Norfolk Partnership Laboratory
Part of the Norse Group

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Site Investigation including Quantitative Risk Assessment, Barns at Buena Vista Foxes Lane Suffolk 102739 March 2022

Client:
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The Workshop
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Ray Chapman Fabrication Ltd.	1 copy
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1.0 Introduction

1.1 General

This investigation was carried out on land at Barns at Buena Vista Foxes Lane Mendham OSGR (628539/281268). The site is located approximately 16 kilometres to the east of Diss and 10 kilometres to the south west of Bungay. The plot in question lies to the south of Foxes lanes. The area under consideration comprises a mixture of former farm barns a grass area and a pond.

Mr J Sisterston instructed Norfolk Partnership Laboratory (NPL), to carry out the work on an email dated 19th January 2022 after acceptance of NPL's quotation. NPL provides a service within Norse Eastern Ltd.

This report should be read in conjunction with the following report:

1) Contamination scoping assessment, redundant barns opposite Buena Vista, Foxes Lane, Mendham, Suffolk report reference 80613, dated July 2020 by Messrs. W.A.S. Ltd.

This investigation and risk assessment has been carried out to the requirements of The Environmental Protection Act Part IIA. This report also considers the health and safety of construction workers and subsequent residents that may be affected due to any soil contamination.

It is proposed a change of use and conversion of barns to form two dwellings.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Although every effort has been made to give a true assessment of the condition of the site, it is possible that different ground conditions may exist in parts of the site that is neither recorded nor visible.

1.2 Report objectives

The objectives of these works are to assess contamination sources, pathways and receptors, and to determine whether any contamination may be present either within the site boundaries or just outside the site. The report also assesses the extent to which human health, buildings and services and controlled waters may be affected. If contamination is thought likely to be present, recommendations will be made to ascertain the level of contamination and if these levels are within allowable limits.

1.3 Site location

The site is located to the south of Mendham Village on the way towards Metfield on the southern side of Foxes Lane and is approximately 16 kilometres east of Diss town. The site is approximately 0.46 hectares in area and is approximately 46 metres above Ordnance Survey Datum.

A site location plan is in Appendix A.

1.4 Site layout

The site is accessed from Foxes Lane. The site is predominantly a mixture of old and new barns with a grass area and pond to the rear. The site is relatively flat land slopes in a southerly direction.

Western barn, Foxes Lane to right

Front of Eastern barn to Foxes Lane

View south from eastern end barn

View west from eastern end barn

Inside western end barn

Location of overground diesel tank

Pond view south

Pond view north

1.5 Planning application

The site is subject to the planning conditions of Mid Suffolk District Council ref: DC/20/02792.

2.0 Review and Summary of Previous Reports

2.1 Contamination Scoping Assessment Barns at Buena Vista Foxes Lane Mendham. report reference 80613 July 2020,

Site Walkover

The site comprises 2 adjoining barns, one of steel frame, concrete block walls with cement bonded asbestos cladding and no hardened floors and a second corrugated steel arch construction with concrete floors. The unbuilt land is set to grass and a large natural pond exists to the south-western corner of the site.

The site borders agricultural land to the east, south and west and the public highway to the norths with residential properties opposite. The site is generally level without fall. Several mature trees and hedgerows exist along the western boundary with an abundance of flora surrounding the pond. None of the above appeared to be suffering from dieback or distortion.

The western barn is open and contains various materials being stored including several cans & drums of oil and tar, suspected cement bonded asbestos roofing sheets and a redundant fuel tank. The ground beneath the fuel tank which also contained most of the oil drums appeared stained and the contamination with suspected diesel and other oils. No other fragments of asbestos materials were observed.

The barn to the east was locked during the inspection but it was possible to gauge the condition of the interior and contents. The floor of this barn appears to be of sound and substantial concrete. Farm machinery and some 25 litre drums of liquids were stored within. This building appears generally in good uncontaminated condition.

The areas laid to grass contained some old agricultural implements but nothing of a contaminative nature. The pond appeared to be a healthy abundance of flora and fauna. No visible concerns were apparent to the unbuilt areas.

No other visible signs of contamination, along with other distinguishing features, depressions or other undulations other than those already mentioned were observed.

Asbestos

The entire rooking of the western barn appears to be of cement bonded asbestos of which any demolition or alterations have the potential to contaminate soils beneath. Such work should be considered and completed and disposed of off-site to licensed facilities in accordance with the relevant regulations.

The executive summary concluded

The report found no past or present potentially contaminative uses that could be identified to affect the future occupancy of the site. The site walkover assessment confirmed the current uses and the findings of the report.

The fact the barns have had a historic agricultural use gives cause for concerns over their potential for storage of potentially polluting substances, materials and equipment.

The western barn in particular, not having been provided with an impermeable floor is susceptible to contamination from many agricultural activities. The eastern barn is less likely to have suffered from contamination due to the concrete floor however the integrity of the floor and closer inspection should be completed before assessing the need and extent of further works here.

The presence of the numerous oil drums, fuel tank and suspected cement asbestos roofing sheets confirm the likelihood of contamination within the western barn. The staining of soils beneath the fuel tank further confirm the existence of contamination.

It is likely that the floors within the barns will require removal to facilitate the installation of services and a new insulated floor. We recommend that the site be cleared of all known contamination and contaminative materials and a further intrusive investigatory works are completed to ascertain the degree and extent of contamination, particularly with reference to the fuel tank locality. The installation of water supply and other services should be borne in mind when considering such investigations.

2.2 Geology

The geology of the region may be summarised as follows:

Pleistocene : Lowestoft Formation

Cretaceous : Upper Chalk

Upper Chalk is a soft white or off white limestone that contains flints. Chalk was deposited in a warm sea close to a low lying landmass that remained free from the deposition of detritus for a long period of time. The chalk dips at a very shallow angle to the east.

The Lowestoft Formation forms an extensive sheet of chalky till, together with outwash sands and gravels, silts and clays. The till is characterised by its chalk and flint content. The Lowestoft Formation is overlain unconformably by deposits of the Britannia Catchments Group and in north eastern East Anglia by the Sheringham Cliffs Formation. Where the uppermost part of the Lowestoft Formation comprises sand and gravel, it is not always easy to determine its upper boundary if overlain by younger sand and gravel, but in general the younger sand and gravel is better sorted and chalk free. The thickness is extremely variable. It is thickest in buried valleys where locally up to 60 metres may be present. Thick accumulations are also more generally present beneath much of northern Essex and south Suffolk.

3.0 Identification of Potential Contaminants of Concern and Source Areas

The Contamination Scoping Report by WAS Ltd. identified on site potentially contaminative sources. No Department of the Environment industry profile was considered directly relevant to this site. After reviewing information from the previous report, the following have been identified as potential pollution sources.

i) Potential contamination for historical farming use

ii) Potential contamination from diesel oil tank in western barn.

iii) Potential asbestos contained within the fabric of the western barn

iv) Potential contamination from possible Made Ground on site

These have a variety of potential pollution linkages.

3.1 Consultations with the local authority

No consultations have taken place with Mid Suffolk District Council

3.2 Consultations with the Environment Agency

No consultations have taken place between the Environment Agency and NPL.

3.3 Consultations with other appropriate bodies

No consultations have taken place with any other appropriate bodies.

3.4 Review and summary of previous reports

A review of the previously undertaken report below can be found in Section 2.0.

Contamination scoping assessment, redundant barns opposite Buena Vista, Foxes Lane, Mendham, Suffolk report reference 80613, dated July 2020 by Messrs. W.A.S. Ltd.

4.0 Risk Assessment

4.1 Conceptual Model

The known or perceived sources of contamination and pollution linkages are assessed in this section. The conceptual model is realised here in tabulated form.

4.2 Sources of contamination

The Contamination Scoping Report by WAS Ltd. identified on site potentially contaminative sources. No Department of the Environment industry profile was considered directly relevant to this site. After reviewing information from the previous report, the following have been identified as potential pollution sources.

i) Potential contamination for historical farming use

ii) Potential contamination from diesel oil tank in western barn.

iii) Potential asbestos contained within the fabric of the western barn

iv) Potential contamination from possible Made Ground on site

4.3 Pollution Linkages

Each of the potential contaminants may have a number of pollution linkages. Each of these linkage types has a number of potential pathways.

i) Surface soil linkages
   a) Direct contact ingestion or absorption
   b) Indirect contact ingestion or absorption
   c) Leaching to groundwater

ii) Subsurface soil linkages
   a) Direct contact ingestion or absorption
   b) Indirect contact ingestion or absorption
   c) Leaching to groundwater

iii) Surface water linkages
   a) Direct contact ingestion or absorption
   b) Indirect contact ingestion or absorption
   c) Percolation to groundwater

iv) Groundwater linkages
   a) Direct contact ingestion or absorption
   b) Indirect contact ingestion or absorption

v) Airborne linkages
   a) Vapour intrusion into confined / indoor spaces
   b) Inhalation or absorption of particulates
   c) Inhalation or absorption of volatile compounds

4.4 Receptors

A number of potential receptors exist. These can be broadly grouped as:

i) Construction Worker
ii) Future Resident
iii) Trespasser
iv) Local population
v) Flora and fauna
vi) Buildings
vii) Surface Water
viii) Groundwater

For each source, the linkage type, pathway and potential receptors can be identified. A level of risk if no action is taken can then be assigned to each of these linkages. The level of risk has been divided into six categories as follows

Very Low Risk – Considered very unlikely or impossible
Low Risk – Considered conceivable but unlikely
Medium Risk – Considered possible but unusual
High Risk – Considered probable i.e. about 50% chance
Very High Risk – Considered that it is to be expected to happen
Certainty – Considered that it will happen

Note: These risks are related to the probability of an event happening. They do not relate to the severity of the effects on human health or flora and fauna nor the financial consequences if the event should happen.

4.4.1 Potential contamination for historical farming use

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Medium
		Trespasser	Medium
		Flora and fauna	Medium
	Direct contact	Surface water	Medium
	Indirect contact ingestion or absorption	Resident	Medium
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
	Indirect contact ingestion or absorption	Resident	Low
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

4.4.2 Potential contamination from oil and unspecified on-site tanks

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	High
		Trespasser	Medium
		Flora and fauna	Medium
	Direct contact	Surface water	High
	Indirect contact ingestion or absorption	Resident	Medium
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	Medium
		Flora and fauna	High
	Direct contact	Buildings and services	High
	Indirect contact ingestion or absorption	Resident	Medium
	Leaching to groundwater	Local population	Medium
		Flora and fauna	Medium
		Construction Worker	Medium
		Groundwater	Medium
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Medium
		Trespasser	Medium
		Flora and fauna	Medium
	Direct contact	Buildings and services	Medium
		Surface water	Medium
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Medium
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

4.4.3 Potential asbestos contained within the fabric of the western barn

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	High
		Trespasser	High
		Flora and fauna	Low
	Direct contact	Surface water	Low
	Indirect contact ingestion or absorption	Resident	High
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Medium
		Flora and fauna	Medium
	Direct contact	Buildings and services	Medium
	Indirect contact ingestion or absorption	Resident	Medium
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	High
		Resident	High
		Trespasser	High
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

4.4.4 Potential contamination from possible Made Ground on site

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	High
		Trespasser	High
		Flora and fauna	Medium
	Direct contact	Surface water	Medium
	Indirect contact ingestion or absorption	Resident	Medium
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Medium
		Flora and fauna	Medium
	Direct contact	Buildings and services	Medium
	Indirect contact ingestion or absorption	Resident	Medium
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Medium
		Resident	Medium
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Medium
		Resident	Medium
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

4.5 Description of possible pollutant linkages for controlled waters

According to the Regional Hydrogeology Map of Southern East Anglia, the Chalk is the principal aquifer for the area. The estimated minimum hydrostatic level of the Chalk water table in the vicinity of the site is approximately 10 metres above Ordnance Survey Datum.

The site is approximately 46 metres above Ordnance Survey Datum. The groundwater table is therefore estimated to be approximately 36 metres below the site.

Norfolk Partnership Laboratory identified two BGS borehole records, Park Farm to the east (OSGR 627910/282100) recorded no chalk or water strike at a depth of 19.7 metres and a borehole at Chestnut Lodge Farm (OSGR 627350/281770) recorded water in a gravel deposit at 31 metres below ground level. The surface level of this borehole was recorded as 43 metres AOD. This would appear to confirm the depth of groundwater beneath the site to be in the region of 35 metres below existing ground level.

4.6 Identification of potentially unacceptable risks to controlled waters

A Low risk has been identified to the regional groundwater table with regard to the potential contaminative source within the site.

4.7 Discussion of uncertainties and gaps in information

It may be possible that there are areas of contamination that have not been identified by the previous report.

5.0 Recommendations for Site Investigation

Based upon the information contained herein it is recommended that a site investigation and quantitative risk assessment are carried out.

From this preliminary risk assessment, it is recommended that a site investigation comprising of a number of window sample holes is undertaken. Judgmental sampling in accordance with BS 10175:2011 clause 7.7.2.2 and non-targeted sampling in accordance with BS 10175:2011 clause 7.7.2.3 should be carried out.

NPL recommends eight window sample holes are drilled across the site to a minimum depth of 2.00 metres to obtain samples for the contamination investigation. In addition, two dynamic probes to a depth of 2.90 metres will be undertaken to obtain geotechnical information.

6.0 Site Investigation

6.1 Investigation Objectives

The aim of this investigation is to determine whether any contamination exists on the site. In the event of contamination being found then it should be quantified as far as possible.

6.2 Preparatory Enabling Works

No preparatory enabling works were required on the site.

6.3 Works undertaken

On 28 January 2022, eight window sample holes were drilled to a maximum depth of 3.00 metres.

The locations of these excavations are shown on the plan in Appendix B.

6.4 Site Investigation Strategy

The site investigation was to identify any potential contamination and address the potential source areas identified in the contamination scoping assessment by Messrs. W.A.S. Ltd.

6.5 Site Sampling Strategy

A number of disturbed samples were taken from the window sample holes in accordance with BS 5930:2015. The number and depths of these samples encountered are set out in Appendix C of this report.

6.6 In-situ and Geotechnical Testing

Two dynamic probes were carried out across the site, the logs and equivalent N values graphs can be seen in Appendix C.

6.7 Pollution prevention measures

No particular pollution prevention measures were required on this site. No material was removed with the exception of samples for testing. Due diligence was employed to prevent any possible cross contamination of material. The Window Sample holes were backfilled with inert soils.

7.0 Analytical Strategy

The following samples were tested for the parameters shown. The samples were sent to Envirolab, Cheshire for analysis. Envirolab is a UKAS accredited laboratory, No.1247.

7.1 Soil

Location	Depth (m)	Tests
WS01	0.15	Suite SB, Speciated TPH to WGC UK, Asbestos Screen
WS02	0.15	Speciated TPH to WGC UK, VOC, SVOC
WS03	0.10	Suite SB, Speciated TPH to WGC UK, Asbestos Screen, VOC, SVOC, Pesticides and Herbicides
WS04	0.05	Speciated TPH to WGC UK, Asbestos Screen
WS05	0.05	Speciated TPH to WGC UK, Asbestos Screen, VOC, SVOC, Pesticides and Herbicides
WS06	0.20	Suite SB, Speciated TPH to WGC UK
WS07	0.05	Suite SB
WS07	0.10	Suite SB

Suite SB = General contamination suite including testing for: Total Sulphate, Boron, Water Soluble, Arsenic, Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Acid Soluble Sulphide, Phenols (Monohydric), Total Cyanide, Elemental Sulphur, pH Value, PAH Total, Speciated PAH, Soil Organic Matter (SOM).

8.0 Investigation Results

8.1 Ground conditions

8.1.1 Surface Deposits

Topsoil was recorded as the surface deposit in WS's 04,06, 07 and 08. The topsoil was brown and in colour and silty in texture. The thickness of this deposit ranged from 0.25 metre in WS08 up to 0.35 metre in WS04. Chemical analysis has show that this material is suitable for re use within the development.

Made Ground was recorded as the surface deposit in all remaining window sample holes within and the direct vicinity of the barns.

This material in WS01 comprised a hardcore type material comprising sub-angular to sub-rounded, up to cobble sized concrete, flint and brick gravel in a matrix of dark brown, silty, fine and medium sand. The remainder of the material was found to be sub-angular to sub-rounded, up to cobble sized concrete, brick, mortar and flint gravel in a matrix of greyish brown, silty, fine and medium sand.
The thickness of this deposit ranged from 0.15 metre in WS02 up to 0.40 metre in WS01.

More detail can be found on the window sample logs in Appendix C.

8.1.2 Lowestoft Till

The Lowestoft Till deposit was encountered in all the window sample holes beneath the Made Ground or Topsoil material. The strata was encountered at depths ranging from 0.15 in WS02 up to 0.40 metre in WS01.

The deposit comprised mottled light greyish brown and orangey brown, silty, gravelly CLAY. Gravel was recorded as sub-angular to sub-rounded, fine to coarse chalk and flint. The strength of this material ranged from soft to firm through firm and firm to stiff up to stiff. Generally, the strength increased with depth.

The deposits within WS's 02, 03, 05 and 07 included deposits of clayey sand and some deposits of clayey gravel.

The deposit was not proven in all window sample holes at a maximum drill depth of 3.00 metres.

According to NHBC Standards Chapter 4.3, Table 2 the Lowestoft Till deposits can generally be treated as type of ground 3 and 4. Due to the variable nature with occasional type 6 present strip footings would require examination after excavation to ensure an appropriate footing was used.

The minimum width (mm) of the strip footing in relation to total load should be according to the table shown below. Problems could possibly occur with the excavation of pipe runs or manholes in these materials.

NHBC Standards Chapter 4.3 Table 2

	Type of ground (including	Condition of ground	Field test applicable	Total load of load-bearing walling not more than (kN/linear metre)					
				20	30	40	50	60	70
				Minimum width of strip foundation (mm)					
1	Rock	Not inferior to sandstone, limestone or firm chalk	Requires at least a pneumatic or other mechanically operated pick for excavation.	Equal to the width of the wall plus 50mm each side.					
2	Gravel Sand	Medium dense	Requires pick for excavation. Wooden peg 50mm square in cross-section is	250	300	400	500	600	650
3	Clay Sandy clay	Stiff	Can be indented slightly by thumb.	250	300	400	500	600	650
4	Clay Sandy clay	Firm	Thumb makes impression easily.	300	350	450	600	750	850
5	Sand Silty sand Clayey sand	Loose	Can be excavated with a spade. Wooden peg 50mm square in cross-section	400	600	Does not fall within the provisions of this guidance where the total load exceeds 30			
6	Silt Clay Sandy clay Clay or silt	Soft	Finger can be pushed in up to 10mm.	450	650				
7	Silt Clay Sandy clay Clay or silt	Very soft	Finger can be easily pushed in up to	Refer to specialist advice.					

8.1.3 Upper Chalk

No Chalk deposits were positively identified during this investigation.

8.1.4 Dynamic Probes

Two dynamic probes were undertaken across the site to a maximum depth of 2.90 metres.

DP09

The dynamic probes indicates that the equivalent SPT “N” value increased at a depth of 1.10 metres.

DP10

The dynamic probes indicates that the equivalent SPT “N” value increased at a depth of 1.00 metre.

8.2 Groundwater conditions

Groundwater was encountered during the drilling process as seepage.

Location	Depth (bglm)	
	Water strike	Rose to
WS01	2.00	1.60
WS02	2.00	1.50
WS03	2.10	1.30
WS04	Dry	n/a
WS05	Dry	n/a
WS06	Dry	n/a
WS07	Dry	n/a
WS08	Dry	n/a

It is thought that this water is of a perched nature collected within the granular inclusions originating from permeating surface water finding the line of least resistance with regards to migrating through the clay

8.3 Geoenvironmental test results summary

The samples indicated in Section 7.0 were sent to Envirolab, Cheshire for analysis. Envirolab is a UKAS accredited laboratory, No.1247.

These samples were tested for the contaminants of concern noted in sections 7.1 above. The test results are included in Appendix D.

8.4 Contamination

8.4.1 Soil

All the results were found to be below the C4SL's, Atkins ATRISK and LQM/CIEH S4UL's threshold values for residential with the consumption of home grown produce land use, with 1% soil organic matter. The exceptions are tabulated below

Location	Depth (mbgl)	Contaminant	Quantification (% w/w)
WS01	0.15	Amosite Loose insulation	0.710

9.0 Quantitative Risk Assessment

9.1 Risk Assessment Objectives

The objective of the quantitative risk assessment is to revisit the preliminary risk assessment in the light of information obtained during the site investigation and thus reassess the validity of the model.

9.2 Proposed Development

It is proposed a change of use and conversion of barns to form two dwellings.

9.3 Revised Conceptual Model

Referring back to the original conceptual model in Section 4.0 the following potentially contaminative linkages were present.

i) Potential contamination for historical farming use

ii) Potential contamination from diesel oil tank in western barn.

iii) Potential asbestos contained within the fabric of the western barn

iv) Potential contamination from possible Made Ground on site

Each of these has a variety of potential pollution linkages.

9.4 Risk assessment rationale

Where available levels of potential contaminants were compared to C4SL's, Atkins ATRISK and LQM/CIEH S4UL's threshold values to assess human health risk.

To assess the risk to buildings and services the WRAS documentation and BRE Special Digest 1 were used. These are specialist documents that focus on a particular target.

9.5 Exposure scenarios

9.5.1 Potential contamination for historical farming use

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Surface water	Low
	Indirect contact ingestion or absorption	Resident	Low
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
	Indirect contact ingestion or absorption	Resident	Low
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

9.5.2 Potential contamination from diesel oil tank in western barn

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Surface water	Low
	Indirect contact ingestion or absorption	Resident	Low
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
	Indirect contact ingestion or absorption	Resident	Low
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

9.5.3 Potential asbestos contained within the fabric of the western barn

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Surface water	Low
	Indirect contact ingestion or absorption	Resident	Low
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
	Indirect contact ingestion or absorption	Resident	Low
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	High
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

9.5.4 Potential contamination from possible Made Ground on site

Linkage type	Pathway	Receptor	Risk
Surface soil linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Surface water	Low
	Indirect contact ingestion or absorption	Resident	Low
Subsurface soil linkage	Direct contact ingestion or absorption	Construction Worker	High
		Resident	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
	Indirect contact ingestion or absorption	Resident	Low
	Leaching to groundwater	Local population	Low
		Flora and fauna	Low
		Construction Worker	Low
		Groundwater	Low
Surface water linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Surface water	Low
	Percolation to groundwater	Local population	Low
		Flora and fauna	Low
		Groundwater	Low
Groundwater linkage	Direct contact ingestion or absorption	Construction Worker	Low
		Local population	Low
		Flora and fauna	Low
	Direct contact	Buildings and services	Low
		Groundwater	Low
	Indirect contact ingestion or absorption	Local population	Low
		Flora and fauna	Low
Airborne linkage	Inhalation of particulates	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Inhalation of volatile compounds	Construction Worker	Low
		Resident	Low
		Trespasser	Low
		Flora and fauna	Low
		Local population	Low
	Vapour intrusion into indoor spaces	Resident	Low
		Local population	Low

9.6 Assessment criteria

The assessment criterion used is for residential with the consumption of home grown produce land use with 1% soil organic matter.

CLEA v1.06, C4SL's, Atkins ATRISK and LQM/CIEH S4ULs models were used to assess human health risk and determine allowable values for any contaminants present.

To assess the risk to buildings and services the WRAS documentation and BRE Special Digest 1 were used. These are specialist documents that focus on a particular target.

9.7 Constraints and limitations

The CLEA model is limited to published data. These assessing criteria only apply to human health and do not assess risk to groundwater.

Atkins AT**RISK**^{soil} SSV data was derived to use where CLEA guidance was not available. AT**RISK**^{soil} SSV was derived using toxicological data inputted into BP RISC 4.0.

The WRAS, CIRIA and BRE documents are specific to the target receptor.

9.8 Risk to controlled waters

According to the Regional Hydrogeology Map of Southern East Anglia, the Chalk is the principal aquifer for the area. The estimated minimum hydrostatic level of the Chalk water table in the vicinity of the site is approximately 10 metres above Ordnance Survey Datum.

The site is approximately 46 metres above Ordnance Survey Datum. The groundwater table is therefore estimated to be approximately 36 metres below the site.

Norfolk Partnership Laboratory identified two BGS borehole records, Park Farm to the east (OSGR 627910/282100) recorded no chalk or water strike at a depth of 19.7 metres and a borehole at Chestnut Lodge Farm (OSGR 627350/281770) recorded water in a gravel deposit at 31 metres below ground level. The surface level of this borehole was recorded as 43 metres AOD. This would appear to confirm the depth of groundwater beneath the site to be in the region of 35 metres below existing ground level.

A low risk to controlled waters has been deemed appropriate for this site. This is due to the low levels of contamination recorded during this investigation.

9.9 Effects on Human Health

The testing undertaken during this investigation has indicated that the strata within the site generally poses a low risk to the human health of the end user with the exception of the contaminants listed in Section 8.4.1. If the works recommended in Section 10.0 are carried out the site will pose an insignificant risk to human health.

9.10 Effects on buildings and services

The site poses a low risk to buildings and services.

Sulphate (water sol 2:1) levels ranged from <0.01 g/l to 0.07 g/l. These results indicate that the site would be Design Sulphate Class DS-1, AC-1 as defined in BRE Special Digest 1 2005 3rd Edition.

The values of pH recorded ranged from 7.78 in WS06 up to 8.22 in WS01.

9.11 Uncertainties

There is a risk that contamination may exist in areas not investigated.

9.12 Risk Evaluation

With current knowledge this site generally represents a low risk to human health, controlled waters, and to buildings and services when the works recommended in Section 10.0 are carried out.

10.0 Recommendations

Based upon the information contained herein, it is recommended that no further intrusive investigation for contamination purposes is required on this site at the present time.

With respects to the specific risk area as highlighted in Section 8.4.1, WS01 was found to contain Amosite Loose insulation at a depth of 0.15 metre below existing ground level within the Made Ground deposit. This area is proposed to be driveway / parking area for the western barn. It is recommended that an area 3.0 x 3.0 x 0.3 metre is removed from this area and disposed of to a suitably licensed facility. This area will be validated with sampling and analysis undertaken from the sidewalls and base in accordance with BS:10175:2011 to ensure that all contaminated material has been removed. It may be prudent to extend this excavation to 0.40 metre and remove all the Made Ground at this location.

The western barn does include ACM products on the roof. All potential asbestos containing material (ACM) on the structure should be removed by a suitably licensed contractor and disposed of to a suitably licensed facility. Consignment notes for any removed ACM and documentation stating that all ACM has been disposed of from the site should be submitted to Mid Suffolk District Council.

If the above works are undertaken and evidenced the site will pose an in significant risk to the end user.

The Topsoil present within the proposed garden areas has been tested and the results confirm that the material is suitable for re use in the residential garden areas.

It should also be stressed that if any possibly contaminated material should be found during the development of the site then Mid Suffolk District Council and Norfolk Partnership Laboratory should be informed immediately.

11.0 References

DEFRA: Contaminated Land exposure assessment “CLEA Version 1.04:2008"

Environment Agency: R&D Publication 20; Methodology for the derivation of remedial targets for soil and groundwater to protect water resources: 1999.

Environment Agency: Technical advice to third parties on the pollution of controlled waters for part IIA: 2002.

Environment Agency: Guidance on Requirements for Land Contamination Reports; July 2005.

Environment Agency website.

RAIS website.

WRAS Information and Guidance Note No 9-04-03, Issue 1: The Selection of Materials for Water Supply Pipes to be Laid in Contaminated Land: October 2002.

CIRIA Report 149: Protecting Development from Methane: 1995.

CIRIA C665 Assessing risks posed by hazardous ground gases to buildings, 2007.

BRE Special Digest 1: Concrete in aggressive ground, 3rd Edition: 2005.

Atkins ATRISK SSV's derived using CLEA Version 1.06.

NHBC Standards January 2019.

NHBC Technical Extra October 2014, Issue 15.

BS 1377: 1990; Soils for Civil Engineering Purposes.

BS 5930:2015 incorporating amendment A1:2020; Code of practice for Site Investigations.

BS 10175: 2011; Investigation of potentially contaminated sites – Code of practice.

LQM/CIEH S4ULs for Human Health Risk Assessment.

Norfolk Partnership Laboratory

Site Investigation Section

This report was prepared under the direction of

Lead Engineer

I D Brown

Author of report

Project Engineer

S P Berwick

Date: 03/03/2022

Appendix A

Norfolk County Council

DRAWING TITLE

Site Location Plan

Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall
Martineau Lane
Norwich NR1 2SG

REV.	DESCRIPTION	DRAWN	CHECKED	DATE

	INIT.	DATE
SURVEYED BY		
DESIGNED BY		
DRAWN BY	SPB	03/22
CHECKED BY	IDB	03/22

DRAWING No. 102739 - 01

PROJECT TITLE
Mendham : Foxes Lane
Barns at Buena Vista

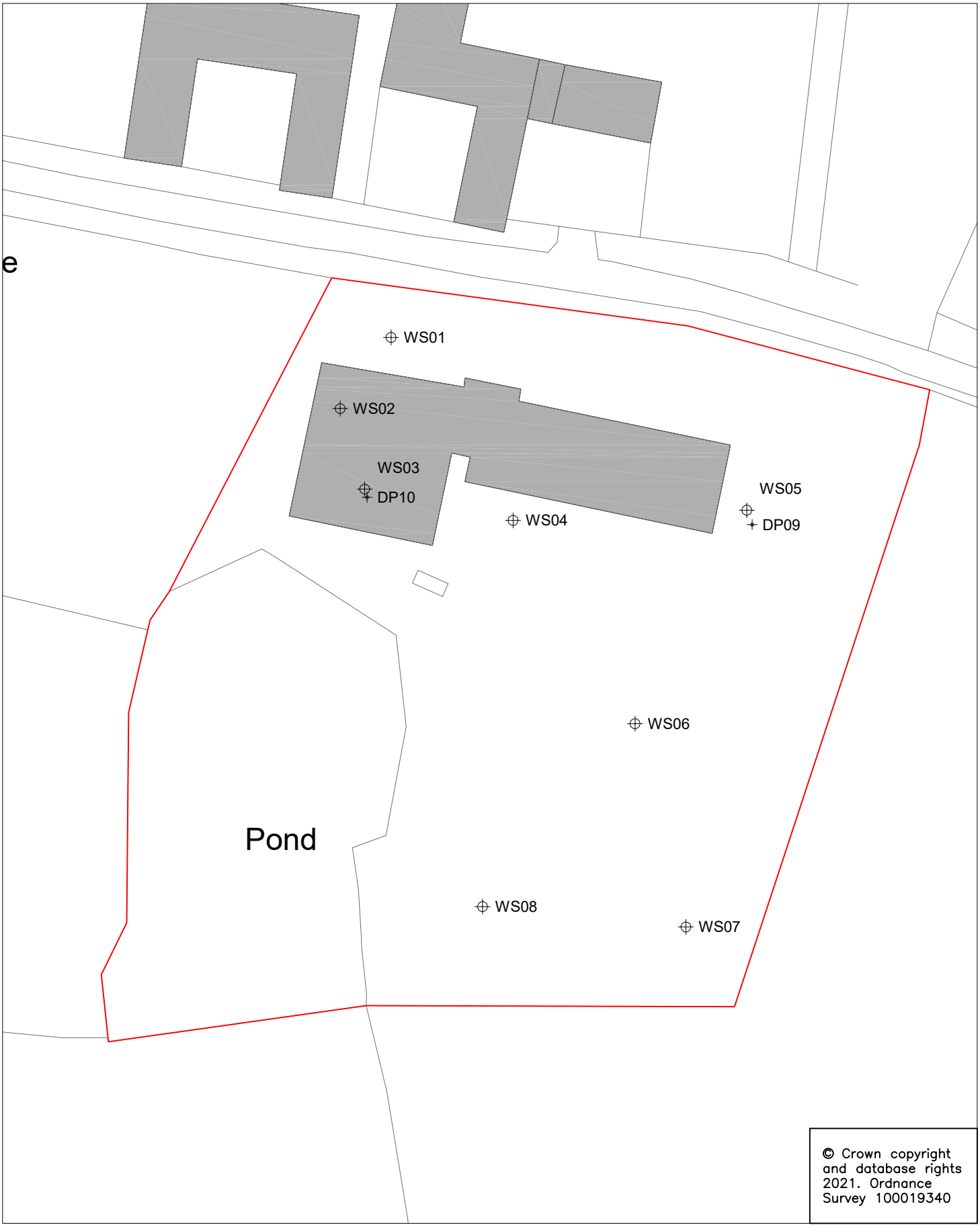
SCALE 1:5000@ A4

FILE No. 102739

ORIGINAL SIZE: A4

IG 12/10/16

Appendix B



Norfolk County Council

DRAWING TITLE

Window Sample and Dynamic Probe Location Plan

Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall
Martineau Lane
Norwich NR1 2SG

REV.	DESCRIPTION	DRAWN	CHECKED	DATE

	INIT.	DATE
SURVEYED BY		
DESIGNED BY		
DRAWN BY	SPB	03/22
CHECKED BY	IDB	03/22

DRAWING No. 102739 - 02

PROJECT TITLE
Mendham : Foxes Lane
Barns at Buena Vista

SCALE 1:500@ A4

FILE No. 102739

ORIGINAL SIZE: A4

IG 12/10/16

Appendix C

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	01
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:		Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	3.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628533 - 281216		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			MADE GROUND: comprising sub-angular to sub-rounded, up to cobble sized concrete, flint and brick gravel in a matrix of dark brown, silty, fine and medium sand.												
			Soft to firm orangey brown and greyish brown, silty, very sandy CLAY, with some sandy partings.		0.40			1							
			Firm to stiff mottled greyish brown and grey, gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		1.00	1.00		2							
			Becoming stiff CLAY from 1.60-3.00m.			2.00		3							
					3.00	3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	02
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:		Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	3.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628528 - 281209		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			MADE GROUND: comprising sub-angular to sub-rounded, up to cobble sized concrete, brick, mortar and flint gravel in a matrix of greyish brown, silty, fine and medium sand.		0.15										
			Firm to stiff mottled light grey and orangey brown, silty, gravelly CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.			1.00		1							
			Beige sub-angular to sub-rounded, fine to coarse chalk GRAVEL and some silty, fine and medium SAND (wet).		1.55			2							
			Firm and stiff mottled light grey and orangey brown, silty, gravelly CLAY, Gravel is sub-angular to sub-rounded, fine to coarse chalk, with occasional flint cobbles.		2.10	2.00		3							
			Becoming dark grey CLAY from 2.55-3.00m.		3.00	3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	03
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:		Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	3.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628531 - 281204		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			MADE GROUND: comprising dark greyish brown, gravelly, fine and medium sand. Gravel is sub-angular to sub-rounded, fine to coarse brick, concrete and flint.												
			Firm to stiff mottled light grey and orangey brown, gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		0.30			1							
			Orangey brown, silty, fine and medium SAND, with rare sub-angular to sub-rounded, fine to coarse flint.		0.80	1.00									
			Firm grey, gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		1.30			2							
			Becoming firm to stiff CLAY from 1.60-3.00m.			2.00		3							
					3.00	3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	04
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:	Dry	Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	3.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628545 - 281198		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			Brown silty TOPSOIL.												
			Firm mottled greyish brown and orangey brown, sandy, silty CLAY.		0.35			1							
			Firm to stiff greyish brown and light brown, gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, up to cobble sized chalk and flint.		0.65	1.00		2							
			Becoming stiff CLAY from 1.20-3.00m.			2.00		3							
			Becoming grey CLAY from 2.10-3.00m.		3.00	3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	05
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:	Dry	Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	3.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628568 - 281199		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			MADE GROUND: comprising dark brown silty topsoil.		0.10										
			MADE GROUND: comprising predominantly dark brown, silty topsoil, with some sub-angular to sub-rounded, up to cobble sized red brick and flint.		0.35			1							
			Brown, slightly clayey, silty, fine SAND.		1.00	1.00		2							
			Firm to stiff mottled light grey and orangey brown, silty, gravelly CLAY. Gravel is sub-angular to sub-rounded, up to cobble sized chalk and flint.		3.00	2.00 3.00 4.00		3							

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	06
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:	Dry	Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	2.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628557 - 281178		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			Brown silty TOPSOIL.												
			Firm mottled greyish brown and orangey brown, gravelly, silty CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		0.30			1							
			Becoming firm to stiff CLAY from 0.70-2.00m.			1.00		2							
					2.00	2.00									
						3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	07
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:	Dry	Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	2.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628562 - 281158		Checked by	IDB

Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			Dark brown silty TOPSOIL.												
			Orangey brown, silty, very clayey, fine and medium SAND.		0.30			1							
			Firm mottled light greyish brown and orangey brown, silty, gravelly CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		0.90	1.00									
			Becoming stiff CLAY from 1.20-2.00m.					2							
					2.00	2.00									
						3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

Window Sampler Log

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No.	102739	WS No.	08
Carried out for	Ray Chapman Fabrication Ltd	Date Started	28/01/2022	Date Finished	28/01/2022
Remarks:	Dry	Type of Rig	Dando Terrier	Logged by	DJ
		Depth (m)	2.00	Ground Level (m AOD)	Drawn by	CRV
		Co-ords	628542 - 281160		Checked by	IDB

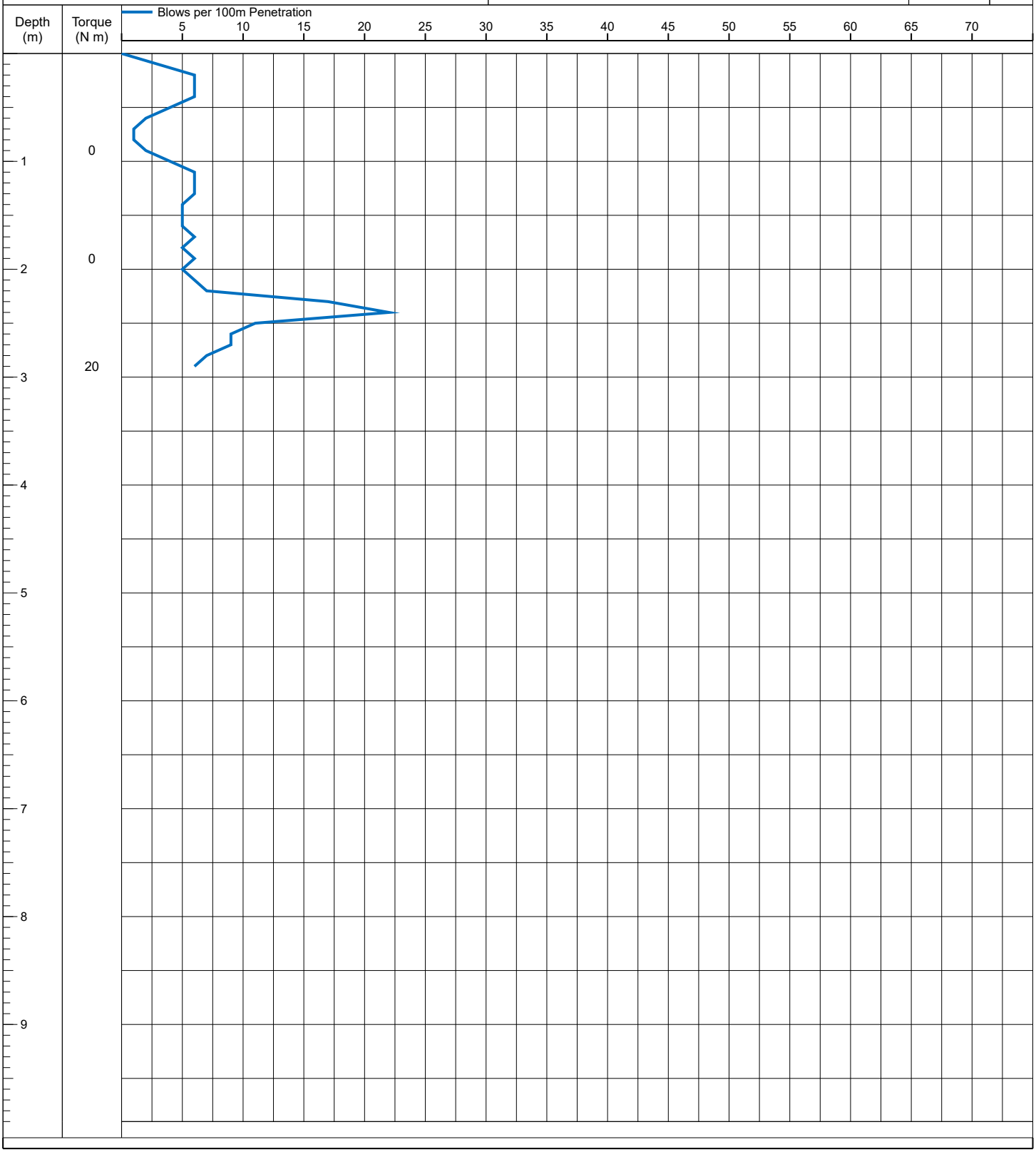
Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sample Type	Sample No.	Field Tests	Laboratory Tests MC%	LL	PL	MPI	Org.	CBR
			Brown silty TOPSOIL.												
			Firm to stiff mottled greyish brown and orangey brown, silty, gravelly CLAY. Gravel is sub-angular to sub-rounded, fine to coarse chalk and flint.		0.25			1							
			Becoming stiff CLAY from 0.50-2.00m.			1.00		2							
					2.00	2.00									
						3.00									
						4.00									

NORFOLK PARTNERSHIP LABORATORY

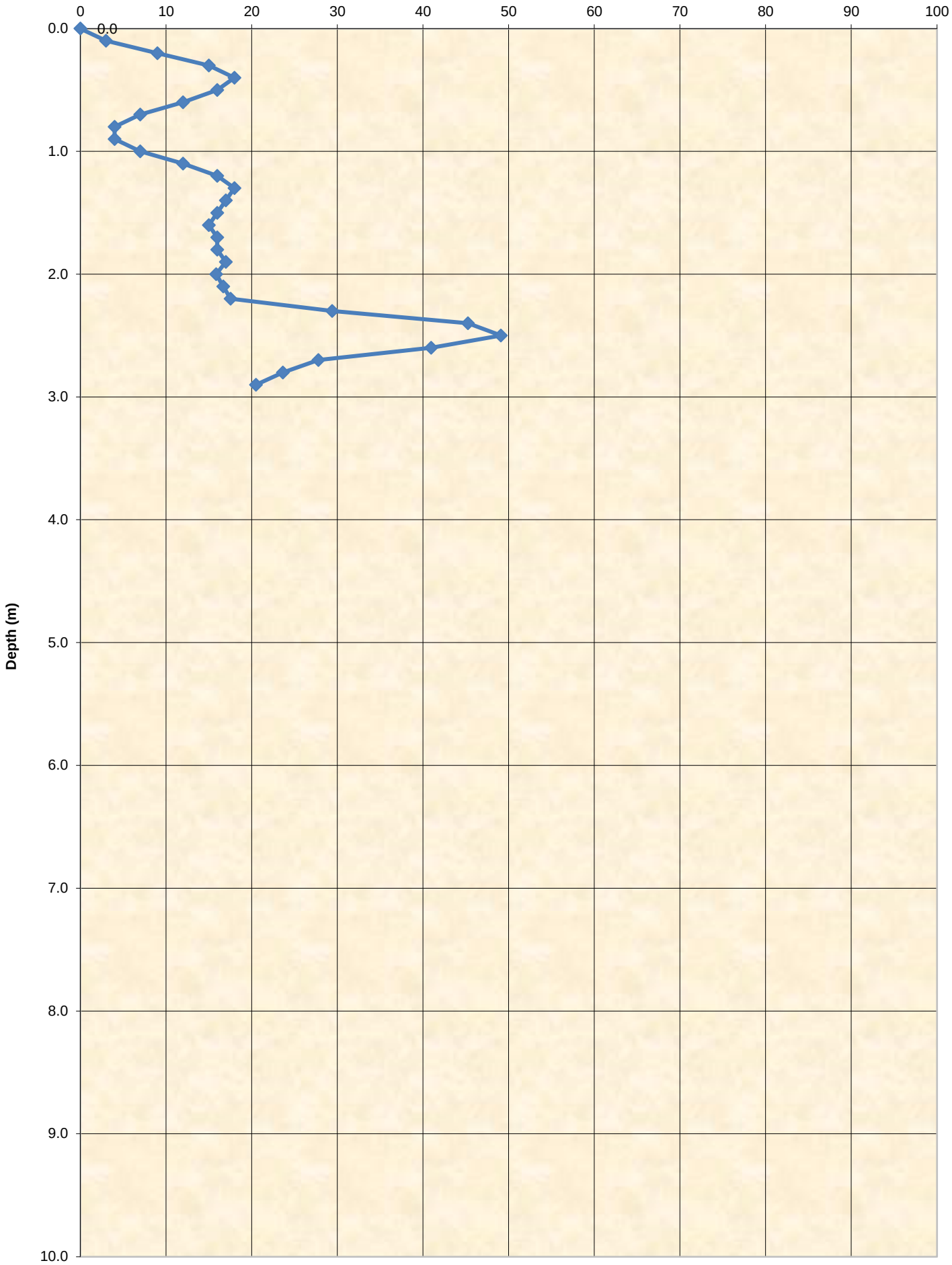
DYNAMIC PROBE LOG

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No. 102739		Probe No. 09	
Carried out for	Ray Chapman Fabrication Ltd	Date Started 28/01/2022		Date Finished 28/01/2022	
Dimension (mm)	50	Probe Type DPSH-B	Type of Rig Dando Terrier	Logged by	DJ
Remarks:		Depth (m) 2.90	Ground Level (m AOD)	Drawn by	CRV
		Co-ords 628569 - 281200		Checked by	IDB



102739 Mendham, Barns Foxes Lane
Dynamic Probe 09
Equivalent SPT 'N' value

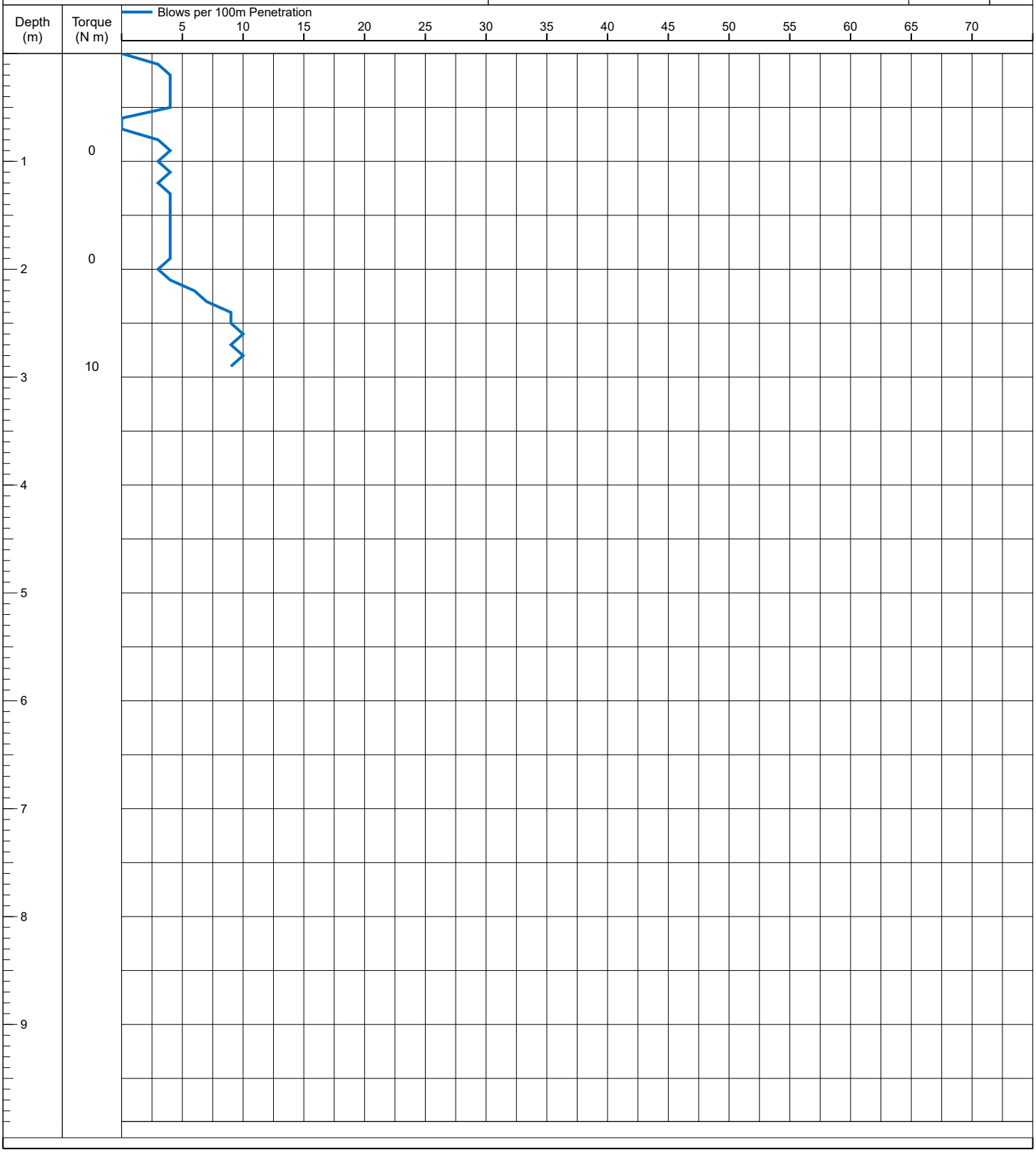


NORFOLK PARTNERSHIP LABORATORY

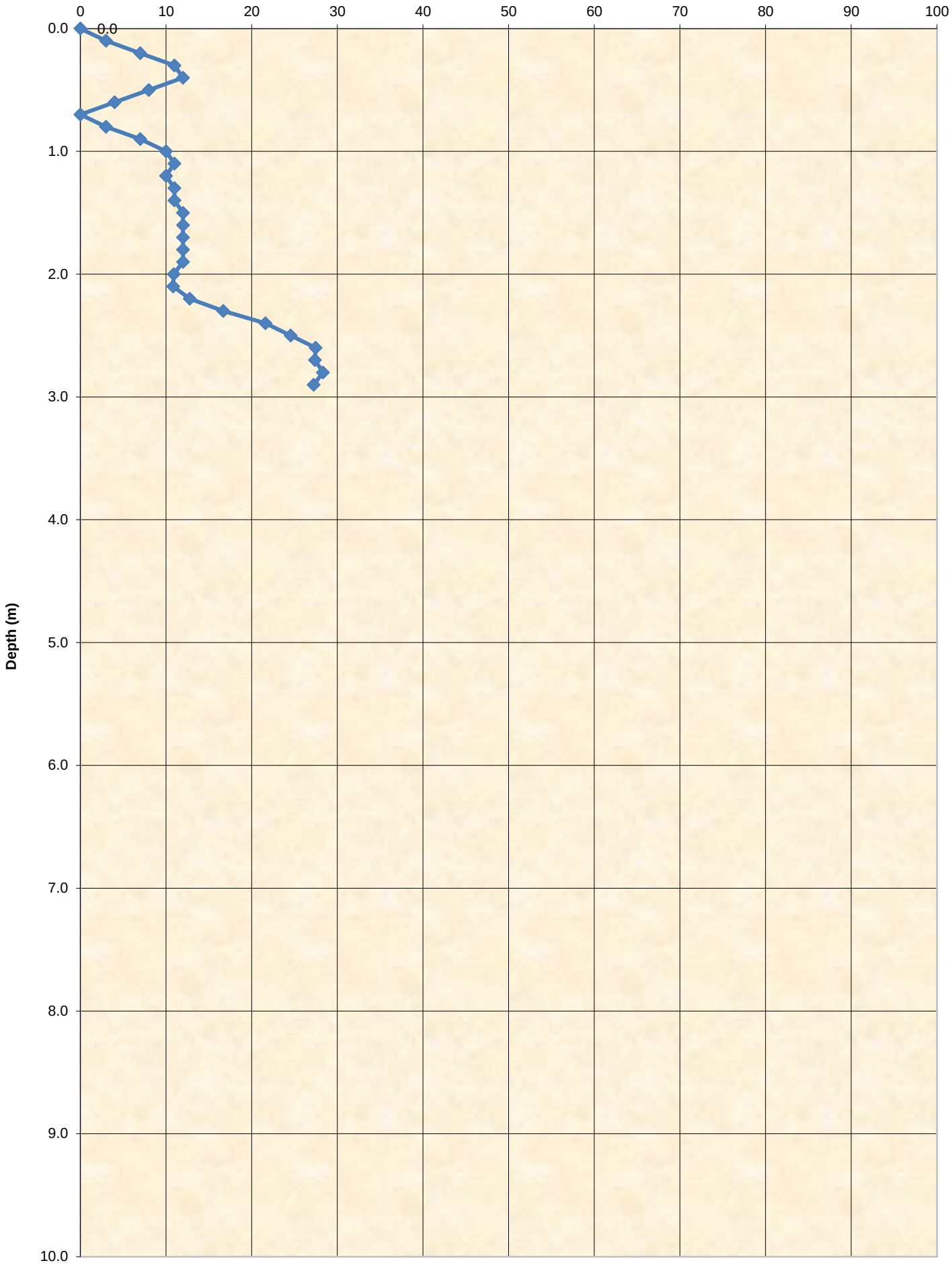
DYNAMIC PROBE LOG

Sheet 1 of 1

Scheme	Mendham, Barns Foxes Lane	Job No. 102739		Probe No. 10	
Carried out for	Ray Chapman Fabrication Ltd	Date Started 28/01/2022		Date Finished 28/01/2022	
Dimension (mm) 50	Probe Type DPSH-B	Type of Rig Dando Terrier		Logged by	DJ
Remarks:		Depth (m) 2.90	Ground Level (m AOD)	Drawn by	CRV
		Co-ords 628532 - 281205		Checked by	IDB



102739 Mendham, Barns Foxes Lane
Dynamic Probe 10
Equivalent SPT 'N' value



Appendix D

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

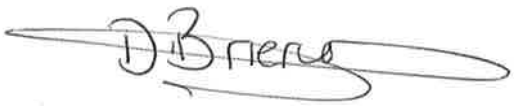
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/00967
Issue Number: 1 **Date:** 25 February, 2022

Client: Norse Eastern Ltd t/a Norse Highways
280 Fifers Lane
Norwich
Norfolk
NR6 6EQ

Project Manager: Josh Thompson/Sharon Woods; Simon Holden
Project Name: Barns at Buena Vista Foxes Lane Mendham
Project Ref: 102739
Order No: PN05033172
Date Samples Received: 03/02/22
Date Instructions Received: 03/02/22
Date Analysis Completed: 25/02/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
% Stones >10mm$_A$	<0.1	4.7	36.7	<0.1	<0.1	13.9	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.22	-	7.94	-	-	7.78	7.84	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.03	-	0.07	-	-	<0.01	<0.01	g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	520	-	820	-	-	470	480	mg/kg	200	A-T-028s
Cyanide (total)$_A$$^{M\#}$	<1	-	<1	-	-	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	-	<0.2	-	-	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide$_A$	59	-	73	-	-	28	81	mg/kg	5	A-T-043-s
Sulphur (elemental)$_D$$^{M\#}$	<5	-	<5	-	-	<5	<5	mg/kg	5	A-T-029s
Organic matter$_D$$^{M\#}$	NDP	-	2.2	-	-	3.4	2.8	% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	3	-	6	-	-	6	5	mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	-	<1.0	-	-	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	-	0.6	-	-	<0.5	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	9	-	15	-	-	8	9	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	11	-	9	-	-	13	13	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	-	<1	-	-	<1	<1	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	32	-	22	-	-	12	14	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	-	0.24	-	-	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	11	-	13	-	-	12	11	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	-	<1	-	-	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	96	-	189	-	-	41	42	mg/kg	5	A-T-024s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
Acid Herbicides (Suite 3+)										
2,3,6-TBA$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
2,4-D$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
2,4-DB$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
2,4,5-T$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
2,4,5-TP; (Fenoprop); (Silvex)$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
4-CPA$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Benazolin$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Bentazone$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Bromacil$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Bromoxynil$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Clopyralid$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Dicamba$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
2,4-DP; (Dichlorprop)$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Diclofop$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Flamprop$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Flamprop-isopropyl$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Fluroxypyr$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Ioxynil$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
MCPA$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
MCPB$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
MCPP; (Mecoprop)$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
PCP; (Pentachlorophenol)$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Picloram$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH
Triclopyr$_A$	-	-	<0.1	-	<0.1	-	-	mg/kg	0.1	Subcon RPS MH

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	Amosite	-	NAD	NAD	NAD	-	-			A-T-045
Asbestos Matrix (visual)$_{D}$	Loose Insulation	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	-	N/A	N/A	N/A	-	-			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	0.710	-	-	-	-	-	-	% w/w	0.001	A-T-054
OPP										
Dichlorvos$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Mevinphos$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Demeton-S$_{A}$	-	-	<0.50	-	<0.50	-	-	mg/kg	0.5	A-T-056
Phorate$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Dimethoate$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Demeton-O$_{A}$	-	-	<0.50	-	<0.50	-	-	mg/kg	0.5	A-T-056
Propetamphos$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Diazinon (Dimpylate)$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Disulfoton$_{A}$	-	-	<0.10	-	<0.10	-	-	mg/kg	0.1	A-T-056
Chlorpyrifos-methyl$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Methyl Parathion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Pirimiphos-methyl$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Fenitrothion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Malathion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Chlorpyrifos$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Fenthion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Parathion (Ethyl Parathion)$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Trichloronate$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Chlorfenvinphos$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Fensulphothion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Ethion$_{A}$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

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Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
Triazophos$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Carbophenothion$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Phosalone$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Azinphos-methyl$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Azinphos-ethyl$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Coumaphos$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056
Prothiofos (Tokuthion)$_A$	-	-	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-056

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Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.02	-	<0.01	-	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	-	<0.01	-	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.08	-	<0.02	-	-	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.07	-	<0.04	-	-	0.08	0.08	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.44	-	<0.04	-	-	0.12	0.12	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.30	-	<0.05	-	-	0.14	0.12	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.96	-	<0.05	-	-	0.09	0.07	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.42	-	<0.07	-	-	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.17	-	<0.06	-	-	0.11	0.12	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.16	-	<0.04	-	-	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.88	-	<0.08	-	-	0.15	0.18	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.01	-	<0.01	-	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.14	-	<0.03	-	-	0.11	0.08	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	-	<0.03	-	-	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.33	-	<0.03	-	-	0.04	0.05	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.89	-	<0.07	-	-	0.15	0.17	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	11.9	-	<0.08	-	-	0.99	0.99	mg/kg	0.01	A-T-019s

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
SVOC										
4-Bromophenyl phenyl ether$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Carbazole$_A$	-	<100	117	-	<100	-	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	<500	<500	-	<500	-	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Acenaphthylene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Acenaphthene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Anthracene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	-	<100	-	-	416	-	-	µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	-	<100	-	-	1160	-	-	µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	-	<100	-	-	310	-	-	µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	-	<100	-	-	644	-	-	µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	-	<100	-	-	556	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/00967

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Client Project Ref: 102739

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Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
Chrysene$_A$	-	<100	-	-	789	-	-	µg/kg	100	A-T-052s
Fluoranthene$_A$	-	<100	-	-	1580	-	-	µg/kg	100	A-T-052s
Fluorene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	-	<100	-	-	588	-	-	µg/kg	100	A-T-052s
Phenanthrene$_A$	-	<100	-	-	1140	-	-	µg/kg	100	A-T-052s
Pyrene$_A$	-	<100	-	-	1240	-	-	µg/kg	100	A-T-052s
Naphthalene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	-	<100	-	-	<100	-	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Phenol$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	<500	<500	-	<500	-	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Isophorone$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	<100	<100	-	<100	-	-	µg/kg	100	A-T-052s
Perylene$_A$	-	<100	327	-	138	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
VOC										
Dichlorodifluoromethane$_{A}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	<10	<10	-	<10	-	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	*<1*	*<1*	-	*<1*	-	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	*<1*	*<1*	-	*<1*	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	<5	<5	-	<5	-	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	<5	<5	-	<5	-	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	<2	<2	-	<2	-	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	<10	<10	-	<10	-	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	*<1*	*<1*	-	*<1*	-	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	<3	<3	-	<3	-	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
Chlorobenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
o-Xylene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Styrene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Bromoform$_A^\#$	-	*<1*	*<1*	-	*<1*	-	-	µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	-	<2	<2	-	<2	-	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	-	<2	<2	-	<2	-	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	-	<3	<3	-	<3	-	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	-	<1	<1	-	<1	-	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	-	<3	<3	-	<3	-	-	µg/kg	3	A-T-006s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	Units	Limit of Detection	Method ref
Client Sample No	20224	20225	20226	20227	20228	20229	20230			
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07			
Depth to Top	0.15	0.15	0.1	0.05	0.05	0.2	0.05			
Depth To Bottom										
Date Sampled	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22	28-Jan-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D			
Sample Matrix Code	4AB	6A	4ABE	6AE	4AE	6ABE	6AE			
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	3	<1	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	1	<1	10	<1	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	1	<1	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	1	<1	2	<1	3	<1	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	33	1	61	17	180	12	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	22	<1	26	7	103	5	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	56	1	90	24	301	18	-	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	5	<1	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	1	<1	20	<1	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	2	<1	5	<1	23	<1	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	14	<1	23	1	80	2	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A$	98	<1	86	8	174	9	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	10	<1	8	1	35	1	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	124	<1	123	10	337	12	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	180	1	213	34	637	30	-	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/8							Units	Limit of Detection	Method ref
Client Sample No	20231									
Client Sample ID	WS08									
Depth to Top	0.1									
Depth To Bottom										
Date Sampled	28-Jan-22									
Sample Type	Soil - D									
Sample Matrix Code	6A									
% Stones >10mm$_A$	<0.1							% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.02							pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	<0.01							g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	390							mg/kg	200	A-T-028s
Cyanide (total)$_A$$^{M\#}$	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2							mg/kg	0.2	A-T-050s
Sulphide$_A$	130							mg/kg	5	A-T-043-s
Sulphur (elemental)$_D$$^{M\#}$	<5							mg/kg	5	A-T-029s
Organic matter$_D$$^{M\#}$	2.2							% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	8							mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0							mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5							mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	10							mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	20							mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1							mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	13							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	19							mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	53							mg/kg	5	A-T-024s

Envirolab Job Number: 22/00967

Client Project Name: Barns at Buena Vista Foxes Lane Mendham

Client Project Ref: 102739

Lab Sample ID	22/00967/8							Units	Limit of Detection	Method ref
Client Sample No	20231									
Client Sample ID	WS08									
Depth to Top	0.1									
Depth To Bottom										
Date Sampled	28-Jan-22									
Sample Type	Soil - D									
Sample Matrix Code	6A									
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.06							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.07							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08							mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.05							mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	0.18							mg/kg	0.01	A-T-019s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

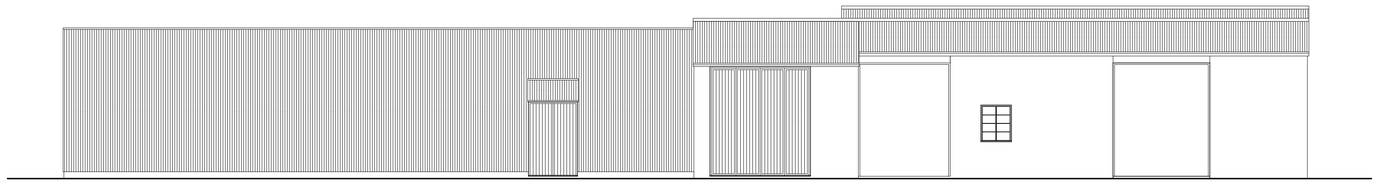
Envirolab Analysis Dates

Lab Sample ID	22/00967/1	22/00967/2	22/00967/3	22/00967/4	22/00967/5	22/00967/6	22/00967/7	22/00967/8
Client Sample No	20224	20225	20226	20227	20228	20229	20230	20231
Client Sample ID/Depth	WS01 0.15m	WS02 0.15m	WS03 0.1m	WS04 0.05m	WS05 0.05m	WS06 0.2m	WS07 0.05m	WS08 0.1m
Date Sampled	28/01/22	28/01/22	28/01/22	28/01/22	28/01/22	28/01/22	28/01/22	28/01/22
A-T-006s		09/02/2022	09/02/2022		09/02/2022			
A-T-019s	09/02/2022		09/02/2022			09/02/2022	09/02/2022	09/02/2022
A-T-022s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022		
A-T-024s	14/02/2022		14/02/2022			14/02/2022	14/02/2022	14/02/2022
A-T-026s	14/02/2022		14/02/2022			14/02/2022	14/02/2022	14/02/2022
A-T-027s	11/02/2022		11/02/2022			11/02/2022	11/02/2022	11/02/2022
A-T-028s	11/02/2022		11/02/2022			11/02/2022	11/02/2022	11/02/2022
A-T-029s	11/02/2022		11/02/2022			11/02/2022	11/02/2022	11/02/2022
A-T-031s	10/02/2022		11/02/2022			11/02/2022	11/02/2022	11/02/2022
A-T-032 OM	11/02/2022		10/02/2022			10/02/2022	10/02/2022	10/02/2022
A-T-040s	14/02/2022		14/02/2022			14/02/2022	14/02/2022	14/02/2022
A-T-042sTCN	08/02/2022		08/02/2022			08/02/2022	08/02/2022	08/02/2022
A-T-043-s	10/02/2022		10/02/2022			10/02/2022	10/02/2022	10/02/2022
A-T-044	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022
A-T-045	04/02/2022		04/02/2022	04/02/2022	04/02/2022			
A-T-050s	11/02/2022		11/02/2022			11/02/2022	11/02/2022	11/02/2022
A-T-052s		09/02/2022	09/02/2022		09/02/2022			
A-T-054	18/02/2022							
A-T-055s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022		
A-T-056			09/02/2022		09/02/2022			

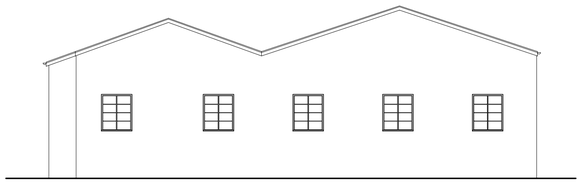
The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

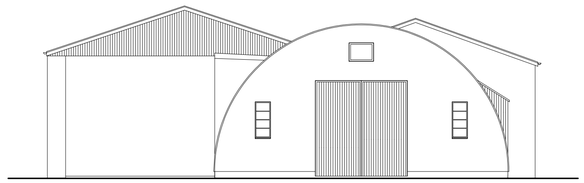
Appendix E



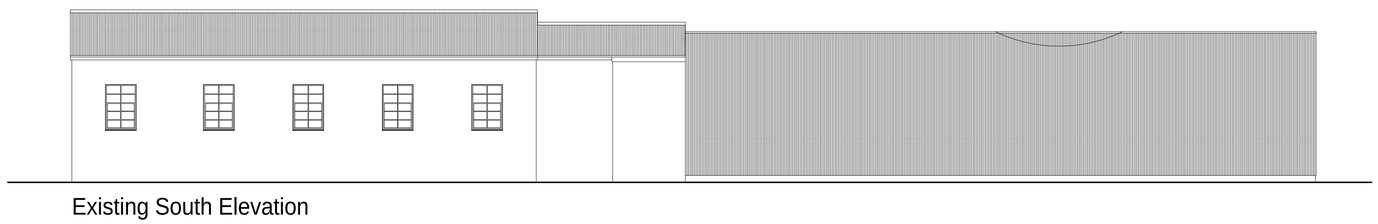
Existing North Elevation



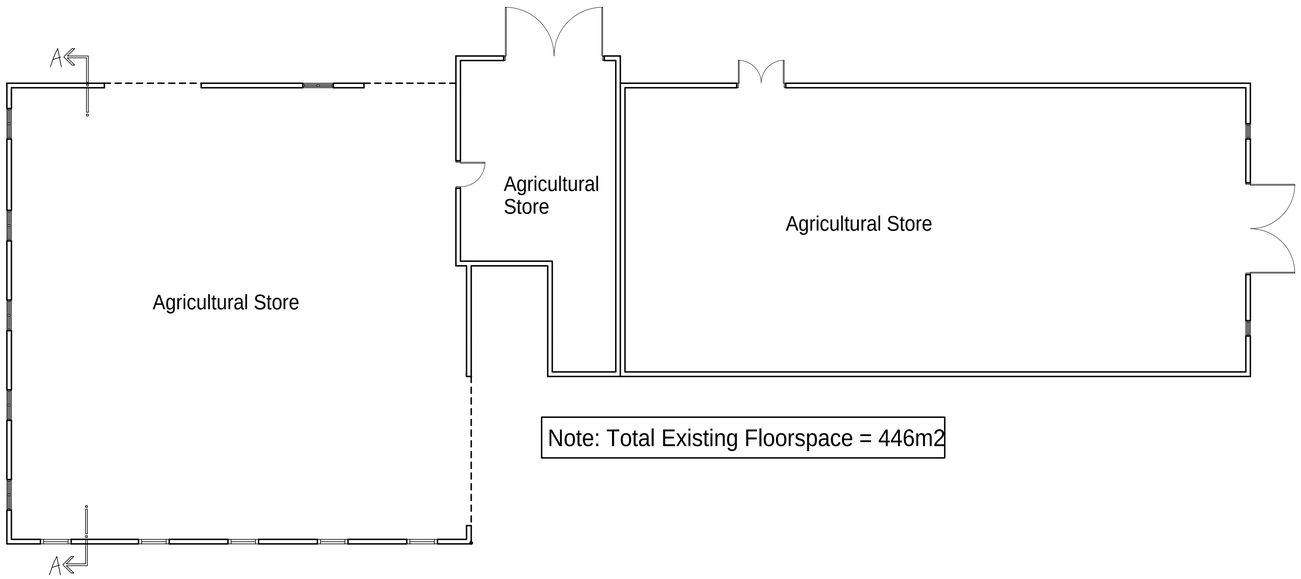
Existing West Elevation



Existing East Elevation

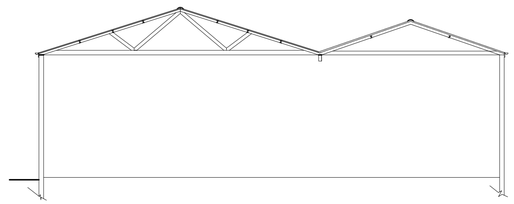


Existing South Elevation



Note: Total Existing Floorspace = 446m2

Existing Floor Plan 1:100



Existing Section A - A 1:100

Graham Nourse
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w: grahamnourseplanningconsultants.co.uk

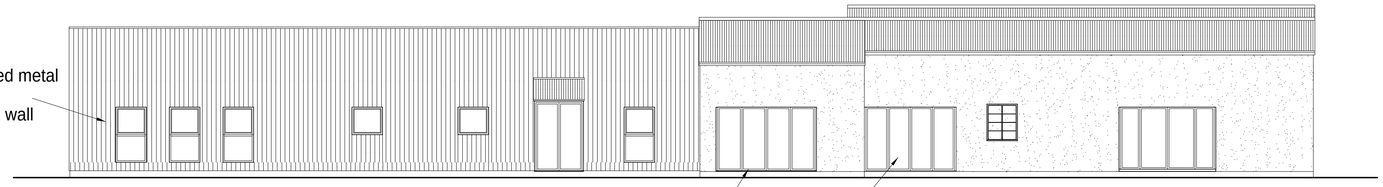
CLIENT
–

PROJECT
Proposed Barn Conversion
Foxes lane, Mendham.

DRAWING
Existing Plans & Elevations

DRG. No: 19/181/01
REVISION: –
SCALE: 1:100.
DATE: October, 2019

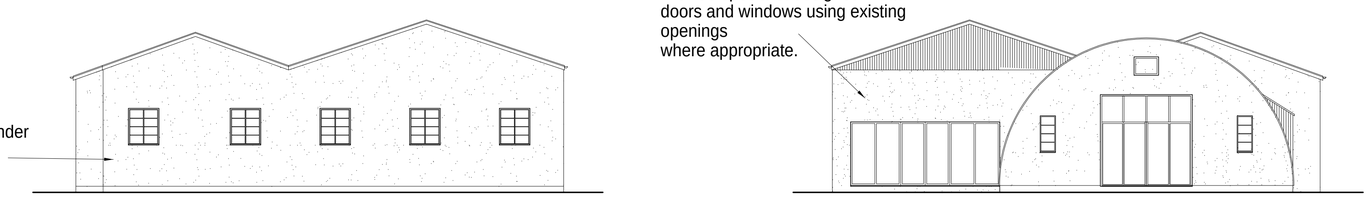
Specialist designed metal windows to sit flush with existing wall finish



Proposed North Elevation

Provide specialist designed metal doors and windows using existing openings where appropriate.

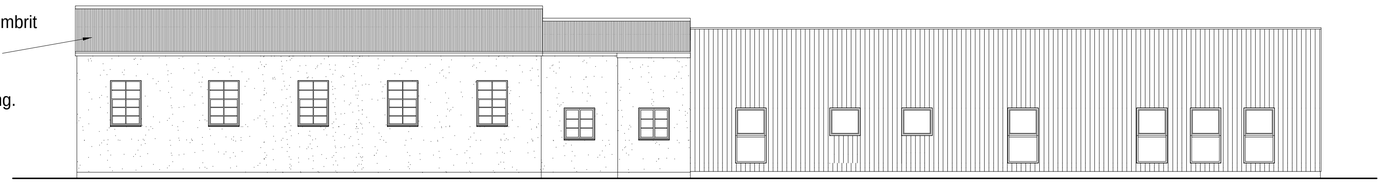
Provide white render finish to external block wall.



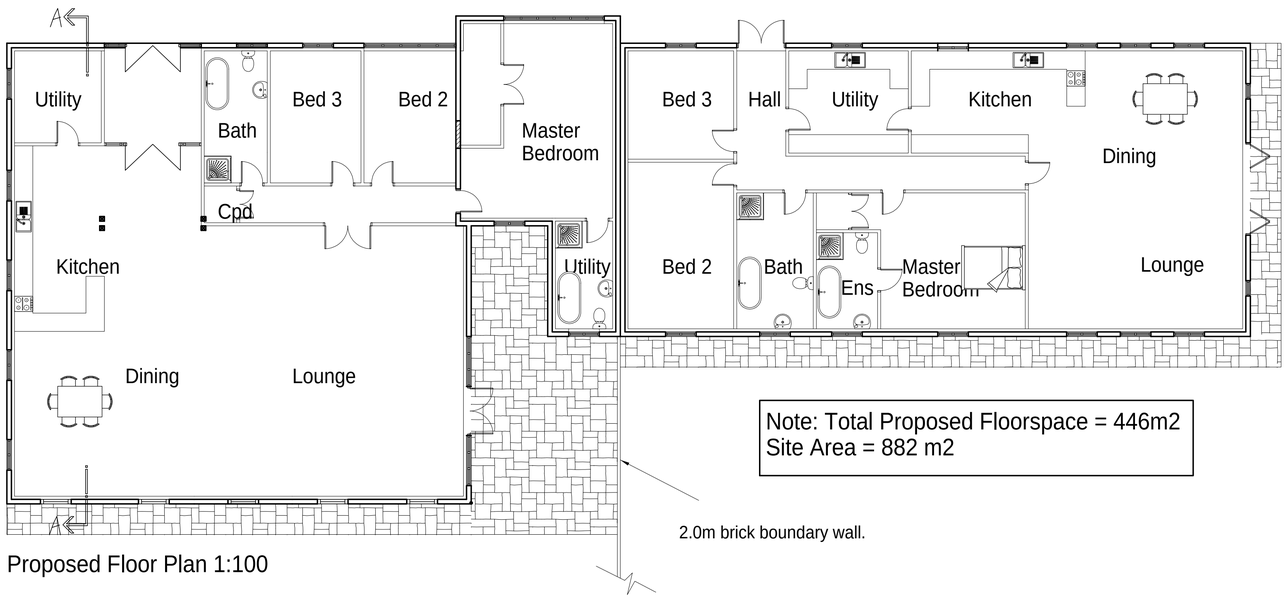
Proposed West Elevation

Proposed East Elevation

Provide Grey Cembrit B5 or similar roof covering in place of exsting asbestos sheeting.



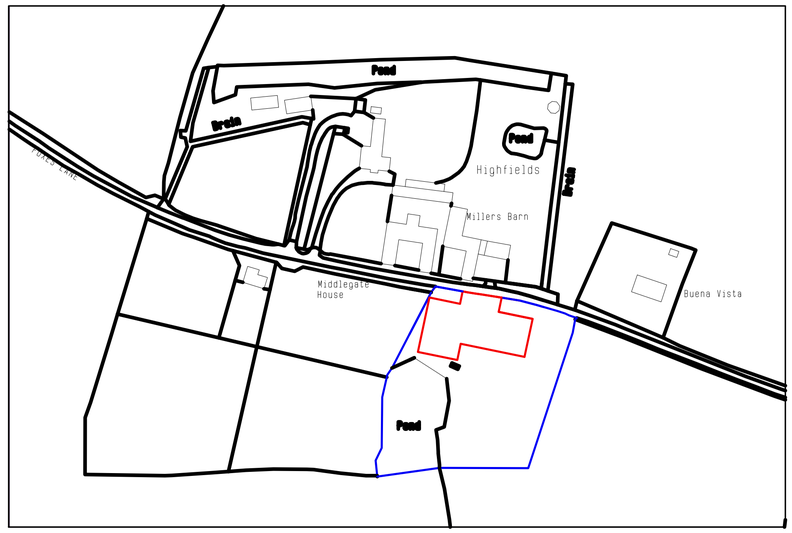
Proposed South Elevation



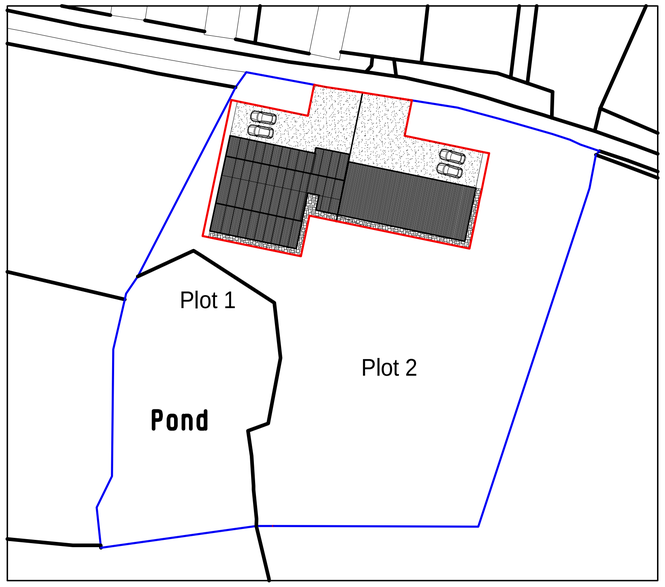
Note: Total Proposed Floorspace = 446m2
Site Area = 882 m2

2.0m brick boundary wall.

Proposed Floor Plan 1:100



Location Plan 1:1250



Block Plan 1:500

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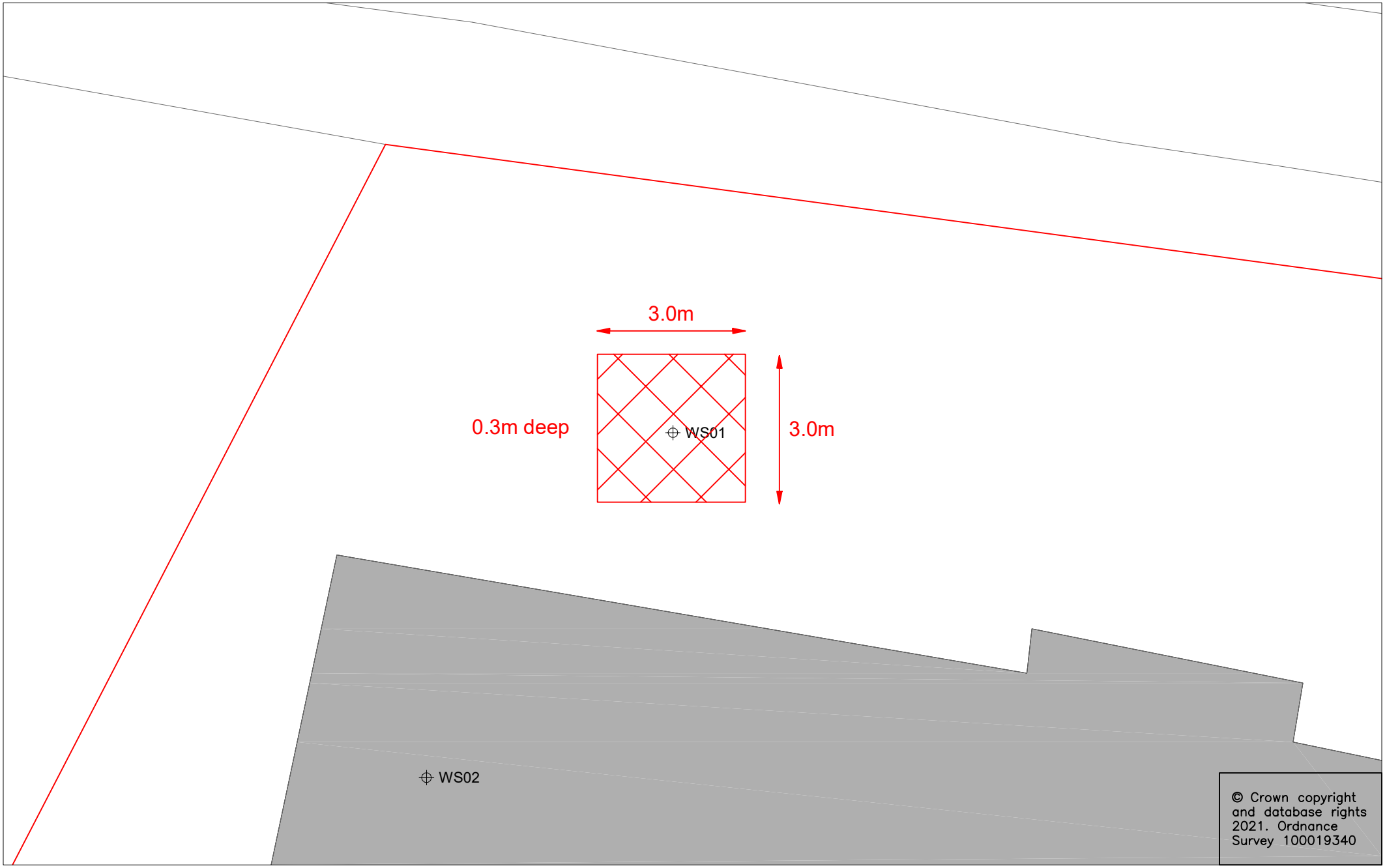
CLIENT	Mr A Keys
PROJECT	Proposed Barn Conversion Foxes lane, Mendham.
DRAWING	Proposed Plans, Elevations, Site Plan.
DRG. No	19/181/02
REVISION	B
SCALE	1:100, 1:500, 1:1250
DATE	October, 2019

Appendix F



Norfolk County Council

Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

DRAWING TITLE

Area around WS01 to be remediated

REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE

	INITIALS	DATE
SURVEYED BY		
DESIGNED BY		
DRAWN BY	SPB	03/22
CHECKED BY	IDB	03/22

DRAWING No. 102739 - 03

PROJECT TITLE
Mendham : Foxes Lane
Barns at Buena Vista

SCALE 1:100@ A4

FILE No. 102739

ORIGINAL SIZE: A4

IG 12/10/16