

The dynamics of human activity and landscape processes on the Yorkshire Wolds; an assessment of dry valley deposits at Cowlam Well Dale

The fieldwork undertaken at the multi-period settlement site of Cowlam Well Dale during 2004 consisted of topographic survey, auger survey and test pit excavation. This was a pilot study for a geoarchaeological PhD project which aims to study a range of dry valley deposits on the Wolds.



Cowlam Well Dale

Research Questions:

- How do we think this landscape has evolved, and been managed, over time?
- What are the nature of the deposits in this dry valley?
- To what extent can we link the deposits to phases of human activity and trace chronological change?
- What methods and techniques are best suited to studying dry valley deposits and what are the limitations?
- How do the deposits on the Yorkshire Wolds differ from those studied, on chalk, in the south of England?

A geoarchaeological approach has been applied to dry valley deposits and slope fills in the south of England mainly on the South Downs, Kent and Wessex (Bell 1983, Preece 1992, Wilkinson 2003).

These studies have contributed to a clearer understanding of land use history and erosion, site formation processes and archaeological visibility and have identified previously unknown settlement sites.

On the Yorkshire Wolds, despite a long archaeological tradition, there is limited understanding of dry valley deposition, erosion or of the effect that landscape processes have on the archaeological record.



The three study areas in the valley

Methods:



Dutch Auger



Topographic survey



Steel auger



Test pit excavation

Results



Two areas of land slip and localised erosion were seen related to quarrying activity



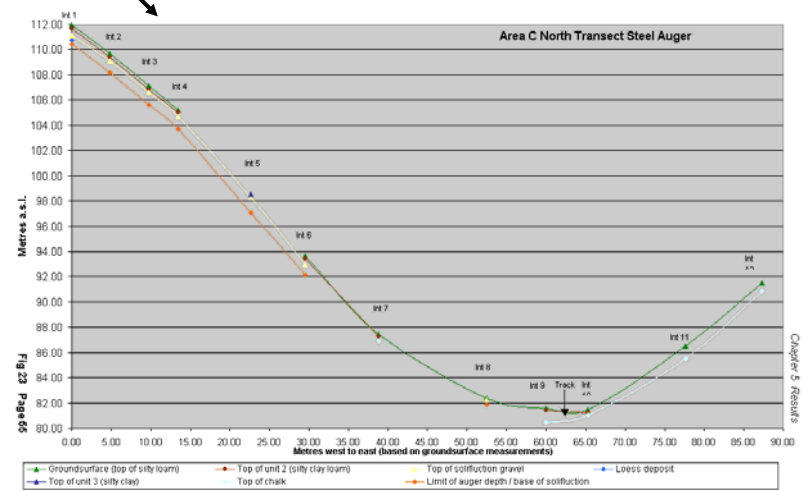
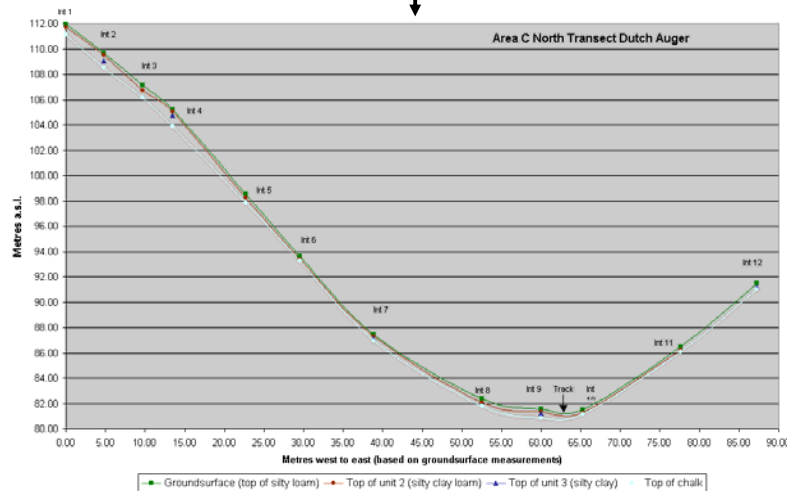
A range of periglacial features were identified (including these involutions) and a primary loess deposit was found.



This woodland gully (left) led to a fan (right) close to the track way in the valley. On excavation a buried soil can clearly be seen in the alluvial fan (below). Soil tests confirmed this and the episode has been related to the severe flood of 1910.



Due to the generosity of the British Geological Survey we were able to conduct a comparative survey between the Dutch auger and German steel auger. We found that the Dutch auger survey was often inaccurate on chalk and gravel deposits but that the steel auger not only penetrated these deposits but also revealed a continuous column of deposit for examination.



Summary



The 'Cowlam Well Experiment' aimed to test the depth of water. This was one of the less conclusive elements of the fieldwork!



Deep redeposited loess based soils, seen as stable deposits at the top of the valley slope

- Overburden lynchet deposits derived from ploughing were seen at the top of the valley scarp and appeared relatively stable with a thinning of deposit downslope
- Deep loessic based soils were found on the western valley scarp and contrasted with shallow rendzinas on the eastern flank. Examples of clay translocation were identified (sols lessive)
- Recent environmental change was seen in the form of a water cut gully and alluvial fan, with buried soil
- Human induced erosion and land slippage was associated with quarrying and ploughing, and the placement of the wood may have been an attempt reduce erosion on the thin soils to the east
- There is evidence for long term management of water sources
- A range of faunal fragments indicate manuring practices over a long period and wide area
- Periglacial features were seen and included a substantial depth solifluction gravels
- A range of ceramic fragments were found from an Early Bronze Age incised ware to a piece of glazed Tudor ware
- The discovery of deep loess based soils, water sources and land management strategies negates previous explanations of Yorkshire Wolds settlement in terms of marginality and environmental determinism

Taking a geoarchaeological off- site approach has great benefits for understanding the human activities and landscape processes which are operating in concert at Cowlam Well Dale both today, and in the past.



The thin chalk soils we were expecting



The artefacts found (from top right): Huntcliff ware, incised pottery and worked flint, calcite grittedware and green glazed Tudorware

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