Mongolian Journal of Anthropology, Archaeology and Ethnology, Vol. 6, № 1 (365): 27-63 (2010)

EXCAVATION OF BAYAN BULAG SITE (SHOUXIANGCHENG FORTRESS OF WESTERN HAN), NOMGON SUM OF SOUTH GOBI AIMAG, MONGOLIA

A.A.KOVALEV[1], D.ERDENEBAATAR[2], S. S. MATRENIN[3], I.YU. GREBENNIKOV[4]

[1] St.-Petersburg State University, Russia e-mail: chemurchek@mail.ru
[2]Улан-Баторский государственный университет, e-mail:ediimaajav@yahoo.com
[3]Altai State University, Barnaul, Russia e-mail:matrenins@mail.ru
[4]Алтайский государственный университет, e-mail: kaei@hist.asu.ru

In August and September of 2009 the International Central-Asiatic expedition of St.-Petersburg Museum-Institute- of Roerich Family, the Altai State University and the Ulaan-Baatar State University, headed by A.A.Kovalev and D.Erdenebaatar excavated Bayan-bulag fortified site dated back from Western Han period (about I century B.C.), in the Nomgon sum of South Gobi aimag of Mongolia.

Location and layout of the settlement. The Bayan-bulag locality is situated 26 km to the south from the centre of the Nomgon sum, to the south from Khurkhiin-nuruu mountains, at the northern side of Bordzongiin-Gov' desert, the GPS position of this place is about N 42^0 36' and E 105^0 10.5' (Fig. 1: 1, 2). Five springs well out there and flow southwards from the central part of a water-bearing layer, which is denuded there and stretches for more than 4 km in west-east direction. The Bayan-bulag springs on the whole pour out about 12500 litres of water per hour (according to the topographic map K-48-55, scale 1: 100000) (in Mongolian the name "Bayan Bulag" means "The Rich Spring"). Today this place is good for agriculture, and modern inhabitants use to cultuvate vegetables there.

Plants which grew for thousands and thousands of years everywhere along the outcrop of the water-bearing layer, have fixed and therefore preserved the ancient soil there, while at surrounding territories it was completely eroded. Moreover, plants have accumulated loess and sand, brought by wind, so that a layer of aeolian soil 1-1,5 m thick has been deposited. The result was that an eminence oriented west-east (around 2 kilometers long), with height from 2 to 5 metres arised along the whole water-bearing outcrop (further mentioned as "bench") (Fig. 1: 1; 2: 1). From the south this eminence appears as a precipice about 2 meters high, with is situated 50-100 metres to the south from springheads.

We managed to trace intact cultural layer and remains of ancient constructions only at the territory of the uppermentioned eminence. At the same time numerous

artifacts and fragments of human and animal bones have been gathered by other expeditions, by local inhabitants and also by us from a large territory of about 4 square kilometres to the south from the bench. By digging prospect-holes we discovered that these things usually lay at a depth up to half a metre under the today surface, in total disorder, soil layers were secondly deposited there. Artifacts could have appeared there because of washing down of the cultural layer from the top of the bench. But such an enormous multitude of artifacts could not appear only for this reason (according to informal sources, in the autumn of 2008 robbers worked there with metal detectors and found up to 3000 arrowheads of arbalets' arrows dating back from the Han period). As it came out during our excavations, the cultural layer which have preserved at the "bench", was conserved by aeolian deposits, only being "cleaved" by some ravines (in Mongolian -"sair"s). The most probable explanation of numerous artifacts in a secondly deposited soil layer to the south from the bench is that 2000 years ago the natural eminence over the outcrop of the water-bearing layer stretched much farther to the south, and only the northern part of the settlement, which was situated at it's surface, preserved to our time. The southern part has been eroded as the springs dried up and plants disappeared, which had preserved the soil from dispersion. Artifacts gradually "sank" to the level of today surface, that is 2 metres down. As far as we know, climate changes were so considerable during last 2000 years that the most part of the Ordos and of desert Ulanbuhe situated at the South-West of Ordos, which had had good conditions for agriculture or cattle-breeding only in Han times (Jing Ai 1999: 113-129), have turned into desert. If the discharge of the water-bearing layer at that period was more than today, there should have been more springs and the area covered with vegetation should have been much larger to provide preservation of ancient soil layers much farther to the south than it is in our days.

The exploration of the locality which we have made during our survey in 2007 and before the beginning of excavations in 2009 revealed the following disposition (Fig. 2:1). At the "bench" right near the road to Nomgon (the somon centre) three walls made of soil rise, these are the remains of a rectangular construction (possibly a fortress), oriented North-South, with a deviation about 10 degrees anticlockwise. The walls are most better preserved in their eastern part, and the western part of the construction is badly washed away. The largest preserved height of the walls is 2 metres, the thickness is about 8 metres. The nothern wall has preserved along all its length that is about 130 metres, the western wall is about 24 metres long and the eastern wall is up to 65 metres long. Eastern and western walls end up on the very brink, thus we supposed that the southern part of the construction had been eroded as a result of drying up of the springs. By the north-eastern side of the construction outside from the walls we traced a ditch up to 4 metres wide and about 2 metres deep. Inside the walls, at the southern side there is a springhead of one of Bayan bulag springs, marked as "Spring 1". To the East from it at the centre of the fortress a plate lawn appears where the soil is very wet. It's most likely that in ancient times there also were springheads which flooded all central part of the construction. To the East from the eastern wall, along the ditch line there is a narrow

gully, in which Spring 2 begins. Within the walls we found a few artifacts at the surface – some fragments of pottery and arrowheads. The most of arrowheads were found in the north-western corner of the construction (about 30 on the surface), and we made a rectangular prospect-hole N 1 there, it's long side was 5 m, oriented North-South, the short side was 2 m.

We has found a layer of chinese tile at the today surface at a distance of 100 m eastwards from the eastern corner of the "fortress". After a layer of sand has been removed with a bulldozer, we made there excavation area N 3 in order to investigate an architecture of the ancient building. The final square of the excavation area appeared about 180 m^2, it was 25 m long from west to east and up to 12 m long from north to south.

200 m to the East-North-East from the north-eastern corner of the "fortress" there was an eminence about 1,5 m high, which stretches west-eastwards by 60-70 metres, and no less than 5 m wide. In 2007 we have made prospect-holes there and found that upper layers of this hillock were rich with artifacts of Han period, and in the central part of the eminence a construction of rammed soil was observed (a wall, as we discovered later). Here we made our excavation area N 2, it's final square was 387 m^2. It was oriented north-south, up to 24,3 m wide and 28 m long. Before the beginning of marking a layer of drifted sand and vegetation were removed with a bulldozer. A complete examination was carried out only in the western part of the excavation area with a square of 176 m^2. The eastern part was laid up when the time of our field-works ended.

At a distance of 400 m to the east from the eastern wall of the "fortress" a springhead of the Spring 3 was located. About 30 m below it human bones washed away from the western bank of the stream have been found by local inhabitants in the stream-bed. After clearing up of the bank precipice we decided to make an excavation area there (N 1). With a help of the bulldozer we removed the upper sand layer at the square about 30x20 m. Clearing up revealed a burial of parts of no less than 3 human bodies at the ancient surface (Burial 2), and a burial of a man whose legs had been lowered to an artificial pit, also at the ancient surface (Burial 1). In the course of further investigation this pit was opened. It was a rounded pit, its axis was about 7 m, and at its bottom we found remains of no less than 30 persons, buried with clay in ancient times.

Background of investigation.The archaeological research of Bayan bulag fortress (Bayanbulagiin tur') began in 1957 when Acad. Kh. Perlee undertook an archaeological survey at the territory of Nomgon sum. Kh. Perlee included a report of this survey into his book devoted to ancient towns of Mongolia, which was published in 1961 an in the map of Mongolian ancient settlements (Perlee 1961, Perlee, Maidar, 1970). In papers published in 1961 and 1962 (Perlee, 1962: 27-35) the scholar gave a description and a draft plan of soil ramparts of the "fortress" in Bayan bulag locality (Fig. 2: 2). Judging from this source the shape of the construction was rectangular, it's

sides were oriented north-south deviating for 25 degrees anticlockwise. The eastern and western walls of the fortress were about 130 steps long, the nothern wall was 170 steps long. (We underline that precisely steps, not metres were mentioned in the text and illustration of Perlee's paper. Unfortunately in later publications of Z.Batsaikhan and D.Tseveendorzh (Tseveendorzh et al., 1994: 77; Batsaikhan, 2002: 47) steps were replaced by metres, and the measurings of the fortress, made by Kh.Perlee, were greately enlarged: the northern wall appeared 180 m long, the western wall – 110 m long and thickness of the walls reaches 10-16 m!) At the corners of the construction whidenings were shown 18 steps in diameter. One more "wall" situated about forty steps to the South from the fortress was shown at Perlee's plan. The text did not explain this (this southern wall could has been torn down in the 80th, when a storage pool has been made, which accumulated water of Spring 1. In every case in the description of the construction the author did not take into account the distance from the southern wall when he gave the measurements (length) of the eastern and western walls. According to Perlee, the walls-ramparts of the fortress were 1 to 1,6 metres high and up to 5,7 m thick.

The material gathered near the fortress included bronze arrowheads with iron stems and pottery, which Kh.Perlee dated back from Xiongnu times. Basing on these findings Kh.Perlee supposed that these was a Xiongnu' fortress in Bayan bulag. It should be mentioned that the size and shape of this fortress correspond in general to the layout of soil ramparts of the fortification near the Bayan bulag Spring 1.

In 1976 D.Navaan undertook a small excavations inside this "fortress" and to the north-west (?) of it. The results of this research are known only as expounded in some works by Z.Batsaikhan (Tseveendorzh et al., 1994: 77; Batsaikhan, 2002: 47): particularly they mention that D.Navaan has found there the "wuzhu" coins, phragments of bronze "goods" (most likely – of coppers), pottery, which he has attributed to the period from the Xiongnu times to XIII-XIV centuries. In 1990 the expedition of the Institute of History of the Mongolian Academy of Science, headed by D.Tseveendorzh, P.B.Konovalov and Z.Batsaikhan, carried out a first large-scale excavation of this settlement. Judging from the plan included in their paper published in 1994 (Tseveendorzh et al., 1994: fig. 1) (Fig. 2:3), the scholars mistook a group of several eminences situated eastwards from the settlement, for the remains of the fortress described by Kh.Perlee. (At the top of one of these eminences an excavation area № 2 was situated during our excavations in 2009.) The paper also narrated that two excavation areas have been made – those were trenches 2 metres wide and 10 metres long. The first area oriented north-south was supposedly situated at the place of former D.Navaan's excavations, that was in the "north-west of the fortress". In reality, according to the same plan, the excavation area was situated at a natural eminence about 100 metres to the north-east from the north-eastern corner of the "fortress" and at a distance 80-100 metres to the west from our excavation area N 2. In 2009 we did not manage to determine the location of that excavation area. The second area of

excavations has been made to the south from a "bench", where we conducted excavations in 2009. At the location of this second area a cultural layer had been completely mixed and displaced. The remains of this excavation area were found by our expedition and marked at the general plan of the settlement. The excavations of 1990 yielded 28 bronze arrowheads with iron stems, four "wuzhu" coins, a bronze mirror, bronze stamp, some pieces of iron goods and pottery and a part of bronze arbalest' lock (Batsaikhan, 2002: 47-51). Judging from the fact that only chinese goods of Han period have been found in Bayan bulag, Z.Batsaikhan made a proposition that in this place a garrison of chinese soldiers in the Xiongnu shanyu service had been located. Z.Batsaikhan (Batsaikhan, 2002: 51-52) identified the settlement itself with the Zhaoxincheng town, which had been built by chinese official Zhao Xin, who had served to Xiongnu, at their territory.

In 2007 the International Central-Asian expedition of Roerich Family Museum-Institute, of St.Petersburg State University and the Ulaanbaatar State University within two days carried out a short survey of the settlement territory. During this investigation we have found pieces of iron bushes from wheels of vehicles and wheelbarrows, phragments of iron spades-celts, knives, about 30 bronze arrowheads with iron stems, bronze belt hook, two "wuzhu" coins, a bronze hook for an umbrella, a bronze bush, pieces of iron and bronze coppers, a phragment of bronze arbalest' lock and a great amount of pottery shards of grey colour with technological textile ornament, including phragments of tile.

All the material is reliably dated from the West Han period and belongs to the "huaxia" culture. We have not found any material connected with Xiongnu culture at the territory of the settlement (today after the detailed general excavations of 2009 this fact seems undeniable). Thus it was established in 2007 that there are no evidence for the proposition that Bayan bulag settlement had belonged to the jurisdiction of the Xiongnu empire. As we supposed this place might be the location of an outpost of Chinese offensive operations – the Shouxiangcheng fortress, which had been built in 104th year B.C. These conclusion was expounded in our paper published in 2008 (Kewaliefu, Erdenebaatar, 2008: 108-110).

Prospect-hole No 1. The prospect-hole was made in the north-western corner of the "fortress". An area of 5x2 m was opened and excavated to the depth of 1 m. At this level a pure loam subsoil of grey-brown colour lay, above this a cultural layer appeared, consisted of humused loam containing charcoals, fragments of human and animal bones and artifacts. In the central part of the area we traced a small pit in the subsoil about 50 cm in diameter and about 20 cm deep, at its bottom there laid pieces of a grey-earthenware vessel' bottom, two fragments of iron bushes of a wheelbarrow, half of an iron bush of a waggon and an iron celt (Fig. 20: 6). In the lower part of the layer at the depth of 1,7-1,0 m pottery shards were found and also two iron tips for wooden spades (Fig. 20: 1, 2) and two iron picks (Fig. 20: 5). It seems more probable that these artifacts appeared there during the building of the "fortress", because these are parts of tools

destined for digging and carrying of soil. Since we have not revealed signs of prolonged living of people at the territory of the "fortress", we suppose that the walls had been built in order to protect the source of water (Spring 1), and also the "fortress" served as a provisional sanctuary for a case of war threat.

The Excavation area No 3. The main aim of excavations at this area was cleaning up of a tile layers, of which roofs of ancient buildings had consisted. The tile was everywhere covered by a loess layer about 20-40 cm thick, and over the loess hillocks has formed due to brushwoods of *Caragana*. After we cleaned up and draw the tile and artifacts, lying at the level of ancient surface, we deepened the excavation area for 0,5-0,7 m at its full square. This allowed us to reveal borders of ancient tranches and dugouts at sidelines. Thus the history of building and fuctioning of ancient constructions was restored (Fig. 3).

In the north-eastern part of the excavation area at the level of ancient surface a rectangular foundation pit had been made in ancient times no less than 40 cm deep, again filled with grey loam subsoil. The foundation pit had been oriented east-west with deviation of 10 degrees clockwise. The length of the foundation pit appeared no less that 12 m, its eastern part was not investigated. The foundation pit was about 4 m wide. By it's brinks in sectors 48, 28, 43, 16 some stones had been layed. Most likely these stones served as piers for posts of a frame construction of walls of the building. The wooden roof of the building had been covered with tile. After the building had burned, layers of charcoals and tile had formed within the outlines of the building. No signs of permanent presence of people were found within the construction. Among findings inside the building and around it we should mention a bronze guard of an iron sword (Fig. 24: 1), a bronze stamp with poorly preserved inscription of a name of an owner (Fig. 26: 4) and three strongly corroded "wuzhu" coins.

To the west from the building described above within sectors 33-35, 21, 22 no charcoals were found, but a lot of tile, scattered phragments of pottery VD4 (rims of no less that 10 vessels (fig. 16: 3, 4, 8, 9, 12, 14, 15) and a large piece of an iron copper caldron. At the same time at the level of ancient surface in sector 33 appeared a stone, which lay at the same line with stones which marked the outline of the nothern wall of the building, seen in sectors 28 and 48. A partly destructed piece of sandstone was also found in sector 21, which approximately ranked with stones, marking the contour of the southern wall. If we do not consider it a coincidence, we can suppose that the building had an open extension-yard at it's western side. This extension probably had walls covered with tile, but no roof, because the tile layer occupies only the perimetral part of it's area.

At a distance of 4 m to the south from the described building numerous scattered tile shards were found at an area, stretched for 25 m (within the excavation area) and about 2 metres wide. The belt of tile phragments lay exactly in parallel with the long axis of the described building. At southern side of the tile belt four stones were

cleaned up in sectors 40, 8, 11, 52, lying at the same level with the tile, at one row parallel to the uppermentioned belt. At sections GG' and HH', made according to sidelines between sectors 12-10-24/52-49 and 8-6-20-18-32/11-9-23-21-35, some signs of leaking of green clay at a surface of grey loam were revealed, just several centimetres to the north from the uppermentioned row of stones. Thus we can assume that these stones, tile and clay are the remains of a frame construction of a wattle and daub fence, covered with tile. The fence had been situated along the row of stones, but later it fall to the northern side. The fact that draws attention is that the area of scattered tile is interrupted between sectors 6 and 9. Directly to the south from this place in sectors 12/11 and 8, areas with scattered tile phragments were traced, which did not form a single whole with the belt. The tile phragments here partly covered stones in segments 8 and 11. There was no tile between these areas in sector 11. And in sectors 12/11 the area containing tile is of clear arched shape. According to the analogies in earthen dwelling' models from tombs of Han period, we can suppose that in this part of the fence there was a aperture with gates and arched roof. Stones which were found in sectors 8 and 11 served as piers for these gates. The western end of the belt of scattered tile appeared in sectors 57-58. Here the fence had probably ended, or turned to the north. At its eastern side the tile belt enters the wall of the excavation area, and along this line some tile can be traced at the today surface for about 30 m to the east.

Among tile phragments of the fence ceiling we found several accumulations of shards of large earthenware vessels (VD 1, 2, 3, 5, 6, 8, 9, 10) (Fig. 16: 1, 2, 5-7, 10, 11, 13; 17: 1). The majority of these phragments lay on the tile, or at one level with it, not under the tile layer! This may stand for these vessel shards had been used for repairing of the tile covering, because the reserve of tile had been poor. The tile itself which had been used for covering the roof and the fence appears very various in ornament and in size. We have numbered at least five types of "lower" tile and three types of "upper" tile (Fig. 18, 19). Since no evidence of earthenware goods production has been traced within the settlement, we propose that all the tile had been brought from China. In addition it is most probable that the tile had not been made especially for this settlement, but had been gathered after being used at some other buildings. An enormous efforts which had been made to carry several tons of tile for at least 300 km can not be explained by any rational reasons. A building of a frame-and-post construction could not be a protection in a case of enemy attack. We found no signs of permanent living in it. So the building investigated could had been erected for ritual of symbolic purposes. Most likely it had been a temple. The more so as one leg of a very large earthenware tripod "ding" (Fig. 17: 2) was found lying at the ancient surface to the south from the area of scattered tile, which covered the fence. Such vessel could have been used for ritual.

Excavation area No 2. Excavation area was divided into square sectors, and the cultural layer was excavated subsequently by layers of 25-30 cm thick into its entire depth. Architectural constructions if revealed were cleaned up and depicted in detail (Fig. 4). We have found three walls oriented East-West, made of clayey black-red

subsoil by “hangtu” method of ramming soil. These walls had been built within tranches about 0,7 m deep, their modern height is not more than 0,5 m above the ancient surface, however they had been much higher in ancient times. It came out that the preserved upper part of walls has almost turned into dust. The black-red dust of the same composition formed the upper layer (layer No 3), up to 1 m thick, which filled the area between walls 1 and 3 (with a squaire no less than 100 m^2). It is most likely that this layer had been formed as a result of eroding of the upper parts of walls 1 and 3. If we take into account the volume of the layer No 3, we can suppose that walls 1 and 3 had risen above the ancient surface for at least 2 metres.

The wall No 1, which was 2,0-2,3 m thick, stretched over all excavation area from its western to the eastern side, with deviation of 15 degrees clockwise. In the eastern part of the area the wall turned to the south.

The wall No 2 was 3 m thick, it was traced in the extension No 1 at a distance of 7 m to the north from the wall No 1.

The wall No 3 stretched directly west-eastwards at a distance of about 8 m to the south from the wall No 1. According to our excavations within extension No 2, the thickness of this wall is about 1,4-1,5 m. Unfortunately we must have stopped excavations of the eastern part of the construction, so it remained uncertain, whether walls No 1 and No 3 joined each other (the distance between them decreased west-eastwards).

1 metre to the south from the wall No 1 a parallel walls of raw brick masonry had been built, no less than 1,2 m high (no less than 9 brick layers) (Fig. 5). The base of the wall had been deepened into the subsoil for 0,5 m. The level of the ancient surface preserved between this wall and the wall No 1 in the ancient times. Here within a pass between the walls (Fig. 6) at an area of about 2 sq. m we have found 8 phragments of arbalest locks, that was the greatest concentration of these artifacts at the entire area of investigation.

A system of trenches and dugouts (Fig. 7) had formed to the south from the base of raw brick wall till the wall No 3, because soil had been dug there and removed irregularly at the ancient times. A bulkhead had been left at the depth of about 0,8 m from the ancient surface at the middle of the area between the walls No 1 and No 3. Two dugouts had been made between this bulkhead and the raw brick wall (RB1) (the eastern dugout No 1 and the western one No 2), both were 2 metres deep (from the ancient surface). At a balk between these dugouts a base of one more wall made of raw brick masonry was traced. This wall had been built parallel with the wall RB1. We also discovered a part of a base of one more wall, made of raw bricks, parallel to the wall RB1, at the longitudinal bulkhead by the brink of the dugout No 1. To the east from the dugout No 1 within the sideline we observed a great amount of raw bricks of a tumbledown wall, which possibly had been situated at right angle to the wall RB1. Thus, in the ancient times the dugout No 1 had been surrounded with a brick walls from

all four sides. Becides this, we have found two small sloping ditches puttied with green river clay, going down to dugouts No 1 and No 2. These might had been flues or vent-pipes. Numerous phragments of iron celts, spades, bushes, knives and hoes were gathered at the bottom of the dugouts. Three large eathenware vessels had been dug into the sloping walls of the dugout No 2. A trench about 2 m wide and 1,4 m deep (from the level of ancient surface) had been dug between the middle bulkhead and the wall No 3.

No signs of inhabitancy were observed within the dugouts (such as hearths or heating systems). The material from this excavation area, besides pottery, were numerous animal bones (among them a lot of bones of dogs, including two almost complete dog skeletons), bronze arrowheads of arbalest arrows with iron stems and iron armour plates (see Fig. 20-22, 24, 26). Also we found there iron tools, fragments of iron coppers, bushes, etc. The most important finding was a earthenware stamp "feng-ni" (Fig. 26:1): these stamps had been used for sealing up official documents. Unfortunately we did not manage to read two of four characters on the stamp, as they appeared partially preserved. A cultural layer up to 1 metre thick had been deposited during the period when the constructions had been used. This cultural layer (layer No 1) rich with artifacts consisted of loess subsoil which possibly had been removed by the wind and accumulated in trenches and dugouts. At the surface of this cultural layer within the dugout No 1 we found several groups of bones of separate parts of a body of an adult man (separately a scull, a pelvis with femurs, pectoral vertebrae with ribs, left shoulder-blade and a clavicle, left ulna and left radius). Such a layout of bones could be only a result of premeditated dismemberment of a corpse, after which the parts should have been left at the surface, where bones might have been removed by animals after decomposition of flesh. At the same surface we discovered a well preserved skeleton of a dog, its body had been cut crosswise in area of a pelvis (Fig. 8). We did not find any indications of premeditated covering of human and dog's bodies with soil. These findings made evidence that after the death of these man and dog the building had been left, but not destructed. The layer No 1 was everywhere overlapped with layer No 2, which was about 0,7 m thick and consisted of numerous alternating thin layers of clay and loess. This layer had been formed as a result of penetration of the subsoil brought by rain water inside the construction during many years. The layer No 2 is itself covered with layer No 3, consisted of the dust, which arose while the upper parts of walls No 1 and No 3 had been eroded (Fig. 9).

Judging from the investigations at the Central Plane, storehouses of Han period had such massive "hangtu" walls, such as investigated in Bayan bulag (Zhongguo gudai jianzhu shi 2003: 521-522). Probably, the rammed construction, the part of which we have excavated, had also been intended for storage purposes. In favor of this propositions were numerous findings of iron goods at the bottom of dugouts and trenches. However a great amount of animal bones and pottery shards made evidence that people had permanently stayed there or at least visited the building. It had rather been a duty, as there were no signs of hearths or heating systems. On the other side

broken arbalest locks which were found inside the "gallery" between the wall No 1 and the brick wall witness that the defenders actively fired upon the enemy from this place.

Excavation area No 1. As it was already mentioned, after removing the upper (ballast) layer with a bulldozer, we firstly found here a burial at the ancient surface (burial No 1). The deceased man had been layed on his back, straight, with his legs oriented south-south-westwards. The sceleton lacked a scull and a right hand. Legs of the corpse from it's knees had been deepened into a soil pit, filled with grey loam. The wall of this pit in this place had been dug in a variegated black-yellow subsoil loam.

After the upper layer of aeolian deposits has been completely removed by a bulldozer, we began to excavate the filling of this pit (tomb M1) (Fig. 10). It was revealed that the pit was of irregular round shape, at it's northern and north-eastern parts it was about 1,3 m deep, at this parts the pit had almost horizontal bottom and vertical walls, the pit widened to the west and south-west, the bottom gradually rose in these directions and finally reached a supposed level of ancient surface. The bottom of the pit slightly deepened to it's centre. At the bottom of the pit dismembered skeletons of adult people were excavated, which were designated as 20 "skeletons" and 33 "body fragments". One of such fragments, namely a left hand, was excavated on the brink of the pit at it's eastern side, at the same level with the burial No 1. Apparently the deceased from the burial No 1 and this hand were premeditatedly buried near the pit at the same time with the burial of sceletons in it. One of the deceased (skeleton No 16) had been buried separatedly from the pile of bodies near the northern wall of the pit. This deceased man had been layed stretched on his back, oriented approximately east-west, with his legs eastwards. The deceased was lacking a head and a neck. Under a right shoulder of this person we found a bronze open-worked buckle with an iron lug (Fig. 25:1). We traced a stripe of red paint under a left shoulder-blade of the skeleton. It should be pointed out that similar silver buckle was fastened at a sheath of a fighting knife, which was found in a tomb of a wang of Zhongshan kingdom in Mancheng of Hebei province (Zhongguo shehui kexueyuan kaogu yanjiuso / Hebei sheng wenwu guanli 1980: 105, 118, fig. 71, 81(7)) (Fig. 25: 5, 6). The well preserved sheath from Mancheng had been painted in red. So it is possible that the deceased had a shoulder-belt with a sheath attached to it. A special character of a burial indicated a high social status of the deceased, probably he had been an officer.

The other more or less complete bodies were piled in 4-5 layers on the central part of the pit, various poses of deceased had preserved, including knelt down ones (skeletons No 5, 7) (Fig. 11, 12). In the centre of the grave the lowerest skeletons lay under water, because this area of the pit bottom formed a funnel-shaped fall as deep as the water-level of a stream that was the level of green clay horizon. We did not found any burial goods in this pile of sceletons. Several groups of cut fragments of human bodies with intact anatomic order (F2, F3, F4, F5, F10, S14, F24, F29, S15, F28, F21) had been layed around the main pile. Some cut parts of bones (or maybe – of bodies) also lay around (F19, F1, F6, F7, F8, F27). According to the poses of the deceased and

to the character of the soil which filled the pit, the bodies and body fragments had been covered with subsoil clay and loam immediately after burial. This filling yielded some parts of animal bones and fragments of pottery made of grey clay. It seemed that these findings did not belong to the burial goods of the grave, but had occasionally appeared there when the pit had been filled up (or before this). Immediately at the bottom of the pit we excavated some things which were put there as funerary objects, these were iron halberd "ji" (Fig. 26: 2), an iron check-piece with two openings (Fig. 26: 3), an iron hook (possible it had a bush which did not preserve) (Fig. 26: 4). Also we found there a fragment of an iron object, curved in two planes and two bronze three-edged arrowheads with iron stems.

All skeletons and fragments showed indications of premeditated dismemberment or cutting of bodies. In most cases a finding of incomplete sceletons or separate parts of bodies could not be accounted for decomposition of bodies and falling to pieces before the burial. For example fragment F2 is a right leg with preserved foot. In a case this leg had been separated due to decomposition, foot bones would be the first to fall off . Thus, the leg must had been premeditatedly cut before the body decomposed. Similar observations could be made for another fragments: S14 (a right hand had preserved in anatomical order, while there was no left leg), F31 (a hand had preserved together with a forearm), F34 (a hand had preserved together with an arm).

Inspite the condition of preserved bones was not good, signs of cutting with a sharp tool (like a sword or a fighting knife) could be clearly seen on many of them.

S1 – a right hand and a part of a forearm had been cut off;

S2 – a right foot with a distal part of a shin;

F4 – a right femur had been cut and lacked all distal part of a leg;

F6 – a cut off proximal part of a femur;

F7 – a cut off fragment of a shoulder-blade;

F8 – a cut off distal part of a tibia;

F9 – a femur lacking a cut off distal part;

S3 – a right leg had been cut off in a proximal part of a femur;

F10 – a scull with an atlas which upper jaw and a nose had been cleft in the middle;

S4 – a lower part of a right arm had been cut off in the distal part of it's forearm, a lower part of a left leg had been cut off in an epiphysis of a femur;

S5 – a left arm had been cut off in a distal part of a forearm;

F15 – a cut off distal part of a humerus;

S7 – a left leg had been cut off in a distal part of a shin;

S8 – a left arm had been cut off beginning from a proximal epiphysis of it's humerus, a left leg had been cleft in a hip (femoral???) joint and bent under a back of a deceased;

S10 – a left leg had been cut off in a distal part of a shin;

S11 – a left part of a face had been smashed (dismembered part of upper jaw had been layed on a chest of a deceased), a right hand had been cleft in a metacarpus (Fig. 13);

S12 – a right arm had been cut off in a distal part of a femur, a right shin had been pull up from a knee-joint (a scutum had preserved at it's place) and wrenched to the left;

S13 – a right arm beginning from a distal part of a forearm had been cut off, so had been both legs beginning from the lower parts of femurs;

F20 – a femur with both epiphyses cut off;

F21 – a left hand cut off from a proximal part of a humerus;

F22 – a femur lacking a cut off distal part;

S14 – a left leg had been cut off beginning from a distal part of a femur, a left hand had been cut off beginning from a forearm;

F30 – a righr shoulder-blade, a part of which had been cleft;

S15 – a right leg had been cut off in the distal part of a femur;

S18 – both arms had been cleft in a distal parts of forearms, so had been both legs in proximal parts of femurs;

S19 – a spine of a deceased had been broken in a lumbar part, and judging from the signs of cleaving at vertebrae, a lacking lower part of a body had been cut in half (Fig. 15).

Thus we can state that it had not been a dismemberment of corpses but a brutal flagrant mass murder. The fact that alive people had been cut became clear from a position of skeleton S18 (Fig. 14). This skeleton lay on his back and his arms had preserved raised in order to protect face. Forearms of these arms had been cut, probably by a single stab. However muscles of the deceased had been so strongly cramped, that fixed the posture of arms after the death. This could not happen if a dead body had been cleft. Such posture of arms could have been preserved after a man's death only due to a severe cold, if only he had not been immediately buried with clay after being killed. It seems most probable that buried people had been killed in winter, not far from the fortress, and after it their numb bodies and cut off body parts had been gathered and buried in preserved postures. Two men (S5, S7, see Fig. 11, 12) lay knelt with their feet under a pelvis. It may indicate that they stood on their knees when they had been killed, that means that killed people had been captives.

The halberd «ji», the check-piece and the hook, and also the sheath (?) with the bronze buckle had been put into the grave specially as a funerary goods, so we can propose that their "own" people, not enemies had buried the fallen. The set of iron goods (the check-piece and the halberd) had symbolized the position of the dead – it most likely that those had been a mounted troop (particularly cavalrymans were armed with long halberds "ji" in the Han period).

The excavated artifacts

Earthware vessels. All the ceramics found at the territory of the settlement were examples of grey pottery usually with textile imprints. Many vessels had flutes below their mouths. We found fragments of "pen" , "fu", "guan", "zeng", "weng" vessels (fig.). As it was mentioned before, one leg of a huge ritual tripod ding was excavated (Fig. 16, 17).

Tile. No less than 5 types of "lower" and 3 types of "upper" tile were revealed (Fig. 18, 19). All tiles had textile imprints and horisontal grooves. Such tile is characteristic of the Han architecture (Zhongguo gudai jianzhu shi 2003: 545, fig. 5-234).

Iron tools. We found spades "cha", "gao" picks, celts "fu", bushes "gong" for a wheelbarrow and for a wagons, a chisel "zan", and also fragments of knives and pieces of iron caldrons "fu" (Fig. 20).

Weapons, harness and clothes elements. More than 300 bronze three-squared arrowheads with iron stems were excavated, the iron halberd "ji", the iron check-piece, the iron armour plates, fragments of bronze arbalest locks, the bronze guard of an iron sword, two bronze buckles with iron lug, bronze belt hooks, bronze pommels of long fighting iron knives, bronze rings, bronze and iron handle tips"dui", a bronze bell, fragments of bronze caldrons (Fig. 20-25).

Artifacts with inscriptions. We obtained 4 bronze private stamps (Fig. 26: 2-5). Also the excavation area No 2 yielded an earthenware stamp from an official document "fengni" (Fig. 26: 1).Unfortunately we did not manage to read two of four characters on the stamp, as they appeared partially preserved. The first character (at the upper right corner) is "xi" – "the West". Next character (right bottom, partially preserved), as A.Kovalev stated using the analogy in other one Han stamp (Sun Baowen 2006: 274), is "xuan". It is unusual character for the stamps of Han time. According to the analogies, these characters could had begun the designation of a position of a person who had sent a letter, probably it was the beginning of geographical name (of a region, county, or a garrison, or possibly – of a place into which a commander of Han troops should had made headway). We know only one of the geographical name of Western Han time which included this character "xuan": it is name of defense line "Xuanlei sai" menshioned in "Dili zhi" of "Han shu" from the west of the county fortress Zengshan (that was westwards from the modern city of Ordos) of Xihe district (Ban Gu 1997: 1618). Than "xi xuan.." can sign "Western Xuan[lei]…". Finding of this stamp impress in Bayan bulag support the idea of A.Kovalev about attribution of this site as Han Shouxiangcheng becose in 71. B.C. the chief censor Tian Guangming had set out from Xihe district against Xiongnu (probably to west by menshioned road) and reached Shouxiangcheng (see above).. At the same area we found 2 pieces of pottery with characters (Fig. 26: 9-10). We gathered 20 "wuzhu" coins within the opened areas and during investigations of surroundings (Fig. 26: 6-8).

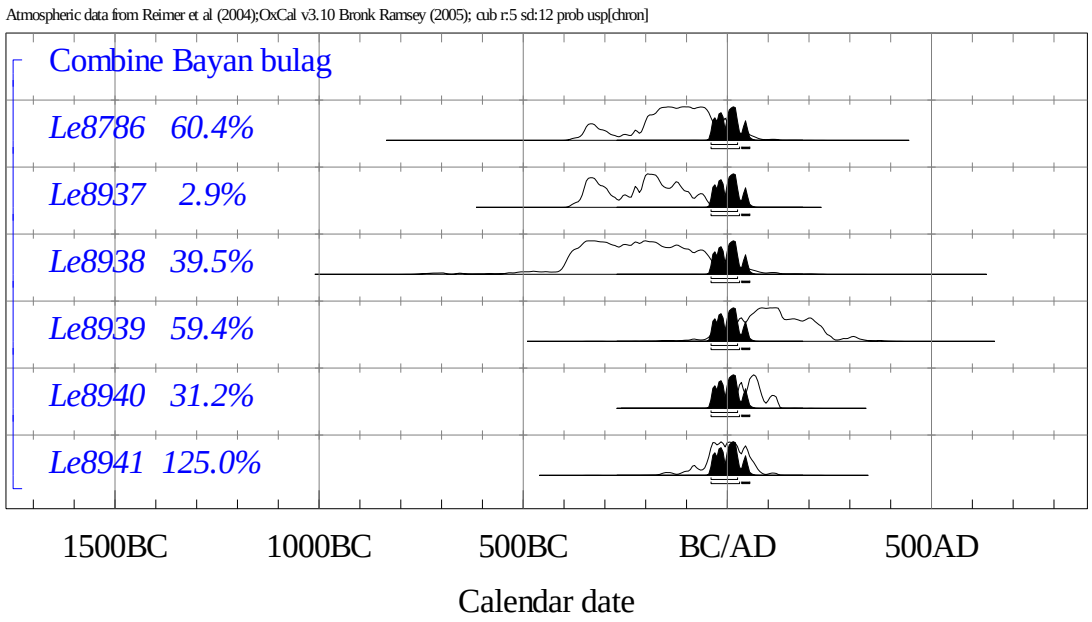
Radiocarbon datings. The following data was obtained in the Laboratory of Radiocarbon analysis of Institute of History of Material Culture of Russian Academy of Science from samples of charcoal taken from excavation areas (Le 8786 have been taken from excavation area No 3, all the other from excavation area No 2).

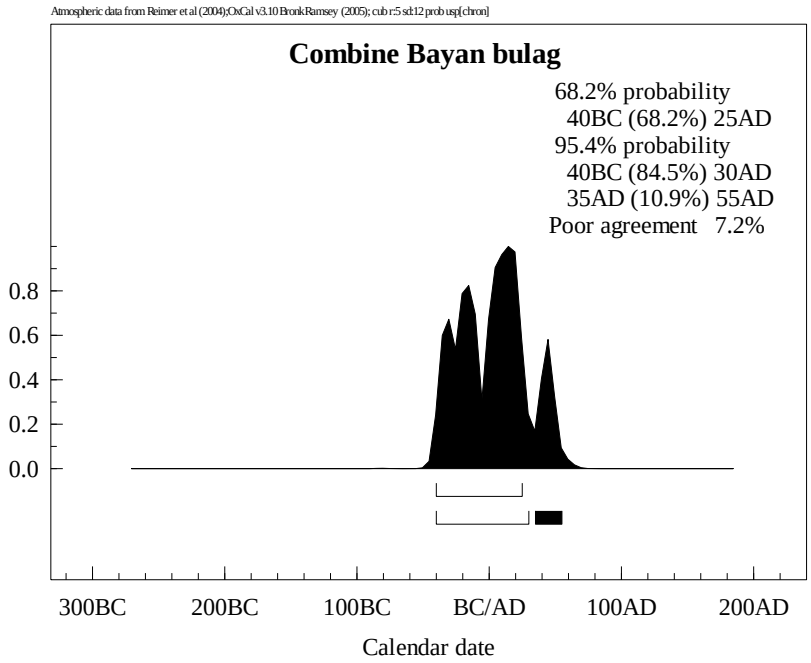
A combined date, obtained by summing up of the probabilities of dates cited above, fits within a period from 40th year B.C. till 30th year A.D. with probability of 84,5%, This indicates that the settlement should have been functioning in the period of later Western Han at least, though this particular date does not exclude that it could have been built in earlier time and have been left in a later period. Samples for dating were taken from different levels of excavation area No 2, and may correspond with different stages of existence of the settlement. Thus for example the only sample analysed from the excavation area No 3 (Le8786) produced a date which entirely corresponded to the Western Han period (B.C.); the same early dates pointing at early-middle stages of Western Han period were obtained from bonfires remains found at the subsoil level within the excavation area No 2 (Le8937, Le8938). Samples from within the cultural layer of the excavation area No 2 yielded more late dates (Le8939, Le8940, Le8941).

Table 1. **Radiocarbon datings of the Bayanbulag site**

Sample no.	Uncorrected, years	Calibrated 68.2% (1-sig.)	Calibrated 95.4% (2-sig)
Le8786	2090±70BP	210BC (68.2%) AD	360BC (10.8%) 280BC 260BC (84.6%) 60AD
Le8937	2150±50BP	360BC (23.1%) 290BC 230BC (2.4%) 220BC 210BC (42.7%) 100BC	370BC (95.4%) 50BC
Le8938	2170±110BP	370BC (68.2%) 100BC	500BC (95.4%) 100AD
Le8939	1900±70BP	20AD (68.2%) 220AD	50BC (94.0%) 260AD 290AD (1.4%) 320AD
Le8940	1940±25BP	20AD (68.2%) 85AD	AD (95.4%) 130AD
Le8941	2000±40BP	45BC (58.4%) 30AD 35AD (9.8%) 55AD	110BC (95.4%) 90AD

The direct analogies to the material from Bayan bulag gave findings from the nearest (situated at the distance of 70 km) Han fortress of Chaolukulun, which belonged to a system of Western Han "outer fortified line", which had been built in 102 year B.C. fragments of similar vessels, details of arbalest locks, iron armour plates, arrowheads, fighting knives, iron spades, etc., were found there (Ge Shanling, Lu Sisian, 1984: 98, fig. 3.; Ge Shanling, Lu Sisian, 1984a: 102-103, fig. 4, 5).





In their paper published in 2008 (Kewaliefu, Eerdenebataer, 2008) A.Kovalev and D.Erdenebaatar stated that the so called “northern section of outer fortified line” is not a Han fortifications as Chinese archaeologists (Li Yiyu 2001: 23-26) have supposed, but the Xixia long wall, and only “southern section of outer fortified line” is the fortification built by guanglu Xu Ziwei in 102 year B.C. ^{14}C dates obtained from fortifications of “northern section” belong to the period from 12 till 14 century A.D. As Kovalev and Erdenebaatar established that the western end of the “southern section” (genuine “line of guanglu”) is located in Chinese territory not far from Mongolian border. The Chaolukulun fortress (it’s name is a transcription of mongolian words “chulun kherem”, that means ”a stone fortress”), situated at the western extremity of this fortified line

must be the Sulucheng fortress, mentioned in "Di li zhi" of "Han shu" as the most western one in this defensive belt (Ban Gu 1997: 1620) (Fig. 1: 2). Heishuiquan (Tuoketuo county), Zhentaobuqi (Yulin), in Baotou shi those are Machi (Han Jiuyuan district town) and also Fengwan, Meilingshan, Chengliang, Xiachengwan (Neimenggu zizhiqu wenwu kaogu yajiusuo 2004: 109-112, fig. 26, 27, 28; Neimenggu zizhiqu wenwu kaogu yajiusuo / Tuoketuo xian bowuguan 2004: 169-184, fig. 29-38; Neimenggu wenwu kaogu yajiusuo 1997: 435-438, fig. 9, 10; Baotou shi wenwu guanlizhi / Dama qi wenwu guanlisuo 2000: 85-88, fig. 8, 9; Li Xingsheng 1992: 421-422, fig. 2) situated in Guyang county. The tile observed at those settlements is also similar with that from Bayan bulag (Neimenggu zizhiqu wenwu kaogu yajiusuo / Tuoketuo xian bowuguan 2004: 191, fig. 44; Neimenggu wenwu kaogu yajiusuo 1997: 435, 438, fig. 8, 11). Knives, celts, spades, plates, halberds, arrowheads similar to our findings were discovered at these sites (Neimenggu zizhiqu wenwu kaogu yajiusuo / Tuoketuo xian bowuguan 2004: 197, Pl. 48: 3, 7; Neimenggu wenwu kaogu yajiusuo 1997: 439-441, pl. 12, 13; Neimenggu wenwu gongzuo yan 1984). The ceramics from Bayan bulag bear a resemblance with the examples from other settlements at the frontier territories of Han empire (Tieling shi wenwu guanli bangongshi 1996: 40-44, pl. 7, 9; Jilin daxue kaoguxue xi / Liaoning sheng wenwu kaogu yanjiuso 1997: 139-142, Pl. 7, 8).

Arbalest locks, stamps, arrowheads, iron knives, bronze rings, bells like those found in Bayan bulag have been excavated in cemeteries of Narin tohoi, Bor tolgoi, Sajin tohoi, Bulanggin nur, Zhaowan M51, in burials dating back from late period of Western Han (Wei Jian 1998: 36-37, 66, 101-103, 243-245, 262). Similar goods such as arbalest locks are usual for burials of the 1st century B.C. For example 5 similar arbalest locks were found in the tombs of that period in Guanzhou (Zhongguo shehui kexueyuan kaogu yanjiuso / Guangzhou shi wenwu guanli weiyuanhui / Guangzhou sheng bowuguan 1981: 145, fig. 85: 1, 2).

The collection of armament and soldiers' life articles from Bayan bulag correspond with the set of goods from an armoury dated back from Western Han period excavated in the city of Chanan, which had been the capital of Han empire. The details of arbalest locks, iron halberds "ji", bronze and iron handle tips, bronze guards of swords, iron fighting knives, armour plates, a great amount of three-squared arrowheads with iron stems, a bronze caldron, bronze rings and tubes were found there (Zhongguo shehui kexueyuan kaogu yanjiusuo 2005: 80-117).

According to the materials of the most complete list of iron goods of Han period, artifacts from Bayan bulag namely the "ji" halberd, bronze-iron arrowheads, long fighting knives, celts, spades, armour plates, the check-piece, wheel bushes, iron caldrons belong to the types of goods which mainly were usual for Western Han period (Bai Yunxiang 2005: 163-191, 212-241, 243-244, 249-251).

Bronze belt hooks like those excavated in Bayan bulag belong to Western Han period (Liu Chaoying / Ji Yankun 2001: 496-497, 511, fig. 5.).

As it was mentioned above the bronze buckle with iron lug excavated in the grave No 1 appeared a direct analogy of the silver buckle of sheath for an iron fighting knife, which have been found in a tomb 1 in Mancheng (Hebei) (Fig. 25: 5, 6). That tomb was dated back from 113^{n} year B.C., as it was truly established that Liu Sheng – the first wang of Zhongshan kingdom had been buried in it (Zhongguo shehui kexueyuan kaogu yanjiuso / Hebei sheng wenwu guanli 1980: 336-337).

One of the stamps escavated in the settlement (Fig. 26: 5) has it's direct analogy in the stamp with same inscription "si yin" ("a private stamp") from third layer of Xiaohuangdi settlement in Liaoning province (that layer is dated back from Western Han period) (Jilin daxue kaoguxue xi / Liaoning sheng wenwu kaogu yanjiuso 1997: 149, fig. 14: 1, Tab. 8: 2).

Many of coins from our excavated areas were poorly preserved and thus the dating of those is difficult. However the excavation area No 2 yielded three coins "wuzhu" which are truly dated back from the end of the second – the end of the first century B.C. (Fig. 26: 6-8). These coins have a horizontal line above the opening. Coins with such sign had been made from issues between 118th year B.C. and the 5th year A.D.(Zhongguo qianbi da cidian 1998: 326-330, 348-349,353-358, 362-364, 373-377, 382-384). It is worth notice that no one coin from Van Man's series has been found in excavation areas and as an occasional finding.

Thus the Bayan bulag site should be dated back from the first century B.C. that is from the end of governing of Wu-di emperor till the period of Cheng-di emperor.

The fortress in Bayan bulag is the Shouxiangcheng of Han time

The results of excavations conducted in 2009 corroborated the conclusion of A.A.Kovalev, that Bayan bulag "fortress" is in fact Shouxiangcheng of Han period. According to juan 1 of "Han shu", this fortress had been built from the outside of the fortified line, under the order of Wu-di emperor, in the first year of Tai-zhi period (that was 104 year B.C.) (Ban Gu 1997: 200). Juan 110 of "Shi ji" runs that Shouxiangcheng had been built in order to help the left senior duwei of Xiongnu who had been going to take Han's side (Sima Qian 1996: 2915), but until the middle of the first century B.C. Shouxiangcheng had been mentioned as an important military base of Chinese. In spring of 103rd year B.C. Zhao Ponu had led his troops via Shouxiangcheng to unite with the insurgent duwei (Sima Qian 1996: 2915). In reply to this Xiongnu had made an attempt to conquer Shouxiangcheng (Sima Qian 1996: 2915). In 99th year B.C. Li Ling had set out from Jiuyan lake to the north towards the Gobi Altai and received an order to proceed to Shouxiangcheng at his way back "to give a rest to the troops" (Ban Gu 1997: 2415). In 81st year B.C. Xiongnu had blocked the way of Han troops on the threshold of an offencive of Chinese exactly in Shouxiangcheng (Ban Gu 1997: 3783). In 71st year B.C. the troops under the leadership of chief censor Tian Guangming had

passed via Shouxiangcheng where a chinese garrizon had stayed (Ban Gu 1997: 3664). In 51st year B.C. shanyu Huhanye, who had recognized the suzerainty of Han, had expressed his intention to protect the line of "outer fortifications" of Han and "in case of a danger" to take cover in the Shouxiangcheng, which had belonged to Han (Ban Gu 1997: 3798).

The situation of Shouxiangcheng of Han empire has been arguable. No data preserved concerning the existence of this fortress after Han period. Many scholars identified it with Middle Shouxiangcheng which had been built in Tang time. The "Historical Atlas of China" also adhered to this opinion (Zhongguo lishi dili ji, 2: 17-18). However in this case Shouxiangcheng appeared in the interior of the frontier lands of Han empire, from the inside of "the outer fortifications" and at the same time to the north from Beihe – northern stream of Huanghe – and the Yinshan mountains, that is to the north from Wuyuan and Shuofang. This does not correspond with the data on military operations of Han and Xiongnu in the first century B.C. (Fig. 1: 2). Bao Tong have paid attention to this and correctly pointed that Shouxiangcheng should have been situated north-westwards from the Jilu fortress and at the same time from the outside of "the guanlu fortifications" (Bao Tong 1992: 195-197). He based upon the following facts: in 103rd year B.C. the troops of Zhao Ponu had taken the field from Shofang and advanced "north-westwards", and "at their way back" they should have passed via Shouxiangcheng (Sima Qian 1996: 2915). Thus Shouxiangcheng should have been situated not to the north from Shofang, but to the north-west. In 81st year B.C. the shanyu with his troops had taken up a defensive position against Han near Shouxiangcheng (Ban Gu 1997: 3783). However it would be impossible if Shouxiangcheng had been located at the territory under chinese control within "the guanlu outer fortifications". In 71st year B.C. the Chinese had undertook a large-scale offencive against Xiongnu. As it is reported, according to the plan of this operation the troops under the leadership of the chief censor Tian Guangming had set out from Xihe district and reached Shouxiangcheng (Ban Gu 1997: 3664). But at the same time from the Wuyuan district at the territory of Beihe (to the north from it the Middle Shouxiancheng of Tan period was later built) another army had taken the field under Tian Shun command (Ban Gu 1997: 3786). Thus it appears evident that Tian Guangming had not followed Tian Shun, he had not crossed Beihe northwards, but had set out westwards from Ordos. In the geographic chapter "Dili zhi" of "Han shu" it is reported that there was a road from Sihe district to the fortified borderline which went to the west from the county Zengshan fortress (that was westwards from the modern city of Ordos) (Ban Gu 1997: 1618). This road directly come to defense line named "Xuanlei sai", and if inscription on the "fengni" excavated in Bayan bulag ("xi xuan…" see above) included this name it support position of Bao Tong.

Thus the analysis of written sources of Han period clearly indicates that Shouxiangcheng should have been situated to the west or to the north-west of the

Huanghe bend and from the outside of the "guanlu fortifications". This corresponds with the location of Bayan bulag site.

As it is reported in "Han shu" in 71th year B.C. an ill-starred military leader Tian Guanming had reached Shouxiangcheng and decided not to continue the march. Instead of that he "had indulged in lust" with a widow of a garrizon commander who had just passed away, immediately "in the temple where the coffin with the dead husband had stood yet" (Ban Gu 1997: 3664). Thus, there should have been a temple in Shouxiangcheng. The constructions investigated in the excavation area No 3, covered with tile, which had been carried from miles and miles away, could have been built only for religious purposes. It seems probable that the unprecedented sexual act had taken place exactly in this building.

Massive walls and fortified "dugouts", excavated within the excavation area No 2 point out that the specially fortified armoury of the base of the offencive operations of Han troops had been located in this place, that is completely corresponding with the information about the role of Shouxiangcheng in the wars with Xiongnu and about the impregnability of it. A lot of dog bones which were found here show considerable proportion of canine meat in dieta of Chinese soldiers and Chinese as a whole in this time (Peng Wei 1999).

Chinese soldiers, whose grave was discovered by our expedition, evidently had been the victims of brutal murder committed by Xiongnu. The terrible picture of captive warriors' killing exposes the methods of hostilities of Xiongnu, which inspired horror among Han people.

REFERENCES

Bai Yunxiang, 2005. Xian Qin Liang Han tie qi de kaoguxue yanjiu. Beijing: Kexue chubanshe.

Bao Tong, 1992. Shouxiangcheng yu Mangyigu kao. In: Zhongguo lishi dili luncong (1): 191-200

Baotou shi wenwu guanlizhi, Dama qi wenwu guanlisuo, 2000 Baotou jin hei de Zhanguo Qin Han changcheng yu gu cheng. In: Neimenggu wenwu kaogu. (1): 74-91

Batsaikhan Z., 2002. Khunnu. Ulaanbaatar.

Ge Shanling, Lu Sisian, 1984. Neimenggu jiang nei Zhanguo Qin Han changcheng yizhi. In: Neimenggu wenwu ziliao xuji, pp. 90-100. Huhehaote

Ge Shanling, Lu Sisian, 1984. Huge qi Chaolukulun Han dai shi cheng ji qi fujin de changcheng. In: Neimenggu wenwu ziliao xuji, pp. 101-107. Huhehaote

Ban Gu, 1997. Han shu / Ban Gu – text, Yan Shigu – comm. T.1-12. Ed. 10. Beijing: Zhonghua shuju chubanshe.

Jilin daxue kaoguxue xi / Liaoning sheng wenwu kaogu yanjiuso. 1997. Liaoning Jinxi shi Taijitun Xiaohuangdi Qin Han gu chengzhi shijue jiangbao. In: Kaoguxue jikan (11), pp.130-153

Jing Ai, 1999. Shamo kaogu tonglun. Bejing: Zijincheng chubanshe.

Kewaliefu A.A., Eerdenebataer D., 2008. Mengggu guo Nan Gebi sheng Xi Xia changcheng yu Han Shouxiangcheng youguan wenti de zai tantao. In: Neimenggu wenwu kaogu (2): 101-110.

Li Xingsheng, 1992. Neimenggu Zhuozi xian Sandaoying gucheng diaocha. In: Kaogu (5): 418-430

Li Yiyou, 2001. Zhongguo beifang changcheng kaoyi. In: Neimenggu wenwu kaogu (1): 1-51. Hohhot

Liu Chaoying, Ji Yankun, 2001. Hebei sheng wenwu yanjiu suo zhengji de gudai qingtong dai gou. In: Hebei sheng kaogu wenji / Hebei sheng kaogu wenwu yanjiusuo bian, pp. 490-512. Beijing: Beijing yanshan chubanshe.

Neimenggu wenwu gongzuo yan, 1984. Huhehaote Ershijiazi gu cheng chutu de Xi Han te jia. In: Neimenggu wenwu ziliao xu ji, pp. 113-124. Huhehaote.

Neimenggu wenwu kaogu yajiusuo, 1997. Huhehaote shi Yulin Zhentaobuqi gu cheng fajue jianbao. In: Neimenggu wenwu kaogu wenji (di 2 ji) / Neimenggu wenwu kaogu wenji, pp. 431-443 Beijing: Zhongguo da baike quanshu chubanshe.

Neimenggu zizhiqu wenwu kaogu yajiusuo. 2004. Qingshuihe xian Chengzuizi yizhi fajue baogao. In: Neimenggu wenwu kaogu wenji (di 3 ji) / Neimenggu zizhiqu wenwu kaogu yanjiusuo bian, pp. 81-128. Beijing: Kexue chubanshe.

Neimenggu zizhiqu wenwu kaogu yajiusuo / Tuoketuo xian bowuguan, 2004. Tuoketuo xian Heishuiquan yizhi fajue baogao. In: Neimenggu wenwu kaogu wenji (di 3 ji) / Neimenggu zizhiqu wenwu kaogu yajiusuo bian, 153-217. Beijing: Kexue chubanshe.

Peng Wei, 1999. Qin Han yinshi shenghuo zhong de roulei shiwu. In: Zhongguo yinshi shi. Beijing: Zhonghua chubanshe.

Perlee Kh., 1961. Mongol ard ulsyn khot suuriny tovchoon. Ulaanbaatar.

Perlee Kh., 1962. Umnegov', Uverkhangai aimguudyn gov' talyn nutgaar ertnii sudlalyn khaiguul khiisen n' // Arkheologiin sudlal. T. II, fasc. 6: 27-35.

Perlee Kh., Maidar D., 1970. BNMAU-yn nutag devsger deer baigaa balgas, tuuriin buduuvchilsen zurgiin todoikhoilolt // In: Maidar D. Mongolyn khotyn gurvan zurag, pp. 19-52. Ulaanbaatar.

Sima Qian, 1996. Shi ji / Sima Qian – text, Pei Yin, Sima Zheng, Zhang Shouze – comm. T. 1-10. Ed. 14. Beijing: Zhonghua shuju chubanshe.

Sun Baowen, 2006. Han yin zi dian. Changchun: Jilin wenshi chubanshe.

Tieling shi wenwu guanli bangongshi, 1996. Liaoning Tieling shi Qiutai yizhi shijue jianbao. In: Kaogu 1996 (2): P. 36-51

Tseveendorzh D., Batsaikhan Z., Turbat B., 1994. Siunnugiin khot suuriny asuudlal. In: Shinzhlekh ukhaany medee 1994 (3-4): 77-85.

Wei Jian, 1998. Neimenggu zhongnan bu Han dai muzang. Beijing: Zhongguo da baike quanshu chubanshe.

Zhongguo gudai jianzhu shi, 2003. Liu Xujie zhibian. T. 1. Beijing: Zhongguo jianzhu gongye chubanshe.

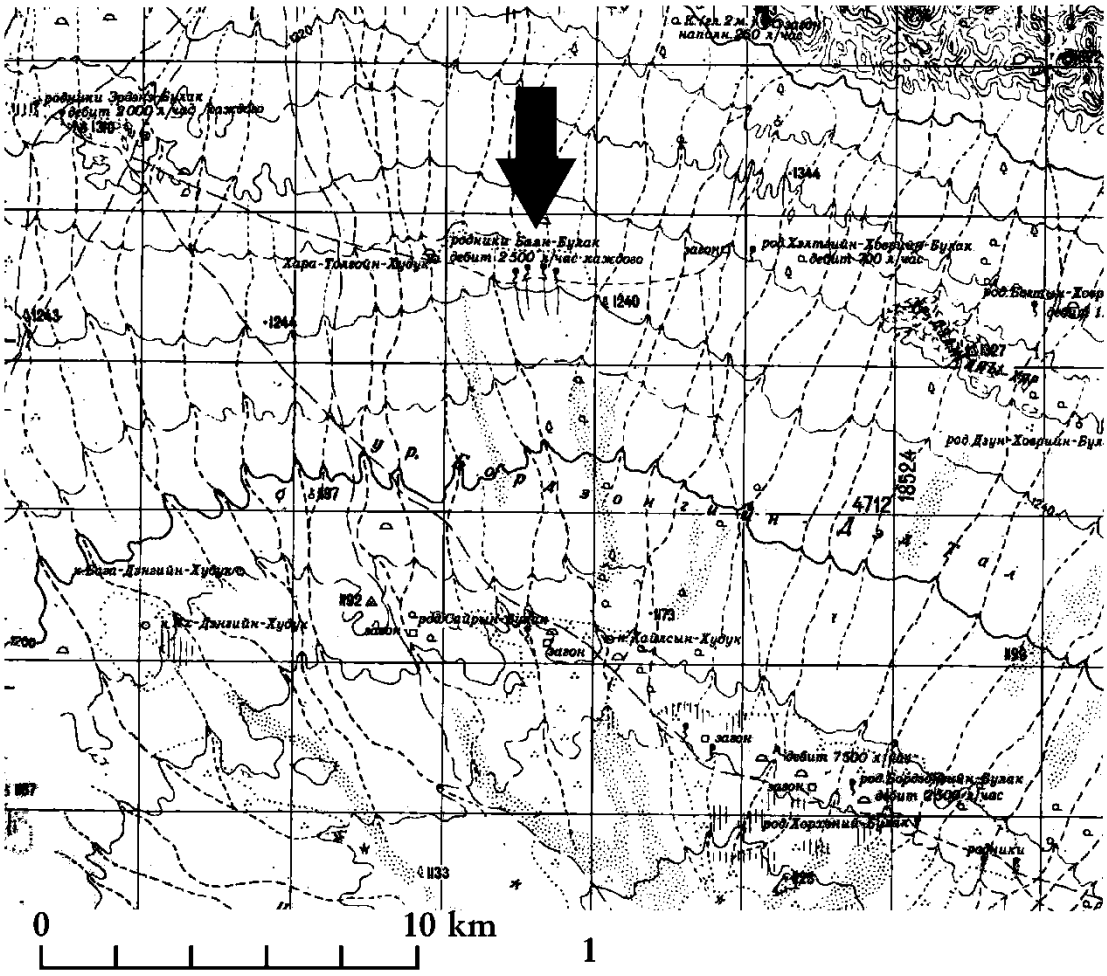
Zhongguo lishi dili ji, 1996. Di er ce: Qin, Xi Han, Dong Han shiqi / Tan Qixiang zhibian. Beijing: Zhongguo ditu chubanshe (6 ed).

Zhongguo qianbi da cidian, 1998. Qin Han bian / Zhongguo qianbi da cidian bianzuan weiyuanhui bian. Beijing: Zhonghua shuju.

Zhongguo shehui kexueyuan kaogu yanjiuso / Guangzhou shi wenwu guanli weiyuanhui / Guangzhou sheng bowuguan, 1981. Guangzhou Han mu. Beijing: Wenwu chubanshe.

Zhongguo shehui kexueyuan kaogu yanjiuso / Hebei sheng wenwu guanli, 1980. Mancheng Han mu fajue baogao. Beijing: Wenwu chubanshe.

Zhongguo shehui kexueyuan kaogu yanjiusuo, 2005. Han Chang'an cheng wu ku. Beijing: Wenwu chubanshe.



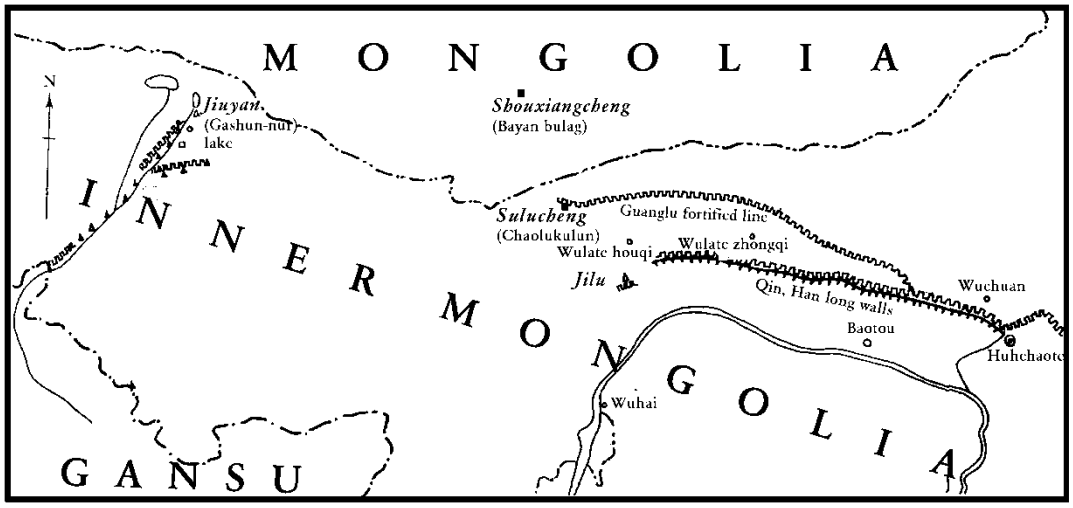


Fig. 1. 1 - Bayan bulag area map. 2 – Map of Han fortifications in Gobi desert and Yingshan region

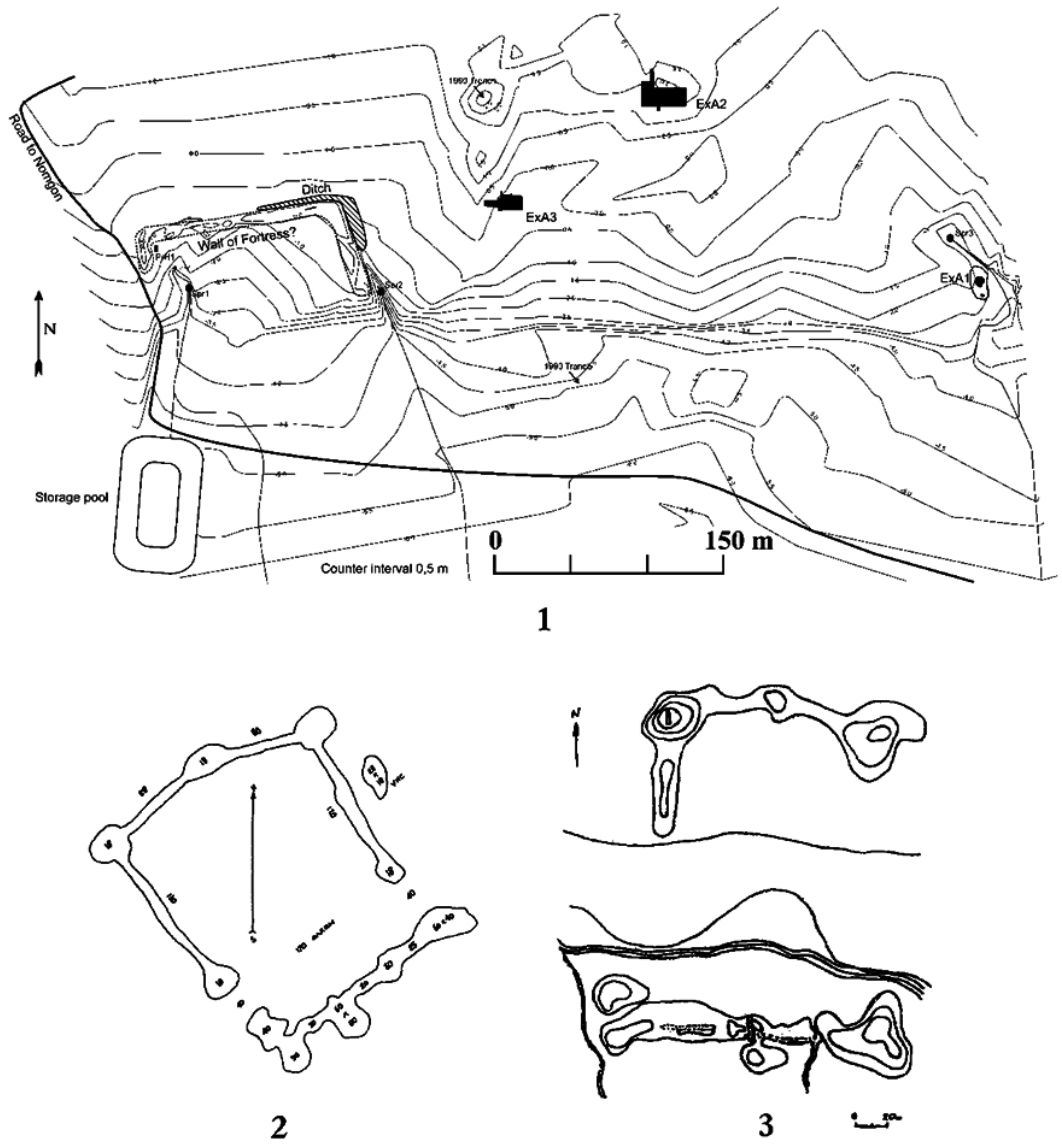


Fig. 2. 1 - Bayan bulag site plan. PrH –prospection holes; ExA – excavation areas; Spr – springs. 2, 3 – former plans of Bayan bulag site. 1 – by Perlee 1961; 2 – by Tseveeendorzh, Batsaikhan, Turbat 1994.

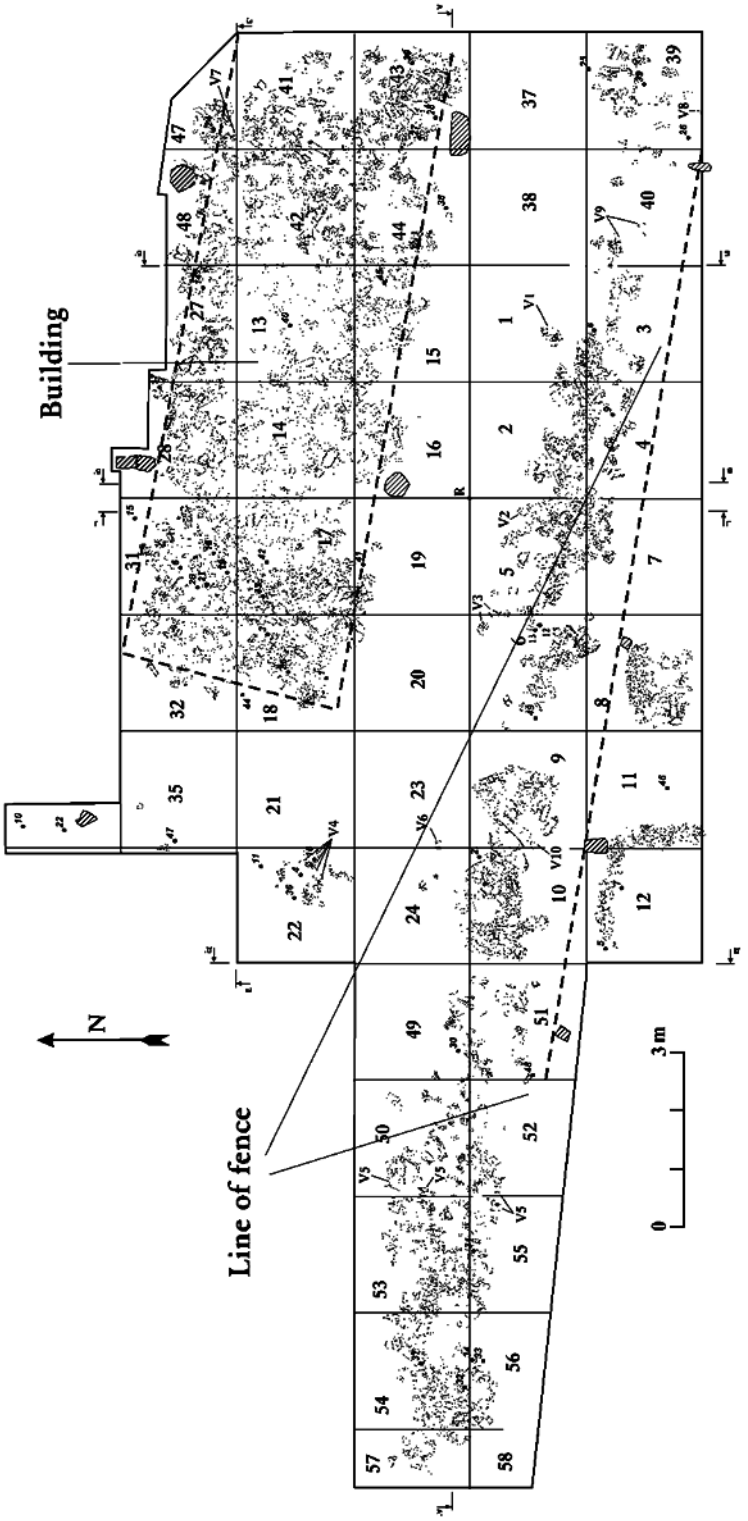


Fig. 3. Excavations area 3 plan.

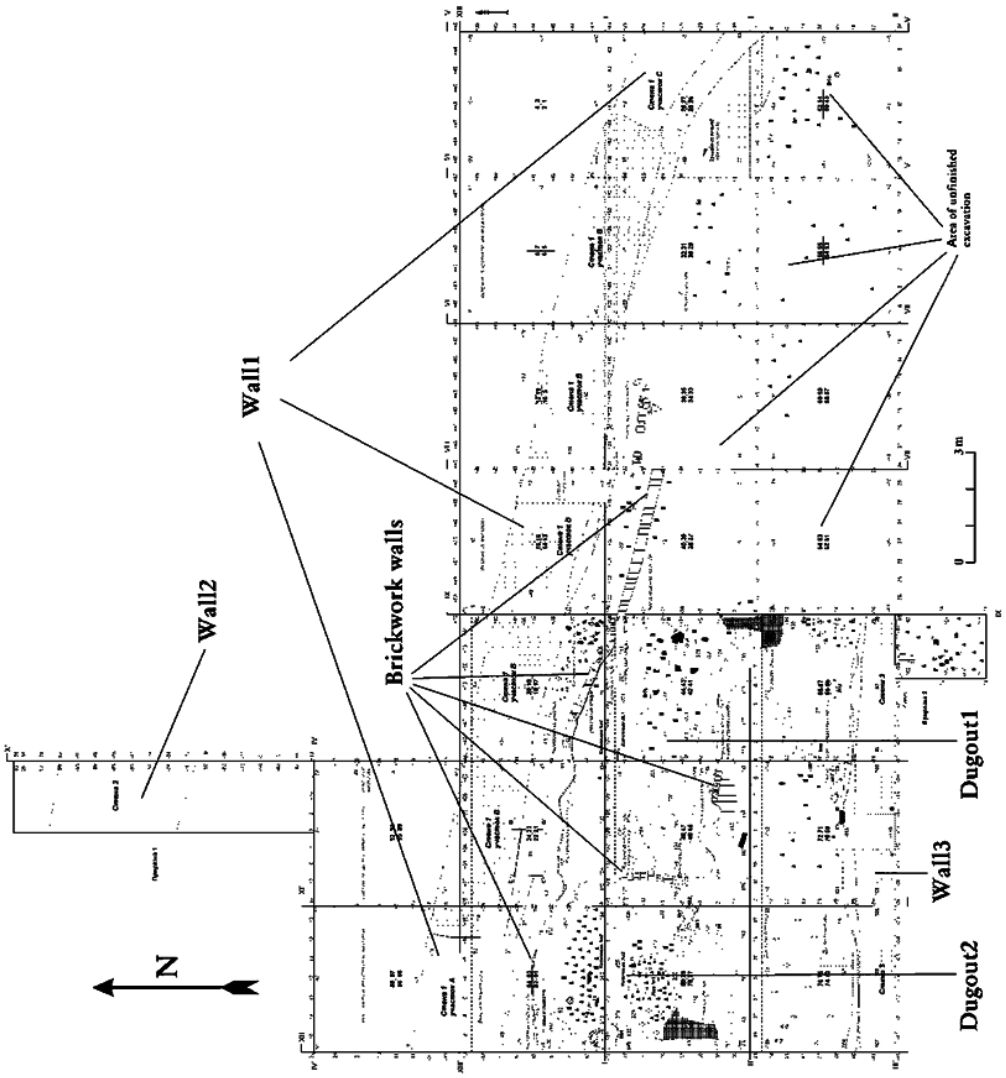


Fig. 4. Excavations area 2 plan.

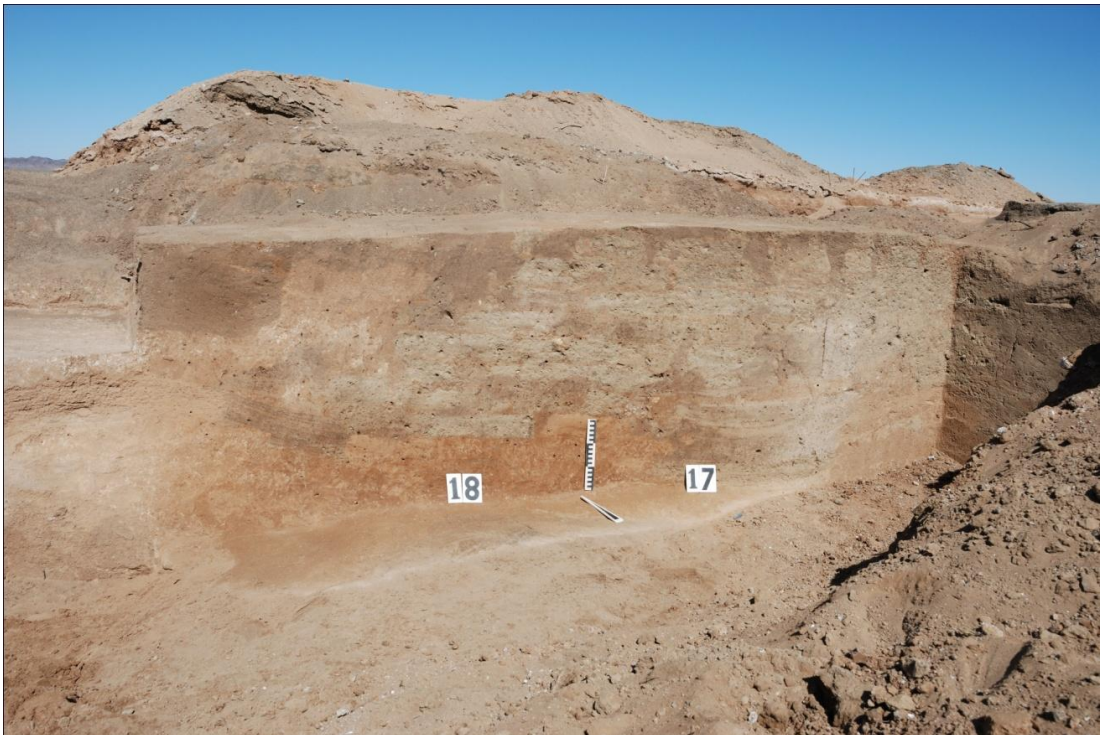


Fig. 5. Excavations area 2. Brickwork wall.

Fig. 6. Excavations area 2.
Gallery between Wall 1 and brickwork wall.

Fig. 7. Excavations area 2.
Line of dugouts.

Fig. 8. Excavations area 2. Sceleton of dog with severed corpse

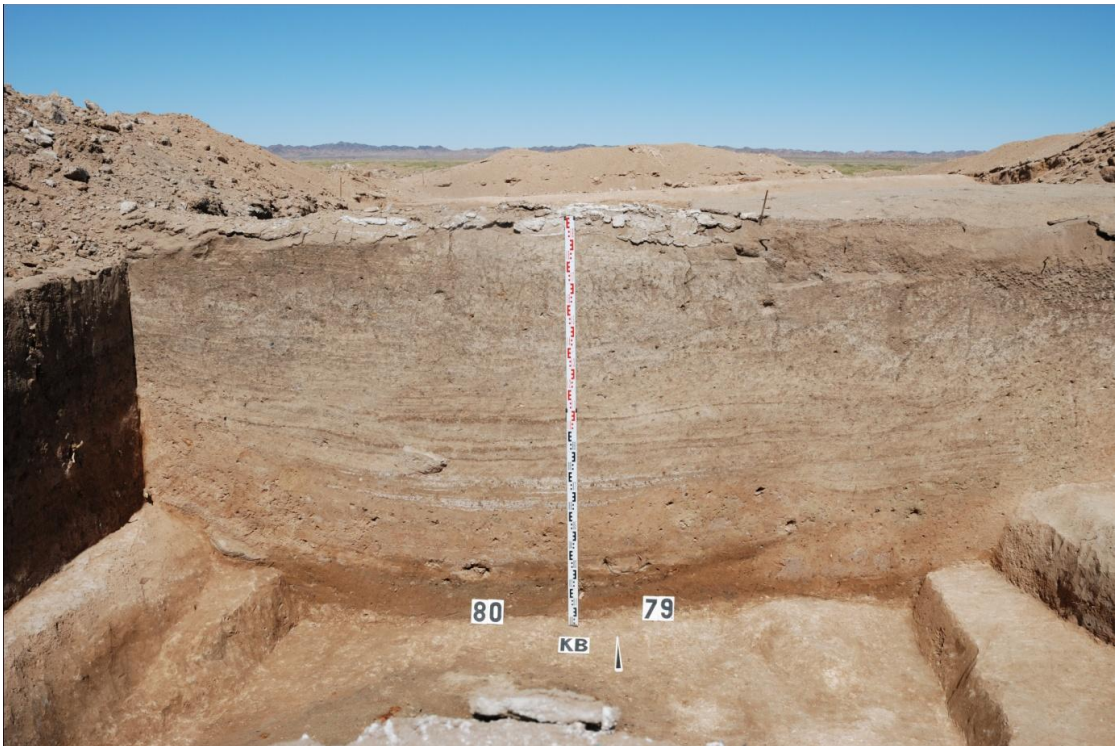


Fig. 9. Excavations area 2. Cultural layers 1-3 in section

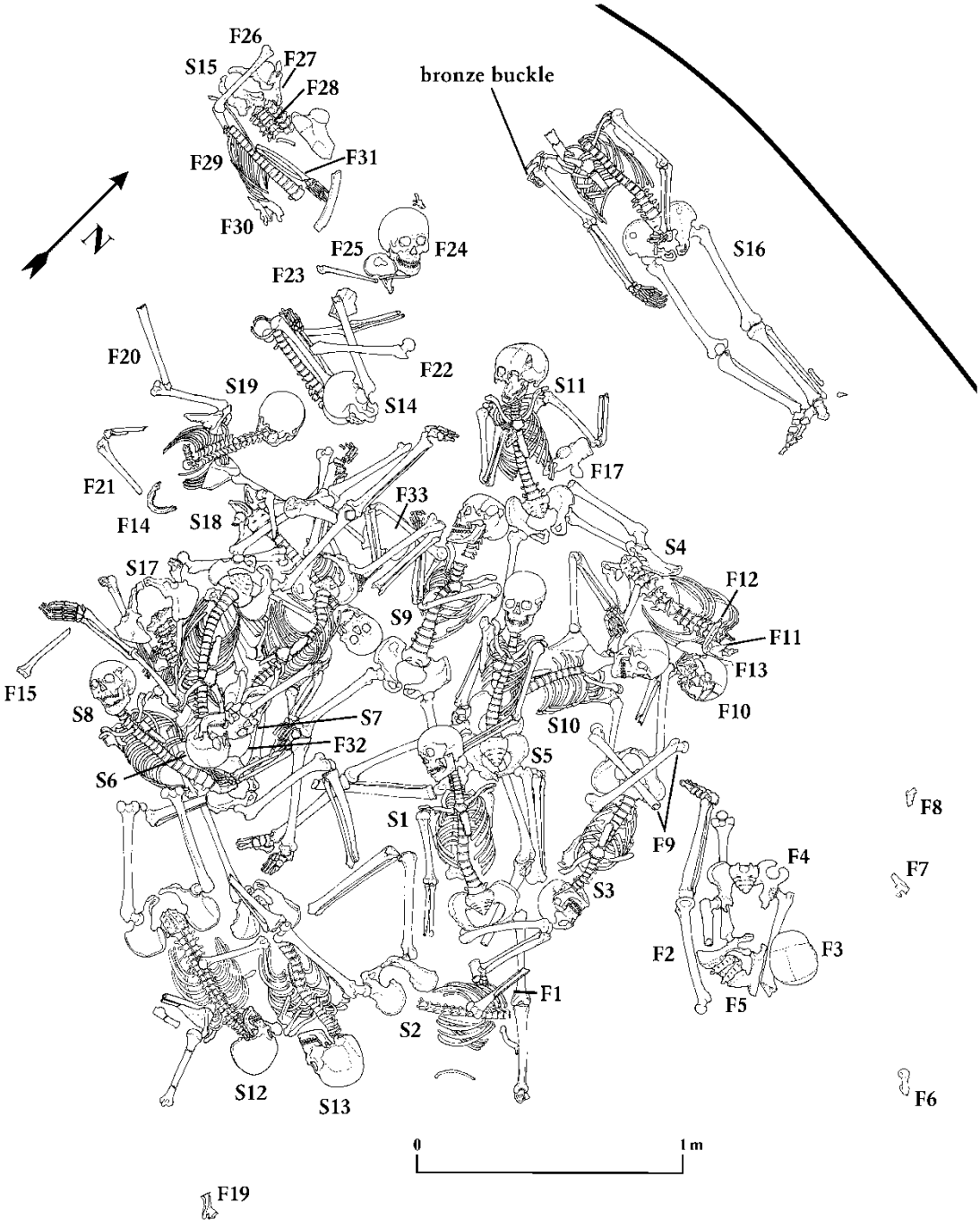


Fig. 10. Central part of tomb M1. S – “skeletons”, F – fragments of corpses.

Fig. 11. Tomb M1. Sceletons S6, S7, S8, S17, S18

Fig. 12. Tomb M1. Sceletons S1, S5, S10, S3

Fig. 13. Tomb M1. Sceleton S11. Dismembered part of upper jaw was laid down on the chest.

Fig. 14. Tomb M1. Sceletons S17, S18, S19 (Parts of femoral bones of sceleton S18 were taken away in process of excavations).

Fig. 15. Tomb M1. Sceleton 19. View of fracture of spinal column and cut of corpse.

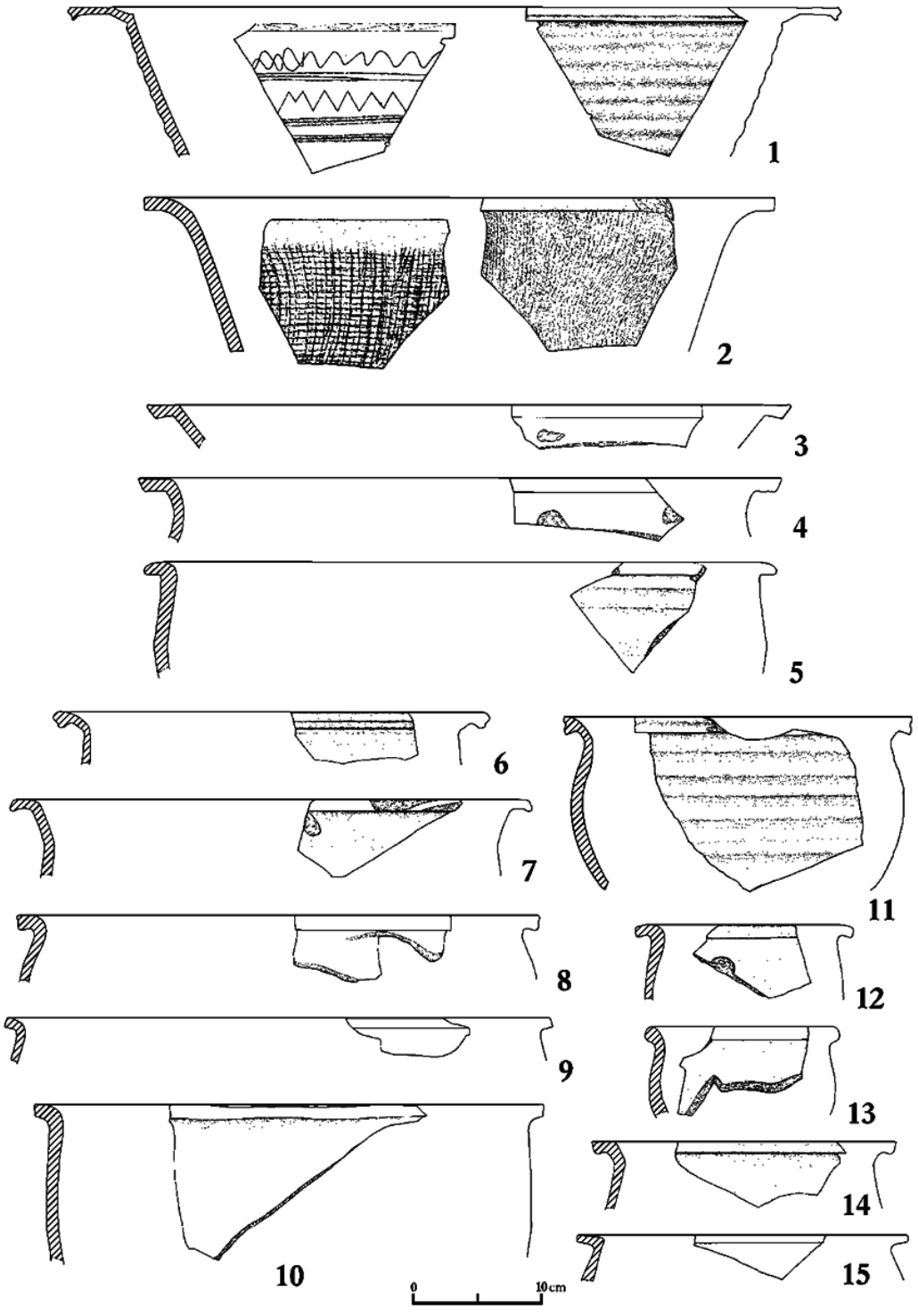


Fig. 16. Vessels from vessels' desintegrations (VD) of Excavation area 3: 1 –T3:VD10; 2 – T3:VD5; 3, 4, 8, 9, 12, 14, 15 – T3:VD4; 5 – T3:VD7; 6 – T3:VD8; 7 – T3:VD6; 10 – T3:VD9; 11 – T3:VD2; 13 – T3:VD1

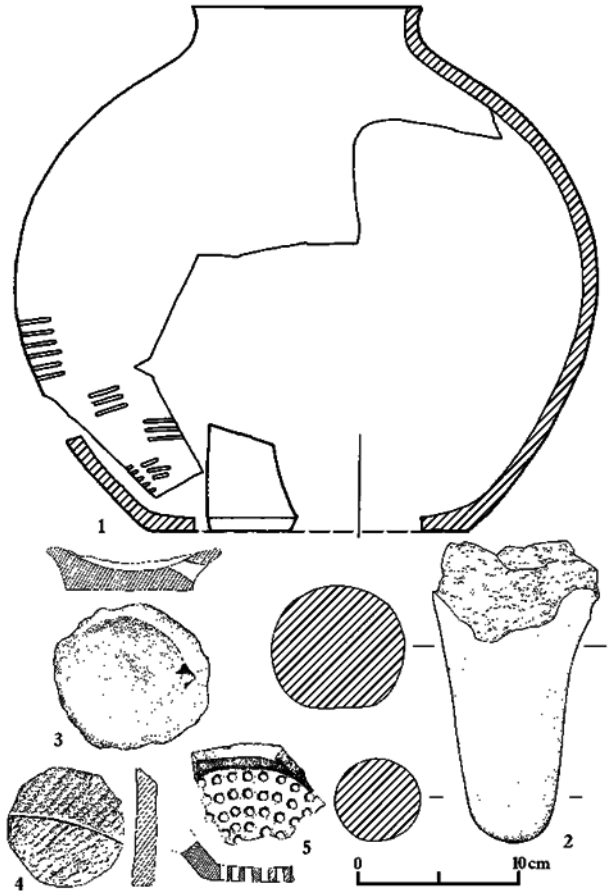


Fig. 17. Potteries from Excavation areas 2, 3:
1 – T3:VD1; 2 – T3:38; 3 – T2:422; 4 – T2:106; 5 – T2:243

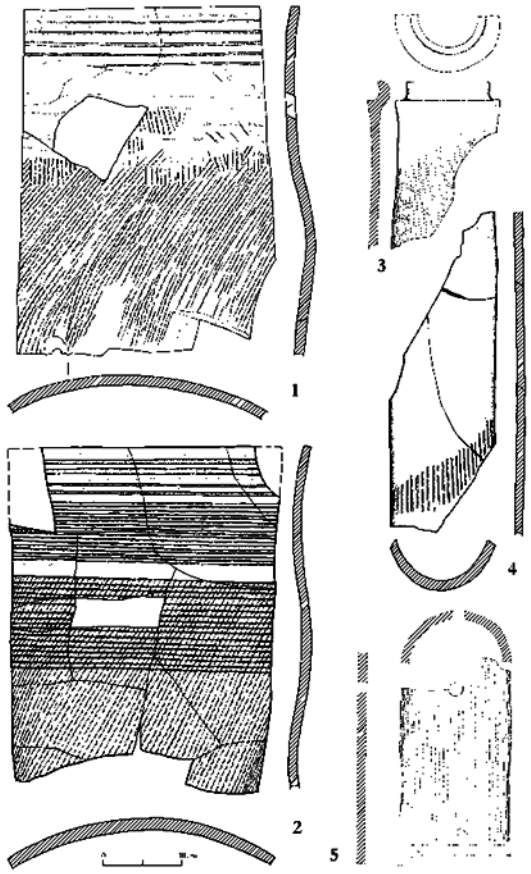


Fig. 18. Tiles. 1 – T3:w16; 2 – T3:w5; 3 – T3:w13; 4 –. T3:w9; 5 – T3:w7

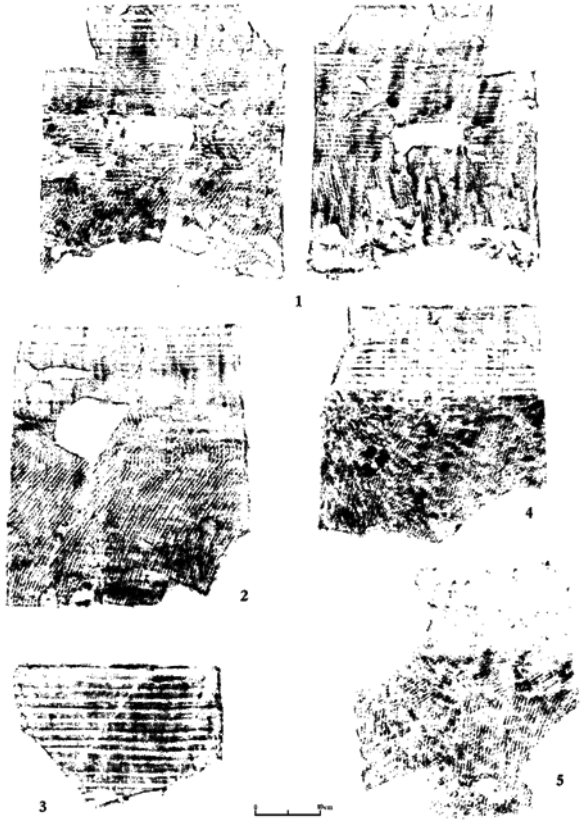


Fig. 19. Estampages of tiles. 1 – T3:w5; 2 – T3:w16; 3 – T3:w2; 4 – T3:w11; 5 – T3:w3.

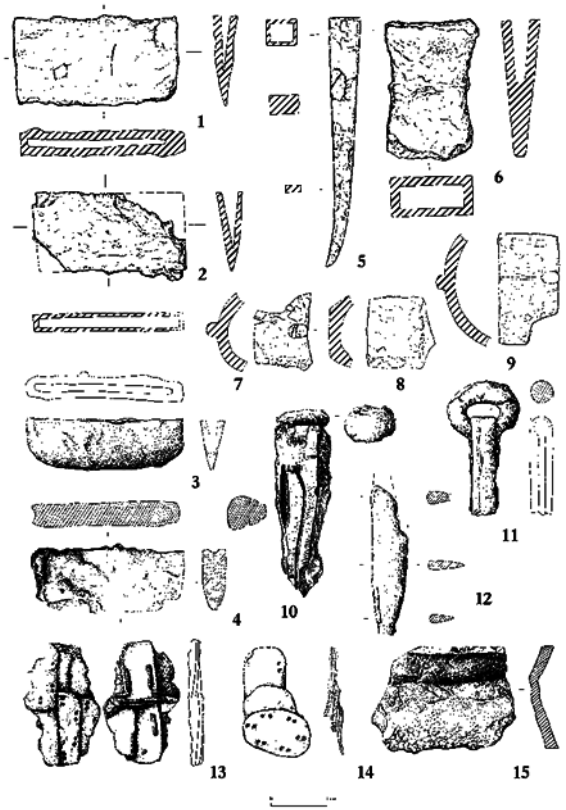


Fig 20. Iron artifacts. 1-4 – spades (K1:1; K1:3; T2:247; T2:291); 5 – pick (K1:14); 6 – celt (K1:2); 7,8 – wheelbarrow hubs (C:501; C:502); 9 – cart hub (C:503); 10 – chisel (T2:205); 11,12 – parts of knives (T2:371, T2:341); 13,14 – armour plates (T2:84, T2:349); 15 – part of caldron (T2:539)

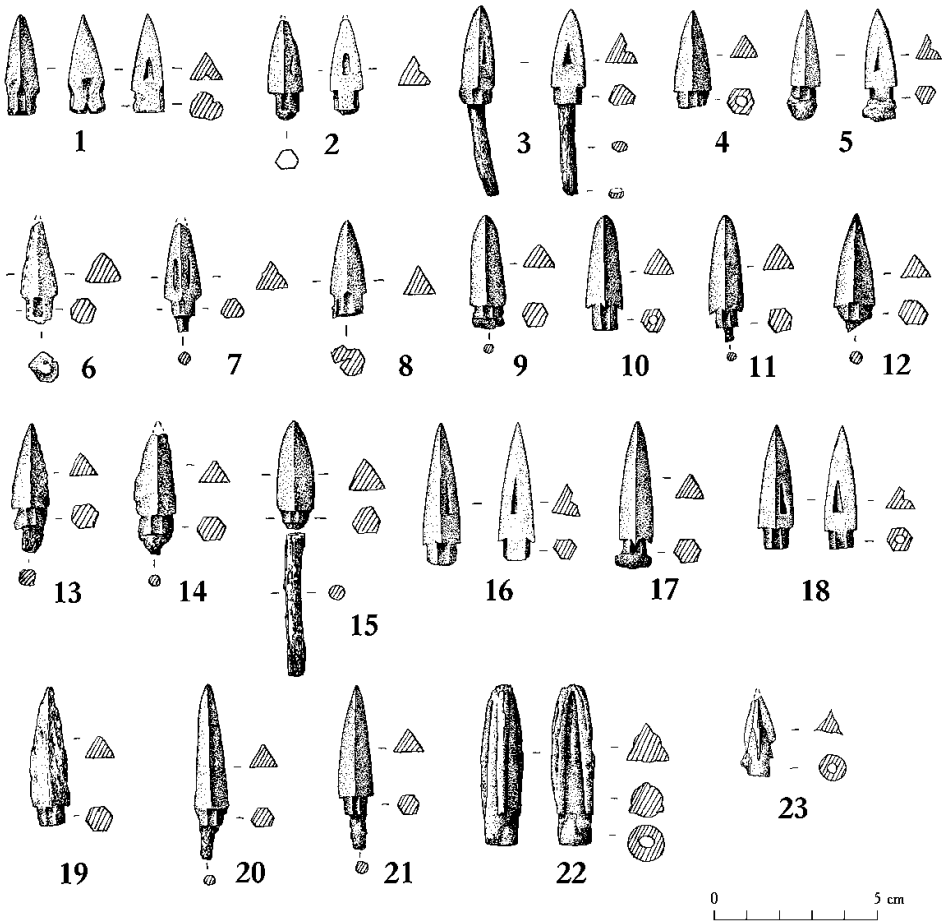


Fig. 21. Arrowheads. 1-22 – bronze arrowheads with iron stems (1 – T2:286; 2 – T2:282; 3 – T2:353; 4 – T2:475; 5 – T2:90; 6 – T2:269; 7 – T2:293; 8 – T2:283; 9 – T2:476; 10 – T2:469; 11 – T2:470; 12 – T2:473; 13 – T2:474; 14 – T2:477; 15 – T2:285; 16 – T2:74; 17 – T2:471; 18 – T2:468; 19 – T2:472; 20 – T2:389; 21 – T2:467; 22 – C:36). 23 – bronze arowhead (T2:108).

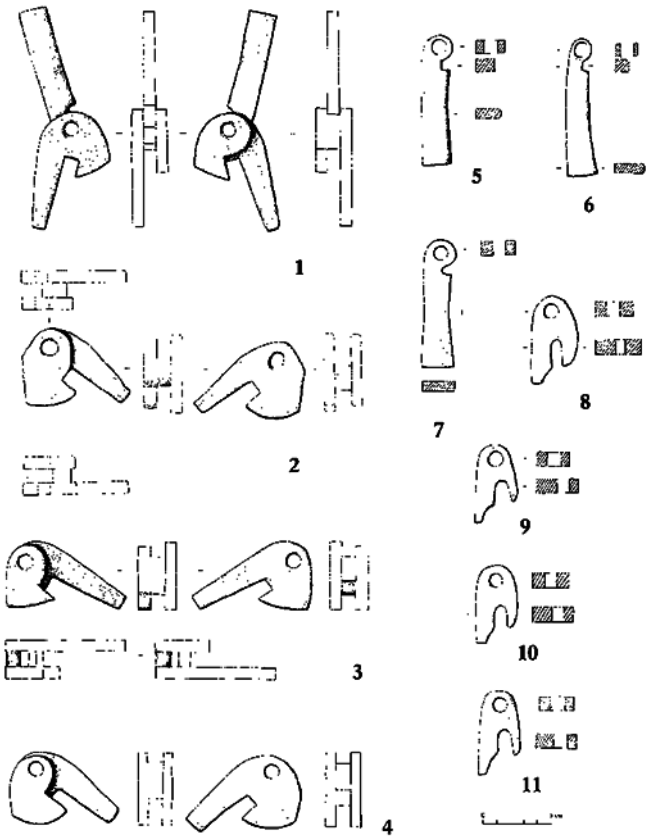


Fig. 22. Parts of bronze arbalest locks from Excavation area 2:
1 – T2:411; 2 – T2:254; 3 – T2:395; 4 – T2:464; 5 – T2:352;
6 – T2:487; 7 – T2:47; 8 – T2:466; 9 – T2:465; 10 – T2:226;
11 – T2:148.

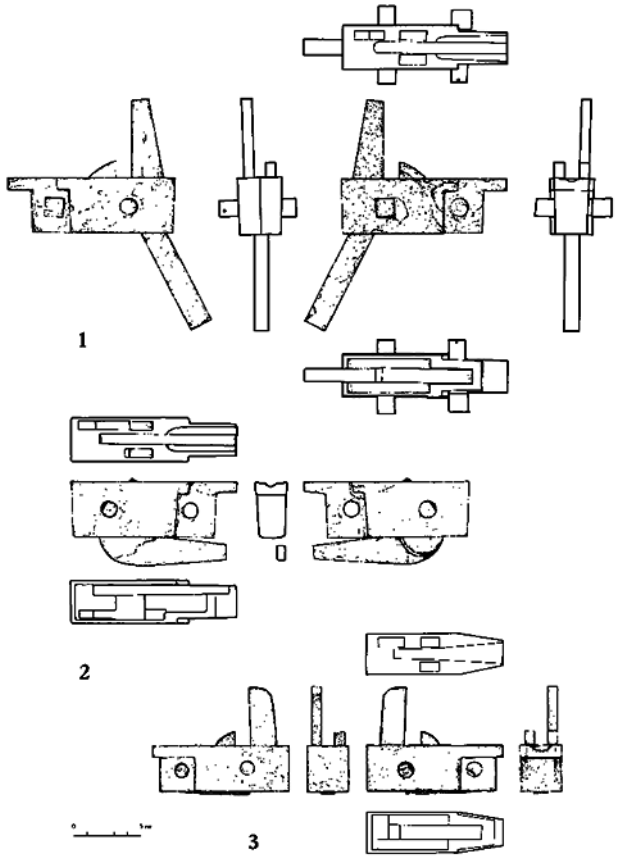


Fig. 23. Bronze arbalest locks (chance finds in Bayan bulag site):
1 – C:99; 2 – C:138; 3 – C: 144

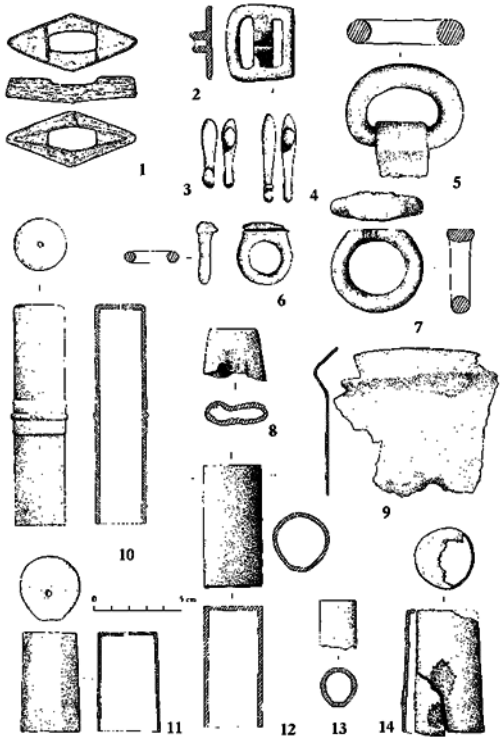


Fig. 24. Bronze artefacts. 1 – sword guard (T3:47);
2 - belt buckle (probably with iron lug) (C:32);
3, 4 – belt hooks(C:8, C:7); 5 – ring-shaped pommel
of iron knife (?) (C:30); 6, 7 – rings (C:3, C:29);
8 – bell (T2:279); 9 – part of caldron (T2:502);
10-14 – handle-tips (C:1; C:2; T2:486; C:38; T2:230).

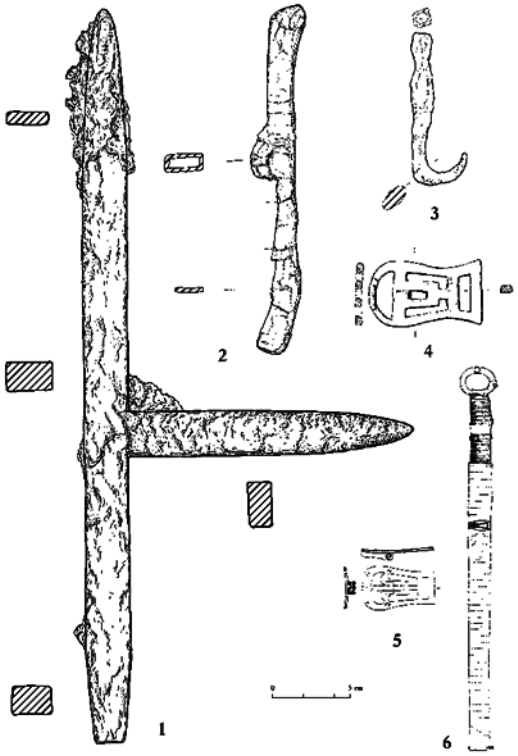


Fig. 25. 1-4 – tomb M1 burial goods. 1 – iron halberd (M1:2);
2 – iron check-piece (M1:3); 3 – iron hook (M1:4);
4 – bronze buckle with iron lug (M1:1).
5, 6 – long knife within wooden sheath with gold buckle
(5) and gold buckle (6) from the tomb of Han Zhongshan king
Liu Sheng (Mancheng M1) (by Zhongguo shehui kexueyuan
kaogu yanjiuso / Hebei sheng wenwu guanli 1980)

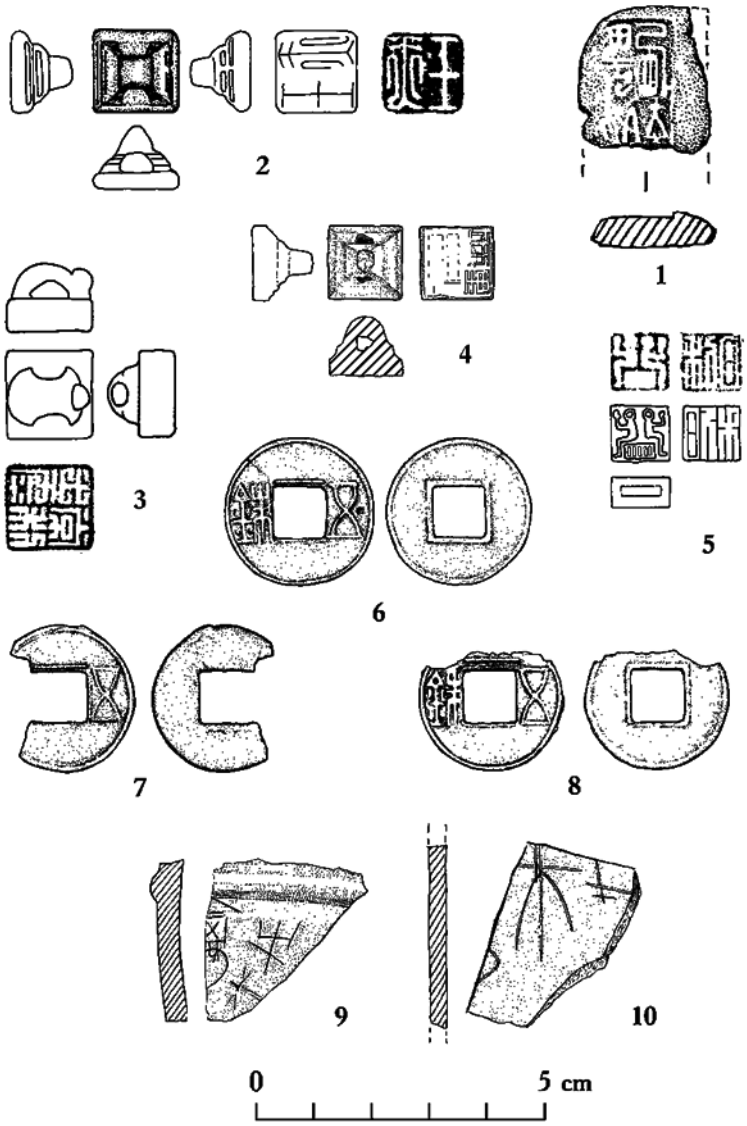


Fig. 26. Objects with inscriptions. 1 – clay *fengni* (T2:520); 2-5 – bronze stamps (C:1; C:142; T3:48; C:141); 6-8 – bronze *wuzhu* coins (T2:186; T2:246; T2:188); 9-10 – ceramic fragments (T2:518; T2:t144).