

Archeological Research in the Historical Center of Irkutsk by Dilliplane T.L., Kharinskiy A.V., Klementiev A.M., McMahan D.

Introduction

In 1652 a detachment of Cossacks led by Ivan Pokhabov installed their winter camp on the Dyachiy Island at the mouth of the Irkut River, which flows into the Angara River. From that moment in history development of that territory had began by Russians and is currently occupied by the city of Irkutsk. In 1661 the fortress of Irkutsk was founded on the right bank of the Angara River. In 1686 it was promoted to the status of city, and in 1690 the city of Irkutsk received its own emblem and the seal from the Siberian government. Surikov Street is considered to be one of the oldest streets in the city. At the end of the 18th and the beginning of the 19th centuries it was called Michurinskaya Street. At the end of the 17th century this area had began to develop with the houses of the Irkutsk suburbs.

In 1797-1798 the Irkutsk merchant by the name of Ilya Andreevich Sizykh built a new stone house on Michurinskaya Street. In March of 1807 the Russian-American Company bought the house and the estate of Sizykh, I.A. for its Irkutsk office. It has not been established who became the owner of the house after closure of the Irkutsk office of the Russian-American Company on April, 19 1868. However, it is known that in the late 1880's, the estate belonged to Sievers, P. A., Chamberlain of the Imperial Court, who donated it to the Cathedral in 1890 (Gerashchenko, 2000: 23). In 1920's the house was divided into communal apartments by light walls, and was used for housing people. Michurinskaya Street was renamed, and the house got a new address: 24 Surikov Street. In 2008 there were 15 families lived in the building who privatized their apartments.

The buildings that are located in the vicinity of the former office of the Russian-American Company were built in the 19th century. No major reconstructions requiring groundwork have been conducted here since the end of the 19th century. The opportunity to explore the artifacts inspired a team of scientists from Russia and the United States of America for the excavation of a small plot of land located between the houses #22 and #24 on Surikov Street in 2007-2008.

In 2007, archeologists excavated two pits measuring 2x2 meters, with walls facing East, West, North, and South. At the top of pit #1 at the depth of 10-15 cm some fragments of pottery made on a pottery wheel started to show up. At the depth of 25-30 cm some pieces of mica showed up, stretching in a 60 cm wide line from Southwest to Northeast. Further excavation of the pit showed that mica served as an insulator for drain pipe laid in the area in the 50's- 60's of the 20th century. When the pipe was laid, the stratum of the 17th and 19th centuries was damaged, and archeologists decided to stop further excavations on the pit #1. The archeologists started the pit #2 at a distance of 0.5m up to north-west. The excavation of this pit has revealed up to 2m thick loose deposits (Dilliplane et al, 2007; Kharinskiy et al, 2008). In 2008, excavations in the yard of the house #24 were continued. On the north side of the pit #2 archeologists cut the pit #3 that was 2x2 m in size.

Description of loose deposits

Pit #2 excavated by the house #24 on Surikov Street revealed the historical occupation layer of the city, that included 8 occupation layers (horizontal layers) (Fig. 1-1). Description of the layers revealed in the loose deposits is presented in the following table from top to down.

No	Description of the deposit's structure	Thickness, meters
1	<p>Black loams mixed with man-made sediments of different composition. Morphologically, can be distinguished three sub-layers:</p> <p>1a - upper, dark-colored layer, with inclusions of debris from modern construction such as fragments of bricks, small rocks, wood coals, lime, glass and metal scrap. Level 0 occupation layer is 44-46 cm thick;</p> <p>1b - middle, lighter layer that is more stratified compared to the top. There are yellow narrow streaks of sand and light layers full of slag, fragments of small stones, bricks and other construction debris from the mid-twentieth century. In the sub-layer, rotten remains of the logs were also present (north-eastern wall). The sub-layers 1a and 1b in the south-eastern wall were damaged by the garbage hole. Level 1 occupation layer is 45-62 cm thick.</p> <p>1c - lower, most dark-colored layer. There were alternating reddish (igneous) and intensive black loamy layers with inclusions of wood coal and debris. Level 2 occupation layer was 4-7 cm thick (yellowish-brownish with traces of calcinations); Level 3 occupation layer was 9-21 cm thick (black, filled with coal), level 4 occupation layer was 7-22 cm thick (reddish-brownish with traces of calcinations), level 5 occupation layer was 3-7 cm thick (black, filled with coal), level 6 occupation layer was 4-10 cm thick (reddish-brownish with traces of calcinations);</p> <p>The total thickness of the layer</p>	1.40 - 1.60
2	<p>Black loams, medium-heavy, intensely dark gray color, divided into two sub-layers:</p> <p>2a – Intensively colored with humus, especially in the middle - soil horizon. Level 7 occupation layer was 5-12 cm thick (upper part of the sub-layer);</p> <p>2b - light gray color, transient soil horizon AB.</p> <p>The layer was disrupted by the processes of cryogenic permafrost and it is shown in a small crack.</p> <p>The total thickness of the layer is... ..</p>	0.20 - 1.10

3	Brown clay loam, heavy, wet – black soil horizon - homogeneous, without inclusions and new formations. This layer was also damaged by permafrost crack filled with black material from the top layer. Layer thickness	0.15 - 0.40
4	Yellowish-brownish gravel with large and medium-scale sand aggregate. Excavated	0.05

Sample of the deposits #1 is formed by a substrate that is not of a natural origin, but of materials related to human activity, and includes seven occupation layers. Sample of the deposits #2 is formed by black loamy soil substrate. The layer is highly compacted, which is indicative of the anthropogenic transformation. At the top the 7th occupation layer is fixed. Sample of the deposits of the 3rd layer has loamy structure and brownish-yellow color. Medium loams served as a substrate for the soil and were accumulated by mineral materials such as ash and talus deposits. The upper part of the Holocene cut was affected by soil formation, whereas the underlying sediments (substrate B) were not affected as much by soil formation. It can be assumed that the accumulation of substrate B occurred in the early Holocene era about 8-10 thousand years ago. The top thick layer (substrate A and substrate AB) were accumulated in the process of soil formation in the late and mid-late Holocene era. According to the preliminary data, the middle (and the darkest) layer of the substrate A related to the mid-Holocene era. The upper part of the substrate A related to the late Holocene era. The age of the layer, presumably, is early-mid-Holocene (8 - 0 thousands years ago). Sample #4 is presented by the channel facies of alluvium, and is composed of sandy gravel aggregate. The gravel is filled with sand well washed from silt and silt particles, which indicate the formation of deposits happened in a stream of water. By the excavation only the upper part of the gravel was revealed. The age of the layer is unclear.

In the north-western part of the pit #3 a part of quadrangular hole was examined. It consisted of one occupation layer starting from the depth of 0.35 m. The depth of the hole was 0.75 m. During the excavation of the hole the archaeological layers 1 -7 were disrupted. Another hole was found between pit #2 and #3. Its depth was 0.85 cm; it consisted of one occupation layer starting at the depth of 0.5 m. The remains a wooden pole, 17 cm in diameter narrowing towards the bottom, was found in the pit.

Artifacts

In pits #2 and #3 archeologists discovered a large quantity of findings, which are represented by artifacts and osteological materials. They were distributed within 8 occupation layers originating in the 1st and 2nd samples of loose deposits. The greatest concentration of findings was recorded in the 3rd sub-layer (1c) from the first sample of loose deposits. Only a few and mostly re-deposited materials were located in the upper

layers, mostly in the occupation layer 0. Some shift of the artifacts in layers 1-4 was noted .

Materials from the 2nd archaeological layer penetrated into the 3rd archaeological layer as a result of compaction. Both layers contained remains of a light brown vessel without mouth, with a straight and bent outward edging measuring 5-7 mm thick, and fragments of an upper part of a white porcelain vessel without mouth, with a round edging 4 mm thick, decorated inside with geometric patterns and images of plants painted in gray color. Materials from the 3rd archaeological layer penetrated into the 4th archaeological layer. Fragments of upper part of gray-clay vessel were found in both layers. It was 4-5 mm thick and had a round edging with mildly defined mouth separated by a border from the main body.

All found artifacts could be categorized into the following groups of items: iron items (especially nails), pottery fragments, glass vessels pieces, window glass, and mica. Most common findings are pottery fragments (Fig. 1 - 2-6). All containers are made on a pottery wheel. They include unpolished pottery, glazed pottery, and porcelain vessels.

Unpolished ceramics were found in all occupation layers. The color varies from light brown to black, depending on the color of raw materials and baking methods. Vessels coated with glaze were found in the 2-6 occupation layers. Mostly green glaze was used for coating walls of the containers. In addition, some vessels were covered with black or brown glaze. In most cases vessels were glazed inside and outside, but some of them were found glazed only on outside or inside walls. Porcelain china was found within the 2nd and the 7th layers and was mainly represented by cups, plates, bowls, and mugs.

In the fourth occupation layer was found a copper Siberian coin of 5 kopeks value, minted in 1772. Siberian coins were minted from December 5, 1763 through June 7, 1781 solely for the use in Siberia. They included "polushka" (half of denga = ¼ kopeck), "denga" (1/2 kopeck), "kopeika" (1 kopeck). Kopecks were issued in denominations of 1, 2, 5 and 10 kopeks. Coins were minted by the Suzunsky Mint using ore from Kolyvan. Siberian coin has the monogram of the Empress Catherine II (Catherine the Great) in a laurel wreath underneath the crown and on the reverse side the denomination and the issue date written on the shield held by two sables. On top of the coin is a circular inscription: "Coin Siberian".

Osteological materials

In the process of examining fossil remains of the urban layer there were found four species of domestic hoofed animals (cattle, pigs, domestic sheep and goats), cats and two species of game animals (deer and roe). It is hard to make any conclusions about the characteristics of the layers because of its small quantity. Therefore, general conclusions were made with some individual characteristics of the layers. Bones of cattle definitely dominated in the findings (88.7%), which is typical for urban historical layers of the Irkutsk area. The range of bones sizes was indicative of various sizes of this type presented in the area. In general, the excavation revealed the remains of bones of four

species. The richest in findings layers #2 and 7/7 show the presence of bones of two species of cattle. Among the skeletal elements we could clearly identify whole bones and large fragments, such as fragments of the skull and distal parts of ribs and extremities. Significant portion of unidentified remains most likely belonged to cattle as well because among the bones of other large ungulates were found only single fragment of deer hind extremity. Significant fragmentations of skull, vertebrae, ribs, flat and tubal bones indicate intensive use of these parts of animal carcasses. Almost all of them bear traces of butchering with the use of a sharp metallic object (such as an ax). Significant percentage of bone fragments belong to a meaty parts of an animal's carcass (such as back and shoulder blades). Distal bones of extremities (phalanges) have been preserved as a whole. True traces of heat treatment of bones were found only in the layer 7/4 (the bones were burnt). Some traces of bone-nibbling by predatory mammals (with a high probability by dogs) were also identified. The bones discovered of small cattle were identified as belonged to *Ovis aries* and *Capra hircus*. In general, among the bones of small cattle there were remains of adult and juvenile species. Domestic pigs were presented by a few bones of young species (7.5%). Long (tubal) bones without epiphyses found in the layer 7 belonged to a young animal, probably a newborn or an animal of a suckling age. Bones of a domestic cat were found, that is a typical indication of taphonomic accumulations in a settlements of sedentary populations such as farmers. Interestingly, there were no dog bones, although bite traces were found on many bone fragments. Actually, that was a reason to a difficulty in identification of the morphological features of the majority of cattle bones. Individual bones of a maral (*Cervus elaphus*, Caspian Red Deer) and a roe deer demonstrate that local population was engaged in hunting, but it does not provide enough information about the significance and structure of this activity. The bones of birds belonged to different species of poultry. As it was defined by Martynovich, N.V. the bulk of bones is originating from chicken skeletons, and one bone presumably belonged to a goose.

Summary table of osteological materials 2007-08

Type	1	2	3	4	5	6	7
Pig (<i>Sus scrofa domestica</i>)		1	1	1		1	4
Cattle (<i>Bos taurus</i>)	1	25 / 2 *	9	11	7	3	52 / 2
Small cattle (<i>Capra, Ovis</i>)	1			3			11
Including Domestic sheep (<i>O. aries</i>)		1		2			
Domestic Goat (<i>C. hircus</i>)							1
Cat (<i>Felis catus f. domestica</i>)				1			
Roe deer (<i>Capreolus pygargus</i>)							1
Deer (<i>Cervus elaphus</i>)			1				
Chicken (<i>Gallus gallus domesticus</i>)		1	1			1	1
Goose (<i>Anser anser (domesticus)</i>)?							1
Unidentified (gen. indet.)	9	56	86	52	62	35	85
Total:	11 / 2	84 / 5	98 / 4	70 / 4	69 / 1	40 / 3	156 / 7

* The numerator shows the number of remains and the denominator shows the minimum number of animals

Conclusions

Archaeological research conducted in 2007-2008 in the vicinity of the Russian-American Company building, indicate presence in this part of Irkutsk of a rich layer of soil with a thickness of up to 2 m deep that contains some remnants of human activity. Especially interesting findings were found at the bottom of the first sample of loose deposits (1c) and the top of the second sample of deposits (2a). They were found in not very thick soil formation and have different structures and colors that allow them to be easily identified. Two black thin layers saturated with coal (3rd and 5th occupation layers) represented great importance in the process of identification of the occupation layers and their age.

From the coal sample from the occupation layer #5 we estimated the radiocarbon date as of 240 ± 90 years (SOAN-7014). The richness of the layer #5 in coal indicates that its formation could be related to the fire of 1716, which burned down half of the fortress and many of the houses in the suburbs of Irkutsk (Monassein, 1936: 20). Consequently, occupation layers 6 and 7 can be dated to the end of the 17th - beginning of 18th century, the time when first Russian settlers began to build the city. Occupation layer 3 saturated in coals could be logically connected to the fire of 1879 that caused a lot of significant damage to the city (Romanov, 1914). This assumption seems to be quite valid, given the fact that the Siberian Coin of 1772 was found in the underlying fourth layer.

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¹ BCOΠΓO - Russian abbreviation, according to the <<http://news.babr.ru/?IDE=102>> stands for *Eastern Siberian Department of Russian Geographical Society* [translators' note]