Plastic Limit (%)	12		
Plasticity Index (%)	**8**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**3.0**		
Cracking Crumbling Curling	Cracking		

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

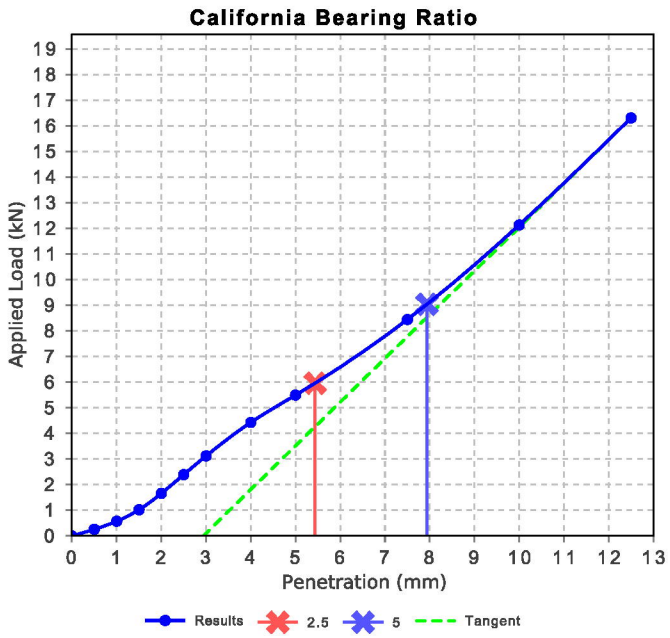
NATA
WORLD RECOGNISED ACCREDITATION

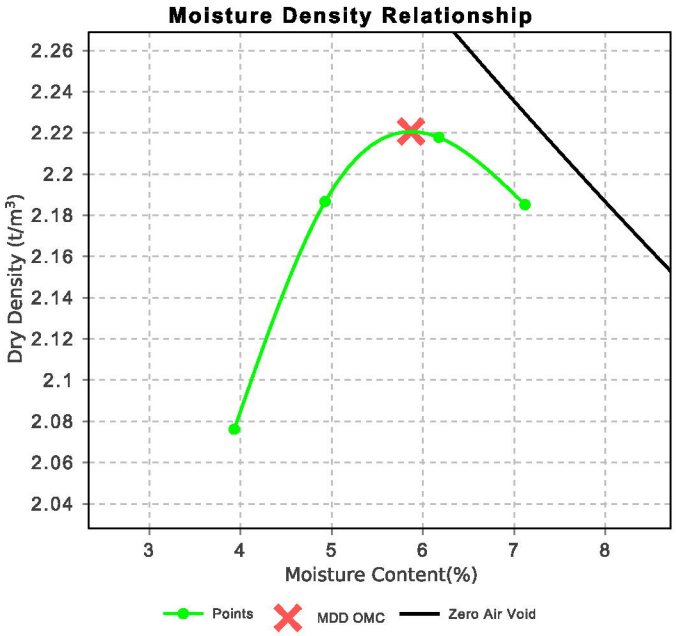
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S2
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 09/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**PD02, Depth: 0.025m - 0.3m**
Material:	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 32% fine to coarse grained, dense, dry.

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	**45**		
Method of Compactive Effort	Modified		
Method used to Determine MDD	AS 1289 5.2.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	2.22		
Optimum Moisture Content (%)	6.0		
Laboratory Density Ratio (%)	98.5		
Laboratory Moisture Ratio (%)	96.5		
Dry Density after Soaking (t/m^3)	2.18		
Field Moisture Content (%)			
Moisture Content at Placement (%)	5.7		
Moisture Content Top 30mm (%)	6.4		
Moisture Content Rest of Sample (%)	6.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	56.7		
Swell (%)	0.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	21.1		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.2.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Modified		
Maximum Dry Density (t/m^3)	2.22		
Optimum Moisture Content (%)	6.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	21		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	94.9		





Ground Science South West
Pavement Investigation Report

Job Information

Client	SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)		Job No	GSSW1879
Project	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY		Site No	SD01 – Westbound Shoulder
Location	FORGE CREEK		Date Sampled	15/06/2023
GPS Coordinates	-37.878930°, 147.620995°	Offset – 0.8m South of Edge Line	Sampled By	MK & GD

Site Information

Topography	In General – Undulating Locally – Dip	Trees	Shrubs, Small to Large
		Site Code	SH
Drainage	In General – Fair Locally – Fair, Vegetation	Drainage Type	RHS: Spoon Drain LHS: Spoon Drain
Surface Condition	In General – Fair, Transverse Shape – Fair, Longitudinal Shape – Fair Faults – Rutting <10mm, Slick/Flushing & Edge Drop Off	Width of Seal Formation Width	5.3m 7.3m

Field Pavement Profile Logs

Layer (mm)		Layer Description	Lab Reference No.	NMC (%)	Depth (mm)
From	To				
0	100	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	-	-	-
100	800	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 34% fine to coarse grained, dense, dry.	1879-S3 1879-S31,1798-S32	5.2, 5.7	200, 780
800	-	REFUSAL.	-	-	-

Laboratory Test Results

Lab Ref. No.	Soil Class	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425µm	75µm	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)
1897-S3	GM-GC	100	96	80	65	54	48	27	14	20	14	6	30	0.0

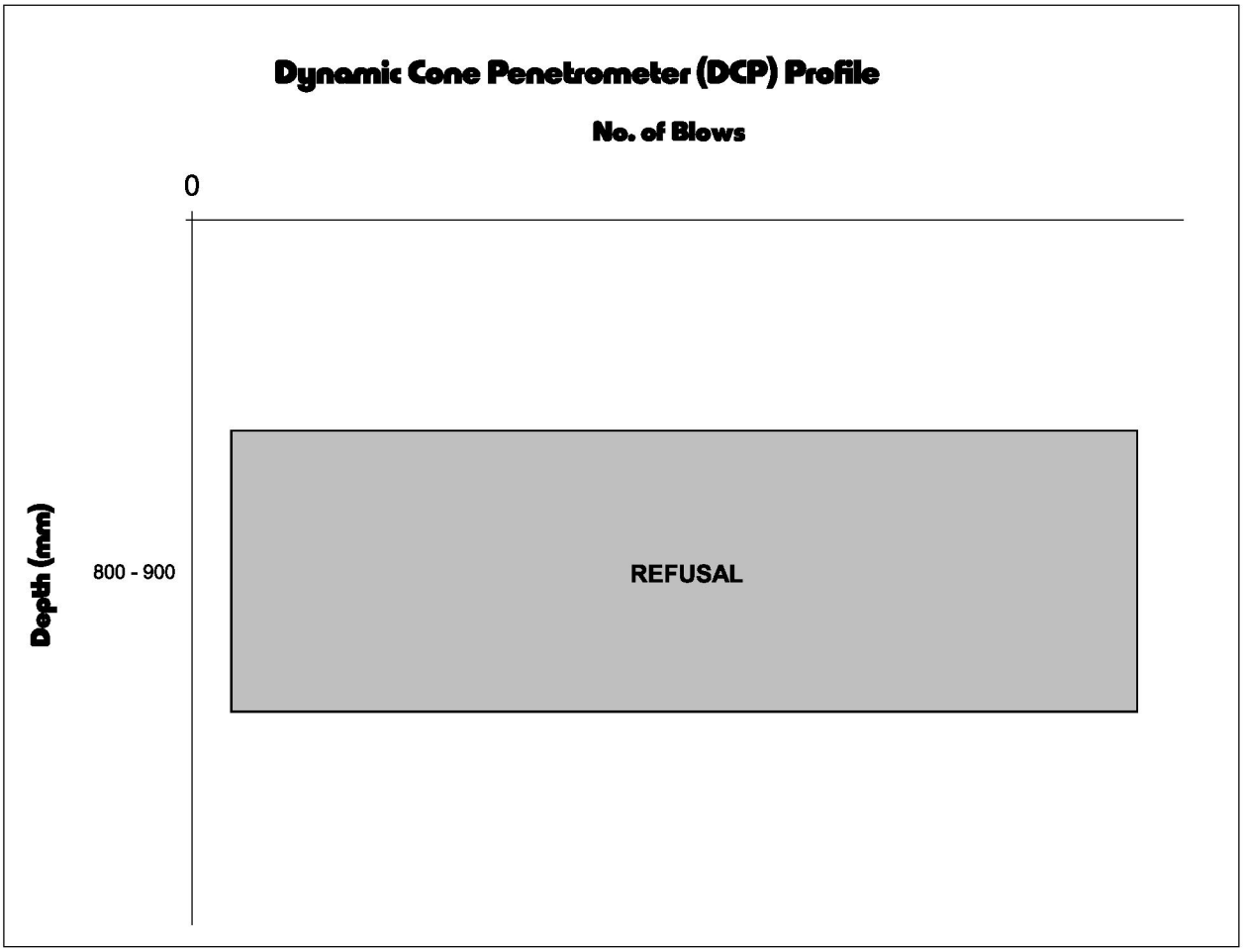
DYNAMIC CONE PENETROMETER - AS1289 6.3.2

GroundScience
A C N 612 825 313
10 Dowsett Street, South Geelong, VIC 3220

Client: SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)
Project: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Location: FORGE CREEK
Test Number: -
Test Location: SD01
Datum: 800

Job No: GSSW1879
Report No: GSSW1879-1
Date Tested: 15/05/2023
Tested By: MK & GD

Dynamic Cone Penetrometer (DCP) Profile



Notes: Immediate Refusal on GRAVEL

NATA Accredited Laboratory No. 20109
Accredited for compliance with ISO/IEC 17025 - Testing

Chris Mamalis
Approved Signatory
Date 30-Jun-23

Site Photographs

Site Photographs

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

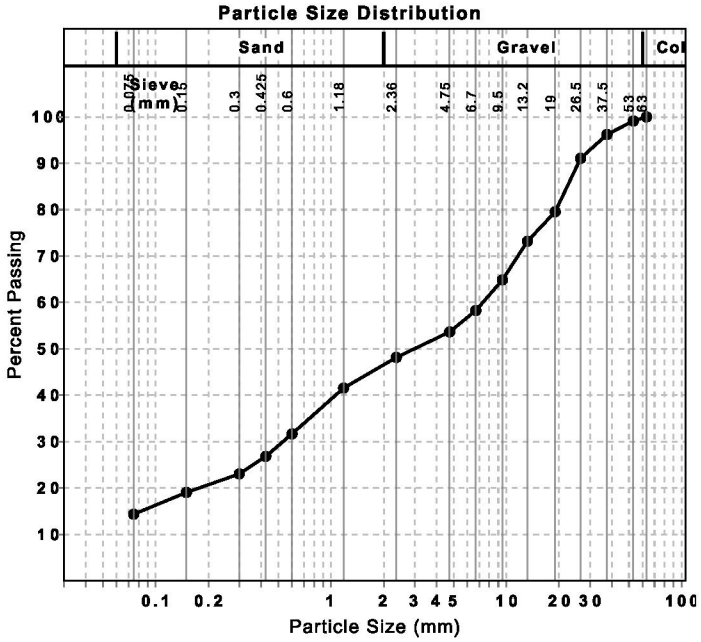
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

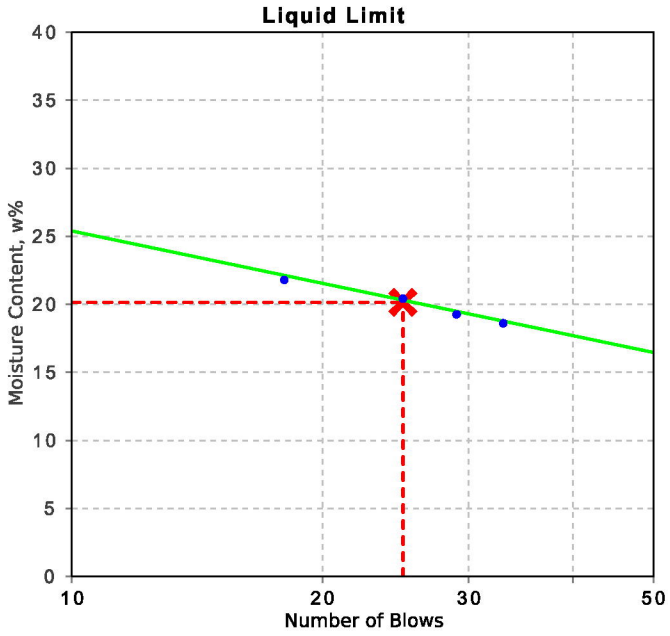
Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S3
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 08/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**SD01, Depth: 0.1m - 0.8m**
Material:	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 34% fine to coarse grained, dense, dry.

Particle Size Distribution (AS1141.11.1)						
Sample Washing	Sample was Washed					
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
63 mm	**100**			0		
53 mm	**99**			1		
37.5 mm	**96**			3		
26.5 mm	**91**			5		
19 mm	**80**			12		
13.2 mm	**73**			6		
9.5 mm	**65**			8		
6.7 mm	**58**			7		
4.75 mm	**54**			5		
2.36 mm	**48**			6		
1.18 mm	**42**			7		
0.6 mm	**32**			10		
0.425 mm	**27**			5		
0.3 mm	**23**			4		
0.15 mm	**19**			4		
0.075 mm	**14**			5		

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	20		
Plastic Limit (%)	14		
Plasticity Index (%)	**6**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**3.0**		
Cracking Crumbling Curling	Cracking		





Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
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Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

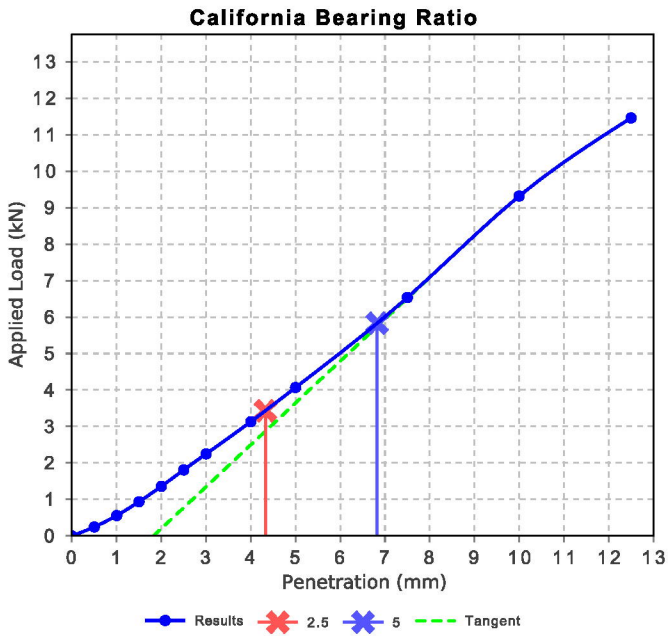
NATA
WORLD RECOGNISED ACCREDITATION

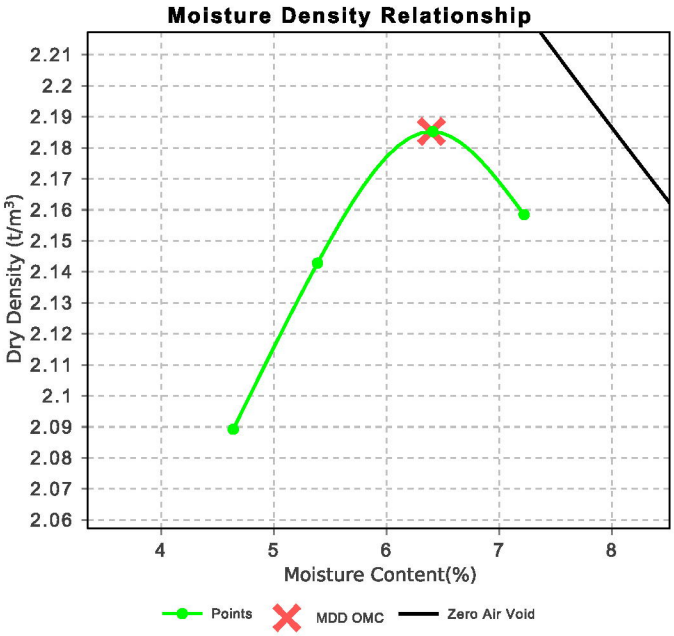
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S3
Date Sampled:	15/05/2023
Dates Tested:	24/05/2023 - 09/06/2023
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**SD01, Depth: 0.1m - 0.8m**
Material:	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 34% fine to coarse grained, dense, dry.

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	**30**		
Method of Compactive Effort	Modified		
Method used to Determine MDD	AS 1289 5.2.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	2.19		
Optimum Moisture Content (%)	6.5		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	103.0		
Dry Density after Soaking (t/m^3)	2.14		
Field Moisture Content (%)			
Moisture Content at Placement (%)	6.6		
Moisture Content Top 30mm (%)	7.2		
Moisture Content Rest of Sample (%)	6.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	152.4		
Swell (%)	0.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	19.5		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.2.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Modified		
Maximum Dry Density (t/m^3)	2.19		
Optimum Moisture Content (%)	6.5		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	20		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	94.7		





Ground Science South West
Pavement Investigation Report

Job Information

Client	SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)		Job No	GSSW1879
Project	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY		Site No	SD02 – Westbound Shoulder
Location	FORGE CREEK		Date Sampled	15/06/2023
GPS Coordinates	-37.878729°, 147.619590°	Offset – 1.4m South of Edge Line	Sampled By	MK & GD

Site Information

Topography	In General – Undulating Locally – Steep Slope	Trees	Shrubs, Small to Large
		Site Code	SH
Drainage	In General – Fair Locally – Fair, Vegetation	Drainage Type	RHS: Spoon Drain LHS: Spoon Drain
Surface Condition	In General – Fair, Transverse Shape – Fair, Longitudinal Shape – Fair Faults – Rutting <10mm, Slick/Flushing & Edge Drop Off	Width of Seal Formation Width	5.3m 7.3m

Field Pavement Profile Logs

Layer (mm)		Layer Description	Lab Reference No.	NMC (%)	Depth (mm)
From	To				
0	100	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	-	-	-
100	200	sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand fine to coarse grained, dense, dry.	1879-S35	7.3	150
200	1000	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine grained, gravel fine, stiff to very stiff, dry to moist (inferred alluvial deposits).	1879-S36	17.2	900
1000	-	TERMINATED.	-	-	-

Laboratory Test Results

Lab Ref. No.	Soil Class	75mm	37.5mm	19mm	9.5mm	4.75mm	2.36mm	425µm	75µm	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soaked CBR (%)	Swell (%)
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

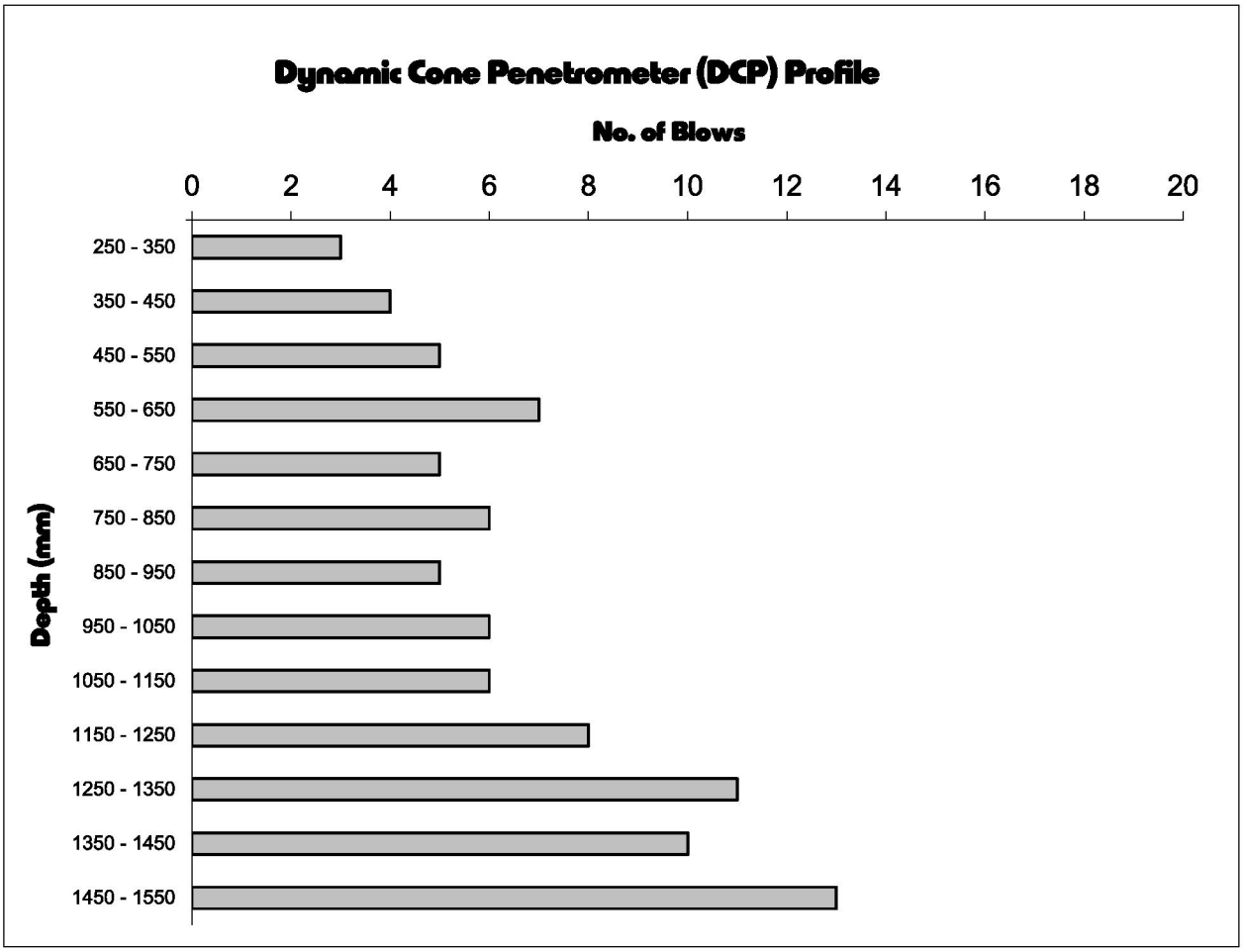
GroundScience

DYNAMIC CONE PENETROMETER - AS1289 6.3.2

A C N 612 825 313
10 Dowsett Street, South Geelong, VIC 3220

Client: SMEC AUSTRALIA PTY LTD (DOCKLANDS, VIC)
Project: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Location: FORGE CREEK
Test Number: -
Test Location: SD02
Datum: 250

Job No: GSSW1879
Report No: GSSW1879-1
Date Tested: 15/05/2023
Tested By: MK & GD



Notes:

NATA Accredited Laboratory No. 20109
Accredited for compliance with ISO/IEC 17025 - Testing

Chris Mamalis
Approved Signatory
Date 30-Jun-23

Site Photographs

Site Photographs

Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

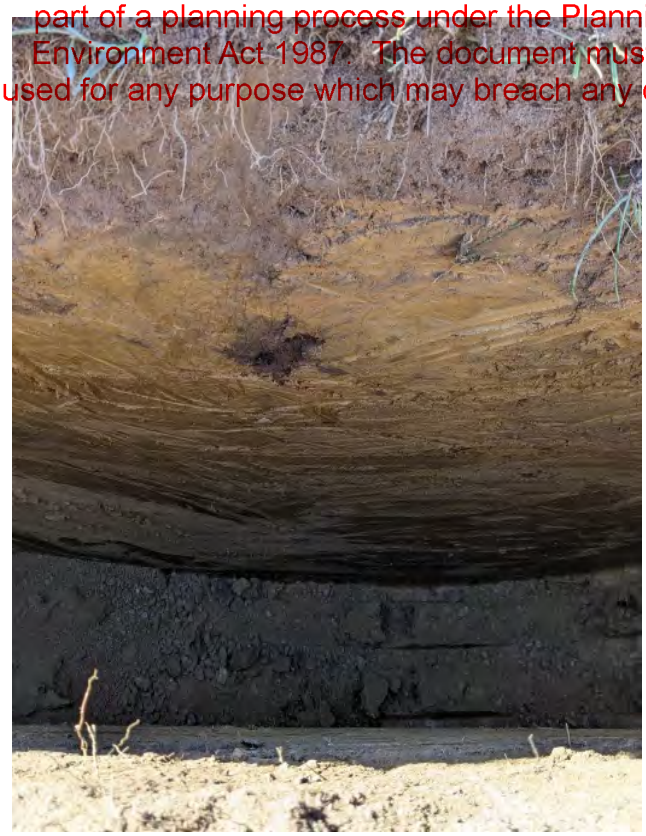
Engineering Log - Testpit

Testpit No: TP01

Latitude	: -37.879078	Excavator	: Yanmar VIO17
Longitude	: 147.619412	Excavator Supplier	: Ground Science South West
Elevation	Not Surveyed	Logged By	: MK
Total Depth	: 1.5m	Reviewed By	:
		Date	: 16/05/2023

Job Number	: GSSW1879
Client	: SMEC AUSTRALIA PTY LTD
Project	: EGSC COMPOST FACILITY
Location	: FORGE CREEK
Loc Comment	:

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 2 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
3 4 5 5 5 5 6 6 8 12	0.5 1 1.25		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 8% fine grained, gravel 1%, stiff to very stiff, moist (inferred alluvial deposits).	St-VSt	M	
15 20	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	1879-S4
R	2 2.5 3			**TP01 Terminated at 1.5m**			



GroundScience
(03) 5282 1566
10 Dowsett St.
South Geelong. Victoria 3220
admin@groundscience.com.au

Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP01	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
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Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

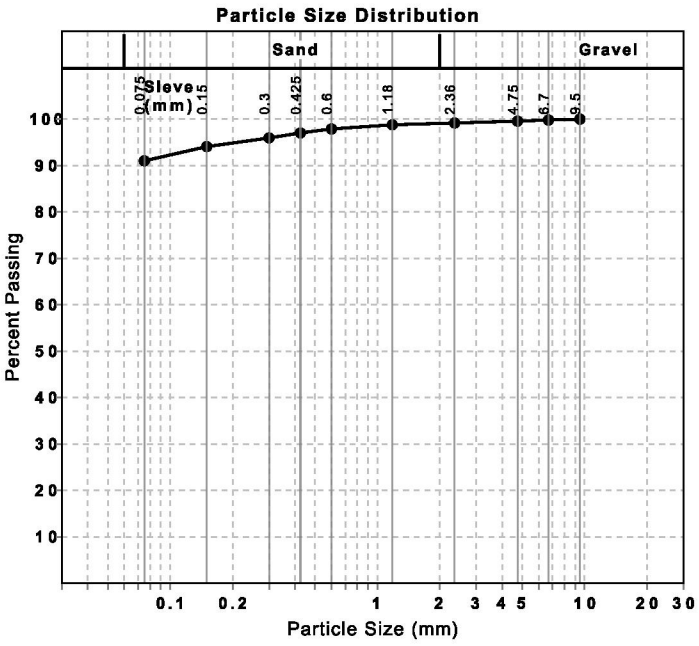
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S4
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 13/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP01, Depth: 0.3m - 1.25m**
Material:	CH - CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 8% fine grained, gravel 1%, stiff to very stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
9.5 mm	**100**			0		
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**99**			0		
1.18 mm	**99**			0		
0.6 mm	**98**			1		
0.425 mm	**97**			1		
0.3 mm	**96**			1		
0.15 mm	**94**			2		
0.075 mm	**91**			3		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	66		
Plastic Limit (%)	24		
Plasticity Index (%)	**42**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**14.0**		
Cracking Crumbling Curling	Cracking & Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

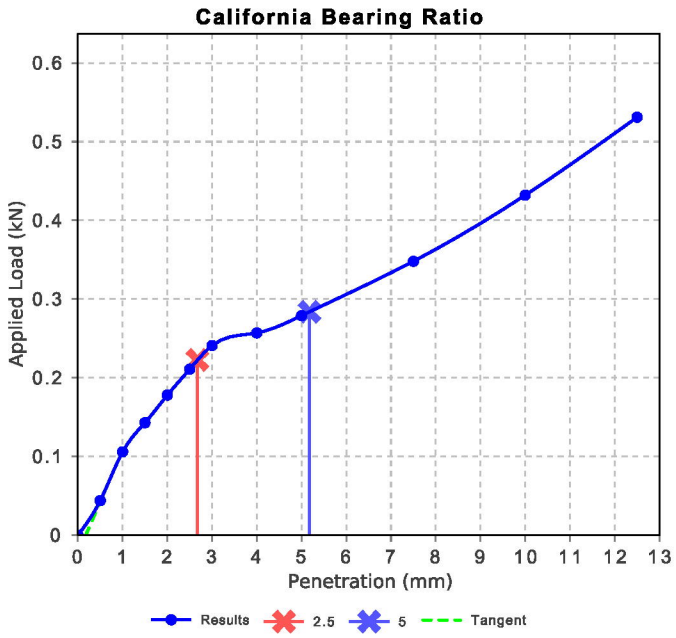
NATA
WORLD RECOGNISED ACCREDITATION

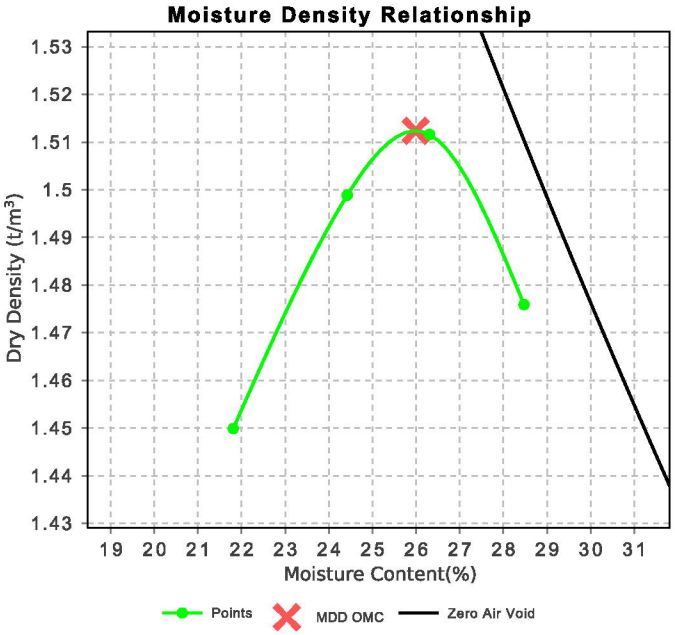
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S4
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP01, Depth: 0.3m - 1.25m**
Material:	CH - CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 8% fine grained, gravel 1%, stiff to very stiff, moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**1.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.51		
Optimum Moisture Content (%)	26.0		
Laboratory Density Ratio (%)	98.5		
Laboratory Moisture Ratio (%)	101.5		
Dry Density after Soaking (t/m^3)	1.45		
Field Moisture Content (%)			
Moisture Content at Placement (%)	26.4		
Moisture Content Top 30mm (%)	33.8		
Moisture Content Rest of Sample (%)	26.5		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	381.8		
Swell (%)	3.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.51		
Optimum Moisture Content (%)	26.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	197.2		





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Engineering Log - Testpit

Testpit No: TP02

Latitude : -37.879798	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619944	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.8m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 1 2	0.25		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, dry to moist, organics.	S-F	D-M	
2 2 4 5 4 4 5 5 6 8	0.5 1 1.15		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff to very stiff, moist (inferred alluvial deposits).	St-VSt	M	
10 14 19	1.5		CL	CLAY, trace sand, orange mottled grey, low plasticity, sand 10% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	
	2 2.5 3			**TP02 refusal at 1.8m**			1879-S5

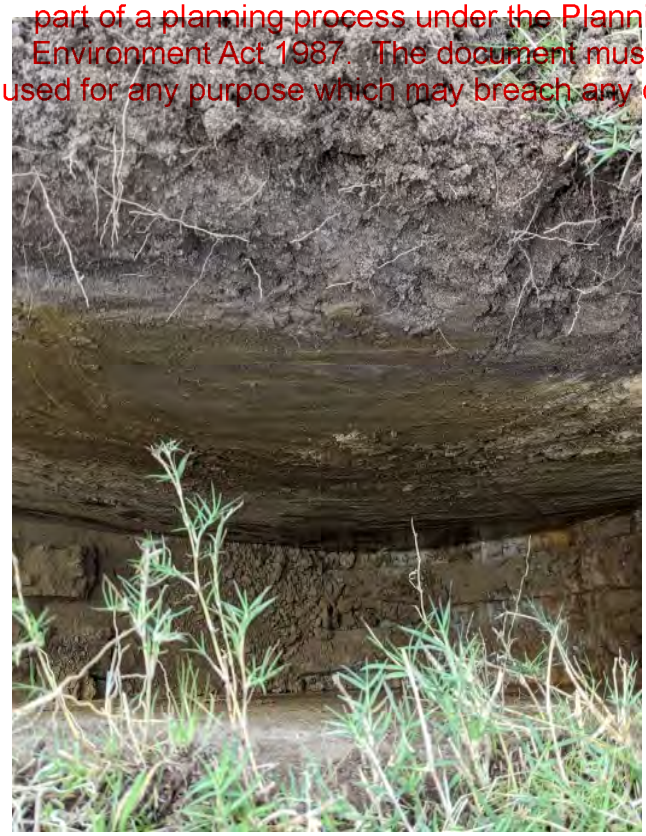

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP02	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

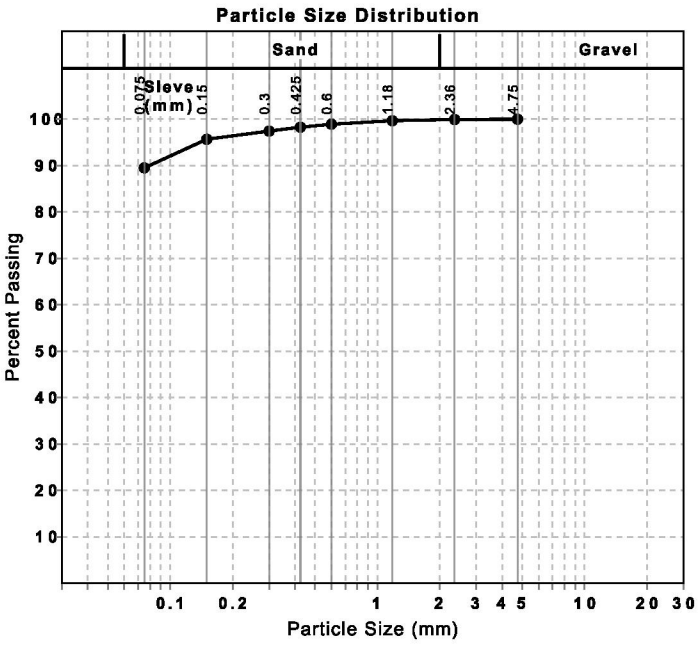
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S5
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 08/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP02, Depth: 1.15m - 1.8m**
Material:	CL - CLAY, trace sand, orange mottled grey, low plasticity, sand 10% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**100**			0		
0.6 mm	**99**			1		
0.425 mm	**98**			1		
0.3 mm	**97**			1		
0.15 mm	**96**			2		
0.075 mm	**90**			6		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	33		
Plastic Limit (%)	17		
Plasticity Index (%)	**16**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**6.0**		
Cracking Crumbling Curling	Cracking		



Ground Science South West
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Engineering Log - Testpit

Testpit No: TP03

Latitude : -37.879415	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620494	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2, 2, 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm, moist, organics.	F	M	
2, 2, 2, 2, 3, 3, 4, 8	1.1		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff to very stiff, dry to moist (inferred alluvial deposits).	St-VSt	D-M	
10, 13, 16, 19	1.5		CL	CLAY, with sand, trace gravel, orange mottled brown, low plasticity, sand 19% fine to medium grained, gravel 1%, hard, dry to moist (inferred alluvial deposits).	H	D-M	
				TP03 Terminated at 1.5m			1879-S6

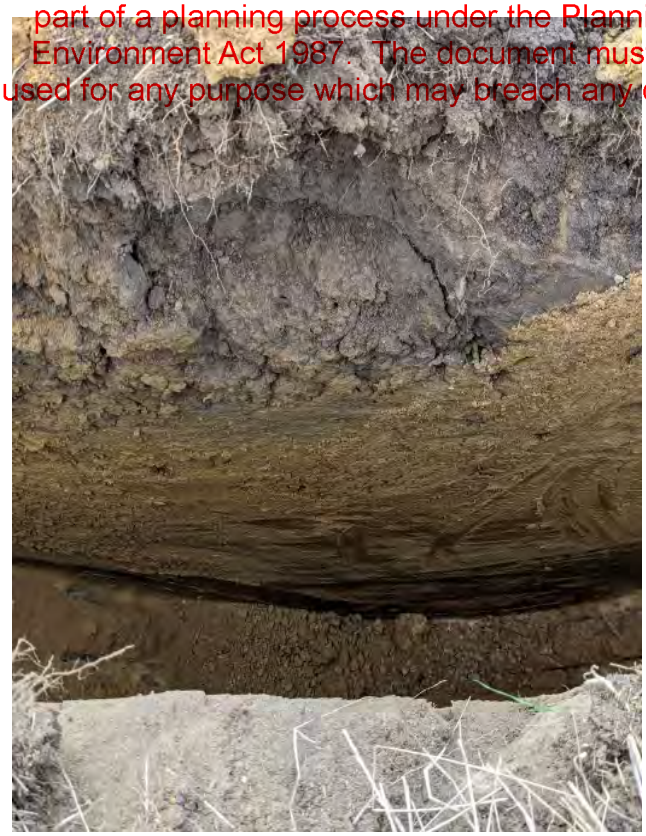

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP03	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

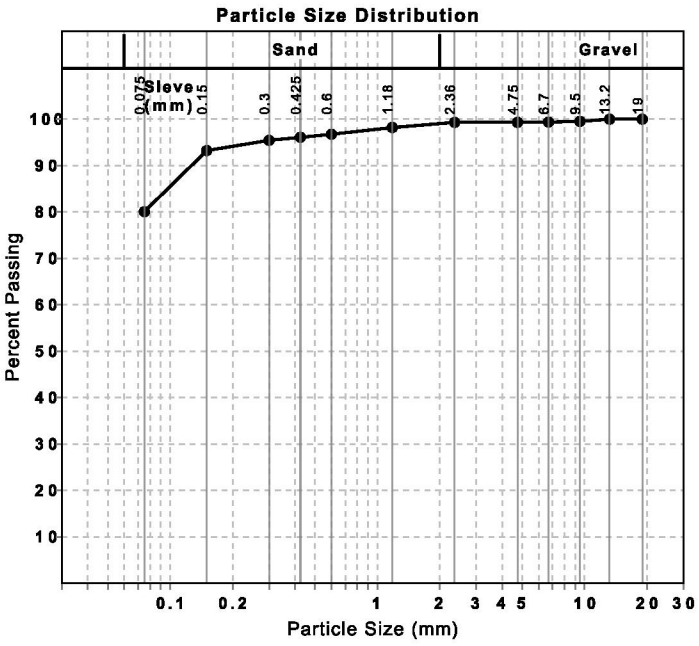
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S6
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 08/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP03, Depth: 1.1m - 1.5m**
Material:	CL - CLAY, with sand, trace gravel, orange mottled brown, low plasticity, sand 19% fine to medium grained, gravel 1%, hard, dry to moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
19 mm	**100**			0		
13.2 mm	**100**			0		
9.5 mm	**100**			0		
6.7 mm	**99**			0		
4.75 mm	**99**			0		
2.36 mm	**99**			0		
1.18 mm	**98**			1		
0.6 mm	**97**			1		
0.425 mm	**96**			1		
0.3 mm	**95**			1		
0.15 mm	**93**			2		
0.075 mm	**80**			13		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	31		
Plastic Limit (%)	17		
Plasticity Index (%)	**14**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**5.5**		
Cracking Crumbling Curling	Cracking		



Material Test Report

Ground Science South West
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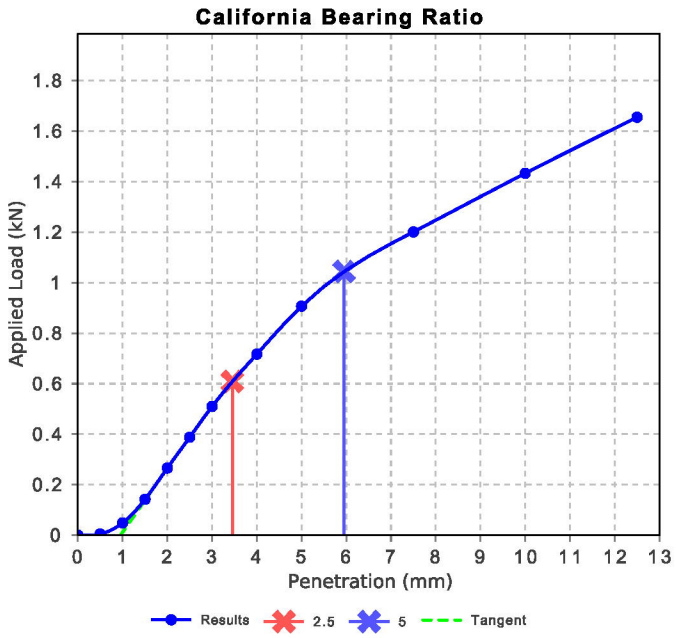
NATA
WORLD RECOGNISED ACCREDITATION

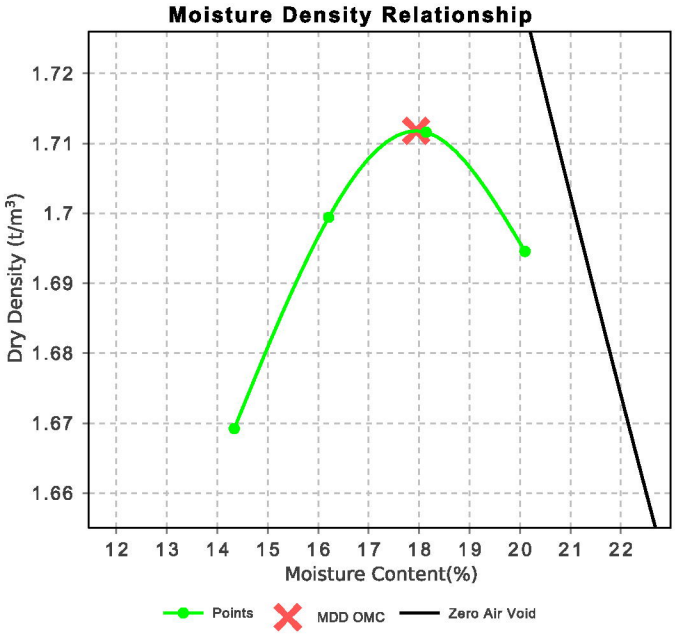
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S6
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP03, Depth: 1.1m - 1.5m**
Material:	CL - CLAY, with sand, trace gravel, orange mottled brown, low plasticity, sand 19% fine to medium grained, gravel 1%, hard, dry to moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	**5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.71		
Optimum Moisture Content (%)	18.0		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	101.5		
Dry Density after Soaking (t/m^3)	1.67		
Field Moisture Content (%)			
Moisture Content at Placement (%)	18.2		
Moisture Content Top 30mm (%)	21.8		
Moisture Content Rest of Sample (%)	18.5		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	380.6		
Swell (%)	0.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.71		
Optimum Moisture Content (%)	18.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	260.2		





Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP04

Latitude : -37.879784	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620746	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.9m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2, 2, 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm, moist, organics.	F	M	
12, 12, 9, 8, 9	0.8		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff to very stiff, moist (inferred alluvial deposits).	VSt-H	D	
6, 6, 7, 7	1.2		Cl	CLAY, with sand, orange mottled grey, medium plasticity, sand 19% fine to medium grained, stiff to very stiff, dry to moist (inferred alluvial deposits).	St-VSt	D-M	
7, 8, 13	1.5		Cl	CLAY, with sand, orange mottled grey, medium plasticity, sand 19% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	
	2			**TP04 refusal at 1.9m**			1879-S7
	2.5						
	3						

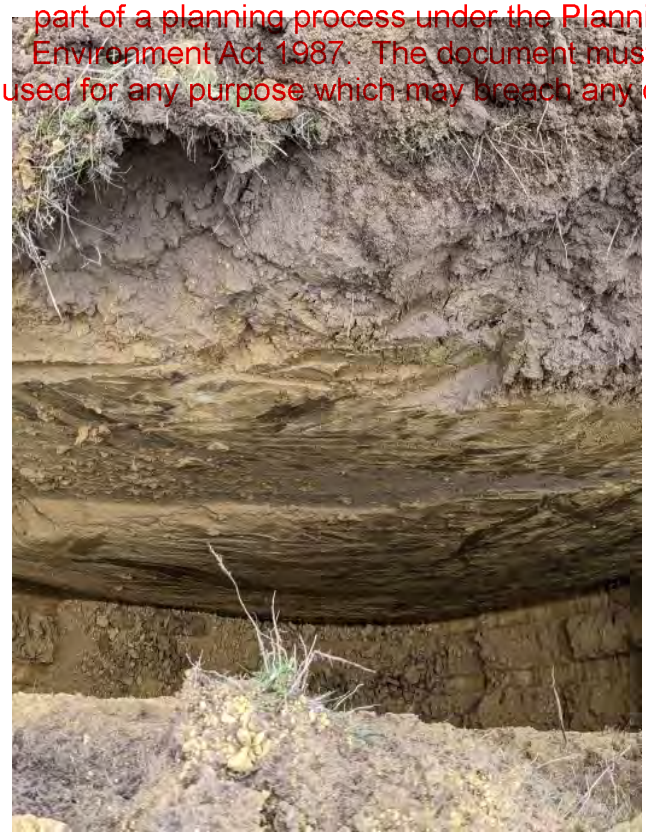


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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP04	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

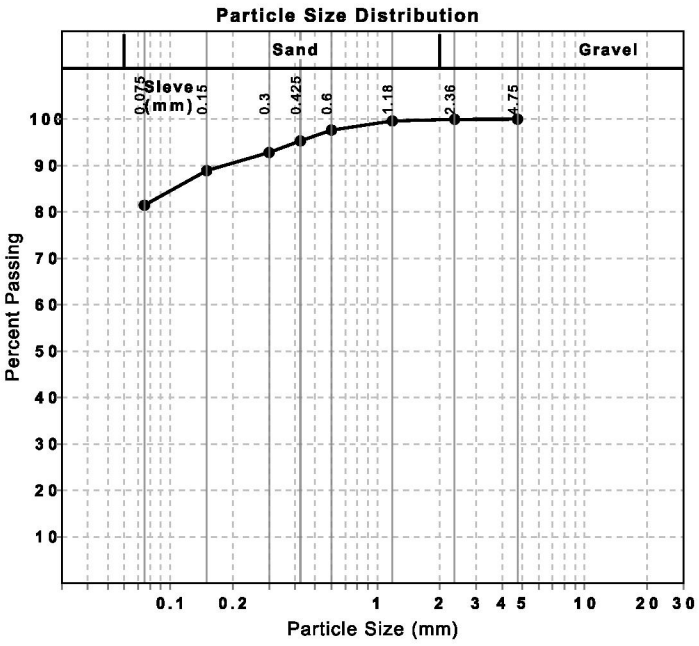
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S7
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP04, Depth: 1.2m - 1.9m**
Material:	CI - CLAY, with sand, orange mottled grey, medium plasticity, sand 19% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**100**			0		
0.6 mm	**98**			2		
0.425 mm	**95**			2		
0.3 mm	**93**			3		
0.15 mm	**89**			4		
0.075 mm	**81**			7		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	41		
Plastic Limit (%)	15		
Plasticity Index (%)	**26**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**8.5**		
Cracking Crumbling Curling	Curling		



Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP05

Latitude : -37.880239	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620563	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 2 1	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
3 3 4	0.5 0.55		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
6 6 6 6 6 6	1 1.2		Cl	sandy CLAY, orange mottled brown, medium plasticity, sand 36% fine to coarse grained, stiff, dry to moist (inferred alluvial deposits).	St	D-M	
7 9 11	1.5		Cl	As above, orange grey, moist.	VSt-H	M	1879-S8
	2 2.5 3			**TP05 Terminated at 1.5m**			

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South Geelong. Victoria 3220
admin@groundscience.com.au

Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP05	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

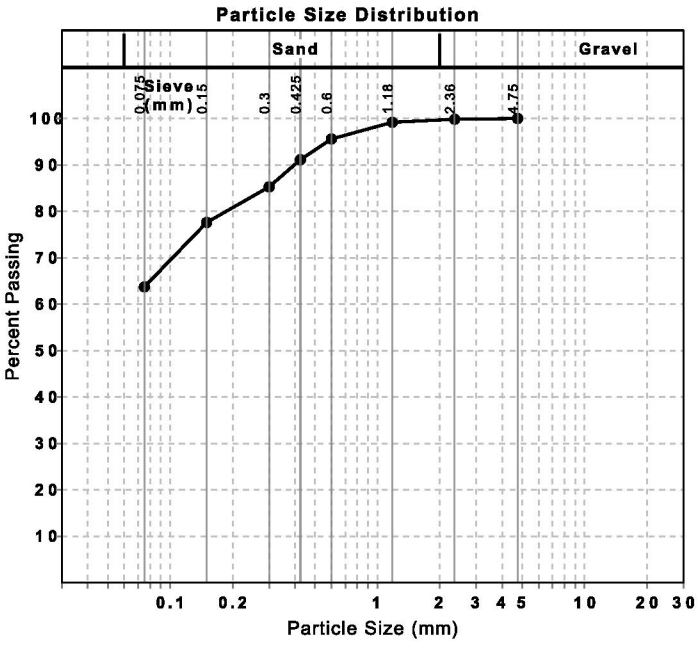
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S8
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 08/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP05, Depth: 0.55m - 1.2m**
Material:	CI - sandy CLAY, orange mottled brown, medium plasticity, sand 36% fine to coarse grained, stiff, dry to moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**99**			1		
0.6 mm	**96**			4		
0.425 mm	**91**			4		
0.3 mm	**85**			6		
0.15 mm	**78**			8		
0.075 mm	**64**			14		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	36		
Plastic Limit (%)	14		
Plasticity Index (%)	**22**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**8.0**		
Cracking Crumbling Curling	Cracking		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

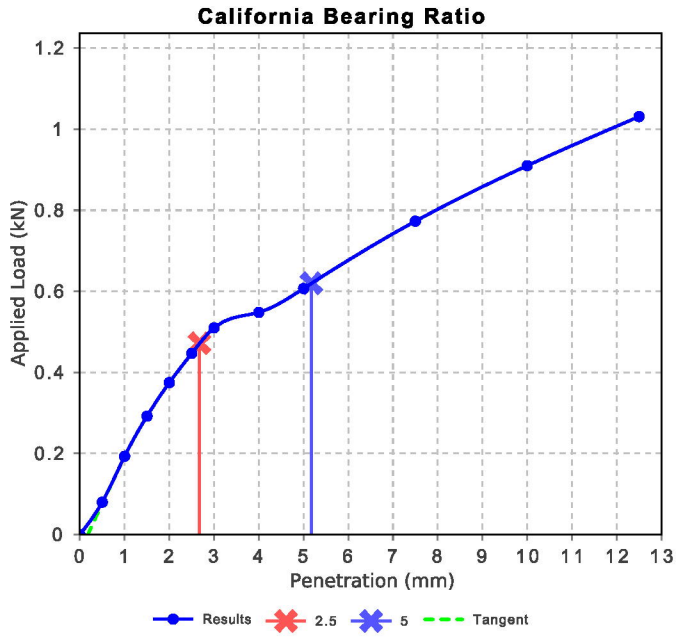
NATA
WORLD RECOGNISED ACCREDITATION

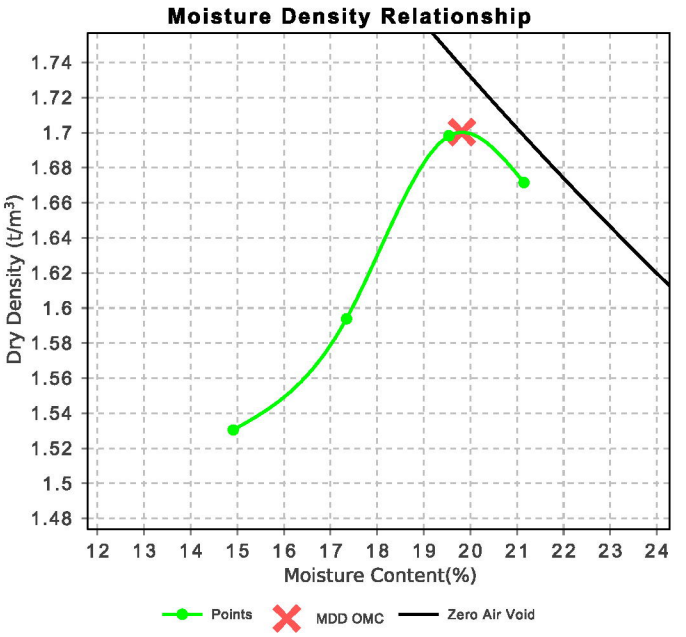
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S8
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP05, Depth: 0.55m - 1.2m**
Material:	CI - sandy CLAY, orange mottled brown, medium plasticity, sand 36% fine to coarse grained, stiff, dry to moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**3.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.70		
Optimum Moisture Content (%)	20.0		
Laboratory Density Ratio (%)	98.5		
Laboratory Moisture Ratio (%)	99.5		
Dry Density after Soaking (t/m^3)	1.65		
Field Moisture Content (%)			
Moisture Content at Placement (%)	19.7		
Moisture Content Top 30mm (%)	21.9		
Moisture Content Rest of Sample (%)	20.1		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	380.0		
Swell (%)	1.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.70		
Optimum Moisture Content (%)	20.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	238.2		





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Engineering Log - Testpit

Testpit No: TP06

Latitude : -37.880564	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620106	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
2 1 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
2 2 2 3 3 3 4 4	0.5 1 1.1		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
11 10 9 12	1.5		Cl	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	
	2 2.5 3			**TP06 Terminated at 1.5m**			

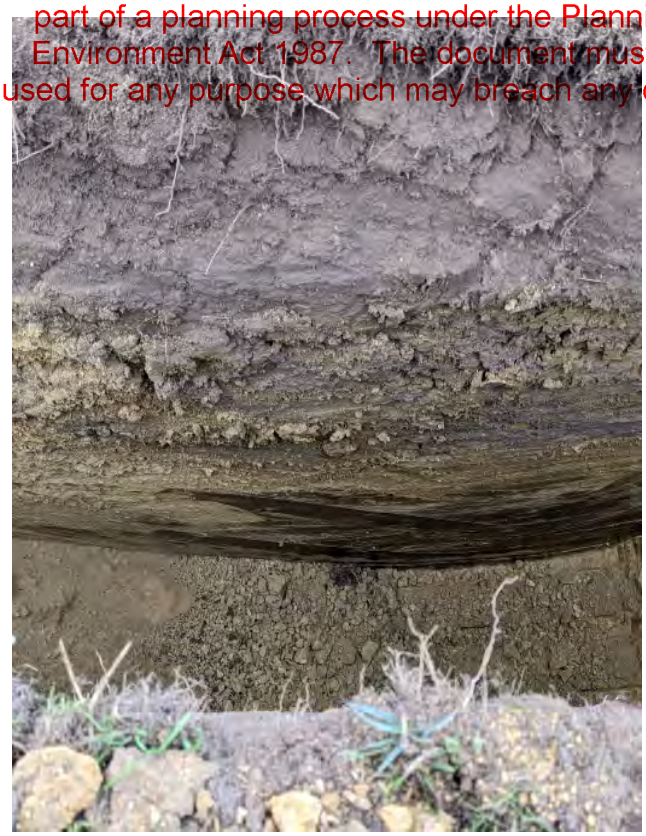

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP06	**TP Depth**	Not Applicable

Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
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Engineering Log - Testpit

Testpit No: TP07

Latitude : -37.880660	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620384	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2, 1, 2, 1	0.4		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
2, 2, 3, 4, 4, 4, 4	0.5, 1, 1.1		CH	CLAY, with sand, orange mottled brown, high plasticity, sand 23% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
7, 9, 9, 8	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff, moist (inferred alluvial deposits).	VSt	M	1879-S9
	2, 2.5, 3			**TP07 Terminated at 1.5m**			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP07	**TP Depth**	Not Applicable

Material Test Report

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Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

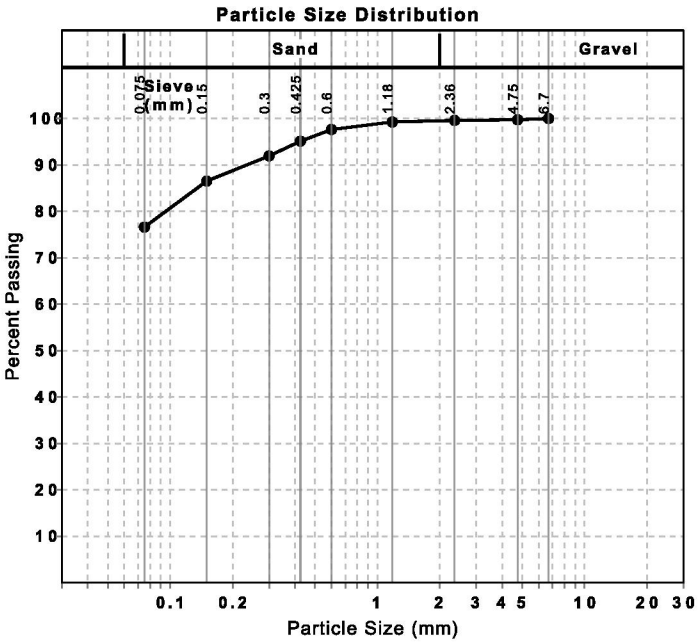
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S9
Date Sampled: 16/05/2023
Dates Tested: 24/05/2023 - 08/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP07, Depth: 0.4m - 1.1m**
Material: CH - CLAY, with sand, orange mottled brown, high plasticity, sand 23% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**99**			0		
0.6 mm	**98**			2		
0.425 mm	**95**			3		
0.3 mm	**92**			3		
0.15 mm	**87**			5		
0.075 mm	**77**			10		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	53		
Plastic Limit (%)	19		
Plasticity Index (%)	**34**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**10.0**		
Cracking Crumbling Curling	Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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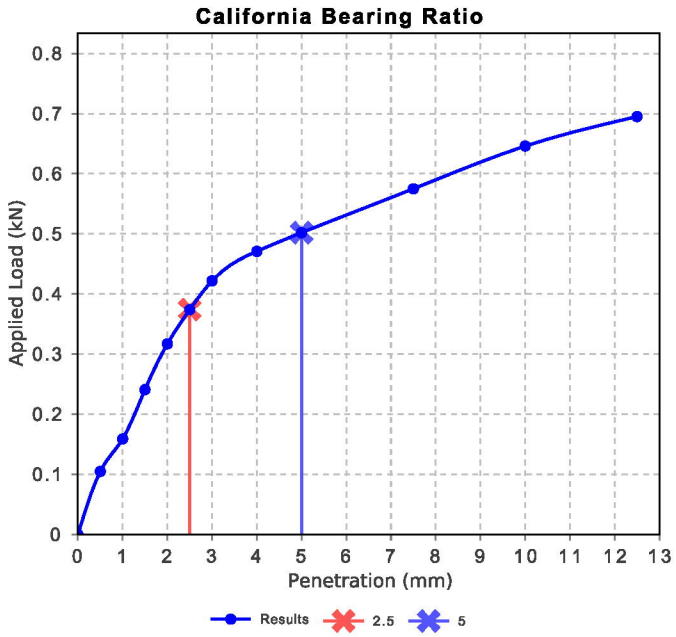
WORLD RECOGNISED ACCREDITATION

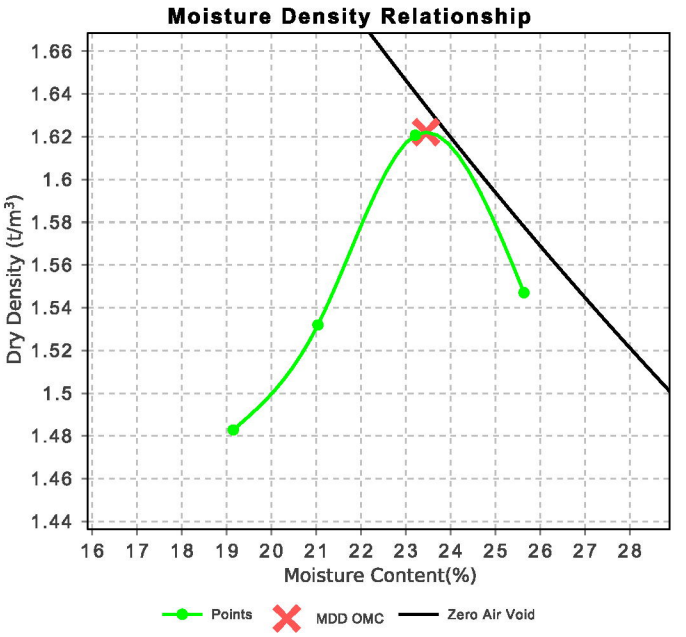
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S9
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP07, Depth: 0.4m - 1.1m**
Material:	CH - CLAY, with sand, orange mottled brown, high plasticity, sand 23% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**3.0**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.62		
Optimum Moisture Content (%)	23.5		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	98.5		
Dry Density after Soaking (t/m^3)	1.56		
Field Moisture Content (%)			
Moisture Content at Placement (%)	23.2		
Moisture Content Top 30mm (%)	27.6		
Moisture Content Rest of Sample (%)	23.3		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	379.1		
Swell (%)	2.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.62		
Optimum Moisture Content (%)	23.5		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	236.2		





Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP08

Latitude : -37.880676	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620646	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
2 3 4	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm to stiff, moist, organics.	F-St	M	
5 5 6 5 5 5 6	0.5 1 1.02		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
10 13 14 18 20	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, hard, dry to moist (inferred alluvial deposits).	H	D-M	
R	2 2.5 3			**TP08 Terminated at 1.5m**			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP08	**TP Depth**	Not Applicable

Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP09

Latitude : -37.880903	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619857	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 16/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2 1 2 2	0.35		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
1 1 2 2 2 3 3 3 4	1.3		CH	sandy CLAY, orange mottled brown, high plasticity, sand 36% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
5 6	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, dry to moist (inferred alluvial deposits).	St	D-M	1879-S10
				TP09 Terminated at 1.5m			

0.5 1 2 2.5 3

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP09	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

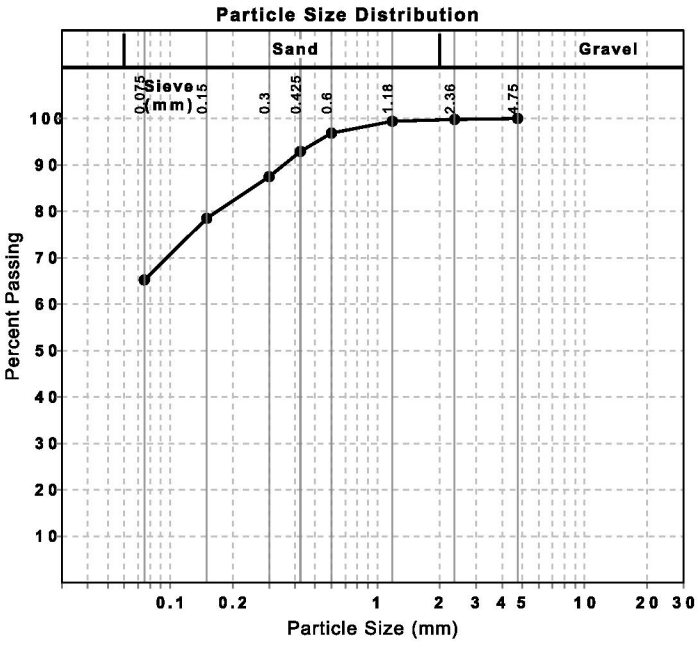
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S10
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 06/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP09, Depth: 0.35m - 1.3m**
Material:	CH - sandy CLAY, orange mottled brown, high plasticity, sand 36% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**99**			0		
0.6 mm	**97**			3		
0.425 mm	**93**			4		
0.3 mm	**87**			5		
0.15 mm	**78**			9		
0.075 mm	**65**			13		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	56		
Plastic Limit (%)	19		
Plasticity Index (%)	**37**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.0**		
Cracking Crumbling Curling	Cracking & Curling		



Material Test Report

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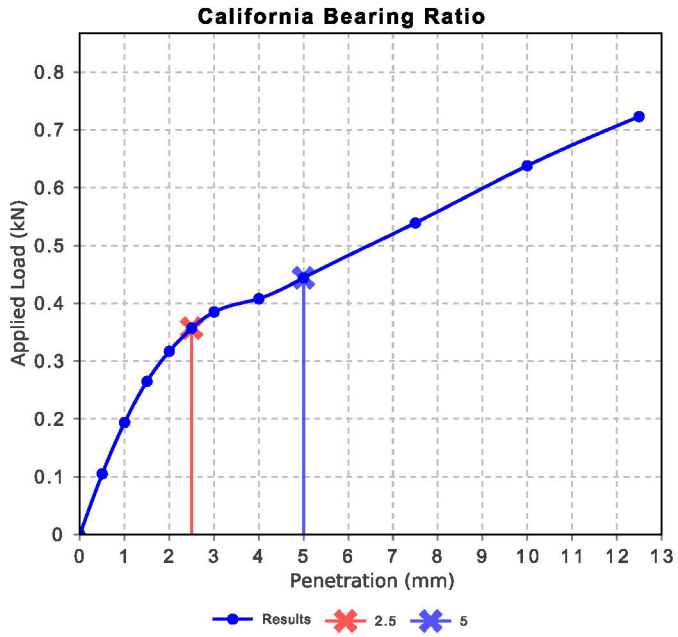
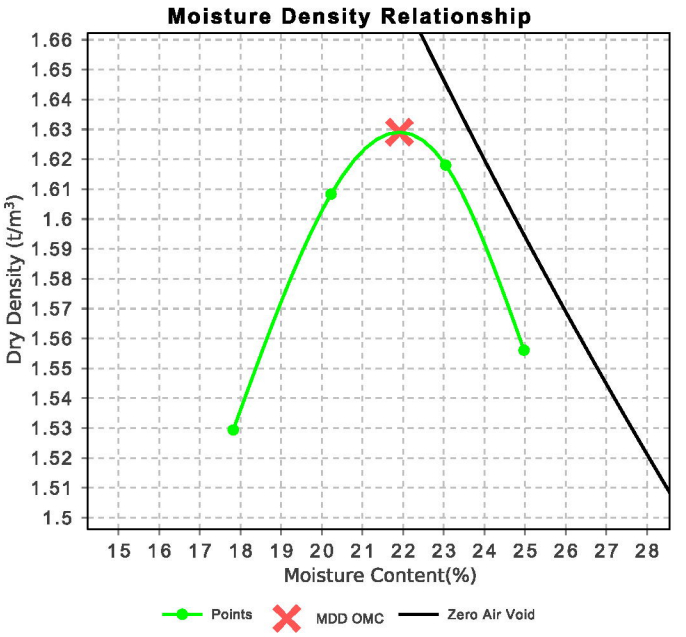
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S10
Date Sampled:	16/05/2023
Dates Tested:	24/05/2023 - 09/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP09, Depth: 0.35m - 1.3m**
Material:	CH - sandy CLAY, orange mottled brown, high plasticity, sand 36% fine to medium grained, firm to stiff, moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**2.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.63		
Optimum Moisture Content (%)	22.0		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	99.5		
Dry Density after Soaking (t/m^3)	1.57		
Field Moisture Content (%)			
Moisture Content at Placement (%)	21.8		
Moisture Content Top 30mm (%)	23.9		
Moisture Content Rest of Sample (%)	21.8		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	147.7		
Swell (%)	2.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.63		
Optimum Moisture Content (%)	22.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	90.0		





Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP10

Latitude : -37.881065	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620418	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.7m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1			CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
2							
1	0.3						
2			CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
2							
4	0.5						
5	0.7						
10			CI	CLAY, with sand, orange mottled grey, medium plasticity, sand 25% fine to medium grained, very stiff to hard, dry to moist (inferred alluvial deposits).	VSt-H	D-M	
14							
8							
9	1						
7							
7							
7							
12							
	1.5						
				TP10 refusal at 1.7m			1879-S11
	2						
	2.5						
	3						

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP10	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
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NATA
WORLD RECOGNISED ACCREDITATION

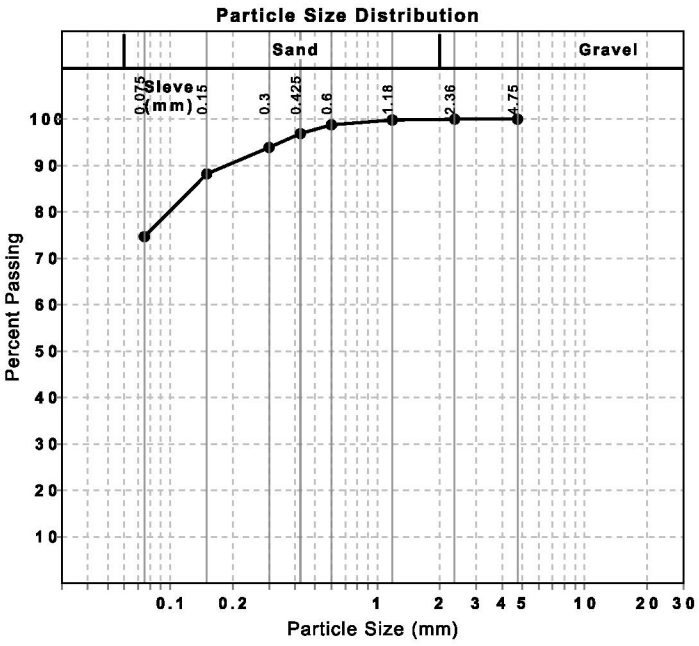
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S11
Date Sampled: 17/05/2023
Dates Tested: 24/05/2023 - 07/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP10, Depth: 0.7m - 1.7m**
Material: CI - CLAY, with sand, orange mottled grey, medium plasticity, sand 25% fine to medium grained, very stiff to hard, dry to moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**100**			0		
0.6 mm	**99**			1		
0.425 mm	**97**			2		
0.3 mm	**94**			3		
0.15 mm	**88**			6		
0.075 mm	**75**			14		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	48		
Plastic Limit (%)	17		
Plasticity Index (%)	**31**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**9.0**		
Cracking Crumbling Curling	Curling		



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Engineering Log - Testpit

Testpit No: TP11

Latitude : -37.881542	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620354	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
2 1 1	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
1 1 1 1 1 2	0.9		CH	CLAY, trace sand, orange mottled brown, high plasticity, sand fine to medium grained, soft to firm, moist (inferred alluvial deposits).	S-F	M	
3 3 5 5 5 5	1.5		CH	As above, stiff.	St	M	
	2 2.5 3			**TP11 Terminated at 1.5m**			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP11	**TP Depth**	Not Applicable

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Engineering Log - Testpit

Testpit No: TP12

Latitude : -37.882014	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620238	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.7m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 1 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
4 5 6 4 5 3 3	0.5 1		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
3 3 3 3 5	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, dry to moist (inferred alluvial deposits).	St	M-D	
			CH	CLAY, trace sand & gravel, orange mottled red/grey, high plasticity, sand 15% fine to medium grained, gravel 8% fine to medium, stiff to very stiff, moist (inferred alluvial deposits).	St-VSt	M	
	2 2.5 3			**TP12 refusal at 1.7m (Refusal on Rock)**			1879-S12

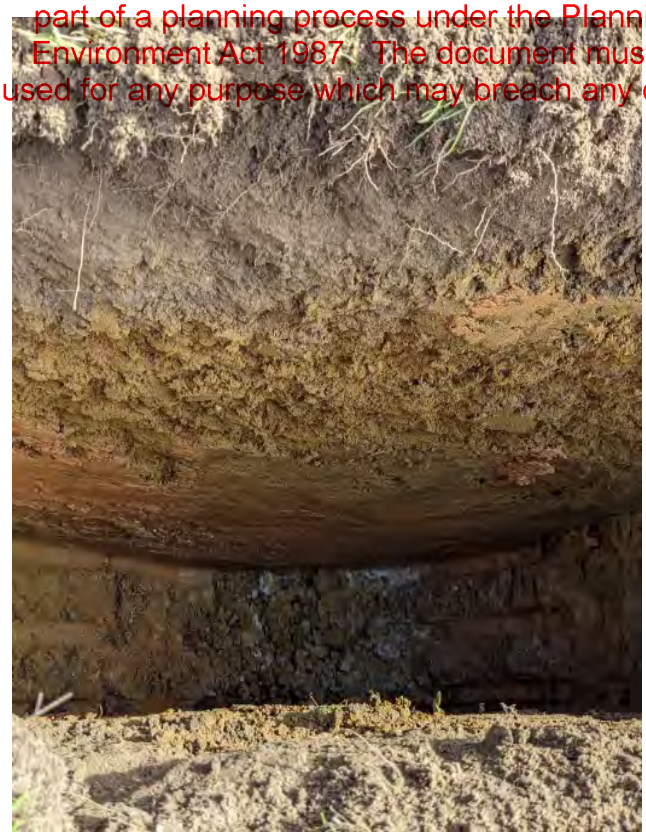

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP12	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

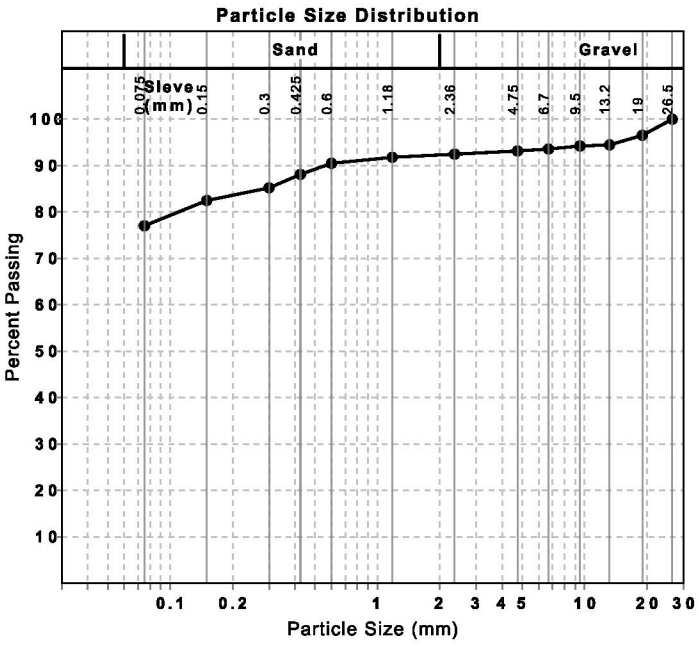
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S12
Date Sampled: 17/05/2023
Dates Tested: 24/05/2023 - 08/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP12, Depth: 1.5m - 1.7m**
Material: CH - CLAY, trace sand & gravel, orange mottled red/grey, high plasticity, sand 15% fine to medium grained, gravel 8% fine to medium, stiff to very stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
26.5 mm	**100**			0		
19 mm	**97**			3		
13.2 mm	**94**			2		
9.5 mm	**94**			0		
6.7 mm	**94**			1		
4.75 mm	**93**			0		
2.36 mm	**92**			1		
1.18 mm	**92**			1		
0.6 mm	**90**			1		
0.425 mm	**88**			2		
0.3 mm	**85**			3		
0.15 mm	**82**			3		
0.075 mm	**77**			5		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	58		
Plastic Limit (%)	15		
Plasticity Index (%)	**43**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**10.5**		
Cracking Crumbling Curling	Cracking & Curling		



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Engineering Log - Testpit

Testpit No: TP13

Latitude : -37.882501	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620134	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 2 4	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm to stiff, moist, organics.	F-St	M	
7 8 7 7 7 6 7 7 9 8 9 10	0.5 1 1.5		CI	CLAY, with sand, orange mottled brown, medium plasticity, sand 23% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	
	2 2.5 3			**TP13 Terminated at 1.5m**			1879-S13

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP13	**TP Depth**	Not Applicable

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

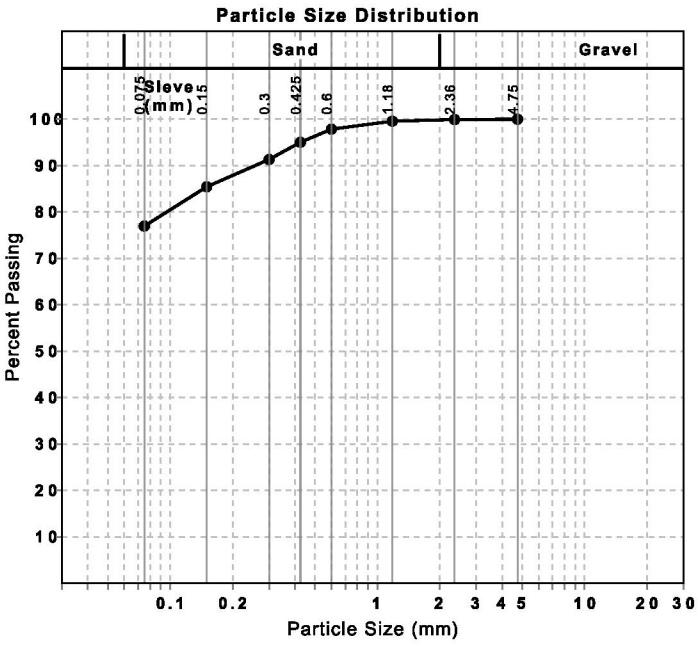
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S13
Date Sampled:	17/05/2023
Dates Tested:	24/05/2023 - 06/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP13, Depth: 0.3m - 1.5m**
Material:	CI - CLAY, with sand, orange mottled brown, medium plasticity, sand 23% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**100**			0		
0.6 mm	**98**			2		
0.425 mm	**95**			3		
0.3 mm	**91**			4		
0.15 mm	**85**			6		
0.075 mm	**77**			8		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	50		
Plastic Limit (%)	17		
Plasticity Index (%)	**33**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**11.0**		
Cracking Crumbling Curling	Cracking & Curling		



Material Test Report

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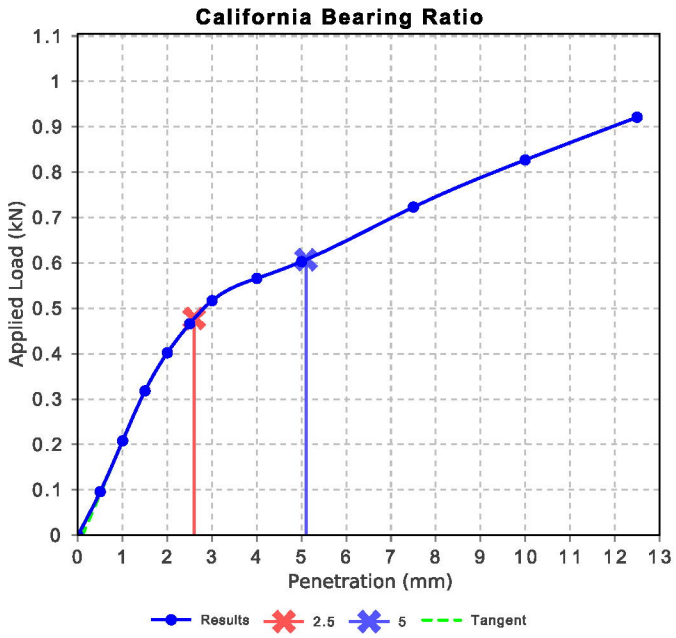
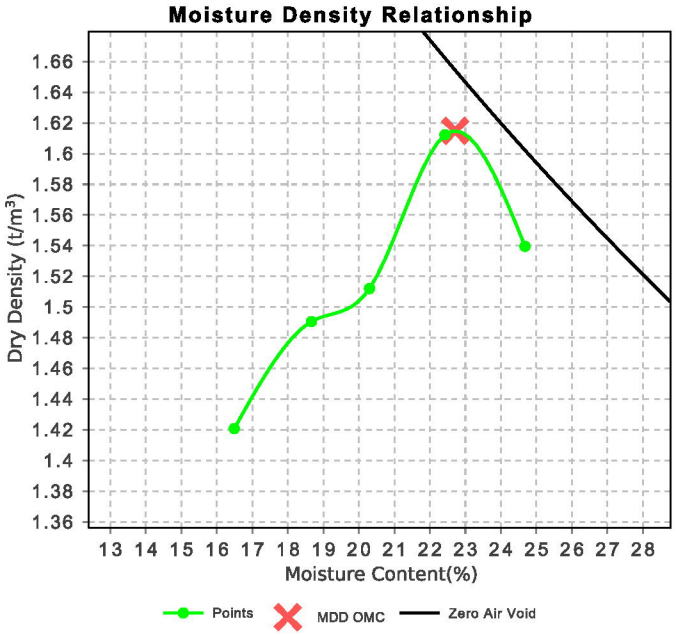
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S13
Date Sampled:	17/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP13, Depth: 0.3m - 1.5m**
Material:	CI - CLAY, with sand, orange mottled brown, medium plasticity, sand 23% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**3.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.61		
Optimum Moisture Content (%)	22.5		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	100.5		
Dry Density after Soaking (t/m^3)	1.56		
Field Moisture Content (%)			
Moisture Content at Placement (%)	22.9		
Moisture Content Top 30mm (%)	26.8		
Moisture Content Rest of Sample (%)	24.0		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	377.6		
Swell (%)	1.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.61		
Optimum Moisture Content (%)	22.5		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	211.6		





Ground Science South West
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Engineering Log - Testpit

Testpit No: TP14

Latitude : -37.882951	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.620041	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.63m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2 2 4	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm to stiff, dry to moist, organics.	F-St	D-M	
4 4 4 4 4 4 5	0.5 1		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
5 6 5 5 6	1.5 1.6		CL	sandy CLAY, trace gravel, orange mottled grey, low plasticity, sand 40% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).	St	M	
			CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, hard, dry (inferred Haunted Hills Formation residual soil).	H	D	1879-S14
	2 2.5 3			**TP14 refusal at 1.63m**			

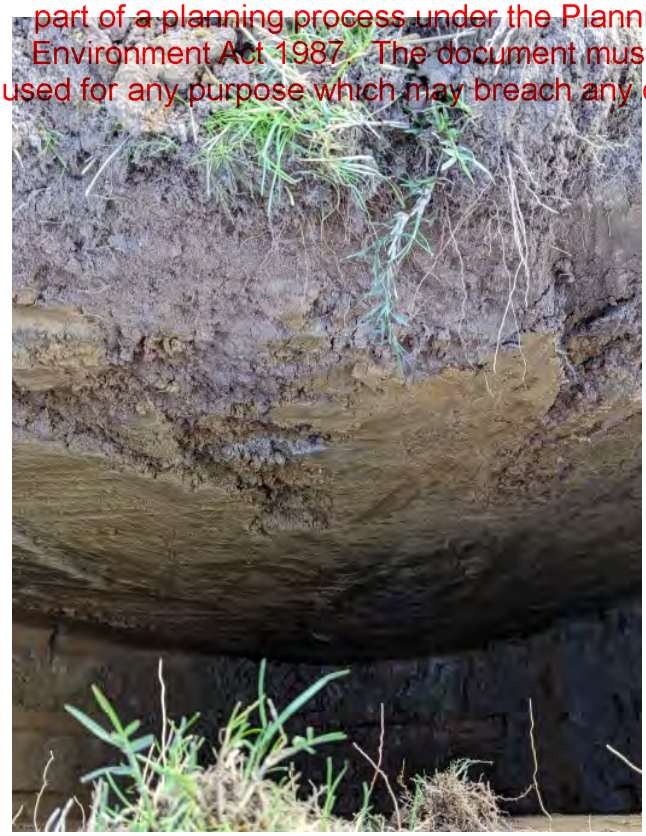

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP14	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

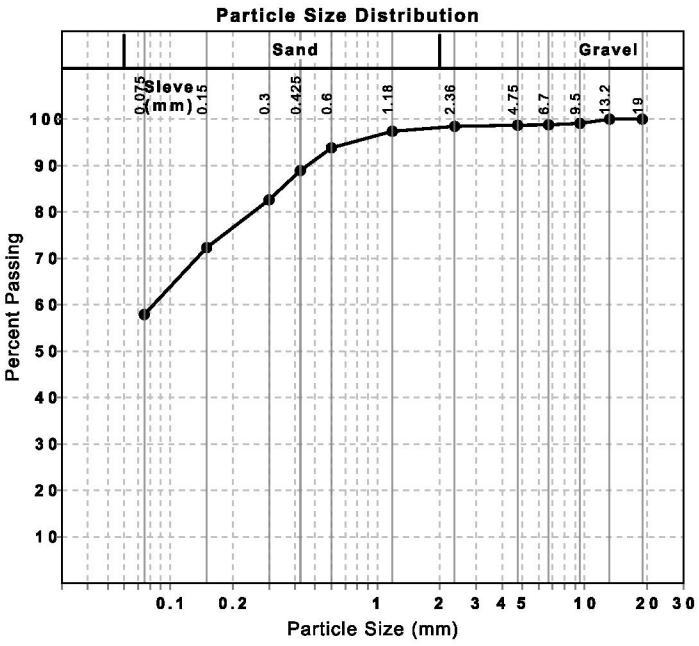
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S14
Date Sampled:	17/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP14, Depth: 1.0m - 1.6m**
Material:	CL - sandy CLAY, trace gravel, orange mottled grey, low plasticity, sand 40% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
19 mm	**100**			0		
13.2 mm	**100**			0		
9.5 mm	**99**			1		
6.7 mm	**99**			0		
4.75 mm	**99**			0		
2.36 mm	**98**			0		
1.18 mm	**97**			1		
0.6 mm	**94**			4		
0.425 mm	**89**			5		
0.3 mm	**83**			6		
0.15 mm	**72**			10		
0.075 mm	**58**			14		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	34		
Plastic Limit (%)	13		
Plasticity Index (%)	**21**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.0**		
Cracking Crumbling Curling	Cracking & Crumbling		



Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP15

Latitude	: -37.883409	Excavator	: Yanmar VIO17
Longitude	: 147.619978	Excavator Supplier	: Ground Science South West
Elevation	Not Surveyed	Logged By	: MK
Total Depth	: 1.25m	Reviewed By	:
		Date	: 17/05/2023

Job Number	: GSSW1879
Client	: SMEC AUSTRALIA PTY LTD
Project	: EGSC COMPOST FACILITY
Location	: FORGE CREEK
Loc Comment	:

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2 1 2	0.25		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, dry to moist, organics.	S-F	D-M	
2 2 3 4	0.5 0.6		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, dry to moist (inferred alluvial deposits).	St	D-M	
6 7 9 13 16 20 R	1		CI	sandy CLAY, trace gravel, orange mottled red/grey, medium plasticity, sand 45% fine to coarse grained, gravel 1%, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).	VSt-H	D	
	1.5 2 2.5 3			**TP15 refusal at 1.25m**			1879-S15

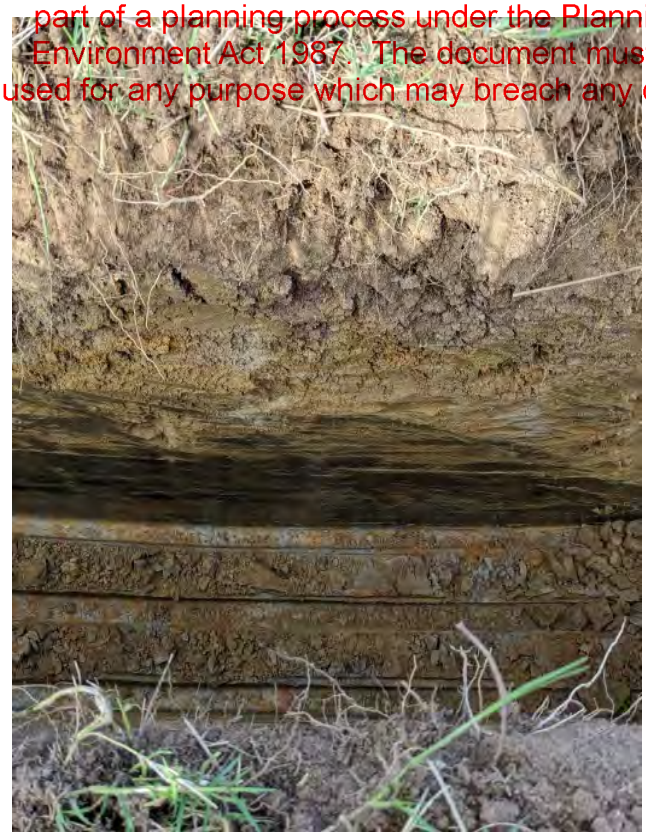


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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP15	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

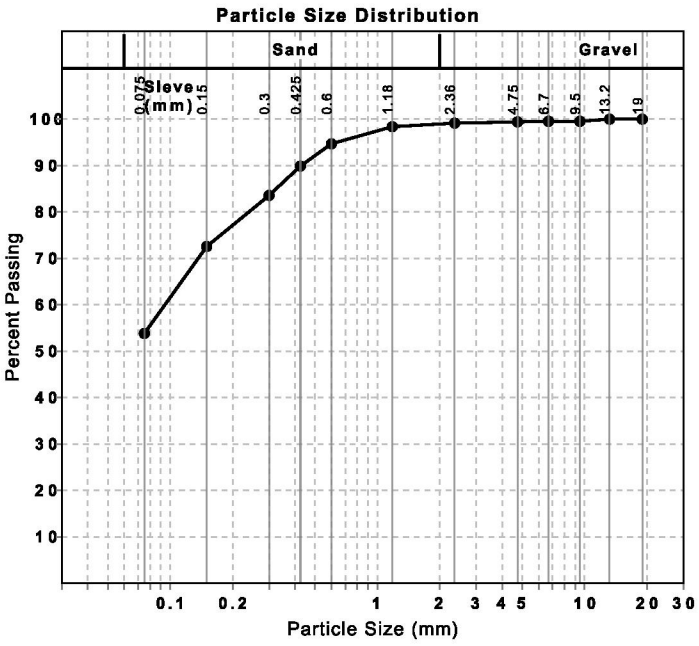
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S15
Date Sampled:	17/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP15, Depth: 0.6m - 1.25m**
Material:	CI - sandy CLAY, trace gravel, orange mottled red/grey, medium plasticity, sand 45% fine to coarse grained, gravel 1%, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
19 mm	**100**			0		
13.2 mm	**100**			0		
9.5 mm	**100**			0		
6.7 mm	**100**			0		
4.75 mm	**99**			0		
2.36 mm	**99**			0		
1.18 mm	**98**			1		
0.6 mm	**95**			4		
0.425 mm	**90**			5		
0.3 mm	**84**			6		
0.15 mm	**73**			11		
0.075 mm	**54**			19		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	36		
Plastic Limit (%)	12		
Plasticity Index (%)	**24**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.0**		
Cracking Crumbling Curling	Cracking & Crumbling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Accredited for compliance with ISO/IEC 17025 - Testing

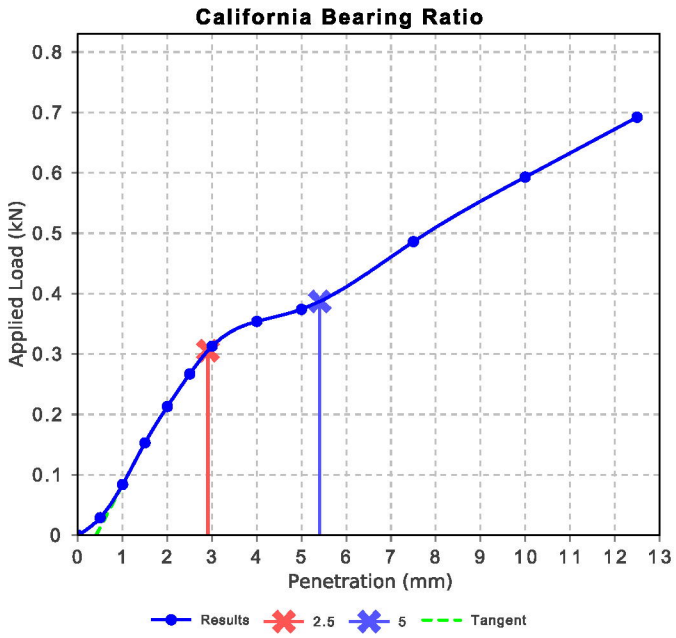
NATA
WORLD RECOGNISED ACCREDITATION

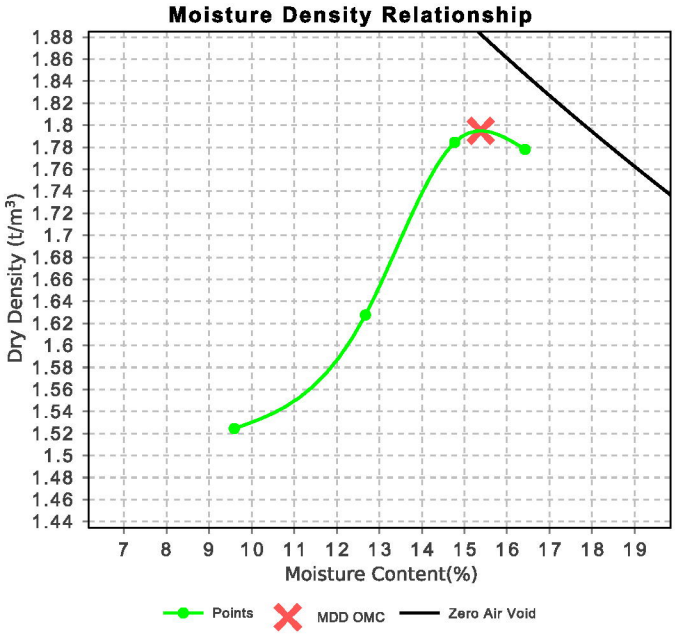
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S15
Date Sampled:	17/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP15, Depth: 0.6m - 1.25m**
Material:	CI - sandy CLAY, trace gravel, orange mottled red/grey, medium plasticity, sand 45% fine to coarse grained, gravel 1%, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**2.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.79		
Optimum Moisture Content (%)	15.5		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	98.5		
Dry Density after Soaking (t/m^3)	1.74		
Field Moisture Content (%)			
Moisture Content at Placement (%)	15.2		
Moisture Content Top 30mm (%)	19.3		
Moisture Content Rest of Sample (%)	15.7		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	362.5		
Swell (%)	1.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.79		
Optimum Moisture Content (%)	15.5		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	176.4		





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Engineering Log - Testpit

Testpit No: TP16

Latitude : -37.883871	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619890	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 2 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
2 2 2 3 3	0.8		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
3 3 3 4 4 4 5 7	1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very to very stiff, dry (inferred alluvial deposits).	St-VSt	D	
				TP16 Terminated at 1.5m			

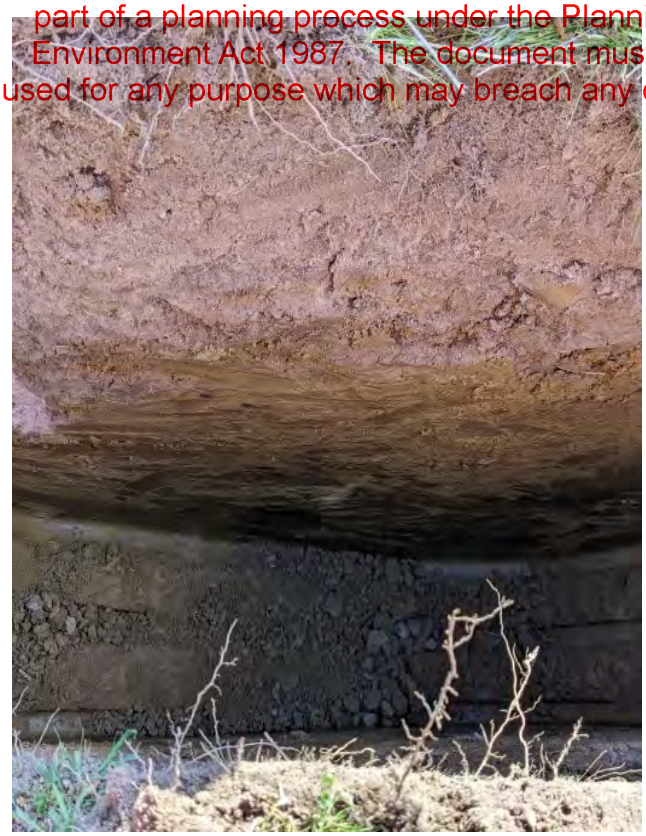

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP16	**TP Depth**	Not Applicable

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Engineering Log - Testpit

Testpit No: TP17

Latitude : -37.884059	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619133	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 2 2	0.3		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, dry to moist, organics.	S-F	D-M	
7 9 9 10 9	0.5 0.8		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, very stiff to hard, dry to moist (inferred alluvial deposits).	VSt-H	D-M	
7 8 9 7 7 7 7	1 1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff, dry (inferred alluvial deposits).	VSt	D	
	2 2.5 3			**TP17 Terminated at 1.5m**			

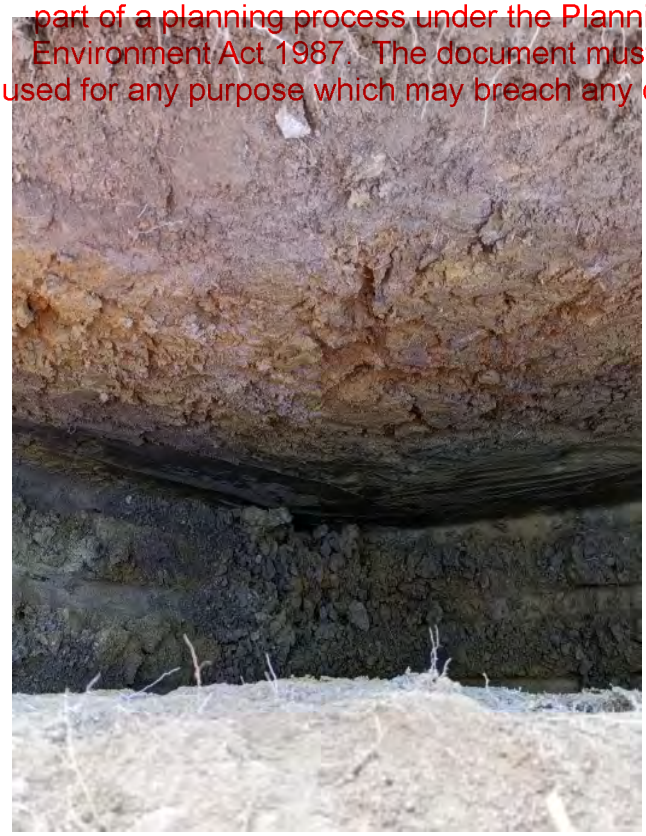

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP17	**TP Depth**	Not Applicable

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Engineering Log - Testpit

Testpit No: TP18

Latitude : -37.884153	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619998	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 17/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 2 3 4	0.4		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
5 5 5 5 5 5 5 5 5 5 5 4 5	0.5 1 1.5 2 2.5 3		CH	CLAY, trace sand and gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
				TP18 Terminated at 1.5m			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP18	**TP Depth**	Not Applicable

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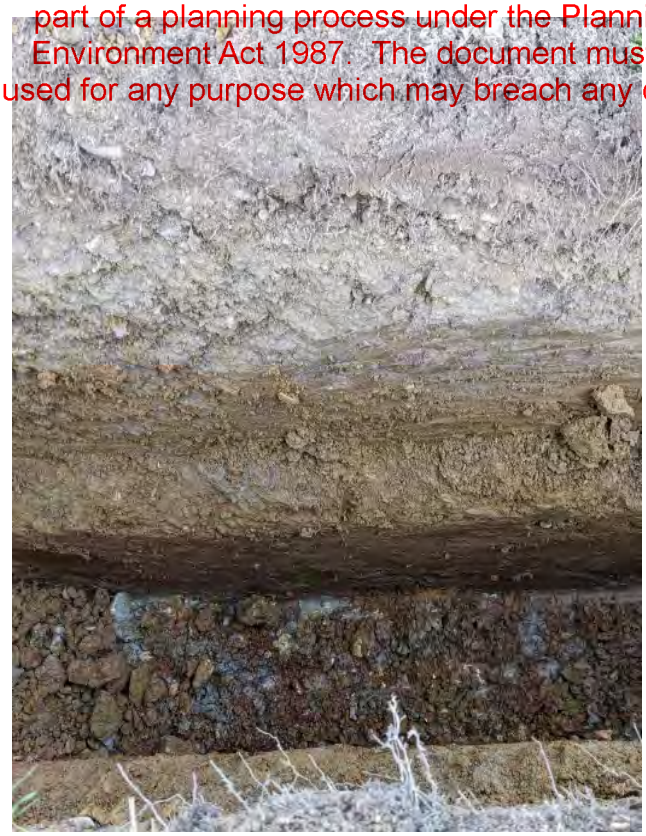
Engineering Log - Testpit

Testpit No: TP19

UTM	:	Excavator	: Yanmar VIO17	Job Number	: GSSW1879
Latitude	: -37.884433	Excavator Supplier	: Ground Science South West	Client	: SMEC AUSTRALIA PTY LTD
Longitude	: 147.619466	Logged By	: MK	Project	: EGSC COMPOST FACILITY
Elevation	: Not Surveyed	Reviewed By	:	Location	: FORGE CREEK
Total Depth	: 1.4m	Date	: 18/05/2023	Loc Comment	:

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
2 2	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, firm, dry to moist, organics.	F	D-M	
3 3	0.4		CL	As above, fine to coarse sized gravel, stiff, moist.	St	M	
4 3 3	0.5 0.7		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
3 4 5 7 7	1 1.2		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand 14% fine to medium grained, stiff to very stiff, moist (inferred alluvial deposits).	St-VSt	M	
16 20			CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, hard, moist (inferred Haunted Hills Formation residual soil).	H	M	1879-S16
R	1.5 2 2.5			**TP19 refusal at 1.4m**			



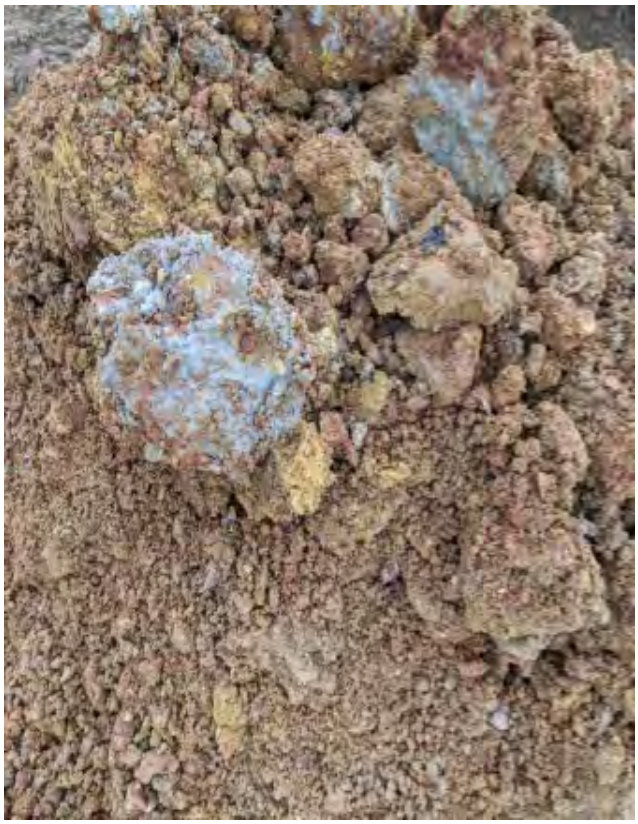


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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP19	**TP Depth**	Not Applicable

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

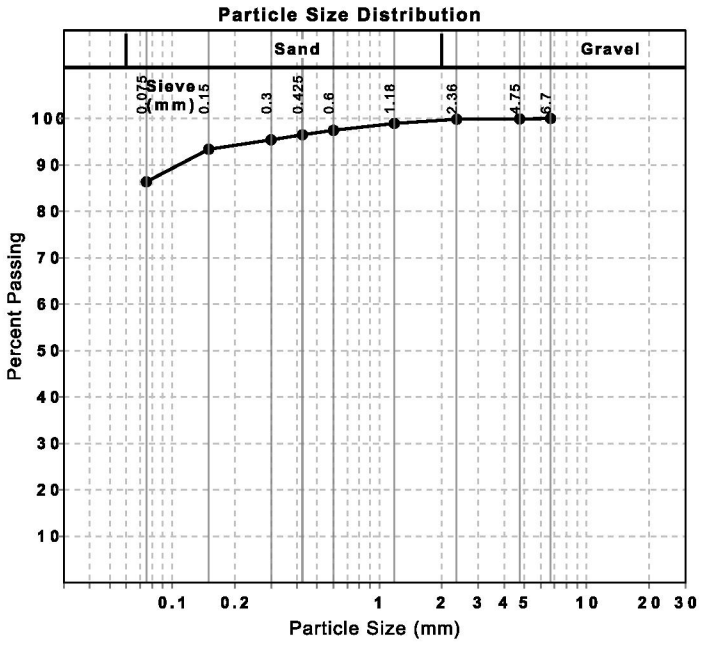
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S16
Date Sampled: 18/05/2023
Dates Tested: 24/05/2023 - 13/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP19, Depth: 0.7m - 1.2m**
Material: CI - CLAY, trace sand, orange mottled grey, medium plasticity, sand 14% fine to medium grained, hard, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**99**			1		
0.6 mm	**97**			1		
0.425 mm	**96**			1		
0.3 mm	**95**			1		
0.15 mm	**93**			2		
0.075 mm	**86**			7		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	41		
Plastic Limit (%)	17		
Plasticity Index (%)	**24**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**8.5**		
Cracking Crumbling Curling	Cracking & Curling		



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Engineering Log - Testpit

Testpit No: TP20

Latitude : -37.884674	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618974	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1, 2	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, dry to moist, organics.	S-F	D-M	
6, 2	0.4		CL	As above, grey brown, fine to coarse sized gravel, moist.	S-F	M	
2, 3, 3, 4, 4, 3, 3, 4	1.2		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
11, 12, 14	1.5		CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand 20% fine to coarse grained, gravel 18% medium to coarse, hard, moist (inferred Haunted Hills Formation residual soil).	H	M	
				TP20 Terminated at 1.5m			1879-S17

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP20	**TP Depth**	Not Applicable

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

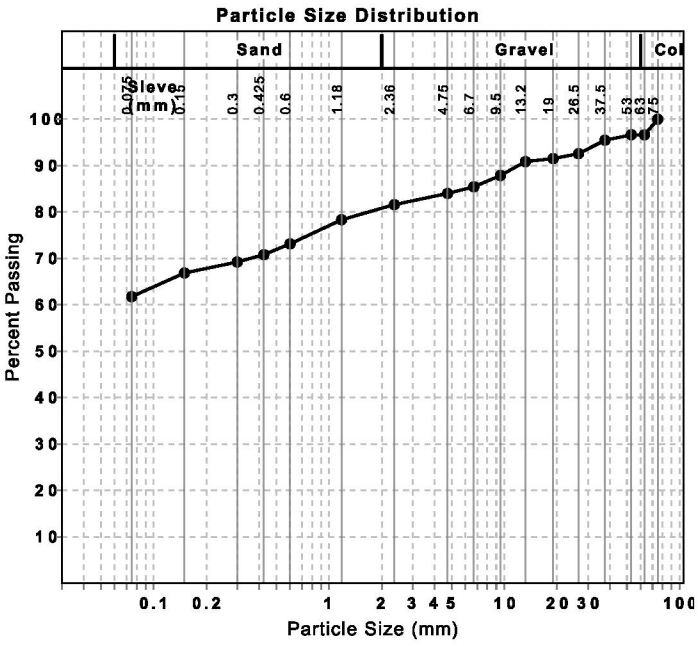
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S17
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 07/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP20, Depth: 1.2m - 1.5m**
Material:	CH - CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand 20% fine to coarse grained, gravel 18% medium to coarse, hard, moist (inferred Haunted Hills Formation residual soil).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
75 mm	**100**			0		
63 mm	**97**			3		
53 mm	**97**			0		
37.5 mm	**95**			1		
26.5 mm	**93**			3		
19 mm	**92**			1		
13.2 mm	**91**			1		
9.5 mm	**88**			3		
6.7 mm	**85**			2		
4.75 mm	**84**			1		
2.36 mm	**82**			2		
1.18 mm	**78**			3		
0.6 mm	**73**			5		
0.425 mm	**71**			2		
0.3 mm	**69**			2		
0.15 mm	**67**			2		
0.075 mm	**62**			5		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	96		
Plastic Limit (%)	26		
Plasticity Index (%)	**70**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**14.5**		
Cracking Crumbling Curling	Cracking & Curling		



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Engineering Log - Testpit

Testpit No: TP21

Latitude : -37.884814	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619825	Excavator Supplier : Supplied By Client	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 1	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
3 4	0.4		CL	As above, gravel fine to coarse, stiff.	St	M	
3 5 4 4	0.5 0.8		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
4 4 4 3 3 4 4 4	1 1.5		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, moist (inferred alluvial deposits).	St	M-D	
	2 2.5 3			**TP21 Terminated at 1.5m**			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP21	**TP Depth**	Not Applicable

Ground Science South West
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Engineering Log - Testpit

Testpit No: TP22

Latitude : -37.885153	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618866	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 2	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
2 3	0.4		CL	As above, grey brown, fine to coarse sized gravel, firm to stiff, dry to moist.	F-St	D-M	
3 4 5 4	0.8		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).	St	M	
5 4 4 4 4 5 6	1.5		CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, stiff, moist (inferred Haunted Hills Formation residual soil).	St	M	
	2 2.5 3			**TP22 Terminated at 1.5m**			

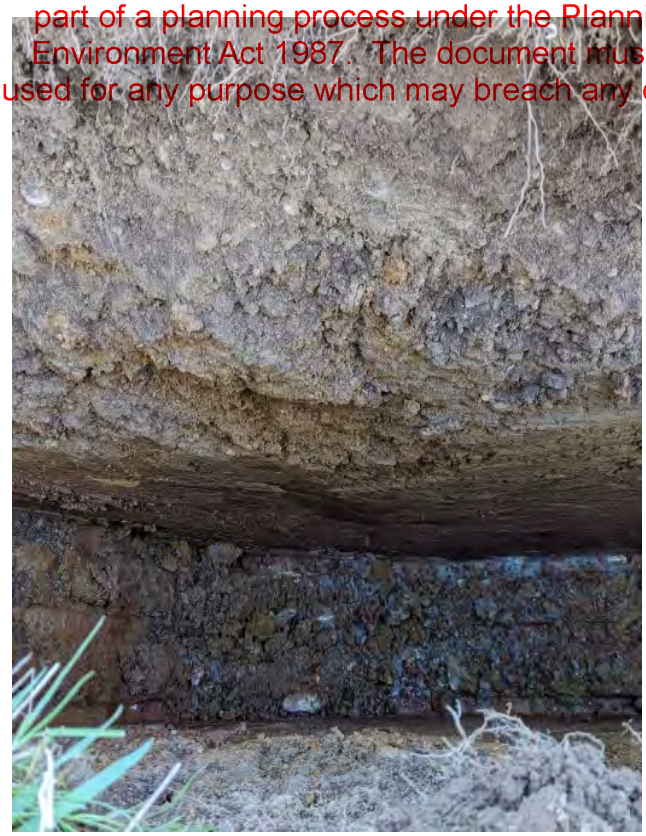

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP22	**TP Depth**	Not Applicable

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10 Dowsett St, South Geelong, Victoria 3220
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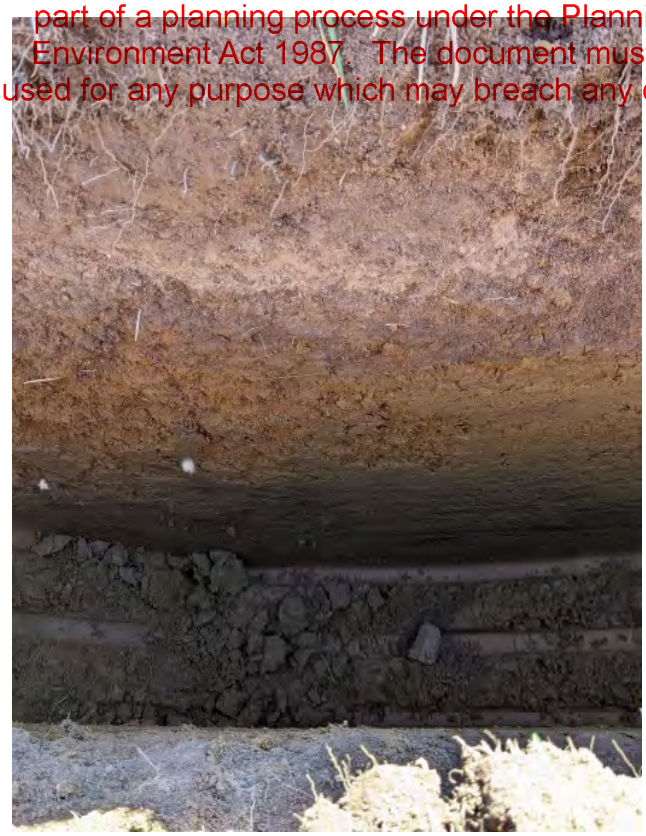
Engineering Log - Testpit

Testpit No: TP23

Latitude : -37.885287	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619730	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 19/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1			CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
1	0.2						
2			CL	As above, grey brown, fine to coarse sized gravel, firm, dry to moist.	F	D-M	
2	0.4						
3			CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 13% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).	St	M	
4	0.5						
5							
5							
6							
6							
5	1						
4							
4							
3							
4							
	1.5			**TP23 Terminated at 1.5m**			1879-S18
	2						
	2.5						
	3						



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South Geelong. Victoria 3220
admin@groundscience.com.au

Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP23	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

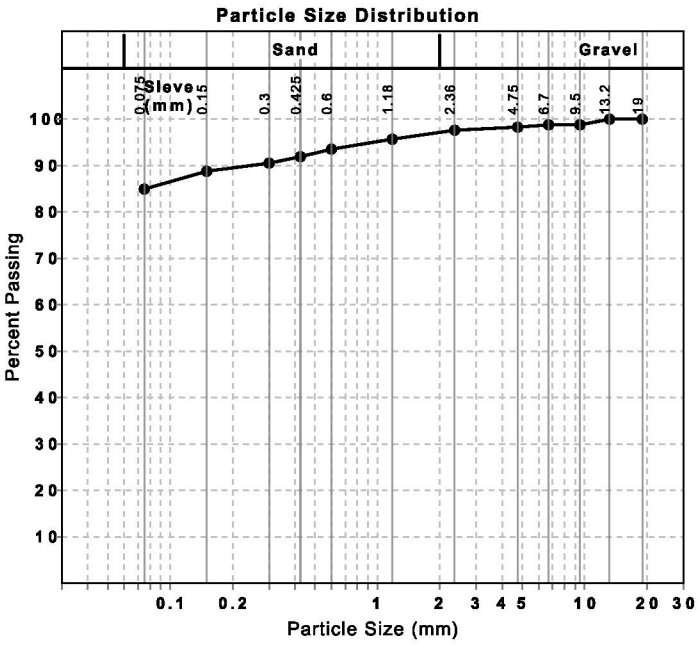
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S18
Date Sampled: 19/05/2023
Dates Tested: 24/05/2023 - 08/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP23, Depth: 0.4m - 1.5m**
Material: CH - CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 13% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
19 mm	**100**			0		
13.2 mm	**100**			0		
9.5 mm	**99**			1		
6.7 mm	**99**			0		
4.75 mm	**98**			0		
2.36 mm	**98**			1		
1.18 mm	**96**			2		
0.6 mm	**94**			2		
0.425 mm	**92**			2		
0.3 mm	**91**			1		
0.15 mm	**89**			2		
0.075 mm	**85**			4		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	88		
Plastic Limit (%)	27		
Plasticity Index (%)	**61**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.5**		
Cracking Crumbling Curling	Cracking & Curling		



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Engineering Log - Testpit

Testpit No: TP24

Latitude : -37.885511	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619229	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 19/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1			CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
1	0.2						
2			CL	As above, grey brown, fine to coarse sized gravel, firm to stiff.	F-St	M	
4	0.4						
5			CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 14% fine to coarse grained, gravel 9% fine to medium, stiff, moist (inferred alluvial deposits).	St	M	
3	0.5						
6							
6							
6							
6							
13	1						
7	1.1		CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, very stiff to hard, moist (inferred Haunted Hills Formation residual soil).	VSt-H	M	1879-S19
11							
12							
14							
	1.5			**TP24 Terminated at 1.5m**			
	2						
	2.5						
	3						

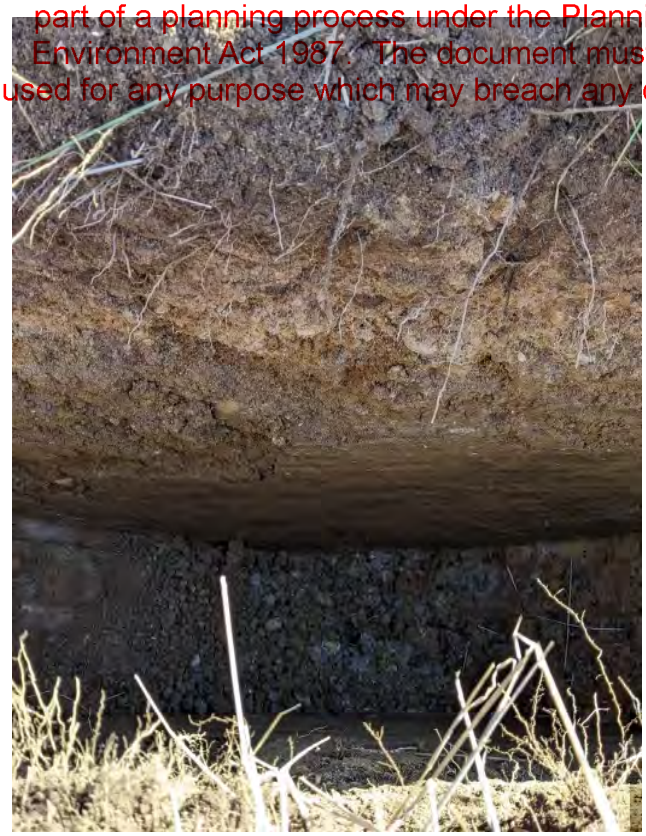

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP24	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

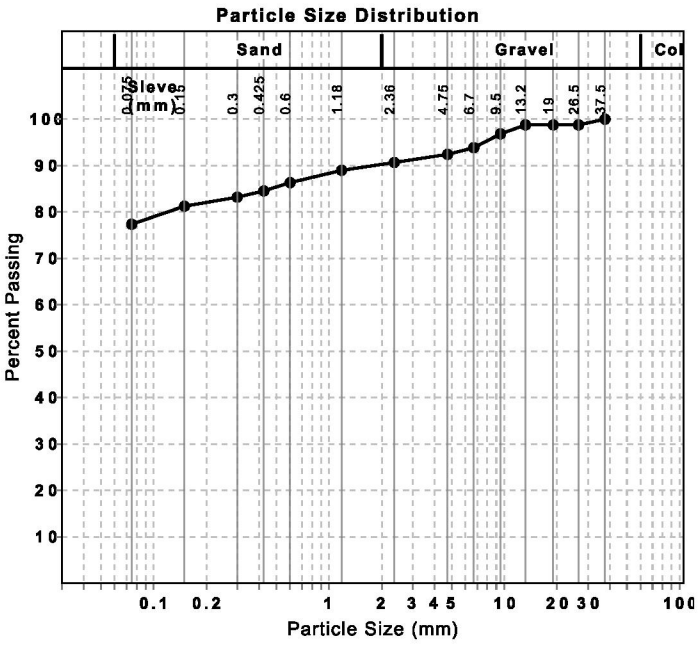
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S19
Date Sampled:	19/05/2023
Dates Tested:	24/05/2023 - 13/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**TP24, Depth: 0.4m - 1.1m**
Material:	CH - CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 14% fine to coarse grained, gravel 9% fine to medium, stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
37.5 mm	**100**			0		
26.5 mm	**99**			1		
19 mm	**99**			0		
13.2 mm	**99**			0		
9.5 mm	**97**			2		
6.7 mm	**94**			3		
4.75 mm	**92**			1		
2.36 mm	**91**			2		
1.18 mm	**89**			2		
0.6 mm	**86**			3		
0.425 mm	**85**			2		
0.3 mm	**83**			1		
0.15 mm	**81**			2		
0.075 mm	**77**			4		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	78		
Plastic Limit (%)	47		
Plasticity Index (%)	**31**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**14.0**		
Cracking Crumbling Curling	Cracking & Curling		



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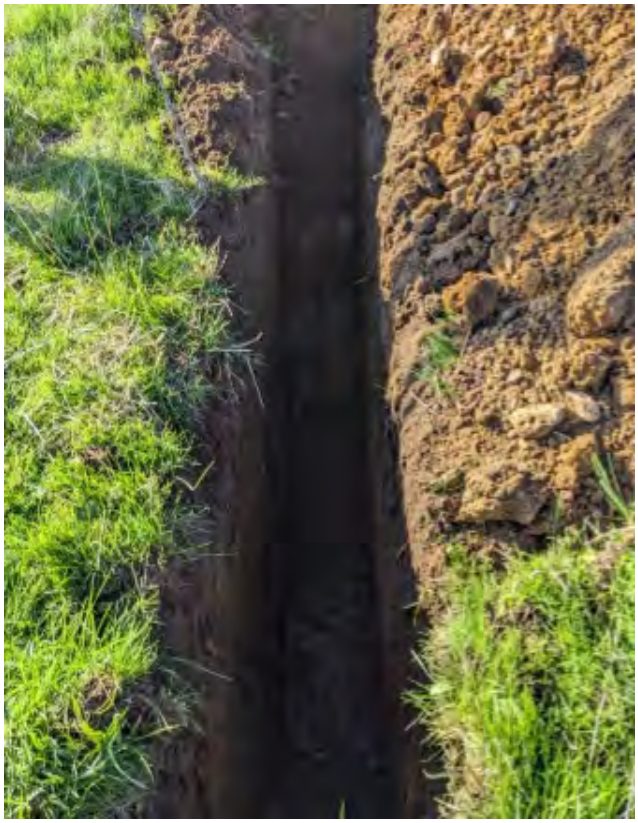
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP25

Latitude : -37.885764	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618692	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 19/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1			CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
1	0.2						
4			CL	As above, grey brown, gravel fine to coarse, stiff.	St	M	
	0.3						
3			CH	Natural CLAY, with fine to coarse grained sand, trace fine sized gravel, orange brown, high plasticity, stiff, moist.	St	M	
4							
3	0.5						
5							
7							
	0.8						
8			CH	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand 24% fine to coarse grained, gravel 26% fine to coarse, very stiff to hard, moist (inferred alluvial deposits).	VSt-H	M	
17							
13	1						
8							
9							
	1.3						
12			CI	gravelly CLAY, with sand, grey mottled orange/red, medium plasticity, gravel sub angular medium to coarse, sand fine to coarse grained, hard, dry (inferred Haunted Hills Formation residual soil).	H	D	1879-S20
16							
	1.5			**TP25 Terminated at 1.5m**			
	2						
	2.5						
	3						



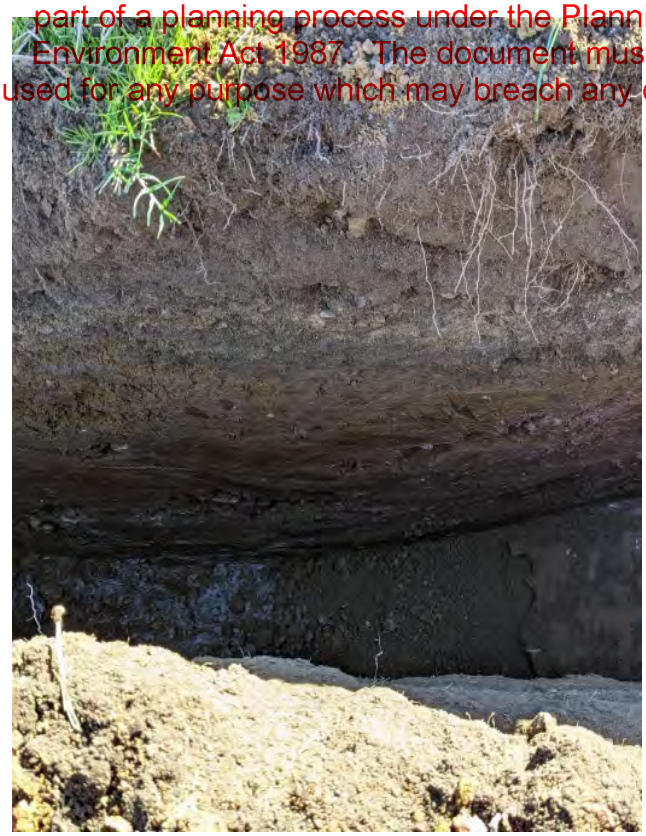


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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP25	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

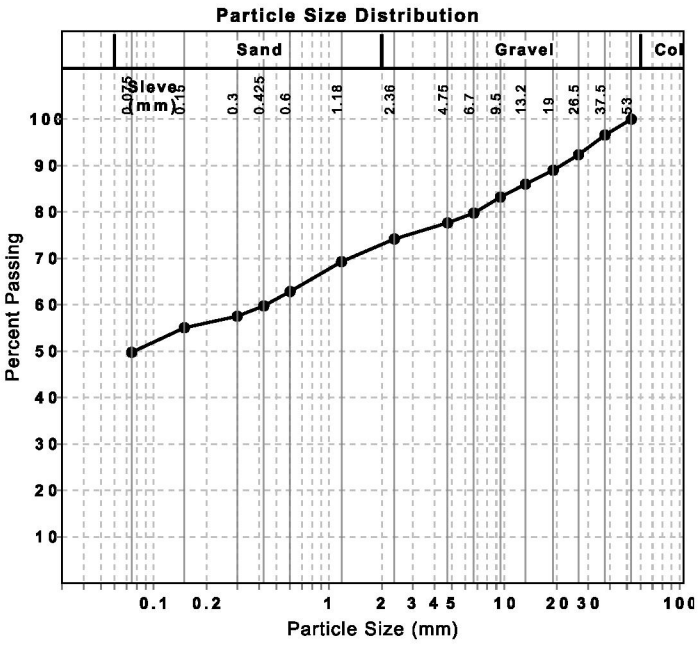
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S20
Date Sampled: 19/05/2023
Dates Tested: 24/05/2023 - 13/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP25, Depth: 0.8m - 1.3m**
Material: CH - CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand 24% fine to coarse grained, gravel 26% fine to coarse, very stiff to hard, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
53 mm	**100**			0		
37.5 mm	**97**			3		
26.5 mm	**92**			4		
19 mm	**89**			3		
13.2 mm	**86**			3		
9.5 mm	**83**			3		
6.7 mm	**80**			3		
4.75 mm	**78**			2		
2.36 mm	**74**			3		
1.18 mm	**69**			5		
0.6 mm	**63**			6		
0.425 mm	**60**			3		
0.3 mm	**58**			2		
0.15 mm	**55**			2		
0.075 mm	**50**			5		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	70		
Plastic Limit (%)	27		
Plasticity Index (%)	**43**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.0**		
Cracking Crumbling Curling	Cracking & Curling		



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Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: TP26

Latitude : -37.885686	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.619593	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 1.5m	Reviewed By :	Location : FORGE CREEK	
	Date : 19/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples
1 1	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
2	0.3		CL	As above, grey brown, gravel fine to coarse.	F	M	
2 2 2 2 2 2 2 2 3 2 2 2 2	0.5 1 1.5		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
	2 2.5 3			**TP26 Terminated at 1.5m**			

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Photo description	Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	TP26	**TP Depth**	Not Applicable

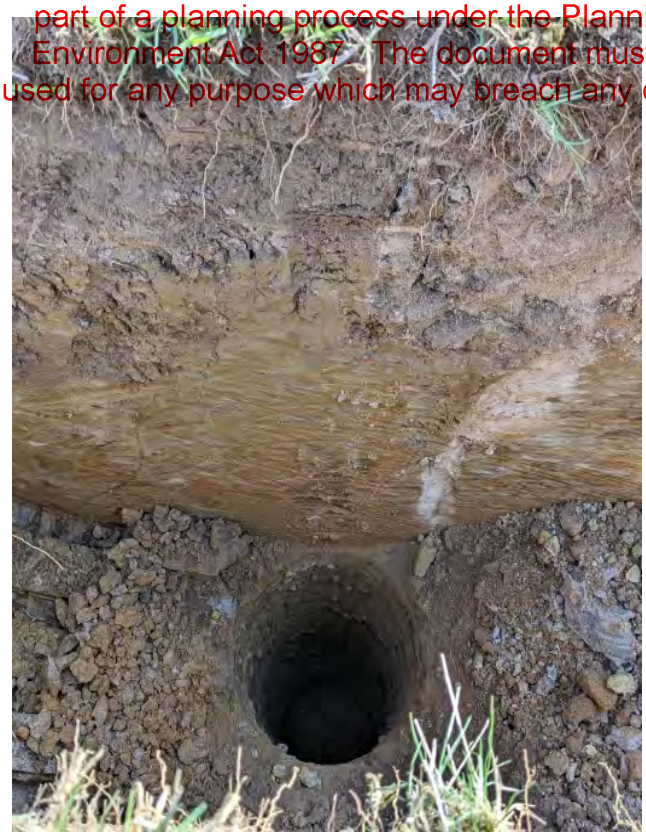
Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: LPTP01

Latitude : -37.883339	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618684	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 3m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 2	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
3 3	0.4		CL	As above, stiff, dry to moist.	St	D-M	
4 4 5 5 6 6 7 8 9 9 9	0.5 1 1.5 2		CI	sandy CLAY, orange mottled grey, medium plasticity, sand 44% fine to coarse grained, stiff to very stiff, dry to moist (inferred alluvial deposits).	St-VSt	D-M	
	2 2.5 3		CH	sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand fine to coarse grained, gravel fine, hard, dry to moist (inferred Haunted Hills Formation residual soil).	H	D-M	1879-S21, 1879-S25
	3.5 4			**PTP01 Terminated at 3m**			



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(03) 5282 1566
10 Dowsett St.
South Geelong. Victoria 3220
admin@groundscience.com.au

Photo description	Leachate Pond Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	LPTP01	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

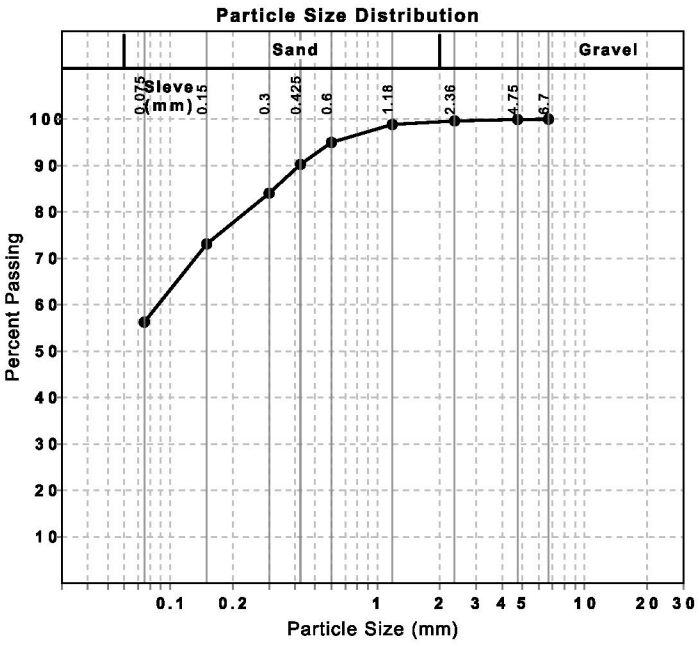
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S21
Date Sampled: 18/05/2023
Dates Tested: 24/05/2023 - 08/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **LPTP01, Depth: 0.4m - 2.0m**
Material: CI - sandy CLAY, orange mottled grey, medium plasticity, sand 44% fine to coarse grained, stiff to very stiff, dry to moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**99**			1		
0.6 mm	**95**			4		
0.425 mm	**90**			5		
0.3 mm	**84**			6		
0.15 mm	**73**			11		
0.075 mm	**56**			17		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	40		
Plastic Limit (%)	12		
Plasticity Index (%)	**28**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**9.5**		
Cracking Crumbling Curling	Cracking & Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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10 Dowsett Street South Geelong Vic 3220
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Accredited for compliance with ISO/IEC 17025 - Testing

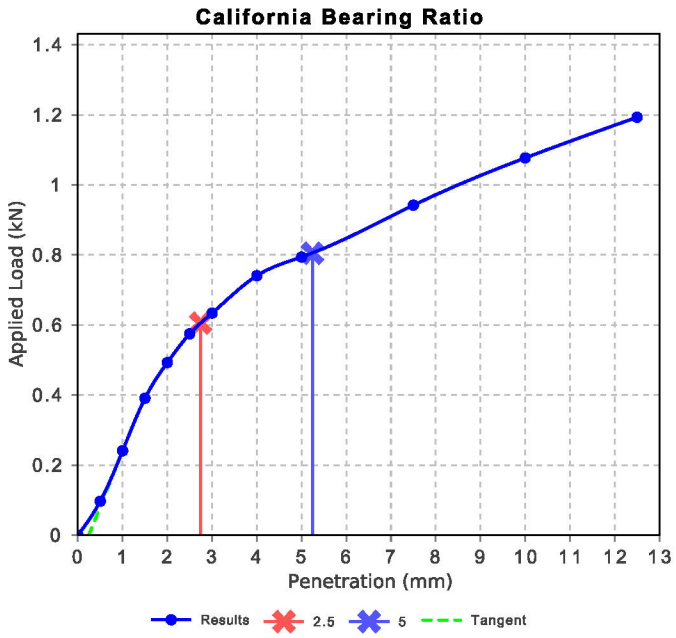
NATA
WORLD RECOGNISED ACCREDITATION

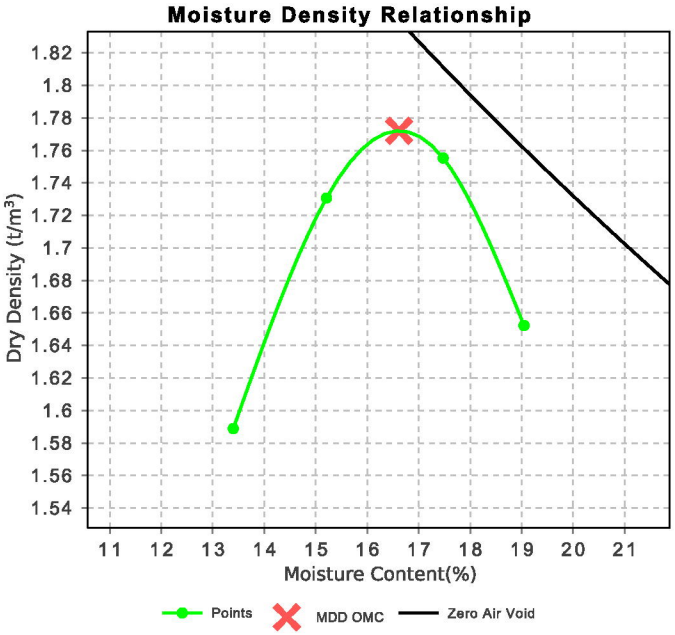
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S21
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**LPTP01, Depth: 0.4m - 2.0m**
Material:	CI - sandy CLAY, orange mottled grey, medium plasticity, sand 44% fine to coarse grained, stiff to very stiff, dry to moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**4.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.77		
Optimum Moisture Content (%)	16.5		
Laboratory Density Ratio (%)	99.0		
Laboratory Moisture Ratio (%)	97.5		
Dry Density after Soaking (t/m^3)	1.74		
Field Moisture Content (%)			
Moisture Content at Placement (%)	16.2		
Moisture Content Top 30mm (%)	19.1		
Moisture Content Rest of Sample (%)	16.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	361.8		
Swell (%)	1.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.77		
Optimum Moisture Content (%)	16.5		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	143.5		





Ground Science
A C N 105 704 078
13 Brock Street Thomastown VIC, P 03 9464 4617 **Email** reception@groundscience.com.au

PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DM**
Location:	**Forge Creek**	**Test date:**	**20-Jun-23**

Sample number		**#S159**
Borehole / test pit		**LPTP01**
Depth, m		**0.4m - 2.0m**
Sample diameter	mm	63.26
Sample height	mm	63.18
Specimen wet density	t/m3	2.022
Specimen dry density	t/m3	1.73
Moisture content	%	16.8
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**1.E-10**
Water type		de-aired - filtered
Specimen description		CLAY, medium to high plasticity, brown
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.77 t/m3
		OMC = 16.6 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

NATA Accredited Laboratory No. 15055
Accredited for compliance with ISO/IEC 17025 - Testing

Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

Ground Science
A C N 105 704 078
13 Brock Street Thomastown VIC, P 03 9464 4617 **Email** reception@groundscience.com.au

PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DW**
Location:	**Forge Creek**	**Test date:**	**20-Jun-23**

Sample number		**#S159**
Borehole / test pit		**LPTP01**
Depth, m		**0.4m - 2.0m**
Sample diameter	mm	63.26
Sample height	mm	63.18
Specimen wet density	t/m3	2.022
Specimen dry density	t/m3	1.73
Moisture content	%	16.8
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**9.E-11**
Water type		50,000ppm NaCl Solution
Specimen description		CLAY, medium to high plasticity, brown
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.77 t/m3
		OMC = 16.6 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

NATA Accredited Laboratory No. 15055
Accredited for compliance with ISO/IEC 17025 - Testing

Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

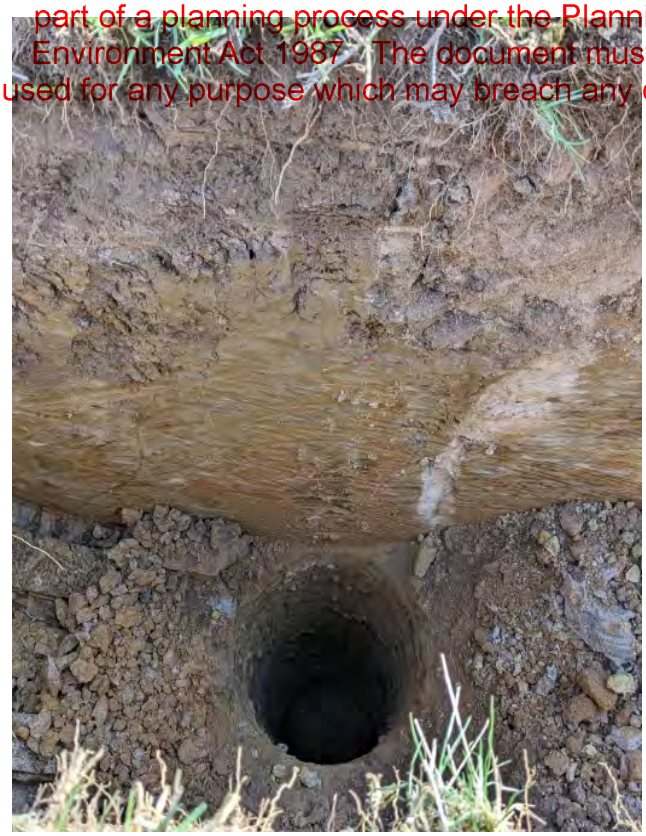
Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: LPTP02

Latitude : -37.883403	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618488	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 3m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1			CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine,	S-F	M	
2	0.2			soft to firm, moist, organics.			
2			CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist	F-St	M	
2				(inferred alluvial deposits).			
2							
2	0.5						
2							
3	0.75		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, dry to moist (inferred alluvial	St	D-M	
3				deposits).			
4							
3	1						
3	1.2						
4			CH	sandy CLAY, grey mottled red/orange, high plasticity, sand 56% fine to coarse grained, stiff, dry to moist (inferred Haunted Hills Formation residual soil).	St	D-M	
4							
5							
	1.5						
	2						
	2.5						
	3			**PTP02 Terminated at 3m**			1879-S22
	3.5						
	4						



GroundScience
(03) 5282 1566
10 Dowsett St.
South Geelong. Victoria 3220
admin@groundscience.com.au

Photo description	Leachate Pond Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	LPTP01	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

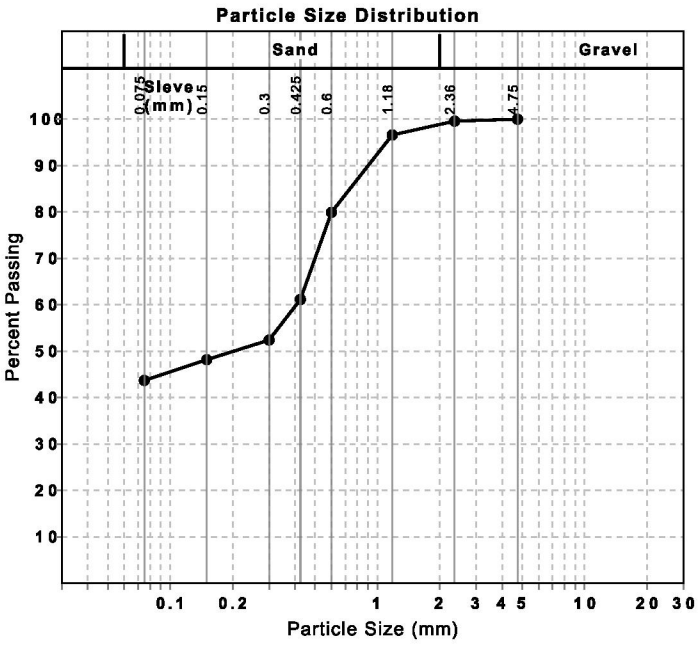
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S22
Date Sampled: 18/05/2023
Dates Tested: 24/05/2023 - 07/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **LPTP02, Depth: 1.2m - 3.0m**
Material: CH - sandy CLAY (organics), grey mottled red/orange, high plasticity, sand 56% fine to coarse grained, stiff, dry to moist (inferred Haunted Hills Formation residual soil).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**97**			3		
0.6 mm	**80**			17		
0.425 mm	**61**			19		
0.3 mm	**52**			9		
0.15 mm	**48**			4		
0.075 mm	**44**			4		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	61		
Plastic Limit (%)	20		
Plasticity Index (%)	**41**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.0**		
Cracking Crumbling Curling	Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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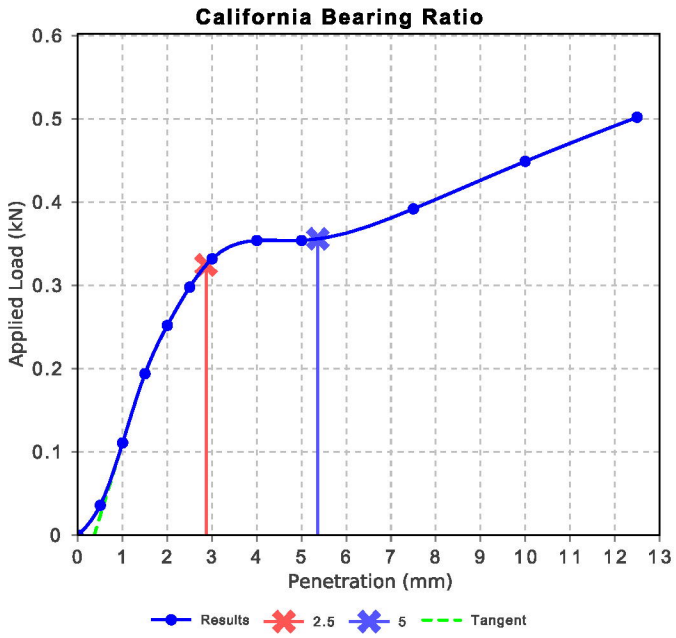
NATA
WORLD RECOGNISED ACCREDITATION

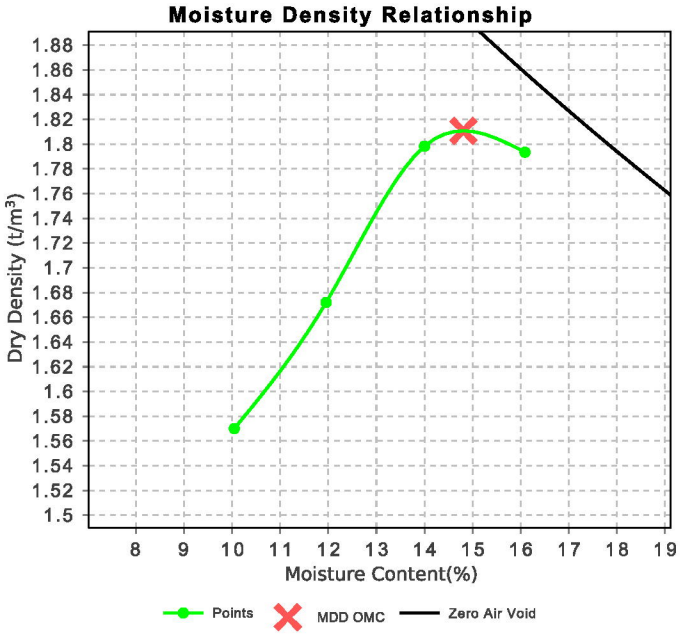
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S22
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**LPTP02, Depth: 1.2m - 3.0m**
Material:	CH - sandy CLAY (organics), grey mottled red/orange, high plasticity, sand 56% fine to coarse grained, stiff, dry to moist (inferred Haunted Hills Formation residual soil).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**2.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.81		
Optimum Moisture Content (%)	15.0		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	99.5		
Dry Density after Soaking (t/m^3)	1.73		
Field Moisture Content (%)			
Moisture Content at Placement (%)	14.8		
Moisture Content Top 30mm (%)	21.3		
Moisture Content Rest of Sample (%)	16.1		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	361.8		
Swell (%)	2.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.81		
Optimum Moisture Content (%)	15.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	151.4		





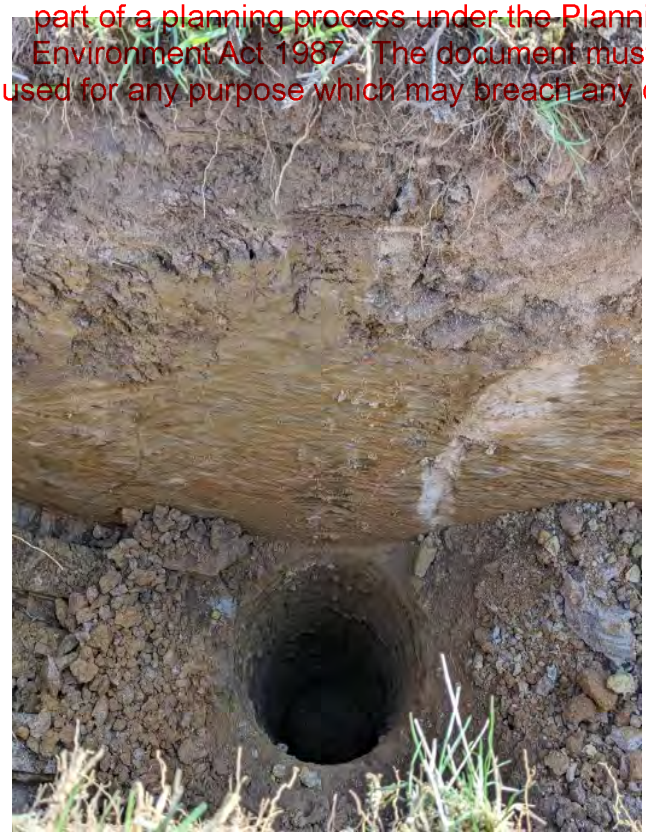
Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: LPTP03

Latitude : -37.883536	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618638	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 3m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 2	0.2		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft to firm, moist, organics.	S-F	M	
3 3 2 2 2	0.5 0.7		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).	F-St	M	
2 2 2 2 2	1 1.2		CI	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, firm, moist (inferred alluvial deposits).	F	M	
2 2 3	1.5 2 2.5		CH	sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand 54% fine to coarse grained, gravel 1%, firm to stiff, moist (inferred Haunted Hills Formation residual soil).	F-St	M	
	2.5		CH	As above, grey mottled orange, stiff.	St	M	1879-S23
	3 3.5 4			**PTP03 Terminated at 3m**			



GroundScience
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Photo description	Leachate Pond Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	LPTP01	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

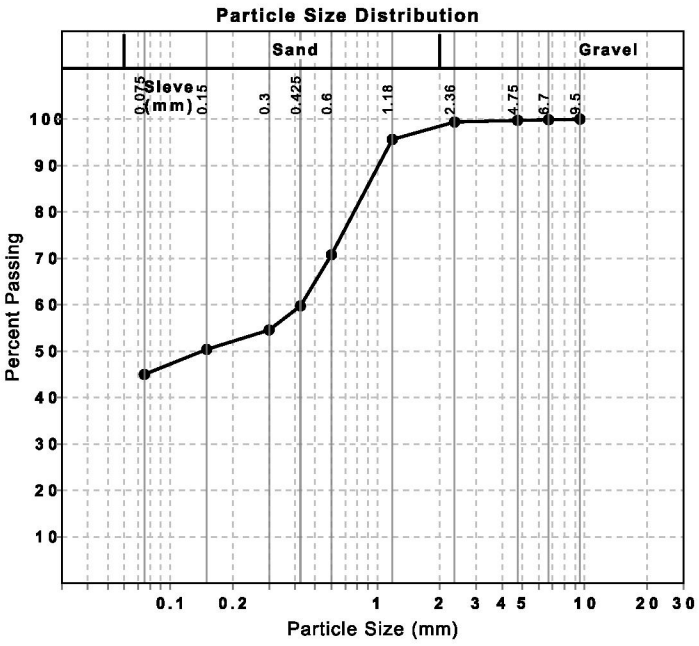
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S23
Date Sampled: 18/05/2023
Dates Tested: 24/05/2023 - 08/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **LPTP03, Depth: 1.2m - 2.5m**
Material: CH - sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand 54% fine to coarse grained, gravel 1%, firm to stiff, moist (inferred Haunted Hills Formation residual soil).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
9.5 mm	**100**			0		
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**99**			0		
1.18 mm	**96**			4		
0.6 mm	**71**			25		
0.425 mm	**60**			11		
0.3 mm	**55**			5		
0.15 mm	**50**			4		
0.075 mm	**45**			5		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	52		
Plastic Limit (%)	16		
Plasticity Index (%)	**36**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**9.0**		
Cracking Crumbling Curling	Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

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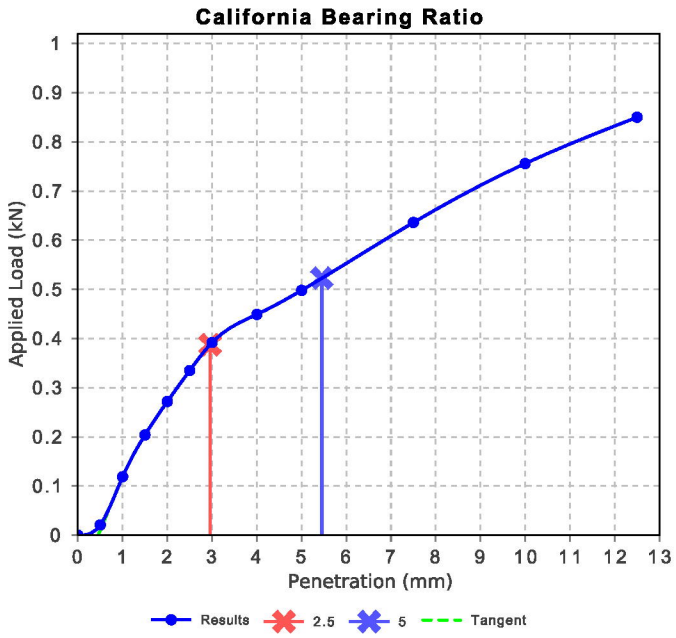
NATA
WORLD RECOGNISED ACCREDITATION

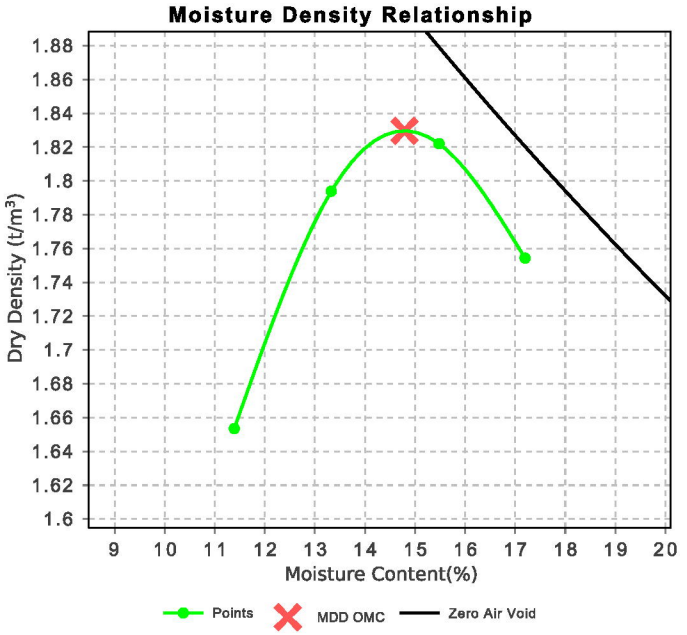
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S23
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**LPTP03, Depth: 1.2m - 2.5m**
Material:	CH - sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand 54% fine to coarse grained, gravel 1%, firm to stiff, moist (inferred Haunted Hills Formation residual soil).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**3.0**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.83		
Optimum Moisture Content (%)	15.0		
Laboratory Density Ratio (%)	98.0		
Laboratory Moisture Ratio (%)	101.0		
Dry Density after Soaking (t/m^3)	1.77		
Field Moisture Content (%)			
Moisture Content at Placement (%)	15.0		
Moisture Content Top 30mm (%)	17.7		
Moisture Content Rest of Sample (%)	15.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	361.6		
Swell (%)	1.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.83		
Optimum Moisture Content (%)	15.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	143.5		





Ground Science South West
10 Dowsett St, South Geelong, Victoria 3220
Phone: (03) 5282 1566

Engineering Log - Testpit

Testpit No: LPTP04

Latitude : -37.883617	Excavator : Yanmar VIO17	Job Number : GSSW1879	
Longitude : 147.618441	Excavator Supplier : Ground Science South West	Client : SMEC AUSTRALIA PTY LTD	
Elevation Not Surveyed	Logged By : MK	Project : EGSC COMPOST FACILITY	
Total Depth : 3m	Reviewed By :	Location : FORGE CREEK	
	Date : 18/05/2023	Loc Comment :	

DCP graph	Depth (m)	Graphic Log	Classification Code	Material Description	Consistency	Moisture	Samples: Bulk Sample
1 1 1	0.25		CL	TOPSOIL: gravelly, sandy, silty CLAY, brown, low plasticity, sand fine to coarse grained, gravel sub angular to sub rounded fine, soft, moist, organics.	S	M	
1 1 1	0.5 0.55		CH	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, soft to firm, moist (inferred alluvial deposits).	S-F	M	
4 5 6 6 6 6 7 8 7 6	1 1.5 2 2.5 2.5		CL	sandy CLAY, orange mottled grey, low plasticity, sand 35% fine to coarse grained, stiff to very stiff, moist (inferred alluvial deposits).	St-VSt	M	
			CH	sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand fine to coarse grained, gravel fine, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).	VSt-H	D	1879-S24, 1879-S26
	3 3.5 4			**PTP04 Terminated at 3m**			

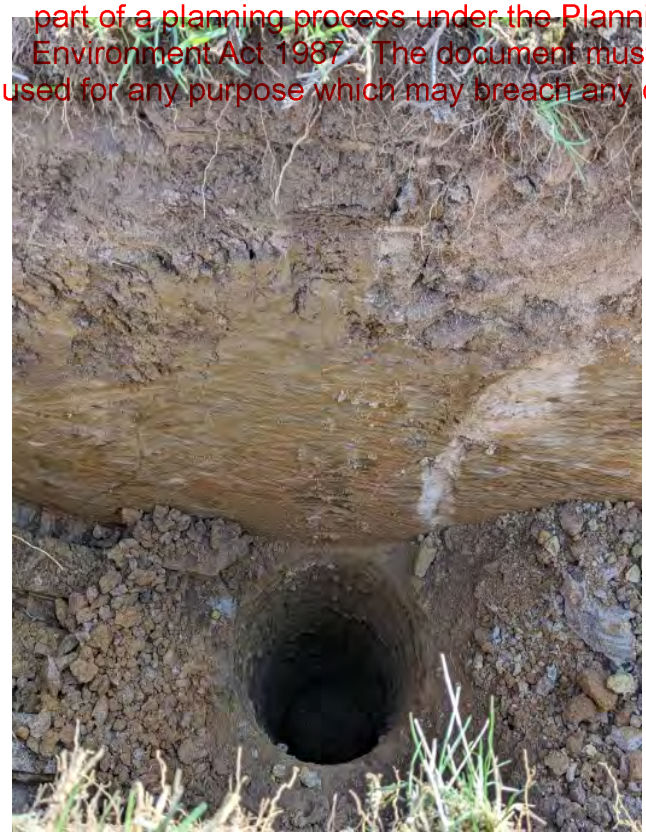


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Photo description	Leachate Pond Test Pit Photos		
Client	SMEC AUSTRALIA PTY LTD		
Location	FORGE CREEK		
Project name	EGSC COMPOST FACILITY		
Project No	GSSW1879	**Scale**	Not to Scale
TP No	LPTP01	**TP Depth**	Not Applicable

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

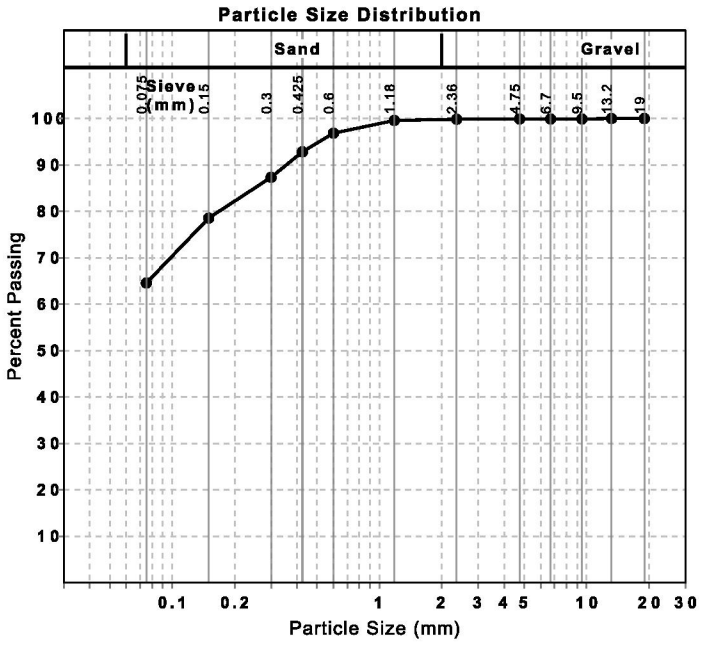
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S24
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 08/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**LPTP04, Depth: 0.55m - 2.5m**
Material:	CH - sandy CLAY, orange mottled grey, high plasticity, sand 35% fine to coarse grained, stiff to very stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
19 mm	**100**			0		
13.2 mm	**100**			0		
9.5 mm	**100**			0		
6.7 mm	**100**			0		
4.75 mm	**100**			0		
2.36 mm	**100**			0		
1.18 mm	**100**			0		
0.6 mm	**97**			3		
0.425 mm	**93**			4		
0.3 mm	**87**			5		
0.15 mm	**79**			9		
0.075 mm	**65**			14		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	61		
Plastic Limit (%)	18		
Plasticity Index (%)	**43**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.0**		
Cracking Crumbling Curling	Cracking & Curling		



Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

Ground Science South West Pty Ltd
10 Dowsett Street South Geelong Vic 3220
Phone: (03) 5282 1566
Email: chrism@groundscience.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

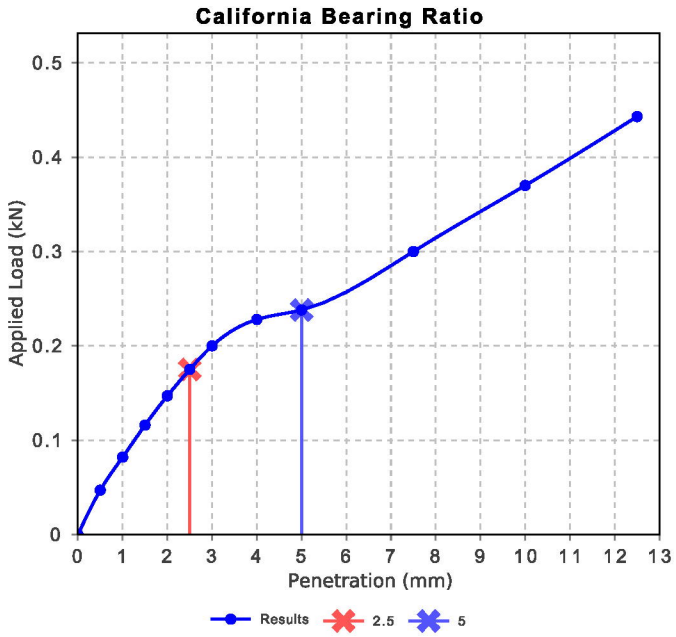
NATA
WORLD RECOGNISED ACCREDITATION

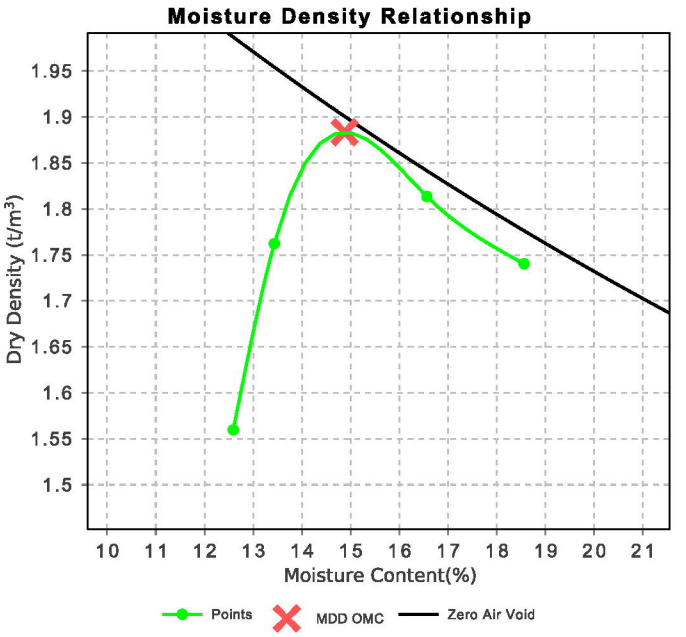
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number:	**GSSW1879-1**
Issue Number:	1
Date Issued:	21/06/2023
Client:	SMEC AUSTRALIA PTY LTD 4/727 Collins St, Docklands Victoria 3008
Project Number:	GSSW1879
Project Name:	GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location:	FORGE CREEK
Work Request:	15787
Sample Number:	1879-S24
Date Sampled:	18/05/2023
Dates Tested:	24/05/2023 - 19/06/2023
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks:	Material classified as per AS 1726:2017
Sample Location:	**LPTP04, Depth: 0.55m - 2.5m**
Material:	CH - sandy CLAY, orange mottled grey, high plasticity, sand 35% fine to coarse grained, stiff to very stiff, moist (inferred alluvial deposits).

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**1.5**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m^3)	1.88		
Optimum Moisture Content (%)	15.0		
Laboratory Density Ratio (%)	97.5		
Laboratory Moisture Ratio (%)	97.0		
Dry Density after Soaking (t/m^3)	1.80		
Field Moisture Content (%)			
Moisture Content at Placement (%)	14.4		
Moisture Content Top 30mm (%)	21.1		
Moisture Content Rest of Sample (%)	15.4		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	361.3		
Swell (%)	2.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		
Sample remoulded as per Vic Roads Code of Practice RC 500.16			

Dry Density - Moisture Relationship (AS 1289 5.1.1 & 2.1.1)		Min	Max
Mould Type	1 LITRE MOULD A		
Compaction	Standard		
Maximum Dry Density (t/m^3)	1.88		
Optimum Moisture Content (%)	15.0		
Oversize Sieve (mm)	19.0		
Oversize Material Wet (%)	0		
Method used to Determine Plasticity	Visual Assessment		
Curing Hours (h)	150.8		





Ground Science
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13 Brock Street Thomastown VIC, P 03 9464 4617 **Email** reception@groundscience.com.au

PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DN**
Location:	**Forge Creek**	**Test date:**	**16-Jun-23**

Sample number		**#S160**
Borehole / test pit		**LPTP04**
Depth, m		**0.55m - 2.5m**
Sample diameter	mm	63.26
Sample height	mm	63.18
Specimen wet density	t/m3	2.123
Specimen dry density	t/m3	1.84
Moisture content	%	15.4
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**4.E-11**
Water type		de-aired - filtered
Specimen description		sandy CLAY, medium plasticity, brown
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.88 t/m3
		OMC = 14.9 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

NATA Accredited Laboratory No. 15055
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Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

Ground Science
A C N 105 704 078
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PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DX**
Location:	**Forge Creek**	**Test date:**	**16-Jun-23**

Sample number		**#S160**
Borehole / test pit		**LPTP04**
Depth, m		**0.55m - 2.5m**
Sample diameter	mm	63.26
Sample height	mm	63.18
Specimen wet density	t/m3	2.123
Specimen dry density	t/m3	1.84
Moisture content	%	15.4
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**2.E-11**
Water type		50,000ppm NaCl Solution
Specimen description		sandy CLAY, medium plasticity, brown
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.88 t/m3
		OMC = 14.9 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

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ACCREDITED FOR TECHNICAL COMPETENCE

NATA Accredited Laboratory No. 15055
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Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

Material Test Report

Ground Science South West
Geotechnical & Environmental Consultants

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NATA
WORLD RECOGNISED ACCREDITATION

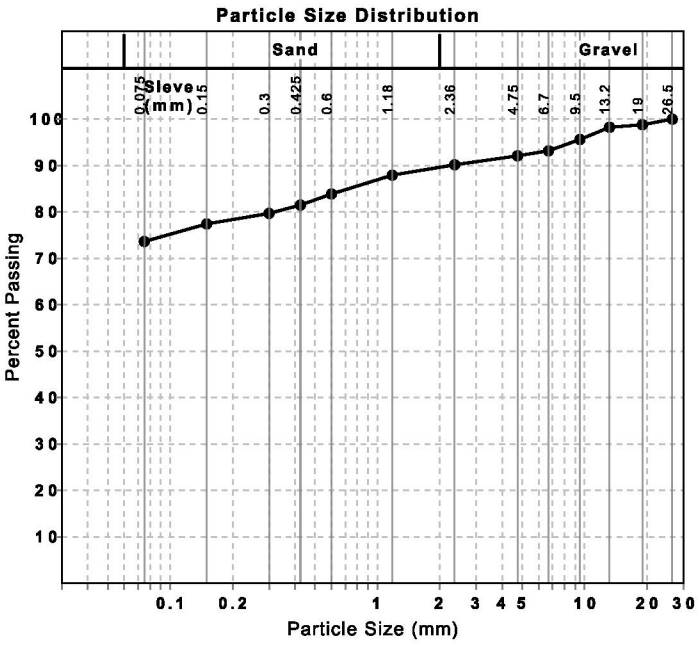
Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Sample Number: 1879-S27
Date Sampled: 19/05/2023
Dates Tested: 24/05/2023 - 13/06/2023
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Remarks: Material classified as per AS 1726:2017
Sample Location: **TP19 + TP24 + TP25 + TP26, Depth: 0.4m - 1.5m**
Material: CH - CLAY, with sand & trace gravel, orange mottled brown, high plasticity, sand 16% fine to coarse grained, gravel 10% fine to medium, stiff, moist (inferred alluvial deposits).

Particle Size Distribution (AS1289 3.6.1)						
Sieve	Passed %	Passing Limits		Retained %	Retained Limits	
26.5 mm	**100**			0		
19 mm	**99**			1		
13.2 mm	**98**			1		
9.5 mm	**96**			3		
6.7 mm	**93**			2		
4.75 mm	**92**			1		
2.36 mm	**90**			2		
1.18 mm	**88**			2		
0.6 mm	**84**			4		
0.425 mm	**81**			2		
0.3 mm	**80**			2		
0.15 mm	**77**			2		
0.075 mm	**74**			4		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	69		
Plastic Limit (%)	28		
Plasticity Index (%)	**41**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.5**		
Cracking Crumbling Curling	Cracking & Curling		



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Ground Science
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PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DO**
Location:	**Forge Creek**	**Test date:**	**19-Jun-23**

Sample number		**#S161**
Borehole / test pit		**TP19 + TP24 + TP25 + TP26**
Depth, m		**0.4-1.5M**
Sample diameter	mm	63.26
Sample height	mm	63.10
Specimen wet density	t/m3	1.839
Specimen dry density	t/m3	1.43
Moisture content	%	28.2
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**3.E-10**
Water type		de-aired - filtered
Specimen description		CLAY, medium to high plasticity, brown, with gravel
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.46 t/m3
		OMC = 28.4 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

NATA
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NATA Accredited Laboratory No. 15055
Accredited for compliance with ISO/IEC 17025 - Testing

Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

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PERMEABILITY - CONSTANT HEAD (Triaxial method) AS1289 6.7.3

Client :	**Ground Science South West Pty Ltd**	**Job No.**	**GS6742/1**
Project:	**GSSW1879**	**Report No.**	**DY**
Location:	**Forge Creek**	**Test date:**	**19-Jun-23**

Sample number		**#S161**
Borehole / test pit		**TP19 + TP24 + TP25 + TP26**
Depth, m		**0.4-1.5M**
Sample diameter	mm	63.26
Sample height	mm	63.10
Specimen wet density	t/m3	1.839
Specimen dry density	t/m3	1.43
Moisture content	%	28.2
Cell pressure	kPa	560
Inlet pressure	kPa	520
Outlet pressure	kPa	500
Mean effective stress	kPa	50
Hydraulic head	kPa	20
Saturation	%	98
PERMEABILITY	**m/sec**	**2.E-10**
Water type		50,000ppm NaCl Solution
Specimen description		CLAY, medium to high plasticity, brown, with gravel
Notes:		Sample remoulded to a target of 98% SMDD @ OMC
		MDD = 1.46 t/m3
		OMC = 28.4 %
		Density Ratio = 98 %
Comments		Sampled by client, tested as received
		MDD and OMC Supplied by client

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NATA Accredited Laboratory No. 15055
Accredited for compliance with ISO/IEC 17025 - Testing

Date of issue
27/06/2023

Aaron Stuart
Approved Signatory

Material Test Report

Report Number: GSSW1879-1
Issue Number: 1
Date Issued: 21/06/2023
Client: SMEC AUSTRALIA PTY LTD
4/727 Collins St, Docklands Victoria 3008
Project Number: GSSW1879
Project Name: GEOTECHNICAL INVESTIGATION EGSC COMPOST FACILITY
Project Location: FORGE CREEK
Work Request: 15787
Dates Tested: 24/05/2023 - 25/05/2023

Ground Science South West
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NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Chris Mamalis
Laboratory Manager
NATA Accredited Laboratory Number: 20109

Moisture Content AS 1289 2.1.1

Sample Number	Sample Location	Moisture Content (%)	Min	Max	Material
1879-S29	PD01 , Depth: 0.22m	3.5 %	**	**	FILL: GC - sandy, clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 36% fine to coarse grained, dense, dry.
1879-S30	PD01 , Depth: 0.95m	18.5 %	**	**	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine grained, gravel fine, very stiff to hard, dry to moist (inferred alluvial deposits).
1879-S31	SD01 , Depth: 0.2m	5.2 %	**	**	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 34% fine to coarse grained, dense, dry.
1879-S32	SD01 , Depth: 0.78m	5.7 %	**	**	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 34% fine to coarse grained, dense, dry.
1879-S33	PD02 , Depth: 0.21m	3.6 %	**	**	FILL: GM-GC - sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand 32% fine to coarse grained, dense, dry.
1879-S34	PD02, Depth: 0.91m	13.9 %	**	**	CLAY, trace sand, orange mottled brown, low plasticity, sand fine grained, gravel fine, stiff to very stiff, moist (inferred alluvial deposits).
1879-S35	SD02 , Depth: 0.15m	7.3 %	**	**	sandy, silty/clayey GRAVEL (River Gravel), orange mottled white, sub angular to rounded fine to coarse, low plasticity, sand fine to coarse grained, dense, dry.
1879-S36	SD02 , Depth: 0.9m	17.2 %	**	**	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine grained, gravel fine, stiff to very stiff, dry to moist (inferred alluvial deposits).
1879-S37	TP01 , Depth: 1.4m	18.4 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).
1879-S38	TP02 , Depth: 1.75m	15.7 %	**	**	CL - CLAY, trace sand, orange mottled grey, low plasticity, sand 10% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).
1879-S39	TP03 , Depth: 1.45m	16.8 %	**	**	CL - CLAY, with sand, trace gravel, orange mottled brown, low plasticity, sand 19% fine to medium grained, gravel 1%, firm to stiff, dry to moist (inferred alluvial deposits).
1879-S40	TP04 , Depth: 1.7m	16.8 %	**	**	CI - CLAY, with sand, orange mottled grey, medium plasticity, sand 19% fine to medium grained, stiff to very stiff, moist (inferred alluvial deposits).
1879-S41	TP05 , Depth: 1.47m	19.1 %	**	**	sandy CLAY, orange mottled grey, medium plasticity, sand fine to coarse grained, very stiff to hard, moist (inferred alluvial deposits).
1879-S42	TP06 , Depth: 1.4m	17.0 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).
1879-S43	TP07 , Depth: 1.38m	18.1 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, very stiff to hard, dry to moist (inferred alluvial deposits).
1879-S44	TP08 , Depth: 1.3m	16.5 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, hard, dry to moist (inferred alluvial deposits).

Sample Number	Sample Location	Moisture Content (%)	Min	Max	Material
1879-S45	TP09 , Depth: 1.45m	14.8 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, dry to moist (inferred alluvial deposits).
1879-S46	TP10 , Depth: 1.5m	15.7 %	**	**	CI - CLAY, with sand, orange mottled grey, medium plasticity, sand 25% fine to medium grained, very stiff to hard, dry to moist (inferred alluvial deposits).
1879-S47	TP11 , Depth: 1.48m	20.1 %	**	**	CLAY, trace sand, orange mottled brown, high plasticity, sand fine to medium grained, stiff, moist (inferred alluvial deposits).
1879-S48	TP12 , Depth: 1.55m	20.1 %	**	**	CH - CLAY, trace sand & gravel, orange mottled red/grey, high plasticity, sand 15% fine to medium grained, gravel 8% fine to medium, stiff to very stiff, moist (inferred alluvial deposits).
1879-S49	TP13 , Depth: 1.2m	18.3 %	**	**	CI - CLAY, with sand, orange mottled brown, medium plasticity, sand 23% fine to medium grained, very stiff to hard, moist (inferred alluvial deposits).
1879-S50	TP14 , Depth: 1.5m	16.3 %	**	**	CL - sandy CLAY, trace gravel, orange mottled grey, low plasticity, sand 40% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).
1879-S51	TP15 , Depth: 1.2m	13.2 %	**	**	CI - sandy CLAY, trace gravel, orange mottled red/grey, medium plasticity, sand 45% fine to coarse grained, gravel 1%, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).
1879-S52	TP16 , Depth: 1.2m	14.9 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff to very stiff, dry to moist (inferred alluvial deposits).
1879-S53	TP17 , Depth: 1.3m	14.9 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff to very stiff, dry to moist (inferred alluvial deposits).
1879-S54	TP18 , Depth: 1.4m	26.4 %	**	**	CLAY, trace sand and gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, stiff, moist (inferred alluvial deposits).
1879-S55	TP19 , Depth: 1.3m	21.9 %	**	**	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, hard, moist (inferred Haunted Hills Formation residual soil).
1879-S56	TP20 , Depth: 1.4m	19.1 %	**	**	CH - CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand 20% fine to coarse grained, gravel 18% medium to coarse, hard, moist (inferred Haunted Hills Formation residual soil).
1879-S57	TP21 , Depth: 1.4m	20.5 %	**	**	CLAY, trace sand, orange mottled grey, medium plasticity, sand fine to medium grained, stiff, moist (inferred alluvial deposits).
1879-S58	TP22 , Depth: 1.45m	20.8 %	**	**	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, stiff, moist (inferred Haunted Hills Formation residual soil).
1879-S59	TP23 , Depth: 1.43m	29.3 %	**	**	CH - CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand 13% fine to coarse grained, gravel 2%, stiff, moist (inferred alluvial deposits).
1879-S60	TP24 , Depth: 1.45m	20.3 %	**	**	CLAY, with sand & gravel, grey mottled orange/red, high plasticity, sand fine to coarse grained, gravel sub angular medium to coarse, very stiff to hard, moist (inferred Haunted Hills Formation residual soil).
1879-S61	TP25 , Depth: 1.35m	10.5 %	**	**	gravelly CLAY, with sand, grey mottled orange/red, medium plasticity, gravel sub angular medium to coarse, sand fine to coarse grained, hard, dry (inferred Haunted Hills Formation residual soil).
1879-S62	TP26 , Depth: 1.42m	31.7 %	**	**	CLAY, trace sand & gravel, orange mottled brown, high plasticity, sand fine to medium grained, gravel fine, firm to stiff, moist (inferred alluvial deposits).
1879-S63	PTP01 , Depth: 2.1m	31.6 %	**	**	sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand fine to coarse grained, gravel fine, very stiff to hard, moist (inferred Haunted Hills Formation residual soil).
1879-S64	PTP02 , Depth: 2.0m	15.1 %	**	**	CH - sandy CLAY, grey mottled red/orange, high plasticity, sand 56% fine to coarse grained, stiff, dry to moist(inferred Haunted Hills Formation residual soil).
1879-S65	PTP03 , Depth: 1.8m	14.2 %	**	**	CH - sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand 54% fine to coarse grained, gravel 1%, firm to stiff, moist (inferred Haunted Hills Formation residual soil).

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Sample Number	Sample Location	Moisture Content (%)	Min	Max	Material
1879-S66	PTP04 , Depth: 2.7m	17.5 %	**	**	sandy CLAY, trace gravel, grey mottled red/orange, high plasticity, sand fine to coarse grained, gravel fine, very stiff to hard, dry (inferred Haunted Hills Formation residual soil).

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