



ULSTER
ARCHÆOLOGICAL
SOCIETY

Survey Report

Reference: **Survey Report No. 56**

Author: **Harry Welsh**

Location:

**Horse Gin
Creevyloughgare
Saintfield
County Down**

In association with:

Ireland's Authentic Heritage



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Ulster Archaeological Society

c/o School of Geography, Archaeology and Palaeoecology

The Queen's University of Belfast

Belfast BT7 1NN

Cover illustration: Creevyloughgare horse gin, looking south-west

CONTENTS

| List of figures | Page |
|-------------------------------------|------|
| 1. Summary | 5 |
| 2. Introduction | 6 |
| 3. UAS Survey 16 August 2015 | 9 |
| 4. Discussion | 16 |
| 5. Recommendations for further work | 18 |
| 6. Bibliography | 18 |
| Appendix: Photographic record | 19 |

LIST OF FIGURES

Figures

| Page | |
|------------------------------------------------------------------------|----|
| 1. Location map for Saintfield, County Down | 5 |
| 2. OS County Series; First Edition; Down; Sheet 23 (part of) 1834 | 7 |
| 3. OS County Series; Second Edition; Down; Sheet 23 (part of) 1860 | 7 |
| 4. OS County Series; Third Edition; Down; Sheet 23 (part of) 1900-1901 | 8 |
| 5. Plan of horse gin and vernacular buildings | 9 |
| 6. Horse gin, with Structure A in background, looking west | 10 |
| 7. Cast iron cog, with 2 missing teeth | 11 |
| 8. Cast iron machinery part, probably part of the drive shaft | 11 |
| 9. Cog wheel, supporting struts and rotating arms | 12 |
| 10. Structure A, with mezzanine and gable window, looking south | 13 |
| 11. Revetment to horse walk at east of Structure A, looking east | 14 |
| 12. Remains of Structure C, looking east | 15 |
| 13. Machinery parts on wall adjacent to Structure E | 16 |
| 14. Cog wheel adjacent to Structure E | 16 |
| 15. Gate post, looking south | 17 |
| 16. Roadside well, looking south | 17 |

1. Summary

1.1 Location

A site survey was undertaken at the site of a horse gin, partially exposed during an archaeological excavation in August 2015. The site is in the townland of Creevyloughgare, in the parish of Saintfield and barony of Castlereagh Upper, County Down, Irish Grid Reference J 4089 5758. The site is approximately 1km south-west of Saintfield village (Figure 01). This feature formed part of a wider and on-going archaeological investigation into a wider landscape, which includes standing stones, field systems and vernacular buildings. The survey was the fifth in a series of planned surveys undertaken by members of the Ulster Archaeological Society during 2015.

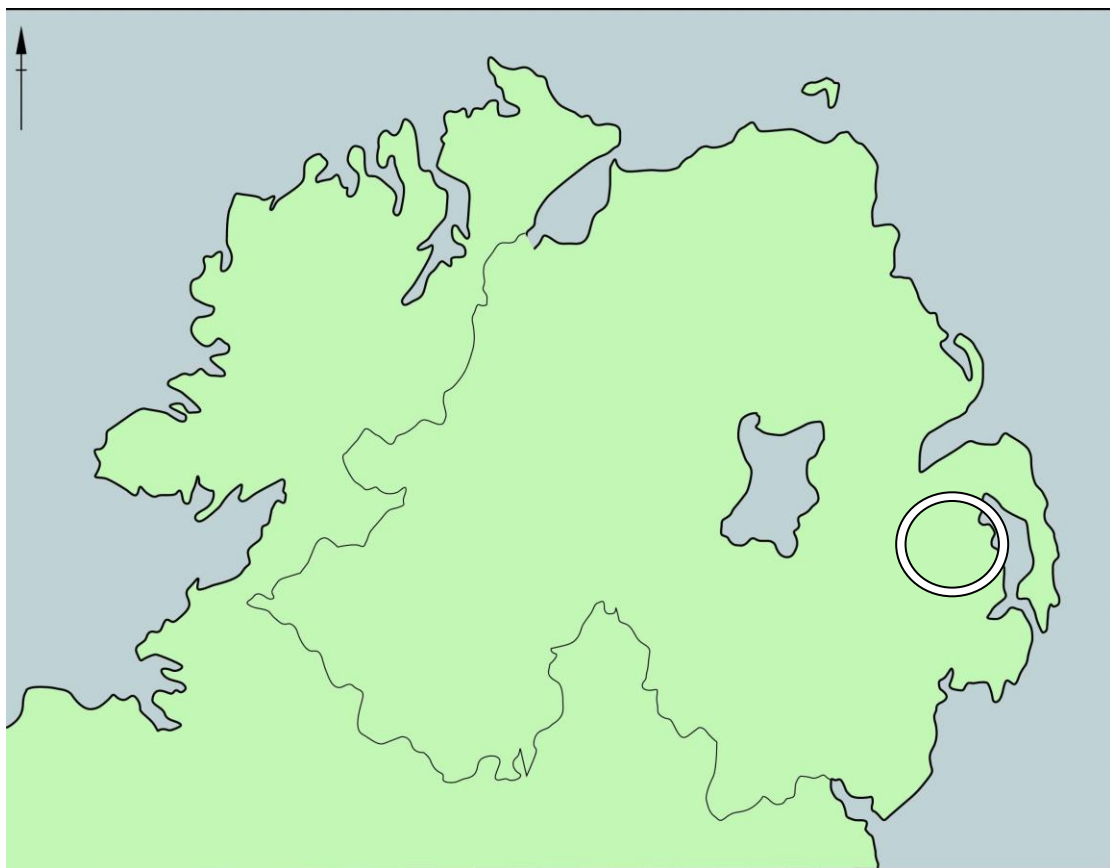


Figure 01: Location map for Saintfield, County Down

1.2 Aims

In order to enhance the archaeological record of this site, the aims of this survey were to produce accurate plan drawings of the monument and carry out a photographic survey. This information was compiled into a report and copies submitted to Ireland's Authentic Heritage and to the archives of the Ulster Archaeological Society.

1 2. Introduction

2.1 Background

The survey of the horse gin and associated vernacular buildings was undertaken on Sunday 16 August 2015. It was carried out by members of the Ulster Archaeological Society, in response to a decision taken by the committee of the society to extend an opportunity to members to participate in practical surveys of archaeological monuments that had not previously been recorded. This followed a bequest to the society from the late Dr Ann Hamlin, from which the items of survey equipment were purchased. The remains of the horse gin had been partially exposed during archaeological excavations in August 2015, undertaken by *Ireland's Authentic Heritage* and directed by Dr Brian Williams of the Department of the Environment: Historic Environment Division (DOE). The survey group were invited to investigate the remains of a horse gin that had been discovered at the site, following previous reports into horse gins at Greenhill, Annahilt (Gillespie 2007) and Rowallane Gardens, Saintfield (Welsh 2015).

2.2 Previous archaeological surveys

As far as it is known, there has been no previous archaeological survey of features related to the vernacular buildings at this site. However, three prehistoric standing stones are located in the same area and these are recorded in the Sites and Monuments Record maintained by the DOE as DOW 023:046.

2.3 Cartographic Evidence

The site of the vernacular buildings is recorded on the First Edition Ordnance Survey map of 1834 and shows ranges of buildings to the north and south of the roadway. The range of buildings which were surveyed lies to the north of the roadway, but appears to consist of Structures E and D (Figure 02).

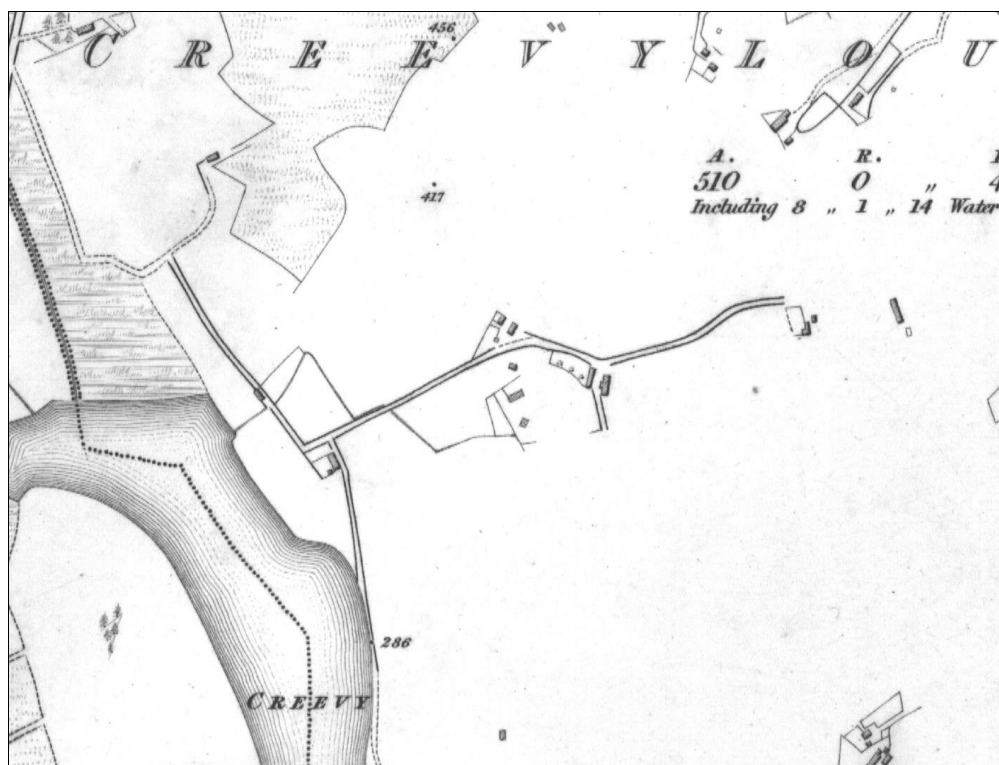


Figure 02: OS County Series; First Edition; Down; Sheet 23 (part of) 1834

By the date of the Second Edition map in 1856, the range of buildings appears to have been extended to the south as far as the roadway, probably including Structure A, but the horse gin is not marked (Figure 03).

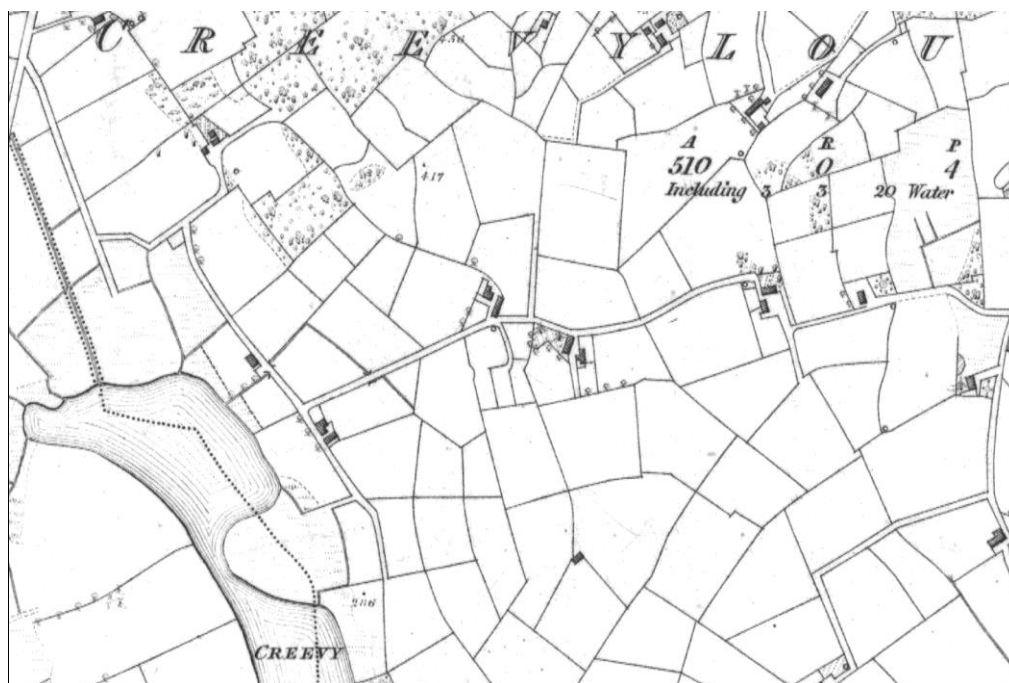


Figure 03: OS County Series; Second Edition; Down; Sheet 23 (part of) 1860

By the date of the Third Edition map in 1901-1902, little has changed in the immediate area of the vernacular buildings surveyed (Figure 04).

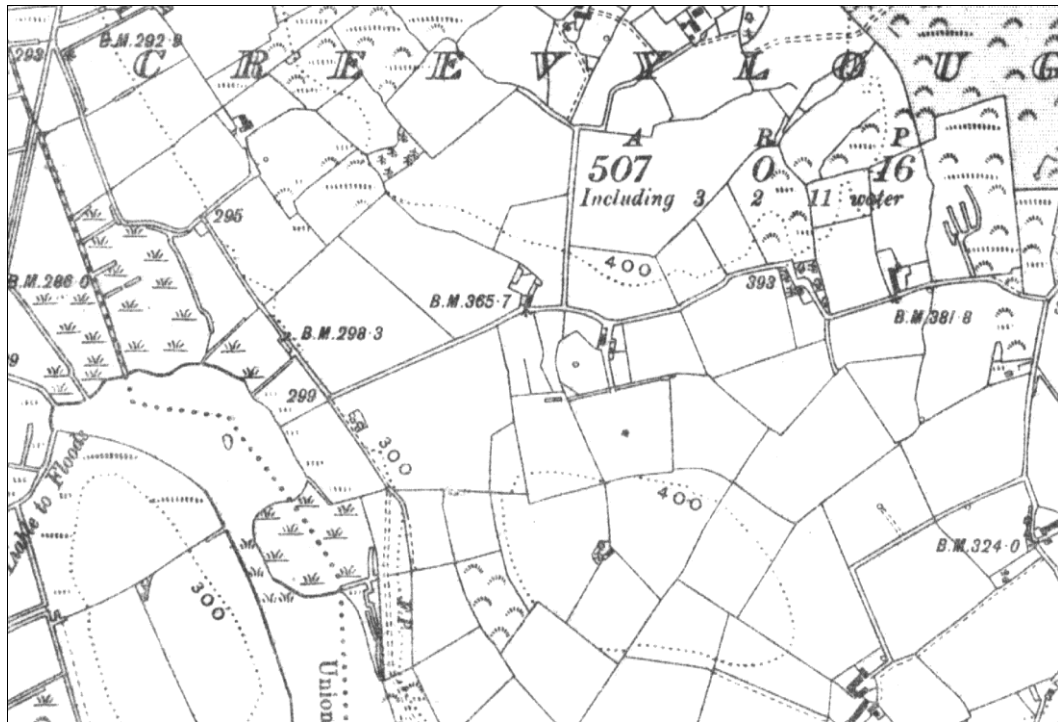


Figure 04: OS County Series; Third Edition; Down; Sheet 23 (part of) 1901-1902

2.4 Archiving

Copies of this report have been deposited with *Ireland's Authentic Heritage* and the Ulster Archaeological Society. All site records have been archived by the Honorary Archivist, Ulster Archaeological Society.

2.5 Credits and Acknowledgements

The survey was led by Harry Welsh and included Ian Gillespie, Yvonne Griffiths and June Welsh. The Ulster Archaeological Society is particularly grateful to Dr Brian Williams, who worked closely with the survey team in choosing the site and facilitating access.

3. UAS Survey 16 August 2015

3.1 Methodology

It was decided that the survey would take the form of the production of plan drawings, accompanied by a photographic survey. This report was compiled using the information obtained from these sources, in addition to background documentary material.

3.2 Production of plan drawings

Plan drawings and elevations were completed, using data obtained from the field survey. Measurements were obtained by using the society's *Leica Sprinter 100* electronic measuring device. Sketch plans at 1:100 scale were completed on site by recording these measurements on drafting film secured to a plane table and backing up the data on a field notebook for subsequent reference. Field plans were later transferred to a computer-based format for printing.

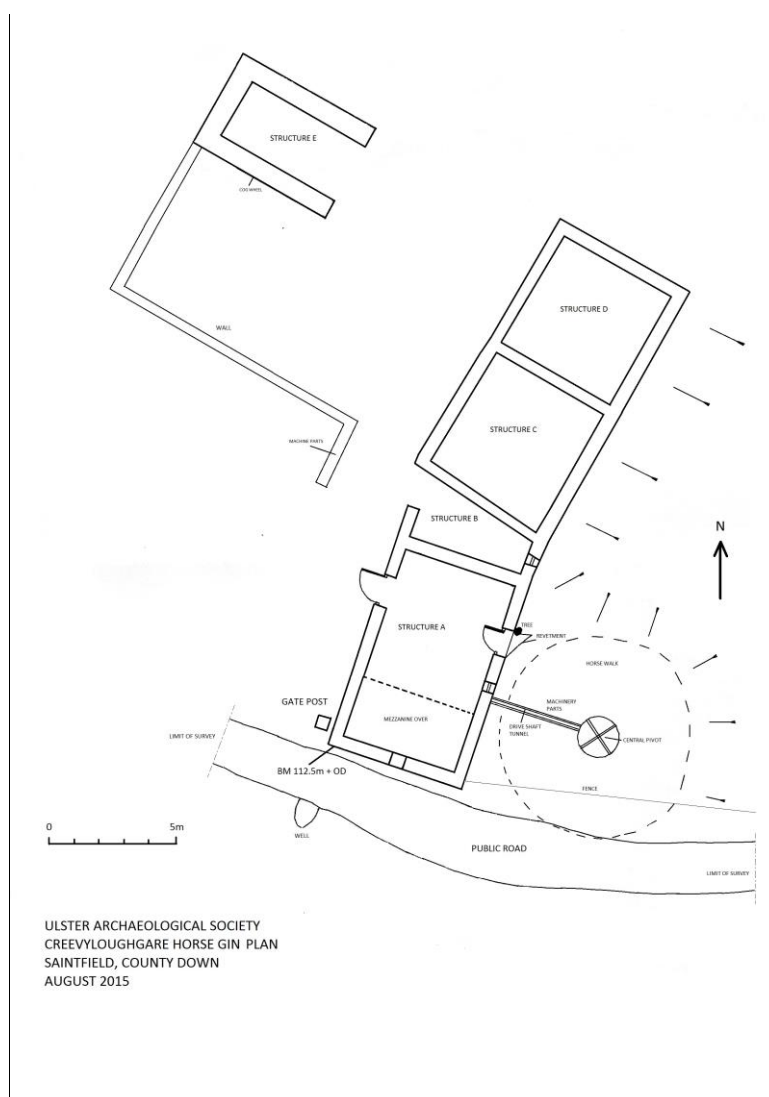


Figure 05: Plan of horse gin and vernacular buildings

3.3 Photographic archive

A photographic record of the site was taken by using a *Ricoh G600* 8 megapixel digital camera and a photographic record sheet was employed, corresponding to photographs taken during the site survey on 16 August 2015 and on a previous site visit on Tuesday 4 August 2015. The archive has been compiled in jpeg format and saved to compact disc.

4. Description of features

The principal aim of the survey was to record the part of the horse gin mechanism that had been exposed during the archaeological excavations of August 2015. However, it was observed that the remains of a number of vernacular buildings were present in the area and these were also investigated.

4.1 Horse Gin

The remains of the horse gin consist of the central drive mechanism, set within a stone-built pit and a stone-built tunnel, which held the drive shaft that connected the central drive mechanism and the machine that it powered in an adjacent building (Structure A). There is no visible evidence of this machine inside the building. A surface artefact (one sherd of pottery) was recovered from the horse gin pit during the survey.



Figure 06: Horse gin, with Structure A in background, looking west

Two machine parts were observed in the immediate area of the excavation and were presumed to be part of the drive mechanism and connecting rod assembly. One of these parts, a toothed cog (Figure 07), displayed damage in the form of two broken

teeth, which would have rendered the gin inoperative. The cog is 26cm in diameter and 11cm thick.



Figure 07: Cast iron cog, with 2 missing teeth [scale 0.25m]



Figure 08: Cast iron machinery part, probably part of the drive shaft [scale 1m]

The central pivot of the horse gin consists of a stone-built circular pit, 1.68m in inner diameter. Set within this is a cast iron circular cog wheel, 1.60m in outer diameter and 1.41m in inner diameter, with 96 teeth regularly spaced on the upper surface. The cog wheel has 8 integral and supporting cast iron spokes. There are 4 regularly spaced

supporting struts, each secured into the stone-built pit immediately above the cog wheel and attached to a cast iron collar to the central pivot, 8cm in diameter. These are to prevent the central shaft from oscillating while the gin is being operated. At the top of the pivot shaft, 2 operating arms are set at right angles, one above the other, presumably to accommodate the attachment of several horses at the same time, which may have been necessary due to the limited diameter of the horse walk. The lower arm is 1.22m in length, 0.12m in width and the upper is 0.89m in length, 0.12m in width. The gin mechanism is 0.64m from the base of the pit to the top of the upper operating arm and the top of the upper operating arm is 0.5m above the surface level of the horse walk (Figure 09).



Figure 09: Cog wheel, supporting struts and rotating arms
[scales 1m vertical, 0.5m horizontal]

4.2 Vernacular buildings

Immediately to the north of the horse gin are the remains of a range of vernacular buildings. These were given individual designation (Structures A-E) by the survey group to facilitate the survey.

4.2.1 Structure A

This building is substantially complete. It is rectangular in plan, 10.1m in length north/south by 4.6m east/west. There are doors present in the east and west walls. A mezzanine floor, without access, is present at the southern part of the building, where it extends across the entire width of the building and 2.4m to the north. It is of timber joists set on wall plates with plywood flooring. The walls are of split stone, bonded with lime mortar and are 0.5m in thickness. They stand to a height of 2.4m at the east and west and gables at the north and south stand to a height of 4.4m. The building is currently roofed with corrugated iron sheeting on timber rafters, with two translucent

corrugated plastic panels on the eastern side to provide natural lighting. The floor is of loose stones, with patches of lime mortar visible.



Figure 10: Structure A, with mezzanine and gable window, looking south

There is a blocked window opening at the east, with a blocked hole below, which probably provided access for the drive shaft from the horse gin adjacent. A further window opening is present at the apex of the south gable.

The doorway at the east leads directly to the horse walk associated with the gin, via a single step of 0.5m in height, which is formed by the stone revetment of the horse walk (Figure 11). It is probable that Structure A was already extant when the decision was made to construct the horse gin. The restricted space to the east determined the small diameter of the horse walk and the necessity to construct it as close as possible to the east wall of the building, thus creating the step. Another consequence of this decision was that there was no access for horses to the gin through Structure A and these must have been brought directly from the south, where the roadway now stands. An Ordnance Survey bench mark (365.7ft [112.5m] + OD) is located close to the south-west corner of the building.



Figure 11: Revetment to horse walk at east of Structure A, looking east

4.2.2 Structure B

Structure B is located adjacent to the north gable of Structure A and an uninterrupted length of stone walling at the west suggests that the two buildings were constructed at the same time. The structure has substantially collapsed and large amounts of stone debris are present. Fragments of roofing slates are present in the building debris, suggesting that the building had been roofed with slate immediately prior to its collapse. Structure B is trapezoidal in plan, 1.6m in width at the east and 3m in width at the west. The north gable of Structure A forms the south wall of Structure B. The unusual plan was necessary to turn the alignment of these buildings to reflect the shape of the hillside in this area. A window opening, 0.5m in width by 0.68m in height, is present in the east wall and is splayed to the interior to improve the ingress of light here. The remains of an entrance are present at the north of the west wall.

4.2.3 Structure C

Structure C is the remains of another collapsed building, immediately to the north of Structure B. The remains consist of low, rubble strewn walls forming a rectangular building 5.46m in width (north/south) by 4.9m (east/west). Fragments of corrugated iron sheeting are present in this area and may represent part of the roof structure. The walls appear to be of dry stone construction.



Figure 12: Remains of Structure C, looking east

4.2.4 Structure D

Structure D is the remains of a third collapsed building, immediately north of Structure C. The remains consist of low, rubble-strewn walls forming a building trapezoidal in plan, 5.88m in width at the east and 6.3m in width at the west. The north wall appears to be communal with the south wall of Structure C and is 4.9m in length (east/west). The south wall is also 4.9m in length and forms the end wall of the range of buildings.

4.2.5 Structure E

Evidence of one further vernacular building is present 8.6m due west of Structure D. The remains represent a collapsed building and consist of low, rubble-strewn walls forming a rectangular building 6m in length (east/west) by 4m in width (north/south). The walls are substantial, at 0.8m in thickness and the remains of a doorway are present at the east. The remains of a low wall extend to the south from the southwestern corner of this building, turning to the east and then south, to form an enclosed area, or yard, with access to Structures A-E. A cast iron cog wheel was observed, resting against the south wall of Structure E (Figure 14). The cog wheel was 66m in diameter and 7cm thick. Three further cast iron machinery parts were observed to be resting on top of the low wall due east of Structure B (Figure 13).



Figure 13: Machinery parts on wall due east of Structure B [scale 0.5m]



Figure 14: Cog wheel adjacent to Structure E [scale 0.5m]

4.3 Gate post

A single gate post is present at the entrance to the site, located at the south-west corner of Structure A. It is 0.74m in length (east/west) by 0.68m in width (north/south) and currently stands 2m in height. A rebate is present at the north-west corner, probably to accommodate a gate, which is no longer present. There is no visible evidence of a second gate post.



Figure 15: Gate post, looking south

4.4 Roadside well

A roadside well is located across a lane, 4m to the south of Structure A. It is 0.75m in width (east/west), by 1.05m in length (north/south). It is 0.7m in height, of dry-stone construction and is partially roofed at the south with stone corbelling.



Figure 16: Roadside well, looking south

5. Recommendations for further work

The area surveyed here represents a small part of what is an extensive area of activity, which includes prehistoric standing stones, field walls and vernacular buildings. It represents a fertile source of information, through excavation and research, which could add greatly to the heritage of this area.

6. Bibliography

- Gillespie, I. 2007. *Survey of Greenhill, Annahilt, Co. Down*, Survey Report No. 5, Belfast: Ulster Archaeological Society.
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- Welsh, H. 2015. *Rowallane Gardens, Saintfield, County Down*, Survey Report No. 44, Belfast: Ulster Archaeological Society.

APPENDIX: PHOTOGRAPHIC RECORD FORM

Site: Horse Gin, Creevyloughgare, County Down

Date: 4 August 2015 and 16 August 2015

Make and model of camera...*Ricoh G600 Wide* 8 Megapixel

| Frame no | Looking | Details |
|-----------------|----------------|-------------------------------------------------|
| RIMG0001 | south | View of Structure A mezzanine |
| RIMG0002 | east | Horse walk revetment |
| RIMG0003 | south | Gatepost |
| RIMG0004 | south-east | Gatepost showing rebate |
| RIMG0005 | south | Roadside well |
| RIMG0006 | south | Roadside well |
| RIMG0007 | north | Benchmark at Structure A south gable |
| RIMG0008 | north | South gable of Structure A |
| RIMG0009 | east | Lane to south of Structure A |
| RIMG0010 | west | Machine parts to west of Structure C |
| RIMG0011 | South | Machine parts to west of Structure C |
| RIMG0012 | South | Machine parts to west of Structure C |
| RIMG0013 | south | Machine parts to west of Structure C |
| RIMG0014 | north | Cog wheel adjacent to Structure E |
| RIMG0015 | north | Cog wheel adjacent to Structure E |
| RIMG0016 | north | Cog wheel adjacent to Structure E |
| RIMG0017 | north | Cog wheel adjacent to Structure E |
| RIMG0018 | north-west | view of machinery parts on top of wall |
| RIMG0019 | east | Slate fragments in Structure C |
| RIMG0020 | east | Window opening in Structure B |
| RIMG0021 | east | Structure C |
| RIMG0022 | east | Door opening and step to horse walk Structure A |
| RIMG0023 | east | Cog with missing teeth adjacent to gin |
| RIMG0024 | east | Horse gin central pivot |
| RIMG0025 | west | Horse gin central pivot |
| RIMG0026 | west | Drive shaft tunnel |
| RIMG0027 | west | Vertical view of central pivot |
| RIMG0028 | south | Part of drive shaft |
| RIMG0029 | south-east | Horse walk |
| RIMG0030 | north | Drive shaft bearing (east) |
| RIMG0031 | north | Drive shaft bearing (west) |
| RIMG0032 | west | Drive shaft tunnel |
| RIMG0033 | south-west | Horse walk and gin |
| RIMG0034 | south-west | Horse walk and gin |
| RIMG0035 | south-east | Horse walk and gin |
| RIMG0036 | west | Doorway into Structure A from horse walk |
| RIMG0037 | east | Structure A, sealed entrance of drive shaft |