# Carsegowan munitions factory, Wigtown, Dumfries and Galloway

## Historic building record

Report by John Pickin Archaeology and Heritage June 2015

**Carsegowan munitions factory, Wigtown, Dumfries and Galloway**

**Historic building record**

**June 2015**

**DGC planning reference 14/P/1/0683**



---


John Pickin Archaeology and Heritage. High Weirston House, Leswalt, Stranraer

Dumfries and Galloway DG9 0RQ

Tel: 01776 870270 E-mail: pickinjohn@gmail.com

**Historic building record: Carsegowan munitions factory, Dumfries and Galloway (NX 4298 5955; DGC HER: MDG 11564; Canmore ID: 105895)**

## 1 BACKGROUND

1.1 Planning approval has been given by Dumfries and Galloway Council for the change of use pf part of the former Carsegowan munitions factory to workshop, store and garage use (14/P/1/0683). This change of use includes the conversion of some derelict Second World War buildings which have been noted as being of historical interest in the Council's Historic Environment Record of archaeological and historic sites [ref. MDG11564].

1.2 Approval was conditional on a programme of building recording agreed in consultation with the Council Archaeology Service. The results of that programme of building recording are presented below.

## 2 METHODOLOGY

2.1 The condition agreed with the Council Archaeology Service was for a Basic Survey (as defined by ALGAO 2013) of the standing buildings, the enhanced recording of any significant elements and the preparation of a summary report.

2.2 The field work was carried out on 23 June 2015. A photographic survey with accompanying notes was made of the buildings and key measurements were taken. Existing floor plans of Buildings 1 and 2 prepared by J R Brown Building Design (refs. 14/20/07 and 08) were used to aid fieldwork and annotations made to these as appropriate. A measured plan was made of Building 3.

2.4 All the buildings were accessible but stored items in Buildings 1 and 2 meant that the floors could not be studied in detail. The floor in Building 3 was hidden beneath bird manure.

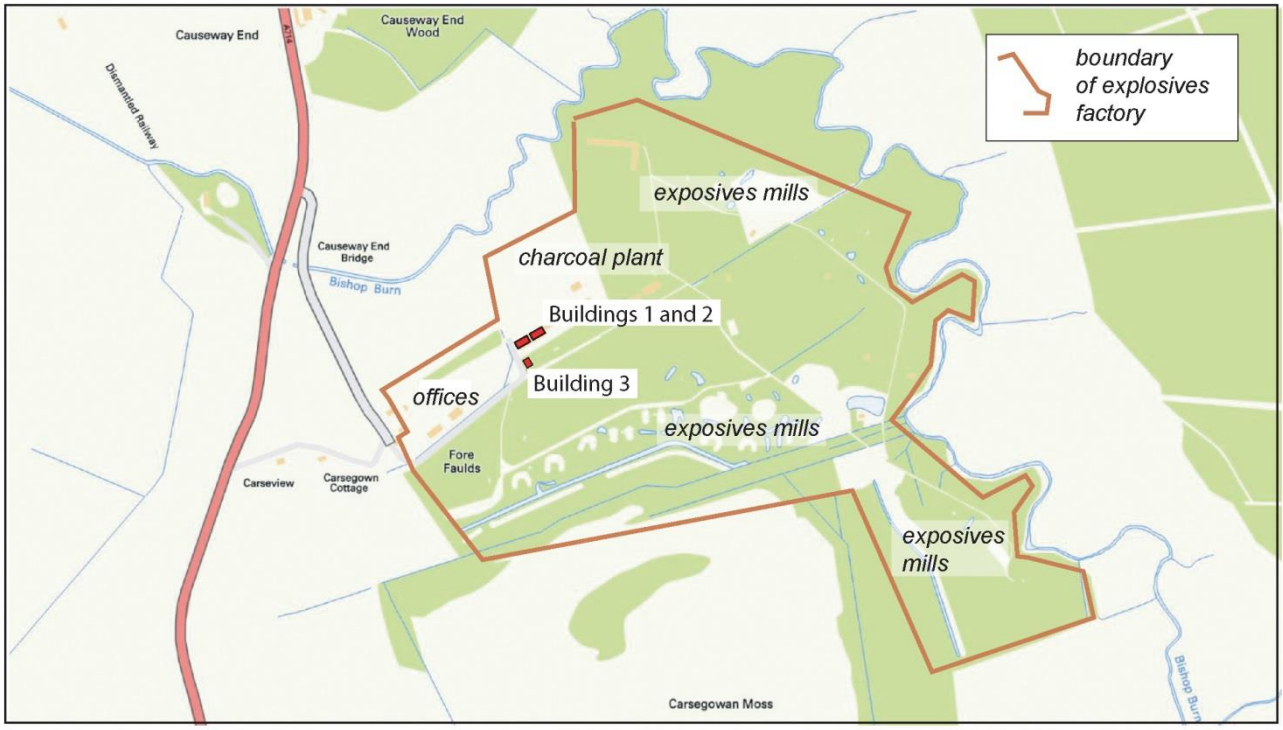
## 3 HISTORIC EVIDENCE

3.1 The munitions factory at Carsegowan was established in 1940. It was one of a number of munitions works in south-west Scotland organised by the ICI Nobel Division on behalf of the Ministry of Supply; the other works were at Dumfries, Dalbeattie, Powfoot and Girvan. Carsegwoan, in common with the other factories, used skilled workers and administrators from the existing ICI munitions works at Ardeer, nerar Stevenston in Ayrshire (Sawden 2004: 10).

3.2 Carsegowan specialised in the production of blackpowder or gunpowder for use in detonators, fuses and flares. In the north-western section of the site there was a charcoal plant and to the north-east, south and south-east were a series of mill units for the mixing, pressing and production of blackpowder as well as a number of storage magazines. In the western section of the site were administrative blocks, a laboratory, staff dining room, workers' mess, a medical and decontamination block and a Home Guard base. The factory had its own railway which connected with the Whithorn-Newton Stewart branch of the L.M.S.


Contains Ordnance Survey data © Crown Copyright and database 2014

Fig 1. General location of Carsegowan explosives factory.




Contains Ordnance Survey data © Crown Copyright and database 2014

Fig 2. Boundary of Carsegowan explosives factory and location of Buildings 1, 2 and 3.

railway. The finished blackpowder was taken away by train for use at the other Minisitry of Works factories.

3.3 A detailed plan of the site was prepared in August 1945 following a fatal explosion (RCAHMS: SC 1218963; link: http://canmore.org.uk/collection/1218963). This depicts the full extent of the factory and marks and names all its principal buildings and features. The three buildings (Buildings 1, 2 and 3) which are the subject of the current historic building record are depicted in the area north-east of the administrative section and immediately south-east of the charcoal plant. The railway line is shown running close to the north side of Buildings 1 and 2. Unfortunately the buildings are not named but they are shown as lying outside the high security 'Danger Area Fence' which enclosed the main explosives mills.

3.4 The factory closed in October 1945 and it appears that anything of value was quickly stripped out (Sawden 2004: 42). Since then the site and its buildings have been used for a variety of agricultural purposes and as stores.

3.5 Until recently Buildings 1 and 2 were used for storage and as chicken and turkey sheds. The current owner has cleared the interiors of Buildings 1 and 2 and revealed the original concrete floors. Building 1 is currently used as a workshop, Building 2 is a store and Building 3 has no dedicated use.

## 4 DESCRIPTION

4.1 The explosives factory is located on the southern edge of Carsegowan Moss, an area of partially drained estuarine peat on the west side of the river Cree (Fig. 1). It is 4.5 km north of Wigtown. The site is neither a Scheduled Ancient monument nor a Listed Building but the adjacent Carsegowan Moss is a Scottish Wildlife Trust nature reserve.

4.2 The three buildings described here form part of a much larger complex of standing buildings and earthwork remains which constitute the archaeological evidence for the explosives factory.

4.3 Buildings 1 and 2 lie next to each other and are on the same north-east - south-west alignment. Building 3 is 20m south of Building 1 and is separated from it by a rough track (Fig. 2). Between Buildings 1 and 2 on the north side are the footings of some brick structures which have now been reduced to their foundations.

4.4 Building 1 (Fig.3 and Figs. 6-15)

4.4.1 Building 1 measures 15.7m 24.4m externally. It is has a steel frame construction supporting a flat reinforced concrete slab roof. The construction comprises three parallel lines of rolled steel joist (RSJ) piers which carry a framework of large lateral and smaller axial RSJs. The lateral RSJs are marked 'Lanarkshire Steel Company 1940'[1] The walls are single common brick construction set between the steel piers and have been laid in an 'English garden wall' bond of three lines of stretchers over one line of headers. Some of

[1] The Lanarkshire Steel Company Limited was at Flemington, Motherwell. Established in the late 19th century it was one of the larger steelworks in the Central Belt and during the mid 20th century specialised in the production of steel joists, sections and plates and structural steelwork. Source: http://www.gracesguide.co.uk/File:Im1940Ry-Lanark.jpg

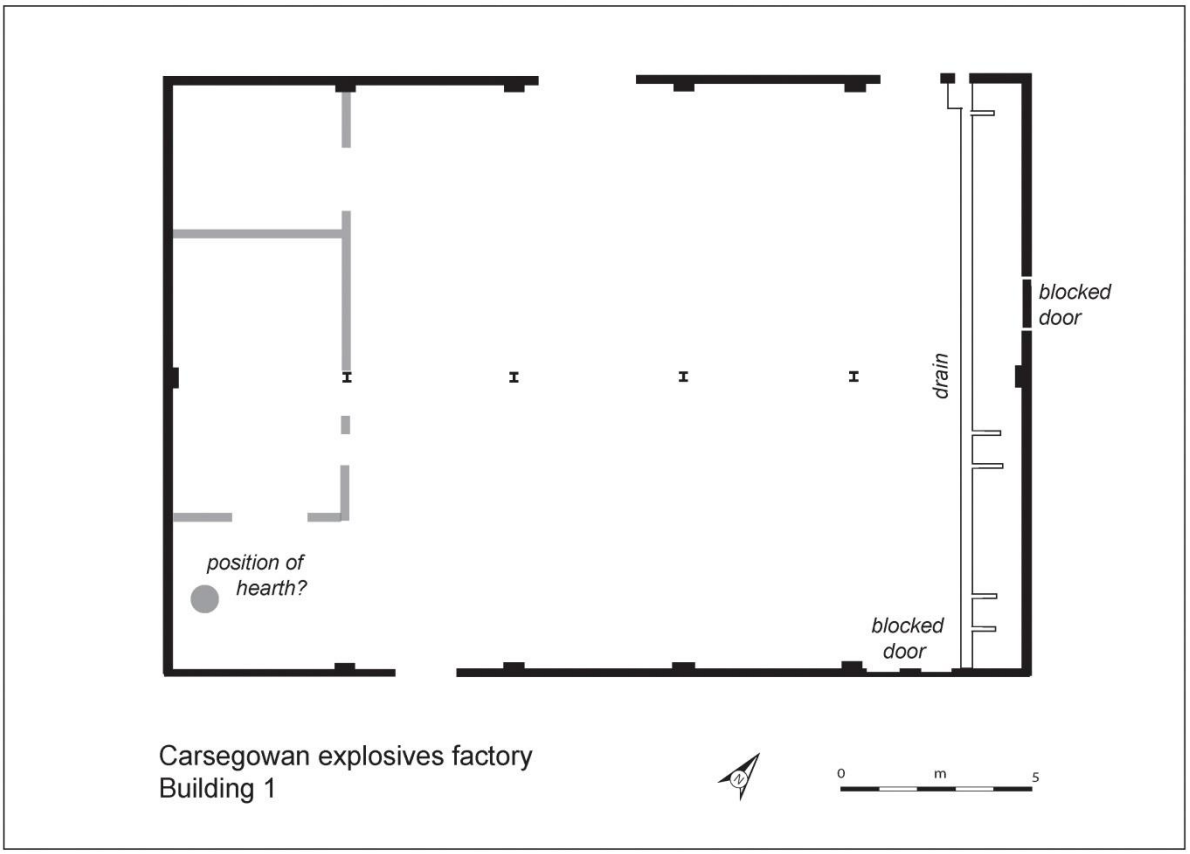



Fig 3. Ground plan of Building 1

the bricks are marked 'LITTLEMILL' and others 'DICO'[2]. There is a large (2.75m wide) central doorway in the north wall with a smaller doorway to the east, a central doorway in the east wall and two doorways in the south wall; the doorway in the east wall and the eastern doorway in the south wall have both been filled internally with brick. Cut-lines in the brick and metal wall brackets show that there were sliding doors in the north and south walls. All the doorways have concrete lintels but no original surrounds or fittings survive.

4.4.2 Building 1 was lit by a series of rectangular windows set below the roof. The original windows have been removed or infilled on the south and north walls and in the southern sections of the east and west walls but survive elsewhere. The original frames are iron and contain a double series of rectangular panes with a central or off-set iron louvre.

4.4.3 The interior of the building has been stripped out and is now a single open space. But a number of features survive which show the building's original layout. The footings of two conjoined rooms, both with entrances to the east, can be seen against the west wall and to the south of these is a base for a possible hearth or stove which corresponds with a brick chimney on the roof above. Running parallel with the east wall is a rectangular section drain or gully which connects to the east with a series of shallow gullies aligned east-west. The drain expands in width at the north and cuts through the wall to join a rectangular brick-lined

[2] LIITLEMILL is the Littlemill Brickworks operated by the Littlemill or Knockshinnock Colliery at Rankinson, Ayrshire. DICO bricks are products of the Dunaskin Fireclay Works at Dalmellington, Ayrshire which was run by the Dalmellington Iron Company; similar DICO bricks occur at the Second World War flying boat base at RAF Wig Bay on Loch Ryan which indicates that the Dunaskin works were a major supplier for military contracts.

sump with the remains of a geared mechanism; this may be a later feature which post-dates the building's wartime use. Lighting within the building was electric t a parallel series of lights running north-south in the centre of the bays formed by the RSJ pillars; ceiling-height metal conduits survive in a number of places and there is a group of switches and a junction box on the south wall close to the eastern doorway. The only other features within the building are a metal support frame attached to one of the lateral beams in the north-west section and a cut beam – a possible hoist support – at ceiling level by the south-western entrance.

4.4.5 Preserved at the north-west corner of the building close to the filed boundary is a short section of the railway that connected the factory with the LMS line. Two lengths of steel rail, both 1.42m apart, are set in a concrete base. The route of the line survives to the south-west as a grass covered earthwork but to the north-east the line has been destroyed.

4.5 Building 2 (Fig.4 and Figs. 16-23)

4.5.1 Building 2 is identical in size and construction to Building 1. It is separated from Building 1 by a 3.6m wide cement floored passage.

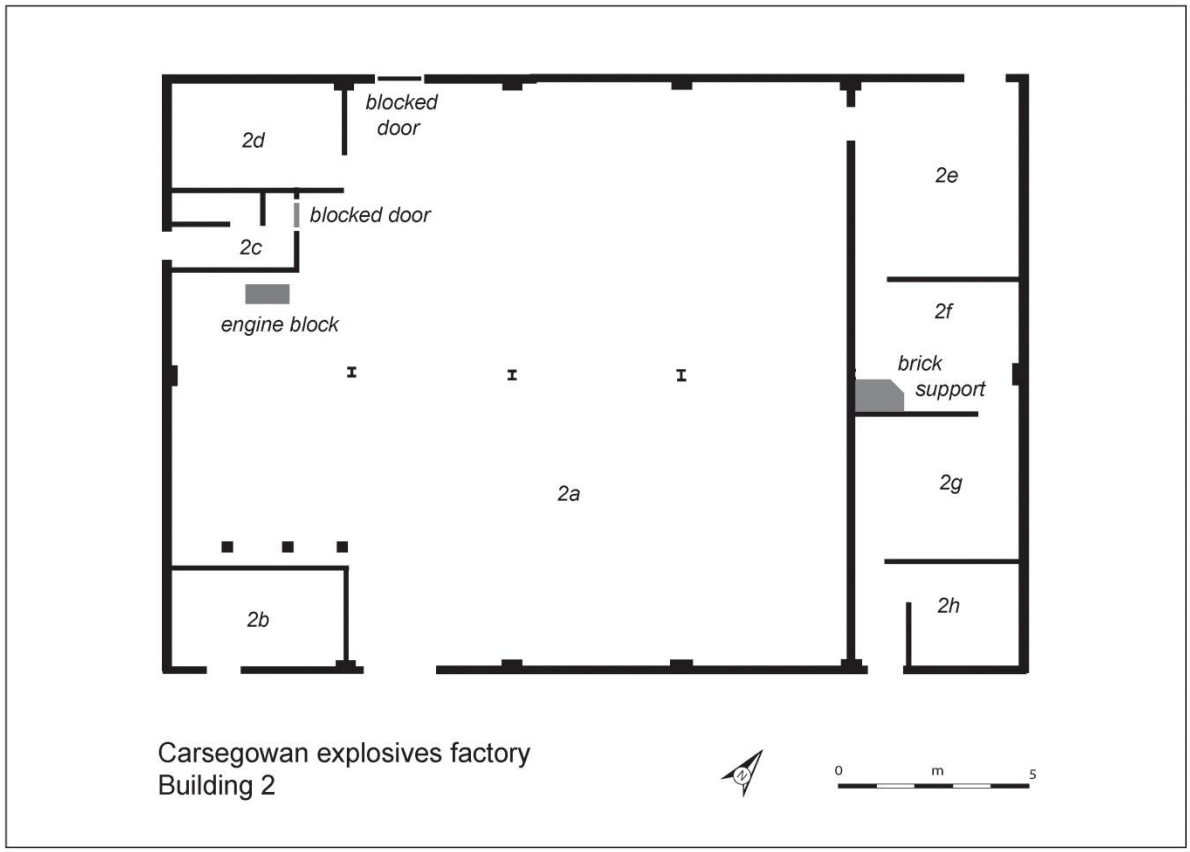



Fig.4. Ground plan of Building 2

4.5.2 Building 2 has seen little alteration and most of the original features are in place. All the windows survive and are five pane lights in a metal frame with a central metal louvre. Internally there is large irregular central space (2a on Fig.4) which is accessed from a doorway in the south wall; there is another entrance in the north wall which has been infilled with breeze blocks. In the south-west corner of space 2a are a set of three brick pillars forming part of metal-rodded rack and there is a concrete machine mount (1.1m long x 0.6m

wide x 0.15m high) in the north-west section. Close to the southern door a metal support bracket is attached to one of the RSJ beams. Against the full length of the east wall are the outlines of a large shelf unit, 1.8m high and divided into 0.5m wide compartments.

4.5.3. Two internal doorways lead off space 2a. One, in the north-west corner, still has its original frame and door and accesses a rectangular room (2d) with a series of ceiling height heating pipes. The other in the north-east corner leads to four rooms, 2e, 2f, 2g and 2h. Room 2e has an external doorway in the north wall with an unusual square, timber-lined window above; on the inner side of the window is a metal support bracket. Room 2f has a brick plinth in the south-west corner which might be a support base and along the south wall is a length of heating pipe with a circular valve. Rooms 2g and 2h are featureless and can also be accessed from the south by an external entrance and short passage.

4.5.4 The final two rooms in Building 2 are accessed by external entrances. Room 2b is in the south-west corner of the building and apart from some high-level heating pipes is featureless. Room 2c is divided by internal walls into a passage and two compartments or cubicles. This was the toilet block and probably comprised a WC and urinals; a wooden towel rail survives on the south wall. The present owner says that until recently there was a cover across the space between Buildings 1 and 2 and it is likely that the toilet block 2c served both buildings.

4.5 Building 3 (Fig.5 and Figs. 24-29)

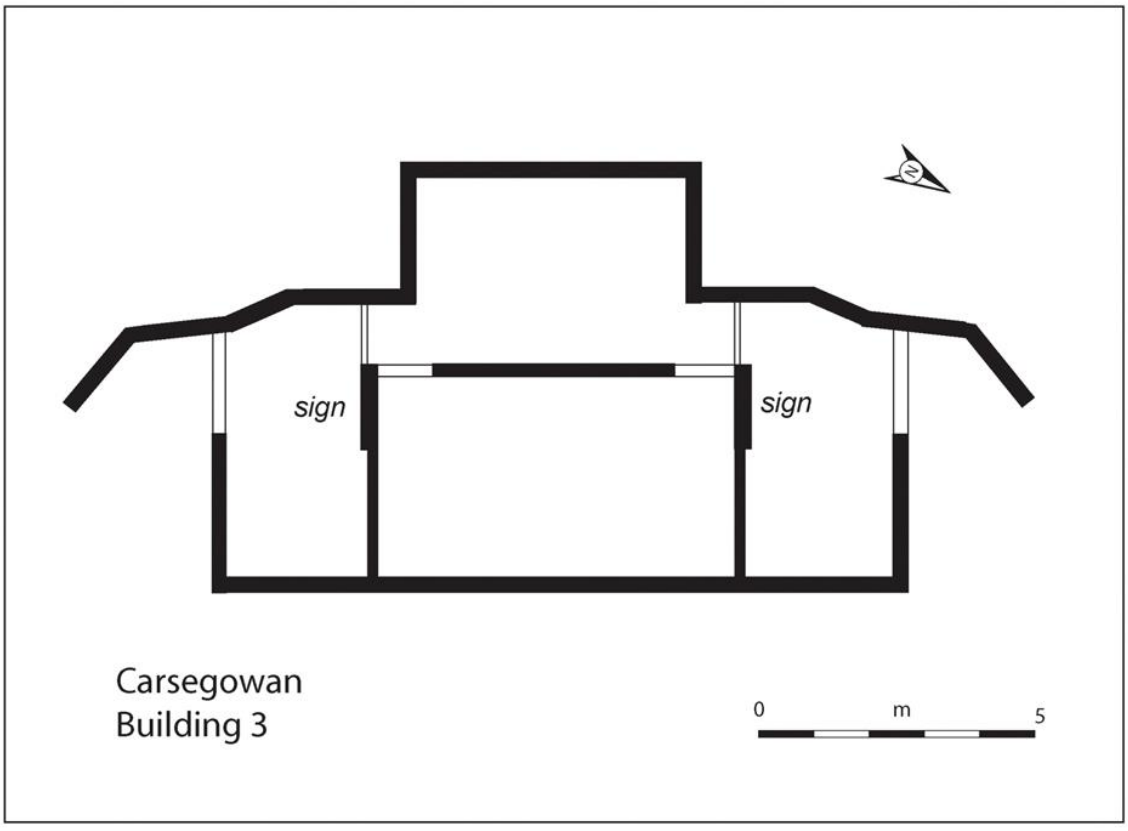



Fig. 5. Ground plan of Building 3

4.5.1 Building 3 is a free standing brick built structure with an internal steel frame and a flat, reinforced concrete slab roof. The building has an irregular ground plan, measures 12.7m x 7.7m. long and has an internal height of 3.5m. It is symmetrical on the short axis.

4.5.2 An entrance, 3.2m x 1.9m, on the north wall leads to a rectangular space with a passage to the west leading to a 7.1m T-shaped space with high-level ventilation bricks . Entrances at both ends of the west wall of this space access a rectangular chamber with the painted outline of a large rectangular object on the east wall. On the lower section of the east face of this wall are a number of cut slots and small brackets, presumably to secure equipment or hold cabling.

4.5.3 There is an opposing entrance at the south end of the building and both entrances are flanked by an external, angled brick wall.

4.5.4 In the entrance passages are two cast iron plaques marked 'DANGER OF DEATH 11,000 VOLTS' and in the north passage is a hand-painted wooden sign which reads 'NO UNAUTHORISED PERSON ADMITTED'. There are no other features within the building.

## 5 INTERPRETATION

5.1 The 1945 plan of the factory (3.3 above) depicts but does not name the three buildings. It shows these buildings close to the railway and set between the charcoal plant and the administration block. This suggests that the buildings had a supply function.

5.2 Building 1 is essentially a large single space with two rooms to the west. It is best interpreted as a multi-purpose store and workshop. This interpretation is suportwd by the fact that the largest entrance, the one in the centre of the north wall, opens directly onto the railway line and would have allowed the easy movement of materials in and out of the building. The drain at the east end suggests washing and cleaning of equipment and the metal brackets on the beams indicate lifting and haulage of large items of machinery for inspection and repair. The roof level chimney in the north-east section must mark the position of a stove or hearth; to reduce the danger of fire and accidental explosion all the heating on site appears to have been piped from a central boiler so this hearth/stove is likely to have had an industrial rather than domestic heating function.

5.3 Building 2 has the same overall dimensions as Building 1 and it too was probably a combined store and workshop. The rack in the south-west corner of 2a could have held stacked timber or metal and the shelf units along the east wall suggest storage of uniformly large objects or material. The concrete block in the western section of 2a was probably a mounting, either for an engine or some piece of static machinery. The various side rooms are best seen as offices and stores although the brick plinth with the associated heating pipes in 2f suggests this room may have held a secondary heating boiler (perhaps regulating heating in both buildings). One curious feature is the square high level window or opening in 2e with its internal bracket. Its function is not obvious and it may be a later insertion, connected with the building's post-war agricultural use. One difference between Buildings 1 and 2 is that Building 2 has only two small doors on the north wall leading to the railway line. This suggests that Building 2 was less dependent on the movement of material to and from the railway.

5.4 The signs in Building 3 with the warning 'DANGER OF DEATH 11,000 VOLTS' show that the building's function was electrical supply. The building has no internal features and the only indication of equipment is the painted outline of a large square object in the inner chamber; this was probably the location of an electrical transformer. The flanking walls by the two entrances are likely to be blast walls to reduce the damage from fire or explosion and the irregular plan of the west wall may have been designed with the same risk reduction plan in mind. Building 3 is the only structure of this type marked on the 1945 plan and may have been the only the only electricity substation at the factory.

## 6 SUMMARY

6.1 Buildings 1, 2 and 3 form part of a much larger and comparatively well preserved Second World War munitions complex. Research into sites of this type has tended to concentrate on the buildings associated with the production process and other structures like workshops, stores have received less attention.

6.2 Buildings 1 and 2 were multipurpose workshops and stores and similar structures are likely to survive and Second World War military installations across the UK. Examination of the buildings at Carsegowan shows the use of regionally sourced materials (Lanarkshire steel and Ayrshire bricks) and provides information on wartime sourcing and movement of construction materials.

6.3 Building 3 may be a standard Ministry of Works electricity substation and a similar example survives at the Edingham munitions factory at Dalbeattie 3.[3] Research is needed to find out if this type of building was in common use through the UK during the Second World War.

6.4 Buildings 1, 2 and 3 are well preserved and are good examples of utilitarian military architecture. Their significance lies in their relationship to the other surviving buildings and features at the Carsegowan, one of the best preserved munitions factories in south-west Scotland and a valuable part of Dumfries and Galloway's Second World military heritage.

## 7 REFERENCES

Saden, D. 2004 *Carsegowan Moss Explosives Factory 1940-45*. Wigtown: G C Books.

[3] For a similar sub-station at Edingham see:
http://www.dalbeattie.com/ministryofsupplyfactorydalbeattie/substation.html

# 8 APPENDIX 1 – SITE PHOTOGRAPHS

Fig.6. Building 1 from SW

Fig.7. Building 1, main door on S wall.

Fig.8. Building 1, blocked door, SE corner of S wall.

Fig.9. Building 1, NW corner.

Fig.10. Building 1, NE corner.

Fig.11. Building 1 interior from NW.

Fig. 12. Building 1, detail of RSJ construction.

Fig.13. Building 1, electrical junctions + conduits.

Fig.14. Building 1, detail of drain.

Fig. 15. Railway lines and NW corner of Building 1.

Fig.16. Building 2 from SE.

Fig.17. Building 2, SW corner and entrance to 2b.

Fig.18. Building 2, NW corner.

Fig.19. Building 2, storage rack in 2a.

Fig.20. Building 2, E wall of 2a with outline of shelves.

Fig.21. Building 2, towel rail in toilet block 2c.

Fig.22. Building 2, original wooden door to 2d.

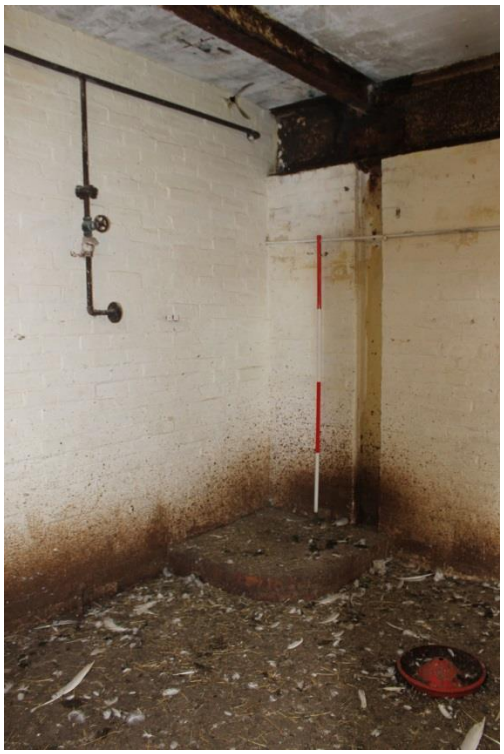


Fig.23. Building 2, plinth & heating pipes in 2f.

Fig.24. Building 3 from NE.

Fig.25. Building 3 from SE.

Fig.26. Building 3, position of transformer (?).


Fig.27. Building 3, cast iron warning plaque.


Fig.28. Building 3, N entrance passage.

Fig.29. Interior looking N to entrance passage.

## 9 APPENDIX 2 – LIST OF DIGITAL PHOTOGRAPHS (on CD)

| | Photo number | Description | View from |
|---|---|---|---|
| Building 1 | B1 01 | SE interior with blocked door and drain | N |
| | B1 02 | View of interior | SW |
| | B1 03 | Detail of drain | W |
| | B1 04 | Detail of rolled steel joist construction | |
| | B1 05 | Detail of electrical conduit | |
| | B1 06 | View of interior | NW |
| | B1 07 | Detail of electrical boxes and switches, S wall | N |
| | B1 08 | Cut RSJ by S wall interior | N |
| | B1 09 | SE corner + blocked door | S |
| | B1 10 | Main door, S wall | S |
| | B1 11 | SW corner | SW |
| | B1 12 | NW corner | NW |
| | B1 13 | Detail of gear mechanism in sump, NE corner | N |
| | B1 14 | NE corner | NE |
| | B1 15 | Door and window, E wall | E |
| | B1 16 | General view | SW |
| | B1 17 | N wall and detail of railway line | W |
| | | | |
| Building 2 | B2 01 | SW corner of 2a showing storage rack | NE |
| | B2 02 | Room 2d | E |
| | B2 03 | Door to 2d from 2a | E |
| | B2 04 | East wall of 2a with marks from storage units | W |
| | B2 05 | General view of 2a | E |
| | B2 06 | Room 2e | NW |
| | B2 07 | Brick support base in room 2f | NE |
| | B2 08 | Room 2e, support hooks above high level window | SW |
| | B2 09 | NE corner of building | NE |
| | B2 10 | Detail of RSJ frame construction | |
| | B2 11 | Room 2h | NW |
| | B2 12 | SE corner and outer door to 2h | S |
| | B2 13 | Window detail on S wall | S |
| | B2 14 | General view of S wall | SE |
| | B2 15 | SW corner | S |
| | B2 16 | NW corner and W wall | NW |
| | B2 17 | N wall | NW |
| | B2 18 | Room 2c | W |
| | B2 19 | Detail of towel rail in room 2c | |
| | | | |
| Building 3 | B3 01 | General view | NE |
| | B3 02 | General view | SE |
| | B3 03 | General view | S |
| | B3 04 | General view | SW |
| | B3 05 | General view | W |
| | B3 06 | Warning plaque | |
| | B3 07 | Inner view | S |
| | B3 08 | Position of transformer (?) | |
| | B3 09 | Entrance passage | N |

## 10 APPENDIX 3 – DES ENTRY

**Local authority:** Dumfries and Galloway

**Parish:** Wigtown

**Site name:** Carsegowan munitions factory

**Name of contributor:** John Pickin

**Type of project:** building recording

**Name of organisation:**

**NGR:** NX 4298 5955

**Report:**

Basic level building recording was carried out in advance of the conversion of three buildings at this Second World War munitions factory. Two of the buildings were multi-purpose stores and workshops erected adjacent to the factory's own railway line. Both buildings were steel-framed constructions with brick walls and flat concrete roofs. The third building was a brick structure with two entrances protected by flanking blast walls. This was probably the site's electricity sub-station.

**Location of report:** DGC HER; RCAHMS

**Funder:** private client

**Contact details of organisation**: High Weirston House, Leswalt, Stranraer DG9 0RQ