

**South Wales Gas Pipeline Project
Site 25.06
Land North of Rhosmaen House
Manordeilo and Salem
Carmarthenshire
Archaeological Excavation**

for
Rhead Group
on behalf of
National Grid

CA Project: 9150
CA Report: 13281
Event: DAT108804

November 2013

South Wales Gas Pipeline Project Site 25.06

Archaeological Excavation

CA Project: 9150
CA Report: 13281
Event: DAT102846

prepared by	Stuart Joyce, Project Officer
date	5 November 2013
checked by	Karen E Walker, Post-Excavation Manager
date	30 th April 2015
approved by	Martin Watts, Project Director, Head of Publications
signed	
date	
issue	01

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Cirencester Building 11 Kemble Enterprise Park Kemble, Cirencester Gloucestershire, GL7 6BQ t. 01285 771022 f. 01285 771033	Milton Keynes Unit 4 Cromwell Business Centre Howard Way, Newport Pagnell MK16 9QS t. 01908 218320	Andover Office 49 Basepoint Business Centre Caxton Close, Andover Hampshire, SP10 3FG t. 01264 326549
e. enquiries@cotswoldarchaeology.co.uk		

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GLOSSARY

CA – Cotswold Archaeology

CAP – Cambrian Archaeological Projects

CPAT – Clwyd Powys Archaeological Trust

DAT – Dyfed Archaeological Trust

GGAT - Glamorgan Gwent Archaeological Trust

FTP – Felindre to Brecon gas pipeline

HER – Historic Environment Record

MHA – Milford Haven to Aberdulais gas pipeline

NAL – Network Archaeology Ltd

NLMJV – Nacap Land & Marine Joint Venture

UPD – Updated Project Design

SUMMARY

Project Name:	South Wales Gas Pipeline Project
Location:	Site 25.06, Land North of Rhosmaen House, Manordeilo and Salem, Carmarthenshire
NGR:	SN 6400 2456
Type:	Excavation
Date:	22 to 27 June 2007
Location of Archive:	To be deposited with RCAHMW (original paper archive) and Carmarthenshire Museum (material archive and digital copy of paper archive; accession number CAASG 2008.0282)
Site Code:	MHA06

An archaeological excavation was undertaken by Cambrian Archaeological Projects during groundworks associated with construction of gas pipelines (part of the South Wales high pressure gas pipeline scheme) between Milford Haven and Aberdulais, and Felindre and Brecon, which were conducted between 2005 and 2007.

A burnt mound was partially exposed within the site and sealed what was probably an associated hearth. No dating evidence was recovered from the mound, although it exhibited a stratigraphic sequence suggesting episodic use of the site, a suggestion furthered by the fact that the mound lay over the hearth.



1. INTRODUCTION

1.1 NACAP Land and Marine Joint Venture (NLMJV), on behalf of National Grid, commissioned RSK Environment (part of the RSK Group) to manage the archaeological works (non-invasive surveys, desk based assessment, evaluation, watching brief, and open area excavation) on a 216km-long section of pipeline from Milford Haven (Pembrokeshire) to Brecon (in Powys). The high pressure gas pipeline (part of the 316km long pipeline route from Milford Haven to Tirley in Gloucestershire) was required to reinforce the gas transmission network. The archaeological work performed in advance of this pipeline was undertaken in a number of sections by a number of archaeological companies. The westernmost section of 122km, from Milford Haven to Aberdulais, was investigated by CA (then Cotswold Archaeological Trust) during 2005–2007 with some additional excavation work carried out by CAP. The section of 89km, from Felindre to Brecon was investigated by CA during 2006–2007 and CAP during 2007. Assessment reports on the works were completed in January 2012 (NLM 2012a, 2012b) and the current reporting stage was commissioned in February 2013.

1.2 In June 2007 CAP carried out an archaeological excavation at Site 25.06, Land North of Rhosmaen, Manordeilo and Salem, Carmarthenshire (centred on NGR: SN 6400 2456; Fig. 1). The objective of the excavation was to record all archaeological remains exposed during the pipeline construction.

1.3 The excavation was carried out in accordance with professional codes, standards and guidance documents (EH 1991; IfA 1999a, 1999b, 2001a, 2001b and IfA Wales 2008). The methodologies were laid out in an *Archaeological Framework Document* (RSK 2007) and associated *Written Statements of Investigation* (WSIs) and *Method Statements*.

The site

1.4 The site is located within a field on undulating ground mid-way up the south-east-facing slope of a gently rounded hill (Fig. 1). It is situated close to the confluence of the Rivers Dulais and Towy and lies at approximately 55m AOD.

1.5 The underlying solid geology of the area is mapped as Nantmel Mudstone Formation of the Ordovician Period; no superficial deposits are recorded (BGS 2013).

Archaeological background

- 1.6 No archaeological remains were identified within the site during the preliminary *Archaeology and Heritage Survey* (CA 2006). Archaeological remains attested within the wider vicinity include a Bronze Age standing stone 400m north of the site (PRN 11358). Possible Bronze Age pits associated with a ditch and a possible pennanular ditch were recorded during the pipeline construction works 200m to the north-east (CA 2013, Site 25.08) whilst medieval pits were exposed to the north-east at Site 25.07.

Archaeological objectives

- 1.7 The objectives of the archaeological works were:-
- to monitor groundworks, and to identify, investigate and record all significant buried archaeological deposits revealed on the site during the course of the development groundworks; and
 - at the conclusion of the project, to produce an integrated archive for the project work and a report setting out the results of the project and the archaeological conclusions that can be drawn from the recorded data.

Methodology

- 1.8 The fieldwork followed the methodology set out within the *WSI* (RSK 2007 Appendix B). An archaeologist was present during intrusive groundworks comprising stripping of the pipeline easement to the natural substrate (Fig. 1).
- 1.9 The site was excavated following the generic methodology applied to all burnt mounds on the scheme, with 50% of the mound investigated in opposed quadrants. Samples were taken from a 0.5m by 0.5m sondage cut through one unexcavated quadrant, with each 0.05m deep spit sampled separately.
- 1.10 The post-excavation analysis and reporting was undertaken following the production of the UPD (GA 2012) and included re-examination of the original site records. Finds and environmental evidence was taken from the assessment reports (NLM 2012b) except where the UPD recommended further work, in which case the updated reports were used. The archaeological background to the site was assessed using the following resources:-

- the *Archaeology and Heritage Survey* which was undertaken in advance of the pipeline construction and which examined a 1km-wide corridor centred on the pipeline centre line, including the then existing HER record (CA 2006);
- Dyfed Archaeological Trust HER data (received July 2014); and
- other online resources, such as Google Earth and Ordnance Survey maps available at <http://www.old-maps.co.uk/index.html>.

All monuments thus identified that were relevant to the site were taken into account when considering the results of the fieldwork.

- 1.11 The archive and artefacts from the watching brief are currently held by CA at their offices in Kemble. Subject to the agreement of the legal landowner the artefacts will be deposited with Carmarthenshire Museum under accession number CAASG 2008.0282, along with a digital copy of the paper archive. The original paper archive will be deposited with the RCAHMW.

2. RESULTS (FIG. 2)

- 2.1 This section provides an overview of the excavation results; detailed summaries of the recorded contexts, finds and environmental samples (palaeoenvironmental evidence) are to be found in Appendices A, B and C. Full, original versions of the specialist reports are contained within the archive.
- 2.2 The natural geological substrate, comprising yellow-grey clay, was cut by a single archaeological feature and a palaeochannel and was overlain by a burnt mound. A single undiagnostic flint flake fragment was recovered from an alluvial deposit adjacent to the burnt mound.
- 2.3 The earliest feature identified was 2506021. Although not fully exposed, it seems to have been oval or sub-rectangular in plan, 2.75m long, 1m wide and 0.15m deep with sloping sides and a flat base. The surrounding substrate had been scorched and this feature was probably the remains of a hearth. It contained a single fill (2506019) comprising burnt stones and charcoal in a silty clay matrix.
- 2.4 The hearth was sealed by burnt mound 250611. This mound was not fully exposed, and had been truncated along its south-western extent by a palaeochannel (contexts

2506005–007), but was at least 10.6m wide and up to 0.2m thick and comprised a lower layer of charcoal and burnt stone (256015) overlain by a layer of silty clay (256012/256014), which was itself overlain by a further charcoal and burnt stone layer (256011). Excavation revealed patches of scorching to the clay substrate underlying the excavated parts of the mound and samples from the mound layers yielded abundant charcoal with only a single charred cereal grain present.

- 2.5 The mound and hearth were truncated by a north-west/south-east aligned palaeochannel.

Discussion

- 2.6 The burnt mound was undated; most other examples found along the pipeline route have returned radiocarbon dates within the Bronze Age, although Late Neolithic and Iron Age examples were also found. There was nothing to indicate the function of the mound, a matter of ongoing debate for mounds generally, although the general absence of food remains can be noted. The charcoal is typical of the burnt mound assemblages along the pipeline, with oak and hazel well represented from local deciduous woodland resources, and the use of alder from nearby wet ground habitats. The presence of two burnt mound layers separated by a layer of silty clay provides evidence that the mound formed as the result of at least two phases of activity, indicating intermittent re-use of the same site. This silty clay was probably either colluvium derived from the upper hill slope or alluvium from a former stream channel.
- 2.7 Burnt mounds are typically associated with nearby sources of water. While there is no existing watercourse close to the mound, a canalised stream and a spring rise within 200m of the site and depressions in the landscape suggest the possibility of at least seasonal watercourses close to the mound. A palaeochannel, which can still be clearly seen as a surface feature (although dry) running south east and turning south as it approaches the field boundary, was recorded as having cut through the burnt mound layers. Although the stratigraphical relationship indicates that the palaeochannel and the mound were not contemporary, and therefore the channel could not have been the water source for the mound activity; it serves as an indication of the potential for short-term watercourses within the landscape. The lack of a nearby water source today, therefore, does not necessarily mean that there was not one in the Bronze Age.

3. PROJECT TEAM

Fieldwork was undertaken by Cambrian Archaeological Projects. This report was written by Stuart Joyce with comments by Jonathan Hart and illustrations prepared by Daniel Bashford. The archive has been compiled by Jonathan Hart and prepared for deposition by Hazel O'Neill. The fieldwork was managed CAP by Kevin Blockley and the post-excavation work was managed for CA by Karen Walker.



4. REFERENCES

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APPENDIX A: CONTEXT DESCRIPTIONS

Context No.	Fill of	Interpretation	Description	Depth (m)
2506001		Subsoil	Light brown, clay-silt	0.4
2506002		Natural	Compact yellow-grey clay	
2506003		Palaeochannel fill	Charcoal and sub-angular stones in a dark grey- brown, silt-clay matrix	0.05
2506004		Palaeochannel fill	Mid orange brown, silt-clay, with occasional sub-angular stones	0.4
2506005		Palaeochannel fill	Pale brown-grey silty clay with moderate inclusions of sub-angular burnt stones	0.15
2506006		Palaeochannel fill	Pale blue-grey clay, with moderate amounts of sub angular burnt stone inclusions with moderate amounts of sub angular burnt stone inclusions	0.55
2506007		Palaeochannel fill	Mid orange-grey silty clay.	0.2
2506008		Layer	Dark orange-brown alluvium/colluvium	0.1
2506009		Layer	Mid orange-brown alluvium/colluvium	0.1
2506010		Layer	Mid orange-brown alluvium/colluvium	0.2
2506011		Burnt mound	Burnt stone and charcoal in a dark grey-brown, silty clay matrix	0.1
2506012		Layer	Mid orange silty clay, with frequent sub-angular stone inclusions	0.1
2506013		Burnt mound	= 2506011	0.2
2506014		Layer	Alluvial clay	0.1
2506015		Burnt mound	Burnt stone and charcoal in a dark grey-brown, silty clay matrix	0.1
2506016		Layer	Mid orange-brown	0.4
2506017		Layer	Mid orange-brown	0.1
2506018		Burnt mound	= 2506011	0.05
2506019	2506021	Fill	Burnt stone and charcoal in a dark grey-brown, silty clay matrix	0.15
2506020		Layer	Mid orange-brown alluvium	0.1
2506021		Cut	Hearth	0.1

APPENDIX B: THE FINDS**Lithics** (Pannett 2009)

Artefact type	Count	Weight	Date
Struck Flint	1	-	UND

A single undiagnostic flint flake fragment was recovered from an alluvial deposit adjacent to the burnt mound.

APPENDIX C: THE PALAEOENVIRONMENTAL EVIDENCE BY JAMES RACKHAM

Eight environmental samples were taken. Six of these represent spits taken through a 0.5x0.5m sample column of the burnt mound deposits, 2506011, 2506012 and 2506015, one from the primary fill of a hearth underlying the burnt mound and one from the fill of a palaeochannel that cuts the mound. The samples were processed in the manner described in the assessment report (Carruthers 2008). The residues for all the samples except 2506005 were located and refloats. The secondary processing produced a little fired earth and abundant burnt stone from the samples and a significant magnetic component (Table 1). The magnetic fraction comprises iron rich and heat affected mudstone and sandstones. Unusually two of the burnt mound deposits contained firecracked pebbles. In general the mound deposits are made of burnt mudstone, and other stone types are rare.

Table 1 Data for the environmental samples from Site 25.06

sample	context	processed wt kg	1st flot vol ml	2nd flot vol	residue wt g	burnt clay	burnt stone g.	coal	magnetic	fire-cracked pebbles g.	Comments
2506001	BM	23	500	8	14826	12.4	12382		8.6	162	HNSx1; indet cereal grainx1
2506002	BM	12	500	4	8100		7333		7.4		
2506003	BM	12	500	6	7784		6764		5.8	192	
2506004	BM	11.5	390	4	6964	31.8	6221	+	6.8		
2506005	BM	10	290	nd	5200		nd		nd		
2506006	BM	10	160	1	3321		2823		3.2		
2506007	2506006	12	19	1	4444		3495		0.1		
2506008	2506019	12	22	1	5835		4871		1.2		

Burnt stone is abundant in all the residues found, ranging from 28 to 61% by weight of the original sample. In the lowest spit of the column burnt stone falls from approximately 50% in the spit above to 28% suggesting that this deposit probably incorporates part of the substrate underlying the mound.

Charcoal (*Dana Challinor*)

Charcoal concentrations ranged from 16-42ml per kilogramme of sample from the burnt mound, but were much lower in the channel and pit fill (1.7 and 1.9ml/kg). The lowest concentration in the burnt mound column was in the basal spit. The reduced concentration in the upper spit (22ml/kg) is probably due to weathering of the mound surface. Samples from the upper two spits of the mound, context 2506011, were selected for analysis. These represented the largest charcoal samples from the burnt mound. The charcoal was identified following standard procedures. Four taxa were positively identified: *Quercus* sp. (oak), *Alnus glutinosa* (alder), *Corylus avellana* (hazel) and Maloideae (hawthorn group). Some variation in the structure of the Maloideae fragments (especially in sample 2506002) was observed, which suggests that there may have been more than one species represented, although this could not be confirmed, due to the condition and the similarity of the anatomical structures.

Condition was fair, but with some covering of sediment. There were some roundwood fragments in both samples, including some oak with strong ring curvature in sample 2506001. Some of these were slow grown and had a minimum age of 20 years. There was no evidence of tyloses. One of the Maloideae fragments in sample 2506002 exhibited small, round insect tunnels. The assemblages exhibited a similar range of taxa, but there was a stronger component of Maloideae in sample 2506002, and more oak in 2506001. The taxonomic composition of the samples and the use of small roundwood is typical of the burnt mound charcoal assemblages along the pipeline, with oak and hazel well represented from local deciduous woodland resources, and the use of alder from nearby wet ground habitats. The members of the Maloideae frequently occur in hedgerow and/or woodland margins.

Table 2 Charcoal from burnt mound BM15, Site 25.06

	Feature type	burnt mound	burnt mound
	Feature no.	layer	layer
	Sample no.	2506001	2506002
<i>Quercus</i> sp.	oak	12 (sr)	5 (r)
<i>Alnus glutinosa</i> Gaertn.	alder	3	3 (r)
<i>Corylus avellana</i> L.	hazel	5	4 (r)
<i>Alnus/Corylus</i>	alder/hazel	1	1
Maloideae	hawthorn group	8 (r)	16 (r)
Indeterminate		1	
Indeterminate	bark		1

h=heartwood; r=roundwood; brackets denotes presence in some frags only

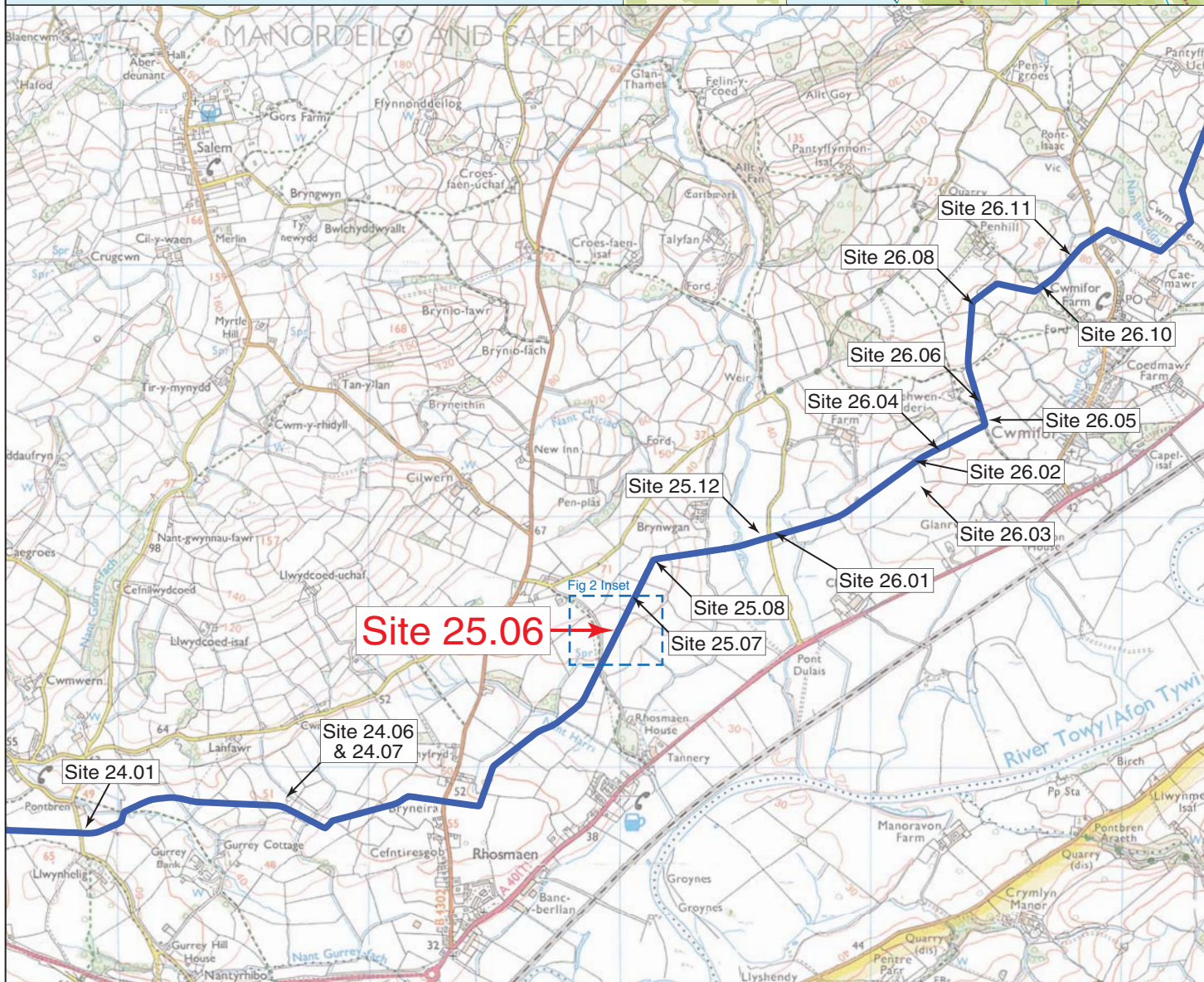
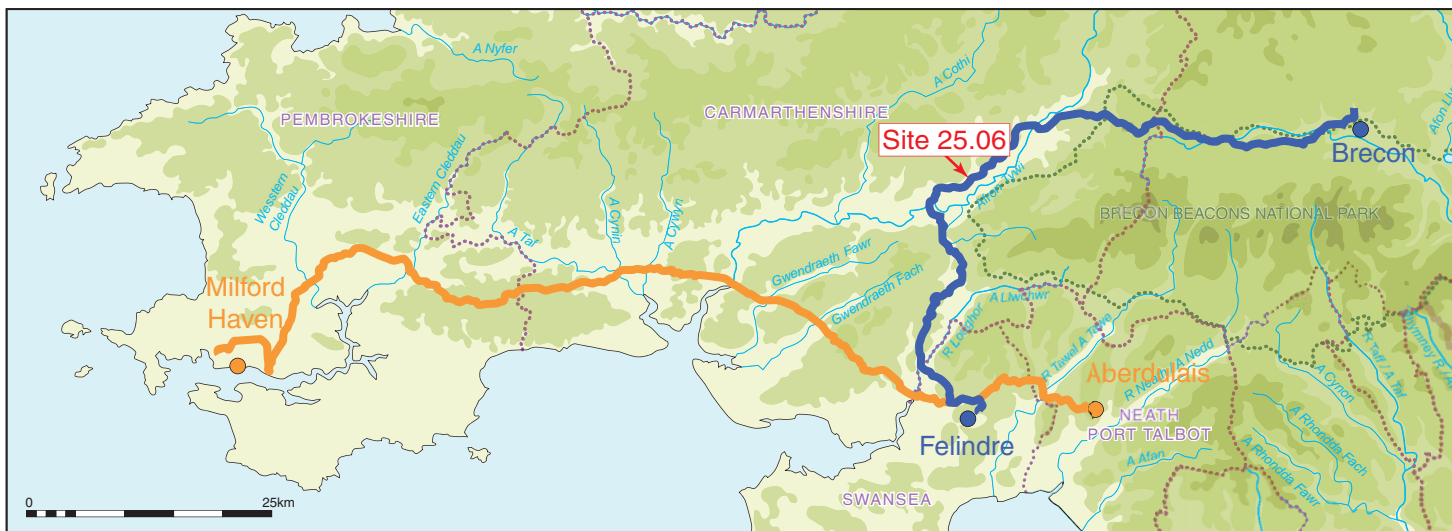
Discussion

The concentrations of burnt stone and charcoal in the deposits and the relative lack of food remains such as charred cereals and hazel nutshells is typical for the burnt mounds along the pipeline. Evidence for 'occupation' is minimal and the two finds of hazel nutshell and cereal grain (both fragments of no more than 4mm in size) from the top 5cm spit of the column are not in a sufficiently secure context to be 'confidently' assigned to the burnt mound.

The approximate size of the burnt mound as illustrated on Fig. 1 is 23 square metres and with an estimated average thickness of 0.1m (see Fig. 1) this represents, based upon the density of burnt stone in the column samples, approximately 1.5 tonnes of burnt stone. This of course does not take account of the part of the mound removed by the palaeochannel, and it may also slightly underestimate the average thickness of the deposits, so perhaps as much as 2 tonnes of burnt stone were deposited at this site, one of the smaller burnt mounds along the pipeline.

The site lies in a field on a south facing slope, apparently some distance from the nearest water supply. The archaeology describes a 'palaeochannel' cutting the mound, and this can be clearly seen as a surface feature (although dry) running south east and turning south as it approaches the field boundary. A stream rises in the field boundary 70m downhill of the site on a line with this feature. It may be that this represents a former spring and stream channel, or a seasonal feature, but it is not marked on the first edition OS map of 1885-87, although a

pump is indicated in the field boundary, and as a visible surface feature it must be much younger than the Bronze Age and may have been artificially cut recently (see Google Earth images for 2005 and 2006). Nevertheless a nick in the contours indicates that this small valley feature is of considerable age but whether it ever had a flowing stream, fed by a spring, or is merely a run-off feature is problematic. A spring rises on the same contour 200m to the southwest and it may be that there is, and was in the Bronze Age, at least a seasonal spring adjacent to the site that could be exploited for water. As well as water the fuel used on the site indicates oak and hazel woodlands, but a relatively high proportion of hawthorn group (Maloideae) roundwood, which include species like hawthorn, crab apple, whitebeam, rowan and the wild service tree, suggests that woodland edge or hedgerows may have been exploited for fuelwood. The presence of alder suggests a water course or wetland area nearby, although the nearest stream of any size, the River Dulais, is nearly 400m to the north east, although trees may have been growing adjacent to smaller water courses. There is no indication of any wetland nearby. The stone is more difficult to source, although the site lies on the mudstones that form the mound, and with no water courses where the rocks are exposed or can be collected from the stream bed it may be that tree throws afforded the most accessible source of stone. It is unlikely that stone, water or fuel will have been brought from any distance.



- Milford Haven to Aberdulais pipeline
- Felindre to Brecon pipeline
- 0-75m contour
- 75m contour
- 200m contour
- 400m contour
- 600m contour

0 1km

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Cirencester 01285 771022
Milton Keynes 01908 218320
Andover 01264 326549
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

South Wales Pipeline. Site 25.06, Land North of Rhosmaen House, Manordeilo and Salem, Carmarthenshire

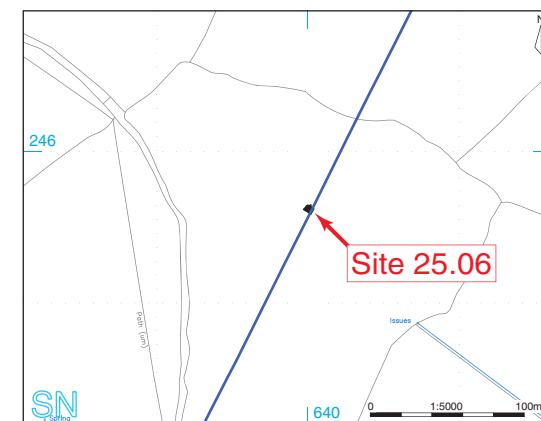
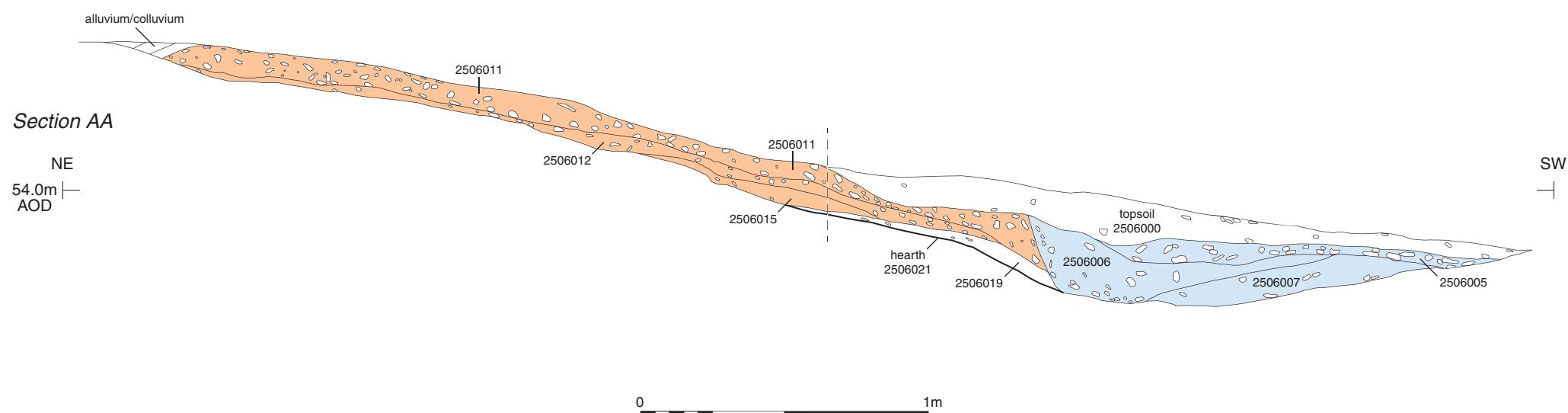
FIGURE TITLE

Site location plan

PROJECT NO. 9150 DATE 12-11-2013
DRAWN BY DJB REVISION 00
APPROVED BY LM SCALE@A4 1:25,000

FIGURE NO.

1



- pipeline centreline
- burnt mound
- palaeochannel

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Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 218320
Andover 01264 326549
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
South Wales Pipeline. Site 25.06, Land North of Rhosmaen House, Manordeilo and Salem, Carmarthenshire

FIGURE TITLE
Plan and section of burnt mound 2506011 and hearth 2506021

PROJECT NO.	9150	DATE	12-11-2013	FIGURE NO.
DRAWN BY	DJB	REVISION	00	2
APPROVED BY	LM	SCALE@A3	1:50 1:20	