

**SANRAL**

SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD



Reg. No: 1998/008584/30

**BUILDING SOUTH AFRICA  
THROUGH BETTER ROADS**

## **THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED**

**CONTRACT NRA S.002-001-2018/1**

**FOR THE UPGRADING OF BOTLOKWA  
(MATOKS) CLINIC ACCESS ROAD**

**APPENDIX 4: MATERIALS INVESTIGATION  
RESULTS**

**JUNE 2021**

**PREPARED FOR:**

**CHIEF EXECUTIVE OFFICER  
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED  
48 TAMBOTIE AVENUE  
VAL DE GRACE  
PRETORIA, 0184**

**PREPARED BY:**

**LATHISO CONSULTING  
ENGINEERS (PTY) LTD**

**LATHISO**   
**CONSULTING ENGINEERS**

## **ANNEXURES**

Annexure 1: Test pit profile report

Annexure 2: Test pit sample test results

Annexure 3: DCP test results

## **ANNEXURE 1: TEST PIT PROFILE REPORT**



# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON, 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 1 of 27

## PHOTO PROFILE REPORT - TEST PIT 1

Test Pit	TP 1	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 0,2				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY GERT KRUGER				60	Slightly Moist, Dark Brown, Medium Dense, Intact Sandy Gravel, Insitu	A21 1343 MDD, CBR, R ind
GPS CO-ORDINATES -23 28 33,54 29 43 41,25				200	Slightly Moist, Brown, Very Dense, Intact Sandy Gravel, Insitu	A21 1344 R ind
DATE PROFILED 12 May 2021				300		
DATE EXCAVATED 12 May 2021						
EXCAVATION MEANS Hand Tools						

Notes: Refusal @ 300 mm  
No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 2 of 27

## PHOTO PROFILE REPORT - TEST PIT 1





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

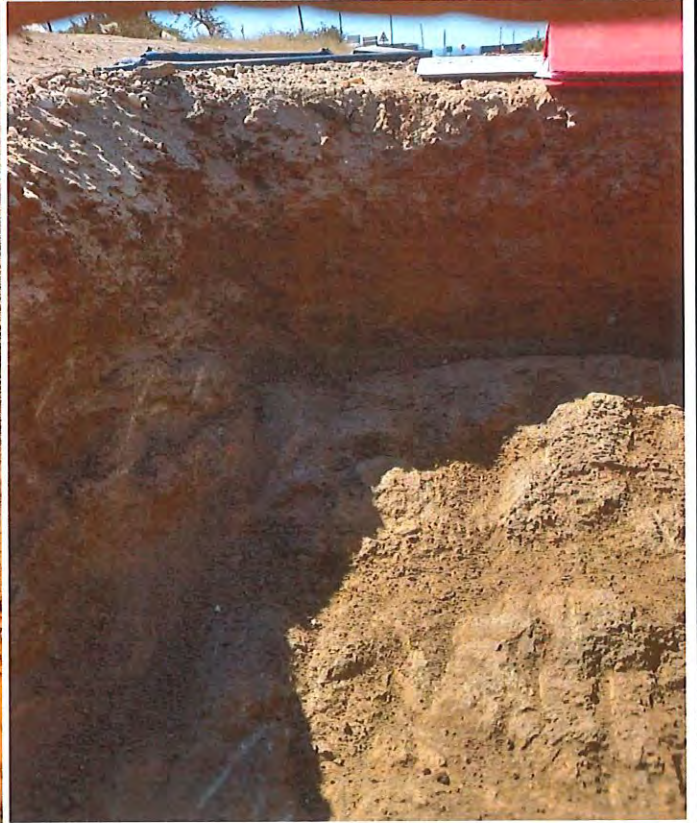
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 3 of 27

## PHOTO PROFILE REPORT - TEST PIT 1







# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

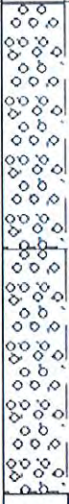
DATE: 09 June 2021

JOB NO: PL/23382

Page 4 of 27

## PHOTO PROFILE REPORT - TEST PIT 2

Test Pit		TP 2	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION	SAMPLING TYPE AND NUMBER
						Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	
Km 0,4					0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY							
GERT KRUGER							
GPS CO-ORDINATES							
-23 28 35,12							
29 43 34,41							
DATE PROFILED							
12 May 2021							
DATE EXCAVATED							
12 May 2021							
EXCAVATION MEANS							
Hand tools							

Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION	SAMPLING TYPE AND NUMBER
		0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
		60	Slightly Moist, Dark Brown, Very Dense, Intact Sandy Gravel, Insitu	A21 1345 MDD, CBR, R ind
		370		

Notes: Refusal @ 370 mm  
No reaction with HCL or Phenolphthalein



# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON, 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 5 of 27

## PHOTO PROFILE REPORT - TEST PIT 2





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 6 of 27

## PHOTO PROFILE REPORT - TEST PIT 2





Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 7 of 27

## PHOTO PROFILE REPORT - TEST PIT 3

Test Pit	TP 3		SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General		SAMPLING TYPE AND NUMBER
Km 0,6			Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil		
PROFILED BY GERT KRUGER					
GPS CO-ORDINATES -23 28 36,55 29 43 27,54					
DATE PROFILED 12 May 2021					
DATE EXCAVATED 12 May 2021			Slightly Moist, Reddish Brown, Very Dense, Intact Sandy Gravel, Insitu	A21 1346 MDD, CBR, R ind	
EXCAVATION MEANS Hand Tools					

Notes: Refusal @ 220 mm  
No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON, 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

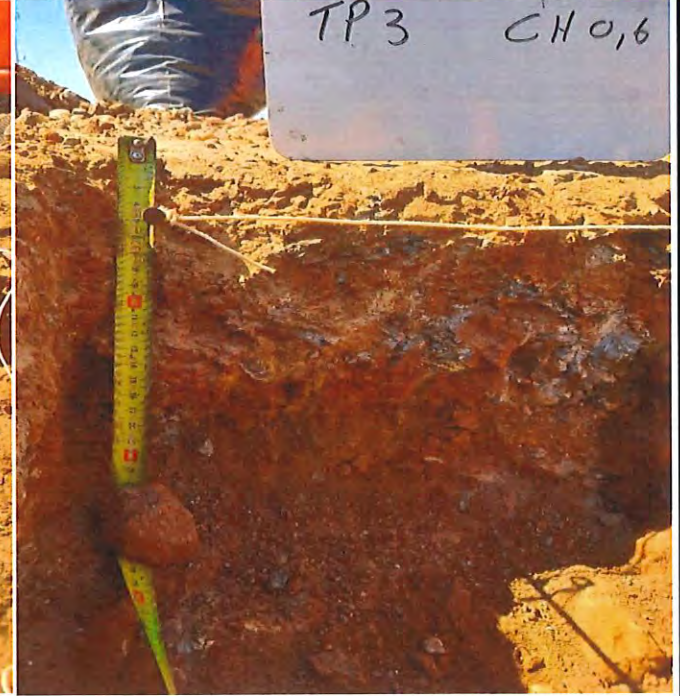
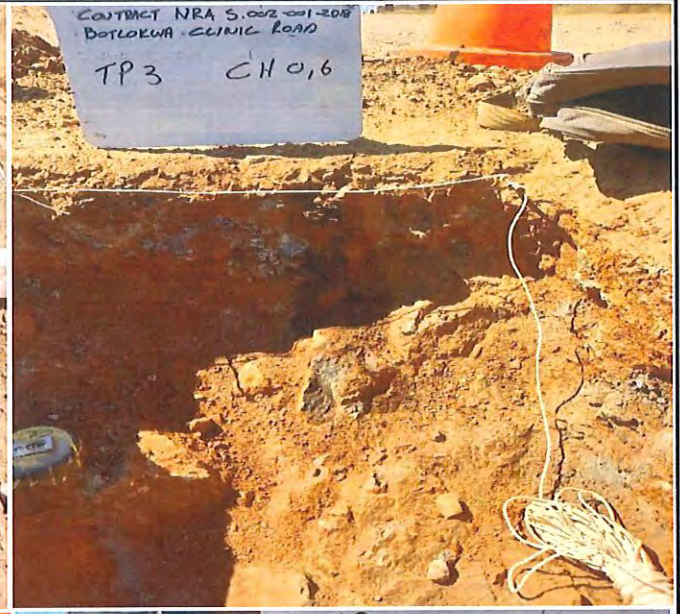
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 8 of 27

## PHOTO PROFILE REPORT - TEST PIT 3





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 9 of 27

## PHOTO PROFILE REPORT - TEST PIT 3





Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 10 of 27

## PHOTO PROFILE REPORT - TEST PIT 4

Test Pit	TP 4	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 0,8				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY						
GERT KRUGER						
GPS CO-ORDINATES						
-23 28 37,96						
29 43 20,66						
DATE PROFILED						
12 May 2021						
DATE EXCAVATED						
12 May 2021						
EXCAVATION MEANS						
Hand Tools						
				80	Slightly Moist, Reddish Brown, Very Dense, Intact Sandy Gravel, Insitu	A 21 1347 MDD, CBR, R ind
				240		

Notes: Refusal @ 240 mm  
No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

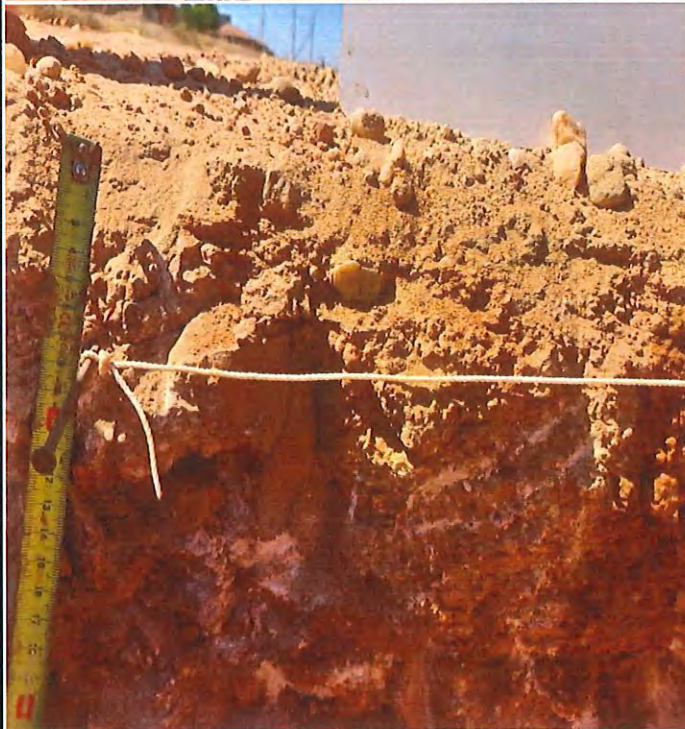
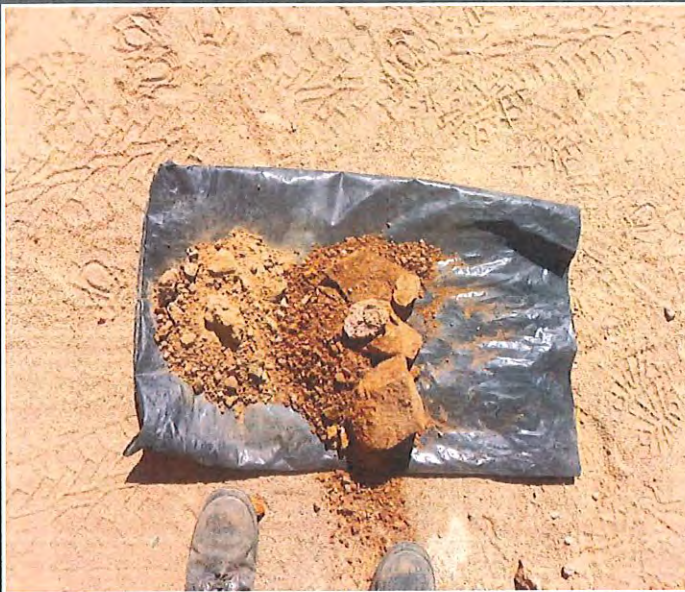
Attention: Mr W van der Westhuizen

DATE: 09 June 2021

JOB NO: PL/23382

Page 11 of 27

## PHOTO PROFILE REPORT - TEST PIT 4





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr W van der Westhuizen

DATE: 09 June 2021

JOB NO: PL/23382

Page 12 of 27

## PHOTO PROFILE REPORT - TEST PIT 4







# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 13 of 27

## PHOTO PROFILE REPORT - TEST PIT 5

Test Pit	TP 5	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 1,0				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY				50		
GERT KRUGER						
GPS CO-ORDINATES						
-23 28 39,42					Slightly Moist, Reddish Brown, Medium Dense Intact, Sandy Gravel, Insitu	A21 1348 MDD, CBR, R ind
29 43 13,79						
DATE PROFILED				500		
12 May 2021						
DATE EXCAVATED						
12 May 2021					Dry to Slightly Moist, Brown with Speckled Orand & Streaked Black, Intact Sandy Gravel, Insitu	A21 1349 MDD, CBR, R ind
EXCAVATION MEANS						
Hand Tools				700		

Notes: No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON, 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 14 of 27

## PHOTO PROFILE REPORT - TEST PIT 5





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

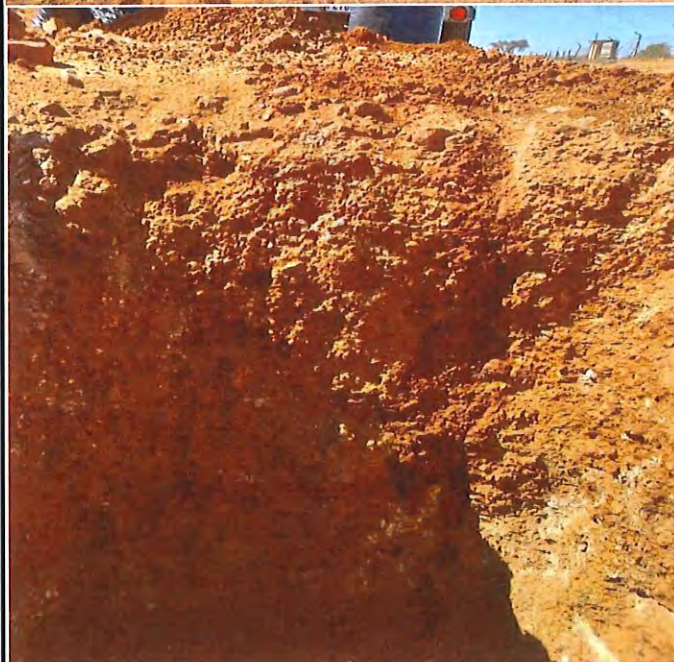
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 15 of 27

## PHOTO PROFILE REPORT - TEST PIT 5







# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON, 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 16 of 27

## PHOTO PROFILE REPORT - TEST PIT 6

Test Pit	TP 6	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 1,2				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY GERT KRUGER				140	Slightly Moist, Reddish Brown, Medium Dense Intact, Sandy Gravel, Insitu	A21 1350 R ind
GPS CO-ORDINATES				360	Slightly Moist, Reddish Brown to Brown Medium Dense, Intact Sandy Gravel, Insitu	A21 1351 MDD, CBR, R ind
DATE PROFILED 12 May 2021				600		
DATE EXCAVATED 12 May 2021						
EXCAVATION MEANS Hand Tools						

Notes: No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

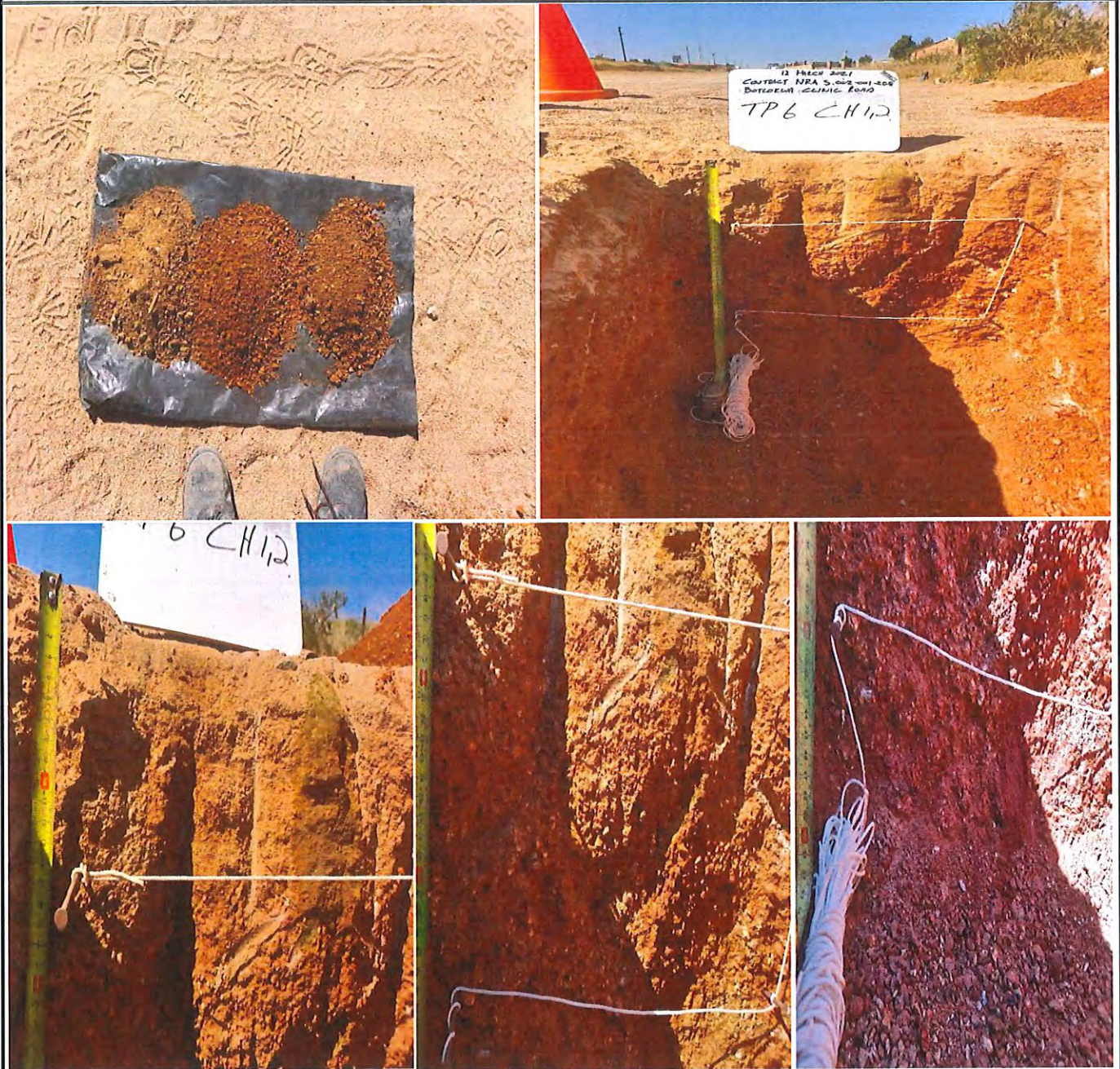
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 17 of 27

## PHOTO PROFILE REPORT - TEST PIT 6





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 18 of 27

## PHOTO PROFILE REPORT - TEST PIT 6







# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 19 of 27

## PHOTO PROFILE REPORT - TEST PIT 7

Test Pit	TP 7	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 1,4				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY				40	Dry, Reddish Brown, Medium Dense, Intact Sandy Gravel, Insitu	A21 1352 MDD, CBR, R ind
GERT KRUGER				160	Dry, Brown, Medium Dense, Intact Sandy Gravel, Insitu	A21 1353 MDD, CBR, R ind
GPS CO-ORDINATES				390	Slightly Moist, Lt Brown, Medium Dense Sandy Gravel, Insitu	A21 1354 R ind
-23 28 41,24				600		
29 42 59,92						
DATE PROFILED						
12 May 2021						
DATE EXCAVATED						
12 May 2021						
EXCAVATION MEANS						
Hand Tools						

Notes: No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

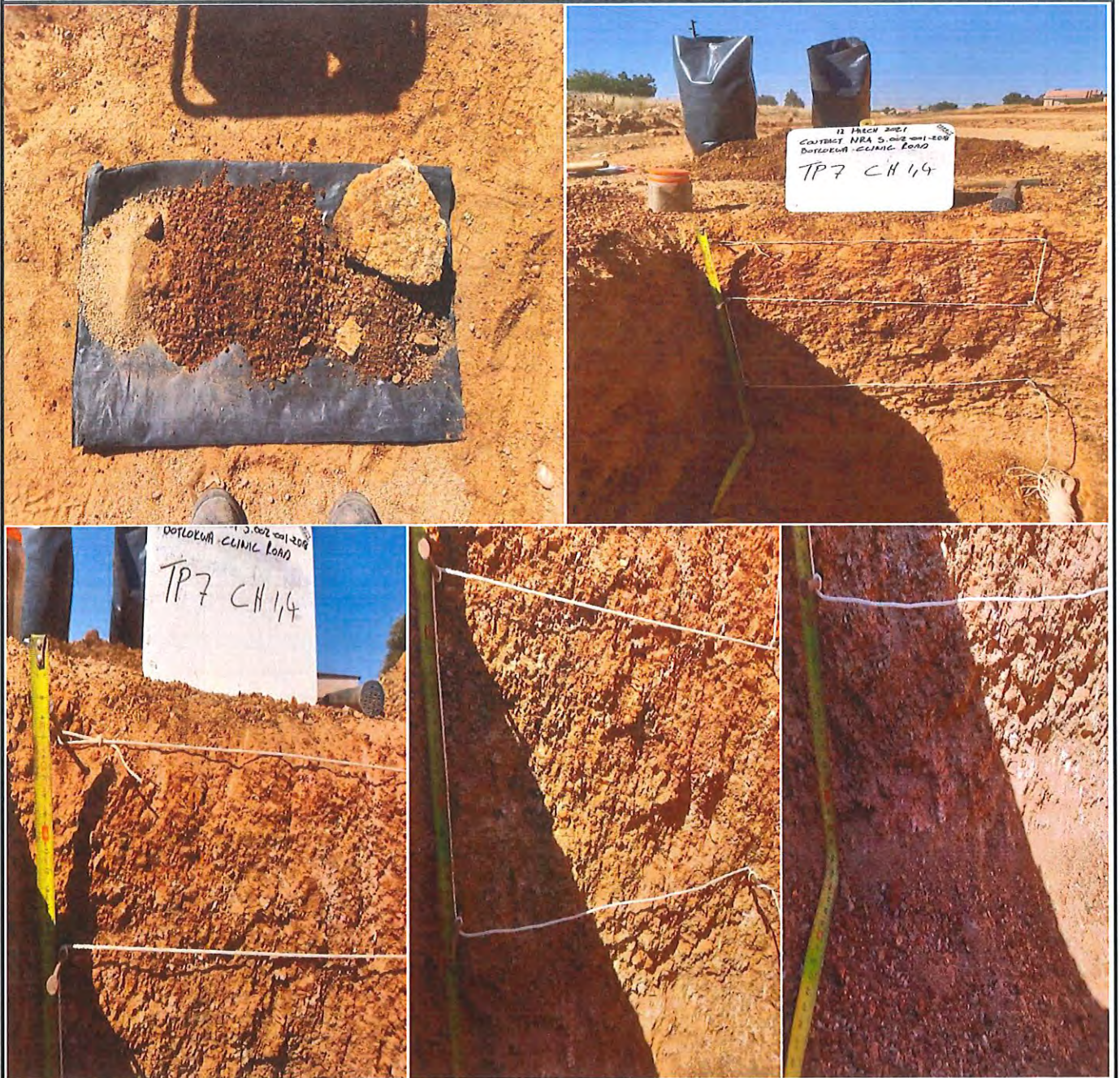
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 20 of 27

## PHOTO PROFILE REPORT - TEST PIT 7





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

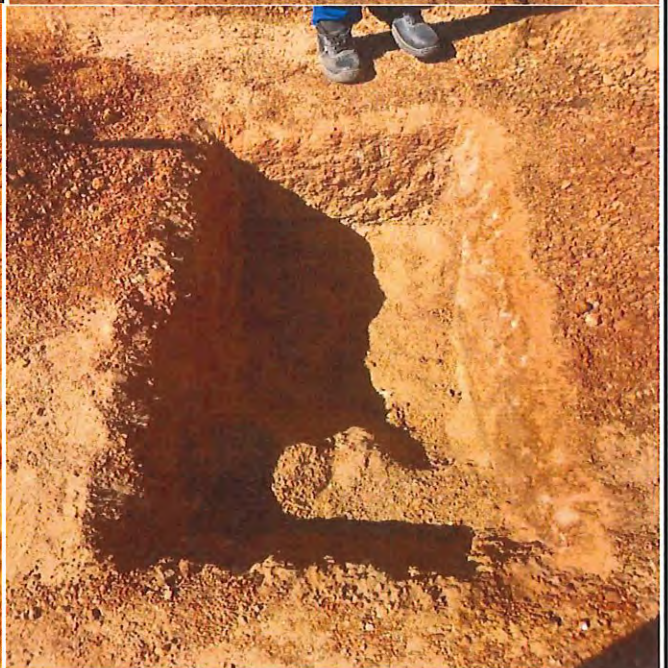
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 21 of 27

## PHOTO PROFILE REPORT - TEST PIT 7







# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 22 of 27

## PHOTO PROFILE REPORT - TEST PIT 8

Test Pit		TP 8	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 1,6					0	Dry Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY		GERT KRUGER					
GPS CO-ORDINATES							
		-23 28 40,95					
		29 42 52,58			40	Dry, Orange Red, Very Dense, Intact Sandy Gravel, Insitu	A21 1355 MDD, CBR, R Ind
DATE PROFILED		12 May 2021					
DATE EXCAVATED		12 May 2021					
EXCAVATION MEANS		Hand Tools					
					300		

Notes: Refusal @ 300 mm  
No reaction with HCL or Phenolphthalein

# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

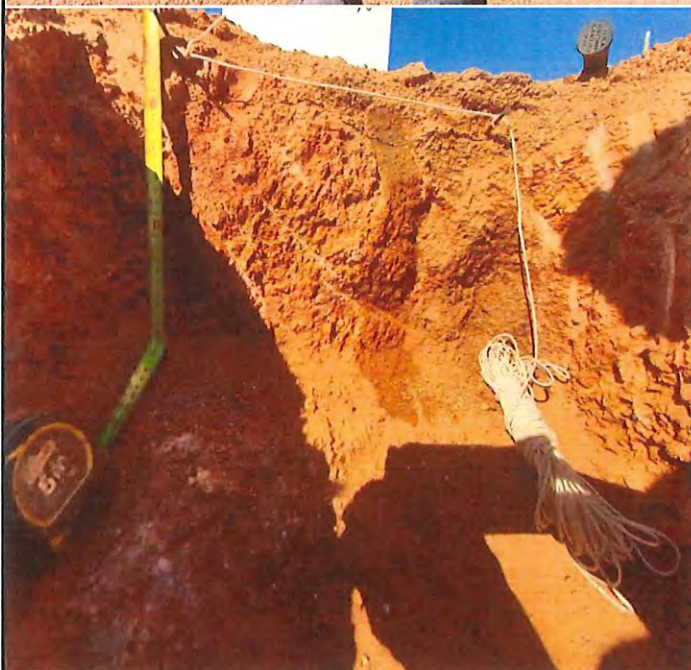
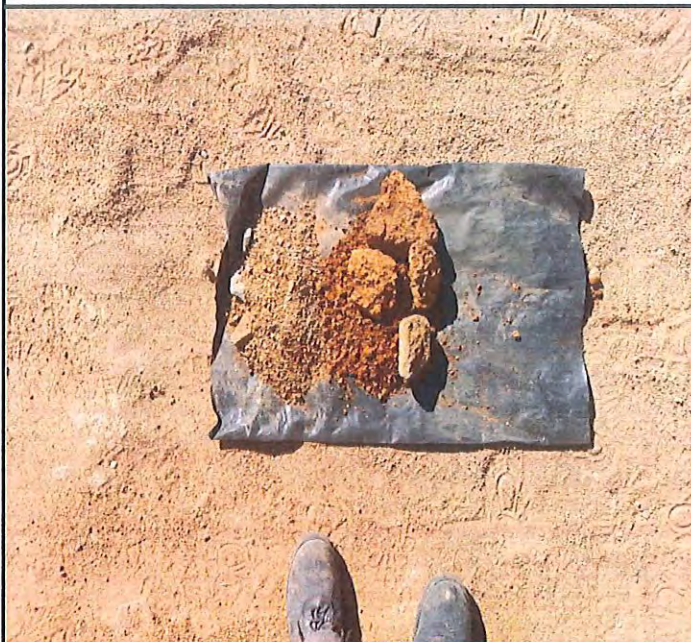
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 23 of 27

## PHOTO PROFILE REPORT - TEST PIT 8





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

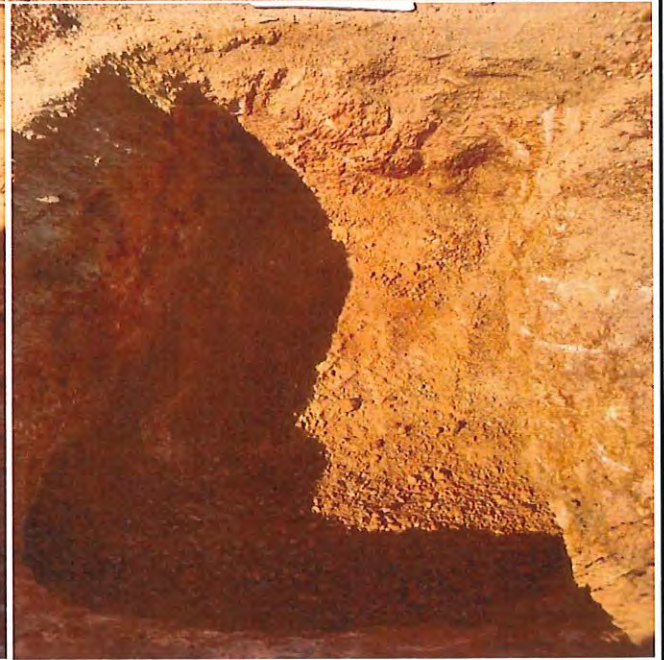
Attention: Mr Kristen Brink

DATE: 09 June 2021

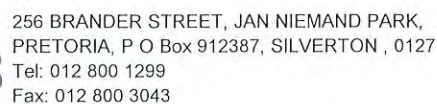
JOB NO: PL/23382

Page 24 of 27

## PHOTO PROFILE REPORT - TEST PIT 8







Botlokwa Clinic Access road Materials Investigation

Page 25 of 27

<b>Test Pit</b>	<b>TP 9</b>	<b>Water Table</b>	<b>Soil Legend</b>	<b>Depth (mm)</b>	<b>SOIL DESCRIPTION</b> Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	<b>SAMPLING TYPE AND NUMBER</b>
Km 1,8				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
<b>PROFILED BY</b>						
GERT KRUGER						
<b>GPS CO-ORDINATES</b>						
-23 28 40,93						
29 42 45,84						
<b>DATE PROFILED</b>						
12 May 2021						
<b>DATE EXCAVATED</b>						
12 May 2021						
<b>EXCAVATION MEANS</b>						
Hand Tools						
				700		

Notes: No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 26 of 27

## PHOTO PROFILE REPORT - TEST PIT 9





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

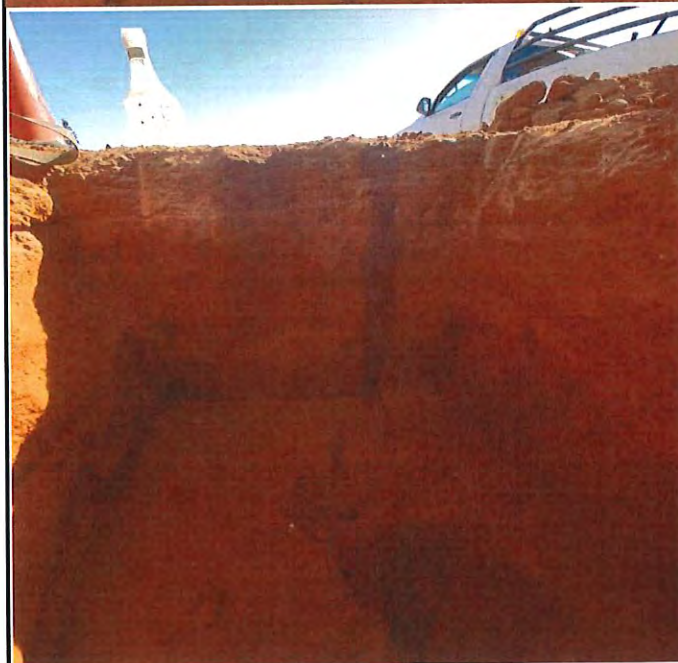
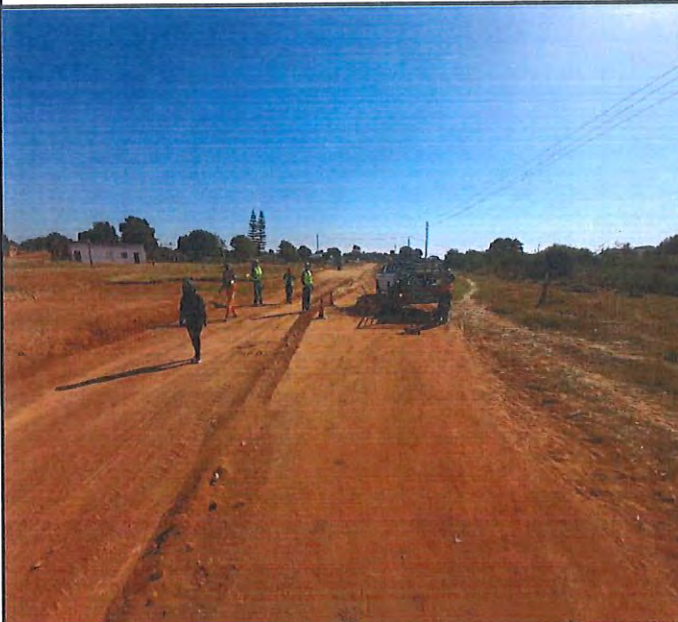
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 27 of 27

## PHOTO PROFILE REPORT - TEST PIT 9





# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 25 of 27

## PHOTO PROFILE REPORT - TEST PIT 10

Test Pit	TP 10	Water Table	Soil Legend	Depth (mm)	SOIL DESCRIPTION Moisture, Colour, Consistency, Structure, Soil Type, Origin, General	SAMPLING TYPE AND NUMBER
Km 2,0				0	Dry, Light Pale Brown, Loose, Intact Sandy Gravel, Topsoil	
PROFILED BY GERT KRUGER				80	Dry, Reddish Brown, Medium dense, Intact Sandy Gravel, Insitu	A21 1357 MDD, CBR, R ind
GPS CO-ORDINATES -23 28 40,86 29 42 38,82				300	Slightly Moist, Dark Reddish Brown, Medium Dense Intact, Sandy Gravel, Insitu	A21 1358 R ind
DATE PROFILED 12 May 2021				600		
DATE EXCAVATED 12 May 2021						
EXCAVATION MEANS Hand Tools						

Notes: No reaction with HCL or Phenolphthalein



# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

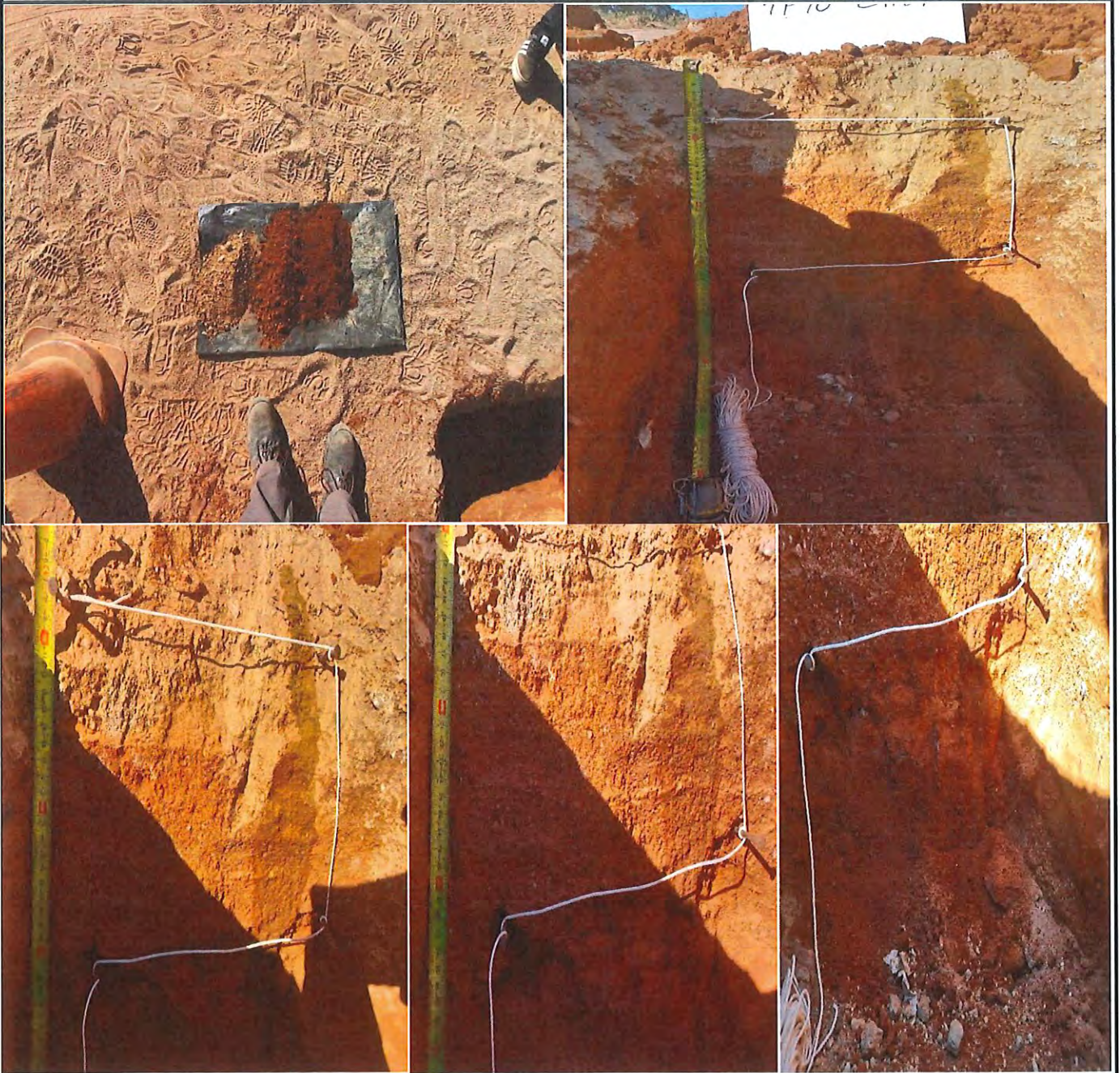
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 26 of 27

## PHOTO PROFILE REPORT - TEST PIT 10





# SGS

# MATROLAB

256 BRANDER STREET, JAN NIEMAND PARK,  
PRETORIA, P O Box 912387, SILVERTON , 0127  
Tel: 012 800 1299  
Fax: 012 800 3043

Latisho Consulting Engineers  
6 Bowater Close  
Melkbosstrand  
7441

PROJECT:

Botlokwa Clinic Access road Materials  
Investigation

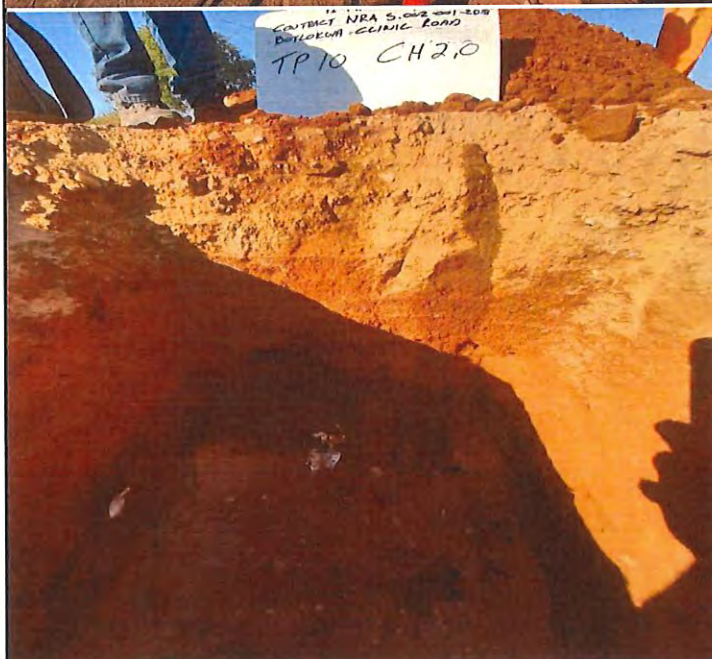
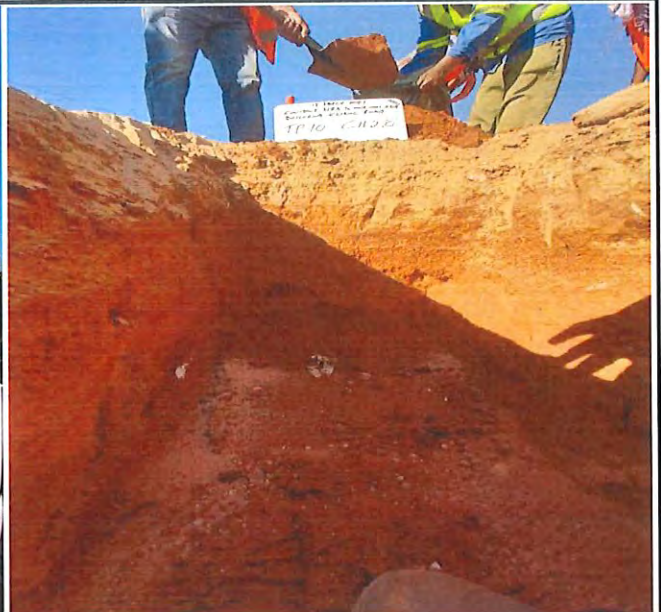
Attention: Mr Kristen Brink

DATE: 09 June 2021

JOB NO: PL/23382

Page 27 of 27

## PHOTO PROFILE REPORT - TEST PIT 10



## **ANNEXURE 2: TEST PIT SAMPLE TEST RESULTS**



# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1343	A21/1344			Preparation Method:
HOLE NO.	TP1	TP1			
ROAD NO.					
DEPTH	60-200	200-300			
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural	Natural			
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021	12.05.2021			
DESCRIPTION	Dark brown	Brown			Specification Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm		100			
75 mm		92			
63 mm		87			
50 mm		81			
37.5 mm		78			
28.0 mm		72			
20.0 mm	100	70			
14.0 mm	99	56			
5.0 mm	91	34			
2.0 mm	62	13			
0.425 mm	31	8			
0.075 mm	19				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	51	61			
FINE SAND <0.425mm >0.075mm	19	17			
MATERIAL <0.075mm	30	22			

#### CONSTANTS

GRADING MODULUS	1.88	2.45			
PRA CLASSIFICATION	A-2-6(0)	A-2-4(0)			
COLTO CLASSIFICATION	G7				
LIQUID LIMIT (%)	30	29			
PLASTICITY INDEX (0.425mm)	15	10			
LINEAR SHRINKAGE (%)	7.0	5.0			

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2200				
OPTIMUM MOISTURE CONTENT(%)	9.4				
MOULDING MOISTURE (%)	9.5				

TYPE OF TEST	CBR				
CBR-UCS @ 100% MDD	46				
CBR-UCS @ 98% MDD	38				
CBR-UCS @ 97% MDD	35				
CBR-UCS @ 95% MDD	30				
CBR-UCS @ 93% MDD	25				
CBR-UCS @ 90% MDD	19				

#### CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.30	0.40	0.50																
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT, Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.

P.O Box 912387, Silverton, 0127

Tel. : (012) 800 1299

Fax :

Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road

Your Ref :

Our Ref : PL/23382a

Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1345				Preparation Method:
HOLE NO.	TP2				
ROAD NO.					
DEPTH	60-370				
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural				
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021				
DESCRIPTION	Dark brown				Specification Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm					
37.5 mm	100				
28.0 mm	94				
20.0 mm	82				
14.0 mm	72				
5.0 mm	51				
2.0 mm	44				
0.425 mm	30				
0.075 mm	17				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	31				
FINE SAND <0.425mm >0.075mm	29				
MATERIAL <0.075mm	40				

#### CONSTANTS

GRADING MODULUS	2.09				
PRA CLASSIFICATION	A-2-4(0)				
COLTO CLASSIFICATION	G7				
LIQUID LIMIT (%)	26				
PLASTICITY INDEX (0.425mm)	10				
LINEAR SHRINKAGE (%)	5.0				

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2182				
OPTIMUM MOISTURE CONTENT(%)	9.5				
MOULDING MOISTURE (%)	10.0				

TYPE OF TEST	CBR				
--------------	-----	--	--	--	--

CBR-UCS @ 100% MDD	38				
CBR-UCS @ 98% MDD	31				
CBR-UCS @ 97% MDD	28				
CBR-UCS @ 95% MDD	23				
CBR-UCS @ 93% MDD	19				
CBR-UCS @ 90% MDD	14				

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.30	0.50	0.60												
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

*M. Breitung*  
Technical Signatory : Martinus Schwartz/Lizette Breitung

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.





# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT Reg.No.: 4040210587  
a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382b  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO. HOLE NO. ROAD NO. DEPTH CHAINAGE LAYER TYPE STABILISED WITH SUPPLIER CURING METHOD DATE TESTED DESCRIPTION	A21/1346 TP3  40-220  Natural  12.05.2021 Red brown				Preparation Method:        Specification Min : Max
---	---	--	--	--	---

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm	100				
37.5 mm	95				
28.0 mm	90				
20.0 mm	85				
14.0 mm	82				
5.0 mm	67				
2.0 mm	52				
0.425 mm	37				
0.075 mm	22				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	30				
FINE SAND <0.425mm >0.075mm	28				
MATERIAL <0.075mm	42				

#### CONSTANTS

GRADING MODULUS	1.89				
PRA CLASSIFICATION	A-2-6(0)				
COLTO CLASSIFICATION	G7				
LIQUID LIMIT (%)	27				
PLASTICITY INDEX (0.425mm)	12				
LINEAR SHRINKAGE (%)	6.0				

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2269				
OPTIMUM MOISTURE CONTENT (%)	8.6				
MOULDING MOISTURE (%)	7.8				

TYPE OF TEST	CBR				
--------------	-----	--	--	--	--

CBR-UCS @ 100% MDD	31				
CBR-UCS @ 98% MDD	29				
CBR-UCS @ 97% MDD	28				
CBR-UCS @ 95% MDD	26				
CBR-UCS @ 93% MDD	24				
CBR-UCS @ 90% MDD	22				

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.20	0.50	0.70																	
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/terms\\_and\\_conditions.aspx](http://www.sgs.com/en/terms_and_conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.





# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382c  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1347				Preparation Method:
HOLE NO.	TP4				
ROAD NO.					
DEPTH	80-240				
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural				
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021				
DESCRIPTION	Red brown				Specification Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm	100				
50 mm	95				
37.5 mm	85				
28.0 mm	81				
20.0 mm	78				
14.0 mm	75				
5.0 mm	56				
2.0 mm	38				
0.425 mm	22				
0.075 mm	6				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	43				
FINE SAND <0.425mm >0.075mm	40				
MATERIAL <0.075mm	17				

#### CONSTANTS

GRADING MODULUS	2.34				
PRA CLASSIFICATION	A-1-a(0)				
COLTO CLASSIFICATION	G5				
LIQUID LIMIT (%)	-				
PLASTICITY INDEX (0.425mm)	NP				
LINEAR SHRINKAGE (%)	0.0				

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2150				
OPTIMUM MOISTURE CONTENT(%)	6.8				
MOULDING MOISTURE (%)	6.8				

TYPE OF TEST	CBR				
--------------	-----	--	--	--	--

CBR-UCS @ 100% MDD	84				
CBR-UCS @ 98% MDD	66				
CBR-UCS @ 97% MDD	59				
CBR-UCS @ 95% MDD	47				
CBR-UCS @ 93% MDD	37				
CBR-UCS @ 90% MDD	26				

#### CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.00	0.00	0.00															
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.





# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg No.: 2003/021980/07 - VAT Reg No.: 4040210587  
a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382d  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO. HOLE NO. ROAD NO. DEPTH CHAINAGE LAYER TYPE STABILISED WITH SUPPLIER CURING METHOD DATE TESTED DESCRIPTION	A21/1348 TP5 50-500 Natural 12.05.2021 Red brown	A21/1349 TP5 500-700 Natural 12.05.2021 Brown			Preparation Method:          Specification Min : Max
---	---	--	--	--	---

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm	100				
37.5 mm	95				
28.0 mm	92				
20.0 mm	87	100			
14.0 mm	85	98			
5.0 mm	71	78			
2.0 mm	48	50			
0.425 mm	31	27			
0.075 mm	18	15			

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	35	47			
FINE SAND <0.425mm >0.075mm	28	23			
MATERIAL <0.075mm	37	30			

#### CONSTANTS

GRADING MODULUS	2.03	2.08			
PRA CLASSIFICATION	A-2-4(0)	A-2-4(0)			
COLTO CLASSIFICATION	---	---			
LIQUID LIMIT (%)	23	29			
PLASTICITY INDEX (0.425mm)	9	9			
LINEAR SHRINKAGE (%)	5.0	4.0			

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2193	2213			
OPTIMUM MOISTURE CONTENT(%)	8.0	7.8			
MOULDING MOISTURE (%)	8.4	7.8			

TYPE OF TEST	CBR	CBR			
CBR-UCS @ 100% MDD	15	21			
CBR-UCS @ 98% MDD	12	15			
CBR-UCS @ 97% MDD	10	13			
CBR-UCS @ 95% MDD	7.9	9.3			
CBR-UCS @ 93% MDD	6.1	6.7			
CBR-UCS @ 90% MDD	4.2	4.2			

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.30	0.40	0.50	0.40	0.50	0.60									
-------------------------	------	------	------	------	------	------	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory: Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel.: (012) 800 1299  
Fax: :  
Email: martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382e  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1350	A21/1351			Preparation Method:
HOLE NO.	TP6	TP6			
ROAD NO.					
DEPTH	140-360	360-600			
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural	Natural			
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021	12.05.2021			Specification
DESCRIPTION	Red brown	Red brown			Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm				
75 mm				
63 mm				
50 mm				
37.5 mm				
28.0 mm				
20.0 mm		100		
14.0 mm	100	98		
5.0 mm	85	79		
2.0 mm	60	56		
0.425 mm	37	33		
0.075 mm	21	19		

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	38	40		
FINE SAND <0.425mm >0.075mm	27	26		
MATERIAL <0.075mm	35	34		

#### CONSTANTS

GRADING MODULUS	1.82	1.92		
PRA CLASSIFICATION	A-2-4(0)	A-2-4(0)		
COLTO CLASSIFICATION		G7		
LIQUID LIMIT (%)	25	24		
PLASTICITY INDEX (0.425mm)	7	10		
LINEAR SHRINKAGE (%)	4.0	5.0		

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )		2196		
OPTIMUM MOISTURE CONTENT(%)		6.7		
MOULDING MOISTURE (%)		8.0		

TYPE OF TEST		CBR		
--------------	--	-----	--	--

CBR-UCS @ 100% MDD		30		
CBR-UCS @ 98% MDD		27		
CBR-UCS @ 97% MDD		25		
CBR-UCS @ 95% MDD		23		
CBR-UCS @ 93% MDD		20		
CBR-UCS @ 90% MDD		17		

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]				0.30	0.40	0.60									
-------------------------	--	--	--	------	------	------	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382f  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO. HOLE NO. ROAD NO. DEPTH CHAINAGE LAYER TYPE STABILISED WITH SUPPLIER CURING METHOD DATE TESTED DESCRIPTION	A21/1352 TP7 40-160 Natural 12.05.2021 Red brown	A21/1353 TP7 160-390 Natural 12.05.2021 Brown	A21/1354 TP7 390-600 Natural 12.05.2021 Light brown	Preparation Method:        Specification Min : Max
---	---	--	--	---

#### SIEVE ANALYSIS (% PASSING)

100 mm				
75 mm				
63 mm				
50 mm				
37.5 mm				
28.0 mm				
20.0 mm			100	
14.0 mm	100	100	99	
5.0 mm	82	74	79	
2.0 mm	49	42	47	
0.425 mm	28	25	27	
0.075 mm	16	15	17	

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	42	41	44	
FINE SAND <0.425mm >0.075mm	26	24	21	
MATERIAL <0.075mm	32	35	35	

#### CONSTANTS

GRADING MODULUS	2.07	2.18	2.10	
PRA CLASSIFICATION	A-2-4(0)	A-2-6(0)	A-2-6(0)	
COLTO CLASSIFICATION	G7	G7		
LIQUID LIMIT (%)	26	35	35	
PLASTICITY INDEX (0.425mm)	10	11	13	
LINEAR SHRINKAGE (%)	5.0	6.0	7.0	

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2185	2176		
OPTIMUM MOISTURE CONTENT(%)	7.3	6.8		
MOULDING MOISTURE (%)	6.8	6.9		

TYPE OF TEST	CBR	CBR		
--------------	-----	-----	--	--

CBR-UCS @ 100% MDD	29	50		
CBR-UCS @ 98% MDD	24	36		
CBR-UCS @ 97% MDD	22	31		
CBR-UCS @ 95% MDD	18	22		
CBR-UCS @ 93% MDD	15	16		
CBR-UCS @ 90% MDD	11	10		

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.30	0.40	0.80	0.30	0.60	0.70									
-------------------------	------	------	------	------	------	------	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382g  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1355				Preparation Method:
HOLE NO.	TP8				
ROAD NO.					
DEPTH	40-300				
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural				
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021				
DESCRIPTION	Orange red				Specification Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm					
37.5 mm					
28.0 mm					
20.0 mm	100				
14.0 mm	97				
5.0 mm	66				
2.0 mm	41				
0.425 mm	23				
0.075 mm	13				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	44				
FINE SAND <0.425mm >0.075mm	26				
MATERIAL <0.075mm	30				

#### CONSTANTS

GRADING MODULUS	2.22				
PRA CLASSIFICATION	A-1-a(0)				
COLTO CLASSIFICATION	G6				
LIQUID LIMIT (%)	26				
PLASTICITY INDEX (0.425mm)	6				
LINEAR SHRINKAGE (%)	3.0				

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2149				
OPTIMUM MOISTURE CONTENT (%)	8.0				
MOULDING MOISTURE (%)	8.2				

TYPE OF TEST	CBR				
CBR-UCS @ 100% MDD	49				
CBR-UCS @ 98% MDD	39				
CBR-UCS @ 97% MDD	35				
CBR-UCS @ 95% MDD	28				
CBR-UCS @ 93% MDD	22				
CBR-UCS @ 90% MDD	16				

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.30	0.50	0.50															
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382h  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1356				Preparation Method:
HOLE NO.	TP9				
ROAD NO.					
DEPTH	100-700				
CHAINAGE					
LAYER TYPE					
STABILISED WITH	Natural				
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021				
DESCRIPTION	Red brown				Specification Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm					
37.5 mm					
28.0 mm					
20.0 mm					
14.0 mm					
5.0 mm	100				
2.0 mm	94				
0.425 mm	59				
0.075 mm	32				

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	37				
FINE SAND <0.425mm >0.075mm	29				
MATERIAL <0.075mm	34				

#### CONSTANTS

GRADING MODULUS	1.16				
PRA CLASSIFICATION	A-2-4(0)				
COLTO CLASSIFICATION	---				
LIQUID LIMIT (%)	20				
PLASTICITY INDEX (0.425mm)	5				
LINEAR SHRINKAGE (%)	2.0				

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2146				
OPTIMUM MOISTURE CONTENT(%)	8.9				
MOULDING MOISTURE (%)	9.2				

TYPE OF TEST	CBR				
--------------	-----	--	--	--	--

CBR-UCS @ 100% MDD	5.6				
CBR-UCS @ 98% MDD	4.5				
CBR-UCS @ 97% MDD	4.0				
CBR-UCS @ 95% MDD	3.2				
CBR-UCS @ 93% MDD	2.6				
CBR-UCS @ 90% MDD	1.8				

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.05	0.06	0.07															
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.





# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
7441  
Attention: Mr Braam Cilliers

Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : PL/23382i  
Date Reported : 09.06.2021

### SIEVE ANALYSIS, ATTERBERG LIMITS, CBR(SANS 3001:GR1,GR10,GR12,GR20,GR30,GR40)

SAMPLE NO.	A21/1357	A21/1358			Preparation Method:
HOLE NO.	TP10	TP10			Sample was
ROAD NO.					scalped on
DEPTH	80-300	300-600			the 37.5mm sieve
CHAINAGE					
LAYER TYPE	Natural	Natural			
STABILISED WITH					
SUPPLIER					
CURING METHOD					
DATE TESTED	12.05.2021	12.05.2021			Specification
DESCRIPTION	Red brown	Dark red brown			Min : Max

#### SIEVE ANALYSIS (% PASSING)

100 mm					
75 mm					
63 mm					
50 mm					
37.5 mm					
28.0 mm					
20.0 mm		100			
14.0 mm	100	99			
5.0 mm	99	97			
2.0 mm	93	88			
0.425 mm	66	48			
0.075 mm	18	14			

#### SOIL MORTAR

COARSE SAND <2.0mm >0.425mm	29	45			
FINE SAND <0.425mm >0.075mm	51	39			
MATERIAL <0.075mm	20	16			

#### CONSTANTS

GRADING MODULUS	1.23	1.49			
PRA CLASSIFICATION	A-2-4(0)	A-1-b(0)			
COLTO CLASSIFICATION	G7	-			
LIQUID LIMIT (%)	-	-			
PLASTICITY INDEX (0.425mm)	NP	NP			
LINEAR SHRINKAGE (%)	0.0	0.0			

#### MDD

MAXIMUM DRY DENSITY (kg/m <sup>3</sup> )	2017				
OPTIMUM MOISTURE CONTENT(%)	9.0				
MOULDING MOISTURE (%)	9.2				

TYPE OF TEST	CBR				
--------------	-----	--	--	--	--

CBR-UCS @ 100% MDD	41				
CBR-UCS @ 98% MDD	33				
CBR-UCS @ 97% MDD	29				
CBR-UCS @ 95% MDD	23				
CBR-UCS @ 93% MDD	18				
CBR-UCS @ 90% MDD	13				

CBR-UCS @ % MDD derived from calculation.

% SWELL MOULD [A][B][C]	0.00	0.00	0.00																
-------------------------	------	------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks :

FORM: GR40

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



## **ANNEXURE 3: DCP TEST RESULTS**



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT, Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.

P.O. Box 912387, Silverton, 0127

Tel. : (012) 800 1299

Fax :

Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS

6 BOWATER CLOSE

MELKBOSSTRAND

CAPE TOWN

Attention: Mr Kristen Brink

Project : Botlokwa Clinic Access Road

Your Ref

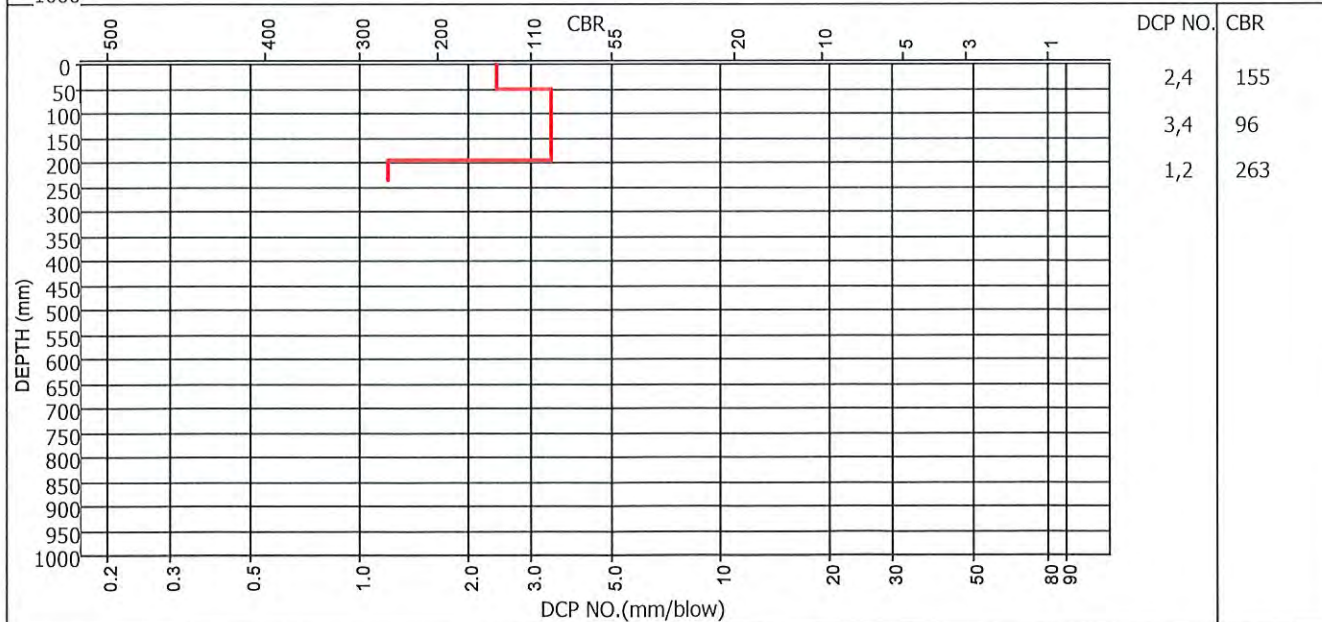
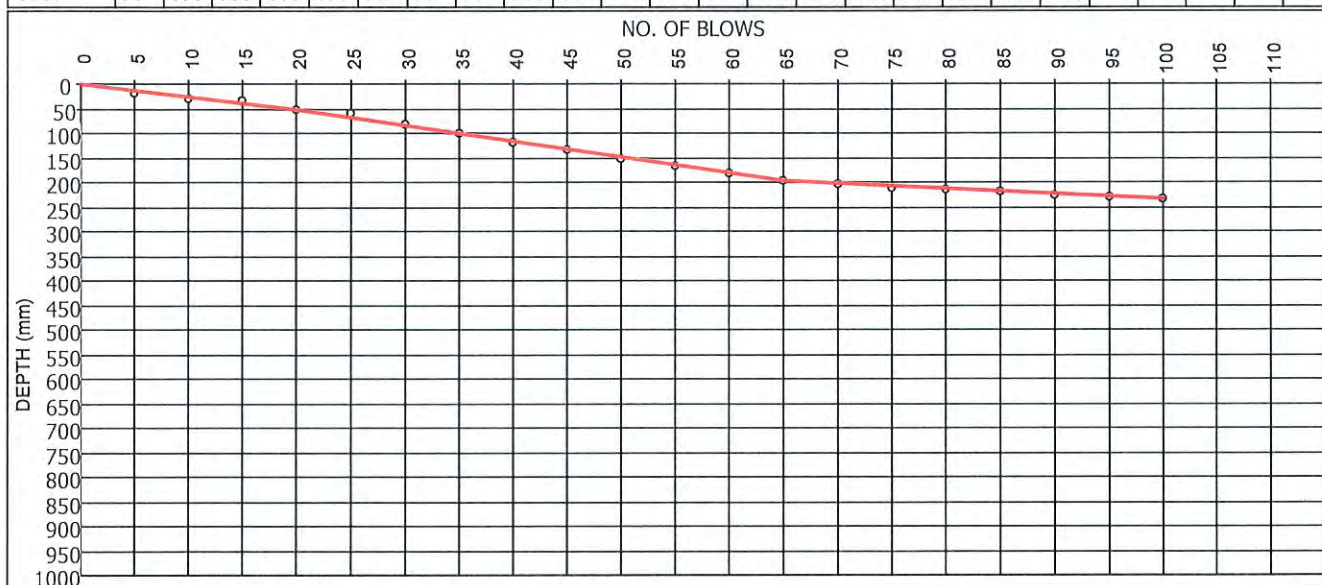
Our Ref : 23382

## DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-1

INITIAL DEPTH (mm) : 0

TEST COMMON: FZ20002										INSTRUMENT: (mm): 0														
BLOWS	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100				
DEPTH	20	30	35	50	60	80	100	120	135	150	165	180	195	205	210	215	220	225	230	235				
CBR	75	170	300	110	170	75	75	75	110	110	110	110	110	170	300	300	300	300	300	300				



Remarks : Refusal @ 235 mm

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sqs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sqs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.





# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587  
a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention: Mr Kristen Brink

Project : Botlokwa Clinic Access Road

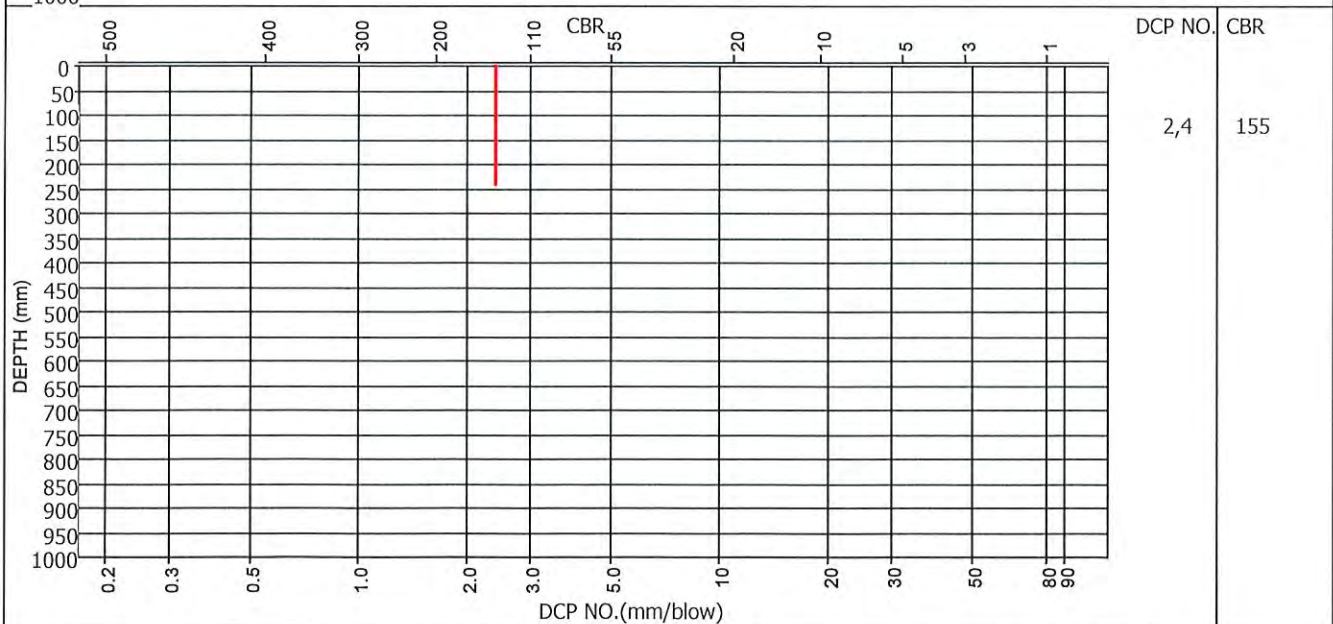
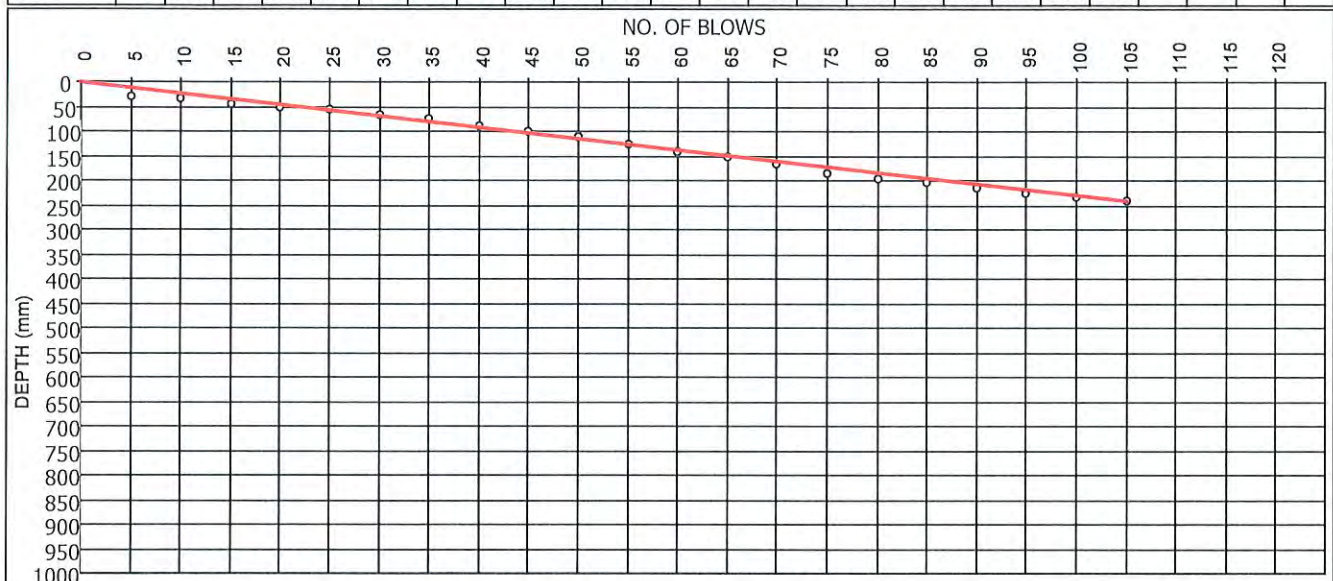
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-2

INITIAL DEPTH (mm) : 0

BLOWS	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105				
DEPTH	30	35	45	50	55	65	75	90	100	110	125	140	150	165	185	195	205	215	225	235	240				
CBR	45	300	170	300	300	170	170	110	170	170	110	110	170	110	75	170	170	170	170	170	300				



Remarks : Refusal @ 240 mm

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



This document is issued by the Company under its General Condition of Service accessible at [http://www.sqs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sqs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



This document is issued by the Company under its General Condition of Service accessible at [http://www.sqs.com/en/Terms and Conditions.aspx](http://www.sqs.com/en/Terms%20and%20Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.





# MATROLAB



T0025

SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention:

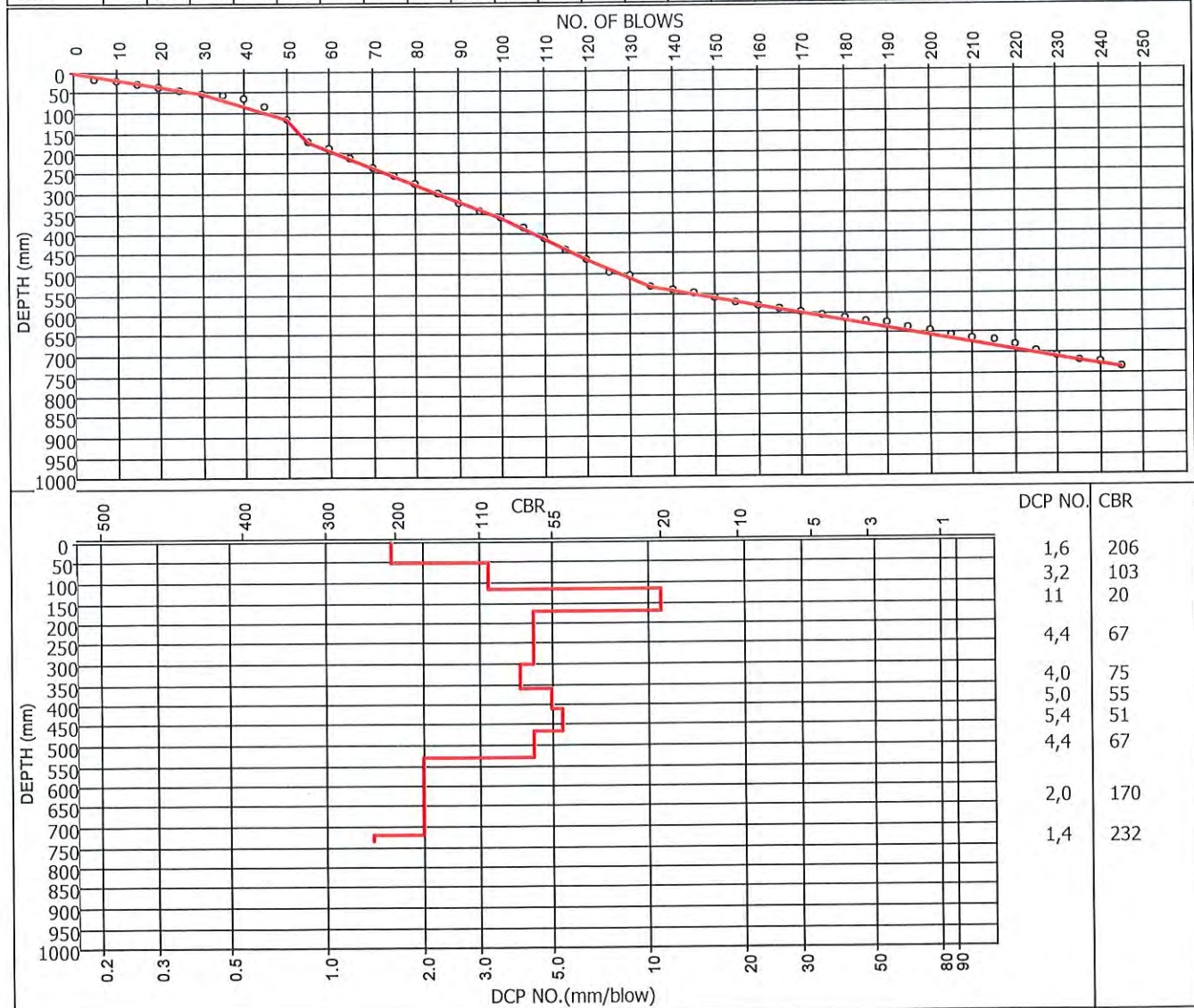
Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-5

INITIAL DEPTH (mm) : 0

BLOWS DEPTH CBR	5 15 110	10 20 300	15 30 170	20 35 300	25 45 170	30 50 300	35 55 300	40 65 170	45 85 75	50 115 45	55 170 20	60 190 75	65 210 75	70 235 55	75 255 75	80 275 75	85 300 55	90 325 55	95 345 75	100 360 110	105 385 55	110 410 55	115 440 45	120 465 55	125 495 45
BLOWS DEPTH CBR	130 505 170	135 530 55	140 540 170	145 550 170	150 560 170	155 570 170	160 580 170	165 590 170	170 595 300	175 605 170	180 610 300	185 620 170	190 625 300	195 635 170	200 645 170	205 655 170	210 665 170	215 670 300	220 680 170	225 695 110	230 710 110	235 720 170	240 725 300	245 735 170	



Remarks :

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention: Mr Kristen Brink

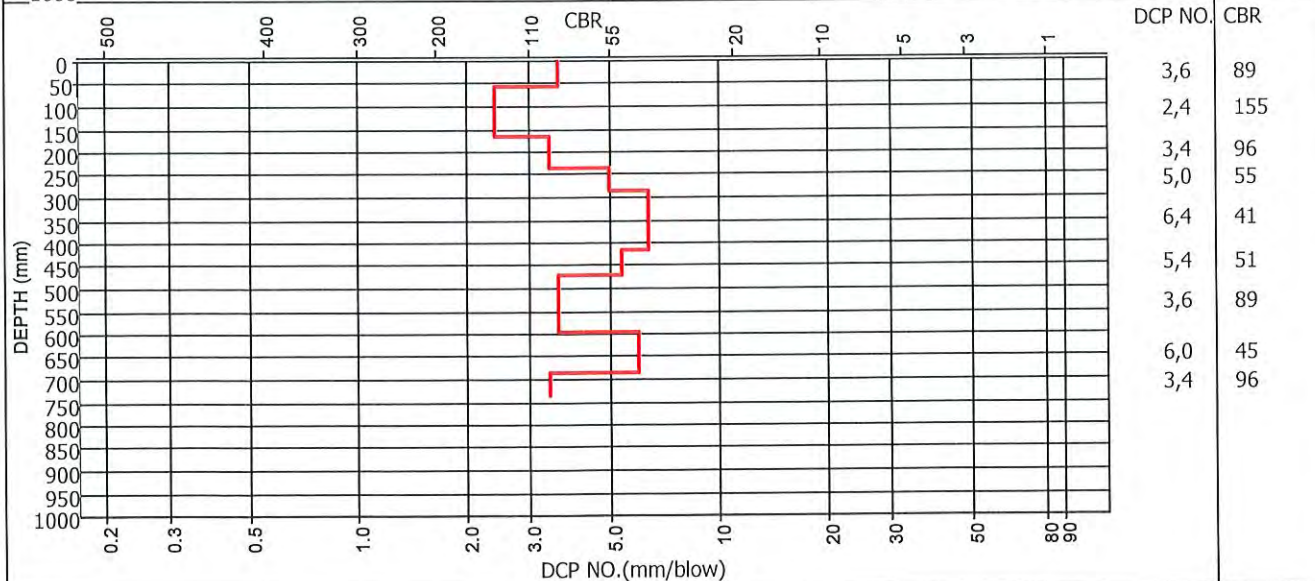
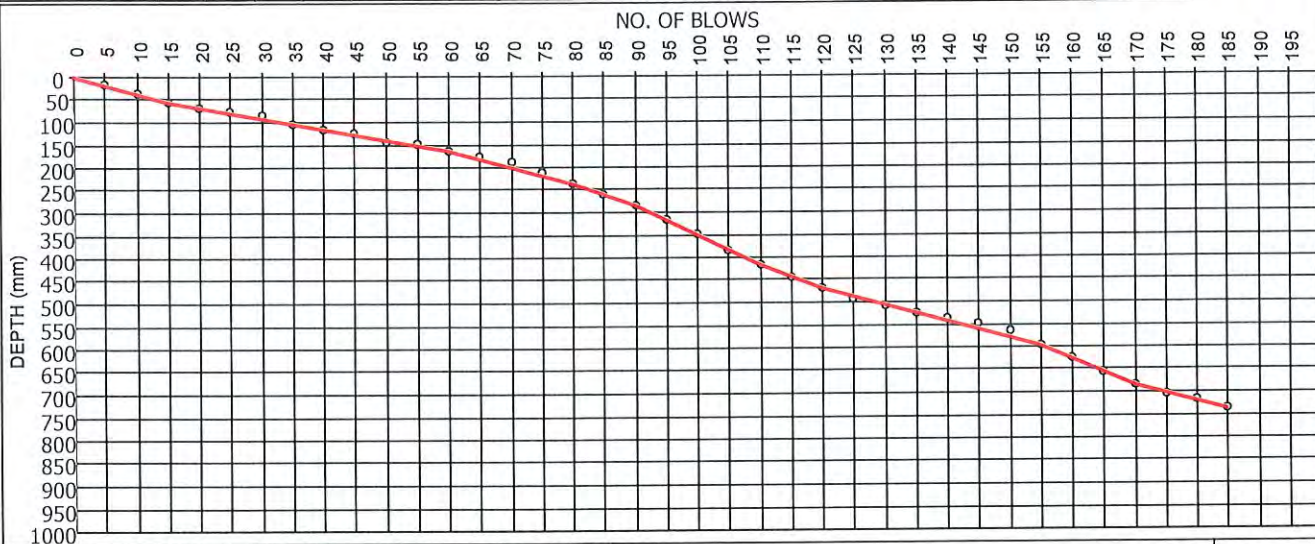
Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-6

INITIAL DEPTH (mm) : 0

BLOWS DEPTH CBR	5 15 110	10 35 75	15 55 75	20 70 110	25 75 300	30 85 170	35 105 75	40 115 170	45 125 170	50 145 75	55 150 300	60 165 110	65 175 170	70 190 110	75 210 75	80 235 55	85 260 55	90 285 55	95 315 45	100 350 35	105 385 35	110 415 45	115 445 45	120 470 55	125 490 75
BLOWS DEPTH CBR	130 510 75	135 525 110	140 535 170	145 550 110	150 565 110	155 595 45	160 625 45	165 655 45	170 685 45	175 705 75	180 715 170	185 735 75													



Remarks :

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT. Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention: Mr Kristen Brink

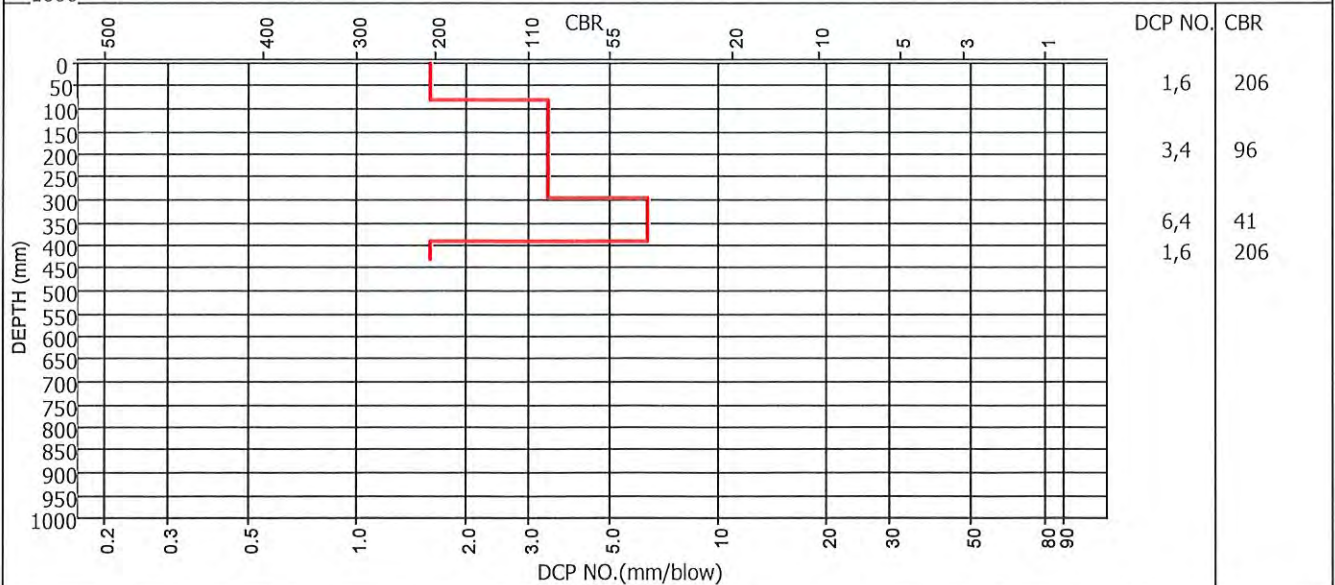
Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-7

INITIAL DEPTH (mm) : 0

BLOWS DEPTH CBR	5 10 170	10 15 300	15 20 300	20 25 300	25 30 300	30 40 170	35 50 170	40 60 170	45 70 170	50 80 170	55 95 110	60 110 110	65 130 75	70 145 110	75 165 75	80 180 110	85 195 110	90 215 75	95 235 75	100 255 75	105 275 75	110 295 75	115 320 55	120 360 30	125 390 45
BLOWS DEPTH CBR	130 405 110	135 415 170	140 420 300	145 425 300	150 430 300																				



Remarks :

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg No.: 2003/021980/07 - VAT. Reg No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O. Box 912387, Silverton, 0127

Tel. : (012) 800 1299

Fax :

Email :

## TEST RESULTS

LATISHO CONSULTING ENGINEERS

6 BOWATER CLOSE

MELKBOSSTRAND

CAPE TOWN

Attention: Mr Kristen Brink

Project : Botlokwa Clinic Access Road

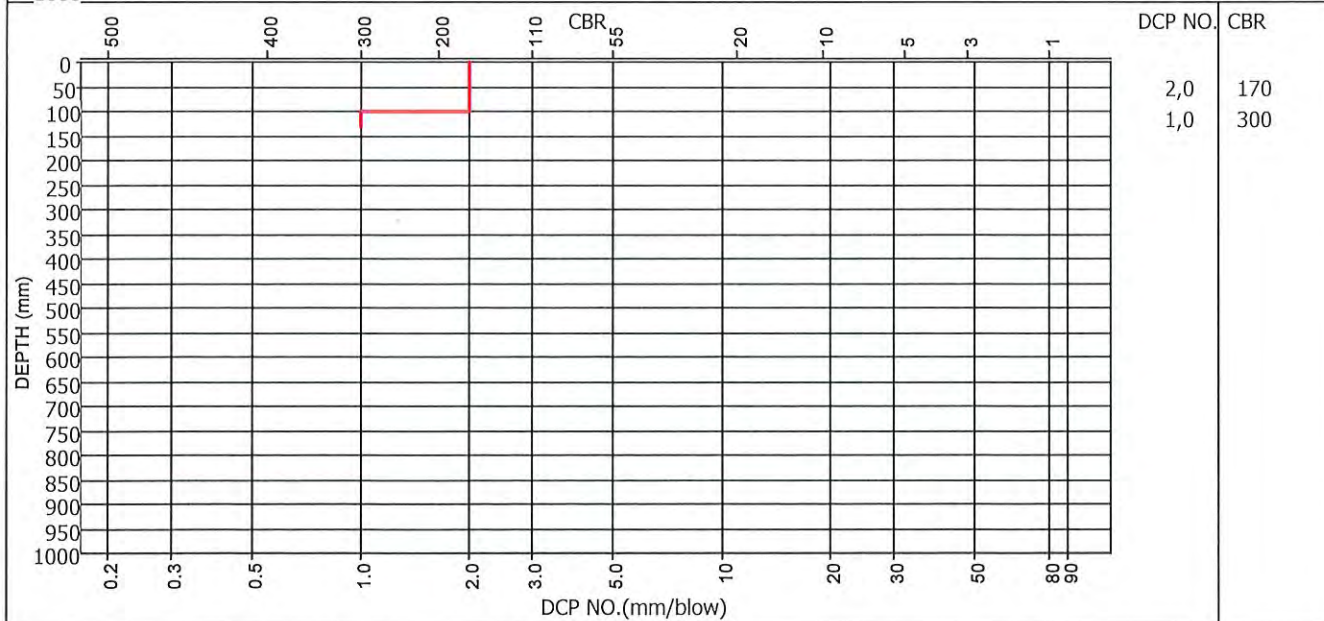
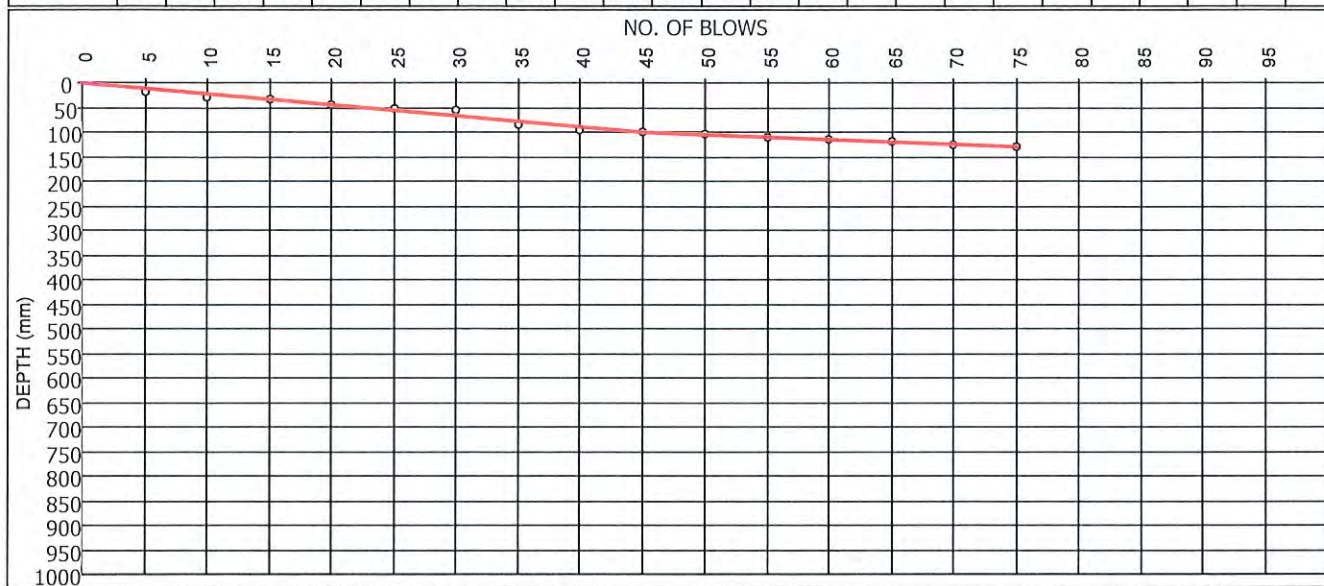
Your Ref :

Our Ref : 23382

## DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-8

INITIAL DEPTH (mm) : 0

[illegible]

Remarks :	Refusal @ 130 mm
-----------	------------------

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sqs.com/en/Terms and Conditions.aspx](http://www.sqs.com/en/Terms%20and%20Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg No.: 2003/021980/07 - VAT Reg.No.: 4040210587  
a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention: Mr Kristen Brink

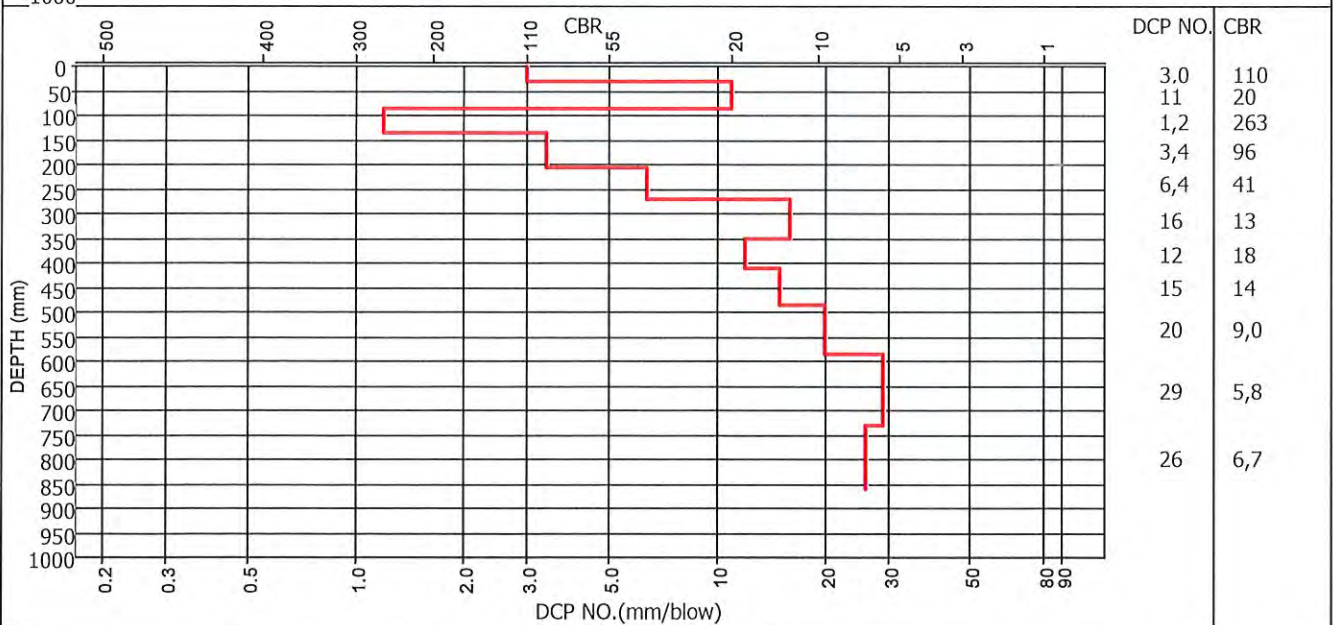
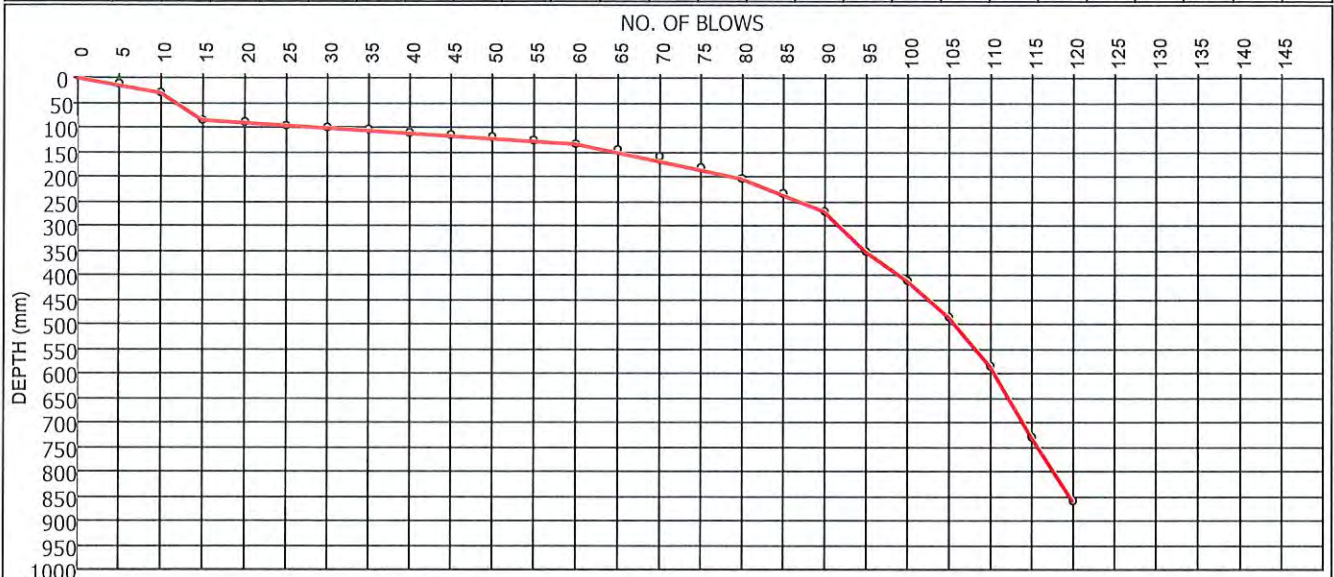
Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-9

INITIAL DEPTH (mm) : 0

BLOWS DEPTH CBR	5 10 170	10 30 75	15 85 20	20 90 300	25 95 300	30 100 300	35 105 300	40 110 300	45 115 300	50 120 300	55 125 300	60 135 170	65 145 170	70 160 110	75 180 75	80 205 55	85 235 45	90 270 35	95 350 13	100 410 18	105 485 14	110 585 9	115 730 6	120 860 7
-----------------------	----------------	----------------	----------------	-----------------	-----------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	-----------------	-----------------	-----------------	-----------------	-----------------	------------------	------------------	-----------------	-----------------	-----------------



Remarks :

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory : Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



# SGS

# MATROLAB



SGS MATROLAB (PTY) LTD  
- CIVIL ENGINEERING SERVICES -  
Reg.No.: 2003/021980/07 - VAT Reg.No.: 4040210587

a SANAS Accredited Testing Laboratory, No. T0025

256 Brander Street, Jan Niemand Park, Pretoria.  
P.O Box 912387, Silverton, 0127  
Tel. : (012) 800 1299  
Fax :  
Email : martinus.schwartz@sgs.com

## TEST RESULTS

LATISHO CONSULTING ENGINEERS  
6 BOWATER CLOSE  
MELKBOSSTRAND  
CAPE TOWN  
Attention: Mr Kristen Brink

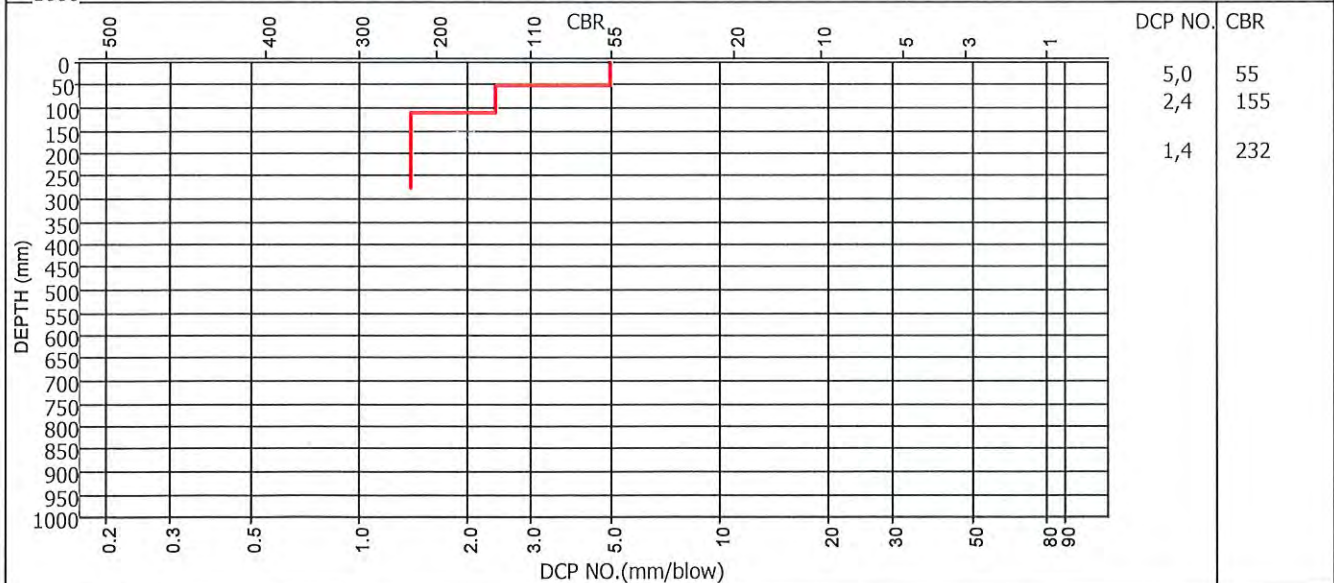
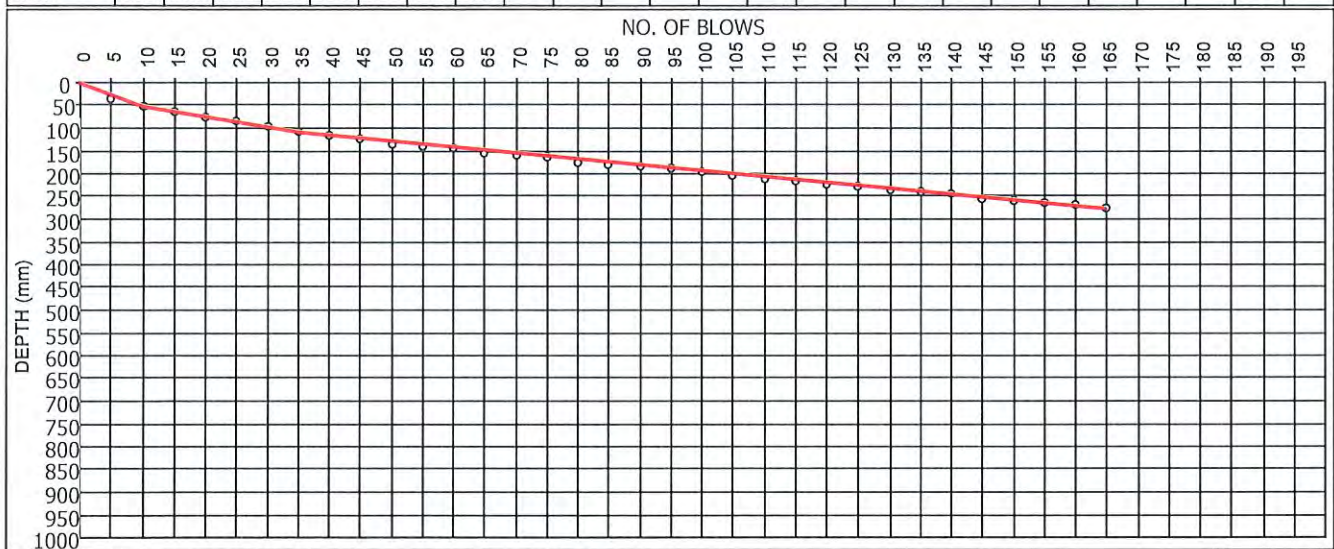
Project : Botlokwa Clinic Access Road  
Your Ref :  
Our Ref : 23382

### DYNAMIC CONE PENETRATION TEST (TMH6-ST6)

TEST POSITION : PL/23382-10

INITIAL DEPTH (mm) : 0

BLOWS DEPTH CBR	5 35 35	10 50 110	15 65 110	20 75 170	25 85 170	30 95 170	35 110 110	40 115 300	45 125 170	50 135 170	55 140 300	60 145 300	65 155 170	70 160 300	75 165 300	80 175 170	85 180 300	90 185 300	95 190 300	100 195 300	105 205 170	110 210 300	115 215 300	120 225 170	125 230 300
BLOWS DEPTH CBR	130 235 300	135 240 300	140 245 300	145 255 170	150 260 300	155 265 300	160 270 300	165 275 300																	



DCP NO.	CBR
5,0	55
2,4	155
1,4	232

Remarks :

FORM: ST6

4.4.1(SGS)(2019.12.04)

Technical Signatory: Martinus Schwartz/Lizette Breiting

MATROLAB IS NOW PART OF SGS, THE WORLD'S LEADING  
INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

This document is issued by the Company under its General Condition of  
Service accessible at [http://www.sgs.com/en/Terms\\_and\\_Conditions.aspx](http://www.sgs.com/en/Terms_and_Conditions.aspx)  
Attention is drawn to the limitation of liability, indemnification and jurisdiction  
issues defined therein.