



## **Tremough, Cornwall Geotechnical Test Pit Monitoring**





Report No

2015R054

Report Name

Tremough Geotechnical Test Pitting  
Monitoring

Report Author

S R Taylor

Event Type

Monitoring

Client Organisation

Atkins

Client Contact

Tom Green

Monuments (MonUID)

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Fieldwork dates (From)

18/08/2015

(To)

21/08/2015

(Created By)

SRT

(Create Date)

01/09/2015

Location (postal address; or general location and parish)

Tremough Campus, Mabe

(Town - for urban sites)

(Postcode)

Penryn

TR10 9EZ

(Easting) X co-ord

176940

(Northing) Y co-ord

34322



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## 1 Project background

Cornwall Archaeological Unit (CAU) was commissioned by Tom Green on behalf of Atkins to monitor the excavation of 23 geotechnical test pits on the site of two proposed developments at Tremough Campus, Penryn (Fig 1). The work has been undertaken in accordance with a Written Scheme of Investigation (WSI) produced by CAU (see Appendix 2) and approved by Cornwall Council's Senior Development Officer (Archaeology) (SDOA).

The proposed development is situated within an area of high archaeological potential, which contains evidence for prehistoric, Roman, and medieval activity (Gossip and Jones 2007; Jones *et al* 2015). In particular, the geotechnical test pits were located in an area where geophysical anomalies have been identified (Sabin and Donaldson in Anon 2008) and evaluated (Gossip in Anon 2008). Sites located within the proposed development areas included a later prehistoric/Romano-British multiple ditched enclosure, a later prehistoric/Romano-British pit, a post-medieval pit, and elements of post-medieval field systems. The site is adjacent to excavated sites of prehistoric/Romano-British and early medieval date (Jones *et al* 2015).

## 2 Aims and objectives

The purpose of the monitoring was to identify areas where significant archaeological deposits may exist and areas that require further archaeological evaluation (eg, trial trenching), or mitigation (excavation/watching brief) and where possible, ensure that they were not impacted upon by the geotechnical works.

## 3 Working methods

The archaeological recording involved the monitoring of 23 machine-excavated test pits measuring approximately 2m by 1m. The test pitting covered the areas of two proposed developments, an alternative energy complex (Reef) and student accommodation (Accom). The pits were numbered Reef 1-6 and Accom 1-16 and 18 (Accom 17 was not excavated). Had archaeological features been encountered these would have been recorded and/or the position of the test pit moved. However, no archaeological features were found.

## 4 Results

A full description of the contexts recorded by test pit is given in Appendix 1. A summary of the results, however, is given below.

No archaeological features were recorded during the project. In general it was possible to say that the topsoil depth was fairly consistent over much of the site, between 0.2m and 0.3m. At the interface between the topsoil and the natural rab (granitic subsoil) a subsoil horizon was present in most areas but was never much thicker than 0.1m. The rab was stonier with larger pieces of granite towards the crest of the hill to the north and became clayier and more stone-free downslope to the south and east.

Pit Accom 18 was located in a car park in the base of a valley to the east of the bulk of the pits. Here redeposited material covered a layer of geotextile which sealed a deep buried soil over alluvial clay.

Artefacts were recovered from eight of the test pits, all from topsoil. These included white china of 19th or 20th century date from four pits, the head of a white china figurine or doll of 19th century date, a sherd of glazed red earthenware and a sherd of North Devon ware, both of 18th or 19th century date, and a shard of green bottle glass of 19th or early 20th century date. These finds are consistent with an agricultural regime involving the disposal of domestic waste into the fields over the last 300 years.

## 5 Recommendations

The lack of archaeological features within the immediate vicinity of the test pits had been suggested by the geophysical survey of these areas (which guided the positioning of the pits so as to avoid known anomalies), and the topography, particularly in the southern field much of which lay on a southeast-facing slope. The lack of observed features, however, uncovered by the test pits does not preclude the presence of small later prehistoric pits in the immediate vicinity, several of which have been recorded at both Tremough (Gossip and Jones 2007, Jones *et al* 2015) and at Penryn College (Gossip and Jones forthcoming) on the other side of the valley to the southeast.

It is therefore recommended that a programme of archaeological mitigation is put in place in advance of the development of the site. This is likely to include watching briefs, excavation, and post excavation analysis as appropriate.

## 6 References

- Anon 2008. *Tremough Campus expansion, Technical appendix C, Cultural heritage*.
- Gossip, J, 2008. An archaeological evaluation report on phase 3 enabling development works, Tremough, Penryn, Cornwall, in Anon 2008.
- Gossip, J, and Jones A M, forthcoming. Later Neolithic Pits and an Iron Age and Romano-British settlement at Penryn College, *Cornish Archaeol*
- Gossip, J, and Jones, A M, 2007. *Archaeological investigations of a later prehistoric and a Romano-British landscape at Tremough, Penryn, Cornwall*, Brit Arch Repts, Brit Ser **443**, Oxford
- Jones, A M, Gossip, J and Quinnell, H, 2015. *Settlement and Metalworking in the Middle Bronze Age and Beyond. New evidence from Tremough, Cornwall*. Leiden, Sidestone Press
- Sabin, D and Donaldson, K, 2008. Magnetometer Survey, in Anon 2008.

## 7 Project archive

The CAU project number is **146516**

The project's documentary, digital, photographic, and drawn archive is maintained by Cornwall Archaeological Unit, Cornwall Council, Fal Building, County Hall, Treyew Road, Truro, TR1 3AY.

English Heritage/ADS OASIS online reference: [cornwall2-222390](https://www.english-heritage.org.uk/ads/oasis/cornwall2-222390)

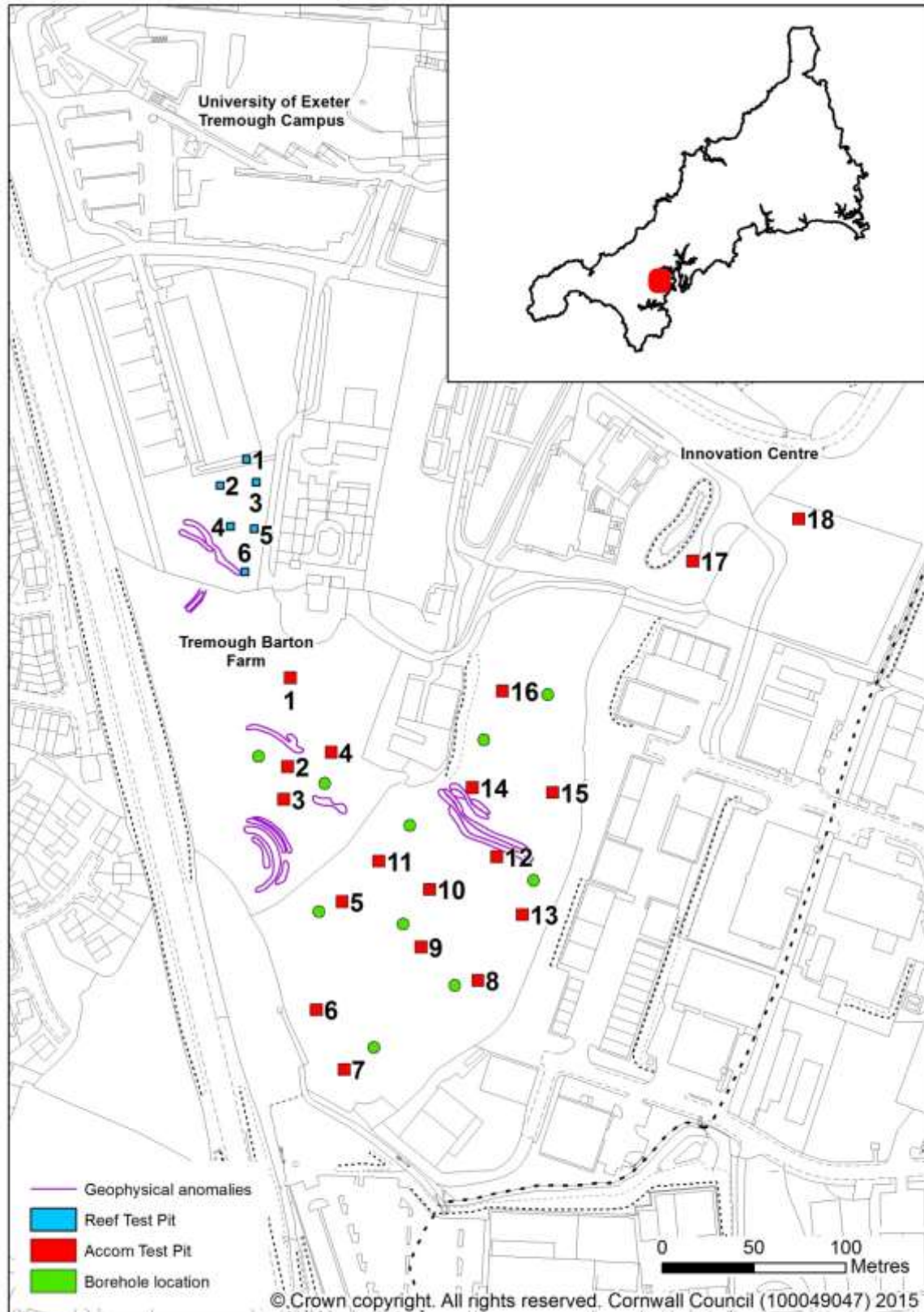


Figure 1: Location map

## 8 Appendix 1: List of contexts

Area	Test Pit	Con-text	Type	Description	Depth
Reef	1	1	Topsoil	Dark greyish brown loose sandy clay, deepens to east.	0.15-0.25
		2	Rab	Light brownish yellow friable silty clay with moderate weathered sub-angular granite.	
Reef	2	1	Topsoil	Dark greyish brown loose sandy clay.	0.3
		2	Rab	Light brownish yellow friable silty clay with moderate weathered sub-angular granite.	
Reef	3	1	Topsoil	Dark greyish brown loose sandy clay.	0.25
		2	Rab	Light brownish yellow friable silty clay with moderate weathered sub-angular granite.	
Reef	4	1	Topsoil	Dark greyish brown loose sandy clay, deepens downslope to east.	0.2-0.3
		2	Rab	Light brownish yellow friable silty clay with frequent weathered sub-angular granite.	
Reef	5	1	Topsoil	Dark greyish brown loose sandy clay, deepens downslope to east.	0.15-0.4
		2	Subsoil	Light reddish brown soft clay. Possibly the primary fill of an archaeological feature.	0.05
		3	Rab	Light brownish yellow friable silty clay with frequent weathered sub-angular granite.	
Reef	6	1	Topsoil	Dark greyish brown loose sandy clay	0.15
		2	Rab	Light brownish yellow friable silty clay with frequent weathered sub-angular granite.	
Accom	1	1	Topsoil	Dark greyish brown friable sandy clay.	0.25
		2	Rab	Light brownish yellow soft clay.	1
		3	Rab	Light greyish yellow soft clay with frequent sub-angular granite.	
Accom	2	1	Topsoil	Dark greyish brown friable sandy clay.	0.25
		2	Subsoil	Light brownish yellow soft clay.	0.1
		3	Rab	Light greyish yellow soft clay with frequent sub-angular granite.	
Accom	3	1	Topsoil	Dark greyish brown friable sandy clay.	0.3
		2	Subsoil	Light brownish yellow soft clay.	0.2
		3	Rab	Light greyish yellow soft clay with frequent sub-angular granite.	
Accom	4	1	Topsoil	Dark greyish brown friable sandy clay, deepens to east.	0.3
		2	Subsoil	Light brownish yellow soft clay.	0.1



Area	Test Pit	Con-text	Type	Description	Depth
		3	Rab	Light greyish yellow soft clay with frequent sub-angular granite.	
Accom	5	1	Topsoil	Dark greyish brown friable silty clay.	0.3
		2	Subsoil	Mid brownish red friable sandy clay.	0.1
		3	Rab	Light brownish yellow friable sandy clay with frequent sub-angular granite.	
Accom	6	1	Topsoil	Dark brownish grey friable silty clay. Finds: white china (C19-20).	0.3
		2	Rab	Dark brownish red friable sandy clay over bedrock.	0.7
Accom	7	1	Topsoil	Dark brownish grey friable silty clay. Finds: glazed red earthenware (C18-20).	0.3
		2	Subsoil	Dark brownish red friable sandy clay.	0.1
		3	Rab	Mid brownish yellow friable sandy clay.	
Accom	8	1	Topsoil	Dark brownish grey friable silty clay.	0.3
		2	Subsoil	Dark reddish brown friable sandy clay.	0.1
		3	Rab	Light yellowish white soft sandy clay.	
Accom	9	1	Topsoil	Dark brownish grey friable silty clay. Finds: the head of a white china figurine or doll (C19).	0.4
		2	Subsoil	Dark brownish red friable sandy clay.	0.1
		3	Rab	Mid brownish yellow friable sandy clay.	
Accom	10	1	Topsoil	Dark brownish grey friable silty clay.	0.35
		2	Subsoil	Dark brownish red friable sandy clay.	0.1
		3	Rab	Light brownish yellow friable sandy clay.	
Accom	11	1	Topsoil	Dark greyish brown friable sandy clay.	0.25
		2	Subsoil	Light brownish yellow soft clay.	0.1
		3	Rab	Light greyish yellow soft clay with frequent sub-angular granite.	
Accom	12	1	Topsoil	Dark brownish grey friable silty clay.	0.25
		2	Subsoil	Mid brownish red friable sandy clay.	0.05
		3	Rab	Mid brownish yellow friable sandy clay with frequent sub-angular granite.	
Accom	13	1	Topsoil	Dark greyish brown friable sandy clay. Finds: white china (C19-20).	0.2
		2	Rab	Light yellowish brown friable sandy clay with frequent sub-angular granite.	
Accom	14	1	Topsoil	Dark brownish grey friable silty clay. Finds: white china (C19-20).	0.2
		2	Rab	Mid reddish brown friable sandy clay with frequent sub-angular granite.	
Accom	15	1	Topsoil	Dark brownish grey friable silty clay. Finds: white china (C19-20).	0.25
		2	Rab	Mid reddish brown friable sandy clay.	1

Area	Test Pit	Con-text	Type	Description	Depth
		3	Rab	Light yellowish white friable sandy clay.	
Accom	16	1	Topsoil	Dark brownish grey friable silty clay. Finds: green bottle glass (C19-20).	0.3
		2	Subsoil	Light reddish yellow friable sandy clay.	0.1
		3	Rab	Light yellowish white friable sandy clay.	
Accom	18	1	Topsoil	Dark reddish brown friable silty clay. Finds: North Devon ware (C18-19).	0.2
		2	Re-deposited	Light pinkish grey sand, 803 grade levelling material.	0.2
		3	Re-deposited	Grey rubble, 150 clean grade levelling material.	0.1
		4	Textile	Geotextile.	0.01
		5	Buried soil	Dark brownish grey soft peaty clay.	0.4
		6	Fluvial	Light grey friable sandy clay, clayier with depth. Riverine deposit.	0.8
		7	Rab	Light reddish brown friable sandy clay.	

## **9 Appendix 2: Written Scheme of Investigation**

### **CORNWALL ARCHAEOLOGICAL UNIT**

#### **Updated project outline for the archaeological monitoring of test pits at Tremough 2015**

##### **1. Background**

###### **1.1 Introduction**

CAU has been asked by Mr Thomas Green on behalf of Atkins to provide a project design and estimate for archaeological recording, during excavation of trial pits at Tremough campus. This project design has been updated to include six additional test pits which were not covered by the original project design (15/5/15).

The requirements for the archaeological recording have been agreed with [REDACTED] (Historic Environment Planning Advice Officer, Cornwall County Council) who has recommended that the test-pitting programme is monitored by an archaeologist. [REDACTED]'s requirements for recording have guided this project design and estimate.

###### **1.2 Archaeological potential**

###### *Landscape*

Tremough is located within an area of Anciently Enclosed Land (land which was enclosed in the medieval period or earlier), which was partially transformed into an Ornamental Landscape consisting of parkland during the post-medieval period (Countryside commission 1996).

###### *Known archaeological sites*

The project area is situated within an area of high archaeological potential, which contains evidence for prehistoric, Roman and medieval activity. The proposed test pits will be located in an area where geophysical anomalies have been identified, and is adjacent to excavated sites of prehistoric/Romano-British and early medieval date. Sites in the vicinity, identified during various archaeological investigations, include:

- Later prehistoric/Romano-British multiple ditched enclosure identified by geophysical surveys of the project area and investigated by an evaluation trench.
- A Late Bronze Age enclosure.
- Pits of Later Neolithic date.
- The largest assemblage of Neolithic Grooved Ware pottery in south-west Britain
- Middle Bronze Age roundhouses, pits and pottery, and post-rings associated with ceremonial activity.
- Field systems of later Iron Age and Romano-British origin.
- A large number of prehistoric, Roman and medieval artefacts have also been recovered during the course of archaeological fieldwork.

###### *Potential sites*

There is high potential for the survival of unrecorded archaeological remains and artefacts of all periods.

##### **2. Aims and Objectives**

The purpose of the monitoring is:

- To gain further information about importance of the buried archaeological resource along the western end of the road corridor.
- Identify areas where significant archaeological deposits may exist and areas that require further archaeological evaluation (eg, trial trenching), or mitigation (excavation/watching brief) during site works.

### **3. Methodology**

The archaeological programme will follow two stages; fieldwork and archive reporting. In the event that significant archaeological remains are uncovered further stages of analysis and publication may be required.

#### **3.1 Fieldwork**

The purpose of the fieldwork is to obtain information concerning the presence/absence of buried archaeological deposits within the project area. Information will be acquired through the monitoring of the test-pits and from the borehole logs. The test pits will measure 3m long by 0.6m wide and will be excavated by a JCB supplied by the client.

18 test pits and 10 boreholes will be excavated in the original area and 6 additional test pits will be dug in the second area. The positions of the test-pits/ boreholes will be located and plotted by the client. The boreholes will not be monitored but the log data will be supplied to CAU by the client.

The site monitoring will be carried out at the test pits under archaeological supervision. The test pits will then be inspected by an archaeologist and any archaeological features or layers exposed in the test pits will be archaeologically recorded by written description, plan and section and photographic record as appropriate by a CAU project archaeologist.

*During the site monitoring the CAU archaeologist will:*

- Identify and record any archaeological features that are revealed in the test pits; the level of recording will be appropriate to the character/importance of the archaeological remains.

If archaeological deposits of a regional or national importance are uncovered, then the test pit should be moved or time allowed to review options to ensure their preservation *in situ*. In the event that remains cannot be preserved *in situ* then full-scale excavation may be required. The significance of the remains should be agreed between the client, the Senior Development Officer (Historic Environment), Cornwall Council and Cornwall Archaeological Unit.

Where necessary the detailed archaeological recording may include:

- Production of plans and section drawings of the excavated features and recording of features using a continuous numbering system.

Preparation for the fieldwork will include:

- Risk assessment (to be carried out with project manager).

#### **3.2 Archiving**

Following review with the CAU project manager the results from the fieldwork will be collated as an archive.

Any finds, etc will be stored in a proper manner (being clearly labelled and marked and stored according to CAU guidelines).

- Any records (context sheets, photographs, etc) will be ordered, catalogued and stored in an appropriate manner (according to CAU guidelines).
- The site archive and finds will initially be stored at CAU premises and transferred to the Royal Cornwall Museum and the RCM conditions for archives will be followed. The RCM will be notified of the commencement of the project and included in discussions for sampling and disposal as appropriate.
- In the event that there are no finds or they are retained by the owner documentary archive in due course shall be deposited with the Cornwall Record Office, but in the medium term will be stored at ReStore. All digital records will be filed on the Cornwall Council network.

### **3.3 Archive report**

The results from the fieldwork will be presented in a concise report. Copies of the report will be distributed to the Client, the Historic Environment Record and the local and main archaeological record libraries. A PDF copy of the report will be produced.

This will involve:

- producing a descriptive text;
- producing maps and line drawings;
- selecting photographs;
- report design;
- report editing;
- dissemination of the finished report;
- deposition of archive and finds in the Royal Cornwall Museum, Truro.

The report will have the following contents:

- Summary - Concise non-technical summary.
- Introduction - Background, objectives, aims and methods.
- Results - Factual description of the results of the test pitting.
- Discussion - Discussion of the interpretation of the results, highlighting information gained on a chronological or thematic basis  
Recommendations for further archaeological recording.
- Archive - A brief summary and index to the project archive.
- Appendix - A copy of the project brief.  
- A copy of the WSI.
- Illustrations - General location plan.  
- Detailed location plans to link fieldwork results to OS map.  
- Photographs (if appropriate).

An English Heritage/ADS online access to the index of archaeological investigations (OASIS) record will be made.

## **4. Monitoring**

- This written scheme of investigation will need to be approved by the Planning authority.
- The recording exercise will be monitored. The Senior Development Officer (Historic Environment) should be informed 1 week in advance of the intention to start the recording.
- CAU will liaise with the Senior Development Officer (Historic Environment) to advise on the programme and progress of work, and agree site meetings as required.
- A summary of the results will be presented to the Senior Development Officer (Historic Environment) within 1 month of the completion of the fieldwork.
- In the event that significant remains are encountered an updated project design will be agreed with the Senior Development Officer (Historic Environment).

## **5. Project Staff**

An experienced archaeologist employed by CAU will carry out the archaeological fieldwork and compile the archive report.

The project will be managed by a manager who is a Member of the Chartered Institute for Archaeologists, who will:

- Take responsibility for the overall direction of the project.
- Discuss and agree the objectives and programme of the project with project staff, including arrangements for Health and Safety.
- Monitor progress and results for each stage.
- Edit the project report.

## **6. Timetable**

The archiving and archive report will be completed within 3 months of the ending of the fieldwork. The timetable for further stages of assessment, analyses and publication will be agreed with the Senior Development Officer (Historic Environment) in the light of the results of the fieldwork.

## **7. Health and safety during the fieldwork**

### **7.1 Health and safety statement**

Cornwall Archaeological Unit is within the Economy, Enterprise and Environment Directorate of Cornwall Council. CAU team follows Cornwall Council's *Statement of Safety Policy*.

### **Prior to carrying out any fieldwork CAU will carry out a risk assessment**

## **8. Insurance**

As part of Cornwall Council, CAU is covered by Public Liability and Employers Liability Insurance.

## **9. Standards**

CAU follows the Chartered Institute for Archaeologists' Standards and Code of Conduct and is a Registered Archaeological Organization.

## **10. Copyright**

Copyright of all material gathered as a result of the project will be reserved to the Cornwall Archaeological Unit. Existing copyrights of external sources will be acknowledged where required.

This project design and estimate is the copyright of Cornwall Archaeological Unit, Cornwall Council.

Use of the material will be granted to the client.

## **11. Freedom of Information**

All information gathered during the implementation of the project will be subject to the rules and regulations of the Freedom of Information Act 2000.

### **Notes**

- It is assumed that the client will supply the mechanical excavator. The cost is not included in the attached estimate.
- The client will be responsible for the Health and Safety arrangements onsite (including fencing, etc), and it is assumed that welfare facilities will be made available.
- In the event that human remains are uncovered the client will ensure that appropriate screening is put in place.
- The requirements for any post excavation programme (assessment, analysis and reporting) will need to be reviewed in the light of the fieldwork.

██████████ 5/9/15  
Principal Archaeologist

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