



THE CASTLE OF THE TEUTONIC ORDER IN KARKSI: PRELIMINARY EXCAVATION RESULTS

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INTRODUCTION

In 2011 excavations were carried out in the ruins of the castle of the Teutonic Order in Karksi, Viljandimaa County, southern Estonia. The works took place within the framework of the international project 'The Ecology of Crusading', initiated by the University of Reading. The aim of the project is to investigate the environmental changes, modifications in land use, vegetation and animal utilization following the crusades in the lands of the Teutonic Order in the eastern Baltic region – both in the area of medieval Livonia and Prussia.

Earlier archaeological data relating to the castle in Karksi were very scarce, being limited to the outer bailey (Valk & Malve 2008). Although Armin Tuulse made a trial trench in the main castle area in 1939 and found remains of a well-preserved wooden building (Germ. *Balkendiele*) and fragments of timber constructions in the main castle, at a depth of *ca.* 1.5 m under the medieval pavement (1942, 244), no exact information concerning these works has been preserved (see also below). To prepare for the new investigations and to determine the location of the plots, geophysical investigations were made in the castle in 2008 (Valk *et al.* 2009).

The aim of the excavations in 2011 from the general perspective of the project was to obtain comparative archaeological data from the territory of Estonia: what kind of changes in environment, vegetation and animal use took place in Karksi castle and its surroundings during the Middle Ages? To get adequate data for comparison, the same methodology of sampling as in other castles studied within the framework of the project was used. An important research question was also the chronology and stratigraphy of the main castle. Although some remains of wooden buildings, interpreted as the remains of the first timber castle destroyed by the Lithuanians' raid of 1297, had been found there in 1939 (Tuulse 1942, 244), this interpretation provides no information about the time when the castle was founded. Armin Tuulse suggested that the unearthed constructions might originate from the first timber castle, destroyed by the Lithuanians in 1297. However, Kaur Alttoa has

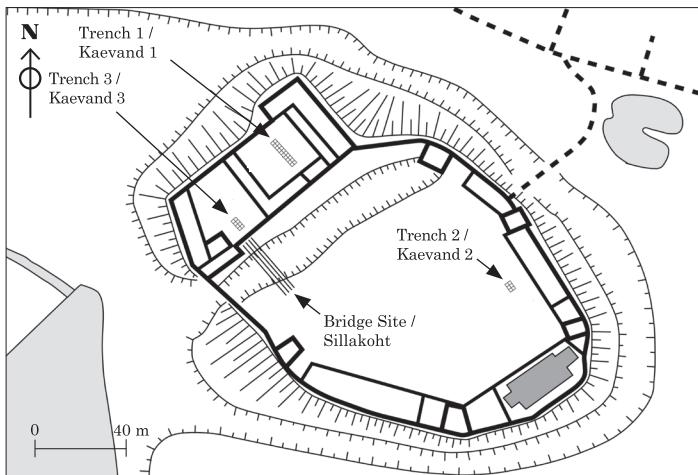


Fig. 1. Location of the trenches opened in 2011 in Karksi Castle.

Jn 1. 2011. aasta kaevandid Karksi linnuses.

Drawing / Joonis: Eve Rannamäe, Maria Smirnova



Fig. 2. Trench I with pavements in the profile. View from the north.

Jn 2. I kaevand sillutistega profilis. Vaade põhjast.

Photo / Foto: Aleksander Pluskowski

shown, that this date, repeatedly mentioned in literature, is not based on any documentary evidence: *the Younger Livonian Rhymed Chronicle* refers to the Lithuanians' raid to Karksi in 1298 (Alttoa 2009, 267). Unclear also is the date of construction of the stone castle. Tuulse claims that it was built only after the timber castle was burnt by the Lithuanians' raid (1942, 244) but it is merely a suggestion. The task was also to verify or to disprove suggestions about the possible presence of a Late Iron Age Estonian hill fort located in the place of the medieval castle.

In 2011 three trenches were made in the castle area: 1) in the second courtyard of the main castle, close to its main building; 2) in the outer bailey; and 3) in the first courtyard of the main castle, opposite the gates and bridge to the outer bailey (Fig. 1). The soil excavated from these trenches was sieved using 5 mm eye meshes.

As no fallen debris was found in any of the trenches, the methodology of a joint application of gradiometric studies and coring (Valk *et al.* 2009), to locate places suitable for excavation plots, turned out to be fruitful.

TRENCH 1

Trench 1 (10×2 m) was made in the core area of the main castle, in its central courtyard (Figs 1: 1; 2). The topsoil contained some fragments of stove tiles with green glaze, ordinary wheel-thrown pottery and redware, numerous nails and a schilling of Wolter von Plettenberg, Master of the Livonian Order (1494–1535) minted in Wenden.¹ At a depth of ca. 20 cm a cobblestone pavement made of stones with an average diameter of 30–45 cm (Fig. 3), was unearthed. The diameter of the largest stones, sometimes made of boulders split in two, measured up to 50–55 cm. Between the stones, in addition to numerous horse-shoe nails, animal and fish bones, there were also a small knife (Fig. 5: 5), a clay pipe fragment, a 17th century white glass bead and a bone bead (Fig. 5: 1, 2). Redware (with green, brown and yellow glaze), but also some fragments of ordinary dark wheel-thrown pottery were found both above the pavement and between the stones. Between the stones a fragment of Siegburg and Langerwehe stoneware, probably 15th century, and two fragments of Frechen stoneware, dating to the late 16th – first half of 17th century² were found. Judging by the finds, the uppermost pavement was constructed no earlier than in the late 15th century but the formation of the cultural layer above it continued also in the 17th century.

The pavement stones covered a thin layer of mixed dark soil and sand, where several nails, a crossbow bolt from the 14th century (Fig. 5: 4)³ and an iron fitting from a horse harness, covered originally with silver (Fig. 5: 6) were found. Under this soil the second pavement (Fig. 4) of smaller stones (8–15 and 10–25 cm), laid also upon a layer of



Fig. 3. Trench 1, upper pavement. View from the north-west.

Jn 3. I kaevand, ülemine sillutis. Vaade loodest. Photo / Foto: Aleksander Pluskowski



Fig. 4. Trench 1, second pavement. View from the south-east.

Jn 4. I kaevand, teine sillutis. Vaade kagust. Photo / Foto: Aleksander Pluskowski

¹ Coins were determined by Mauri Kiudsoo (AI).

² The identifications and chronology of stoneware, also below, is presented after Erki Russow (2006) and his personal comments.

³ Dates of crossbow bolts were kindly provided by Ain Mäesalu (TÜ).



Fig. 5. Finds from Karksi castle. Trench 1. 1, 2 – beads, 3 – bone button or lace end, 4 – crossbow bolt, 5 – knife, 6 – iron fitting from a horse harness, 7 – decorative plaque, 8 – ice spike.

Jn 5. Leide Karksi linnusest. I kaevand. 1, 2 – helmed, 3 – luust nööp või paelaots, 4 – ammuuoleots, 5 – nuga, 6 – ratsmennaast, 7 – ehisnaast, 8 – jäärraud.
(TÜ 1929: 99, 41, 80, 260, 196, 212, 278, 305.)

Photo / Foto: Heiki Valk



Fig. 6. Finds from Karksi castle. Trench 2. 1 – trade seal, 2 – ox shoe.

Jn 6. Leide Karksi linnuselt. II kaevand. 1 – kauba plomm, 2 – härjaraud.
(TÜ 1929: I: 20, 8.)

Photo / Foto: Heiki Valk

From the pit a bone button or lace end (Fig. 5: 3) was found. The big stones can be interpreted as material that had been brought to the castle for repairing or construction works but which had remained unused, probably because these stones were too large. Due to the lack of time and complicated stratigraphy, Trench 1 was conserved in preparation for the next season.

sand, was unearthed. Between the stones of the second pavement there were some pottery fragments, including 15th century Siegburg stoneware, that have fallen there during the use of the pavement. There were also numerous animal bones between the stones of the second pavement. From the sand under the pavement a needle from a penannular brooch, probably dating from the 15th century, and a Siegburg stoneware fragment from that time were found. These finds were evidently buried during the time of the pavement's construction.

Under the sand, stratigraphy common for the whole trench, i.e. pavements and basement layers under them, ended and different layers appeared. In the south-eastern part of the trench the lower pavement was somewhat sunken. Here, among layers of heterogeneous character, excavated by stratigraphic units, a dark brownish wet layer with large quantities of wood chips and rusty iron slag, cut by a pit with stones in it, should be especially noted. From that 'rusty' soil an ice spike (Fig. 5: 8) was found. From a layer stratigraphically preceding the lower pavement a decorative plaque (Fig. 5: 7) and some fragments of Siegburg stoneware, 15th century, were found.

In the western end of the trench a compact heap of large granite stones with a diameter of 40–70 cm was unearthed. The stones began under the first pavement of the courtyard, being partly involved in the second pavement (Fig. 4). The pit filled with them cut the investigated cultural layers until the bottom of the excavated area, continuing deeper.

TRENCH 2

Trench 2 (2×3 m) (Figs 1: 2; 7) was made in the outer bailey, in the area where former works (Malve & Valk 2008) and coring had indicated good organic preservation. The dark top soil contained a trade seal (Fig. 6: 1), an ox shoe (Fig. 6: 2) and a fragment of proto-stoneware (1225–1280).⁴ It was followed by a dark layer of debris with a high content of charcoal, mortar and brick rubble. Judging by some of the pottery finds this layer probably originates from some fire in the late 16th or early 17th century. Then 50–60 cm of disturbed loam, consisting of three sub-layers, largely devoid of finds (only some nails and animal bones) but containing charcoal particles, and occasional brick and roof tile fragments, followed. From the middle part of this fill soil a 16th or 17th century pottery fragment was found. The lowest part of the disturbed loam might originate, probably, from digging the cellars of the medieval buildings that stood nearby (Fig. 1). In the bottom of the trench a 3–4 cm thick dark layer of waterlogged wood chips was found under the loam. From here soil samples were taken for further analysis. Under this layer was the original dark grey natural soil with some animal bones in its upper part, overlying an intact yellowish-brownish loam.

It seems likely that most of the medieval cultural layers had been totally removed during the course of some earthworks. An explanation for that can be found outside the north-eastern wall of the outer bailey. When looking outwards towards the preserved castle gate, the ground level south-east of the gate is about 1.2 m higher than to the north-west of the gate where the ground level is on the same level as on the



Fig. 7. Trench 2 in the outer bailey. View from the west.

Jn 7. II kaevand eeslinnuses. Vaade läänest.

Photo / Foto: Heiki Valk

⁴ TÜ 1929: I: 7.



Fig. 8. Finds from Karksi castle. Trench 3. 1 – bronze spiral, 2 – thimble, 3 – fragment of needle sheath, 4, 6 – crossbow bolts, 5 – horse hoof ice spike.

Jn 8. Leide Karksi linnuselt. III kaevand. 1 – pronks-spiraal, 2 – sõrmlükbar, 3 – nöelakoja katke,

4, 6 – ammunooleotsad, 5 – hobuse jäänael.

(TÜ 1929 II: 74, 44, 125, 120, 151, 187.)

Photo / Foto: Heiki Valk

of glazed redware and ordinary wheel-thrown pottery. The second pavement (Fig. 9), made of smaller cobblestones (diam. mostly 12–15 cm, some stones also measuring 25–30 cm) was located on a ca. 10 cm layer of yellow sand. Between the stones of that pavement and from the sand layer under it, some fragments of wheel-thrown pottery and 15th century Siegburg stoneware were found.

The original stratigraphy of the courtyard could be observed in the southern half of the plot where also fragments of the third pavement made of smaller stones had been preserved. The pavement was laid on a thin layer of white sand that contained an arsig of the Livonian branch of the Teutonic Order, minted in Tallinn, between 1385(?) and 1395. In that pavement the remains of a water flume, made of large flat stones (diam. 25–30 cm) and with an inclination towards the well could be observed. Under the white sand there was a 25–40 cm thick layer of reddish-brown disturbed loam that contained occasional brick fragments and a crossbow bolt, probably from the 13th century (Fig. 8: 6). Judging by its flat tip, the bolt had hit a stone. The disturbed loam probably

plateau in front of the castle and beside it. The soil that had been heaped up there outside the stone wall was probably taken from the outer bailey. This would provide an explanation for the general absence of *in situ* medieval cultural layers there. Most likely, the earthworks took place in the late 16th or early 17th century.

TRENCH 3

Trench 3 (2 × 4 m) was located in the outer courtyard of the main castle, between the gates and the well (Figs 1: 3; 9, 10). Just under the top soil containing a thimble (Fig. 8: 2) and a schilling of Carl XI (1660–1697), there appeared a pavement of large stones with flat surfaces and an average diameter of 20–30 cm. Finds from between the pavement stones were mainly pottery sherds (redware, ordinary wheel-thrown pottery, some Siegburg stoneware) and nails. The pavement stones lay on a thin layer of dark soil where a bronze spiral (Fig. 8: 1) was found. Below that layer there was a 10–15 cm layer of lime mortar rubble. Under that there was a ca. 10 cm dark cultural layer that contained a 15th century crossbow bolt (Fig. 8: 4), a fragment of needle sheath (Fig. 8: 3), a 15th century Siegburg beaker bottom and some fragments

originated from digging the cellars of the buildings located nearby. The cultural layers from the 13th century had been removed. Under the layer of disturbed loam a thin layer of original intact dark grey soil from the time preceding the castle (Fig. 10) was found. As this soil that covered the intact natural loam contained no indications of Late Iron Age cultural layers, the suggestion of a Late Iron Age hill fort preceding the Order's castle seems to be disproved. When the grey soil was totally removed, some traces of ploughing were revealed cutting into intact natural ground (Fig. 11). It appeared that at some point before constructing the castle the plateau had functioned as a field. It seems likely that when the castle was built on this spot, determined by small natural valleys crossing the deep Karksi-Halliste ancient valley, the landscape was already open.



*Fig. 9. Trench 3, second pavement. View from the east.
Jn 9. III kaevand, teine sillutis. Vaade idast.
Photo / Foto: Heiki Valk*



*Fig. 10. Bottom of Trench 3 with grey natural soil and a Late Medieval drainage trench within it. View from the east.
Jn 10. III kaevandi põhi loodusliku alusmulla ja hiliskeskaja drenaažikraavi kaevega. Vaade idast.
Photo / Foto: Heiki Valk*



Fig. 11. Trench 3, traces of ploughing on intact mineral ground.

Jn 11. III kaevand, künnejäljed looduslikul mineraal-pinnasel.

Photo / Foto: Heiki Valk

strongly decayed timber – seemingly branches – were found. As the bottom of the disturbed area, including its dark middle part, had an inclination towards the well of the castle, the disturbance is connected, evidently, with some drainage system and the dark area in its bottom can be interpreted as the remains of an underground drainage channel, lined with timber boards. Within the dark soil of the drainage channel there was a late 14th – early 16th century Siegburg stoneware fragment. As the disturbance had destroyed the second pavement, originating from the 15th century, but the uppermost pavement above it was intact, the drainage system made in the outer courtyard was probably constructed in the late 15th or early 16th century, maybe just before the construction of the uppermost pavement.

SAMPLING

Soil samples were taken from all three trenches for macrobotanical, geoarchaeological and palynological analyses. A total of 23 bulk samples, weighing a minimum *ca.* 5 kg each, were taken for macrobotanical analyses; twelve from Trench 1, six from Trench 2 and five from Trench 3. Bulk samples have been wet-sieved to separate plant macro-remains from soil, which are currently being analysed by Monika Badura (Department of Plant Ecology, University of Gdańsk), focusing on useful plants as indicators of diet, trade and local ecology. For each bulk sample an accompanying set of samples was taken for geoarchaeological analyses (x-ray fluorescence, particle size analysis, loss-on-ignition) that will aim to characterize the organic and mineralogical components of the sediments. Phytolith analysis will also be undertaken. Phytoliths are silica deposits that accumulate between the cells of plants, forming casts of the plants that are useful comparative indicators of past plant-use, particularly in situations where other plant proxies may be poorly preserved (Shillito, In press). Selected samples for palynological analysis were also taken from the waterlogged layer of wood chips within Trench 2. Initial assessment of these samples indicates moderate preservation and concentrations of pollen and spores that will provide information on the surrounding vegetation environment.

The northern part of the excavation plot in the outer courtyard was disturbed by a ditch with clear and straight edges in both end profiles of the trench. From the disturbed soil a '*lübische*' penny of the Tartu bishopric from 1397–1420, a fragment of bone bead, and a horse hoof ice spike, probably from the 13th century⁵ (Fig. 8: 5) were found. The disturbed area appeared under the basement of the uppermost pavement and stretched for *ca.* 25 cm into the intact natural loam. In the full length of the disturbed area there was an area of distinct straight borders and a rectangular section (*ca.* 25 × 25 cm), filled with dark grey soil, in the middle of its bottom. In the dark soil traces of dark,

⁵ Date provided by Ain Mäesalu (TÜ).

Further soil samples will be taken during the summer of 2012 from Trench 1 where coring indicates a further sequence of sediments comprising highly organic waterlogged deposits and clays to a depth of a metre underlying the base of the 2011 excavations. The results of these various scientific analyses will be reported on in due course.

CONCLUSION

Excavations gave new information on the history of Karksi castle and provided source materials for further analysis relating to questions of environmental history. Works in the main castle provide evidence of a similar system of pavements in the first and the second courtyard: a pavement of large stones under the top soil was followed by a pavement of somewhat smaller stones (Figs 2, 10). These pavements might be related to the same stages of works and can be dated, respectively, 1) to the late 15th century – first half of the 16th century and 2) to the 15th century. In Trench 3 the remains of a third pavement, probably from the late 14th or early 15th century, as well as a late medieval underground drainage ditch, were also found. No pavement remains were found in the outer bailey where most of the layers, deposited in the Medieval period, seem to have been removed in Early Modern times.

Although intact grey original natural soil from the time preceding the castle was unearthed in Trench 3, no traces of a cultural layer that might indicate the presence of a Late Iron Age hillfort were found. The cultural layers of the castle were rather poor in finds – probably largely due to the fact that the pavements were kept clean: most of the finds were recovered from between the pavement stones or from thin layers of soil, formed during the time of pavement construction. The cultural layers contained a considerable amount of animal and fish bones but the number of pottery fragments, when compared to the urban layers of medieval and post-medieval Viljandi was quite limited. From the perspective of environmental studies the presence of wet layers with good preservation of organic material must be noted, both in the main castle and in the outer bailey. Excavations in Trench I will be continued in 2012.

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KARKSI ORDULINNUS: ESIALGSEID KAEVAMISTULEMUSI

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2011. a suvel toimusid rahvusvahelise teadusprojekti 'The Ecology of Crusading' („Ristisõdade ökoloogia“) raames kaevamised Karksi ordulinnuses. Linnusealale tehti kolm kaevandit (jn 1).

Esimeses kaevandis (10×2 m), mis rajati pealinnuse keskmisesse hoovi (jn 1: 1), paljandusid üksteise peal kaks suurtest maakividest sillutist (jn 2–4). Neist ülemise, väga suurtest kividest (läbimõõt enamasti $30\text{--}45$ cm, vahel kuni $50\text{--}55$ cm) sillutise (jn 3) peal olnud leid (punane ja lihtkedrakeraamika, kabjanaelad, nuga (jn 5: 5), klaas- ja luuhelmes (jn 5: 1, 2) ning savipiibu katke) pärinevad 16.–17. saj. Leiti ka 1494.–1535. a vahel vermitud münt. Kahe sillutise vahelisest mullast saadi rohkelt naelu, 14. saj ammuunooleots (jn 5: 4) ja hõbetatud ratsmenaast (jn 5: 6). Teise sillutise (jn 4) alusest liivapadjast leiti 15. saj hoburaudsõle nööl. Sügavamal lõppes kogu kaevandi ühtne stratigraafia ja algasid erinevad, reeglinä leiuvaesed kihid. Kaevandi keskosas, kus sillutised olid enam vajunud, paljandus pruunikas, rohkelt laaste ning rauašlakki sisaldav märg pinnasekiht, kust leiti saapakontsa jääraud (jn 5: 8). Märkimist väärib ehisaast (jn 5: 7) segatud saviliivapinnasest kaevandi idaotsas. Kaevandi lääneotsas algas vahetult ülemise sillutise all väga suurte maakividide hunnik.

Teine kaevand (3×2 m) tehti värvatornist paarkümmend meetrit kagu poole (jn 1: 2; 7). Selles piirkonnas tuli 2008. a elektrikaabli paigaldusel nähtavale vett sisaldav pinnas, milles orgaanika oli hästi säilinud. Kamarale ja pealmisele mullahihile, kust leiti kaubaplomm (jn 6: 1), härjaraud (jn 6: 2) ja 13. saj protokivikeraamika, järgnes $10\text{--}15$ cm paksune mördi- ja telliserusune, sütt sisaldav lade, mis võiks seostuda 16. saj lõpupoole või 17. saj algupoole põlenguga. Sügavamal oli $50\text{--}60$ cm paksuselt segatud, tellisetükke ja söökübemeid sisaldavat, savikat mulda. Selle ladestuse keskmisest tsoonist leiti 16.–17. saj savinõukild, sügavam osa võib pärineda läheduses olnud hoonete keldrite kaevamisest. Eeslinnuse alalt on keskaegne kultuurkiht valdavalt eemaldatud ja töenäoliselt veetud eeslinnuse põhjamüüri idaosa väliskülje taha: linnusevärvast ida pool on maapind ligi $1,2$ m kõrgem kui lääne pool. Need mullatööd võksid olla toimumud 16. saj teisel poolel või 17. saj alguses. Kaevandi põhjas oli $3\text{--}4$ cm paksune, tumedale looduslikule alusmullale ladestunud laaste sisaldav märg pinnasekiht, mille teke seostub varaseima ehitustegevusega eeslinnuse alal.

Kolmas kaevand (4×2 m) rajati pealinnuse esimesesse eesõue, pealinnusesse viiva, sillavärvava ja kaevukoha vahele (jn 1: 3; 10). Kamara all paljandus üksteise all kaks maakividest sillutist. Ülemise, mördipuruust padjale rajatud sillutise pealt leiti naelu ja savinõukilde, sh kivistkeraamikat, Roots'i münt 1660. aastatest ja sõrmkübar (jn 8: 2), kahe sillutise vahelt mullast aga pronksspiraal (jn 8: 1), 15. saj ammuunooleots (jn 8: 4), luust nöelakoja katke (jn 8: 3) ning kivistkeraamikat, tavalist lihtkedrakeraamikat ja punast glasuurkeraamikat. II sillutise (jn 9) liivapadjad all oli vahemikust 1300–1425 pärit kivistkeraamikakild. Kolmanda, väiksematest kividest tehtud ja vaid katkendlikult säilinud, kividest laotud veerenni jänustega sillutise alusest liivakihist saadi 1385(?) ja 1395. A vahel vermitud Tallinna artig, sügavamalt, nähtavasti keldrite kaevamiselt pärinevast liivsavist aga töenäoliselt 13. saj ammuunooleots (jn 8: 6). 13. saj ladestunud kultuurkiht puudus, ilmselt on see eemaldatud enne III sillutise rajamist. Kuna linnuse-eelne looduslik hallikas alusmuld oli säilinud (jn 10), kuid ei sisaldanud märke hilisrauaagsest kultuurkihist, pole Karksis ordulinnusele varasemat muinaslinnust ilmselt eelenud. Pärast loodusliku alusmulla mahakaevamist tulid mineraalpinnasel nähtavale künnijäljad (jn 11), mis viitavad oru kaldal millalgi enne linnuse rajamist olnud põllule. Kaevandi põhjapoolses osas oli pinnas ülemisest sillutisest sügavamal läbi segatud; segatud ala ulatus 25 cm võrra puutumatusse liivsavisse ja tema põhi langes linnusekaevu suunas. Selle sissekäeve pinnasest leiti 13. saj jäänel (jn 8: 5), luuhelme katke ja periodist 1397–1420 pärinev Tartu penn. Kogu sissekäeve ulatuses kulges selle keskosa põhjas ristikülikukujulise lõikega ($u 25 \times 25$ cm) ja sirgete külgedega ala, mille tumehallis pinnases oli tugevalt lagunenud puidujäänuseid. Ilmselt seostub sissekäeve hiliskesk-aegse kuivendussüsteemiga, kus kraavi põhjas on olnud laudadest tehtud ja hagudega täidetud renn.

Pealinnuse kaevanditest leitud kaks ülemist sillutist võiksid viidata pealinnuses toimunud sillutustööde samale rütmile. Ülemised sillutised võib dateerida 15. saj lõppu või 16. saj algupoolde, järgnevad 15. sajandisse. III kaevandist leiti ka alumise, nähtavasti 15. saj algusest pärineva kolmanda sillutise jäänused. Linnusekaevandites väärib märkimist savinõukildude vähesus. Kaevanditest võeti pinnaseproove makro- botaaniliseks, geoarheoloogiliseks ja palümoloolgiliseks ning fütooliitide analüüsiks; koguti rohkesti looma- ja kalaluid. Välitööd I kaevandis, kus puurimistulemused näitavad orgaanikarohtket kultuurikihti, jätkuvad 2012. aastal.