



MATERIALS REPORT



T0460

PO Box 1095, Bellville, 7535
Ph.: 021 981 3100, Fax: 021 981 3224

GRAVELS / SOILS QUALITY CHECK

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway / Lane: *Refuse Transfer Facility*Lot No.: *ELE-150401-1-1*Project No.: *CS 0311*Layer: *Insitu*Date Sampled: *01 April 2015*Project: *Ashton*

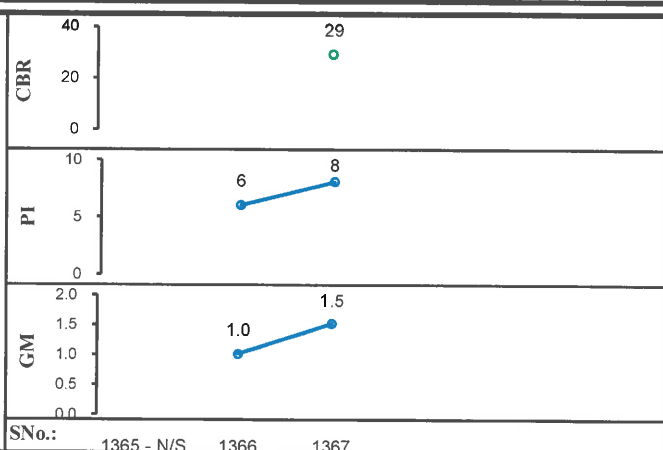
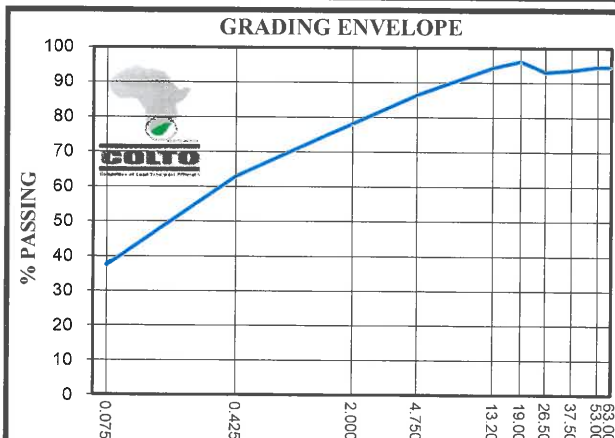
Section (start):

Date Tested: *07 April 2015*Source: *Geotechnical Investigation*

Section (end):

Date Reported: *17 April 2015*

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1365 - N/S Lt O Br sdy Soil	1366 O Br Soil + Qtztc Ss Grav	1367 Lt G O Br sty Soil with Calc Grav	Mean Values	Specification
					TH1 0-250	TH1 250-900	TH1 900-2200		Min Max
Sieve Analysis - % Passing	63,00			A1			94	94	
	53,00						94	94	
	37,50						94	94	
	26,50						93	93	
	19,00					100	92	96	
	13,20					99	89	94	
	4,750					96	77	86	
	2,000					89	67	78	
	0,425					74	52	63	
	0,075			A5		40.6	33.8	37.2	



Soil Mortar	Coarse Sand	A5-5.2		17	22		20
	Fine Sand			38	27		33
	Grad. Modulus			1.00	1.50		1.25
Atterberg Limits	Liquid Limit	A2		18	23		20
	Plastic Index	A3		6	8		7
	Lin. Shrinkage	A4		3.0	3.0		3.0
CBR Information	Mod kg/m ³	A7			1929		1929
	OMC %				11.5		11.5
	100	A8			67		67
	98				53		53
	95				37		37
	93				29		29
	90				20		20
Swell %					0.34		0.34
Material Classification					G6		

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
Test result relate only to sample/s tested.

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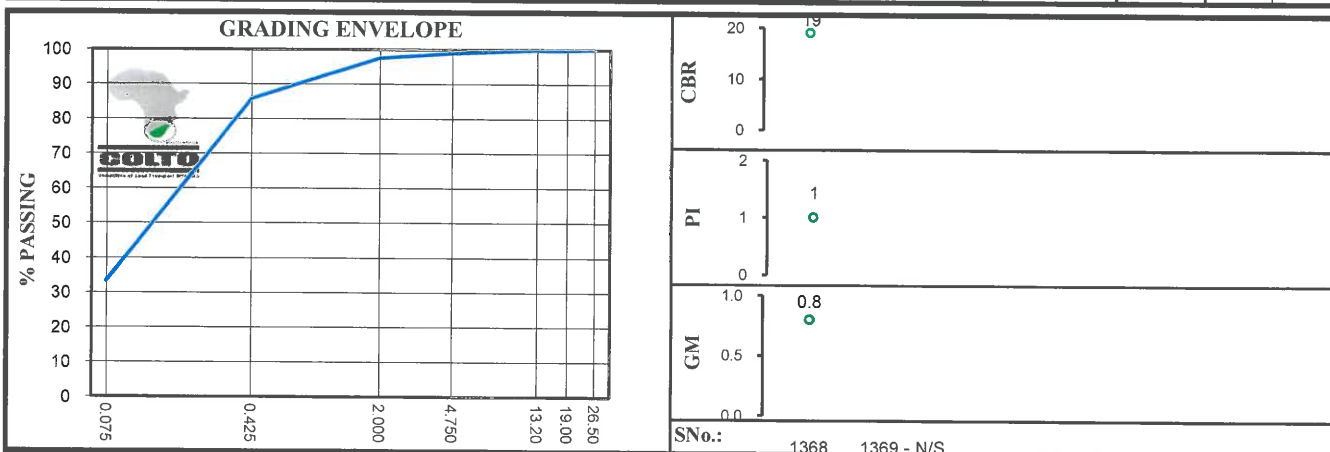
Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Project No.: *CS 0311*Project: *Ashton*Source: *Geotechnical Investigation*Cway / Lane: *Refuse Transfer Facility*Layer: *Insitu*

Section (start):

Section (end):

Lot No.: *ELE-150401-1-2*Date Sampled: *01 April 2015*Date Tested: *07 April 2015*Date Reported: *17 April 2015*

Sample No.			Test Methods TMH 1 1986	1368	1369 - N/S					Mean Values	Specification	
Material Description				Lt G sdy Soil	O Br sty Soil with Qtzte							
Chainage km				TH2	TH2							
Depth Tested mm				0-850	850-2400					Min	Max	
Sieve Analysis - % Passing	63,00	mm	A1									
	53,00											
	37,50											
	26,50			100						100		
	19,00			100						100		
	13,20			100						100		
	4,750			99						99		
	2,000			98						98		
	0,425			86						86		
	0,075		A5	33.4						33.4		



Soil Mortar	Coarse Sand	A5-5.2	12						12		
	Fine Sand		54						54		
	Grad. Modulus		0.80						0.80		
Atterberg Limits	Liquid Limit	A2									
	Plastic Index	A3	NP						NP		
	Lin. Shrinkage	A4	0.0						0.0		
CBR Information	Mod kg/m ³	A7	2101						2101		
	OMC %		7.3						7.3		
	100	A8	76						76		
	98		51						51		
	95		28						28		
	93		19						19		
	90		10						10		
	Swell %	0.00							0.00		
Material Classification			G7								

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
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GRAVELS / SOILS QUALITY CHECK

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway / Lane: *Refuse Transfer Facility*Lot No.: *ELE-150401-1-3*Project No.: *CS 0311*Layer: *Insitu*Date Sampled: *01 April 2015*Project: *Ashton*

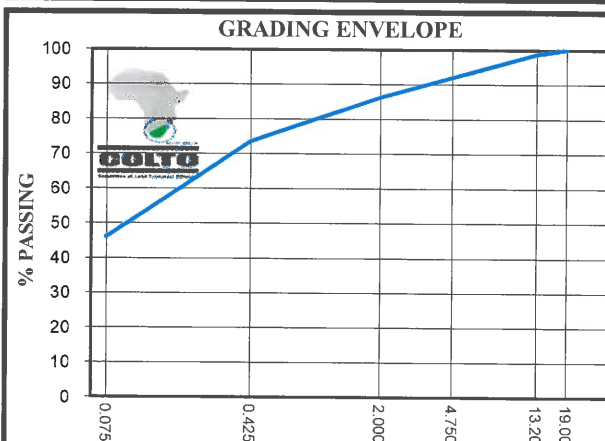
Section (start):

Date Tested: *07 April 2015*Source: *Geotechnical Investigation*

Section (end):

Date Reported: *17 April 2015*

Sample No.			Test Methods TMH 1 1986	1370 - N/S	1371 - N/S	1372				Mean Values	Specification	
Material Description				Lt G sdy Soil	O R Br sdy Soil + fine Qtzte	O Br Cly Soil + occ Qtzte						
Chainage km				TH3	TH3	TH3						
Depth Tested mm				0-750	750-1300	1300-2000					Min	Max
Sieve Analysis - % Passing	63,00	mm	A1									
	53,00											
	37,50											
	26,50											
	19,00					100				100		
	13,20					99				99		
	4,750					92				92		
	2,000					86				86		
	0,425					74				74		
	0,075		A5			46.2				46.2		



CBR

PI

GM

SNo.: 1370 - N/S 1371 - N/S 1372

Soil Mortar	Coarse Sand	A5-5.2		14				14		
	Fine Sand			32				32		
	Grad. Modulus			0.90				0.90		
Atterberg Limits	Liquid Limit	A2		22				22		
	Plastic Index	A3		8				8		
	Lin. Shrinkage	A4		4.0				4.0		
CBR Information	Mod kg/m ³	A7								
	OMC %	A8								
	100									
	98									
	95									
	93									
	90									
	Swell %									
Material Classification										

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
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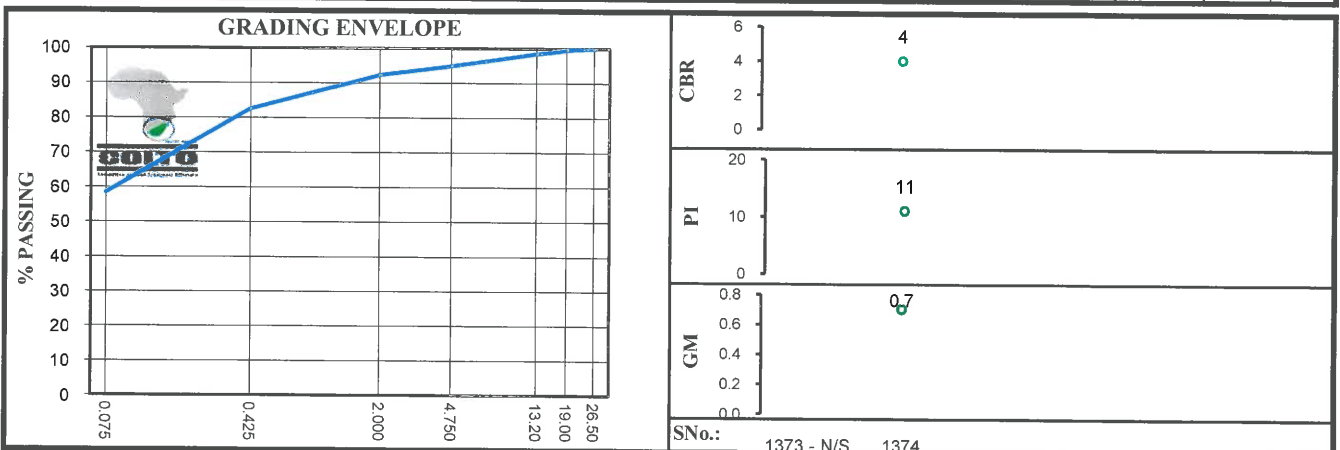
Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Project No.: *CS 0311*Project: *Ashton*Source: *Geotechnical Investigation*Cway / Lane: *Refuse Transfer Facility*Layer: *Insitu*

Section (start):

Section (end):

Lot No.: *ELE-150401-1-4*Date Sampled: *01 April 2015*Date Tested: *07 April 2015*Date Reported: *17 April 2015*

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1373 - N/S Lt G sdy Soil	1374 O R Br Cly Soil with occ Qtzite	Mean Values	Specification
					TH4 0-600	TH4 600-2200		Min Max
Sieve Analysis - % Passing	63,00	mm	A1					
	53,00							
	37,50							
	26,50					100	100	
	19,00					100	100	
	13,20					98	98	
	4,750					95	95	
	2,000					92	92	
	0,425					83	83	
	0,075		A5			58.6	58.6	



Soil Mortar	Coarse Sand	A5-5.2	10	10
	Fine Sand		27	27
	Grad. Modulus		0.70	0.70
Atterberg Limits	Liquid Limit	A2	24	24
	Plastic Index	A3	11	11
	Lin. Shrinkage	A4	5.0	5.0
CBR Information	Mod kg/m ³	A7	1918	1918
	OMC %		13.0	13.0
	100	A8	9	9
	98		7	7
	95		5	5
	93		4	4
	90		3	3
	Swell %		0.24	0.24
Material Classification			G10	

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)

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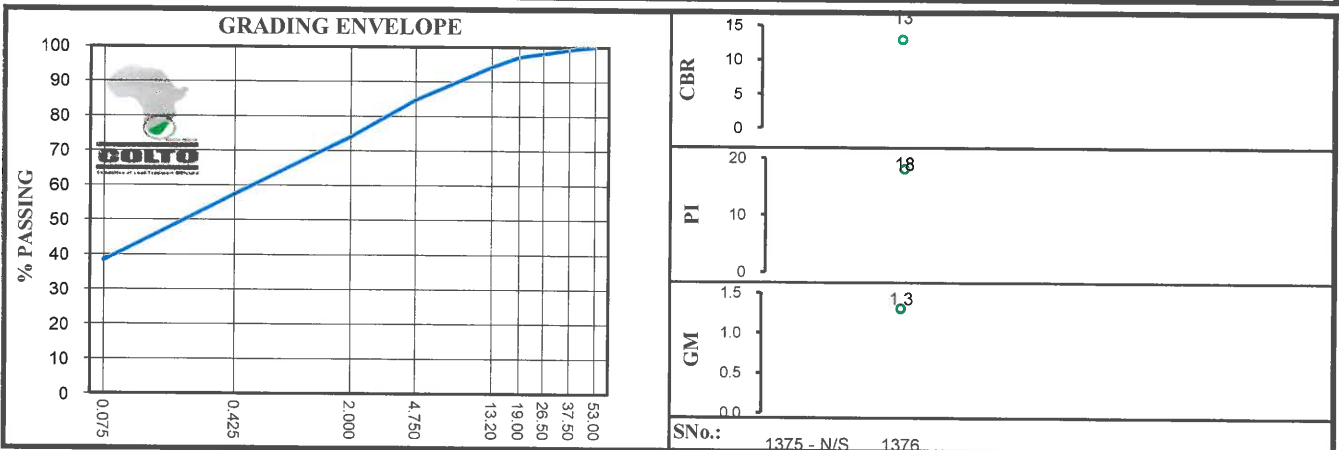
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GRAVELS / SOILS QUALITY CHECK

Reference Number **C-15- 526**

Client: <i>Element Consulting Engineers</i>	Cway / Lane: <i>Refuse Transfer Facility</i>	Lot No.: <i>ELE-150401-1-5</i>
Project No.: <i>CS 0311</i>	Layer: <i>Insitu</i>	Date Sampled: <i>01 April 2015</i>
Project: <i>Ashton</i>	Section (start):	Date Tested: <i>07 April 2015</i>
Source: <i>Geotechnical Investigation</i>	Section (end):	Date Reported: <i>17 April 2015</i>

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1375 - N/S Lt G sdy Soil	1376 O Br cly Soil + fine Qtzite	Mean Values	Specification
					TH5 0-400	TH5 400-2700		Min Max
Sieve Analysis - % Passing	63,00	mm	A1					
	53,00					100	100	
	37,50					99	99	
	26,50					98	98	
	19,00					97	97	
	13,20					94	94	
	4,750					85	85	
	2,000					74	74	
	0,425					57	57	
	0,075		A5			38.3	38.3	



Soil Mortar	Coarse Sand	A5-5.2		23			23	
	Fine Sand			25			25	
	Grad. Modulus			1.30			1.30	
Atterberg Limits	Liquid Limit	A2		43			43	
	Plastic Index	A3		18			18	
	Lin. Shrinkage	A4		8.5			8.5	
CBR Information	Mod kg/m ³	A7		1839			1839	
	OMC %			13.7			13.7	
	100	A8		16			16	
	98			15			15	
	95			14			14	
	93			13			13	
	90			12			12	
	Swell %			1.40			1.40	
Material Classification				G8				

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
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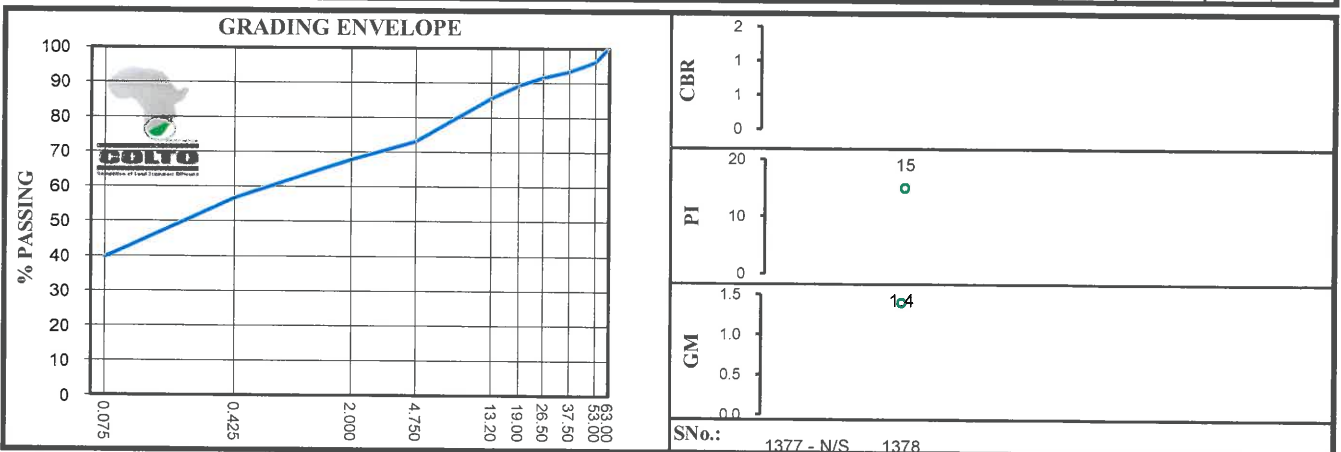
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GRAVELS / SOILS QUALITY CHECK

Reference Number **C-15- 526**

Client: <i>Element Consulting Engineers</i>	Cway / Lane: <i>Refuse Transfer Facility</i>	Lot No.: <i>ELE-150401-1-6</i>
Project No.: <i>CS 0311</i>	Layer: <i>Insitu</i>	Date Sampled: <i>01 April 2015</i>
Project: <i>Ashton</i>	Section (start):	Date Tested: <i>07 April 2015</i>
Source: <i>Geotechnical Investigation</i>	Section (end):	Date Reported: <i>17 April 2015</i>

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1377 - N/S Lt G sdy Soil	1378 O Br cly Soil + occ Qtzite	Mean Values	Specification
					TH6 0-400	TH6 400-2600		Min Max
Sieve Analysis - % Passing	63,00	mm	A1			100	100	
	53,00					96	96	
	37,50					93	93	
	26,50					92	92	
	19,00					89	89	
	13,20					86	86	
	4,750					73	73	
	2,000					68	68	
	0,425					57	57	
	0,075			A5		39.7	39.7	



Soil Mortar	Coarse Sand	A5-5.2	16	16
	Fine Sand		25	25
	Grad. Modulus		1.40	1.40
Atterberg Limits	Liquid Limit	A2	35	35
	Plastic Index	A3	15	15
	Lin. Shrinkage	A4	7.0	7.0
CBR Information	Mod kg/m ³	A7		
	OMC %			
	100	A8		
	98			
	95			
	93			
	90			
	Swell %			
Material Classification				

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
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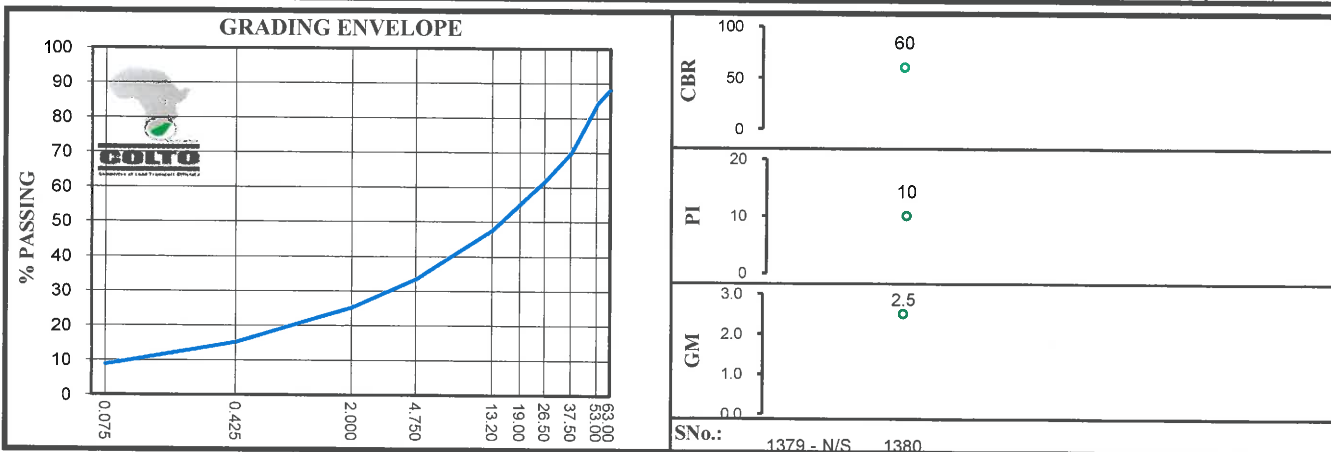
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GRAVELS / SOILS QUALITY CHECK

Reference
Number**C-15- 526**

Client: <i>Element Consulting Engineers</i>	Cway / Lane: <i>Refuse Transfer Facility</i>	Lot No.: <i>ELE-150401-1-7</i>
Project No.: <i>CS 0311</i>	Layer: <i>Insitu</i>	Date Sampled: <i>01 April 2015</i>
Project: <i>Ashton</i>	Section (start):	Date Tested: <i>07 April 2015</i>
Source: <i>Geotechnical Investigation</i>	Section (end):	Date Reported: <i>17 April 2015</i>

Sample No.			Test Methods TMH 1 1986	1379 - N/S	1380					Mean Values	Specification	
Material Description				Lt G sdy Soil	Lt G O Br Calc sty Soil + occ Ss Peb						Min	Max
Chainage		km		TH7	TH7							
Depth Tested		mm		0-400	400-2200							
Sieve Analysis - % Passing	63,00	mm	A1		88					88		
	53,00				84					84		
	37,50				70					70		
	26,50				62					62		
	19,00				55					55		
	13,20				48					48		
	4,750				33					33		
	2,000				25					25		
	0,425				15					15		
	0,075		A5		8.7					8.7		



Soil Mortar	Coarse Sand	A5-5.2	40				40		
	Fine Sand		25				25		
	Grad. Modulus		2.50				2.50		
Att.berg Limits	Liquid Limit	A2	36				36		
	Plastic Index	A3	10				10		
	Lin. Shrinkage	A4	4.5				4.5		
CBR Information	Mod kg/m ³	A7	1736				1736		
	OMC %		16.7				16.7		
	100	A8	88				88		
	98		79				79		
	95		67				67		
	93		60				60		
	90		50				50		
	Swell %		0.00				0.00		
Material Classification			G5						

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)
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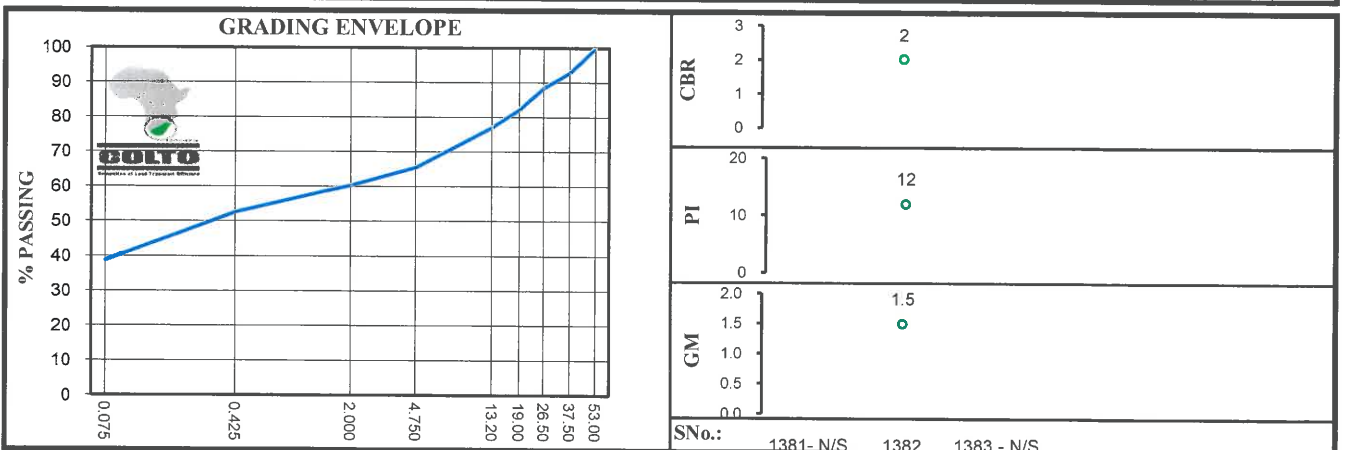
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GRAVELS / SOILS QUALITY CHECK

Reference Number **C-15- 526**

Client: <i>Element Consulting Engineers</i>	Cway / Lane: <i>Refuse Transfer Facility</i>	Lot No.: <i>ELE-150401-1-8</i>
Project No.: <i>CS 0311</i>	Layer: <i>Insitu</i>	Date Sampled: <i>01 April 2015</i>
Project: <i>Ashton</i>	Section (start):	Date Tested: <i>07 April 2015</i>
Source: <i>Geotechnical Investigation</i>	Section (end):	Date Reported: <i>17 April 2015</i>

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1381- N/S Lt G sdy Soil	1382 O R Br Cly Soil + Ss Peb Grav	1383 - N/S Lt G Weath Ss + Ss Grav	Mean Values	Specification
					TH8 0-300	TH8 300-1500	TH8 1500-2100		Min Max
Sieve Analysis - % Passing	63,00	mm	A1			100		100	
	53,00					93		93	
	37,50					88		88	
	26,50					82		82	
	19,00					77		77	
	13,20					65		65	
	4,750					60		60	
	2,000					53		53	
	0,425					38.8		38.8	
	0,075		A5						



Soil Mortar	Coarse Sand	A5-5.2	12				12	
	Fine Sand		24				24	
	Grad. Modulus		1.50				1.50	
Atterberg Limits	Liquid Limit	A2	31				31	
	Plastic Index	A3	12				12	
	Lin. Shrinkage	A4	5.5				5.5	
CBR Information	Mod kg/m ³	A7	1985				1985	
	OMC %		11.2				11.2	
	100	A8	5				5	
	98		4				4	
	95		2				2	
	93		2				2	
	90		1				1	
	Swell %		1.61				1.61	
Material Classification			<G10					

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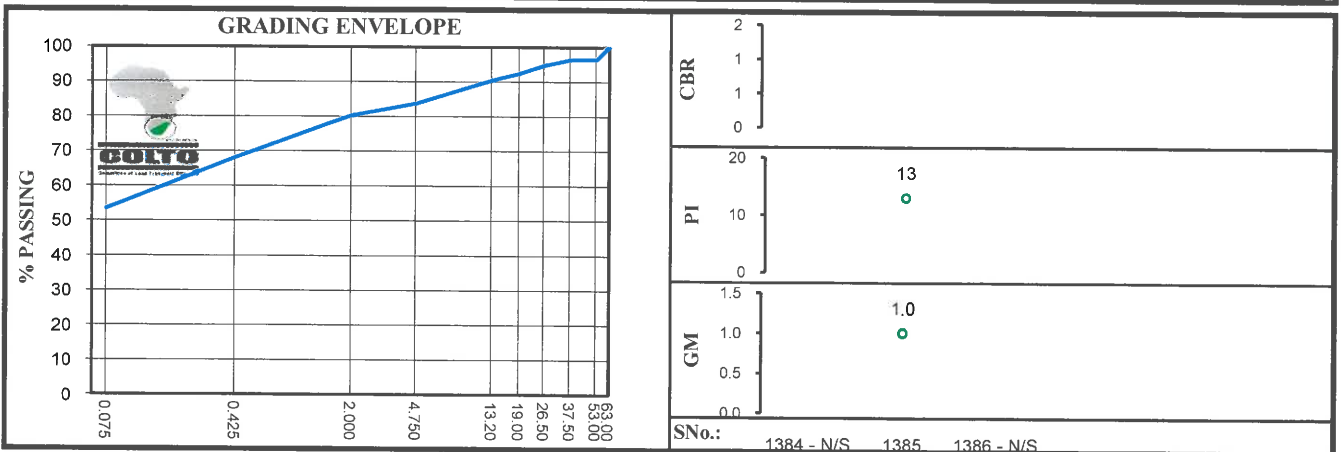
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GRAVELS / SOILS QUALITY CHECK

Reference Number **C-15- 526**

Client: <i>Element Consulting Engineers</i>	Cway / Lane: <i>Refuse Transfer Facility</i>	Lot No.: <i>ELE-150401-1-9</i>
Project No.: <i>CS 0311</i>	Layer: <i>Insitu</i>	Date Sampled: <i>01 April 2015</i>
Project: <i>Ashton</i>	Section (start):	Date Tested: <i>07 April 2015</i>
Source: <i>Geotechnical Investigation</i>	Section (end):	Date Reported: <i>17 April 2015</i>

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1384 - N/S Lt G sdy Soil	1385 R Br Cly Soil + Ss Grav	1386 - N/S Lt Y Br Weath Ss + Ss Grav	Mean Values	Specification
					TH9 0-300	TH9 300-1300	TH9 1300-2100		Min Max
Sieve Analysis - % Passing	63,00	mm	A1			100		100	
	53,00					96		96	
	37,50					96		96	
	26,50					95		95	
	19,00					92		92	
	13,20					91		91	
	4,750					84		84	
	2,000					80		80	
	0,425					68		68	
	0,075		A5			53.7		53.7	



Soil Mortar	Coarse Sand	A5-5.2		15				15	
	Fine Sand			18				18	
	Grad. Modulus			1.00				1.00	
Att.berg Limits	Liquid Limit	A2		34				34	
	Plastic Index	A3		13				13	
	Lin. Shrinkage	A4		6.0				6.0	
CBR Information	Mod kg/m ³	A7							
	OMC %								
	100	A8							
	98								
	95								
	93								
	90								
Swell %									
Material Classification									

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)

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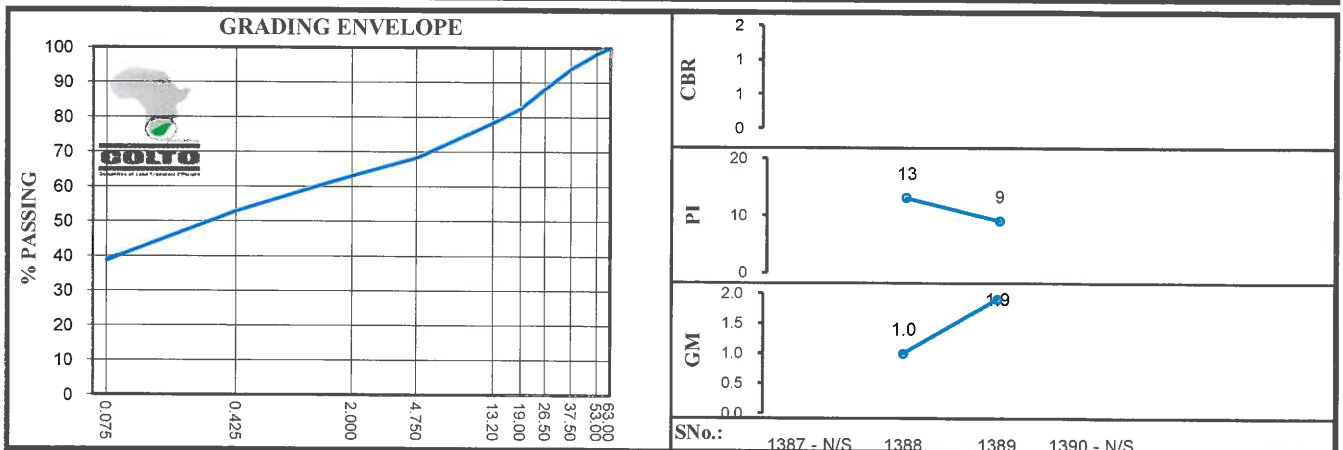
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Number**C-15- 526**Client: *Element Consulting Engineers*Project No.: *CS 0311*Project: *Ashton*Source: *Geotechnical Investigation*Cway / Lane: *Refuse Transfer Facility*Layer: *Insitu*

Section (start):

Section (end):

Lot No.: *ELE-150401-1-10*Date Sampled: *01 April 2015*Date Tested: *07 April 2015*Date Reported: *17 April 2015*

Sample No.	Material Description	Chainage km	Depth Tested mm	Test Methods TMH 1 1986	1387 - N/S Lt G sdy Soil	1388 R O Br Cly Soil + Ss Peb Grav	1389 Lt Y Br Weath Ss + Ss Grav	1390 - N/S Hard Ss Grav - TLB Refusal	Mean Values	Specification
					TH10 0-450	TH10 450-1200	TH10 1200-1900	1900+		Min Max
Sieve Analysis - % Passing	63,00	mm	A1				100		100	
	53,00					100	97		98	
	37,50					98	90		94	
	26,50					95	82		88	
	19,00					92	73		83	
	13,20					91	66		78	
	4,750					85	51		68	
	2,000					81	45		63	
	0,425					69	37		53	
	0,075		A5			51.1	26.3		38.7	



Soil Mortar	Coarse Sand	A5-5.2		15	18			17	
	Fine Sand			22	24			23	
	Grad. Modulus			1.00	1.90			1.45	
Atterberg Limits	Liquid Limit	A2		32	32			32	
	Plastic Index	A3		13	9			11	
	Lin. Shrinkage	A4		6.0	4.5			5.5	
CBR Information	Mod kg/m ³	A7							
	OMC %								
	100	A8							
	98								
	95								
	93								
	90								
	Swell %								
Material Classification									

Remarks:

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Tests in compliance with TMH 1 : 1986 (Methods A1 to A5, A7, A8), SANS 3001 (GR1, GR10, GR30, GR40)

Test result relate only to sample/s tested.

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Technical Signatory: R van Wyk
for CETLAB (PTY) LTD

CETLAB

PO Box 1095, Bellville, 7535

Tel:(021) 981 3100/3119 Fax:(021)9981 3224

Civil Engineering Technology LABoratory

Project: Element Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1366

DATE: 17-Apr-15

Trial Hole: TH 1

Depth: 250-900

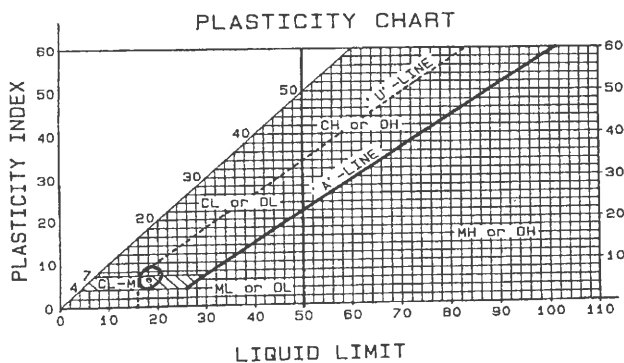
Project no: CS 0311

FOUNDATION INDICATOR TESTS

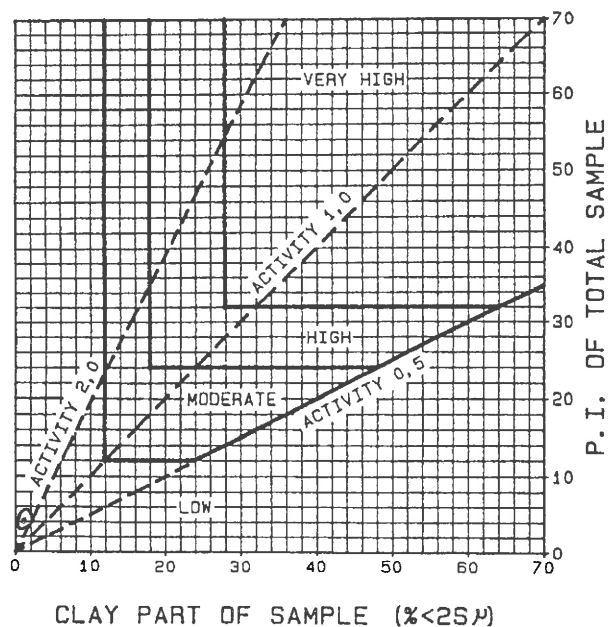
Sieve Sizes	% Passing
75,0	
53,0	
37,5	
26,5	
19,0	100
13,2	99
4,75	96
2,00	89
0,425	74
0,075	40,6
0,002	0,7

MATERIALS CLASSIFICATION (U.S.C.)	
Orange brown soil with occ.	GM.
quartzitic sandstone gravel	
Potential Swelling:	Low.
Liquid Limit:	18
Plasticity Index:	6
Linear Shrinkage:	3,0
Grading Modulus:	1,00
PI of Total Sample:	4
Activity:	>2,0
Estimated Safe Bearing:	400kPa.

SOIL MORTAR	
Coarse Sand	16,9
Fine Sand	56,8
Silt	20,0
Clay	6,3
% Clay	0,7



POTENTIAL SWELLING



20/04/2015

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Civil Engineering Technology LABoratory

Project: Element Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1368

DATE: 17-Apr-15

Trial Hole: TH 2

Depth: 0-850

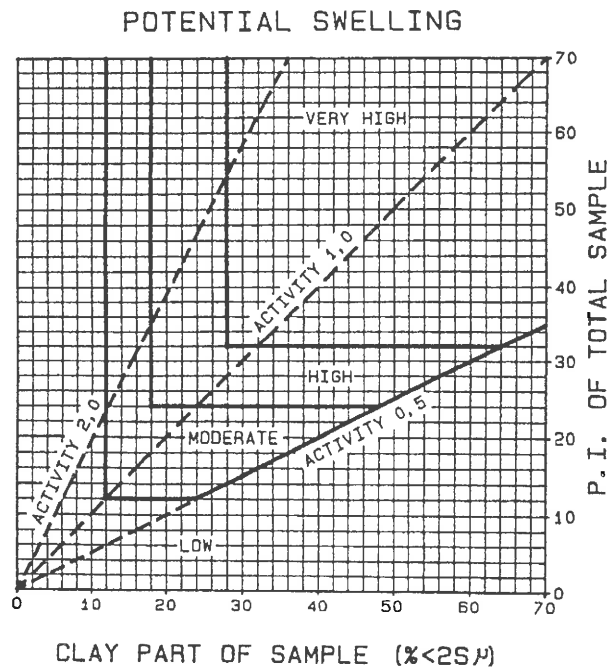
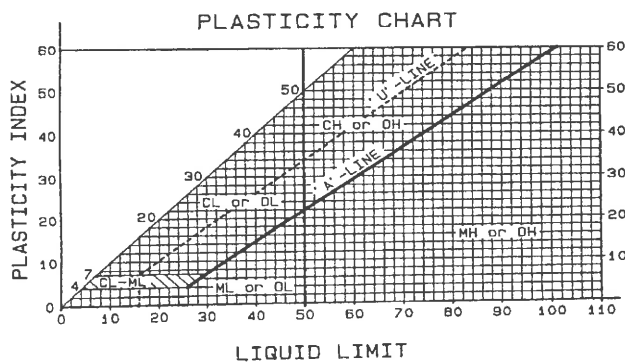
Project no: CS 0311

FOUNDATION INDICATOR TESTS

Sieve Sizes	% Passing
75,0	
53,0	
37,5	
26,5	100
19,0	100
13,2	100
4,75	99
2,00	98
0,425	86
0,075	33,4
0,002	0,9

MATERIALS CLASSIFICATION (U.S.C.)	
Light grey sandy soil	SM.
Potential Swelling:	Low.
Liquid Limit:	
Plasticity Index:	N.P.
Linear Shrinkage:	0,0
Grading Modulus:	0,80
PI of Total Sample:	N.P.
Activity:	<0,5
Estimated Safe Bearing:	250kPa.

SOIL MORTAR	
Coarse Sand	12,2
Fine Sand	68,9
Silt	14,0
Clay	4,9
% Clay	0,9



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Civil Engineering Technology LABoratory

Project: Element Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1374

DATE: 17-Apr-15

Trial Hole: TH 4

Depth: 600-2200

Project no: CS 0311

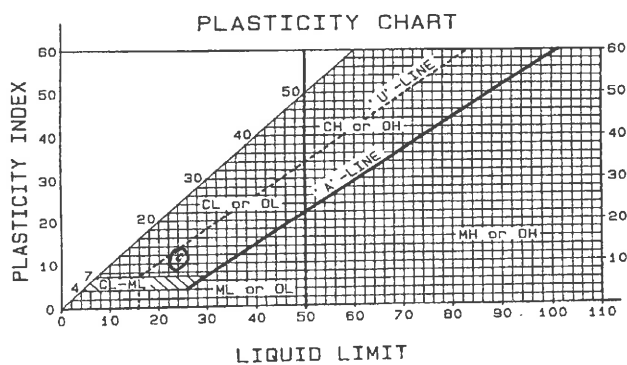
FOUNDATION INDICATOR TESTS

Sieve Sizes	% Passing
75,0	
53,0	
37,5	
26,5	100
19,0	100
13,2	98
4,75	95
2,00	92
0,425	83
0,075	58,6
0,002	9,5

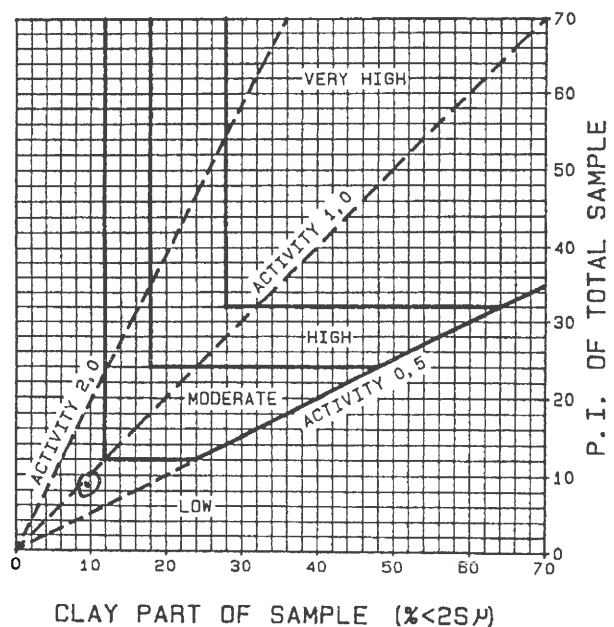
MATERIALS CLASSIFICATION (U.S.C.)	
Orange red brown clayey soil	CL.
with occ. Quartzite.	
Potential Swelling:	Low
Liquid Limit:	24
Plasticity Index:	11
Linear Shrinkage:	5,0
Grading Modulus:	0,70
PI of Total Sample:	9
Activity:	1,0
Estimated Safe Bearing:	200kPa.

SOIL MORTAR

Coarse Sand	9,8
Fine Sand	43,1
Silt	27,1
Clay	20,0
% Clay	9,5



POTENTIAL SWELLING



12.
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Civil Engineering Technology LABoratory

Project: Elementary Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1380

DATE: 17-Apr-15

Trial Hole: TH 7

Depth: 400-2200

Project no: CS 0311

FOUNDATION INDICATOR TESTS

Sieve Sizes	% Passing
75,0	100/88
53,0	84
37,5	70
26,5	62
19,0	55
13,2	48
4,75	33
2,00	25
0,425	15
0,075	8,7
0,002	0,4

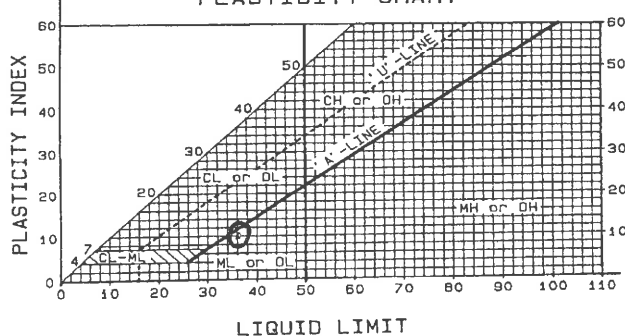
MATERIALS CLASSIFICATION (U.S.C.)

Light grey orange brown calcified silty	GC
soil+ occ. Sandstone pebble gravel	
Potential Swelling:	Low
Liquid Limit:	36
Plasticity Index:	10
Linear Shrinkage:	4,5
Grading Modulus:	2,50
PI of Total Sample:	SP.
Activity:	<0,5
Estimated Safe Bearing:	500kPa.

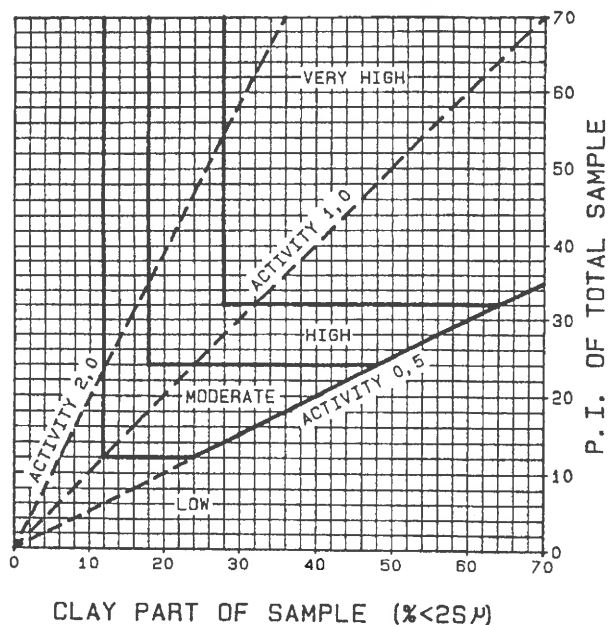
SOIL MORTAR

Coarse Sand	40,0
Fine Sand	49,1
Silt	9,6
Clay	1,3
% Clay	0,4

PLASTICITY CHART



POTENTIAL SWELLING



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Civil Engineering Technology LABoratory

Project: Element Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1382

DATE: 17-Apr-15

Trial Hole: TH 8

Depth: 300-1500

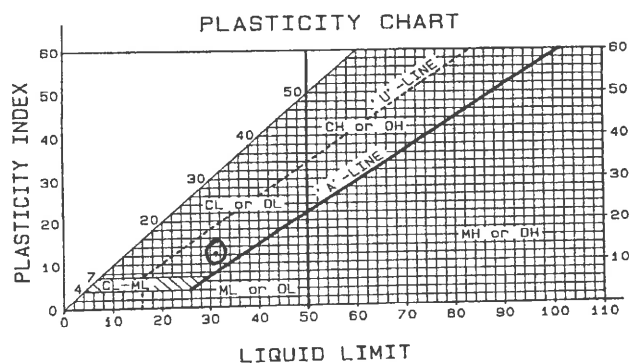
Project no: CS 0311

FOUNDATION INDICATOR TESTS

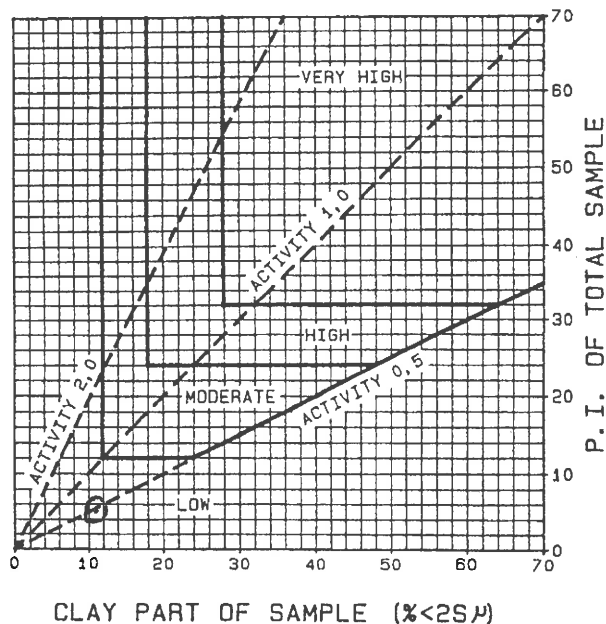
Sieve Sizes	% Passing
75,0	
53,0	100
37,5	93
26,5	88
19,0	82
13,2	77
4,75	65
2,00	60
0,425	53
0,075	38,8
0,002	10,8

MATERIALS CLASSIFICATION (U.S.C.)	
Orange red brown clayey soil	CL
with sandstone pebble gravel.	
Potential Swelling:	Low
Liquid Limit:	31
Plasticity Index:	12
Linear Shrinkage:	5,5
Grading Modulus:	1,50
PI of Total Sample:	6
Activity:	0,5
Estimated Safe Bearing:	250kPa.

SOIL MORTAR	
Coarse Sand	11,7
Fine Sand	42,2
Silt	24,7
Clay	21,4
% Clay	10,8



POTENTIAL SWELLING



20/04/2015

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Civil Engineering Technology LABoratory

Project: Element Consulting Engineers

Location: Ashton Refuse Transfer Facility

Sample No: 1385

DATE: 17-Apr-15

Trial Hole: TH 9

Depth: 300-1300

Project no: CS 0311

FOUNDATION INDICATOR TESTS

Sieve Sizes	% Passing
75,0	100
53,0	96
37,5	96
26,5	95
19,0	92
13,2	91
4,75	84
2,00	80
0,425	68
0,075	53,7
0,002	7,1

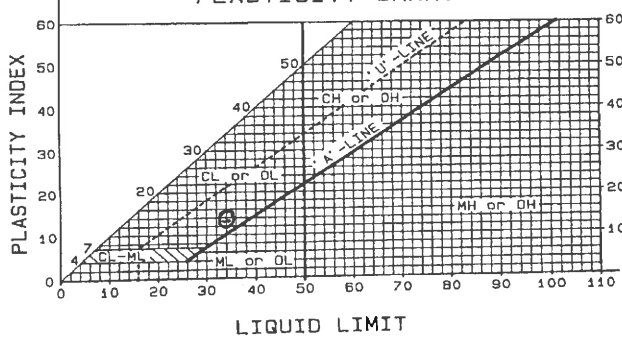
MATERIALS CLASSIFICATION (U.S.C.)

Red brown clayey soil with occ. sandstone gravel	CL
Potential Swelling:	Low
Liquid Limit:	34
Plasticity Index:	13
Linear Shrinkage:	6,0
Grading Modulus:	1,00
PI of Total Sample:	9
Activity:	Between 1,0 & 2,0
Estimated Safe Bearing:	250kPa.

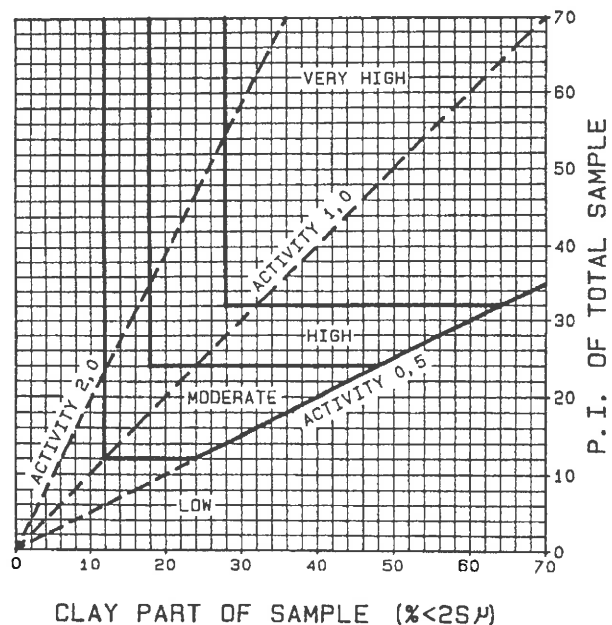
SOIL MORTAR

Coarse Sand	15,0
Fine Sand	42,3
Silt	27,2
Clay	15,5
% Clay	7,1

PLASTICITY CHART



POTENTIAL SWELLING



20/04/2015

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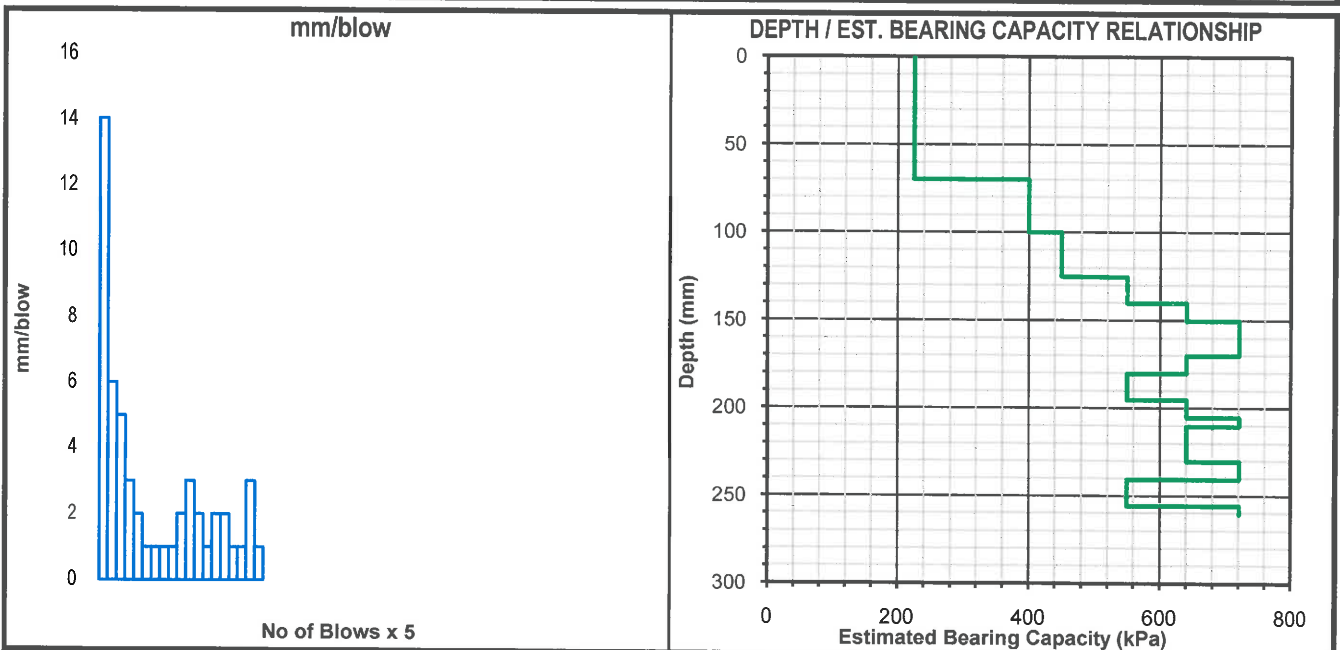
Ph.: 021 981 3100, Fax: 021 981 3224

TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway/Lane: *Geotechnical Investigation*DCP No.: *1-526*Project No. *CS 0311*Layer: *From Natural Ground Level*Date Tested: *01 Apr 2015*Project: *Ashton*Testpit position: *Refuse Transfer Facility*Date Reported: *11 Apr 2015*Testpit No.: *TH1*Description: *Slightly moist medium dense O Br sandy Soil*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	30	0	0											
5	100	70	14	225										
10	130	100	6	400										
15	155	125	5	450										
20	170	140	3	550										
25	180	150	2	640										
30	185	155	1	720										
35	190	160	1	720										
40	195	165	1	720										
45	200	170	1	720										
50	210	180	2	640										
55	225	195	3	550										
60	235	205	2	640										
65	240	210	1	720										
70	250	220	2	640										
75	260	230	2	640										
80	265	235	1	720										
85	270	240	1	720										
90	285	255	3	550										
95	290	260	1	720										

**Remarks:**

DCP Refusal at depth 290mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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Lab Manager: R van Wyk
for CETLAB (PTY) LTD



CETLAB

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TEST REPORT

DYNAMIC CONE PENETROMETER

EST. BEARING CAPACITY

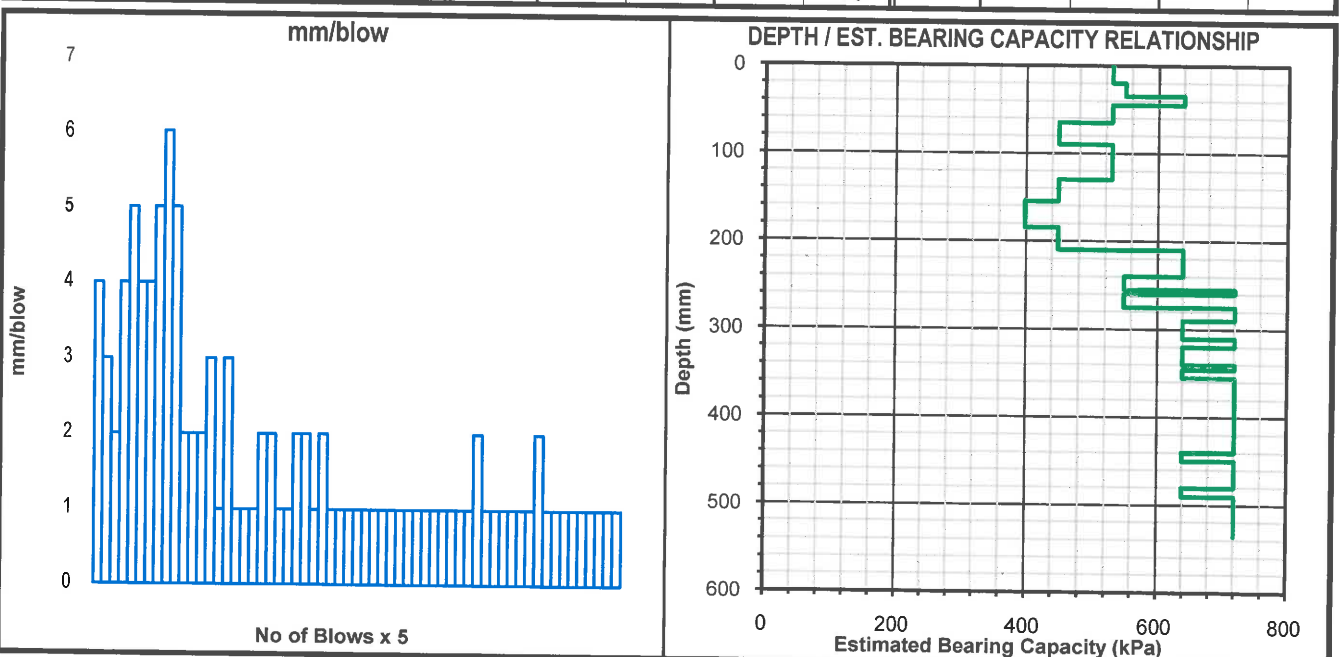
Reference Number

C-15- 526

Client: *Element Consulting Engineers*
 Project No. *CS 0311*
 Project: *Ashton*
 Testpit No.: *TH1*

Cway/Lane: *Geotechnical Investigation* DCP No.: *2-526*
 Layer: *From 1.1 meter Below N.G.L* Date Tested: *01 Apr 2015*
 Testpit position: *Refuse Transfer Facility* Date Reported: *11 Apr 2015*
 Description: *Slightly moist Lt G O Br dense sandy Soil with Calcrete Gravel*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	10	0	0		105	320	310	2	640	210	440	430	1	720
5	30	20	4	530	110	325	315	1	720	215	445	435	1	720
10	45	35	3	550	115	330	320	1	720	220	450	440	1	720
15	55	45	2	640	120	340	330	2	640	225	460	450	2	640
20	75	65	4	530	125	350	340	2	640	230	465	455	1	720
25	100	90	5	450	130	355	345	1	720	235	470	460	1	720
30	120	110	4	530	135	365	355	2	640	240	475	465	1	720
35	140	130	4	530	140	370	360	1	720	245	480	470	1	720
40	165	155	5	450	145	375	365	1	720	250	485	475	1	720
45	195	185	6	400	150	380	370	1	720	255	490	480	1	720
50	220	210	5	450	155	385	375	1	720	260	500	490	2	640
55	230	220	2	640	160	390	380	1	720	265	505	495	1	720
60	240	230	2	640	165	395	385	1	720	270	510	500	1	720
65	250	240	2	640	170	400	390	1	720	275	515	505	1	720
70	265	255	3	550	175	405	395	1	720	280	520	510	1	720
75	270	260	1	720	180	410	400	1	720	285	525	515	1	720
80	285	275	3	550	185	415	405	1	720	290	530	520	1	720
85	290	280	1	720	190	420	410	1	720	295	535	525	1	720
90	295	285	1	720	195	425	415	1	720	300	540	530	1	720
95	300	290	1	720	200	430	420	1	720	305	545	535	1	720
100	310	300	2	640	205	435	425	1	720					



Remarks:

DCP Refusal at depth 545mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
 Test result relate to test position only.

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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers*

Project No. CS 0311

Project: *Ashton*

Testpit No.: TH2

Cway/Lane: *Geotechnical Investigation*

Layer: *From Natural Ground Level*

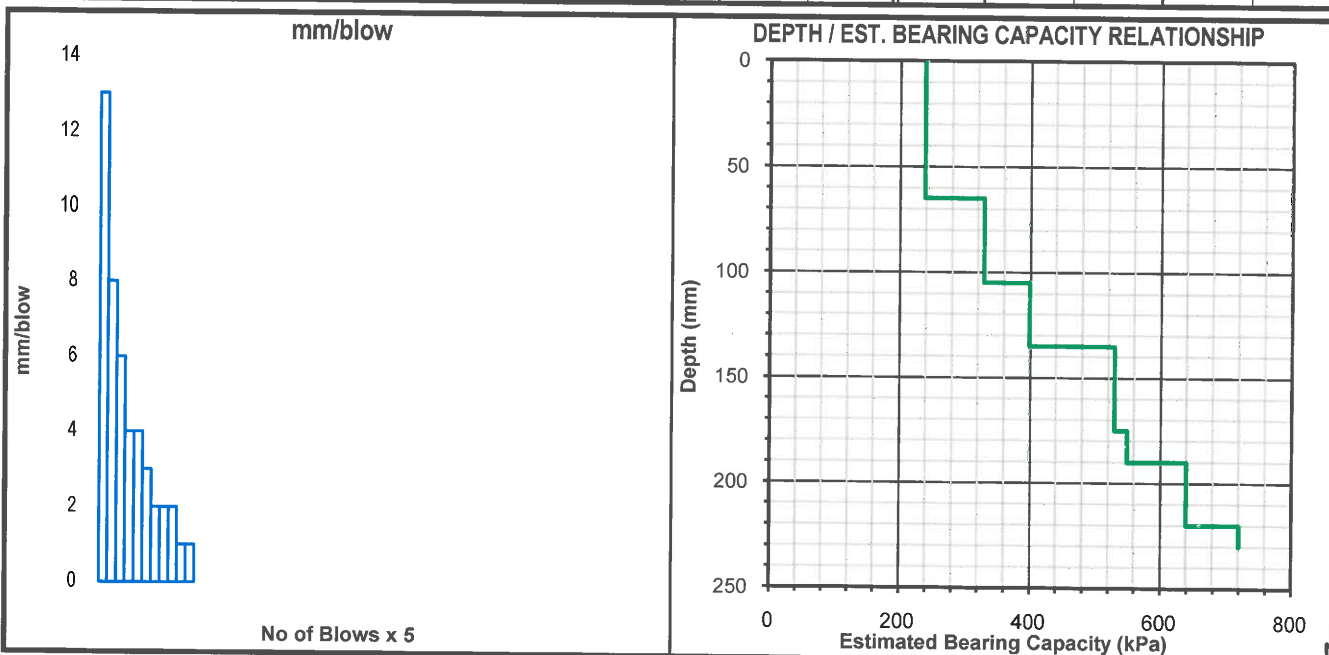
Testpit position: *Refuse Transfer Facility*

Description: Dry Light Grey dense sandy Soil

DCP No.: 3-526

Date Tested: 01 Apr 2015

Date Reported: 11 Apr 2015

[illegible]

Remarks:

DCP Refusal at depth 305mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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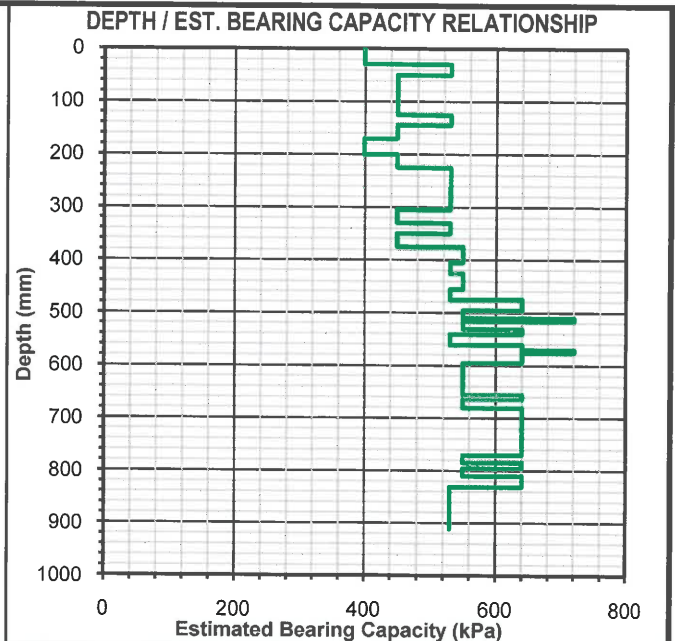
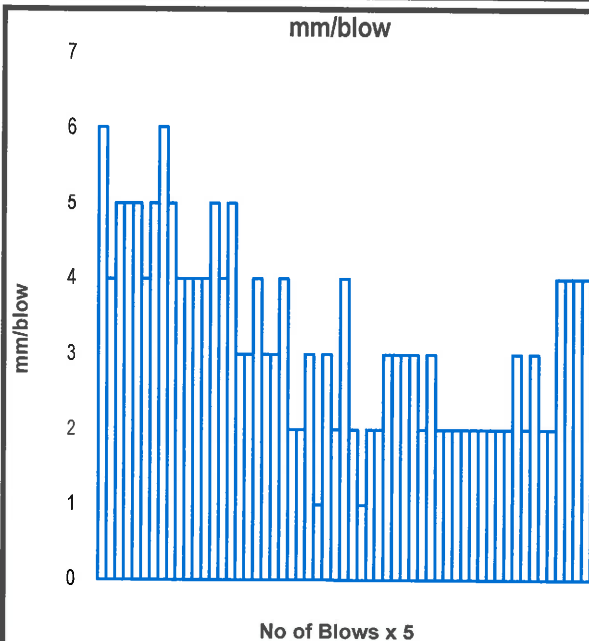
PO Box 1095, Bellville, 7535

Ph.: 021 981 3100, Fax: 021 981 3224

TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway/Lane: *Geotechnical Investigation*DCP No.: *4-526*Project No. *CS 0311*Layer: *From 1.1 meter Below N.G.L*Date Tested: *01 Apr 2015*Project: *Ashton*Testpit position: *Refuse Transfer Facility*Date Reported: *11 Apr 2015*Testpit No.: *TH2*Description: *Slightly moist O Br silty Sand with Quartzite*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	80	0	0		105	535	455	3	550	210	790	710	2	640
5	110	30	6	400	110	555	475	4	530	215	800	720	2	640
10	130	50	4	530	115	565	485	2	640	220	810	730	2	640
15	155	75	5	450	120	575	495	2	640	225	820	740	2	640
20	180	100	5	450	125	590	510	3	550	230	830	750	2	640
25	205	125	5	450	130	595	515	1	720	235	840	760	2	640
30	225	145	4	530	135	610	530	3	550	240	850	770	2	640
35	250	170	5	450	140	620	540	2	640	245	865	785	3	550
40	280	200	6	400	145	640	560	4	530	250	875	795	2	640
45	305	225	5	450	150	650	570	2	640	255	890	810	3	550
50	325	245	4	530	155	655	575	1	720	260	900	820	2	640
55	345	265	4	530	160	665	585	2	640	265	910	830	2	640
60	365	285	4	530	165	675	595	2	640	270	930	850	4	530
65	385	305	4	530	170	690	610	3	550	275	950	870	4	530
70	410	330	5	450	175	705	625	3	550	280	970	890	4	530
75	430	350	4	530	180	720	640	3	550	285	990	910	4	530
80	455	375	5	450	185	735	655	3	550					
85	470	390	3	550	190	745	665	2	640					
90	485	405	3	550	195	760	680	3	550					
95	505	425	4	530	200	770	690	2	640					
100	520	440	3	550	205	780	700	2	640					



Remarks:

DCP Refusal at depth 990mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers*

Cway/Lane: *Geotechnical Investigation*

DCP No.: 5-526

Project No. CS 0311

Layer: *From Natural Ground Level*

Date Tested: 01 Apr 2015

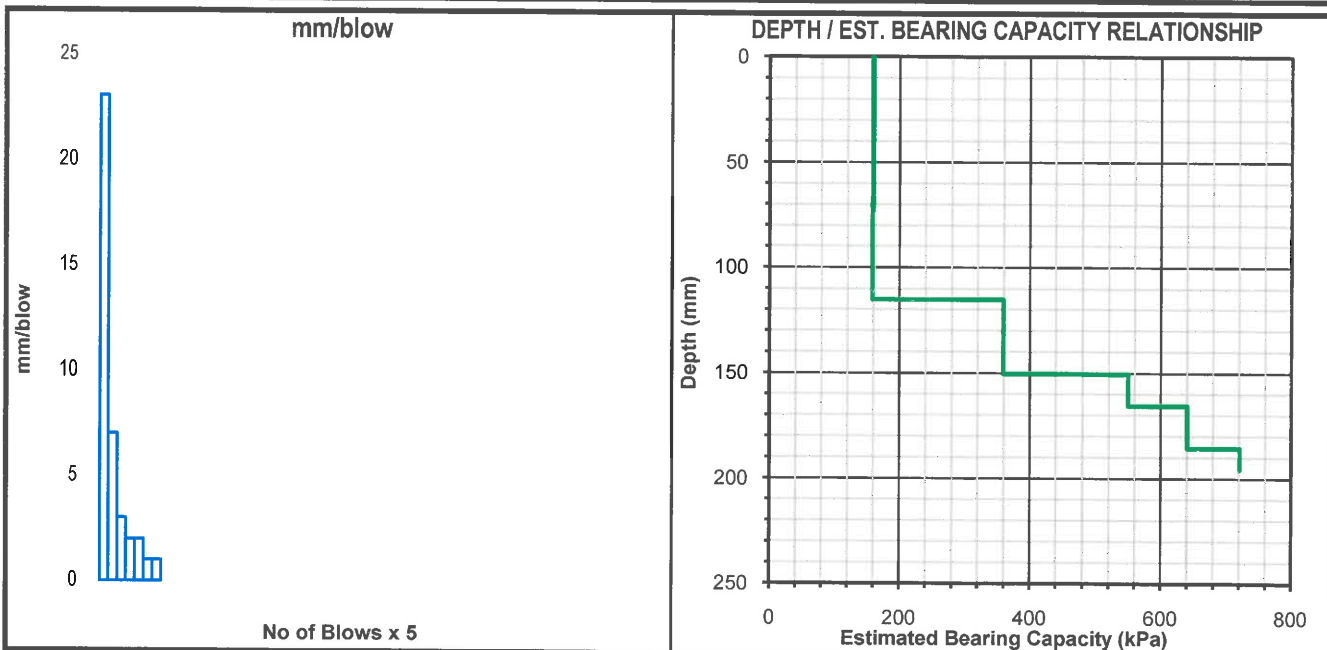
Project: *Ashton*

Testpit position: *Refuse Transfer Facility*

Date Reported: 11 Apr 2015

Testpit No.: TH3

Description: Dry Lt G dense sandy Soil

[illegible]

Remarks:

DCP Refusal at depth 230mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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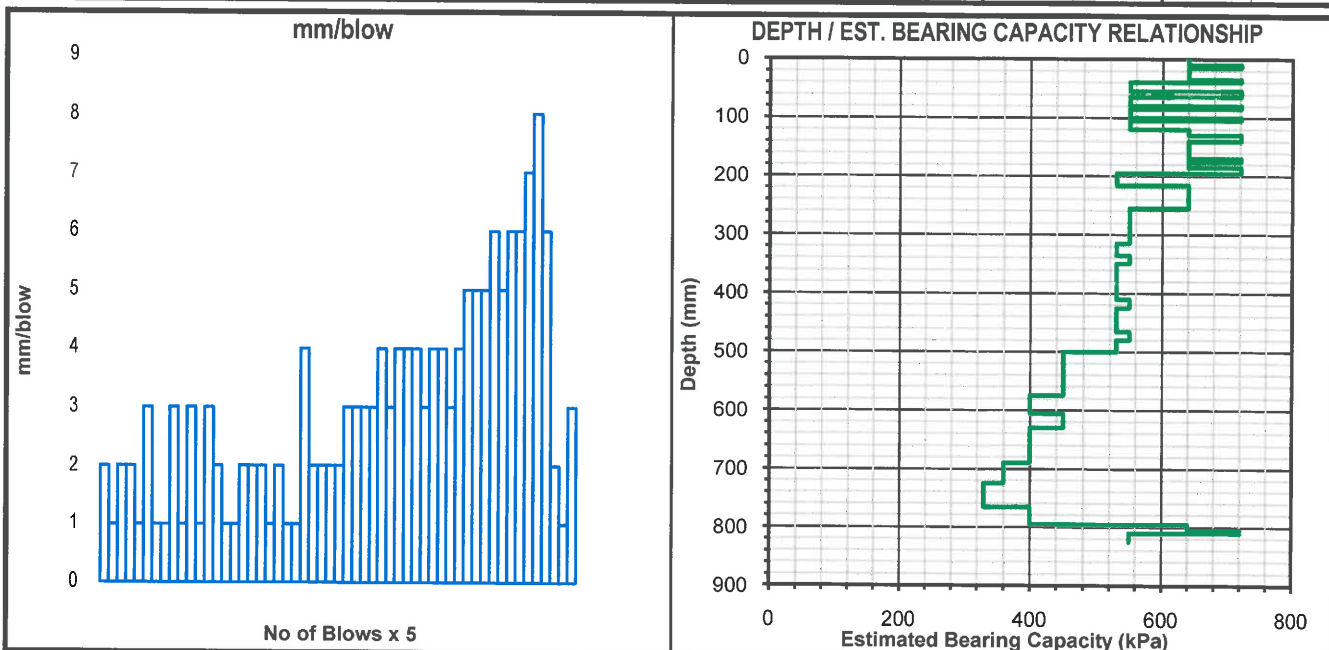
Ph.: 021 981 3100, Fax: 021 981 3224

TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway/Lane: *Geotechnical Investigation*DCP No.: *6-526*Project No. *CS 0311*Layer: *From 1.0 meter Below N.G.L*Date Tested: *01 Apr 2015*Project: *Ashton*Testpit position: *Refuse Transfer Facility*Date Reported: *11 Apr 2015*Testpit No.: *TH3*Description: *Slightly moist very dense O Br clayey Soil + occasional Quartzite*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	35	0	0		105	220	185	2	640	210	535	500	4	530
5	45	10	2	640	110	225	190	1	720	215	560	525	5	450
10	50	15	1	720	115	230	195	1	720	220	585	550	5	450
15	60	25	2	640	120	250	215	4	530	225	610	575	5	450
20	70	35	2	640	125	260	225	2	640	230	640	605	6	400
25	75	40	1	720	130	270	235	2	640	235	665	630	5	450
30	90	55	3	550	135	280	245	2	640	240	695	660	6	400
35	95	60	1	720	140	290	255	2	640	245	725	690	6	400
40	100	65	1	720	145	305	270	3	550	250	760	725	7	360
45	115	80	3	550	150	320	285	3	550	255	800	765	8	330
50	120	85	1	720	155	335	300	3	550	260	830	795	6	400
55	135	100	3	550	160	350	315	3	550	265	840	805	2	640
60	140	105	1	720	165	370	335	4	530	270	845	810	1	720
65	155	120	3	550	170	385	350	3	550	275	860	825	3	550
70	165	130	2	640	175	405	370	4	530					
75	170	135	1	720	180	425	390	4	530					
80	175	140	1	720	185	445	410	4	530					
85	185	150	2	640	190	460	425	3	550					
90	195	160	2	640	195	480	445	4	530					
95	205	170	2	640	200	500	465	4	530					
100	210	175	1	720	205	515	480	3	550					



Remarks:

DCP Refusal at depth 860mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

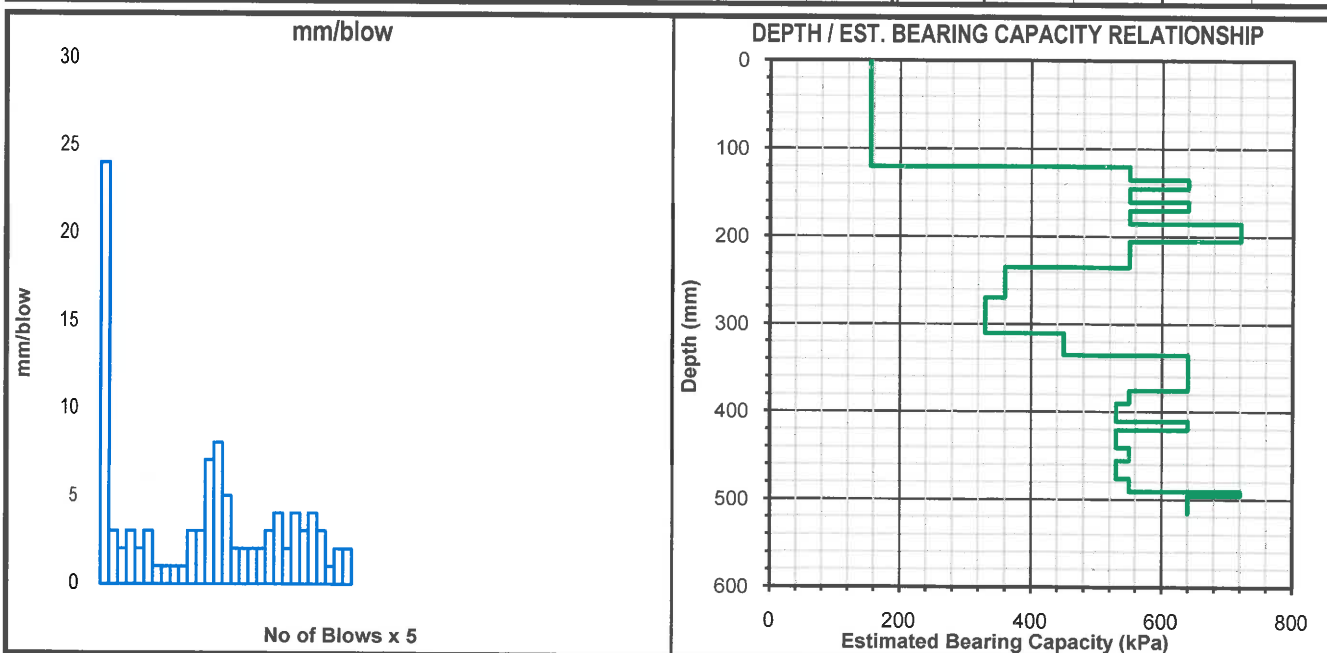
C-15- 526

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH4*

Cway/Lane: *Geotechnical Investigation*
Layer: *From Natural Ground Level*
Testpit position: *Refuse Transfer Facility*
Description: *Dry Lt G dense sandy Soil*

DCP No.: *7-526*
Date Tested: *01 Apr 2015*
Date Reported: *11 Apr 2015*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	90	0	0		105	500	410	4	530					
5	210	120	24	155	110	510	420	2	640					
10	225	135	3	550	115	530	440	4	530					
15	235	145	2	640	120	545	455	3	550					
20	250	160	3	550	125	565	475	4	530					
25	260	170	2	640	130	580	490	3	550					
30	275	185	3	550	135	585	495	1	720					
35	280	190	1	720	140	595	505	2	640					
40	285	195	1	720	145	605	515	2	640					
45	290	200	1	720										
50	295	205	1	720										
55	310	220	3	550										
60	325	235	3	550										
65	360	270	7	360										
70	400	310	8	330										
75	425	335	5	450										
80	435	345	2	640										
85	445	355	2	640										
90	455	365	2	640										
95	465	375	2	640										
100	480	390	3	550										



Remarks:

DCP Refusal at depth 605mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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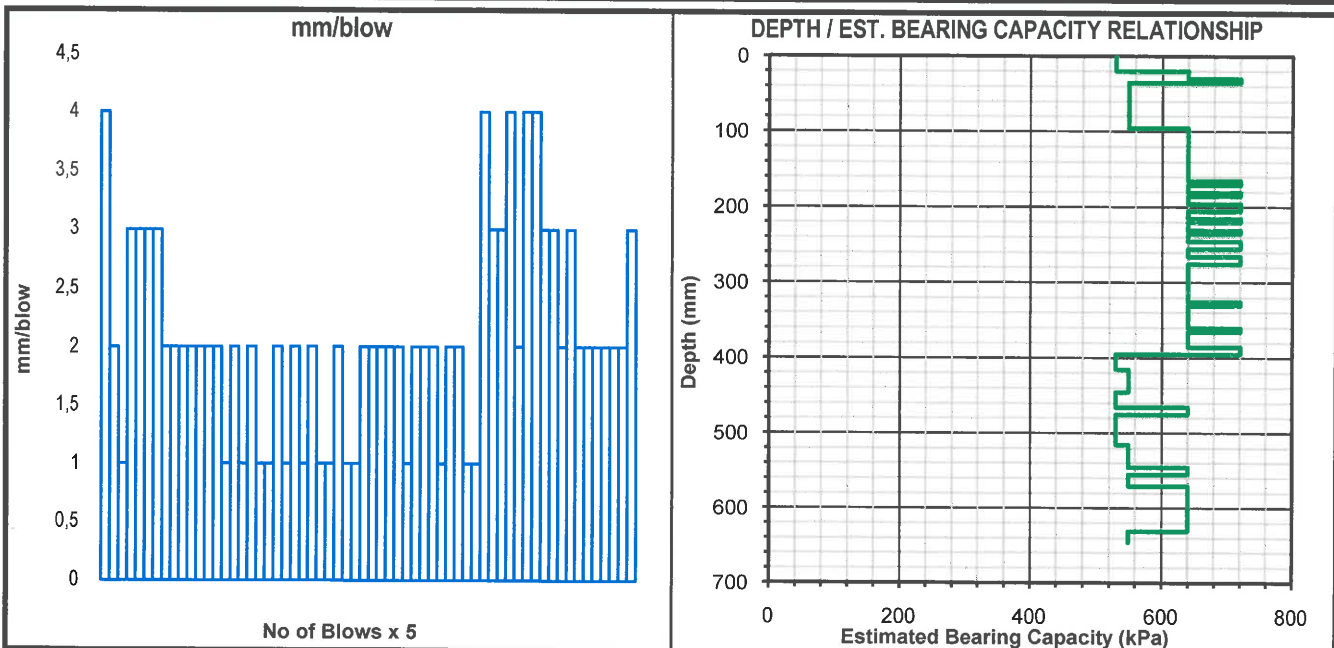
TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers* Cway/Lane: *Geotechnical Investigation* DCP No.: *8-526*
Project No. *CS 0311* Layer: *From 1.2 meter Below N.G.L* Date Tested: *01 Apr 2015*
Project: *Ashton* Testpit position: *Refuse Transfer Facility* Date Reported: *11 Apr 2015*
Testpit No.: *TH4* Description: *Slightly moist O R Br dense to very dense clayey Soil with occ Quartzite*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	65	0	0		105	280	215	2	640	210	450	385	2	640
5	85	20	4	530	110	285	220	1	720	215	455	390	1	720
10	95	30	2	640	115	295	230	2	640	220	460	395	1	720
15	100	35	1	720	120	300	235	1	720	225	480	415	4	530
20	115	50	3	550	125	310	245	2	640	230	495	430	3	550
25	130	65	3	550	130	315	250	1	720	235	510	445	3	550
30	145	80	3	550	135	320	255	1	720	240	530	465	4	530
35	160	95	3	550	140	330	265	2	640	245	540	475	2	640
40	170	105	2	640	145	335	270	1	720	250	560	495	4	530
45	180	115	2	640	150	340	275	1	720	255	580	515	4	530
50	190	125	2	640	155	350	285	2	640	260	595	530	3	550
55	200	135	2	640	160	360	295	2	640	265	610	545	3	550
60	210	145	2	640	165	370	305	2	640	270	620	555	2	640
65	220	155	2	640	170	380	315	2	640	275	635	570	3	550
70	230	165	2	640	175	390	325	2	640	280	645	580	2	640
75	235	170	1	720	180	395	330	1	720	285	655	590	2	640
80	245	180	2	640	185	405	340	2	640	290	665	600	2	640
85	250	185	1	720	190	415	350	2	640	295	675	610	2	640
90	260	195	2	640	195	425	360	2	640	300	685	620	2	640
95	265	200	1	720	200	430	365	1	720	305	695	630	2	640
100	270	205	1	720	205	440	375	2	640	310	710	645	3	550



Remarks:

DCP Refusal at depth 985mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
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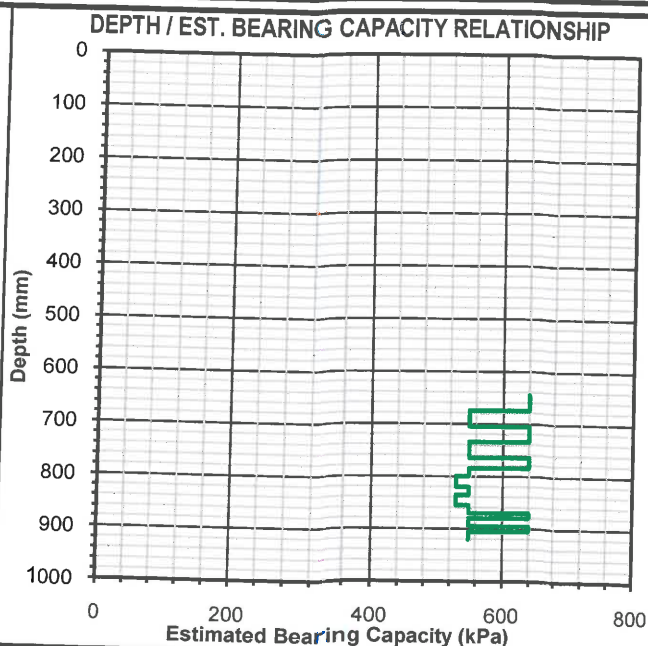
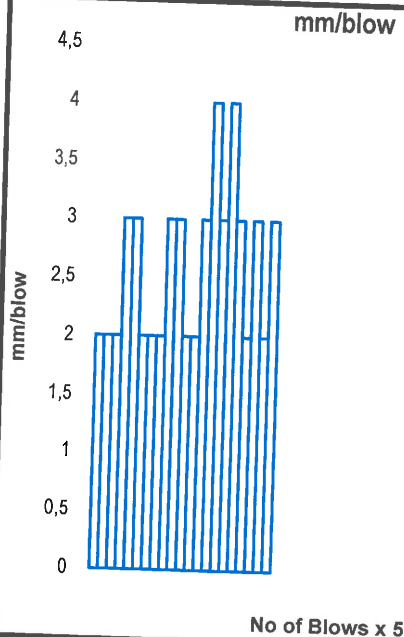
TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

C-15- 526

Slightly moist O R Br dense to very dense clayey Soil with occ Quartzite

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
310	710	645	3	550
315	720	655	2	640
320	730	665	2	640
325	740	675	2	640
330	755	690	3	550
335	770	705	3	550
340	780	715	2	640
345	790	725	2	640
350	800	735	2	640
355	815	750	3	550
360	830	765	3	550
365	840	775	2	640
370	850	785	2	640
375	865	800	3	550
380	885	820	4	530
385	900	835	3	550
390	920	855	4	530
395	935	870	3	550
400	945	880	2	640
405	960	895	3	550
410	970	905	2	640



DCP Refusal at depth 985mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers*

Cway/Lane: *Geotechnical Investigation*

DCP No.: 9-526

Project No. CS 0311

Layer: *From Natural Ground Level*

Date Tested: 01 Apr 2015

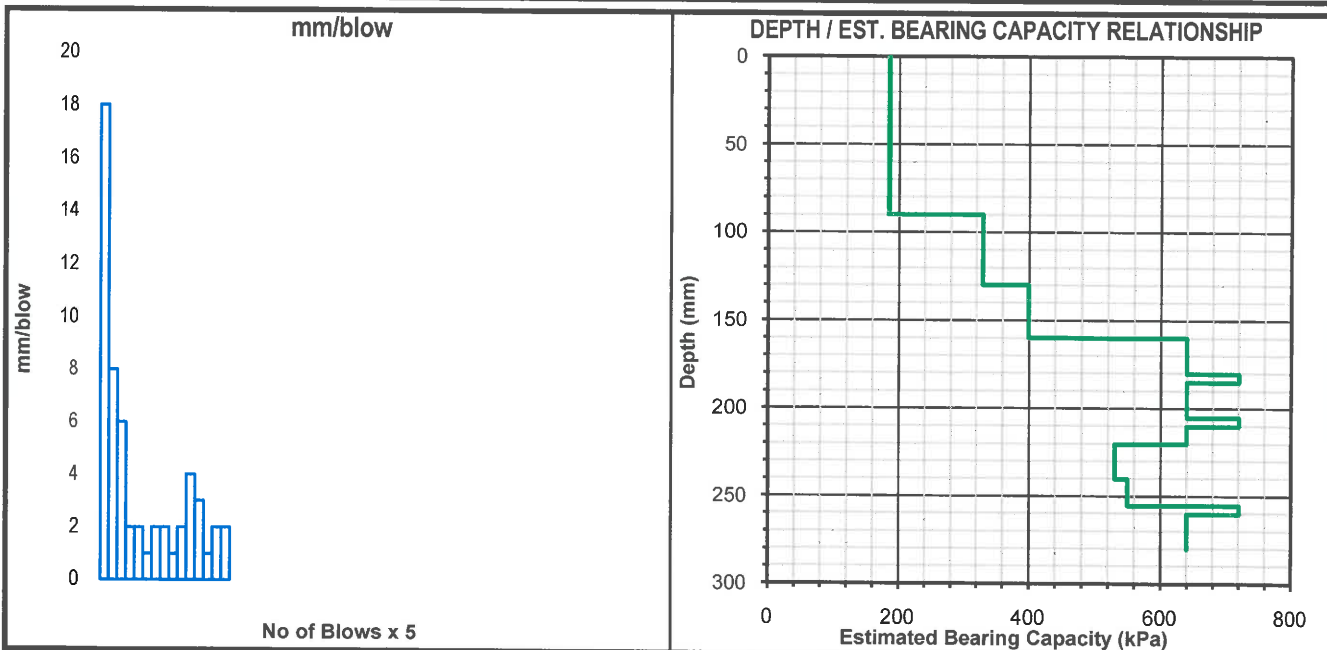
Project: *Ashton*

Testpit position: *Refuse Transfer Facility*

Date Reported: 11 Apr 2015

Testpit No.: TH5

Description: Dry Lt G dense sandy Soil

[illegible]

Remarks:

DCP Refusal at depth 310mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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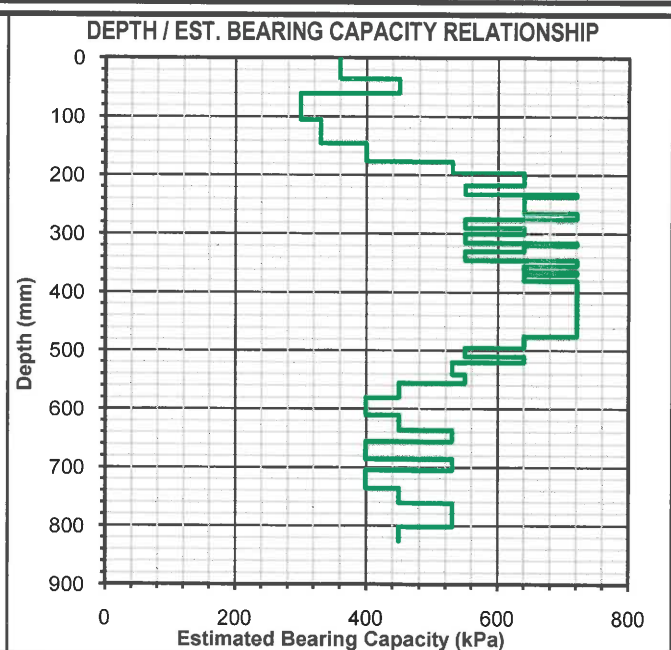
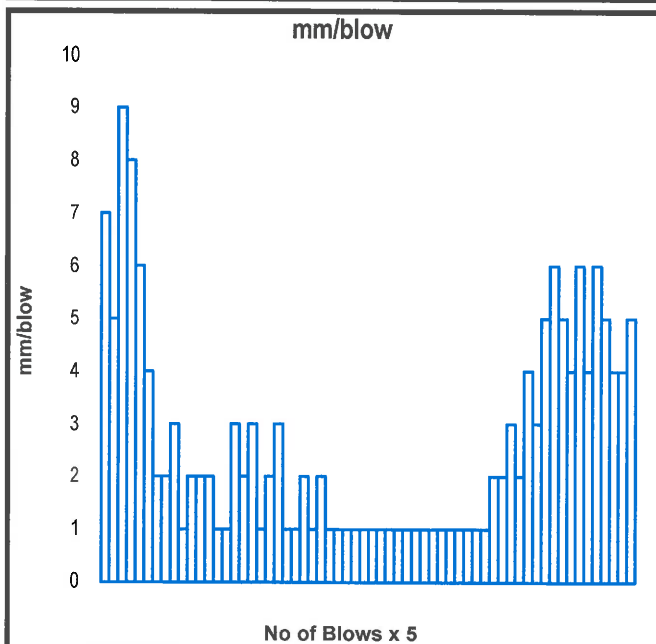
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TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number**C-15- 526**Client: *Element Consulting Engineers*Cway/Lane: *Geotechnical Investigation*DCP No.: *10-526*Project No. *CS 0311*Layer: *From 1.0 meter Below N.G.L*Date Tested: *01 Apr 2015*Project: *Ashton*Testpit position: *Refuse Transfer Facility*Date Reported: *11 Apr 2015*Testpit No.: *TH5*Description: *Slightly moist O Br dense to very dense silty Soil + fine Quartzite*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	25	0	0		105	370	345	3	550	210	485	460	1	720
5	60	35	7	360	110	375	350	1	720	215	490	465	1	720
10	85	60	5	450	115	380	355	1	720	220	495	470	1	720
15	130	105	9	300	120	390	365	2	640	225	500	475	1	720
20	170	145	8	330	125	395	370	1	720	230	510	485	2	640
25	200	175	6	400	130	405	380	2	640	235	520	495	2	640
30	220	195	4	530	135	410	385	1	720	240	535	510	3	550
35	230	205	2	640	140	415	390	1	720	245	545	520	2	640
40	240	215	2	640	145	420	395	1	720	250	565	540	4	530
45	255	230	3	550	150	425	400	1	720	255	580	555	3	550
50	260	235	1	720	155	430	405	1	720	260	605	580	5	450
55	270	245	2	640	160	435	410	1	720	265	635	610	6	400
60	280	255	2	640	165	440	415	1	720	270	660	635	5	450
65	290	265	2	640	170	445	420	1	720	275	680	655	4	530
70	295	270	1	720	175	450	425	1	720	280	710	685	6	400
75	300	275	1	720	180	455	430	1	720	285	730	705	4	530
80	315	290	3	550	185	460	435	1	720	290	760	735	6	400
85	325	300	2	640	190	465	440	1	720	295	785	760	5	450
90	340	315	3	550	195	470	445	1	720	300	805	780	4	530
95	345	320	1	720	200	475	450	1	720	305	825	800	4	530
100	355	330	2	640	205	480	455	1	720	310	850	825	5	450



Remarks:

DCP Refusal at depth 1055mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

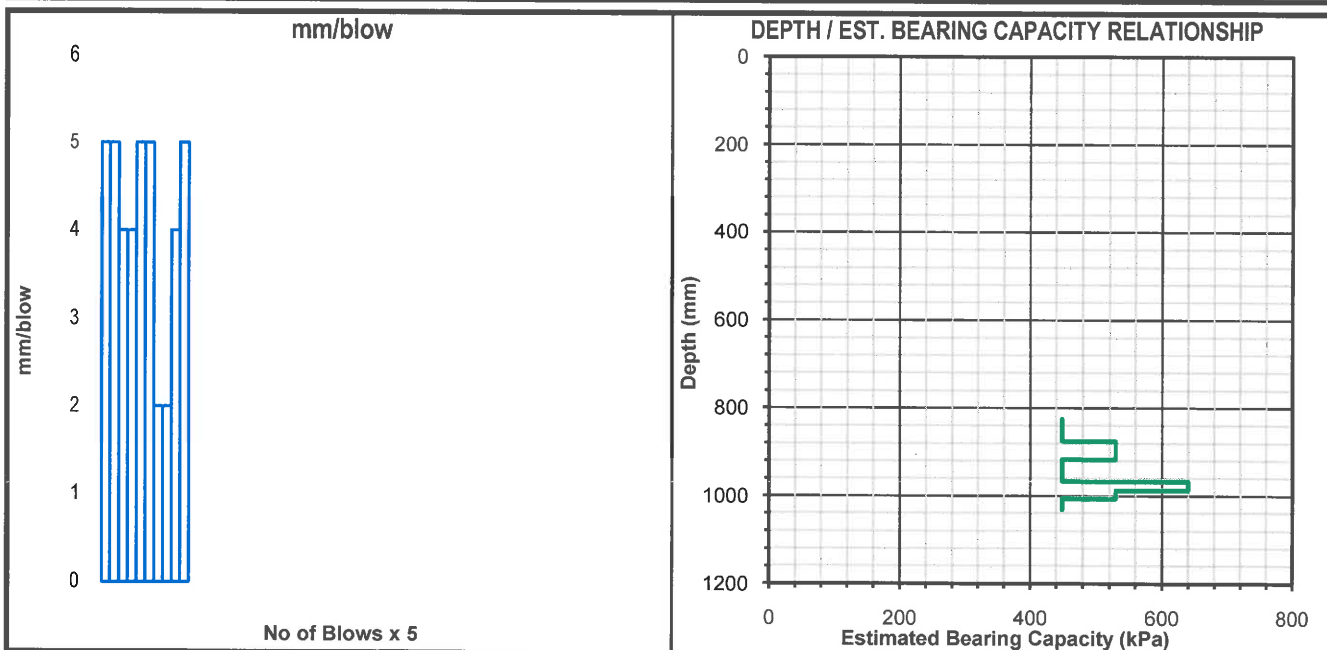
Reference
Number

C-15- 526

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH1*

Cway/Lane:	Geotechnical Investigation
Layer:	From 1.0 meter Below N.G.L
Testpit position:	Refuse Transfer Facility
Description:	Slightly moist O Br dense to

DCP No.: 10-526
Date Tested: 31 Mar 2015
Date Reported: 11 Apr 2015
very dense silty Soil + fine Quartzite

[illegible]

Remarks:

DCP Refusal at depth 1055mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

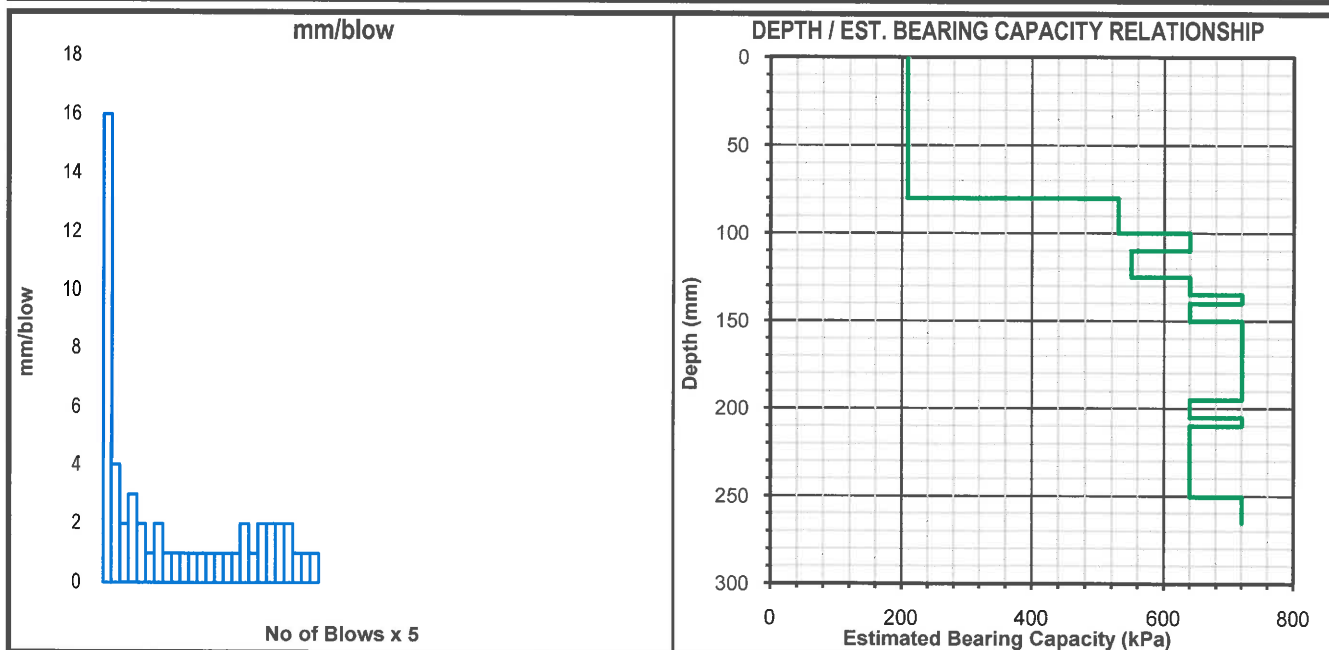
C-15- 526

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH6*

Cway/Lane: *Geotechnical Investigation*
Layer: *From Natural Ground Level*
Testpit position: *Refuse Transfer Facility*
Description: *Dry Lt G dense sandy Soil*

DCP No.: *11-526*
Date Tested: *01 Apr 2015*
Date Reported: *11 Apr 2015*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	110	0	0		105	350	240	2	640					
5	190	80	16	210	110	360	250	2	640					
10	210	100	4	530	115	365	255	1	720					
15	220	110	2	640	120	370	260	1	720					
20	235	125	3	550	125	375	265	1	720					
25	245	135	2	640										
30	250	140	1	720										
35	260	150	2	640										
40	265	155	1	720										
45	270	160	1	720										
50	275	165	1	720										
55	280	170	1	720										
60	285	175	1	720										
65	290	180	1	720										
70	295	185	1	720										
75	300	190	1	720										
80	305	195	1	720										
85	315	205	2	640										
90	320	210	1	720										
95	330	220	2	640										
100	340	230	2	640										



Remarks:

DCP Refusal at depth 375mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

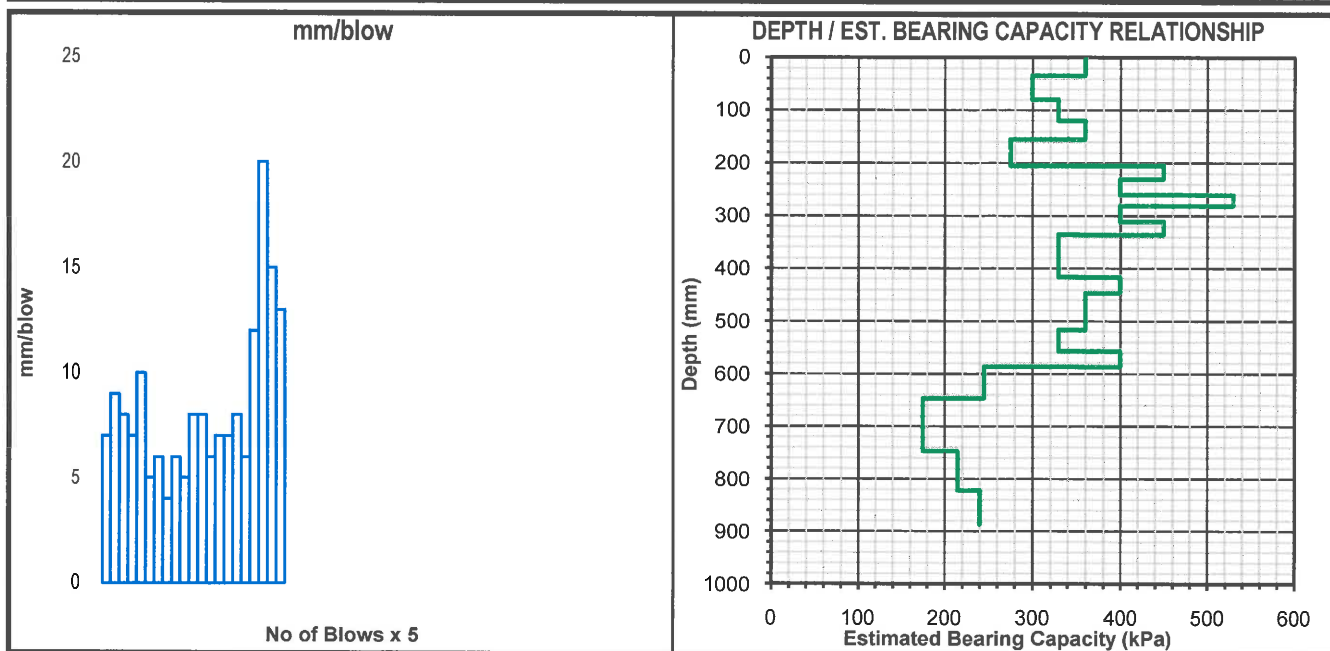
C-15- 526

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH6*

Cway/Lane: *Geotechnical Investigation*
Layer: *From 1.2 meter Below N.G.L*
Testpit position: *Refuse Transfer Facility*
Description: *Slightly moist O Br dense to very dense silty Soil + fine Quartzite*

DCP No.: *12-526*
Date Tested: *01 Apr 2015*
Date Reported: *11 Apr 2015*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	85	0	0		105	970	885	13	240					
5	120	35	7	360										
10	165	80	9	300										
15	205	120	8	330										
20	240	155	7	360										
25	290	205	10	275										
30	315	230	5	450										
35	345	260	6	400										
40	365	280	4	530										
45	395	310	6	400										
50	420	335	5	450										
55	460	375	8	330										
60	500	415	8	330										
65	530	445	6	400										
70	565	480	7	360										
75	600	515	7	360										
80	640	555	8	330										
85	670	585	6	400										
90	730	645	12	245										
95	830	745	20	175										
100	905	820	15	215										



Remarks:

DCP Refusal at depth 970mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

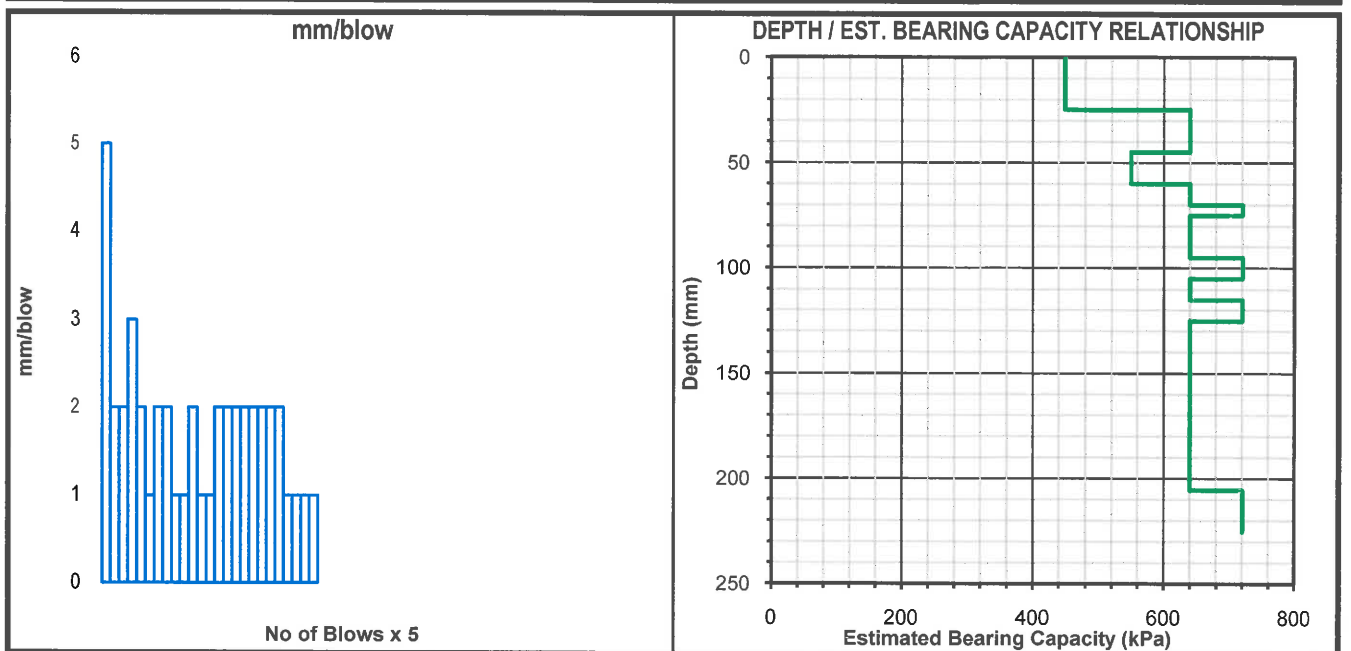
Reference
Number**C-15- 526**

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH7*

Cway/Lane: *Geotechnical Investigation*
Layer: *From Natural Ground Level*
Testpit position: *Refuse Transfer Facility*
Description: *Dry Lt G dense sandy Soil*

DCP No.: *13-526*
Date Tested: *01 Apr 2015*
Date Reported: *11 Apr 2015*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	25	0	0		105	230	205	2	640					
5	50	25	5	450	110	235	210	1	720					
10	60	35	2	640	115	240	215	1	720					
15	70	45	2	640	120	245	220	1	720					
20	85	60	3	550	125	250	225	1	720					
25	95	70	2	640										
30	100	75	1	720										
35	110	85	2	640										
40	120	95	2	640										
45	125	100	1	720										
50	130	105	1	720										
55	140	115	2	640										
60	145	120	1	720										
65	150	125	1	720										
70	160	135	2	640										
75	170	145	2	640										
80	180	155	2	640										
85	190	165	2	640										
90	200	175	2	640										
95	210	185	2	640										
100	220	195	2	640										

**Remarks:**

DCP Refusal at depth 250mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
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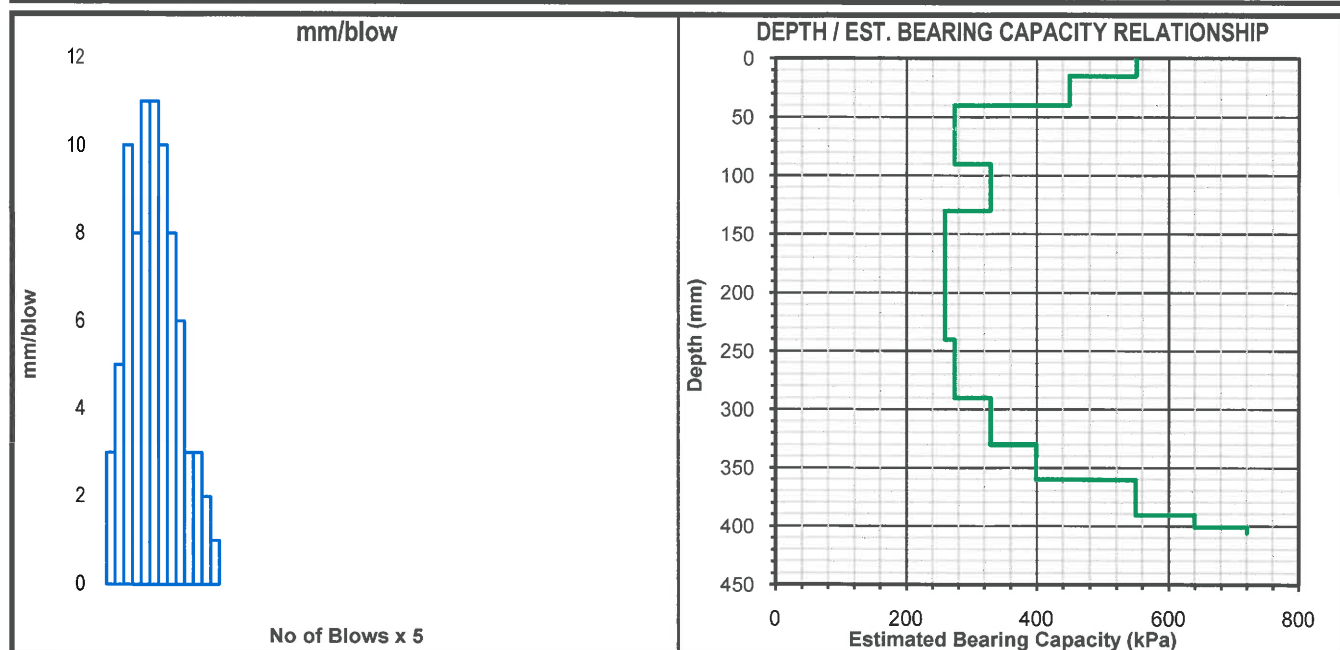
TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

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Reference Number **C-15- 526**

Client:	Element Consulting Engineers	Cway/Lane:	Geotechnical Investigation	DCP No.:	14-526
Project No.	CS 0311	Layer:	From 1.1 meter Below N.G.L	Date Tested:	01 Apr 2015
Project:	Ashton	Testpit position:	Refuse Transfer Facility	Date Reported:	11 Apr 2015
Testpit No.:	TH7	Description:	Sl moist L G O Br calcified very dense silty Soil + occ Ss Pebble Gravel		

[illegible]

Remarks:

DCP Refusal at depth 445mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

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TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

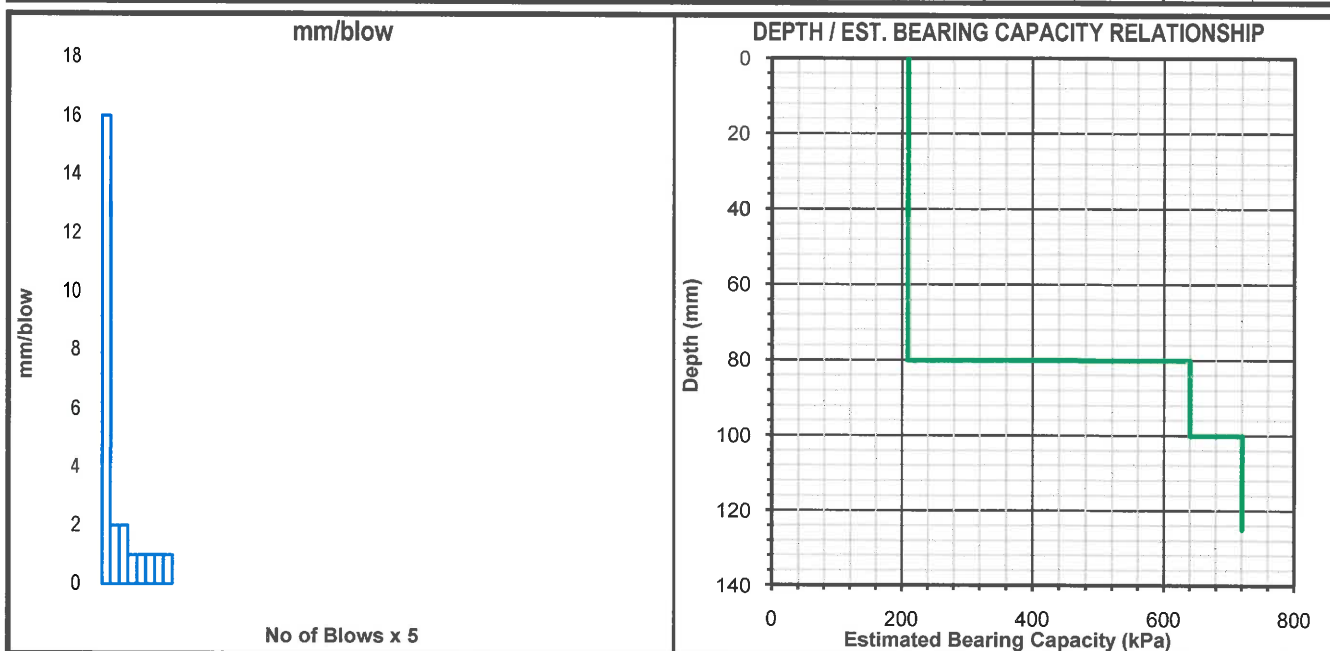
Reference
Number

C-15- 526

Client: *Element Consulting Engineers*
Project No. *CS 0311*
Project: *Ashton*
Testpit No.: *TH8*

Cway/Lane:	<i>Geotechnical Investigation</i>
Layer:	<i>From Natural Ground Level</i>
Testpit position:	<i>Refuse Transfer Facility</i>
Description:	<i>Dry Lt G dense sandy Soil</i>

DCP No.: 15-526
Date Tested: 01 Apr 2015
Date Reported: 11 Apr 2015

[illegible]

Remarks:

DCP Refusal at depth 235mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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**Lab Manager: R van Wyk
for CETLAB (PTY) LTD**



CETLAB

PO Box 1095, Bellville, 7535

Ph.: 021 981 3100, Fax: 021 981 3224

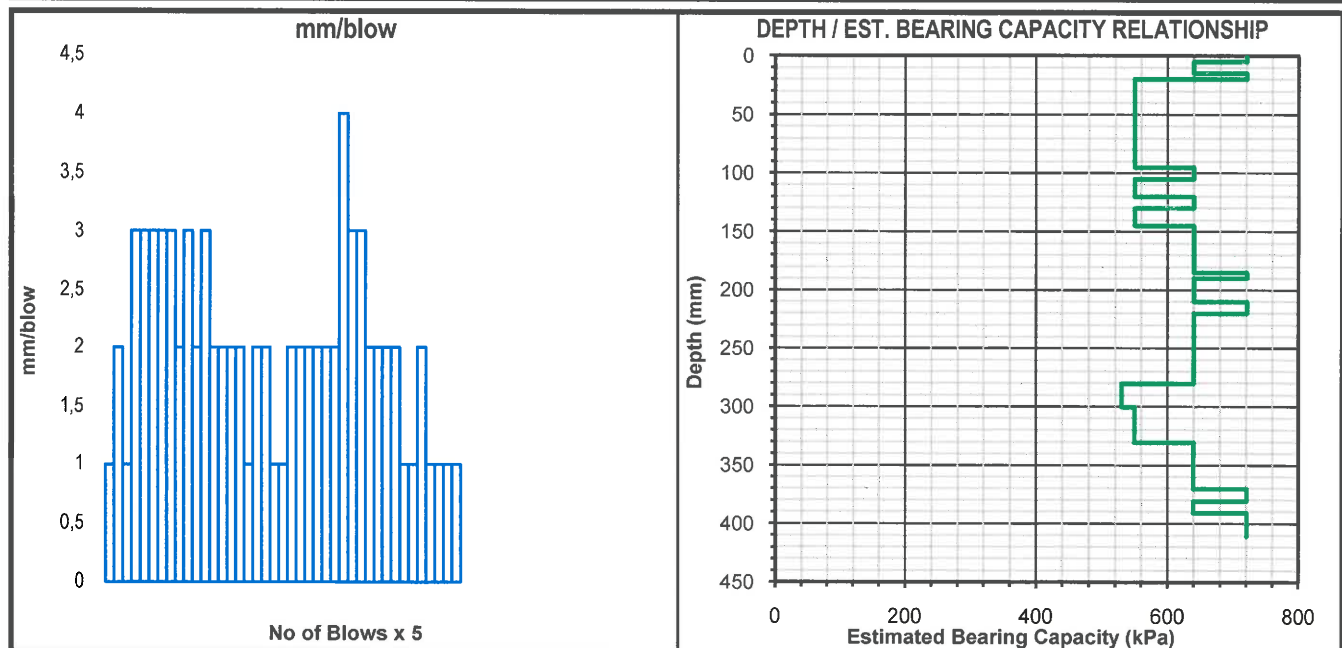
TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number**C-15- 526**

Client: *Element Consulting Engineers* Cway/Lane: *Geotechnical Investigation* DCP No.: *16-526*
 Project No. *CS 0311* Layer: *From 1.1 meter Below N.G.L* Date Tested: *01 Apr 2015*
 Project: *Ashton* Testpit position: *Refuse Transfer Facility* Date Reported: *11 Apr 2015*
 Testpit No.: *TH8* Description: *Slightly moist O R Br very dense clayey Soil + Sandstone Pebble Gravel*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	90	0	0		105	310	220	1	720					
5	95	5	1	720	110	320	230	2	640					
10	105	15	2	640	115	330	240	2	640					
15	110	20	1	720	120	340	250	2	640					
20	125	35	3	550	125	350	260	2	640					
25	140	50	3	550	130	360	270	2	640					
30	155	65	3	550	135	370	280	2	640					
35	170	80	3	550	140	390	300	4	530					
40	185	95	3	550	145	405	315	3	550					
45	195	105	2	640	150	420	330	3	550					
50	210	120	3	550	155	430	340	2	640					
55	220	130	2	640	160	440	350	2	640					
60	235	145	3	550	165	450	360	2	640					
65	245	155	2	640	170	460	370	2	640					
70	255	165	2	640	175	465	375	1	720					
75	265	175	2	640	180	470	380	1	720					
80	275	185	2	640	185	480	390	2	640					
85	280	190	1	720	190	485	395	1	720					
90	290	200	2	640	195	490	400	1	720					
95	300	210	2	640	200	495	405	1	720					
100	305	215	1	720	205	500	410	1	720					



Remarks:

DCP Refusal at depth 500mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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for CETLAB (PTY) LTD



CETLAB

PO Box 1095, Bellville, 7535

Ph.: 021 981 3100, Fax: 021 981 3224

TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers*

Cway/Lane: *Geotechnical Investigation*

DCP No.: 17-526

Project No. CS 0311

Layer: *From Natural Ground Level*

Date Tested: 01 Apr 2015

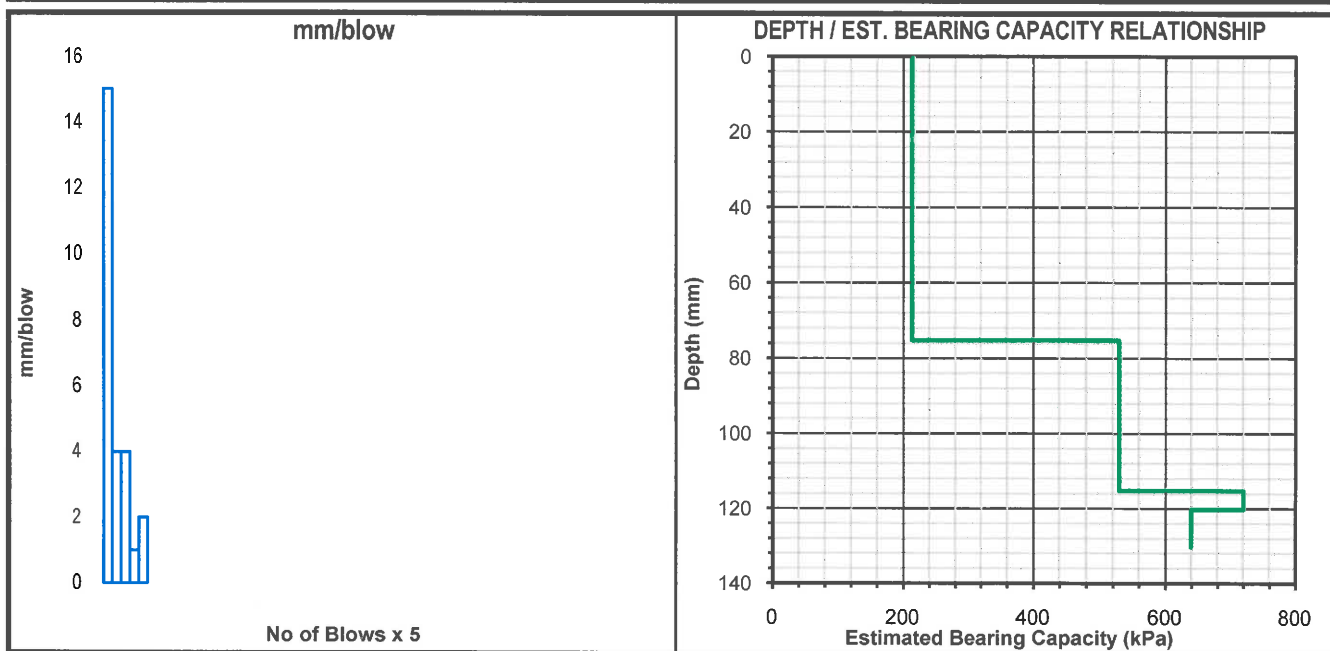
Project: *Ashton*

Testpit position: *Refuse Transfer Facility*

Date Reported: 11 Apr 2015

Testpit No.: TH9

Description: Dry Lt G dense sandy Soil

[illegible]**Remarks:**

DCP Refusal at depth 190mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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for CETLAB (PTY) LTD**



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PO Box 1095, Bellville, 7535
Ph.: 021 981 3100, Fax: 021 981 3224

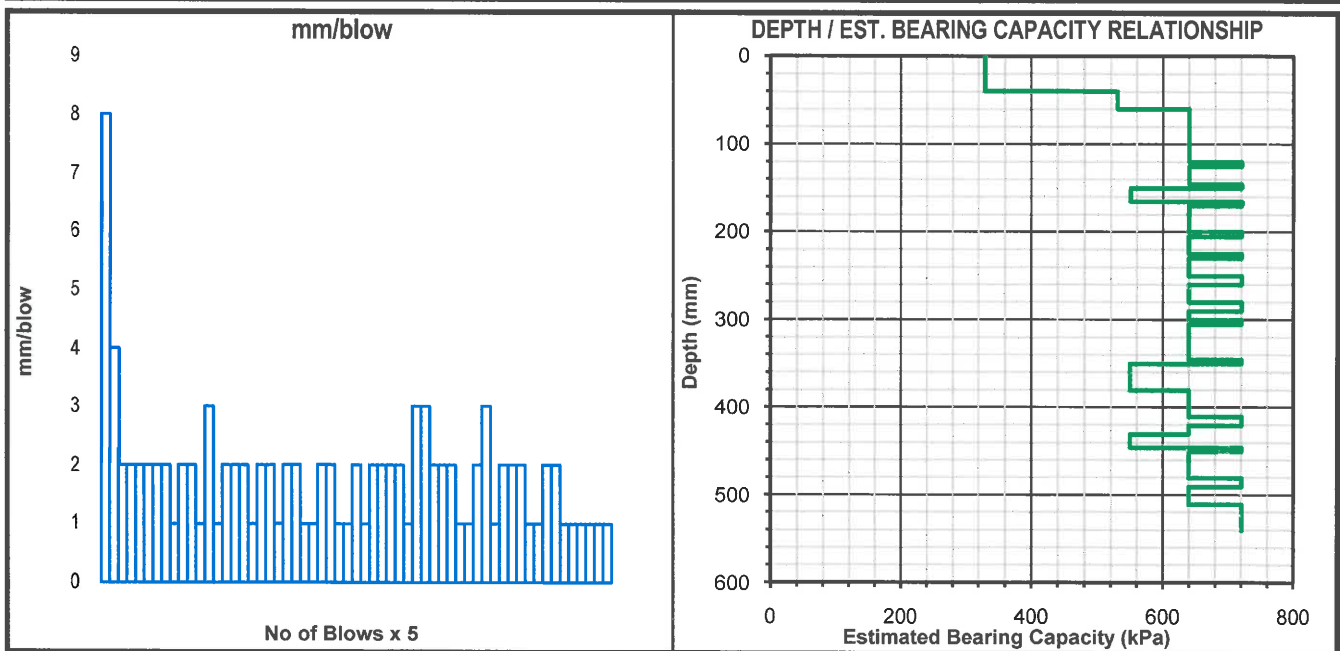
TEST REPORT DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: <i>Element Consulting Engineers</i>	Cway/Lane: <i>Geotechnical Investigation</i>	DCP No.: <i>18-526</i>
Project No. <i>CS 0311</i>	Layer: <i>From 1.05m Below N.G.L</i>	Date Tested: <i>01 Apr 2015</i>
Project: <i>Ashton</i>	Testpit position: <i>Refuse Transfer Facility</i>	Date Reported: <i>11 Apr 2015</i>
Testpit No.: <i>TH9</i>	Description: <i>Slightly moist R Br very dense clayey Soil + Sandstone Gravel</i>	

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	10	0	0		105	240	230	1	720	210	425	415	1	720
5	50	40	8	330	110	250	240	2	640	215	430	420	1	720
10	70	60	4	530	115	260	250	2	640	220	440	430	2	640
15	80	70	2	640	120	265	255	1	720	225	455	445	3	550
20	90	80	2	640	125	270	260	1	720	230	460	450	1	720
25	100	90	2	640	130	280	270	2	640	235	470	460	2	640
30	110	100	2	640	135	290	280	2	640	240	480	470	2	640
35	120	110	2	640	140	295	285	1	720	245	490	480	2	640
40	130	120	2	640	145	300	290	1	720	250	495	485	1	720
45	135	125	1	720	150	310	300	2	640	255	500	490	1	720
50	145	135	2	640	155	315	305	1	720	260	510	500	2	640
55	155	145	2	640	160	325	315	2	640	265	520	510	2	640
60	160	150	1	720	165	335	325	2	640	270	525	515	1	720
65	175	165	3	550	170	345	335	2	640	275	530	520	1	720
70	180	170	1	720	175	355	345	2	640	280	535	525	1	720
75	190	180	2	640	180	360	350	1	720	285	540	530	1	720
80	200	190	2	640	185	375	365	3	550	290	545	535	1	720
85	210	200	2	640	190	390	380	3	550	295	550	540	1	720
90	215	205	1	720	195	400	390	2	640					
95	225	215	2	640	200	410	400	2	640					
100	235	225	2	640	205	420	410	2	640					



Remarks:

DCP Refusal at depth 550mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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for CETLAB (PTY) LTD



CETLAB

PO Box 1095, Bellville, 7535

Ph.: 021 981 3100, Fax: 021 981 3224

TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference
Number

C-15- 526

Client: *Element Consulting Engineers*

Cway/Lane: *Geotechnical Investigation*

DCP No.: 19-526

Project No. CS 0311

Layer: *From Natural Ground Level*

Date Tested: 01 Apr 2015

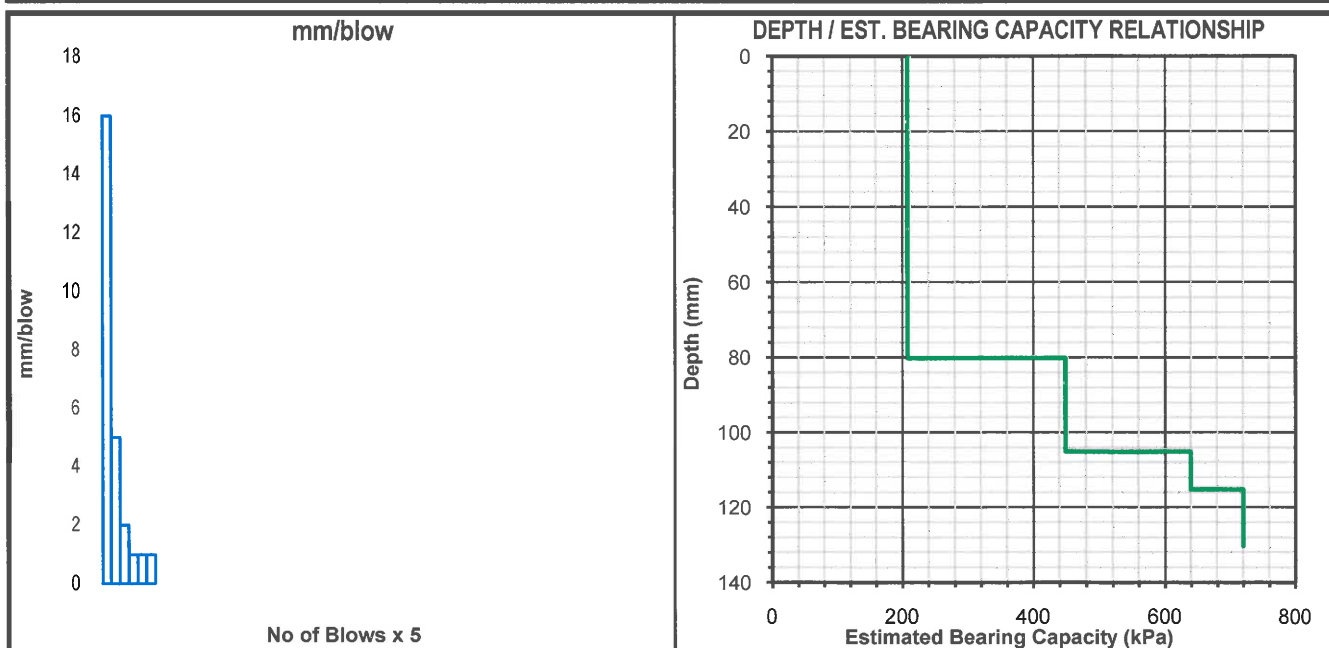
Project: *Ashton*

Testpit position: *Refuse Transfer Facility*

Date Reported: 11 Apr 2015

Testpit No.: TH10

Description: Dry Lt G dense sandy Soil

[illegible]

Remarks:

DCP Refusal at depth 260mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)
Test result relate to test position only.

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for CETLAB (PTY) LTD**



CETLAB

PO Box 1095, Bellville, 7535
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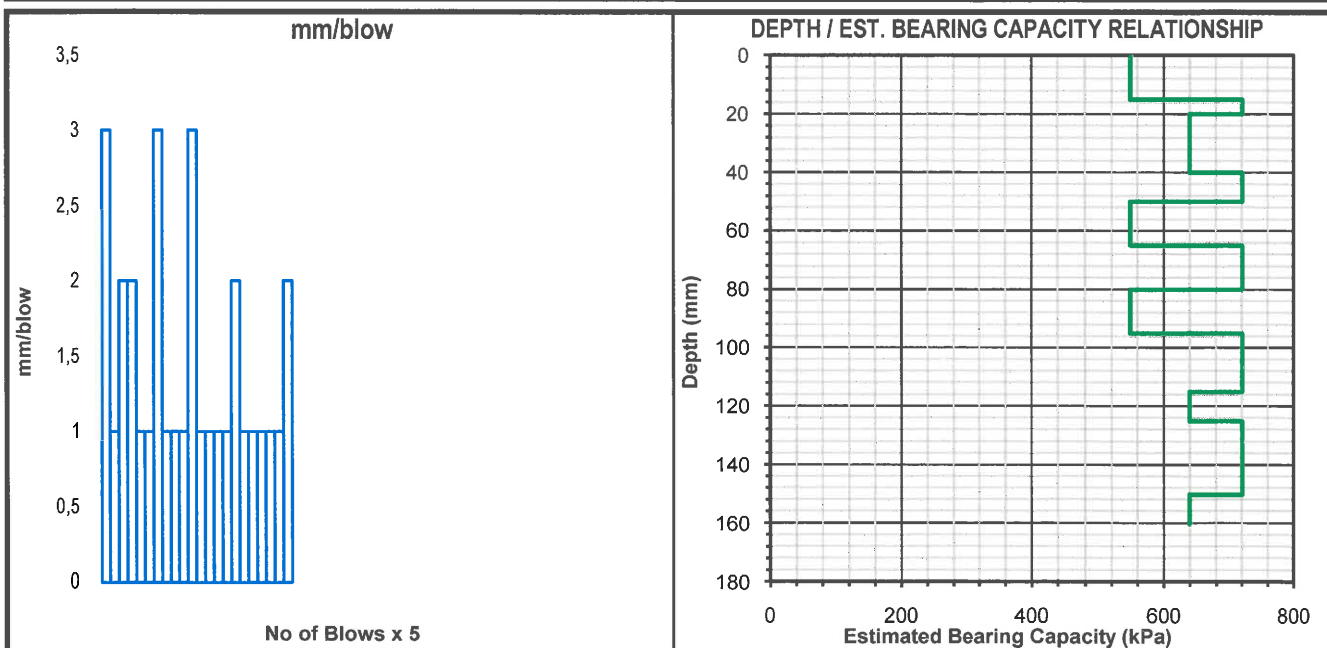
TEST REPORT

DYNAMIC CONE PENETROMETER EST. BEARING CAPACITY

Reference Number **C-15- 526**

Client: *Element Consulting Engineers* Cway/Lane: *Geotechnical Investigation* DCP No.: *20-526*
Project No. *CS 0311* Layer: *From 1.2 meter Below N.G.L* Date Tested: *01 Apr 2015*
Project: *Ashton* Testpit position: *Refuse Transfer Facility* Date Reported: *11 Apr 2015*
Testpit No.: *TH10* Description: *Dry Lt Y Br very dense soft Weathered Shale + Sandstone Gravel*

No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa	No. of Blows	DCP Reading mm	Actual Depth mm	DCP mm/blow	Bearing Capacity kPa
0	70	0	0		105	220	150	1	720					
5	85	15	3	550	110	230	160	2	640					
10	90	20	1	720										
15	100	30	2	640										
20	110	40	2	640										
25	115	45	1	720										
30	120	50	1	720										
35	135	65	3	550										
40	140	70	1	720										
45	145	75	1	720										
50	150	80	1	720										
55	165	95	3	550										
60	170	100	1	720										
65	175	105	1	720										
70	180	110	1	720										
75	185	115	1	720										
80	195	125	2	640										
85	200	130	1	720										
90	205	135	1	720										
95	210	140	1	720										
100	215	145	1	720										



Remarks:

DCP Refusal at depth 230mm

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Tests in compliance with TMH 6 : 1984 - Method ST6 (Measurement of the in situ strength of soils by the Dynamic Cone Penetrometer - DCP)

Test result relate to test position only.

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