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Your ref: Our ref: C9652/TMB/HT

Mr P Goldstraw
Amos Group Ltd
Alexandra House
Queen Street
Leek
Staffordshire
ST13 6LP

14th November 2011

Dear Sir

**C9652 – The Barn at Cowdale Hall, Cowdale, Nr Buxton**

Following your recent instructions we visited the above property on Friday 11th November 2011 to carry out a structural inspection and our comments are given below.

For the purpose of this report, all directions referred to are as when viewed from the front of the property. This survey is for your exclusive use and your professional advisers to whom liability in respect of the contents of this work would be limited. The report is based upon a visual inspection of the super structure as it stands, no openings have been formed in the super structure, nor have we checked for dampness.

The barn was a stone built two storey structure. Existing buildings were attached to the right and rear elevations. These buildings were an open, duo pitched barn and a low level, duo pitched, steel slat roofed structure.

## EXTERNAL

Front Elevation

This elevation was random stonework. Centrally there was a large door opening, which appeared to be taller than the storey height from ground to first floor. The barn was broadly symmetrical to this elevation, with three ground floor windows to each side of the central door and a single high level opening, although the upper opening to the left side was mainly over the adjacent ground floor window, whereas that to the right side was between the windows. The lower window openings had mainly stone lintels over

them, with concrete lintels over the upper openings. The lintel over the central door also appeared to be concrete.

Near the left corner there was some open jointing to the stonework, in particular above the top right corner of the left hand ground floor window. There was also some open jointing over the third ground floor window and some fine vertical cracking to the right side of this opening. This left half of the front elevation also had an outward lean and some bulging to the upper area. We would estimate the bulge/lean to be about 70mm. There was some open jointing to the stonework near the top right corner of the door opening and some old cracking near the eaves in the area between the right hand window and the second window from the right.

As a feature there were isolated stones protruding from this elevation. The roof was duo pitched from front to rear and was blue slate covered.

Right Elevation

This elevation was a random stone gable. The lower part was partly obscured by the lower steel sheet roofed building. This elevation appeared to be of reasonable line and level. There was evidence of areas of re-pointing and also some missing pointing near the front corner just above the junction with the lower roof.

Rear Elevation

This elevation was partly obscured by the open barn to the rear. The lower part was protected by a concrete block wall. The upper part was random stonework. There were three openings to the upper part and these had timber lintels over them. To the left side this elevation had been extended and there was a low door and window opening to the first extension, with a concrete lintel over them, and to the left of this was a lean-to abutting the first extension. There were straight vertical joints between the main barn and the first extension and also between the two extensions. There were some areas of poor or missing pointing and lintels could be seen above the block protection wall in two positions.

Left Elevation

This elevation was mainly a gable. To the rear was a flat roofed extension, which had a single storey lean-to abutting its left wall. The flat roof had a concrete edge or parapet. There was some open jointed stonework to the top front corner area. The door and window openings had concrete and steel lintels over them. In the front wall to the lean-to there was some missing stonework where a pipe entered the structure. The joints of the gable to the extension and between the two extensions showed no signs of recent movement. There was some bulging to the gable around first floor level.

## INTERNAL

### Ground Floor

Left Side

This area was set out as individual stalls/stables. The floor was concrete and reasonably level, although raised for the stall areas. There were a series of timber beams to the ceiling running from left to right. These were supported on a series of props, either consisting of concrete block columns, steel circular sections or timber posts. The lean outwards of the front wall was noticeable and there was separation of the right wall from the front wall at the front right corner. The inner lintel over the door opening to the left side was timber and the door opening to the right side had two timber lintels over it.

Central Area

This was to the rear of the large door opening to the front elevation. The timber floor was running from left to right with steel beams providing additional support. There was separation at the front left corner with the front wall having moved outwards. The floor was stone flags and cobbles. The right and left walls were studwork.

Right Side

This was similar to the left side, with stalls set to the front and rear and a central isle. Beams were downstanding from the ceiling, running left to right, and being supported by brick piers and square steel sections. There were timber lintels over the openings to the walls and these appeared to be softening in places. There were occasional cracks to the walls, which were generally rendered.

Flat Roofed Extension

The floor level was below ground level to the rear. To the right side of the ceiling rusting steel beams were visible at close centres.

### First Floor

This area was to the main barn and substantially open. The walls were mainly random stonework although there was blockwork infilling two of the openings to the rear right area.

The roof structure was timber rafters supported by steel purlins. These purlins were steel angle sections with a timber plate in the 'web'. The purlins were at relatively close centres, with 4 No. in position to each roof slope. Supporting the purlins were steel trusses, which had angle sections forming the chords and inner members. There were two bays of crossed flat steel bracing in the plane of the roof.

## CONCLUSIONS AND RECOMMENDATIONS

From the above, we would comment that there were signs of structural movement to the building. This is to be expected in a structure of this type and age.

We have noted that there was bulging to the left side of the front elevation, and we would consider that this is due to settlement of the fill material within the stone wall construction. We would consider that the addition of stainless steel remedial ties between the inner and outer stones would add stability to this area, and tying in of the existing wall to the new floor construction would also be helpful in this regard.

We would also recommend that some re-pointing is carried out to these areas highlighted above, and that a small area of rebuilding works are required over the upper left window in the front elevation. The internal wall to the left side of the central entrance and stairwell also requires tying in to the front elevation.

Some maintenance with regard to rusting steel work is required, particularly to the area of the flat roofed extension.

Other than these items which we consider only affect a small part of the whole of the property, we would comment that the property was in a stable condition and fit for the proposed conversion works

We have not inspected woodwork, or other parts of the structure, which are covered, unexposed or inaccessible and we are, therefore, unable to report that any such part of the property is free from defect.

Should there be any further information you may require, please do not hesitate to contact us. We enclose a receipted invoice for your records.

Yours faithfully,

T. M. Barratt
B.Sc(Hons) C.Eng. M.I.Struct.E.

For and on behalf of Northern Structural Services Ltd

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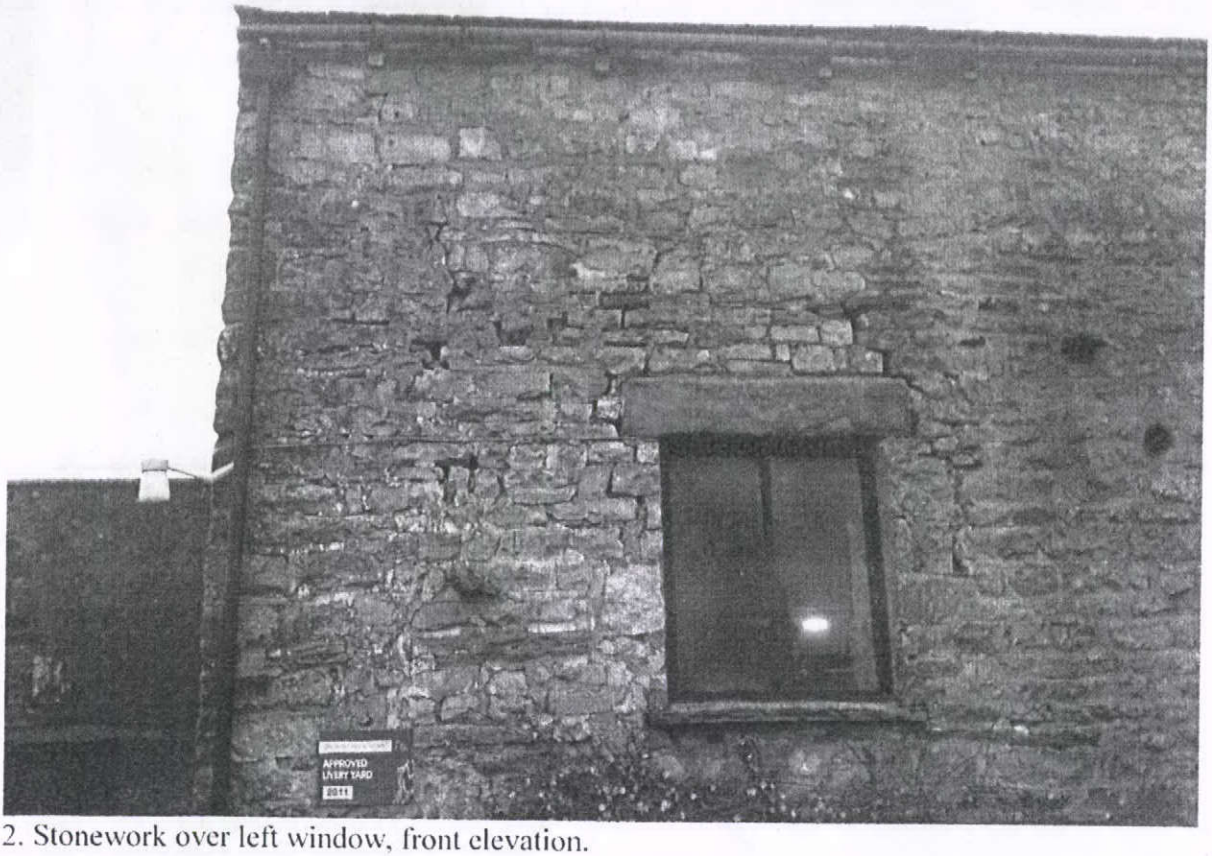
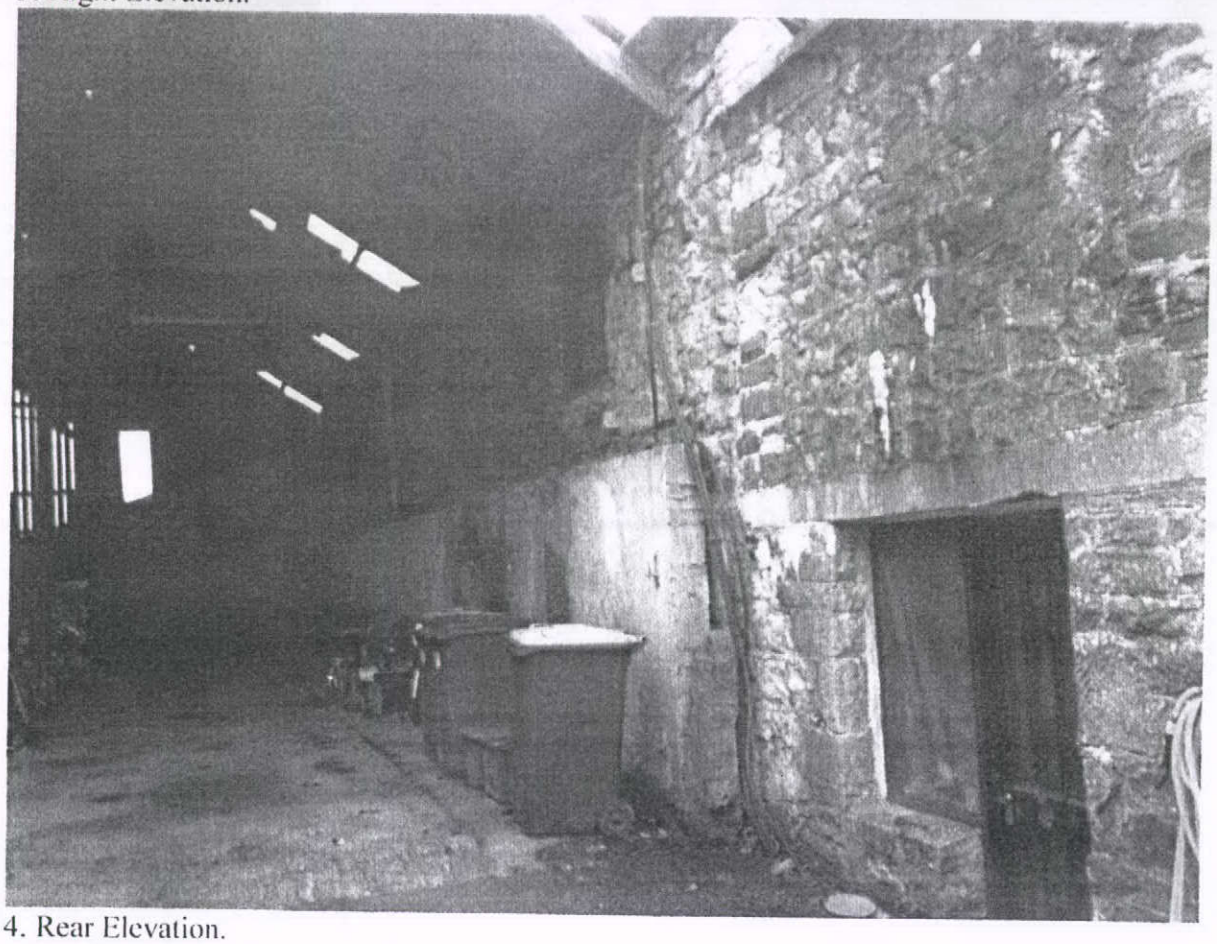
1. Front Elevation



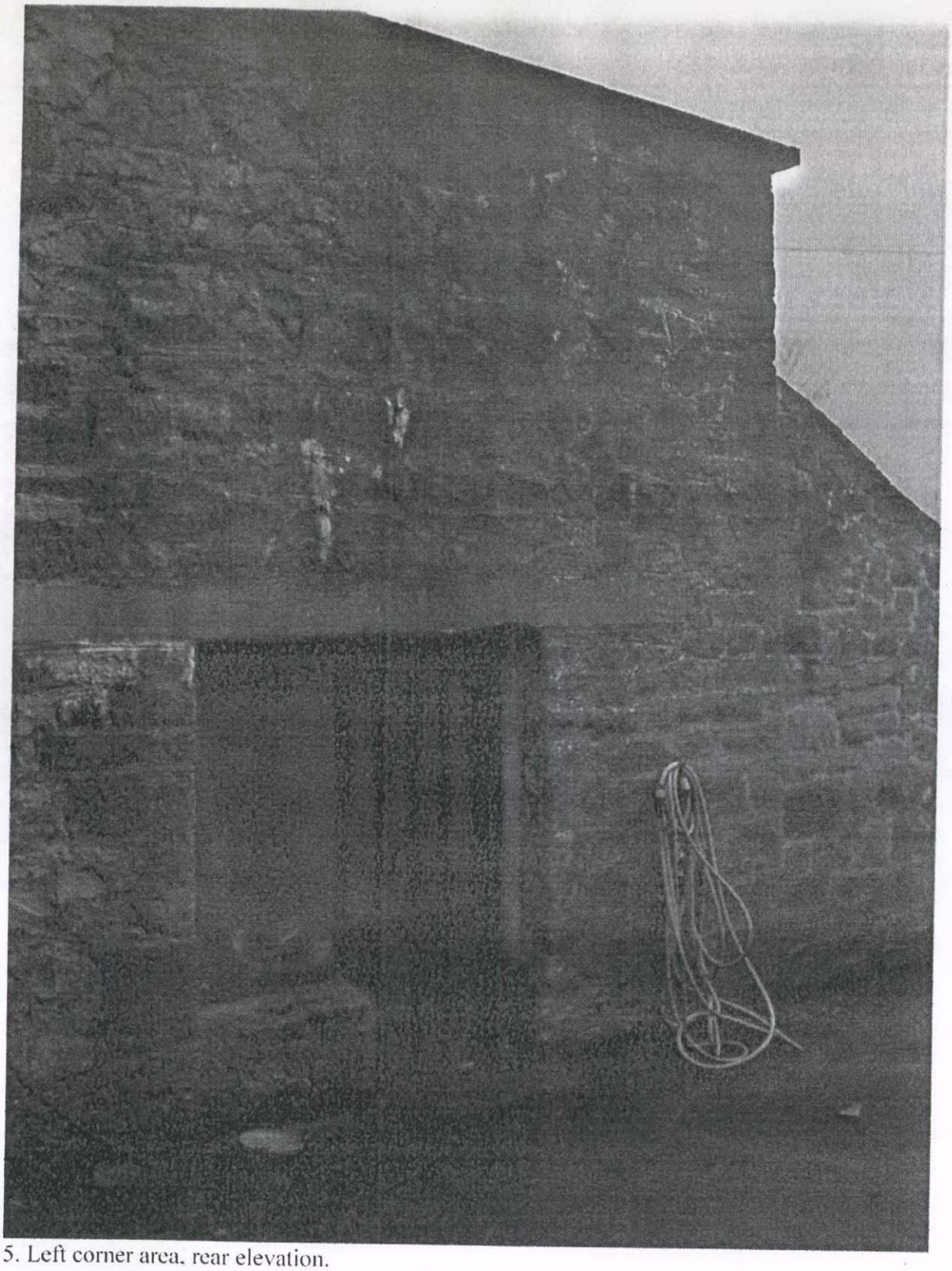

2. Stonework over left window, front elevation.



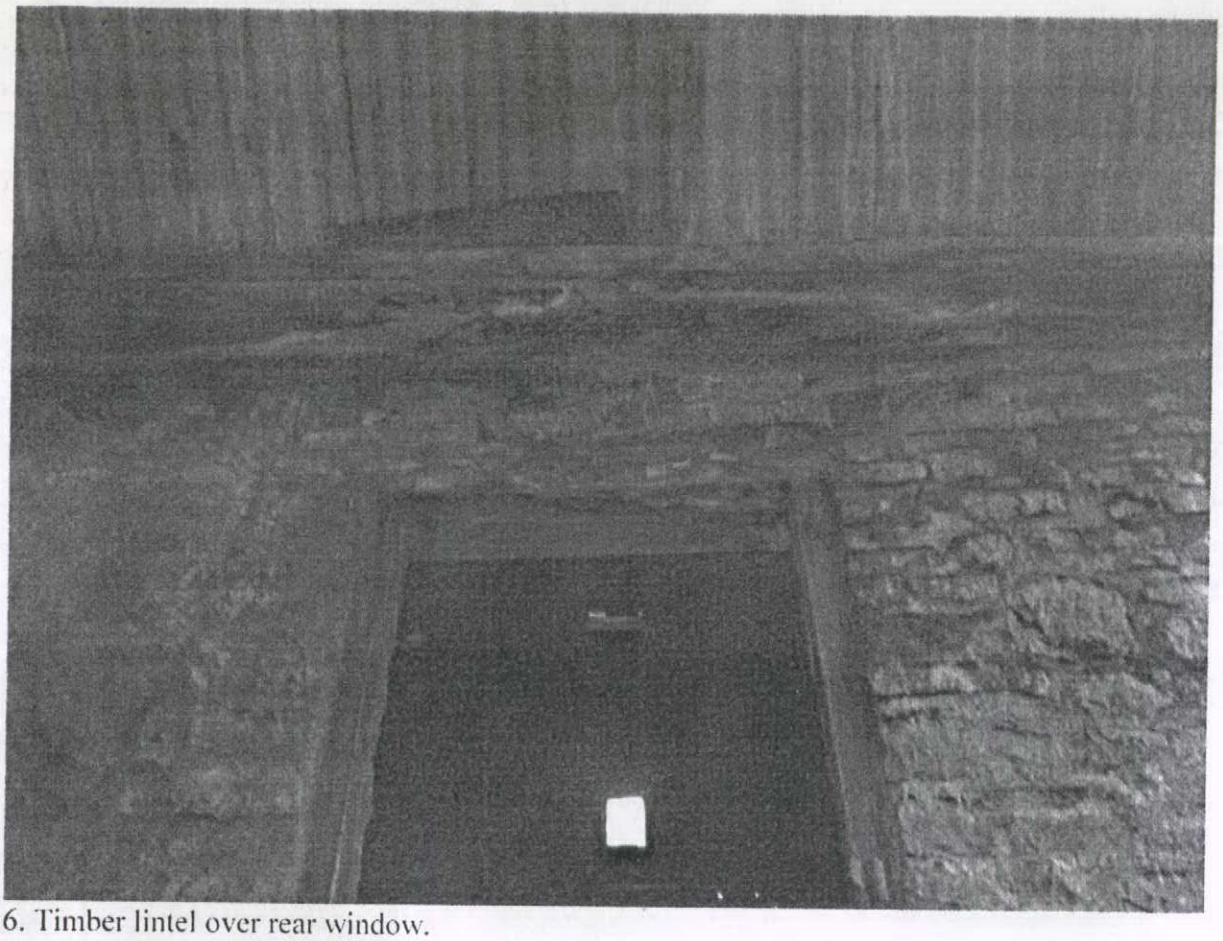
3. Right Elevation.



4. Rear Elevation.



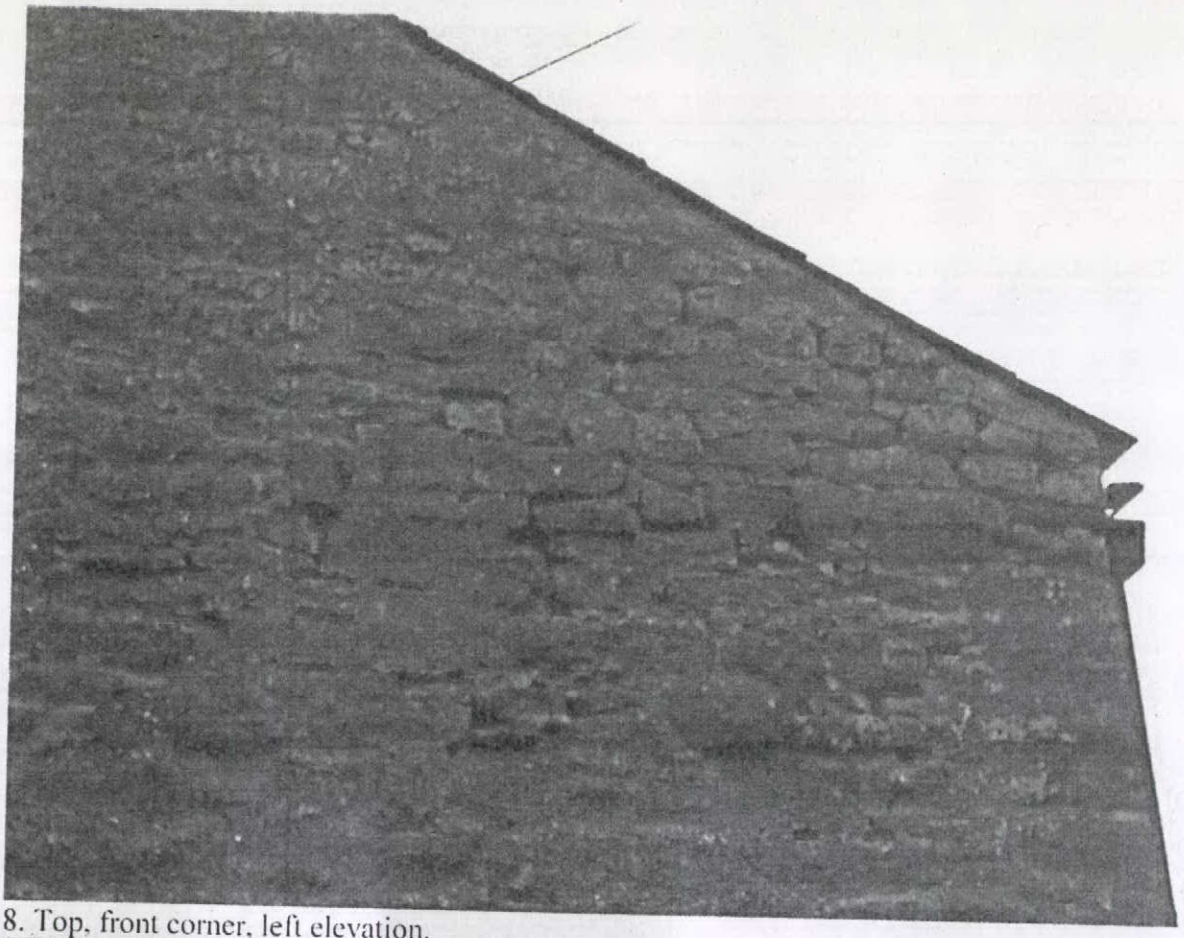
5. Left corner area, rear elevation.



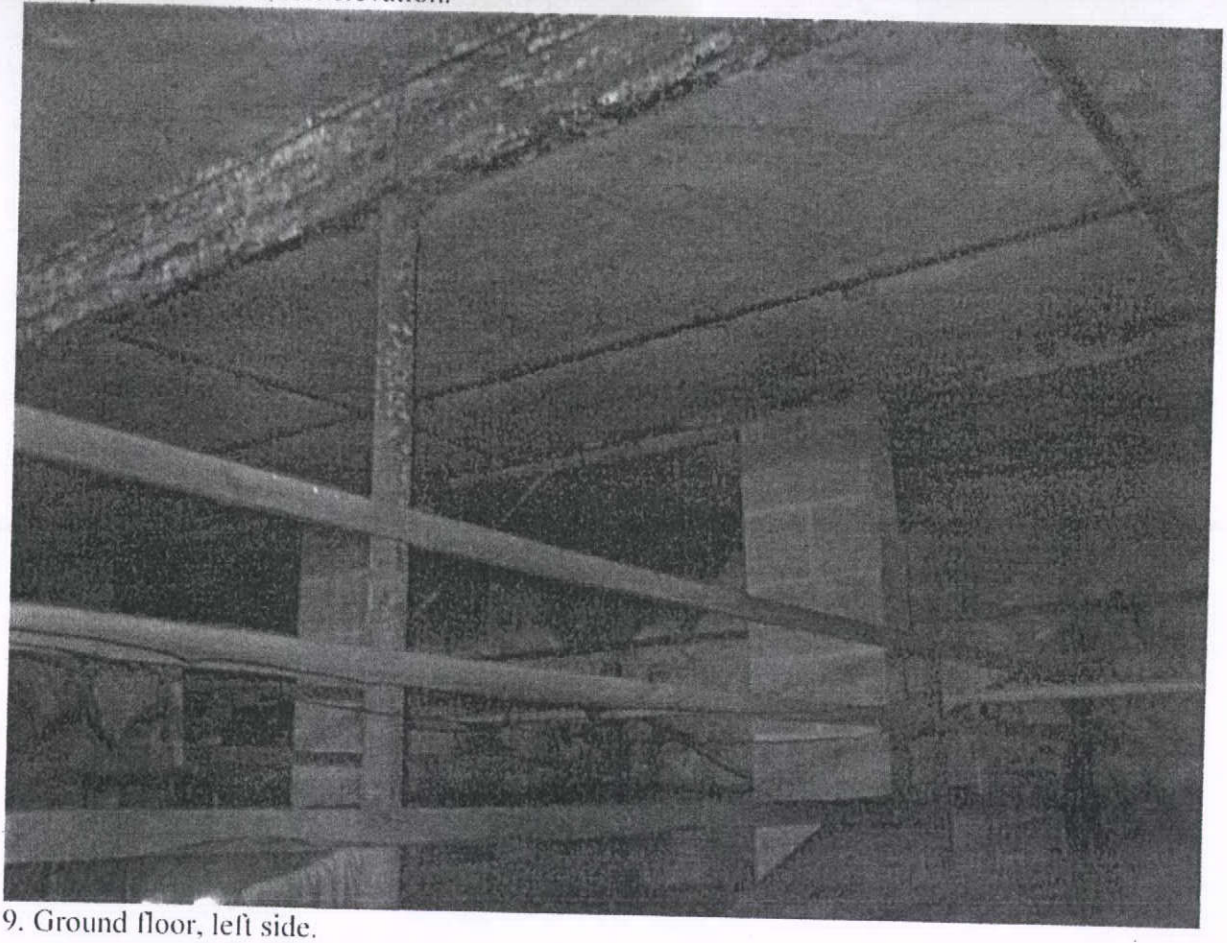
6. Timber lintel over rear window.



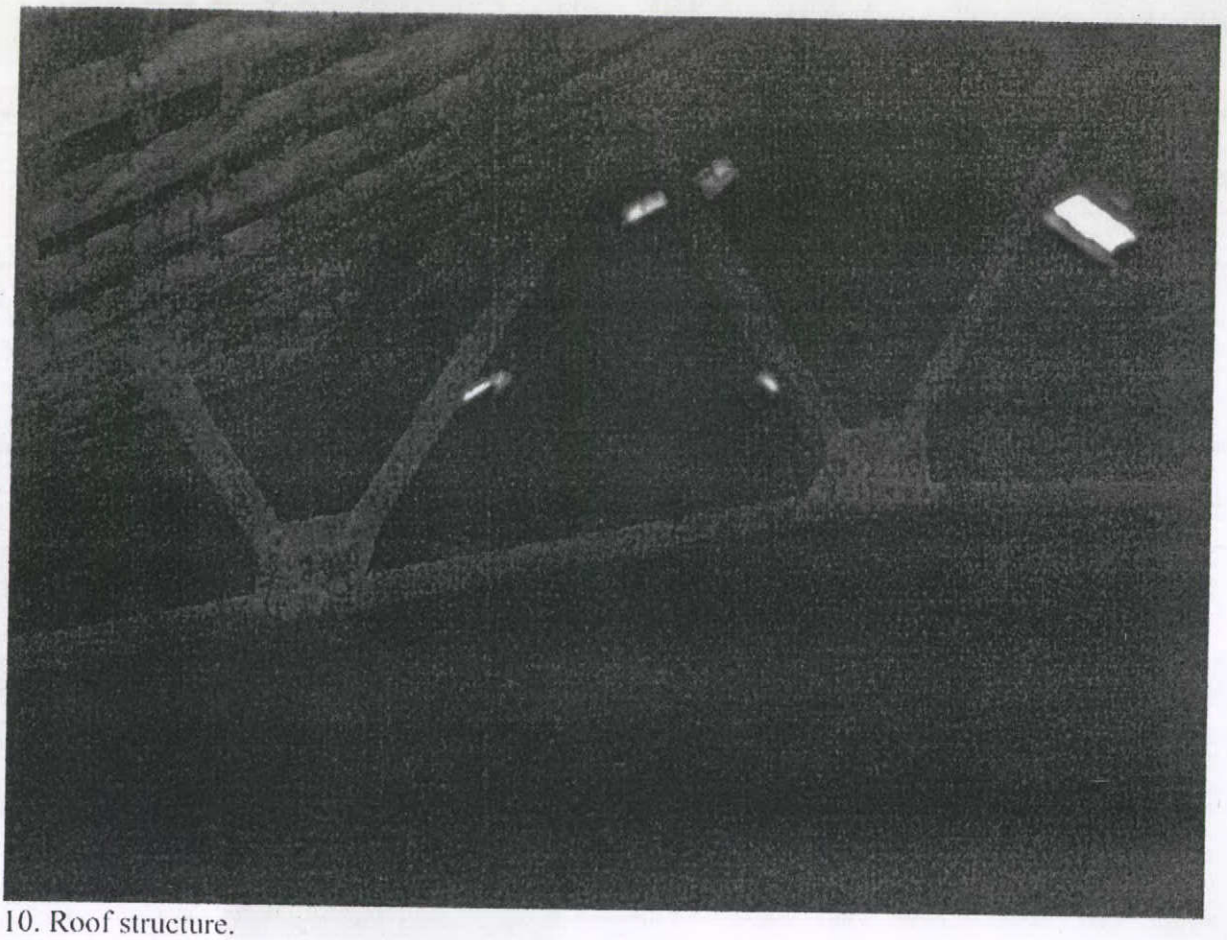
7. Left Elevation.



8. Top, front corner, left elevation.



9. Ground floor, left side.



10. Roof structure.