

and upper leg had been truncated by the grave cut of Skeleton 114, and these bones were found with this skeleton.

Two of the children were also buried on their sides, but were lying on their right side and their heads were at the north-east ends of the grave cut. In these respects, they were the opposite of the position and orientation of the adult skeleton: Skeleton 50 (1-2 years old) was placed on its right side, legs flexed at hips and knees, at least one arm extending towards the knees, and with the head to the north-east; and Skeleton 114 (5-6 years old) was placed on its right side, legs flexed at hips and knees, elbows flexed with both hands near the chin, and the head to the north-east. The grave of the latter was truncated by a phase 2 ditch (112), and an undated pit (129). Skeleton 218 (6-12 months old) was lying on its left side, with the legs tightly flexed at the hip (the position of the lower legs is unclear but the legs may be extended), the arms appear to have extended towards the knees/feet, and the head was to the north. The grave was truncated by a medieval ditch (215).

The position of the two neonates (Skeletons 271 and 3007) is less clear, but it seems both were extended and possibly prone burials. Both were oriented along a north-south axis, but while the head of Skeleton 3007 was to the north, the head of Skeleton 271 was to the south. The graves of both individuals were cut by a later ditch (275), and Skeleton 271 was at the limit of the excavation and truncated by the edge of the trench.

No grave goods were recovered with any of the individuals, but pottery sherds and animal bones were found in the fills of the graves belonging to Skeletons 114, 138, and 50.

Most of the individuals were buried lying on their sides in a flexed or crouched position with the hands on the knees or near the head, with the exception of the two youngest individuals. All were aligned along a north/north-south to south/south-west orientation, with the heads tending to be placed towards the northern end of the grave. The position of the adult seemed to be the reverse of that of the older non-adults, but with such a small sample trying to identify trends in burial practice is only tentative.

6.0 DISCUSSION AND SUMMARY

The skeletal assemblage from Kirby Grindalythe was in excellent condition, with most skeletons being extremely well preserved and largely complete, despite truncation of the graves by later features. Osteological analysis has shown that the small group of inhumed skeletons consisted mainly of young children, but also included a mature adult male. The evidence from the disarticulated bones suggests that at least two other newborn babies or full-term foetuses were buried here. The inclusion of the adult burial in a cemetery that seems to contain predominantly young children is noteworthy. It could be that these excavated graves formed part of a larger cemetery, and by chance an area where children were buried has been excavated. Alternatively, there could be a reason why this adult was buried with these children, although what this might be is unknown. It is even possible that this individual was socially still perceived as a 'child' even though they were biologically an adult.

The children had died at a very young age, with the oldest being only 5-6 years old at the time of death, and the youngest being at most a month or two old. Three of these children showed possible signs of scurvy, including extensive new bone formation in the eye orbits, and some new bone formation elsewhere on the skull and rest of

the skeleton. One had also fractured an arm bone, which could have been related to the other changes observed. It is clear that they had suffered extensively from malnutrition, meaning the food they were fed did not contain enough vitamin C, and so did not include much in the way of fresh fruits and vegetables. Diet is seldom deficient in just one area, so they were probably also suffering from deficiencies in other essential nutrients. The small size for their age of two of these individuals attests that their normal growth was impeded as a result. Malnutrition makes individuals more likely to succumb to infectious diseases, and individuals with scurvy are highly likely to die of acute infections, often those of the lungs (Aufderheide and Rodríguez-Martín 1998). Although the two newborn babies did not show signs of disease on their skeletons, they too were likely to have died as a result of acute infections. The presence of malnutrition in such a high proportion of the individuals buried at Kirby Grindalythe could suggest that the population as a whole was suffering from food shortages, or that they were unable to obtain fresh fruits and vegetables. Alternatively, it could mean that the foods fed to infants and young children were inadequate and lacked the essential nutrients required to sustain health and normal growth.

In contrast, the adult buried at the site had survived to a relatively old age, being at least 45 years old (probably older) at the time of death. However, this individual also showed many signs of disease, including osteoporosis of the spine, which had led to several fractures of the lower vertebrae. These compressed vertebrae could have resulted in a forward bending of the spine, and would have placed strain on the spinal joints. This is reflected by the presence of degenerative changes to the joints and osteoarthritis, which mainly occurred in the vertebrae of the neck and lower back. Other joints in the body also showed signs of degeneration and osteoarthritis, which would be expected in an older individual. Pronounced muscle attachments attest to an active life, with activities involving use of the arms and legs. These activities could also have led to the degeneration of the joints. This individual also had some unusual features, such as disproportionately short lower legs, an unusually thin bone in the palm of the hand, and nodules of bone covering the internal skull vault. It is possible that this individual suffered from a congenital or endocrine syndrome that would cause these changes, and osteoporosis can be associated with such conditions. This individual had also lost almost all their teeth during life, possibly as a result of heavy wear or tooth decay, with the remaining teeth showing a mixed degree of wear: two teeth were worn right down to the roots, but others were barely worn at all. All teeth had a slight amount of mineralised plaque, suggesting inadequate oral hygiene, although considering the age of the individual, heavier accumulations might be expected. There was an abscess beneath one of the teeth, possibly the result of heavy wear.

Most of the children were too young for many teeth to have erupted. Of those that had, one tooth had a small cavity on the occlusal surface, which could suggest a diet containing sugars. However, tooth decay can be linked with poor nutrition. One child had tiny flecks of mineralised plaque on three of their teeth.

The funerary rites practiced at Kirby Grindalythe appear to be consistent with the majority of burials discovered at other Iron Age sites, such as Gargrave in North Yorkshire (Holst 2004). At both sites orientation is predominantly generally north to south, with the heads mainly to the north. Although the females at Gargrave had been subjected to more unusual burial practices, most of the skeletons were placed on their right or left sides in a flexed position, similar to the situation at Kirby Grindalythe. The two possibly prone burials at Kirby Grindalythe were of the newborn babies, and it is feasible they were given a different burial rite to the older children.

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APPENDIX A: OSTEOLOGICAL AND PALAEOPATHOLOGICAL CATALOGUE

Skeleton Number	50									
Preservation	Good (Grade 2)									
Completeness	80-90%, most of skull, long bones (bar distal ends of left radius and ulna), pectoral and pelvic girdles, most ribs, a large portion of the vertebrae, and a few hand and foot bones.									
Age	1-2 years									
Sex	-									
Stature	-									
Non-Metric Traits	-									
Pathology	Possible scurvy: woven bone in both orbits, endocranial surfaces of cranial vault, sphenoid, mandible, maxilla, several ribs, vertebrae, humeri, ilia; bilateral porous lesions on parietals along lambdoid suture.									
Dental Health	Tiny flecks of calculus on 3 teeth, wear absent or slight, 1 pit on the distolingual cusp of RM ¹									
	Right Dentition					Left Dentition				
Present	P (U)	P	P (U)	P	P	P	P	P (U)	P	P (U)
Calculus	-	-	-	Fl	Fm	Fm	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	U	1	U	1	1	1	1	U	2	U
Maxilla	e	d	c	b	a	a	b	c	d	e
Mandible	e	d	c	b	a	a	b	c	d	e
Present	P (U)	P	P (U)	PM	PM	P	P	P (U)	P	P (U)
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	U	1	U	-	-	1	1	U	2	U

Skeleton Number	114									
Preservation	Very Good (Grade 1)									
Completeness	85-95%, most of skull, long bones (bar proximal clavicles) including several epiphyses, pectoral and pelvic girdles, most ribs, all vertebrae, several hand and some foot bones.									
Age	5-6 years									
Sex	-									
Stature	-									
Non-Metric Traits	Ossicle at lambda, ossicles in lambdoid suture (left and right), open posterior condylar canals (left and right), double anterior condylar canals (left and right), absent zygomatico facial foramen (right)									
Pathology	Possible scurvy: woven bone in both orbits, endocranial surfaces of cranial vault, mandible, 10 sternal ribs (left side only), tibiae, fibula, and right radius. Small for age (long bone length = age 3½-4 years). Fracture of proximal third of right radius. Unilateral sacralisation of L5									
Dental Health	One small carious lesion in occlusal surface Ldm ₁									
	Right Dentition					Left Dentition				
Present	P	P	P	PM	P	P	P	P	P	P
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-

Caries	-	-	-	-	-	-	-	-	-	-
Wear	2	2	2	-	3	3	2	2	2	2
Maxilla	e	d	c	b	a	a	b	c	d	e
Mandible	e	d	c	b	a	a	b	c	d	e
Present	P	P	P	P	PM	PM	P	P	P	P
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	oS	-
Wear	3	2	2	2	-	-	2	2	2	3

Skeleton Number	138
Preservation	Very Good (Grade 1)
Completeness	80-90%, most of skull, long bones (bar distal left clavicle, distal right ulna, distal right femur, and proximal fibulae), some of pectoral and pelvic girdles, several ribs, all vertebrae, almost all hand and most foot bones.
Age	46+ years
Sex	Male?
Stature	162.61± 2.99cm
Non-Metric Traits	Ossicles in lambdoid suture (left), mastoid foramen extrasutural (left), open posterior condylar canals (right), anterior and posterior ethmoid foramina extrasutural (left), double atlas facet (left), exostosis in trochanteric fossa (left and right), vastus notch and vastus fossa (left and right), lateral tibial squatting facet (left and right)
Pathology	Osteoporosis: compression fractures of T4, T6, T7, T10, T11 and L5; possibly also T5, T8 and L2; three wedge-shaped vertebrae, at least one cod-fish vertebra; loss of horizontal trabeculae in vertebral bodies in preference to vertical trabeculae; light bones. Degenerative joint disease in spine: bodies (T4 and lower), cervical and lumbar apophyseal facets (worse in left cervical and right lumbar); also clavicles, glenoid fossae of scapula, and left acetabulum. Osteoarthritis in left apophyseal joint between C3 and C4, and right apophyseal joint between L5 and S1; also in one interphalangeal joint between intermediate and distal phalanges of right hand, probably second or third digit. Trauma to sartorius muscle, and pronounced muscle attachments. Disproportionately short tibiae and fibulae. Thin shaft of left fourth metacarpal, right side normal. Nodules and ridges of bone on internal frontal, with nodules also extending over much of internal surface of cranium (parietals, occipital, temporals, sphenoid). Button (ivory) osteoma on right parietal.
Dental Health	26 teeth lost antemortem, uneven wear, slight calculus on most surfaces of remaining teeth, abscess beneath lower right canine.

	Right Dentition						Left Dentition									
Present	AM	AM	AM	P	P	P	AM	AM	AM	AM	P	AM	AM	AM	AM	AM
Calculus	-	-	-	Sa	Sa	Sdbl	-	-	-	-	Sb	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	2	2	5	-	-	-	-	8	-	-	-	-	-
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	e	6	7	8
Present	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	P	AM	AM	AM	AM	AM
Calculus	-	-	-	-	-	-	-	-	-	-	Sdlb	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-

Skeleton Number	218
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Preservation	Very Good (Grade 1)									
Completeness	80-90%, most of skull, long bones (bar proximal left tibia, distal right humerus, distal right ulna and radius, distal right and left femora, distal right tibia and fibula), pectoral and pelvic girdles, most ribs, almost all vertebrae, several hand bones.									
Age	6-12 months									
Sex	-									
Stature	-									
Non-Metric Traits	Possibly ossicle at lambda and ossicle in lambdoid suture (right), open posterior condylar canals (left and right)									
Pathology	Possible scurvy: woven bone in both orbits, endocranial and ectocranial surfaces of cranial vault, mandible, ribs, tibiae, ilia. Small for age (long bone length = age 3-6 months).									
Dental Health	One small carious lesion in occlusal surface Ldm ₁									
	Right Dentition					Left Dentition				
Present	P (U)	PM	P (U)	PM	P (U)	PM	PM	P (U)	P (U)	PM
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-
Maxilla	e	d	c	b	a	a	b	c	d	e
Mandible	e	d	c	b	a	a	b	c	d	e
Present	P (U)	P (U)	P (U)	PM	PM	PM	P (U)	P (U)	P (U)	P (U)
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-

Skeleton Number	271
Preservation	Very Good (Grade 1)
Completeness	60-70%, parts of skull, most long bones (bar proximal right radius, whole left tibia and fibula), parts of pectoral and pelvic girdles, most ribs, some vertebrae, a few hand bones.
Age	0-3 months
Sex	-
Stature	-
Non-Metric Traits	-
Pathology	New bone over several bones – probably related to normal growth
Dental Health	-

Skeleton Number	3007
Preservation	Excellent (Grade 0)
Completeness	60-70%, parts of skull, long bones (bar distal right clavicle, proximal right and left radii and distal left radius, complete right ulna, distal left ulna, complete right tibia and fibula), some pectoral and pelvic girdles, almost all ribs, almost all vertebrae, several hand and a few foot bones.
Age	0-2 months
Sex	-
Stature	-
Non-Metric Traits	-

Pathology	-									
Dental Health	-									
	Right Dentition					Left Dentition				
Present	-	-	-	-	-	P (U)	PM	PM	P (U)	PM
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-
Maxilla	e	d	c	b	a	a	b	c	d	e
Mandible	e	d	c	b	a	a	b	c	d	e
Present	P (U)	PM	P (U)	PM	PM	P (U)	P (U)	PM	P (U)	P (U)
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-

KEY:

Present - Tooth presence; am - ante-mortem tooth loss; pm - post-mortem tooth loss; p - tooth present; p (u) - tooth present but unerupted
 - - jaw not present

Caries - Calculus; F - flecks of calculus; S - slight calculus; M - moderate calculus; H - heavy calculus; a - all surfaces; b - buccal surface; d - distal surface; m - mesial surface; l - lingual surface; o - occlusal surface

DEH - dental enamel *hypoplasia*; l - lines; g - grooves; p - pits

Caries - caries; s - small lesions; m - moderate lesions; l - large lesions

Wear - dental wear; numbers from 1-8 - slight to severe wear

DISARTICULATED REMAINS AND ADDITIONAL BONE

Context No	Bone	Part	Side	Age	Sex	Comment
15	Femur	Distal half	Left	Foetus/ neonate	-	
15	Ulna	Proximal third	Right	Foetus/ neonate	-	
106	Humerus	Complete diaphysis	Right	Foetus/ neonate	-	Length = 68mm; covered in grey porous woven bone
114 (additional bone)	Hand phalanx	Complete	-	Non-adult	-	
114 (additional bone)	Long bone	Shaft fragment	-	Non-adult	-	
283	Femur	Complete diaphysis	Left	Foetus/ neonate	-	Length = 76mm
283	Tibia	Complete diaphysis	Right	Foetus/ neonate	-	In two parts; medial shaft covered in grey porous woven bone
283	Ribs x4	Body fragments	-	Foetus/ neonate	-	Covered in grey woven bone



Scottish Universities Environmental Research Centre

Rankine Avenue
Scottish Enterprise Technology Park
East Kilbride Scotland UK G75 0QF

Director: Professor A E Fallick

Email: g.cook@suerc.gla.ac.uk
Telephone: 01355 223332
Direct Dial: 01355 270136
Fax: 01355 229898

RADIOCARBON DATING CERTIFICATE

18 July 2006

Laboratory Code SUERC-10770 (GU-14187)

Submitter Malin Holst
York Osteoarchaeology Ltd
Fox & Hounds Cottage
Tockwith Rd, Long Marston
York YO26 7PQ

Site Reference Kirkby Grindalythe
Sample Reference SK138

Material Bone : Human Rib

$\delta^{13}\text{C}$ relative to VPDB -20.2 ‰

Radiocarbon Age BP 2075 \pm 35

- N.B.
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code.

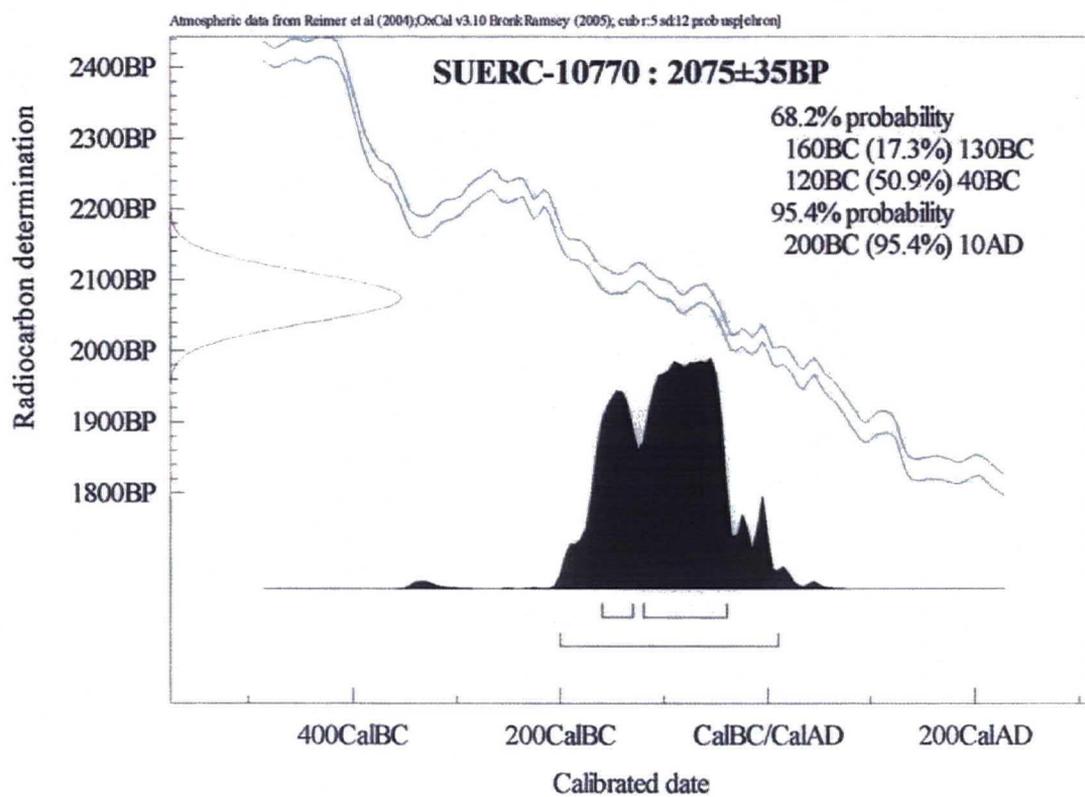
Conventional age and calibration age ranges calculated by :- R. Anderson Date :- 18-7-06

Checked and signed off by :-

Gordon Cook

Date :- 18-7-06

Calibration Plot





Scottish Universities Environmental Research Centre

Rankine Avenue
Scottish Enterprise Technology Park
East Kilbride Scotland UK G75 0QF

Director: Professor A E Fallick

Email: g.cook@suerc.gla.ac.uk
Telephone: 01355 223332
Direct Dial: 01355 270136
Fax: 01355 229898

RADIOCARBON DATING CERTIFICATE

18 July 2006

Laboratory Code SUERC-10769 (GU-14186)

Submitter Malin Holst
York Osteoarchaeology Ltd
Fox & Hounds Cottage
Tockwith Rd, Long Marston
York YO26 7PQ

Site Reference Kirkby Grindalythe
Sample Reference SK114

Material Bone : Human Rib

$\delta^{13}\text{C}$ relative to VPDB -19.7 ‰

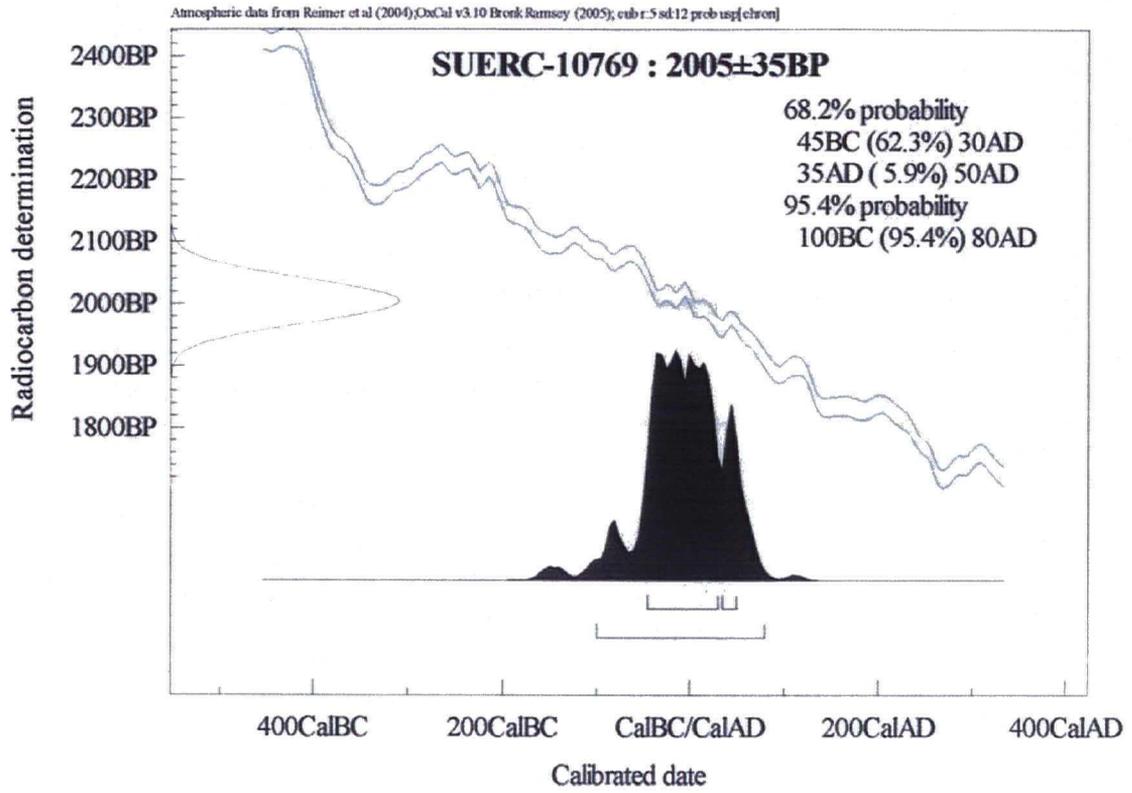
Radiocarbon Age BP 2005 \pm 35

- N.B.**
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code.

Conventional age and calibration age ranges calculated by :- R. Anderson Date :- 18-7-06

Checked and signed off by :- Gordon Cook Date :- 18.7.06

Calibration Plot



APPENDIX 7

**WRITTEN SCHEME OF INVESTIGATION FOR
ARCHAEOLOGICAL EVALUATION**

KIRBY GRINDALYTHE, NORTH YORKSHIRE

NGR SE 9052 6759

**Prepared by MAP Archaeological Consultancy Ltd
on behalf of Hogg Builders (York) Ltd**

August 2005

LAND AT LOW FARM, KIRBY GRINDALYTHE, NORTH YORKSHIRE

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION

1. Summary

- 1.1 Residential development is proposed on pasture land at Low Farm, Kirby Grindalythe, North Yorkshire. This will comprise the demolition of existing farm buildings, the conversion of an existing barn, the erection of six dwellings and associated infrastructure. The site lies within an area of potential archaeological significance within the historic core of the village, in an area of medieval, and potentially earlier, settlement. There is felt to be a strong likelihood of archaeological remains being present as the site lies close to areas where records indicate the survival of medieval settlement.
- 1.2 Accordingly, the Heritage Unit has advised the Local Planning Authority that a scheme of archaeological evaluation is undertaken on the site. The aim of this work is to establish the nature, location, extent and state of preservation of archaeological remains within the development area. This results of this work will enable the archaeological impact of the development to be fully appreciated and any appropriate design mitigation and/or further archaeological work agreed to preserve archaeological deposits either *in situ*, or by record. This scheme of investigation has been prepared to define the scope of this archaeological evaluation for MAP Archaeological Consultancy Ltd, acting on behalf of Hogg Builders (York) Ltd.

2. Purpose

- 2.1 This written scheme of investigation represents a summary of the broad archaeological requirements to enable an assessment of the impact of development proposals upon the archaeological resource. This is in accordance with Policy C13 of the Ryedale Local Plan (March 2002) and the guidance of Planning Policy Guidance note 16 on *Archaeology and Planning*, 1990. It does not comprise a full specification, and the County Council makes no warranty that the archaeological works are fully or exactly described. The details of implementation must be specified in a contract between the Client and the selected archaeological contractor.

3. Location and Description (centred at NGR SE 9052 6759)

- 3.1 A full planning application (ref. 03/00330/FUL) was submitted to Ryedale District Council by of Hogg Builders (York) Ltd in March 2003 for the residential development of c. 0.4 hectares of land at Low Farm, Kirby Grindalythe, North Yorkshire. The extent of the application area is indicated on a site location plan prepared by Michael Courcier & Partners Ltd at 1:1250 scale, (no reference or date). The as existing and proposed site plans are indicated on drawings prepared by the Downes Illingsworth Partnership Ltd in March 2003, no. 3016/08 at 1:500 & 1:200 scale, dated March 2003 and 3016/01 at 1:200 scale respectively. The proposed development will comprise the conversion of an existing barn to one dwelling, and the demolition of other farm buidings and the erection of six new dwellings.
- 3.2 The village of Kirby Grindalythe lies along the northern edge of the Yorkshire Wolds, between Duggleby to the west and West Lutton in the east, along the course of the Gypsy Race. This is an area of Ryedale where the pattern of medieval nucleated settlements, both villages and hamlets, still dominates the archaeological landscape as either deserted settlement sites, or sites still occupied by rural communities. The Ryedale Local Plan (para. 9.5.7, March 2002) identifies this area, 500m either side of the Gypsy Race, as one of three key areas of particular archaeological sensitivity within the District for which applicants should provide detailed archaeological information in support of their planning application.

- 3.2 The application site lies in the centre of the village, north-east of the village crossroads, to the south of the main road between Duggleby and West Luton, and to the north of the Gypsy Race. The southern part of the application site at Low Farm is occupied by the existing farm house and associated farmyard and buildings, and some areas of garden. The northern half of the site, at the time of a recent site visit, was visible from the main road through a timber fence and is currently open grass pasture for a number of horses. Feint traces of earthworks were visible, and the site slopes downwards from north to south by c. 5m. This area was not, however, felt to be suitable for prior geophysical survey as it was covered by a number of small spoil heaps and hay bales, as well as various metal items, including a cart and metal barrels.

4. Historical and Archaeological Background

- 4.1 The proposed development site lies within an area of archaeological significance within the shrunken medieval village of Kirby Grindalythe. At the western edge of the village of Kirby Grindalythe, to the west of the church of St Andrew, an area of medieval settlement earthworks has been designated as a Scheduled Ancient Monument of national archaeological importance (monument ref SM 32640). The earliest evidence for settlement in the village is provided by the five fragments of 9th and 10th century Anglian and Anglo-Scandinavian carved stone crosses found in the 19th century and built into the internal wall faces of the church tower. The Domesday Book of 1087 records that the land holding in Kirby Grindalythe was simplified after the Norman Conquest when the manors of Ketilbjorn, which included parts of Thirkleby and Low Mowthorpe, and Thorfinnr both passed to Count Robert Mortain, the half brother of William the Conqueror. The much smaller land holding belonging to Uglubarthr passed to the king. In 1293-4 Geoffrey Aguyllun is recorded as holding the manor in Kirby Grindalythe with rights to small game hunting. Only four people were listed for the 1297 Lay Subsidy, a tax levied on people with assets in excess of 9 shillings. The settlement as a whole was taxed 38 shillings for the 1334 Lay Subsidy which was slightly higher than the average for the area. In 1311 the church, along with some land in the parish, was granted to the Augustinian priory at Kirkham. This holding, which was increased by subsequent gifts, passed into the hands of the Crown in 1539 at the Dissolution of the Monasteries and was granted in part to Richard Foster in 1606. Surviving legal documents from the 17th and 18th centuries chart changes in ownership of not just the manor, but of other properties in the village and the neighbouring townships of Duggleby, Mowthorpe and Thirkleby. In 1755 the medieval style open fields of Kirby Grindalythe and the neighbouring township of Mowthorpe were enclosed and the land ownership was rationalised by agreement.
- 4.2 There are few sources of water on the free draining chalk of the Yorkshire Wolds. As a result the Gypsy Race has long acted as a focus for settlement and in the medieval period there was a continuous string of settlements along the course of the stream, many of which have since then contracted to a single farm or have been abandoned entirely. Kirby Grindalythe was and still is the main settlement in the upper part of the Gypsy Race valley, the site of the church and centre of the parish. It is thought that the village was originally centred on the parish church and the manor house to its east and was abandoned in stages from the late medieval period onwards.
- 4.3 In addition to this scheduled area on the western edge of the present village, the 1890 Ordnance Survey map (25", Sheet 143/3) records a number of other areas of 'Old Foundations' around the village, including the field immediately adjacent to the eastern boundary of the present application site. There has been limited archaeological work within the village, however, works at Manor Farm in 1992, to the west of the application site, demonstrated the survival of sub-surface archaeological remains, including human burials believed to have been part of the old churchyard of the original medieval church (LRC 1992). There is potential, therefore, for the redevelopment of the present farm and farmyard to encounter remains associated with medieval and potentially earlier settlement.
- 4.4 Archaeological information for the area is held by the North Yorkshire Sites and Monuments Record (SMR). The SMR can be consulted by prior appointment by contacting the SMR Officer, North Yorkshire County Council, Heritage Unit, County Hall, Northallerton, North Yorkshire, DL7 8AH; Tel. 01609 532331, Fax. 01609 779838.

5. Objectives

5.1 The objectives of the archaeological evaluation work within the proposed development area are:

- .1 to determine by means of trial trenching, the nature, depth, extent and state of preservation of any archaeological deposits to be affected by the development proposals. Trial trenches of sufficient size and depth to provide this information will need to be excavated, and archaeological deposits will need to be explicitly related to depths below existing surface and actual heights in relation to Ordnance Datum.
- .2 to prepare a report summarising the results of the work and assessing the archaeological implications of proposed development,
- .3 to prepare and submit a suitable archive to the appropriate museum.

6. Tenders

6.1 Archaeological contractors should submit their estimates or quotations to the commissioning body with reference to the County Council's *Guidance for Developers – Archaeological Work and Research Questions for Assessments, Evaluations and Small Scale Interventions in North Yorkshire*.

7. Variations to Work

7.1 An allowance of time, or a contingent sum for bad weather, should be agreed as part of any contract. Variations to work arising from the presence of structures or archaeological remains not anticipated by the written scheme of investigation or the archaeological contractor should be subject to consultation with the Archaeologist, NYCC and the commissioning body, and put into effect as appropriate with the written agreement of the parties involved.

8. Access, Safety and Monitoring

8.1 Access to the site should be arranged through the commissioning body.

8.2 It is the archaeological contractor's responsibility to ensure that Health and Safety requirements are fulfilled.

8.3 The project will be monitored by the Archaeologist, North Yorkshire County Council, to whom written documentation should be sent before the start of the trial trenching confirming: a) the date of commencement, b) the names of all finds and archaeological science specialists likely to be used in the evaluation, and c) notification to the proposed archive repository of the nature of the works and opportunity to monitor the works.

8.4 Where appropriate, the advice of the Regional Advisor for Archaeological Science (Yorkshire) at English Heritage will be called upon.

8.5 It is the archaeological contractor's responsibility to ensure that monitoring takes place by arranging monitoring points as follows:

- .1 a preliminary meeting or discussion at the commencement of the contract to agree the locations of the proposed trial trenches.
- .2 progress meeting(s) during the fieldwork phase at appropriate points in the work schedule, to be agreed.

- .3 a meeting during the post-fieldwork phase to discuss the draft report and archive before completion.
- 8.6 It is the responsibility of the archaeological contractor to ensure that any significant results are brought to the attention of the Archaeologist, North Yorkshire County Council and the commissioning body as soon as is practically possible. This is particularly important where there is any likelihood of the contingency arrangements being required.
- 9. Brief**
- 9.1 It is suggested that a maximum of seven areas of trial trenching should be excavated within the application site, placed to sample different locations and topography. Archaeological contractors should quote for an area of 110m² to be investigated to determine the nature, depth, extent and state of preservation of archaeological deposits across the site. The suggested minimum trench size is 5m x 2m. The precise location and size of trenches should be agreed with the Archaeologist, North Yorkshire County Council and the commissioning body prior to excavation (see 8.5.1 above). The project should be undertaken in a manner consistent with the guidance of MAP2 (English Heritage, 1991) and professional standards and guidance (IFA, 1999).
- 9.2 Archaeological investigation should be carried out over the full area of each trench, either by area excavation or sectioning of features in order to fulfil Objective 5.1.1 above. Sondages or slit trenches should be used only to facilitate the recording of the trench; they should not be used to provide a representative sample of the trench. Where excavation below a safe working depth constrains investigation, consideration should be given to stepping back or shoring the excavation. In case of query as to the extent of investigation, a site meeting shall be convened with the Archaeologist, North Yorkshire County Council.
- 9.3 All deposits should be fully recorded on standard context sheets, photographs and conventionally-scaled plans and sections. Each trench area should be recorded to show the horizontal and vertical distribution of contexts. Normally, all four sides of a trench should be recorded in section. Fewer sections can be recorded only if there is a substantial similarity of stratification across the trench. The elevation of the underlying natural subsoil where encountered should be recorded. The limits of excavation should be shown in all plans and sections, including where these limits are coterminous with context boundaries.
- 9.4 Overburden such as turf, topsoil, made ground, rubble or other superficial fill materials may be removed by machine using a mini-digger fitted with a toothless or ditching bucket. Mechanical excavation equipment shall be used judiciously, under archaeological supervision down to the top of archaeological deposits, or the natural subsoil (C Horizon or soil parent material), whichever appears first. Bulldozers or wheeled scraper buckets should not be used to remove overburden above archaeological deposits. Topsoil should be kept separate from subsoil or fill materials. Thereafter, hand-excavation of archaeological deposits should be carried out. The need for, and any methods of, reinstatement should be agreed with the commissioning body in advance of submission of tenders.
- 9.5 Metal detecting, including the scanning of topsoil and spoil heaps, should only be permitted subject to archaeological supervision and recording so that metal finds are properly located, identified, and conserved. All metal detection should be carried out following the Treasure Act 1996 Code of Practice.
- 9.6 Due attention should be paid to artefact retrieval and conservation, ancient technology, dating of deposits and the assessment of potential for the scientific analysis of soil, sediments, biological remains, ceramics and stone. All specialists (both those employed in-house and those sub-contracted) should be named in project documentation, their prior agreement obtained before the fieldwork commences and opportunity afforded for them to visit the fieldwork in progress.
- 9.7 All artefacts and ecofacts visible during excavation should be collected and processed, unless variations in this principle are agreed with the Archaeologist, North Yorkshire County Council. In some cases, sampling may be most appropriate.

- 9.8 Finds should be appropriately packaged and stored under optimum conditions, as detailed in First Aid for Finds (Watkinson & Neal, 1998). In accordance with the procedures of MAP2 (English Heritage, 1991), all iron objects, a selection of non-ferrous artefacts (including all coins) and a sample of any industrial debris relating to metallurgy should be X-radiographed before assessment. Where there is evidence for industrial activity, large technological residues should be collected by hand, with separate samples collected for micro-slugs. In these instances, the guidance of English Heritage/Historical Metallurgy Society (1995) should be followed.
- 9.9 Samples should be taken for scientific dating, principally radiocarbon dating, where dating by artefacts is insecure and where dating is a significant issue for the development of subsequent mitigation strategies.
- 9.10 Buried soils and sediment sequences should be inspected and recorded on site and samples for laboratory assessment collected where appropriate, in collaboration with a recognised geoarchaeologist. The guidance of Canti, 1996 should be followed.
- 9.11 A strategy for the sampling of deposits for the retrieval and assessment of the preservation conditions and potential for analysis of all biological remains should be devised. This should include a reasoned justification for the selection of deposits for sampling and should be developed in collaboration with a recognised bioarchaeologist. Sampling methods should follow the guidance of the Association for Environmental Archaeology (1995). Bulk samples and samples taken for coarse-sieving from dry deposits should be processed at the time of fieldwork wherever possible.
- 9.12 Upon completion of archaeological field recording work, a full and appropriate programme of analysis and publication of the results of the evaluation should be completed, in the event that no further excavation takes place. The post-excavation assessment of material should be undertaken in accordance with the guidance of MAP2 (English Heritage, 1991).

10. Archive

- 10.1 Archive deposition should be undertaken with reference to the County Council's *Guidelines on the Transfer and Deposition of Archaeological Archives*. A field archive should be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of contexts, finds, soil samples, plans, sections and photographs should be produced and cross-referenced.
- 10.2 The archaeological contractor should liaise with an appropriate museum to establish the detailed requirements of the museum and discuss archive transfer in advance of fieldwork commencing. In this instance the Malton Museum is suggested. The relevant museum curator should be afforded access to visit the site and discuss the project results.

11. Copyright

- 11.1 Copyright in the documentation prepared by the archaeological contractor and specialist sub-contractors should be the subject of an additional licence in favour of the museum accepting the archive to use such documentation for their statutory educational and museum service functions, and to provide copies to third parties as an incidental to such functions.

12. Report

- 12.1 An evaluation report should be prepared following County Council's guidance on reporting: *Reporting Check-List*. The report should set out the aims of the work and the results as achieved. Diagrams should be included to illustrate the location and depth of archaeological deposits in relation to existing ground levels, and projected depths of disturbance associated with the development proposals, where these are known. The report should identify the archaeological potential of the site, the research questions applicable to the site, and the deposits, finds or areas needing further investigation. The report should also include a listing of contexts, finds, plans and sections, and photographs.

- 12.2 All excavated areas should be accurately mapped with respect to nearby buildings and roads.
- 12.3 At least six copies of the report should be produced and submitted to the commissioning body, North Yorkshire County Council Heritage Unit, the museum accepting the archive, and the National Monuments Record, Swindon.

13. Further Information

- 13.1 Further information or clarification of any aspects of this brief may be obtained from:

Gail Falkingham, MIFA
Archaeologist
North Yorkshire County Council
Heritage Unit
County Hall
Northallerton
North Yorkshire
DL7 8AH

e: gail.falkingham@northyorks.gov.uk
Tel: 01609 532839
Fax: 01609 779838

13.2 References

Association for Environmental Archaeology	1995	Environmental Archaeology and Archaeological Evaluations, Recommendations Concerning the Environmental Archaeology Component of Archaeological Evaluations in England. <i>Working Papers of the Association for Environmental Archaeology, Number 2.</i>
Canti, M	1996	Guidelines for carrying out Assessments in Geoarchaeology, <i>Ancient Monuments Laboratory Report 34/96</i> , English Heritage
English Heritage	1991	Management of Archaeological Projects
English Heritage/ Historical Metallurgy Society	1995	Archaeometallurgy in Archaeological Projects
Institute of Field Archaeologists	1999	Standard and Guidance for Archaeological Field Evaluations http://www.archaeologists.net/docs/codes/fldeval2.pdf
Landscape Research Centre	1992	Archaeological Watching Brief, Kirby Grindalythe, N Yorks
Watkinson, D & Neal, V	1998	First Aid for Finds (3 rd edition), RESCUE & the Archaeological Section of the United Kingdom Institute for Conservation.