

Appendix C. Geotechnical Laboratory Results

EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client:	E.A.Systems	Report No:	1
Project:	Unknown	Job No :	05006-04
Location:	Unknown	Date :	27-Oct-05
Order No:	2927		

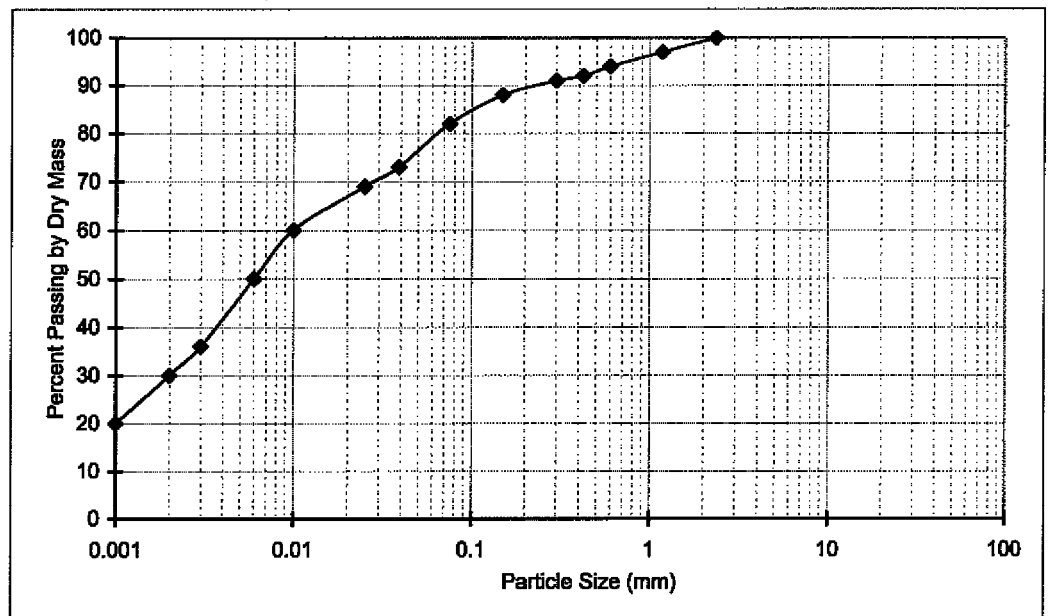
Sampling Procedure:	Unknown
Sampled By:	Client on 13.08.05
Date Received:	10.10.05
Laboratory Test Procedure:	See Below

Sample No:	05-0299
Sample Location:	Client Sample Id: 155341 BH 3 (Ground white clay)
Sample Description:	Sandy Clayey SILT(ML) medium plasticity, yellow grey, fine to coarse sand.

Particle Size Distribution

AS1289.3.5.1, .3.6.3.

Sieve Size (mm)	Percent Passing
37.5	
19.0	
9.5	
4.75	
2.36	100
1.180	97
0.600	94
0.425	92
0.300	91
0.150	88
0.075	82
0.039	73
0.025	69
0.010	60
0.006	50
0.003	36
0.002	30
0.001	20



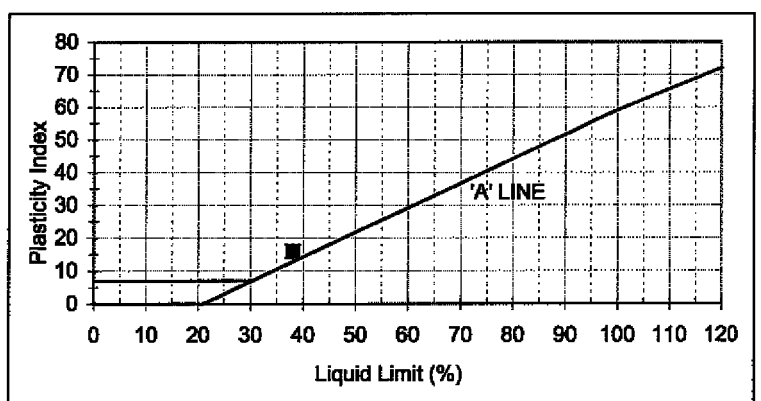
Particle Density (t/m^3) 2.73

Atterberg Limit Test AS1289.3.1.1, .3.2.1, .3.3.1, .3.4.1.

Liquid Limit (%)	38
Plastic Limit (%)	22
Plasticity Index (%)	16
Linear Shrinkage (%)	8.0
Field Moisture Content (%)	-
Sample History/Preparation	Oven Dried/Dry Sieved

Emerson Class Number Test AS1289.3.8.1

Type Of Water Used	
Temperature of Water Used (C^0)	N/R
Emerson Class Number	N/R



Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m^3)	1.69	Remarks: Hydrometer & Permeability tests were conducted by NATA accredited laboratory No. 9926.
Optimum Moisture Content (%)	17.8	
Placement Moisture Content (%)	18.6	
Placement Wet Density (t/m^3)	1.94	
Density Ratio at Placement	97.0	
Falling Head Permeability: $k_{20} =$	6×10^{-10} m/s	

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EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client:	E.A.Systems	Report No:	2
Project:	Unknown	Job No :	05006-04
Location:	Unknown	Date :	27-Oct-05
Order No:	2927		

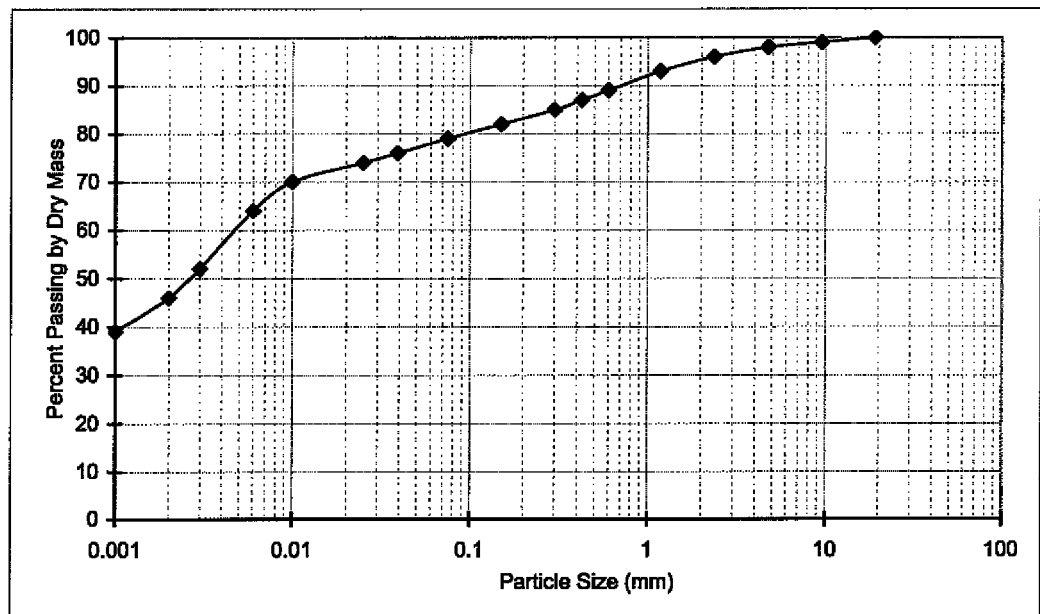
Sampling Procedure:	Unknown
Sampled By:	Client on 28.09.05
Date Received:	10.10.05
Laboratory Test Procedure:	See Below

Sample No:	05-0300
Sample Location:	Client Sample Id: 155342 Pit 5 >600. (Yellow clay)
Sample Description:	Sandy Silty CLAY(CI) medium plasticity, yellow grey & orange, fine to coarse sand, trace fine gravel.

Particle Size Distribution

AS1289.3.5.1, 3.6.3.

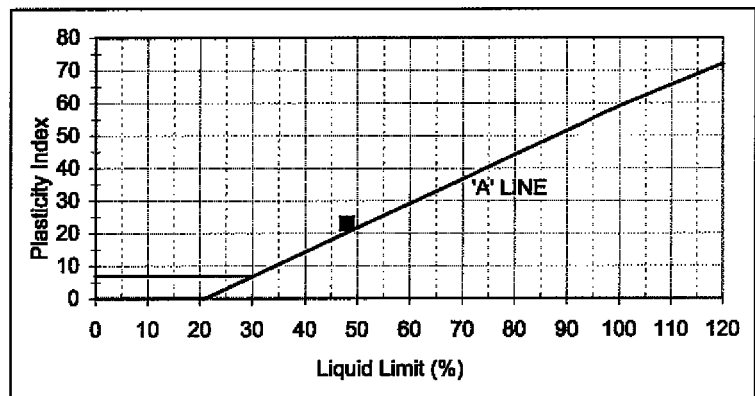
Sieve Size (mm)	Percent Passing
37.5	
19.0	100
9.5	99
4.75	98
2.36	96
1.180	93
0.600	89
0.425	87
0.300	85
0.150	82
0.075	79
0.039	76
0.025	74
0.010	70
0.006	64
0.003	52
0.002	46
0.001	39



Particle Density (t/m³) 2.67

Atterberg Limit Test AS1289.3.1.1, 3.2.1, 3.3.1, 3.4.1.

Liquid Limit (%)	48
Plastic Limit (%)	25
Plasticity Index (%)	23
Linear Shrinkage (%)	11.0
Field Moisture Content (%)	-
Sample History/Preparation	Oven Dried/Dry Sieved



Emerson Class Number Test AS1289.3.8.1

Type Of Water Used	
Temperature of Water Used (C°)	
Emerson Class Number	N/R

Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m³)	1.56
Optimum Moisture Content (%)	24
Placement Moisture Content (%)	24
Placement Wet Density (t/m³)	1.92
Density Ratio at Placement	99.5
Falling Head Permeability: $k_{20} =$	5×10^{-10} m/s

Remarks:

Hydrometer & Permeability tests were conducted by NATA accredited laboratory No. 9926.

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EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client:	E.A.Systems	Report No:	3
Project:	Unknown	Job No :	05006-04
Location:	Unknown	Date :	27-Oct-05
Order No:	2927		

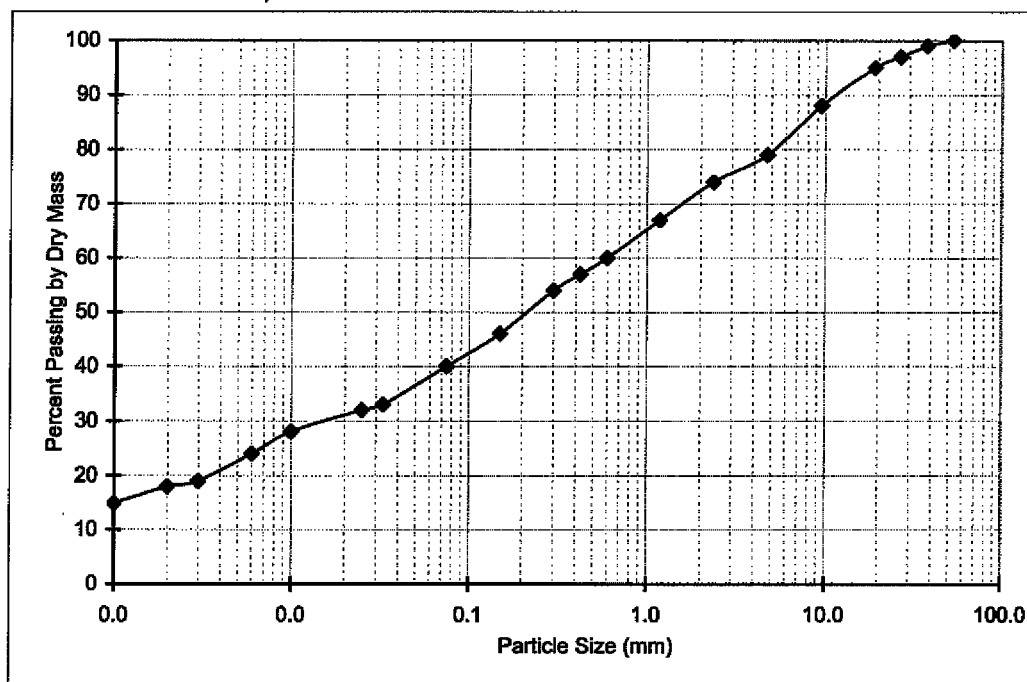
Sampling Procedure:	Unknown
Sampled By:	Client on 28.09.05
Date Received:	10.10.05
Laboratory Test Procedure:	See Below

Sample No:	05-0301
Sample Location:	Client Sample Id: 155343 Pit 4 800-1200. (Red clay with gravel)
Sample Description:	Clayey Silty Gravelly SAND(SC) fine to coarse grained, red orange & grey, fine to coarse gravel, medium plasticity clay.

Particle Size Distribution

AS1289.3.5.1, .3.6.3.

Sieve Size (mm)	Percent Passing
53.0	100
37.5	99
26.5	97
19.0	95
9.5	88
4.75	79
2.36	74
1.180	67
0.600	60
0.425	57
0.300	54
0.150	46
0.075	40
0.033	33
0.025	32
0.010	28
0.006	24
0.003	19
0.002	18
0.001	15



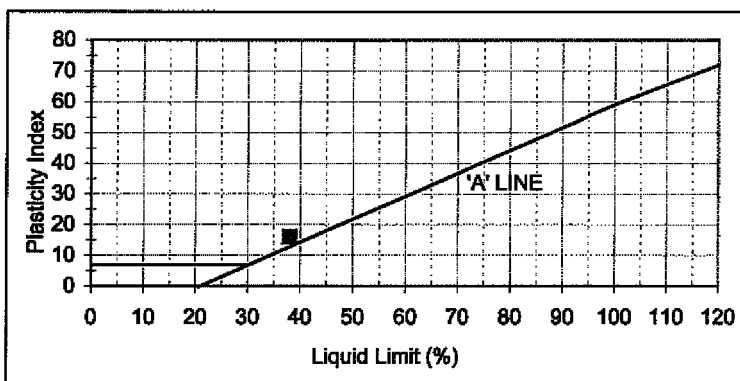
Particle Density (t/m³) 2.68

Atterberg Limit Test AS1289.3.1.1, .3.2.1, .3.3.1, .3.4.1.

Liquid Limit (%)	38
Plastic Limit (%)	22
Plasticity Index (%)	16
Linear Shrinkage (%)	8.0
Field Moisture Content (%)	-
Sample History/Preparation	Oven Dried/Dry Sieved

Emerson Class Number Test AS1289.3.8.1

Type Of Water Used	-
Temperature of Water Used (C ⁰)	-
Emerson Class Number	N/R



Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m ³)	1.77
Optimum Moisture Content (%)	16.0
Placement Moisture Content (%)	14.4
Placement Wet Density (t/m ³)	2.01
Density Ratio at Placement	99.5
Falling Head Permeability: k_{20}	5×10^{-9} m/s

Remarks:
Hydrometer & Permeability tests were conducted by NATA accredited laboratory No. 9926.

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EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client:	E.A.Systems	Report No:	4
Project:	Unknown	Job No :	05006-04
Location:	Unknown	Date :	27-Oct-05
Order No:	2927		

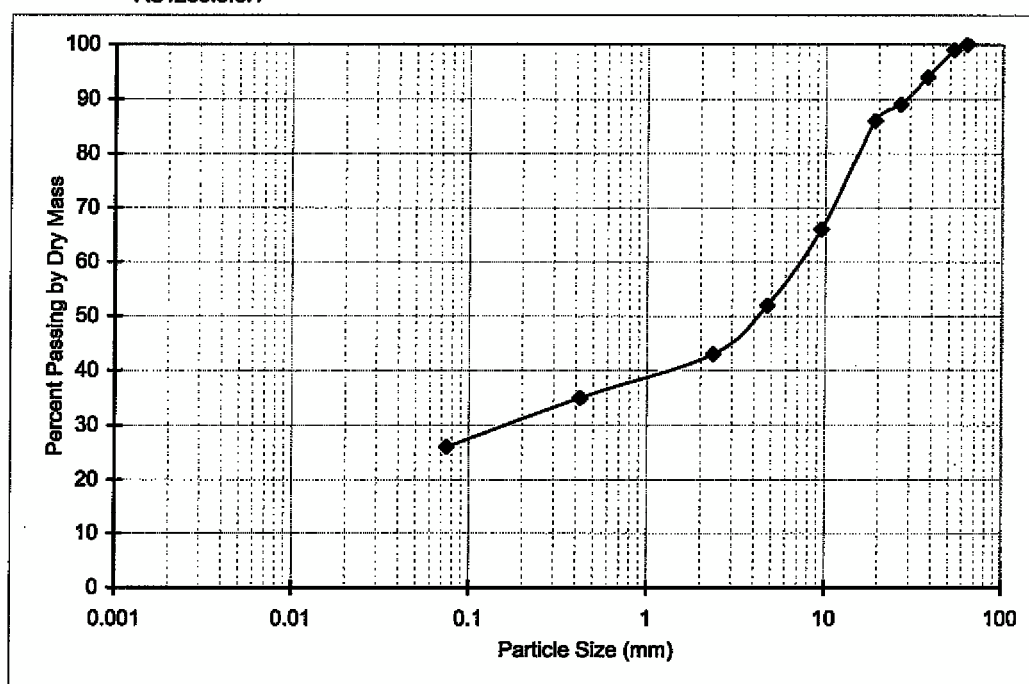
Sampling Procedure:	Unknown
Sampled By:	Client on 28.09.05
Date Received:	10.10.05
Laboratory Test Procedure:	See Below

Sample No:	05-0302
Sample Location:	Client Sample Id: 155344 Pit 1 approx 1500 (White clay subsoils)
Sample Description:	Sandy Clayey GRAVEL(GC) fine to coarse grained, light brown, medium plasticity clay, fine to coarse sand.

Particle Size Distribution

AS1289.3.6.1

Sieve Size (mm)	Percent Passing
63.0	100
53.0	99
37.5	94
26.5	89
19.0	86
9.50	66
4.75	52
2.36	43
0.425	35
0.075	26



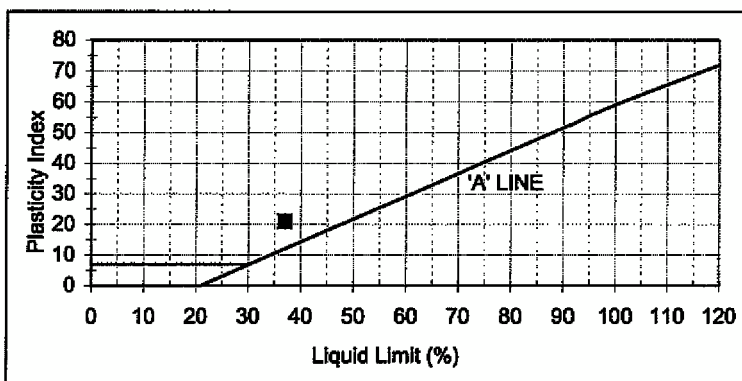
Particle Density (t/m³) N/R

Atterberg Limit Test AS1289.3.1.1, .3.2.1, .3.3.1, .3.4.1.

Liquid Limit (%)	37
Plastic Limit (%)	16
Plasticity Index (%)	21
Linear Shrinkage (%)	10.5
Field Moisture Content (%)	-
Sample History/Preparation	Oven Dried/Dry Sieved

Emerson Class Number Test AS1289.3.8.1

Type Of Water Used	-
Temperature of Water Used (C ⁰)	-
Emerson Class Number	N/R



Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m ³)	-
Optimum Moisture Content (%)	-
Placement Moisture Content (%)	-
Placement Wet Density (t/m ³)	-
Density Ratio at Placement	-
Falling Head Permeability: k_{20}	N/R

Remarks:

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EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client: E.A.Systems
Project: Unknown
Location: Unknown
Order No: 2927

Report No: 5
Job No: 05006-04
Date: 27-Oct-05

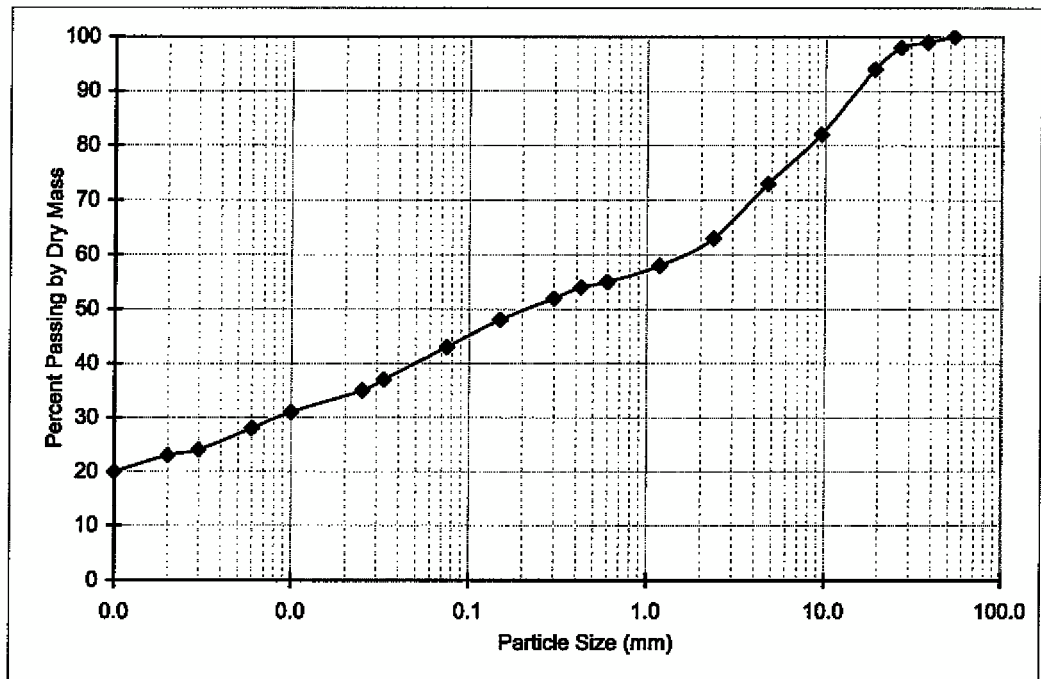
Sampling Procedure: Unknown
Sampled By: Client on 28.09.05
Date Received: 10.10.05
Laboratory Test Procedure: See Below

Sample No: 05-0303
Sample Location: Client Sample Id: 155345 Pit 1 600-900. (Gravelly clay)
Sample Description: Silty Sandy Clayey GRAVEL(GC) fine to coarse grained, brown, medium plasticity clay, fine to coarse sand.

Particle Size Distribution

AS1289.3.6.1

Sieve Size (mm)	Percent Passing
53.0	100
37.5	99
26.5	98
19.0	94
9.5	82
4.75	73
2.36	63
1.18	58
0.600	55
0.425	54
0.300	52
0.150	48
0.075	43
0.033	37
0.025	35
0.010	31
0.006	28
0.003	24
0.002	23
0.001	20



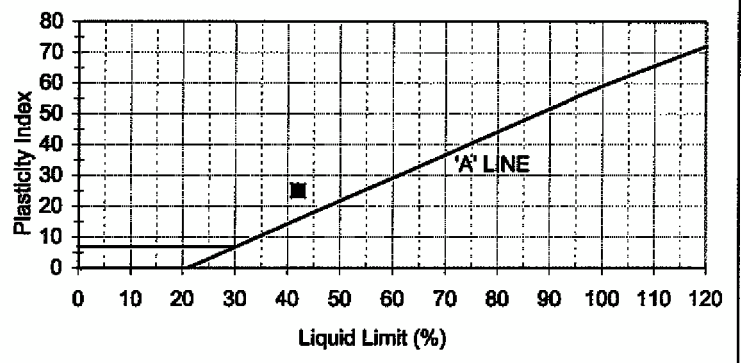
Particle Density (t/m³) 2.71

Atterberg Limit Test AS1289.3.1.1, 3.2.1, 3.3.1, 3.4.1.

Liquid Limit (%) 42
Plastic Limit (%) 17
Plasticity Index (%) 25
Linear Shrinkage (%) 12.5
Field Moisture Content (%) -
Sample History/Preparation Oven Dried/Dry Sieved

Emerson Class Number Test AS1289.3.8.1

Type Of Water Used -
Temperature of Water Used (C°) -
Emerson Class Number N/R



Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m³) -
Optimum Moisture Content (%) -
Placement Moisture Content (%) -
Placement Wet Density (t/m³) -
Density Ratio at Placement -
Falling Head Permeability: k_{20} = N/R

Remarks:
Hydrometer test conducted by NATA accredited laboratory No. 9926.

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EARTHWORKS AND QUALITY CONTROL TESTING

Quality of Materials Report

Client: E.A.Systems
Project: Unknown
Location: Unknown
Order No: 2927

Report No: 6
Job No: 05006-04
Date: 27-Oct-05

Sampling Procedure:

Unknown

Sampled By:

Client on 28.09.05

Date Received:

10.10.05

Laboratory Test Procedure:

See Below

Sample No:

05-0304

Sample Location:

Client Sample Id: 155346 Pit 2 600-1000 (Red clay)

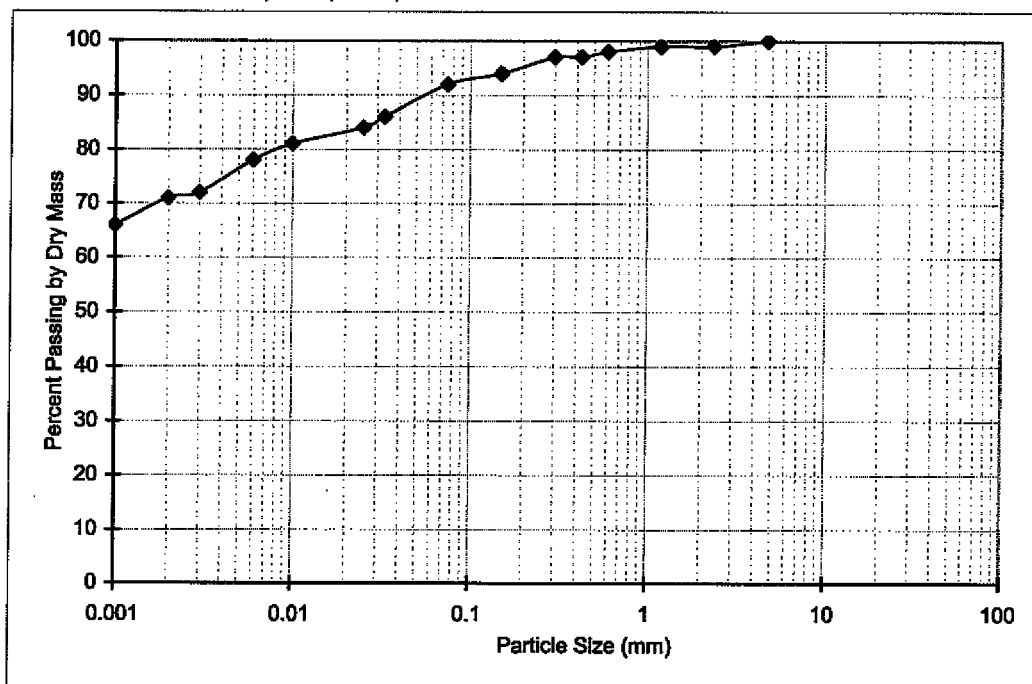
Sample Description:

Silty CLAY(CH) high plasticity, yellow grey & orange, some fine to coarse sand.

Particle Size Distribution

AS1289.3.5.1, .3.6.1, .3.6.2, .3.6.3.

Sieve Size (mm)	Percent Passing
53.0	
37.5	
26.5	
19.0	
9.5	
4.75	100
2.36	99
1.180	99
0.600	98
0.425	97
0.300	97
0.150	94
0.075	92
0.033	86
0.025	84
0.010	81
0.006	78
0.003	72
0.002	71
0.001	66



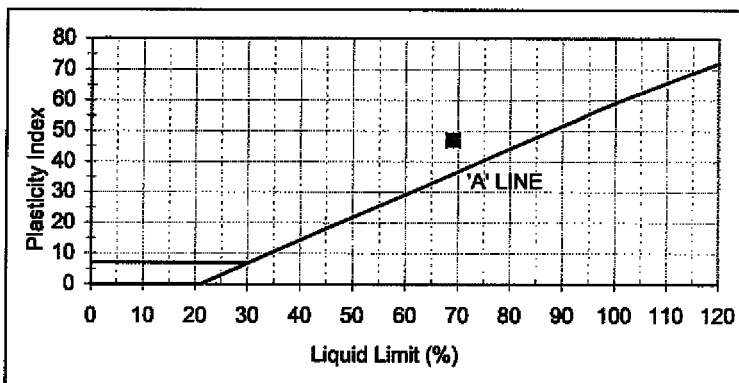
Particle Density (t/m^3)

2.62

Atterberg Limit Test

AS1289.3.1.1, .3.2.1, .3.4.1.

Liquid Limit (%) 69
Plastic Limit (%) 22
Plasticity Index (%) 47
Linear Shrinkage (%) 18.0
Field Moisture Content (%) -
Sample History/Preparation Oven Dried/Dry Sieved



Emerson Class Number Test

AS1289.3.8.1

Type Of Water Used -
Temperature of Water Used (C°) -
Emerson Class Number N/R

Permeability (remoulded AS1289.5.1.1) KH Head (1988) Manual of Laboratory Testing, 10.7

Maximum Dry Density (t/m^3) 1.56
Optimum Moisture Content (%) 24.0
Placement Moisture Content (%) 23.5
Placement Wet Density (t/m^3) 1.89
Density Ratio at Placement 98.0
Falling Head Permeability: $k_{20} = 1 \times 10^{-10}$ m/s

Remarks:

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