



KULTURHISTORISK
MUSEUM
UNIVERSITETET I OSLO
FORMINNESEKSJONEN

Postboks 6762,
St. Olavs Plass
0130 Oslo

RAPPORT

ARKEOLOGISK UTGRAVNING

GRAVMINNER
LINGUM 1064/6
LARVIK, VESTFOLD

UTGRAVNINGSLEDER: Michael Derrick
PROSJEKTLEDER: Ole Christian Lønass



Oslo 2014



KULTURHISTORISK
MUSEUM
UNIVERSITETET
I OSLO

Gårds-/ bruksnavn	G.nr./ b.nr.
Lingum	1064/6
Kommune	Fylke
Larvik	Vestfold
Saksnavn	Kulturminnetype
Krukåsen	Gravminner
Saksnummer (arkivnr. Kulturhistorisk museum)	Prosjektkode
10/15471-7	430254
Eier/ bruker, adresse	Tiltakshaver
Postboks 120, 3901 Porsgrunn	Feste Grenland AS
Tidsrom for utgravning	M 711-kart/ UTM-koordinater/ Kartdatum
27.09.2012 – 09.11.2012	EU89-UTM; Sone 32V
ØK-kart	ØK-koordinater
CH 026-5-4	N 6560205.62 Nord Ø Øst 220856.55.
A-nr.	C.nr.
2012/175	C58446, C58447.
ID-nr (Askeladden)	Negativnr. (Kulturhistorisk museum)
48737 og 19132	Cf34611
Rapport ved:	Dato:
Michael Derrick	21.02.2014
Saksbehandler:	Prosjektleder:
Ole Christian Lønaas	Ole Christian Lønaas

SAMMENDRAG

I forbindelse med ny reguleringsplan for Krukåsen 1056/1, 1056/2 og Lingum 1064/6 gjennomførte KHM en arkeologisk utgravning av en gravhaug og en gravrøys (ID 48737 og 19132) i perioden 27.09.2012 – 09.11.2012. Krukåsen ligger mellom byene Sandefjord og Larvik, om lag 5 km i luftlinje fra kysten, på utsiden av Raet, i overkant av 1 km unna. Den N-S-gående åsryggen består av to lave koller som er preget av eksisterende steinbrudd med tilhørende deponiområde.

Gravrøysen var oval og besto av en lav røys omgitt av en fotkjede av store stein. Det ble funnet flere gjenstander i røysen, men ingen beinrester. Funnene omfattet sverdhjalt med grep, kniv, seks perler, skår av klebersteinskar, slipestein og fragmenter av bly (C58446). Perlene kan dateres til FvT/MvT, og sverdhjaltet til Vikingtid. Under røysen ble det funnet enkelte fragmenter av flint, hvorav en flateretusjert som kan dateres til SN/EBA. Disse indikerer at området også omfatter steinalderaktivitet.

Gravhaugen var skadet av anleggsvei og det var lagt moderne masser inntil, og delvis over haugen. Mindre enn 50 prosent av haugen var bevart og den kan ha vært rekonstruert i moderne tid. I tillegg var det en plyndringssjakt og grop midt i haugen. Det ble funnet en spiker av jern og ett vektlodd av bly (C58447), men ingen beinrester. Haugen lå like ved, og var svært lik, en annen gravhaug som ble undersøkt i 1978. Denne ble datert til EJA. Det er sannsynlig at begge haugene har tilhørt samme gravfelt.



1 Table of Contents

1	INTRODUCTION	6
2	PARTICIPANTS, PERIOD OF TIME	6
3	VISITORS TO THE EXCAVATION	6
4	LANDSCAPE, ARCHAEOLOGICAL SITES AND FINDS.....	6
5	IMPLEMENTATION, PRIORITIES, METHOD AND PROGRESSION	9
5.1	The aims and priorities of the excavation	9
5.2	Excavation method.....	10
5.3	Progression in the field	14
5.4	Source critical problems.....	14
6	EXCAVATION RESULTS.....	16
6.1	Burial cairn 1.....	16
6.2	Burial mound 2.....	19
6.3	Finds.....	22
7	BOTANICAL SAMPLES AND ANALYSIS.....	22
7.1	Charcoal species analysis.....	22
7.2	Radiocarbon dating	23
7.3	Macrofossil analysis	23
8	REVIEW OF THE RESULTS, INTERPRETATION AND DISCUSSION	23
8.1	Burial mound 2.....	23
8.1.1	Location and construction	23
8.1.2	Plundering	23
8.1.3	Burial customs and grave goods.....	24
8.1.4	Dating	24
8.2	Burial cairn 1.....	25
8.2.1	Location and construction	25
8.2.2	Plundering	25
8.2.3	Grave goods and dating	26
8.2.4	Burial customs.....	29
8.2.5	Evidence of earlier activity.....	29

9 CONCLUSION.....	30
10 LITERATURE	30
11 APPENDIX.....	32
11.1 List of features	32
11.2 Tilveksttekst, C58446 og C58447	35
11.3 Botanical samples	37
11.3.1 Charcoal samples	37
11.3.2 Macrofossil samples	37
11.4 List of photos	37
11.5 Results from botanical analysis.....	42
11.6 Archived original documentation	48
11.7 Communication with the press and public.....	49

List of figures;

<i>Figure 1 Map showing the location of the two burial monuments Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 06/03/2013 MS.....</i>	<i>7</i>
<i>Figure 2 Location map Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 06/03/2013 MS</i>	<i>8</i>
<i>Figure 3 Cleaning Burial cairn 1 prior to excavation. Facing south-west (Cf34611_78)10</i>	
<i>Figure 4 Surveying burial cairn. Facing south-east Cf34611_90</i>	<i>11</i>
<i>Figure 5 Arne Schau using the telescopic tripod assisted by his grandson Edvin. Facing south-west (Cf 34611_88)</i>	<i>12</i>
<i>Figure 6 machine removal of stones from the burial cairn. Facing south/south-west (Cf 34611_131)</i>	<i>13</i>
<i>Figure 7 the remains of burial mound 2. Facing north/ north-west (Cf34611_93)</i>	<i>14</i>
<i>Figure 8 Burial cairn 2 under wraps. Facing south (Cf34611_140)</i>	<i>15</i>
<i>Figure 9 Burial mound 1 surrounded by modern debris and partially cut by an access road. Facing north-west (Cf 34611/83)</i>	<i>15</i>
<i>Figure 10 Burial cairn. Facing south-west (Cf 34611_08)</i>	<i>16</i>
<i>Figure 11 Burial cairn 1 showing the finds. Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 05/03.2014 MD</i>	<i>17</i>
<i>Figure 12 Burial cairn 1, showing fire-cracked stone lying between the larger boulders. Facing north (Cf 34611_112).</i>	<i>18</i>
<i>Figure 13 Grave mound 2 in plan. Statens kartverk. Tillatelsesnummer NE12000- 150408SAS. Produsert 26/03.2014 MD.....</i>	<i>19</i>
<i>Figure 14 Profile through grave mound 2 (top). (Drawing MD); Grave mound 2 in plan. Facing north-west (bottom left), (Cf 34611_58); Profile photo. Facing north-west (bottom right) (Cf 34611_173).....</i>	<i>21</i>
<i>Figure 15 Voids in the core of BC1. Looking south (Cf34611_100)</i>	<i>26</i>
<i>Figure 16 The six beads found in BC1 (C58446/3-8, from TL to BR) (Photo MD)</i>	<i>27</i>



<i>Figure 17 Pommel, guard and grip from a Viking sword (58446/1). In situ (Cf34611_123)</i>	27
<i>Figure 18 Viking sword in conservation. Photo MD.</i>	28
<i>Figure 19 Fragments of a knife (58446/2) found in BC1. Photo MD.....</i>	28
<i>Figure 20 Sharpening stone 58446/12) found in the stone core of BC1 (Photo MD)</i>	29
<i>Figure 21 Flint fragment (C58446/19) with surface retouch. Photo MD</i>	30



RAPPORT FRA ARKEOLOGISK UTGRAVNING

LINGUM, 1064/6, LARVIK, VESTFOLD

1 INTRODUCTION

The planning area is situated in a stone quarry and is 23.5 hectares (235 daa) in area. The burial cairn is situated on the top of an outcrop of rock while the grave mound is situated at the foot of the outcrop. Both the monuments lay within the quarry itself and were under direct threat as the quarry expanded. The grave mound was evaluated in 2003 (Booth 2003) and an evaluation in 2010 discovered finds dating to the Stone Age (Askjem 2010). In 2004 *kulturminneforvaltningen* received an application asking for permission to carry out tests on the quality of the stone north of the existing quarry. The stone proved to be of good quality and permission was sought to extract stone in these areas. In the winter of 2012 the case was handled in accordance with *kulturminneloven* § 8, 4. Ledd. The Directorate for Cultural Heritage (*Riksantikvaren*) sent a letter to the county dated 15th February 2012 giving permission for the excavation of the monuments.

2 PARTICIPANTS, PERIOD OF TIME

The excavation was carried out between 27.09 – 09.11.2012 and comprised 1 feltleder and 3 assistants. One of the assistants had to be replaced during the excavation due to illness which temporarily reduced the team for a period of five days. Arne Schau was brought in to metal detect and to take overhead photographs using a telescopic tripod. A breakdown of the staff and workdays are shown below:

Navn	Stilling	Periode	Dagsverk
Michael Derrick	Feltleder	27.09.2012 – 09.11.2012	32
Aksel Haavik	Assistent	27.09.2012 – 09.11.2012	32
Signe Helles Olesen	Assistent	27.09.2012 – 05.10.2012	7
Heidi Strandman	Assistent	27.09.2012 – 09.11.2012	32
Dag Øyvind Engtrø	Assistent	15.10.2012 – 09.11.2012	20
Arne Schau	metallsøker	16.10 og 29.10.12	2
Sum			125

3 VISITORS TO THE EXCAVATION

The excavation took place in a stone quarry which meant that public access was limited due to HMS considerations. This meant that with the exception of local landowners, very few members of the public visited the site. On the 8th of October Anitra Fossum visited and took photographs for the Vestfold county website (see appendix). Project-leader Ole Christian Lønaas visited on the 10th of October and again on the 17th of October accompanied by Lars Erik Gjerpe from the Museum of Cultural History.

4 LANDSCAPE, ARCHAEOLOGICAL SITES AND FINDS

Krukåsen is part of Tjølling which lies between Sandefjord and Larvik, approximately 5 km from the coast and 1 km from the outside of the *Ra* (Figure 1). The area is characterised by small rocky knolls which are usually forested. Burial cairn Id 48737 is situated on top of one of these knolls while grave mound Id. 19132 is located at the base of the knoll (Figure 2). The surrounding area is comprised of agricultural land associated



with small farms and other unattached houses. *Raet* and the outer coast of Vestfold is well known as being rich in archaeological activity. Tjølling comprises one of the better known areas of activity; the Viking trading town and grave field of Kaupang.

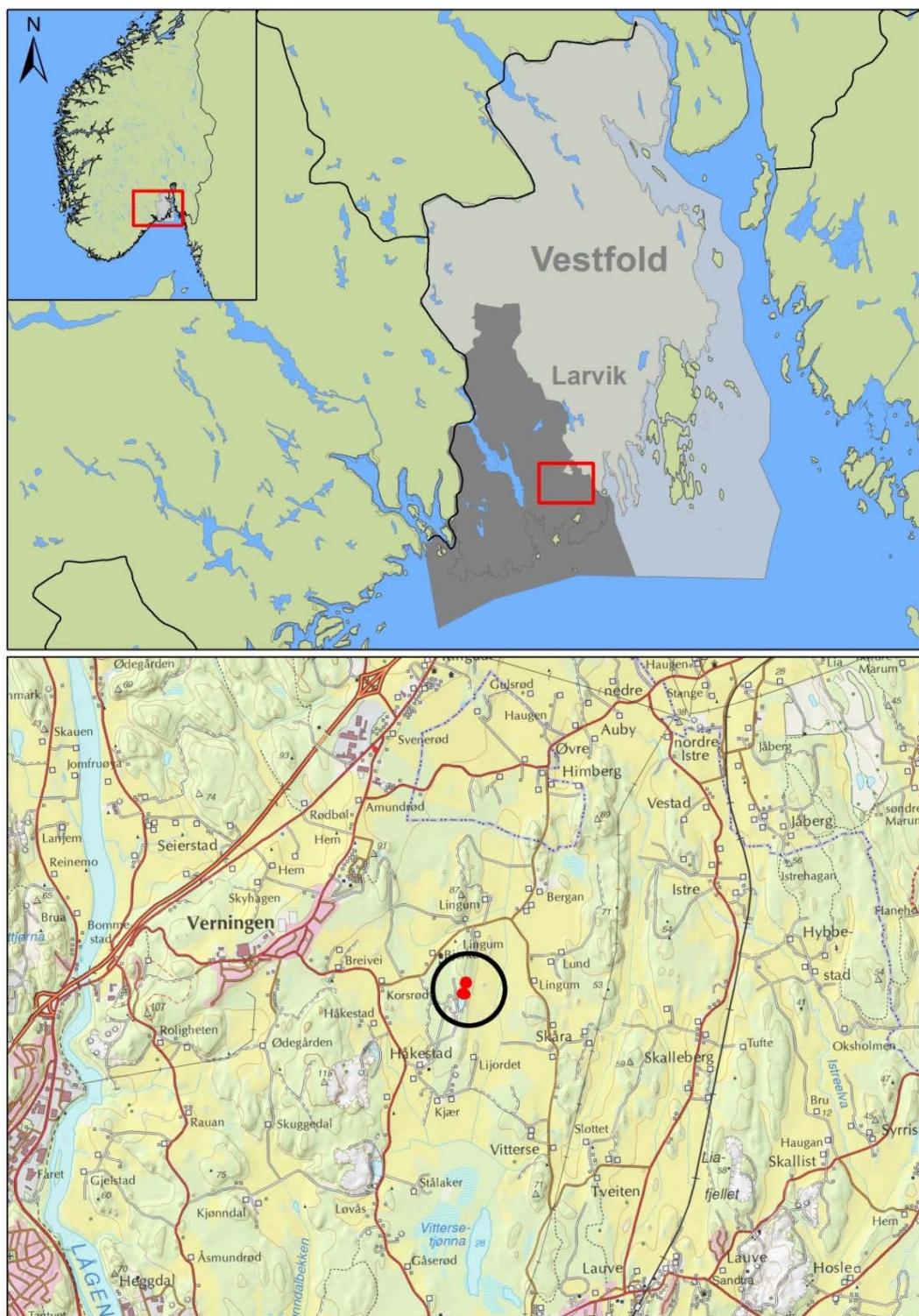


Figure 1 Map showing the location of the two burial monuments Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 06/03/2013 MS



A search in the database for cultural heritage “Askeladden” shows that there exist 15 localities, within a 1 km radius of the development area. These sites are chiefly related to funerary activity.

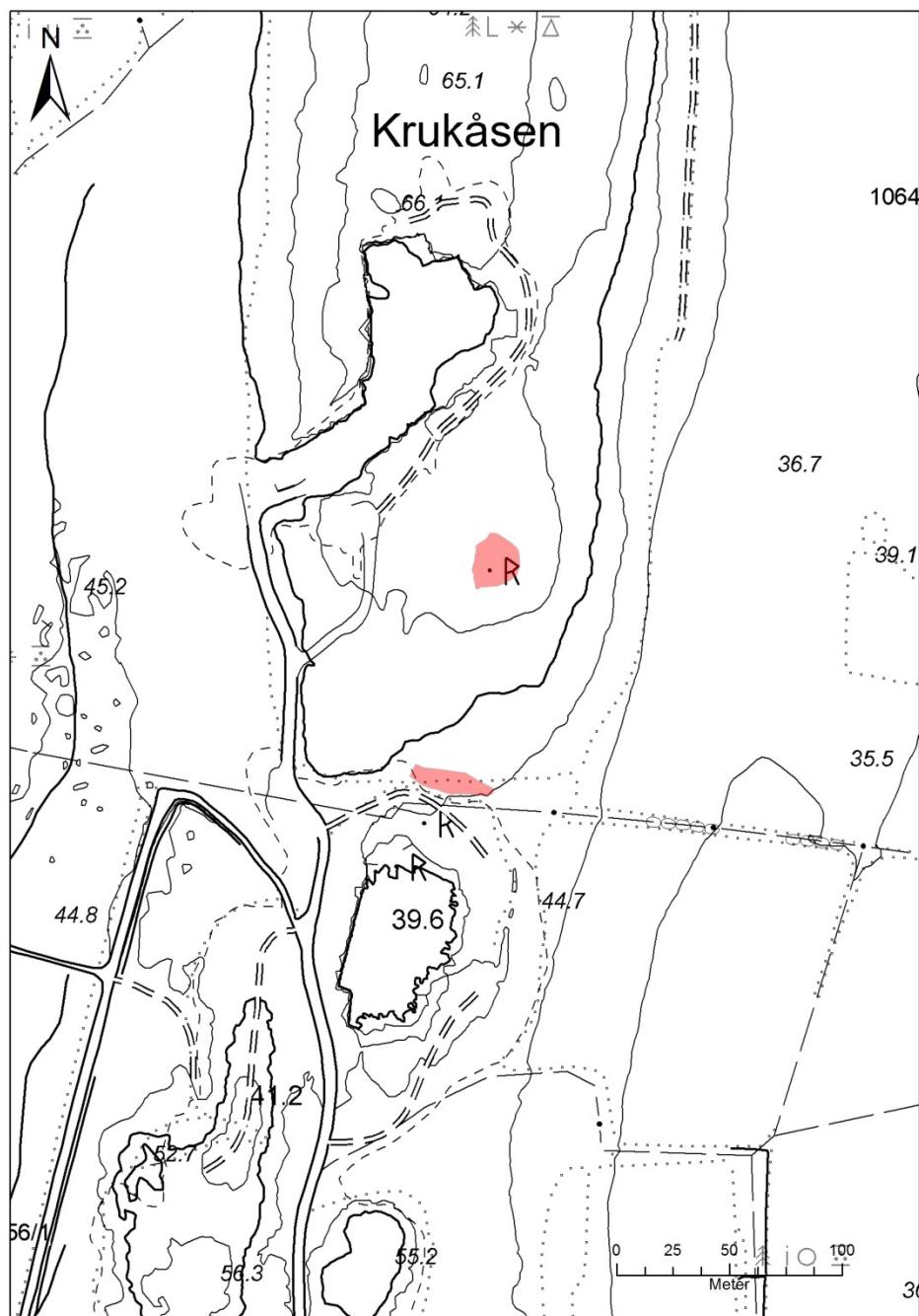


Figure 2 Location map Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 06/03/2013 MS

Finds in the immediate area include the grave mound and burial cairn under discussion here (id 48737 and 19132), a further burial mound (id 9313) and a Stone Age site. The burial mound lay 30 m west of the mound under investigation (id. 19132) and was excavated in 1978. It was 10 m in diameter and 1 m high. The remains of a fire were found together with a ceramic vessel containing burnt bone, a bone comb and the remains of 5 complete or fragmented fibulae. A scattering of burnt bone was also found together



with sherds of undecorated roughly made pottery and a fragment of iron (Haavaldsen 1978).

Stone Age material was also discovered during Haavaldsen's excavations in 1978. Finds included a nøstvettype axe, a butt-necked, pecked axe (adze) a tanged arrowhead and a *skaftfurekølle* (mace/club with a furrow for the shaft), a flat scraper with retouch, fragments and flakes of flint. These were found both in the burial mound material and under the mound itself. In 2004 fragments of flint associated with flint working were found on the agricultural land lying immediately north-east of the quarry. The pieces were not collected, however it was concluded that it was likely that a Stone Age settlement could have survived nearby, possibly in the wooded area between the quarry and the agricultural land. In 2010 two test pits were dug in this area. Both failed to yield any finds. In addition, three trenches were opened which yielded three pieces of flint. It was concluded that the material was comparable with the flint found in 1978 (Askjem 2010; 14).

The Museum of Cultural History (*Kulturhistorisk museum*) believes that the material indicates that a large Stone Age settlement occupied this area and has been destroyed by quarrying in the west while being preserved on the agricultural land to the east. The material indicates that there were 3 phases of use. The nøstvettype axe and butt-necked, pecked axe can be dated to the Mesolithic period while a flake with evidence of polishing (axe) and a tanged arrowhead are typically dated to the first half of the Neolithic period. Finally a bifacial retouched arrowhead and a large retouched scraper can be dated to the late Neolithic to early Bronze Age.

5 IMPLEMENTATION, PRIORITIES, METHOD AND PROGRESSION

5.1 THE AIMS AND PRIORITIES OF THE EXCAVATION

The aims and priorities were outlined in the project plan and were as follows:

- Is there anything remaining of the burial mound?
- Investigate how the cairns and the grave were constructed.
- Identify any grave goods present and other indicators of burial customs.
- In what form do the human remains take? Were they burnt or unburnt?
- Is it possible to identify any ritualistic practises which have taken place during the burial or post-internment?
- Date the graves and related artefacts in order to place them in a cultural and historical context.
- Obtain a chronological relationship between the graves and the other archaeological traces in the area.
- Examine traces of earlier agricultural layers which may lie underneath the cairns.



- Are the graves related?
- Is there any evidence of plundering?
- Is there any evidence for earlier activity lying under the monuments?

5.2 EXCAVATION METHOD

A series of fixed reference points were measured in using a total station, prior to the excavation. These points formed the basis of the survey and were used to place the graves within their geographical context. The graves were cleared of large trees and an access path was made through the forest leading to burial cairn 1. Hoses connecting the site to a water supply were also installed on site. Arne Schau conducted a metal detector survey over the excavation area both prior to and post-excavation. No objects of significance were found.

A photographic record of the monuments was carried out in order to record their existing condition and preservation. Afterwards, work began on the removal of vegetation and other debris which had accumulated on the graves over time (*Figure 3*). Burial cairn 1 was cleaned using hand tools. This was done in strips working from north to south in order to keep control of the cleaning.



Figure 3 Cleaning Burial cairn 1 prior to excavation. Facing south-west (Cf34611_78)

The cairn was recorded in plan using a Leica total station and a series of tapes lying parallel to each other, provided a grid which helped keep track of the survey (*Figure 4*). The measuring and cleaning of the cairn were conducted simultaneously.



Figure 4 Surveying burial cairn. Facing south-east Cf34611_90

After the cairn was cleaned, a series of photographs were taken using a telescopic tripod, in order to gain an overall view of the monument (*Figure 5*). This worked very well in calm weather however it became more difficult to keep the tripod still when it was windy. The dismantling of the cairn began after the recording was complete. Most of the stones were removed by hand, but some of the larger stones were removed using a tracked excavator fitted with a pincer arm which caused minimal damage to the deposits below (*Figure 6*). It was decided not to leave a standing profile across the middle of the cairn as more information could be obtained by removing the layers in single context. This also gave a better overall picture of the grave itself.

Many artefacts were recovered during the removal of the cairn. This meant that some areas which were rich in artefacts had to be protected from secondary machine damage and trampling. This was done by covering the areas with wooden panels with padding underneath. All of the stone with the exception of the large stones which encircled the monument were removed and the soil deposits were excavated by hand.





Figure 5 Arne Schau using the telescopic tripod assisted by his grandson Edvin. Facing south-west (Cf 34611_88)

Grave mound 2 was very different from cairn 1 as it had been drastically affected by modern disturbance. The area was cleared of vegetation in order to gauge the extent of the damage and to determine which mounds could be safely removed. After this a tracked excavator fitter with a 2 m ditching bucket was used to remove the modern material (Figure 7).

The surviving mound was cleaned by hand and it became apparent that only a small part of the burial mound had survived. It was decided that the best way to proceed with the excavation was to hand dig a profile through its centre running from west to east. This was decided as the best method as it was unclear how much of the surviving monument was *in situ* or how much had been reconstructed. After cutting the profile, the layers were described and sketched and samples were taken from the bottommost layer. The profile itself was photographed together with a series of measured reference points enabling it to be drawn later from photographs using Adobe Illustrator.



Charcoal and macrofossil samples were taken from both monuments in order to provide material for environmental and dating purposes. The structures, samples, finds and profiles were documented using a Leica total station TPS 1105 fitted with a remote controller. Each measurement provided a unique number which was used to identify the structures, samples and finds.



Figure 6 machine removal of stones from the burial cairn. Facing south/south-west (Cf 34611_131)

The data was imported into Intrasis and processed using Intrasis Explorer. The processed data was then exported into Intrasis Analysis in order to produce maps and lists which could be used in the field. The data was managed using ESRI ArcGIS 10. All the points were exported to ArcGis and converted to lines and polygons which were saved in a geodatabase. ArcGis was used to create the maps in the report. All the map data is set in the coordinate system UTM/ WGS84 sone 32. All map and metadata is kept at *Kulturhistorisk museum Dokumentasjonsseksjonen*.

Finds and samples were allocated C-numbers during the post-excavation phase (C58446-C58447) and the photographs were given Cf number 34611. The site was given the accession number 2012/175.





Figure 7 the remains of burial mound 2. Facing north/ north-west (Cf34611_93)

5.3 PROGRESSION IN THE FIELD

The work began on the burial cairn and grave mound on 27.09.2012. The excavation of the two sites ran simultaneously with the crew splitting off into teams of two. The work was completed on 09.11.2012. The weather provided the biggest problem particularly closer to the end of the excavation when it became colder. The burial mound in particular was affected greatly by the effects of freeze/thaw. As there was only a small part of the burial mound remaining it was important that it was protected from this type of damage. Winter mats together with tarpaulin were used to cover the profile particularly when left overnight (*Figure 8*). The same method was employed with the burial cairn in order to protect any delicate remains which could be associated with a grave. This was particularly important as the depth of deposits under the cairn were very shallow and would not have protected any underlying inhumation. Light was also a problem particularly closer to the end of the excavation. The low sun during the day made it difficult to take photographs while darkness in the late afternoon made it difficult to excavate. These problems were countered by using artificial lighting.

5.4 SOURCE CRITICAL PROBLEMS

As mentioned earlier grave mound 2 had been greatly damaged by modern activity. It was bounded on both sides by piles of modern debris and some of the material within the mound itself appears to have been put back in recent times (*Figure 9*). It is probable that the mound has been partially removed by machine and then quickly rebuilt. The access road had also damaged the mound on its south side some of which had collapsed into the road itself. The area around the mound had also been severely affected by modern encroachment which probably removed any traces of associated activity.



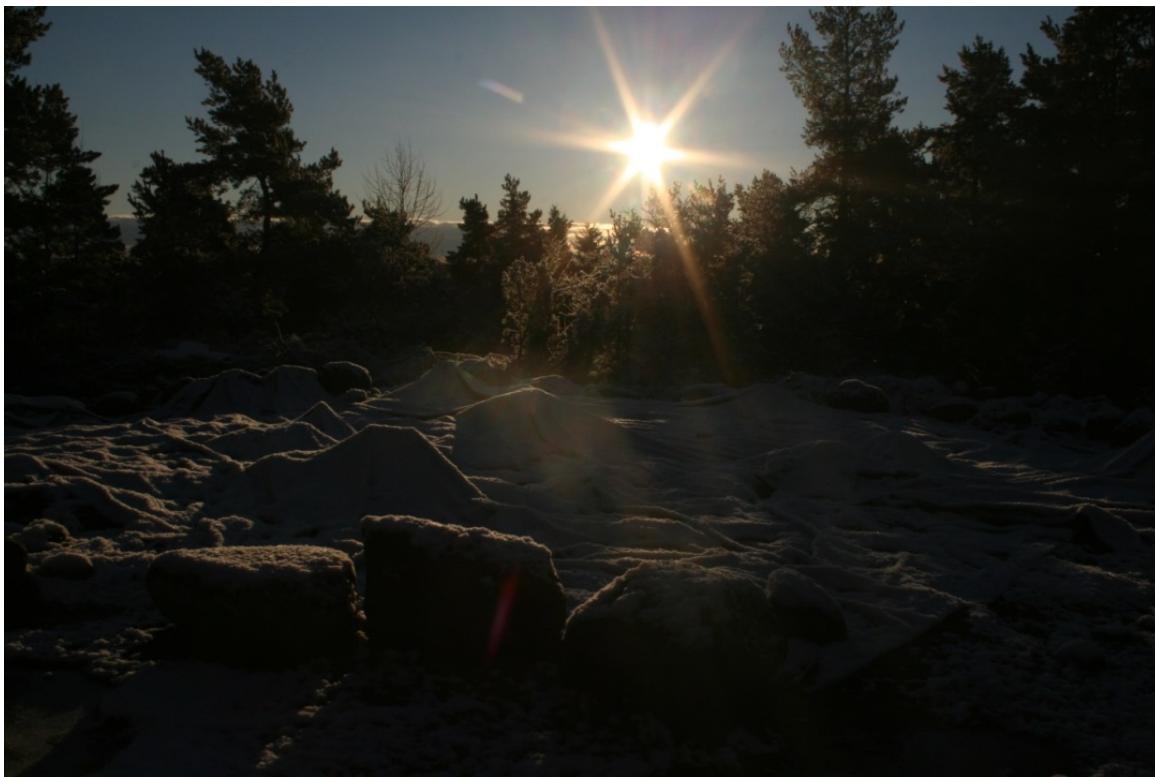


Figure 8 Burial cairn 2 under wraps. Facing south (Cf34611_140)

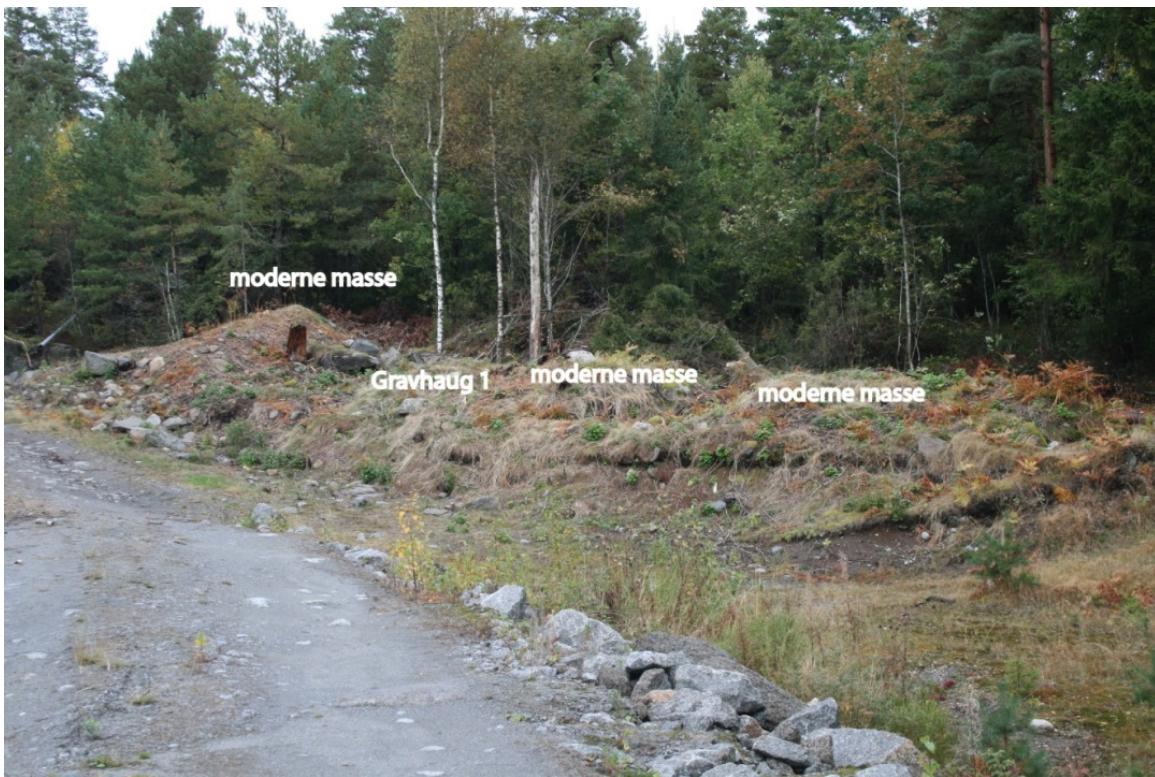


Figure 9 Burial mound 1 surrounded by modern debris and partially cut by an access road. Facing north-west (Cf 34611/83)



6 EXCAVATION RESULTS

6.1 BURIAL CAIRN 1

Burial cairn 1 was situated on top of a rocky outcrop which was moderately forested, and overlooked undulating agricultural land on its eastern side. The stones on the western side of the cairn had been displaced while those on the eastern and southern extents had been moved by tree-root and human interference. As a result the overall plan of the cairn was a little distorted. The cairn would have originally been oval in shape however it was now straight-sided on its east and south extents

It measured 14.75 m x 12.79 m and was 45 cm in height. It consisted of boulders which had been piled up forming a low mound. This was then encircled by larger boulders forming a ring. The boulders in the cairn were predominately medium in size (c. 40 x 30 x 30 cm – 50 x 40 x 30 cm) however a number of larger boulders (c. 80 x 40 x 40 cm – 100 x 40 x 40) occupied the middle of the cairn, spreading towards the north-east. The surrounding ring of stone also comprised large boulders (c. 75 x 50 x 40 cm – 50 x 40 x 40) (*Figure 10* and *Figure 11*)

A copious amount of small stone fragments filled in the spaces between the stones which formed the cairn. Many of the fragments displayed evidence of burning. Some had been coloured red from exposure to extreme heat, while most were subangular and sharp due to having been cracked during the heating/cooling process. It appears that these fragments had been deliberately spread across the whole mound after its completion (*Figure 12*). The cairn itself was not compactly constructed. Indeed in some areas the stone was relatively bare. This may have been due to stone robbing or plundering of the grave at a later date.



Figure 10 Burial cairn. Facing south-west (Cf 34611_08)



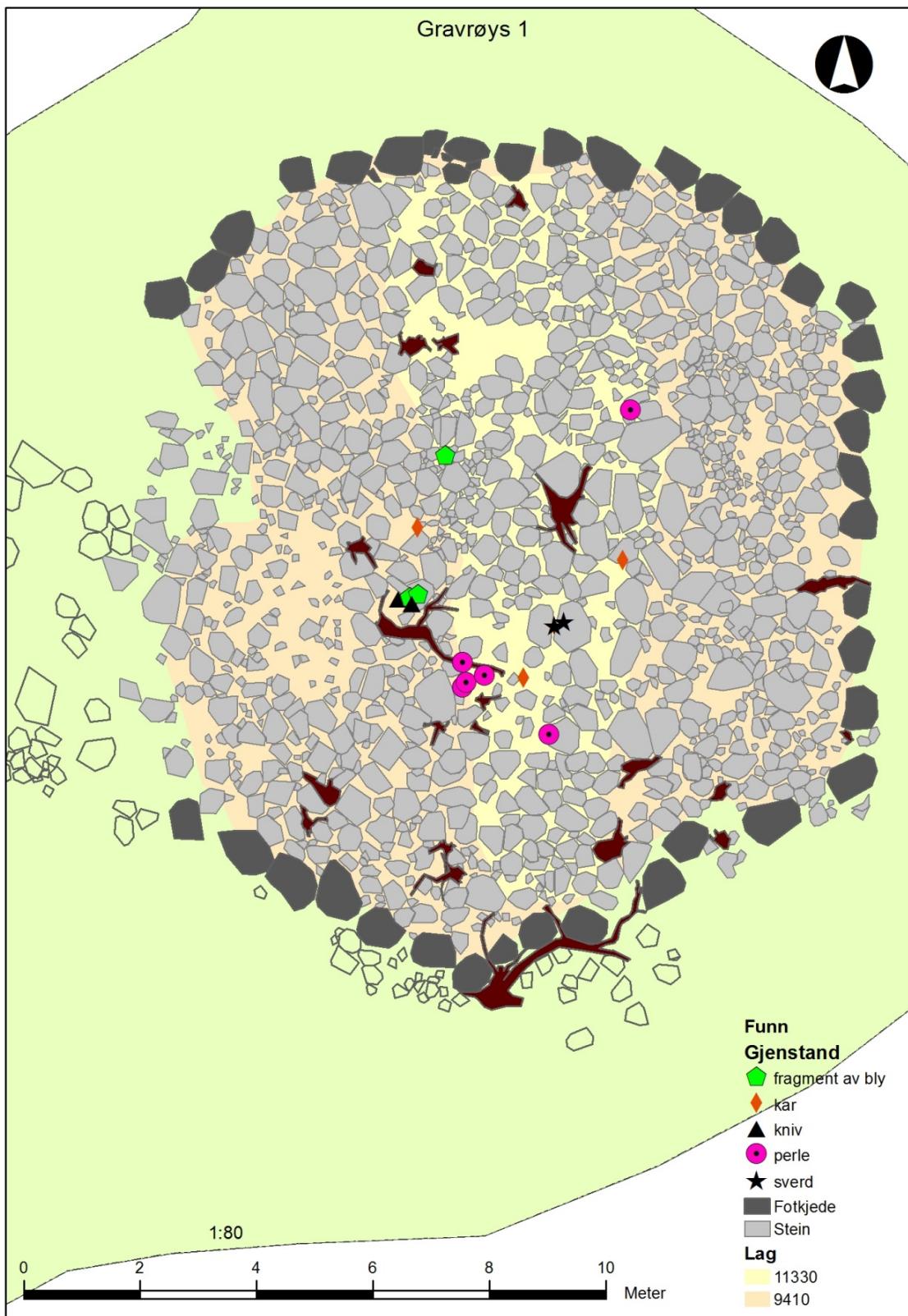


Figure 11 Burial cairn 1 showing the finds. Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 05/03.2014 MD



The stone core was carefully removed revealing two layers. The first (S 11330) consisted of a mixture of greyish yellow sandy gravel and fragmented stone, which ran north/south across the diameter of the cairn. This layer comprised weathered bedrock which had fragmented due to exposure to the elements. It appears that the overlying layer, which exists throughout the rest of the cairn (S 9410), had been eroded away revealing the bedrock which itself had gradually eroded over many years. S 9140 represents the only remains of a layer associated with the burial itself. It was 7 cm thick and was present under the whole of the cairn. It comprised dark-greyish brown humus sand which contained very small fragments of fire-cracked stone and altered bedrock. Charcoal concentrations were present in some areas and the layer contained many roots. In some cases it was difficult to distinguish the layer from the overlying humus. The layer became lighter in colour as it came into contact with the bedrock. A charcoal sample was taken from this layer which was dated to 1490-1670 calAD.

A series of grave goods were recovered from S 9140 and from the degraded bedrock layer S 11330. These consisted of the pommel and grip from a sword (C58446/1), 2 fragments of a knife blade (C58446/2), 6 beads (C58446/3-8), 4 sherds of a soapstone vessel (C58446/9-11), a sharpening stone (C58446/12) and 2 fragments of lead (C58446/13-14). Three fragments of flint were also found, one of which was burnt (C58446/15-17).



Figure 12 Burial cairn 1, showing fire-cracked stone lying between the larger boulders. Facing north (Cf 34611_112).



6.2 BURIAL MOUND 2

Burial mound 2 (*Figure 13*) had been extensively damaged by modern activity and by plundering. The eastern side had been completely removed and replaced by modern

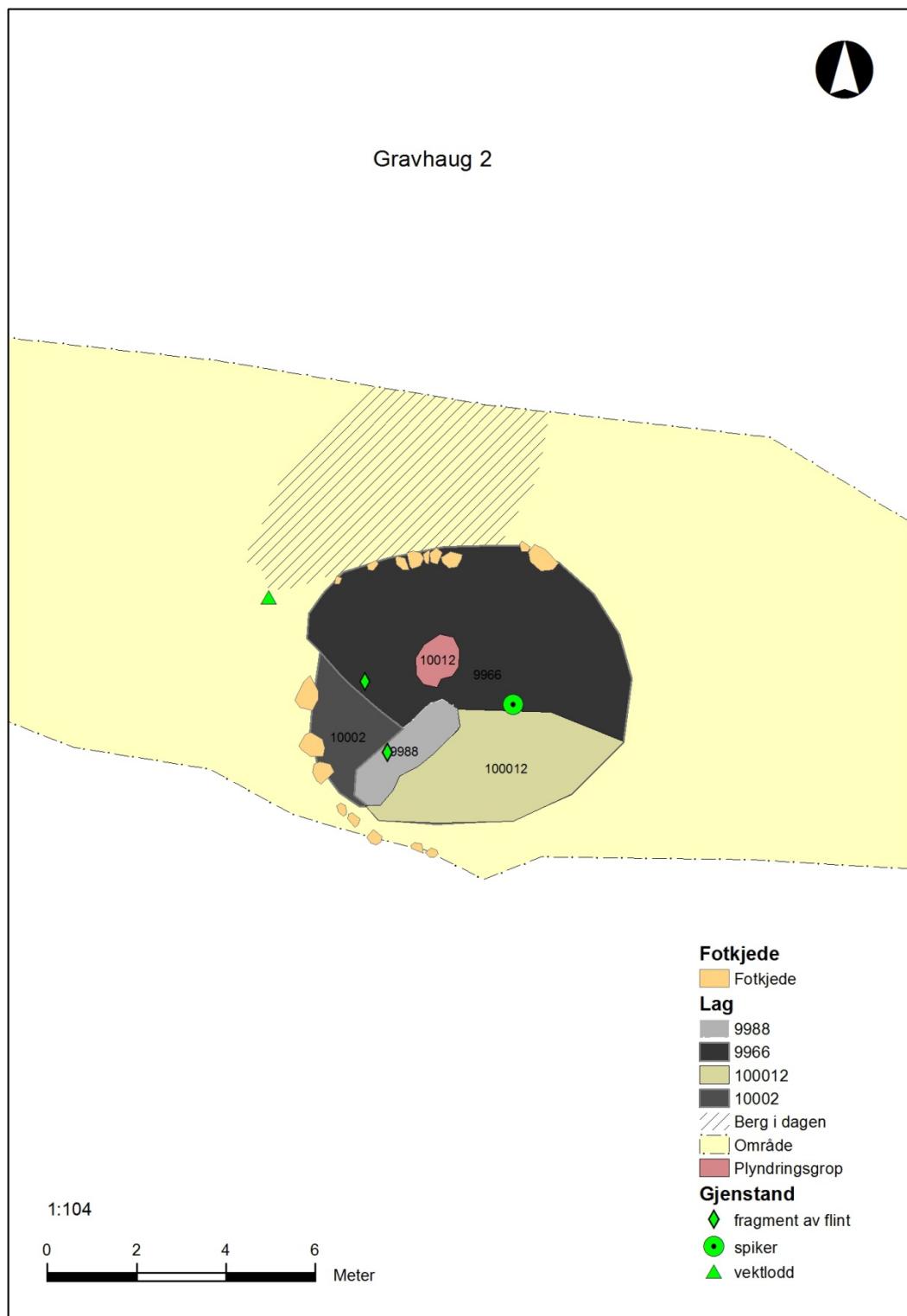


Figure 13 Grave mound 2 in plan. Statens kartverk. Tillatelsesnummer NE12000-150408SAS. Produsert 26/03.2014 MD



material (layer S 100012 (*Figure 14*). An access road had also clipped the mound on this side causing some stone to collapse. A large part of the southern extent and centre of the mound had been destroyed by plundering revealing the underlying mound deposits. The mound had been plundered by digging a linear ditch (S 9988) from the southern edge of the mound through to the centre where an oval pit (S 10012) had been dug. This plundering hole was filled with greyish orange silty sand mixed with charcoal fragments and layers (S 100010) and dark-greyish brown humus silt (S 100011). It also contained rotten vegetation and roots which appeared to be modern in origin.

It appears that less than 50 % of the original grave mound survived. This is represented by the deposits shown in which lie between the modern material to the east and the plundering cut to the west (*Figure 14, top*). The topmost layer (S 9966) was 40 cm thick and consisted of loose greyish orange silty sand and gravels, containing occasional charcoal flecks and small stones (c. 20 x 20 x 15 cm). It contained roots and some later vegetation. Under this was a thin layer of fine, dark-grey humus silt which was 9 cm thick (S 100009). Below this was a layer of dark-orange brown silty sand containing charcoal flecks and a mixture of rounded and subangular pebbles and gravel. It was relatively loose and contained many roots (S 100006). Within this layer were lenses of dark-grey silt mixed with light greyish orange silty sand (S 100005), dark-orange grey sandy silt containing charcoal flecks (S 100007) and dark grey humus silt (S 100008). A layer of dark-brownish grey silty sand and humus containing light grey flecks of silt and charcoal fragments lay under the mound (S10002). It lay in patches and probably derived from root burning as opposed to funerary activity. A charcoal sample was taken from this layer which was dated to 1670-1950 calAD. A nail and a lead weight were found in this layer (C58447/1 and C58447/2).





Figure 14 Profile through grave mound 2 (top). (Drawing MD); Grave mound 2 in plan. Facing north-west (bottom left), (Cf 34611_58); Profile photo. Facing north-west (bottom right) (Cf 34611_173).

6.3 FINDS

C nr.	Feature nr.	Feature	Find
58446/1	S9410	Layer in burial cairn 1	Iron, hand grip in two pieces from a Viking sword. Type M (Petersen 1919: 117).
58446/2	S9410	Layer in burial cairn 1	Iron, knife blade in two pieces.
58446/3	S9410	Layer in burial cairn 1	Red glas pearl.
58446/4	S9410	Layer in burial cairn 1	Green glas pearl.
58446/5	S9410	Layer in burial cairn 1	Red glas pearl.
58446/6	S9410	Layer in burial cairn 1	Green glas pearl.
58446/7	S9410	Layer in burial cairn 1	Red glas pearl.
58446/8	S9410	Layer in burial cairn 1	One half of a red glas pearl.
58446/9	S9410	Layer in burial cairn 1	Shard of soapstone from one vessel.
58446/10	S9410	Layer in burial cairn 1	Shard of soapstone from one vessel.
58446/11	S9410	Layer in burial cairn 1	Two shards of soapstone from one vessel.
58446/12	-----	Stone in burial cairn 1	Sharpening stone of sandstone. Foun among the stones in burial cairn 1.
58446/13	S9410	Layer in burial cairn 1	Lead fragment.
58446/14	S9410	Layer in burial cairn 1	Lead fragment.
58446/15	S9410	Layer in burial cairn 1	Flint fragment.
58446/16	S9410	Layer in burial cairn 1	Flint fragment.
58446/17	S9410	Layer in burial cairn 1	Burnt flint fragment.
58447/1	S10002	Layer in burial mound 2	Iron nail
58447/2	S10002	Layer in burial mound 2	Lead weight.
58446/3	S10002	Layer in burial mound 2	Burnt flint fragment.
58446/4	S10002	Layer in burial mound 2	Burnt flint fragment.

7 BOTANICAL SAMPLES AND ANALYSIS

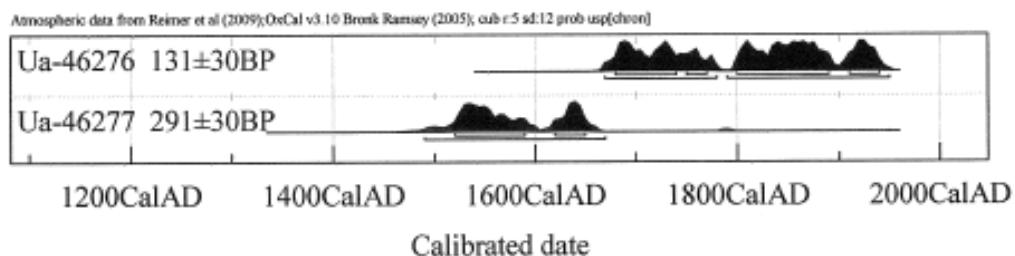
7.1 CHARCOAL SPECIES ANALYSIS

One charcoal sample was taken from each of the burial structures. Both were sent to Moesgård museum for detailed species analysis (see appendix). Some of the resultant material was sent for radiocarbon analysis.



7.2 RADIOCARBON DATING

Two charcoal samples were analysed from burial mound 2 (Ua-46276) and burial cairn 1 (Ua-46277) and were sent to Uppsala Universitet for radiocarbon dating (see appendix). The results are shown below:



7.3 MACROFOSSIL ANALYSIS

A total of two macrofossil samples were taken from burial cairn 1 and burial mound 2 and were sent to Annine Moltsen at *Natur og Kultur* (NOK) for detailed macrofossil analysis. A detailed report is contained in the appendix.

8 REVIEW OF THE RESULTS, INTERPRETATION AND DISCUSSION

8.1 BURIAL MOUND 2

8.1.1 LOCATION AND CONSTRUCTION

Burial mound 2 (BM2) was 8 m in diameter and 1 m in height. It was located at the base of a rocky knoll and had been constructed by heaping up soil and stone over a burial. The mound contained some stone however this was not a major part of the monument and did not form an internal cairn. It is possible that some of the stone became mixed into the mound fill when it was partially destroyed and reconstructed. The monument was encircled by a stone ring which had partially survived on its southern, western and northern extents.

The mound itself would have been part of a larger grave field which would have included a burial mound which was excavated by Haavaldsen in 1978 (Haug 1, (BM1)). The description of this burial mound was very similar to BM2. It was 10 m in diameter and 1 m in height and contained layers of earth and stone which were enclosed by a stone circle. It was located 30 m south-west of BM2 and both mounds occupied an area which overlooked agricultural land to the east and south-east. The grave field occupied a relatively low area in the landscape. It would have still been visible though, from the lower lying agricultural land and settlements which would have occupied the surrounding area. This visibility would have enhanced the prestige of the person buried within as well as their living relatives.

8.1.2 PLUNDERING

A great deal of the damage caused to the grave mound took place in modern times. However, the mound appears to have been plundered earlier in its history. A ditch running north / south cut into the mound terminating in a circular pit in the centre



measuring 1.16 m in diameter. It was 93 cm in depth and was dug right into the deposits which lay under the mound. Similar plundering was observed in BM1 suggesting that the whole of the grave-field would have been plundered. It is not clear what the motive was for this plundering episode. The lack of a grave and associated finds could suggest the theft was for gain. Another explanation is suggested by Larsen and Rolfsen (2004) who argue that the motive for damaging graves is seldom for gain but more as a statement of political or religious intent. Plundering therefore can also be the result of decisions taken for social or political reasons.

8.1.3 BURIAL CUSTOMS AND GRAVE GOODS

As mentioned above, BM2 did not contain any *in situ* grave or associated grave goods. This is surprising as BM1 contained a wide variety of artefacts together with burnt bone and layers of charcoal. Both BM2 and BM1 are similar in style and both are likely to have belonged to the same grave-field. It is not unreasonable therefore to expect some traces of a grave or grave goods to survive. The fact that not even one piece of burnt bone was found under BM2 could suggest that a combination of plundering and modern destruction have completely removed the place of burial. Only two artefacts were recovered from the vicinity of the grave. A possible nail (58447/1) and a lead weight (58447/2) were found on the edges of the grave mound. Both are likely to post-date BM2.

8.1.4 DATING

Trying to obtain a charcoal sample from BM2 was problematic. It was obvious that the mound was contaminated with modern material and that part of it had been reconstructed. The underlying deposits contained many roots which not only would have mixed the deposits in the mound but could also have introduced modern material from above. In addition, part of the mound had been removed exposing the layers underneath to destruction by the elements and other activity. An attempt therefore was made to find a charcoal sample which was sealed under the mound and which had not been exposed to any contamination. This however proved fruitless as a charcoal sample taken from layer 10002 was dated to 1670-1950 calAD. This date perhaps reflects best the contaminated nature of the deposits contained within the mound.

In order to date BM2 it is necessary to assume that it is related to BM1. As we have seen both mounds are similar in style and both are likely to be part of the same grave field. They were of similar dimensions and were encircled by a ring of stones. The construction of a stone circle around mounds is typical of those dating to the Early Iron Age (EIA) (500 BC-570 AD).

Burial mounds were introduced in the Early Bronze Age (EBA) (1750-1100 AD) period however these typically contained a stone burial chamber housing an inhumation burial. It was not until the Late Bronze Age period (LBA) (1100-500 BC) that cremation began to be practised in Norway.

Grave goods in Stone Age period graves are rare, and it is not until the LBA that the inclusion of grave goods becomes customary. However, during the Pre-roman Iron Age period (PRIA) the amount of grave goods found in a grave really increases. Cremation burial continued during this period with the cremated bone packed into a ceramic urn or often spread under the mound (Østmo & Hedeager 2005). BM1 and BM2 do not contain



traces of a burial chamber which would rule out an EBA date. The amount and type of finds associated with the grave in BM1 would also rule out a LBA date. A more likely date for BM1 and by inference BM2, would be somewhere in the EIA period. A more specific date could be arrived at by examining the finds found in BM1 in more detail.

8.2 BURIAL CAIRN 1

8.2.1 LOCATION AND CONSTRUCTION

Burial cairn 1 (BC1) measured 14.75 m x 12.79 m and was 45 cm in height. It was situated on top of a rocky outcrop overlooking surrounding farm land to the north-east, east and south-east. It would have been very visible in the landscape particularly if the rock was free of trees and vegetation. Unfortunately the microfossil sample contained very little, and could therefore not tell us very much about the earlier landscape. Its placing in the landscape, like BM2, was probably intentional. The status of the interred individual would have been very high as the grave occupied one of the highest points in the area. There are no other graves in the immediate vicinity of BC1 and certainly none close by which are similar. This may suggest that it is a single grave which does not belong to a larger grave field.

BC1 consisted of a circle of boulders which had been laid directly onto a thin layer of vegetation covering the bedrock. In some areas it was difficult to determine whether the vegetation had grown under the stones and rotted, leaving a layer of humus silt, or whether it was a true earlier layer. The medium / large sized boulders were encircled by a ring of larger stones forming an oval cairn. Small fragments of fire-cracked stone were scattered across the whole cairn.

8.2.2 PLUNDERING

BC1 contained no obvious evidence of plundering; however, some areas of the cairn contained less stone than others (*Figure 15*). It is possible that the stone in these areas has been removed for use elsewhere or more likely that the stones have moved due to tree root movement and erosion caused by weathering. This is even more likely as the majority of the voids are situated in the middle of the mound where the bedrock peaks. Any stones here would naturally gravitate towards the outer edges of the cairn. In addition, there is no evidence of stone having been thrown out of one area and piled in another which could indicate manmade disturbance.



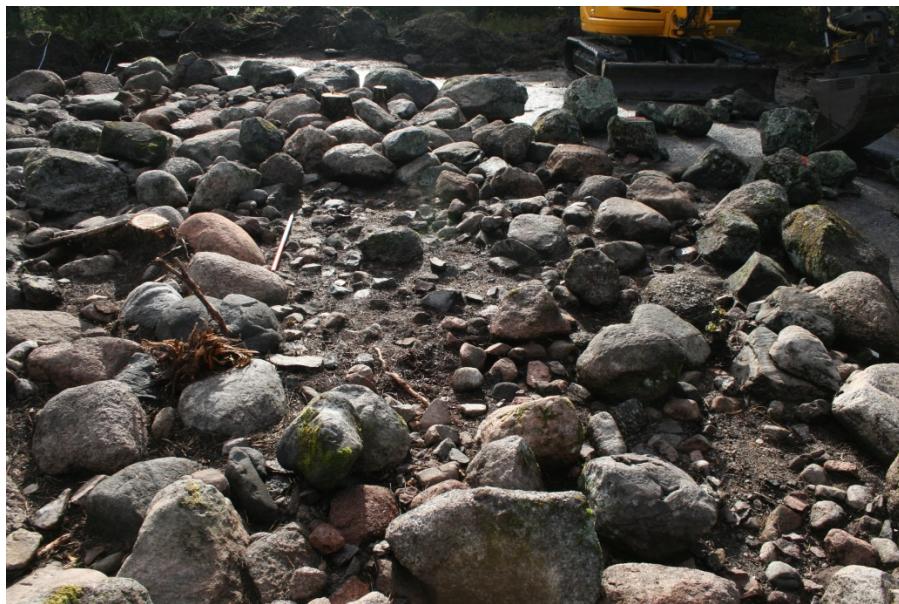


Figure 15 Voids in the core of BC1. Looking south (Cf34611_100)

8.2.3 GRAVE GOODS AND DATING

BC1 differed from BM2 in that it contained evidence of funerary activity. There was however no evidence of a body found anywhere in the mound. The absence of human remains is most likely due to environmental factors coupled with the fact that the cairn was relatively shallow in depth. The finds themselves (particularly the iron finds) were very badly corroded. This was probably due to the acidic conditions which prevailed within the underlying humus soils. These types of soils can not only accelerate corrosion but also cause organic material such as bone to decompose. The shallowness of the cairn and the voids between the stones, would also have allowed rainwater to enter the area of burial and further accelerate decomposition. Finally root action could have fragmented and moved the bone thus exposing it further to weathering. Cremated bone tends to tolerate weathering better and is more resistant to acidic conditions. This could infer that the cairn originally contained an inhumation burial rather than a cremation.

A charcoal sample taken from the layer containing the finds (S9140) was dated to 1490-1670 calAD. The sample is likely to have been contaminated with modern material which has fallen into the cairn at a later date. The grave goods contained within the mound were dated to two periods. Six beads were found under the cairn (C58446/3-8, *Figure 16*). Five of these were concentrated in an area 2 m south of the centre of the cairn while the remaining bead lay 6 m to the north-east of the concentration. The beads were red and green in colour, barrel-shaped and were quite small. They were comparable to those found at Agerskov and Skodborg, Jylland which were dated to c. 500 AD and 530-550 AD (Jørgensen and Petersen 1998: fig. 185-186). It was concluded therefore that the beads under BC1 are likely to have dated to a period spanning the Late Migration (MA) and Merovingian periods (MvA) (pers. comm. Gry Wiker).



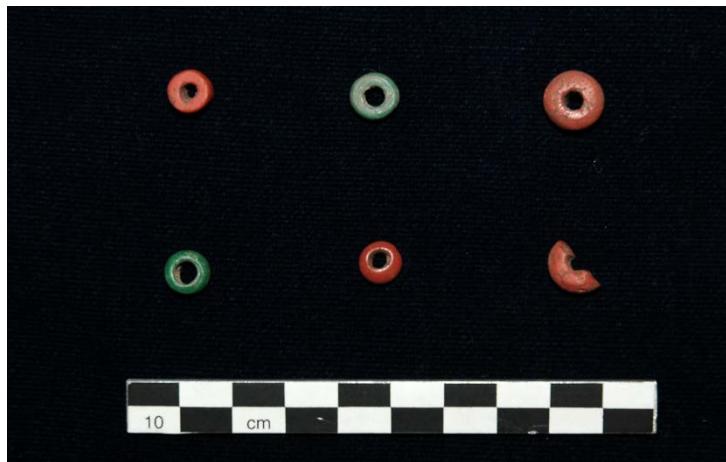


Figure 16 The six beads found in BC1 (C58446/3-8, from TL to BR) (Photo MD)

Lying close to the beads was a hand grip from a sword (58446/1) which was identified as a type M, Viking sword dating from the mid-9th century through to the late-10th century (Petersen 1920, pp. 117-120) (*Figure 17* and *Figure 18*). These swords are amongst the most common type found in eastern Norway (Østmo & Hedeager 2005). Two fragments of a knife blade were also found nearby (58446/2, *Figure 19*) as were four fragments of a soapstone vessel. A sharpening stone (58446/12) was found as part of the structure of the cairn and a few fragments of lead were found (58446/13-14), which may be modern.



Figure 17 Pommel, guard and grip from a Viking sword (58446/1). *In situ* (Cf34611_123)





Figure 18 Viking sword in conservation. Photo MD.

Initially it would appear that there are two possible periods of use for the BC1, the MA/MvA and the Viking period. However, it is quite common for earlier beads to be included in Viking period graves together with contemporary artefacts (pers. comm. Gry Wicker). The soapstone vessel fragments could also have a Viking origin. In Viking graves containing inhumations the dead were usually buried fully clothed and laid out in a sleeping position. They were buried with weapons, jewellery and other personal items (Østmo & Hedeager 2005).



Figure 19 Fragments of a knife (58446/2) found in BC1. Photo MD.



In conclusion, it appears that a burial has taken place sometime in the period beginning in the mid-9th century through to the late 10th century. The body is likely to have been buried and not cremated (both practises were carried out during the Viking period). The burial is likely to have been located 2 meters south of the centre of the mound and would have contained a sword, a knife, beads and possibly a soapstone vessel.



Figure 20 Sharpening stone 58446/12) found in the stone core of BC1 (Photo MD)

8.2.4 BURIAL CUSTOMS

Smaller fragments of fire-cracked stone were scattered across the whole cairn. It is possible that they could have originated from cooking pits and have been deliberately scattered, possibly after feasting. The suggestion is that they represent ritual feasting prior to the burial of the dead. The connection between feasting and funerary monuments is generally well known. There are numerous instances of large cooking pit fields lying close to grave fields. One such field at Hoffsvangen lay close to Gile grave field and contained over 200 cooking pits (Derrick 2012.). No evidence of cooking pits were found in the immediate area; however, this does not rule out the possibility that traces of the activity could lie further afield.

8.2.5 EVIDENCE OF EARLIER ACTIVITY

As mentioned earlier, flint dating to the Stone Age period has been found in the immediate area. In 1978 a nøstvettype axe and a butt-necked, pecked axe (adze) dating to the Mesolithic period was found together with material dating to the Late Neolithic/Early Bronze Age periods (Haavaldsen 1978). Evaluations in 2003 and 2010 also found flint suggesting that a large Stone Age occupation area lay close by (Booth 2003; Askjem 2010). Similarly flint was discovered during the excavation of BC1 and BM2. The flint comprised five fragments, 2 of which were burnt. One of the fragments (C58446/17) had surface retouch and was dated to the Late Neolithic/Early Bronze Age period (pers. coms. Gaute Reitan, *Figure 21*).



Figure 21 Flint fragment (C58446/17) with surface retouch. Photo MD

9 CONCLUSION

The graves excavated at Lingum occupy an elevated ridge of bedrock overlooking arable land. It is not surprising therefor, that burial monuments were placed here over a long period of time. BM2 is likely to have been part of a larger grave field which included BM1, which was excavated in 1978. The grave goods found within BM1 were dated to the Early Iron Age. BM2 however, was extensively damaged by modern activity and earlier plundering, and as a result did not contain any associated finds. The two mounds were similar in construction. Both comprised an earth and stone mound surrounded by a ring of stones and were of similar dimensions. This, together with close proximity to each other, could suggest that they were of similar age.

BC1 occupied one of the highest points in the area and consisted of a pile of stone enclosed by a ring of boulders. The cairn contained no evidence for human remains which had likely decomposed due to weathering. The shallowness of the cairn probably offered very little protection from the elements. There were however a number of grave goods lying just south of the centre of the mound. These comprised six beads dating to the MA/MvA, a sword dating to the Viking Age, remains of a knife blade, fragments of a soapstone vessel and some lead fragments. The type of Viking sword buried in the cairn indicated that the burial would have taken place sometime between 850 AD and the late 10th-century. The beads were obviously earlier in date, however, it is not unusual for earlier beads to be included in Viking graves. The cairn did not appear to have been plundered however root action and weathering had caused considerable damage. Fire-cracked stone which lay between the larger boulders comprising the cairn could indicate that ritual feasting had taken place as part of the funerary activities. Evidence of earlier activity was found within BC1 in the form of flint fragments. These fragments, when taken together with other similar finds in the area suggest the presence of a large Stone Age activity area nearby dating from the Mesolithic to EBA period.

10 LITERATURE

Askjem, J. K. Ø. 2010. *Rapport . Arkeologisk registrering*. Rapport datert 19/8- 010. Vestfold fylkeskommune



Booth, A. 2003: Arkeologisk registreringsrapport : Håkestad steinbrudd. Rapport datert 21/11-03. Booth - arkeologi og planlegging

Derrick, M. 2012: *Rapport. Arkeologisk utgravnning. Kokegropfelt Hoffsvangen, 172/I og Østre Toten Prestegård, 94/19, Østre Toten kom., Oppland* Rapport i KHM's arkiv (saksnr. 2008/2148). Universitetets kulturhistoriske museer

Haavaldsen, P. 1978: *Innberetning om utgravnning av en burial mound på Håkestad østre*. Rapport datert 4111-78. Universitetets Oldsaksamling.

Jørgensen, L. & Petersen, P. V. 1998: Guld, magt og tro. Danske guldskatte fra oldtid og middelalder. Nationalmuseet, Thaning & Appel, København.

Larsen, J.H. & Rolfsen, P. 2004: Hva skjuler Halvdanshaugen? J.H.Larsen, og P Rolfsen (red.): *Halvdanshaugen – arkeologi, historie og naturvitenskap*. Skrifter 3, pp.23-78. Universitetets Kulturhistoriske Museer Oslo.

Petersen, J. 1920 De norske vikingsverd: En typologisk-kronologistik studie over vikingetidens vaaben. Utgave 1 av Skrifter utgivit av Videnskapsselskapet i Kristiania. 2, Historisk-filosofisk klasse.

Østmo, E. & L. Hedeager (red.) 2005: *Norsk Arkeologisk Leksikon*. Pax Forlag A/S, Oslo.



11 APPENDIX

11.1 LIST OF FEATURES

Struktur nr.	Struktur type	Form i flate	bredde	lengde	Dybde/ tykt	Beskrivelse
Burial cairn 1						
10	Burial cairn	oval	1279 cm	1475 cm	45 cm	<p>Burial cairn lå på topp av et utstikkende berg på et av de høyeste punktene i det omkringliggende landskapet. Røysen har vært synlig fra dalen under berget, og den ligger i et område det er registrert andre burial mounds tidligere.</p> <p>Beskrivelse i plan</p> <p>Burial cairnen har en tilnærmet diamantaktig form, og er relativt flat. Den ser ut til å være plassert direkte på berget. Røysen består av en ring med stein som danner en fotkjede. Fotkjeden er delvis ødelagt på vestsiden av burial cairnen. Steinene i fotkjeden består av stein som varierer i størrelse fra 75x50x40cm til 50x40x40cm. Innenfor fotkjeden består burial cairnen av steiner som er relativt like i størrelse, fra 40x30x30cm til 50x40x30cm. Det er et område nær midten og mot nordøst i røysen der steinene skiller seg ut fra resten fordi de er større og lengre enn de øvrige steinene. Disse steinene er mellom ca 100x40x40cm og 80x40x40cm. Mellom steinene i haugen ligger det relativt mange små steiner. Flere av disse er skjørbrente. Det ser ut til at denne "påfyllingen" av småstein mellom de større steinene i røysen er bevisst pålagt, og representerer siste stadiet i byggefasesen av røysen. De små steinene har mål fra ca 12x12x10cm til 8x6x4cm.</p>
9410	Lag	Difus	1279 cm	1475 cm	12 cm	<p>Lag 9410 : Mørk gråbrun humusholdig sand som ligger delvis mellom steinene og delvis under steinene. Laget er iblandet noe knust stein, som kan skyldes varmepåvirkning eller naturlige prosesser som vær og vind. Noen steder er det også en del kull i laget. Laget er noen steder opp til ca 10cm dypt, men det dekker ikke hele burial cairnen. Laget finnes i spredte forekomster under steinene i graven, men mest mot senter av graven og vestover. Det er ofte vanskelig å skille dette laget fra torva, og laget er sannsynligvis blandet med torva flere steder pga mye røtter. Ned mot bunnen var laget noe blandet med gruslaget under (lag 11330), og noen steder var dette "blandingslaget" opp mot ca 7cm i tykkelse. Blandingslaget var tilnærmet lik lag 1 i farge, men noe lysere fordi det var iblandet mer lys grå grus fra laget under. Det var i dette "blandingslaget" at de fleste funnene ble gjort. Denne blandingen av</p>



						lagene skyldes sannsynligvis også rotaktivitet. En tolkning er at lag 1 representerer gammel markoverflate.
11330	Lag	Difus	411 cm	1228 cm	10- 12 cm	Lag 11330: Grågul sandig grus som ligger over en store del av burial cairnen, men spesielt tykt og fremtredende i et omrentlig nord-sørgående belte over midten av røysen. Dette laget består av naturlig morene og oppsprukket grunnfjell. Slike masser er også synlig utenfor burial cairnen i nordlig retning. En teori i startfasen av utgravnningen var at dette laget kunne representerer påfylte masser under oppbygging av haugen, men etter utgravnningen ble laget tolket til å være naturlig.
Burial mound 2						
20	Burial mound	Difus	700 cm	800 cm	100 cm	Burial mounden var store skadet på den sørlige del. Omfanget av disse skadene ble først tydelig ved rensing og delvis utgraving av haugen, og totalt er det ca 50% av haugen som har blitt ødelagt. Det ser ut til at deler av haugen har blitt fjernet med gravemaskin i nyere tid, og at det har blitt gjort et forsøk på å rette opp dette ved å påføre moderne masser på de skadete områdene og generelt over haugen. Ved bruk av metalldetektor (Arne Schau) ble det funnet moderne materiale på de skadete områdene av haugen. I tillegg ligger det en plyndringssjakt (10012) i midten av burial mounden. På den nordlige og sørvestlige kanten av burial mounden ser det ut til å være rester etter en fotkjede. Bunnen av burial mounden ser ut til å være intakt da det er bevart steiner langs den sørlige og sørvestre kanten som også ser ut til å være en del av fotkjeden. Burial mounden ser ut til å bestå av forskjellige typer masser og en del Stein. Det er mer Stein på den nordlige og den østre siden, enn de andre sidene av burial mounden. Den nordlige halvdelen av burial mounden består av Stein som er ca 50x40cm. Haugen består av 14 lager med struktur nr. 9966, 10002, 100005-12. 100012 er en samlings nummer for 5 moderne lager. Lag 100006-100009 og 9966 utgjør haugfylllet i burial mounden, og disse lagene finnes stort sett i deler av den sør-østre kvadranten av haugen. Omrent 15% av haugfylllet består av små og medium store steiner, som har en gjennomsnittsstørrelse på 20x20x15cm.
9966	Lag	Difus			50 cm	Lag 9966 er et tykt lag som ligger mot toppen av burial cairnen. Dette laget skiller seg fra lag 100006, men er tydelig en del av haugfylllet da det skjæres av både plyndringssjakt mot vest (10012) og av de moderne ødeleggelsene mot øst i profilen. Det består av relativt løse masser. Det er gråoransje siltholdig sand og grus, som inneholder noen få biter av kull og noen små og litt større steiner ca 20x20x15cm. Det inneholder også mye røtter, en del av disse røttene er delvis råtne.
9988= 10012	Plyndringssjakt	Lineær	90 cm	287 cm	93 cm	Plyndringssjakten er lineær og ligner en grøft. Den har bratte sider, har en flat bunn, og er 2.87 m i lengde, 90 cm i diameter og 93 cm dybde. Den har blitt gravd ned



						gjennom lagene i graven helt ned til bunnen, og organisk materiale og masser fra overflaten har samlet seg opp i sjakten. Det er to lag i det som er tolket til å være en plyndringssjakt, lag 100010 og 100011. Disse lager har ikke blitt fullstendig nedbrutt, noe som tyder på at lagene ikke er så gamle. Lag 100010 består av gråoransje siltholdig sand, og kullholdig masse blandet med råtten vegetasjon og humus. Lag 100011 består av mørk gråbrun humusholdig silt.
10002	Lag	Difus		5 cm	Lag 10002: Dette laget ligger under selve haugen, og kom ikke fullstendig tilsyne før haugen ble fjernet. Laget har et flekkete preg, og består for det meste av mørk brun grå siltholdig sand, med noen flekker av mer grålig farge. Laget inneholder mye humus og noe kull. Kullet stammer sannsynligvis fra rotbrenning da det er mye røtter i massene. Laget varierer i tykkelse fra 1-10cm, og er tykkest i sør-sørøstre del av flaten under burial mounden. Før haugen var ferdig utgravd var en teori at dette laget var laget som inneholdt selve graven. Men etter at haugen over ble fjernet og laget var eksponert i plan, minner det mer om vanlig skogbunn. Laget ligner også på skogbunnen utenfor haugens område. Laget kan være noe blandet med haugfyllet, derav det noe flekkete utseende, men sannsynligvis representerer laget den gamle markoverflaten. Lag 1 ble fjernet, og under var det et tynt lag med lys grå siltholdig sand med noe grus, og lite humus. Dette ser ut til å være naturlig utvaskingslag, og støtter derfor at laget over er gammel markoverflate.	
100006	Lag	Difus		58 cm	Lag 100006 utgjør det meste av haugfyllet. Det består av mørk oransjebrun siltholdig sand som inneholder noen kullflekker, og en blanding av runde og kantene småstein og grus. Massene i lag 2 er gjennomgående relativt løse og inneholder mye røtter.	
100007	Lag	Difus		6 cm	Mørk oransjegrå sandholdig silt med noen kullflekker.	
100008	Lag	Difus		12 cm	Mørk grå, fin humusholdig silt.	
100009	Lag	Difus		46 cm	Fin mørkgrå humusholdig silt.	
100010	Lag	Difus		40 cm	Lag 100010 består av gråoransje siltholdig sand, og kullholdig masse blandet med råtten vegetasjon og humus. (plyndringssjakt 10012).	
100011	Lag	Difus		46 cm	Lag 100011 består av mørk gråbrun humusholdig silt. (plyndringssjakt 10012).	
100012	Lag	Difus		50 cm	Moderne masser: Lag 10-14, og lag 17 utgjør moderne masser og ødeleggelsjer som beskrevet over under "Beskrivelse". Lag 10 består av gråoransje grus, lag 11 er lys oransjegrå silt, lag 12 er mørk grå humusholdig silt, lag 13 er humus blandet med torv og røtter. Dette laget kan være et resultat av senere skader fra rot og trevekst. Lag 14 er lys oransje grus, blandet med humus og torv. Lag 17 består av lys grå silt.	



11.2 TILVEKSTTEKST C58446 OG C58447

C58446-C58447

Gravfunn fra vikingtid fra KRUKÅSEN, av LINGUM (1064/6), LARVIK K., VESTFOLD.

Funnomstendighet: I forbindelse med ny reguleringsplan for Lingum 1064/6 gjennomførte KHM en arkeologisk utgravning av en gravhaug og en gravrøys (ID 19132 og 48737) i perioden 27.09.2012 - 09.11.2012. Begge haugene ble håndgravd og er fullstendig undersøkt. En kullprøve fra hver struktur er vedartbestemt av Peter Hambro Mikkelsen ved Moesgård museum (2012), og radiologisk datert ved Ångström Laboratory i Uppsala (2013). En makroprøve fra hver haug er analysert av Annine Moltsen ved Natur og Kultur (2013). Analyserapportene er vedlagt utgravningsrapporten (Derrick 2014).

Orienteringsoppgave:

Krukåsen ligger mellom byene Sandefjord og Larvik, om lag 5 km i luftlinje fra kysten, i overkant av 1 km fra og på utsiden av Raet. Den N-S-gående åsryggen består av to lave koller som er preget av et eksisterende steinbrudd med tilhørende deponiområde.

Kartreferanse: EU89-UTM; Sone 33, N: 6559983,679, Ø: 220853,294.

Litteratur: Askjem, J.K.Ø. 2010: *Rapport: Arkeologisk registrering. Sak: Detaljert reguleringsplan-/endring og utbyggingsavtale for Krukåsen og 1056/1, 1056/2 og 1064/6.* Vestfold Fylkeskommune.

Derrick, Michael, 2014: *Rapport arkeologisk utgravning. Gravminner. Lingum 1064/6, Larvik, Vestfold.* KHM's arkiv.

Olldag, I. E.1994: *Glasperler i danske fund fra romersk jernalder.* Aarbøger for Nordisk Oldkyndighed og Historie 1992, s. 193-280. København.

Petersen, J.1919: *De norske vikingesverd. En typologisk-kronologisk studie over vikingetidens vaaben.* Videnskapsselskapets Skrifter II. Hist.-fil.klasse 1919, 1.

C58446/1-19

Gravfunn fra vikingtid fra KRUKÅSEN, av LINGUM (1064/6), LARVIK K., VESTFOLD.

Funnomstendighet: Omfatter funn og prøver fra gravrøys. Røysen var oval, 14,75 m x 12,79 m, og bestod av en 45 cm høy haug med stein omgitt av en fotkjede av store stein. Det ble funnet flere gjenstander i røysen, men ingen beinrester. Under røysen ble det funnet enkelte flintavslag, som indikerer at området også omfatter steinalderaktivitet.

- 1) Sterkt korrodert fremre **sverdhjalt** og grep av jern i to deler. Sverdet er av type M, tilnærmet Petersen 1919, fig.98. Stl: 14 cm og stb: 8,5 cm. Funnet i lag 9410. Datering: 850-900 AD.
- 2) Sterk korrodert **knivblad** av jern i to deler. Tilspisset i en ende. Stl: 11 cm. Funnet i lag 9410.
- 3) Liten rød, rørformet **perle** av glass, lik type 1306 i Olldag 1994:201. L: 0,9 cm og B: 0,6 cm. Funnet i lag 9410. Datering: Folkevandringstid / Merovingertid.
- 4) Grønn, sylinderformet **perle** av glass med avrundete kanter, lik type 1310 i Olldag 1994:201. L: 0,8 cm og b: 0,6 cm. Funnet i lag 9410. Datering: Folkevandringstid /



Merovingertid.

- 5) Rød, cylindriskformet **perle** av glass med konisk hull og avrundete kanter, lik type 1306 i Olldag 1994:201. L: 1,1 cm og b: 0,9 cm. Funnet i lag 9410. Datering: Folkevandringstid / Merovingertid.
- 6) Grønn, sylinderformet **perle** av glass med avrundete kanter, lik type 1310 i Olldag 1994:201. L: 0,8 cm og b: 0,6 cm. Funnet i lag 9410. Datering: Folkevandringstid / Merovingertid.
- 7) Liten, rød, cylindriskformet **perle** av glass med avrundete kanter, lik type 1306 i Olldag 1994:201. L: 0,8 cm og b: 0,5 cm. Funnet i lag 9410. Datering: Folkevandringstid / Merovingertid.
- 8) Halvert, rød, cylindriskformet **perle** av glass med avrundete kanter, lik type 1306 i Olldag 1994:201. L: 1,1 cm og stb: 0,7 cm. Funnet i lag 9410. Datering: Folkevandringstid / Merovingertid.
- 9-11) Fire skår av kleberstein fra trolig et **kar**. Samlet vekt: 117 g. Stl: 6,5 cm, stb: 4,5 cm og stt: 1,5 cm. Funnet i lag 9410.
- 12) **Slipestein** av sandstein. L: 12,0 cm, b: 11,0 cm og t: 10,0 cm. Funnet i lag 9410.
- 13) **Fragment** av bly. Funnet i lag 9410.
- 14) **Fragment** av bly. Funnet i lag 9410.
- 15) Fragment av flintkjerne. Tydelig spor etter flere flekkeavslag på en side, men ingen tydelig plattform. L: 4,2 cm, b: 2,5 cm og t: 2,0 cm. Funnet i lag 9410.
- 16) **Fragment** av flint. L: 1,0 cm, b: 0,6 cm, t: 0,1 cm. Funnet i lag 9410.
- 17) **Fragment** av flint som er brent med mulig spor etter flateretusj. L: 1,7 cm, b: 1,5 cm og t: 0,8 cm. Funnet i lag 9410.
- 18) **Prøve, kull**. Vekt: 0,1 g. 10 biter er vedartbestemt til Picea. 0,1 g Picea er radiologisk datert til 291 ± 30 BP, 1490-1670 calAD (Ua-46277). Fra lag 9410.
- 19) **Prøve, makro**. Fra lag 8640.

LokalitetsID: 48737.

For fellesopplysninger se C58446.

C58447/1-6

Gravfunn fra jernalder fra KRUKÅSEN, av LINGUM (1064/6), LARVIK K., VESTFOLD.

Funnomstendighet: Omfatter funn og prøver fra skadet gravhaug. Mindre enn 50 % av gravhaugen var bevart. Den var tilnærmet rund, ca. 8 m i diameter og 1 m høy, og bestod av stein, sand og jord. Det var en plyndringssjakt og grop midt i haugen. Det ble funnet få gjenstander og ingen beinrester i strukturen.

- 1) **Spiker** av jern. L: 10 cm, b: 0,5 cm. Funnet i lag 10002.
- 2) **Vektlodd** av bly. L: 2 cm, b: 1,5 cm. Funnet i lag 10002.
- 3) **Fragment** av brent flint. L: 3 cm og b: 2,4 cm. Funnet i lag 10002.
- 4) **Fragment** av brent flint. L: 2,7 cm og b: 2,6 cm. Funnet i lag 10002.
- 5) **Prøve, kull**. Vekt: 0,1 g. 10 biter er vedartbestemt. Av disse var 6 Juniperus, 1 Picea, 2 nåletræ og 1 Pinus. 0,1 g Juniperus er radiologisk datert til 131 ± 30 BP, 1670-1950 calAD (Ua-46276). Fra lag 10002 i gravhaug 2.
- 6) **Prøve, makro**. Funnet i lag 10002.



LokalitetsID: 19132.

11.3 BOTANICAL SAMPLES

11.3.1 CHARCOAL SAMPLES

C nr.	Prøve nr.	Vekt (g)	Struktur nr.	Type	Vedartbestemt	Datering
58446/18	100004	0,1 g	9140	Lag i burial cairn 1	Picea	291 +/- 30 BP, 1490-1670 calAD (Ua-46277).
58447/5	100002	0,1 g	10002	Lag i burial mound 2	Juniperus	131 +/- 30 BP, 1670-1950 calAD (Ua-46276)

11.3.2 MACROFOSSIL SAMPLES

Cnr.	Prøve nr.	Vol. (ml)	Struktur type	Resultater
C58446/19	MP11401	110	Lag 9410 i burial cairn 1	Cenococcum X Rødgran, Gran (Picea alba) Nåle 2f.
C58447/6	MP 100002	105	Lag 10002 i burial mound 2	Cenococcum x, Rødgran, Gran (Picea alba) Nål 6f

11.4 LIST OF PHOTOS

Filnavn	Motivbeskrivelse	Retning Sett Mot	Initials
Cf34611_01.JPG	Oversiktsbilde, røys 1 under rensing.	N	MD
Cf34611_02.JPG	Oversiktsbilde, røys 1 under rensing.	N	MD
Cf34611_03.JPG	Oversiktsbilde, røys 1 under rensing.	S	MD
Cf34611_04.JPG	Oversiktsbilde, røys 1 under rensing.	S	MD
Cf34611_05.JPG	Oversiktsbilde, røys 1 under rensing.	SV	MD
Cf34611_06.JPG	Oversiktsbilde, røys 1 under rensing.	S	MD
Cf34611_07.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_08.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_09.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_10.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_11.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_12.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_13.JPG	Oversiktsbilde, røys 1.	NNØ	MD
Cf34611_14.JPG	Oversiktsbilde, røys 1.	NNØ	MD
Cf34611_15.JPG	Oversiktsbilde, røys 1.	N	MD
Cf34611_16.JPG	Oversiktsbilde, røys 1.	NNØ	MD
Cf34611_17.JPG	Oversiktsbilde, røys 1.	NNØ	MD
Cf34611_18.JPG	Oversiktsbilde, røys 1.	NNØ	MD
Cf34611_19.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_20.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_21.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_22.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_23.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_24.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_25.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_26.JPG	Oversiktsbilde, røys 1.	NV	MD
Cf34611_27.JPG	Oversiktsbilde, røys 1.	NV	MD



Filnavn	Motivbeskrivelse	Retning Sett Mot	Initials
Cf34611_28.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_29.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_30.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_31.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_32.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_33.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_34.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_35.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_36.JPG	Oversiktsbilde, røys 1.	SØ	MD
Cf34611_37.JPG	Oversiktsbilde, røys 2.	V	MD
Cf34611_38.JPG	Oversiktsbilde, røys 2.	V	MD
Cf34611_39.JPG	Oversiktsbilde, røys 2.	V	MD
Cf34611_40.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_41.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_42.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_43.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_44.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_45.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_46.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_47.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_48.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_49.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_50.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_51.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_52.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_53.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_54.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_55.JPG	Oversiktsbilde, røys 2.	Ø	MD
Cf34611_56.JPG	Oversiktsbilde, røys 2.	SV	MD
Cf34611_57.JPG	Oversiktsbilde, røys 2.	SV	MD
Cf34611_58.JPG	Oversiktsbilde, røys 2.	NV	MD
Cf34611_59.JPG	Oversiktsbilde, røys 2.	NV	MD
Cf34611_60.JPG	Oversiktsbilde, røys 2.	NV	MD
Cf34611_61.JPG	Oversiktsbilde, røys 2.	NV	MD
Cf34611_62.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_63.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_64.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_65.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_66.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_67.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_68.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_69.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_70.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_71.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_72.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_73.JPG	Oversiktsbilde, røys 2. Etter steinfjerning.	SØ	MD
Cf34611_74.JPG	Oversiktsbilde, røys 1. Før graving.	SØ	MD
Cf34611_75.JPG	Oversiktsbilde, røys 1. Før graving.	SØ	MD
Cf34611_76.JPG	Oversiktsbilde, røys 1. Før graving.	NØ	MD
Cf34611_77.JPG	Oversiktsbilde, røys 1. Før graving.	SV	MD
Cf34611_78.JPG	Oversiktsbilde, røys 1. Før graving.	SV	MD
Cf34611_79.JPG	Oversiktsbilde, røys 2. Før graving.	Ø	MD
Cf34611_80.JPG	Oversiktsbilde, røys 2. Før graving.	NØ	MD
Cf34611_81.JPG	Oversiktsbilde, røys 2. Før graving.	N	MD



Filnavn	Motivbeskrivelse	Retning Sett Mot	Initials
Cf34611_82.JPG	Oversiktsbilde, røys 2. Før graving.	NV	MD
Cf34611_83.JPG	Oversiktsbilde, røys 2. Før graving.	NV	MD
Cf34611_84.JPG	Oversiktsbilde, røys 2. Før graving.	SØ	MD
Cf34611_85.JPG	Oversiktsbilde, røys 2. Før graving.	SØ	MD
Cf34611_86.JPG	Arbeidsbilde, røys 1.	NØ	MD
Cf34611_87.JPG	Arbeidsbilde, røys 1.	N	MD
Cf34611_88.JPG	Arbeidsbilde	NV	MD
Cf34611_89.JPG	Arbeidsbilde, røys 1.	S	MD
Cf34611_90.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_91.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_92.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_93.JPG	Oversiktsbilde, røys 2	NNV	MD
Cf34611_94.JPG	Oversiktsbilde, røys 2	NNV	MD
Cf34611_95.JPG	Bilde tatt mot røys 2.	V	MD
Cf34611_96.JPG	Oversiktsbilde, røys 2	N	MD
Cf34611_97.JPG	Oversiktsbilde, røys 2	N	MD
Cf34611_98.JPG	Detaljert bilde, røys 1. Ref.1 på kart.	NØ	MD
Cf34611_99.JPG	Detaljert bilde, røys 1. Ref.2 på kart.	NØ	MD
Cf34611_100.JPG	Detaljert bilde, røys 1. Ref.3 på kart.	S	MD
Cf34611_101.JPG	Detaljert bilde, røys 1. Ref.4 på kart.	S	MD
Cf34611_102.JPG	Detaljert bilde, røys 1. Ref.5 på kart.	S	MD
Cf34611_103.JPG	Detaljert bilde, røys 1. Ref.6 på kart.	S	MD
Cf34611_104.JPG	Detaljert bilde, røys 1. Ref.7 på kart.	S	MD
Cf34611_105.JPG	Detaljert bilde, røys 1. Ref.8 på kart.	N	MD
Cf34611_106.JPG	Detaljert bilde, røys 1. Ref.9 på kart.	N	MD
Cf34611_107.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_108.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_109.JPG	Arbeidsbilde, røys 1.	SØ	MD
Cf34611_110.JPG	Detaljert bilde, røys 1. Ref. 14.	N	MD
Cf34611_111.JPG	Detaljert bilde, røys 1. Ref. 15.	N	MD
Cf34611_112.JPG	Detaljert bilde, røys 1. Ref. 16.	N	MD
Cf34611_113.JPG	Detaljert bilde, røys 1. Ref. 17.	N	MD
Cf34611_114.JPG	Detaljert bilde, røys 1. Ref. 20.	S	MD
Cf34611_115.JPG	Detaljert bilde, røys 1. Ref. 23.	Ø	MD
Cf34611_116.JPG	Detaljert bilde, røys 1. Ref. 24.	Ø	MD
Cf34611_117.JPG	Detaljert bilde, røys 1. Ref. 25.	S	MD
Cf34611_118.JPG	Detaljert bilde, røys 1. Ref. 26.	S	MD
Cf34611_119.JPG	Detaljert bilde, røys 1. Ref. 27.	S	MD
Cf34611_120.JPG	Detaljert bilde, røys 1. Ref. 28.	S	MD
Cf34611_121.JPG	Nærbilde F7663, sverd.	Ø	MD
Cf34611_122.JPG	Nærbilde F7663, sverd.	Ø	MD
Cf34611_123.JPG	Nærbilde F7663, sverd.	V	MD
Cf34611_124.JPG	Nærbilde F7663, sverd.	V	MD
Cf34611_125.JPG	Nærbilde F7663, sverd.	V	MD
Cf34611_126.JPG	Nærbilde F7663, sverd.	V	MD
Cf34611_127.JPG	Nærbilde F7663, sverd.	V	MD
Cf34611_128.JPG	Arbeidsbilde, røys 1	SSV	MD
Cf34611_129.JPG	Arbeidsbilde, røys 1	SSV	MD
Cf34611_130.JPG	Arbeidsbilde, sverd under utgraving, røys 1	Ø	MD
Cf34611_131.JPG	Arbeidsbilde, røys 1	SSV	MD
Cf34611_132.JPG	Arbeidsbilde, sverd under utgraving, røys 1	Ø	MD
Cf34611_133.JPG	Arbeidsbilde, sverd under utgraving, røys 1	V	MD
Cf34611_134.JPG	Arbeidsbilde, røys 1	NØ	MD
Cf34611_135.JPG	Arbeidsbilde, røys 1	NØ	MD



Filnavn	Motivbeskrivelse	Retning Sett Mot	Initials
Cf34611_136.JPG	Arbeidsbilde, røys 1	NØ	MD
Cf34611_137.JPG	Arbeidsbilde, røys 1. Etter steinfjerning.	NV	MD
Cf34611_138.JPG	Arbeidsbilde, røys 1. Etter steinfjerning.	NØ	MD
Cf34611_139.JPG	Arbeidsbilde, røys 1. Etter steinfjerning.	SØ	MD
Cf34611_140.JPG	Oversiktsbilde, røys 1	S	MD
Cf34611_141.JPG	Oversiktsbilde. Røys 2 under snitting.	Ø	MD
Cf34611_142.JPG	Oversiktsbilde. Røys 2 under snitting.	N	MD
Cf34611_143.JPG	Oversiktsbilde. Røys 2 under snitting.	Ø	MD
Cf34611_144.JPG	Nål/nagle fra røys 2.	N	MD
Cf34611_145.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_146.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_147.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_148.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_149.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_150.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_151.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_152.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_153.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_154.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_155.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_156.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_157.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_158.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_159.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_160.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_161.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_162.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_163.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_164.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_165.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_166.JPG	Oversiktsbilde, røys 2.	N	MD
Cf34611_167.JPG	Oversiktsbilde, røys 2.	NØ	MD
Cf34611_168.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_169.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_170.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_171.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_172.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_173.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_174.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_175.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_176.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_177.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_178.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_179.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_180.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_181.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_182.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_183.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_184.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_185.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_186.JPG	Profilbilde, røys 2.	NØ	MD
Cf34611_187.JPG	Røys 2, fjernet.	Ø	MD
Cf34611_188.JPG	Røys 2, fjernet.	SV	MD
Cf34611_189.JPG	Røys 2, fjernet.	V	MD



Filnavn	Motivbeskrivelse	Retning Sett Mot	Initials
Cf34611_190.JPG	Røys 2, fjernet.	V	MD
Cf34611_191.JPG	Røys 1, fjernet.	S	MD
Cf34611_192.JPG	Røys 2, fjernet.	N	MD
Cf34611_193.JPG	Røys 2, fjernet.	V	MD
Cf34611_194.JPG	Røys 2, fjernet.	N	MD
Cf34611_195.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	Ø	MD
Cf34611_196.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	NØ	MD
Cf34611_197.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	S	MD
Cf34611_198.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	N	MD
Cf34611_199.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	Ø	MD
Cf34611_200.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	V	MD
Cf34611_201.JPG	Arbeidsbilde. Fjerning av lag under røys 2.	S	MD
Cf34611_202.JPG	Illustratortegning av gravhaug (tegnet av M. Derrick.).	N	MD
Cf34611_203.JPG	Digitalkart av gravrøys i plan (av M. Derrick).		MD
Cf34611_204.JPG	Digitalkart av gravhaug i plan (av M. Derrick).		MD



11.5 RESULTS FROM BOTANICAL ANALYSIS



Angströmlaboratoriet
Tandemlaboratoriet

Göran Possnert

Besöksadress:
Ångströmlaboratoriet
Lägerhyddsvägen 1
Rum 4143

Postadress:
Box 529
751 20 Uppsala

Teléfono:
018 - 471 30 59

Telefax:
018 - 55 57 36

Hemsida:
<http://www.angstrom.uu.se>

E-post:
Goran.Possnert@Angstrom.uu.se

Uppsala 2013-06-24

Ole Christian Lenaas
Kulturhistorisk museum, Universitetet i Oslo
Postboks 6762, St Olavs plass
NO-0130 OSLO
Norge

Resultat av ^{14}C datering av träkol från Krukåsen, Lingum gård 1064/6, Vestfold, Norge.

Förbehandling av träkol och liknande material:

1. Synliga rottrådar borttages.
2. 1 % HCl tillsätts (8-10 timmar, under kokpunkten) (karbonat bort).
3. 1 % NaOH tillsätts (8-10 timmar, under kokpunkten). Löslig fraktion fälls genom tillsättning av konc. HCl. Fällningen som till största delen består av humusmaterial, tvättas, torkas och benämns fraktion SOL. Olöslig del, som benämns INS, består främst av det ursprungliga organiska materialet. Denna fraktion ger därför den mest relevanta åldern. Fraktionen SOL, däremot ger information om eventuella föroreningars inverkan.

Före acceleratorbestämningen av ^{14}C -innehållet förbränns det tvättade och intorkade materialet, surgjort till pH 4, till CO_2 -gas, som i sin tur konverteras till fast grafit genom en Fe-katalytisk reaktion. I den aktuella undersökningen har fraktionen INS daterats.

RESULTAT

Labnummer	Prov	$\delta^{13}\text{C}\text{\% VPDB}$	^{14}C age pMC
Ua-46276	Gravhaug 2, Lag 8640	-21,5	131 ± 30
Ua-46277	Gravrøys 1, Lag 9410	-23,7	291 ± 30

Med vänlig hälsning

Göran Possnert/ Elisabet Pettersson

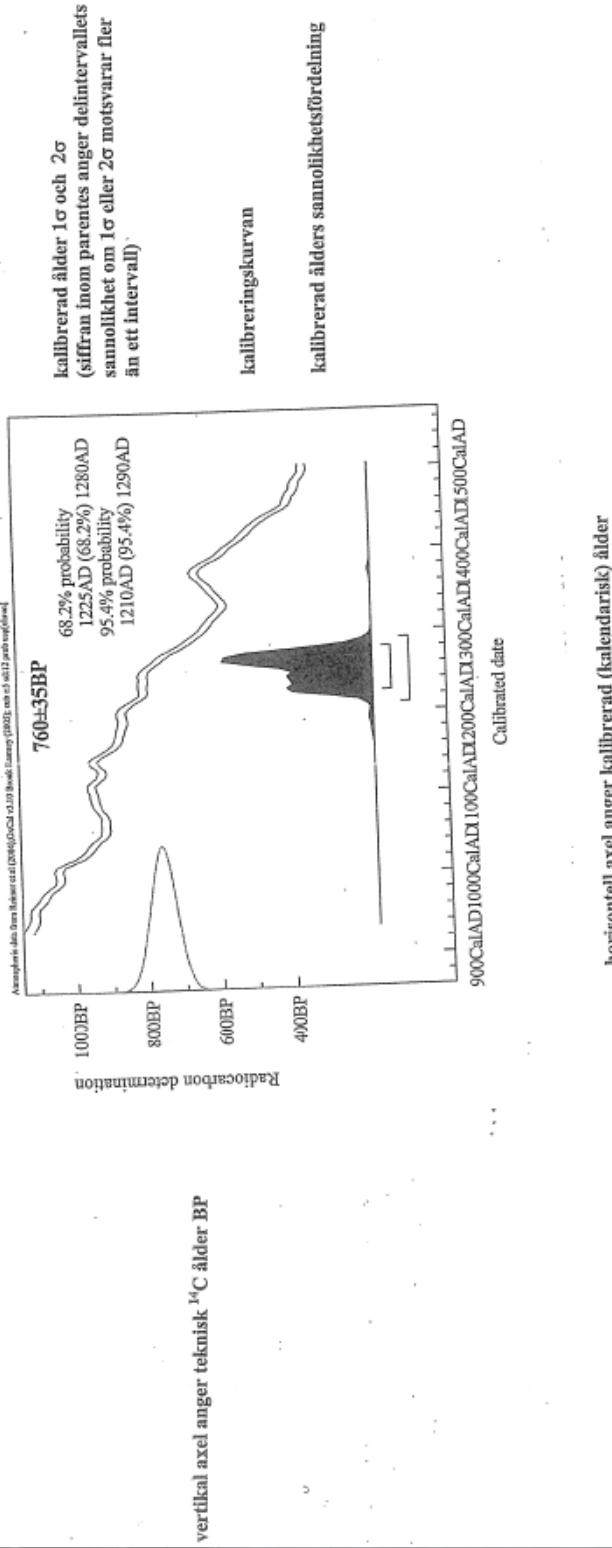


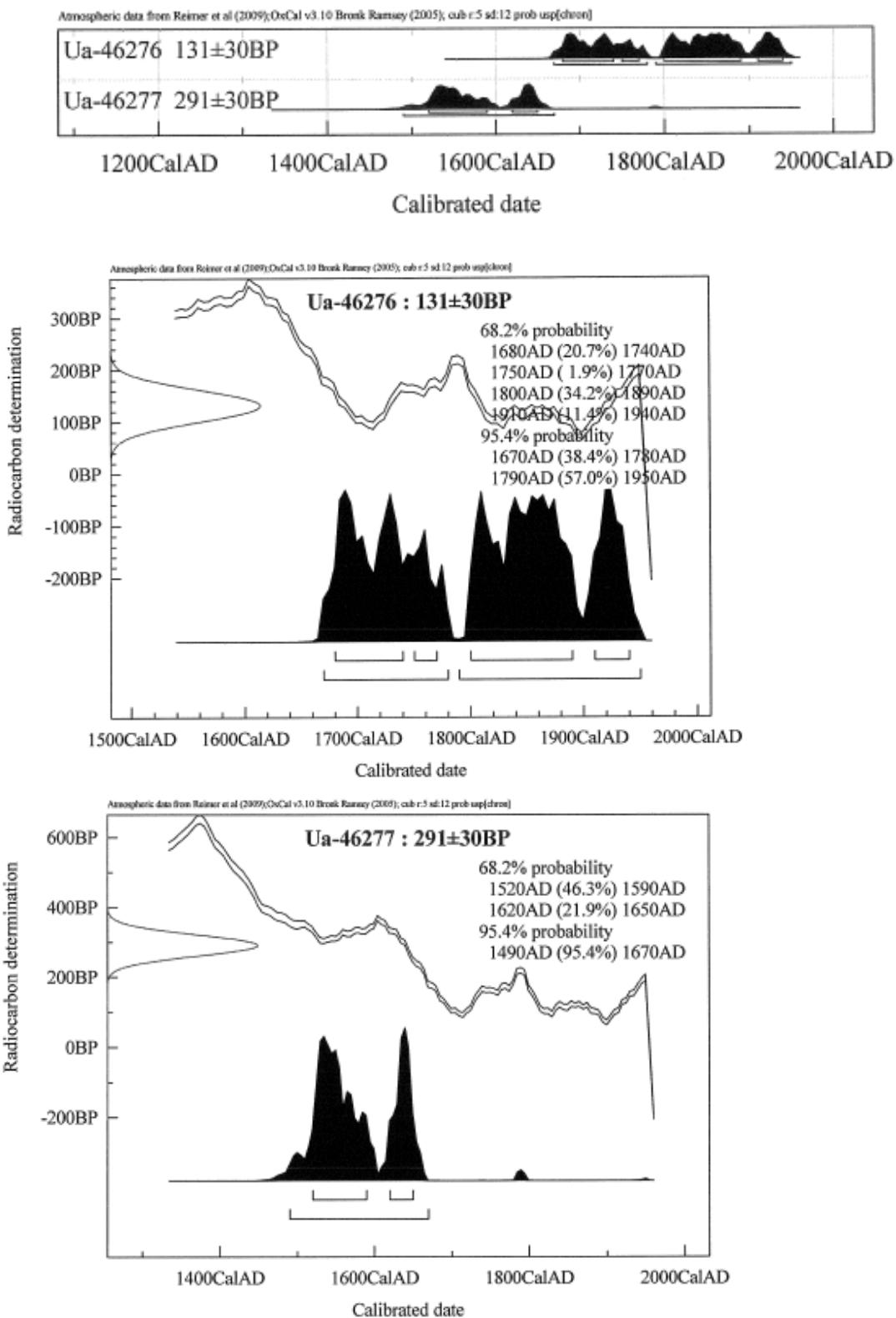
Kulturhistorisk museum
Fornminneseksjonen

Förklaring till kalibreringsutskrift från programmet OxCal

referens till kalibreringsdata och kalibreringsprogram

teknisk ^{14}C ålder BP (before present=år 1950) beräknad med $T_{\nu}=5570$ år







MOESGÅRD
MUSEUM

Moesgård
DK-8270 Højbjerg
Telefon 89 42 11 00
Telefax 86 27 23 78

Moesgård, 20/12 2012

Rapport vedr. vedanatomisk analyse fra Lingum 1064/6 – Krukåsen, Saksnr. 2010/15471, Larvik kommune, Vestfold (FHM 4296/1303)

Metode

De udvalgte træstykker identificeres under anvendelse af henholdsvis stereolup og mikroskop med op til 500 X forstørrelse. Der udplukkes tilfældigt 10 stykker til analyse, hvor dette er muligt. Herefter gennmises prøven for at der kan dannes et generelt overblik over arts-sammensætningen. Der er udtaget en egnet 14C-prøve fra hvert X-nummer, som anbringes i plastiktut i en nummereret plastikpose. Alle C14-prøverne er lagt i deres oprindelige fundpose. De analyserede trækulsstykker er ligeledes lagt i egen plastpose og placeret inde i den oprindelige fundpose.

Undersøgelsen

Røys 1, lag 9410, MP 111401. Prøven består af >25 mellem til små stykker trækul samt «fnuller». Der er tale om stykker af forholdsvis stor diameter og med meget tætte årringe, hvilket enten skyldes, at træet er vokset i tæt naturskov eller at der er tale om større grene. 1 stk på 5 mm havde 17 årringe, 1 stk på 4,9 mm havde 30 årringe. Det udtagne stykke til C14 har fået de yderste 7 årringe skåret fra til prøveformål, ingen bark til stede.

Gravhaug 2, lag 8640, MP 100002. Prøven består af >20 meget små stykker trækul samt «fnuller». Der er tale om trækul fra det inderste af (formodentlig) grene, idet den inderste åring i flere tilfælde er bevaret. Det har været meget vanskeligt – og til dels ikke muligt – at bestemme træstykkerne pga størrelsen. nDer er bestemt 6 stykker til Juniperus, einer, heraf to stykker fra lidt større stykke, 1 stk Picea, gran, 1 stk cf Pinus, furu, og 2 stk ubestemt nåletræ. Det udtagne stykke til C14 er af Juniperus, har 4/5 årringe og ingen bark.



Sammenfatning og vurdering

Der er undersøgt 2 prøver med trækul af henholdsvis Juniperus, einer, Picea, gran og Pinus, furu. Prøven fra Røys 1 indeholder udelukkende Picea, af forholdsvis stor diameter, mens Gravhaug 2 har træ fra forskellige nåletræssarter, altovervejende af lille diameter. Der er således stor forskel på de to prøvers sammensætning.

Der er tegn på mange årringe i stykkerne fra Røys 1. Mange af de anvendte træstykker må således formodes at have været mange år gamle. Der er ikke bevaret bark på nogen af de undersøgte træstykker og det er derfor ikke muligt at vurdere fældningstidspunkt. At der mangler bark har også betydning for C14-dateringen, idet man ikke kan være sikker på, at få træ, der ikke er for «gammelt». Der er udtaget prøvemateriale fra det ældste stykke, hvor der er skåret et mindre antal årringe af. Det må dog – i betragtning af, at der er tale om træ, som er så tætvokset – antages, at dateringerne meget vel kan være for gamle i forhold til hvornår forkulningsprocessen er foregået.

Prøverne fra Grauhaug 2, der tilsyneladende består af mindre grene, kan være tørt træ, som er brækket af/afskåret fra nåletræerne, fordi de sidder visne på stammerne. Igen kan dette betyde, at der er tale om for «gammelt» træ i forhold til dateringen, som vil fremkomme.

Under alle omstændigheder så bør C14-datering vurderes nøje.

Peter Hambro Mikkelsen, ph.d.
Afdelingsleder
Konserverings og naturvidenskabelig afdeling
Moesgård Museum



Rapporterne fra Moesgårdss Naturvidenskabelige Afdeling fremlægger resultater i forbindelse med specialundersøgelser af arkæologisk genstandsmateriale.

Hovedvægten er lagt på undersøgelser med en naturvidenskabelig tilgangsvinkel. Heriblandt kan nævnes arkæobotaniske undersøgelser, vedanatomiske undersøgelser, antropologiske undersøgelser af skeletter samt arkæozoologiske undersøgelser.

Der optræder også andre typer dokumentationsfremlæggelser, som f.eks. besigtigelse af marinarkæologiske lokaliteter og metodebeskrivelser af konserveringsteknisk karakter.

Alle rapporterne kan downloades fra Moesgaard Museums hjemmeside. Eftertryk med kildeangivelse tilladt.





Makrofossilanalyser
Makrofossilanalyser
fra
Kruksåsen

Saksnr. 2010/15471
Saksnr. 2010/15471

Annine S. A. Moltzen

NOK rapport nr. 05-2013



*Cand.scient Annine S.A Moltzen -
Valdemarsgade 19a 2.mf - DK-1065 København
Tlf: 33 23 46 55 - Mobil: 40 98 86 75 -
mail: nok@nokam.dk - www.nokam.dk*



Indledning

Fra den arkæologiske undersøgelse Krukåsen, Lingum 1064/6, Larvik, Vestfold, saksnr. 2010/15471, er der af Ole Christian Lønnaas fra Kulturhistorisk Museum i Oslo indsendt 2 floterede prøver. Prøverne er udtaget i henholdsvis en gravhøj og en røys.

Metode

Prøvernes volumen blev målt. Prøverne blev herefter analyseret under stereolup ved 20-80 x forstørrelse. Indholdet i prøverne blev beskrevet og kvantificeret. Frø og andet identificerbart blev sorteret fra. Frøene blev bestemt ved ud fra diverse litteraturværker og ved sammenligning med recent referencemateriale.

Resultater

Kon-tekst	Struktur	Prøve nr.	Volumen ml	Forkullet	Indhold	Plantedele
Røys 1 Lag9410		MP11401	110	Trækul x, s Kviste x Strå x	1 klump af brændt amortf materiale	Cenococcum x Rødgran, Gran (Picea alba) Nåle 2f
Gravhøj 2	58640	MP 10002	105	Trækul (x) Let afrundede	Delvist forkullet ved (x)	Cenococcum x Rødgran, Gran (Picea alba) Nåle 6f

Kommentarer

Cenococcum er en jordsvamp, der vokser i veldrænet muldjord. Det er frugtlegemerne der bliver fundet, men de er ikke nødvendigvis samtidige med laget.

I prøve MP11401 fra røysen var der en del trækul, kviste og strå samt enkelte fragmenter af grannåle. Der var desuden en enkelt klump af forkullet amortf organisk materiale med fedtlignende struktur, men det kan meget vel være forkullet harpiks. Da trækullene var skarpkantede må de have ligget beskyttet mod mekanisk slid, hvilket passer fint med at de endnu mere skrøbelige strå er bevaret. Prøven er ifølge de arkæologiske oplysninger udtaget under stenene i bunden af røysen, hvilket kan det tyde på, at det forkullede materiale er rester fra afbrænding af den oprindelige vegetation på stedet i forbindelse med at området er blevet ryddet. Materialet er formentlig så godt bevaret fordi det er blevet beskyttet af stenene hurtigt efter afbrændingen, og dermed må røysen var anlagt relativt hurtige efter afbrændingen.

I prøven fra MP10002 fra Gravhøj 2 var der en noget lavere koncentration af trækul og lidt fragmenter af grannåle. I denne prøve var trækullene let afrundede, så formentlig har de ligget på en eksponeret flade i en kortere periode, inden de er blevet forseglet af det overlejrende lag. Prøven er ifølge de arkæologiske oplysninger udtaget i bunden af gravhøjen. Såfremt dette lag indeholder rester fra afbrænding af den oprindelige vegetation, hvilket må afgøres ud fra datering og vedanatomiske analyser, må laget have ligget eksponeret en tid inden gravhøjen anlægges.

Prøven indeholdt desuden enkelte fragmenter af delvist forkullet ved, hvilket umiddelbart ikke harmonerer med et lag der har været eksponeret i en periode, måske skal det delvist forkullede ved relateres til en senere ligbrænding eller urne i højen, eller måske er træet blevet bevaret fordi det har været i forbindelse med metal, for at afgøre dette må de arkæologiske observationer inddrages.

11.6 ARCHIVED ORIGINAL DOCUMENTATION

Original sketch drawings and descriptions: 6 sheets, 1 A4 and 5 A3. (All other drawings and descriptions are archived as Intrasis data).



11.7 COMMUNICATION WITH THE PRESS AND PUBLIC



Følg oss på: [Twitter](#) [Facebook](#) [YouTube](#)

Språk: [Norsk](#) [Engelsk](#)

HISTORIE	REGELVERK	RÅD OG TIPS	TILSKUDD
RESSURSBANK	PROSJEKTER	NYHETSARKIV	OM OSS

Du er her: [Forside](#) > [Nyhetsarkiv](#) > Gravrøys åpnet på krukåsen

Sok

<- Tilbake til forsiden

NYHETSARKIV

- [Nye funn på kongssetet Borre](#)
- [Søknadsfrist for tilskudd til verneverdig kulturminner i Vestfold](#)
- [Rapport fra russergravplassen](#)
- [Gravhang på Rom vestre ipnes](#)
- [Ett steg nærmere Færder nasjonalpark](#)
- [Edvard Munchs hus kan bli fredet](#)
- [Veier er også historie](#)
- [Fuglefangst på Molen?](#)
- [Vinterarkeologi](#)
- [Bensin mellom seylene](#)
- [Metallsøking](#)
- [Eldre nyhetssaker](#)

Gravrøys åpnet på Krukåsen

Forrige uke fant arkæologene en perle i en gravrøys. Gravplassen har vært kjent lenge, men nå får vi vite mer om hvor gammel den er.



I to uker har arkæologene Mick Derrick, Heidi Strandman og Åksel Haavik fra Kulturhistorisk museum arbeidet i skogen på Krukåsen.

- Jeg har vært så lenge i dette gjetet nå at jeg tør å tro at vi kan gjøre virkelig store funn, sier Mick som leder utgravingen. Han har lang erfaring fra utgravinger.

Det var kanskje ikke et funn som snur opp ned på historien. Men likevel akkurat i det Mick har pekt på et visst punkt i røysa og sagt "der tror jeg graven kan ligge", pirket Heidi frem en rødlig, liten perle. Slik glieder arkæologene!

Perlen tyder på at graven er fra det arkæologene kaller merovingertid (550-800 e.Kr.).

Det er sjeldent gravrøyser blir gravd ut. Røysa på Krukåsen er hele 15 meter i diameter. Den består av ett eller noen få lag stein som er lagt rett på en bergplate. Hele røysa har vært sjekket med metallsøker uten at noe ble funnet.

Arkæologene skal fortsette i fire uker til. Når de forlater stedet, blir det Steinbrudd her.

Heidi Strandman og Åksel Haavik graver fram og mäter inn steinene i gravrøysa. Foto: Anita Fossum.

av [Anita Fossum](#)
publisert 15. oktober 2012, sist oppdatert 15. oktober 2012

[Del med andre](#)



 Multimedia



Visste du at...

kulturminnevern er miljøvern?

