

Mill of Benholm, Kincardineshire, Aberdeenshire



Gazetteer: Part 3: Meal Mill Upper Floor & External Items

Version 2 November 2023

Prepared by Sonya Linskaill RIAS RIBA
slinskaill@btinternet.com

Introduction

This Gazetteer forms part of a series for the assets at the Mill of Benholm including:

Part 1: Mill Buildings

Part 2: Meal Mill Lower Floor

Part 3: Meal Mill Upper Floor & External Items

Part 4: Water Mill Infrastructure

The Gazetteer should also be read in conjunction with the Mill of Benholm Conservation Plan.

The gazetteer lists items of interest recorded during site visits in May to September 2023. The items are listed with a short description and images. Comments on their authenticity, significance and other observations are made. Terminology for mill infrastructure and parts of the milling operations has been taken from *The Mill of Benholm, The Story of a Scottish Meal Mill*, by Lesley Miller, published by Kincardine & Deeside District Council in 1996 when the mill was reopened as a visitor centre; additional information presumed from the same source is available on interpretation panels on site. Information recorded in the Scottish Industrial Archaeology Survey in 1983 (Canmore, MS/500/35/83) has been included where relevant as a comparison to the current position. A drawn record of the meal mill floor plans and machinery from the 1983 survey can be found in Appendix 1 of the Conservation Plan.

Aberdeenshire Council has consented to the use of the hand drawn images in Miller (1996) in this document formerly copyright of the K&D DC.

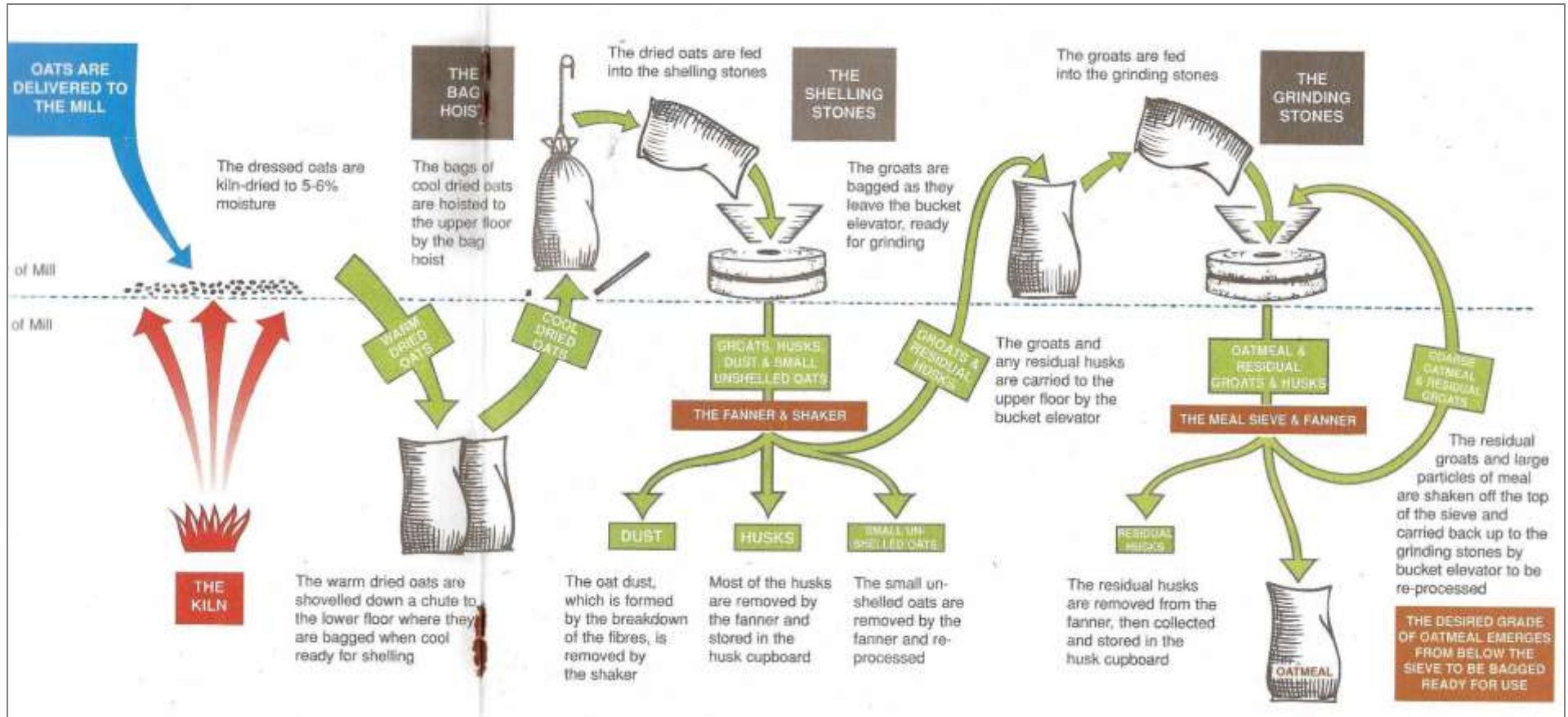


Diagram in Miller (1996, 17) on the various processes of shelling, separating and milling at Benholm. © Aberdeenshire Council

Meal Mill: Upper Floor

The upper floor of the meal mill comprises of the milling room and drying kiln separated by a stone wall (560mm thick). The room is accessed on the north elevation by double doors. Exposed timber rafters and sarking (1990s construction) without rooflights (kiln has ventilator). Modern paint finish to masonry walls (limewash below possibly). Two small glazed openings on north elevation; one small glazed opening on west elevation; one large glazed opening on south elevation. New timber floor with trap door to lower level. Earlier timber stair retained to lower level. Kiln abutted to west side forming extension to earlier building.



General view in 2023 looking east toward the **Shelling & Grinding Stones** with **Bag Hoist** and **Bucket Elevator** in the foreground.



Similar view taken by WE Ltd during the restoration works, c 1991. **Bag Hoist** and **Bucket Elevator** prior to repair in the foreground, milling stone casing removed.



General view in 2023 looking west to the kiln.



Similar view taken by WE Ltd during the restoration works, c.1991. Note dismantled milling items, repointing of walls with inappropriate cement and new timber rafters.



View of the millstones within their tuns and hoppers in place prior to restoration.
 © Mills Archive Trust: Jim Woodward-Nutt, 1983, image 10746:
<https://catalogue.millsarchive.org/benholm-st>






WE Ltd image during the restoration works, c.1991 with the milling stone equipment dismantled to allow repair and assessment of the stones left by the last miller.




General view in 2023 of the southern extension area, now a display area. Compare to newspaper image below of miller Lindsay C Watson c.1970 with sack storage.








WE Ltd image during the restoration works, c.1991 of the kiln interior. Note repointing/rebuilding of walls with inappropriate cement and new timber roof construction. This floor probably dating to 1971 when a fire destroyed the kiln roof.

Item	Description & Images			Authenticity, Significance and Observations
<p>Meal Mill: Upper Floor Doors and windows</p>	 <p>North elevation: braced and boarded double leaf entrance doors. Iron security bar attached internally at jamb. Doors are replacements.</p>	 <p>North elevation: 4-pane fixed glass window (replacement). Internal and external openings are out of alignment suggesting it was not originally a 'window' (see note 1).</p>	 <p>North elevation: small glazed opening said to be used by the miller to see the level of the sluice. Ground levels mean that the cill is at ground level externally and at 530mm internally (see Note 2). Also a former opening or recess in the corner next to the current sluice lever.</p>	<p>Note 1: Possibly item described as "outlet from dust cupboard" in Douglas (1983; Canmore, MS/500/35/83) which is no longer connected to lower floor.</p> <p>Note 2: View inaccessible due to new boundary wall however view to sluice seems unlikely / external ground levels have been raised? This glazed open may have just been the former opening to operate the sluice lever as indicated in Douglas (1983) and Woodward-Nutt (1983).</p>

<p>Meal Mill: Upper Floor Doors and windows</p>	 <p>Heavy gauge flat iron bar with holes for positioning dowel used to operate the sluice/bypass channel on the Trowse (considered to have been relocated in the adaption; see note 2).</p>	 <p>East elevation: 4 pane fixed glass window (replacement) gives view over waterwheel.</p>	 <p>South elevation: 12-pane fixed glass window (replacement; see Note 3). With timber lintols and cast iron bolts at head and poorly formed concrete cill.</p>	<p>Note 3: "Door at upper FL for loading goods onto carts" (Canmore, 1983, MS/500/35/83).</p>
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<p>Meal Mill: Upper Floor Timber stair between floors</p>				<p>The stair appeared to be enclosed by low timber boarded partitions now removed and replaced by a modern timber and metal mesh screen. (Canmore, 1983, MS/500/35/83).</p>
	<p>View of the timber stair looking from the upper floor.</p>	<p>View of the timber stair looking from the lower floor.</p>	<p>Detail of the timber treads.</p>	

<p>Meal Mill: Upper Floor Misc. Items</p>	 <p>Modern table with 3no. quern stones and timber /metal tool for turning quern stones. Loose information sheets.</p>	 <p>Worn / eroded / moss covered quern stone.</p>		<p>Quern stones would have been used for hand milling and not associated with the current water mill. It's possible these stones were collected from near the site / or local area to form a display. Not significant for the water mill context. P. Babs commented that the querns weren't there when initially a visitor centre.</p>
<p>Meal Mill: Upper Floor Shelling Stones and Grinding Stones with small Bucket Elevator</p>	 <p>The Shelling Stones set within their timber tun with hopper above. Recorded in 1983 as "monolithic 120cm dia" (47"; Canmore, MS/500/35/83)</p>	 <p>View of milling stones prior to restoration with the Shelling Stones on the left. Note original floor and also in foreground left is the earlier lever through the small opening to operate the sluice on the Trowse (note 2). © Mills Archive Trust: Jim Woodward-Nutt, 1983, image 10746: https://catalogue.millsarchive.org/benholm-st</p>	<p>From interpretation panel: 2no. monolithic gritstones, refaced with carborundum. 1 set of 2 stones: stationary bed stone with runner stone above rotated (anticlockwise) by mill spindle. Stones sit within a wooden casing (the tun). Above timber hopper with tilted wooden tray (shoe) which directs grain into 'eye' of the stone. The 'damsel' and ash tensioning stick shake the shoe to ensure a steady flow of grain. Kernels, husks and meal dust are caught by the tun and 2 metal scrapers directs this to outlet chute to lower floor to be separated in the Shaker & Large Fanner.</p>	

**Meal Mill: Upper Floor
Shelling Stones and
Grinding Stones with
small Bucket Elevator**



View of milling stones with the **Grinding Stones** in the foreground prior to adaptation. Note the earlier wooden steps for access to hopper not retained during restoration. © Mills Archive Trust: Jim Woodward-Nutt, 1983, collection image 10747: <https://catalogue.millsarchive.org/benholm-st2>





Newspaper image from c.1970 of Lindsay C Watson, the last commercial miller, filling the hopper over the **Grinding Stones**, with sacks behind in the southern extension. Image courtesy of JHH, source not known.









The **Grinding Stones** consist of 1 pair of 2 stones: Burr stones segments and hub pieces formed held in position by cast iron band. The grinding stones were recorded in 1983 as "burr-stone 140cm dia." (Canmore, MS/500/35/83).

The inscription "City Mills Perth 1906" can be seen in the coating on the underside of lower grinding stone.

	<p>(Top) The Grinding Stones set within their timber tun with hopper above and feed chute from the Bucket Elevator.</p> <p>(Below) Brass plaque on the Bucket Elevator with "Tony Jannetta Mechanic" "Elizabeth Wheatley Joiner" "Mill of Benholm 1994-95" Responsible for the restoration of the secondary machinery.</p>	<p>Bucket Elevator from the Meal Sieve and Small Fanner which discharges unground Groats back into the grinding stones for a further time.</p>	<p>Piece of wooden cogged formwork.</p>	
<p>Meal Mill: Upper Floor Display Area</p>	 <p>Large shelling stone ('husk stone' written on side) 131cm (51½"); possibly from Benholm, as a monolithic stone appears in BBC footage in 1971 outside the mill.</p>	 <p>10-piece milling burr stone with cement covered hub 122cm (48") dia. held by cast iron band.</p>	 <p>View of milling burr stone cast iron band 165mm (6½") wide with 12" hub.</p>	<p>The burr stone is thought to be half of one pair with the burr stone of the same size outside the mill. Refer Conservation Plan section 7.9.</p>

<p>Meal Mill: Upper Floor Display Area</p>	 <p>Plough</p>	 <p>Timber wheel model.</p>	 <p>Desk said to have been used by the last miller.</p>	
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<p>Meal Mill: Upper Floor Display Area</p>	 <p>General view of the free-standing Fanner.</p>	 <p>View of the hopper and sieve.</p>	 <p>Metal drum with makers' insignia "Shearer Brothers Engineers, Makers & Patentees, Turriff Scotland"</p>	<p>This location housed the "Hoppers above grain bruiser" in 1983 (Canmore, MS/500/35/83). which are no longer present; this fanner standing in their place. Ply floor patch indicated probable former position for hoppers through floor. Possibly moved here as exhibit, or could be manual fanner for use by hand. Not recorded on 1983 survey.</p> <p>https://blog.scottishagriculturalimplementmakers.co.uk/an-episode-in-the-history-of-shearer-brothers-maybank-works-turriff/</p>
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<p>Meal Mill: Upper Floor Bucket Elevator</p>				<p>The Bucket Elevator gearing is powered by the main shaft from the water wheel which runs through the Great Spur Wheel to drive the Bag Hoist and Bucket Elevator through mitre gears at roof level.</p>	
<p>Bag Hoist and Trap Door</p>				<p>Friction driven hoist to lift sacks of oats from the lower floor for processing in the Shelling Stones Trap door recorded as 75cm sq in 1983 and drawing indicates orientation of doors were at 90 degrees to current position (Canmore, GJD survey, 1983).</p>	
<p>This Bucket Elevator carries Groats which have passed through the Shelling Stones into the Shaker & Large Fanner (lower floor) ready to be ground.</p>	<p>The Groats discharge to bags at the Bucket Elevator to be manually handled to the Grinding Stones hopper.</p>	<p>View of the Bucket Elevator gearing.</p>	<p>View of roof space in upper floor with gearing for the Bag Hoist.</p>	<p>Trap door in the new upper floor.</p>	<p>View of trap door from below.</p>

**Meal Mill: Upper Floor
Kiln Drying Room**



View of the internal wall (opening to kiln outlet chute is behind stored items).



View of the external metal door face from inside the kiln.



(Above) view from milling room. Large door opening with stone kerb/cill, timber frame flush to internal mill wall and timber lintels (charred). Iron door and door frame set back in line with internal wall of kiln. Wedge wire mesh floor, raised above FFL at c. 500mm. Raised concrete kerb around kiln floor with metal trim. Opening in west external wall with timber boarded hinged cover.







(Left) WE Ltd image during the restoration works, c.1991 of the kiln interior. Note repointing/rebuilding of walls with inappropriate cement and new timber roof construction. This floor probably dating to 1971 when a fire destroyed the kiln roof.






Large amount of miscellaneous items and furniture stored in the kiln which could overload the floor and damage the mesh. Restricted assessment of walls and floor.



Steps up into kiln shown in 1983 (Canmore, MS/500/35/83) have been removed. Timber frame pieces externally could be remains of the former steps up into the kiln.

The kiln door may have been an earlier opening in the gable wall of the earlier mill configuration – large jamb stones and stone cill could suggest this, however also brick infill at jambs. Timber lintels suggest some age.

<p>Meal Mill: Upper Floor Kiln Drying Room</p>					
<p>Kiln Outlet to Kiln Chute</p>				<p>“Outlet from kiln floor to hopper and bagging shot below floor.” (Canmore, MS/500/35/83).</p>	
<p>Charred timbers around the door opening are the result of a fire in 1971.</p>	<p>Metal wedge wire mesh floor thought to date to 1971 or c.1991.</p>	<p>Stone step / cill into the kiln.</p>	<p>Timber boxing with metal lid which overs an opening in the kiln wall used to push dried oats into the Kiln Chute at the lower floors.</p>	<p>Looking down on the outlet which consists of an iron tray and pipe sleeve from the opening in the kiln internal wall with upvc pipe through floor.</p>	<p>Detail of the iron tray and pipe sleeve. Note the opening cut through the new flooring.</p>

<p>Mill Buildings: External Items General Description</p>	
<p>A number of disused items are sited outside, in particular the meal mill, including a number of the former milling stones.</p>	
	
<p>General view of the south elevation of the meal mill building 2 milling stones in 2023.</p>	<p>Same view in early 1990s during adaptation with the 23-piece burr stone (HES file image, c.1992).</p>
	
<p>General view of the north elevation of the mill building with 1 milling stone in 2023</p>	<p>Same view in early 1990s during adaptation with 3 milling stones (HES file image, c.1992).</p>

Item	Description & Images		Authenticity, Significance and Observations
<p>Meal Mill North elevation: Sharpening or grinding stone on timber stand</p>			
<p>Meal Mill North elevation: Metals objects</p>			
<p>Meal Mill North elevation: Grinding stone</p>	   <p>Burr stones and cast iron band 43" dia. x 9 3/4 " thick, 12" centre, 14 segments</p>		<p>This stone is thought to be half of one pair from Cowie Mill, Stonehaven. Refer Conservation Plan section 7.9.</p>

<p>Meal Mill North elevation: Turnip chopper</p>				
<p>Meal Mill South elevation: Grinding stone (against kiln wall)</p>	 			<p>This stone is thought to be half of one pair with the burr stone in the display area. Refer Conservation Plan section 7.9.</p>
	<p>Burr stones and cast iron band 48½" dia. x 6" thick, 12" centre with 8½" hub, 13 segments.</p>		<p>View of the 2 milling stones of south elevation.</p>	

<p>Meal Mill South elevation: Grinding stone (against mill building wall) And Southern Extension South elevation</p>	 <p>Burr stones and cast iron band 42½" dia. x 9¼" thick, 12" centre, 14 segments.</p>		 <p>Drive shaft and wheel for external auxiliary engine power. Monolithic stone, use unknown.</p>	<p>This stone is thought to be half of one pair from Cowie Mill, Stonehaven. Refer Conservation Plan section 7.9.</p>
<p>Grain Store Front elevation</p>	 <p>Piece of a drive shaft and misc. objects</p>			

<p>Mill Grounds</p>	 <p>Milling stone hanging as Mill of Benholm signage. 54" dia. x 6 1/2" thick, 14" centre, 23 segments.</p>	 <p>This stone was recorded in 1983 and described as the top or running stone with steel band (Canmore, MS/500/35/83). It has 23 segments around the rim and 4 further segments forming the hub.</p>	 <p>The same stone outside the kiln west elevation in 1983 prior to adaptation. © Mills Archive Trust: Jim Woodward-Nutt, 1983, image 10748 https://catalogue.millsarchive.org/benholm-stn</p>	<p>This 23-piece burr stone is unusual for its large number of burr segments (the other stones having a maximum of 14 segments). This stone was located outside the mill at Benholm before its closure (BBC, 1971) and so its provenance and significance for Benholm is important and it is likely an earlier grinding stone moved outside at the end of its useful life.</p>
				
	<p>There are a number of disused items of machinery in the plot of land across the road to Benholm which forms part of the mill title. One is thought to be the remains of a threshing machine (possibly from someone in Alford) which was intended as an exhibit but not used.</p>			