

Uitvaal Shopping Centre

Geo -Technical Investigation - *Soil Report Dataset*

Geotechnical Solutions (Pty) Ltd

EARTH CIVIL CONSULTANTS

Reg.No.- K2011/115681/01 Tax.No.- 9127/374/18/0

P.O. Box 11234 - Mokodumela - QwaQwa - 9868 - South Africa - Tel - 0366331594 - FaX - 0865181039 - Cell - 0715608058

Web - www.geo-tech.co.za

Email - projects@geo-tech.co.za

Contents

- Site Image*
- Profiles and Soil Analysis*
- Percolations and DCP's*
- Co-Ordinates and Photos*

CHECKED

DATE _____

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B Tech (Civil Eng)

Compiled By:

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SITE IMAGE - Hole Positions



Geotechnical Solutions (Pty) Ltd

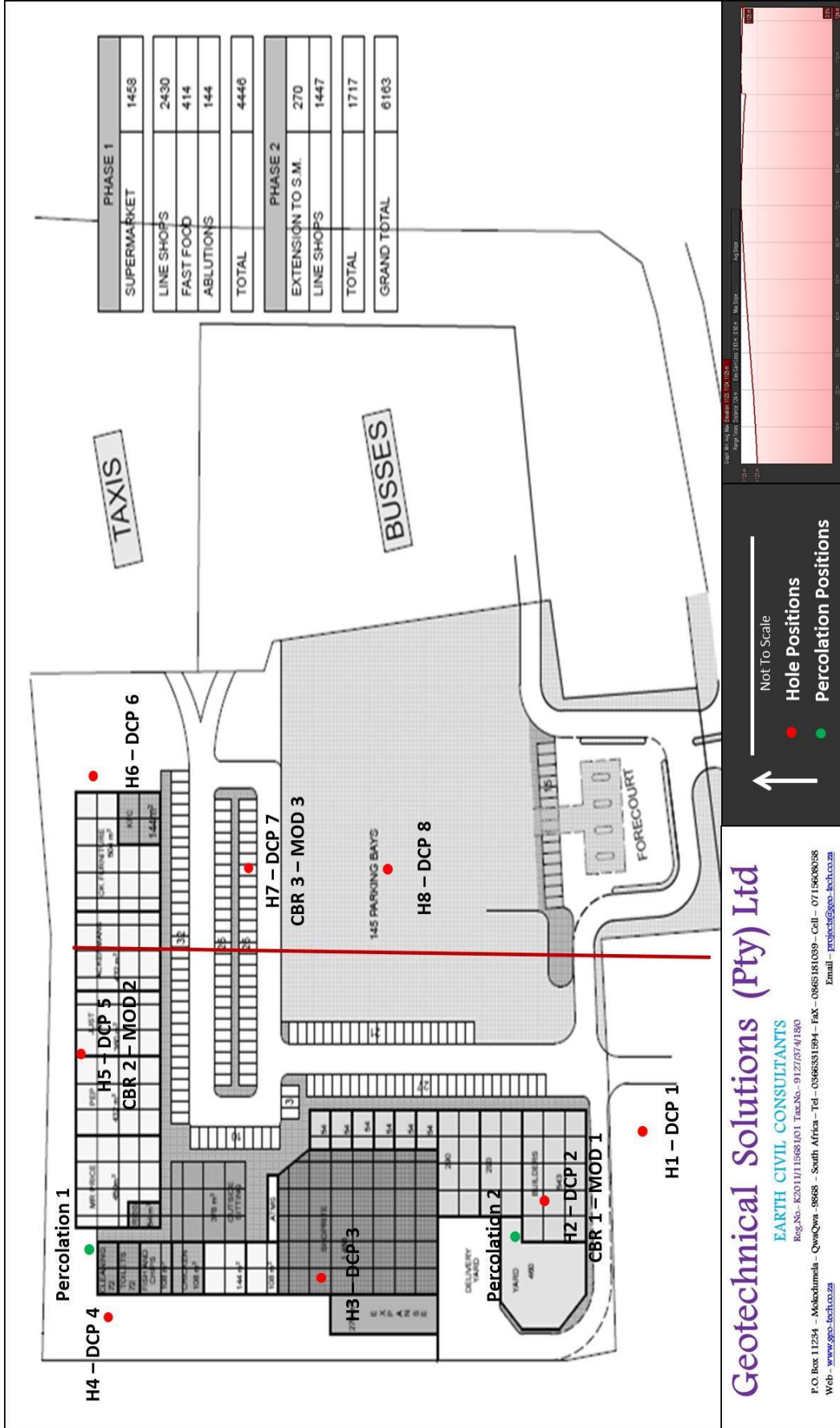
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Reg.No- E20111568101 Tax.No- 9127574180

F.O. Box 11234 - Mokoladima - QwaQwa - 9668 - South Africa - Tel - 0866331394 - Fax - 08663181039 - Cell - 0715600038

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SITE IMAGE - Plan Positions



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Reg.No. - K2011/11568/101 Tax.No. - 912737/4180

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Web - www.gso-techn.co.za

Email - projects@geo-tech.co.za

Not To Scale

● Hole Positions
● Percolation Positions

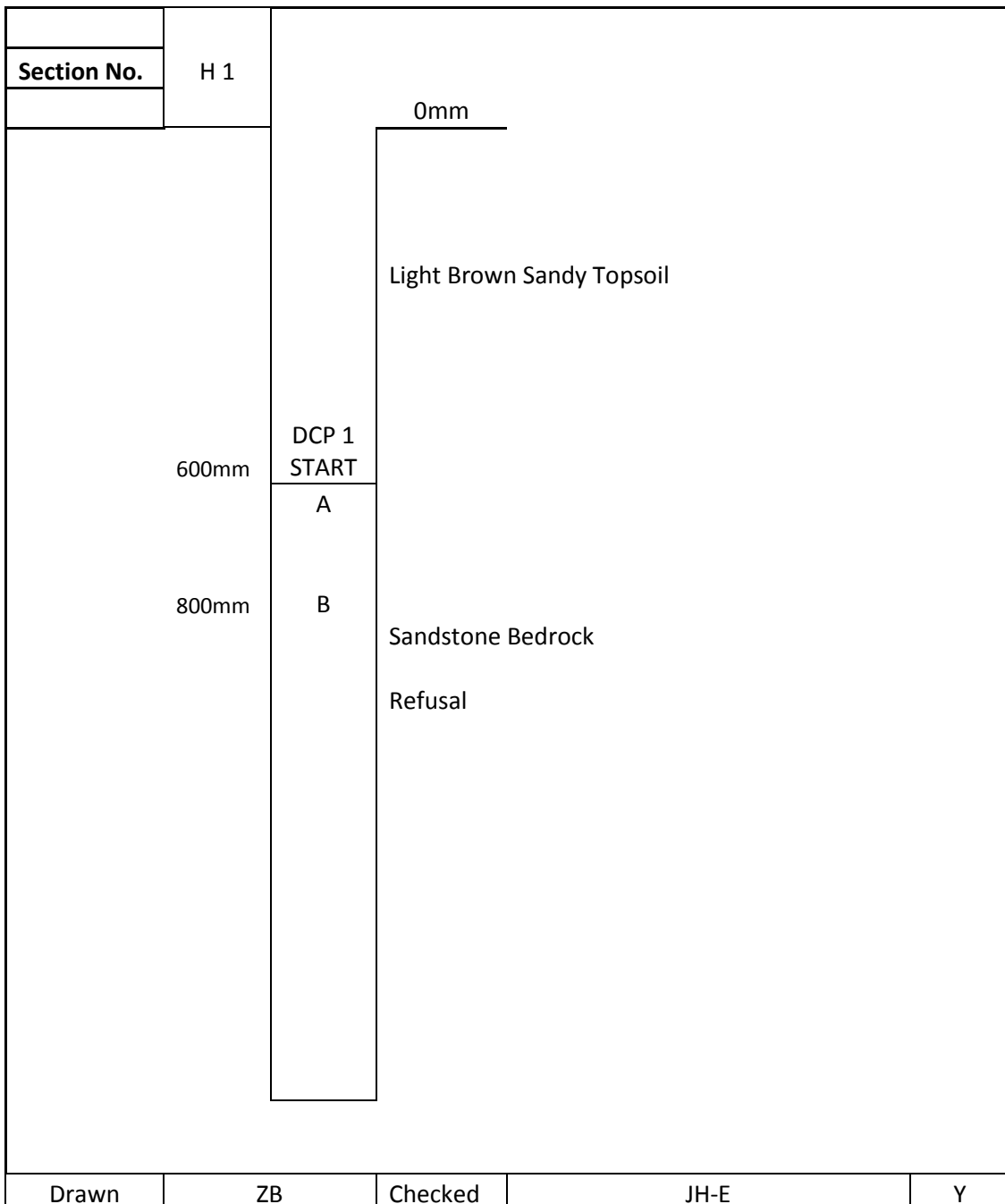


SOIL PROFILES

Geotechnical Solutions (Pty)Ltd

P.O. Box 11234 - Mokodumela - Qwaqwa - 9868 - South Africa - Tel - 036 633 1594 - FaX - 086 518 1039

WN	1408-01	Client	Graham Projects	(X)	28°28'25.71"S
LN	L01-01		Uitvaal New Shopping Centre	Co-Ordinates (Y)	30°14'57.32"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1126m



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WN	1408-01	Client	Graham Projects	(X)	28°28'24.61"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'56.98"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Section No.	H 2			
			0mm	
			Topsoil	
			Orange to Brown Moist Weathered and Broken Sugar Dolerite	
	600mm	DCP 2 START		
	800mm	A		
	1200mm	CBR 1 MOD 1	Soft Moist Orange to Brown Contact Zone Clay	
		B	Orange to Brown Moist Weathered and Broken Sugar Dolerite	
			Refusal	
Drawn	ZB	Checked	JH-E	Y

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WN	1408-01	Client	Graham Projects	(X)	28°28'23.61"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.14"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

	H 3		
Section No.			
		0mm	
	800mm		Topsoil – Dark Brown Moist and Heavy with Scattered Pebbles and Fine Grassroots
		A	
	1300mm	B DCP 3 START	Orange to Brown Moist Weathered and Broken Sugar Dolerite
			Soft Moist Orange to Brown Contact Zone <i>Clay</i>
			No Refusal
			Rainwater Stagnant on Sports Field
			No Drainage
Drawn	ZB	Checked	JH-E
			Y

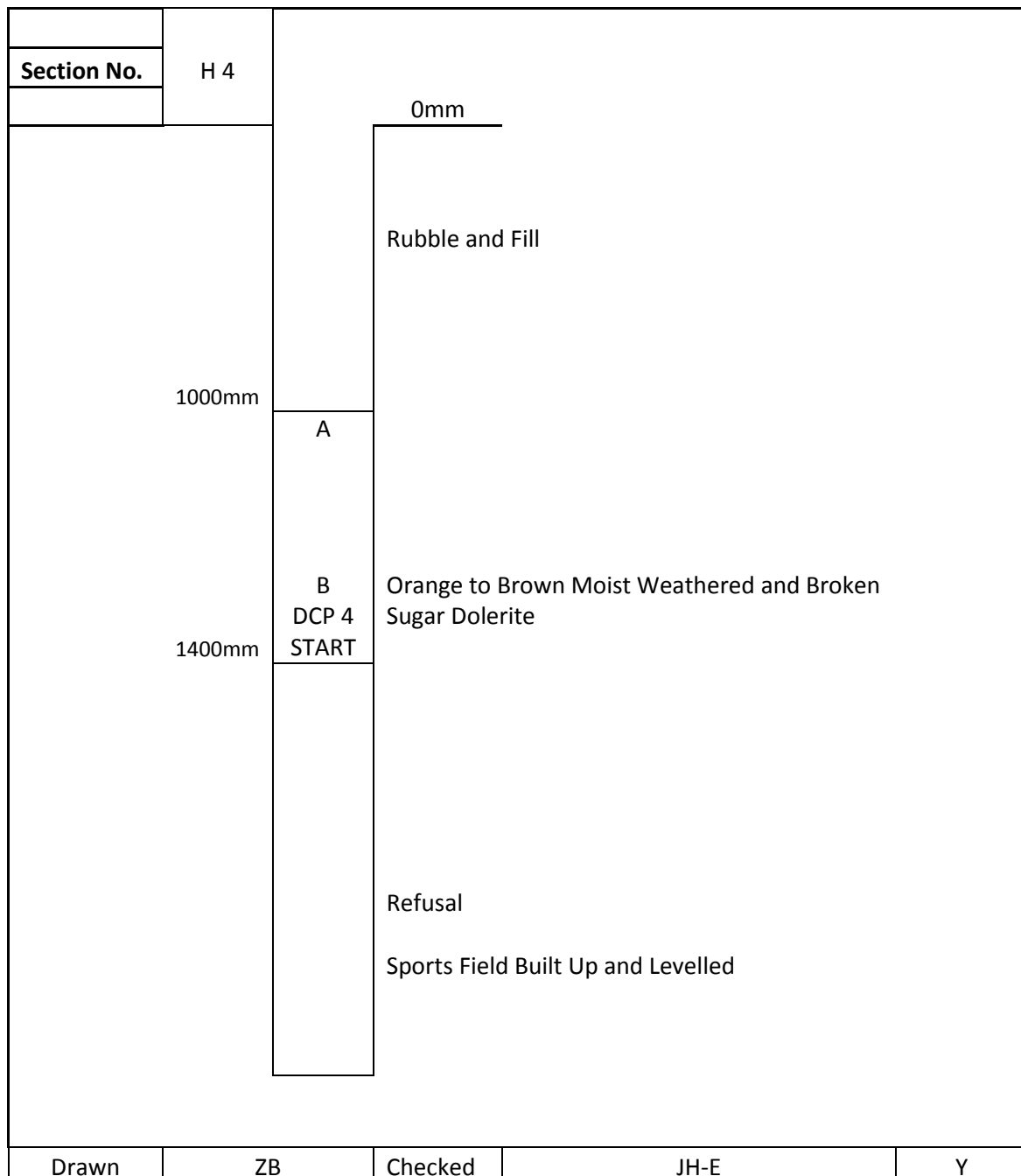
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WN	1408-01	Client	Graham Projects	(X)	28°28'22.15"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.72"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m



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WN	1408-01	Client	Graham Projects	(X)	28°28'22.56"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.30"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

	H 5		
Section No.			
			0mm
	700mm	A	Topsoil – Dark Brown Moist and Heavy with Scattered Pebbles and Fine Grassroots
	1100mm	CBR 2 MOD 2 B DCP 5 START	Orange to Brown Moist Weathered and Broken Sugar Dolerite
			Refusal
			Hole Dug Bottom from Embankment
Drawn	ZB	Checked	JH-E
			Y

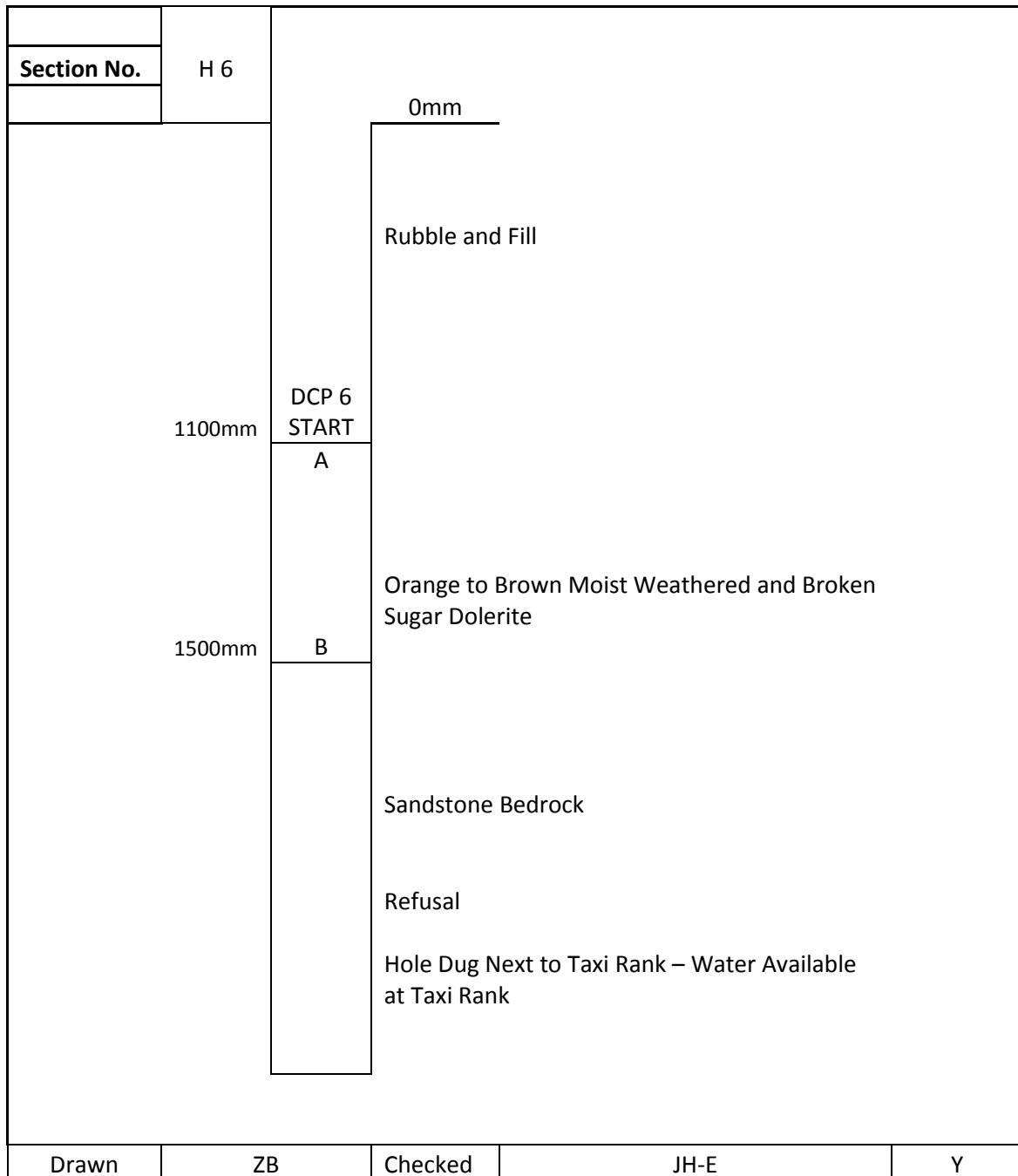
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WN	1408-01	Client	Graham Projects	(X)	28°28'23.42"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'1.79"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m



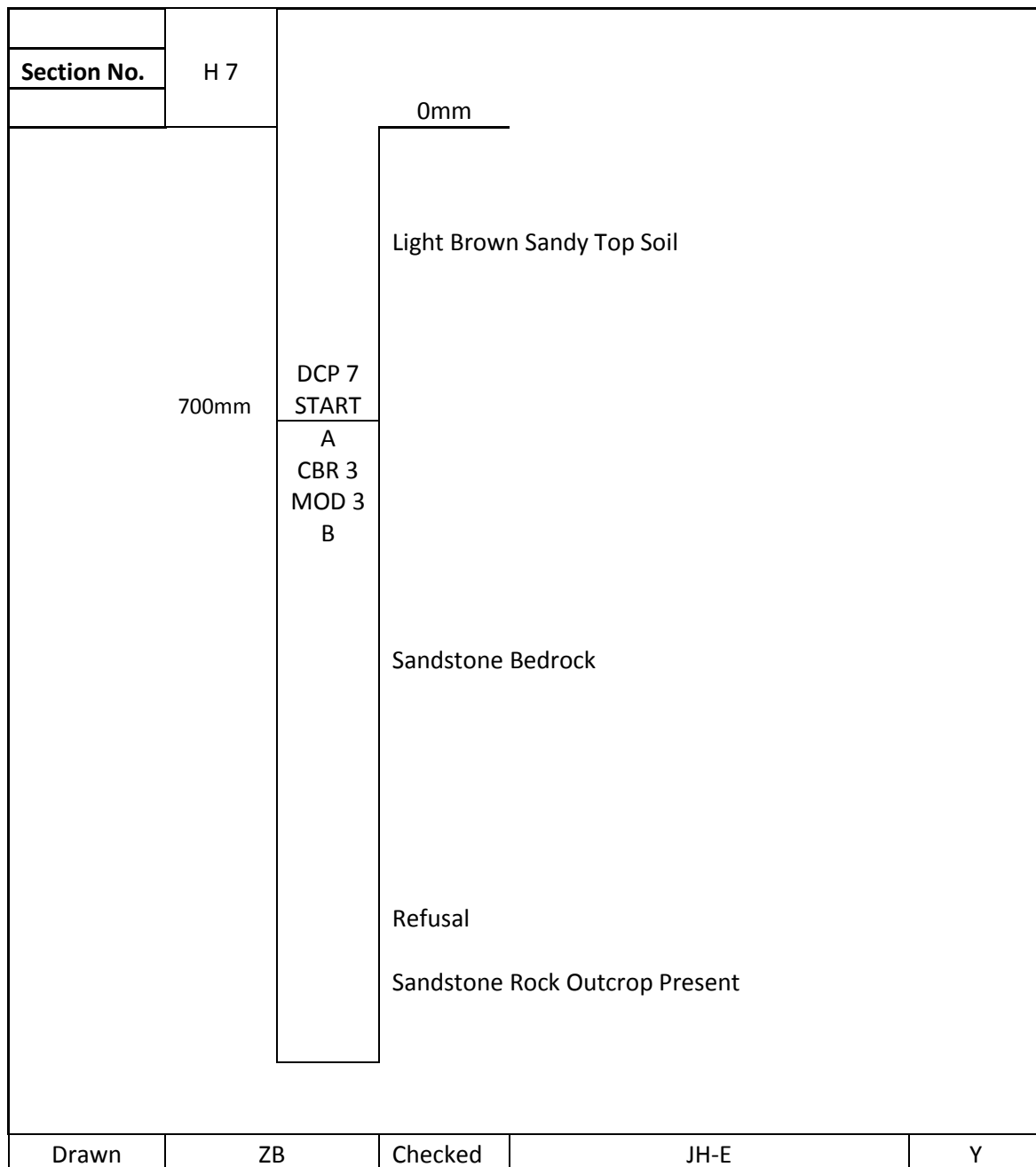
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WN	1408-01	Client	Graham Projects	(X)	28°28'23.88"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'0.31"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m



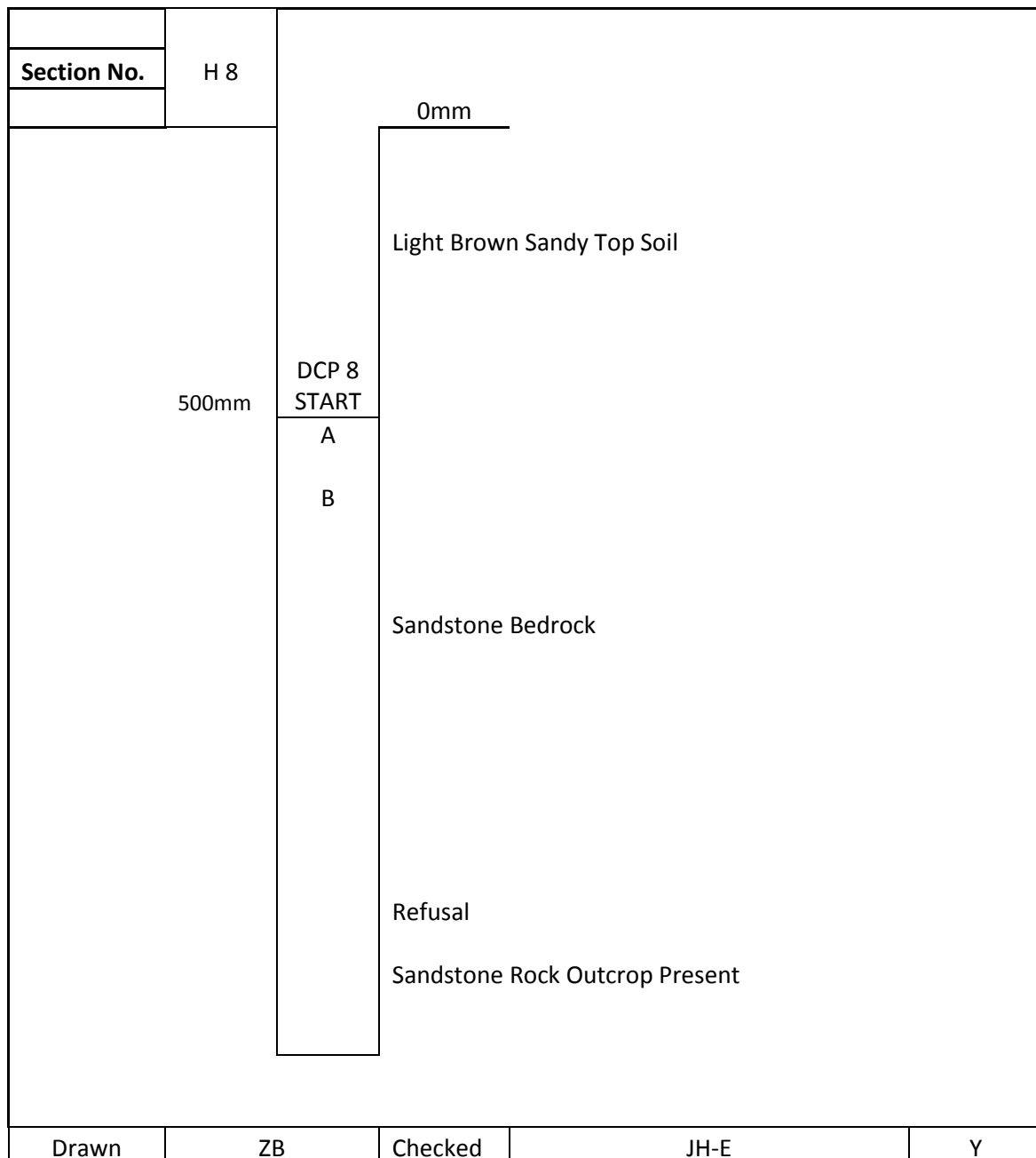
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WN	1408-01	Client	Graham Projects	(X)	28°28'24.92"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.37"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m



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WN	1408-01	Client	Graham Projects	(X)	28°28'25.71"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.32"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1126m

Soil Grading Analysis					
Sample No.	H1A	Depth Taken	600mm		
Description	L-Br Sandstone	Lab. No.	L01-01		
SOIL SIEVE GRADING			MECHANICAL DATA		
% Passing	37.50	-	Coarse Sand	21.2	
	26.50	100.0	Coarse Fine Sand	13.5	
	19.00	96.4	Medium Fine Sand	18.0	
	13.20	87.6	Fine Sand	12.0	
	4.75	74.0	Silt & Clay	35.3	
	2.00	66.8			
	0.425	52.6			
	0.075	23.6			
			CLASSIFICATION		
			Unified	SM – Silty Sand	
PLASTICITY			MOD AASHTO		
Liquid Limit	LL	28.3	Density Kg/mc	-	
Plasticity Index	PI	6.9	O.M.C	-	
Linear Shrinkage (%)	LS	3.3%			
CALIFORNIA BEARING RATIO					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'25.71"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.32"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1126m

Soil Grading Analysis					
Sample No.	H1B		Depth Taken	800mm	
Description	L-Br Sandstone		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	33.6	
	26.50	100.0	Coarse Fine Sand	4.6	
	19.00	95.2	Medium Fine Sand	5.3	
	13.20	87.2	Fine Sand	6.1	
	4.75	41.4	Silt & Clay	50.4	
	2.00	26.2	<i>CLASSIFICATION</i>		
	0.425	17.4	Unified	SM – Silty Sand	
	0.075	13.2			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.8	Density Kg/mc	-	
Plasticity Index	PI	7.1	O.M.C	-	
Linear Shrinkage (%)	LS	3.3%			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'24.61"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'56.98"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H2A		Depth Taken	600mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	37.3	
	26.50	100.0	Coarse Fine Sand	6.4	
	19.00	74.2	Medium Fine Sand	5.4	
	13.20	58.6	Fine Sand	5.4	
	4.75	30.8	Silt & Clay	45.5	
	2.00	22.0	<i>CLASSIFICATION</i>		
	0.425	13.8	Unified	GM – Silty Gravel	
	0.075	10.0			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	29.5	Density Kg/mc	-	
Plasticity Index	PI	8.2	O.M.C	-	
Linear Shrinkage (%)	LS	4.0			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'24.61"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'56.98"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H2B		Depth Taken	1200mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	21.2	
	26.50	100.0	Coarse Fine Sand	13.5	
	19.00	96.4	Medium Fine Sand	18.0	
	13.20	97.6	Fine Sand	12.0	
	4.75	74.0	Silt & Clay	35.3	
	2.00	66.8			
	0.425	52.6	<i>CLASSIFICATION</i>		
	0.075	23.6	Unified	GM – Silty Gravel	
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.3	Density Kg/mc	1945	
Plasticity Index	PI	6.9	O.M.C	12.5%	
Linear Shrinkage (%)	LS	3.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	20.5			
	98%	17.0			
	95%	11.5			
	90%	7.5			

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LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.14"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H3A		Depth Taken	800mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	13.9	
	26.50	-	Coarse Fine Sand	16.4	
	19.00	100.0	Medium Fine Sand	10.2	
	13.20	98.8	Fine Sand	6.9	
	4.75	96.4	Silt & Clay	52.7	
	2.00	90.4	<i>CLASSIFICATION</i>		
	0.425	73.8	Unified	GM – Silty Gravel	
	0.075	47.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	31.5	Density Kg/mc	-	
Plasticity Index	PI	10.2	O.M.C	-	
Linear Shrinkage (%)	LS	4.7			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.14"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H3B		Depth Taken	1300mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	22.4	
	26.50	-	Coarse Fine Sand	7.9	
	19.00	100.0	Medium Fine Sand	9.8	
	13.20	97.2	Fine Sand	7.3	
	4.75	77.4	Silt & Clay	52.6	
	2.00	63.4	<i>CLASSIFICATION</i>		
	0.425	49.2	Unified	GM – Silty Gravel	
	0.075	52.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	30.8	Density Kg/mc	-	
Plasticity Index	PI	10.7	O.M.C	-	
Linear Shrinkage (%)	LS	5.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.72"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H4A		Depth Taken	1000mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	49.2	
	26.50	-	Coarse Fine Sand	5.0	
	19.00	100.0	Medium Fine Sand	3.4	
	13.20	82.0	Fine Sand	3.4	
	4.75	23.8	Silt & Clay	39.0	
	2.00	11.8			
	0.425	6.0	<i>CLASSIFICATION</i>		
	0.075	4.6	Unified	GM – Silty Gravel	
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	25.1	Density Kg/mc	-	
Plasticity Index	PI	4.2	O.M.C	-	
Linear Shrinkage (%)	LS	2.0%			
CALIFORNIA BEARING RATIO					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H4B		Depth Taken	1000mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	38.2	
	26.50	100.0	Coarse Fine Sand	17.0	
	19.00	95.6	Medium Fine Sand	1.0	
	13.20	83.2	Fine Sand	8.7	
	4.75	53.0	Silt & Clay	35.5	
	2.00	36.6	<i>CLASSIFICATION</i>		
	0.425	22.6	Unified	GM – Silty Gravel	
	0.075	13.0			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.5	Density Kg/mc	-	
Plasticity Index	PI	7.6	O.M.C	-	
Linear Shrinkage (%)	LS	3.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.30"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H5A		Depth Taken	700mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	73.1	
	26.50	-	Coarse Fine Sand	9.2	
	19.00	100.0	Medium Fine Sand	4.2	
	13.20	98.6	Fine Sand	4.1	
	4.75	84.6	Silt & Clay	10.3	
	2.00	54.2	<i>CLASSIFICATION</i>		
	0.425	14.6	Unified	GM – Silty Gravel	
	0.075	5.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.9	Density Kg/mc	-	
Plasticity Index	PI	7.8	O.M.C	-	
Linear Shrinkage (%)	LS	3.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.30"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H5B		Depth Taken	1100mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	50.0	
	26.50	-	Coarse Fine Sand	4.9	
	19.00	100.0	Medium Fine Sand	2.4	
	13.20	90.6	Fine Sand	1.2	
	4.75	29.8	Silt & Clay	41.5	
	2.00	16.4	<i>CLASSIFICATION</i>		
	0.425	8.2	Unified	GM – Silty Gravel	
	0.075	6.8			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	26.5	Density Kg/mc	1935	
Plasticity Index	PI	5.4	O.M.C	8.0%	
Linear Shrinkage (%)	LS	2.6			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	48.5			
	98%	33.6			
	95%	25.0			
	90%	20.5			

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P.O. Box 11234 – Mokodumela – Qwaqwa – 9868 – South Africa – Tel – 036 633 1594 – FaX – 086 518 1039

WN	1408-01	Client	Graham Projects	(X)	28°28'23.42"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'1.79"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H6A		Depth Taken	1100mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	49.2	
	26.50	-	Coarse Fine Sand	5.0	
	19.00	100.0	Medium Fine Sand	3.4	
	13.20	82.0	Fine Sand	3.4	
	4.75	23.8	Silt & Clay	39.0	
	2.00	11.8	<i>CLASSIFICATION</i>		
	0.425	6.0	Unified	GM – Silty Gravel	
	0.075	4.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	27.1	Density Kg/mc	-	
Plasticity Index	PI	6.0	O.M.C	-	
Linear Shrinkage (%)	LS	2.0%			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'23.42"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'1.79"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Soil Grading Analysis					
Sample No.	H6B		Depth Taken	1500mm	
Description	Wt Sugar Dolerite		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	37.0	
	26.50	100.0	Coarse Fine Sand	3.7	
	19.00	96.2	Medium Fine Sand	3.7	
	13.20	90.6	Fine Sand	3.7	
	4.75	23.4	Silt & Clay	57.9	
	2.00	5.4			
	0.425	3.4	<i>CLASSIFICATION</i>		
	0.075	2.8	Unified	GM – Silty Gravel	
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.9	Density Kg/mc	-	
Plasticity Index	PI	8.5	O.M.C	-	
Linear Shrinkage (%)	LS	4.0			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'23.88"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'0.31"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H7A		Depth Taken	700mm	
Description	Lt-Br Sandstone		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	50.6	
	26.50	100.0	Coarse Fine Sand	6.4	
	19.00	94.6	Medium Fine Sand	4.0	
	13.20	88.0	Fine Sand	4.7	
	4.75	56.0	Silt & Clay	34.3	
	2.00	34.4	<i>CLASSIFICATION</i>		
	0.425	17.0	Unified	SM – Silty Sand	
	0.075	17.8			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.9	Density Kg/mc	-	
Plasticity Index	PI	7.5	O.M.C	-	
Linear Shrinkage (%)	LS	3.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'23.88"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°15'0.31"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H7B		Depth Taken	800mm	
Description	Lt-Br Sandstone		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	61.5	
	26.50	-	Coarse Fine Sand	6.7	
	19.00	100.0	Medium Fine Sand	4.7	
	13.20	92.0	Fine Sand	4.7	
	4.75	53.4	Silt & Clay	22.4	
	2.00	29.6	<i>CLASSIFICATION</i>		
	0.425	11.4	Unified	SM – Silty Sand	
	0.075	6.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	29.5	Density Kg/mc	1935	
Plasticity Index	PI	8.7	O.M.C	8.5%	
Linear Shrinkage (%)	LS	4.0			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	30.5			
	98%	20.0			
	95%	18.5			
	90%	13.5			

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WN	1408-01	Client	Graham Projects	(X)	28°28'24.92"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.37"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H8A		Depth Taken	500mm	
Description	Lt-Br Sandstone		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	40.3	
	26.50	-	Coarse Fine Sand	10.3	
	19.00	100.0	Medium Fine Sand	9.4	
	13.20	89.8	Fine Sand	8.5	
	4.75	37.2	Silt & Clay	31.6	
	2.00	23.4	<i>CLASSIFICATION</i>		
	0.425	14.0	Unified	SM – Silty Sand	
	0.075	7.4			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.2	Density Kg/mc	-	
Plasticity Index	PI	7.5	O.M.C	-	
Linear Shrinkage (%)	LS	3.7			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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WN	1408-01	Client	Graham Projects	(X)	28°28'24.92"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'59.37"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Soil Grading Analysis					
Sample No.	H8B		Depth Taken	700mm	
Description	Lt-Br Sandstone		Lab. No.	L01-01	
<i>SOIL SIEVE GRADING</i>			<i>MECHANICAL DATA</i>		
% Passing	37.50	-	Coarse Sand	21.2	
	26.50	100.0	Coarse Fine Sand	13.5	
	19.00	96.4	Medium Fine Sand	18.0	
	13.20	87.6	Fine Sand	12.0	
	4.75	74.0	Silt & Clay	35.3	
	2.00	66.8	<i>CLASSIFICATION</i>		
	0.425	52.6	Unified	SM – Silty Sand	
	0.075	23.6			
<i>PLASTICITY</i>			<i>MOD AASHTO</i>		
Liquid Limit	LL	28.3	Density Kg/mc	-	
Plasticity Index	PI	6.9	O.M.C	-	
Linear Shrinkage (%)	LS	3.3			
<i>CALIFORNIA BEARING RATIO</i>					
Compaction	100%	-			
	98%	-			
	95%	-			
	90%	-			

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Percolation Tests

Geotechnical Solutions (Pty) Ltd

P.O. Box 11234 - Mokodumela - QwaQwa - 9868 - South Africa - Tel - 0715608058 - FaX - 0866024203
Web - www.geo-tech.co.za Email - projects@geo-tech.co.za

PERCOLATION TEST RECORD

WN	1408-01	Client	Graham Projects	(X)	28°28'22.12"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'58.12"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1124m

Hole Number	Percolation Test Drop in Level (mm) in 30 minutes	Percolation Rate Average time for 25mm fall of Test Level	Rate of Application of Effluent to Sub-Soil Infiltration Areas l/m ² French Drain Wall Area per Day
Percolation 1	83mm		

Remarks/Comments	Weathered Sugar Dolerite Clear Sunny Conditions.
-------------------------	-----------------------------------------------------

Geotechnical Solutions (Pty) Ltd

P.O. Box 11234 - Mokodumela - QwaQwa - 9868 - South Africa - Tel - 0715608058 - FaX - 0866024203
 Web - www.geo-tech.co.za Email - projects@geo-tech.co.za

PERCOLATION TEST RECORD

WN	1408-01	Client	Graham Projects	(X)	28°28'24.09"S
LN	L01-01	Uitvaal New Shopping Centre		Co-Ordinates (Y)	30°14'57.00"E
Date	25/06/2014	GeoTechnician	Z. Bux	(Z)	1125m

Hole Number	Percolation Test Drop in Level (mm) in 30 minutes	Percolation Rate Average time for 25mm fall of Test Level	Rate of Application of Effluent to Sub-Soil Infiltration Areas l/m ² French Drain Wall Area per Day
Percolation 2	30mm		

Remarks/Comments	Weathered Sugar Dolerite Clear Sunny Conditions.
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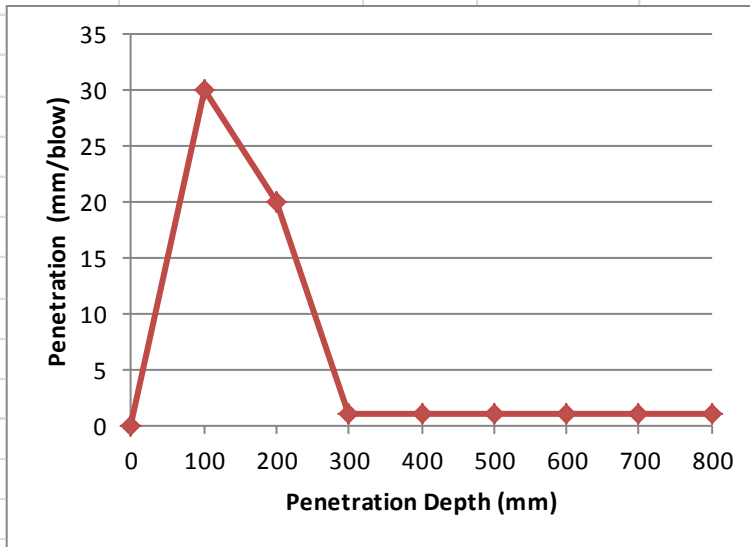
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Reg.No.-K2011/115681/01 Tax.No.-9127/574/180

DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 1

Project Uitvaal Shopping Centre



<u>Penetration Guide</u>	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 600 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	27.50	7	4.3	6	74
201 - 400	6.10	133	8.1	41	396
401 - 600	1.00	200	0.0	300	2270
601 - 800	1.00	200	0.0	300	2270

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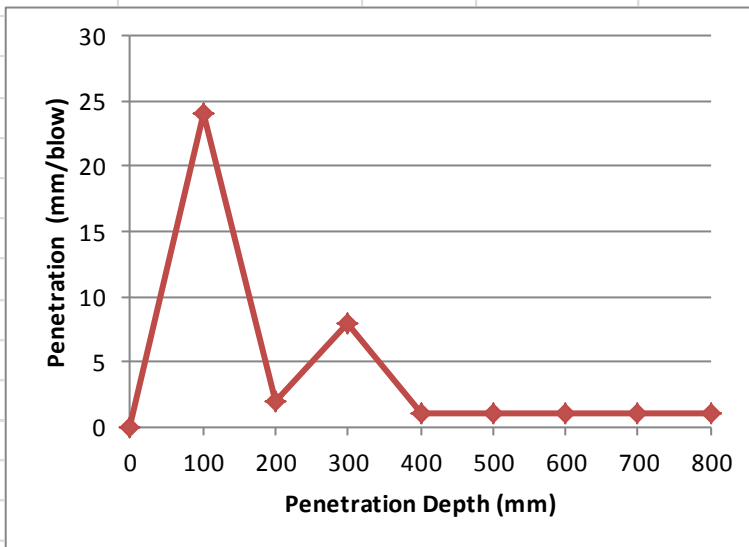
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 2

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow Consistency	
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 900 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	16.60	25	9.2	12	129
201 - 400	9.30	50	5.9	24	247
401 - 600	1.00	200	0.0	300	2270
601 - 800	1.00	200	0.0	300	2270

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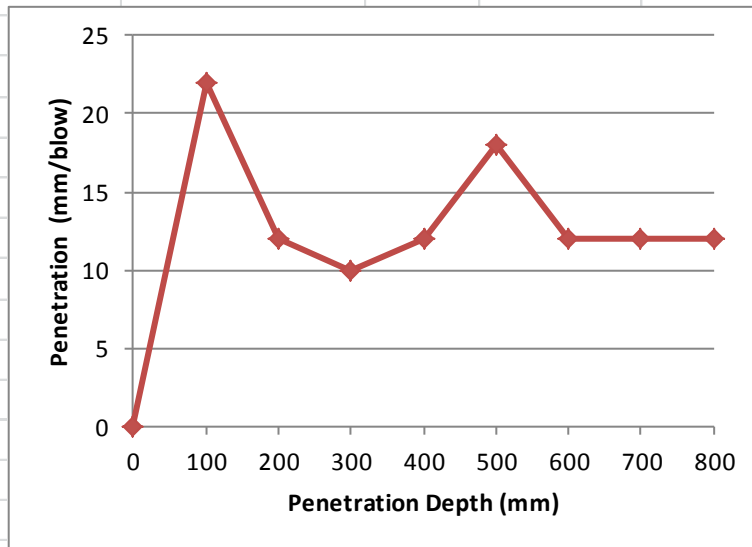
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Reg.No.-K2011/115681/01 Tax.No.- 9127/574180

DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 3

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 1300 mm below NGL

Remarks: No Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	17.50	13	5.0	11	122
201 - 400	11.50	17	0.9	18	195
401 - 600	13.10	18	4.6	16	169
601 - 800	11.20	18	1.6	19	201

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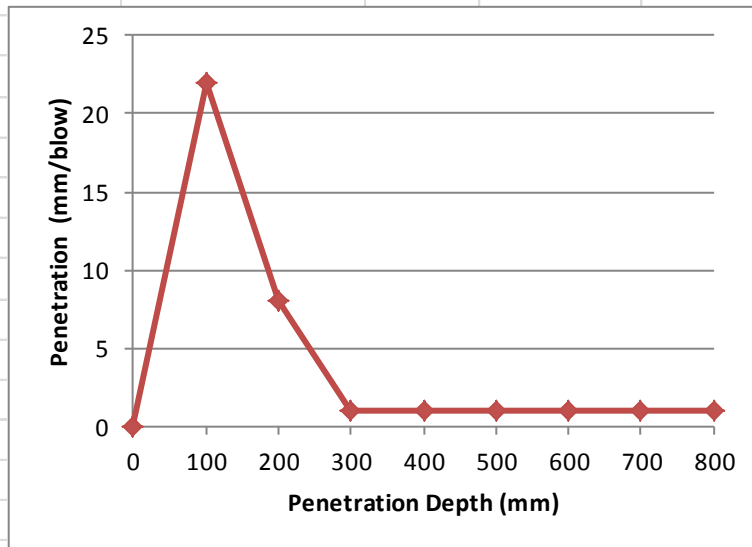
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 4

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 1400 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	16.90	14	5.8	11	127
201 - 400	2.50	141	2.2	128	1073
401 - 600	1.00	200	0.0	300	2270
601 - 800	1.00	200	0.0	300	2270

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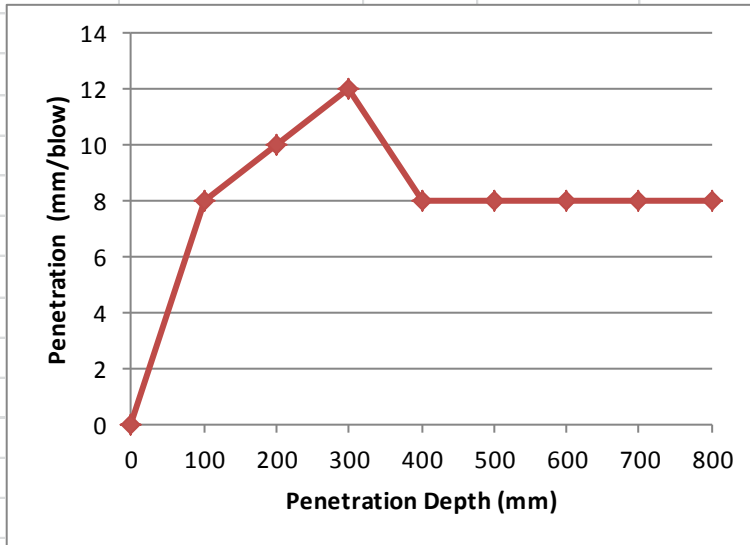
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 5

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 700 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	12.00	18	3.4	17	186
201 - 400	9.10	23	2.1	25	253
401 - 600	8.00	25	0.0	29	292
601 - 800	8.00	25	0.0	29	292

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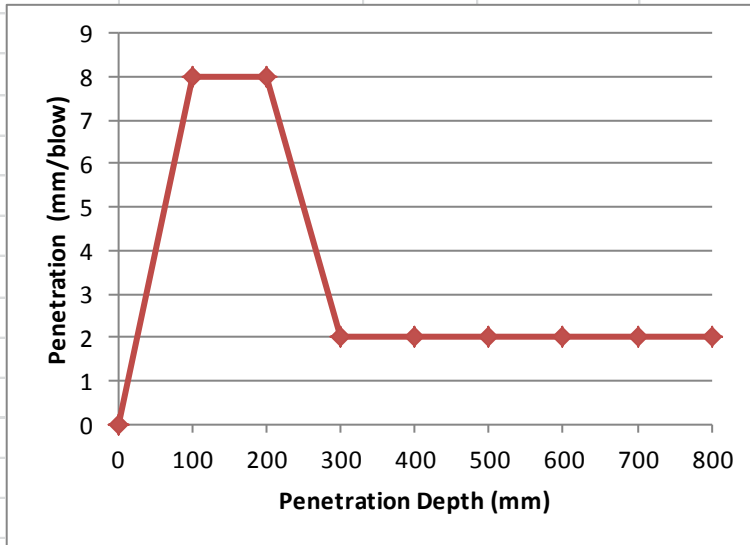
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 6
Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 1100 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	9.70	21	1.7	23	236
201 - 400	3.50	79	2.4	84	737
401 - 600	2.00	100	0.0	170	1377
601 - 800	2.00	100	0.0	170	1377

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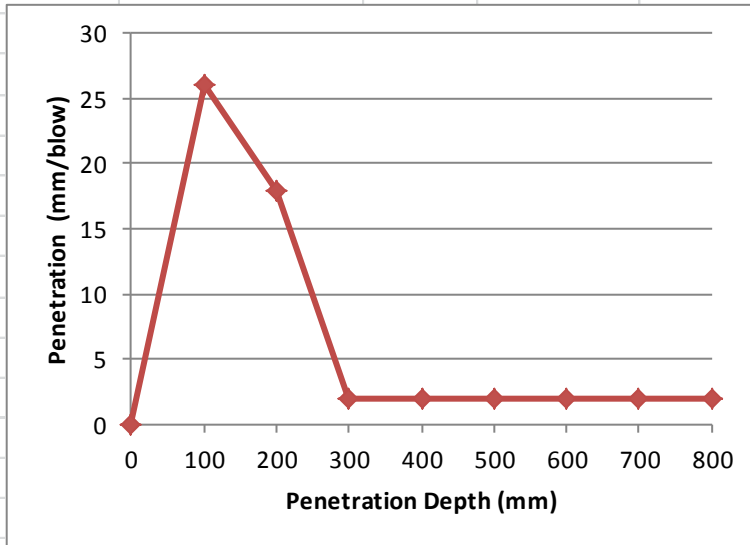
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 7

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 700 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	23.20	9	3.8	8	89
201 - 400	7.80	61	6.5	30	301
401 - 600	2.00	100	0.0	170	1377
601 - 800	2.00	100	0.0	170	1377

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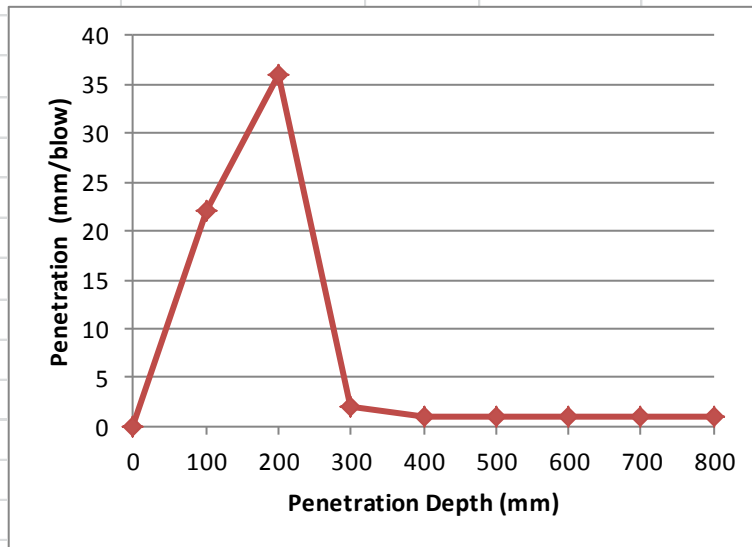
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DCP INVESTIGATION

Test Date 19/06/2014 DCP No. 8

Project Uitvaal Shopping Centre



Penetration Guide	
mm/blow	Consistency
< 5	Very Dense
5 - 10	Dense
10 - 30	Med. Dense
30 - 75	Loose
75 - 100	Very Loose

Depth of hole in which DCP was taken : - 500 mm below NGL

Remarks: Manual Refusal

Depth (mm)	Weighted avg. pen. rate (%)	Blows	SD (mm/blow)	CBR (%)	UCS (kPa)
0 - 200	28.30	7	7.0	6	71
201 - 400	16.90	98	17.3	11	127
401 - 600	1.00	200	0.0	300	2270
601 - 800	1.00	200	0.0	300	2270

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CO-ORDINATES & PHOTOS

	X	Y	Z
H1	28°28'25.71"S	30°14'57.32"E	1126m
H2	28°28'24.61"S	30°14'56.98"E	1125m
H3	28°28'23.61"S	30°14'57.14"E	1125m
H4	28°28'22.15"S	30°14'57.72"E	1124m
H5	28°28'22.56"S	30°14'59.30"E	1124m
H6	28°28'23.42"S	30°15'1.79"E	1124m
H7	28°28'23.88"S	30°15'0.31"E	1125m
H8	28°28'24.92"S	30°14'59.37"E	1125m

	X	Y	Z
Percolation 1	28°28'22.12"S	30°14'58.12"E	1124m
Percolation 2	28°28'24.09"S	30°14'57.00"E	1125m



Hole Position 1



Hole Position 2





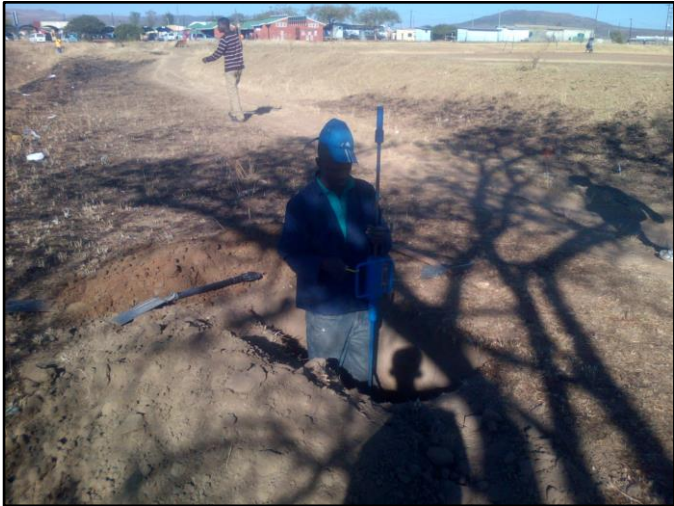
Hole Position 3



Hole Position 4



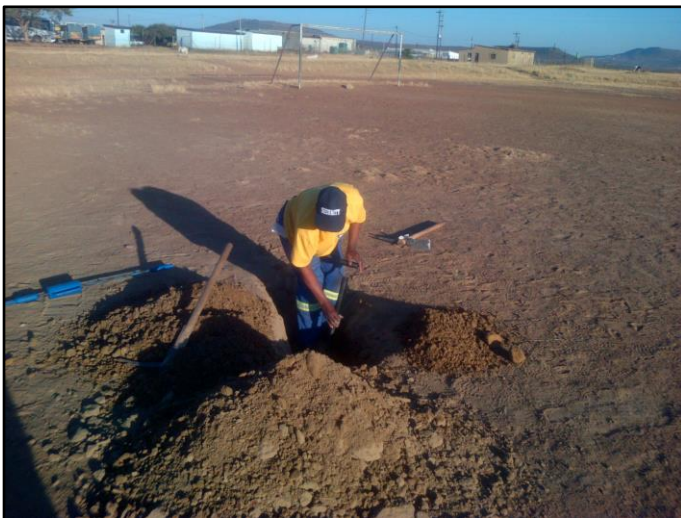
Hole Position 5



Hole Position 6



Hole Position 7



Hole Position 8



Percolation Test Hole 1





Percolation Test Hole 2



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