

# **APPENDIX 'A'**

# **GEOTECHNICAL REPORT**

## APPENDIX 'A' - GEOTECHNICAL REPORT

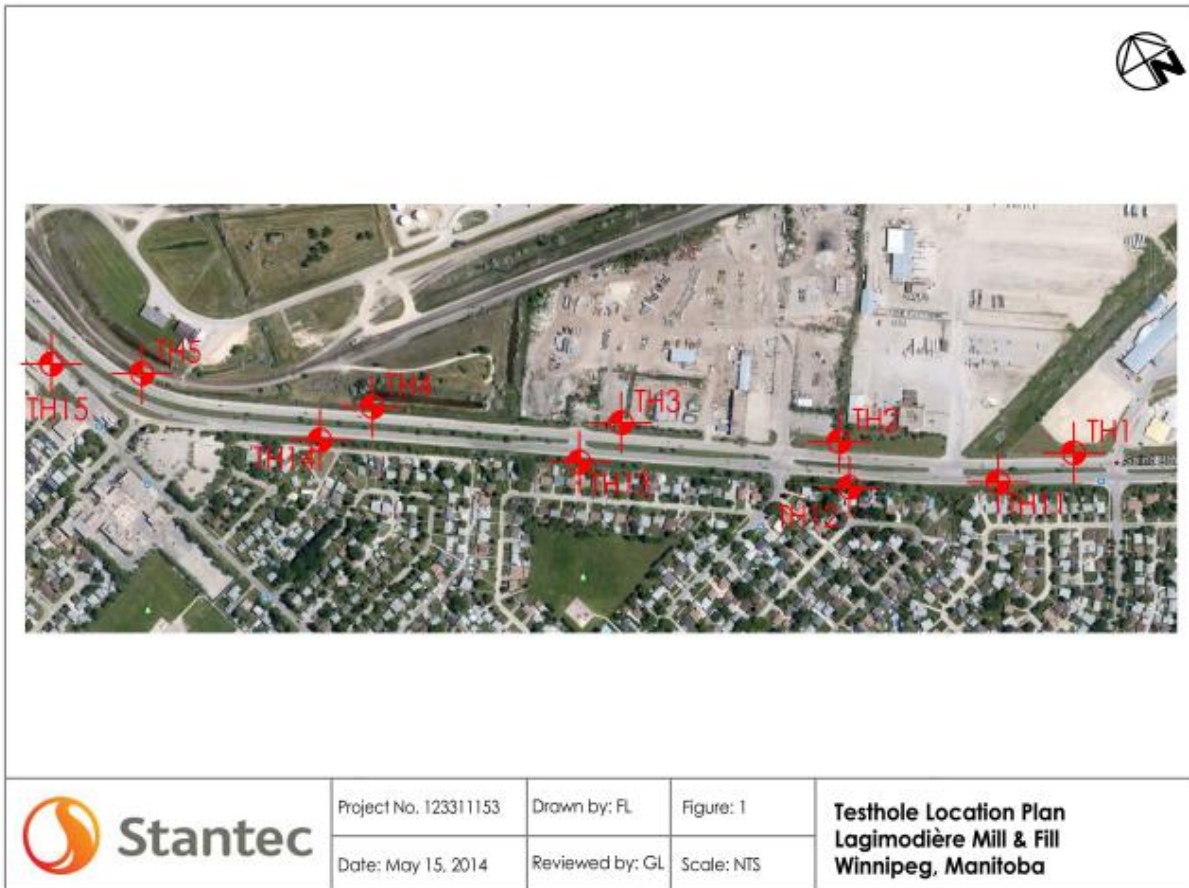
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The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.

## Geotechnical Report for Lagimodiere Blvd

### Test Hole Locations





Project No. 123311153

Drawn by: SB

Figure: 2

**Testhole Location Plan  
Lagimodière Mill & Fill  
Winnipeg, Manitoba**

Date: May 1, 2014

Reviewed by:

Scale: NTS

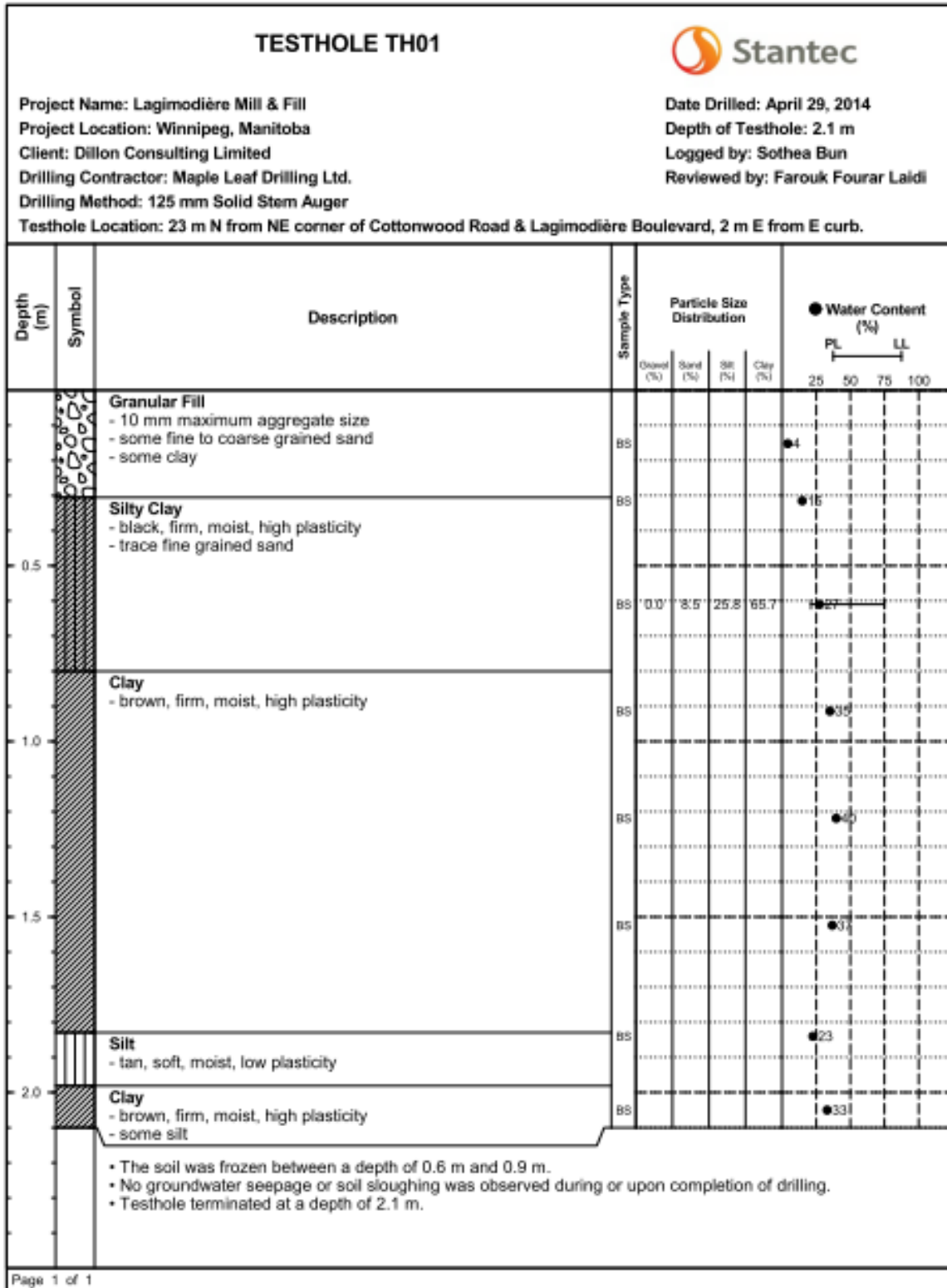


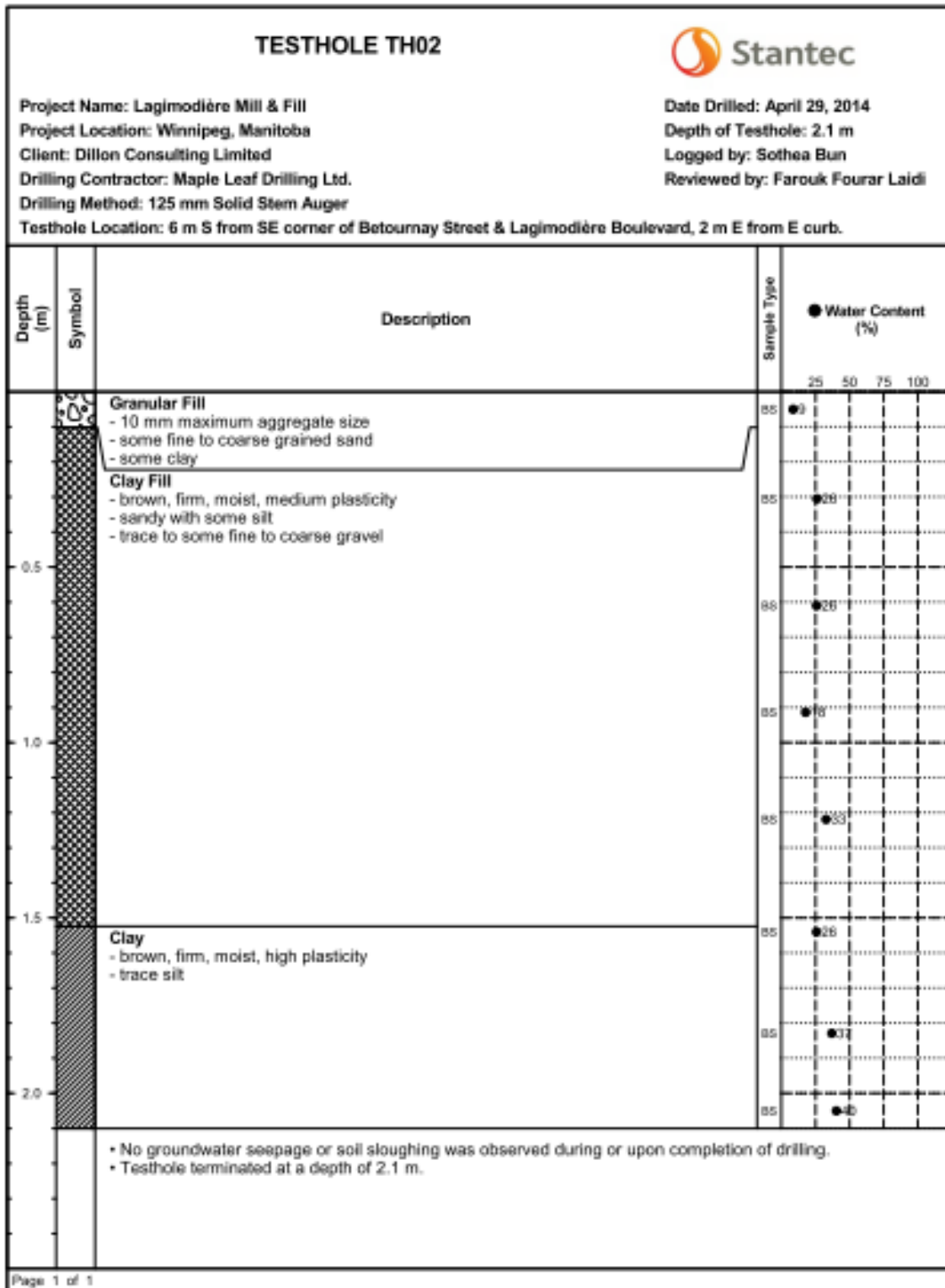


**TABLE 1**  
**LAGIMODIÈRE MILL & FILL**  
**LAGIMODIÈRE BOULEVARD FROM COTTONWOOD ROAD TO DUGALD ROAD**  
**GEOTECHNICAL INVESTIGATION**

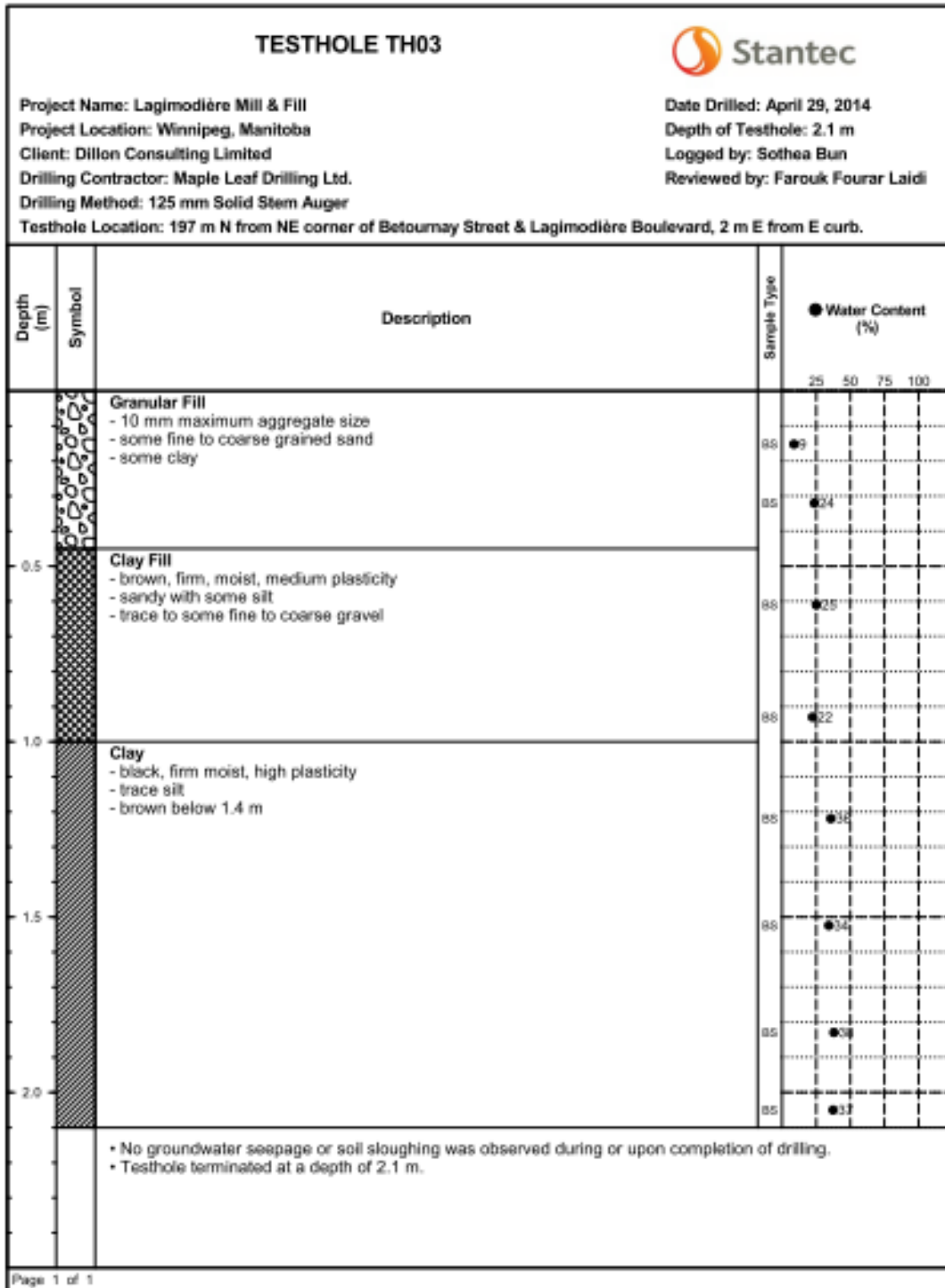
Testhole ID	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH10	37 m N from NW corner of Marion Street and Lagimodière Blvd. 2 m E from E curb	-	-	Granular Fill	600	-	-	-	-	-	-	-	-	-	-
TH11	132 m N from NW corner of Cottonwood Road and Lagimodière Blvd. 4m W from W curb	-	-	Granular Fill	600	-	-	-	-	-	-	-	-	-	-
TH12	100 m S from SW corner of Belourmay Street and Lagimodière Blvd. 4m W from W curb	-	-	Granular Fill	600	-	-	-	-	-	-	-	-	-	-
TH13	240 m N from NW corner of Belourmay Street and Lagimodière Blvd. 4m W from W curb	-	-	Granular Fill	300	-	-	-	-	-	-	-	-	-	-
TH14	240 m S from SW corner of Elizabeth Road and Lagimodière Blvd. 4m W from W curb	-	-	Granular Fill	300	-	-	-	-	-	-	-	-	-	-
TH15	160 m S from SW corner of Maginot Street and Lagimodière Blvd. 2 m W from W curb	-	-	Granular Fill	150	-	-	-	-	-	-	-	-	-	-
TH16	95 m N from NW corner of Maginot Street and Lagimodière Blvd. 2 m W from W curb	Asphalt	25	Granular Fill	425	-	-	-	-	-	-	-	-	-	-
TH17	141 m S from SW corner of Dawson Road N and Lagimodière Blvd. 2 m W from W curb	Asphalt	25	Granular Fill	275	-	-	-	-	-	-	-	-	-	-
TH18	282 m S from SW corner of Marion Street and Lagimodière Blvd. 2 m W from W curb	-	-	Granular Fill	150	-	-	-	-	-	-	-	-	-	-
TH19	98 m S from SW corner of Marion Street and Lagimodière Blvd. 2 m W from W curb	-	-	Granular Fill	150	-	-	-	-	-	-	-	-	-	-
TH20	97 m S from SW corner of Dugald Road and Lagimodière Blvd. 2 m W from W curb	-	-	Granular Fill	300	Clay	0.9	30	0.0	1.5	17.3	81.2	75	22	53

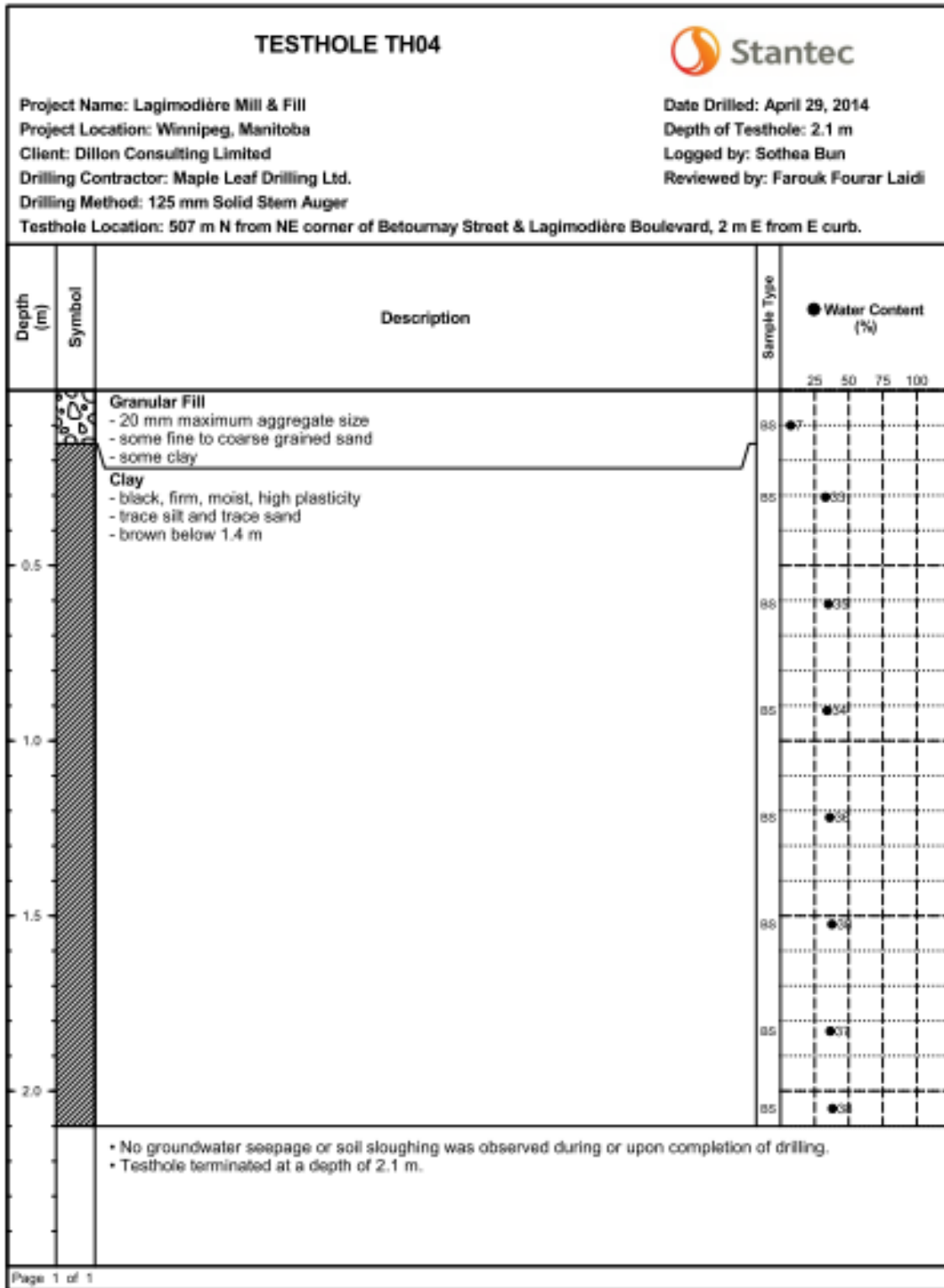
Test Hole Log for Lagimodiere Blvd

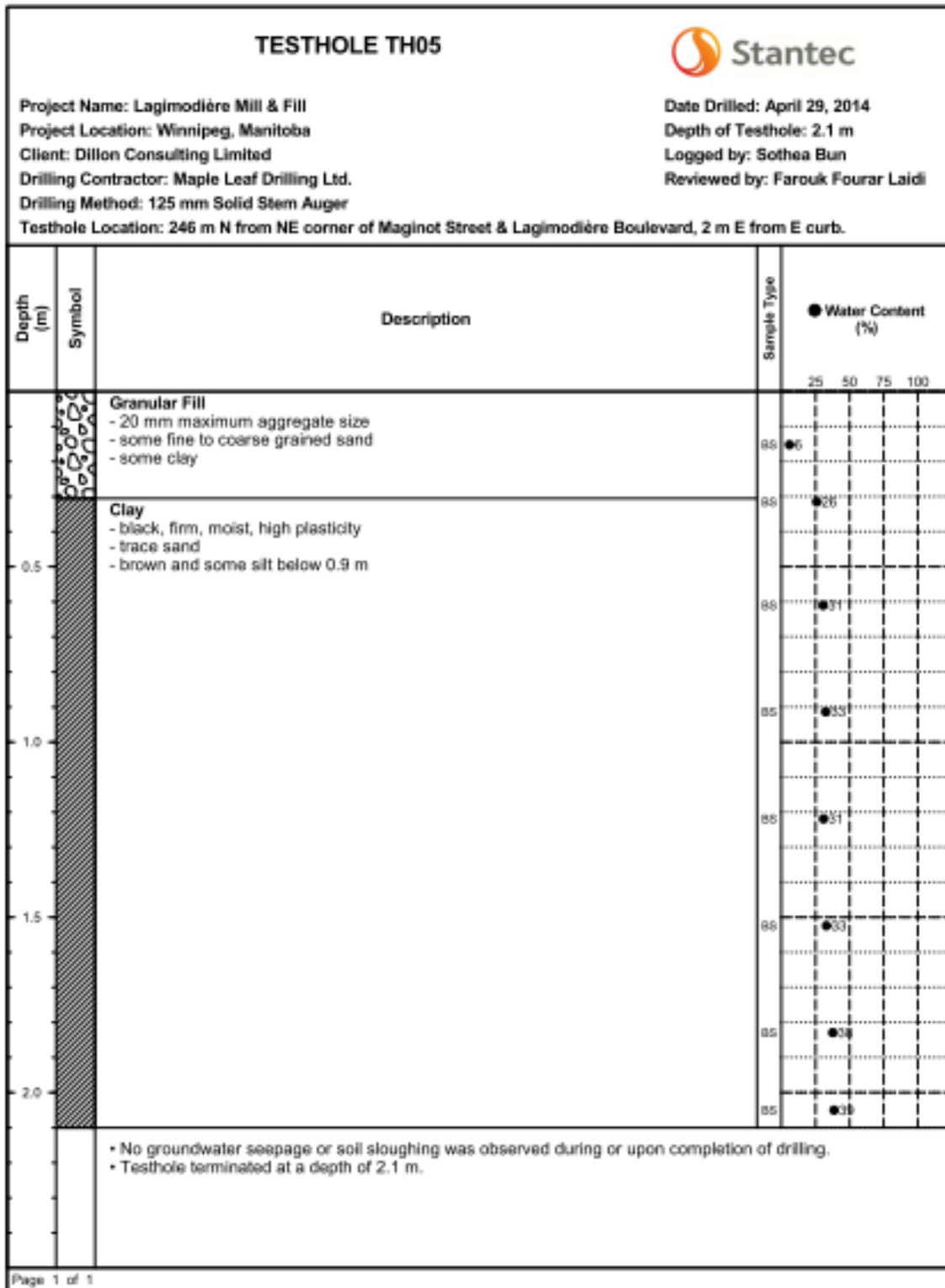




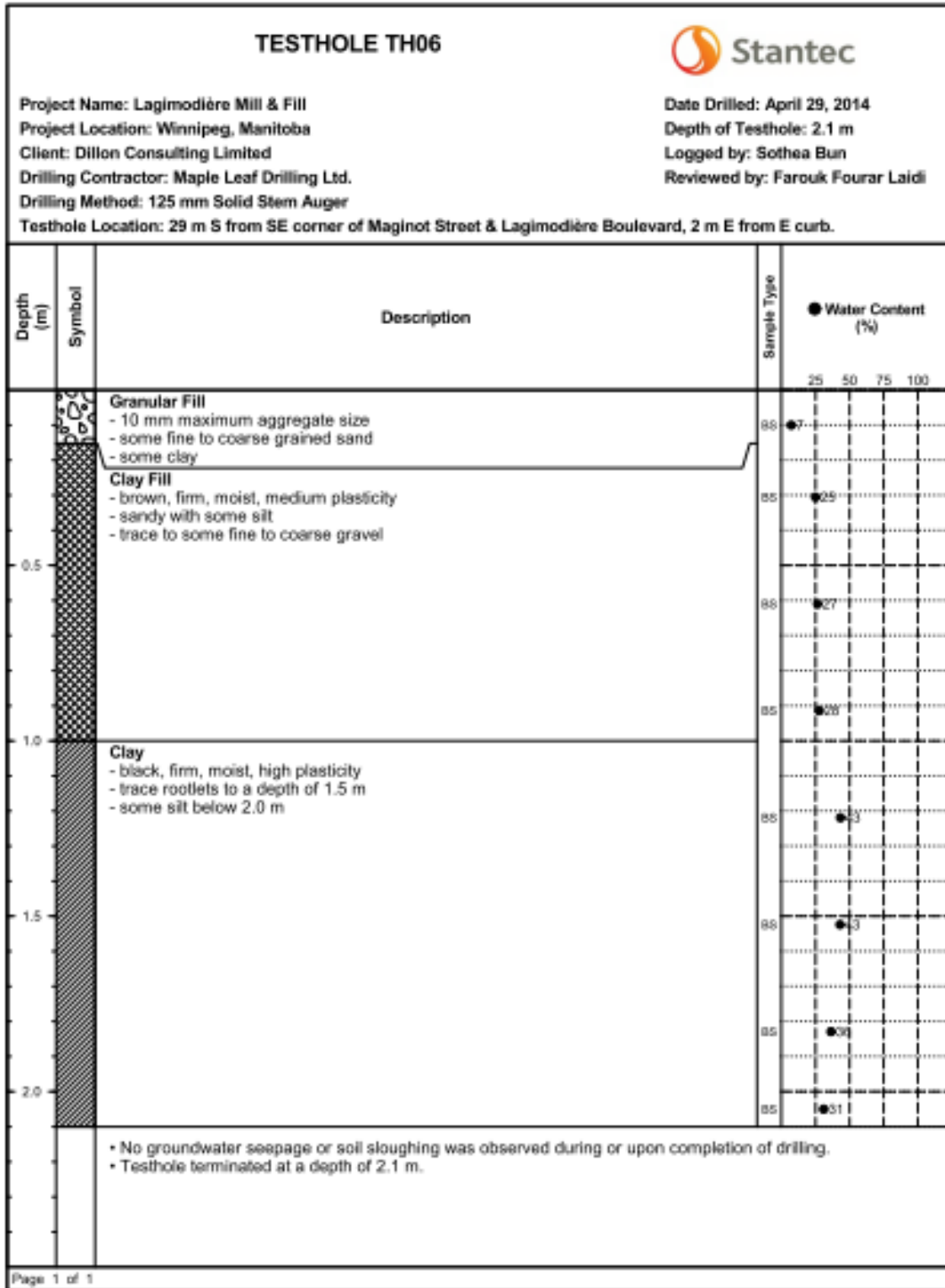


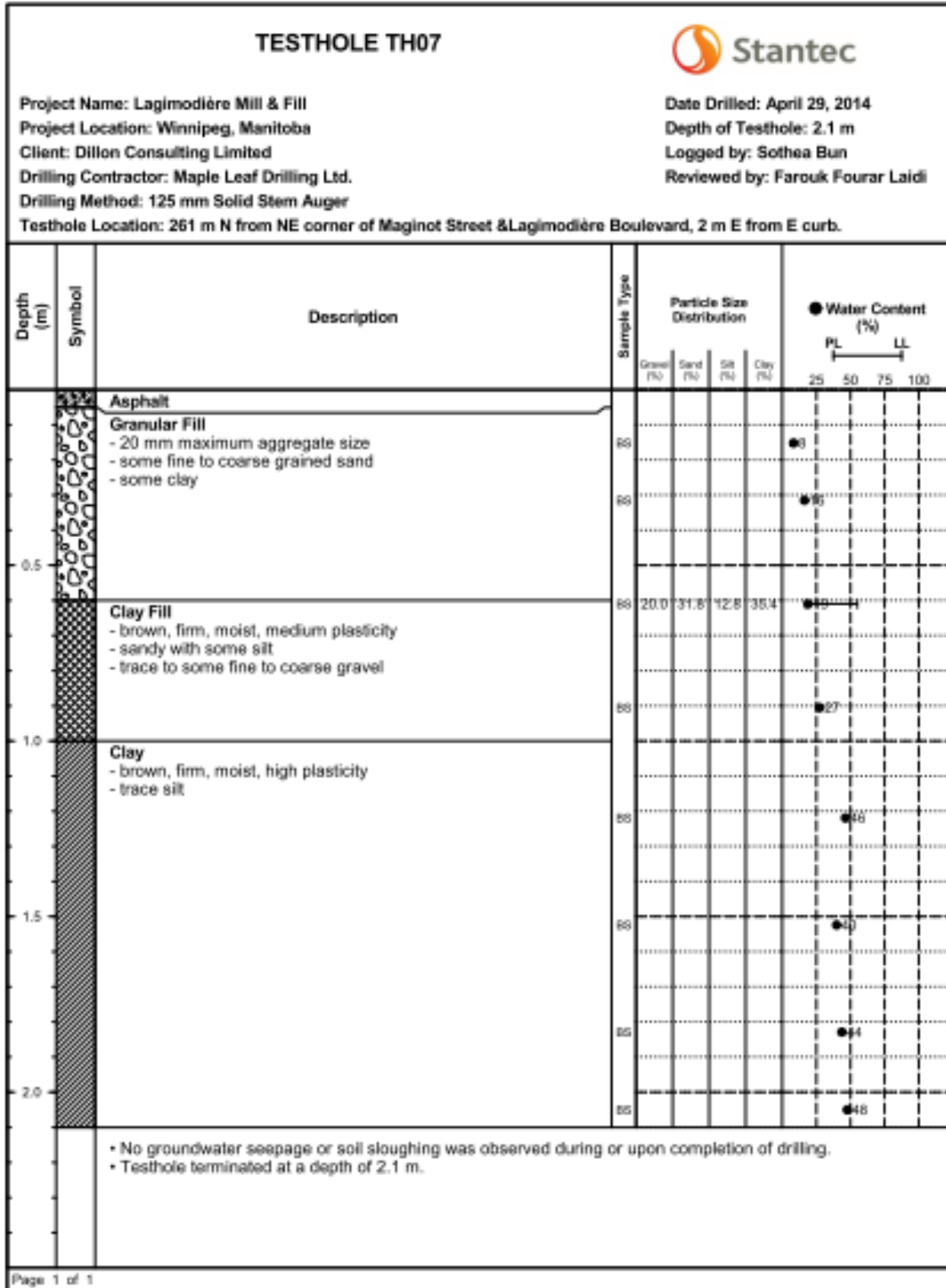


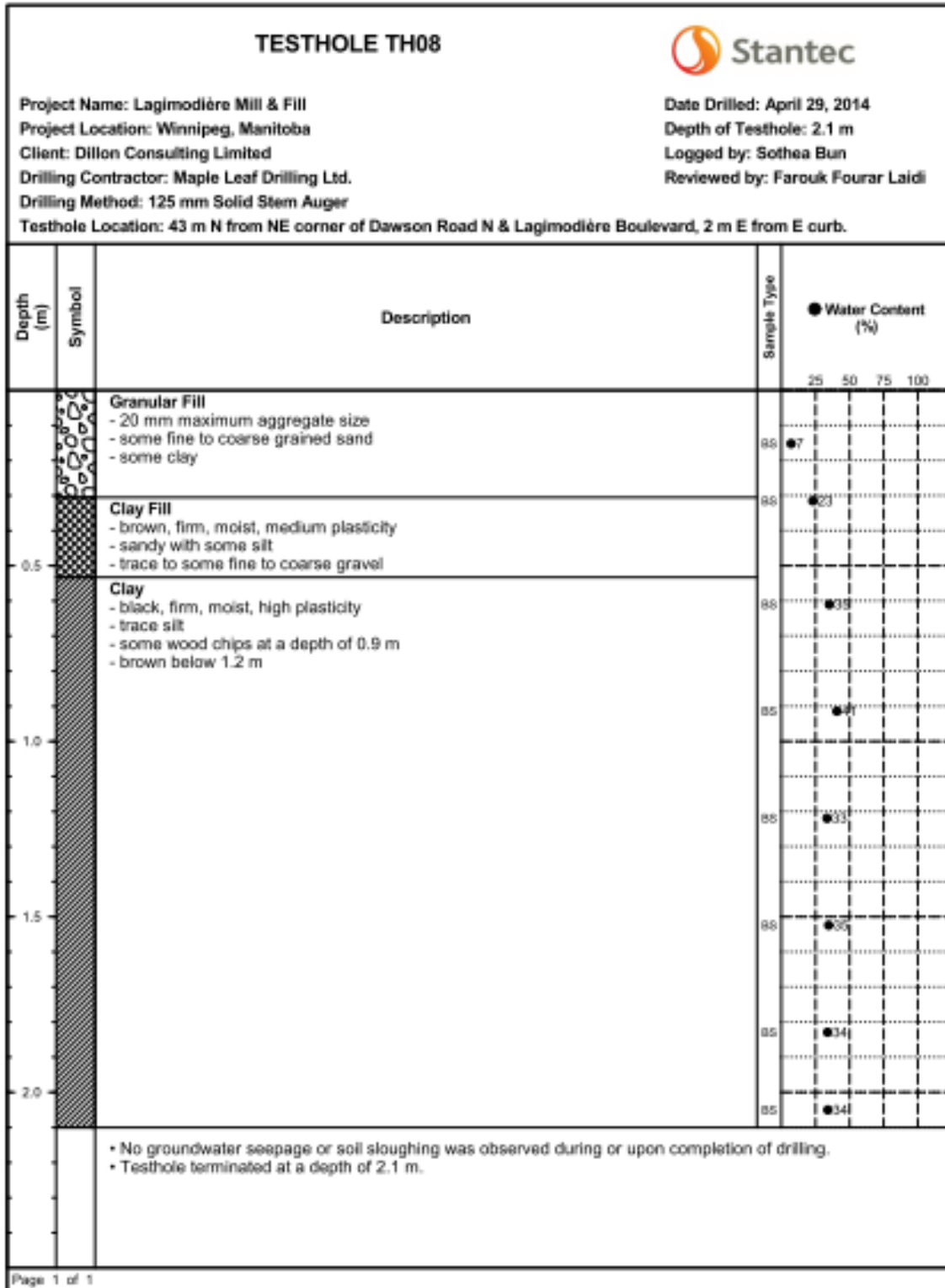


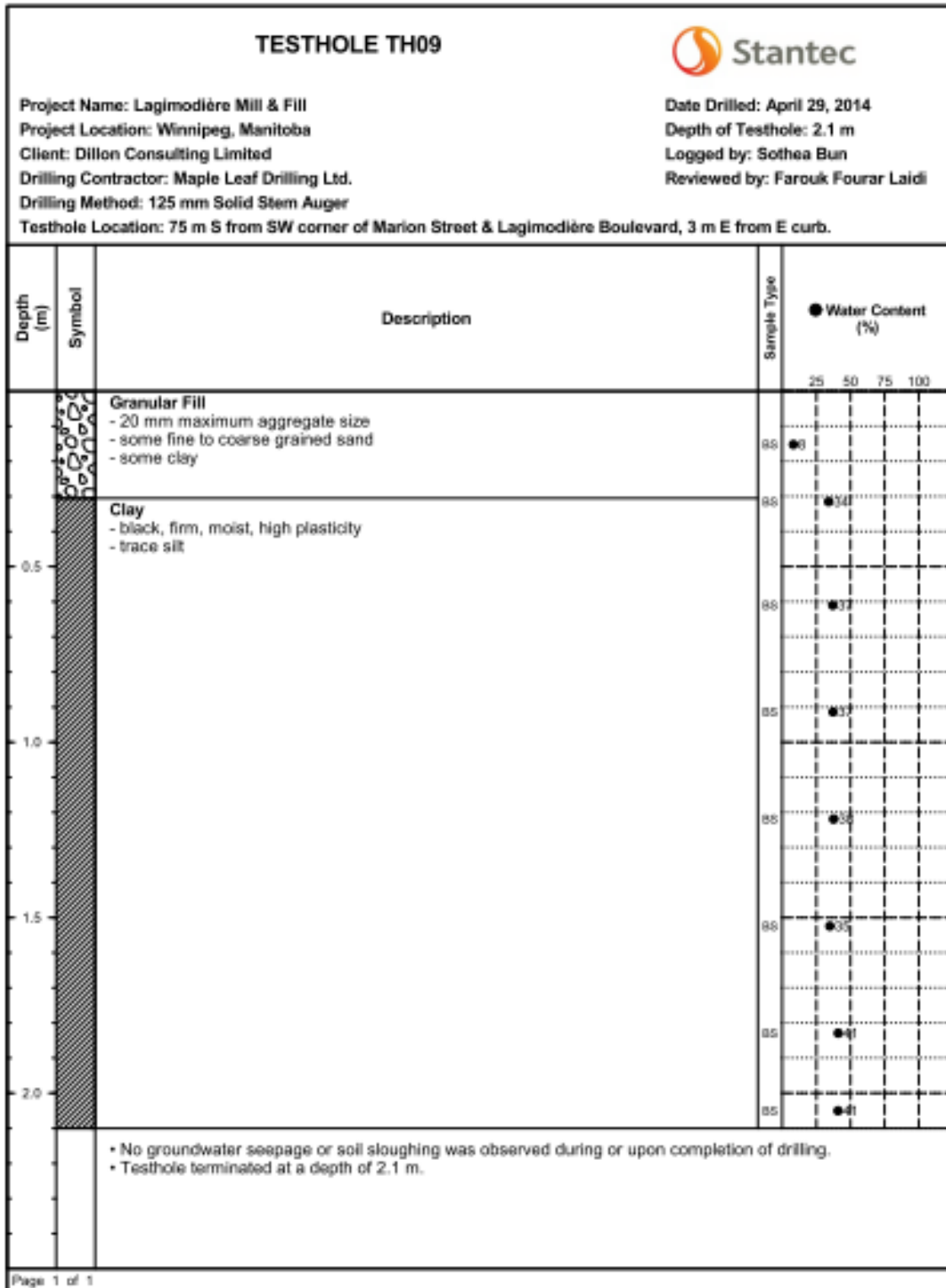




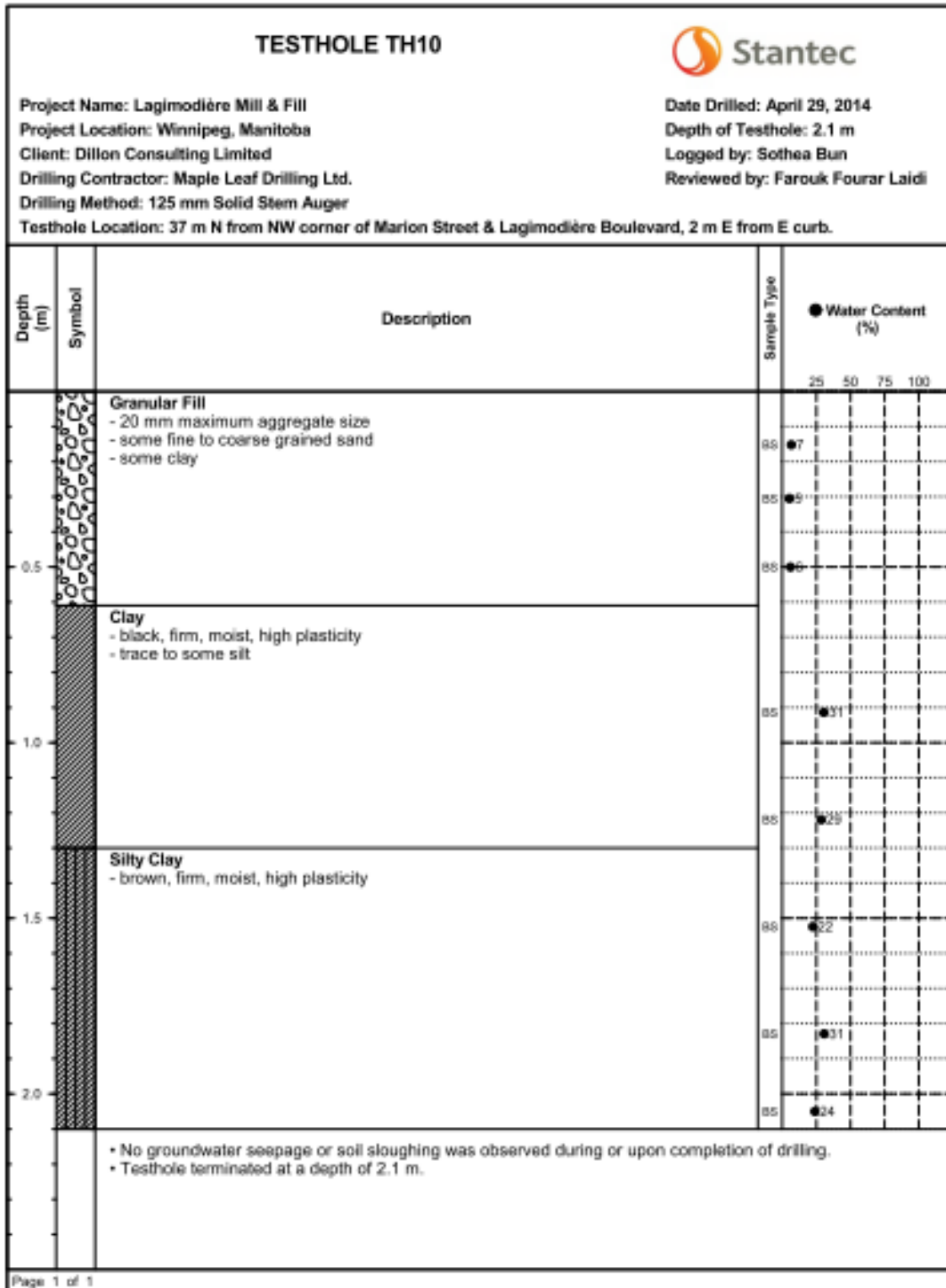


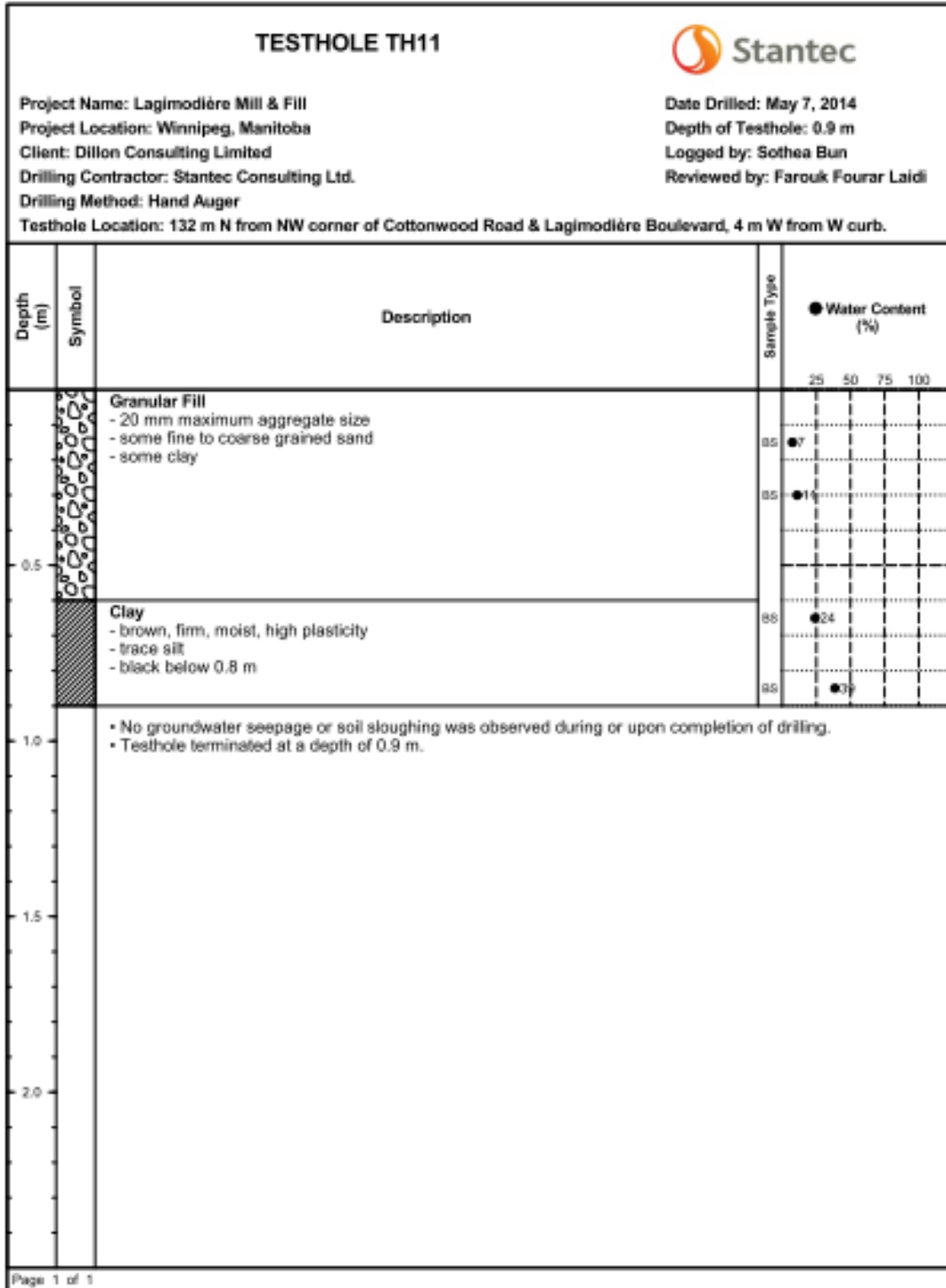






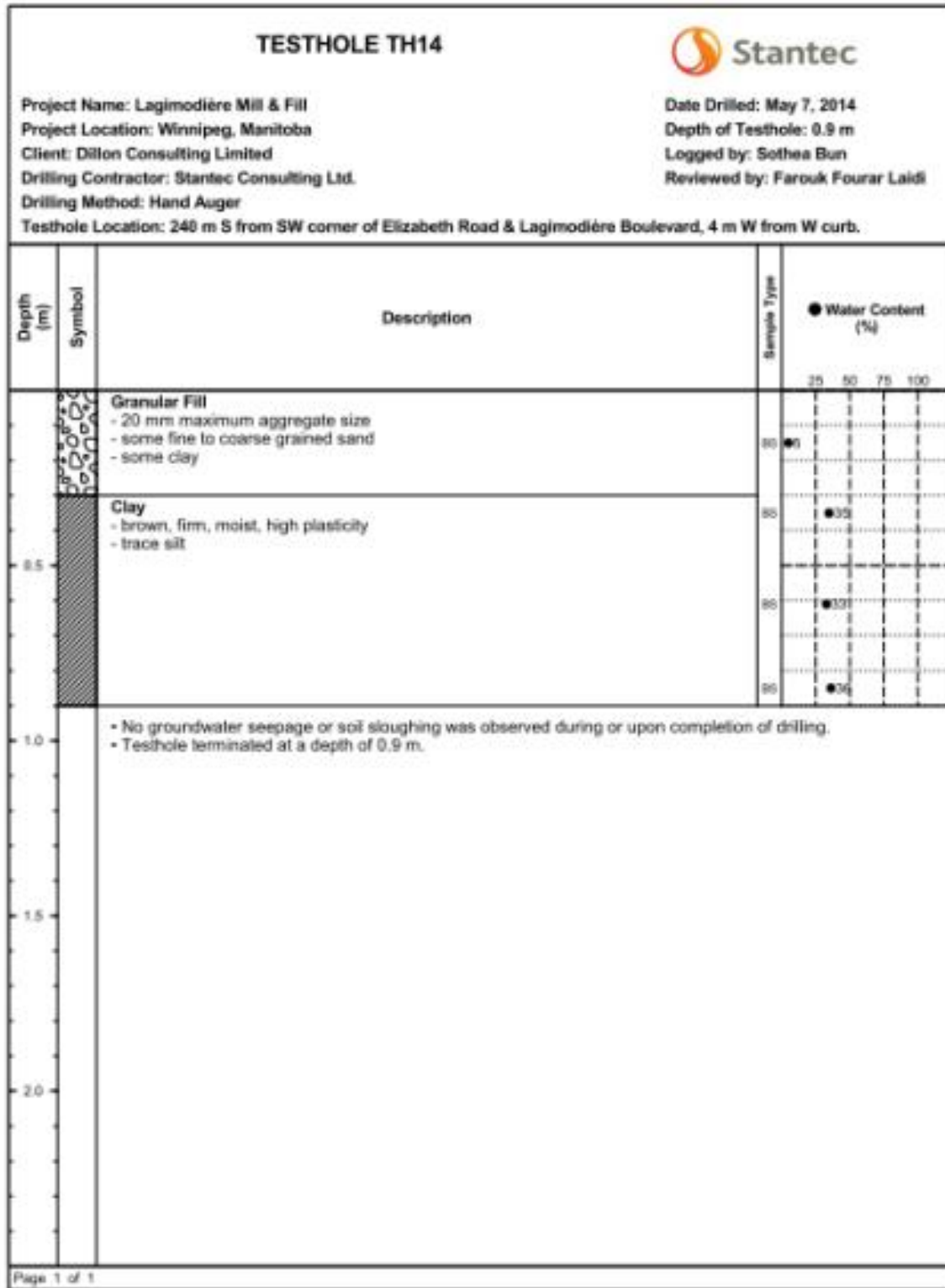




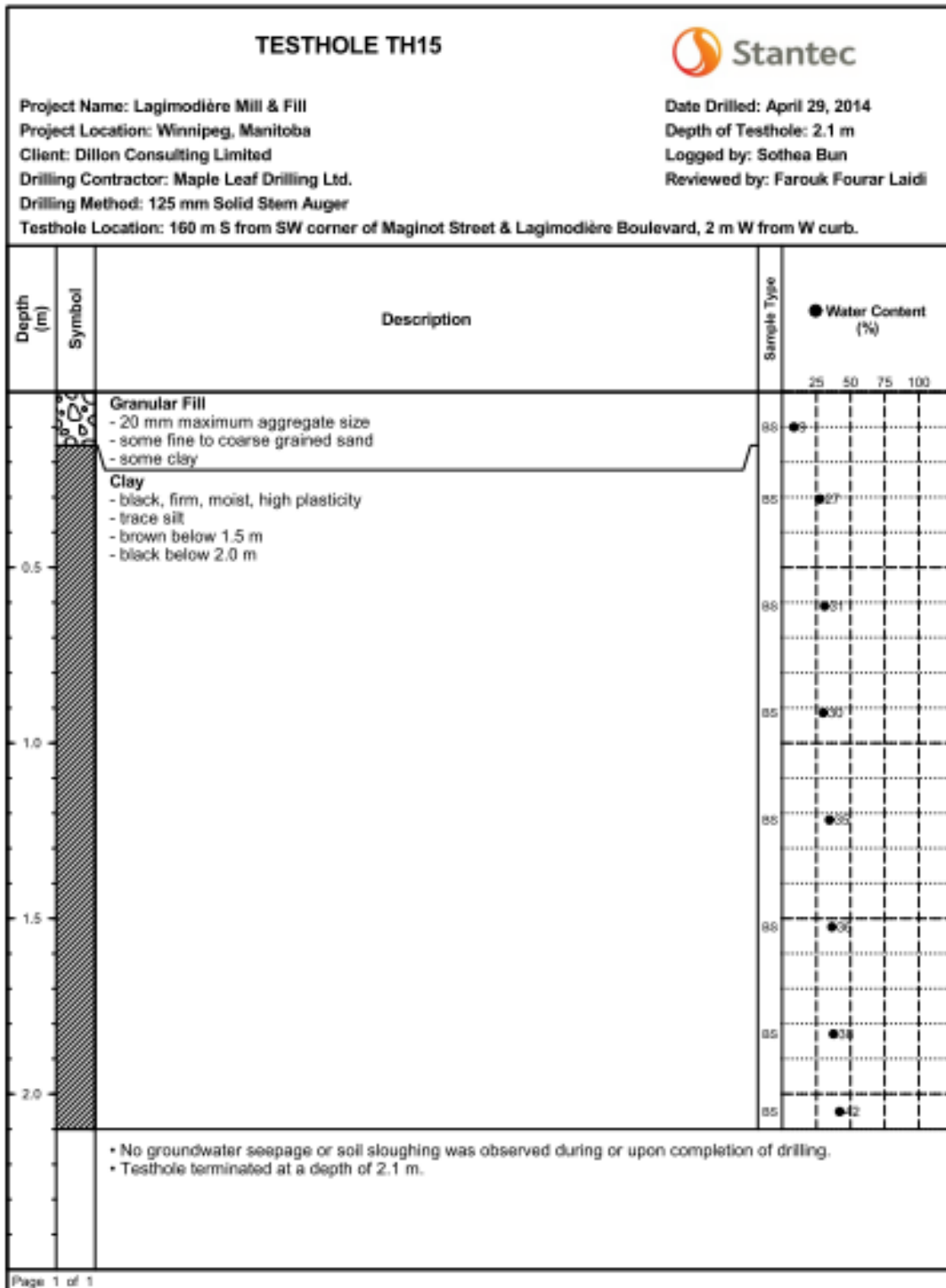


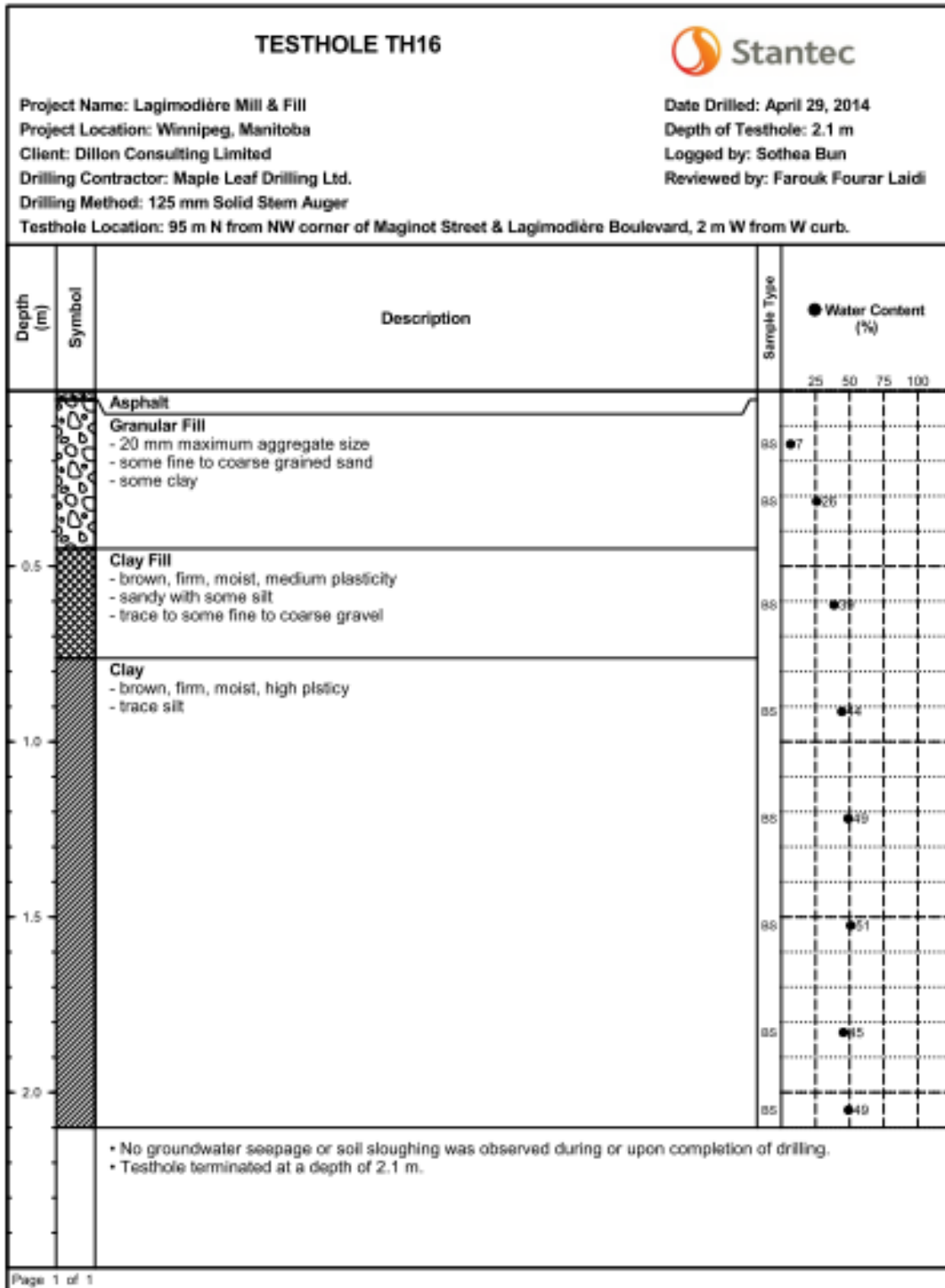


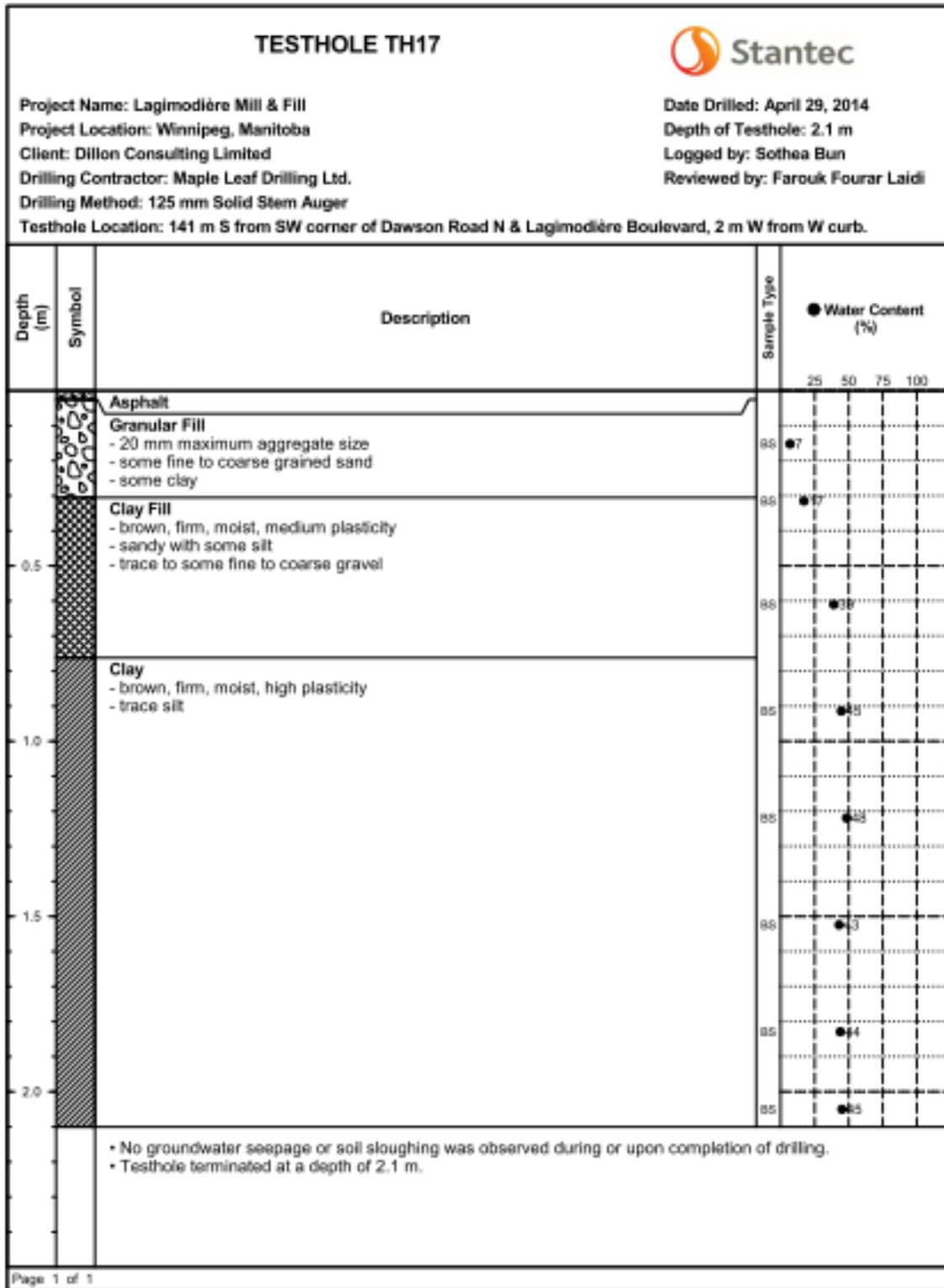
TESTHOLE TH12																											
<b>Project Name:</b> Lagimodière Mill & Fill <b>Project Location:</b> Winnipeg, Manitoba <b>Client:</b> Dillon Consulting Limited <b>Drilling Contractor:</b> Stantec Consulting Ltd. <b>Drilling Method:</b> Hand Auger <b>Testhole Location:</b> 100 m S from SW corner of Betournay Street & Lagimodière Boulevard, 4 m W from W curb.		<b>Date Drilled:</b> May 7, 2014 <b>Depth of Testhole:</b> 0.6 m <b>Logged by:</b> Sothea Bun <b>Reviewed by:</b> Farouk Fourar Laidi																									
Depth (m)	Symbol	Description	Sample Type ● Water Content (%) 25 50 75 100																								
0.5		<b>Granular Fill</b> - 20 mm maximum aggregate size - some fine to coarse grained sand - some clay	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">0.0</td> <td style="text-align: center;">● 1</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">0.05</td> <td style="text-align: center;">● 2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">0.5</td> <td style="text-align: center;">● 3</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">0.5</td> <td style="text-align: center;">● 4</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	0.0	● 1					0.05	● 2					0.5	● 3					0.5	● 4				
0.0	● 1																										
0.05	● 2																										
0.5	● 3																										
0.5	● 4																										
1.0		<ul style="list-style-type: none"> <li>• No groundwater seepage or soil sloughing was observed during or upon completion of drilling.</li> <li>• Testhole terminated at a depth of 0.6 m on boulders.</li> </ul>																									
1.5																											
2.0																											
Page 1 of 1																											



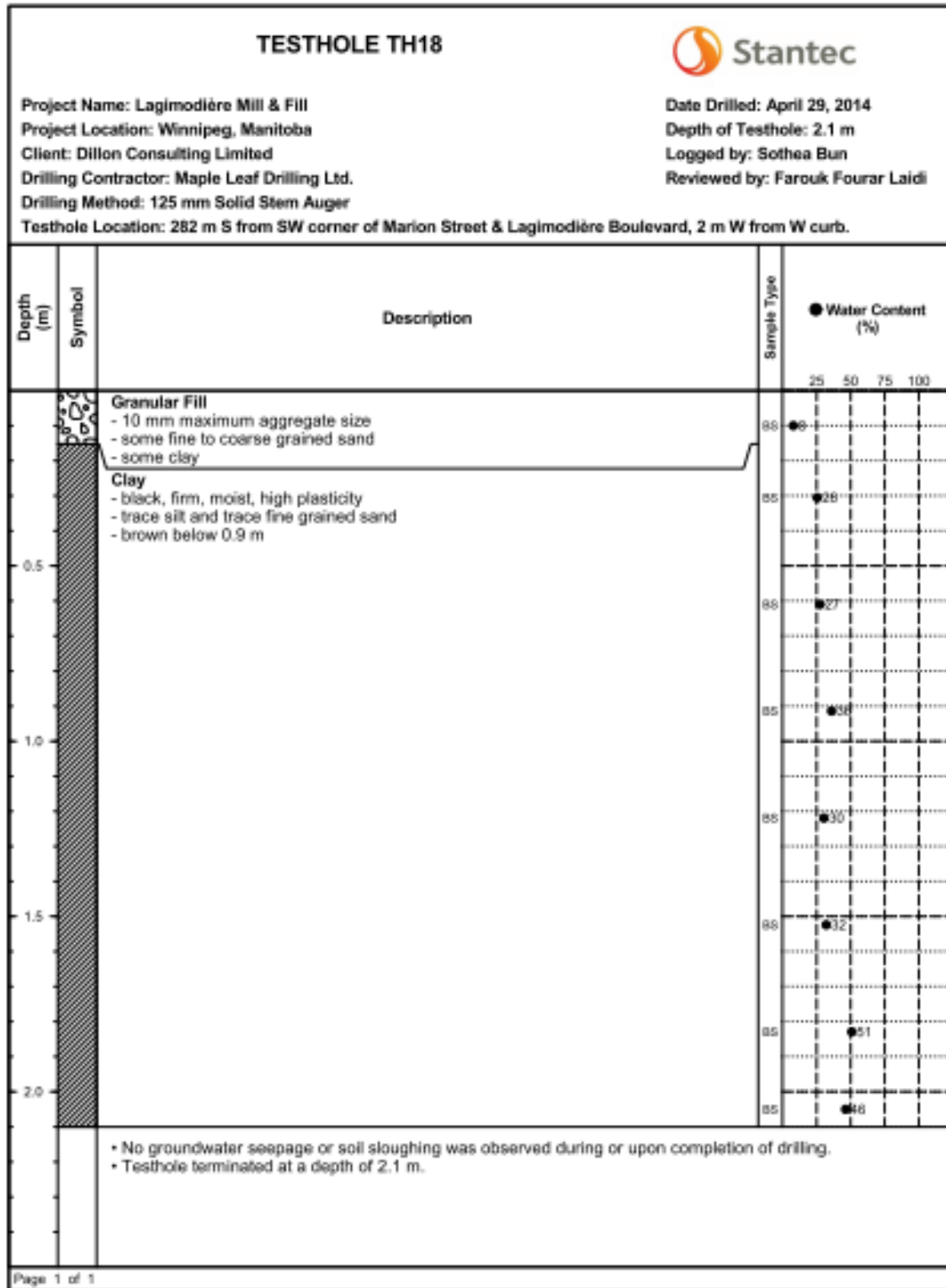


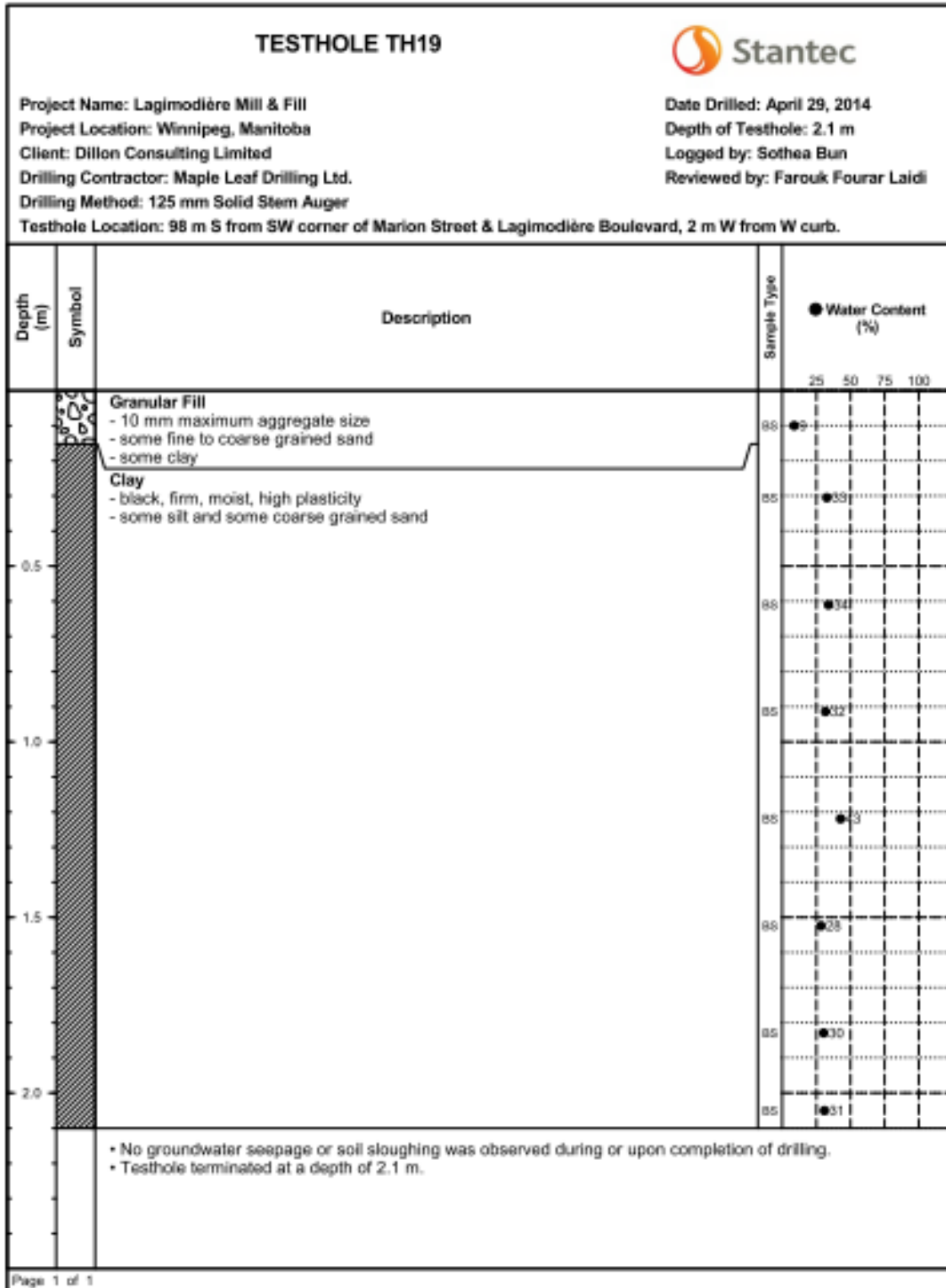


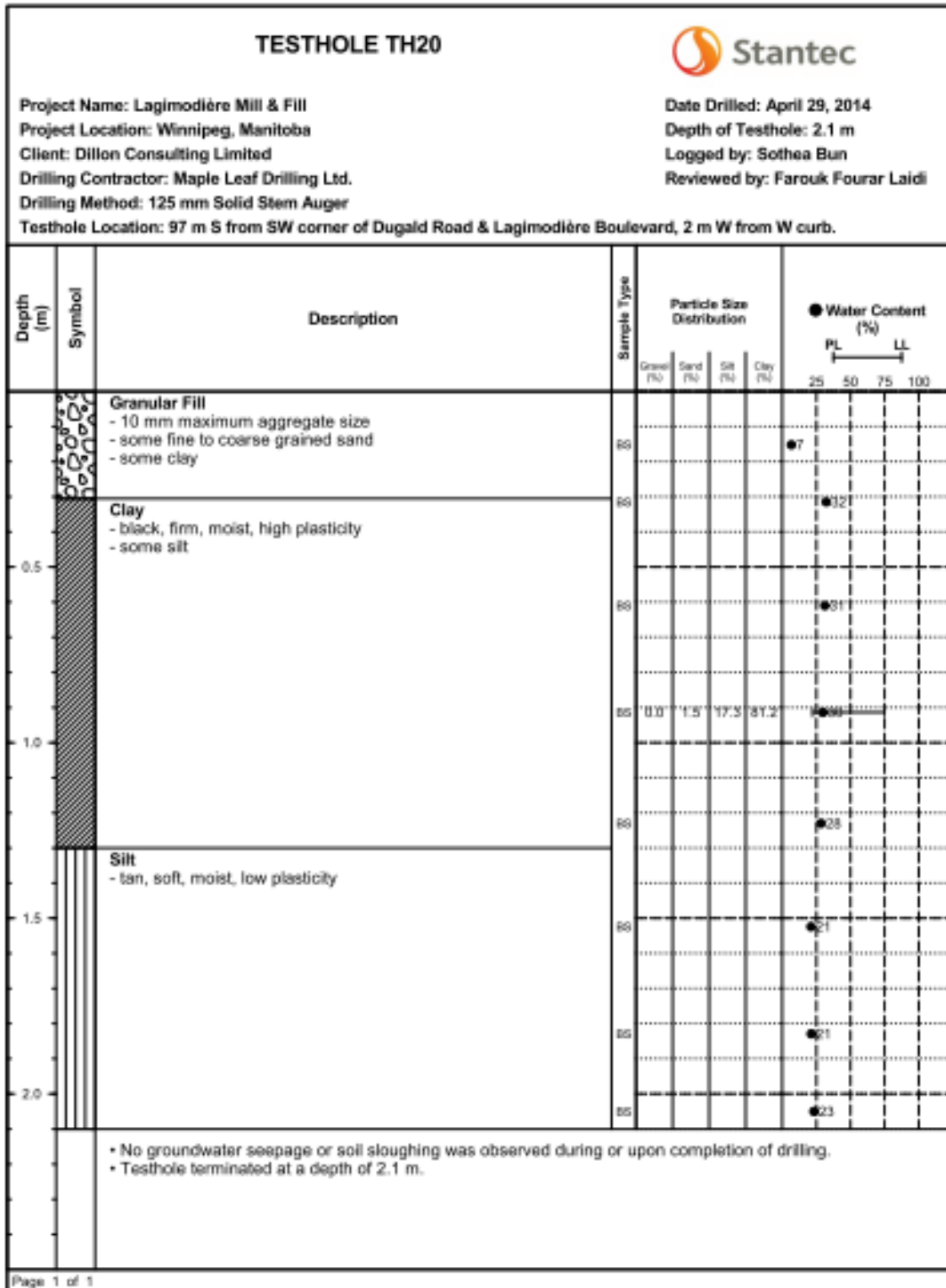












**Particle Size Analysis for Lagimodiere Blvd<sup>A</sup>**



**LABORATORY**  
 199 Herliow Bay  
 Winnipeg MB R3Y 1G4  
 Tel: (204) 488-6999

**PARTICLE SIZE ANALYSIS  
 ASTM D422**

Dillon Consulting Limited  
 1558 Wilson Place  
 Winnipeg, Manitoba  
 R3T 0Y4

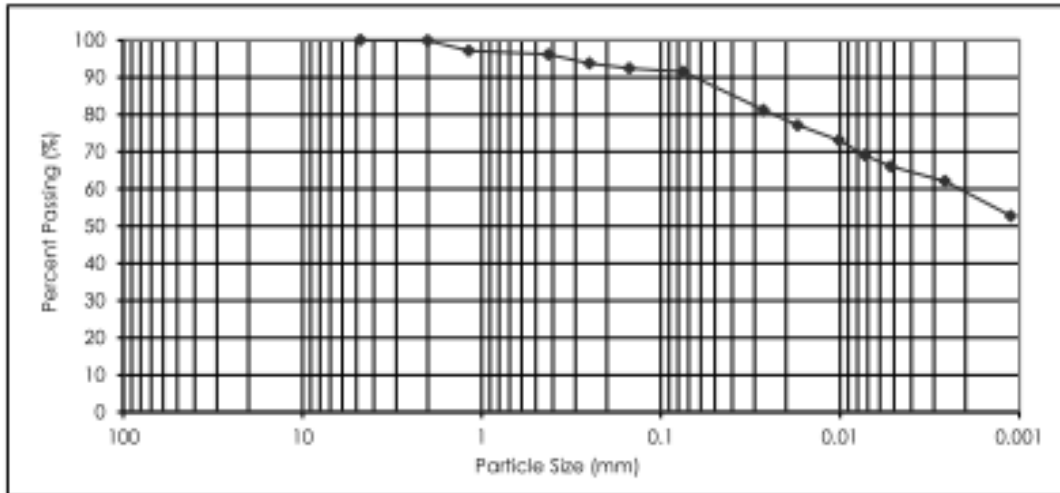
PROJECT: Lagimodière Mill & Fill

Attention: Andrew Condon

PROJECT NO.: 123311153

SAMPLED BY: Sothea Bun  
 SAMPLE ID: TH1 at 0.6 m

DATE RECEIVED: April 29, 2014  
 TESTED BY: Nestor Abarca



PARTICLE SIZE	PERCENT PASSING
37.50 mm	100.0
25.00 mm	100.0
19.00 mm	100.0
16.00 mm	100.0
12.50 mm	100.0
9.50 mm	100.0
4.75 mm	100.0
2.00 mm	99.9

PARTICLE SIZE	PERCENT PASSING
1.18 mm	97.2
0.425 mm	96.2
0.250 mm	93.8
0.150 mm	92.4
0.075 mm	91.5
0.005 mm	65.7
0.002 mm	58.3
0.001 mm	NT*

Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % <0.001 mm
	Coarse >4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
0.0	0.1	3.7	4.7	25.8	65.7	NT*

NT\* Sample not tested for colloids

May 9, 2014

REVIEWED BY: Farouk Fourar Laidi, M.Sc., EIT

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of the test results is provided only on written request. The data presented above is for the sole use of the client stipulated above. Stantec is not responsible, nor can be held liable, for the use of this report by any other party, with or without the knowledge of Stantec.



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**PARTICLE SIZE ANALYSIS  
 ASTM D422**

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 R3T 0Y4

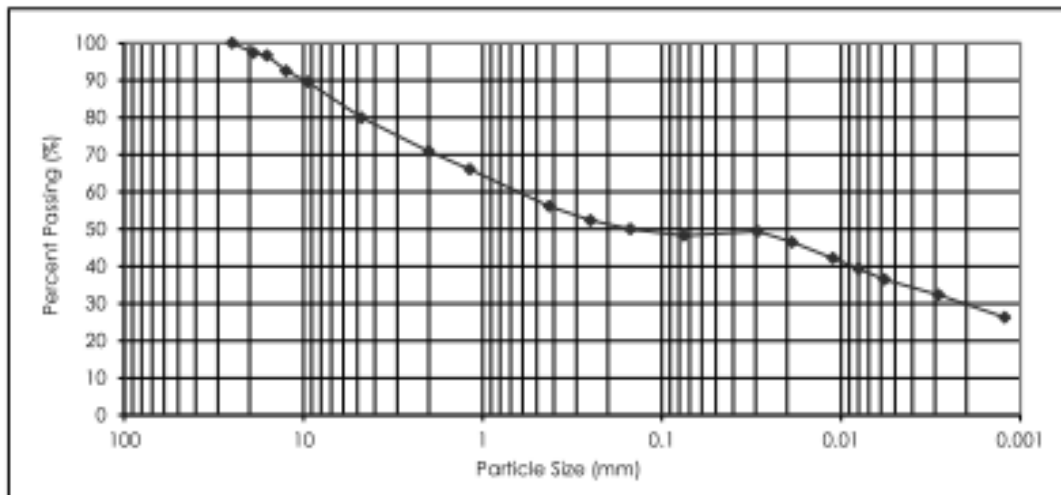
PROJECT: Lagimodière Mill & Fill

Attention: Andrew Condon

PROJECT NO.: 123311153

SAMPLED BY: Sothea Bun  
 SAMPLE ID: TH7 at 0.6 m

DATE RECEIVED: April 29, 2014  
 TESTED BY: Nestor Abarca



PARTICLE SIZE	PERCENT PASSING
37.50 mm	100.0
25.00 mm	100.0
19.00 mm	97.4
16.00 mm	96.7
12.50 mm	92.6
9.50 mm	89.6
4.75 mm	80.0
2.00 mm	70.9

PARTICLE SIZE	PERCENT PASSING
1.18 mm	66.1
0.425 mm	56.2
0.250 mm	52.4
0.150 mm	50.0
0.075 mm	48.2
0.005 mm	35.4
0.002 mm	29.2
0.001 mm	NT*

Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % <0.002 mm	Colloids, % <0.001 mm
	Coarse >4.75 to 2.0 mm	Medium >2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
20.0	9.1	14.7	8.0	12.8	35.4	NT*

NT\* Sample not tested for colloids

May 9, 2014

REVIEWED BY: Farouk Fourar Laidi, M.Sc., EIT

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**PARTICLE SIZE ANALYSIS  
 ASTM D422**

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 R3T 0Y4

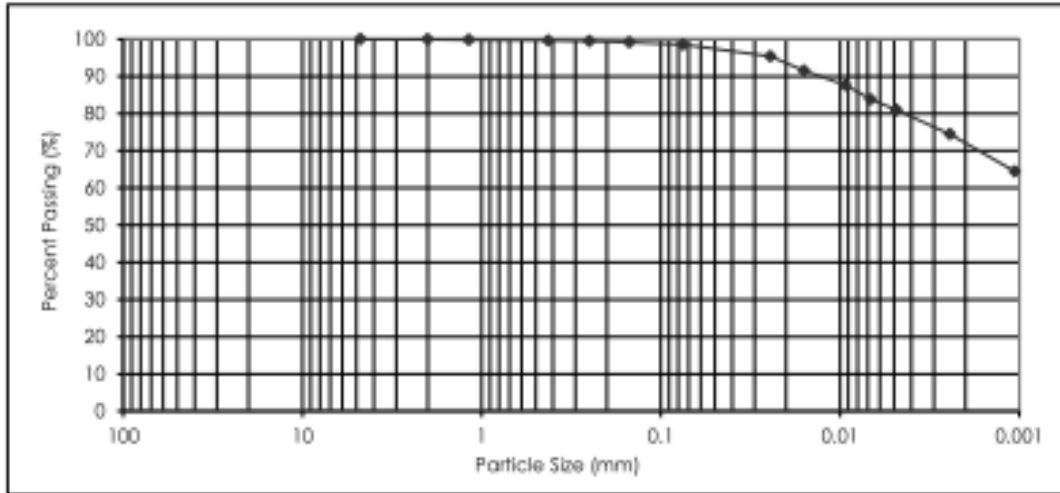
PROJECT: Lagimodière Mill & Fill

Attention: Andrew Condon

PROJECT NO.: 123311153

SAMPLED BY: Sothea Bun  
 SAMPLE ID: TH20 at 0.9 m

DATE RECEIVED: April 29, 2014  
 TESTED BY: Nestor Abarca



PARTICLE SIZE	PERCENT PASSING
37.50 mm	100.0
25.00 mm	100.0
19.00 mm	100.0
16.00 mm	100.0
12.50 mm	100.0
9.50 mm	100.0
4.75 mm	100.0
2.00 mm	100.0

PARTICLE SIZE	PERCENT PASSING
1.18 mm	99.8
0.425 mm	99.7
0.250 mm	99.5
0.150 mm	99.2
0.075 mm	98.5
0.005 mm	81.2
0.002 mm	71.3
0.001 mm	NT*

Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % <0.001 mm
	Coarse >4.75 to 2.0 mm	Medium >2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
0.0	0.0	0.3	1.2	17.3	81.2	NT*

NT\* Sample not tested for colloids

May 9, 2014

REVIEWED BY: Farouk Fourar Laidi, M.Sc., EIT

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