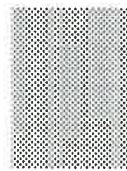


SECTION A CROSS - SECTION (BH01 - BH02)  
NTS

LEGEND:



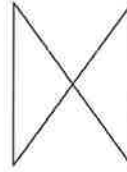
PEAT



SAND



SILT



NO RECOVERY



APPROXIMATE WATER LEVEL

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 • Printed dimensions shall take precedence over scaled.  
 • Dimensions shall be given to the nearest whole number.  
 • Drawings shall be submitted prior to the start of any work.  
 • The Engineer shall be notified immediately of any discrepancies.



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Client: PUBLIC RENTAL BOARD

Project Title: GEOTECHNICAL INVESTIGATION FOR NAMELUMELI PROJECT

Drawing Title: BOREHOLE CROSS SECTION

Scale: NTS

Author: NTS

Checker: NTS

Reviewer: NTS

Design: NTS

Drawn: NTS

Job No: 50/24-03D

Date: JUN 25 G

Project: 50/24-03D

GEOTECHNICAL INVESTIGATION

# Appendix D

*SPT & Site Photographs*



**BH01 – SPT @ 1.50m**



**BH01 – SPT @ 3.00m**



**BH01 – SPT @ 4.50m**



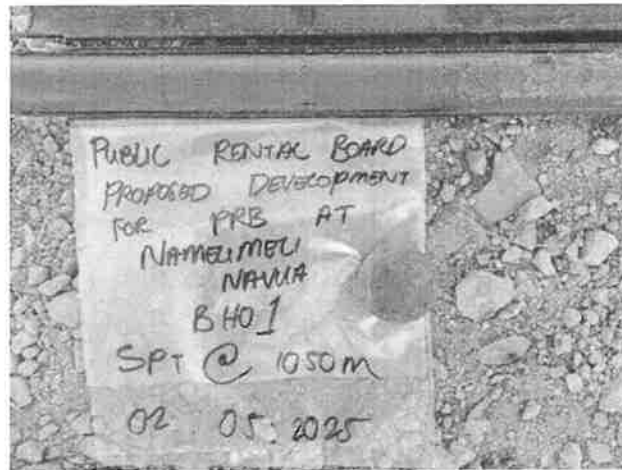
**BH01 – SPT @ 6.00m**



**BH01 – SPT @ 7.50m**



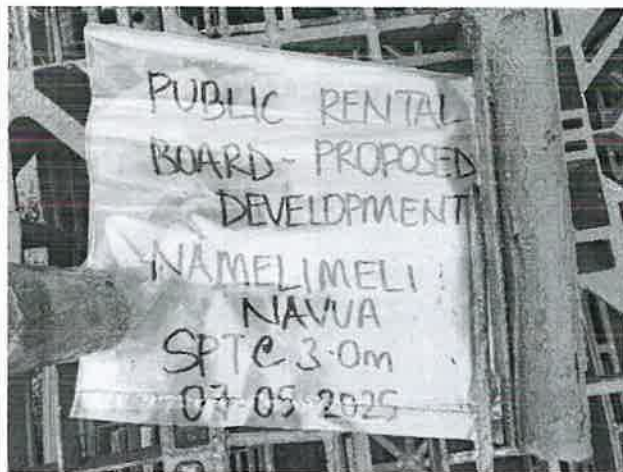
**BH01 – SPT @ 9.00m**



**BH01 – SPT @ 10.50m**







BH02 – SPT @ 3.00m



BH02 – SPT @ 4.50m



BH02 – SPT @ 6.00m



BH02 – SPT @ 9.00m



**Site Photo 1**



**Site Photo 2**



**Site Photo 3**



**Site Photo 4**



**Site Photo 5**



**Site Photo 6**



# Appendix E

## *Laboratory Test Results*

**PLASTICITY INDEX (SOILS)  
TEST REPORT**



**Engineered Designs**  
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Managers

Project : Proposed Development for Public Rental Board  
Location : Namelimeli, Navua  
Client : Public Rental Board  
Requested by : Rajiv Singh  
Sampled by : Risal Deo  
Sampling method : ED - Borehole Drill Rig  
Sample description : Grey, SILT with minor intrusions of peat  
Sample condition : Saturated As Received  
Sample reference : BH01  
Sample depth : 6.0M

Date Sample: 02/05/2025  
Date Received: 02/05/2025

Project No : GEO 50-24  
Lab Ref No : A-134-25  
Client Ref No :  
Folder No :

**Test Results**

As rec'd water content: 86.6%  
Liquid limit: 100  
Plastic limit: 56  
Plasticity Index: 44  
Linear Shrinkage: 6

Test methods		Notes
Water Content:	NZS 4402 : 1986, Test 2.1	Test performed on: Whole soil
Liquid Limit:	NZS 4402 : 1986, Test 2.2	
Plastic Limit:	NZS 4402 : 1986, Test 2.3	
Plasticity Index:	NZS 4402 : 1986, Test 2.4	
Linear Shrinkage:	NZS 4402 : 1986, Test 2.6	

Date tested : 05/05/2025  
Date reported : 14/05/2025

**Results only apply to sample tested.  
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**Approved:**

Designation : Ansaar Ali  
Geotechnical Engineer / Laboratory Manager  
Date : 14/05/2025

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**PLASTICITY INDEX (SOILS)  
TEST REPORT**



**Engineered Designs**  
Consulting Civil, Structural,  
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Managers

Project : Proposed Development for Public Rental Board  
Location : Namelimele, Navua  
Client : Public Rental Board  
Requested by : Rajiv Singh  
Sampled by : Risal Deo  
Sampling method : ED - Borehole Drill Rig  
Sample description : Grey, SILT  
Sample condition : Saturated As Received  
Sample reference : BH01  
Sample depth : 9.0M

Date Sample: 02/05/2025  
Date Received: 02/05/2025

Project No : GEO 50-24  
Lab Ref No : A-135-25  
Client Ref No :  
Folder No :

Test Results	
As rec'd water content:	88.2%
Liquid limit:	96
Plastic limit:	53
Plasticity Index:	43
Linear Shrinkage:	7

Test methods	Notes
Water Content: NZS 4402 : 1986, Test 2.1	Test performed on: Whole soil
Liquid Limit: NZS 4402 : 1986, Test 2.2	
Plastic Limit: NZS 4402 : 1986, Test 2.3	
Plasticity Index: NZS 4402 : 1986, Test 2.4	
Linear Shrinkage: NZS 4402 : 1986, Test 2.6	

Date tested : 05/05/2025  
Date reported : 14/05/2025

**Results only apply to sample tested.  
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**Approved:**

*Ansaar Ali*  
Designation : Geotechnical Engineer / Laboratory Manager  
Date : 14/05/2025

**PLASTICITY INDEX (SOILS)  
TEST REPORT**



**Engineered Designs**  
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Geotechnical Engineers & Project  
Managers

Project : **Proposed Development for Public Rental Board**  
Location : **Namelimeli, Navua**  
Client : **Public Rental Board**  
Requested by : **Rajiv Singh**  
Sampled by : **Rajiv Singh**  
Sampling method : **ED - Borehole Drill Rig**  
Sample description : **Dark grey, marine SILT with fibrous PEAT**  
Sample condition : **Saturated As Received**  
Sample reference : **BH02**  
Sample depth : **3.0M**

Date Sampled: **07/05/2025**  
Date Received: **07/05/2025**

Project No : **GEO 50-24**  
Lab Ref No : **A-136-25**  
Client Ref No :  
Folder No :

**Test Results**

As rec'd water content: **73.8%**  
Liquid limit: **82**  
Plastic limit: **52**  
Plasticity Index: **30**  
Linear Shrinkage: **14**

Test methods		Notes
Water Content:	NZS 4402 : 1986, Test 2.1	Test performed on: Whole soil
Liquid Limit:	NZS 4402 : 1986, Test 2.2	
Plastic Limit:	NZS 4402 : 1986, Test 2.3	
Plasticity Index:	NZS 4402 : 1986, Test 2.4	
Linear Shrinkage:	NZS 4402 : 1986, Test 2.6	

Date tested : **27/5/2025**  
Date reported : **04/06/2025**

**Results only apply to sample tested.**  
**This report may only be reproduced in full.**

**Approved:**

Designation : **Ansaar Ali**  
**Geotechnical Engineer / Laboratory Manager**  
Date : **04/06/2025**

**PLASTICITY INDEX (SOILS)  
TEST REPORT**



**Engineered Designs**  
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Project : **Proposed Development for Public Rental Board**  
Location : **Namelimeli, Navua**  
Client : **Public Rental Board**  
Requested by : **Rajiv Singh** Date Sampled: **07/05/2025**  
Sampled by : **Rajiv Singh** Date Received: **07/05/2025**  
Sampling method : **ED - Borehole Drill Rig**  
Sample description : **Dark grey, marine SILT with some shell fragments**  
Sample condition : **Saturated As Received**  
Sample reference : **BH02**  
Sample depth : **4.5M**

Project No : **GEO 50-24**  
Lab Ref No : **A-137-25**  
Client Ref No :  
Folder No :

**Test Results**

As rec'd water content: **83.3%**  
Liquid limit: **83**  
Plastic limit: **63**  
Plasticity Index: **20**  
Linear Shrinkage: **10**

Test methods		Notes
Water Content:	NZS 4402 : 1986, Test 2.1	Test performed on: Whole soil
Liquid Limit:	NZS 4402 : 1986, Test 2.2	
Plastic Limit:	NZS 4402 : 1986, Test 2.3	
Plasticity Index:	NZS 4402 : 1986, Test 2.4	
Linear Shrinkage:	NZS 4402 : 1986, Test 2.6	

Date tested : 27/5/2025  
Date reported : 04/06/2025

**Results only apply to sample tested.  
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*Ansaar Ali*

Designation : *Geotechnical Engineer / Laboratory Manager*

Date : 04/06/2025

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**PLASTICITY INDEX (SOILS)  
TEST REPORT**



**Engineered Designs**  
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Managers

Project : **Proposed Development for Public Rental Board**  
Location : **Namelimeli, Navua**  
Client : **Public Rental Board**  
Requested by : **Rajiv Singh**  
Sampled by : **Rajiv Singh**  
Sampling method : **ED - Borehole Drill Rig**  
Sample description : **Dark grey, marine SILT with some shell fragments**  
Sample condition : **Saturated As Received**  
Sample reference : **BH02**  
Sample depth : **6.0M**

Date Sampled: **07/05/2025**  
Date Received: **07/05/2025**

Project No : **GEO 50-24**  
Lab Ref No : **A-138-25**  
Client Ref No :  
Folder No :

**Test Results**

As rec'd water content: **78.7%**  
Liquid limit: **82**  
Plastic limit: **58**  
Plasticity Index: **24**  
Linear Shrinkage: **11**

Test methods		Notes
Water Content:	NZS 4402 : 1986, Test 2.1	Test performed on: Whole soil
Liquid Limit:	NZS 4402 : 1986, Test 2.2	
Plastic Limit:	NZS 4402 : 1986, Test 2.3	
Plasticity Index:	NZS 4402 : 1986, Test 2.4	
Linear Shrinkage:	NZS 4402 : 1986, Test 2.6	

Date tested : **27/5/2025**  
Date reported : **04/06/2025**

**Results only apply to sample tested.**  
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Designation : **Ansaar Ali**  
**Geotechnical Engineer / Laboratory Manager**  
Date : **04/06/2025**

# Appendix F

## *Liquefaction Analysis Results*





# Engineered Designs

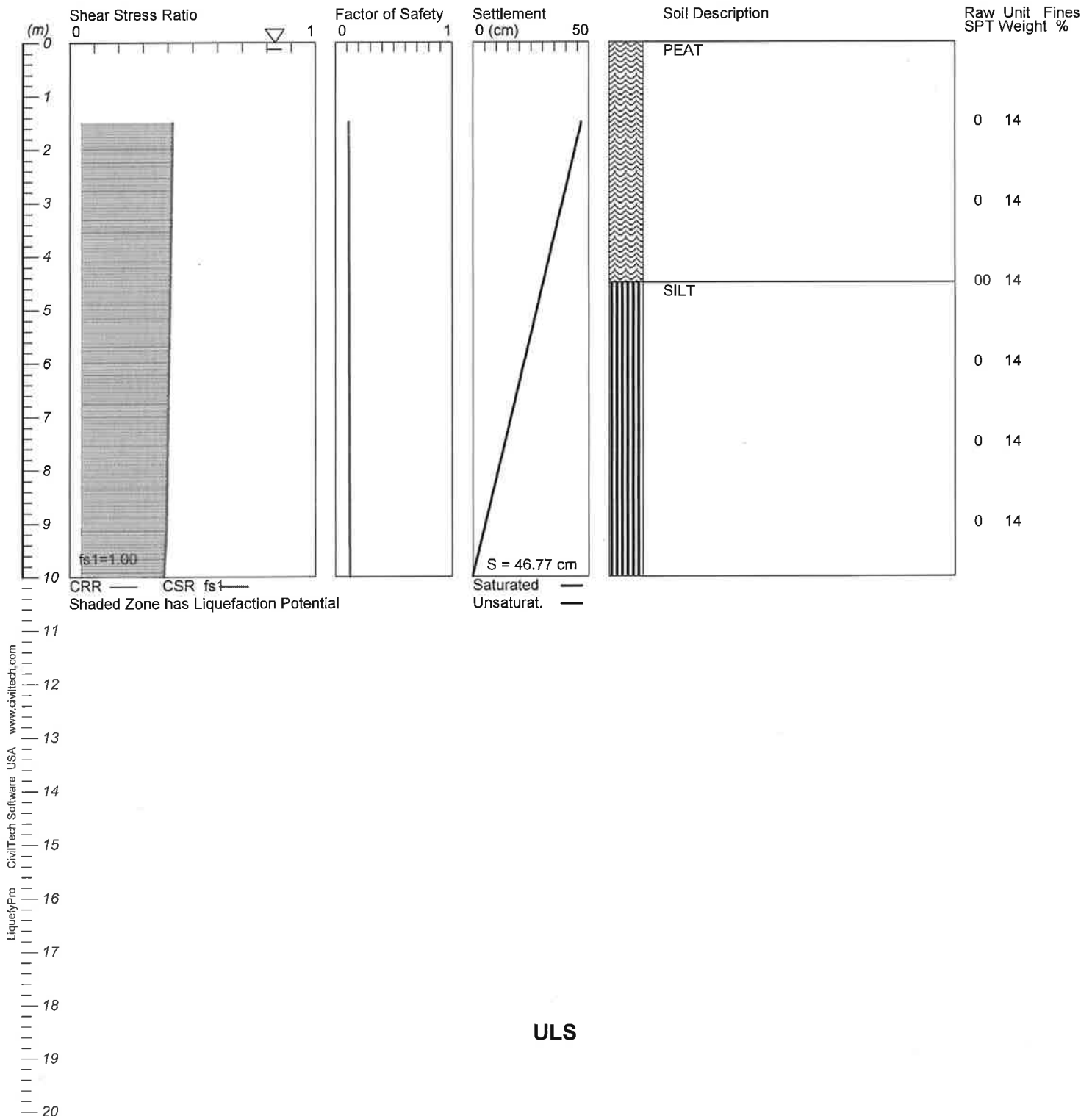
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## LIQUEFACTION ANALYSIS

### Geotechnical Investigation for PRB

Hole No.=01 Water Depth=0 m

Magnitude=7.5  
Acceleration=0.196g





# Engineered Designs

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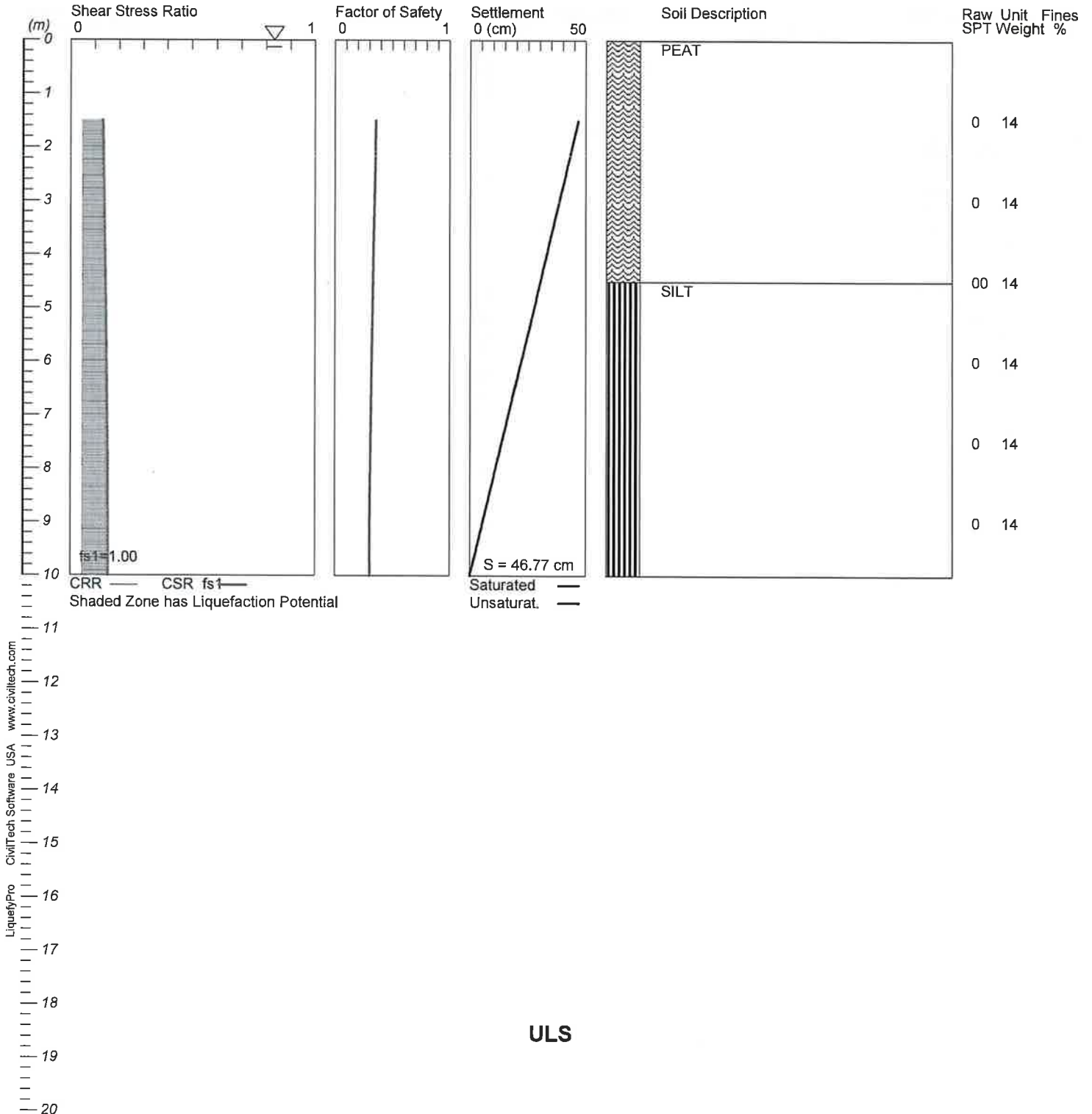
## LIQUEFACTION ANALYSIS

### Geotechnical Investigation for PRB

Hole No.=01 Water Depth=0 m

Ground Improvement of Fill=1.9 m

Magnitude=7.5  
Acceleration=0.196g





# Engineered Designs

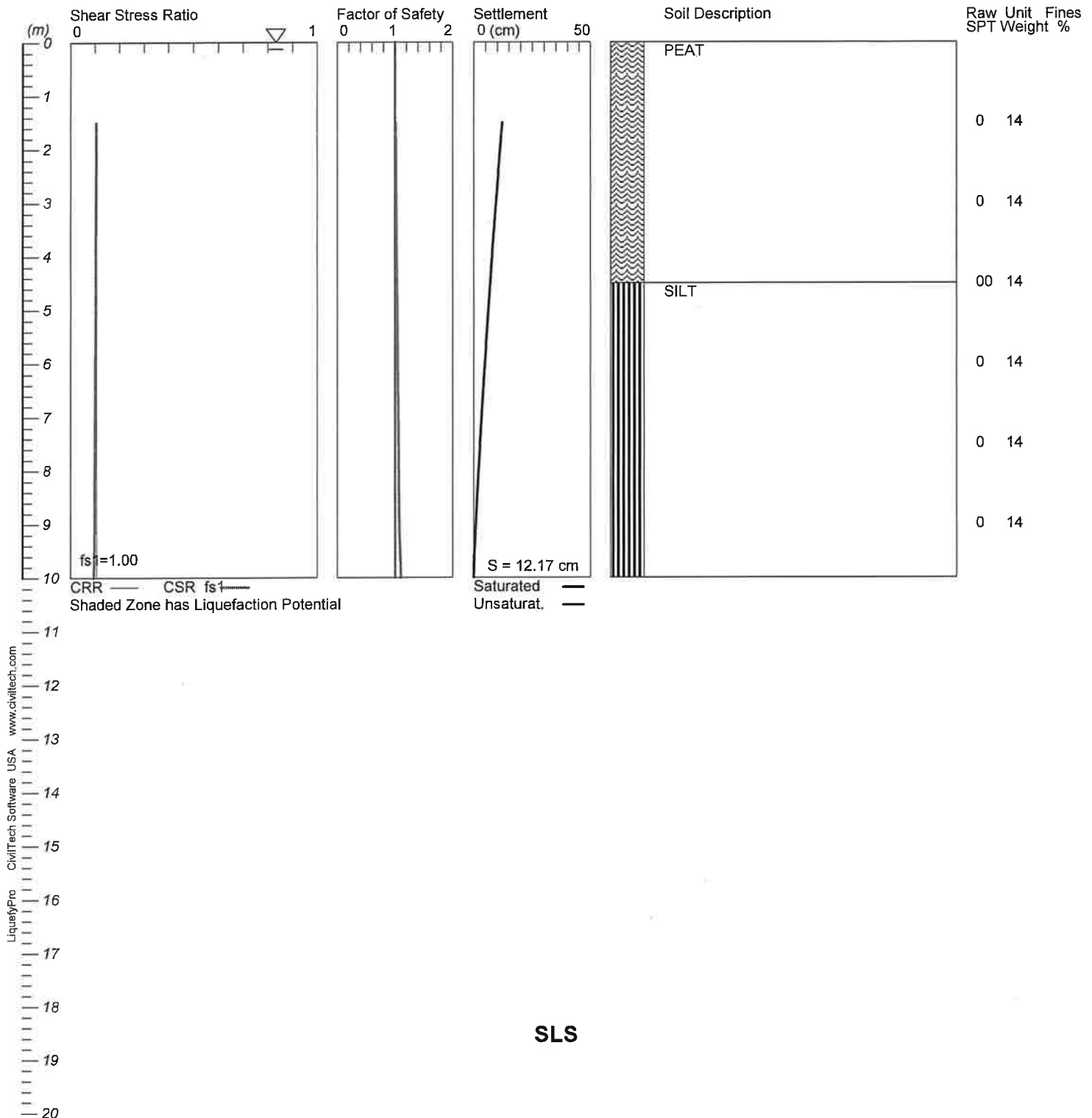
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## LIQUEFACTION ANALYSIS

### Geotechnical Investigation for PRB

Hole No.=01 Water Depth=0 m

Magnitude=5.5  
Acceleration=0.049g



SLS



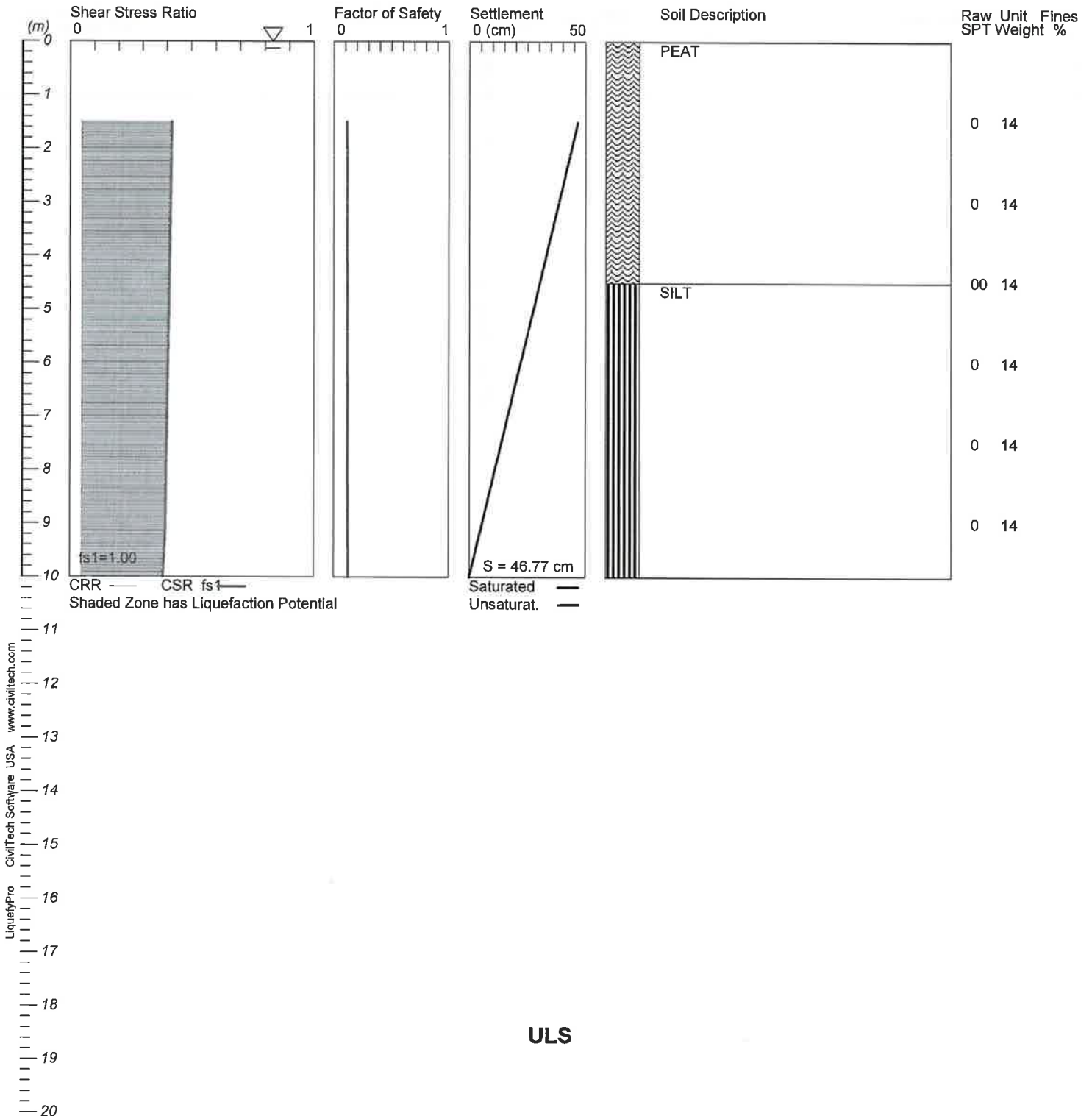
**Engineered Designs**  
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# LIQUEFACTION ANALYSIS

## Geotechnical Investigation for PRB

Hole No.=02 Water Depth=0 m

Magnitude=7.5  
Acceleration=0.196g





# Engineered Designs

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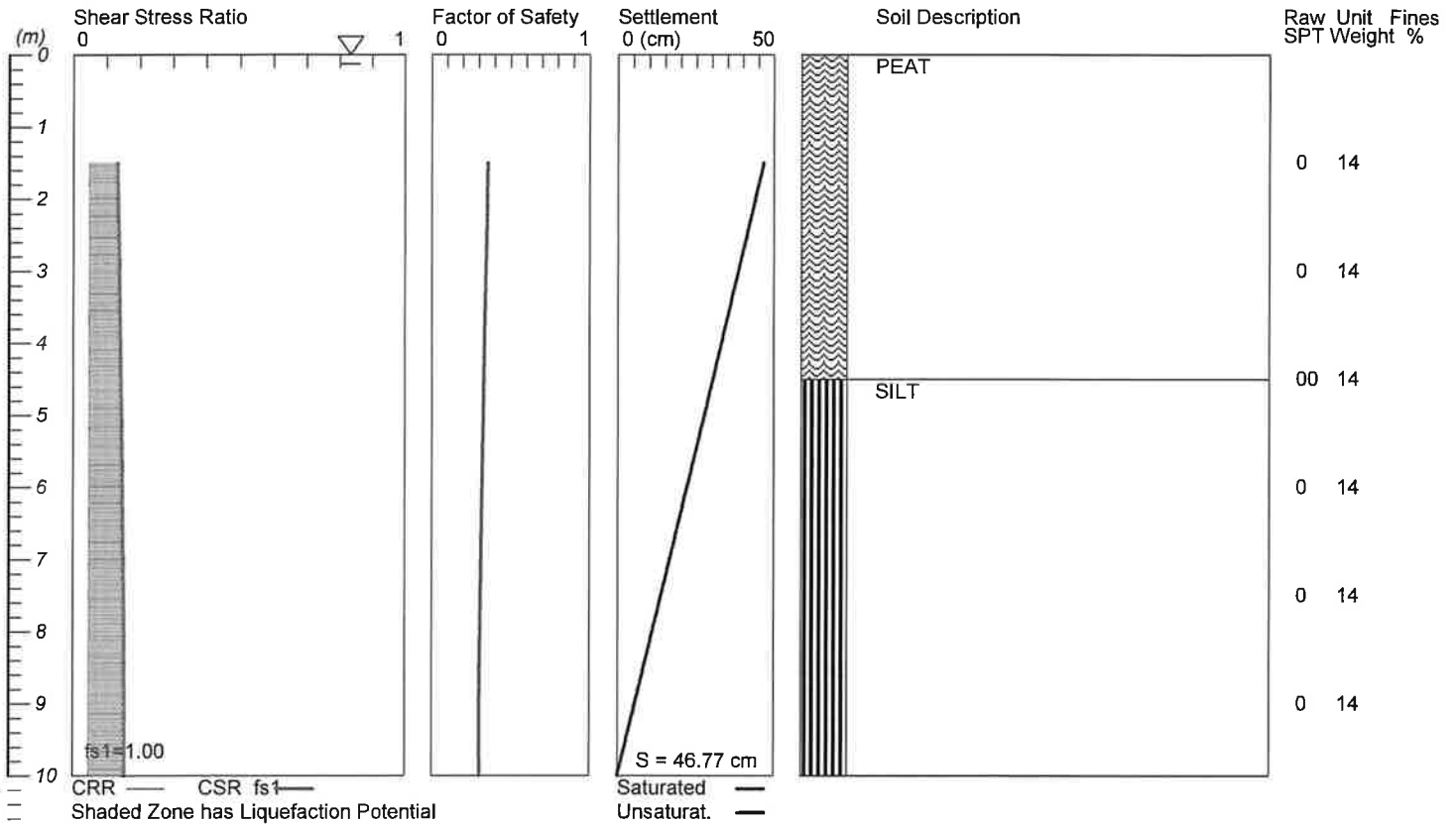
## LIQUEFACTION ANALYSIS

### Geotechnical Investigation for PRB

Hole No.=02 Water Depth=0 m

Ground Improvement of Fill=1.9 m

Magnitude=7.5  
Acceleration=0.196g



ULS





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# LIQUEFACTION ANALYSIS

## Geotechnical Investigation for PRB

Hole No.=02 Water Depth=0 m

Magnitude=5.5  
Acceleration=0.049g

