

Hringsdalur í Arnarfirði

Fornleifarannsóknir 2006-2011



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Forsíðumynd: Kumlateigurinn í Hringsdal í Arnarfirði
(Garðar Guðmundsson 2015)

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Mynd 1: Kumlateigurinn liggur í sandinum vinstra megin. Bærinn í Hringsdal efst til hægri (2015 FSÍ/GG).

Samantekt

Þann 26.7.2006 barst Fornleifavernd ríkisins tilkynning um fornleifafund í rofi við sjávarbakka í Hringsdal í Arnarfirði. Við frekari rannsóknir á vegum Fornleifastofnunar Íslands ses og Arnfirðingafélagsins 2006-2011 komu í ljós illa farnar leifar af kumlateig frá víkingaöld. Ekki er ljóst hve teigurinn hefur verið stór í upphafi, enda herjar þar á bæði landbrot og uppblástur, að frátöldu raski af manna völdum, en í ljós komu leifar af 4-5 kumlum, þar af eitt bátkuml. Umbúnaður allur sýnir að grafirnar eru frá lokum jánaldar. Á teignum stendur tóft, hlaðin úr steinum, líklega frá öndverðri 19. öld eða f.hl. 20. aldar. Eftirfarandi skýrsla er lokaskýrsla um uppgröftinn, auk greiningar á forngripum, mannabeinum og dýrabeinum ásamt öðrum athugunum á staðhättum og örnefnum, jarðvegi og gjóskulögum.

English Summary

Hringsdalur, A-Barðastrandarsýsla, NW-Iceland

In a number of fragmentary reports from 1821, 1873, 1884, 1935 and 1942, chance finds of human bones and weapons in eroding mounds by the seashore at Hringsdalur are mentioned. In 1950 a sword was found some 250 m W of the mounds. Again in 2006, human bones were uncovered in the eroding banks of the coast, and a total excavation of the site was started by a team from Fornleifastofnun Íslands that year. The grave field is on a small promontory by the sea, close to a landing site, and 300 m NE of the farmhouses. The main road lies between the site and the farm. The remains of 4-5 burials were found in 2006-2011:

1. A badly eroded burial on the edge of the high seashore, including human bones (female, 25-40), and grave goods: comb, knife and iron fragments.
2. Four metres to the SE there was a well preserved and undisturbed grave, 195x70 cm and 45 cm deep, with the edges made of stones, and with flat stone slabs on top. In the grave there was a male skeleton (35-45), SE-NW orientation (supine, left leg straight, the right knee flexed, right arm straight and the other resting on the abdomen) with the following grave goods: sword (Petersen Type Q), spearhead (Petersen Type H), shield-boss (Rygh 565), comb, knife, flint, nails, rivets and iron fragments.
3. 15 m SE of grave 2, there was a partly disturbed grave, 154x36 cm and 23 cm deep, with the remains of a male skeleton (36-45), SE-NW orientation (lying on his left side, with legs slightly bent at the knees). Grave goods: axe head with remains of the wooden shaft (probably Petersen Type H).
4. Four metres east of grave 3 there were the badly preserved remnants of a boat grave, 430x60 cm and 20 cm deep, with the remains of a male skeleton (40-50), NW-SE (head position unknown). The wood of the boat had disintegrated, but 500 rivets and nail fragments from the boat were recovered. Grave goods: a knife.
5. A scatter of human bones and a pit, 120x100 cm, possibly the remains of a destroyed grave and redeposited bones were found 4 m NNE of burial 3.¹

¹ See: Adolf Friðriksson 2016a, p. 645.



Mynd 2: Loftmynd af Hringsdal og nágrenni. „*“ sýnir fundarstað sverðs 1950 (©Loftmyndir ehf).

Inngangur

Sumarið 2006 fundust mannabein og forngripir í rofbakka á litlu nesi, Hreggnasa, sem gengur í sjó fram austanvert í víkinni við mynni Hringsdals í Ketildölum við Arnarfjörð. Hilmar Einarsson, eigandi Hringsdals tilkynnti atvikið til Fornleifaverndar ríkisins í lok júlí 2006. Við athugun á vettvangi sama sumar kom í ljós að um leifar kumls úr heiðni var að ræða og við frekari rannsókn fannst annað kuml skammt frá.² Árið 2007 var rannsókn haldið áfram og leitað í sandinum sunnan við kumlin tvö. Þar komu í ljós tóftir frá seinni tímum og sunnan þeirra fannst raskað kuml.³

Árangur uppgraftarins leiddi til þess að Arnfirðingafélagið tók verkefnið upp á sína arma og var ákveðið að halda áfram rannsókn næstu sumur, í samvinnu við Fornleifastofnun Íslands. Alþingi veitti styrk til verksins (2007-2011), ásamt Þjóðhátíðarsjóði (2007) og Fornleifasjóði (2013 og 2016). Vorið 2008 fundust tvö kuml til viðbótar og var eitt þeirra bátkuml.

² Adolf Friðriksson, Hildur Gestsdóttir, Astrid Daxböck & Guðrún Alda Gísladóttir 2010.

³ Adolf Friðriksson, Astrid Daxböck, Hildur Gestsdóttir & Magnús Á Sigurgeirsson 2013.

Rannsóknnum á kumlateignum var fram haldið ár hvert til ársins 2011, en ekki fundust fleiri kuml.⁴

Um einstaka þætti rannsóknanna sumurin 2008-2011 hefur áður verið fjallað í ræðu⁵ og riti,⁶ en í þessari lokaskýrslu er birtur heildarárangur af uppgreftinum, sem og sérfræðirannsóknnum á viðarleifum, gjósku, dýrabeinum og öðrum atriðum úrvinnslunnar, sem styrkt var af Fornleifasjóði (síðar Fornminjasjóði).

Fornleifafundurinn á Hreggnasa naut töluverðrar athygli fjölmiðla, einkum innlendra fréttamiðla. Að auki lét sjónvarpsstöðin Discovery Channel gera einskonar heimildapátt, með töluverðu skemmtigildi, um verkefnið.⁷ Almenníngi var veitt leiðsögn um staðinn og nágrenni á meðan á rannsóknum stóð. Minjastaðurinn hefur verið girtur af og sett upp skilti fyrir fróðleiksfúsa gesti.

Við verkefnið unnu Adolf Friðriksson, Oscar Aldred, Astrid Daxböck, Eiríkur Jónsson, Louise Felding, Christine Forrestal, Garðar Guðmundsson, Guðrún Alda Gísladóttir, Hildur Gestsdóttir, Michael House, Dawn E. Mooney, Magnús Á. Sigurgeirsson, Anthony Newton, Howell Magnus Roberts, David Stott, Uggi Ævarsson, Víðir H. Guðbjartsson og Lisa Yeomans. Kristjana Vilhjálmsdóttir las yfir og lagfærði skýrsludrög.

Hilmar Einarsson og Kristín Finnsdóttir í Hringsdal, Gunnar Valdemarsson, Vilborg Jónsdóttir og Jón Þórðarson á Bíldudal veittu rannsóknarhópunum margháttaðan stuðning og er þökkun liðveislan.

⁴ Adolf Friðriksson, ritstj., o.fl. 2015.

⁵ Adolf Friðriksson 2011; 2013b; 2016b.

⁶ Adolf Friðriksson 2010; 2012; 2013.

⁷ Sagt er nánar frá miðlaumfjöllun um fundinn í eftirfarandi grein: Adolf Friðriksson 2006.



Mynd 3: Kumlateigurinn í Hringsdal.

Fyrri athuganir og fornleifafundir

Áður en mannabein og gripir komu í ljós sumarið 2006 hafði alloft verið getið um hauga, mannvíg, bein og haugfé í Hringsdal, en ekki var fyrr en nú unnt að staðfesta að þar væru kuml úr heiðnum sið.

Í skýrslu sóknarprests um fornaldarleifar frá 1821 segir: „Í Hringsdal, í Selárdals sókn er, utann til við Túnid, Völlur, kalladur Bardaga-grund, og skammt þar frá er Steirn, kalladur Hríngs steirn, 3. álnir á leingd og 2. álnir á hæð, hjá hvörjum Hríngur bóndi, sem Bærinn líklega tekur Nafn af, hafi verid veiginn.“⁸ Í sóknarlýsingu frá 1840 segir: „Á svokallaðri Bardagagrund í Hringsdal er haugur langur, sem Hringshaugur er kallaður. Þar er og nefnd Víghella, og finnst þar nokkuð af spjótabrotum og fleiru.“⁹ Í lýsingu frá 1873 segir: „Sú er sögn, að sá hafi Hringur heitið, er hér bjó fyrst, gildur bóndi, er átt hafi óvildarmenn, er veittu honum heimsókn og felldu hann í orustu eftir fræga vörn austur frá bænum, og þar á hann að vera heygður að fornum sið á túnbakkanum.“¹⁰ Eitthvað munu örnefnin hafa skolest til í lýsingum, en árið 1884 gerði Björn M. Ólsen all rækilega grein fyrir sögnum um Hring og skoðaði staðhætti:

... í Hringsdal voru mjer sýndir 2 haugar, sem sagt var að væri úr heiðni. Annar þeirra er nefndur Hringshaugur, og er hann kenndur við Hring nokkurn, sem menn segja að hafi verið landnámsmaður ... Hringshaugur heitir nú rjett að segja niður við sjó fyrir neðan Bardagagrund hina neðri, en Austmenn þeir, sem fjellu, eru heygðir svo sem 3 föðmum neðar niðri á sjávarbakkanum, og er

⁸ *Frásögur um fornaldarleifar* 1983, s. 408.

⁹ *Sóknalýsingar Vestfjarða* (I. bindi) 1952, s. 233.

¹⁰ *Sóknalýsingar Vestfjarða* (I. bindi) 1952, s. 241.

þeirra haugur nú að mestu blásinn upp og þar hafa fundizt mannabein. Jeg fann þar 2 beinbrot og virtist að minnsta kosti annað vera úr manni. Á Hringshaugi sýnast vera mannaverk, en ekki hafði jeg tíma til að rannsaka hann betur.¹¹

Matthías Þórðarson þjóðminjavörður friðlýsti staðinn árið 1930.¹² Í örnefnaskrá er þetta m.a. nefnt:

Frammi á bökkum skammt inn og upp af Hreggnasa eru steinhleðslur og lág rúst, heitir Hringshaugur, því að sagt er, að þarna sé Hringur heygður. Nú er haugurinn mjög blásinn upp, og hafa mannabein oft fundist þar, t.d. sá ég bein þar 17. júní 1935, þegar örnefni þessi voru skrásett. Sagt er og, að sverðbrot hafi fundist við eða í Hringshaug og hafi verið búinn til úr því hnífur. Svo hafi maður skorið sig á hnífnum, en sá skurður hafi verið lengi að gróa. Fyrir neðan Hringshaug er Vör.¹³

Í *Barðstrendingabók* er þessa getið:

Í Hringsdalstúni er einnig örnefni, sem kallað er Hringsleiði og er sagt, að Hringur sé þar heygður. Hvað sem hæft kann að vera í sögum þessum, þá er það víst, að fyrir fáum áratugum, er brim braut neðan úr bökkunum fyrir neðan Bardagagrund, fundust oft mannabein, er hrundu niður úr bökkunum.¹⁴

Árið 1950 fannst í Hringsdal sverð við vegagerð:

Haustið 1950 voru vegagerðarmenn að vinnu utan við túnið í Hringsdal ... Voru þar melar blásnir, skammt innan við á þá, er fellur rétt utan við túnið, og var ýtt um það bil 10-15 sm þykku lagi saman í garð undir veginn. ...Í garðinum, sem saman var ýtt, fann einn verkamannanna, Marinó Magnússon frá Bíldudal, ryðgað sverð eða sverðshluta. Engin verksummerki voru sjáanleg né heldur fundust fleiri gripir, enda lítt eða ekki eftir leitað.¹⁵

Kristján Eldjárn rannsakaði sverðið en í lýsingu hans er ekki að finna nánari frásögn um fundarstaðinn. Var því leitað til eins af vegagerðamönnum sem voru við vinnu í Hringsdal 1950, Gunnar Valdemarsson frá Bíldudal. Gunnar vísaði höfundu á staðinn sumarið 2006. Sverðið hafði ekki fundist niður á bökkunum hjá meintum haugum fyrir neðan og austan bæinn, heldur um 450 m VSV við þá. Vestan við túnið í Hringsdal ganga ávalir malarhryggir niður úr dalnum og niður að sjó. Milli túnsins og Hringsdalsár sem er vestan (þ.e. utan) túns, eru tveir slíkir hryggir. Þegar vegurinn var lagður með ströndinni árið 1950 og vestur yfir Hringsdalsá, var tekið framan úr þessum hryggjum. Að sögn Gunnars fannst sverðið ofan og fremst á rananum sem er nær túninu, skammt sunnan við vegarstæðið (sjá mynd 1). Er það um 220 m í NV frá bæ. Nú hefur talsverð mól verið tekin úr hryggjunum og staðurinn sem sverðið fannst á er horfinn. Gunnar staðfesti að ekkert annað hafi fundist nema sverðið og engin ummerki um að þar hafi verið gröf, heldur eins og gripurinn hafi glatast eða gleymst þar upp á hryggnum.

¹¹ Björn M. Ólsen 1885, s. 21. Svipuð frásögn er í Vestfirzskum sögnum (I. bindi) 1933-37, s. 2-4.

¹² *Skrá um friðlýstar fornleifar* 1990, s. 22-23.

¹³ Örnefnaskrá Hringsdals [1935].

¹⁴ Ingivaldur Nikulásson 1942, s. 114.

¹⁵ Kristján Eldjárn 1950, s. 5.

Markmið og aðferðir

Svo sem fyrr segir er upphaf rannsókna að rekja til forngripafundarins sumarið 2006. Er hann jafnframt gott dæmi um hve óvæntir lausafundir geta komið mönnum á sporið og orðið kveikjan að stærri rannsóknum. Markmið verkefnisins voru eftirfarandi:

- a) Að bjarga heimildum um staðinn – Minjastaðurinn er á litlu nesi við sjó og var í uppnámi vegna ágangs sjávar og veðrunar.
- b) Að rannsaka greftrunarsiði – Þrátt fyrir veðrun og eyðingu þá var ljóst að varðveisla á gripum og beinum væri mjög góð og því gott færi til almennra rannsókna á greftrunarsið. Langflestar rannsóknir á kumlum voru gerðar fyrir árið 2000, en aðferðafræðilegar nýjungar og breyttar, fræðilegar áherslur hefur leitt til þess að sú hefðbundna mynd sem fræðimenn höfðu af umbúnaði greftrunar og haugfé hefur tekið verulegum breytingum á síðustu árum.
- c) Að kanna hvort fleiri kuml leyndust á svæðinu – Heimildir frá 19. og 20. öld gáfu vísbendingar um að á Hreggnasa væri ekki stakt kuml, heldur mögulega kumlateigur. Þrátt fyrir að allmargir greftrunarstaðir séu kunnir hér á landi, þá hófust kerfisbundnar athuganir á stærð og gerð kumlateiga ekki að fyrr en á þessari öld. Markmið rannsókna á teignum var að afla vitnisburðar um gerð hans og bera saman við nýlega rannsakaða teiga á Norðurlandi.
- d) Að afla upplýsinga um staðfræði kumla – Frá aldamótum hafa verið gerðar rannsóknir á staðháttum greftrunarstaða og næsta nágrenni þeirra. Samhliða uppgrefti í Hringsdal voru gerðar staðfræðiathuganir, m.t.t. örnefna, söguskýringa og landshátta.

Uppgrafteraðferðir

Rannsóknarstaðurinn er á litlu nesi niður við sjó í Hringsdal. Yfirborðið er að mestu þakið grjóturð, framburði úr skriðum í fjallinu fyrir ofan og þakið ljósum skeljasandi sem berst upp úr víkinni neðan við. Mjög lítið er um lausan moldarjarðveg og víða blasir við jökulurð sem uppblástur hefur skafið ofan af. Nesið liggur um 3 m.y.s. og hefur jarðvegsmyndun verið lítil, jafnvel á vestfirskan mælikvarða, enda stendur það nánast fyrir opnu hafi. Svæðið er mjög þurrt og gróðurlítið, þakið gisnum grasbreiðum, með stórum, uppblásunum geilum á milli.

Við uppgröftinn var mismunandi aðferðum beitt. Í upphafi voru brotakenndar leifar upprunalega fundarstaðarins kannaðar með grafskeið, síðan tók við handmókstur á þykkum bunkum af sandi og loks þegar fengin var þokkaleg heildarmynd af aðstæðum, var notuð grafa til að fjarlægja áfokslög og stækka rannsóknarvettvanginn. Við uppgröftinn voru fyllingarlög sigtuð í heild sinni. Við skráningu upplýsinga var notuð einingaskráning, hverju mannvistarlagi gefið einingarnúmer, takmörkum þess lýst ásamt sérkennum, það myndað og teiknað í höndum í mælikvarðanum 1: 20, eftir atvikum. Við mælingar var notuð alstöð með gagnastokki og mannvirkjaleifar og fundir mæld inn með hnitum og hæð. Alls var rannsóknarsvæðið um 500 fermetrar að flatarmáli, en sýnileg mannanna verk voru einungis á innan við 100 fermetra svæði, enda fólst rannsóknin m.a. í að leita að ystu mörkum kumlateigsins. Mannvirkin sem fundust voru fullgráfin, en steinumgjarðir látnar standa óhaggaðar. Steinhlaðnir veggir tóftar af nýlegu mannvirki voru einnig látnir standa og sandpokum hlaðið að þeim. Náttúran hefur séð um að þekja svæðið sandi á ný sem veitir því nokkra vörn, en ágengur uppblástur á yfirborði, og landbrot á sjávarbakkanum mun líklega valda áframhaldandi eyðingu.

Rannsóknin kallaði á margvíslega sérgreiningu. Jarðfræðileg einkenni svæðisins voru athuguð með aðferðum gjóskulagafræði og almennrar jarðfræði (sjá skýrslur Magnúsar Á. Sigurgeirssonar og A. Newton). Fundarstaðir gripa voru kortlagðir, gripirnir mældir og vegnir, myndaðir, skráð lýsing og gerð og efniviður athugaður (sbr. Fundaskrá Guðrúnar Öldu Gísladóttur, sem og meðf. greinargerð A. Daxböck). Dýrabein og viður voru greind sérstaklega (sjá greinargerðir L. Yeoman og D. Mooney).

Loks tóku aðferðir við greiningu á mannabeinum mið af því að finna minnstan mögulegan fjölda einstaklinga í hverju kumli og athuga varðveislu, greina kyn og lífaldur, reikna líkamshæð og skrá allar þær meinafræðilegar breytingar sem sáust á beinunum þar sem það var hægt. Skal hér gerð nánari grein fyrir þessum aðferðum, sem eiga við um alla mannabeinafundi í þessari skýrslu.

Til að finna minnsta mögulega fjölda einstaklinga („minimum number of individuals“, MNI) eru beinin flokkuð, og ef mögulegt er, beinum úr sama einstakling raðað saman, t.d. við liðamót eða hægra og vinstra bein úr sama einstakling. Einnig eru flokkuð í sundur bein sem eru greinilega ekki úr sama einstaklingnum t.d. á sitthvorum aldri, af sitt hvoru kyni eða mikill stærðarmunur. Til að ákveða MNI er algengasta beinið talið.

Þegar unnið er með heilar beinagrindur er hverri beinagrind gefið stig fyrir varðveislu, frá 1-5 (sjá töflu

Tafla 1: Varðveisla

Stig	Varðveisla
1	>90%
2	75-90%
3	50-75%
4	30-50%
5	<30%

1). Við greiningu á varðveislu var ekki einungis lagt mat á magn beina sem hafði varðveist, heldur einnig hve auðveldlega var hægt að framkvæma beinafræðilega rannsókn á beinagrindinni.

Kyngreining byggðist á nokkrum mismunandi aðferðum eftir því sem varðveisla leyfði: Athugun á kyngreinandi einkennum á höfuðkúpu og mjaðmagrind¹⁶ og mæling á nokkrum liðflötum í samanburði við staðla frá Bass¹⁷ og Brothwell.¹⁸

Lífaldur var greindur á samsvarandi hátt með þeim aðferðum sem varðveisla gerði mögulegt: Aldursgreining út frá tannglerungi, aðferð Lovejoy og samstarfsmanna við aldursgreiningu á eyrnaflati mjaðmarspaða, Suchey-Brooks aðferð við aldursgreiningu á lífbeini¹⁹ og sameining höfuðkúpusauma.²⁰

Útreikningar á líkamshæð voru byggðir á mælingum á leggjarbeinum bornum saman við staðla frá Trotter.²¹

¹⁶ Sjá t.d. Buikstra & Ubelaker 1994; Schwartz 1995; Walrath, Turner & Bruzek 2004.

¹⁷ Bass 1995.

¹⁸ Brothwell 1981.

¹⁹ Brooks & Sachem 1990.

²⁰ Lovejoy, Meindl, Pryzbeck, & Mensforth 1985; Meindl, & Lovejoy 1985.

²¹ Trotter 1970.

Framvinda rannsókna

Þjóðleiðin um Ketildali liggur með ströndinni. Þegar komið er út í Hringsdal er farið fyrir Hringsdalsnúp, og yfir lágt holt. Blasir þá við breið, sendin vík, og bærinn upp af víkinni, en smánes, Hreggnasi, gengur fram austan hennar. Á Vestfjörðum er örnefnið Hreggnasi oft notað um minniháttar hóla eða smánes.²² Hregg merkir stormur og á því vel við um nefið eða hólana á Hringsdalsbökkum þar sem innlögnin getur verið æði mögnuð. Hefur hún án efa haft áhrif á uppblástur og rof, sem og áhleðslu fjörusands á uppgrafarstaðnum. Þótt bratt sé niður af nesinu ofan í fjöru, liggja þykk lög af ljósum fjörusandi uppi á nesinu og teygja sig í átt til holtanna undir fjallsrótum, þar sem vegurinn liggur. Sandurinn er að mestu grasi gróinn upp við veg, en víða eru rofblettir og niður á sjávarbökkunum eru skörð og geilar með háum brúnum, sem skerast inn í bakkana. Bein og forngripir sem tilkynnt hafði verið um í lok júlímánaðar 2006 höfðu fundist í geil sem lá austan í norðurodda nessins, rétt neðan við hábungu þess, um 320 m suðaustan við bæinn í Hringsdal. Þar beint niðuraft er Vör, sem sögð er hafa verið aðallendingastaður Hringsdalsmanna til 1870.²³

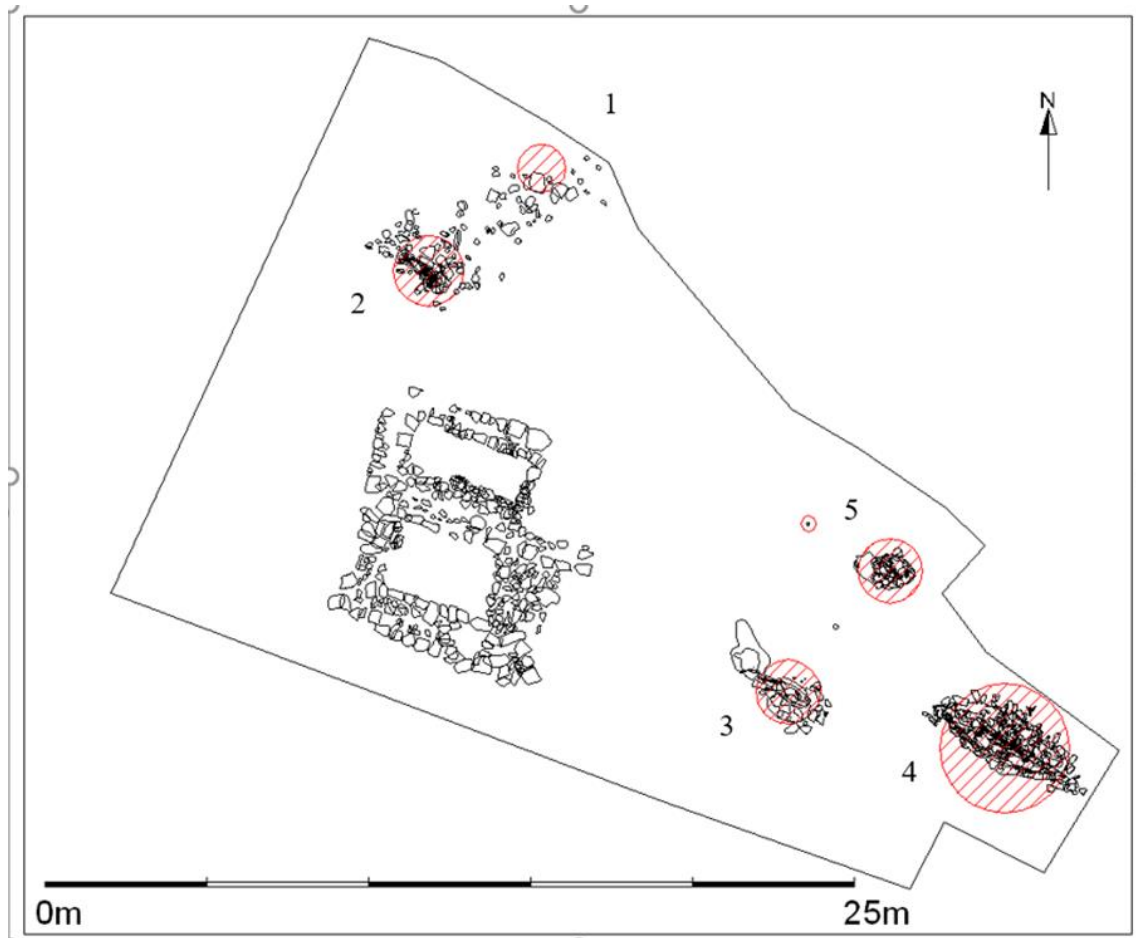
Uppgrafarsvæðið árið 2006 var um 50 m². Var fyrst hugað að fundarstaðnum sem tilkynnt hafði verið um (kuml 1) og síðan freistað gæfunnar og fleiri kumla leitað til suðurs, frá bakkabrúninni. Kom þá í ljós önnur gröf (kuml 2).

Sumarið 2007 var rannsóknarsvæðið stækkað til suðurs og yfirborðssandur fjarlægður af um 250 m² svæði.

Þegar skeljasandi hafði verið mokað frá, hófst hin eiginlega rannsókn, þ.e.a.s. athugun á yfirborði sem sandurinn hefur fært í kaf á síðustu áratugum. Enginn vottur af mannvistarleifum var í áfokssandinum, en hann var frá 60 til 100 sm djúpur og nokkuð lagskiptur. Var hann fjarlægður með handmökstri og vélgröfu þar sem dýpst var. Undir sandinum er grýtt holt, og situr grjótið í þunnu moldarlagi. Í því eru forsöguleg gjóskulög (sbr. skýrslu A. Newton hér aftar) og virðist jarðvegurinn að mestu óraskaður, en líklega hefur skafið ofan af holtinu og síðan sandur safnast fyrir í því síðar. Dökkleitu lögin í sandinum bera vott um að þangað berst á víxl moldarjarðvegur úr rofabörðum í grendinni og ljós sandur ofan úr fjörunni. Sunnan við kuml 1 og 2 (2006) var lágur hóll og þar í leyndust tóftir frá síðari tímum. Er þær 4 m sunnan við kuml 2. Syðst á svæðinu kom í ljós áður óþekkt gröf (kuml 3), 7,6 m sunnan við tóftirnar, og 17,2 m suðaustan við kuml 2.

²² Kuhn 1951, s. 16-17.

²³ Örnefnaskrá Hringsdals [1935].



Mynd 4: Yfirlitsuppráttur af sýnilegum minjum á kumlateignum.

Vorið 2008 var rannsóknarsvæðið stækkað til suðausturs og yfirborðssandur fjarlægður af um 58 m² reit. Neðst í sandinum vottaði fyrir mannvistarleifum á tveimur stöðum (sjá yfirlitsmynd nr. 4, þ.e.a.s brotnum beinum, rónöglum og aðbornu grjóti. Var sandurinn á þessum stöðum sigtaður til að finna möguleg smábrot. Þessir staðir voru rannsakaðir með grefti og verða hér eftir nefndir kuml 4 og 5.

Sumurin 2009 til 2010 voru áfokslög hreinsuð af um 400 m² svæði, þ.e. út til norðvesturs, út fyrir nyrstu grafir, og jafnframt til suðurs og austurs. Hvar sem grafið var kom fram hreinn sandur og undir honum grófur jökulruðningur. Svæðið er allt þakið grjóti, stóru og litlu, en einsleitu. Það liggur sumsstaðar mjög þétt, og hvað á öðru á stöku stað, en undir því, þar sem við komum grafskeiðum niður, var mold og fín mól, þ.e. náttúrulegur jarðvegur. Má vera að fleiri kuml leynist í grendinni, en hér var látið staðar numið.



Mynd 5: Fremst á myndinni er meint kumlstæði 1. Beinahrafl og gripir fundust við stóra steininn í forgrunni. Nokkrum metrum ofar leyndust leifar af kumli 2, merkt á myndinni með grafskeið.

Rannsókn á grafreit

Kuml 1

Fundarstaðurinn var í rofi efst í bröttum sjávarbakkanum. Rofið náði í gegnum sendin áfokslög [001] og niður á óhreyfðan, þunnan moldarjarðveg [004] sem þekur urðina hér og hvar á nesinu. Þar voru nokkrir ávalir steinar, en óvíst að þeir hafi tilheyrt kumli. Engin gröf fannst, en nokkuð regluleg brún eða þrep [003] lá í bakkanum, frá NV til SA. Má vera að það hafi verið leifar norðvesturhliðar grafar sem gripirnir og beinin komu úr. Meðfram brúninni var brúnn og leirkenndur jarðvegur, mjög hreyfður [002], mögulega leifar fyllingar úr gröfinni. Í þessu lagi komu þær beinaleifar og gripir sem lágu ekki á yfirborði þegar að var komið. Hildur Gestsdóttir hefur rannsakað beinin og telur 59 bein og brot, sem gætu öll verið úr sama einstaklingi, konu,

25-40 ára (sjá neðar). Sum beinin eru mjög veðruð og því ljóst að kumlið hefur verið að blása upp á löngum tíma. Með beinunum fannst eftirfarandi haugfé:

2006:1. 4 *járnbro*t.

2006:2. *Kambur* úr beini, brotinn, skreyttur með tvöföldu fléttumunstri, okar settir saman með járnnöglum.

2006:3. *Sívalningslaga brot* úr óþekktum hlut úr beini eða horni.

2006:4. *Járnbro*t.

Ofan á sandinum, nokkra metra frá kumli 1 var *rónagli* (2006:23), sem gæti hafa verið í kumli 1 eða borist úr öðru kumli á teignum.

Ekki er unnt að segja hvort kumlið hafi verið rænt, og ekki er útilokað að beinin og gripirnir komi úr fleiri en einni gröf. Náttúran hefur umturnað grafarstæðinu svo gersamlega að úr þessu verður ekki skorið.

Mannabein úr kumli 1 (HDR-A-001)

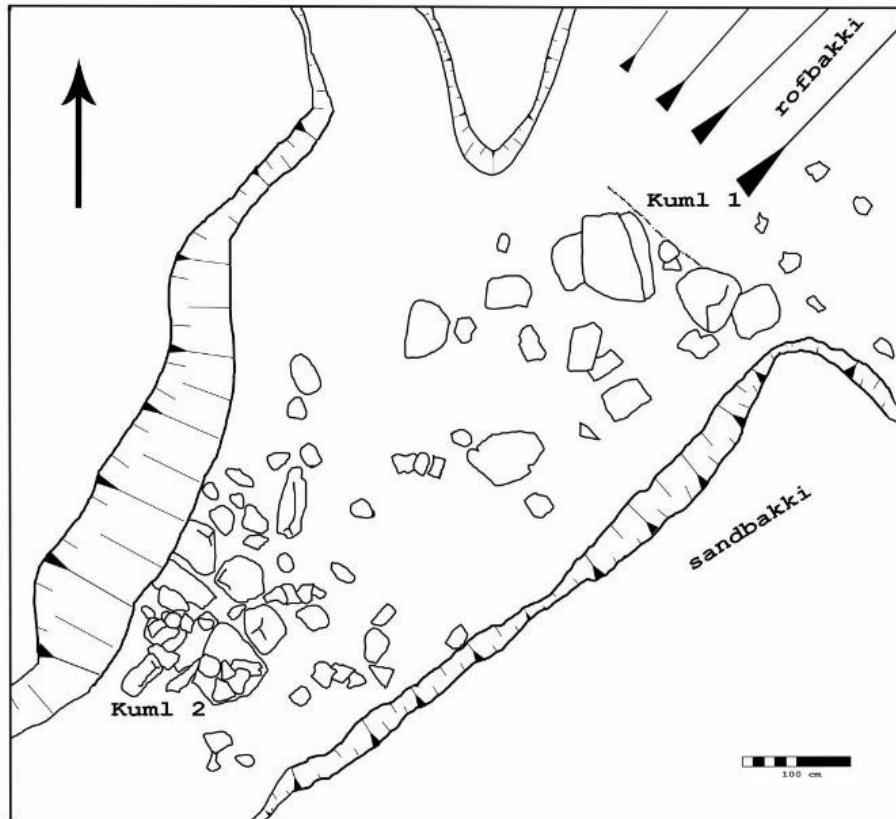
Varðveisla: Alls fundust 59 bein sem hægt var að greina sem mannabein í kumli 1 (frekari upplýsingar er að finna í viðauka 1). Öll þessi bein voru hreyfð úr stað, og mörg höfðu veðrast, sem bendir til að þau hafa legið á yfirborði í einhvern tíma. Minnsti mögulegi fjöldi einstaklinga (MNI) úr kumlinu var einn, og bendir rannsóknin til þess að séu þetta leifar eins einstaklings.

Kyn: Þau brot sem varðveittust af höfuðkúpu og mjaðmabeini báru **kvenkyns** einkenni, og bentu mælingar á upparmleggsbeini líka til þess að um konu væri að ræða.

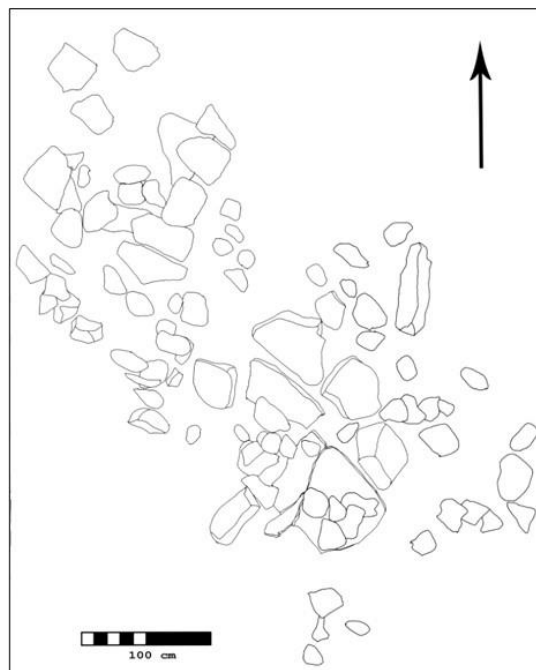
Lífaldur: Aldursgreinandi breytingar á tannglerungi, spjaldhrygg og eyrnaflati mjaðmabeins bentu til þess að hún hafi verið á aldrinum **25-40 ára**.

Líkamshæð: Einungis var hægt að mæla hægra upparmleggsbein, sem benti til þess að hún hafi verið um **159 sm** á hæð.

Meinafræðilegar breytingar: Einu meinafræðilegu breytingarnar sem skráðar voru tannsteinsmyndun á tönnum, ígerð í beini neðan við vinstri þriðja jaxl í efri góm og lítilsháttar aukinn gljúpleiki á nærflati sköflungs (óvíst hvor hlið), en þó svo lítið að ekki væri hægt að greina gigt.



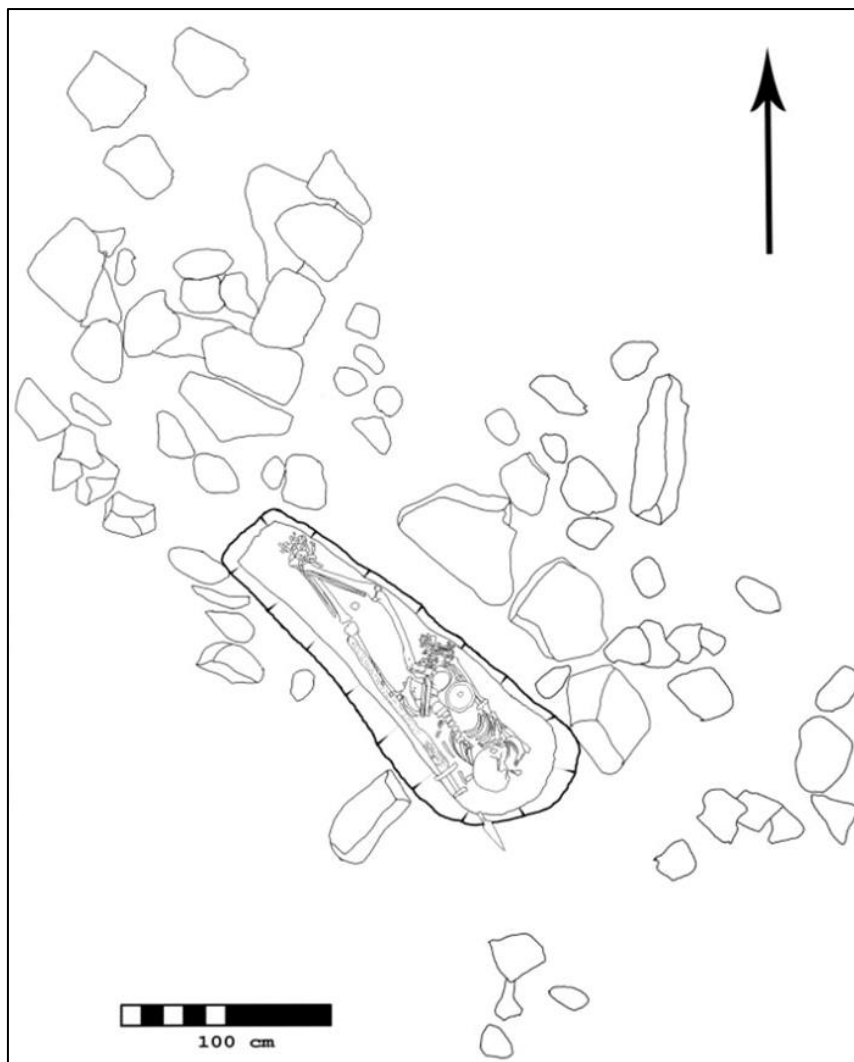
Mynd 6: Teikningin sýnir afstöðu kumla 1 og 2.



Mynd 7: Steinar yfir kumli 2.

Kumli 2

Á Íslandi finnast kumli ýmist stök, eða nokkur saman á teig. Þótt stöku kumlin virðist algengari, er það svo að flest þeirra hafa fundist fyrir tilviljun og ekki ávallt gengið úr skugga um hvort hjá þeim leynist fleiri grafir. Af fyrri frásögnum og fundaraðstæðum í Hringsdal að dæma hefur þar verið kumlategur, sem hefur verið að blása upp á síðustu öldum. Hefur hann verið leiksoppur náttúrunnar, og ýmist varðveist undir þykkum sandlögum eða spillst í rofi og veðrun. Innar í skarðinu í sjávarbakkann þar sem kumlaleifarnar fundust hafði uppblástur myndað allnokkra geil. Lágu stöku steinar þar á víð og dreif í sandinum, en engin ummerki önnur um möguleg kumli. Við ákváðum að hreinsa botninn í geilinni og var allur laus sandur skafinn burtu en steinarnir látnir standa. Um 5 m suðvestan við kumlið kom í ljós steinhella og óregluleg röð af steinum, sem gekk undir sandstálið til norðvesturs. Var þá norðurbakki sandgryfjunnar grafinn frá og kom þá í ljós að steinaröðin [006] hélt áfram lengra til norðvesturs. Framundan suðvesturenda hellunnar stóð ryðgaður, oddmjór hlutur. Þegar hellunni var lyft blasti við efri hluti mannabeinagrindur og oddmjói hluturinn reyndist vera spjótsoddur. Þegar steinarnir voru fjarlægðir mátti sjá að þeir voru lagðir ofan í og ofan á brún aflangrar grafar, sem sneri NV til SA [008]. Dálítið holrými var milli steinanna og innihalds grafarinnar. Ekkert grjót var í fyllingu hennar, heldur dökk mold, með flyksum af forsögulegri gjósku, bæði ljósri og dökkri, og fíngerðri mól [007], þeirri sömu og er í óhreyfðum jarðveginum sem kumlið var grafið niður í [009]. Utan við steinaröðina vottaði fyrir svipuðum jarðvegi [005] og í fyllingunni, og gæti hafa borist þangað er gröfin var tekin, eða mögulega verið leifar haugs yfir henni.



Mynd 8: Kuml 2, uppgrafið.

Ljóst var að ekki hafði verið hreyft við gröfinni, en líklegt er að yfir henni hafi verið haugur sem hafi blásið burtu. Gröfin var um 195 sm löng, 72 sm breið í suðausturenda, en 40 sm breið í norðvesturenda. Hún var jafndjúp, um 45 sm, og slétt í botninn, hliðar beinar, en víkkuðu dálítið út við efri brún. Í gröfinni lá beinagrind úr manni. Höfðið var í suðausturenda, og hafði fallið niður á bringu. Maðurinn hefur verið lagður á bakið, með hægri handlegg beinan og niður með síðunni, en þann vinstri krepptan yfir kvið og lágu hendurnar saman hægra megin við mjöðm. Vinstri fótur lá beinn, en hægri fótleggur krepptur um hné og fóturinn lá ofan á vinstra fæti. Beinir eru úr karlmanni, sem líklega hefur verið 36-45 ára (sjá neðar). Með honum var eftirfarandi haugfé:



Mynd 9: Tinnubrot úr kumli 2

2006: 5. *Ró af nagla* úr járni, fannst ofan á bringubeinum.

2006:6. 2 *rónaglar* úr járni, fundnir á sama stað og nr. 5.

2006:7. *Rónagli* úr járni með viðarleifum, brotinn, frá sama stað og nr 5.

2006:8. 2 *járnbrot*, frá sama stað og nr 5.

2006:9. 2 *járnbrot*, frá sama stað og nr 5.

2006:10. *Brot* úr koparblöndu, frá sama stað og nr 5.

2006:11. *Rónagli* úr járni með viðarleifum, brotinn, frá sama stað og nr 5.

2006:12. *Járnnagli* með viðarleifum, brotinn, frá sama stað og nr 5.

2006:13. *Rónagli* með viðarleifum, frá sama stað og nr 5

2006:14. *Rónagli* með viðarleifum, frá sama stað og nr 5.

2006:15. 2 *járnbrot* með viðarleifum, fannst við vinstri hlið mannsins, milli síðunnar og sverðsins.

2006:16. 4 *járnbrot* með viðarleifum, fannst við vinstri hlið mannsins, milli síðunnar og sverðsins.

2006:17. Brot af grárri *tinnu*, fannst við nára.

2006:18. *Sverð*, úr járni, viðarleifar á þeirri hlið er sneri upp. Lá flatt, hjöltu á vinstri öxl, oddur við hné. Q-gerð.

2006:19. *Skjaldarbóla*, úr járni, R-565, viðarleifar, fannst ofan á brjóstinu miðju.

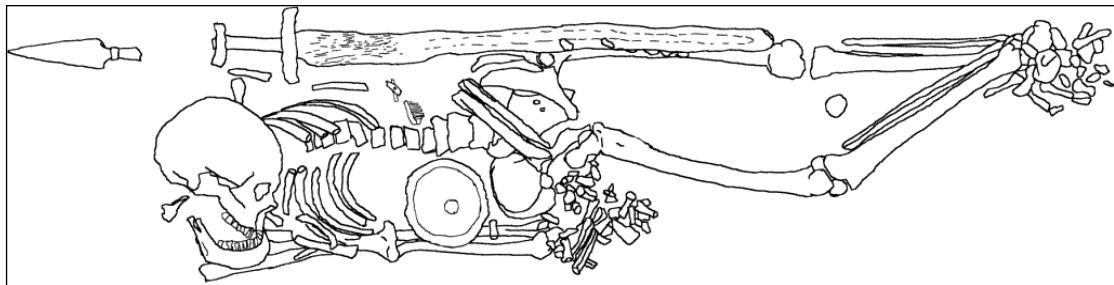
2006:20. 2 *járnbrot*, líklega hnífur eða alur, með viðarleifum, fannst vinstra megin á kvið.

2006:21. *Spjótsoddur* úr járni, H-gerð, fannst vinstra megin við höfuðið.

2006:22. *Kambur* úr beini, brotinn, fannst innan í vinstri mjöðm.

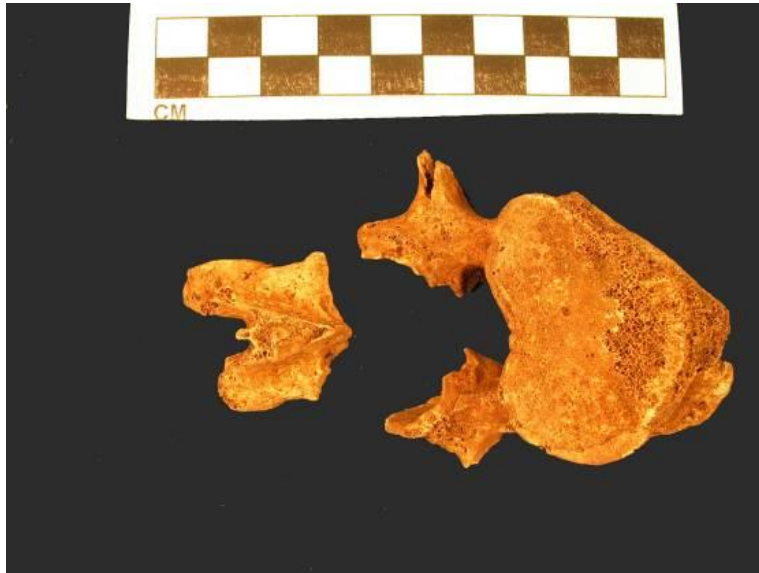


Mynd 10: Kambur úr kumli 2



Mynd 11: Kumli 2 og haugfé.

Fundir nr. 5 til 14 lágu saman ofan á og á milli bringubeina. Þeir gætu flestir eða allir verið úr sama hlut, t.a.m. festingar á skildinum, sbr. skjaldarbólan nr. 19. Sverðið, spjótið og bólan eru vel varðveitt og eru frá seinni hluta 10. aldar eða öndverðri 11. öld, sbr. meðf. greinargerð Astrid Daxböck.



Mynd 12: Hryggjarliðslos, þriðji lendarliður

Mannabein úr kumli 2 (HDR-A-002)

Varðveisla: Flest beinin voru til staðar, og lítið var um að þau hefðu flagnað eða brotnað (2).

Kyn: Kyngreinandi einkenni á höfuðkúpu og mjaðmagrind, svo og mælingar á liðfletum bendir til þess að þessi einstaklingur hafi verið **karlkyns**.

Lífaldur: Sameining hauskúpusauma og breytingar á eyrnaflati & lífbeini bentu til þess að einstaklingurinn hefur verið á aldrinum **35-45 ára**.

Líkamshæð: Hægt var að mæla öll leggjarbein, og varð niðurstaðan að líkamshæð hefur verið **167±4 sm**.

Meinafræðilegar breytingar: Þó nokkrar meinafræðilegar breytingar voru skráðar á beinagrindinni úr kumli 2 sem flestar mátti tengja einhverskonar áverkum.

Áverkar: Það er hryggjarliðslos (e. *spondylolysis*) á þriðja lendarlið, þ.e. liðboginn hefur brotnað af liðbolnum, og ekki sameinast aftur. Báðir hlutar beinsins eru varðveittir, og ný beinamyndun á brotinu bendir til þess að þetta brot hafi átt sér stað löngu fyrir dauða. Hryggjaliðslos tengist oftast einhverskonar endurteknu álagi á hrygginn, og algengast er það gerist á



Mynd 13: Kuml 2. Hnúður á lærlegg.

unglingsárum.²⁴ Frekari merki um áverka á hrygginn er að finna á fyrsta & öðrum, áttunda & níunda og ellefta og tólfta brjóstlið, en á öllum þessum liðum hefur myndast aukaliður (e. *pseudoarthrosis*) á milli þvertinda; hægra megin á fyrsta & öðrum og ellefta & tólfta og vinstra megin á milli áttunda & níunda. Einhver merki eru um hrörnun á öllum aukaliðunum. Þetta bendir til að smávægileg skekkja hefur verið komin í hrygg einstaklingsins, hún hefur átt sér stað löngu fyrir dauða, og ekki er hægt að útloka að hún tengist hryggliðarlosinu.

Á miðjum framlæga hluta hægri lærleggs er 5 mm þykkur hnúður, 8x42 mm að stærð. Hnúðurinn er sléttur, og engin merki um beinabreytingar. Röntgenmynd var tekinn af beininu, en niðurstöður úr myndgreiningu voru ósértækar, og líklegast er þetta merki um blæðingu undir beinhimnu vegna einhverskonar áverka á fótlegginn.²⁵ Þessi áverki hefur þá átt sér stað löngu fyrir dauða.

²⁴ Roberts & Manchester 1995.

²⁵ Röntgenmynd var tekin á Röntgendeild Landspítala, og veitti Pétur Hannesson röntgenlæknir ráðgjöf við greiningu.



Mynd 14: Kuml 2. Gljúpleiki á ennisbeini (járnskortur)

Ein mið- og fjarlæg kjúka taa hafa sameinast. Öll beinamyndun í kringum sameininguna er þéttbein, þannig að þetta hefur gerst löngu fyrir dauða. Líklegast er að þetta sé afleiðing áverka, hugsanlega beinbrots.

Hörgulsjúkdómar: Aukinn gljúpleiki á ennisbeinum (*e. porotic hyperostosis*) og í augntóftum (*e. cribra orbitalia*) benda til þess að þessi einstaklingur hafi liðið tölvuverðann járnskort sem barn.²⁶

Æxli: Á framlæga hluta hægri hvirfilsbeins er góðkynja beinæxli (*e. button osteoma*), 5 mm í þvermál, 1 mm þykkt.

Annað: Bein þessa einstaklings eru áberandi fínlegt, beinin grönn og allar vöðvafestingar litlar. Einnig sjást engin merki um álagstengda hrörnuna á liðum, sem allt bendir til þess að þessi einstaklingur hefur ekki þurft að vinna mikla erfiðisvinnu.

Tennur: Allar tennur eru til staðar og eru allar með 1-2 stigs tannsteinsmyndun. Frekari upplýsingar eru í töflunni hér fyrir neðan.²⁷

Tafla 2: Kuml 2 – Ástand tanna.

C1	C2	C2	C1	C1	C2	C1	C1	C1	C1	C2	C2	C2	C2	C2	C1
M3	M2	M1	P2	P1	C	I2	I1	I1	I2	C	P1	P2	M1	M2	M3
M3	M2	M1	P2	P1	C	I2	I1	I1	I2	C	P1	P2	M1	M2	M3
C1	C2	C2	C1	C1	C2	C2	C2	C2	C2	C2	C1	C1	C1	C2	C1

²⁶ Roberts & Manchester 1995.

²⁷ C# = tannsteinsmyndun/stig.

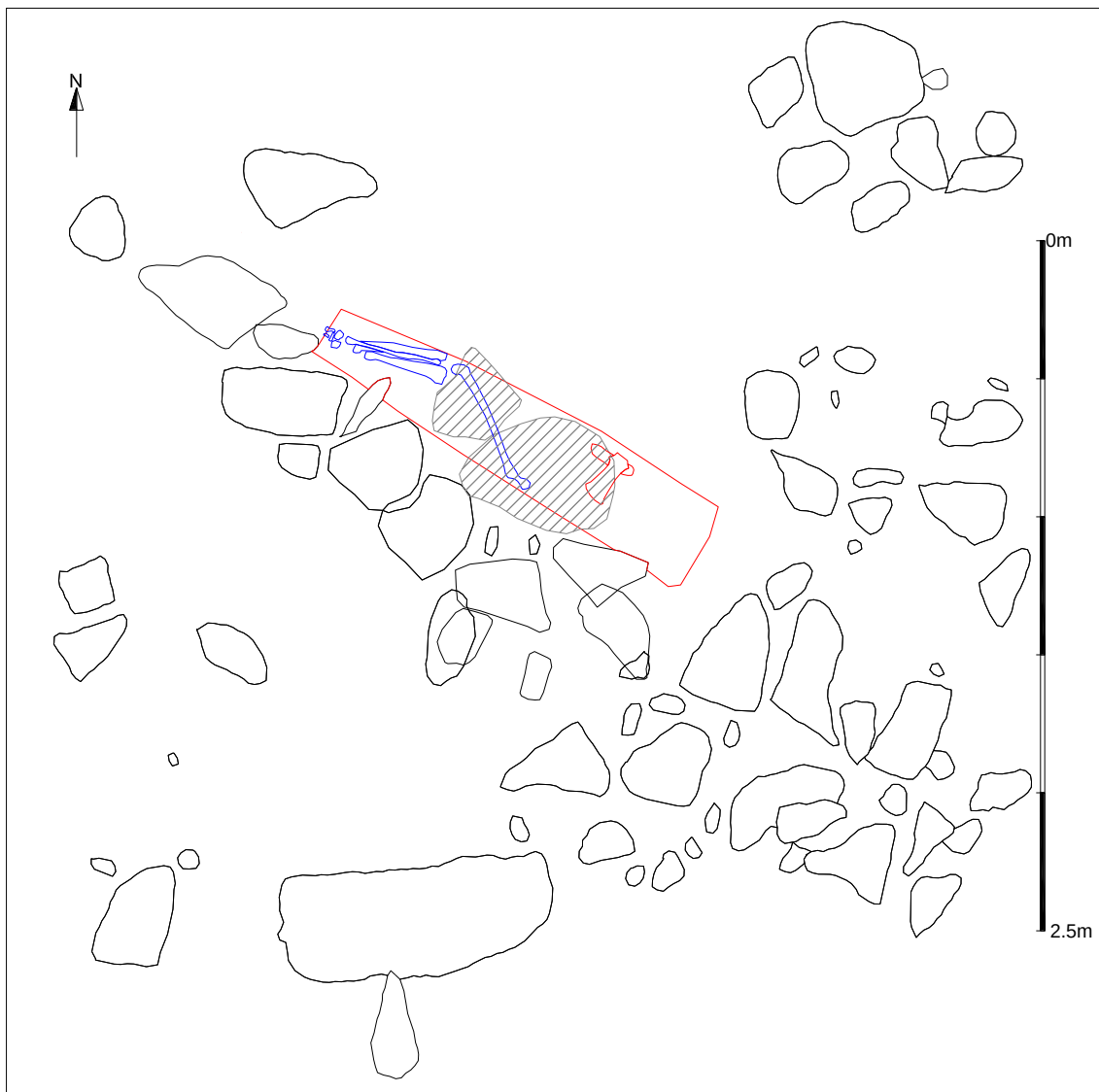
Kuml 3

Er rannsóknarsvæðið var stækkað til suðurs og austurs voru allt að metersþykk lög af foksandi fjarlægð. Um 3.6 m sunnan við kuml 2 eru tóftir sem síðar verður fjallað um. Undan sandinum kom í ljós sambreyskingur [101,102] af mold og sandi, með ísaldargrús og þar í stöku steinar. Um 7,6 m austsuðaustan við tóftirnar voru 6-7 steinar sem lágu nokkuð þétt saman og mynduðu nokkuð reglulega, aflanga röð [109]. Steinaröðin var 17,2 m suðaustan við kuml 2 og það vakti athygli að hún hafði sömu stefnu, þ.e.a.s. frá NV til SA. Tveir flatir og stórir steinar [103] (40-50 sm, mesta haf) lágu norðan steinaraðarinnar og er þeir voru fjarlægðir kom í ljós hreyfður moldarjarðvegur með sandi [104], sem í var vottur af grotnum fiskibeinum. Þar undir var niðurgröftur [106] sem fyllst hafði af mikið hreyfðum jarðvegi. Greinilegt var að þar var fundið enn eitt kumlið. Niðurgröfturinn var óreglulega sporöskjulaga, með hallandi brúnum, 120 sm langur frá NV til SA, allt að 60 sm breiður frá SV til NA og dýpstur um 20 sm. Er það rask ekki hin upprunalega gröf, því er fyllingin [105] var fjarlægð kom í ljós mun reglulegri skurður, sem náði lengra til norðvesturs. Virðist kumlið því hafa verið rænt eða a.m.k. verulega skemmt, einkum um miðju, en raskið náði ekki til endanna. Brúnir grafarinnar voru skýrar og hliðar ýmist beinar eða lítillega hallandi. Gröfin [108] reyndist vera óvenju mjó, mæld frá efri brún var hún 154 sm löng og 36 sm breið syðst, en mjókkaði til norðurs og var norðurendinn einungis 27 sm breiður. Gröfin, eða öllu heldur grafarleifarnar, var mest 23 sm djúp, botninn sléttur og jafndjúpur en hallandi og fótaendinn 8 sm hærri en höfuðendi. Lengdin við botn var 142 sm frá NV til SA, breiddin 22 sm í suðurenda, en 15 sm norðanmegin. Ef mælt er frá botni upp á efri brún steinanna, sem eru í röð á brún og virðist óhreyfðir eða lítið hreyfðir, er dýptin um 40 sm. Erfitt er að ákvarða upprunalega dýpt þar sem gröfin hefur orðið fyrir töluverðu raski er hún var rænd, en svæðið blásið að auki.

Fyllingin [107], sem var dökkleit, var rauðbrún mold, blönduð með bæði dökkum og ljósum foksandi og forsögulegum gjóskulögum. Hún var fremur laus í sér efst, en þéttari neðar.

Ekki er ólíklegt að steinum hafi verið raðað á norðausturbún grafarinnar líkt og suðvestan megin. Hefur norðursteinaröðin verið rifin, enda er ræningjaskurðurinn þeim megin. Heila steinaröðin er ekki alveg bein, heldur er sljótt horn á henni miðri. Hafi samsvarandi röð verið hinum megin, mætti segja að grjótið yfir gröfinni hafi haft einskonar bátalögun. Má vera að það hafi verið ætlunin, en eins gæti þetta hafa verið grjótkjarni í haug sem síðan hefur blásið burtu.

Hefur suðurendi grafarinnar orðið fyrir töluverðu raski, enda fannst þar hvorki tangur né tetur af manninum, en í norðurenda lágu fótleggir og virtust óhreyfðir. Líkið hefur verið lagt á hægri hlið, með höfuð í SA-enda, og fætur, lítilla kreppta um hné og mjaðmir. Flest beinin lágu óreglulega, en hægri fótur, frá mjöðm og niður að tām var mestu óhreyfður. Brotin höfuðskel og neðri kjálki lágu yfir hnjáliðum hægri fótar ásamt nokkrum hryggjarliðum.



Mynd 15: Uppdrátturinn sýnir kuml 3, gröf og leifar af kumlgrjóti.

Maðurinn í gröfinni var karlkyns, um 50 eða eldri og um 166 sm hár (sjá neðar). Á beinunum mátti sjá áverka og merki um hrörnun, slitgigt og beinþynningu.

Þegar fylling grafarinnar var sigtuð fannst einn járnagli, en óvíst er að hann hafi tilheyrð kumlinu þar eð jarðvegi sem hann kom úr hafði bæði verið raskað vegna rofs og ráns. Að járnagla frátöldum fannst í kumlinu aðeins einn gripur: Í suðurenda á botni grafarinnar lá vel varðveitt axarhöfuð á hlið, með egginna andspænis manninum, á móts við axlarhæð eða svo. Skallinn nam við grafarbrúnina (þ.e. NV-langhlið). Óvíst er að öxin hafi verið hreyfð, en það er óvenjulegt að að finna góða og stóra járngripi í röskuðum kumlum. Má vera að mönnum hafi sést yfir gripinn, undir beinunum, eða að gröfin hafi ekki verið opnuð í þeim tilgangi að



Mynd 16: Kuml 3. Horft er til suðausturs. Fremst á myndinni sjást leggjarbeinin og ofar liggur öxin.

ræna haugfénu. Öxin er 17,7 sm að lengd, 8,5 sm fyrir munna, og 5,7 sm þykk. Hún er veggslégin, skalli þykkur, flatur og nær ferhyrndur, langir, hvassir oddar ganga bæði upp og niður af auganu, beggja vegna. Neðri oddarnir eru heldur lengri. Skaftaugað er þríhyrningslaga með sljóum hornum. Blaðið er flatt og þynnist út eins og fleygur, með bogadregnum brúnum, og sú efri minna bogin. Í auganu fundust leifar af skafti, líklega úr birki, með fleyg í efri enda, 12,6 sm langt, og sveigist fram efst.

Öxin er líklega af H-gerð samkvæmt formgerðakerfi Jan Petersens (sjá greinargerð Astridar Daxböck). Þessi tegund er fremur lítil og grönn, með mjóan háls, bogadregnar hliðar myndar neðri hliðin krepptari boga en hin efri. Langir oddar eru út frá auganu. Petersen taldi tegundina vera frá öndverðri 10. öld, en nýjar vísbindingar gefa til kynna að hún sé aðeins yngri, þ.e. frá ofanverðri 10. öld. H-gerð hefur fundist a.m.k. einu sinni áður í íslensku kumli (Kaldárhöfða), og svipuð öxi fannst í Reykjavíkuruþpgfeftinum við Suðurgötu 3-5. Ekki er auðvelt að skera úr

um hvort axir hafi verið notaðar sem vopn eða áhald. Hringsdalsöxin er mjög heilleg og óslitin. Gæti það bent til þess að hún hafi fremur verið notuð sem vopn. Axir eru algengasta vopnið í dönskum kumlum, og mun algengari en spjót í vestanverðum Noregi. Á Íslandi eru spjótin algengust. Axir hafa nú fundist í 25 kumlum og að auki eru 10 sérfundnar axir sem líklega eru frá víkingaöld.

Mannabein úr kumli 3 (HDR-A-003)

Beinum í kumli 3 hafði verið lítillega raskað, fótleggir lágu enn á sínum stað í kumlinu, og restinni af beinagrindinni hafði verið hrúgað aftur ofan í gröfina eftir að henni hafði verið raskað. Fyrstu athuganir á beinunum leiddu í ljós að mjög greinilega var um aðeins einn einstakling að ræða, og því var MNI ekki athugað sérstaklega.

Varðveisla: Flest beinin úr neðri hluta líkamans voru til staðar, eitthvað var um að þau hefðu brotnað, líklegast þegar kumlið var rænt.

Kyn: Kyngreinandi einkenni á höfuðkúpu, mjaðmabeini og mælanlegum liðfletum bentu öll til þess að þessi einstaklingur hafi verið **karlkyns**.

Lífaldur: Sameininng liðfleta, breytingar á eyrnaleti og tanneyðing bentu öll til þess að lífaldur við dauða hafi verið **45+**, og líklegast þó nokkuð yfir það, en mjög erfitt getur verið að aldursgreina með nákvæmni einstaklinga sem eru eldri en 50 ára.

Líkamshæð: Hægt var að mæla hægri sveif, lærlegg og sköflung auk vinstri upparmleggjar, og bentu þær niðurstöður til þess að þessi einstaklingur hafi verið **166±3 sm** á hæð.

Meinafræðilegar breytingar: Þó nokkuð var um meinafræðilegar breytingar, sem langflestar mátti tengja aldurstengdum breytingum.

Hörgulsjúkdómar: Aukinn gljúpleiki á ennisbeinum (*e. porotic hyperostosis*) gæti bent til að þessi einstaklingur hafi liðið járnskort sem barn²⁸ þó að þessar breytingar einar og sér séu ekki nóg til að greina sjúkdóminn með vissu.

Áverkar: Þessi einstaklingur var með þrjú beinbrot. Vinstri hnéskelin er brotin, brotið liggur eftir endilöngu hliðlæga liðfleti beinsins. Brotið er vel gróið, og ekki er mikið um nýja beinamyndun. Þverbrot er á efri enda hægri dálksins. Brotið er vel gróið, en samstilling er ekki alveg rétt. Ekki er ólíklegt að tengja megi bæði þessi brot við sama atburðinum. Þessi brot hafa valdið auknu álagi á vinstri fótlegginn, sem sést á beinmyndun (*e.*

²⁸ Roberts & Manchester 1995.

enthesophyte formation) á efri brún vinstri hnéskeljar, þar sem vöðvafesta lærbeins (e. *rectus femoris*) liggur, en hann réttir úr hné og beygir fótlegginn við mjöðm.²⁹ Þriðja beinbrotið sem þessi einstaklingur hefur orðið fyrir er samfallsbrot á sjöunda brjóstlið. Liðbolurinn er samfallinn, sérstaklega framlægi hluti hans, sem er einungis 12 mm á hæð. Til samanburðar þá er hæð sjötta liðbolsins 19 mm og áttunda 20 mm. Líklegasta orsök þessa brots er undirliggjandi beinþynning (sjá umræðu hér fyrir neðan).

Gigt: Töluvert er um slitgigt í hrygg hjá þessum einstakling. Beinherðing (e. *eburnation*) er einkennandi fyrir slitgigt, en þá er brjóskið alveg horfið og liðflöturinn þússast þar sem bein liggur í bein, en einning er hægt að greina slitgigt í liðum þar sem myndun beingadda (e. *osteophyte*) og aukinn gljúpleiki (e. *porosity*) eru bæði á háu stigi.³⁰ Í hálslíðum er gigt í fyrsta–fjórða lið, bæði í klökkum (e. *process*) og liðbolum; í brjósliðum er slitgigt greinanleg í klökkum annars og sjöunda–níunda liðs og í lendarliðum er slitgigt greinanlegt í klökkum þriðja–fjórða liðs. Allir aðrir hryggjarliðir bera merki um hrörnun, þ.e. myndun beingadda og/eða aukinn gljúpleika. Eitthvað er um hrörnun liða annarstaðar í líkamanum, en hvergi nóg til að greina slitgigt; hægri & vinstri rifbein – brjóstliðir; hægri öxl og vinstri hönd.

Álag: Auk álags á vinstra hné vegna beinbrots (sjá umræðu hér ofan við) eru merki um aukið álag á báðar herðar þessa einstaklings. Þetta sést bæði með aukinni beinmyndun (e. *enthesophyte formation*) við festingu rifja- og viðbeinsliðbands á vinstra viðbeininu og dæld á báðum upparmleggjum við vöðvafestu bakbreiðavöðva (e. *latissimus dorsi*), en allar þessar breytingar benda til aukins álag á liðbönd og vöðva. Viðbeinsliðbandið myndar þann öxl sem hreyfingar viðbeinsins snúast um³¹ en bakbreiðsvöðvi gegnir ýmsum hlutverkum sem flestar tengjast hreyfingu á öxl, og hann aðstoðar einnig við öndun.

Efnaskiptasjúkdómar: Liðbolir hryggjarliða frá sjötta brjóstliðs til fimmta lendarliðs eru allir að einhverju leyti samþjappaðir, sem bendir til þess að þessi einstaklingur hafi þjáðst af beinþynningu. Líklegast er þetta gerð 2, þ.e. sjálfvakin beinþynnig sem hrjáir einstaklinga sem eru eldri en 60 ára og lýsir sér í þynningu á bæði frauð- og barkarbeini, og veldur því oft brotum í hryggjarliðum; eins og á við hér (sjá umræðu hér ofan við) og á mjaðmabeini.³²

²⁹ Stone & Stone 1997.

³⁰ Rogers & Waldron 1995.

³¹ Gosling, Harris, Humpherson, Whitmore & Willan 1996.

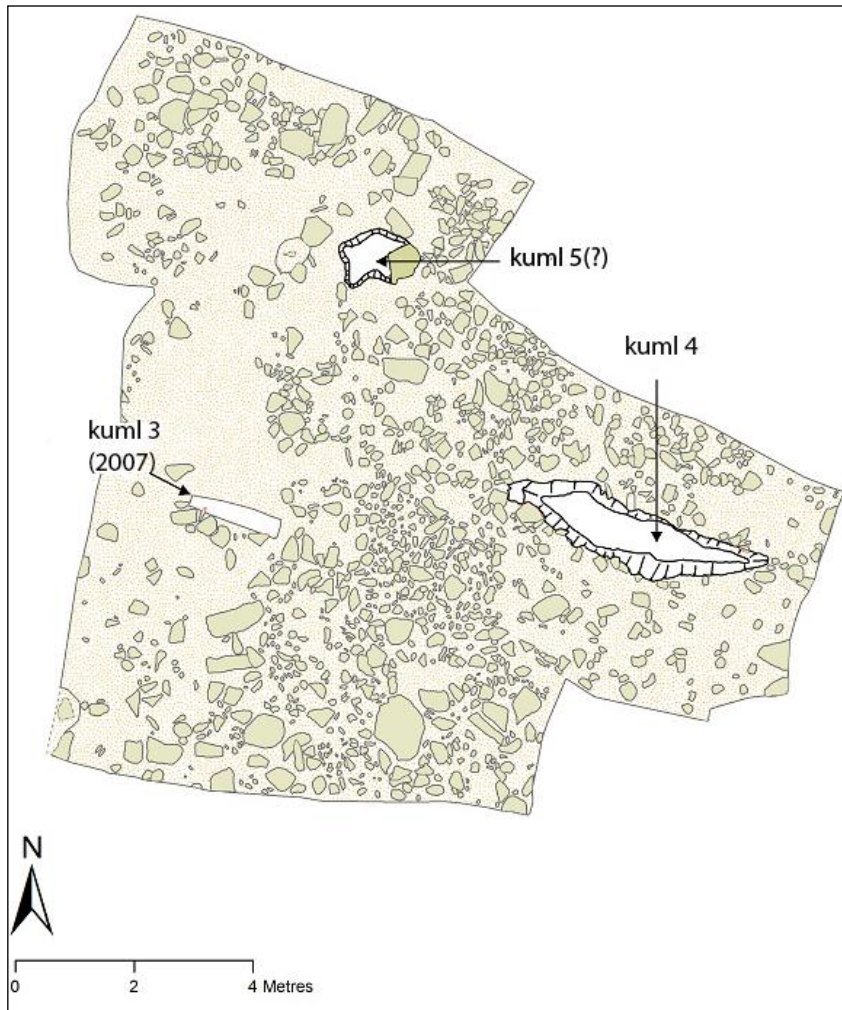
³² Aufderheide, & Rodríguez-Martín 1998.

Tennur: Alls eru 20 tennur til staðar. Fjórar hafa tapast í gröfinni, þrjár hefur einstaklingurinn misst í lifanda lífi og alla endajaxlana vantar, en þeir hafa líklegast aldrei myndast. Aðrar breytingar á tönnum eru lítilsháttar tannsteinsmyndun, og eyðing á glerungi niður í tannkviku, sem hefur þó ekki valdið eða orsakað neinar sjúkdómsbreytingar. Ýtarlegri upplýsingar um tennur eru að finna í töflunni hér fyrir neðan.³³

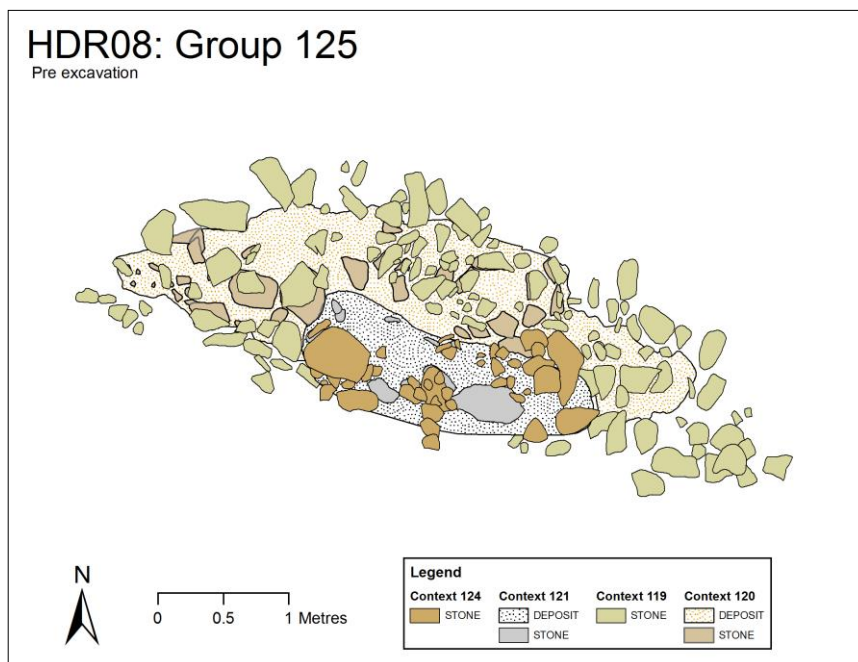
Tafla 3: Kuml 3 – Ástand tanna.

ND	C1	C2			NCP	PM	AM	NCP	NCP	PM	NCP	NCP	BM		ND
~~M3~~	M2	M1	P2	P1	C	~~I2~~	~~I1~~	I1	I2	C	P1	P2	~~M1~~	M2	~~M3~~
~~M3~~	M2	M1	P2	~~P1~~	C	~~I2~~	~~I1~~	~~I1~~	I2	C	P1	P2	M1	M2	~~M3~~
ND	NCP	NCP	NCP	PM	NCP	PM	AM	AM	NCP	NCP	NCP	NCP	NCP	NCP	ND

³³ AM = tannlos, fyrir dauða (ante-mortem tooth loss); BM = bein vantar (bone missing); C# = tannsteinn/stig (calculus grade); NCP = eyðing ofan í tannkviku, ekki tannáta (non-carius pulp exposure); ND = tönn hefur ekki myndast (not developed); PM = tannlos, eftir dauða (post-mortem tooth loss).



Mynd 17: Uppgriftarsvæði 2008. Lengst til hægri er bátkumlið (kuml 4), til vinstri er gröfin sem fannst árið 2007 (kuml 3). Efst eru leifar af meintu kumli nr 5.



Mynd 18: Bátkumlið (kuml 4) fyrir uppgröft.



Mynd 19: Bátkumlið (kuml 4). Efstu lögin hafa verið fjarlægð og í ljós koma leifar mannsbeina sem hafa verið mjög úr lagi færð, en fótabein gætu hafa legið í upprunalegri stöðu.

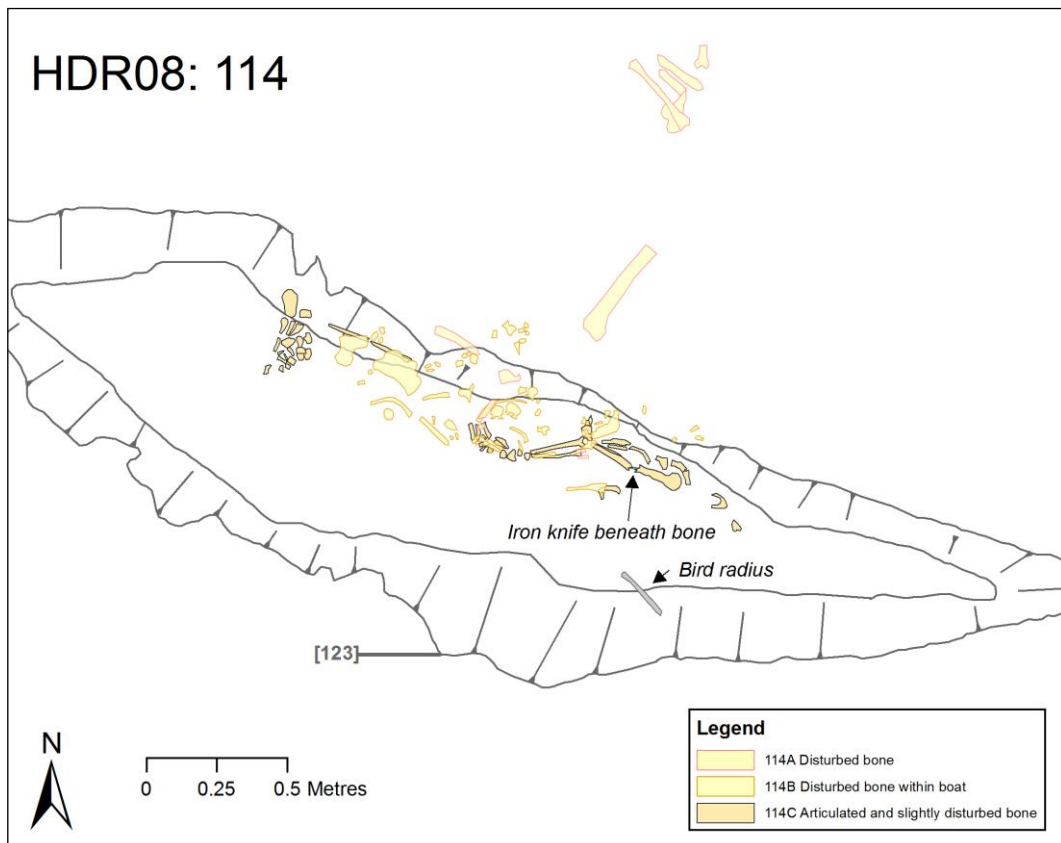
Kuml 4

Um 4 m austur af kumli 3 fundust leifar af enn einu kumli. Ljóst var í upphafi að það var stórlega raskað. Efst lá lag af vatnsrúnum steinum [119] sem myndaði nokkurn veginn aflanga stétt sem lá NV-SA og mjókkaði til beggja enda. Undir steinunum kom í ljós fylling [120] úr torfblönduðum jarðvegi með stöku grjóti sem sat í aflangri gróp [123]. Í fyllingunni og undir henni voru langar raðir af rónöglum, augljóslega úr báti sem þar hafði verið lagður niður. Fundust 500 naglar, rær og brot úr járn, og loðir viður við heillegustu rónaglana.³⁴ Ekki vottaði fyrir fúnum viði eða smiti af viðarleifum í grópinni. Áberandi var hve steinarnir í kumlinu voru rúnaðir, ólíkt öðru grjóti í kring, sem var með hvössum brúnum. Staðsetning hvers nagla fyrir sig var mæld og skráð, en þótt naglaraðirnar séu reglulegar er ljóst að báturinn hefur aflagast í haugnum. Einungis naglar úr stefni, kili og kjalsíðu virðast vera í nokkurn veginn upprunalegri legu. Flestir hafa naglarnir hreyfst til vegna uppblásturs. Suðurhlið bátsins hefur fallið inn, og borðin norðanmegin gengið út. Landi hallar til norðurs, og svo virðist sem báturinn og fylling hans hafi hallast á þá hlið, vegna uppblásturs og jafnvel undan eigin þunga.

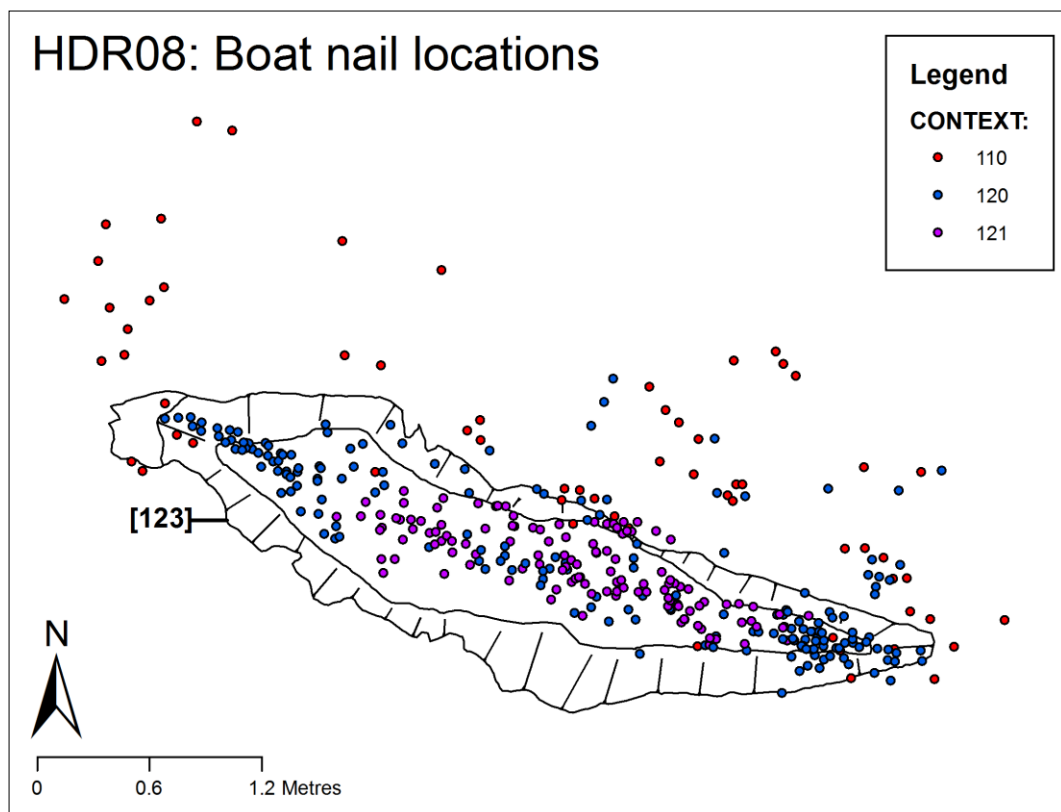
Báturinn var a.m.k. um 4,3 m langur og um 60 sm breiður. Dýpt gróparinnar er allt að 20 sm. Það er mögulegt að öll þessi ummerki séu í raun einungis botninn á stærri bát, enda gefur allur sá aragrúi af nöglum sem við fundum það sterklega til kynna.

Kumlið hefur ekki einungis blásið upp, heldur hefur það einhverntíma í fyrndinni verið rofið

³⁴ Um nánari greiningu á nöglunum sjá: Stefán Ólafsson 2016.

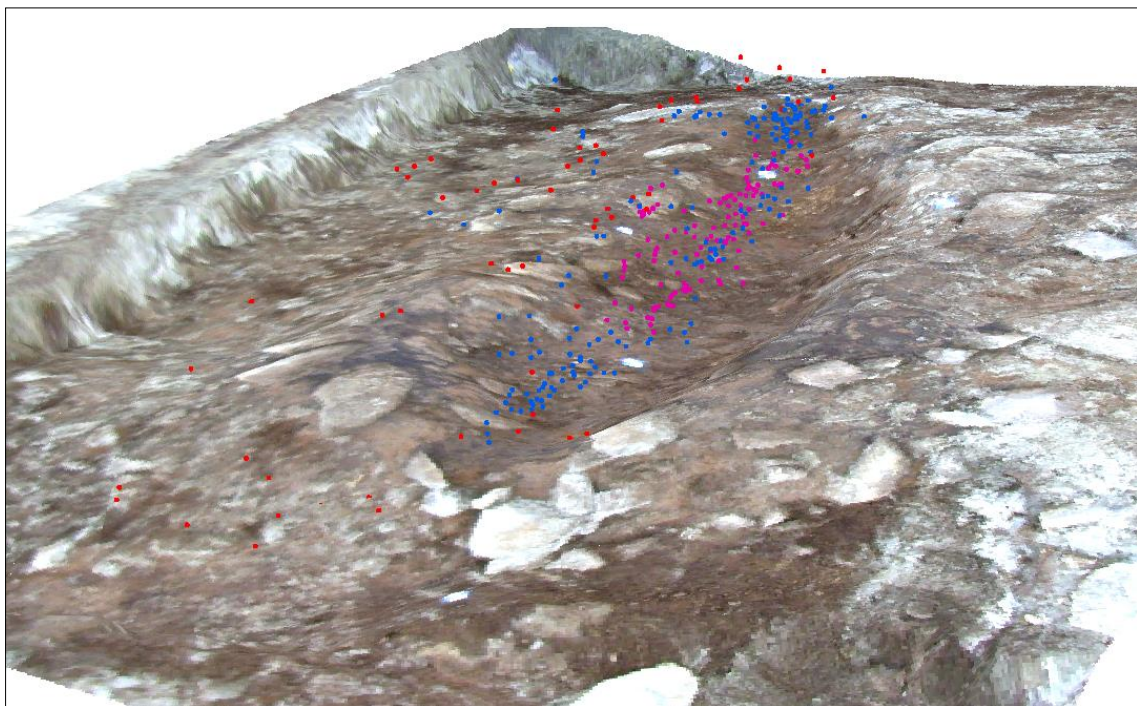


Mynd 20: Bátukml og beinaleifar. Á teikningunni sjást útlínur gróparinnar sem báturinn lá í. Neðst lágu fótabein að því er virðist í uppgrunalegri stöðu.



Mynd 21: Lega rónagla. Rauðu dílarnir sýna nagla sem fundust í yfirborðssandi [110], fjólubláir úr raski eftir grafarrán [121] og bláir fundust í fyllingu grafarinnar [120].

af mannavöldum. Augljós ummerki um niðurgröft [122] sáust við suðurhlið bátsins. Steinar hafa verið fjarlægðir úr haugnum og sumir þeirra [124] líklega ratað aftur ofan í skurð grafarans. Hefur þessi atburður átt sér stað þegar fjörusandur var farinn að berast upp á nesið, því í fyllingunni í skurðinum er ljós skeljasandur í bland við lausa steina og blandaðs jarðvegs úr gröfinni. Fuglsbein fannst í skurðinum og þarf því ekki að hafa verið hluti af upprunalegu haugfé. Í bátleifunum fundust mannabein sem lágu óreglulega og hefur þeim verið raskað. Efst lágu bein [114A] sem hafa hreyfst til við grafarrán og uppblástur. Nokkur bein [114B] fundust í skurðinum eftir grafarránið. Hluti líkamans [114C] virðist svotil í upprunalegri stöðu og fundust hægri fótabein og handleggur. Virðist sem hinn látni hafi verið lagður á hægri hlið í bátinn, mögulega þá með höfuð í suðausturenda. Illa varðveittur járnhnífur með skreyti úr koparblöndu fannst undir hægri handlegg mannsins. Alls eru 149 bein og brot úr beinum sem unnt er að greina sem mannabein. Þau gætu mögulega öll verið úr sama einstaklingi, karlmanni, 40-50 ára.

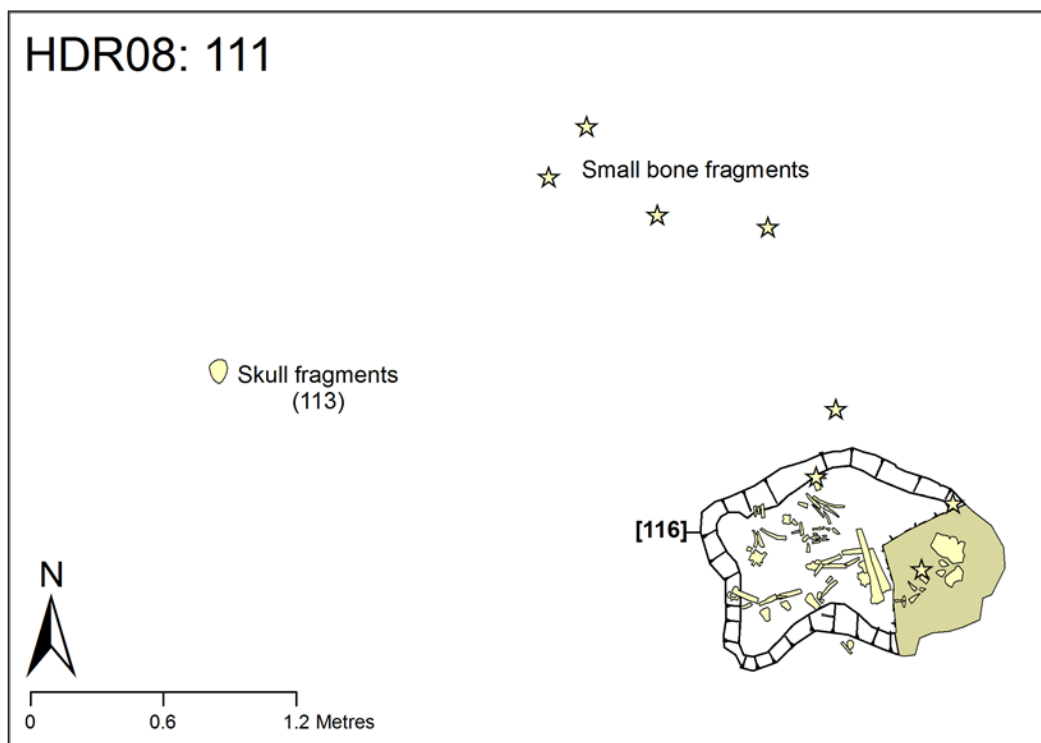


Mynd 22: Leifar bátkumls, tölvugerð mynd. Dílarnir sýna legu rónagla.

Kuml 5(?)

Nærri sjávarbakkanum, um 4 m NV við kuml 4, og samsíða kumli 3 en álíka langt NA þess, kom í ljós stórlega röskuð mannsbeinagrind, eða öllu heldur beinahrafl [111], sem dreifst hafði yfir allnokkurt svæði. Flest stærri beinin lágu [111B, 111C] í fyllingu [115] í óreglulegri holu [116]. Nokkur þeirra [111A] lágu í sandinum [110] á dreif í allt að 4 m frá holunni. Stór höfuðkúpubrot [113] lágu undir foksandinum, á grýttu moldaryfirborði [117] holtins um 3 m vestan við holuna. Engir gripir fundust meðal beinanna. Þau munu vera úr kumli en holan getur tæplega talist hafa verið hin upprunalega gröf, enda of lítil og óregluleg. Líklegt er að beinin hafi fundist þar nærri, og verið holað niður á ný. Alls fundust 106 brotin bein og heil. Eru þau úr konu, 60 ± 12 ára.

Má vera að holan sé eftir grafarræningja eða einhvern sem hefur verið að rjála við grafirnar í óþekktum tilgangi. En eins gæti verið að einhver hafi einfaldlega rekist á kuml sem var að blása upp eða raskast vegna landbrots í sjávarbakkanum og kosið að grafa a.m.k. mannabeinin aftur í jörðu. Fyllingin í holunni var ekki nema 8-10 sm þykk og í henni fannst lítið glerbrot (fundur nr. F117).



Mynd 23: Hola með mannabeinum úr kumli 5(?). Stjörnurnar eru staðir þar sem dreif af brotum úr mannabeinum fundust.

Mörk kumlateigs

Árin 2009-2011 var lögð áhersla á að reyna að finna ystu mörk grafreitsins, og var haldið áfram rannsókn á austurhluta Hreggnasa. Var svæðið stækkað til austurs og gerðir uppdrættir af öllu rannsóknarsvæðinu og helstu kennileitum í nágrenninu.

Árið 2008 hafði verið skilinn eftir bálkur milli bátkumlsins og sjávarbakkans. Árið 2009 var hann tekinn niður en engin merki voru þar um kuml né aðrar mannvistarleifar. Þar fannst í lausum yfirborðssandi brot úr járnhlut, sem líkist örvaroddi eða litlum hníf. Virðist vanta á hann tanga og skarð er í odd blaðsins (mynd 24). Ómögulegt er að segja um upprunalegt samhengi fundarins. Hann gæti hafa glatast á þessum slóðum, en líklegra er þó að hann sé úr einhverju kumlanna.

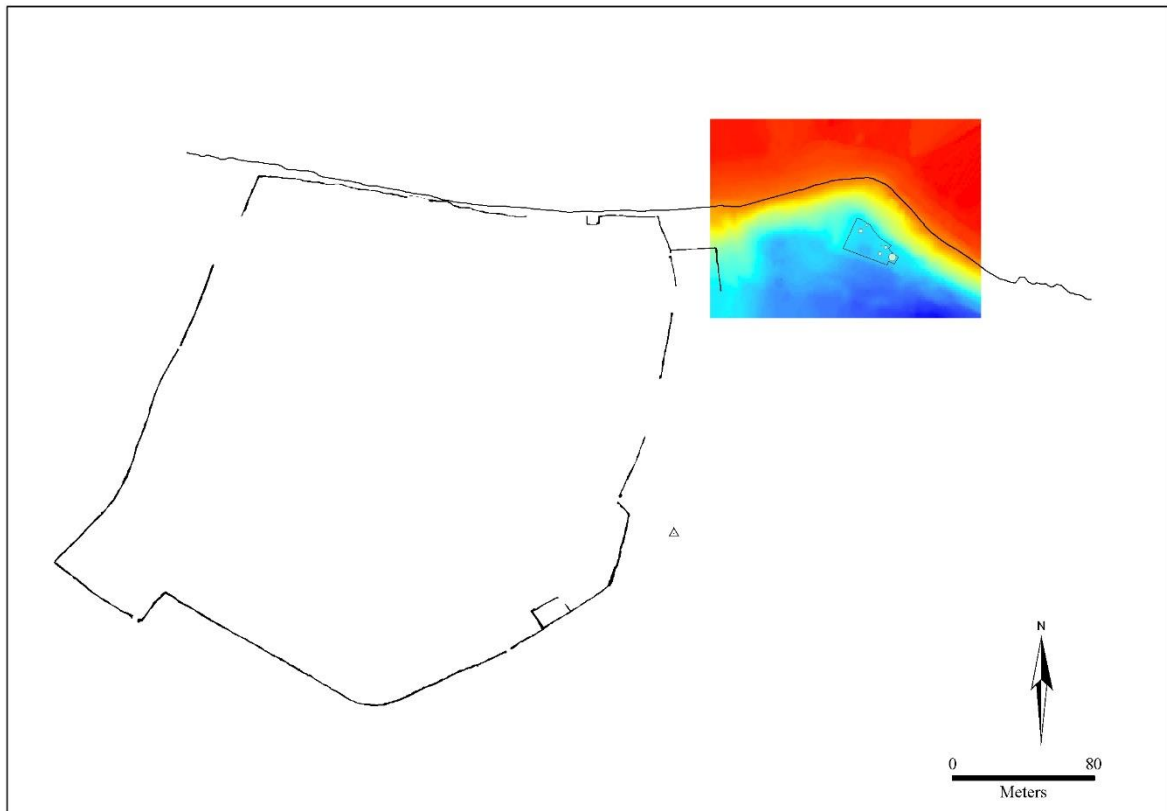


Mynd 24: Lausafundur úr járn.

Markmið rannsókna í Hringsdal var að gera fullnaðaruppgröft á grafreitnum öllum. Aðstæður þar eru óvenjulegar að því leyti að grafreiturnar eru á kafi í sandi. Var því mikil fyrirhöfn að fjarlægja þykk sandlög. En þó leggst sú líkn með þraut að minjar frá víkingaöld gætu hæglega verið sæmilega varðveittar undir djúpum sandinum. Flest þekkt kuml á Íslandi hafa verið rofin einhvern tíma í seinni tíð. Kuml 2 í Hringsdal var óhreyft, væntanlega vegna þess að sandurinn hefur hulið þar öll ummerki um aldir.

Ekki er kunnugt um að kumlateigar á Íslandi hafi verið merktir eða girtir af í fornöld, og því seint hægt að fullyrða hvenær komið er að ystu mörkum við rannsókn. Lengstum hefur áhersla í kumlarannsóknum legið í að athuga grafirnar sjálfar, en síður umhverfi þeirra. Uppgreftir hafa verið með því sniði að þeir hafa að mestu takmarkast við grafirnar sjálfar. Í Hringsdal var leitað kerfisbundið að fleiri gröfum á teignum, sem og öðrum mögulegum ummerkjum, s.s. minningarmörkum, stoðarholum og gerði umhverfis. Mjög líklegt er að kuml og aðrar fornleifar út við brún sjávarbakkans séu þegar horfnar og hafa rannsóknarmenn leitað af sér grun þar á bakkanum.

Stærð og fyrirkomulag þekktra kumlateiga geta gefið vísbendingar um líklegan fjölda grafa og innbyrðis afstöðu þeirra. Innri gerð kumlateiga á Íslandi er þó lítt þekkt. Lengi vel voru aðeins 1-2 kuml fundin á hverjum greftrunarstað, en í ljós hefur komið að hinn dæmigerði,

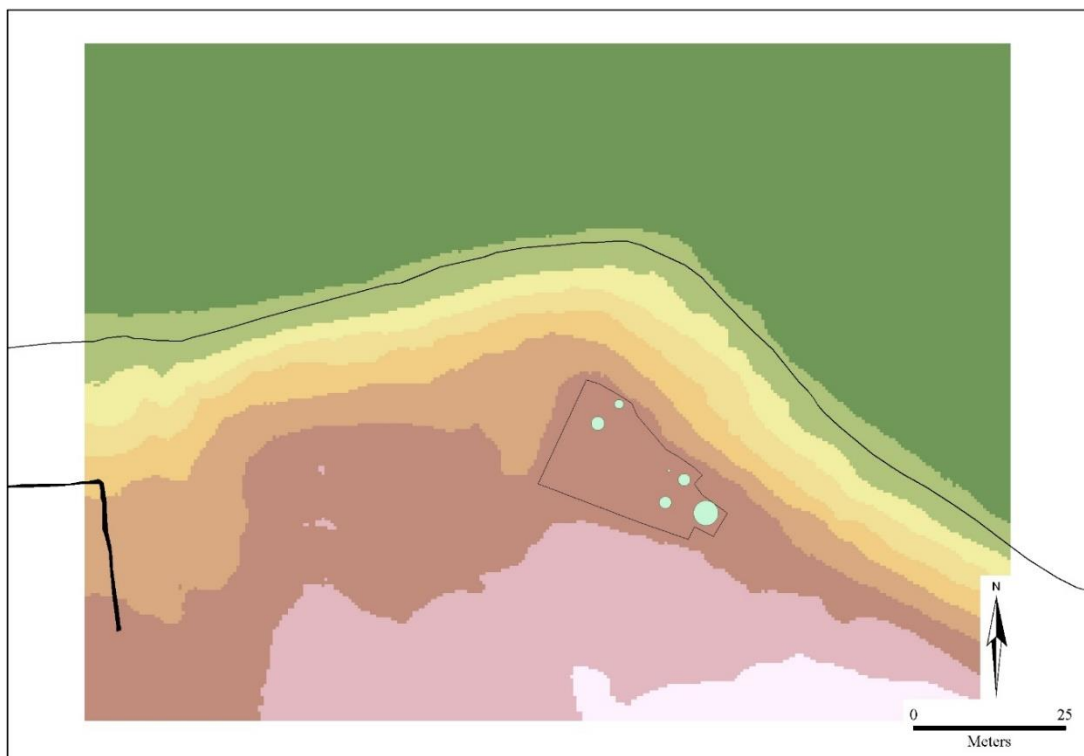


Mynd 25: Uppdráttur af kumlateignum í Hringisdal og gamla heimatúninu við bæinn.

Íslenski kumlateigur hefur líklega verið heldur stærri. Grafreiturnir í Hringisdal gæti talist meðalstór, en í stærra lagi ef þar hafa verið fleiri en þau 4-5 kuml sem hafa verið rannsökuð. Frumathuganir gefa til kynna að kuml á teigum liggi ýmist í einni eða fleiri röðum, eða í þyrpingum. Algengt virðist að um 5 m séu á milli kumla, en dæmi eru um lengri bil. Kumlin í Hringisdal virðast liggja í tveimur samhliða línunum sem ganga frá suðaustri til norðvesturs. Hafi engin kuml verið á milli kumla nr. 1-2 annarsvegar og kumla nr. 3-4 hinsvegar, eru bilin þar á milli um 14 metrar langsum, en um 4 m þversum, þ.e. milli samsíða para. Óvíst er hve mikið svæði þurfti að hreinsa til að leita af sér allan grunn um fleiri kuml, en miðað við fyrirbyggjandi þekkingu um íslenska kumlateiga var talið hæfilegt að grafa um 10-15 m út fyrir ystu kumlin.

Rannsóknarsvæðið var því lengt um 10 m til suðausturs í beinni stefnu eftir suðurmörkum þess uns það náði út á sjávarbakkann. Þar tóku við brattar og stórgrýttar hlíðar. Á öllu þessu svæði var um 50-90 sm þykkt fjörusandslag sem blásið hefur upp úr víkinni fyrir neðan. Efst var gisinn gróður og grasrótarlag. Þá tók við hreinn sandur og undir honum var skriðugrjót eða jökulruðningur. Sumstaðar voru djúpar geilur þar sem sand hafði blásð burt og rofið náði niður í grjót. Ekki vottaði fyrir neinum manngerðum minjum suðaustan við bátkumlið. Þá var svæðið opnað lengra til suðurs og vesturs og sandur fjarlægður þar en ummerki voru öll hin sömu. Framarlega á Hreggnasa er lítill hóll, út við sjávarbakka. Kuml 1 og 2 liggja austan í honum. Vestast náði uppgröfturinn á sandinum vestur yfir háhólinn á nesinu og niður slakkann vestan

hans og var leitað þar fornleifa án árangurs. Fyrstu ár rannsóknarinnar hafði sandur verið fjarlægður á um 250 m² svæði í kringum kuml 1 til 4. Síðari árin var kraginn sem við bættist um 250 m². Þar fyrir utan var leitað í uppblástursgeilum austan rannsóknarreits, í hlíðum Hreggnasa og í fjörunni neðan við án þess að frekari ummerki fyndust. Nesið sem kumlin standa á er allt þakið grjóti, stóru og litlu, en einsleitu, bláleitu grjóti með hvössum brúnum. Að frátöldum foksandi er laus jarðvegur lítill sem enginn. Grjótið liggur sumsstaðar mjög þétt, og jafnvel hvað ofan á öðru, en undir því, þar sem við komum grafskeiðum niður, var mold og fín mól. Hér er líklega ekki neitt annað en náttúruleg, forsöguleg jarðlög, nema ef svo kynni að vera að skriður úr fjallinu fyrir ofan hafi fallið niður á nesið á sögulegum tíma. Óvíst er hvort hafi verið fleiri kuml á svæðinu. Þau gætu hæglega hafa blásið burt, eða hrunið fram í landbroti á sjávarbakkanum. Enn er þó möguleiki á að fleiri kuml leynist undir sandinum, enn lengra til vesturs, suðurs eða austurs.



Mynd 26: Kumlateigurinn í Hringisdal og nágrenni.



Mynd 27: Oscar Aldred við uppmælingu í Hringsdal.

Sjóbúð á Hreggnasa

Skammt sunnan við kumlin sem rannsökuð voru 2006 var dálítill hóll, grasi vaxinn, með stórum rofsköllum hér og hvar. Ljóst var að hann var ekki að öllu leyti náttúrulegur, því í sárunum mátti sjá glytta í manngerðar grjóthleðslur. Óvíst var hvort þar væri um að ræða hlaðinn haug, eða mögulega önnur mannvirki sem tengdust búskap eða sjómennsku í Hringsdal.

Fyrir uppgröft var hóllinn um 10 m í þvermál, fremur óreglulegur í lögun og sá víða í hvítan fjörusand þar sem gróðurþekjan hafði rofnað.

Uppgröfturinn fólst einkum í að fjarlægja þennan fjörusand. Í sandinum var töluvert af fiskibeinum, enda hefur verið verkaður fiskur þar á bakkanum. Utan uppgraftarsvæðis var úrgangur, hugsanlega hefur þar verið brennt rusli fyrir nokkrum áratugum síðan.

Við uppgröft kom fljótlega í ljós að hóllinn var í raun tóft með tveimur, samsíða, aflöngum hólfum, og voru þau sneisafull af sandi.

Veggir voru eingöngu hlaðnir úr grjóti, misstóru, og talsvert hrunið úr þeim. Á sandinum inní tóftunum var dálítill dreif af grjóti sem hafði hrunið úr efri lögum veggjanna. Þrátt fyrir hrun var hægt að fá glögga mynd af gerð og lögun þessa mannvirkis.



Mynd 28: Rof í rústahól. Myndin er tekin úr norðri, fyrir uppgröft. Í sandinum sést í efstu brún hleðslunnar.

Rústin er tvær samstæðar tóftir, sú syðri er stærri og breiðari, með voldugum veggjum. Er hún 3,4 m á lengd að innanmáli, en 2,1 m á breidd. Að utannmáli er hún um 4 m breið (N-S) og 7 m löng (A-V). Syðri langveggurinn er breiðastur um 1,65 m metrar, en austurgafi er að mestu hruninn. Nyrðri tóftin er 3,6 m á lengd (A-V) og 1,6 m á breidd (N-S). Veggir hennar eru um 1,10 m á breidd, nema austurgafi, sem er að mestu hruninn. Á milli tóftahólfanna er 1,8 m breiður veggur og voru þessar torfleiðar ofan á honum að hluta.

Veggirnir hafa upprunalega verið hlaðnir úr talsvert stóru og reglulegu grjóti í innri og ytri brúnir. Hleðslan er léleg og sérkennilegt er að veggirnir standa að hluta til á sandi. Af sýnilegum veggjaleifum nú eru eftir 2-3 umför af hleðslugrjóti.

Í sandinum í og við tóftirnar var talsvert af fiskibeinum. Innan í stærri tóftinni, á milli sandlaga var þunnt torflag og undir því lag með fiskibeinum. Neðst í báðum tóftum var sandur og þar undir órhefð mold. Í tóftunum voru engin verksumerki af neinu öðru tagi, engin gólf, engar stoðarholur, eldstæði eða gripir. Líklega hafa húsin verið tæmd og þekjan tekin ofan.

Eins er líklegt að þau hafi ekki verið í notkun nema skamma hríð. Ljóst er að þetta mannvirki er ekki hluti af hinum forna kumlateig, heldur langtum yngra, en þó illa farið af uppblæstri og rofi. Sennilegt er að grjótið úr veggjum tóftanna hafi verið í kumlunum sem þar eru í kring.



Mynd 29: Rústahóll kemur undan sandinum. Myndin er tekin úr suðri.

Ekkert fannst sem staðfestir hvert var fyrra hlutverk mannvirkisins og engar fornleifafræðilegar vísbendingar fundust um aldur þess. Það mun þó væntanlega hafa verið e.k. útihús frá bænum. Staðsetningin bendir til að hér gæti hafa staðið sjóbúð frá Hringsdal, notuð til að geyma í vergögn og gera að afla. Í fjörunni neðan við bakkann sem tóftirnar standa á er lendingarstaður og vör. Tóftunum svipar og til samskonar mannvirkja sem skráðar hafa verið víða meðfram sjávarströndinni.³⁵ Fiskibeinin vitna um fiskverkun við tóftirnar, en sandfok úr fjörunni gæti hafa verið til vandræða fyrir fiskþurrkunina.

Túnakort af Hringsdal frá 1920 sýnir túnstærð og útihús sem þá stóðu innan túns. Hafa tvö hús staðið í túnhorninu niður á sjávarbakkanum. Þau hús eru horfin, en frá þeim stað eru um 100 m að kumlunum og rústinni.

Um búsetu og útræði í Hringsdal á 19. og 20. öld eru til ýmsar heimildir sem varpað geta ljósi á tóftirnar á Hreggnasa. Freistandi væri að álykta sér að þær væru frá tíma Einars Gíslasonar (1840-1906), sem bjó í Hringsdal 1869-1906, og þótti með endemum atorkusamur. Hann hlóð garða um tún, gerði beðasléttur, og reyndi fyrir sér með nýjungar í útgerð, s.s. við skelfiskstekju og veiðar á smokkfiski³⁶. Athyglisvert er að í lýsingu Björns M. Olsen á minjum og örnefnum úr ferð hans um Hringsdal 1884, þá nefnir hann ekki tóftir eða standandi hús á

³⁵ Sjá t.d. Lúðvík Kristjánsson 1982, s. 403-442; Ragnar Edvardsson 2005; Birna Lárusdóttir 2011, s. 371-387.

³⁶ Einar Bogason 1946; Vestfirðingur 1907; K.B 1963; Sigurður Einarsson 1951, s. 92-103.

þessum stað.³⁷ Hann nefnir tvo hauga og hefur annar að mestu hrapað í sjóinn. Mögulegt væri að hugsa sér að haugurinn sem eftir stóð, hafi í raun verið rústin, sandfyllt og yfirgróin og þá eldri en frá tíð Einars Gíslasonar, sem var leiðsögumaður Björns í Hringsdal.³⁸ Á hinn bóginn er lýsing Björns svo stuttaraleg, og snýst eingöngu um minjar, örnefni og sögu, að ástæðulaust er að gera ráð fyrir að hann geti útihúsa á bænum, jafnvel þótt þau væru áberandi kennileiti hjá haugunum eða öðrum „sögustöðum“ Hringssögu. Aukinheldur eru til yngri heimildir sem bókstaflega geta um byggingar á staðnum og skal nú að þeim vikið.



Mynd 30: Rústin á Hreggnasa. Mynd tekin úr norðri.

Einar Bogason, bróðursonur Einars, er fæddur í Hringsdal og bjó þar til 1940. Eftir hann liggja nokkrar skráðar lýsingar á staðhátum við bæinn. Í örnefnaskrá Einars, sem samin var 1935 og er allrækileg, er nefnd lending og vör fyrir neðan haugana, og hún sögð notuð til 1870. Í blaðagrein um Hringsdal nefnir hann einnig fjárhús hjá haugunum. Bjarni Jónasson (f. 1828) sem flutti í Hringsdal vorið 1863, og bjó þar til 1869, reisti fjárhúsin fyrsta haustið sem hann bjó þar.³⁹ Hafði hann „þá eitthvað hreyft við haugnum“, fann sverð og smíðaði úr því hníf. Hefur hann væntanlega notað grjótið úr haugnum í fjárhúsin: „Auðséð er, ef vel er að gáð, að haugurinn hefir verið rofinn, því eftir er aðeins lítill hluti hleðslunnar, en sá hluti virðist vera

³⁷ Björn M. Ólsen 1885.

³⁸ Björn, M. Ólsen 1885, s. 20-22.

³⁹ Einar Bogason, 1952, s. 581-584.

með fullri hæð, og við hleðsluna lá beinahrúga 1885, þegar ég, sem þetta rita man eftir. “⁴⁰ Í annari blaðafrásögn Einars, um draugagang í Hringsdal haustið 1875, kemur fram að fjárhúsin standa þar enn og er nánari lýsing á afstöðu húsa og haugs. Faðir hans, Bogi Gíslason fer í fjárhús „sem stóð niður við sjóinn undir bökkum þeim, þar sem haugur landnámsmannsins Hrings stendur,“ að sækja ár sem hafði verið notuð sem jötuband. Þegar hann kemur að fjárhúsinu „verður honum litið upp á bakkana þar sem Hringshaugurinn var í ca 20 metra fjarlægð upp af fjárhúsunum“ og sér hann stóran mann standa á haugnum.⁴¹

Nú er vert að hafa í huga að staðhættir hafa breyst talsvert s.l. 150 ár. Landbrot er við sjóinn og margt getur leynst undir sandinum í kringum kumlin og rústina (sjá einnig greinargerð Magnúsar Á. Sigurgeirssonar). Hugsanlegt er að fjárhúsið hafi verið rifið, eða ummerki um það leynist á öðrum stað í nágrenninu, með öllu horfin undir sand. Lýsingar Einars Bogasonar falla þó mjög vel að því sem við blasti eftir uppgröft, og hér verður dregin sú ályktun að tóftirnar á kumlateignum séu leifar af fjárhúsinu sem Bjarni Jónasson reisti haustið 1863. Gæti stærri tóftin hafa verið kindakofi en sú minni hlaða og breiði veggurinn á milli þeirra garðinn. Þótt húsin hafi verið byggð undir fé, þá útilokar það ekki að þau hafi nýst sem sjóbúð líka. Það gæti hafa ráðið staðarvali Bjarna, að reisa húsin þar sem stutt var í gott hleðslugrjót. Hefur hann því mögulega rifið myndarlegan haug og önnur minningamörk sem stóðu, að nokkru hulin ljósum fjörusandi, á Hreggsnasa út við blikandi haf.

Niðurlag

Á kumlateignum á Hreggsnasa í Hringsdal hafa fundist 4 kuml og hola með beinum sem gætu verið leifar af hinu fimmta. Eitt kumlanna var óraskað en hin hafa verið rænd og eru misvel varðveitt. Hinir þykku bunkar af skeljasandi hafa líklega stuðlað að varðveislu grafreitsins, enda eru grafirnar sjálfar í þunnum og grýttum jarðvegi og hefðu ella orðið uppblæstri eða öðru jarðraski að bráð.

Bátkumlið (kuml 4) er kærkomin viðbót í þann litla hóp sem fyrir var. Því miður var það of illa farið til að geta gefið raungóða mynd af bátnum. Fyrir liggur greining sérfræðings á

⁴⁰ Einar Bogason, 1952, s. 583.

⁴¹ Einar Bogason, 1960, s. 155.

smávægilegum votti viðarleifa sem fundust áfastar rónöglunum. Þar kemur fram (sjá skýrslu D. Mooney) að viðurinn er lerki, væntanlega rekaviður sem hefur verið notaður við smíði eða viðgerð á bátum. Við bátumlið fundust nokkur bein úr nautgripum, sauðfé (eða geit), fuglum og fiski (sjá skýrslu L. Yeoman). Mjög óvenjulegt er að finna önnur dýrabein en leifar hesta og hunda í íslenskum kumlum, en sjálfsagt er að útiloka ekki þann möguleika. Rof og rask í og við bátumlið er þó líklega ástæðan fyrir þessum dýrabeinum og því varlegast að telja þau ekki til hins upprunalega haugfjár. Líkt og Yeoman bendir á þá gæti aldursgreining á þeim mögulega leitt í ljós hvort þau séu frá sama tíma og grafirnar, eða frá seinni öldum.

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Astrid Daxböck: The Weapons from Hringsdalur

In two of the pagan burials excavated at Hringsdalur in Arnarfjörður, an interesting assemblage of finds were uncovered. In this report, the weapons from kuml 2 and the axe from kuml 3 will be discussed, aiming towards placing them within the established typology of the Viking period.

The Weapons from Kuml 2

Because of the poor preservation conditions for metal at Hringsdalur the weapons and other iron artefacts are badly corroded.

Conservation work was concluded by the National Museum of Iceland. The artefacts were x-rayed and a CT scan of the sword taken.



Figure 1: The Hringsdalur sword.

The Sword

The sword, find 18, was on the left side of the body– the hilt laid on the shoulder and the blade down to the knee.

Like all other viking age swords found in Iceland⁴² this sword has a double-edged blade and belongs to Petersen's Type Q.

Type Q is seen as a variant of Type M but has slightly curving guards. The lower guard of later swords of Type Q can be longer than those of the older examples.⁴³ Mikael Jakobsson classified the viking age swords on the basis of six design principles related on the shape and form of the hilts and assigns Jan Petersen's types to his groups. According to Jakobsson swords of Type Q belong to the design principles 4 ("Absence of pommel")⁴⁴ and 5 ("Bent bottom hilt").⁴⁵

⁴² Eldjárn 2000, pp. 330.

⁴³ Petersen 1919, pp. 137.

⁴⁴ Jakobsson 1992, pp. 45-49.

⁴⁵ Jakobsson 1992, pp. 49-55.

The overall length of the sword is 937 mm. The hilt is 149 mm. The lower guard is 137 mm long and the upper guard is 77 mm. The width of the blade right under the lower guard is 62 mm.

Though the sword is badly corroded it is complete. The tip is broken between 66.3-68.3 cm down from the lower guard. Circa 9 cm from the lower guard it was noticed that a piece of the edge of the blade was broken off at one side of the blade; this damage had occurred in antiquity.

The sides of the upper guard are slightly curved. Both ends turn up and have a square cross-section. The lower guard also has curved sides but its ends point down.

The blade gently tapers to a quite rounded tip and has a wide fuller. Along its length the blade is wave-rippled, deformation possibly caused by the pressure of the soil.

Wooden remains are preserved on the blade – in particular on the upper half. As the wooden remains are only up to the lower guard it can be assumed that the wood is from the scabbard. No remains of leather or textile of a scabbard binding were noticed and no wooden remains of the scabbard were left on the blade's underside. This can be explained by the fact that this side laid on the decaying body and decomposed with it.

The sword blade itself showed no decoration, pattern welding or inscriptions.

The sword from Hringsdalur is very similar to one found at Kjörven, Lunner, Oppland, in Norway (C19763 – Universitetets Oldsaksamling, Oslo).⁴⁶ It gives a good idea of how the Hringsdalur-sword might have looked in its original condition.

Swords of Type Q are most commonly found in Norway and they chiefly appear in the mid and late 10th century but disappear within the first half of the 11th century.⁴⁷

Three swords of Petersen's Type Q have been found previously in Iceland. Two of them are from burials at Sílastaðir, Glæsibæjarhreppur (Þjms. 13736)⁴⁸ and Bringa, Öngulsstaðahreppur (Þjms. 12099)⁴⁹ and one is a stray find recovered in Kjálhraun (Þjms. 12152).⁵⁰ The swords of Type Q and of Type M are now the most common sword-types in this country.⁵¹

Another sword from Hringsdalur is already known. It is a stray find, uncovered during road construction work in the autumn of 1950, some 250 m west of the cemetery. This sword is poorly preserved, with only the hilt and part of the blade remaining. No further artefacts or

⁴⁶ Graham-Campbell 1980, pp. 70, fig. 248, pp. 244; Peirce 2002, pp. 94.

⁴⁷ Petersen 1919, pp. 136-140.

⁴⁸ Eldjárn 2000, pp. 181ff and 326 ff.

⁴⁹ Eldjárn 2000, pp. 189 and 328.

⁵⁰ Eldjárn 2000, pp. 330.

⁵¹ Eldjárn 2000, pp. 323-331.

features were noticed which might suggest a burial. As no further circumstances of this find are known it is only possible to date this sword by its type. It belongs to Type M and it can be dated to the second part of the 9th century. This group of swords flourished around 900 and disappears in the mid 10th century.⁵²



Figure 2: Spearhead from Hringsdalur

The Spearhead

Find 21 is a spearhead which was also located on the man's left side next to the head. It can be identified as Petersen's Type H. Characteristics for this type are the wide, long-triangular blade, a simple socket and a knob between the socket and the blade.⁵³

The spearhead's total length is 198 mm, of which the blade is 149 mm and the socket is 49 mm. The width of the blade is 39 mm and the outer diameter of the damaged socket is 17 mm.

The spearhead is very corroded but in better condition than the sword and the shieldboss. The mouth of the socket is broken off thus its fully length is unknown but its original length was likely to be approximately 225 mm.

Because of the broken socket it is not possible to say much about the fastening to the shaft, but it was probably secured with a nail (Icel. *geirnagli*).

No wooden remains of the shaft are preserved in the socket.

The blade has a raised mid-rib and is rhombic in section.

A wave-like pattern between edge and core lies under a layer of corrosion and therefore is only visible on the x-ray. This pattern is called "wolf's teeth pattern" by Kristine Creutz.⁵⁴ The pattern on the spearhead from Hringsdalur corresponds to a pattern-welding of group 1 according to Jüri Selirand⁵⁵ but it also has additional "wolf's teeth". Spearheads with this

⁵² Eldjárn 1950, pp. 5-10; Eldjárn 2000, pp. 330.

⁵³ Petersen 1919, pp. 29ff, fig. 19.

⁵⁴ Creutz 2003, pp. 36 and 84.

⁵⁵ Creutz 2003, pp. 44, fig. 3:4.

pattern-welding are known in Finland and Estonia, and Bergljot Solberg dated it to the 10th and 11th centuries.⁵⁶ There is however an ongoing discussion about whether this kind of pattern should be considered as a pattern-welding or if it is an edging weld resp. edge joint for both decorative purposes and to strengthen the cutting edges as suggested by Lena Thålin Bergman.⁵⁷

Furthermore the run of the blade is short and slightly curved. X-ray indicates that the tripartite knob between the socket and the blade is moulded. No other decoration was noted.

Only few spearheads of Type H are known in Scandinavia but those found have a wide distribution. It can be dated to the second part til the end of the 10th century and continues into the 11th century.⁵⁸

Two other spearheads of Type H are known in Iceland.⁵⁹ One was found with the sword of Type Q at Bringa, Öngulsstaðahreppur, (Þjms. 12100)⁶⁰ (see above), and the other is a stray find from Arnarvatn (Þjms: 2393).⁶¹ The Hringsdalur-spearhead is the smallest one amongst them.

The Shieldboss

The shieldboss, find 19, is in a similar poor condition although completely preserved. It can be identified as Type Rygh 565 (short R565).⁶²

Shieldbosses of that type are sub-conical in their shape with no neck but occasionally have an apical knob, as in this case.⁶³

The diameter of the Hringsdalur-shieldboss is 139 mm, the flange takes in 11-18 mm and its overall height is 87 mm. On top of the boss is an apical knob of 10-11 mm in diameter and 8 mm in length.

Wooden remains, presumably from the shield board, are preserved at the underside of the flange and the x-ray showed two – possibly three – rivets.

Shieldbosses of type R565 are not common, for example only two are known from Birka.⁶⁴

⁵⁶ Creutz 2003, pp. 36.

⁵⁷ Creutz 2003, pp. 36; Thålin Bergman & Arrhenius 2005, p. 34.

⁵⁸ Petersen 1919, pp. 29ff, fig. 19; Kempke 1991, pp 15-17; Westphalen 2002, pp. 234.

⁵⁹ Eldjárn 2000, pp. 342.

⁶⁰ Eldjárn 1950, pp. 5-10; Eldjárn 2000, pp. 189, fig. 186.

⁶¹ Eldjárn 2000, pp. 339, fig. 186.

⁶² Rygh 1885, pp. 30.

⁶³ Arwidsson 1986, pp. 40.

⁶⁴ Arwidsson 1986, pp. 40; See also Arbman 1949, plate 17, fig. 6.

This type is dated to the 10th century by Jan Petersen⁶⁵ but his dating is criticized by Arne, Arwidsson and others.⁶⁶

Thirteen shieldbosses from the Viking Age have been found in Iceland including eight of type R562 and possibly two as R563. The others could not be identified as they were too fragmented.⁶⁷

Therefore the shieldboss from Hringsdalur represents the very first find of a type R565 in Iceland.



Figure 3: The Hringsdalur Shieldboss, type Rygh 565.

Nails, rivets and other metal objects

Finds 5 to 14, nails and rivets, were retrieved from kuml 2. They were situated on top of the lower rib cage. Find 8 could be part of a rivet, find 9 could possibly be a fastening or a fitting. Find 10, a tiny piece of copper alloy, could not be identified.

It is probable that not all these items are from the shieldboss or shieldboard. Although they were found together in the same place, they were not regularly arranged as they would have been if they were fastenings of the shieldboss and/or shieldgrip or indeed part of the shield-decoration.

⁶⁵ Petersen 1919, pp. 47.

⁶⁶ Arwidsson 1986, pp. 38f.

⁶⁷ Eldjárn 2000, pp. 350.

Finds 15 and 16 are from the left side of the body, found between the flank of the body and the sword. Those finds are unidentifiable iron fragments. It can though be assumed by the location of those fragments that they could be pieces of a scabbard belt or clothing.

The axe from Kuml 3

A sturdy axe, find 07-001, is the only artefact in this burial. It was situated at the bottom of kuml 3 which was partly disturbed by grave robbers. This might explain the absence of further artefacts⁶⁸ although the excavators assume that the axe itself was still *in situ* at its discovery.⁶⁹

The axe head was located to the man's right side and lay by the lower part of the torso with its cutting edge facing the deceased. The elbow of the buried individual rested on the axe head.

The axe is complete and it is, in comparison to the other weapons found in 2006, much better preserved although its surface is corroded due to the general poor preservation conditions

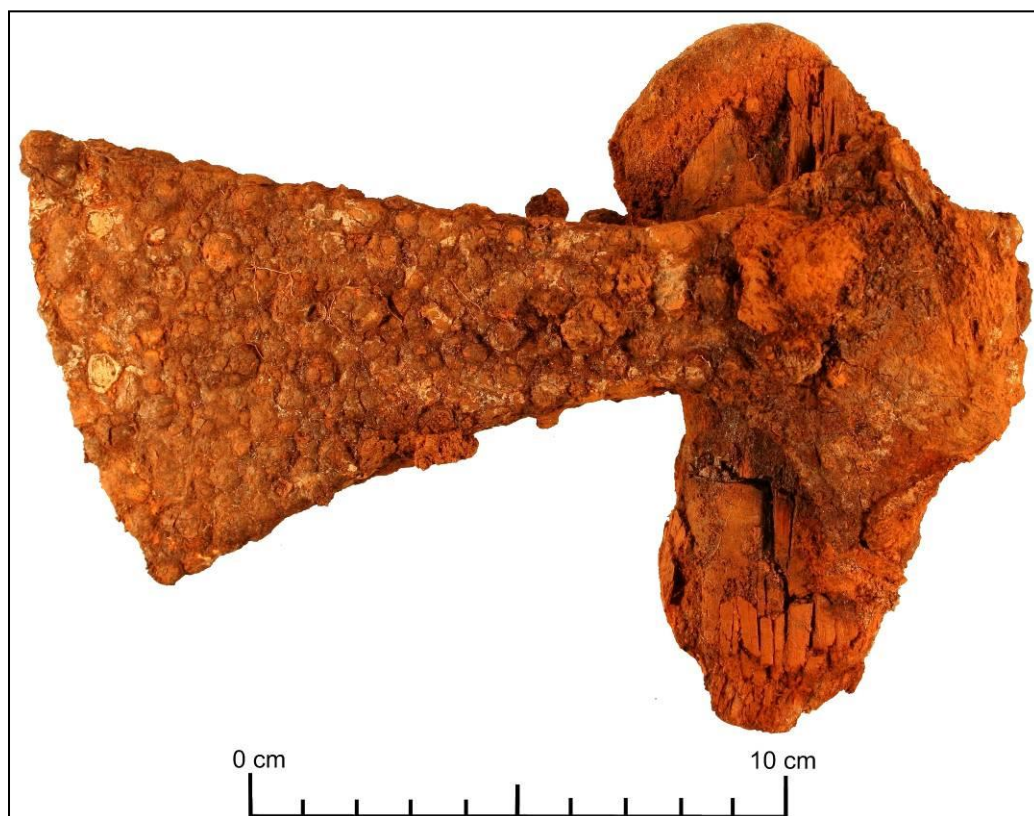


Figure 4: The axe from Hringsdalur after conservation (Photo: Þjóðminjasafn).
(Mynd: Þjóðminjasafn Íslands).

for iron on site.

Conservation work and x-raying were concluded by the National Museum of Iceland.

⁶⁸ An iron nail, find 07-002, may have come from this burial context as well but was found during sieving of the fill which had been disturbed by grave robbing and erosion.

⁶⁹ Gestsdóttir, Hildur, personal communication, 13.12.2007.

The length of the axe is 177 mm of which the the blade takes approximately 120 mm. The length of the cutting edge is 85 mm. The weight is 1125 grams.⁷⁰

The flat poll is squarish and thick. Two distinctive flanges on each side of the haft part are preserved and they all are long and pointy. The lower flanges are slightly longer and more pointed than the upper ones. The eye, i.e. the haft hole, is triangular with rounded corners and 49 mm long and maximal 27 mm wide. The axe head has a symmetrically wedge-shaped cross section. The thin neck is 28 mm broad and the blade widens moderately from there. The lower side is stronger curved than the upper side and the blade is more extended to the heel, giving the axe blade an asymmetrical shape.

A 126 mm long piece of the wooden shaft with a triangular cross section is still preserved.

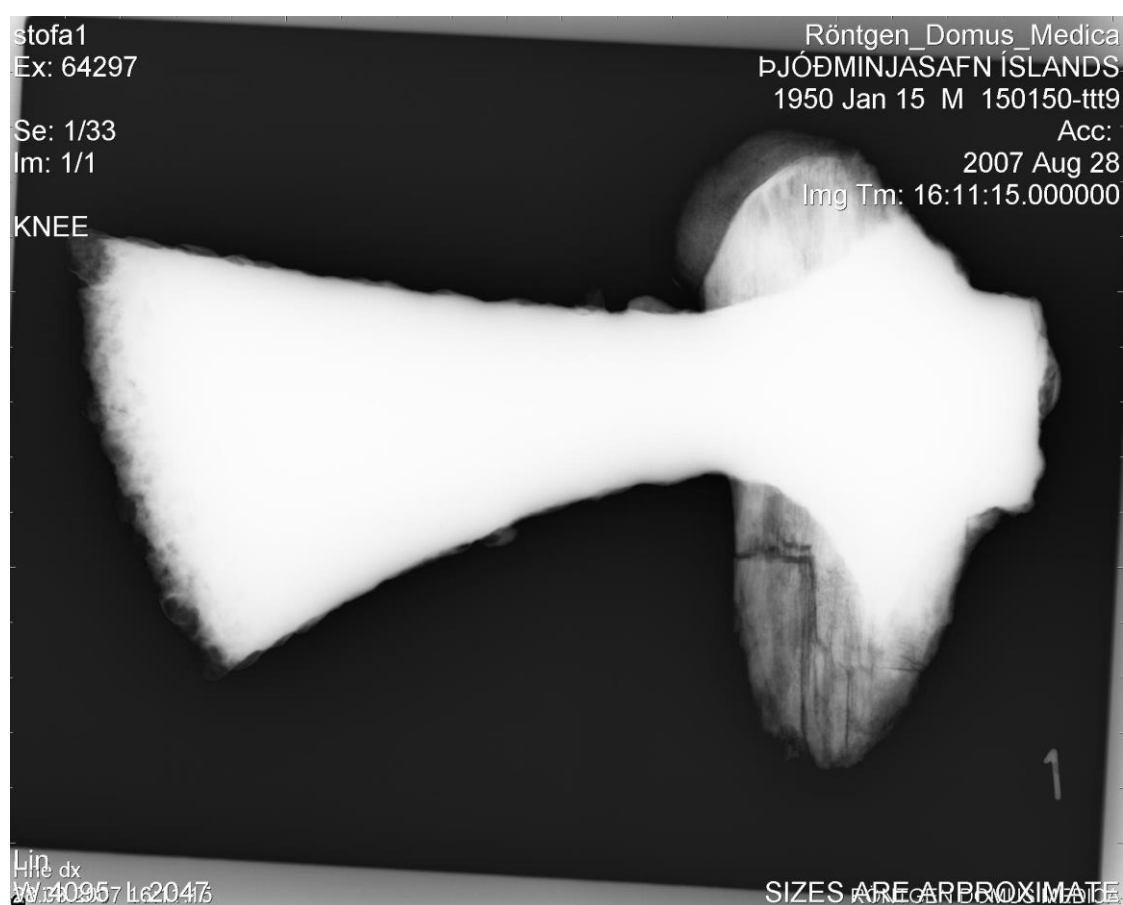


Figure 5: An X-ray of the axe from Hringsdalur.

The upper end of the shaft is a bit domed and a piece of bone of the buried person is still attached

⁷⁰ Here it must be emphasized that the weight of the axe does not represent the original one. The corrosion affected the metal and due to the preservation conditions the object is more or less lighter than it originally was. Further criteria like preserved remains of the wooden shaft and possible wastage must be considered as well as this may additionally influence the weight.

to it. The wood is yet unidentified but may provide possibilities for analysis, e.g. wood identification and perhaps even dating.

The axe mostly resembles Jan Petersen's Type H. According to him, axes of this type are slender and have attributes like a relatively small haft-part, a narrow neck, concave edges of which the lower edge is stronger curved than the upper one. Further distinctive characteristics are the long pointed flanges on both sides of the haft-part. Petersen dated Type H to the first half of the 10th century.⁷¹ His dating has sometimes to be taken with caution as he has already been criticised by a number of scholars⁷² who noticed some anomalies and discrepancies in Petersen's weapon typologies and dating of the material. Yet, still nowadays his research is essential for the study of Viking Age weapons although a modification of both classification and dating may be necessary.

The axe from Hringsdalur bears a striking resemblance to an axe found in the burial D150-1966 at Fyrkat in North Jutland, Denmark.⁷³ Both axes are very similar to each other in shape, size and probably also weight although the exact weight of the Fyrkat axe is not known.⁷⁴ Both axes have an elegant appearance despite being massive and heavy.

The axe at Fyrkat can be exactly dated due to the results of dendrochronological analysis. The fortress was built around 980 AD, and apparently occupied for only a short period since the building remains did not show any sign of reparation and the artefacts from the fortress and burials can be dated to the second half of the 10th century AD.⁷⁵

Holger Arbman noticed similarities between the axe from Fyrkat and the Mammen axe although the former is plain and undecorated, and does not have a thin blade like the Mammen axe. Both axes correspond to each other in the dating because dendrochronological investigations date the Mammen axe to the time around 970/971 AD and it therefore belongs to the second half of the 10th century as well.⁷⁶

Based on the datings of these two specimens, the axe discovered in Hringsdalur is most likely to be assigned to the latter half of the 10th century, too. A more precise dating of the axe is as yet not possible as there are no further datable artefacts in kuml 3.

⁷¹ Petersen 1919, p. 43, fig. 39.

⁷² Creutz 2003, pp. 29-30.

⁷³ Roesdahl and Wilson 1992, pp. 195 and 255.

⁷⁴ Roesdahl, Else, e-mail communication, 15.05.2008.

⁷⁵ Roesdahl 1998, pp. 298-299.

⁷⁶ I wish to thank Dr. Else Roesdahl for this remarkable information, in e-mail communication, 16.05.2008.

At least three other axes of possible type H are already known in Iceland. Only the axe found in the burial at Kaldárhöfði, Grímsneshreppur (Þjms. 13549)⁷⁷ is definitely of Type H while the axe found in the burial at Brú, Biskupstungnahreppur (Þjms. 1195)⁷⁸ rather resembles Type K than Type H, in my opinion. The third axe was found in the Viking Age smithy at Suðurgata 3-5, Reykjavík (Find nr. S-102). Although its flanges are no longer complete preserved, it mostly resembles type H.⁷⁹

Pär Hallinder calculated the proportions based on analysis of the Viking Age axes from the burials at Birka, Sweden, by dividing the axe-length with the length of the cutting edge. This allowed him to sort the material into narrow and broad axes: narrow axes have the proportions $>1.5:1$, while broad axes have a proportion of the axe length to the cutting edge $<1.5:1$.⁸⁰ The proportion of the total length of the axe to the cutting edge of the Hringsdalur-axe is 2:1. It can, therefore, be assigned to the group of narrow axes. Hallinder further divided the narrow axes into hand- and chopping axes based on their weight: chopping axes have a weight of over 800 g while hand axes are under 800 g. Hallinder suggested that both types of narrow axes were rather used as tools but could be also used as weapons whenever it was necessary.

It must be emphasized that it is in general very difficult to distinguish between axes as domestic tools and those used as weapons. Hallinder noticed that the heavy chopping axes were deposited in richly furnished weapon burials at Birka (Bj 524 and Seton III), dated to the mid and second half of the 10th century, and are therefore to be interpreted as possible battle axes.⁸¹ It is also difficult to determine whether the axe from kuml 3 in Hringsdalur has to be interpreted primarily as a tool for daily work or as a weapon. Its general good quality and condition, i.e. it shows almost no damage and waste, may be taken as an indication that the axe had not been used a lot for (wood)working, and was perhaps deposited in the burial with the intention to represent either a weapon and/or a certain status, rank or office of the buried individual.

Discussion

Weapons are an important source of information in archaeology. As the combination of arms and weapons changes through time it is in general good for dating. They reflect to a certain degree changing ways of fighting and tactics, in addition to traditions and preferences for

⁷⁷ Eldjárn 2000, pp. 91 and 347, fig. 193.

⁷⁸ Eldjárn 2000, p. 86, fig. 24.

⁷⁹ Nordahl 1988, pp. 95 and 138, fig. 137; Eldjárn 2000, p. 345.

⁸⁰ Hallinder 1986, p. 45.

⁸¹ Hallinder 1986, p. 46.

certain kind of weapons, and influences by neighbours⁸² and the important role played by trading connections.

The previously mentioned stray find from 1950 is a sword of type M, dating to the second half of the 9th century until the mid 10th century.⁸³ Regarding kuml 2, the same combination of a sword of Type Q and a spearhead of Type H is known from the burial at Bringa, Öngulsstaðahreppur,⁸⁴ noted above. Kristján Eldjárn dated this burial to the end of the 10th century.⁸⁵ The weapon burial from Hringsdalur can also be dated to the late 10th century on basis of its weapons-combination. Shieldbosses of type R565 are generally dated to the end of the Viking Age and therefore fits into this. In general, it can be said that the weapons in kuml 2 indicate a male burial which is, compared to Icelandic finds, quite well equipped and point to a certain social status of the buried person. To conclude, the nature and combination of weapon finds in Hringsdalur suggest that the burials can be dated to the end of the 10th century.

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⁸² Szameit 1997, pp. 47f.

⁸³ Eldjárn 1950, pp. 5-10; Eldjárn 2000, p. 330.

⁸⁴ Eldjárn 1948, pp. 54-62.

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Magnús Á. Sigurgeirsson: Gjóskulagagreining og ýmsar athuganir

Inngangur

Dagana 4.-5. ágúst var farin vettvangsferð í Hringsdal við Arnarfjörð. Meginmarkmiðið var að kanna notagildi gjóskulaga við aldursgreiningu fornminja sem þar eru. Fátt er um gjóskulög í jarðvegi á Vestfjörðum og hafa þau því lítið verið notuð í þessum tilgangi áður. Minjarnar í Hringsdal eru á stuttum tanga skammt norðan við þjóðveginn um Ketildali.

Rannsóknir á gjóskulögum frá sögulegum tíma hafa ekki verið stundaðar á Vestfjörðum, ef undan er skilin athugun höfundar á gjóskulagi sem kom í ljós sumarið 2005 við fornleifarannsókn í Vatnsfirði við Ísafjarðardjúp. Það gjóskulag reyndist vera frá Heklu, að öllum líkindum frá árinu 1693.⁸⁶ Landnámslagið frá því um 870 e.Kr., sem finnst um meginhluta landsins, hefur ekki fundist á Vestfjörðum með vissu.

Gjóskulög frá försögulegum tíma hafa verið könnuð nokkuð, einkum svonefnd Saksunarvatnsgjóska sem er um 10.200 ára gömul.⁸⁷

Næsta virka megineldstöð við sunnanverða Vestfirði er Snæfellsjökull, í um 100 km fjarlægð (í beina loftlínu). Þekkt eru þrjú súr (ljós) gjóskulög frá Snæfellsjökli frá síðustu 10.000 árum, nefnd Sn-1 (þeirra yngst), Sn-2 og Sn-3.⁸⁸ Yngsta gjóskulagið er um 1800 ára gamalt samkvæmt aldursgreiningu með geislakoli.⁸⁹ Þetta lag, þ.e. Sn-1, hefur fundist í jarðvegi á Norðurlandi⁹⁰ og í sjávarseti í Reykjafjarðarál norður af Húnaflóa.⁹¹ Í jarðvegi í Steingrímsfirði er ljóst gjóskulag sem vafalítið er Sn-1.⁹² Samkvæmt einfölduðu útbreiðslukorti af Sn-1 ætti útbreiðsla þess að ná til Vestfjarða.⁹³ Þykktardreifing lagsins utan Snæfellsness er ekki þekkt en frá upptökum barst gjóskan einkum til norðurs og norðausturs.

⁸⁶ Magnús Á. Sigurgeirsson, óbirt gögn.

⁸⁷ Andrews *et al.* 2002; Guðrún E. Jóhannsdóttir 2003.

⁸⁸ Sjá Haukur Jóhannesson *et al.* 1981.

⁸⁹ Sigurður Steinþórsson 1967.

⁹⁰ Guðrún Larsen *et al.* 2002.

⁹¹ Gréta B. Kristjánsdóttir *et al.* 2007

⁹² Magnús Á. Sigurgeirsson, óbirt gögn.

⁹³ Guðrún Larsen *et al.* 2002.

Niðurstöður

Rústahóll

Í hólnum er allstór grjóthlaðin rúst, mjög hrunin. Skýrar hleðslur sjást á nokkrum stöðum neðst í hólnum, einkum norðan og sunnan megin. Í hólnum er ein meginbygging með lítilli viðbyggingu eða afhýsi, norðanmegin. Meginrústin situr ofan á 10-30 cm þykku skeljasandslagi og er mjög hrunin. Grjót hefur verið lagt ofan á hólninn í seinni tíð en í honum miðjum er lag af fiskbeinum (sorpi).

Ólíkt meginrústinni situr viðbyggingin því sem næst beint ofan á moldarjarðvegi. Áberandi stórir hornsteinar eru í norðausturhorni rústarinnar. Engar skýrar vísbendingar komu fram um að viðbyggingin væri yngri en meginbyggingin. Þunnur grjótbálkur er í viðbyggingunni upp við slútandi grjótvegg á meginrústinni, þ.e. norðurvegginn. Gæti hann hafa verið hlaðinn sem set eða til stuðnings veggnum, sem hefur verið allhár. Þessi veggur er sá sem er best varðveittur í byggingunni.

Grjótið í rústahólnum er bæði holtagrjót, úr hlíðinni fyrir ofan, og núíð fjörugrjót úr nærliggjandi fjöru.

Í jarðveginum undir rústunum fundust tvö gjóskulög, ljóst vikurlag á 15 cm dýpi og annað dökkt slitrótt á um 5 cm dýpi. Sýni voru tekin til frekri athugana. Efra lagið (það dökka) situr í ljósleitu moldarlagi og beggja megin við það eru dökkrauðbrún mjúk jarðvegslög. Þessi marglitu jarðvegslög bera mjög svip af svonefndri Landnámssyrpu (LNS) sem áberandi er á Norðurlandi. Þar er hún um 6-8 cm þykk og er með 4-6 dökkum gjóskulögum. Landnámslagið er jafnan eitt af yngstu gjóskulögunum í LNS. Gjóskulögum í LNS fækkar eftir því sem vestar dregur á Norðurlandi. Við Skagafjörð eru t.d. aðeins 1-3 lög greinanleg. Smásjárskoðun bendir til að dökka gjóskan frá Hringsdal sé ekki frá Veidivötnum, og því ekki Landnámslagið, heldur fremur Kötlueldstöðinni eða eldstöð í Vatnajökli.

Tvö gjóskulög frá Kötlu hafa greinst í LNS í Skagafjarðardölum.⁹⁴ Athyglivert er að í borkjarnanum frá Reykjafjarðarál er dökkt gjóskulag ofan við Sn-1 sem Gréta B. Kristjánsdóttir *et al.* töldu í fyrstu vera Landnámslagið út frá legu þess í kjarnanum en reyndist síðan vera Kötlugjóska þegar efnagreiningar lágu fyrir.⁹⁵ Þetta Kötulag er á milli Sn-1 og H-1104 í kjarnanum. Ekki er ósennilegt að um sama lag sé að ræða og fannst í Hringsdal. Aldur þessa lags er ekki þekktur en telja má víst að það sé eldra en LNL, sennilega frá tímabilinu 7.-9. öld e.Kr.

⁹⁴ Sjá Gunnar Ólafsson 1985.

⁹⁵ Gréta B. Kristjánsdóttir *et al.* 2007.

Er höfundur þeirrar skoðunar að umræddar rústir séu fremur ungar, sennilega frá allra síðustu öldum. Greinilegt er að ekki hefur verið vandað til byggingarinnar í upphafi, þar sem hún situr á sandi að mestum hluta. Um hlutverk mannvirkjana skal ekkert fullyrt en vert er þó að benda á frásagnir um grjóthlaðin byrgi sem reist voru á þessu svæði í heimsstyrjöldinni síðari.⁹⁶

Kumli (kumlateigur)

Kumlin hafa verið grafið í gegnum gjóskulögin tvö sem fyrr eru nefnd. Þau eru einnig í grafarfyllingu. Greinilegt er að kumlin eru blásin, þ.e. jarðvegseyðing hefur átt sér stað á síðari tímum. Hvenær hún byrjaði mætti nálgast með skoðun jarðvegssniða í nágrenninu. Athygli vekur að mikið er af steinum við kumlin og umhverfis þau. Ekki verður annað séð en þeir séu að mestu leyti aðfluttir, bæði úr fjöru og hlíðinni. Hugsanlegt er að grjótið hafi tilheyrt mannvirki sem þarna hafi staðið í eina tíð og síðan máðst út vegna rofs og/eða verið rifið. Grjótið gæti líka hafa tilheyrt kumlateignum.

Kumlin eru staðsett við brekkubrún á stuttu nesi skammt norðan við þjóðveginn. Telja má víst að nesið hafi náð mun lengra til sjávar í eina tíð. Ólíklegt má telja að kumlum hafi verið valinn staður á brekkubrún þar sem hætta hefur verið á að þau spilltust. Af heimildum að dæma braut mjög af bökkunum í byrjun 20. aldar og fóru þá að finnast mannabein sem hrundu úr þeim.⁹⁷

Á fjöru má sjá að alllangur klappartangi gengur í sjó fram í framhaldi af nesinu, um 100 m langur (ónákvæmt). Ekki er ólíklegt að í þá tíð er kumlin voru gerð að þarna hafi verið framlíðandi nes sem náð hefur út á klappirnar.

Samkvæmt lauslegri athugun er nesið mestmegnis úr jökulruðningi og hrungrjóti úr fjallshlíðinni.

Aðrar athuganir

Skoðuð voru snið í mómýri í framræsluskurðum í Bakkadal. Þar er mórinn að minnsta kosti 2,5 m þykkur. Ljósá vikurlagið var skýrt í sniðunum en önnur gjóskulög fundust ekki. Mikið er af birkilurkum í mónum, einkum neðan vikurlagsins, en dálítið næst ofan þess einnig. Skörp litaskil eru í mónum um 20 cm ofan við vikurlagið, er mórinn mun ljósari ofan skilanna en neðan. Orsakast breytingin vafalítið af auknum hlut fokefnis. Litabreyting sem þessi er algeng í jarðvegi á Suðurlandi og er almennt talin hafa orðið vegna uppblásturs/jarðvegseyðingar í

⁹⁶ Sjá frásagnir Hafliða Magnússonar.

⁹⁷ Sjá Ingivald Nikulásarson 1942.

kjölfar hratt vaxandi landnýtingar á fyrstu öldum byggðar í landinu. Algengt er að sjá Landnámslagið rétt neðan við skilin. Líklegt er að sama eigi við um litaskilin í Bakkadal, þau gætu verið vísbending um jarðvegseyðingu í kjölfar landnáms manna.

Athygli vekur þegar snið á rannsóknarsvæðinu í Hringsdal eru skoðuð að mjög skörp skil eru á milli moldarjarðvegs og foksands. Stakar sandlinsur eru í moldinni niður undir ljósa vikurlagið en þar fyrir neðan sjást þær ekki. Meira áberandi er dökkur foksandur, úr bergbrotum, í moldarjarðveginum. Skeljasandurinn á uppruna í fjörunni framan og vestan við tangann, þar sem nú er samfelld skeljasandsfjara. Út frá þessu má álykta að sandfok hafi ekki verið mikið síðustu aldir fyrir landnám. Sandurinn hefur að mestum hluta verið dökkur, samsettur úr bergbrotum. Skeljasandur eykst smám saman og moldarjarðvegur hættir að mestu að myndast. Ályktun sem draga má af þessu er að afstaða fjöru til kumlateigsins hafi verið önnur á 10. öld en er í dag. Einnig er mögulegt að magn skeljasands hafi ekki verið eins mikið við Hringsdal og það er í dag.

Samkvæmt jarðabók Árna Magnússonar og Páls Vídalíns var sandfok verulegt vandamál í Hvestudal, næsta dal austan Hringdals, í upphafi 18. aldar.

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Anthony Newton: Report on FSI Tephra Samples

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Introduction

The following samples were sent for geochemical analysis:

Table 1: list of samples analysed and supplied information

Sample	Site	Preliminary identification
1	Hofstaðir	H1104/H1158
2	Hofstaðir	H1104/H1158
3	Hringsdalur	Silicic (prob. Sn-1)
4	Hringsdalur	Basaltic (Katla, Veiðivötn)
5	Þegjandadalur	mixed layer

Tephrae were incorporated in resin on a frosted slide and ground to a thickness of approximately 75 µm and then polished with 6 µm and 1µm diamond pastes. The slides were then carbon coated. All analyses were undertaken on a five spectrometer Cameca SX100 electron microprobe and analysed using the wavelength dispersive method. An accelerating voltage of 20 kV and a beam current of 4 nA was used. In order to compensate for mobility of Na during the analysis, a beam diameter of 10 µm was used. Standard basaltic and silicic glasses were analysed throughout the analytical session to check for instrument stability. Total iron is expressed as FeO and the abundances are presented as oxide weight percentages. Please provide this information in any publications of these results.

Results

A complete table of geochemical analyses can be found at the end of this report (Table 2) and the terms Sample 1-5 refer to the samples in Table 1.

Sample 1 and Sample 2

Both Samples 1 and 2 were originally identified as being silicic tephrae, either Hekla 1104 or 1158. Table 2 and Figure 1 clearly demonstrate that both tephra layers are actually Hekla 1104. Larsen *et al* (1999) show that Hekla 1104 is more silicic than Hekla 1159 and has

correspondingly lower TiO_2 , FeO , MgO and CaO . This allows a clear correlation to be made between Samples 1 and 2 and Hekla 1104.

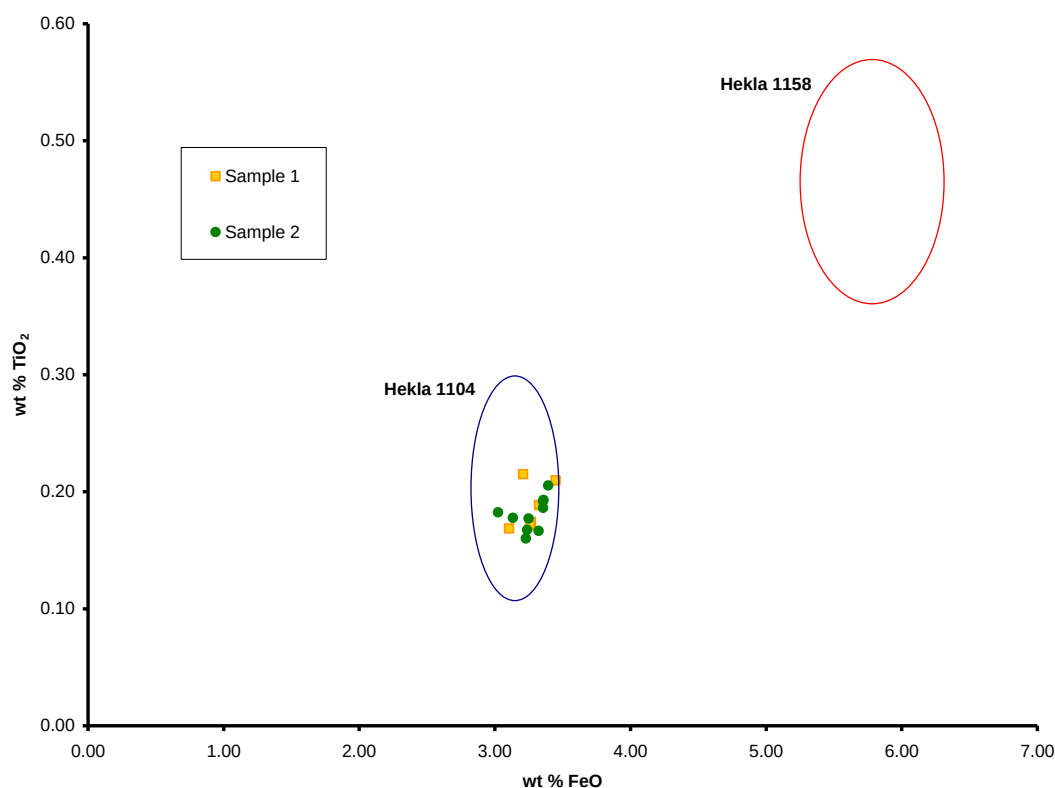


Figure 1: Comparison of Samples 1 and 2 to Hekla 1104 and 1158. The Hekla 1104 field is defined by 84 analyses of Hekla 1104 tephra from Iceland (Boygles *et al.*, 1994; Larsen *et al.*, 1999). The Hekla 1158 field is defined by 12 analyses of Hekla 1158 from Iceland (Larsen *et al.*, 1999).

Sample 3

Sample 3 was originally identified as being silicic and probably Sn-1, a tephra erupted from Snæfellsjökull around 1820-1730 cal years BP.⁹⁸ Figures 2a and 2b show that Sample 3 is similar to published analyses of Sn-1⁹⁹ and unpublished analyses of Sn-1 from Sveigakot and Snæfellnes.¹⁰⁰ Although there are more silicic analyses present in Sample 3 than in the other analyses of Sn-1, it seems probable that at least part of Sample 3 was erupted by Snæfellsjökull, as it has the characteristically high Al_2O_3 abundances (Figure 2b) and also distinctive FeO/TiO_2 ratios. The more silicic analyses of Sample 3 bear some resemblance to silicic eruptions of Hekla, such as Hekla 1104, but the alkalis show that this is not the case, with CaO being too low and K_2O and Na_2O being too high. From these results it is difficult to produce a confident

⁹⁸ Larsen *et al.* 2002.

⁹⁹ Larsen *et al.* 2002.

¹⁰⁰ Newton, unpublished.

correlation between Sample 3 and Sn-1, although it does appear that Sample 3 was erupted from Snæfellsjökull. Further information, such as stratigraphic data is needed to help confirm a correlation.

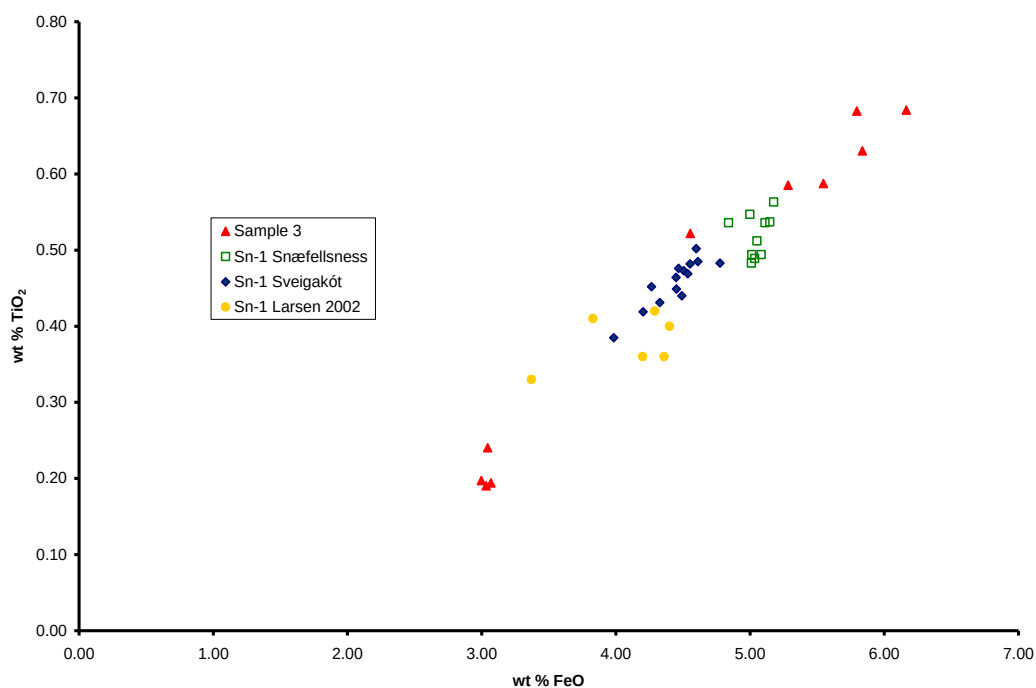


Figure 2a: Sample 3 contains shards which are similar to other analyses of Sn-1, but not identical. A higher silicic component is also present in Sample 3.

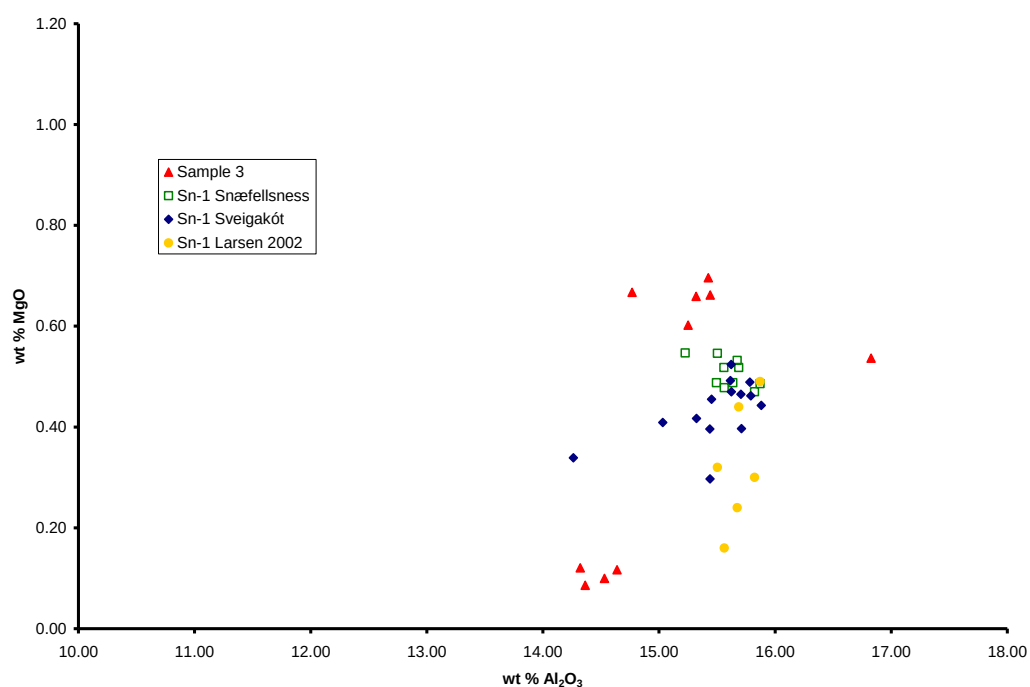


Figure 2b: The higher silicic component of Sample 3 is clearly distinguished. Again Sample 3 is similar but not the same as the other Sn-1 samples.

Sample 4

Table 2 shows that Sample 4 has the typical high TiO_2 (> 4%) characteristics of tephra layers erupted from Katla. This tephra was definitely not erupted from Veiðivötn, which has typical TiO_2 values of around 2 % or less.

Sample 5

Sample 5 was identified as a possible mixed tephra with at least 2 separate components. Table 2 shows that tephra from at least 3 sources comprise Sample 5. A silicic component (3 analyses), which has typical Hekla characteristics,¹⁰¹ possibly Hekla 1104 (Figure 3, depending on the stratigraphic position). There are a couple of analyses which are similar to Grímsvötn tephtras. However, the majority of the analyses are of tephra shards typical of the Veiðivötn volcanic system.

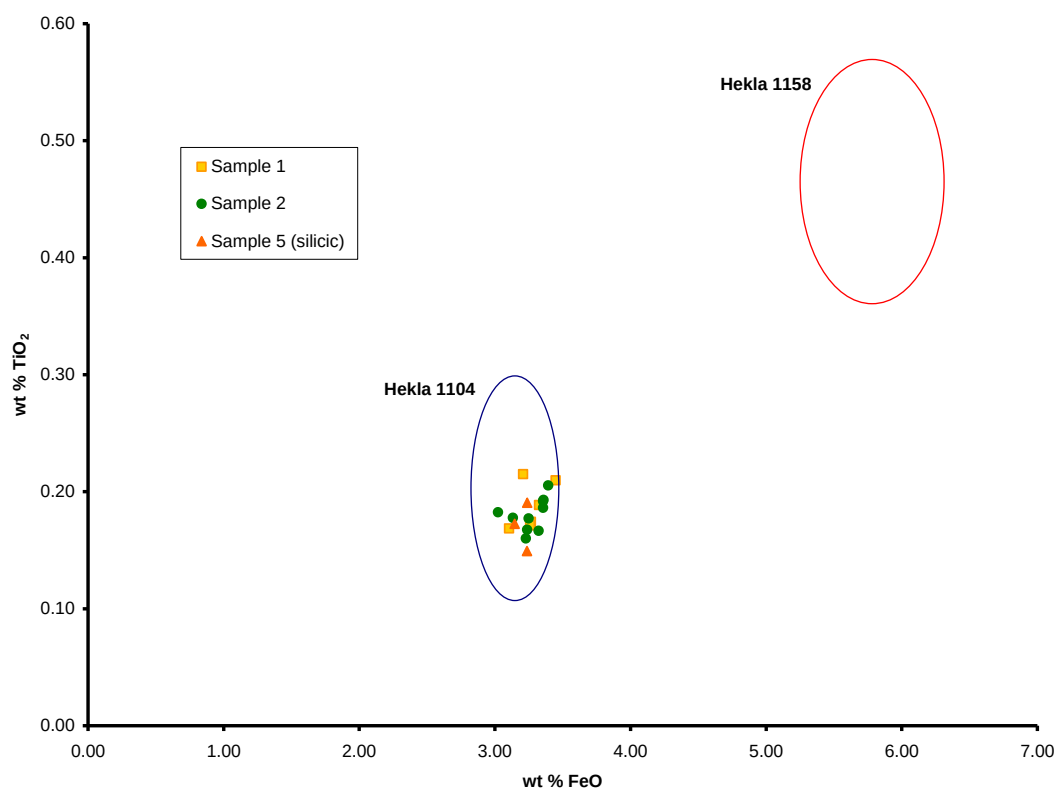


Figure 3: Sample 5 is partly composed of glass shards with Hekla characteristics, such as Hekla 1104.

¹⁰¹ Larsen *et al.* 1999.

Conclusions

Both Samples 1 and 2 can be correlated to Hekla 1104 on their major element geochemistry and stratigraphic position. Sample 3 is characteristic of Snæfellsjökull and is similar to other analyses of Sn-1, but cannot be correlated on geochemistry alone. This may be because the full geochemical range of Sn-1 has yet to be established. Sample 4 is typical of tephra layers erupted from Katla. Finally, Sample 5 is a mixed layer containing silicic Hekla (possibly 1104), Grímsvötn, but mainly Veiðivötn shards.

Table 2: Electron Microprobe Analyses

Sample 1											Hekla 1104
SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Total	
70.97	0.19	13.91	3.33	0.12	0.08	1.90	5.00	2.52	0.02	98.02	
70.83	0.17	13.59	3.11	0.12	0.13	1.93	4.84	2.64	0.01	97.35	
70.67	0.17	13.48	3.27	0.12	0.13	1.90	4.79	2.75	0.04	97.32	
70.65	0.17	13.34	3.26	0.14	0.14	1.86	4.74	2.54	0.00	96.84	
70.40	0.21	13.42	3.45	0.09	0.09	1.91	4.82	2.58	0.02	97.00	
69.70	0.21	13.82	3.21	0.17	0.13	1.92	4.81	2.62	0.03	96.63	
Sample 2											Hekla 1104
SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Total	
71.61	0.19	13.50	3.36	0.10	0.10	1.97	4.67	2.69	0.03	98.25	
70.95	0.19	13.33	3.36	0.10	0.10	1.72	4.62	3.24	0.03	97.65	
70.62	0.18	13.79	3.02	0.10	0.14	1.94	4.87	2.84	0.00	97.50	
70.22	0.18	13.96	3.25	0.14	0.12	1.86	4.65	2.57	0.00	96.96	
70.19	0.18	13.31	3.13	0.14	0.13	2.02	4.62	2.44	0.00	96.16	
70.15	0.19	13.12	3.36	0.21	0.11	1.97	4.73	2.72	0.02	96.61	
70.13	0.16	13.27	3.23	0.14	0.12	1.95	4.69	2.54	0.07	96.31	
69.95	0.17	13.61	3.32	0.16	0.11	1.96	4.93	2.71	0.00	96.93	
69.93	0.17	13.21	3.24	0.11	0.13	1.84	4.79	2.61	0.02	96.07	
69.85	0.21	13.73	3.39	0.11	0.11	1.99	4.83	2.59	0.04	96.87	
Sample 3											Snæfellsjökull
SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Total	
69.15	0.19	14.32	3.03	0.11	0.12	1.07	5.18	4.67	0.04	97.91	
68.32	0.19	14.64	3.07	0.14	0.12	1.06	5.31	4.69	0.02	97.56	
68.03	0.24	14.53	3.05	0.13	0.10	1.12	5.40	4.61	0.01	97.22	
67.51	0.20	14.36	3.00	0.09	0.09	1.10	5.46	4.68	0.04	96.53	
63.37	0.52	16.83	4.55	0.19	0.54	3.06	6.04	3.23	0.12	98.48	
63.20	0.68	14.77	6.16	0.25	0.67	2.47	5.20	3.56	0.12	97.11	
62.87	0.63	15.42	5.84	0.24	0.70	2.73	5.37	3.64	0.07	97.53	
62.81	0.68	15.32	5.79	0.17	0.66	2.56	5.42	3.78	0.20	97.42	
62.67	0.59	15.25	5.55	0.18	0.60	2.54	5.32	3.48	0.14	96.34	
62.06	0.59	15.44	5.28	0.16	0.66	2.48	5.38	3.46	0.11	95.66	
Sample 4											
SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Total	

47.47	4.55	12.13	14.69	0.30	5.01	9.53	3.05	0.80	0.58	98.21	Katla
47.04	4.62	12.57	14.70	0.27	4.84	9.51	3.10	0.84	0.57	98.18	
46.77	4.48	12.58	14.96	0.23	4.83	9.63	3.11	0.75	0.57	98.03	
46.76	4.50	12.14	14.62	0.25	4.88	9.68	3.14	0.84	0.59	97.51	
46.70	4.49	12.57	15.09	0.21	4.80	9.49	2.91	0.81	0.56	97.73	
46.67	4.47	12.59	15.15	0.26	4.97	9.49	3.19	0.83	0.60	98.34	
46.65	4.43	12.42	14.85	0.31	4.93	9.52	3.17	0.79	0.53	97.72	
46.64	4.43	12.71	14.71	0.27	4.87	9.54	3.22	0.69	0.56	97.75	
46.53	4.52	12.32	14.39	0.19	4.91	9.51	3.04	0.77	0.62	96.90	
46.21	4.52	12.15	14.79	0.22	4.99	9.63	3.11	0.77	0.55	97.05	

Sample 5

SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Total	
71.64	0.17	13.89	3.14	0.11	0.09	1.98	4.78	2.66	0.07	98.57	Hekla 1104?
71.24	0.19	13.84	3.24	0.15	0.15	1.98	4.77	2.53	0.00	98.08	
70.38	0.15	13.58	3.24	0.09	0.13	1.89	5.03	2.66	0.04	97.22	
50.32	2.78	12.73	15.24	0.23	4.42	8.52	3.12	0.50	0.43	98.41	Grímsvötn
49.39	2.96	12.70	15.19	0.31	5.57	10.02	2.32	0.43	0.29	99.27	
49.83	1.80	13.42	12.67	0.23	6.73	11.26	2.57	0.21	0.18	99.02	Veiðivötn
49.54	1.84	13.65	12.99	0.15	6.59	11.19	2.49	0.23	0.16	98.96	
49.49	1.88	13.45	13.01	0.26	6.64	11.17	2.43	0.27	0.19	98.91	
49.30	1.84	13.42	12.88	0.13	6.74	11.28	2.54	0.21	0.25	98.73	
49.27	1.77	13.12	12.67	0.22	6.83	11.23	2.58	0.29	0.26	98.36	
49.21	1.78	13.19	12.76	0.26	6.59	11.19	2.61	0.27	0.18	98.17	
49.00	1.94	12.90	13.15	0.23	6.53	10.99	2.31	0.24	0.17	97.58	
48.81	1.84	13.12	12.58	0.23	6.49	11.02	2.42	0.25	0.23	97.13	
48.58	1.79	13.33	12.51	0.14	6.57	11.41	2.47	0.21	0.14	97.27	

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Dawn Elise Mooney: Analysis of Iron-Replaced Wood Samples from the Boat Grave

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Introduction

This report presents the results of wood anatomical analysis carried out on samples of wood from boat burial at Hringsdalur in western Iceland. Eight samples of wood were recovered from the excavation during the 2008 season. The samples were preserved by mineralization: that is to say that due to their proximity to the iron nails used to secure the boat planks together, since deposition iron oxide had leached from the nails and replaced organic matter in the wood, allowing its structure to be preserved. The samples were analysed by the author at Fornleifastofnun Íslands in July 2010.

In order to view the inner structure of the wood, the samples were pressure fractured in order to gain clear Transverse Sections of the wood samples (see diagram of sections used in wood anatomical analysis, Figure 1). However, the nature of the preservation of the samples caused them to become rigid and difficult to work with, and also distorted and obscured some of the structure of the wood. For this reason, the identifications made in this report should not be considered as absolute, as they have been made from only one section instead of three, and under relatively low magnification.

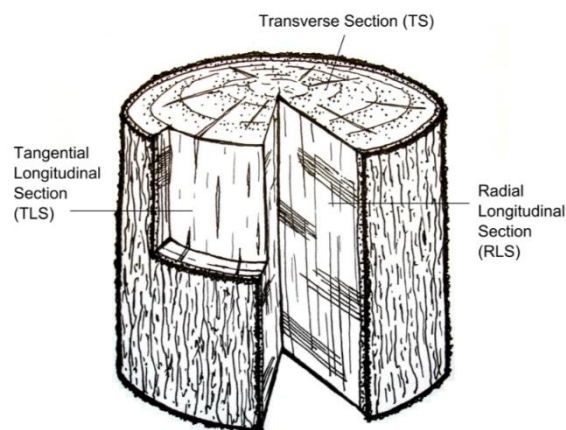


Figure 1: Sections used for identification of microscopic wood anatomy
Illustration by D.E. Mooney, 2007.

The identifications were made using a Leica MZ6 stereoscopic microscope at up to 40x magnification, from a pressure-fractured Transverse Section of each sample. This method necessitates some notes on the identifications. Due to the fragility of the samples, it was

impossible to identify any pieces of conifer wood beyond the Pinaceae family (*Pinus*, *Picea* or *Larix*). The samples are not particularly fragile, but due to the iron replacement they had become very hard and many of the features are difficult to distinguish. For this reason, and also due to the small size of the samples, it was not possible to achieve tangential and radial sections of the wood. In order to identify conifer wood to species level, it is necessary to observe the crossfield pits in the radial longitudinal section under up to 200x magnification.¹⁰² This was not possible with the Hringsdalur samples, as these sections could not be achieved due to the fragile nature of the wood remains. The identification of Pinaceae wood was arrived at by observing the presence of axial resin canals in the Transverse Section.

Results

Eight wood samples were analysed from the burial at Hringsdalur. The results of this analysis are presented below.

Table 1: Results of wood analysis from Hringsdalur

SITE CODE	CONTEXT	SAMPLE	WOOD TYPE	NOTES
HDR08	121	265	Pinaceae	
HDR08	121	268	Pinaceae	
HDR08	120	406	Pinaceae	
HDR08	120	417	Pinaceae	
HDR08	120	442	Pinaceae	
HDR08	114		Pinaceae	"Found with human bones". Probably <i>Larix</i> .
HDR08	120	478		Probably conifer but too distorted by mineralisation.
HDR08	121	480	Pinaceae	Probably <i>Larix</i> .



Figure 2: Transverse section of mineralised wood from Hringsdalur (sample number 480).

Although the mineralization process has distorted the internal structure to some extent, and obscured some features, the very sharp earlywood to latewood transition (**1**) suggests that this sample is Larch (*Larix* species).

¹⁰² Schweingruber 1991; Peter Gasson *pers comm*.

Discussion

All of the fragments analysed were conifer, and two better-preserved pieces showed the sharp earlywood to latewood transition characteristic of Larch (see figure 2).¹⁰³ There are no native conifers found in Iceland,¹⁰⁴ but Pinaceae species such as Spruce (greni), Larch (lerki) and Pine (fura) commonly arrive on the coasts of Iceland as driftwood. Most of this driftwood is carried to Iceland by Arctic Ocean currents, and originates from the Yenisey river basin in central Siberia.¹⁰⁵ That two of the samples have been tentatively identified as Larch also lends weight to this hypothesis, as *Larix decidua* was the most commonly identified wood species in Eggertsson's study.¹⁰⁶ Driftwood was an important resource in Viking Age Iceland for construction and artefact production, and could quite conceivably have also been used in boat building. This suggests that the boat was probably built in Iceland from driftwood, as Oak was the preferred wood for shipbuilding in Norway and Britain during the Viking Age.¹⁰⁷ It is not possible to tell from this analysis whether the Hringsdalur boat would have been made for practical purposes, or specifically for the burial ritual. However, as only eight samples were collected, representing a very small proportion of the entire boat, it is possible that other kinds of wood were used in the construction of the vessel, but have not been preserved or recovered from the excavation.

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¹⁰³ Schweingruber 1991; Hather 2000.

¹⁰⁴ Kristinsson 1998.

¹⁰⁵ Eggertsson 1993.

¹⁰⁶ Eggertsson 1993.

¹⁰⁷ Christensen 2000.

Lisa Yeomans: A Zooarchaeological Report

Background

The burial site excavated at Hringsdalur in 2008 had been disturbed, probably by robbing but also by natural processes. No articulated animal skeletons were present but 68 non-human fragments of bone were scattered around the site. The animal bone comes primarily from two areas, the boat grave (context 114) and a scatter adjacent to the boat grave but outside the grave cut (context 111).

The animal bone assemblage

Caprine

1 femur, left, proximal epiphysis still fusing, distal part of diaphysis broken off.

Cattle

1 second phalanx, completely unfused, neonatal.

Large mammal

1 rib fragment.

Medium mammal

1 cranial fragment.

1 rib fragment.

Unknown mammal

52 various small fragments.

Unknown bird

1 coracoid, left.

9 small fragments.

Fish

1 supracleithrum, right, possibly haddock.

Discussion

The HDR08 animal bone assemblage is very different from assemblages found on other pagan burial sites in Iceland where horses and dogs, often articulated, seem to have been the only animals deposited.¹⁰⁸ The bones found inside the boat grave include the neonatal cattle phalanx, the bird bones and 45 small fragments of mammal bone. The rest of the assemblage was found adjacent to the boat grave. It is probable that the small and highly fragmented

¹⁰⁸ Eldjárn 2001, 308-312.

animal bone assemblage is not directly associated with the burials at Hringsdalur, but is intrusive in the grave context by natural erosion processes. This scenario could be tested by radiocarbon dating of selected specimens, which might show the animal bone assemblage to be either later in date or contemporary to the burials.

Reference

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Viðauki 1: Fundaskrá / Finds

Kuml 1

Table 1: Finds from Kuml 1.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F1	002	02.08.2006	Iron	Unknown	4	8.8 cm x 2.1 cm x 0.9 cm.
F2	002	02.08.2006	Bone	Comb	6	Broken bone <i>comb</i> , decorated with two strands of ribbon patterns, each strand made of two intertwined ribbons. Iron nails used to fix the comb together.
F3	002	02.08.2006	Bone or horn	Worked object	1	Worked piece of bone or horn, slightly cylindrical.
F4	002	02.08.2006	Iron	Unknown	1	Iron object, broken, 5.1 x 1.4 x 0.6 cm.

Kuml 2

Table 2: Finds from Kuml 2.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F5	007	16.08.2006	Iron, wood	Rivet/nail	1	Iron nail, rivet, remains of wood. 2.5 x 2.2 cm. Diamond shaped rivet. In kuml 2, inside grave, on top of lower rib cage of the skeleton. From the shield?
F6	007	16.08.2006	Iron, wood	Rivet/nail	2	Iron nails and rivets, piece of wood. 4.7 x 2.4 cm. In kuml 2, location same as F5 . From the shield?
F7	007	16.08.2006	Iron, wood	Rivet/nail	1	Iron nail and rivet, piece of wood. Broken. In kuml 2, location same as F5 From the shield?
F8	007	16.08.2006	Iron	Unknown	2	Iron object. 2.4 x 1.4 cm. In kuml 2, location same as F5 From the shield?

Find No.	Context	Date	Material	Type	No. of pieces	Description
F9	007	16.08.2006	Iron	Unknown	1	Iron object. 3.3 x 2.2 x 1.1 cm. In kuml 2, location same as F5 From the shield?
F10	007	16.08.2006	Cu-alloy	Unknown	1	Piece of copper-alloy. 1.4 x 0.3 x 0.2. In kuml 2, location same as F5 From the shield?
F11	007	16.08.2006	Iron, wood	Rivet/nail	1	Iron nail and rivet, piece of wood. Broken. 2.6 x 2.4 x 1.4 cm. In kuml 2, location same as F5. From the shield?
F12	007	16.08.2006	Iron, wood	Nail	1	Iron nail, piece of wood. Broken, 2.6 x 2.4 x 2.4 cm. In kuml 2, location same as F5 From the shield?
F13	007	16.08.2006	Iron, wood	Rivet/nail	1	Iron nail and rivet, piece of wood. 2.1 x 1.1 x 1.0 cm. In kuml 2, location same as F5. From the shield?
F14	007	16.08.2006	Iron, wood	Rivet/nail	1	Iron nail and rivet, piece of wood. 3.4 x 2.5 cm. In kuml 2, location same as F5. From the shield?
F15	007	16.08.2006	Iron, wood	Unknown	2	Pieces of iron, wood remains. In kuml 2, on the man's left hand side, between the flank and the sword.
F16	007	16.08.2006	Iron, wood	Unknown	4	Pieces of iron, wood remains. In kuml 2, on the man's left hand side, between the flank and the sword.
F17	007	16.08.2006	Flint	Flint	1	Piece of flint, gray. 1.7 x 1.2 x 0.4 cm. In kuml 2, near the groin.
F18	007	16.08.2006	Iron, wood	Sword	1	Iron sword, wood remains (on the side facing up). Probably Q. In kuml 2, hilts lying on left shoulder, down to left knee.
F19	007	16.08.2006	Iron, wood	Shield boss	1	Iron shield boss, wood remains. In kuml 2, lying on top of the breast, in the middle.
F20	007	16.08.2006	Iron, wood	Knife or awl	2	Iron knife or awl, broken in 2 pieces, wood remains. In kuml 2, just to the left of the middle of the stomach area.
F21	007	16.08.2006	Iron	Spearhead	1	Spearhead, probably G/H type. In kuml 2, lying to the man's left side, at the height of the head.
F22	007	16.08.2006	Bone	Comb	1	Bone comb, broken. In kuml 2, on the inside of the left hip.

Kuml 3

Table 4: Finds from Kuml 3

Find No.	Context	Date	Material	Type	No. of pieces	Description
07-001	107	16.08.07	Iron, wood	Axe head, shaft	1	Iron axe head, remains of wooden shaft. 17.7x8.5, thickness 5.7cm. 2.5 x 2.2 cm. Shaft broken, 12.6cm. In kuml 3, at the bottom of the grave. Probably Petersen type H.
07-002	107	16.08.07	Iron	Nail	1	Iron nail.

Kuml 4

Table 4: Finds from Kuml 4

Find No.	Context	Date	Material	Type	No. of pieces	Description
F100	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded, not completely preserved. Slightly bent shank with rectangular cross-section, lozenge-shaped rove. Small piece of wood remains. 8.51 g, 31 mm.
F101	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Almost complete – head and rove slightly damaged and corroded but in general good preservation. Oval/round-shaped head, straight shank with rounded rectangular cross-section. Small remains of wood. 10.94 g, 35 mm.
F102	110	06.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Almost complete – roves slightly damaged and corroded but good preservation. Lozenge- to square shaped rove – one corner broken off. Rounded, flat head, straight shank with rounded rectangular cross-section. 10.7 g, 38 mm.
F103	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Fragment, corroded but good preservation. Oval to round flat head, shank with rounded rectangular cross-section. Wood remains. 6.02 g, 27 mm.
F104	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Almost completely preserved – the rove and upper part of nail-head damaged. Corroded but in general good preservation. Oval head, shank with rounded rectangular cross-section. Small remains of wood. 11.72 g, 40 mm.
F105	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and broken fragment. Straight shank with irregular round cross-section – the sides are tapered. Wood remains. 8.84 g, 54 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F106	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Lozenge-shaped rove with very small piece of nail-shank. Wood remains. 4.02 g, 9 mm.
F107	110	06.06.2008	Iron, wood	Boatnail	4	Iron Rivets. Boatnail. Corroded and fragmented. Possibly fragments of two rivets? Oval shaped head and the straight shank of the longest fragment has a square cross-section and all sides are tapered. Wood remains. 13.04 g, 35 mm.
F108	110	06.06.2008	Iron	Boatnail	2	Iron Rivets. Boatnail. One almost completely preserved but corroded and the rounded, flat head is damaged. Square rove, traight shank with round cross-section. The other fragment is of another rivet – fragment of a shank with rounded rectangular cross-section. 15 g, 35 mm.
F109	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded fragment. Short piece of straight shank with rounded rectangular cross-section. Damaged, almost square rove. Wood remain. 6.99 g, 25 mm.
F110	110	06.06.2008	Iron	Boatnail?	1	Iron Nail. Boatnail? Corroded but good preservation. Rounded-square-shaped head, rectangular tapered shank – the tip is flattened. 4.28 g, 33 mm.
F111	110	06.06.2008	Iron, wood	Boatnail?	2	Iron Rivets. Boatnail? Fragments of possibly two rivets. Corroded. The head of the longer fragment is round. Round, broken shank with fragment of rove. Wood remain. Fragment of another rivet with oval/rounded head and round shank. 8.94 g, 26 mm.
F112	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Fragment, corroded, one end broken off. Round head is damaged, rounded rectangular, straight shank. Wood remains. 6.18 g, 28 mm.
F113	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Oval-shaped nail-head. Wood remains. 1.54 g, 4 mm.
F114	110	06.06.2008	Iron, wood	Rivet?	1	Iron Rivet? Too small fragment – not possible to identify. Probably of nail-head? Wood remains. 1.19 g, 21 mm.
F115	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded. Rectangular rove with end of nail-shank. Wood remains. 4.75 g, 8 mm.
F116	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Straight shank with flattened tip. Square-shaped rove. Wood remains. 3.93 g, 25 mm.
F118	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Head and other end are broken off and/or damaged. Straight shank with rounded rectangular cross-section and rectangular rove. Wood remains. 4.78 g, 29 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F119	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not complete. One end is broken off. Rounded/square nail-head, shank with round cross-section. Wood remain. 5.32 g, 22 mm.
F120	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not completely preserved. One end is broken off. Round, large nail-head which is slightly domed. Shank with round cross-section. Wood remains. 10.44 g, 27 mm.
F121	110	06.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Corroded fragment. Round/oval-shaped, slightly domed nail-head. Straight nail shank with rectangular cross-section and the tip is broken off – the sides are gently tapered. 4.87 g, 26 mm.
F122	110	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/nail. Corroded. Fragment of shank with flat rectangular cross-section – sides are slightly tapered. 1.73 g, 24 mm.
F123	110	06.06.2008	Iron	Nail	1	Iron Nail. Irregular rectangular-shaped rove. Corroded but well preserved. 4.41 g, 23 x 17 x 4 mm.
F124	110	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Very corroded fragment. Very short piece of nail-shank with almost round cross-section and rove. 2.9 g, 15 mm.
F125	110	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Square to slightly lozenge-shaped rove with remains of round nail-shank. Wood remains. Corroded. 4.18 g, 20 x 18 x 6 mm.
F126	110	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Square to rectangular rove with remains of nail-shank with rounded square cross-section. Wood remains. Corroded. 6.2 g, 24 x 18 x 13 mm.
F127	110	06.06.2008	Iron, wood	Rivet	5	Iron Rivets. Fragmented small, square-shaped rove. Fragments of possible another rove. Wood remains. 4.9 g, 19 mm.
F128	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded. Roundish, slightly domed nail-head with fragment of shank with rounded square shank. Wood remains. 4.58 g, 13 mm.
F129	110	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded but almost complete and generally well preserved. Damaged round nail-head, shank in oblique angle and rounded rectangular cross-section. Rectangular rove. 12.77 g, 32 mm.
F130	110	06.06.2008	Iron	Boatnail?	3	Iron Rivet. Boatnail? Very fragmented and corroded. Oval head. Straight shank with rounded rectangular cross-section. Fragment of a damaged, possibly originally rectangular rove. Wood remains. 12.89 g, 22 mm.
F131	110	06.06.2008	Iron, wood	Boatnail	2	Iron Rivet. Boatnail. Corroded fragments. Straight shank with rectangular cross-section. Wood remains. 16.39 g, 26 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F132	110	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Rectangular rove with very tiny remain of shank. Wood remains. 3.86 g, 7 mm.
F133	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded. Roundish nail-head with remain of shank with rounded rectangular shank. Wood remains. 2.42 g, 11 mm.
F134	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Fragment of boatnail? Rectangular rove with remain of shank with square cross-section. Wood remains. 5.04 g, 19 mm.
F135	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Fragment of almost rectangular rove with remain of shank with round cross-section. Wood remains. 3.15 g.
F136	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and not completely preserved. Damaged, almost round head. Remains of shank with square cross-section. Wood remains. 4.24 g, 24 mm.
F137	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded but almost completely preserved. Damaged, oval head and damaged rove. Straight shank. Wood remains. 6.26 g, 25 mm.
F138	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but complete. Good preservation. Roundish, damaged head. Lozenge-shaped rove. Straight shank. Wood remains. 10.51 g, 30 mm.
F139	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but complete. Relatively good preservation. Rounded square-shaped head. Square rove with very slightly oblique angle. Wood remains. 12.21 g, 35 mm.
F140	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Roundish head. Straight shank with rectangular cross-section. Damaged rectangular to square rove. Tiny traces of wood. 10.06 g, 32 mm.
F141	110	06.06.2008	Iron, wood	Unknown	1	Iron, Object, Possible tiny fragment of rove? Wood remains. 0.95 g, 13 mm.
F142	110	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded and square-shaped rove. Wood remains. 2.46 g, 10 mm.
F143	110	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded and rounded square-shaped, slightly domed head. The shank has a rectangular cross-section – the sides are tapered. 3.19 g, 32 mm.
F144	110	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and damaged fragment. Flat head. Shank with rounded rectangular cross-section. 1.68 g, 14 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F145	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved. Round, slightly domed head. Shank with rounded rectangular cross-section and oblique angle. Damaged, but originally rectangular rove. Wood remains. 15.91 g, 41 mm.
F146	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Slightly lozenge-shaped rove with tiny piece of shank with rounded rectangular cross-section. Wood remains. 5.24 g, 17 mm.
F147	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and fragment. Round head (?) with remain of rectangular shank which is bent. Wood remains. 7.21 g, 27 mm.
F148	110	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded. Damaged, irregular round/oval-shaped head. Bent shank with rectangular cross-section – the tip is broken off. 3.18 g, 24 mm.
F149	110	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Damaged round-shaped head. Slightly bent shank with rounded rectangular cross-section. 3.82 g, 19 mm.
F150	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and almost completely preserved. Damaged round-shaped head. The shank has a rectangular cross-section and a slightly oblique angle. Lozenge-shaped rove. Wood remains. 9.07 g, 28 mm.
F151	110	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded fragment of square-shaped. Wood remains. 4.07 g, 6 mm.
F152	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost complete. Roundish, flattened head. Shank with rounded rectangular cross-section and slightly oblique angle. Damaged rove. Very tiny traces of wood. 7.74 g, 33 mm.
F153	110	06.06.2008	Iron, wood	Boatnail	2	Iron Rivet. Boatnail. Corroded and broken but completely preserved. Oval-shaped head. Shank with slightly oblique angle. Two rectangular roves (one is corroded onto the boatnail). Wood remains. 13.18 g, 34 mm.
F154	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded. Damaged, round/oval-shaped head. The straight shank has a rectangular cross-section. The tip is broken off. Small remains of wood. 5.26 g, 31 mm.
F155	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Rounded square-shaped, flattened head. Straight shank with rectangular cross-section and rectangular rove. Wood remains. 14.56 g, 34 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F156	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Round-shaped, flattened head. The straight shank has a rectangular cross-section. Rectangular to square rove. Wood remains. 15.98 g, 39 mm.
F157	110	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded fragment of rove. 1.49 g, 4 mm.
F158	110	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded. Round head with squarish, almost straight shank. Tip is broken off. 4 g, 14 mm.
F159	110	06.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Very corroded but almost completely preserved. Almost round-shaped, slightly domed nail-head. The shank has a flat rectangular cross-section and a slightly oblique cross-section. Rectangular rove, 10.26 g, 34 mm.
F160	110	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Damaged nail-head. Straight shank with rounded rectangular cross-section. 3.25 g, 25 mm.
F161	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Damaged rectangular rove with remain of shank which has a square cross-section. Wood remains. 8.1 g, 21 mm.
F162	110	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round-shaped, slightly domed nail-head. Short piece of straight shank with round cross-section. 2.24 g, 21 mm.
F163	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded fragment. Damaged rove. Straight shank with rounded rectangular cross-section. Wood remains. 6.87 g, 25 mm.
F164	110	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Almost round-shaped head. Shank with rounded rectangular cross-section and oblique angle. Rectangular rove. Wood remains. 11.46 g, 34 mm.
F165	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Damaged oval- to round-shaped head. Short piece of shank with rounded square cross-section. Wood remains. 2.62 g, 10 mm.
F166	110	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Damaged oval-shaped head. Short piece of shank with rectangular shank. Wood remains. 3.71 g, 22 mm.
F167	110	06.06.2008	Iron	Nail	1	Iron Nail. Very corroded. Damaged but originally probably oval/round-shaped head. Slightly bent shank with rectangular to square cross-section. 3.32 g, 26 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F168	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Round, slightly domed head. Shank has oblique angle. Rectangular rove. Wood remains. 13.63 g, 30 mm.
F169	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved. The oval-shaped head is damaged. The straight shank has a rounded rectangular cross-section. Wood remains. 11.79 g, 36 mm.
F170	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved. Round-shaped, flat head. Straight shank with rectangular cross-section. Rectangular rove. Small remains of wood. 6.58 g, 29 mm.
F171	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but almost completely preserved. Round, slightly domed head. Straight shank with rounded rectangular cross-section. Damaged rove. Wood remains. 10.82 g, 30 mm.
F172	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Oval head. Straight shank with rounded rectangular cross-section. Lozenge-shaped rove. Wood remains. 10.95 g, 27 mm.
F173	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Roundish, flat head. Shank with rectangular cross-section and oblique angle. Lozenge-shaped rove. Wood remains. 10.92 g, 30 mm.
F174	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved. Oval, flat head. Straight shank with round square cross-section. Damaged, rectangular rove. Wood remains. 8.91 g, 31 mm.
F175	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Damaged round nail-head with piece of shank. 4.25 g, 11 mm.
F176	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but complete and generally well preserved. Irregular round-shaped, flattened nail-head. Shank has a rounded square cross-section and a slightly oblique angle. Irregular rectangular rove. Wood remains. 18.54 g, 43 mm.
F177	120	06.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment. The head is damaged. The shank has rounded rectangular cross-section. Wood remains. 2.33 g, 18 mm.
F178	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Corroded. Damaged rove and head. The shank has an oblique angle. Wood remains. 4.83 g, 15 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F179	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Short rivet. Corroded but completely preserved. Round-shaped, flat head. Shank has rounded rectangular cross-section and oblique angle. Lozenge-shaped rove. Very small remains of wood. 9.09 g, 24 mm.
F180	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round-shaped, flat head. Short piece of straight shank preserved – the tip is broken off. 5.66 g, 25 mm.
F181	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Round-shaped. Almost straight shank with rounded rectangular cross-section. Lozenge-shaped rove. Wood remains. 12.09 g, 37 mm.
F182	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Square-shaped rove with short piece of shank. Wood remains. 6.1 g, 14 mm.
F183	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Rectangular rove with very short piece of shank. 5.09 g, 25 x 21 x 6 mm.
F184	120	06.06.2008	Iron	Nail	1	Iron Nail. Corroded and broken. Round/oval head. Straight shank with rectangular cross-section, gently tapered and slightly bent – the tip is broken off. 4.82 g, 25 mm.
F185	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Round-shaped head. Shank with rectangular/square cross-section and slightly oblique angle. Wood remains. 7.37 g, 30 mm.
F186	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. The head is damaged. Damaged, originally probably rectangular shank with rounded rectangular cross-section and oblique angle. Wood remains. 8.92 g, 32 mm.
F187	120	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded fragment. Irregular oval-shaped head and piece of shank which has square cross-section. 2.98 g, 18 mm.
F188	120	06.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment. Damaged, oval-shaped, flat head. Straight shank with rectangular cross-section. Tip is broken off. Wood remains. 4.14 g, 20 mm.
F189	120	06.06.2008	Iron	Boatnail?	1	Iron Nail. Boatnail? Corroded. Round-shaped head. Straight shank with rounded rectangular cross-section – the tip is broken off. 5.12 g, 31 mm.
F190	120	06.06.2008	Iron, wood	Nail	1	Iron Nail. Very corroded. Damaged head. The shank is bent at its tip and has a rectangular cross-section. Wood remains. 4.24 g, 27 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F191	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Roundish head. Straight shank with square cross-section. Tip is broken off. 3.6 g, 24 mm.
F192	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but complete. Oval head. Straight shank with square cross-section. Damaged rectangular rove. Wood remains. 11.8 g, 36 mm.
F193	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Rectangular rove with short piece of shank. Wood remains. 2.95 g, 11 mm. In kuml 4, context 120.
F194	120	06.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Damaged, broken head. Almost straight shank with rounded rectangular cross-section. Rectangular rove. 11.88 g, 45 mm.
F195	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Corroded. Damaged rectangular rove with short piece of shank which probably had originally an oblique angle and rounded rectangular cross-section. 7.54 g, 29 mm.
F196	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and damaged but almost completely preserved. Head is lacking. Straight shank with rounded rectangular cross-section. Rectangular rove. Wood remains. 6.36 g, 31 mm.
F197	120	06.06.2008	Iron	Boatnail?	1	Iron Nail. Boatnail? Corroded, very damaged head. Straight shank with rectangular cross-section and gently tapered sides. 4.38 g, 30 mm.
F198	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Very slightly damaged, round and flat head. Shank with rounded rectangular cross-section and very slightly oblique angle. Irregular rectangular rove. Wood remains. 8.98 g, 30 mm.
F199	120	06.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment. Almost not preserved head. Straight shank with rectangular cross-section – the tip is broken off. 3.2 g, 23 mm.
F200	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded Round head. Straight shank with square cross-section – the tip is broken off. Wood remains. 4.17 g, 27 mm.
F201	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded. Lozenge-shaped rove with very small piece of shank. Wood remains. 6.44 g, 8 mm.
F202	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and not completely preserved. Straight shank with rectangular cross-section. Damaged, rectangular rove. Wood remains. 12.78 g, 35 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F203	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and broken. Rectangular rove with piece of straight shank with rounded square cross-section. Wood remains. 7.22 g, 27 mm.
F204	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Head is broken off. Straight shank with rectangular cross-section. Square rove. 5.92 g, 26 mm.
F205	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Head is broken off. Straight shank with rounded rectangular shank. Rectangular rove. 5.54 g, 26 mm.
F206	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 4.43 g, 21 x 18 x 3 mm.
F207	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but complete and generally well preserved. Round/oval head. Shank with square cross-section and slightly oblique angle. Lozenge-shaped rove. Wood remains. 10.19 g, 35 mm.
F208	120	06.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment. Round-shaped head. Short piece of shank with rounded rectangular cross-section. 2.51 g, 21 mm.
F209	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but not completely preserved-piece of head is lacking. Bent shank which has round rectangular cross-section. Square rove. Wood remains. 8.53 g, 41 mm.
F210	120	06.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Round, flat head with short piece of shank. Wood remains. 2.66 g, 14 mm.
F211	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Short rivet. Very corroded but completely preserved. Round, flattened head. Shank has oblique angle. Rectangular rove. 11.69 g, 24 mm.
F212	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Very corroded but almost completely preserved. Damaged oval head. Straight shank. Rectangular rove. Wood remains. 9.34 g, 19 mm.
F213	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Completely preserved but broken. Round, flattened head. Straight shank with rounded square cross-section. Damaged, rectangular rove. Wood remains. 13 g, 33 mm.
F214	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Oval, slightly domed head. Shank with rounded rectangular cross-section. The tip is broken off. 5.38 g, 23 mm.
F215	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Nail. Boatnail? Corroded. Round/oval-shaped head. Straight shank with square cross-section. The end of it is bent, flattened and the tip is broken off. Wood remains. 4.59 g, 31 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F216	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Large round, slightly domed head. Straight shank with rounded rectangular cross-section. Rectangular rove. Wood remains. 20.85 g, 38 mm.
F217	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded with damaged head and rove. Straight shank with rounded rectangular cross-section. Rectangular rove. 7.84 g, 23 mm.
F218	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular with short piece of shank. Wood remains. 5.56 g, 8 mm.
F219	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not completely preserved. Damaged, originally probably round-shaped head. Shank not fully preserved – it has a rounded rectangular cross-section and originally probably oblique angle. Tip is broken off. Wood remains. 7.66 g, 29 mm.
F220	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round-shaped head. Straight shank with rounded rectangular cross-section. The tip is broken off. Wood remains. 7.15 g, 29 mm.
F221	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and not completely preserved. Bent shank with rounded rectangular cross-section. The head is not preserved. Slightly lozenge-shaped rove. Wood remains. 8.58 g, 30 mm.
F222	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Round-shaped, slightly domed head. The shank has a rounded square cross-section and oblique angle. Damaged square rove. Wood remains. 10.7 g, 31 mm.
F223	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded but almost completely preserved. Round, slightly domed nail-head. Straight shank. Wood remains. 8.03 g, 28 mm.
F224	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but fully preserved. Roundish head. Almost straight shank with rectangular cross-section. Wood remains. 15.2 g, 33 mm.
F225	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded. Round, slightly domed head. Straight shank with rounded square cross-section. Tip of the shank and rove are missing. Wood remains. 7.71 g, 21 mm.
F226	120	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Round-shaped head with short piece of shank which is square cross-section. 4.17 g, 18 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F227	120	06.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Very corroded but fully preserved. Round head. Straight shank with rounded rectangular cross-section. Damaged rectangular rove. 9.82 g, 32 mm.
F228	120	06.06.2008	Iron	Rivet	1	Iron Rivet. 5.14 g, 21 mm.
F229	120	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded fragment of rectangular rove. 4.78 g, 6 mm.
F230	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and damaged. Round-shaped head. Straight shank with rectangular cross-section. Very damaged rove. Wood remains. 10.06 g, 32 mm.
F231	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but complete. Round, flat head. Straight shank with rounded square cross-section. Rectangular rove. Tiny remains of wood. 15.73 g, 38 mm.
F232	120	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Tiny fragment of rove. Traces of wood. 0.71 g, 5 mm.
F233	120	06.06.2008	Iron	Rivet	1	Iron Rivet. Irregular rectangular rove with very short piece of shank. Corroded. 2.45 g, 7 mm.
F234	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Head is missing. Shank has a rounded rectangular cross-section and is slightly bent. Rectangular rove. Wood remains. 8.6 g, 24 mm.
F235	120	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Round-shaped slightly domed head. The shank has a rounded rectangular cross-section and a very slightly oblique angle. Lozenge-shaped rove. Wood remains. 12.89 g, 37 mm.
F236	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment of damaged, originally probably round-shaped, slightly domed head. Shank has square cross-section. Fragment of rove. 4.38 g, 20 mm.
F237	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Short rivet. Very corroded but completely preserved. Oval shaped head. Short, straight shank. Square rove. Wood remains. 9.3 g, 25 mm.
F238	120	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded irregular rectangular-shaped rove, 5.29 g, 9 mm.
F239	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Nail. Boatnail? Very corroded. Round, slightly domed head. Straight shank with rectangular cross-section, the sides are tapered. Very tiny traces of wood. 8.32 g, 31 mm.
F240	120	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Damaged, round, slightly domed head. Straight shank with rectangular cross-section. Tip is broken off. 2.84 g, 19 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F241	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Head and shank are lacking. The straight shank has a rounded rectangular cross-section. Almost square rove. Wood remains. 9.59 g, 23 mm.
F242	120	06.06.2008	Iron, wood	Boatnail?	1	Iron Nail. Boatnail? Very corroded. Round head. Straight shank with rectangular cross-section; the sides are gently tapered. Wood remains. 7.52 g, 39 mm.
F243	121	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Fragment of nail. Corroded. Round, slightly domed head with piece of shank which has a round cross-section. 5.35 g, 16 mm.
F244	121	06.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded and broken. Straight shank with rectangular cross-section. The sides are gently tapered. Wood remains. 4.76 g, 33 mm.
F245	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded irregular square-shaped rove. Wood remain. 4.88 g, 8 mm.
F246	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and damaged, irregular square-shaped rove. Wood remains. 2.62 g, 7 mm.
F247	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Oval, flat head. Shank with rounded rectangular cross-section. The tip is lacking. Wood remains. 4.77 g, 17 mm.
F248	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded. Oval head. Straight shank with rectangular cross-section. Rove is lacking. Wood remains. 5.37 g, 26 mm.
F249	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and fragmented. Round head. Shank with square cross-section. Rectangular rove. Wood remains. 9.09 g, 50 mm.
F250	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded. Oval head. Shank with square cross-section and oblique cross-section. Damaged rectangular rove. Tiny traces of wood. 4.05 g, 27 mm.
F251	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round-shaped head. Shank has a rectangular cross-section. Wooden remains. 5.97 g, 23 mm.
F252	121	06.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Round, slightly domed head. The shank has a square cross-section. Wood remains. 2.76 g, 18 mm.
F253	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and damaged fragment. Remains of rove. The straight shank has a round square cross-section. Wood remain. 3.69 g, 23 mm.
F254	121	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded fragment of irregular rectangular-shaped rove. 1.44 g, 5 mm.
F255	121	06.06.2008	Iron	Rivet	1	Iron Rivet. Corroded fragment. Square-shaped rove. Short piece of shank preserved. 3.08 g, 16 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F256	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded, originally rectangular rove. Wood remains. 4.31 g, 7 mm.
F257	121	06.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail? Corroded fragment. Possibly of nail-head and short piece of shank. Tiny remains of wood. 1.78 g, 18 x 11 x 9 mm.
F258	121	06.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Roundish, slightly domed head. Short piece of shank which has a rounded square cross-section. Wood remains. 6.76 g, 13 mm.
F259	121	06.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded. Round head. Shank which sides are gently tapered. The tip is bent. Wood remains. 5.34 g, 28 mm.
F260	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded rove, fragmented. Wood remains. 2.32 g, 6 mm.
F261	121	06.06.2008	Iron, wood	Boatnail	2	Iron Rivets. Boatnails. Corroded. One is completely preserved: it has a round head; its shank has an oblique angle and a rounded square/rectangular cross-section. Lozenge-shaped rove. Wood remains. The other object is a corroded, rectangular rove with a very short piece of a shank with round cross-section. 16.42 g, 31 mm.
F262	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded almost square-shaped rove with a very short piece of the shank. Wood remains. 4.18 g, 8 mm.
F263	121	06.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded irregular squarish rove. 5.04 g, 8 mm.
F264	121	06.06.2008	Iron, wood	Boatnail?	3	Iron Rivet. Boatnail? Corroded and broken in 3 pieces. Oval to round head which is slightly domed. Shank with rounded rectangular cross-section. Squarish rove. Wood remains. 13.12 g, 30 mm.
F265	121	06.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Damaged, round head. Short piece of shank which has a square cross-section. Tip is lacking. Wood remains. 3.41 g, 17 mm.
F266	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded. Round, slightly domed head, broken. Wood remains. 6.58 g, 11 mm.
F267	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Piece of shaft with almost round cross-section. Square rove. Tiny traces of wood. 6.52 g, 22 mm.
F268	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Remains of nail-head or rove? Remains of shank with almost round cross-section. Tip is lacking. Wood remains. 7.12 g, 14 mm.
F269	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded fragment of rectangular-shaped rove. Wood remains. 6.54 g, 7 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F270	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded. The head is lacking. Shank with rounded rectangular cross-section and oblique angle. Irregular rectangular rove. Wood remains. 7.2 g, 37 mm.
F271	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded. Round head. Bent shank. Squarish rove. Wood remains. 9.79 g, 36 mm.
F272	121	06.06.2008	Iron	Nail	1	Iron Nail. Corroded and broken fragment. Round, slightly domed head. Shank with square cross-section. Tip is lacking. 3.39 g, 20 mm.
F273	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Large, round, flat head. Piece of straight shank is preserved and it has rounded square cross-section. Wood remains. 7.47 g, 25 mm.
F274	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Remains of rove or head. Straight shank with round rectangular cross-section. Wood remains. 6.83 g, 23 mm.
F275	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Square-shaped rove. Short piece of straight shank with round cross-section. Wood remains. 6.07 g, 17 mm.
F276	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Damaged oval head. Piece of the straight shank with rounded rectangular cross-section is preserved. Tip is broken off. Wood remains. 4.58 g, 21 mm.
F277	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and broken but complete. Round, slightly domed head. Straight shank with rectangular cross-section. Rectangular rove. Wood remains. 9.65 g, 31 mm.
F278	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not fully preserved. Irregular round-shaped head. The shank has a round square cross-section and a slightly oblique angle. The irregular rectangular shaped rove is damaged. Wood remains. 5.17 g, 24 mm.
F279	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 4.44 g, 6 mm.
F280	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded, rectangular rove with very tiny piece of shank. Wood remains. 3.25 g, 7 mm.
F281	121	06.06.2008	Iron	Boatnail?	1	Iron Nail. Boatnail? Corroded. Oval, flat head. Straight shank with rectangular cross-section. The tip is bent and flattened. 3.5 g, 32 mm.
F282	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Large, irregular round-shaped head. Remains of straight shank which has a square cross-section. Wood remains. 9.88 g, 23 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F283	121	06.06.2008	Iron	Nail	1	Iron. Nail. Corroded fragment of shank with oval cross-section. 1.3 g, 20 mm.
F284	121	06.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment shank with rounded rectangular cross-section. The tip is bent and flattened (hammered). 1.57 g, 15 mm.
F285	121	06.06.2008	Iron	Rivet	4	Iron Rivet. Corroded rectangular rove and roundish, flat head. Wood remains. 5.53 g, 23 x 16 x 6 mm.
F286	121	06.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment. Round head. Remains of straight shank with rounded rectangular cross-section – the sides are gently tapered. Wood remains. 2.7 g, 21 mm.
F287	121	06.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded and broken. Oval head. Fragments of almost straight shank with rectangular cross-section, and gently tapered sides. The tip is bent. 3.54 g, 29 mm.
F288	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and not completely preserved: rove and possibly part of the shank are lacking. Round head. The shank has a slightly oblique angle. Wood remains. 5.62 g, 22 mm.
F289	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded fragment of originally probably rectangular rivet and tiny preserved piece of shank. Wood remains. 3.26 g, 7 mm.
F290	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Boatnail. Corroded and broken. Straight shank with rounded rectangular cross-section. Rectangular rove. Wood remains. 6.82 g, 35 mm.
F291	121	06.06.2008	Iron, wood	Boatnail?	3	Iron Rivets. Boatnails? Corroded and fragmented. Two rectangular roves. The third fragment possibly from head? Wood remains. 8.27 g, 4 mm.
F292	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round head. The straight shank has a rectangular cross-section. The tip is lacking. Wood remains. 2.48 g, 21 mm.
F293	121	06.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded fragment of rove. Wood remains. 3.04 g, 11 mm.
F294	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Straight shank with square cross-section. Squarish shank. Irregular rectangular rove. Wood remains. 8.37 g.
F295	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and broken but completely preserved. Round head. Straight shank with rectangular cross-section. Rectangular rove. Wood remains. 9.76 g, 29 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F296	121	06.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Short rivet. Very corroded and damaged. Round, flat head. Shank with oblique angle. Damaged rove. Wood remains. 6.25 g, 24 mm.
F297	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but fully preserved. Round head. Straight shank with rounded rectangular cross-section. Squarish rove. Wood remains. 10.89 g, 31 mm.
F298	121	06.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded. Round head. Short piece of shank with rounded square cross-section. 7.52 g, 42 mm.
F299	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded. Round, flat head, round shank. The tip is broken off and the the rove is lacking. Wood remains. 9.36 g, 23 mm.
F300	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 5.26 g, 8 mm.
F301	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 5.07 g, 25 x 19 x 5 mm.
F302	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not completely preserved. Round, flat head. Straight shank with round rectangular cross-section. The tip is broken off. Wood remains. 7.59 g, 27 mm. In kuml 4, context 121.
F303	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and broken rectangular rove. Short piece of shank with oval cross-section. Wood remains. 5.66 g, 25 mm.
F304	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Nail. Boatnail? Corroded and broken. Oval, slightly domed head. Shank with almost round cross-section and gently tapered sides. The tip is bent. Wood remains. 4.37 g, 37 mm.
F305	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded square-shaped rove with tiny piece of shank. Wood remains. 3.52 g, 11 mm.
F306	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded square-shaped rove. Wood remains. 2.61 g, 6 mm.
F307	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Round, flat head. Almost straight shank with rounded rectangular cross-section, the sides are gently tapered. Wood remains. 5 g, 27 mm. In kuml 4, context 121.
F308	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Squarish to roundish head. Shank with almost square cross-section. The tip is bent. Wood remains. 4.52 g, 27 mm.
F309	121	10.06.2008	Iron, wood	Boatnail?	2	Iron Rivet/Nail. Boatnail? Very corroded and broken. Squarish, slightly domed head. Straight shank with bent and flattened tip. Wood remains. 5.55 g, 29 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F310	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and not completely preserved. Bad preserved oval/round-shaped head. The shank is not fully preserved as the tip of the squarish shank is broken off and it has a round rectangular cross-section. Wood remains. 4.04 g, 26 mm. In kuml 4, context 121.
F311	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Irregular round-shaped head. Straight shank. Lozenge-shaped rove. Wood remains. 13.27 g, 42 mm.
F312	121	10.06.2008	Iron, wood	Boatnail?	2	Iron Rivets/Nails. Boatnails? Corroded, one is complete and has a round head, a shank with rectangular cross-section and a bent, flattened tip. The other one is not completely preserved as the the tip is broken off and it has an oval-shaped head. Wood remains. 10.02 g, 30 mm.
F313	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded, not completely preserved as the tip of the shank is broken off. Small, round-shaped head. Wood remains. 2.69 g, 23 mm.
F314	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded, not completely preserved as the tip of the shank is broken off. Roundish head. Short piece of shank with almost oval cross-section. 2.9 g, 18 mm.
F315	121	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded shank with rounded square cross-section. It is very strongly bent. Wood remains. 2.19 g, 25 mm.
F316	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved – the tip of the shank is broken off. Oval-shaped head. Not completely preserved straight shank with round rectangular cross-section. Wood remains. 3.53 g, 23 mm.
F317	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment. Rectangular-shaped rove and part of the shank preserved. Wood remains. 6.16 g, 14 mm.
F318	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Very corroded. Bent shank. Wood remains. 4.85 g, 21 mm.
F319	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Very corroded, not completely preserved – tip of round shank is broken off. Head is broken. Straight shank with rectangular cross-section. Wood remains.
F320	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved – tip of square shank broken off. Irregular round-shaped, large, flat head. The shank has a round square cross-section and probably oblique angle. Wood remains. 5.74 g, 26 mm. In kuml 4, context 121.
F321	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Very corroded, only round head preserved. Wood remains. 4.61 g, 16 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F322	121	10.06.2008	Iron, wood	Nail	1	Iron Nail. Very corroded, and broken shank with round squarish cross-section. Roundish, damaged head. Wood remains. 2.92 g, 25 mm.
F323	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded, broken shank. Roundish/squarish flat head. Shank with oval cross-section. Wood remains. 6.45 g, 31 mm.
F324	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded, completely preserved. Oval, flat head. Straight shank with rounded rectangular cross-section. Wood remains. 7.1 g, 32 mm.
F325	121	10.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment of shank with almost square cross-section. 1.76 g, 18 mm. In kuml 4, context 121.
F326	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved – tip of oval shank is broken off. Damaged, round-shaped head. Straight shank with round cross-section. Wood remains. 3.4 g, 21 mm.
F327	121	10.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved. Irregular round-shaped head. The shank has an almost round cross-section, 3.31 g, 17 mm.
F328	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved. Oval head. Straight shank with round/oval cross-section. The tip of it is broken off. Wood remains. 6.27 g, 32 mm.
F329	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded. Rectangular rove and only very small piece of the shank are preserved. Wood remains. 7.84 g, 9 mm.
F330	121	10.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment of round shank with round cross-section, 2.61 g, 20 mm.
F331	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded, not completely preserved. The head is lacking. Almost straight shank with rectangular cross-section. Lozenge-shaped rove. Tiny remains of wood. 9.3 g, 32 mm.
F332	121	10.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded, completely preserved. Irregular oval/round-shaped head. Short, straight shank with rounded square cross-section. Rectangular rove. 10 g, 31 mm.
F333	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very short rivet. Corroded but except damages almost completely preserved. Round-shaped, slightly domed head. Shank with slightly oblique cross-section. Wood remains. 5.76 g, 24 mm.
F334	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded, completely preserved. Roundish/squarish head. Shank with oblique cross-section. Square rove. Wood remains. 10.46 g, 35 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F335	121	10.06.2008	Iron	Nail	1	Iron Nail. Corroded and damaged. Irregular oval-shaped head. Straight shank with rectangular cross-section. The sides are gently tapered. 2.86 g, 27 mm.
F336	121	10.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded and not fully preserved. Head is lacking. Slightly bent shank with rounded rectangular cross-section. Lozenge-shaped rove. Wood remains. 9.75 g, 30 mm.
F337	121	10.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded slightly lozenge-shaped rove. Wood remains. 8.98 g, 7 mm.
F338	121	10.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded, damaged, almost square-shaped rove with very short remain of shank. Wood remains. 6.7 g, 18 mm.
F339	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Very corroded but almost completely preserved. Damaged head and rove. Wood remains. 5.87 g, 20 mm.
F340	121	10.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Corroded, not completely preserved. Head is lacking. Slightly bent shank which has a square cross-section. Lozenge-shaped rove. 8.39 g, 35 mm.
F341	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded, completely preserved. Damaged, roundish head. Shank with rounded rectangular cross-section and oblique angle. Rectangular rove. 9.49 g, 24 mm.
F342	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded but almost completely preserved. Damaged rove. roundish, slightly domed head. Shank with slightly oblique angle. Wood remains. 9.25 g, 30 mm.
F343	121	10.06.2008	Iron, wood	Boatnail?	2	Iron Rivets. Boatnail? Corroded but not completely preserved. Of one rivet only the rectangular rove has preserved. Of the other piece the lozenge-shaped rove with part of the shank with almost round cross-section are preserved. Wood remains. 17.17 g, 24 mm.
F344	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Oval to round shaped head. The shank has a rounded rectangular cross-section and oblique angle. Square rove. Wood remains. 12.23 g, 30 mm.
F345	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Straight shank with rounded square cross-section. Almost square rove. Tiny remains of wood. 6.71 g, 31 mm.
F346	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded. Damaged head. Straight shank with rounded square cross-section. Rectangular rove. Wood remains. 10.48 g, 36 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F347	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but almost completely preserved. Damaged head and rove. Shank with oblique angle. Wood remains. 12.15 g, 37 mm.
F348	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded almost square-shaped rove. Wood remains. 8.49 g, 8 mm.
F349	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but completely preserved. Round, flat head. Straight shank with round rectangular cross-section. Lozenge-shaped rove. Wood remains. 10.76 g, 34 mm.
F350	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Roundish, slightly domed head. Straight shank with square cross-section. Damaged rove. Wood remains. 13.38 g, 46 mm.
F351	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Completely preserved but broken. Round, flattened head. Shank with rounded square cross-section. Rectangular rove. Wood remains. 18.08 g, 37 mm.
F352	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of shank. Wood remains. 0.82 g, 16 mm.
F353	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but almost complete – oval shaped head is damaged. Lozenge-shaped rove. Wood remains. 10.55 g, 28 mm.
F354	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Nail. Boatnail? Corroded but completely preserved. The oval/round shaped head is broken. Straight shank with rectangular cross-section and flattened, slightly bent tip. Wood remains. 6.49 g, 45 mm.
F355	121	10.06.2008	Iron	Nail	1	Iron Nail. Corroded. Damaged oval-shaped head. Bent, not fully preserved shank with rounded square cross-section, 2.7 g, 24 mm.
F356	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Corroded but almost completely preserved. Round-shaped, flat head. Square-shaped rove. Wood remains. 9.95 g, 21 mm.
F357	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded. Round-shaped, flattened head. The tip of the shank is bent and flattened (hammered). Wood remains. 5.98 g, 24 mm.
F358	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded and broken. Squarish head. Straight shank with almost square cross-section – the tip is bent. Wood remains. 6.51 g, 29 mm.
F359	121	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded. Irregular oval-shaped, slightly domed head. The shank has a rectangular cross-section and is bent in almost its half and the tip is flattened. Wood remains. 4.56 g, 25 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F360	121	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment. Round, slightly domed head with a very short piece of the shank. Wood remains. 1.61 g, 12 mm.
F361	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Oval shaped head. Shank with rectangular cross-section, bent and flattened tip. Wood remains. 6.2 g, 28 mm.
F362	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded not completely preserved: Head is lacking, the rove is damaged. The shank has a rectangular cross-section and oblique angle. Wood remains. 5.77 g, 28 mm.
F363	121	10.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded, only the rectangular rove is preserved. 3.3 g, 7 mm.
F364	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded, not completely preserved. Square-shaped rove with remains of shank which is bent. Wood remains. 8.14 g, 20 mm.
F365	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded. Rectangular-shaped rove. Wood remains. 1.85 g, 6 mm.
F366	121	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of shank with rectangular cross-section. Wood remains. 2.62 g, 26 mm.
F367	121	10.06.2008	Iron	Nail	1	Iron Nail. Very corroded. Round nail-head. Straight shank with cross-section. 5.58 g, 31 mm.
F368	121	10.06.2008	Iron	Rivet	1	Iron Rivet. Very corroded. The roundish head is damaged. Straight shank with square cross-section, 11.84 g, 36 mm.
F369	121	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and broken but completely preserved. Damaged head. Almost straight shank with square cross-section. Rectangular rove. Wood remains. 9.9 g, 33 mm.
F370	121	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of shank with rounded square cross-section. Wood remains. 1.52 g, 15 mm.
F371	121	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular-shaped rove with piece of shank with rounded square cross-section. Tiny remains of wood, 4.87 g, 17 mm.
F372	120	10.06.2008	Iron, wood	Boatnail	2	Iron Rivets. Boatnail. Both pieces: lozenge-shaped rove with fragments with shanks of oval resp. round cross-sections. Wood remains. 11.54 g, 28 mm.
F373	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Squarish to round-shaped head with short piece of shank with almost round cross-section. Wood remains. 4.15 g, 16 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F374	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded but almost completely preserved. Damaged head and rove. Straight shank. Wood remains. 5.11 g, 27 mm.
F375	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Corroded and not completely preserved. Damaged head and rove. Straight shank. Wood remains. 3.71 g, 18 mm.
F376	120	10.06.2008	Iron, wood	Nail	2	Iron Nail. Corroded. Part of nail-head. Straight shank with rounded square cross-section. Remains of rove. Very tiny remains of wood. 2.96 g, 17 mm.
F377	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Roundish/squarish, flattened head. Straight shank. Wood remains. 10.38 g, 31 mm.
F378	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded. Round head. Straight shank with rectangular cross-section. The tip is broken off. Very tiny remains of wood, 3.01 g, 21 mm.
F379	120	10.06.2008	Iron, wood	Unknown	1	Iron Object. Very small corroded fragment. Wood remains. 1.42 g, 19 mm.
F380	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded. Damaged oval-shaped head. Straight shank with rectangular cross-section. The tip is broken off. 3.05 g, 26 mm.
F381	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved. Round, slightly domed head. Almost straight shank with rounded rectangular cross-section. Damaged, almost square-shaped rove. Wood remains. 12.58 g, 36 mm.
F382	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Oval, slightly domed head. Straight shank with rectangular cross-section.. Irregular rectangular shaped rove. Wood remains. 13.28 g, 37 mm.
F383	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Roundish head. Straight shank with square cross-section. Damaged square rove. Wood remains. 15.43 g, 37 mm.
F384	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but almost completely preserved. Damaged head- and rove-part. Straight shank with rectangular cross-section. Rectangular rove. Wood remains. 9.96 g, 36 mm.
F385	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, round-shaped nail-head preserved. Wood remains. 3 g, 8 mm.
F386	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded rectangular rove. Tiny remains of wood, 6.53 g, 6 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F387	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove with short piece of shank with almost round cross-section. Wood remains. 7.14 g, 14 mm.
F388	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded. Irregular rectangular-shaped, head. Straight shank with oval cross-section. The tip is broken off. Wood remains. 4.48 g, 22 mm.
F389	120	10.06.2008	Iron	Nail	1	Iron Nail. Very corroded nail-shank with almost round cross-section and gently tapered sides. 2.09 g, 30 mm.
F390	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Damaged, almost square-shaped rove. Wood remains. 6.2 g, 6 mm.
F391	120	10.06.2008	Iron	Boatnail?	2	Iron Rivets. Boatnail? 1 square-shaped, rove, 1 fragment of rove. Both corroded. 4.67 g, 7 mm.
F392	120	10.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Very corroded. Squarish, flattened head. Straight shank with square-shaped cross-section. The tip is broken off. 3.97 g, 22 mm.
F393	120	10.06.2008	Iron, copper alloy, wood	Knife	1	Iron/Copper Alloy Knife. Very fragile because of corrosion. It is not completely preserved as the front part of the blade is broken off. The blade back and cutting edge are straight. Pronounced transition part between blade and tang – concave bolster and shoulder part. The tang is flat rectangular. A small copper alloy-fragment of 13 x 12 mm. still sticks on the upper part of the tang – this could be from the hull for supporting the transition part of the upper tang-part. There are remains of the wooden handle on the tang. Length of preserved blade: 49 mm. Max. width of blade: 13 mm. Max. thickness of blade: 8 mm. Max. width of tang: 10 mm. Max. thickness of tang: 4 mm. 19.34 g.
F394	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove with fragment of shank. Wood remains. 8.7 g, 20 mm.
F395	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment of round, slightly domed head with very short piece of round shank. Wood fragment. 3.54 g, 10 mm.
F396	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and broken but complete. Round/oval flattened nail-head. Straight shank with rounded rectangular cross-section. Rectangular rove. Wood remains. 13.98 g, 40 mm.
F397	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Round, flat head. Straight shank. Damaged, rectangular rove. Wood remains. 15.74 g, 39 mm.
F398	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment of slightly bent shank with square cross-section. 2.82 g, 29 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F399	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and completely preserved. Round, flattened head. Straight shank with square cross-section. Rectangular rove. Wood remains: it seems that the rivet is going through two planks of wood. 16.69 g, 37 mm.
F400	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded oval-shaped, flattened nail-head. Wood remains. 2.16 g, 6 mm.
F401	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Round head, squarish rove. Slightly bent shank. Wood remains. 12.86 g, 32 mm.
F402	120	10.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment. Round, flat nail-head. Straight shank with almost round cross-section. The tip is broken off. 3.69 g, 25 mm.
F403	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded and damaged rectangular rove. Wood remains. 8.08 g, 8 mm.
F404	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded round, flat nail-head. Remains of shank with almost round cross-section. The tip is broken off. Wood remains. 4.65 g, 22 mm.
F405	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 7.8 g, 7 mm.
F406	120	10.06.2008	Iron, wood	Boatnail?	1	Boatnail? Corroded fragment. Irregular shaped, flattened nail-head. Short piece of shank with almost round cross-section. Wood remains. 7.02 g, 13 mm.
F407	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove with tiny pieces of wood, 1.88 g, 7 mm.
F408	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded fragment. Damaged rove with short remains of shank with round cross-section. Wood remains. 5.08 g, 15 mm.
F409	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded fragment. Damaged rectangular rove with short piece shank which has an almost oval cross-section. Very tiny pieces of wood, 5.31 g, 13 mm.
F410	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and broken but completely preserved. Flattened had, slightly bent and round shank. Rectangular rove. Wood remains. 10.3 g, 39 mm.
F411	120	10.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Very corroded rectangular-shaped rove with short piece of shank which has a rounded square cross-section. Very tiny remains of shank. 4.72 g, 11 mm.
F412	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Large, roundish head. Not completely preserved shank with rounded rectangular cross-section. Wood remains. 6.37 g, 23 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F413	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded. Damaged, round-shaped nail-head. Not completely preserved straight shank with almost round cross-section. Wood remains. 8.57 g, 33 mm.
F414	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and broken but completely preserved. Round-shaped head. Straight shank with rounded rectangular cross-section. Slightly lozenge-shaped rove. Wood remains. 12.11 g, 37 mm.
F415	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very short rivet. Very corroded, damaged head. Slightly lozenge-shaped rove. Wood remains. 8.81 g, 24 mm.
F416	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 4.82 g.
F417	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not completely preserved. Round-shaped head. Not completely preserved shank with almost round cross-section. Wood remains. 4.12 g, 20 mm.
F418	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded and only fragment of nail. Round-shaped head. Not completely preserved rectangular shank. Wood remains. 4.64 g, 22 mm.
F419	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded. Irregular shaped, flat head. Straight shank with rectangular cross-section – the tip is broken off. Wood remains. 4.54 g, 20 mm.
F420	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of slightly bent shank with almost round cross-section. Wood remains. 4.25 g, 21 mm.
F421	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment with damaged head and piece of round shank. Wood remains. 1.76 g, 12 mm.
F422	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded, damaged and broken. Straight shank with round cross-section. Wood remains. 7.82 g, 39 mm.
F423	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded and not completely preserved. Damaged head. Remains of straight shank with round cross-section. Wood remains. 5.06 g, 25 mm.
F424	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet/Nail. Boatnail. Corroded, broken and damaged. Not completely preserved as the tip of the shank is lacking. Originally oval, slightly domed head which is damaged now. Straight shank with almost round cross-section. Wood remains. 7.48 g, 48 mm.
F425	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded, not completely preserved. Oval/round-shaped head. Straight shank – the sides are gently tapered and it has a rectangular cross-section. Wood remains. 7.36 g, 32 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F426	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of straight nail-shank with square cross-section. The tip is flattened. Very tiny remains of wood. 1.86 g, 32 mm.
F427	120	10.06.2008	Iron, wood	Rivet	1	Iron Rivet. Very corroded lozenge-shaped rove. Wood remains. 5.34 g, 9 mm.
F428	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded and not completely preserved. Large, flattened nail-head with short piece of shank which has a rounded square cross-section. Wood remains. 9.58 g, 16 mm.
F429	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Round/oval-shaped, slightly domed head. Straight shank. Squarish rove. Wood remains. 15.57 g, 38 mm.
F430	120	10.06.2008	Iron	Boatnail	1	Iron Rivet. Boatnail. Very corroded but completely preserved. Oval-shaped head. Straight shank with almost rectangular cross-section. Rectangular rove, 12.41 g, 39 mm.
F431	120	10.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded upper part of nail-head. Round-shaped and slightly domed. 0.62 g, 3 mm.
F432	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment. Round-shaped, slightly domed nail-head. Remains of shank with rounded square cross-section. Wood remains. 5.02 g, 16 mm.
F433	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of nailhead? Wood remains. 1.47 g, 8 mm.
F434	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and not completely preserved – the head is missing. Shank with rounded square cross-section. Rectangular rove. Wood remains. 7.83 g, 22 mm.
F435	120	10.06.2008	Iron	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. 2.35 g, 5 mm.
F436	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded and not completely preserved. Oval shaped head. Straight shank with square cross-section. Rove is almost not preserved anymore. Wood remains. 5.83 g, 34 mm.
F437	120	10.06.2008	Iron, wood	Nail	3	Iron Nails. Corroded fragments of possibly 3 nails. All of them have more or less bent shanks, only 2 have round-shaped heads. Wood remains. 8.77 g, 26 mm.
F438	120	10.06.2008	Iron, wood	Boatnail?	2	Iron Rivet. Boatnail? Very corroded. Roundish, flat head. Oval/round shank. Fragment of rove. Wood remains. 5.76 g, 17 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F439	120	10.06.2008	Iron, wood	Boatnail?	2	Iron Rivet. Boatnail? Corroded. Fragments of a large, round-shaped, slightly domed nail-head. The other piece is a square-shaped rove. Wood remains. 5.66 g, 12 mm.
F440	120	10.06.2008	Iron, wood	Rivet	2	Iron Rivets. Corroded fragments of a rivet/rivets? Wood remains. 5.74 g, 10 mm.
F441	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Corroded but almost completely preserved except that the rove is damaged. Irregular round-shaped, large nail-head. Straight shank with round square cross-section. Damaged rove. Wood remains. 14.74 g, 34 mm.
F442	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Fragmented and corroded. Round, flat nail-head, broken shank. Wood remains. 5.74 g, 14 mm.
F443	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded and not completely preserved. Rectangular-shaped rove with a piece of shank with rounded rectangular cross-section. Wood remains. 7.19 g, 18 mm.
F444	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded fragment of nail-shank with round square cross-section, 1.33 g, 23 mm.
F445	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded and not completely preserved as the rove is lacking. Round, slightly domed head. Wood remains. 7.67 g, 26 mm.
F446	120	10.06.2008	Iron	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment of nail. Oval-shaped head. Short piece of shank with rounded square cross-section. 3.8 g, 15 mm.
F447	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Very corroded fragment of nail-head. Wood remains. 2.39 g, 13 mm.
F448	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded irregular rectangular rove. Wood remains. 4.73 g, 10 mm.
F449	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded rectangular rove. Wood remains. 7.17 g, 10 mm.
F450	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and not completely preserved: the head is lacking, the rove is not completely preserved. Straight shank with rectangular cross-section and gently tapered sides. Wood remains. 7.76 g, 42 mm.
F451	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded and broken. Straight shank with rectangular cross-section and flattened tip. 4.45 g, 36 mm.
F452	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded, slightly bent nail-shank with rectangular cross-section. 5.06 g, 33 mm
F453	120	10.06.2008	Iron	Nail	1	Iron Nail. Corroded nail-shank with round cross-section. Slightly bent. 2.48 g, 31 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F454	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded and flattened nail-shank. Little remains of wood. 1.43 g, 29 mm.
F455	120	10.06.2008	Iron, wood	Rivet/nail	1	Iron Rivet/Nail. Corroded fragment of nail. Roundish, flattened nail-head, with a little piece shank with round cross-section. Wood remains. 4.13 g, 14 mm.
F456	120	10.06.2008	Iron	Rivet/nail	1	Iron Rivet/Nail. Corroded, slightly bent shank with rectangular cross-section and flattened tip. 3.34 g, 36 mm.
F457	120	10.06.2008	Bone	Bird	1	Bone, Bird radius.
F458	120	10.06.2008	Iron, wood	Nail	1	Iron/Wood, Nail. Fragment/sample of boat? Nail-shank with wood remains. 136.63 g, 110x60x28 mm.
F459	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet. Boatnail. Very corroded and not completely preserved. Damaged head and damaged rove. Shank with rectangular cross-section and oblique angle. Wood remains. 6.78 g, 40 mm.
F460	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet/Nail. Boatnail. Very corroded, not completely preserved: the nail-head is lacking. Straight shank with rectangular cross-section and damaged but originally rectangular rove. Wood remains. 8.89 g, 50 mm.
F461	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Small rivet. Very corroded but completely preserved. Straight shank with rectangular cross-section. Has two rectangular roves. Wood remains. 9.22 g, 25 mm.
F462	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Long oval-shaped, slightly domed nail-head. Straight shank with rectangular cross-section and gently tapered sides. Wood remains. 8.58 g, 42 mm.
F463	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Corroded fragment of nail-head or rove? Wood remains. 3.57 g, 4 mm.
F464	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Corroded fragment, containing the round-shaped head, with a short piece of shank with round cross-section. Wood remains. 3.95 g, 16 mm.
F465	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Very corroded, not completely preserved. Straight shank with rectangular cross-section – the tip is flattened. Wood remains. 7.56 g, 42 mm.
F466	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded, not completely preserved. Straight shank with rectangular cross-section – the tip is broken off. Irregular oval shaped nail-head. Wood remains. 4.4 g, 29 mm.
F467	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Irregular shaped, flattened head with some piece of the shank. Wood remains. 4.53 g, 20 mm.

Find No.	Context	Date	Material	Type	No. of pieces	Description
F468	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded nail-head; large round-shaped and flat. Wood remains. 4.51 g, 11 mm.
F469	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet. Boatnail? Fragments of rivet – shank, rove, nail-head. Wood remains. 5.01 g, 21 mm.
F470	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded and not completely preserved. Round, slightly domed head. Straight shank with rectangular cross-section. Wood remains. 4.93 g, 28 mm.
F471	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of a nail-shank with square cross-section and flattened head? Wood remains. 4.91 g, 16 mm.
F472	120	10.06.2008	Iron, wood	Rivet	1	Iron Rivet. Corroded fragment. Possibly nail-head. Wood remains. 2.49 g, 10 mm.
F473	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded and damaged fragment. Round nail-head with very short piece of shank with square cross-section. Wood remains. 1.43 g, 11 mm.
F474	120	10.06.2008	Iron, wood	Boatnail	1	Iron Rivet/Nail. Boatnail. Very corroded and not completely preserved. Irregular shaped, flattened nail-head. Straight shank with rectangular cross-section and flatens towards the tip. Tiny wood remains. 8.33 g, 50 mm.
F475	120	10.06.2008	Iron, wood	Nail	1	Iron Nail. Corroded fragment of nail-shank with rounded square cross-section. Wood fragment, 0.82 g, 18 mm.
F476	120	10.06.2008	Iron	Boatnail?	1	Iron Nail. Boatnail? Very corroded. Shank with rectangular cross-section. 5.17 g, 41 mm.
F477	120	10.06.2008	Iron, wood	Boatnail?	1	Iron Rivet/Nail. Boatnail? Very corroded. Round-shaped, slightly domed head. Straight shank with rectangular cross-section. The sides are gently tapered. Wood remains. 8.56 g, 40 mm.
F478	120	10.06.2008	Iron	Boatnail	36	36 Iron Rivets. Boatnails. Corroded – 4 complete rivets, 14 fragments roves with/without shank-piece, 14 nail-heads with/without shanks, 4 fragments – nail-shanks. 135.39 g, 38 mm. From dry sieving,
F479	120	10.06.2008	Iron, wood	Boatnail	29	29 Iron Rivets/Nails. Boatnails. Corroded – 1 complete rivet, 19 fragments of nail-heads with/without shanks, 5 roves resp. fragments of those, 4 shanks resp. fragments of those. Wood remains. 96.15 g, 31 mm. From wet sieve (4 mm),
F480	121	10.06.2008	Iron, wood	Boatnail	69	69 Iron Rivets/Nails. Boatnails. Corroded. 4 completely preserved rivets, 26 roves with/without shanks, 27 nail-heads with/without shanks, 12 nail-shanks. Wood remains. 218.91 g, 33 mm. From wet sieve (4 mm).

Lausafundir /Stray Finds

Table 5: Stray finds.

Find No.	Date	Material	Type	No. of pieces	Description
F23	02.08.2006	Iron	Nail & rivet	2	Iron, nail and rivet, 2 pieces. 3.4 x 1.4 cm. Found in sandy area, outside burials, could have belonged to Kuml 1.
F24	15.08.2006	Iron	Hook	1	Iron hook, 6,8 cm long, probably modern.
F117	06.06.2008	Glass	Bottle	1	Glass Bottle. Greenish/blueish white. Fragment of bottle neck. Could be from perfume bottle. Modern? 0.81 g, 20x18 mm.
F481	11.06.2008	Iron	Boatnails?	2	Iron Rivets/Roves. Boatnails? Corroded roves of irregular rectangular shape and of similar size. 9.33 g, 27x20x6 mm. Stray find in the sand north of the structure.
F482	2007	Iron	Fish hook	5	Iron Fish hooks. All of them are of same size and shape: flattened eye-loop, straight shank with round cross-section. They are not very strongly bent and all have a barb, 14.2 g, 65 mm.

Viðauki 2: Skrá yfir mannabeinafundi

Tafla 1: Skrá yfir bein úr kumli 1 (B3-4) og lausafundir.

Bone	Segment	Side	Unit	Comments	NMI	CT	Age	Sex
Temporal	Tympanic	Left	B1	Some flaking, squamous part missing. Suprameatal crest & mastoid = F	1	1	Ad.	F.
Maxilla	Alveolar bone	Left	B2	Mainly alveolar portion & palate. Bone whitened due to exposure. Palate shape = F. M1 tooth wear grade 3 ¹⁰⁹ Teeth. I2 & PM2 absent PM; I1, M2 & M3 absent AM. C, PM2 & M1 present, grade 1-2 calculus. Abscess below M3, cloaca buccal.	1	1	<35	F.
Zygomatic	Medial	Right	B3	Zygomatic process & shape = F			Ad.	F.
	Complete	Left	B3		1	2		
Cranium	Fragments	?	B2	Unidentified cranial fragments, all whitened due to exposure	1	3	n/a	n/a
Mandible	Right ramus	n/a	B3	Includes head	1	1	Ad.	n/a
Cervical vertebra	C1, process	n/a	B3	Process and fragment of arch.			Ad.	n/a
	C2, complete	n/a	B3					
	C3, fragments of arch	n/a	B1 B3	Arch with fragment of superior body and process	1	3		
C1-C3 articulate								
Thoracic vertebra	Probably T1, complete	n/a	B3	Slight damage to anterior body			Ad.	n/a
	Probably T3, complete	n/a	B1	Slight damage to anterior body				
	2 arches, mid T region	n/a	n/a	Flaked, parts of inferior articular processes of both preserved				
	T12, arch	n/a	n/a	All processes except upper left present	1	5		
Sacrum	S1	n/a	B4	Body, processes and R. Alae. S1 & S2 unfused			<35	n/a
	Arch	n/a	B3	Small flaked part of arch	1	2		
Ribs	3 rd -10 th	Right	B3	Flaked head ends of 3 ribs			Ad.	n/a
	1 st	Left	B3	Head missing				
	3 rd -10 th	Left	B1 B2	Flaked head ends of 4 ribs, those from B2 are whitened				
	Body	?	n/a B3 B4	Whitened body fragments (x5)	1	13		
Scapula	Glabella	Right	B3	Includes accromion, coracoid & proximal part of glenoid cavity	1	1	Ad.	n/a
Clavicle	Shaft	Right	B3	Sternal end missing	1	1	Ad.	n/a
Humerus	Complete	Right	n/a	Slight flaking. Head, 42mm = F. Length 300mm = c.159sm			Ad.	F.
	Shaft & distal epiphysis	Left	B3 B4	2 fragments of the same bone, weathered	1	2		
Not possible to conclusively match up right and left side humerus								
Ulna	Shaft	Left	B3	2 fragments of the same bone, both epiphyses missing, weathered	1	1	Ad.	n/a
Radius	Proximal ⅓	Left	B3	Damage to head & radial tuberosity	1	1	Ad.	n/a
MC	3rd, proximal ⅓	Left	B3	Flaked			Ad.	n/a
	4 th , shaft	Left	B3	Flaked				

¹⁰⁹ Brothwell 1981.

Bone	Segment	Side	Unit	Comennts	NMI	CT	Age	Sex
	Unknown shaft	?	n/a	Flaked	1	3		
Upper phalanges	Proximal	?	n/a B3	Damage to all epiphyses, flaking	1	3	Ad.	n/a
Os coxa	Ilium & ischium	Left	n/a	Damaged. Acetabulum & greater sciatic notch = F?; auricular surface & pre-auricular sulcus = F. Auricular surface = 35-45	1	1	35-40	F.
Femur	Proximal ⅓	Left	n/a	Damage to head & greater trochanter, weathered.	1	1	Ad.	n/a
Left os coxa and femur articulate								
Tibia	Shaft	?	n/a B2 B3	5 very small fragments of tibial shaft and proximal epiphysis, weathered. One proximal epiphysis has grade 1 increased porosity	1	5	Ad.	n/a
Fibula	Distal ⅓	Right	B3	Flaked			Ad.	n/a
	Shaft	Left	n/a	Both epiphyses missing, weathered	1	2		
Tarsals	Talus	Left	B3	Flaked	1	1	Ad.	n/a
MT	2 nd	Right	B1	Damage to both epiphyses, weathered			Ad.	n/a
		Left	B2	Damage to both epiphyses, weathered				
		Right	B3	Shaft only				
	5 th	Right	B3	Shaft only				
		Left	B1	Distal ⅓	1	4		
Not possible to match up right and left 2 nd , but right and left 5 th appear to match up.								
Lower phalange	Proximal 1 st	?	B3	Flaked	1	1	Ad.	n/a
Unidentified fragments	?	?	n/a B1 B3	28 fragments, 18gr. In weight				
TOTAL					1	59		

Tafla 2: Skrá yfir bein úr kumli 4

Bone	Segment	Side	Unit	Comment	MNI	Cnt	Age	Sex
			kuml 4					
Mandible	Right half	n/a	[114]	Fragmented (see also dental record)	2	1	Ad.	45+
Cervical vertebrae	C1-2	n/a	[114]sk	Articulate	3	2	Ad.	?
Cervical vertebrae	C5-7	n/a	[114]B#10, [114]B#15	Articulate	2	3	Ad.	?
Thoracic vertebrae	T1-8	n/a	[114]B#12	Articulate	2	8	Ad.	?
Lower cervical and upper thoracic vertebrae articulate.								
Lumbar vertebrae	Fragments.	n/a	[114]sk, [114]B#15	Fragments, some probably from the same bone, no clear articulation but consistent with being from the same individual	1	5	Ad.	?
Vertebrae	Unidentified fragments	?	[114]	Very small fragments, some most likely from the same bone	1	13	?	?
Sacrum	Left alae	n/a	[114]B#15	Small fragment.	1	1	Ad.	?
1st rib	Complete	Right	[114]		1	1	Ad.	?
2nd rib	Head and neck	Right	[114]skB#11		2	1	Ad.	?
3rd-10th rib	Head and neck / shaft	Right	[114]skB#11, [114]B#10, [114]	Some fragmented, could be part of same bone	2	8	Ad.	?
11th-12th rib	Head and neck	Right	[114]skB#11		1	2	Ad.	?
? Rib	Shaft fragments	?	[114]skB#11, [114]B#3, [114]B#4, [114]	Very small fragments, some most likely from the same bone	1	26	?	?
Clavicle	Sternal end missing	Right	[114]skB#12	Robust	1	1	Ad.	?

Clavicle	Shaft	Left	[114]	Both ends missing	1	1	Ad.	?
Scapula	Glenoid fossa	Left	[114]sk	Fragment		1	Ad.	?
Scapula	Fragments	?	[114]sk	several fragments, possibly all from the same bone	1	5	Ad.	?
Humerus	Complete	Right	[114]B#6	Stature = (350mm) 178.5cm	2	1	Ad.	?
Humerus	Complete	Left	[114]sk	Fragmented but all there	2	1	Ad.	?
Radius	Complete	Left	[114]sk	Fragmented but all there	1	1	Ad.	?
Ulna	Proximal 1/3	Left	[114]sk	Fragmented but all there	1	1	Ad.	?
The left humerus, radius and ulna all articulate. They belong to a very robust individual.								
Carpals	Scaphoid, lunate, trapezium, trapezoid, capitate & hamate	Right	[114]sk, [114]B#16	Articulate	2	6	Ad.	?
Carpals	Scaphoid, lunate, trapezium, trapezoid, traquetral, capitate & hamate	Left	[114]sk	Articulate	1	7	Ad.	?
Metacarpals	4th.	Right	[114]B#16	Head missing	1	1	Ad.	?
Metacarpals	1st-5th	Left	[114]sk	Very robust, fragmented	1	5	Ad.	?
Metacarpals	shaft & heads	?	[114]sk, [114]B#16	x2 shaft fragments, x4 head fragments - some probably from the same bone	1	6	Ad.	?
Upper phalanges	Proximal	?	[114]sk, [114]B#16, [114]B#17, [114]	Fragments - robust	2	10	Ad.	?
Upper phalanges	Middle	?	[114]sk, [114]B#16, [114]	Fragments	1	6	Ad.	?
Os coxa	Ilium	Right	[114]B#6	Auricular surface only	2	1	40-44	Male?
Os coxa	Pubis, ischium & acetabulum	Left	[114]B#10, [114]B#15	Very fragmented	2	1	Ad.	Male?
Os coxa	Auricular surface and ilium	?	[114]sk, [114]	Small fragments, some possibly from the same bone.	1	2	40-44	?
Femur	Complete	Right	[114]B#5, [114]B#8, [114]B#9	Many fragments, clearly broken with force	2	1	Ad.	Male?
Femur	Both epiphyses and shaft fragment	Left	[114]B#7, [114]B#8, [114]B#9	3 fragments.	2	1	Ad.	Male?
Patella	Complete	Right	[114]B#3		1	1	Ad.	?
Patella	Complete	Left	[114]B#13		2	1	Ad.	?
Tibia	Shaft	Left	[114]B#1	Anterior part only	2	1	Ad.	?
Feet	Right fibula, all the tarsal bones, all the metatarsals, x7 proximal, x2 middle & x2 distal lower phalanges)	Bilateral	[114]sk	The right fibula and bones of both feet were in situ in the grave	2	37	Ad.	?
Lower phalanges	Proximal.	?	[114]	Head missing	1	1	Ad.	?
?ribs	Shaft fragments	?	[101]	fragments, so could be from the same bone	1	4	Ad.	?

Cranium	Frontal & right side parietal	Right	[113]	Same individual	1	2	Ad.	Male
Cervical vertebrae	C2	n/a	[121]	Right side arch	3	1	Ad.	?

Tafla 3: Skrá yfir bein úr kumli 5.

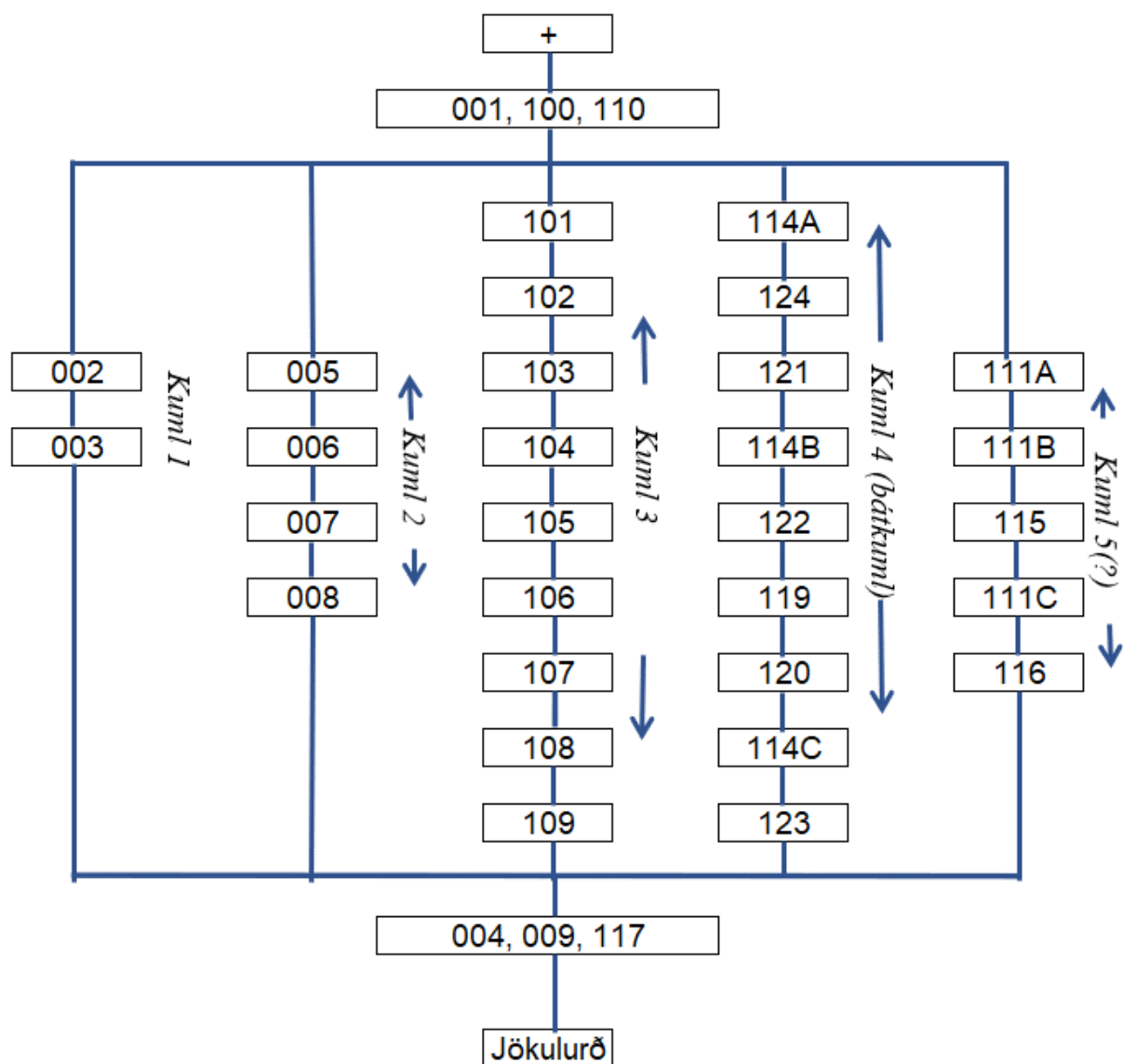
Bone	Segment	Side	Unit	Comment	MNI	Cnt	Age	Sex
			kuml 5?					
Occipital	Basilar part	n/a	[111]B#9	Fragment.	1	1	Ad.	?
Zygomatic	Medial half	Right	[111]B#5		1	1	Ad.	?
Zygomatic		Left	[111]B#1		1	1	Ad.	?
Maxilla	Anterior alveolar bone	n/a	[111]	Fragmented (see also dental record)	1	1	Ad.	?
Mandible	Right ramus & mental protuberance,	n/a	[111]sk, [111]B#3	Fragmented (see also dental record)	2	1	Ad.	?
Mandible	Left ramus	n/a	[111]	Fragmented (see also dental record)	1	1	Ad.	?
These are probably part of the same bone.								
Cervical vertebrae	C2	n/a	[111]	Complete	3	1	Ad.	?
Cervical vertebrae	Mid-lower	n/a	[111]sk, [111]B#3	All articulate	2	3	Ad.	?
Thoracic vertebrae	4th-5th, 7th-8th, 10th-12th	n/a	[111]sk, [111]	Articulate with adjacent vertebrae	2	7	Ad.	?
Lumbar vertebrae	3rd (?) 4th-5th	n/a	[111]sk, [111]B#1, [111]	4th & 5th articulate	1	3	Ad.	?
Vertebrae	Fragments of mainly lower vertebral bodies	n/a	[111]sk,	Fragments.	1	6	?	?
Although not all the vertebrae articulate, they are consistent with being from one individual.								
2nd rib	Neck only	Right	[111]sk	Fragment.	2	1	Ad.	?
3rd-10th rib	5 right (x1 with head). 1 left, head missing	Bilateral	[111]sk, [111]B#1, [111]	Fragments.	2	6	Ad.	?
? Rib	Body	?	[111]sk, [111]B#4, [111]	Small fragments, some possibly from the same bone.	1	31	?	?
Humerus	Capitulum & small fragment of the shaft.	?	[111]sk	Very small fragments.	2	1	Ad.	?
Radius	Proximal 2/3	Right	[111]sk	Broken in 3 pieces, cortical bone flaked off	1	1	Ad.	?
Ulna	Proximal 1/2	Right	[111]sk	Cortical bone flaked, gracile.	1	1	Ad.	?
The right radius and ulna articulate.								
Carpals	Triquetral & capitate	Right	[111]sk	Both are fragmented, but they do articulate	2	2	Ad.	?
Metacarpals	Shaft only	?	[111]sk	Very gracile	1	2	Ad.	?
Upper phalanges	Proximal	?	[111]sk, [111]	Both complete & with epipyses damaged	2	7	Ad.	?
Upper phalanges	Distal	?	[111]	Fragment	1	1	Ad.	?
Os coxa	Ilium, ischium & pubis	Right	[111]sk, [111]	Fragments, most likely all from the same bone.	2	1	60+	Female
Os coxa	Pubis	Left	[111]		2	1	60+	?
Femur	Distal epiphysis	Right	[111]sk	In 2 fragments.	2	1	Ad.	?
Femur	Distal 1/3	Left	[111]sk	Epiphysis damaged	2	1	Ad.	?
Patella	Complete	Left	[111]sk	Some flaking	2	1	Ad.	?
Tibia	Tibial tuberosity	Right	[111]sk	Fragment.	1	1	Ad.	?

Tibia	Distal epiphysis missing.	Left	[111]sk	Some flaking	2	1	Ad.	?
Tibia	Proximal epiphysis	?	[111]sk	Small fragment.	1	1	Ad.	?
Left femur, patella and tibia articulate.								
Fibula	Distal 1/3	Right	[111]sk	Some flaking	2	1	Ad.	?
Fibula	Distal epiphysis	Left	[111]	Small fragment	1	1	Ad.	?
Fibula	Shaft only	?	[111]sk	Unsidled small shaft fragments, some probably from the same bone	1	5	Ad.	?
Tarsals	Talus, calcaneus & navicular	Right	[111]sk, [111]	Complete	2	3	Ad.	?
Tarsals	Medial cuneiform	Left	[111]sk	Complete	2	1	Ad.	?
Tarsals	Calcaneus	?	[111]sk	Small fragment	2	1	Ad.	?
Metatarsal	MT4 & MT%	Left	[111]sk, [111]	Epiphyses damaged, articulate	1	1	Ad.	?
Metatarsal	Shaft only	?	[111]sk, [111]B#2	Fragments	1	3	Ad.	?
Lower phalanges	Proximal	?	[111]sk	Both epiphyses damaged	1	2	Ad.	?

Viðauki 3: Einingaskrá

Tafla 1: Skrá yfir einingar (mannvistarlög) og samhengi þeirra

Ein. Nr.	Kuml	Teg	Lýsing	Dags	Nafn
001		Fylling	Ljós fjörusandur, þekur allt svæðið	02/08/06	AF
002	1	Fylling	Hreyfð, brún mold	02/08/06	AF
003	1	Skurður	Niðurgroftur. Meint vesturhlið kumls 1	02/08/06	AF
004	1	Fylling	Óhreyfð, brún mold yfir grjóturð	02/08/06	AF
005	2	Fylling	Ljósleit mold, með gjósku (frákast)	15/08/06	AF
006	2	Fylling	Hellur og grjót	15/08/06	AF
007	2	Fylling	Fylling í gröf	15/08/06	AF
008	2	Skurður	Gröf	15/08/06	AF
009	2	Fylling	Óhreyfður jarðvegur, sama og [004, 117]	16/08/06	AF
101	3	Fylling	Frákast, með grús (eftir rask)	17/08/07	HG
102	3	Fylling	Áfokssjarðvegur með fiskbeinum	17/08/07	HG
103	3	Fylling	Steinhellur	17/08/07	HG
104	3	Fylling	Frákast eftir rask	17/08/07	HG
105	3	Fylling	Fylling í síðari niðurgrefti (grafarrask) [106]	17/08/07	HG
106	3	Niðurgroftur	Skurður eftir síðari niðurgroft (grafarrask)	17/08/07	HG
107	3	Fylling	Fylling í kuml 3 [108]	17/08/07	HG
108	3	Niðurgroftur	Gröf (kuml 3)	17/08/07	HG
109	3	Fylling	Steinaröð (kuml 3)	14/05/08	LY
110		Fylling	Áfokssandur á yfirborði, sama og [001]	14/05/08	LY
111	5	Beinagrind	Raskaður legstaður	14/05/08	MWH
112	5	Fylling	Sama og [120]	16/05/08	UÆ
113	5	Bein	Brot úr höfðukúpu, tilheyra mögulega [111]	16/05/08	DS
114	4	Beinagirnd	Raskaður legstaður í kumli 4, bátkuml	17/05/08	LY
115	5	Fylling	Grafarfülling m beinaleifum [111], í [116]	19/05/08	MWH
116	5	Niðurgroftur	Gröf [111]	19/05/08	MWH
117		Fylling	Grjóturð undir áfokssandi [110]	19/05/08	LF
118	5	Hópur	Kuml 5: [111], [115] & [116]	20/05/08	MWH
119	4	Fylling	Steinar yfir bátkumli	20/05/08	LY
120	4	Fylling	Dökkt lag í bátkumli	21/05/08	LF
121	4	Fylling	Fylling í síðari niðurgrefti [122]	22/05/08	MWH
122	4	Niðurgroftur	Síðari niðurgroftur eða rask í bátkumli	23/05/08	LY
123	4	Niðurgroftur	Gróp fyrir bát	27/05/08	LY
124	4	Fylling	Steinar yfir síðari niðurgrefti [122]	18/06/08	DS
125	4	Hópur	Bátkuml: [114], [119], [120], [121], [122], [123] & [124]	19/06/08	DS



Mynd 1. Röð og samhengi mannvistarlaga.