

APPENDIX : A

*GEOTECHNICAL MAP*

APPENDIX : B

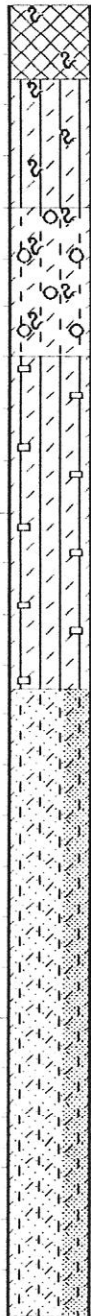
*SOIL PROFILES*

PORTION 117 OF THE FARM  
 ROODEKRANS 183-IQ  
 Homes Haven X 12  
 Geotechnical Investigation

HOLE No: TP1  
 Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
 1:15



0.00 Moist, light orange brown, very loose, intact, river sand with roots; fill.

0.15 Very moist, brown, soft, micro shattered, clayey SILT with minor roots; hillwash.

0.40 Abundant fine to coarse subangular and angular GRAVEL in a matrix of very moist, brown, clayey silt with roots; pebble marker. Overall consistency is loose to medium dense.

0.70 Very moist, light brown speckled pale orange and black, soft, intact, clayey SILT with abundant fine and medium weathered gravel; residual greenstone.

1.35 Moist, pale yellow and green stained black blotched brown, dense to very dense, laminated silty SAND with large pockets of light brown soft clay and minor soft weathered fragments; residual greenstone.

M8005

2.60

NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8005 taken from 1,4--2,6m.

CONTRACTOR : DP Plant  
 MACHINE : Case 780  
 DRILLED BY :  
 PROFILED BY : MvdW  
 TYPE SET BY :  
 SETUP FILE : STANDARD.SET

INCLINATION : Vertical  
 DIAM : 650mm trench  
 DATE : 5 March 2004  
 DATE : 5 March 2004  
 DATE : 30/03/04 13:16  
 TEXT : C:\DOTPLOT\DISWIL~1.TXT

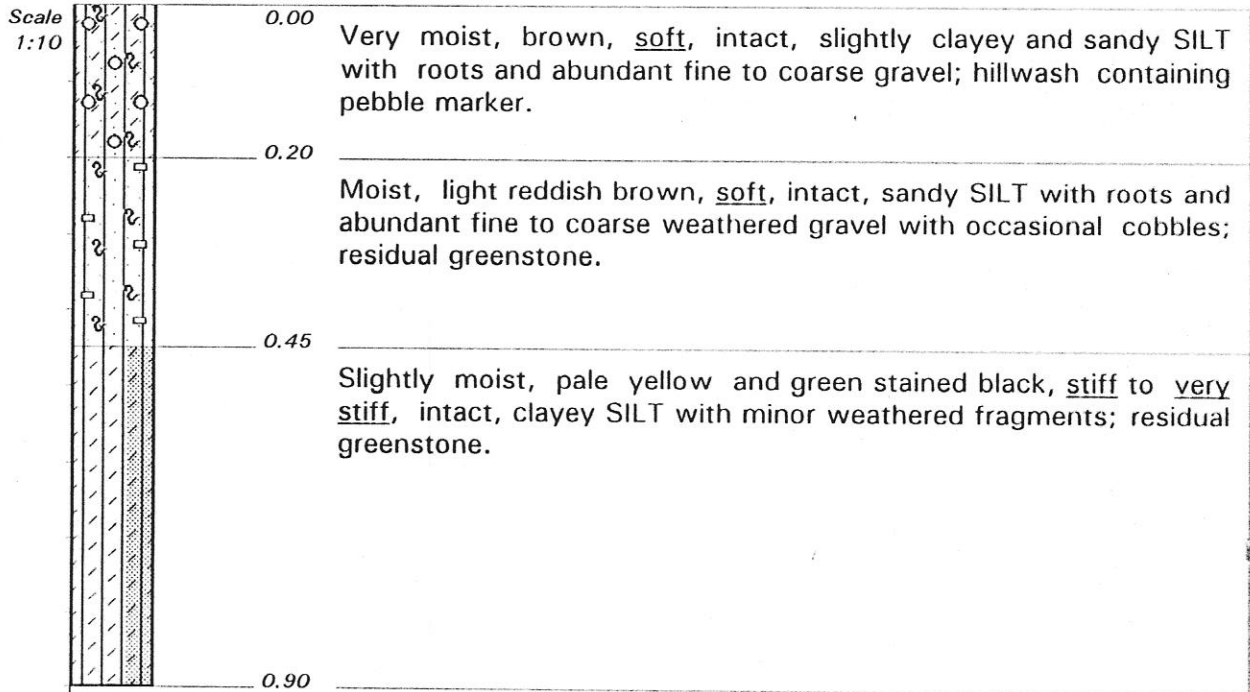
ELEVATION :  
 X-COORD :  
 Y-COORD :

HOLE No: TP1

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP2  
Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Stopped near refusal on very soft rock greenstone.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

TYPE SET BY :  
SETUP FILE : STANDARD.SET

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWIL~1.TXT

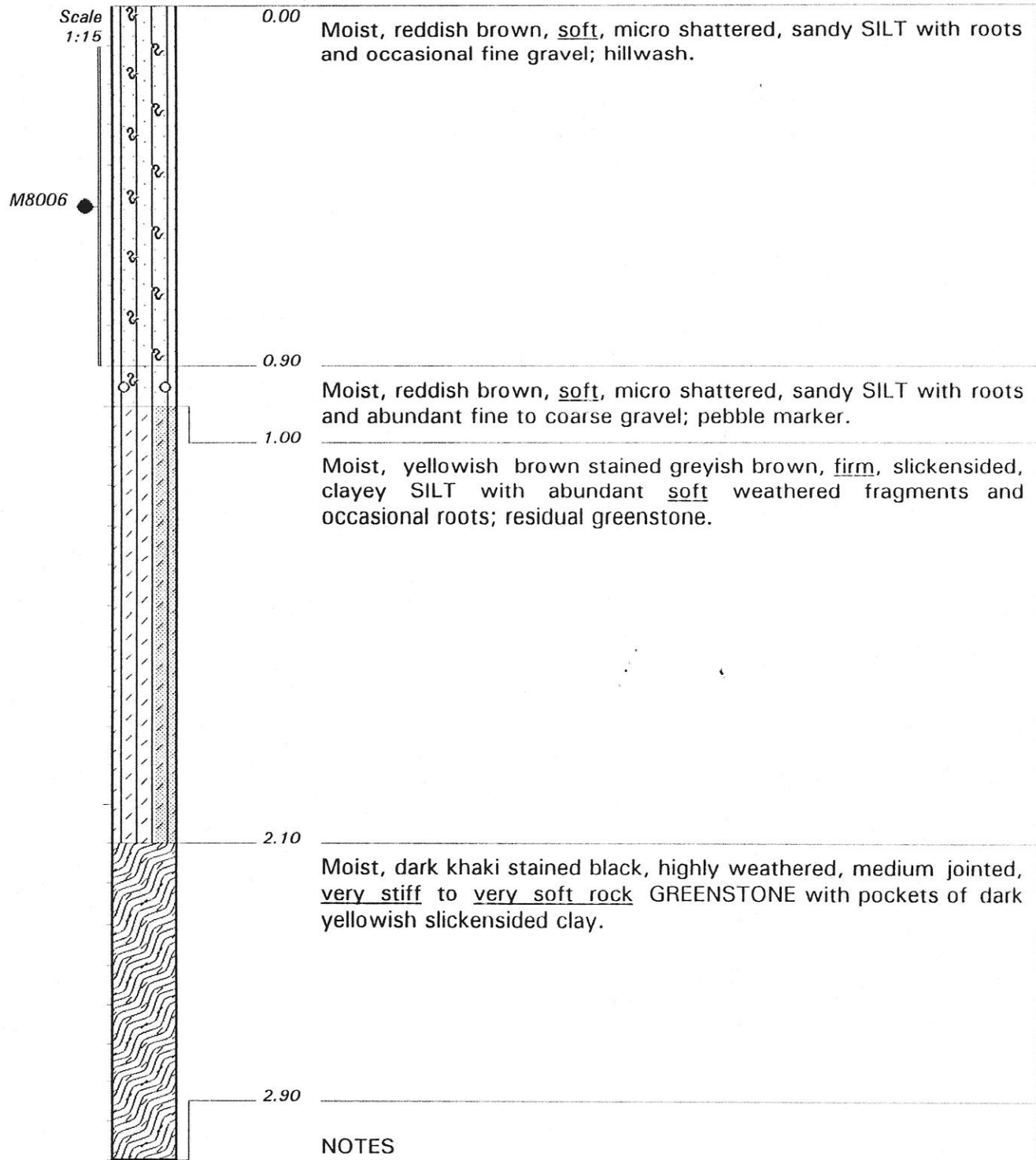
ELEVATION :  
X-COORD :  
Y-COORD :

HOLE No: TP2

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP3  
Sheet 1 of 1

JOB NUMBER: V04/009



- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8006 taken from 0,1--0,9m.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

ELEVATION :  
X-COORD :  
Y-COORD :

TYPE SET BY :  
SETUP FILE : STANDARD.SET

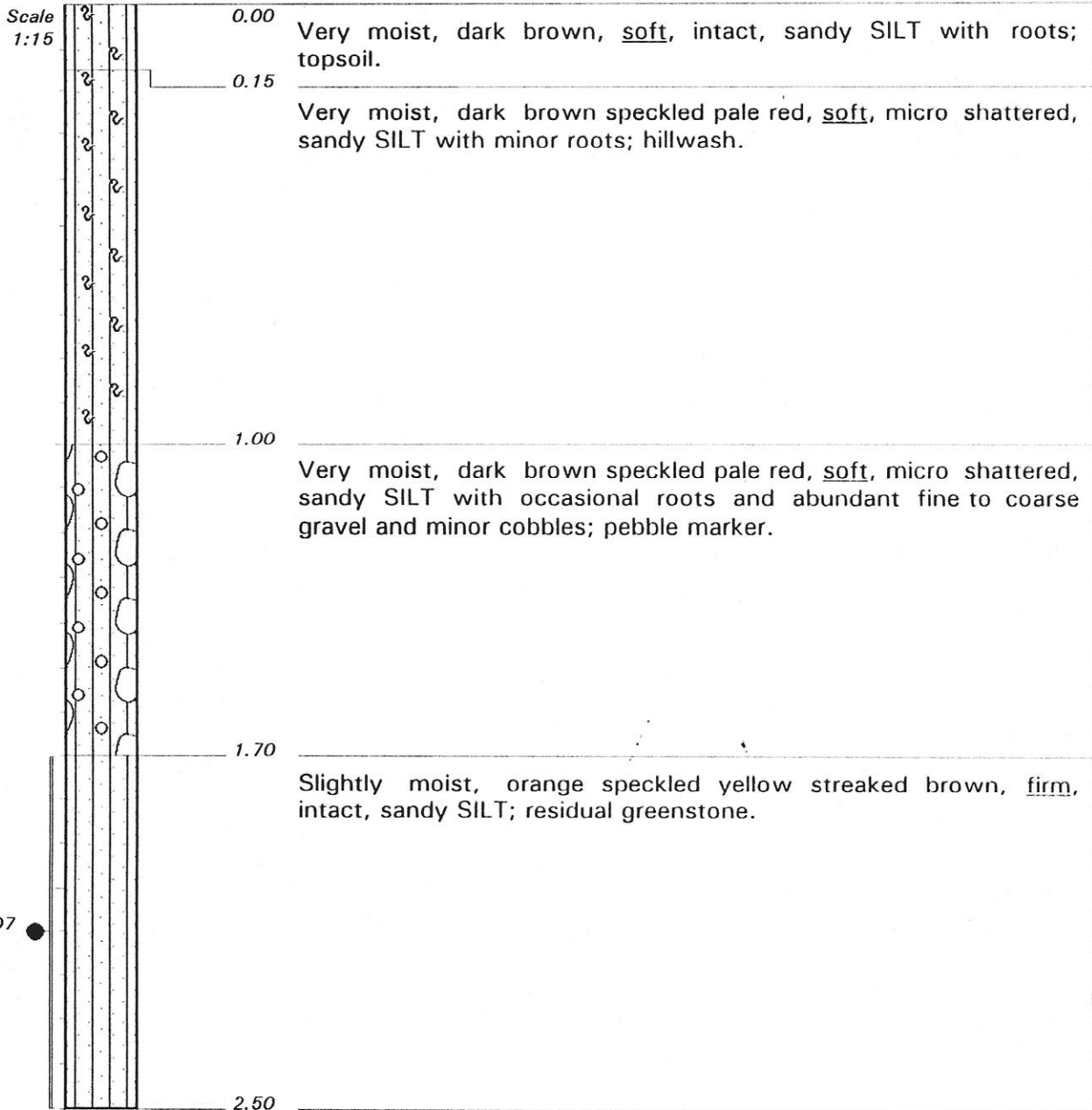
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TEXT : C:\DOTPLOT\DISWIL~1.TXT

HOLE No: TP3

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP4  
Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8007 taken from 1,7--2,5m.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

TYPE SET BY :  
SETUP FILE : STANDARD.SET

INCLINATION :

DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWIL~1.TXT

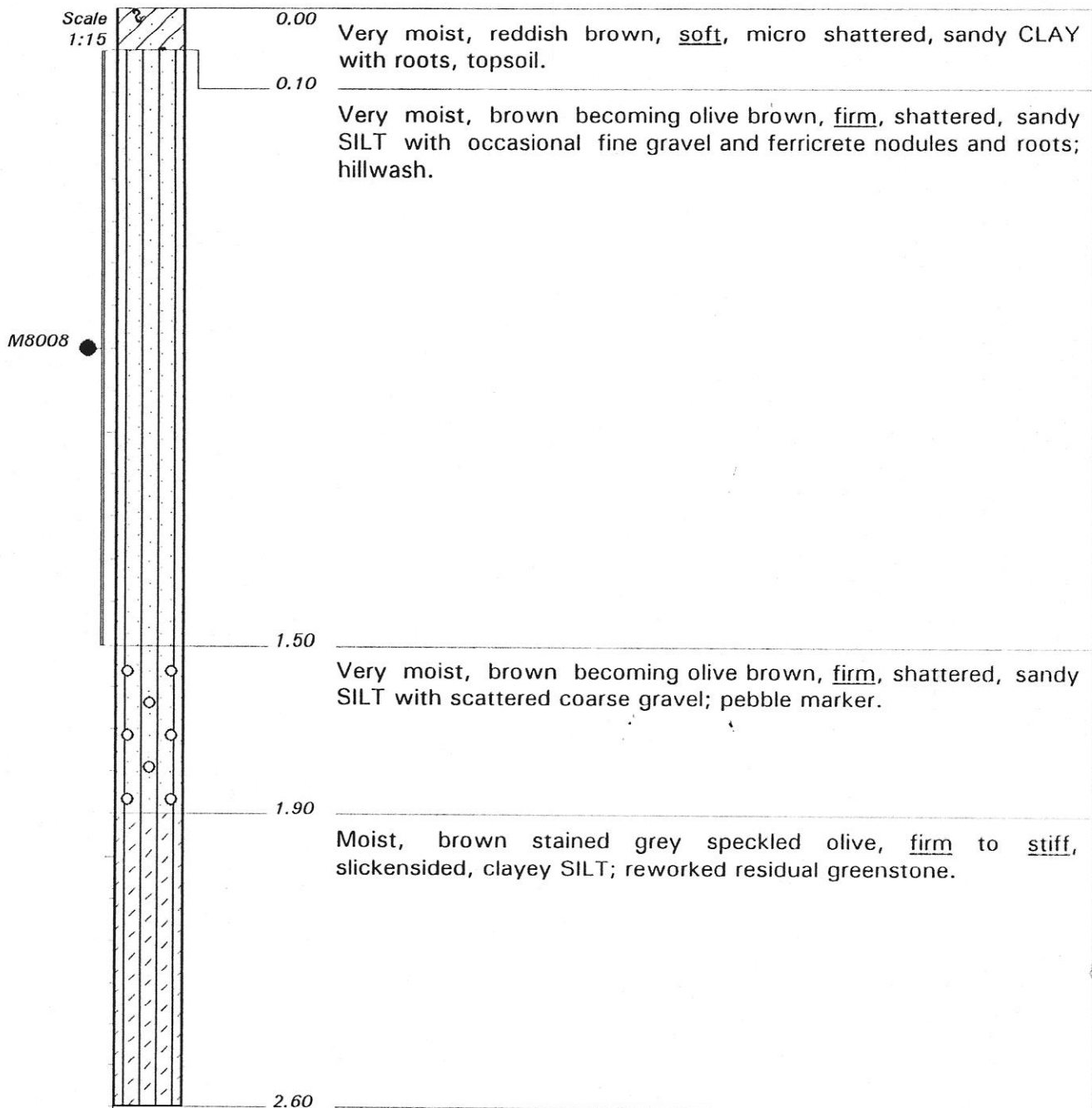
ELEVATION :  
X-COORD :  
Y-COORD :

HOLE No: TP4

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP5  
Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8008 taken from 0,1--1,5m.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW  
TYPE SET BY :  
SETUP FILE : STANDARD.SET

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004  
DATE : 30/03/04 13:16  
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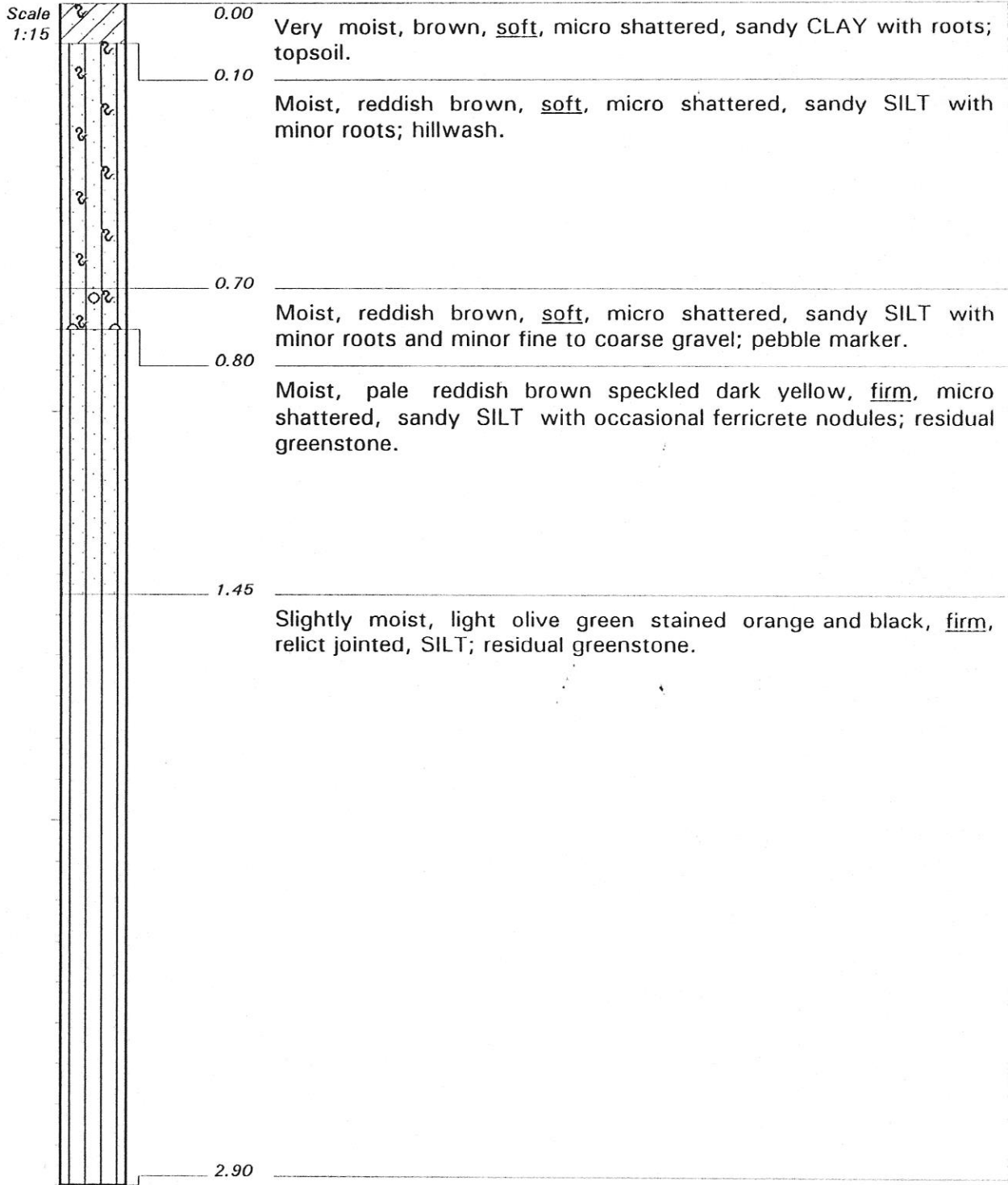
ELEVATION :  
X-COORD :  
Y-COORD :

HOLE No: TP5

PORTION 117 OF THE FARM  
 ROODEKRANS 183-IQ  
 Homes Haven X 12  
 Geotechnical Investigation

HOLE No: TP6  
 Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
 MACHINE : Case 780  
 DRILLED BY :  
 PROFILED BY : MvdW  
 TYPE SET BY :  
 SETUP FILE : STANDARD.SET

INCLINATION :  
 DIAM : 650mm trench  
 DATE : 5 March 2004  
 DATE : 5 March 2004  
 DATE : 30/03/04 13:16  
 TEXT : C:\DOTPLOT\DISWIL~1.TXT

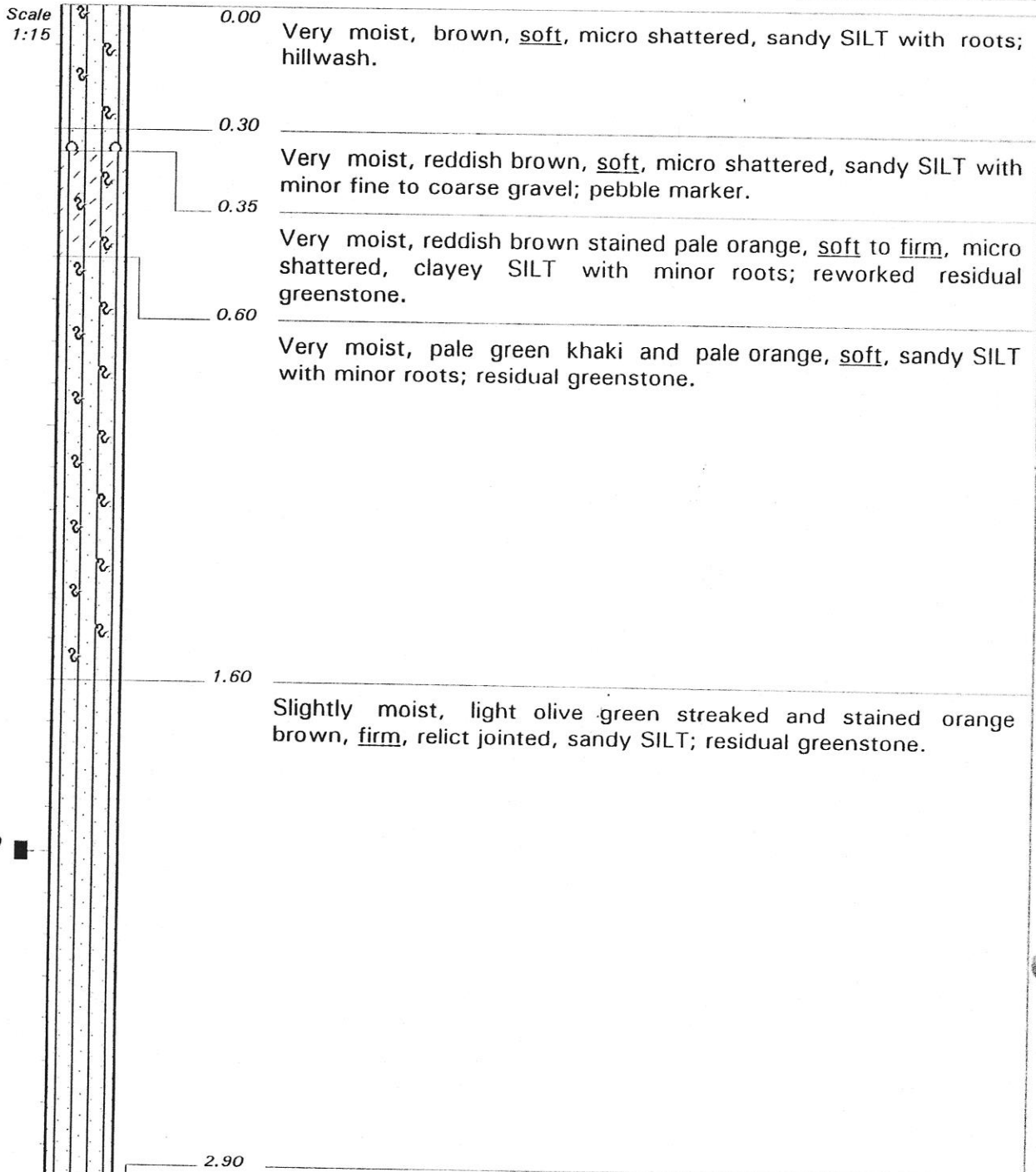
ELEVATION :  
 X-COORD :  
 Y-COORD :

HOLE No: TP6

PORTION 117 OF THE FARM  
 ROODEKRANS 183-IQ  
 Homes Haven X 12  
 Geotechnical Investigation

HOLE No: TP7  
 Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Undisturbed sample M8009 taken from 2,0m.

CONTRACTOR : DP Plant  
 MACHINE : Case 780

DRILLED BY :  
 PROFILED BY : MvdW

TYPE SET BY :  
 SETUP FILE : STANDARD.SET

INCLINATION :

DIAM : 650mm trench  
 DATE : 5 March 2004  
 DATE : 5 March 2004

DATE : 30/03/04 13:16  
 TEXT : C:\DOTPLOT\DISWIL~1.TXT

ELEVATION :  
 X-COORD :  
 Y-COORD :

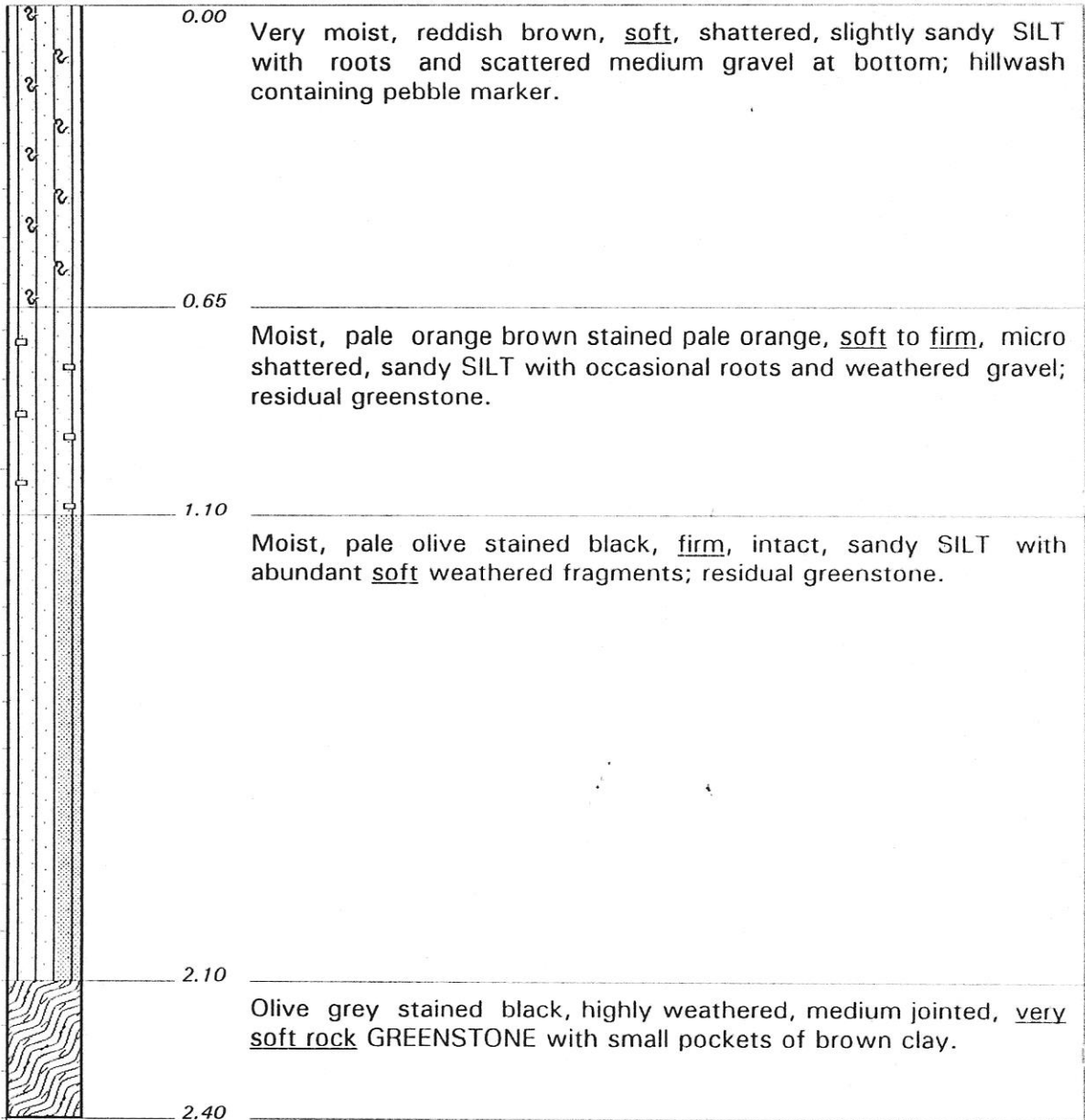
HOLE No: TP7

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP8  
Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
1:15



NOTES

- 1) Stopped near refusal on very soft to soft rock greenstone.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

ELEVATION :  
X-COORD :  
Y-COORD :

TYPE SET BY :  
SETUP FILE : STANDARD.SET

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWIL\1.TXT

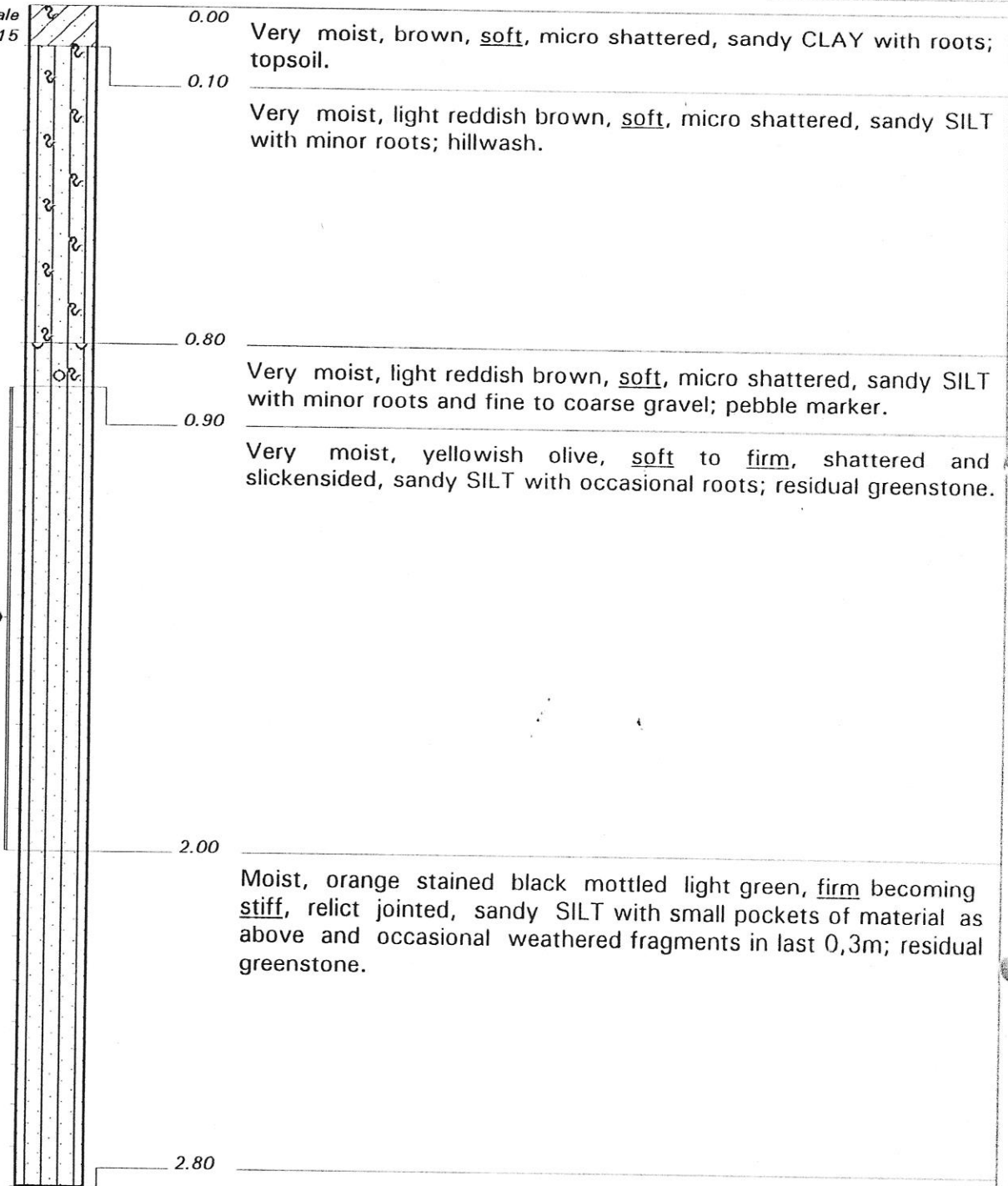
HOLE No: TP8

PORTION 117 OF THE FARM  
 ROODEKRANS 183-IQ  
 Homes Haven X 12  
 Geotechnical Investigation

HOLE No: TP9  
 Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
 1:15



M8010

NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8010 taken from 0,9--2,0m.

CONTRACTOR : DP Plant  
 MACHINE : Case 780  
 DRILLED BY :  
 PROFILED BY : MvdW  
 TYPE SET BY :  
 SETUP FILE : STANDARD.SET

INCLINATION :  
 DIAM : 650mm trench  
 DATE : 5 March 2004  
 DATE : 5 March 2004  
 DATE : 30/03/04 13:16  
 TEXT : C:\DOTPLOT\DISWIL~1.TXT

ELEVATION :  
 X-COORD :  
 Y-COORD :

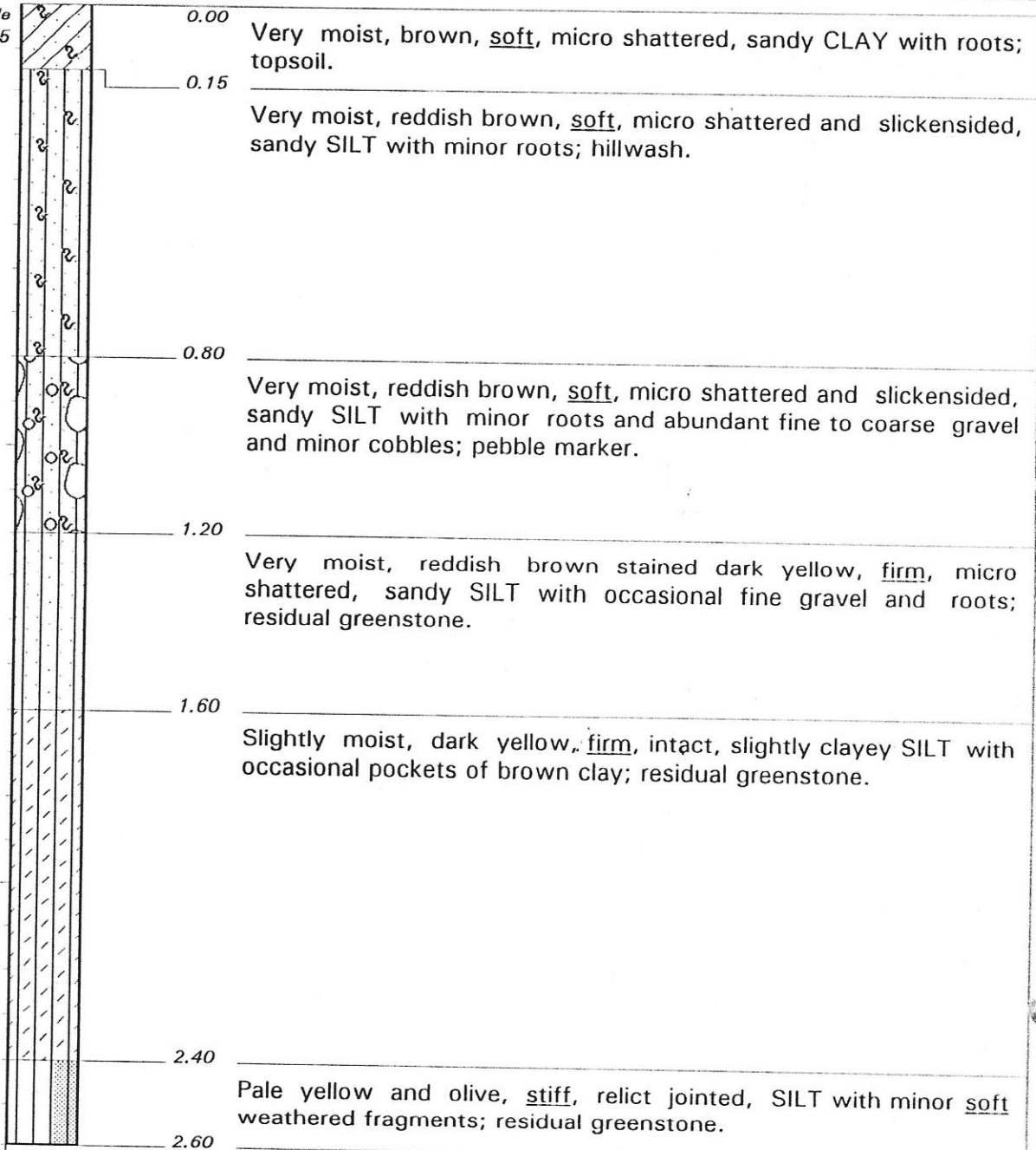
HOLE No: TP9

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP10  
Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
1:15



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

TYPE SET BY :  
SETUP FILE : STANDARD.SET

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWIL~1.TXT

ELEVATION :  
X-COORD :  
Y-COORD :

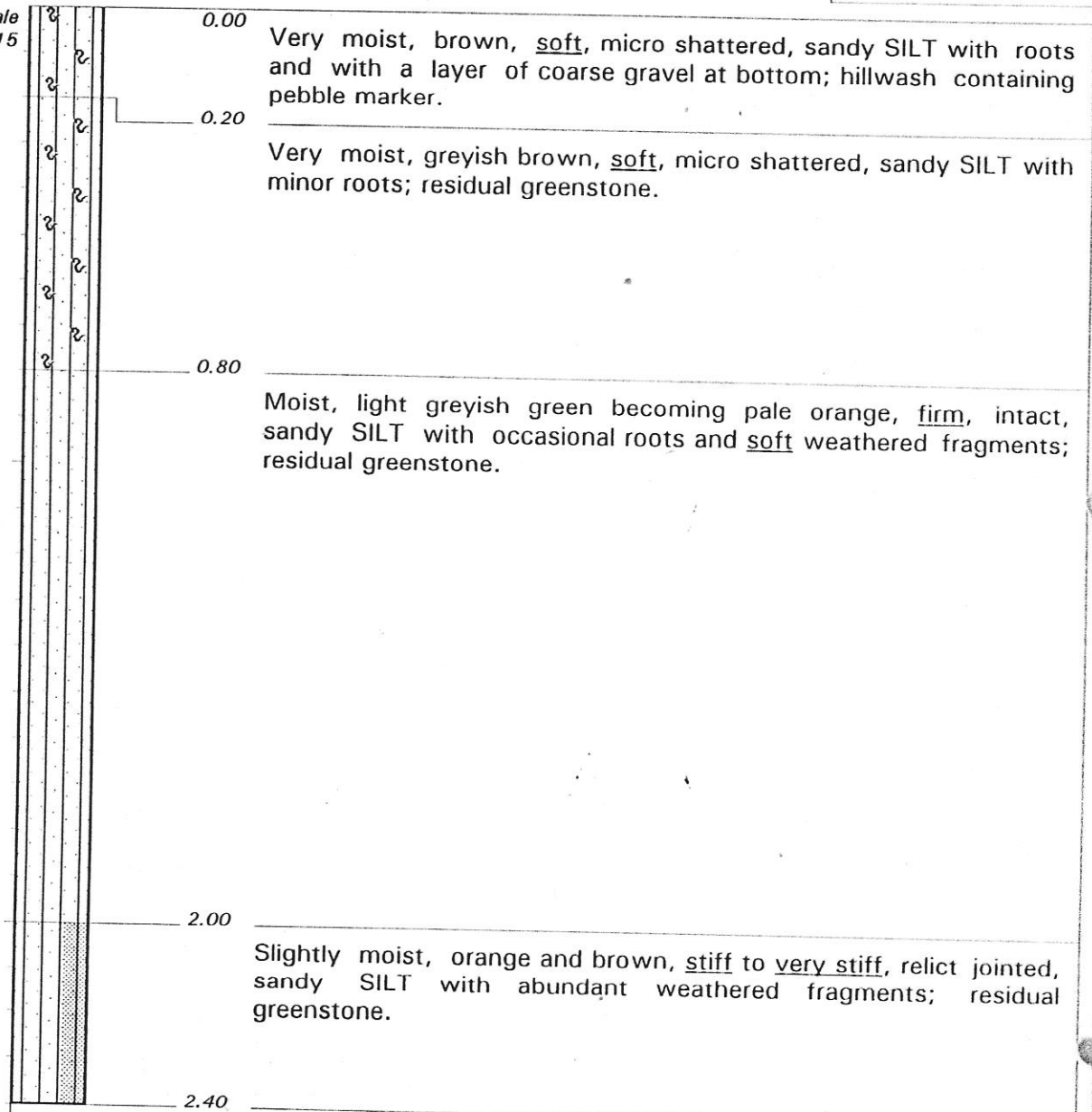
HOLE No: TP10

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP11  
Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
1:15



NOTES

- 1) Stopped due to very difficult excavation on very stiff material.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

TYPE SET BY :  
SETUP FILE : STANDARD.SET

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWII \*1 TXT

ELEVATION :  
X-COORD :  
Y-COORD :

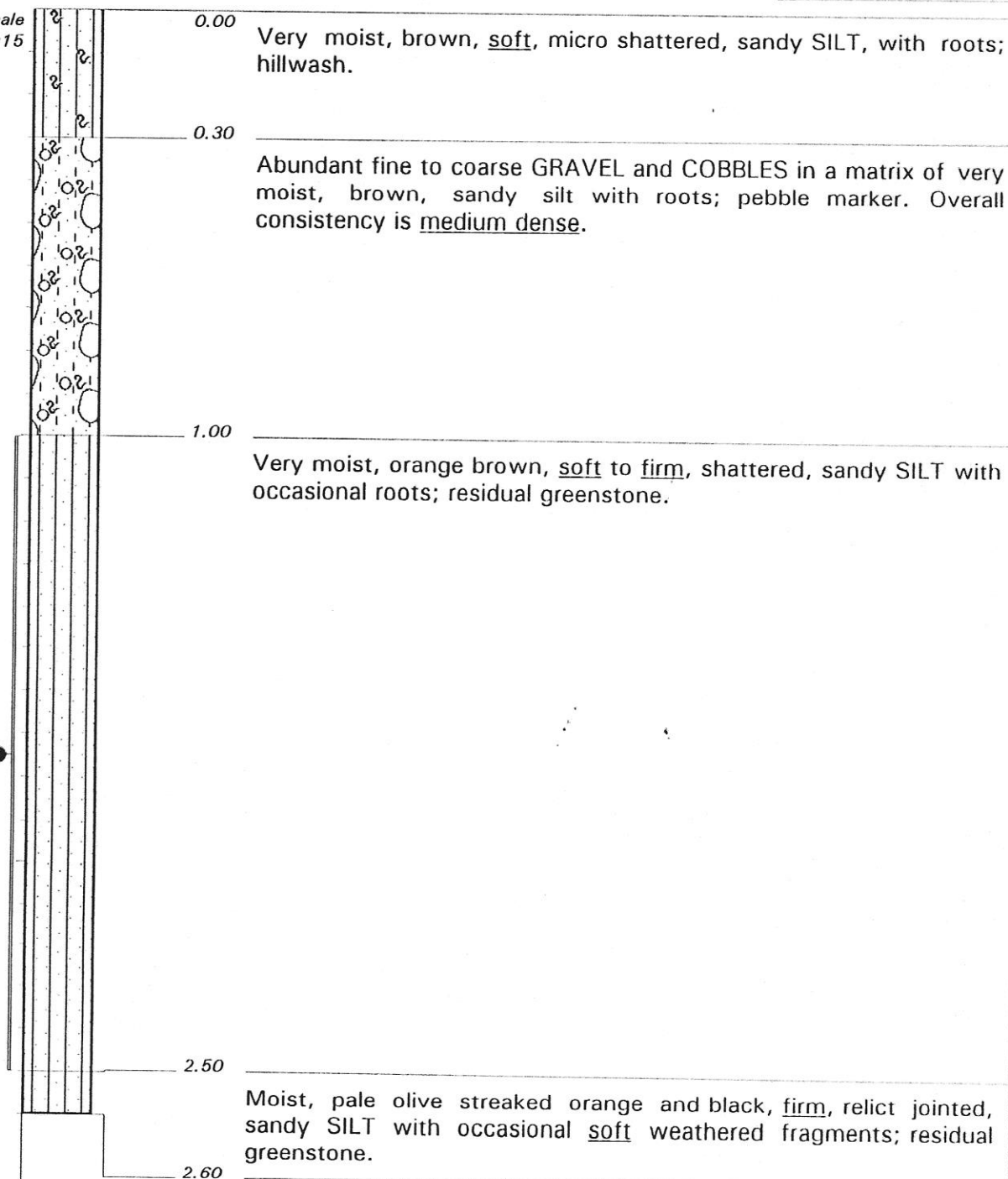
HOLE No: TP11

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP12  
Sheet 1 of 1

JOB NUMBER: V04/009

Scale  
1:15



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.
- 3) Small disturbed sample M8011 taken from 1,0--2,5m.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

ELEVATION :  
X-COORD :  
Y-COORD :

TYPE SET BY :  
SETUP FILE : STANDARD.SET

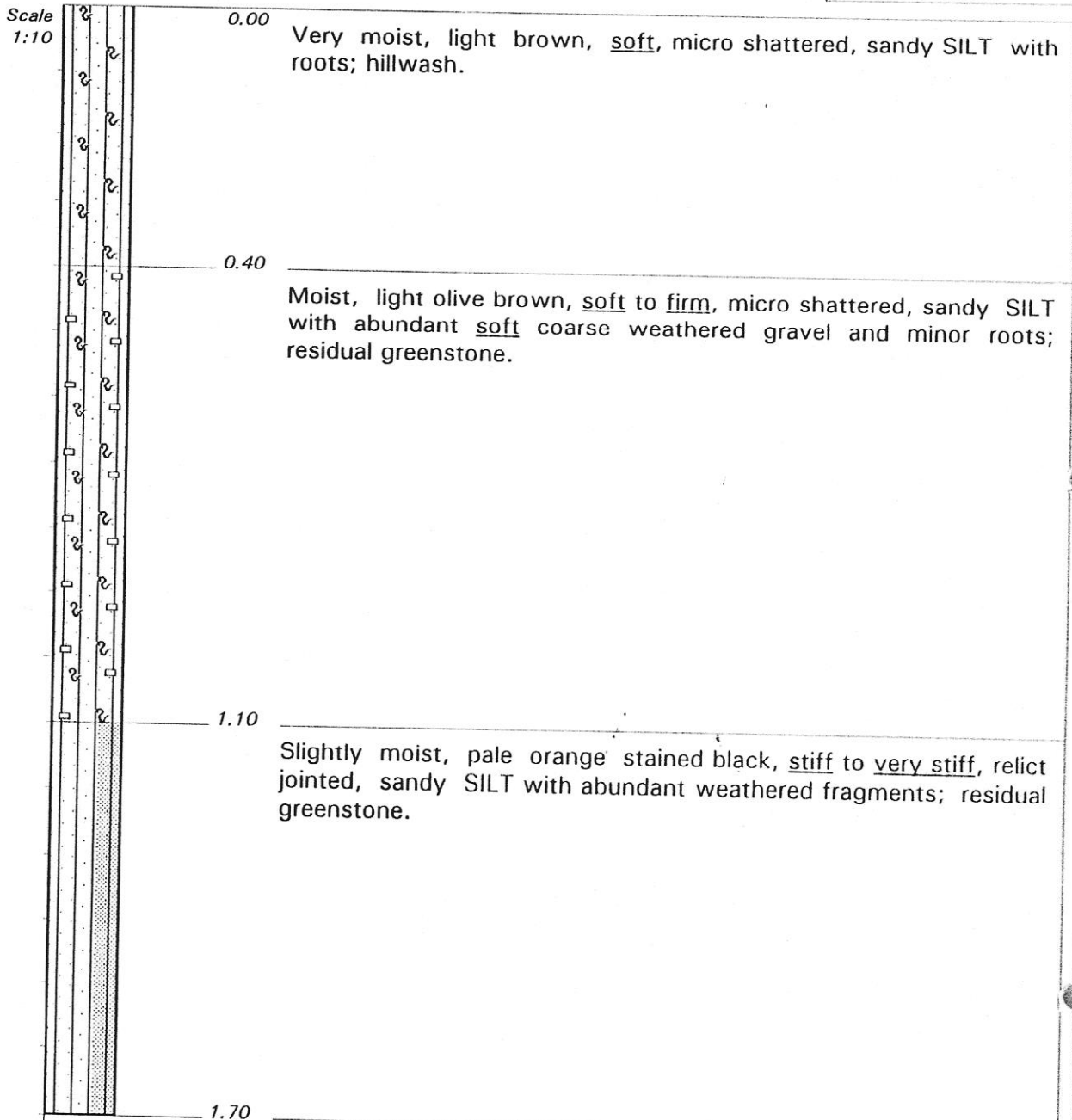
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HOLE No: TP12

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP13  
Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Stopped due to very difficult excavation on very soft rock greenstone.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

ELEVATION :  
X-COORD :  
Y-COORD :

TYPE SET BY :  
SETUP FILE : STANDARD.SET

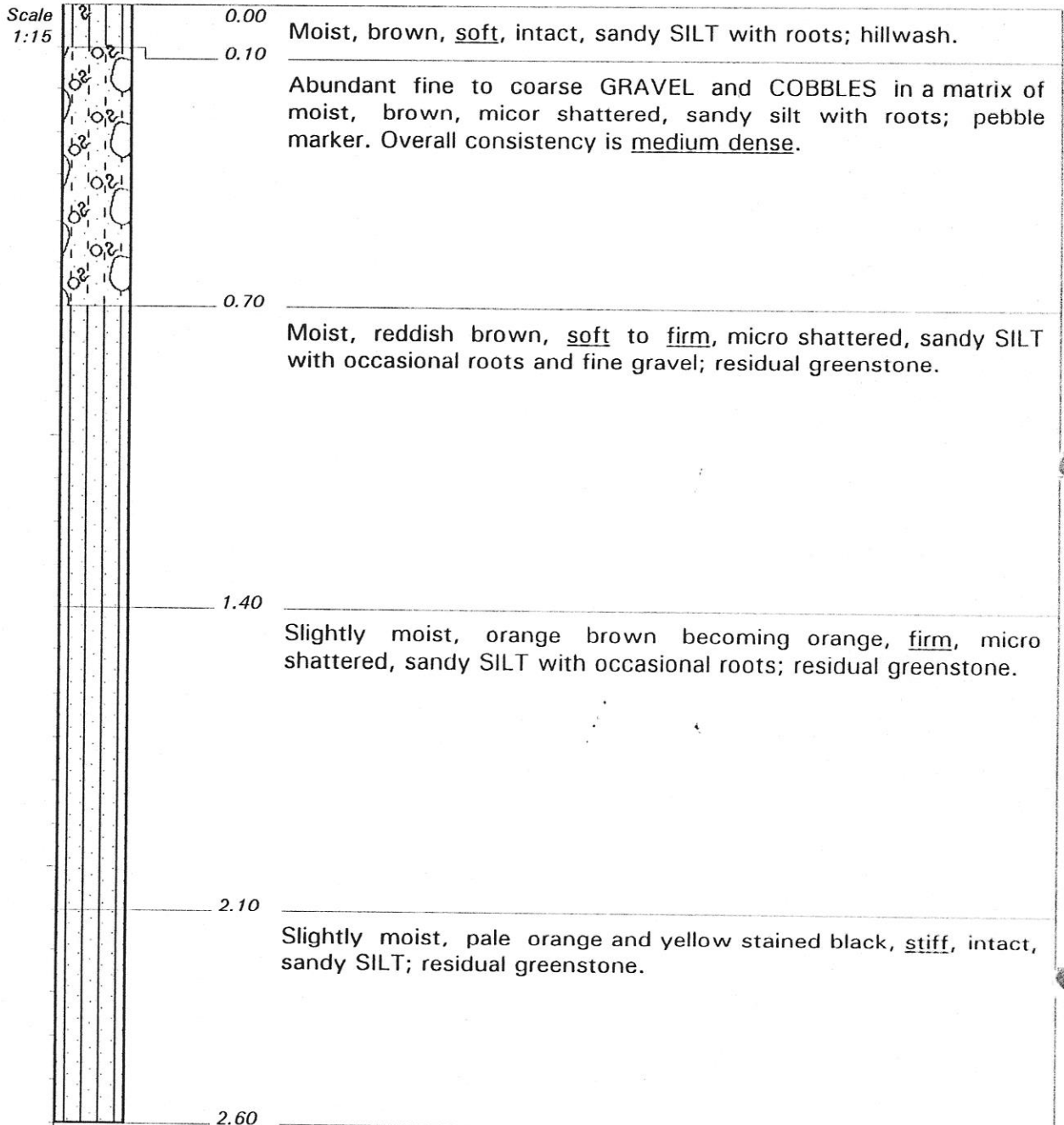
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HOLE No: TP13

PORTION 117 OF THE FARM  
ROODEKRANS 183-IQ  
Homes Haven X 12  
Geotechnical Investigation

HOLE No: TP14  
Sheet 1 of 1

JOB NUMBER: V04/009



NOTES

- 1) Not excavated to refusal.
- 2) No water seepage encountered.

CONTRACTOR : DP Plant  
MACHINE : Case 780  
DRILLED BY :  
PROFILED BY : MvdW

INCLINATION :  
DIAM : 650mm trench  
DATE : 5 March 2004  
DATE : 5 March 2004

ELEVATION :  
X-COORD :  
Y-COORD :

TYPE SET BY :  
SETUP FILE : STANDARD.SET

DATE : 30/03/04 13:16  
TEXT : C:\DOTPLOT\DISWII -1 TXT

HOLE No: TP14

APPENDIX : C

**LABORATORY TEST RESULTS**



# MATROLAB

(PTY) LTD.

## CIVIL ENGINEERING SERVICES

28B Boundary Rd, Brakpan 1541  
P O Box 2393 Brakpan 1540

Tel: 011 740 9410/1  
Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

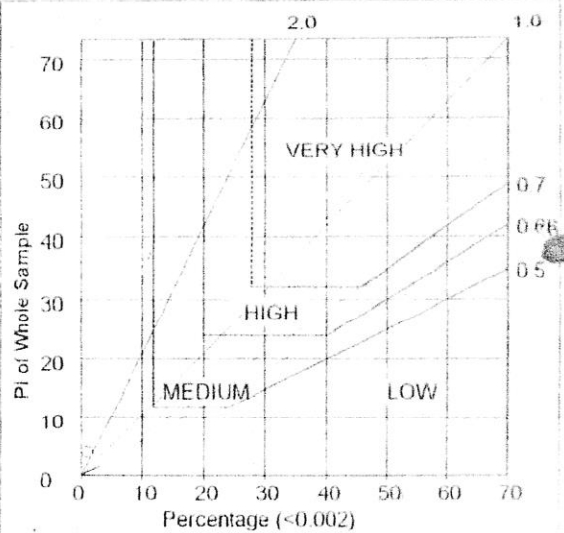
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project : Diswilmar  
Your Ref :  
Our Ref : 07999  
Date Reported : 12.03.2004

### FOUNDATION INDICATOR (ASTM: D422)

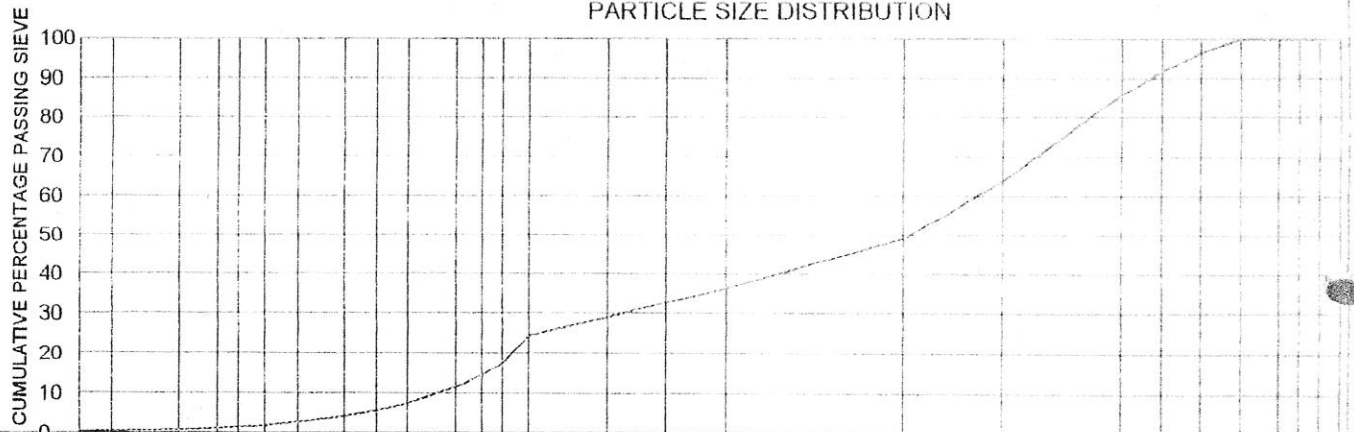
Sample No. : 8005 Hole No. : TP1 Depth (mm) : 1400-2600  
Material Description : Dark yellowish orange shale

|                            |                                  |
|----------------------------|----------------------------------|
| Liquid Limit (%) : 32      | Moisture Content (%) : 15.8      |
| Plasticity Index : 10      | P.R.A. Classification : A-2-4(0) |
| Linear Shrinkage (%) : 5.0 | Unified Soil Classification : SC |
| Grading Modulus : 1.90     | Activity : 6.87                  |
| Percentage (<0.002) : 1.0  | Heave Classification : LOW       |
| PI of Whole Sample : 4     |                                  |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 1.5      | 13.1     | 34.6     | 50.9       | SILTY SAND     |
| Jennings         | 1.5      | 23.2     | 39.2     | 36.1       | SILTY SAND     |
| British Standard | 0.6      | 16.9     | 31.6     | 50.9       | SILTY SAND     |

### PARTICLE SIZE DISTRIBUTION



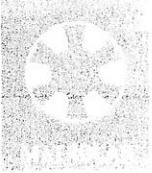
| Sieve Size (mm) | 0    | 0.0015 | 0.0020    | 0.0036 | 0.0050      | 0.0060 | 0.0075      | 0.0100 | 0.0150    | 0.0200    | 0.0250      | 0.0400      | 0.0500 | 0.0600      | 0.0750 | 0.1500 | 0.2500      | 0.4250 | 2.0000        | 4.7500 | 13.200        | 19.000 | 26.500 | 37.500 | 53.000 | 63.000 | 75.000 |
|-----------------|------|--------|-----------|--------|-------------|--------|-------------|--------|-----------|-----------|-------------|-------------|--------|-------------|--------|--------|-------------|--------|---------------|--------|---------------|--------|--------|--------|--------|--------|--------|
| % Pass. Sieve   | 0    | 1      | 1         | 1      | 2           | 2      | 3           | 4      | 6         | 8         | 12          | 15          | 17     | 25          | 29     | 33     | 36          | 49     | 64            | 86     | 92            | 96     | 100    | 100    | 100    | 100    |        |
| JENN            | CLAY |        |           | SILT   |             |        |             |        | SAND      |           |             |             |        | GRAVEL      |        |        |             |        |               |        |               |        |        |        |        |        |        |
| ASTM            | CLAY |        |           | SILT   |             |        |             |        | FINE SAND |           | MEDIUM SAND |             |        | COARSE SAND |        | GRAVEL |             |        |               |        |               |        |        |        |        |        |        |
| BS              | CLAY |        | FINE SILT |        | MEDIUM SILT |        | COARSE SILT |        |           | FINE SAND |             | MEDIUM SAND |        | COARSE SAND |        |        | FINE GRAVEL |        | MEDIUM GRAVEL |        | COARSE GRAVEL |        |        |        |        |        |        |

Remarks :

FORM: A6

Program ver 1.5

for MATROLAB (PTY) LTD.



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Tel: 011 740 9410/1  
Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

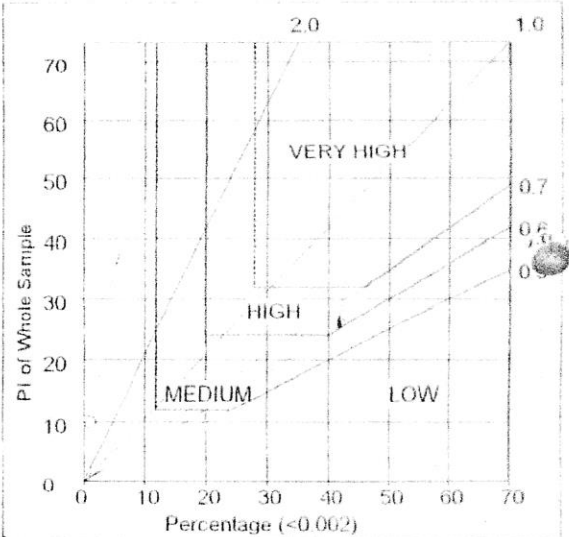
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project : Diswilmar  
Your Ref :  
Our Ref : 07999  
Date Reported : 12.03.2004

### FOUNDATION INDICATOR (ASTM: D422)

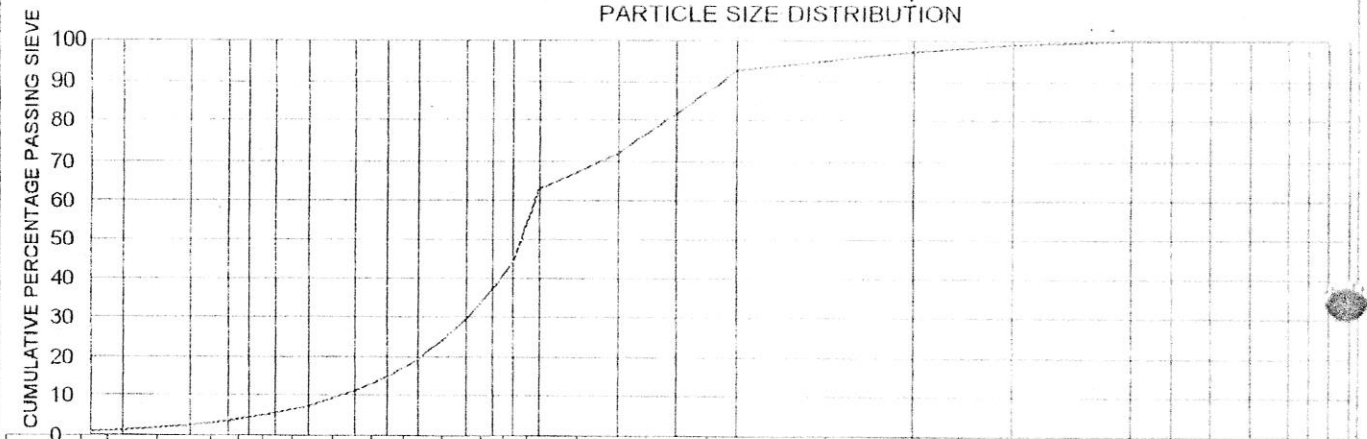
Sample No. : 8007    Hole No. : TP4    Depth (mm) : 1700-2500  
Material Description : Dark yellowish orange soil

|                            |                                  |
|----------------------------|----------------------------------|
| Liquid Limit (%) : 38      | Moisture Content (%) : 23.4      |
| Plasticity Index : 11      | P.R.A. Classification : A-6(6)   |
| Linear Shrinkage (%) : 5.5 | Unified Soil Classification : ML |
| Grading Modulus : 0.47     | Activity : 6.72                  |
| Percentage (<0.002) : 1.0  | Heave Classification : LOW       |
| PI of Whole Sample : 10    |                                  |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 3.7      | 33.5     | 59.9     | 2.9        | SILTY SAND     |
| Jennings         | 3.7      | 59.3     | 36.1     | 1.0        | SANDY SILT     |
| British Standard | 1.5      | 43.1     | 52.5     | 2.9        | SILTY SAND     |

### PARTICLE SIZE DISTRIBUTION



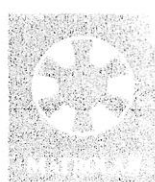
| Sieve Size (mm) | 0.0015 | 0.0020    | 0.0036      | 0.0050      | 0.0060    | 0.0075      | 0.0100      | 0.0150      | 0.0200        | 0.0260        | 0.0400 | 0.0500      | 0.0600 | 0.0750 | 0.1500 | 0.2500 | 0.4250 | 2.0000 | 4.7500 | 10.000 | 19.000 | 26.500 | 37.500 | 50.000 | 63.000 | 75.000 |
|-----------------|--------|-----------|-------------|-------------|-----------|-------------|-------------|-------------|---------------|---------------|--------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| % Pass. Sieve   | 1      | 1         | 3           | 4           | 4         | 6           | 7           | 11          | 15            | 19            | 30     | 37          | 45     | 63     | 72     | 82     | 93     | 97     | 99     | 100    | 100    | 100    | 100    | 100    | 100    | 100    |
| JENN            | CLAY   |           | SILT        |             |           |             |             | SAND        |               |               |        |             |        |        |        |        |        | GRAVEL |        |        |        |        |        |        |        |        |
| ASTM            | CLAY   |           | SILT        |             |           |             |             | FINE SAND   |               | MEDIUM SAND   |        | COARSE SAND |        | GRAVEL |        |        |        |        |        |        |        |        |        |        |        |        |
| BS              | CLAY   | FINE SILT | MEDIUM SILT | COARSE SILT | FINE SAND | MEDIUM SAND | COARSE SAND | FINE GRAVEL | MEDIUM GRAVEL | COARSE GRAVEL |        |             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

Remarks :

FORM: A6

Program ver 1.5

for MATROLAB (PTY) LTD.



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(PTY) LTD.

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P O Box 2393 Brakpan 1540

Tel: 011 740 9410/1  
Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

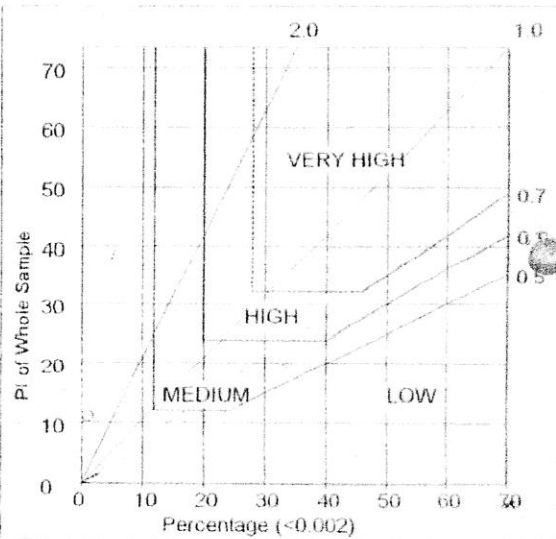
M J van der Walt Ing. Geol.  
P O Box 10972  
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Attention: Martin van der Walt

Project : Diswilmar  
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Date Reported : 12.03.2004

#### FOUNDATION INDICATOR (ASTM: D422)

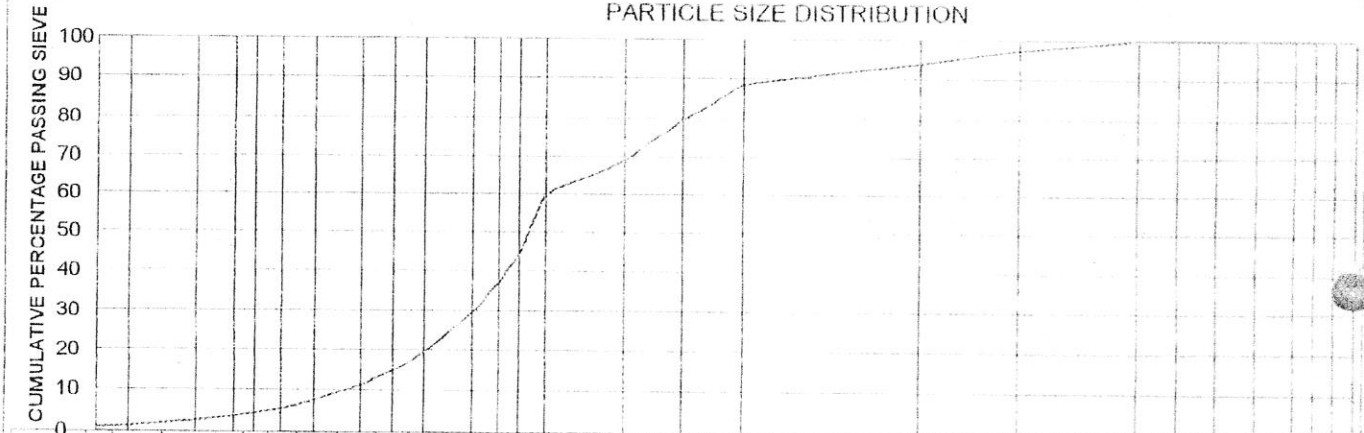
Sample No. : 8008      Hole No. : TP5      Depth (mm) : 100-1500  
Material Description : Dark brown ferricrete

|                            |                                  |
|----------------------------|----------------------------------|
| Liquid Limit (%) : 33      | Moisture Content (%) : 21.5      |
| Plasticity Index : 13      | P.R.A. Classification : A-6(6)   |
| Linear Shrinkage (%) : 6.0 | Unified Soil Classification : CL |
| Grading Modulus : 0.58     | Activity : 7.39                  |
| Percentage (<0.002) : 1.0  | Heave Classification : LOW       |
| PI of Whole Sample : 11    |                                  |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 3.7      | 33.5     | 56.5     | 6.3        | SILTY SAND     |
| Jennings         | 3.7      | 56.4     | 37.1     | 2.8        | SANDY SILT     |
| British Standard | 1.5      | 43.2     | 49.1     | 6.3        | SILTY SAND     |

#### PARTICLE SIZE DISTRIBUTION



| Sieve Size (mm) | % Pass Sieve | JENN | CLAY | SILT | SAND | GRAVEL |
|-----------------|--------------|------|------|------|------|--------|
| 0.0015          | 1            |      |      |      |      |        |
| 0.0020          | 1            |      |      |      |      |        |
| 0.0036          | 3            |      |      |      |      |        |
| 0.0050          | 4            |      |      |      |      |        |
| 0.0060          | 4            |      |      |      |      |        |
| 0.0075          | 6            |      |      |      |      |        |
| 0.0100          | 7            |      |      |      |      |        |
| 0.0150          | 11           |      |      |      |      |        |
| 0.0200          | 15           |      |      |      |      |        |
| 0.0260          | 19           |      |      |      |      |        |
| 0.0400          | 30           |      |      |      |      |        |
| 0.0500          | 37           |      |      |      |      |        |
| 0.0600          | 45           |      |      |      |      |        |
| 0.0750          | 60           |      |      |      |      |        |
| 0.1500          | 68           |      |      |      |      |        |
| 0.2500          | 80           |      |      |      |      |        |
| 0.4250          | 88           |      |      |      |      |        |
| 2.0000          | 94           |      |      |      |      |        |
| 4.7500          | 97           |      |      |      |      |        |
| 13.200          | 100          |      |      |      |      |        |
| 19.000          | 100          |      |      |      |      |        |
| 26.500          | 100          |      |      |      |      |        |
| 37.500          | 100          |      |      |      |      |        |
| 53.000          | 100          |      |      |      |      |        |
| 63.000          | 100          |      |      |      |      |        |
| 75.000          | 100          |      |      |      |      |        |

|      |      |           |             |             |           |             |             |             |               |               |
|------|------|-----------|-------------|-------------|-----------|-------------|-------------|-------------|---------------|---------------|
| JENN | CLAY | SILT      |             |             | SAND      |             |             | GRAVEL      |               |               |
| ASTM | CLAY | SILT      |             |             | FINE SAND | MEDIUM SAND | COARSE SAND | GRAVEL      |               |               |
| BS   | CLAY | FINE SILT | MEDIUM SILT | COARSE SILT | FINE SAND | MEDIUM SAND | COARSE SAND | FINE GRAVEL | MEDIUM GRAVEL | COARSE GRAVEL |

Remarks :

*[Signature]*  
for MATROLAB (PTY) LTD

# MATROLAB

(PTY) LTD.

## CIVIL ENGINEERING SERVICES

28B Boundary Rd, Brakpan 1541  
P O Box 2393 Brakpan 1540

Tel: 011 740 9410/1  
Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

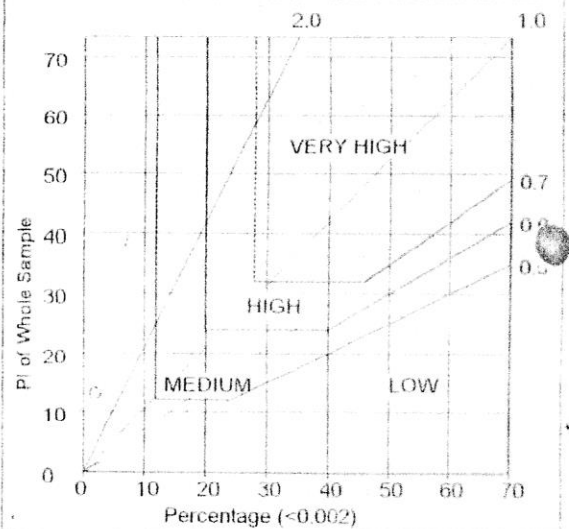
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project : Diswilmar  
Your Ref :  
Our Ref : 07999  
Date Reported : 12.03.2004

### FOUNDATION INDICATOR (ASTM: D422)

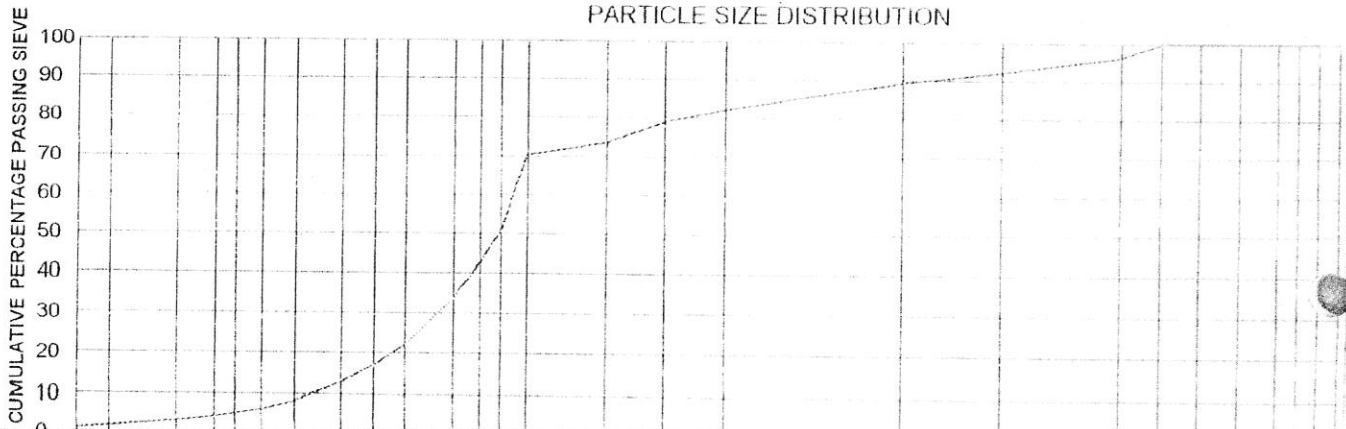
Sample No. : 8009 Hole No. : TP7 Depth (mm) : 2000  
Material Description : Light brown silty soil

|                            |                                   |
|----------------------------|-----------------------------------|
| Liquid Limit (%) : 42      | Moisture Content (%) : 10.0       |
| Plasticity Index : 16      | P.R.A. Classification : A-7-6(10) |
| Linear Shrinkage (%) : 8.0 | Unified Soil Classification : ML  |
| Grading Modulus : 0.58     | Activity : 7.62                   |
| Percentage (<0.002) : 2.0  | Heave Classification : LOW        |
| PI of Whole Sample : 13    |                                   |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 4.3      | 38.4     | 46.7     | 10.7       | SILTY SAND     |
| Jennings         | 4.3      | 66.3     | 21.4     | 8.0        | SANDY SILT     |
| British Standard | 1.7      | 49.5     | 38.1     | 10.7       | SANDY SILT     |

### PARTICLE SIZE DISTRIBUTION



| Sieve Size (mm) | % Pass. Sieve | JENN | CLAY | SILT | SAND | GRAVEL |
|-----------------|---------------|------|------|------|------|--------|
| 1 (0.0015)      | 1             |      |      |      |      |        |
| 2 (0.0020)      | 2             |      |      |      |      |        |
| 3 (0.0036)      | 3             |      |      |      |      |        |
| 4 (0.0050)      | 4             |      |      |      |      |        |
| 5 (0.0060)      | 5             |      |      |      |      |        |
| 6 (0.0075)      | 6             |      |      |      |      |        |
| 9 (0.0100)      | 9             |      |      |      |      |        |
| 13 (0.0150)     | 13            |      |      |      |      |        |
| 17 (0.0200)     | 17            |      |      |      |      |        |
| 22 (0.0260)     | 22            |      |      |      |      |        |
| 34 (0.0400)     | 34            |      |      |      |      |        |
| 43 (0.0500)     | 43            |      |      |      |      |        |
| 51 (0.0600)     | 51            |      |      |      |      |        |
| 71 (0.0750)     | 71            |      |      |      |      |        |
| 74 (0.1500)     | 74            |      |      |      |      |        |
| 79 (0.2500)     | 79            |      |      |      |      |        |
| 82 (0.4250)     | 82            |      |      |      |      |        |
| 89 (2.0000)     | 89            |      |      |      |      |        |
| 92 (4.7500)     | 92            |      |      |      |      |        |
| 96 (13.200)     | 96            |      |      |      |      |        |
| 100 (19.000)    | 100           |      |      |      |      |        |
| 100 (26.500)    | 100           |      |      |      |      |        |
| 100 (37.500)    | 100           |      |      |      |      |        |
| 100 (53.000)    | 100           |      |      |      |      |        |
| 100 (63.000)    | 100           |      |      |      |      |        |
| 100 (75.000)    | 100           |      |      |      |      |        |

Remarks :  
FORM: A6 Program ver 1.5  
for MATROLAB (PTY) LTD.



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P O Box 2393 Brakpan 1540

Tel: 011 740 9410/1  
Fax: 011 740 1949  
Email: eastrand@matrolab.co.za

### TEST RESULTS

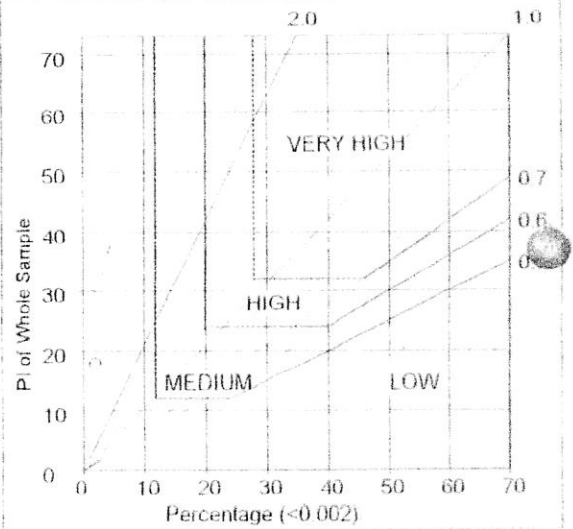
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project: Diswilmar  
Your Ref:  
Our Ref: 07999  
Date Reported: 12.03.2004

### FOUNDATION INDICATOR (ASTM: D422)

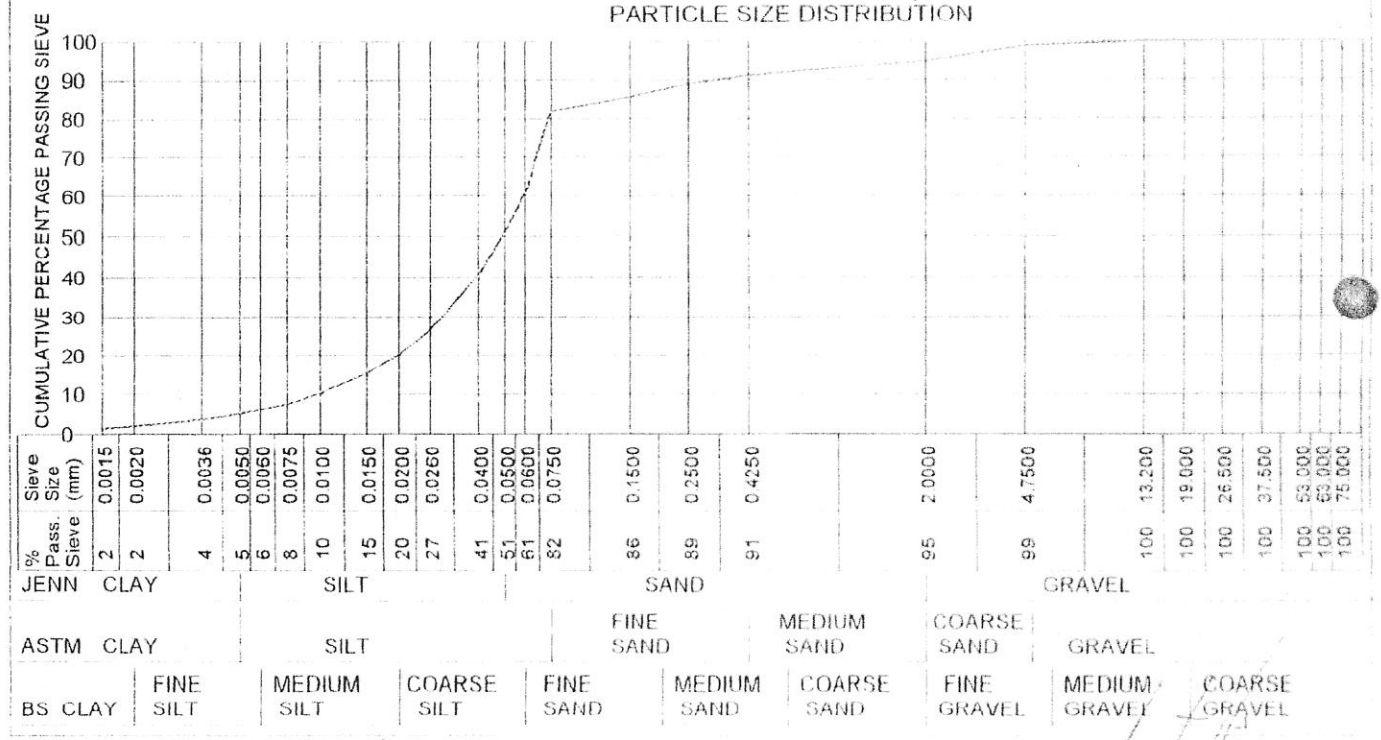
Sample No. : 8010    Hole No. : TP9    Depth (mm) : 900-2000  
Material Description : Dark yellowish orange ferricrete

|                             |                                   |
|-----------------------------|-----------------------------------|
| Liquid Limit (%) : 48       | Moisture Content (%) : 29.4       |
| Plasticity Index : 20       | P.R.A. Classification : A-7-6(14) |
| Linear Shrinkage (%) : 10.0 | Unified Soil Classification : ML  |
| Grading Modulus : 0.32      | Activity : 8.82                   |
| Percentage (<0.002) : 2.0   | Heave Classification : LOW        |
| PI of Whole Sample : 18     |                                   |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 5.1      | 45.9     | 43.8     | 5.2        | SILTY SAND     |
| Jennings         | 5.1      | 76.8     | 16.9     | 1.3        | SANDY SILT     |
| British Standard | 2.0      | 59.2     | 33.6     | 5.2        | SANDY SILT     |

### PARTICLE SIZE DISTRIBUTION



Remarks :

FORM: A6

Program ver 1.5

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Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

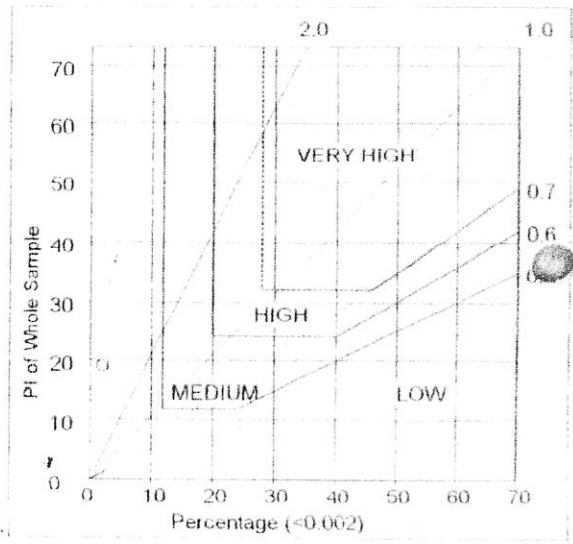
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project : Diswilmar  
Your Ref :  
Our Ref : 07999  
Date Reported : 12.03.2004

### FOUNDATION INDICATOR (ASTM: D422)

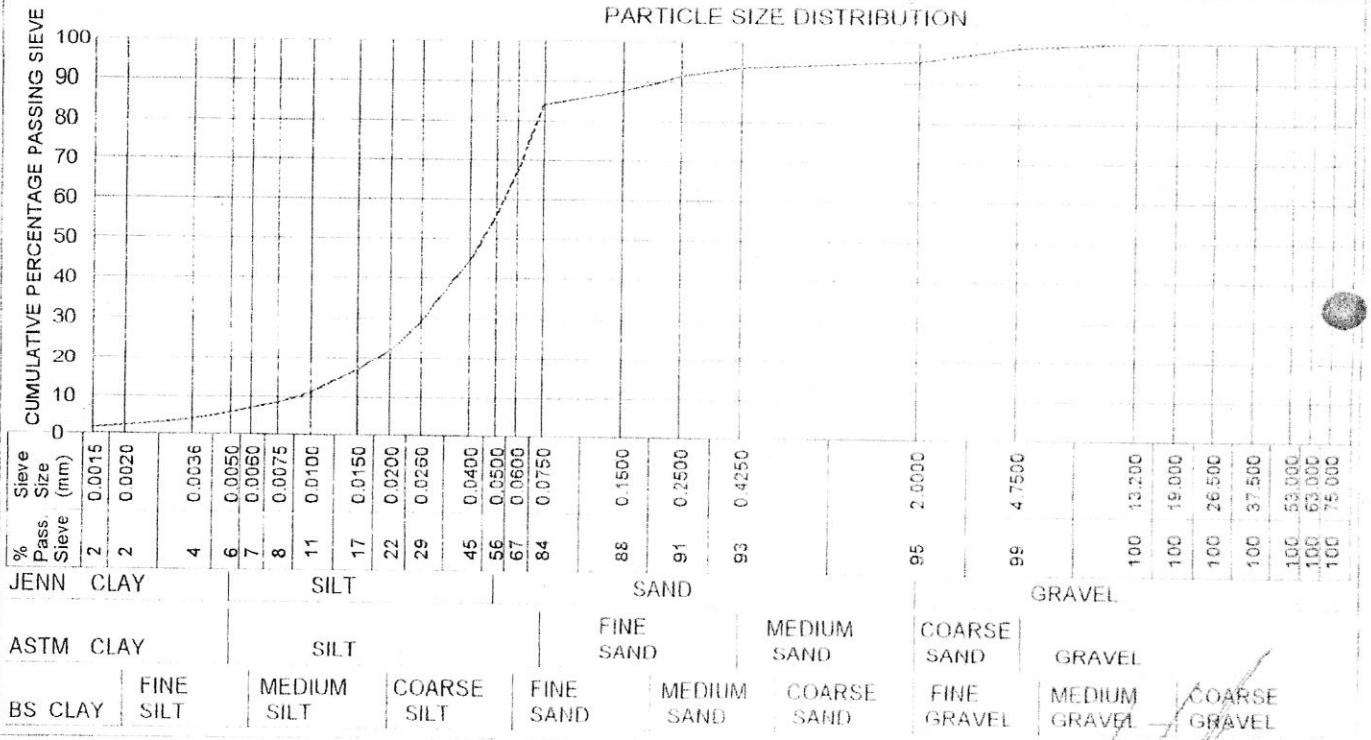
Sample No. : 8011    Hole No. : TP12    Depth (mm) : 1000-2500  
Material Description : Dark yellowish orange ferricrete

|                             |                                   |
|-----------------------------|-----------------------------------|
| Liquid Limit (%) : 48       | Moisture Content (%) : 25.1       |
| Plasticity Index : 20       | P.R.A. Classification : A-7-6(14) |
| Linear Shrinkage (%) : 10.0 | Unified Soil Classification : ML  |
| Grading Modulus : 0.28      | Activity : 8.46                   |
| Percentage (<0.002) : 2.0   | Heave Classification : LOW        |
| PI of Whole Sample : 19     |                                   |



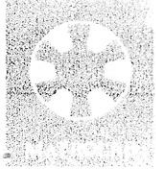
|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 5.6      | 50.5     | 38.9     | 4.9        | SANDY SILT     |
| Jennings         | 5.6      | 78.2     | 14.9     | 1.3        | SANDY SILT     |
| British Standard | 2.2      | 65.1     | 27.7     | 4.9        | SANDY SILT     |

### PARTICLE SIZE DISTRIBUTION



Remarks :

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Fax: 011 740 1949  
Email: eaststrand@matrolab.co.za

### TEST RESULTS

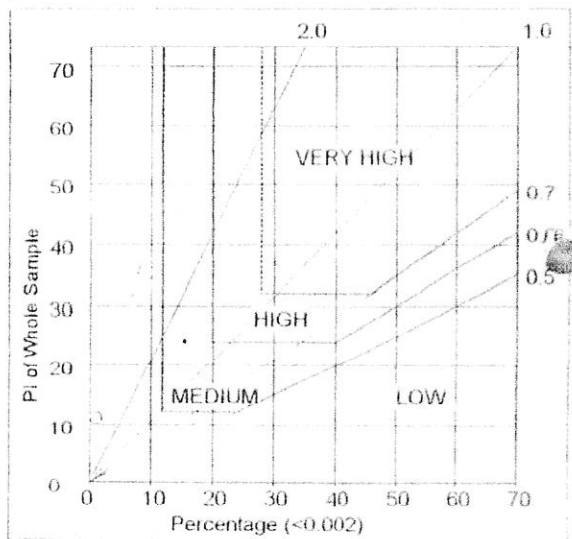
M J van der Walt Ing. Geol.  
P O Box 10972  
Aston Manor  
1630  
Attention: Martin van der Walt

Project : Diswilmar  
Your Ref :  
Our Ref : 07999  
Date Reported : 12.03.2004

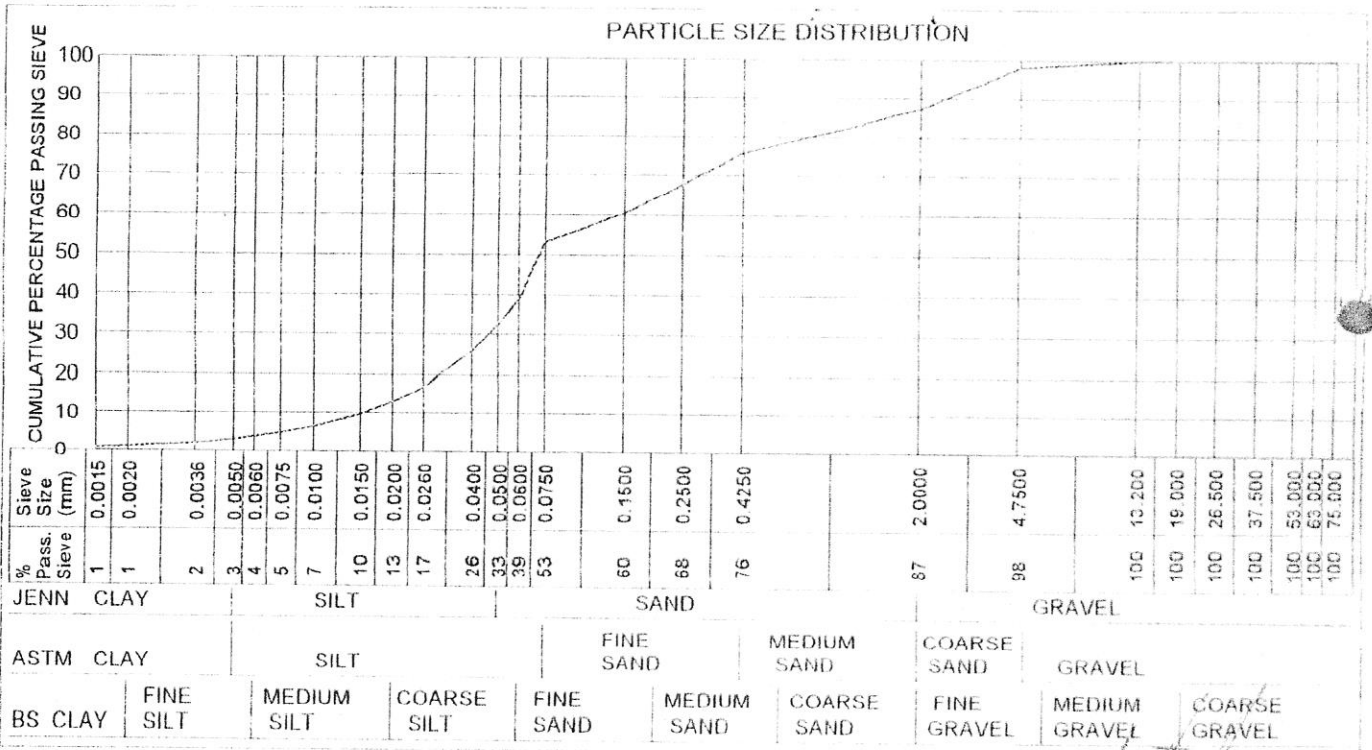
### FOUNDATION INDICATOR (ASTM: D422)

Sample No. : 8006    Hole No. : TP3    Depth (mm) : 100-900  
Material Description : Dark reddish brown ferricrete

|                      |        |                             |          |
|----------------------|--------|-----------------------------|----------|
| Liquid Limit (%)     | : 33   | Moisture Content (%)        | : 22.2   |
| Plasticity Index     | : 14   | P.R.A. Classification       | : A-6(5) |
| Linear Shrinkage (%) | : 7.0  | Unified Soil Classification | : CL     |
| Grading Modulus      | : 0.84 | Activity                    | : 8.46   |
| Percentage (<0.002)  | : 1.0  | Heave Classification        | : LOW    |
| PI of Whole Sample   | : 11   |                             |          |



|                  | Clay (%) | Silt (%) | Sand (%) | Gravel (%) | Classification |
|------------------|----------|----------|----------|------------|----------------|
| Astm             | 3.3      | 29.3     | 54.7     | 12.8       | SILTY SAND     |
| Jennings         | 3.3      | 49.7     | 45.1     | 2.0        | SILTY SAND     |
| British Standard | 1.3      | 37.7     | 48.2     | 12.8       | SILTY SAND     |



Remarks :

*[Signature]*  
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# MATROLAB (EDMS.) BPK. (PTY.) LTD.

SIVIELE INGENIEURSDIENSTE - CIVIL ENGINEERING SERVICES

28B BOUNDARY ROAD BRAKPAN  
 POSBUS/P O BOX 2393 BRAKPAN 1547

Tel: (011) 740 9410/1  
 Fax: (011) 740 1949

M.J v/d WALT ING. GEOL. BK  
 POSBUS/P O BOX 10972  
 ASTON MANNOR  
 1630

PROJEK :  
 PROJECT : DISWILMAR  
 U VERW. :  
 YOUR REF. :  
 ONS VERW. :  
 OUR REF. : 07999(a)  
 DATUM GERAPPORTEER :  
 DATE REPORTED : 12.03.2004

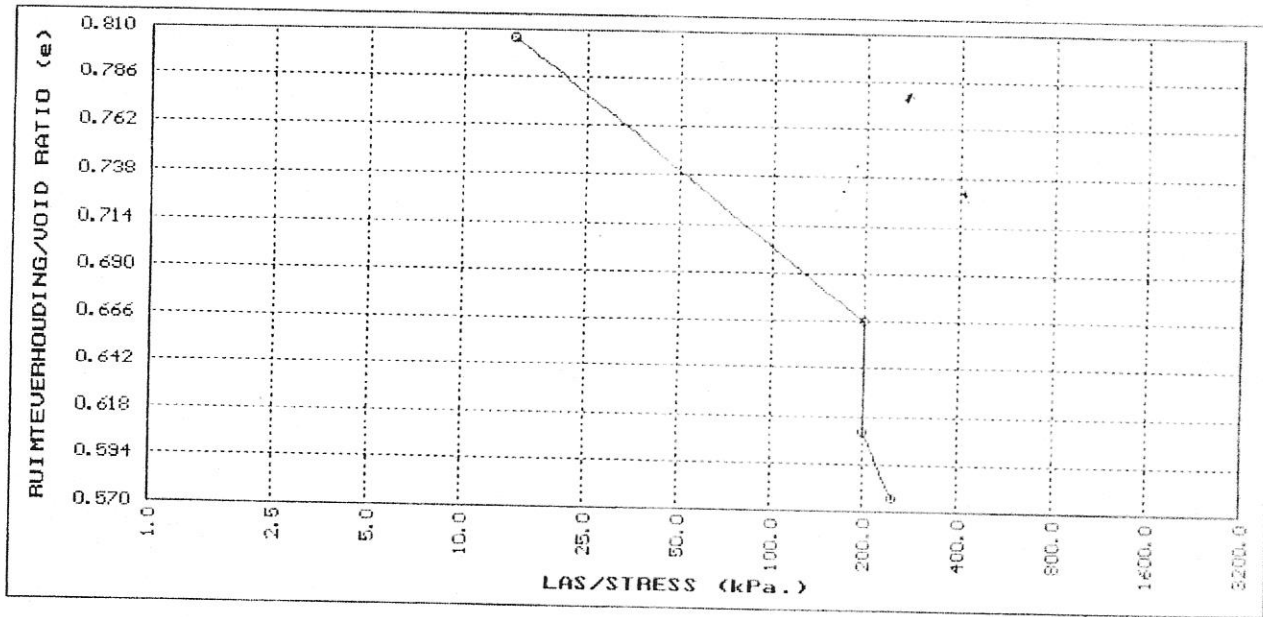
AANDAG :  
 ATTENTION : MARTIN VAN DER WALT

## SWIGPOTENSIAAL / COLLAPSE POTENTIAL (TMH6 : ST10)

MONSTER/SAMPLE NO: LAB NO.8009 GAT/HOLE NO: TP7 DIEPTE/DEPTH(mm): 2000  
 BESKRYWING/DESCRIPTION: LIGHT BROWN SILTY SAND

|   |       |
|---|-------|
| RELATIEWE DIGTHEID/RELATIVE DENSITY                   | 2.726 |
| DROE DIGTHEID / DRY DENSITY (kg/m <sup>3</sup> )      | 1495  |
| VOGINHOUD VOOR TOETS/MOISTURE CONTENT BEFORE TEST (%) | 9.5   |
| VOGINHOUD NA TOETS/MOISTURE CONTENT AFTER TEST (%)    | 32.5  |
| AANVANLIKE RUIMTEVERHOUDING/INITIAL VOID RATIO        | 0.823 |
| SWIGPOTENSIAAL/COLLAPSE POTENTIAL (%)                 | 3.07  |
| SAAMDRUKBAARHEID/COMPRESSIBILITY (%)                  | 8.61  |

|                |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------|-------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| STRESS (kPa.)  | 14    | 200   | 200   | 248   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| VOID RATIO (e) | 0.806 | 0.666 | 0.610 | 0.577 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



OPMERKINGS/REMARKS: HEIGHT OF RING 18.68mm

VORM/FORM: ST10  
 Program ver 9.0

*[Handwritten signature]*  
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