## Archaeological Discovery of Medieval Vyborg. The Town Development in the 15<sup>th</sup>-17<sup>th</sup> Centuries According to the Materials Obtained during the Archaeological Excavations in 1998-2012

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### Abstract

The Institute for the History of Material Culture of the Russian Academy of Sciences (IIMK RAN, St. Petersburg) carried out rescue and research excavations in different parts of the historical centre of Vyborg in 1998-2013. The Karjalaisen Kulttuurin Edistämissäätiö (KKES) foundation played a major role in the success of the excavations on account of its part in funding the work. The second essential matter was that we used local young people as the workforce from the very beginning, and a significant share of them continued working in the following years as well. This played a major role in improving the viewpoints of local people, because it demonstrated how valuable the cultural layers (wooden constructions, artefact finds) of Vyborg are.

The peculiarity of the original bedrock surface with its hollows and hills was already clear in the beginning of the research. As there was little room for construction activities on the slopes of the central town hill, the builders of the town had to fill the rock hollows with the cultural layers of previous times (fires were a regular occurrence in the city) and leftover wood chips from intensive construction activities. There is valuable information about the early stages of the history of Vyborg; in all likelihood, the town cape was already occupied before the Swedes arrived. What seems to have happened is that this native population was absorbed into the population of the emerging town. The natives' main livelihoods were fishing and animal husbandry, and their products happened to be in high demand within the castle and also among the builders of the city wall. Excavations of the plot and in other parts of the town have revealed no finds dating back further than 1410. The excavations carried out so far show that the town, established on the cape, was destroyed so thoroughly by the Novgorodians in 1411 that it had to be rebuilt from the ground up.

#### **1** Introduction

The excavations carried out in 1998-2012 in Vyborg by the Vyborg archaeological expedition of the Institute of the History of Material Culture of the Russian Academy of Sciences (IIMK RAN) and headed by the author have been described in a number of articles and talks given at scientific conferences and symposia (Saksa 2008: 510-514; Saksa 2009a: 226-239; 2009b: 152-162; 2009c: 139–146; 2009d: 473-484; 2010: 238-252; 2011: 105-113; 2015: 256–271; 2016: 246–261; 2017a: 511-524; 2017b: 66-80; 2018a: 65-80; 2018b:

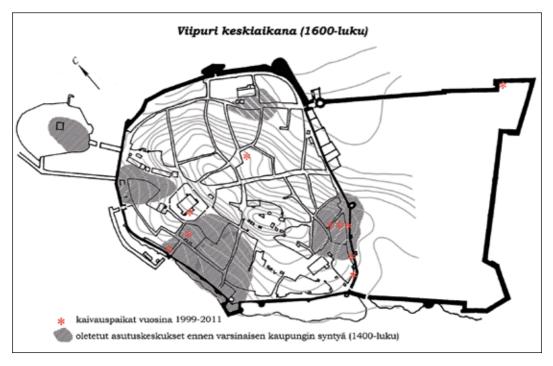


Figure 1. Map dated to the 1630s. The excavation areas of 1999-2011 are marked with red stars, The areas marked with grey are possible locations of medieval settlement.

198-213; 2019: 348–378; Saksa & Taavitsainen 2008: 393-400; Saksa et al. 2002a: 4–10; 2002b: 37–64; 2020: 12–37) (Fig. 1).

This article aims to describe the history of our excavations, the conditions under which they were carried out and how the idea of the early history of Vyborg gradually changed and became more precise as new materials came to light. The research situation after 1998 differed from the earlier one substantially because the relatively extensive rescue and research excavations were carried out for the entirety of the Old City. Now, the excavations extended all the way to the surface of the bedrock, whereas previously this had not necessarily been the case.

## 2 The new stage of excavations in 1998-2000

A new stage of the archaeological studies of Vyborg began in 1998 with a touch of drama. IIMK RAN received a message from Vyborg that the medieval Ratushnaya Tower (Town Hall Tower – Raatitorni) with the adjacent land plot had been transferred to Katakombnaya Church, to be used for the church's own purposes.

Soviet archaeologist V. A. Tyulenev (Tyulenev 1995: 47-48) had conducted excavations on the same plot in 1978-1994. He discovered the medieval town wall on the foot of the tower on the southwestern side. The wall was dated to the 1470s, because Vyborg Castle was ruled at that time by Erik Axelsson Tott, who is known for the construction of Olavinlinna Castle at the eastern border of the Swedish realm, which occurred at the same time as that of the town wall of Vyborg. To enable the construction of the room / rooms by Katakombnaya Church, a pit was dug, and as a result a part of the stone wall adjacent to the tower, four metres long and two metres deep, was revealed.

IIMK RAN needed to react very quickly, so under these circumstances which allowed



Figure 2. The foot of the stone town wall near the Ratushnaya Tower dated to the 1470s. Photo A. Saksa.

no delay, we turned to Karjalaisen Kulttuurin Edistämissäätiö (KKES) (Foundation for Karelian Culture; Joensuu, Finland) for assistance, because it was impossible at that time to quickly raise even a modest sum of money to carry out excavations in Vyborg. Upon receiving a positive reply, we, together with our colleagues V. A. Nazarenko and V. Ya. Shumkin, immediately came to the city in order to clear the revealed part of the wall, to study how the wall was constructed (stones, mortar), and to conclusively prove that it was the medieval town wall.

The pit widening works were suspended, and in 1999 and 2000 we carried out new excavations at that site with the financial support of KKES (Saksa 2010: 238-252).

The excavations in 1998-2000 resulted in new information about the technical peculiarities of the stone wall and tower's construction. When constructing the town fortification facilities, the builders had been faced with a problem regarding the very uneven bedrock surface. The Ratushnaya Tower itself was in a place where the rock surface is less sloping.

When the construction of the fortification facilities began, these peculiarities of the terrain in Vyborg led to an unusual solution in order to make the wall stable: in the place where the southern curtain wall met the tower, three lower stone layers laid at the foot of the tower were attached to the outer surface of the section of the tower that had been already constructed, and the upper stones were laid down simultaneously as the Ratushnaya Tower was being constructed and were bonded with the stones of its southern wall (Fig. 2).

Despite all these precautions, a hundred years later the wall was in such poor condition that the construction of bulwarks, which were fortification facilities made of log structures filled with sand and stones and covered in soil (Kauppi & Miltšik 1993: 38, 138), was needed in order to support the wall and keep it functioning. This was done in accordance with the royal decree of King John III of Sweden in 1571. The remains of the bulwarks were found near the outer side of the wall during the excavations in 1999-2000.

The studies of the stone town wall have led to a new question which is important for understanding the history of the early days of the town and is related to the development of Vyborg in the second half of the 15<sup>th</sup> century. Now that we know that the wall was constructed while taking the peculiarities of the on-site terrain into account, a question of intent has arisen. Namely, if the wall was built with future town development in mind, with the use of all available ground for construction being considered, or if there were already existing town dwellings on the construction spot, with the wall leaving a few houses or plots outside the town area.

An answer to this question was found during the excavations. A small excavation area at the internal side of the wall near the Ratushnaya Tower showed that the lowermost stones of the town wall were covered with a 30-cm thick cultural layer on the bedrock. After it was removed, it turned out that there was some mortar between the stones, which means that the lower part of the wall had been exposed to open air and rain for only a short time. In other words, the cultural layer had formed shortly after the construction of the wall.

In 2000, we received word from Vyborg that a new residential building was being planned at the corner of Ul. Storozhevoy Bashni street (Fi. Vahtitorninkatu) and Ul. Titova street (Fi. Possenkatu). That same year, with the financial support of KKES, we opened a small excavation area on the town wall line (No. 4) and two survey trenches to study the cultural layer on the construction site (Nos. 3 & 5) (Fig. 3). The medieval town wall runs from the Ratushnaya Tower to the Market Place. The remains of the wall had been discovered in front of the Round Tower by Tyulenev (his results were published posthumously in 1995).

Survey Trench No. 3 was aimed at getting additional information about the stone town wall of the 1470s. A part of the wall revealed in the excavation area stood on the rock brow and swung slightly to the internal part of the town, which stressed the abovementioned necessity for the builders to consider the topography of the terrain and use as much of it as possible.

In Excavation Area No. 4 (24 sq.m), the Vyborg expedition found well-preserved cultural layers reflecting the periods from the moment of development of the eastern town area (the 1470s) to a stone-paved street on the spot before World War II. In total, we studied eight diverse horizons with foundations of wooden structures. It was the first evidence that material remains of earlier times lying beneath the modern ground surface are very well preserved in the historical part of Vyborg.

In the lowermost horizon, on the bedrock, there was a stone oven and a water pipe made of wooden blanks wrapped in birch bark. Unfortunately, only a part of the structure could be seen in the survey trench.

There were wooden remains of a building that had an oven and a water pipe. Two building logs have been determined to date from 1478 and 1480 by dendrochronology (Pentti Zetterberg pers. comm.). This structure, which was most likely a sauna, was built shortly after the completion of the stone town wall.

In Survey Trench No. 5 (32 sq.m.), there was only a stone paved street and stone foundation located at its northern part. This street probably ran from the Tower of St. Andreas to the Dominican Convent.

#### 3 The excavations in 2001-2003

Part of Trench No. 5 got into the excavation area of 2001, which became the first large excavation area (92 sq.m.) in the history of the studies of the cultural layers in inland Vyborg. The thickness of the cultural layers under the modern ground surface reached 2,75-3,25 metres, which included five separate horizons with the structure remains. The excavation area was set up between Excava-

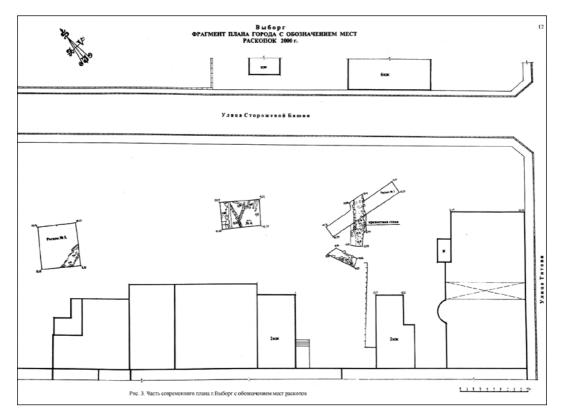


Figure 3. Map of the excavation areas in 2000. Drawing Larisa Korchagina.

tion Area No. 4 and Trench No. 5 of 2000, and it was the only free space left during the construction of a block of flats.

The excavations were carried out at the corner of Ul. Storozhevoy Bashni street and Ul. Titova street in 2000-2002 for a total area of 145 sq.m.

The aim of the excavations in 2001 was to study the history of development of the eastern part of the medieval town area and dynamics of the town expansion. In the lowermost part of the excavation area on the rock we found floor planks of the building and wooden barrels, probably parts of a water pipe system. Radiocarbon analysis from the birch bark covering of a barrel dated it back to 1245-1283 (Saksa et al. 2003: 15– 20; 2020: 16).

This discovery means that, along with the fortified settlement on the Castle Island and the medieval town facing the castle, there could have been small onshore Karelian settlements before the Swedes came and established Vyborg Castle in 1293.

The following horizon (2) was represented with re-used log structures which formed a flat platform for houses and other buildings. The remaining parts of these dwellings and household buildings dated to the second half of the 16<sup>th</sup> century. They occupied the entire space of the excavation area. There were wooden buildings on both sides of a street. Part of the street was covered by planks, while another part was paved with stones. The street ran from west to east (Fig. 4) (Saksa 2009a: 228-232; 2009b: 154-158; 2017b: 66-80).

The gap between dating the lowermost horizon to the second half of the 13<sup>th</sup> century and dating the following horizon with already dense settlement to the second half of the 16<sup>th</sup> century could be explained by an



Figure 4. Excavation Area of 2001, Horizon 2. Photo A. Saksa.

interruption in settlement formation in the eastern part of Vyborg. This break could have been caused when Novgorodian forces attacked Vyborg in 1411 and burnt down the town (castle) suburbs.

Similarly in the central part of the town, in excavations in 2006 at Ul. Vyborgskaya street 8 (Fi. Luostarinkatu 8) only 120 metres from the town church the earlier horizon was dated back to the 1420s, while in the western seaside part of the city in excavations at Yuzhny Val (Fi. Etelävalli) in 2003 the horizon was dated back to the 1410s. This fact leads to a conclusion that the town, after its complete destruction by the Novgorodians in 1411, was actually built anew (Saksa 2015: 256-271; 2017b: 66-80).

For a long period, this eastern part of the town was unsafe, and it developed quickly after the stone town wall was built in the 1470s and gave it the necessary protection. Afterwards, within the framework of the wider construction activities which, as revealed during our further excavations, covered the whole town, the eastern part, close to the town wall where the sloping hill required large-scale flattening work for future buildings, including the construction of the underlying log platforms, was developed. This kind of undertaking, aimed at filling rock hollows with mineral soil, sand and debris such as wooden chips, was carried out almost throughout the whole medieval town of Vyborg before houses and household buildings were erected.

Here, in the easternmost part of the medieval town area, in Excavation Area No.6 which was 92 sq.m. (13x7 metres) in size, the difference in bedrock levels reached 0,5-1,1 metres, and throughout the whole area studied in 2000-2002 between Sur-



Figure 5. Pottery of the  $16^{\mbox{\tiny th}}$  and  $17^{\mbox{\tiny th}}$  centuries. Photo Ivan Samovarov.

vey Trench No.4 ('the sauna' of Horizon 8 – 13,56-13,90 metres above sea level) and Survey Trench No.5 (the stone paved street, 15,03 metres above sea level) the difference was even more considerable.

The street revealed in Horizon 2 of Excavation Area 6 of 2001 (13,65 - 13,88 metres above sea level) continued in Survey Trench No. 5 of 2000. The distance between excavation areas 5 and 6 was only 7,5 m. This means that the bedrock surface rises over a metre at such a short distance.

This difference in comparison with the level of the street laid in the second half of the  $16^{\text{th}}$  century can be explained by the fact that the excavation area of 2001 reached the lowering of the rock surface, which had 20-40 cm of sand in the bottom and was filled with a 50-80 cm thick cultural layer consisting of huge amounts of wood chips, livestock manure and domestic animal bones. Bark floats for a fishing net made of birch bark and a stone, as well as coins dated to the fourth quarter of the  $15^{\text{th}} - 16^{\text{th}}$  centuries, were discovered. The coins are from Dorpat and Reval, and a few of them are Swedish.

Local redware pottery and German stoneware, metal, leather, wooden and birch bark finds as well as their shreds only appeared between the  $16^{th}$  and  $17^{th}$  centuries in the  $2^{nd}$  and  $3^{rd}$  horizons.

Rainwater was a problem in medieval times, and water collection barrels, dated to the 13<sup>th</sup> century, buried in the ground point to this issue. German stoneware of the 16<sup>th</sup> century and red clay pottery from Western Europe, such as pipkins (three-foot pots), bowls, jugs and ornate table dishes of the 16<sup>th</sup> and 17<sup>th</sup> centuries, mark the moment when this territory became a part of the already existing town (Fig. 5).

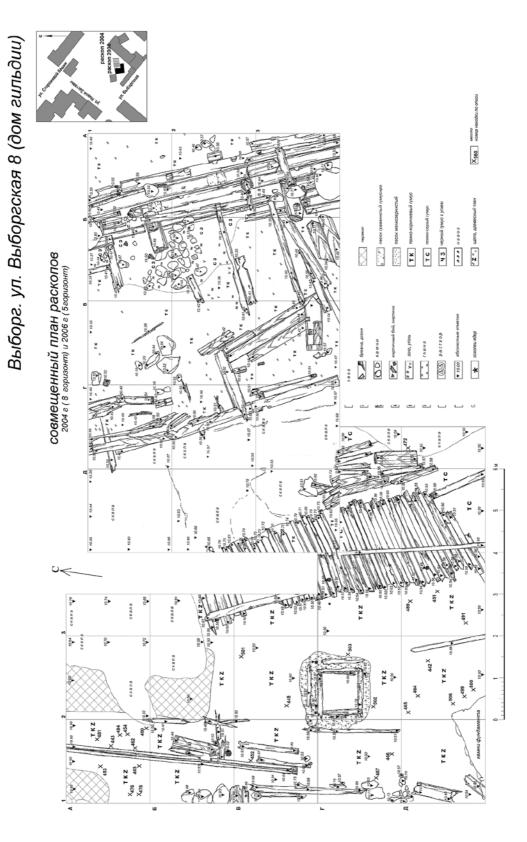
The dating of this period, which preceded the regular re-construction of Vyborg started in the 1640s, when the town plan was changed into rectangular plots and straightrunning streets ca. 1640, refers to early 17<sup>th</sup> century layers where the logs (walls of wooden houses) did not follow the post-medieval rectangular town plan, which is proven by the Swedish coins of 1634-1640 found here (Horizon 4 of 2000 and Horizon 1 of 2001).

In 2002, construction of a residential building began on the above-mentioned plot, and it became impossible to proceed with the excavations. At the same time, however, the results of the first excavations carried out by us in the city revealed the well-preserved and rich cultural layer embracing many centuries and containing remnants of wooden structures and a considerable amount of finds and showed the town's rank among other ancient towns of the region, its extraordinary value as well as the scope of the losses already borne. The most important thing needed for the preservation of the city's archaeological heritage, the establishment of protection zones in Vyborg, has not yet been done. However, in 2016 the restoration concept of the historic centre of Vyborg, including the castle, was approved by the President of the Russian Federation, and it was financed by the Ministry of Cultural Affairs and the government of Leningrad Oblast. The approval was influenced by the results of the archaeological excavations.

Excavations in 2003 were carried out as protective measures at the customer's expense in the western part of the medieval town near the harbour in Yuzhniy Val street, where a sailors' accommodation centre was being planned. The total area of the excavation site was 60 sq.m, and seven horizons were detected in a 3.5-m thick cultural layer (Saksa 2009d: 473-484).

A radiocarbon sample taken from a plank from the house floor of the lower Horizon No.7 was dated to the 1410s. Below it, in the bedrock beneath the topsoil, seeds of white goosefoot (*Chenopodium album*) dating to approximately 1310 were found (Saarnisto & Saksa 2004a: 259–261; 2004b: 37–42; Saksa 2009d: 484; Saksa et al. 2020: 16). All the cultural layer horizons related to the history of Vyborg up to the 18<sup>th</sup> century were presented in this excavation area.

Horizon No. 2 was dated to the period of the town being besieged by the army of Peter the Great in 1710, which is proved by the





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burnt layer, cannonballs and their fragments, as well as by other finds.

The lower horizon also showed a burnt layer which could be compared with the large town fires of 1627-1628. Below this layer were cultural layers dating back to the Middle Ages, which preserved the foundations of the small log cabin built repeatedly in the same place.

# 4 The excavations in 2004 and afterwards

The biggest excavation works for research purposes were fulfilled by us in 2004, 2006, 2011 and 2012 in the city centre, 120 m from the cathedral ruins (a town church until 1554), at the site near 8 Ul. Vyborgskaya street (a so-called guild house). Financial support for the excavations was granted by KKES and Karjalan kulttuurirahasto (Foundation for Karelian Culture), as well as Gazprom Neft, JSC.

The total excavation area was 310 sq.m and the cultural layer was 3-3.4 metres thick. It had ten horizons with well-preserved lower parts of wooden structures like foundations, floors, the lowermost logs of the walls of buildings, paved streets, wells, elements of a drainage system, and different finds (Saksa 2009a: 232-237; 2011: 105-113; 2014: 323-327; 2016: 256-257; 2017a: 511-524; Saksa et al. 2020: 16, 24).

The lower parts of the wooden structures were very well preserved due to intensive construction, when the medieval building remains lay side by side and on top of each other, resulting in the formation of thick layers of wood chips, which allowed us to detect six construction stages on this medieval boundary site, a town at the border of the Swedish kingdom. The earliest wooden structure was a water channel in the excavation area of 2004, which was made of a plank-covered half-log buried in the sand on the mainland and dating to between the 1410s and 1440s (Saarnisto & Saksa 2004a: 259-261; Saksa 2009a: 233, Fig. 10; 2011: 109-110; 2017a: 512-513; Saksa et al. 2020: 16, 24). According to radiocarbon analysis of the seeds of cultivated plants in the underlying layer, the construction works on this site began in the 1310s, which means that agricultural activities preceded the town development (Saksa et al. 2020: 16-17).

## 5 Summary of the results from Vyborgskaya 8

The materials obtained from the excavations show the development of building construction in the town and the citizens' material culture and trade relations as well as changes in living conditions from the 15<sup>th</sup> century to the early 18<sup>th</sup> century. Since the results of these excavations have been published in a range of articles, we will only give a brief summary here.

Construction activities in central Vyborg, to the west from the central town hill which is now a flatland, started in the  $15^{\text{th}}$  century and were limited by the considerably irregular surface of the natural terrain (Fig. 1, 6). There was insufficient flat surface for building houses, which is why the first houses, with an area of 10 sq.m, were erected on small sites between the rocks.

At the first stage, the inhabitants' livelihood was based on fishing and livestock keeping. In the lower horizons of the cultural layer we found a lot of floats and net weights indicating this, as well as many bones of domestic animals, which can be explained by the fact that the inhabitants of medieval Vyborg were probably responsible for providing food to the garrison and the castle dwellers (Kasparov 2017: 279-290; Saksa 2008: 510-514; 2009c: 139-146).

Recurring fires and fortification work, which required food supplies and draught force for construction workers, also influenced the life of the inhabitants and the development of the town and left their traces. As a result, sheds and horse stables were a big part of household buildings in the town, and the earliest ones were built on Vyborgskaya Ul. 8 right after the disastrous city fire of 1477.



Figure 7. Excavation Area of 2012 at 8 UI. Vyborgskaya street. The foundation of the building dated to the second half of the 15<sup>th</sup> century. Photo A. Saksa.



Figure 8. Commercial seals. Photo Ivan Samovarov.

Considerable changes in construction took place in the 15th century, when the bedrock which divided the site into two sections was covered with the cultural layer and the site became a single built-up area. On this site there was a residential building and household buildings, and a new row of buildings was drawn. The peculiarity of this boundary site was a Holy Spirit guild house located on it, which had some impact on the nature of the finds. The finds were commercial seals, book clasps, coins (the earliest of these were minted in the 1420s), locks, kitchen knives and ornamented kitchenware samples, as well as footwear and fragments, and all those things complied with the 'commercial trademarks' widespread at the time in the cities of Western Europe and the south coast of the Baltic Sea (Fig. 8).

Vyborg in the 15<sup>th</sup> and 16<sup>th</sup> centuries became an integral part of the medieval urban civilisation of the Baltic region on its eastern edge. The only thing that differentiated Vyborg from these coastal historic cities, from Lübeck to Riga, Tallinn and Turku, is the fact that Vyborg, which had come into existence relatively late, got all these benefits of civilisation ready for use, while other cities needed hundreds of years to achieve the required level of urban culture.

The second difference is that the town structure in Vyborg was forming in a different manner, unlike other cities of the region, which was caused by a complicated initial terrain for the future town area. It was formed in spots, in separate parts – on limited areas available for construction works until all the hollows in the initial surface were filled with the leftovers of construction activity and it became possible to establish blocks with a connecting street network.

The deceased in the town cemetery, discovered in 2012, were buried near the southern wall of the medieval town church, right near the thick stone foundation of the church. Here, in the sand on the bedrock, medieval burials were found, and the earliest ones are dated to the second half of the 14<sup>th</sup> – early 15<sup>th</sup> century (Saksa 2014: 261-270; Saksa & Savolainen 2015: 53-70; Saksa et al. 2017: 167-189; 2020: 16). The construction of the stone church, preceded by the wooden one, is now dated to the 1430s (Hiekkanen 2007: 548-551). These are new excavations that can shed light on this issue.

According to the excavation materials of 1998-2012, there are reasons to suppose that, along with the fortified settlement on the Castle Island on the peninsula, there could have been one or several Karelian seaside villages consisting of a few households predating the founding of the town, with their inhabitants later becoming absorbed by the town (see Tyulenev 1995: 17, 18). It should be noted that the sea level was about 1.5 metres higher than now and the coastline was different.

With the recent excavation results taken into account, J.W. Ruuth's conclusion seems to be correct, i.e. that the first inhabitants of Vyborg moved from the Castle Island which had become too small for them, and in the first half of the 14<sup>th</sup> century they set their houses in a horseshoe shape on the shore of the town cape opposite the castle (Niukkanen et al. 2014: 51, 55; Ruuth 1982: 47-48).

At the same time, when Borchardt's / Weckrooth's house lying right opposite the castle was reconstructed in the first decade of the 21<sup>st</sup> century and the soil was temporarily removed from the top of the rock surface, it turned out that the rock in this place inclined considerably to the narrow straight between the Castle Island and the mainland and was very uneven, which was quite typical. Thus, we can suggest that the initial site of the fledgling town of Vyborg neighboured the town church area in the northwestern part of the peninsula, to the west and southwest from the hilltop.

Our excavations in 2003 in Ul. Yuzhniy Val street showed the earliest cultural layer there was dated to the 14<sup>th</sup> century and the



Figure 9. Excavation Area of 2007 at 4 Ul. Krasnoflotskaya street. Photo A. Saksa.

first log cabin built on this site was dated to the 1410s (Saarnisto & Saksa 2004a: 259-261; Saksa 2009a: 232-238; 2009d: 484).

This peculiarity of the terrain in Vyborg defined the following construction activities in the town. At the beginning of the Modern Age there were some undeveloped sites on the hilltop in the central part of the peninsula, and construction only became possible there after stone masonry had become widespread in the second half of the 17<sup>th</sup> century, which was clearly shown by our

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excavations of 2007 in Ul. Krasnoflotskaya street (Harmaidenveljestenkatu). Here, on the eastern slope of the hilltop, the rock had a 'wave-like' surface with considerable elevation differences (Saksa 2009a: 237-238, Fig. 16; 2015: 257; 2016: 259-260). On this site, within the framework of the protection works, the rescue excavations were carried out and we cleared the cellars in the house dated to the late 17<sup>th</sup> century – 18<sup>th</sup> century which got an additional building in the early 19<sup>th</sup> century (Fig.9).

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