

Soils Laboratory Results Summary

Address: **48 Gwendoline Drive, Countesthorpe, LE8 5SE**

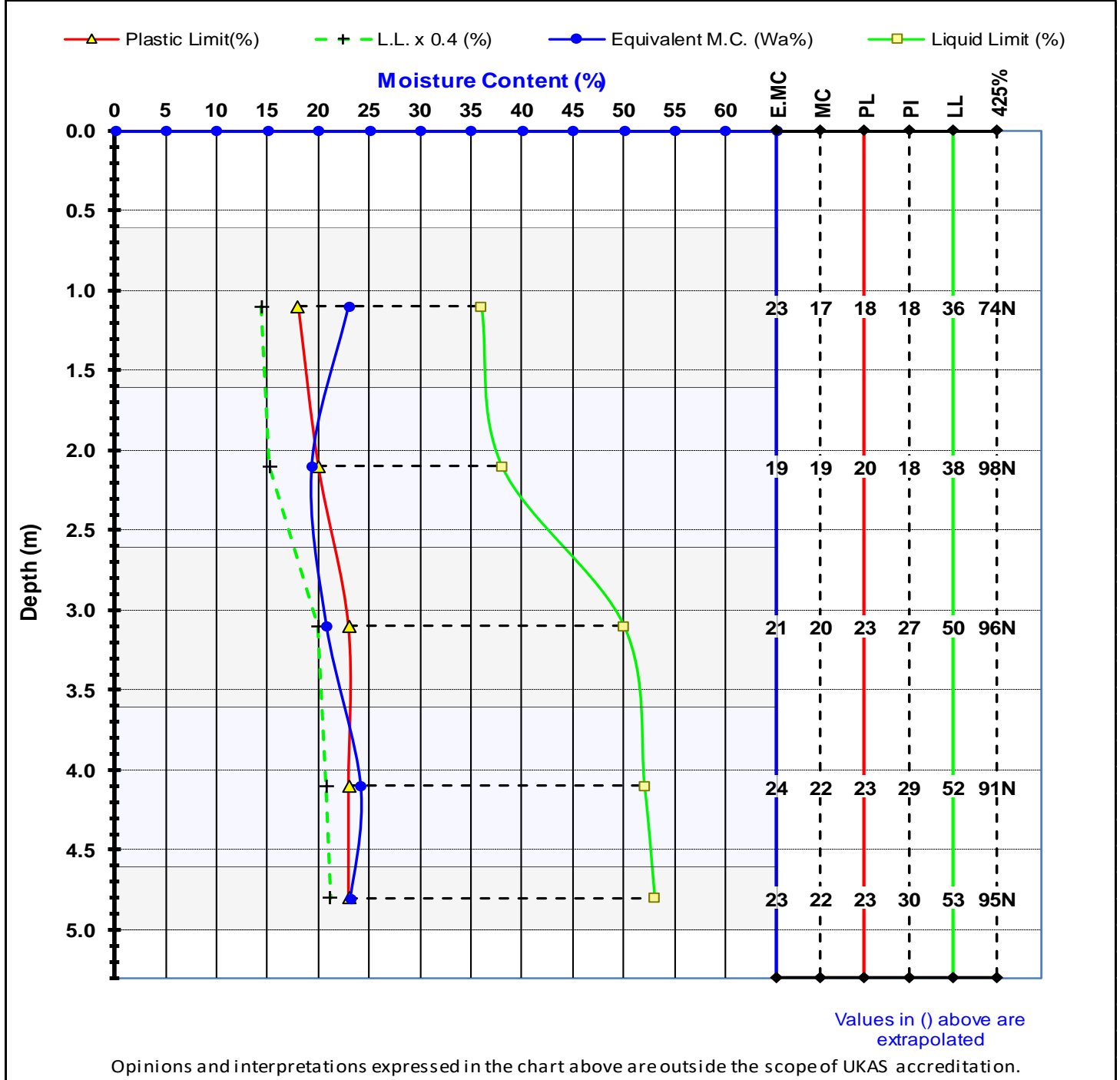
Reference: LIV-SN-22-005359

Date: 27-03-23

Laboratory: **DRC Soils Lab**

Lab Ref: PSL23/1704 Date: 27-03-23

Depth T (m)	Depth B (m)	TP/BH1 - LH Rear Elevation of Main House.	Plasticity (BS 5930)	Volume Change (BRE 240)	
		Brief Soil Description		M.PI	(%)
0.6	1.6	Brown very gravelly sandy CLAY.	Intmd. CI	13%	Low
1.6	2.6	Brown slightly gravelly sandy CLAY.	Intmd. CI	18%	Low
2.6	3.6	Brown slightly gravelly slightly sandy CLAY.	High CH	26%	Medium
3.6	4.6	Brown slightly gravelly slightly sandy CLAY.	High CH	26%	Medium
4.6	5	Brown slightly gravelly slightly sandy CLAY.	High CH	29%	Medium



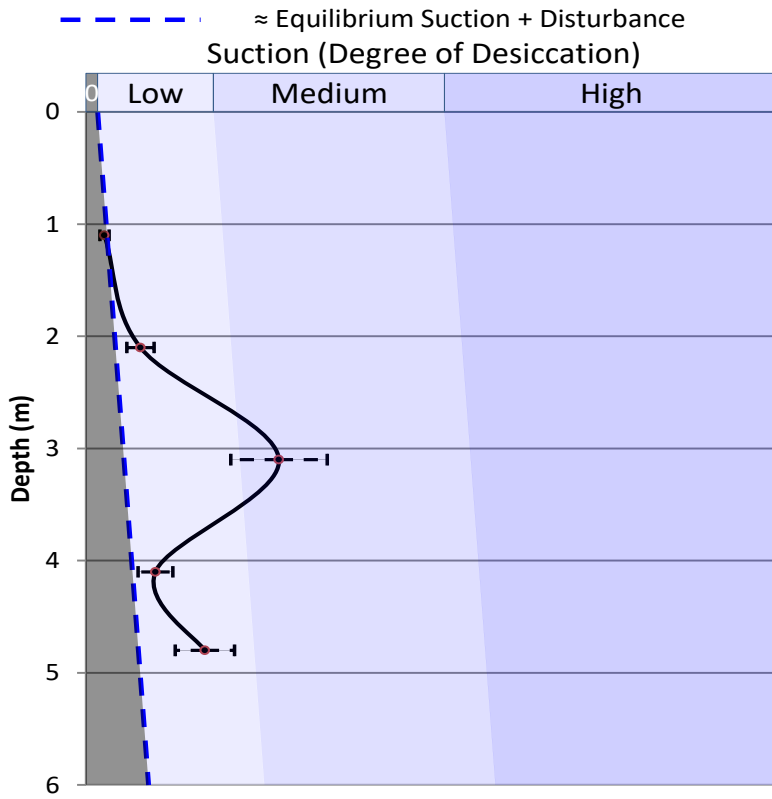
Key:

- MC** = Natural Moisture Content (%)
- E.MC** = Equivalent Moisture Content (%) = $MC \times 100 / 425\%$
- M.PI** = Modified Plasticity Index (%) = $PI \times 425\% / 100$
- 425%** = Material passing the 425µm sieve (%) + (N = Natural or S = Sieved)
- Notes:** All samples received as Disturbed unless noted below in the comments.
- Samples prepared in accordance to BS1377:Part 1:1990 Section 7 & described in general accordance with BS5930:1999.
- Samples tested in accordance to BS1377:Part 2:1990 Section 3.2, 4.4 & 5.
- PL** = Plastic Limit (%)
- PI** = Plasticity Index (%) = $LL - PL$
- LL** = Liquid Limit (%)
- LL x 0.4** = 40% of the LL (%)
- NP** = Non Plastic

Comments: Desiccated at depth with typical bulge centred around 3.1m.

Soils Analysis

Predicted Suction Profile



The predicted suction profile to the left has been calculated from the present test results and analysed against a large (≈170,000) database of previous test results and is based upon variables such as location, soil type, deposit type, likely previous stress history, depth, matric suction, MC, plasticity, % passing the 425µm sieve and oedometer tests among others.

The potential heave below has been calculated from the predicted suction profile in accordance with: *BRE Digest 412 (1996) "Using suction profiles"*

≈ Heave Potential = 7 to 14mm **Med. 11mm**
 ∴ ≈ Predicted heave over the recorded depth of (0.6 to 5m) 4.4m is about: **0 to 3cm.**

Soils Laboratory Results Summary

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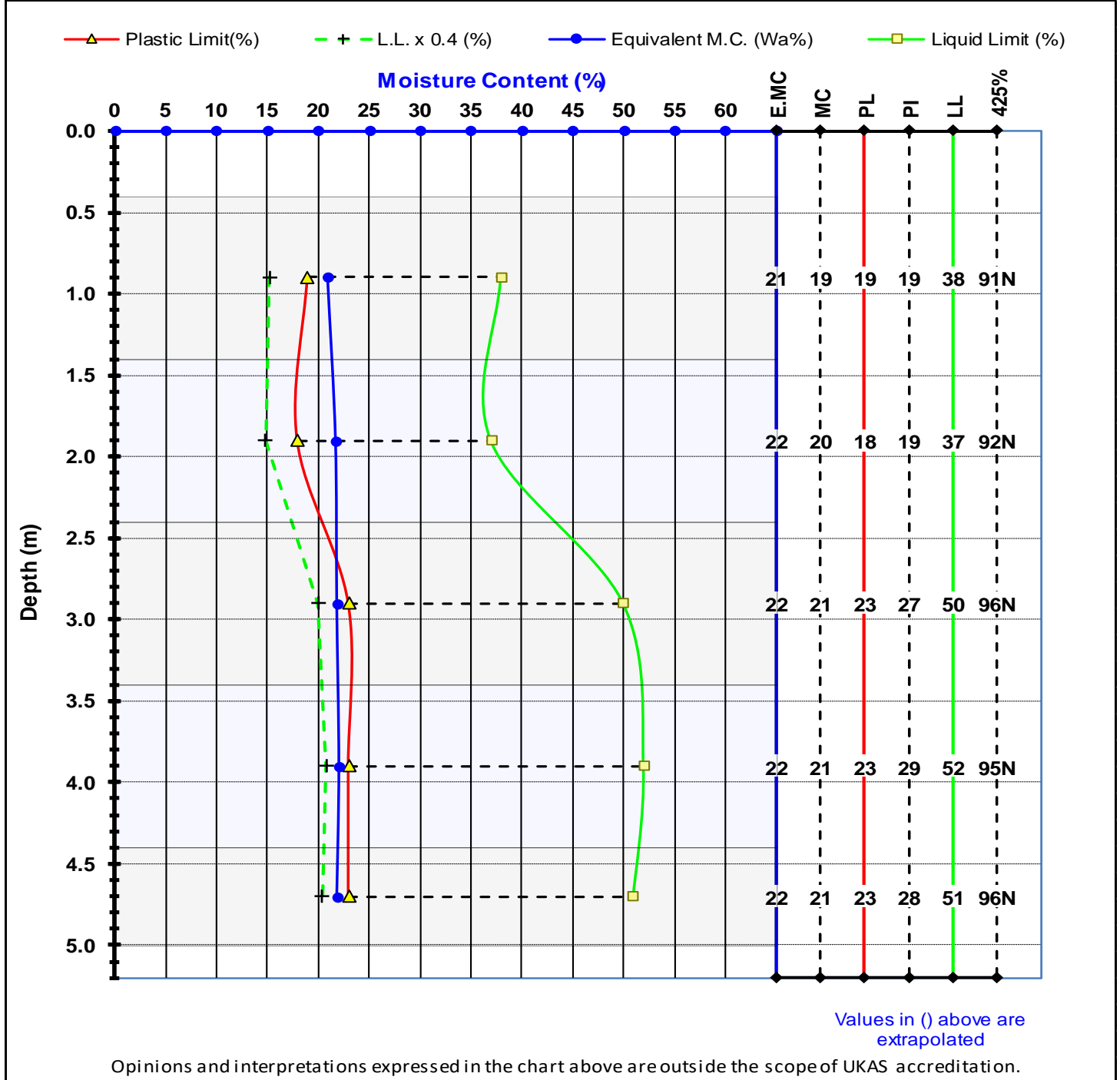
Reference: LIV-SN-22-005359

Date: 27-03-23

Laboratory: **DRC Soils Lab**

Lab Ref: PSL23/1704 Date: 27-03-23

Depth T (m)	Depth B (m)	TP/BH2 - Rear RHC of Garage.		Plasticity (BS 5930)	Volume Change (BRE 240)	
		Brief Soil Description			M.PI	(%)
0.4	1.4	Brown slightly gravelly sandy CLAY.		Intmd. CI	17%	Low
1.4	2.4	Brown slightly gravelly sandy CLAY.		Intmd. CI	17%	Low
2.4	3.4	Brown slightly gravelly slightly sandy CLAY.		High CH	26%	Medium
3.4	4.4	Brown slightly gravelly slightly sandy CLAY.		High CH	28%	Medium
4.4	5	Brown slightly gravelly slightly sandy CLAY.		High CH	27%	Medium



Key:

- MC** = Natural Moisture Content (%)
- E.MC** = Equivalent Moisture Content (%) = $MC \times 100 / 425\%$
- M.PI** = Modified Plasticity Index (%) = $PI \times 425\% / 100$
- 425%** = Material passing the 425µm sieve (%) + (N = Natural or S = Sieved)
- Notes:** All samples received as Disturbed unless noted below in the comments.
- PL** = Plastic Limit (%)
- PI** = Plasticity Index (%) = $LL - PL$
- LL** = Liquid Limit (%)
- LL x 0.4** = 40% of the LL (%)
- NP** = Non Plastic

Samples prepared in accordance to BS1377:Part 1:1990 Section 7 & described in general accordance with BS5930:1999.

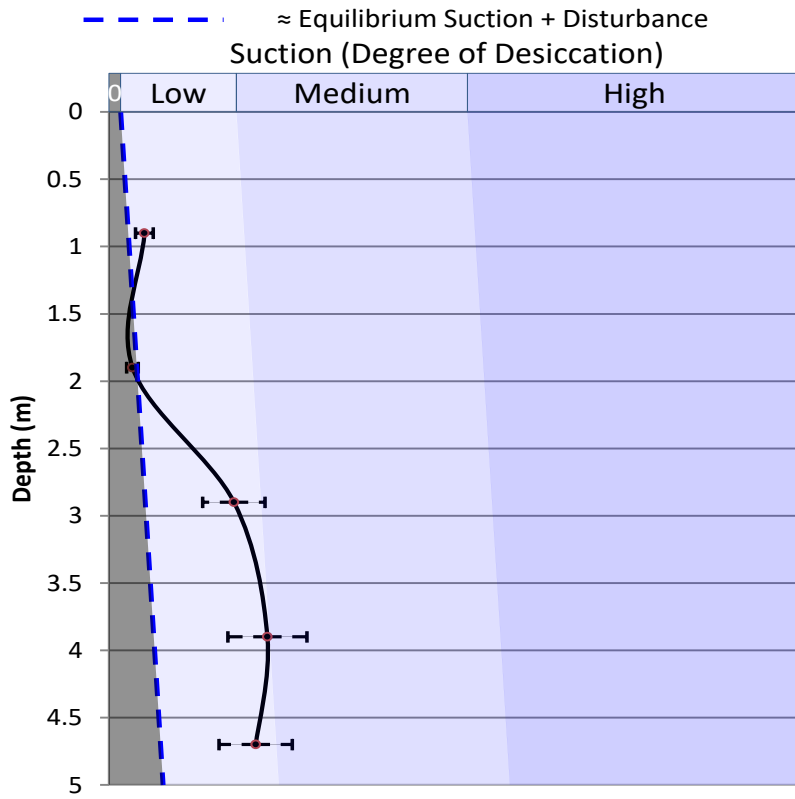
Samples tested in accordance to BS1377:Part 2:1990 Section 3.2, 4.4 & 5.

Comments: Desiccated at depth with typical bulge centred around 3.9m.

See Analysis Below:

Soils Analysis

Predicted Suction Profile



The predicted suction profile to the left has been calculated from the present test results and analysed against a large (≈170,000) database of previous test results and is based upon variables such as location, soil type, deposit type, likely previous stress history, depth, matric suction, MC, plasticity, % passing the 425µm sieve and oedometer tests among others.

The potential heave below has been calculated from the predicted suction profile in accordance with: *BRE Digest 412 (1996) "Using suction profiles"*

≈ Heave Potential = 10 to 18mm **Med. 15mm**
 ∴ ≈ Predicted heave over the recorded depth of (0.4 to 5m) 4.6m is about: **0 to 3cm.**