


Appendix C Site Walkover Photographic Log

Client Name: Vale of Glamorgan Council		Site Location: Llanmaes Village, Vale of Glamorgan, South Wales, NGR 297856, 169884	Project No. 60160078
Photo No. 001	Date: 19/03/21		
Direction Photo Taken: Facing south-southwest			
Description: Small stream flowing in a southwesterly direction through Llanmaes Village.			

Photo No. 002	Date: 19/03/21		
Direction Photo Taken: Facing north-northeast			
Description: Small stream flowing in a southwesterly direction through Llanmaes Village.			

Client Name:
Vale of Glamorgan
Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

**Photo
No.**
003

Date:
19/03/21

**Direction Photo
Taken:**

Facing north

Description:

View of proposed
location of ditch 3.



**Photo
No.**
004

Date:
19/03/21

**Direction Photo
Taken:**

Facing west-
northwest

Description:

Llanmaes Brook
(flowing southeast)



Client Name:
Vale of Glamorgan
Council

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Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

Photo No.
005

Date:
19/03/21

Direction Photo Taken:

Facing east

Description:

Llanmaes Brook
(flowing southeast)



Photo No.
006

Date:
19/03/21

Direction Photo Taken:

Facing south-
southwest

Description:

View of proposed
location of ditch 3.



Client Name:
Vale of Glamorgan
Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

Photo No.
007

Date:
19/03/21

Direction Photo Taken:

Facing southwest

Description:

View of proposed location of ditch 3.



Photo No.
008

Date:
19/03/21

Direction Photo Taken:

Facing northwest

Description:

Burning in background, south of proposed ditch 1.



Client Name: Vale of Glamorgan Council	Site Location: Llanmaes Village, Vale of Glamorgan, South Wales, NGR 297856, 169884	Project No. 60160078
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Photo No. 009	Date: 19/03/21	
Direction Photo Taken: Facing northwest		
Description: Evidence of small scale burning in farmer's field south of proposed ditch 1.		

Photo No. 010	Date: 19/03/21	
Direction Photo Taken: Facing north		
Description: View of proposed location of ditch 1.		

Client Name:
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Council

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Project No.
60160078

**Photo
No.**
011

Date:
19/03/21

**Direction Photo
Taken:**

Facing northwest

Description:

Small stream
flowing southwest
adjacent to
residential
properties within
Llanmaes Village.



**Photo
No.**
012

Date:
19/03/21

**Direction Photo
Taken:**

Facing east

Description:

View of proposed
village green ditch
1 location. Small
stream currently
flows through the
area.



Client Name:
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Wales, NGR 297856, 169884

Project No.
60160078

**Photo
No.**
013

Date:
19/03/21

**Direction Photo
Taken:**

Facing northeast

Description:

View of proposed
village green ditch
1 location. Small
stream currently
flows through the
area.



**Photo
No.**
014

Date:
19/03/21

**Direction Photo
Taken:**

Facing southwest

Description:

Small stream
flowing southwest
through Llanmaes
Village



Client Name:
Vale of Glamorgan
Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

Photo No.
015

Date:
19/03/21

Direction Photo Taken:

Facing west

Description:

Storage of materials in Llanmaes Village. No visible evidence of potential contamination.



Photo No.
016

Date:
19/03/21

Direction Photo Taken:

Facing north

Description:

View towards the proposed flood bund 4 area. Visible surface water pooling adjacent to West Road.



Client Name:
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Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

Photo No.
017

Date:
19/03/21

Direction Photo Taken:

Facing northeast

Description:

View towards the proposed flood bund 4 area. Visible surface water pooling adjacent to West Road.



Photo No.
018

Date:
19/03/21

Direction Photo Taken:

Facing west

Description:

Small culverted section of the stream (black pipework in foreground) within the Village Green.



Client Name:
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Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

**Photo
No.**
019

Date:
19/03/21

**Direction Photo
Taken:**

Facing northwest

Description:

Flood defences
visible at
residential
properties in
Llanmaes Village.



**Photo
No.**
020

Date:
19/03/21

**Direction Photo
Taken:**

Facing east-
northeast

Description:

Location of
proposed ditch 2.



Client Name:
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Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

**Photo
No.
021**

Date:
19/03/21

**Direction Photo
Taken:**

Facing northeast

Description:

View towards the
proposed location
of flood bund 1.



**Photo
No.
022**

Date:
19/03/21

**Direction Photo
Taken:**

Facing north-
northwest

Description:

View of the
northernmost
extent of proposed
ditch 1.



Client Name:
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Council

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Project No.
60160078

Photo No.
023

Date:
19/03/21

Direction Photo Taken:

Facing south-southeast

Description:

View of proposed ditch 1 area.



Photo No.
024

Date:
19/03/21

Direction Photo Taken:

Facing south

Description:

View of proposed ditch 1 area, adjacent residential property in background.



Client Name:
Vale of Glamorgan
Council

Site Location:
Llanmaes Village, Vale of Glamorgan, South
Wales, NGR 297856, 169884

Project No.
60160078

**Photo
No.**
025

Date:
19/03/21

**Direction Photo
Taken:**

Facing northeast

Description:

View of proposed
overspill bund 1
location.



**Photo
No.**
026

Date:
19/03/21

**Direction Photo
Taken:**

Facing southwest

Description:

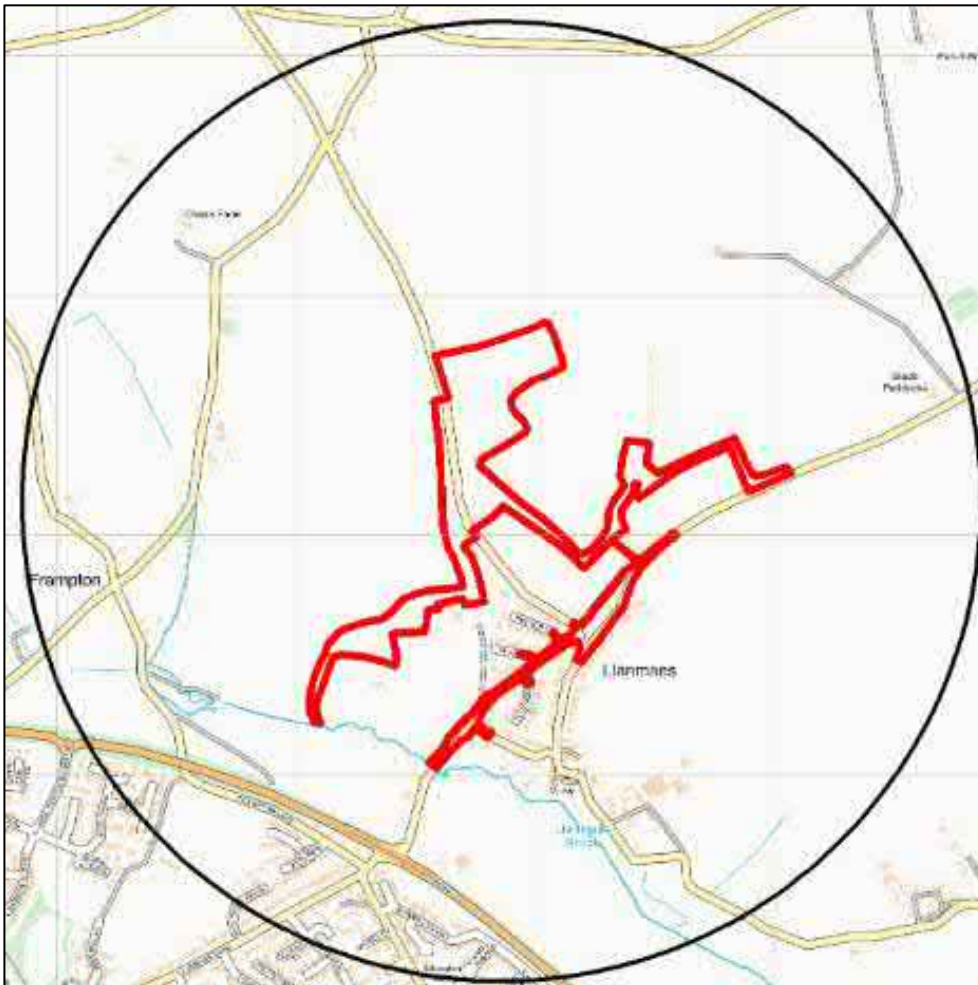
View of proposed
ditch 1 area.



Appendix D Preliminary UXO report

PRELIMINARY UNEXPLODED ORDNANCE (UXO) THREAT ASSESSMENT

Meeting the requirements of CIRIA C681 'Unexploded Ordnance (UXO) – A guide for the Construction Industry' Risk Management Framework



6 ALPHA PROJECT NUMBER	8819	ORIGINATOR	D. Barrett
LANDMARK ORDER NUMBER	274981065_1	REVIEWED BY	L. Gregory (16 th March 2021)
CLIENT REFERENCE	60160078	RELEASED BY	L. Gregory (17 th March 2021)
STUDY SITE	Site at Llanmaes, the Vale of Glamorgan		
RECOMMENDATION	This Study Site requires a Detailed UXO Threat and Risk Assessment		

STUDY SITE

The Study Site is described as “Site at Llanmaes, the Vale of Glamorgan”, and it is centred on National Grid Reference 297930, 170070.

THREAT POTENTIAL AND RECOMMENDATIONS

The potential for a UXO hazard to occur, and more specifically, the potential for unexploded WWI and WWII ordnance to exist at this site is assessed as being **LIKELY** (Figure 2).

In accordance with CIRIA C681 Chapter 5 on managing UXO risks, 6 Alpha recommends that the next stage in the risk management framework is:

DETAILED UXO THREAT & RISK ASSESSMENT

We would be pleased to provide this service, please contact *Envirocheck* for further details:



REPORT SUMMARY

During WWII, the Study Site was situated within *Cowbridge Rural District*, which recorded two High Explosive (HE) bomb strikes per 100 hectares; a very low level of bombing.

Luftwaffe aerial reconnaissance photography associated with the Study Site did not identify any primary bombing targets on-site, or within 1,000m of the Study Site boundary.

Air Raid Precaution (ARP) records were not available. Nonetheless, further research of high-level written historical records noted that *Llanmaes* was subjected to bomb strikes – although the exact number and location of the bomb strikes was not recorded. Nonetheless, given the location of the Study Site, it is likely some bomb strikes impacted on or in close proximity to the Study Site. In addition, incendiary bombs (IBs) were identified falling on *Llanmaes Road* 280m south-west, *Frampton* 425m west-north-west and *Windmill Farm* 435m south-west.

Official bomb damage mapping was not available. Nonetheless, further research noted minor damage at *Frampton* (425m west-north-west) caused by the aforementioned IBs – although neither an analysis of post-war mapping nor further research identified any bomb damage on-site.

Given that bombing was potentially recorded on-site and/or in close proximity; it would suggest that further action is warranted to address the potential for UXO encounter.

USING THIS REPORT

This Preliminary Assessment is designed to inform environmental and construction professionals of the potential threat of military related explosives and/or ordnance on, or in, the vicinity of the Study Site.

This assessment is designed to be employed as a site-screening tool to meet with the requirement of Phase One of the *CIRIA UXO Risk Management Framework*; there are two broad prospective outcomes; either the threat level requires a detailed threat & risk assessment; or no further action is required. In the former instance we can provide a report within 10 working days (or more quickly upon application).

Two figures accompany the report, the *Second World War* (WWII) High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.












For further information, please contact *Envirocheck*:

Telephone: +44 (0)844 844 9952

Website: <http://www.envirocheck.co.uk>

Email: customerservice@envirocheck.co.uk

DATA FINDINGS

Threat Source (within 1,000m)	Detail	
	Identified	Comments
 Airfields/Military Facilities	✗	None recorded within 1,000m.
 Ordnance Manufacture/Storage	✗	None recorded within 1,000m.
 WWII Decoy Bombing Sites	✓	An airfield bombing decoy was located 850m south-east during WWII.
 WWII Defensive Features	✓	Four defensive features were identified within 965m, the closest being a “pillbox” located 780m south-east.
 WWII <i>Luftwaffe</i> Designated Bombing Targets	✗	<i>Luftwaffe</i> aerial photography did not identify any primary bombing targets on-site, or within 1,000m of the Study Site boundary.
 WWII Bomb Strikes (Study Site Boundary)	✓	Further research identified bomb strikes impacting on <i>Llanmaes</i> , which may potentially have impacted on-site
 WWII Bomb Strikes (Wider Area)	✓	Further research identified bomb strikes impacting on <i>Llanmaes</i> .
 WWII Bomb Damage	✓	Further research identified minor bomb damage to <i>Frampton</i> 425m west-north-west.
 Abandoned Bomb Register	✗	The official abandoned bomb list did not identify any abandoned bombs on-site, or within 1,000m of the Study Site boundary.
 Potential Threat Sources	✓	The most probable UXO threat is posed by WWII <i>German</i> HE bombs, whilst IBs and <i>British</i> AAA projectiles pose a residual threat.
 WWII Bombing Density Per 100 Hectares	✓	The Study Site was located within <i>Cowbridge Rural District</i> , which recorded two HE bomb strikes per 100 hectares.

IMPORTANT NOTES

1. The term ‘Preliminary UXO Threat Assessment’ has been used to describe this report, to fall in line with the *CIRIA* C681 guidelines. Whilst the term ‘Risk’ can be justifiably used at this stage, the reader should note that the ‘Consequence’ function of ‘Risk’ is not considered. Should it be required, this would be addressed in the ‘Detailed UXO Threat & Risk Assessment’ (Stages 2 and 3).
2. This report is accurate and up to date at the time of writing.
3. The assessment levels have been generated from historical data and third party sources. Where possible *6 Alpha* have sought to verify the accuracy of such data, but cannot be held accountable for inherent errors that may be in third party data sets (e.g. *National Archives* or library sources).
4. *6 Alpha* have exercised all reasonable care, skill and due diligence in producing this service.
5. Whilst every effort has been used to identify all potential UXO/explosive threats, there were a number of private facilities, which may not have released privately recorded information concerning UXO/explosive threats into the public domain. It is therefore possible that some of the aforementioned sites may not be included within the database.



Author	Issue	Version	Category	Date
BBB	1	01	01	12 MAR 2023

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Appendix E Previous Ground Investigation

Llanmaes FRM

Report on Trial Pitting Undertaken to Support Design

Introduction

Aecom who have been appointed as the designers of the Lanmaes Flood Risk Management Scheme have requested that a number of trial pits be excavated on land to the west of Llanmaes Village. These trial pits are to determine the depth and type of materials to aid in the design of the scheme.

The trial pitting was undertaken on two parcels of land after notice was served on the landowners by The Vale of Glamorgan Council. This followed site meetings between VoG, Aecom and the land owners.

The trial pitting was undertaken over three days from 8th September 2020 to 10th September 2020.

3 extra trial pits were requested by Aecom in the field to the north west, these were undertaken on the 10th.

The weather was inclement on the 8th and 9th with heavy drizzle falling during the entire trial pitting exercise. The weather on the 10th was dry and warm.

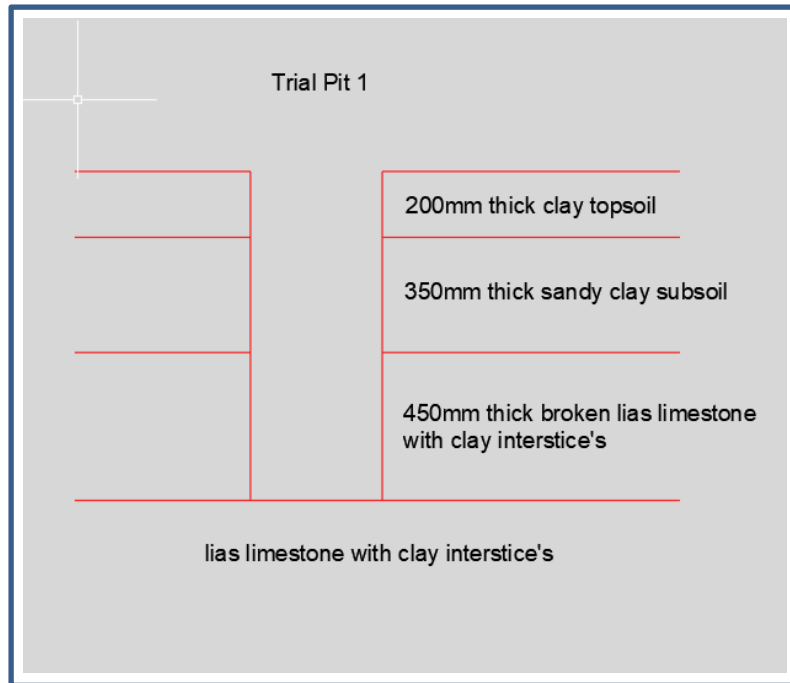
The trial pitting was undertaken by The Vale of Glamorgan Environment team utilising the councils JCB. Aecom and Glamorgan Gwent Archaeological Trust both had a watching brief.

Samples were taken from a number of the trial pits of the excavated material. These samples are to be analysed using Aecom's preferred laboratory.

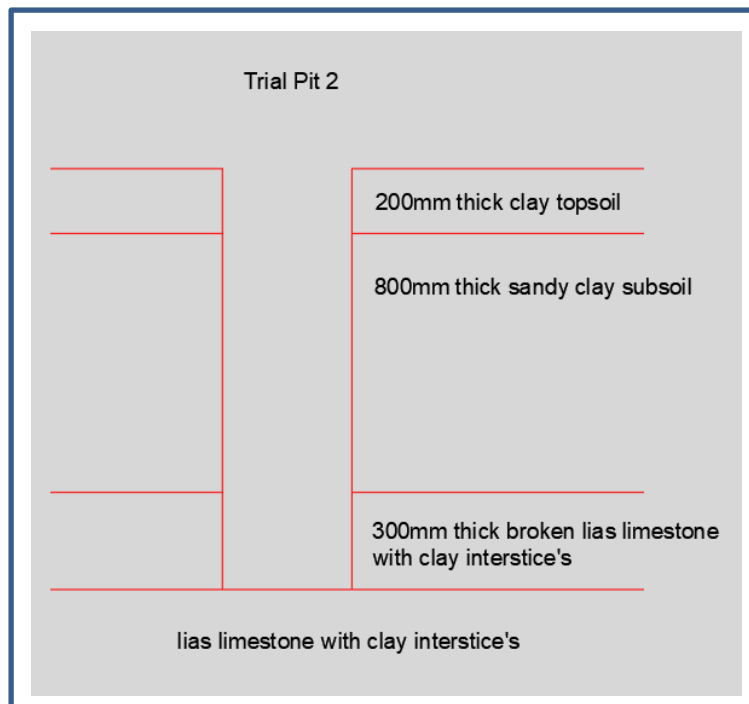
This report and the trial pit logs has been prepared by Huw Morgans Principal Engineer Environment Team Vale of Glamorgan.

A summary of the trial pitting follows.

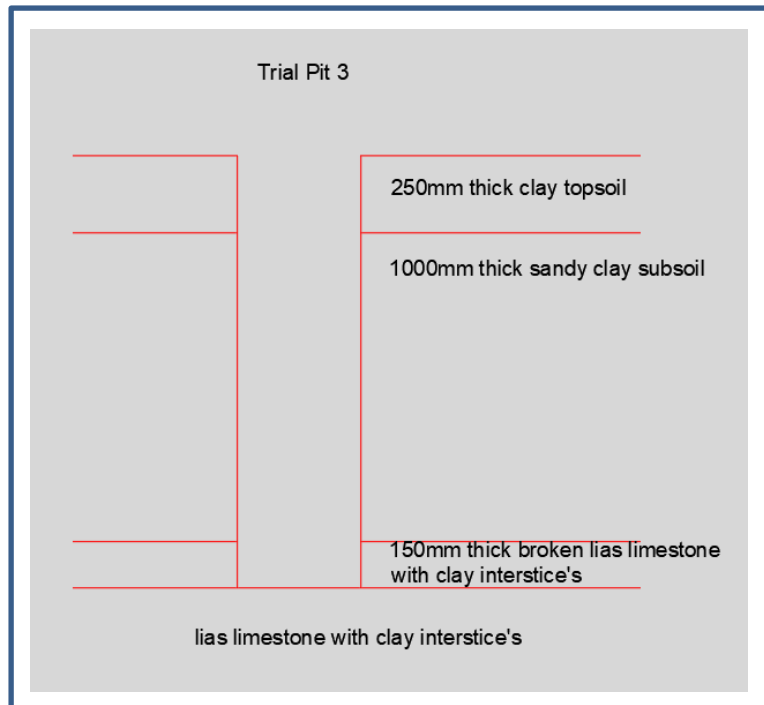
Trial Pit 1



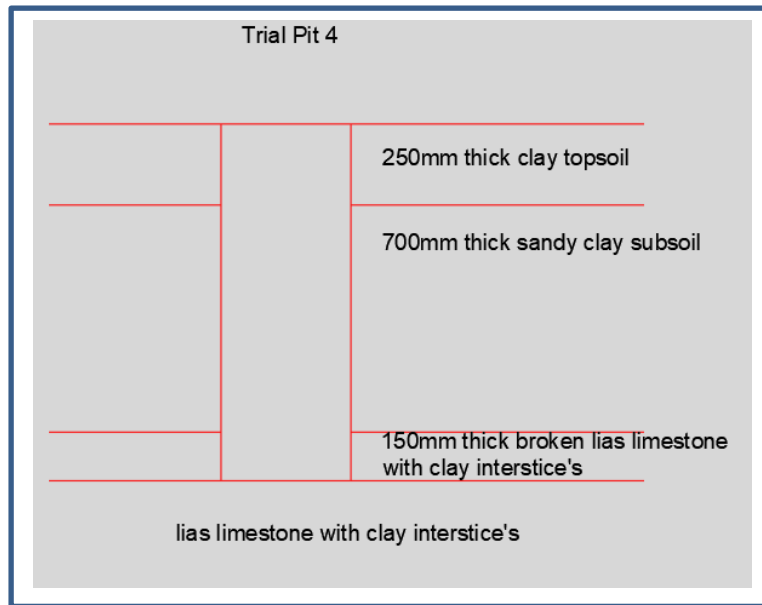
Trial Pit 2



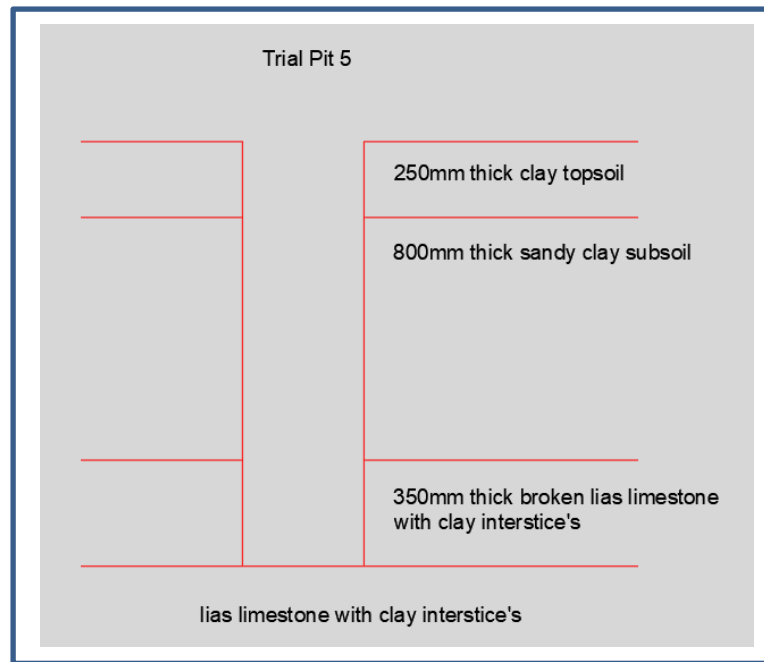
Trial Pit 3



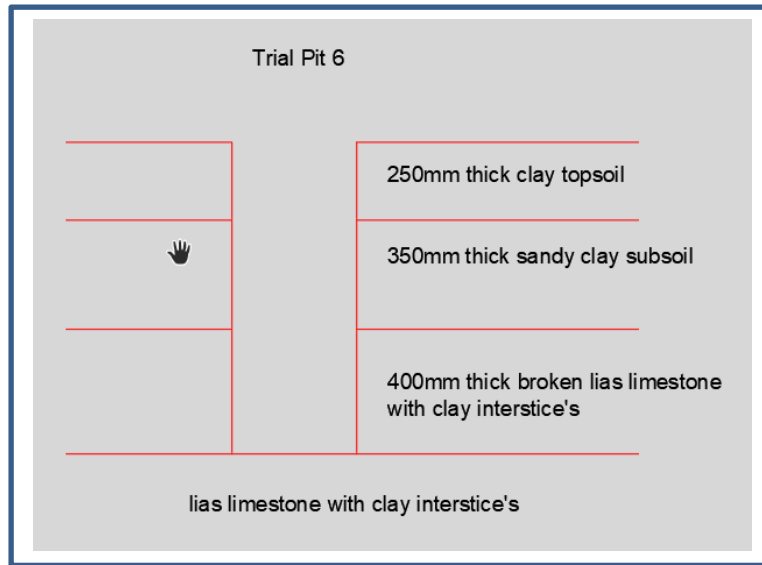
Trial Pit 4



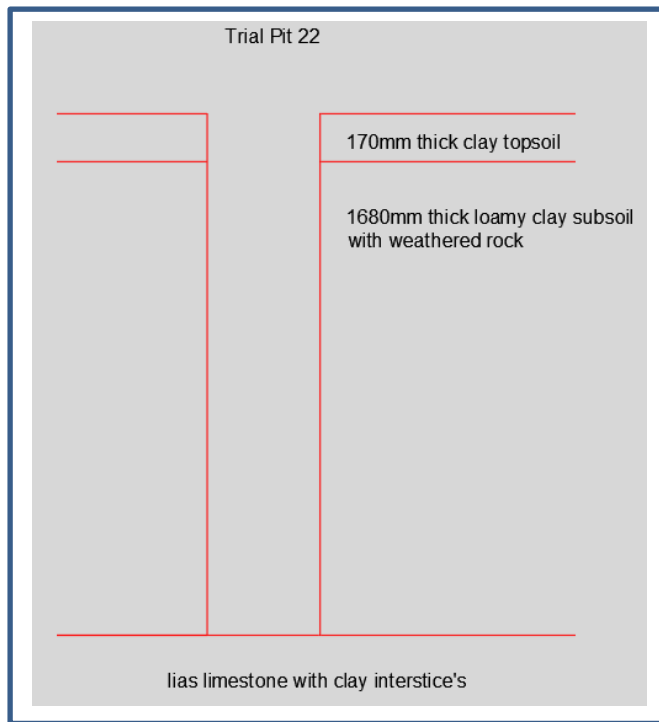
Trial Pit 5



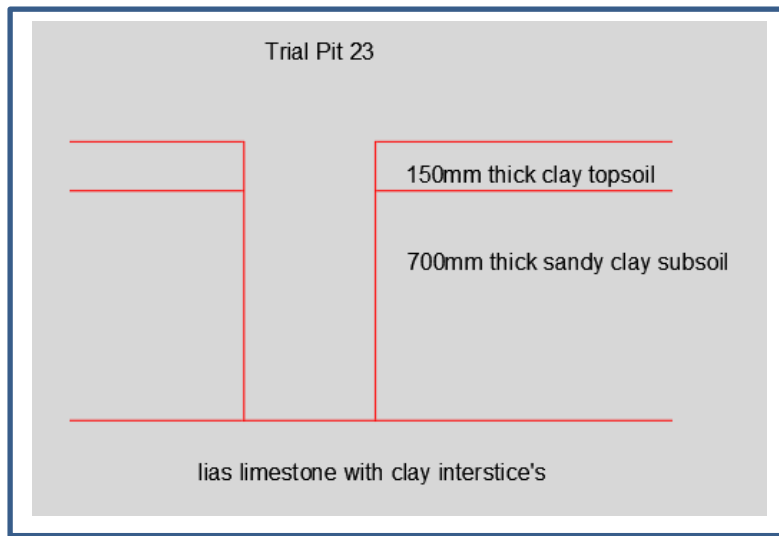
Trial Pit 6



Trial Pit 22



Trial Pit 23



Trial Pit 24

