



# Preliminary Viability Investigation

Pendeen Community Cemetery

## 31 May 2018

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## DOCUMENT CONTROL SHEET

Client	The Pendeen Community Cemetery Project Committee			
Project Title	Pendeen Community Cemetery			
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### EXECUTIVE SUMMARY

#### Objectives

Wheal Jane Consultancy was commissioned by Mrs D Webb of The Pendeen Community Cemetery Project Committee to undertake an intrusive investigation on the site of a proposed Community Cemetery.

Site Investigation			
Previous Investigations	No previous site investigations are known to have taken place.		
Site Works	20 Trial Pits were excavated across the two proposed site locations 5 across site A evenly spread across the site and 15 across site B in a 10 meter grid formation.		
Ground Conditions	Full ground profiles were obtained, showing topsoil overlying clayey, sandy GRAVEL which in turn overlies fractured granite bedrock of the Land's End Intrusion.		
Groundwater	No groundwater was encountered during the site investigation.		
Conclusions			

- No groundwater was encountered during the investigation.

- Bedrock was encountered across Site A at depths of between 1.24m and 1.67m below existing ground level.

- Bedrock was encountered across Site B at depths of between 1.46m and 2.23m below existing ground level.

#### Recommendations

- Since the Environment Agency guidelines are somewhat ambiguous, it is recommended that this preliminary investigation report be forwarded to the aforementioned, prior to further intrusive works commencing.

- It may be feasible to conduct a localised cut-and-fill operation across the site, reducing the level of the proposed car parking areas to raise the level elsewhere, thus increasing the depth to bedrock. Alternatively, topsoil/subsoil could be sourced from elsewhere, i.e. site A.

### 1 INTRODUCTION

### 1.1 Instruction

- 1.1.1 Wheal Jane Consultancy (WJC) was commissioned by Pendeen Community Cemetery Project Committee to undertake a Preliminary Viability Investigation at two locations in Pendeen to assess their suitability to be used for a new Community Cemetery.
- 1.1.2 This report has been prepared by Wheal Jane Consultancy solely for the benefit of Pendeen Community Cemetery Project Committee. It shall not be relied upon or transferred to any third party without the prior written authorisation of WJC.

### 1.2 Scope and Objectives

1.2.1 The objective of this investigation is to determine the depth to bedrock across the site in order to assess the site's suitability for its intended use as a cemetery.

### 1.3 Limitations

- 1.3.1 Conditions of the ground at locations not included within the investigation may be different from the tested locations.
- 1.3.2 This report considers site conditions at the time of the ground investigation, but ground conditions may change with time. If future work discovers ground conditions that vary significantly from the findings available in this report, the conclusions should be reviewed in the context of the new information.
- 1.3.3 Findings were assessed in the context of standards and methodology current at the time of reporting.
- 1.3.4 The findings and conclusions in this report are based upon information derived from a variety of sources. WJC cannot accept liability for the accuracy or completeness of any information derived from third party sources.

### 2 THE SITE

### 2.1 Site Location and Layout

- 2.1.1 The sites are located at Pendeen, approximately 10km to the north west of the town centre of Penzance. Site A is approximately centred on National Grid Reference SW 38039 34275. Site B is approximately centred on National Grid Reference SW 38121 34334. The sites are shown on the site location plan Figure 2.1.
- 2.1.2 Both sites A and B are irregular in shape and cover an area of approximately 0.18h and 0.19h respectively.
- 2.1.3 The site layouts can be seen in Figures 2.2 and 2.3 below:

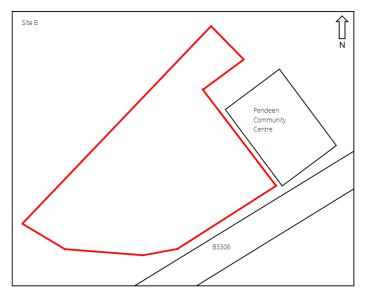


Figure 2.2: Current Site Layout for the preferred site option (Site B)

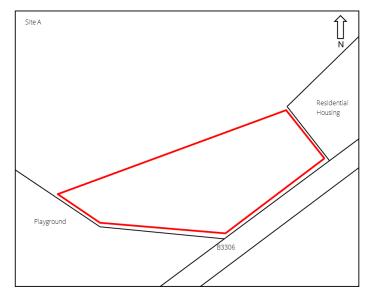


Figure 2.3: Current Site Layout for the second site option (Site A)

### 2.2 Surrounding area

- 2.2.1 Site A is bound to the north by fields with residential property and Geevor tin mine beyond. To the east by residential and commercial property with site B beyond, to the west by a playground with residential property and Geevor tin mine beyond. To the south the site is bound by the B3306 with residential property beyond.
- 2.2.2 Site B is bound to the north by fields with residential property beyond. To the west by residential property and site A beyond. To the south by the B3306 with residential property beyond. To the east the site is bound by the Pendeen Community Centre with residential and commercial property beyond.

### 2.3 Proposed Development

2.3.1 The proposed development is for a community cemetery for burials and memorial with visitor parking and associated landscaping. Pre-application reference: PA17/02828/PREAPP.

### **3** SITE INVESTIGATION

### 3.1 Site Works

- 3.1.1 A Preliminary Viability Investigation was conducted on Tuesday 29<sup>th</sup> May 2018. The investigation was overseen by a geotechnical engineer from Wheal Jane Consultancy. Exploratory hole location plans are presented as Figures 3.1A and 3.1B for sites A and B respectively.
- 3.1.2 The following table summaries the intrusive investigation techniques employed during the site investigation:

#### <u>Site A</u>

Exploratory	Exploratory Hole	Hole Depths	Comments
Hole Type	ID	(mBGL)	
Trial Pit	TP16 – TP20	0.52 - 1.67	Excavated for site coverage

#### <u>Site B</u>

Exploratory	Exploratory Hole	Hole Depths	Comments
Hole Type	ID	(mBGL)	
Trial Pit	TP1 – TP15	1.46 - 2.33	Excavated for site coverage

3.1.3 Trial pit logs for both sites TP1-TP20 are shown in Appendix A.

3.1.4 Photographs of the Preliminary Viability Investigation can be seen in Appendix B.

### 4 GROUND CONDITIONS

### 4.1 General

- 4.1.1 The BGS 1:50,000-scale bedrock geological map [Sheet 351] of Land's End shows the site to be underlain by the Land's End Intrusion comprising of Granite.
- 4.1.2 Trial pit logs depicting the strata beneath the site are shown in Appendix A. The following table represents a summary of the strata encountered beneath the site:

Strata	Depth Encountered (mBGL)		Typical Thickness	Brief Description & Comments
	From	То	(m)	Comments
Topsoil	0.00	0.29 – 0.65	0.50	Dark brown slightly clayey, sandy TOPSOIL.
Made Ground	0.00 - 0.49	0.39 – 0.73	0.50	Dark brown slightly clayey, sandy TOPSOIL with rare plastic, timber and metal. Or Grey GRAVEL of Granite (fill).
Weathered Land's End Intrusion	0.29 - 0.65	1.24 - 2.23	1.70	Light orangish brown sandy GRAVEL of Granite. Or Light orangish brown sandy GRAVEL of Granite. Rare cobbles and boulders of Granite.

### 4.2 Strata Encountered

#### Topsoil

4.2.1 Material described as Topsoil was encountered across the site to depths of up to 0.65m below existing ground level.

### Made Ground

- 4.2.2 Material described as Made Ground was encountered in a few locations over the two sites. In site A the material encountered was 'Grey GRAVEL of Granite (fill)', which was covering the clay sewer pipe that runs across the site.
- 4.2.3 At site B, the Made Ground encountered was 'Dark brown slightly clayey, sandy TOPSOIL with rare plastic, timber and metal'. This was found closest to the Pendeen Community Centre in the trial pits excavated by the public footpath.

#### Weathered Land's End Intrusion

- 4.2.4 At site A, material described as The Weathered Land's End Intrusion was encountered across the site to depths of up to 1.67m. The unit was thickest in the north west of the site.
- 4.2.5 At site B, The Weathered Land's End Intrusion was encountered across the site to depths of up to 2.23m. The unit was thickest in the north east and around the eastern and southern boundaries of the site. This is shown in Figure 4.1 "Bedrock Depth Map."
- 4.2.6 In general, the unit may be described as 'Light orangish brown sandy GRAVEL of Granite' or 'Light orangish brown sandy GRAVEL of Granite. Rare cobbles and boulders of Granite'.
- 4.2.7 Based on on-site observations, it is likely that the cobbles and boulders encountered are fractured bedrock of The Land's End Intrusion.

#### 4.3 Groundwater

4.3.1 No groundwater was encountered during the site investigation.

### 4.4 Contamination Indications

4.4.1 No olfactory evidence of contamination was encountered during the site investigation.

### 5 CONCLUSIONS

- 5.1.1 No groundwater was encountered during the investigation.
- 5.1.2 Bedrock was encountered across Site A at depths of between 1.24m and 1.67m below existing ground level.
- 5.1.3 Bedrock was encountered across Site B at depths of between 1.46m and 2.23m below existing ground level.

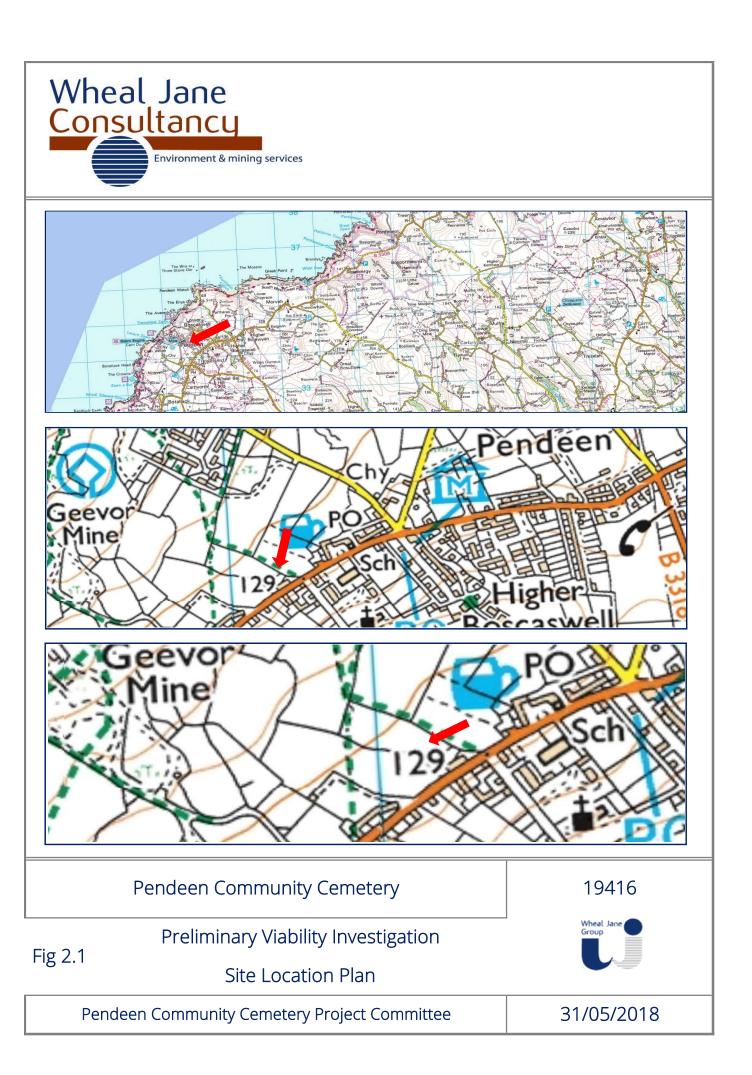
### 6 **RECOMMENDATIONS**

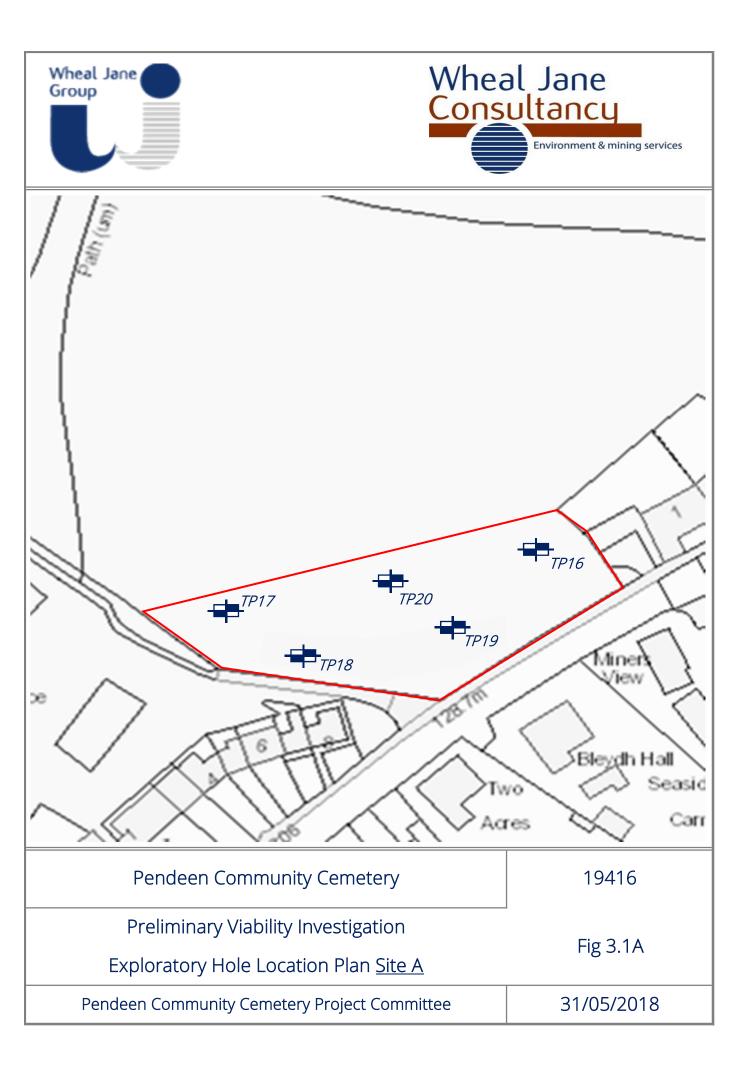
- 6.1.1 Since the Environment Agency guidelines are somewhat ambiguous, it is recommended that this preliminary investigation report be forwarded to the aforementioned, prior to further intrusive works commencing.
- 6.1.2 It may be feasible to conduct a localised cut-and-fill operation across the site, reducing the level of the proposed car parking areas to raise the level elsewhere, thus increasing the depth to bedrock. Alternatively, topsoil/subsoil could be sourced from elsewhere, i.e. site A.

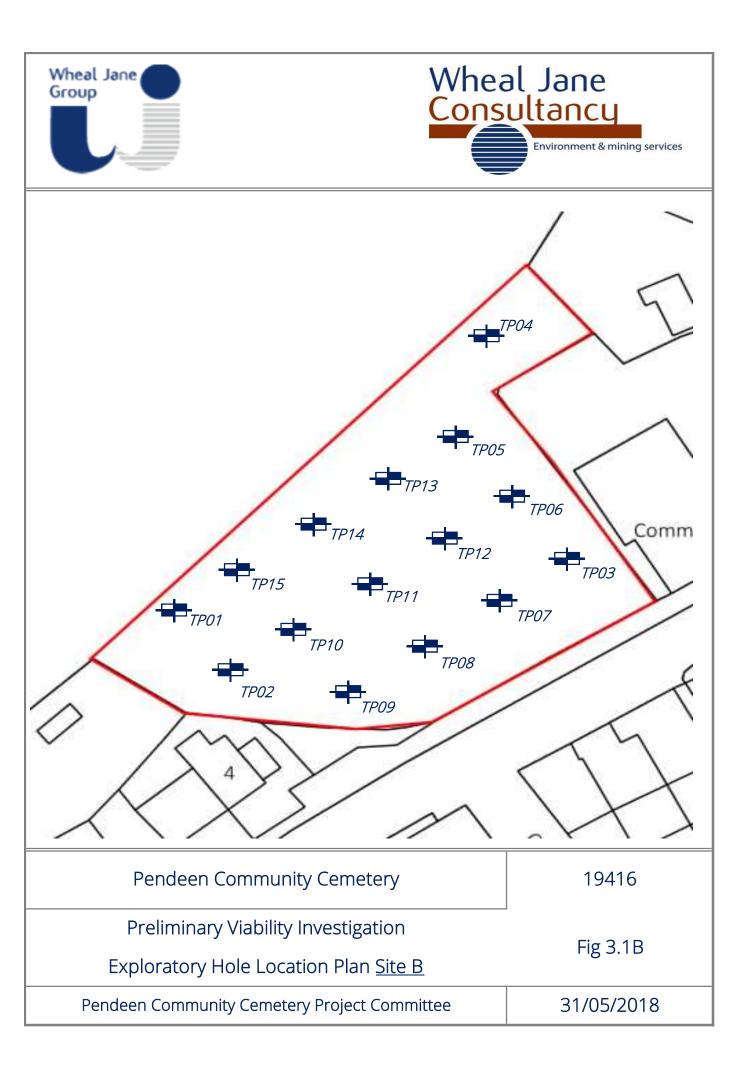
### 7 NOTES

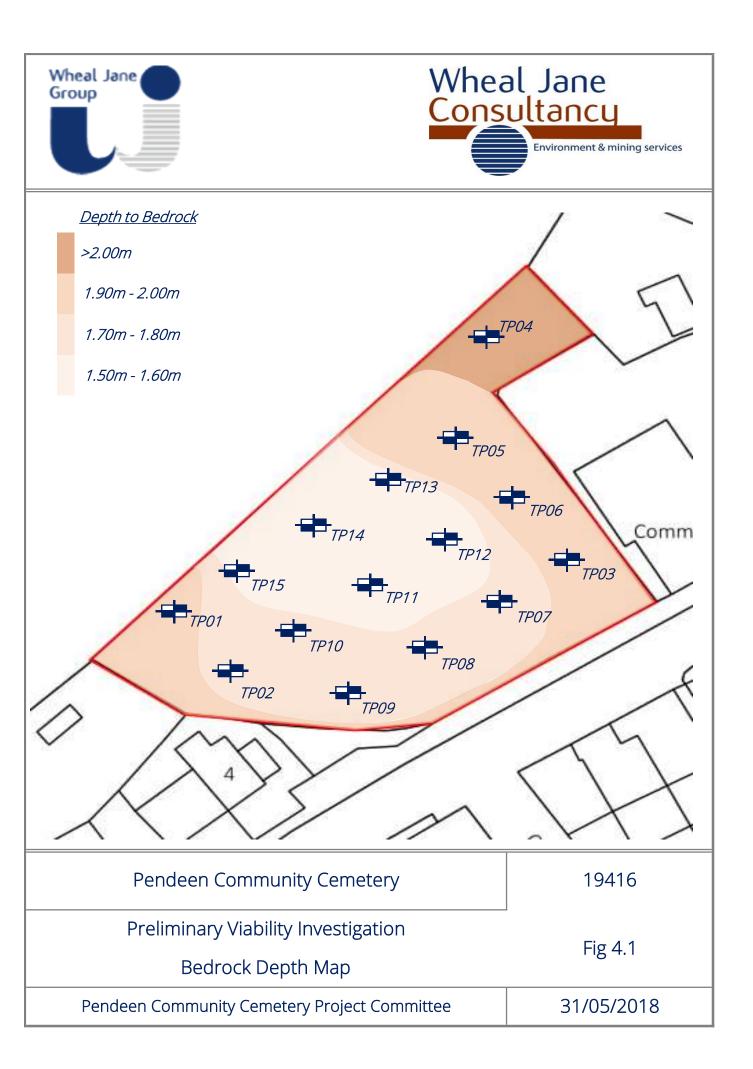
- This report is concerned solely with the property, as defined by this report, or parts thereof examined.
- The report should not be used in connection with adjacent properties.
- In respect of site works, Wheal Jane Consultancy cannot accept any liabilities for any additional mine workings found outside the limits of any areas examined.
- The information supplied by third parties which has been used in compiling this Phase 2 ground investigation report, is derived from a number of statutory and non-statutory sources. While every effort is made by the supplier to ensure accuracy, the supplier cannot guarantee the accuracy or completeness of such information or data, nor to identify all the factors that may be relevant.
- The conclusions and recommendations relate to the type and extent of development outlined in this report for this specific property only and should not be taken as suitable for any other form or extent of development on this property without further consultation with Wheal Jane Consultancy.
- This report is confidential to the client, the client's legal and professional advisors, and may not be reproduced or distributed without our permission other than to directly facilitate the sale or development of the property concerned.
- We have no liability toward any person not party to commissioning this report.
- Unless otherwise expressly stated, nothing in this report shall create or confer any rights or other benefits pursuant to the Contracts (Rights of Third Parties) Act 1999 in favour of any person other than the person commissioning this report.
- This report is not an asbestos inspection that may fall within the control of Control of Asbestos Regulations 2006

FIGURES



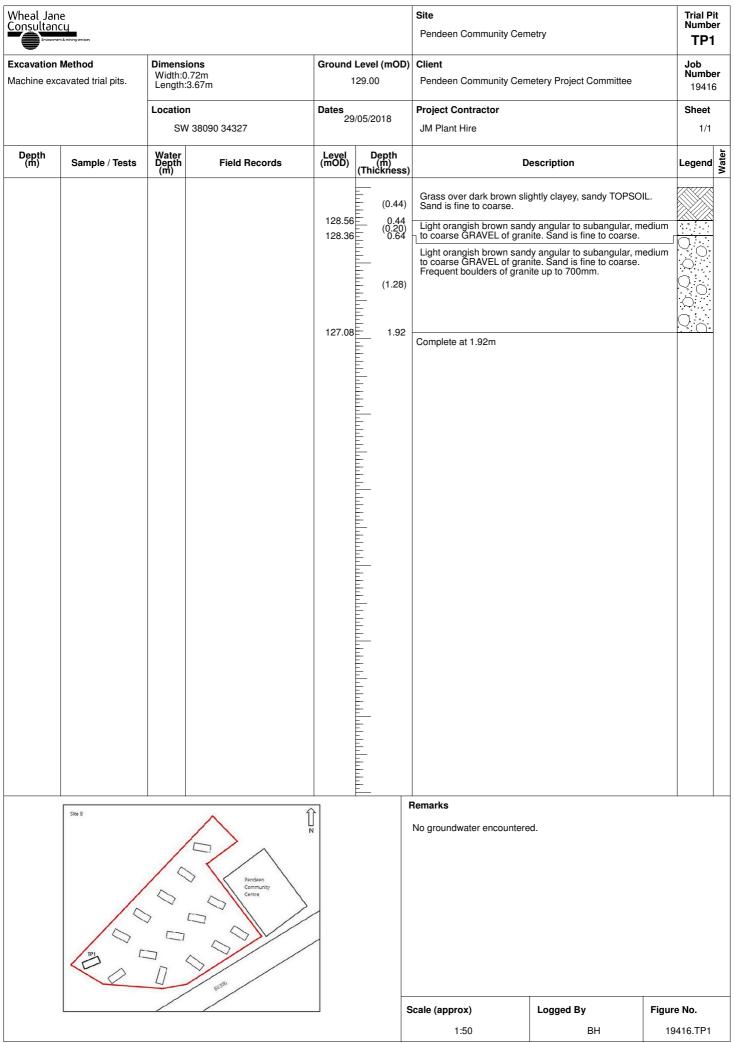


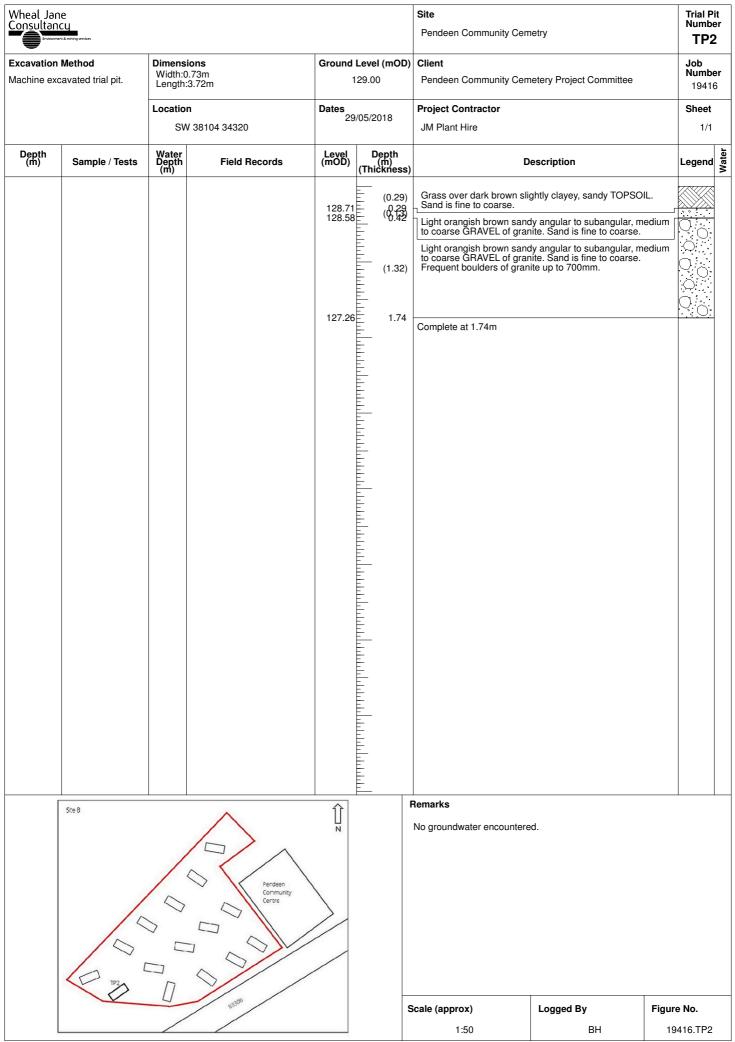


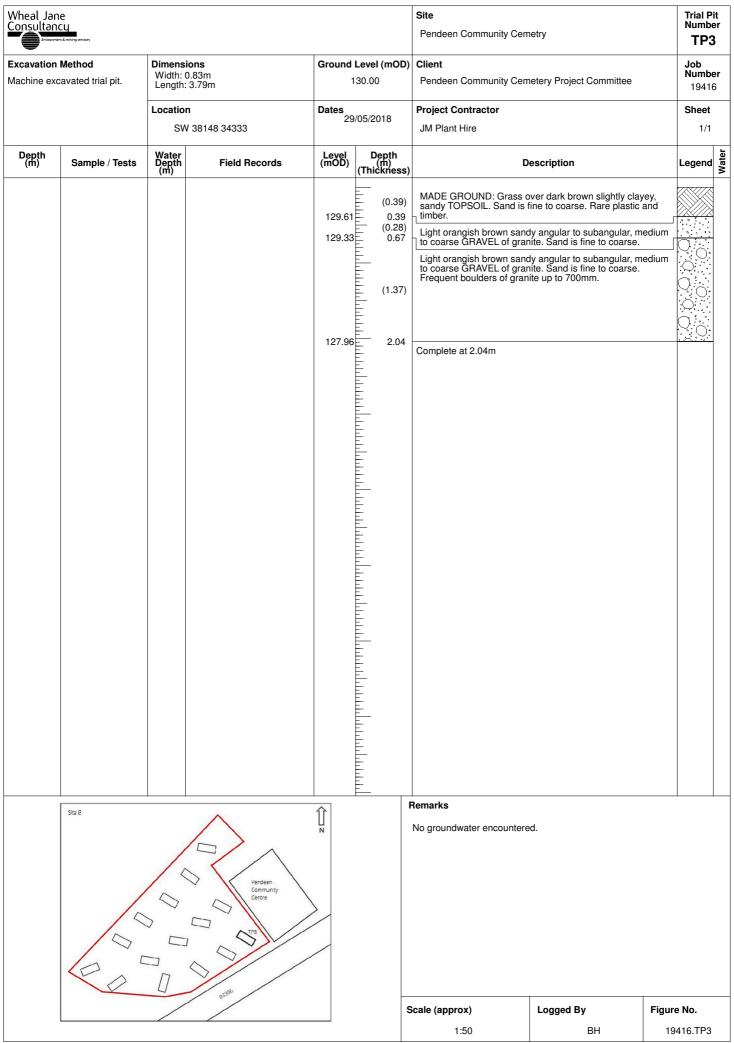


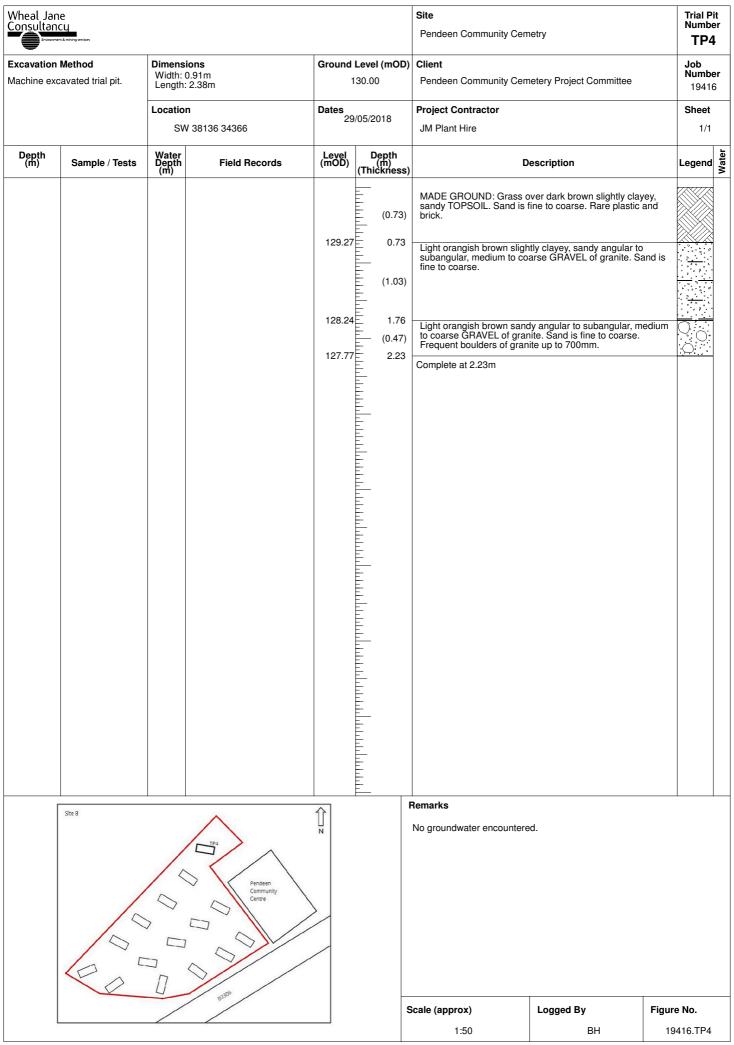
## Appendix A

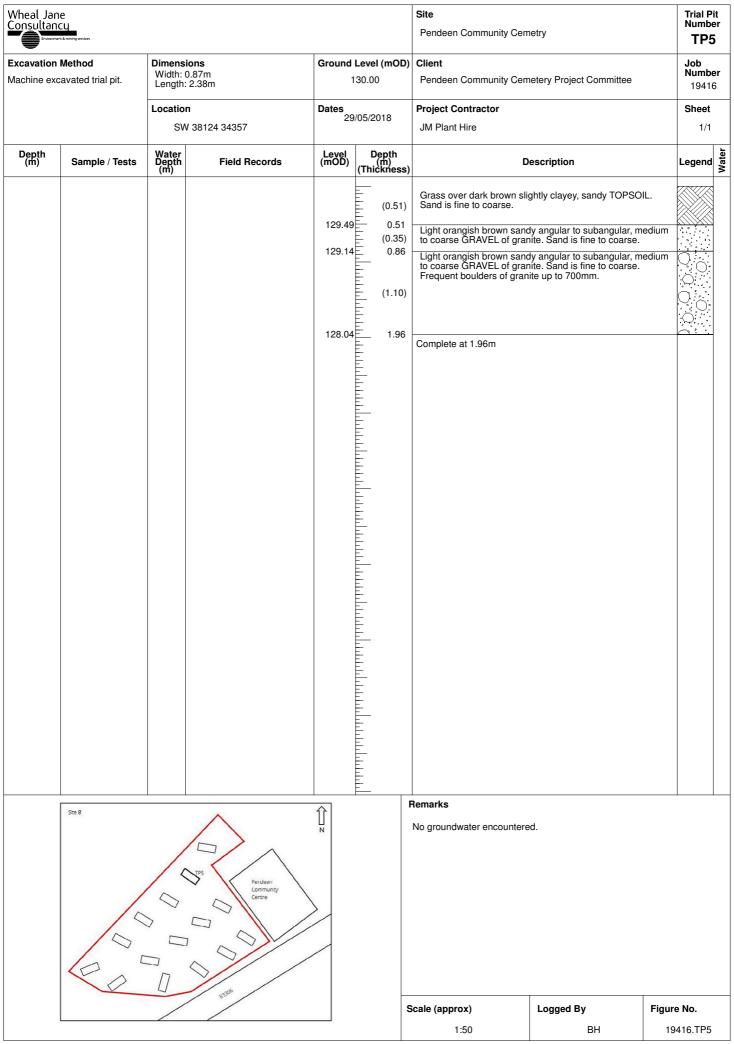
Trial Pit Logs

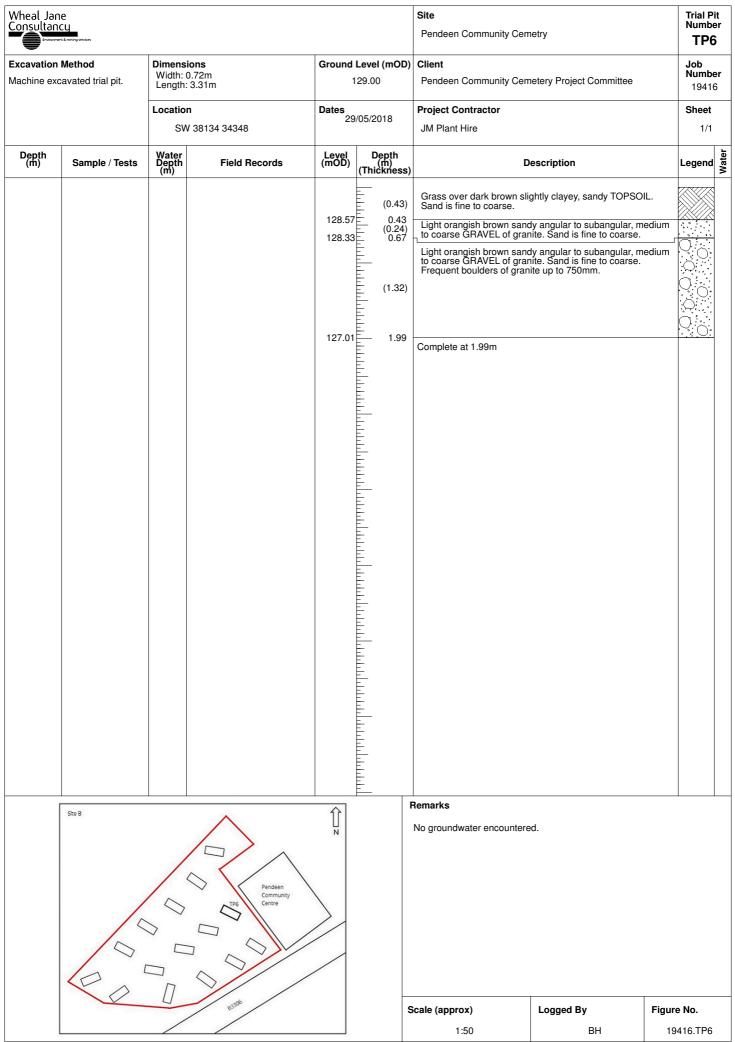


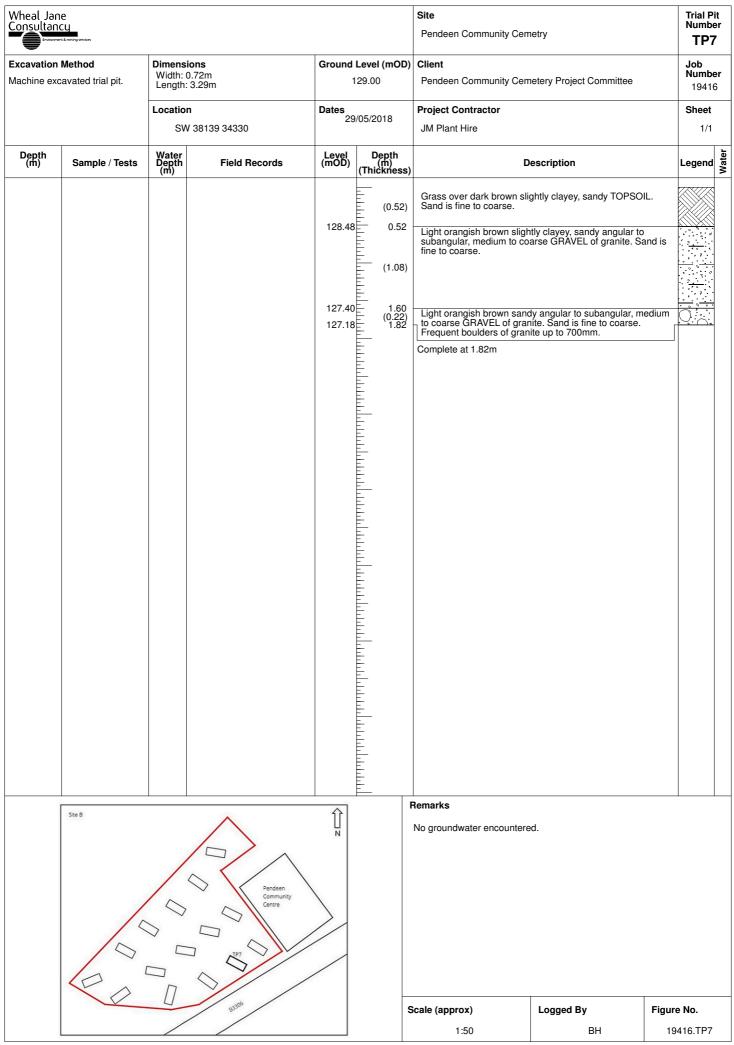


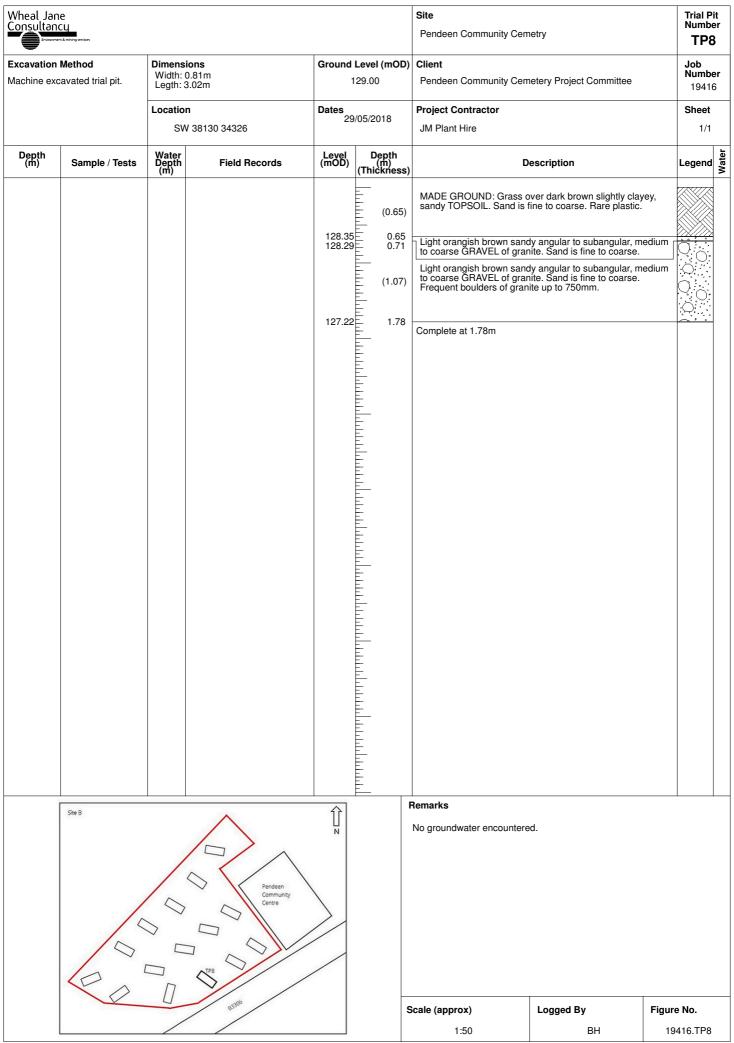


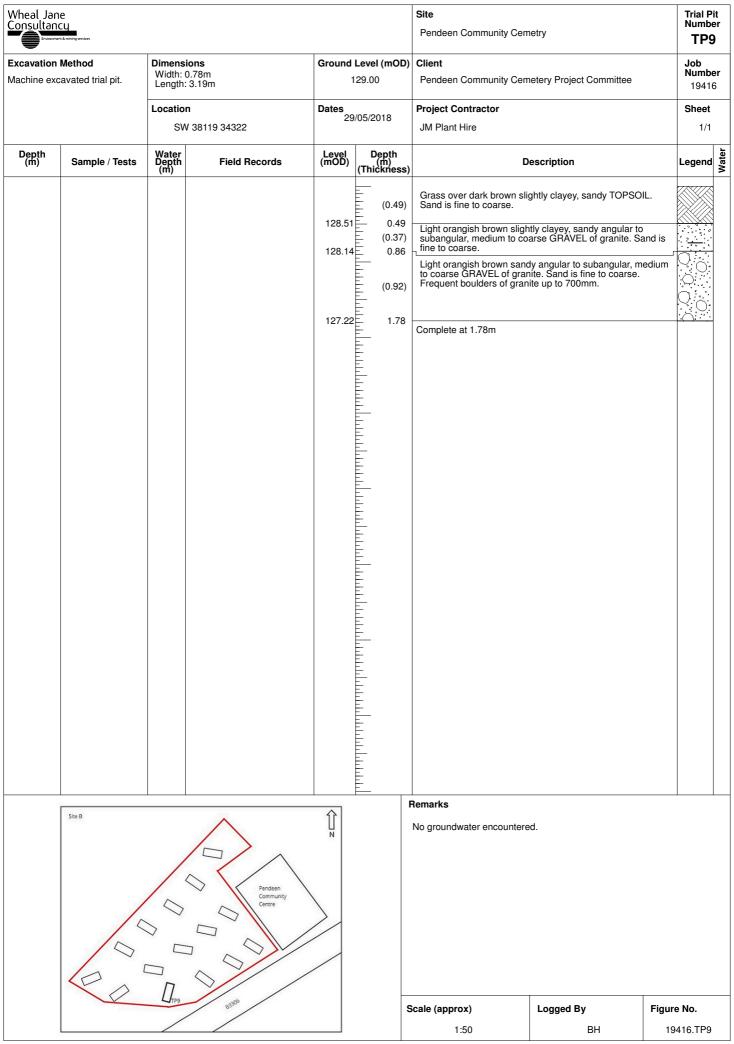


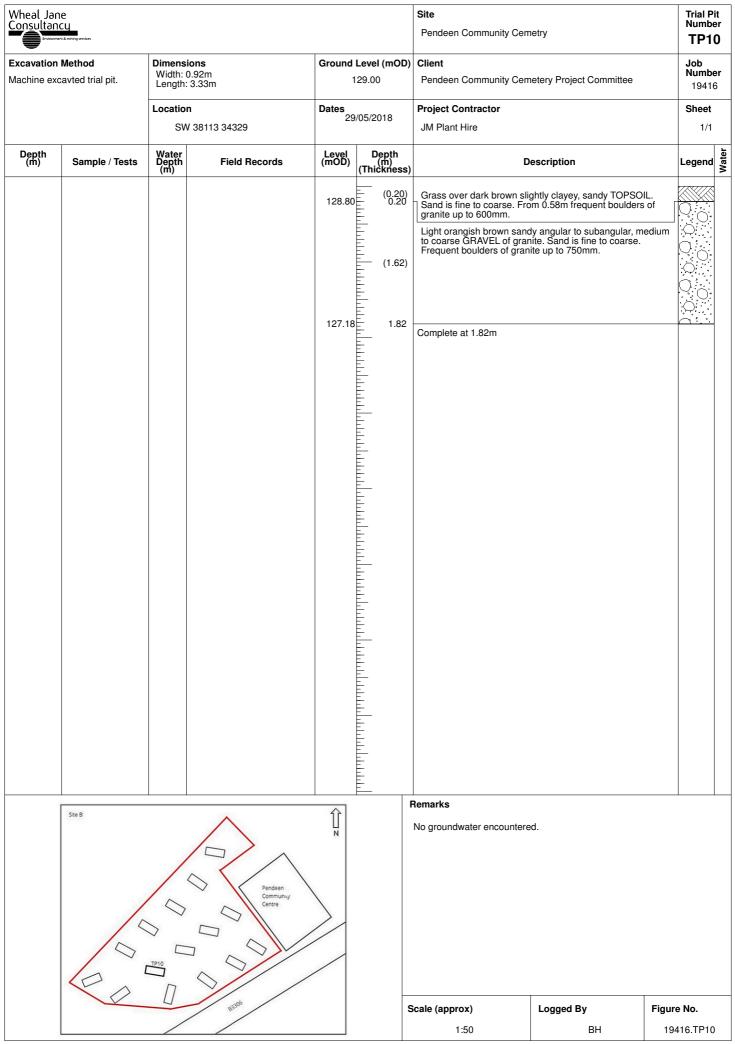


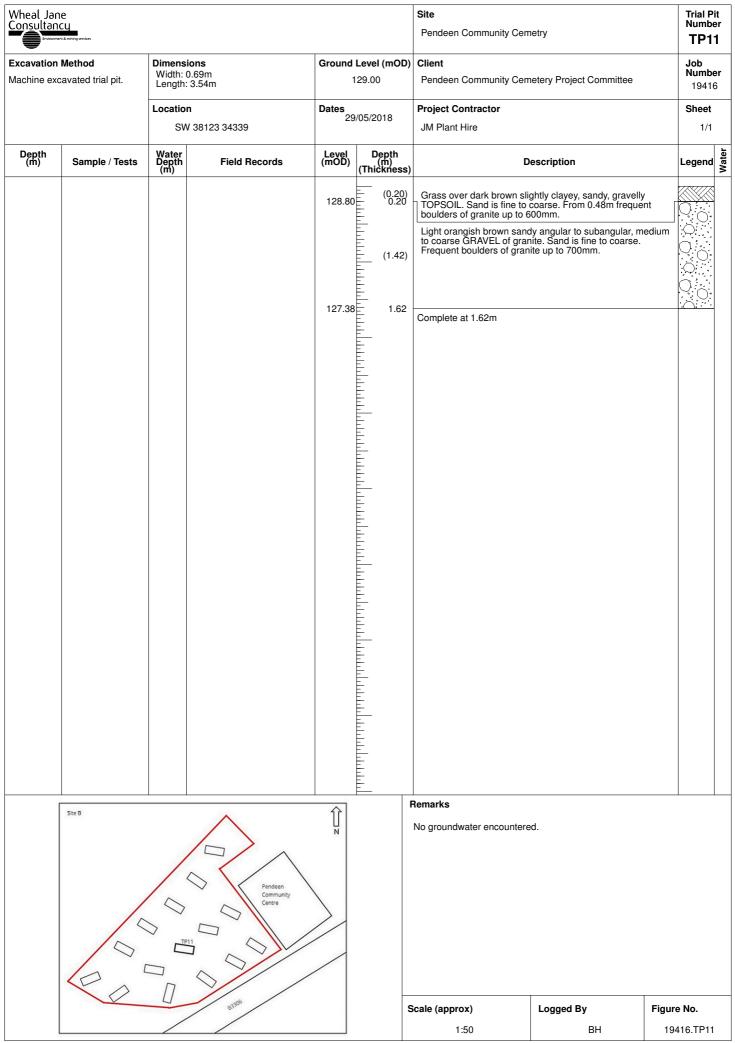


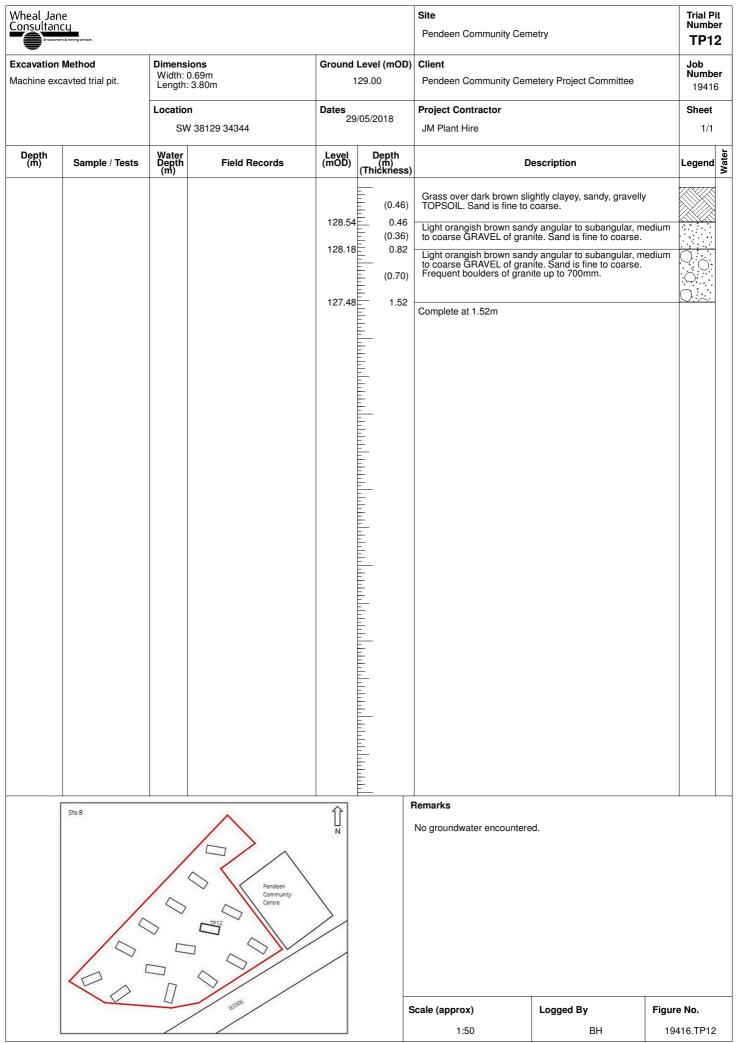


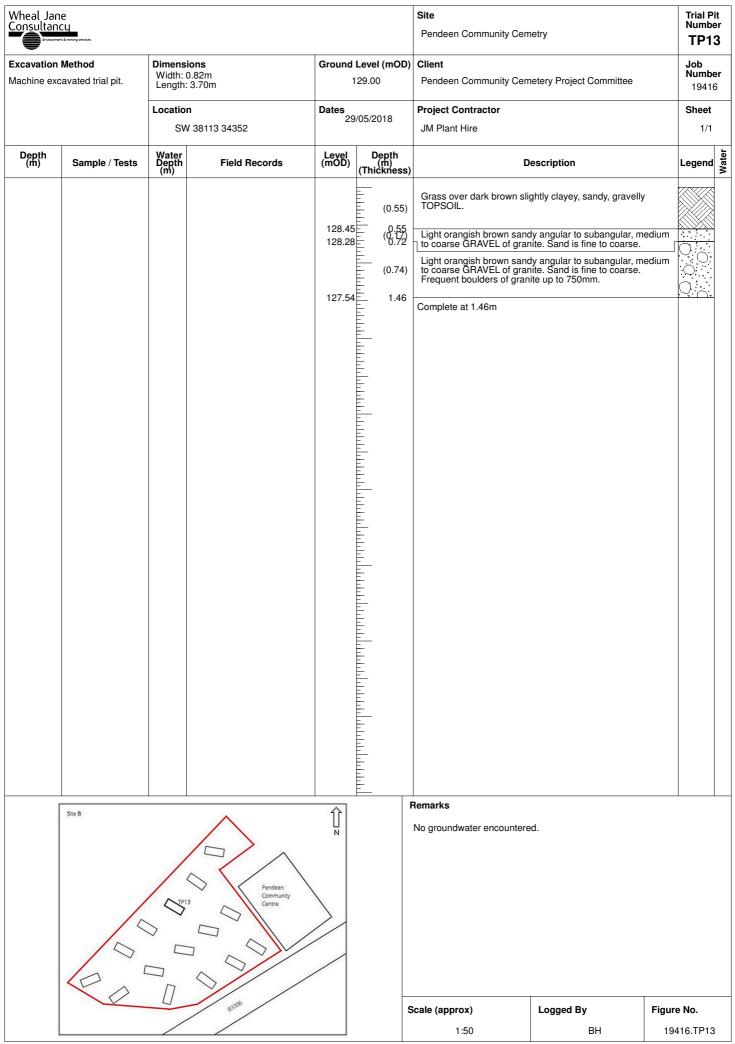


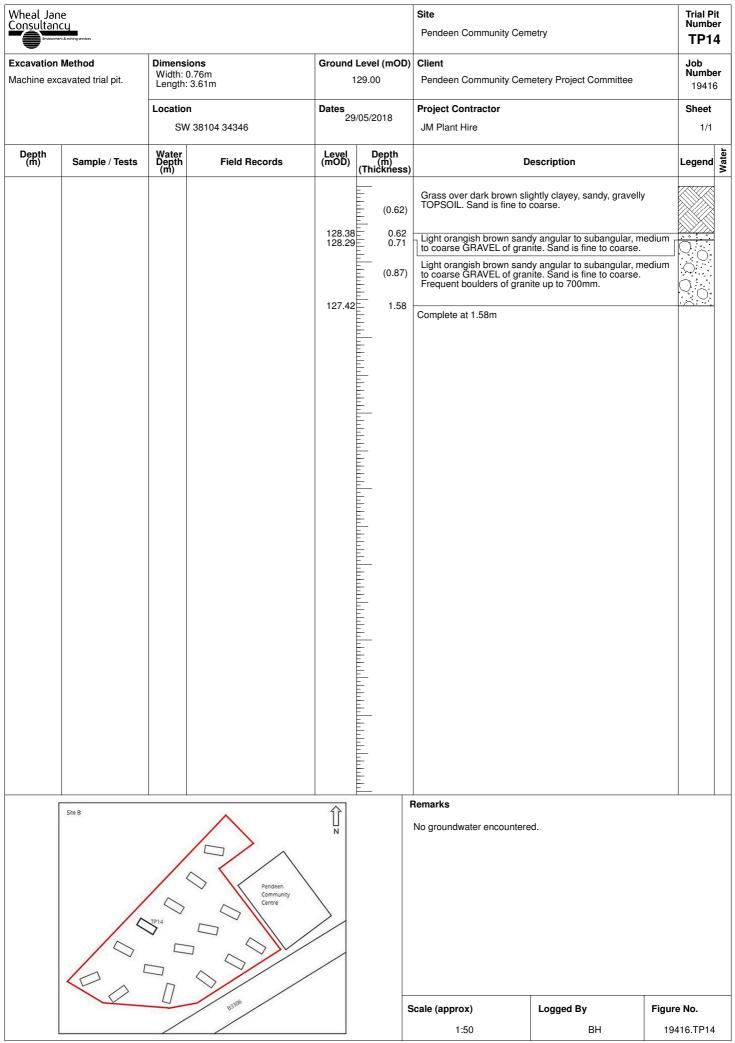


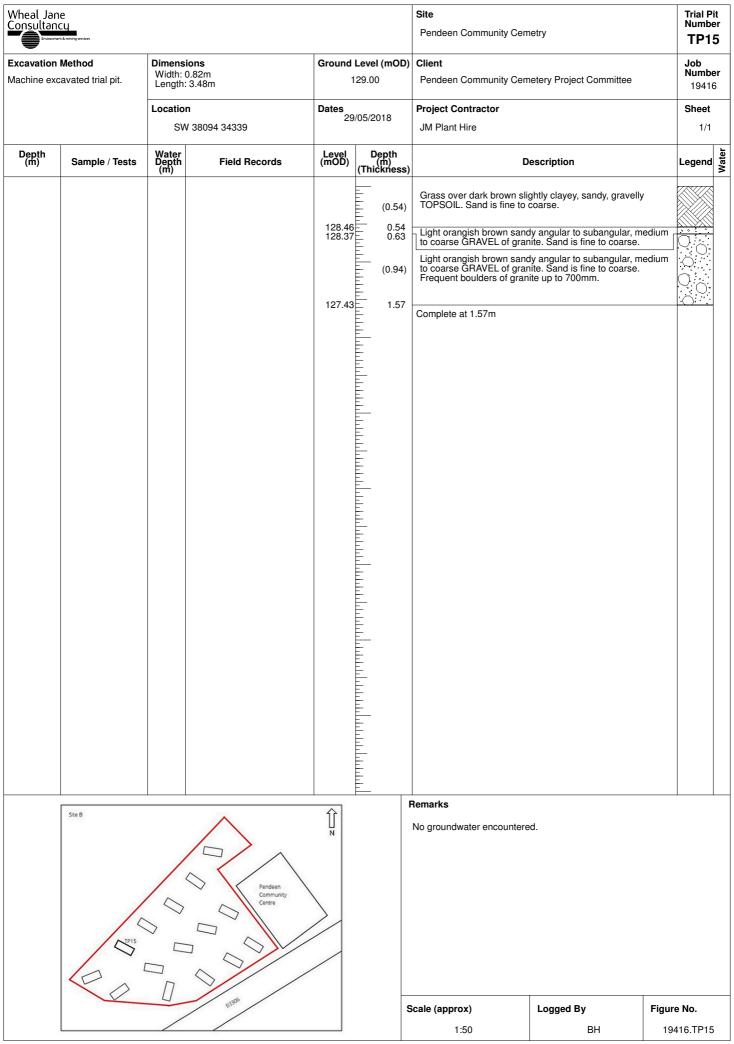


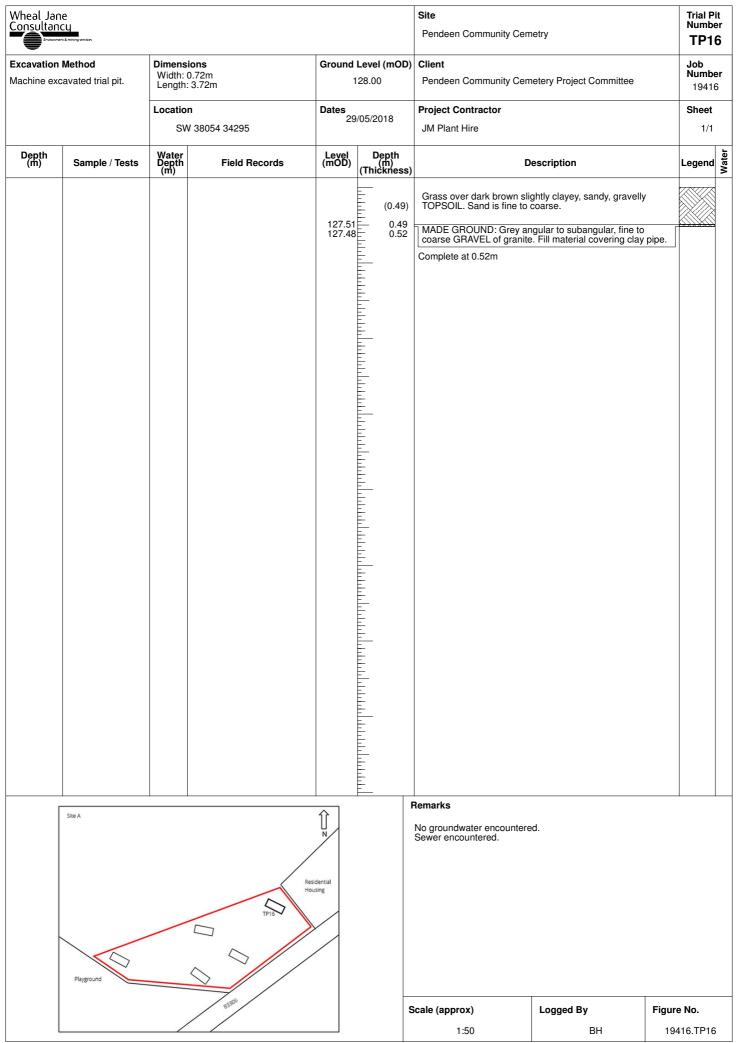


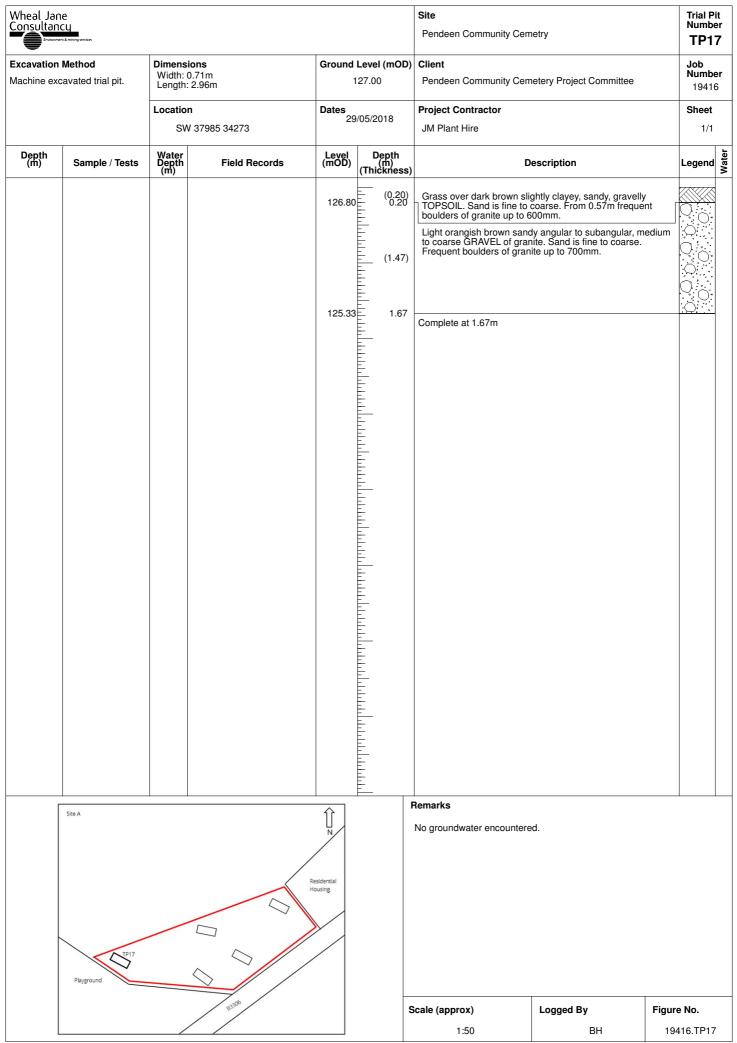


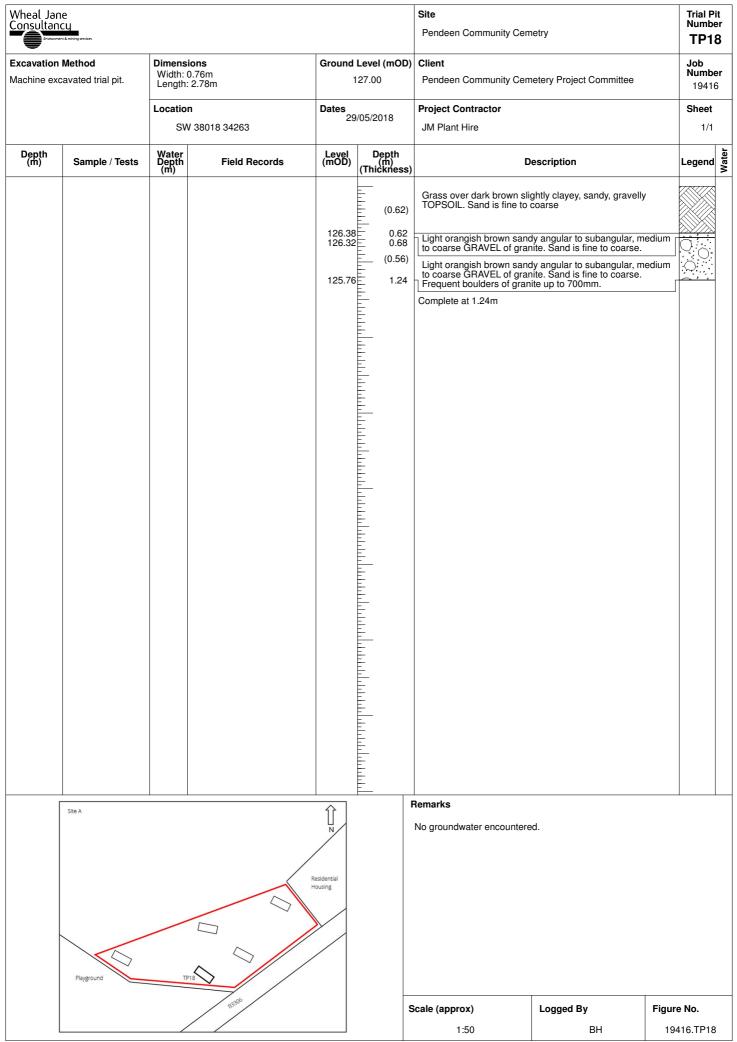


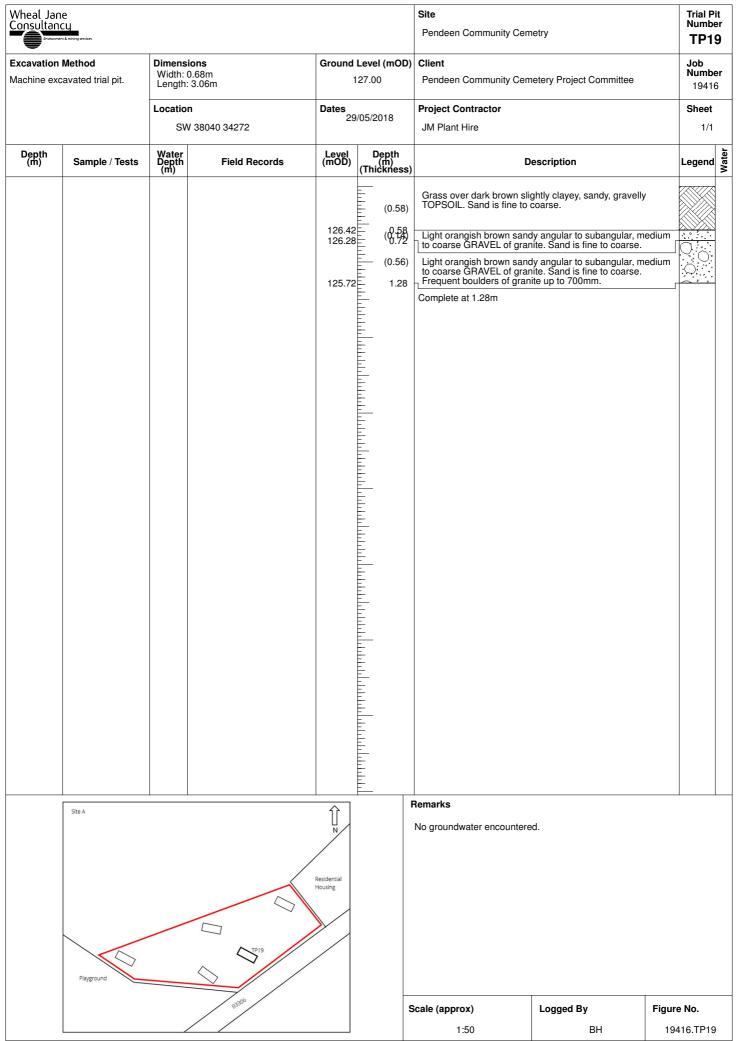


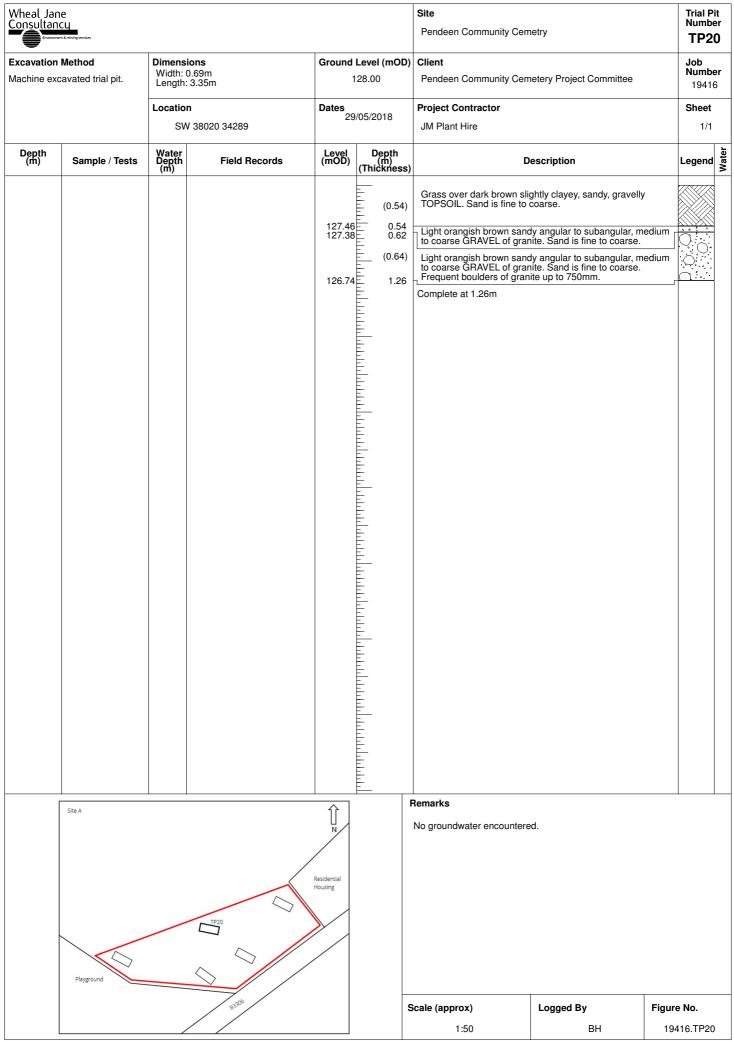












## Appendix B

Trial Pit Photographs













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Trial Pit: TP03









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Trial Pit:







TP05





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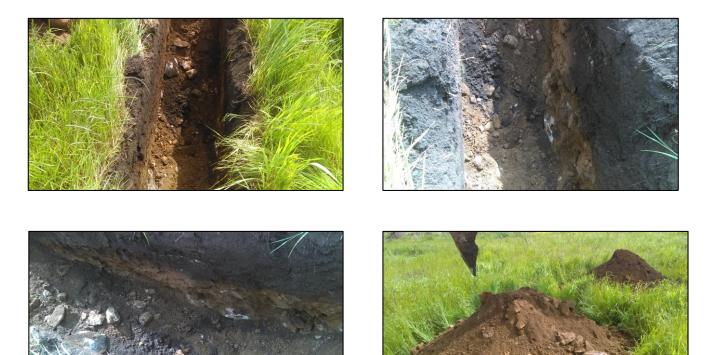




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Trial Pit: TP19



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-Mine Site Investigations-

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-Contaminated Land Assessments-

-Laboratory Testing of Soils and Water-

