



NHBC Volume Change Potential Summary

Project No.

iGeo-22-214A

Project Name

Penland Farm and Cottage, Hanlye Lane, Cuckfield

| Hole No. | Sample | | | Sample Description | W.C. % | Passing 63µm % | Passing 425µm % | LL % | PL % | PI % | PI Mod % | NHBC Volume Change Potential Classification | N o t e |
|----------|--------|------|------|---|-----------|----------------------|-----------------------|---------|---------|---------|----------------|---|------------------|
| | Ref | Top | Type | | | | | | | | | | |
| WS01 | 1 | 1.00 | D | Brown mottled light brown sandy clayey SILT with rare moderately cemented gravels of clayey silt | 11 | | 97 | 22-1pt | NP | | | Non-Shrinkable | |
| WS01 | 1 | 2.00 | D | Very stiff light grey occasionally mottled brown clayey SILT | 14 | | 100 | 32-1pt | 19 | 13 | | Low | |
| WS01 | 1 | 2.80 | D | Very stiff grey clayey SILT | 13 | | 100 | 27-1pt | 17 | 10 | | Low | |
| WS02 | 1 | 1.00 | D | Very stiff light brown clayey SILT with weakly cemented fine to medium gravels of clayey silt | 9.6 | | 75 | 29-1pt | 20 | 9 | 7 | Non-Shrinkable | 1 |
| WS03 | 1 | 1.00 | D | Very stiff light grey rarely mottled brown clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 15 | | 99 | 29-1pt | 21 | 8 | | Non-Shrinkable | |
| WS03 | 1 | 2.00 | D | Very stiff grey mottled brown clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 16 | | 98 | 31-1pt | 23 | 8 | | Non-Shrinkable | |
| WS03 | 1 | 3.00 | D | Very stiff orangish brown mottled grey clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 15 | | 100 | 38-1pt | 23 | 15 | | Low | |
| WSA | 1 | 1.00 | D | Very stiff light brownish grey mottled brown clayey SILT | 11 | | 100 | 29-1pt | 17 | 12 | | Low | |
| WSA | 1 | 1.50 | D | Very stiff light brownish grey mottled brown clayey SILT | 9.1 | | 100 | 29-1pt | 18 | 11 | | Low | |
| WSB | 1 | 1.00 | D | Firm to stiff grey mottled orange brown clayey SILT with rare weakly cemented fine to medium gravel | 15 | | 99 | 23-1pt | 17 | 6 | | Non-Shrinkable | |
| WSB | 1 | 2.00 | D | Very stiff grey rarely mottled orange brown clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 14 | | 100 | 29-1pt | 16 | 13 | | Low | |
| WSB | 1 | 3.00 | D | Very stiff laminated light brown and dark brown clayey SILT with weakly cemented fine to medium gravels of clayey silt | 11 | | 93 | 34-1pt | 20 | 14 | 13 | Low | 1 |
| WSC | 1 | 1.00 | D | Very stiff light grey clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 8.2 | | 99 | 26-1pt | 16 | 10 | | Low | |
| WSC | 1 | 2.00 | D | Very stiff grey silty CLAY with occasional weakly cemented fine to medium gravels of clayey silt | 10 | | | | | | | | |
| WSC | 1 | 3.00 | D | Very stiff grey silty CLAY with occasional weakly cemented fine to medium gravels of clayey silt | 14 | | 97 | 30-1pt | 22 | 8 | | Non-Shrinkable | |
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Samples classified according to the NHBC Chapter 4.2 building near trees:

Non-shrinkable : Less than 35% passing 63µ sieve, or PI less than 10%

Low Volume Change Potential : Plasticity Index 10% to 19%

Medium Volume Change Potential : Plasticity Index 20% to 39%

High Volume Change Potential : Plasticity Index 40% or greater

Note 2. Unless other representative samples, or the soils to depth below the foundations, have a similar or greater coarse sand and/or gravel content to that found in this sample, it is recommended that the design is based on the unmodified PI figure

Key: 1pt = LL 1pt cone (otherwise 4pt), cas = Casagrande method, NP = sample is Non Plastic

All tests performed in accordance with BS1377:1990 unless specified otherwise

Note 1. Modified PI = Normal PI x fraction passing 425 micron sieve. For the modified PI to be used "sufficient sample should be taken to provide confidence that the test results are representative of the soil volume change potential for the site. If in doubt use the higher value of volume change potential"

Note 3. The results of this testing are too close to the non-shrinkable boundary to conclude a 'non-shrinkable' recommendation for this sample. Further testing or engineer judgment is recommended, otherwise it would be prudent to assume the sample is shrinkable

Sheet no: 1

Tested by

Date Printed: 14/11/2022

Approved by

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Summary of Geotechnical Chemical Test Results

Project No.

Project Name

iGeo-22-214A

Penland Farm and Cottage, Hanlye Lane, Cuckfield

| Trial Pit / Borehole No. | Sample | | | | Sample Description | Sulphate as SO4 | | | Organics | | <2mm % | Remarks |
|-----------------------------|--------|------|------|------|---|-----------------|-----------------------|-----------------|----------|-----|-----------|---------|
| | Ref | Top | Base | Type | | pH | 2:1 water :soil | ground water | Org | LOI | | |
| | | | | | | | g/l | g/l | % | % | | |
| WS01 | | 1.00 | | D | Brown mottled light brown sandy clayey SILT with rare moderately cemented gravels of clayey silt | 8.4 | 0.00 | | | | 100 | |
| WS02 | | 1.00 | | D | Very stiff light brown clayey SILT with weakly cemented fine to medium gravels of clayey silt | 8.1 | 0.00 | | | | 91 | |
| WS03 | | 2.00 | | D | Very stiff grey mottled brown clayey SILT with rare weakly cemented fine to medium gravels of clayey silt | 8.3 | 0.00 | | | | 100 | |
| WSA | | 1.50 | | D | Very stiff light brownish grey mottled brown clayey SILT | 8 | 0.00 | | | | 100 | |
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Tests performed in accordance with BS 1377 unless annotated otherwise

Org Organic matter content

Cl Chloride content

LOI Mass loss on ignition at 440oC

CO2 Carbonate content (rapid titration)

TDS Total Dissolved Solids

Sheet no:

1

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