

**MILFORD HAVEN TO ABERDULAIS NATURAL
GAS PIPELINE**

Final Report

Assessment Report for Stone

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RSK on behalf of NACAP Land & Marine for National Grid

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SUMMARY

A small collection of stone was recovered. Much of this material was collected as being potentially burnt, from both hand collection and sieving. Only a small number of pieces show undisputable evidence for burning however. The collection also includes a probable hammerstone.

The finds come from the counties of Carmarthenshire, Pembrokeshire and Swansea (Table 1).

Table 1

category	Carmarthenshire	Pembrokeshire	Swansea	Grand Total
MODIFIED	231	1		232
POSSIBLY MODIFIED	207	13		220
UNWORNED AND UNMODIFIED WORKED	63	114	2	179
Grand Total	501	129	2	632

1 INTRODUCTION

This report deals with stone finds from various sites on the Milford Haven to Aberdulais Natural Gas Pipeline (Site Code: MHA 06). A total of 632 objects were submitted. Of these, 166 were recovered by hand and 466 were small, recovered through sieving. Table 2 shows the quantities in each group identified as worked, modified, possibly modified or neither.

Table 2

category	hand recovered	sieved residue	Grand Total
MODIFIED	105	127	232
POSSIBLY MODIFIED	22	198	220
UNWORNED AND UNMODIFIED	38	141	179
WORKED	1		1
Grand Total	166	466	632

2 **METHODOLOGY**

Each recovered item was examined visually by the authors, looking at the type of stone, traces of use or modification and any evidence for post-burial alteration. A catalogue was produced using the standard Access-based table adopted for all AVAC finds projects.

Visual examination was supplemented by examination using a x20 magnification stereo-microscope to examine rock type and wear traces.

The principal questions asked of the material were:

- a) has the material been modified by deliberate human activity and, if so, can we identify the object?
- b) is the material the by-product of a human activity?

If the answer to both questions is negative then it is assumed that the material is an unmodified stone which was either present in the subsoil before any human activity took place or was brought to the site by human agency but was unchanged by this action. Neither author visited the site during the excavation. Therefore, we cannot say whether the stones are of types naturally present on the site or not.

3 ASSESSMENT OF ASSEMBLAGE

3.1 Quantity

The submitted stones vary considerably in weight, from large rocks to small scraps recovered in sieved samples. Table 3 quantifies the material by count, the number of objects represented (i.e. old and new breaks are ignored) and weight in grams.

Table 3

CATEGORY	Condition	Fragments	Objects	Weight
MODIFIED	hand recovered	105	105	3485
	sieved residue	127	124	50
POSSIBLY MODIFIED	hand recovered	22	11	609
	sieved residue	198	196	55
UNWORNED AND UNMODIFIED	hand recovered	38	36	3322
	sieved residue	141	141	160
WORKED	hand recovered	1	1	1336
Grand Total		632	614	9017

3.2 Provenance

Those stones which might be worked or modified are listed in Table 4 by plot and context.

Table 4

Site	RDX/Field number	Fragments	Objects	Weight
16	RDX 135.14	2	1	6

18	RDX 134.2	6	6	88
19	RDX 134.2	4	4	8
200	RDX 144.15	4	3	27
222	RDX 148.4	171	170	29
257	RDX 174.1	4	1	114
286	RDX 179.9	1	1	3
500	RDX 145.1	18	18	55
503	RDX 148.5	233	229	3695
504	RDX 166.14	8	2	148
506	RDX 154.4	1	1	26
511	RDX 185.3	1	1	1336
Grand Total		453	437	5535

With very few exceptions, stone artefacts can only be broadly dated unless they occur in a sealed, stratified deposit associated with datable artefacts belonging to a single period.

3.3 Range & Variety of Material

3.3.1 Stone type

Much of the collection consists of fine-grained rocks present as small fragments where macro-features such as bedding are either absent or cannot be distinguished from jointing or metamorphic foliation. Details of the mineral content in these fine-grained rocks cannot be determined by eye. Nevertheless, at least six different rock types are present:

- Conglomerate: this is probably of Old Red Sandstone age and outcrops locally in the Skrinkle Sandstones ({Neville George 1970 #49293} , 54). Only a few fragments are present, including some well-rounded quartzite pebbles to which hard silicious cement still adheres.
- Sandstone and siltstone: This is the most common group and consists of brown to red fine-grained rocks with some bedding visible and rare fossils present mainly as voids.
- Shale: Fragments of shale with prominent bedding and plant fossils are present. Shales outcrop within the Old Red Sandstone as lenses in sandstone deposits but are more common in the Carboniferous coal measures, the nearest outcrop of which is to the north of Milford Haven.
- Altered volcanic rock. A single fragment of a fine-grained purple rock is traversed by irregular circular pipes, partially filled with white crystalline minerals. This, it is suggested, is a fragment of an altered volcanic rock. Since there is no evidence that the rock was modified or utilised no further attempt to identify it has been made.
- Chalk. Two fragments of chalk, both elongated pebbles of soft chalk with parallel veins of sparry calcite running across the rock, were present. These are presumably erratics of Northern Irish origin and originated in a Quaternary deposit, such as boulder clay, morainic gravel or a raised beach deposit (where they could have been present as drop stones, carried by icebergs).
- Carboniferous limestone. A single eroded fragment of grey limestone with several large coral fossils present is almost certainly Carboniferous limestone. This rock outcrops on the Gower Peninsular to the south and west of Milford

Haven (Neville George 1970 #49293, 58-72) and could have been present in a raised beach deposit or even modern beach deposit.

- Slate: A few fragments of blue slate roofing tiles were recovered. Slates formed by the compression and shearing of various Palaeozoic shales occur in various parts of Wales and the South-west peninsula. They have been worked in Cardiganshire and Pembrokeshire (Ordovician and Silurian); Llanberis and Bethesda (Cambrian) and Blaenau Ffestiniog (Ordovician). However, these examples could as easily be from North Devon.

3.3.2 Unused stone

The majority of the stone finds show no conclusive evidence for human modification nor for their use as “found objects”. Several objects show some possible evidence for burning, but in many cases this consists of alteration of the natural reduced grey colour of shales and siltstones. Neither of these materials, however, would make very suitable pot boilers or steam generators, because of the softness and fine texture of the rock. Heating a rock of this sort and plunging it into water is likely to cause total disintegration of the rock rather than its cracking into the sort of fragments recovered from these sites. It is therefore our opinion that most of the stone which we label “burnt?” is in fact not.

3.3.3 Burnt stone

Table of burnt and burnt? stone
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3.3.4 Hammer stones

Provide a brief description of the assemblage and any similarities/differences including any bias towards collection/sampling strategies.

3.4 Condition of Material

Most of the stone consists of quartz-rich siltstones, sandstones and conglomerates which are unaffected by most burial conditions. A few fragments of limestone (chalk and a grey limestone containing fossil corral) show signs of chemical erosion, sufficient to remove any traces of wear or other use but not sufficient to suggest that material of this type has been selectively removed from the site. All of the stone is capable of being stored in perpetuity without further decay.

3.5 Statement of Potential

3.5.1 Hammer stones

The possible hammer stones are relevant to any study of Mesolithic, Neolithic or Bronze Age flint tool production. However, they can only be dated through association. In many cases the actual evidence for use is limited and might be due to natural agencies.

3.5.2 Burnt stones

The possible burnt stone may have been associated with burnt stone mounds, sites located near running water and usually on the edge of, or at some distance from, more permanent settlement. These mounds have been suggested to have been used in food preparation, or bathing or perhaps ritual cleansing (in the manner of a modern sauna). Alternatively, they may have been used as pot boilers to heat water without subjecting the container to flames.

3.5.3 Hone stones

The small number of hone stones has a limited potential for study, but only if their date can be determined.

3.5.4 Roofing slates

A handful of fragments of blue slate are clearly from roof slates of post-medieval or later date. There are too few with measureable dimensions or other traits for comparative analysis and therefore this material has limited potential for further study.

3.6 New Research Questions and Potential of Data

The stone finds raise no research questions which are not noted above.

3.7 Recommendations

State whether further work is required or not. In the event that further work is considered appropriate, list any recommendation for further analysis and provide justification. This might include supporting statements explaining how the assemblage could be used to answer research questions.

Bibliography

Reference sources used

Glossary

Description of specialist terms used and any abbreviations

Appendix - Catalogue of Finds

The catalogue should provide details of all finds examined as part of the assessment.

All find data must be entered into the catalogue with its associated find ID numbers and location identifiers, which will include as a minimum the plot number. Suggested minimum field headings are as follows:

- Find location identifiers (e.g. plot no./ trench no. / area subdivision)
- Find ID numbers (e.g. context no. / registered find no.)
- Material type
- Form
- Assigned date or date range (where possible) - refer to table in Period Guidance below
- Assigned period (and sub-period, where possible) - refer to table in Period Guidance below
- Count
- Weight

The assessment catalogue of finds should be sorted in ascending order as follows:

1. Plot number
2. Context number
3. Registered find number (if applicable)