THE EXCAVATION AND RE-INSTATEMENT OF A FALLEN STANDING STONE AT PENYMAEN, LLANDEGFAN, ANGLESEY, MARCH 2011

GAT Project No. G2133
Report No. 1185

Prepared for Cadw
May 2014

By George Smith
with Astrid E. Caseldine and Catherine J. Griffiths

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Cover picture:
Penymaen standing stone, An072, PRN 2176 during re-instatement, March 2011
Gwilym Pritchard, Cadwraeth Cymru (L), Wil Roberts (R)

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1. INTRODUCTION

The standing stone at Penymaen, Llandegfan, PRN 2176 SAM An072, at SH 564739, was reported to have fallen in April 2009. The landowner believed that the stone had probably been knocked over by one of his cattle or horses. The site was visited by the Cadw Assistant Inspector Ian Halfpenney and Field Monument Warden Adele Thackray in March 2010 and a recommendation was made that an archaeological excavation should be carried out of the immediate area of the stone and that the stone should then be re-instated and made secure. Gwynedd Archaeological Trust was asked to carry out the archaeological investigation and arrange for the re-instatement in co-operation with the Cadw works team *Cadwraeth Cymru*.

The standing stone at Penymaen was visited in 2002 as part of the Cadw Funerary and Ritual Monument survey. It was then recorded as having a pronounced lean to the south-east, as well as being badly trampled around the base, lowering the surrounding surface and exposing some packing stones (Figs 2a and 5a). Considering how shallowly the stone proved to have been set, it seems inevitable that it would have eventually fallen, whether leant on by cattle or not.

The fallen stone was first moved to one side. The area of the stone pit was then excavated by hand on the 2nd, 3rd and 7th March 2011 and the stone re-instated on the 8th March 2011.

Many thanks are due to the landowner, Mr. Hugh Arfon Roberts, for reporting the fallen stone, for allowing access for the work and for assisting with the stone moving and towing of equipment onto the site. The re-instatement specification and contract was organised by Stuart Brown of Cadwraeth Cymru. The work on site was carried out by the contractor Arfon Roberts of Llanrwst and by Gwilym Pritchard of Cadwraeth Cymru. The archaeological work was carried out by George Smith with the assistance of local volunteers Jeff Marples and Brian Milner.

2. TOPOGRAPHIC AND HISTORIC BACKGROUND

The stone is situated on top of a low ridge at 90m OD, just to the west of a slight summit and on which stands the remains of a windmill (Twr-y-felin). The (leaning) stone was recorded as 1.65m in height above ground when visited in 2002 and when fallen was measured to be 1.9m long and 0.5m by 0.45 in cross section and estimated to weigh in the region of 1.5 tonnes. The site of the stone has panoramic views both distantly, to the south over Snowdonia and closer views over the undulating interior of Anglesey to the north-west. The stone did not stand on the actual crest of the ridge, but slightly to the north of it, and because of the slope to the south would not have been visible from nearby lower land in that direction. The stone seems to have been meant to be seen from the north-west, from where it may have appeared on a ‘false crest’. The stone is also intervisible with another larger standing stone at Ty Gwyn (SAM An 073), which stands on a low hill summit 1km to the west (Fig. 1a).

The Ty Gwyn Stone was described by Baynes (1910) and discussed by Evans (1927, 27) and listed in the RCAHMW Inventory of Anglesey (1937). However, the Penymaen stone was not mentioned in either of these records, or by earlier antiquarians such as Rowlands or Williams although it was marked on the First Edition of the Ordnance Survey 1:2500 map of 1889 as ‘Standing stone’ (Fig. 1b). There have been two studies of standing stones on Anglesey but neither referred to the Penymaen stone (Seneglos 1937 and Wilson 1983). The Ty Gwyn stone is in the centre of an open field like the Penymaen stone, but at *c*. 3m height seems too tall to be just a Post-medieval cattle

rubbing stone. It also lies in a field called Cae'r Orsedd Fawr (Field of the Great Gathering) also called Gorsedd Meigen (May Gathering), which give the stone possible credential as a pre-Christian monument (Evans 1927, 27).

The Penymaen stone is of schist with numerous quartz veins which gives it an irregular 'patterned' appearance which is similar to that used for the Trefignath chambered tomb, Holyhead, and may have been specially valued by prehistoric peoples. It is a slightly rounded pillar with a flat break at the broader end, which formed the base of the stone. Green schist is the local bedrock and the stone could have come from an outcrop on the nearby summit. The stone has no faces of recent appearance and shows no sign of having been extracted by Post-medieval quarrying methods. Because the stone is fairly round in cross-section it has no flat faces and so cannot be said to have 'faced' in any particular direction.

The field in which the stone stood is improved pasture with a reasonable quality soil of brown earth over glacial drift over schist.

3. METHODS

After removal of the fallen stone an area of 3m by 3m centred on the stone pit was excavated by hand. Once the archaeological work was completed the stone was re-instated.

The specification and methods for re-instatement of the stone followed the architect's specification that was prepared for the re-instatement of the larger standing stone at Llanfechell (An 080) in 2010 except that as this was a smaller stone it was manoeuvred and raised into place using a small tracked excavator, rather than a crane.

The stone pit was first deepened and enlarged to allow the stone to be set about 0.20m deeper than previously to make it more secure. After sliding the stone into its approximate correct position when horizontal it was raised into place using a strap harness and then propped into place with timbers. The stone stood quite well on its flat base with a few chocking stones and was then rotated until it was standing in as close to its original orientation as could be judged, and vertical.

The base of the stone was then packed around with a mixture of granite chippings and hydrated lime along with the original packing stones. This mixture was ramped up slightly towards the stone to prevent water logging and the possible creation of another hollow by stock trampling (Fig. 1c). The trench was then backfilled with the topsoil, re-turfed and firmed down. A metal mesh security fence, *c*. 3m square, was put up around the stone, to be left for 2 weeks until the lime and granite mix was fully hardened, before allowing stock access.

4. EXCAVATION RESULTS

Excavation of the 3m square trench comprised first removal of a *c*. 0.15m layer of stone-free humic turf indicating that the field had not been ploughed for some years (Figs 2b and 3a). Below the turf two layers were present. Immediately around the stone pit was a very compact stony layer (10) and further away from the stone pit a more friable and less stony layer (3). The latter was clearly the former ploughsoil up to the limit at which ploughing had taken place, close to the standing stone.

The stone pit was oval in shape, *c*. 0.85m by 0.65m and 0.20m deep from the top of the subsoil. Its sides were steep and the bottom flat but slightly rounded. A few packing stones (of schist, like the standing stone) were still present around the edges of the stone pit but badly disturbed by the collapse of the standing stone (Figs 2b, 3a and 3b). The upper fill of the stone pit was a buff, friable silt (6) accumulated as a result of muddy water collecting in the stone pit after the stone had fallen. Removal of this and of the disturbed packing stones left a few more deeply buried and still *in situ* packing stones set in a compact buff, gritty layer (7). This seemed to be a remnant of the original fill of the pit, being subsoil from the original excavation of the pit and used to pack the standing stone. Two fragments of charcoal were found in (7), one of which was towards the edge of the pit, the other would have been under the base of the stone, when it was in place. A small fragment of glazed 19TH century pottery was found in (7), just behind one of the disturbed packing stones where its context was a little uncertain because of the recent disturbance.

5. CHARCOAL IDENTIFICATION

By Astrid E. Caseldine and Catherine J. Griffiths

Two samples were received from the standing stone pit at Penymaen for charcoal identification.

Methods
The charcoal was examined using a Leica DLR microscope with incident light source. Key characteristic features of the wood anatomy were used to identify the charcoal using identification texts (e.g. Schweingruber 1978, Schoch *et al* 2004). Nomenclature follows Stace (1991). The results are presented in Table 1.

Results
Both samples were from lower fill (7), possibly re-deposited subsoil, of the standing stone pit. One failed to produce anything identifiable but the other produced a fragment of gorse (*Ulex europaeus*) and a fragment that was indeterminable but potentially large enough for AMS dating. AMS dates of 200±30 BP (SUERC-37181) and 215±30 BP (SUERC-37182) obtained from the latter and the gorse fragment, respectively, indicate the charcoal is relatively recent. The occurrence of gorse indicates scrub in the area. It can be found in grassland, heathland and open woodland, commonly on sandy or peaty soils.

Bibliography
Schoch**,** W., Heller, I., Schweingruber, F.H., Kienast, F. 2004 *Wood Anatomy of Central European Species*. Online version: www.woodanatomy.ch
Schweingruber, F.H. 1978 *Microscopic Wood Anatomy*.
Stace, C. 1995 *New Flora of the British Isles*. Cambridge, Cambridge University Press

Table 1. Charcoal identification from Penymaen standing stone.

Taxa	Context 7
Ulex europaeus L. (Gorse)	1
Indeterminate	1

6. DATING AND DISCUSSION

The excavation did not provide any evidence of prehistoric activity from the fill of the standing stone pit or from its immediate vicinity. Ploughing had clearly taken place after the stone was *in situ*. However, the soil immediately around the stone, was somewhat more stony than the old ploughsoil and was badly affected by trampling, with modern plastic incorporated into it, so could not be said, on its surviving nature, to be a soil that pre-dated any ploughing, which would have shown some antiquity to the stone.

Nevertheless, a crucial piece of evidence is in the stone's shallow and insubstantial setting, which is typical of those excavated prehistoric standing stones (Lynch 1980, Kelly 1983). If the stone had been set up in the 18th or 19th century as a cattle rubbing stone it seems certain that it would have been more securely set in a more substantial pit and that the pit itself would have been more evidently of recent creation.

The presence of some charcoal in the otherwise sterile original pit backfill could derive from clearance of the site prior to the erection of the stone and that would in turn indicate a possible prehistoric date. The two charcoal samples were examined at Lampeter University for species identification (see above). One piece was not identifiable. The other was gorse. However, both were submitted for radiocarbon dating. The indeterminate charcoal fragment produced a statistically most likely date of 200 +/- 30 BP (SUERC-37181), 1729-1810 Cal AD. The gorse charcoal fragment produced a statistically most likely date of 215 +/-30 BP (SUERC-37182), 1735-1806 Cal AD (Appendix 1).

Although the shallow depth at which the charcoal was found makes it less reliable for dating, if this is taken alongside the other aspects of the stone, as described above, it seems most likely that it was erected around AD 1800 or a little before as a cattle rubbing stone and is not a prehistoric feature. However, the uncertainty makes it worth retaining the stone as a historic feature. In itself this result is interesting because of the 64 standing stones known on Anglesey, several could be Post-medieval rubbing stones rather than prehistoric. The work at Penymaen is the first time that archaeological excavation has been able to provide some evidence that could solve this problem, still uncertain though it is.

7. REFERENCES

Baynes, H.N. 1910-11. The Megalithic Remains of Anglesey, *Trans. Hon. Soc. of Cymmrodorion*, 3-91.
Evans, W. 1927. *The meini hirion and sarns of Anglesey*, Ben-y-bont.
Griffith, M. 1983. A fallen standing stone, *Trans. Caern. Hist. Soc.* 44, 165-6.
Kelly, R.S. 1983. *Nythfa Standing Stone, Edern, Llŷn*, GAT FI File, PRN 422.
Lynch F.M. 1980. The investigation of a standing stone at Cremlyn, Anglesey, *Trans. of the Anglesey Antiq. Soc*., 117-24.
Lynch, F.M. 1991. *Prehistoric Anglesey*, Anglesey Antiquarian Society.
RCHMW 1937. *Inventory of Ancient Monuments in Anglesey*, London.
Rowlands, H. 1723. *Mona Antiqua Restaurata*, London.
Senogles, H. 1938. The standing stones of Anglesey, *Trans. of the Anglesey Antiq. Soc*., 24-9.
Williams, G. 1988. *The standing stones of Wales and South West England*, BAR Brit. Ser. 197, Oxford.
Williams, R.T. 1890. *Derwyddiaeth: tomenau, crugiau, carneddau….meini hirion….yn Ynys Môn*, Farrant and Frost, Merthyr Tydfil.
Wilson, J.C. 1983. The standing stones of Anglesey: A discussion, *BBCS*, XXX, 363-89.

APPENDIX 1

RADIOCARBON DATING REPORT

Scottish Universities Environmental Research Centre

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RADIOCARBON DATING CERTIFICATE 29 November 2011

Laboratory Code	SUERC-37181 (GU25614)
Submitter	George Smith Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference	Penymaen standing stone LLandegfan Anglesey
Context Reference	7
Sample Reference	GATG2133-1
Material	Charcoal : Indeterminate
$\delta^{13}C$ relative to VPDB	-25.8 ‰
Radiocarbon Age BP	200 ± 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

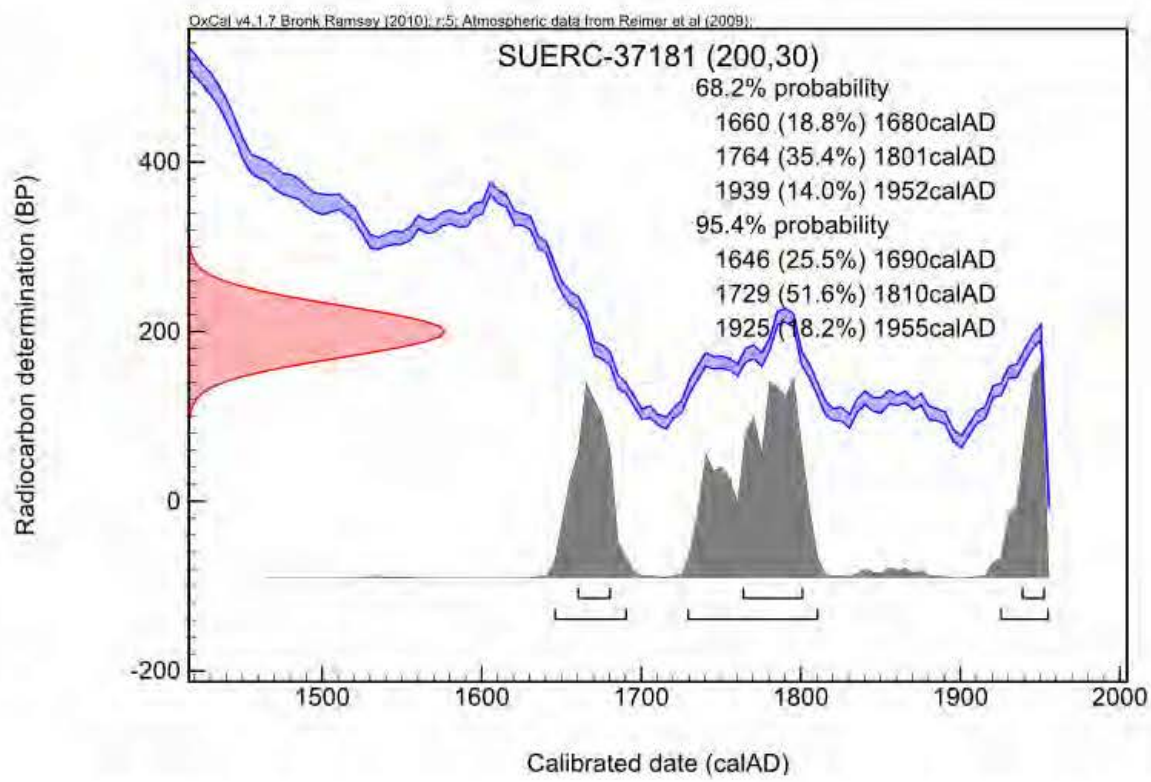
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Date :-

Conventional age and calibration age ranges calculated by :-

Checked and signed off by :- Date :-

Calibration Plot



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RADIOCARBON DATING CERTIFICATE

29 November 2011

Laboratory Code	SUERC-37182 (GU25615)
Submitter	George Smith Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference	Penymaen standing stone LLandegfan Anglesey
Context Reference	7
Sample Reference	GATG2133-2
Material	Charcoal : Ulex Europaeus
$\delta^{13}C$ relative to VPDB	-26.0 ‰
Radiocarbon Age BP	215 ± 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

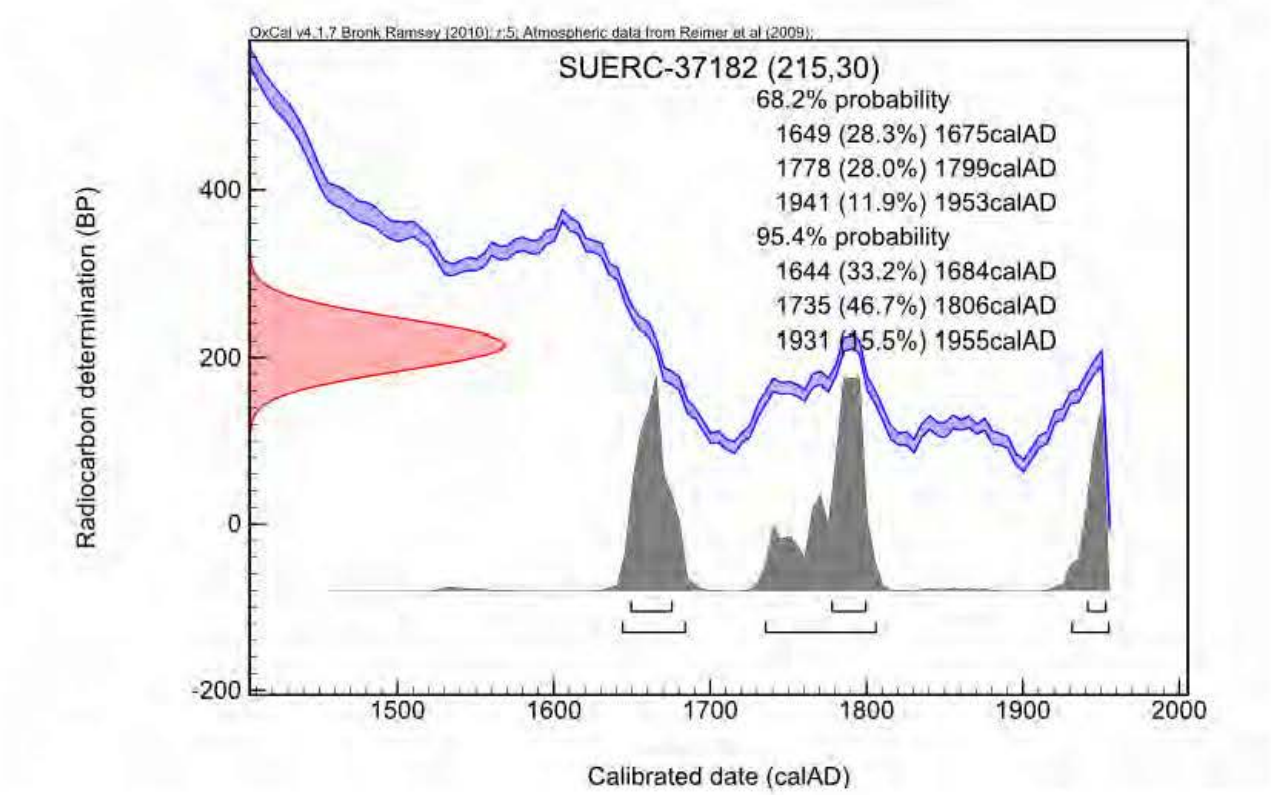
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

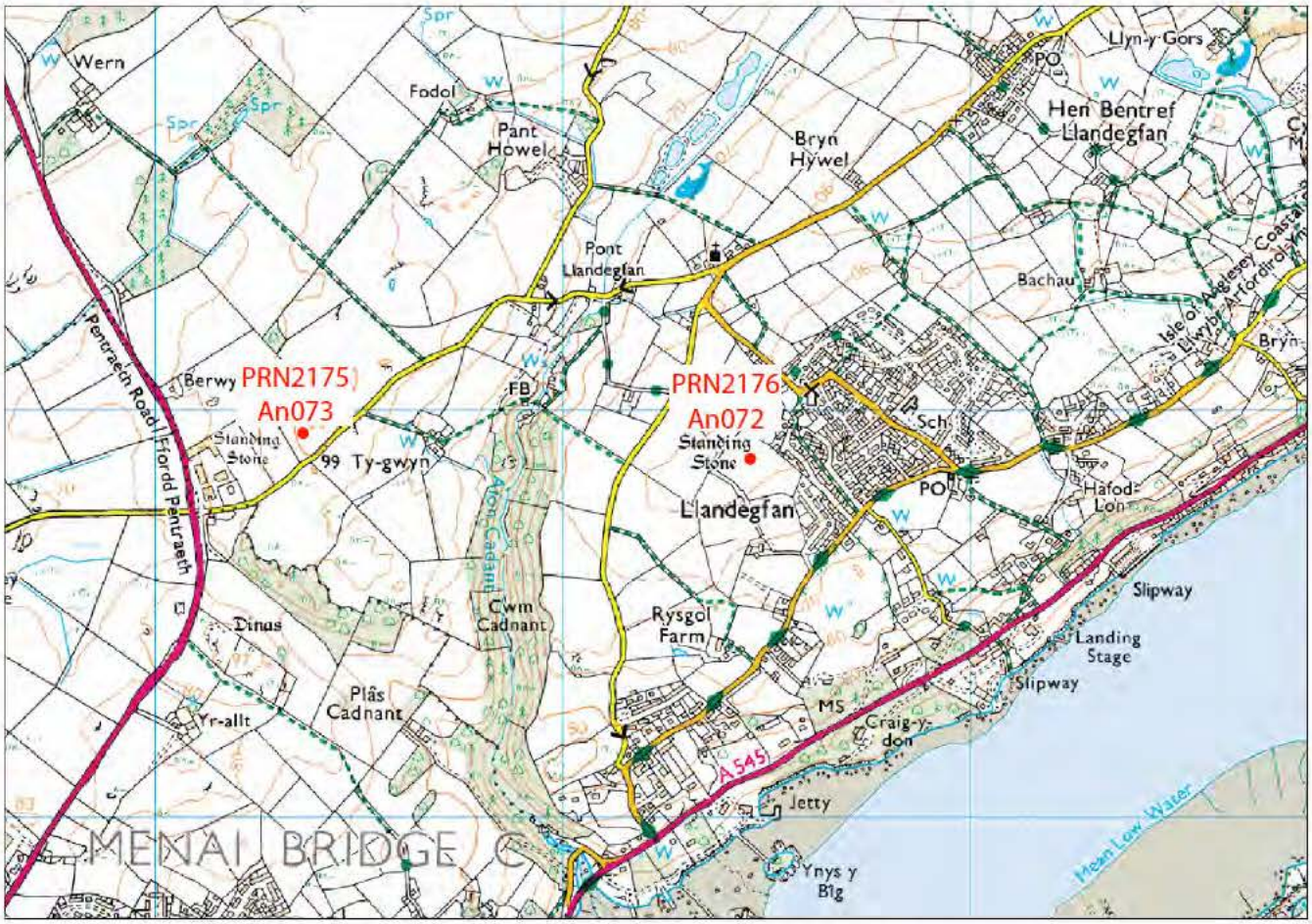
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

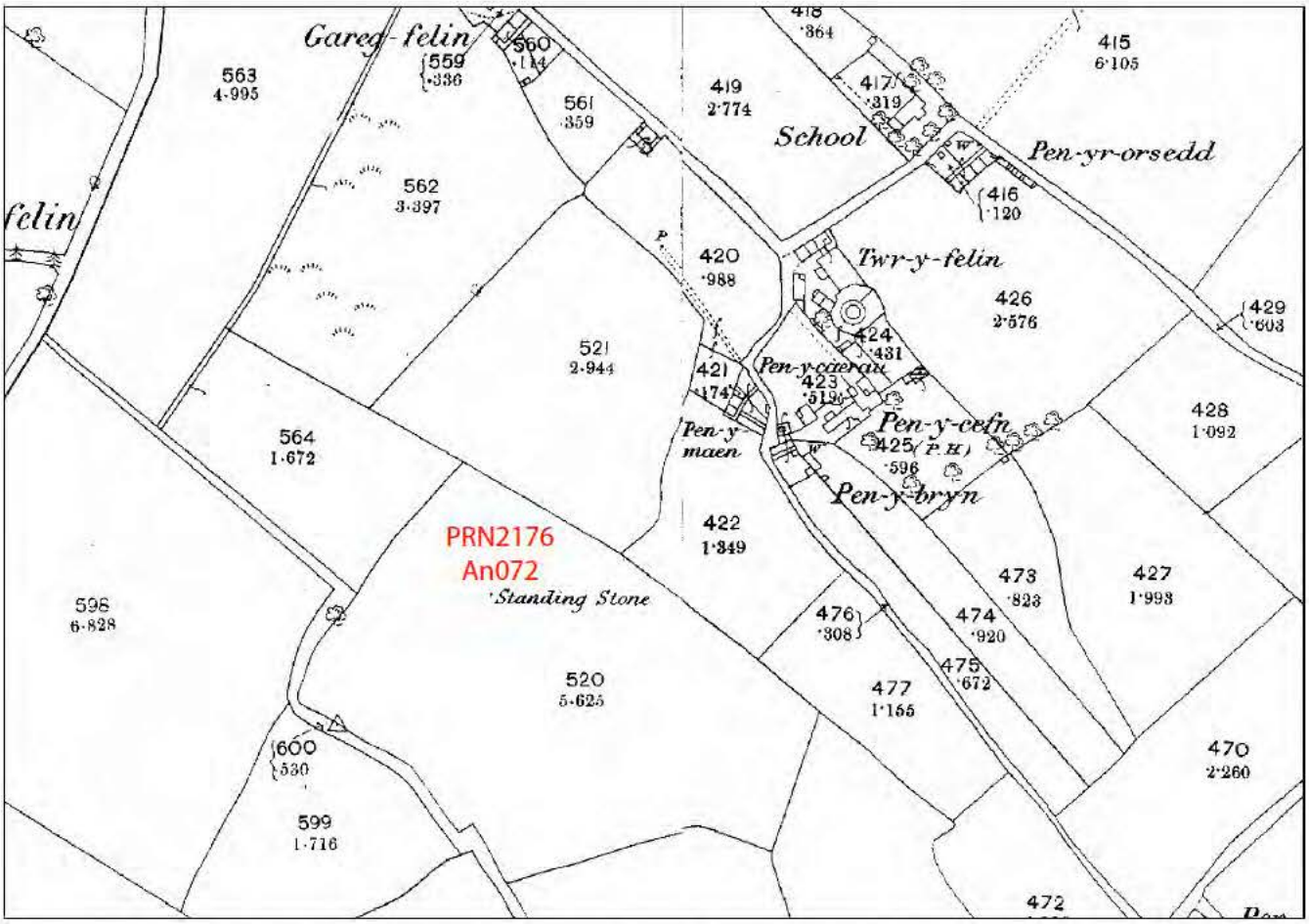
Checked and signed off by :- Date :-

Calibration Plot

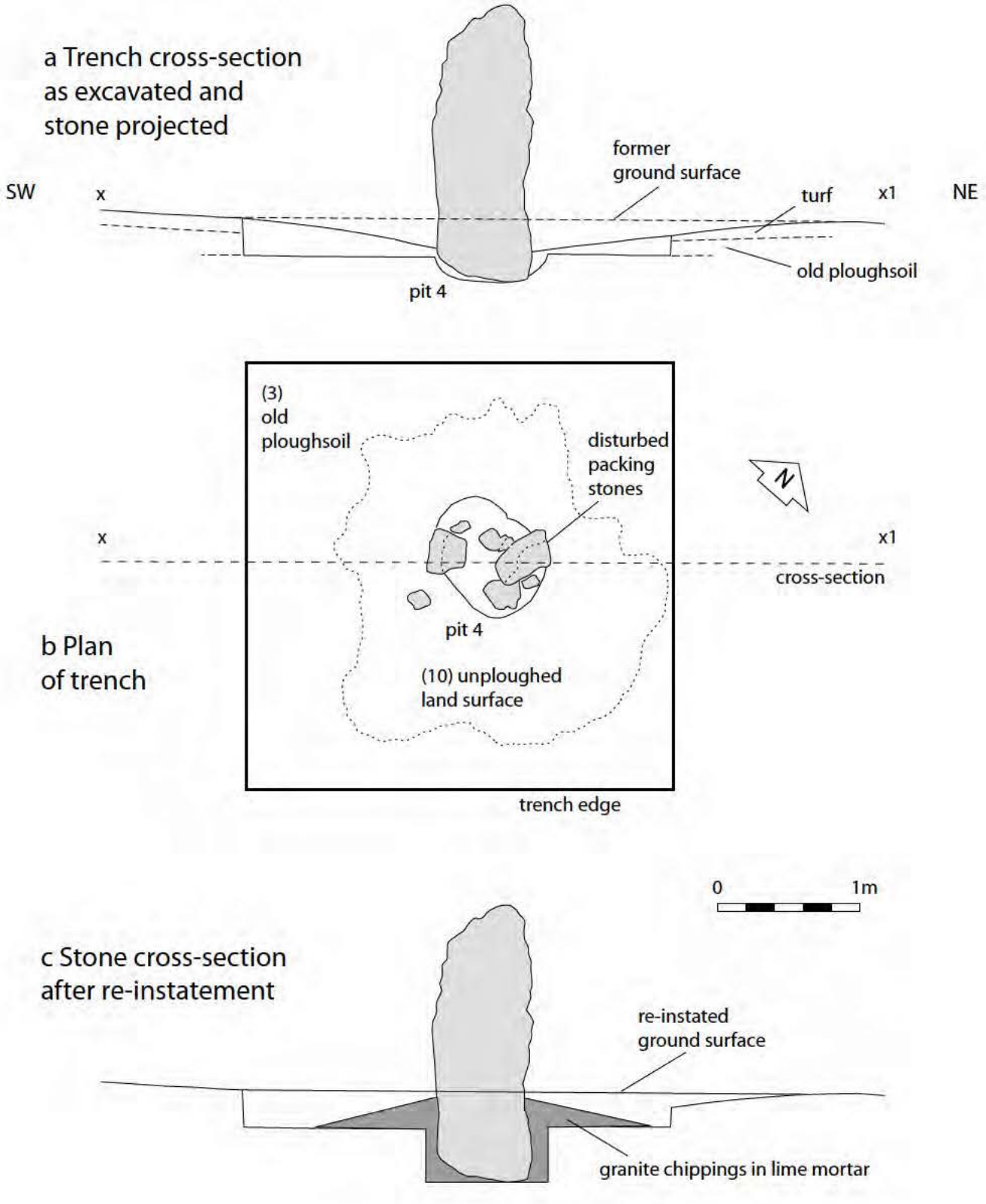




G2133 Penymaen standing stone An072: Fig.1a Location map



G2133 Penymaen standing stone: Fig. 1b 1889 1:2500 Ordnance Survey



G2133 Penymaen stone: Fig. 2 Trench cross-section and plan

G2133 Penymaen standing stone: Fig. 3a The trench after removal of recent turf, from the north-west

G2133 Penymaen standing stone:
Fig. 3b The part-excavated stone pit [4], with disturbed packing stones, from the south-east

G2133 Penymaen standing stone:
Fig. 3c The stone pit [4] after excavation, from the north-west

G2133 Penymaen standing stone: Fig. 4a Raising the stone into position

G2133 Penymaen standing stone: Fig. 4b Consolidating the stone

G2133 Penymaen standing stone: Fig. 5a The stone *in situ*, but leaning, 2002.
From the north, 1m scale

G2133 Penymaen standing stone: Fig. 5b The stone re-instated, March 2011.
From the east, 1m scale

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