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SCIENTIFIC REPORT

**Archaeological studies of the ancient settlement
Kesken-Kuyuk-Kala (Juvara) in 2018**



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INTRODUCTION

It is known from written sources that the town of Huvara - Chora-Juvara was located not far from Yangikent. Huwara is identified with the old capital of the Oghuz state. The city of Chora called Khavrana is mentioned in the last quarter of the 4th century. from Ammianus Marcellinus: "Of the cities, only three are known there: Aspabot, Khavran and Saga."

The town of Khavran-Huvar can be identified with the fortress Kesken-Kuyuk-Kala, which dates from the I-XI centuries. This is evidenced by the coins of the "Khorezm" type, collected at the settlement, but minted, as it was possible to read, in the city of Huvara-Juvara. These are the remains of a large city with a complex topography and a large amount of lifting material: coins and ceramics of the Dzhetyasar culture of the first centuries AD – IX century AD.

The main works were focused on the excavation of a residential area located in the central part of shahristan, whose structures were clearly deciphered by an air photo.

The settlement Kesken-Kuyuk-Kala is located on the left bank of the dried-up delta channel in the Kazaly district of the Kyzylorda region (coordinates of the site of the settlement are: latitude 45°31'6.11 "C, longitude 61°27'31.56" B). The mound is a swollen mound of 830 x 710 m, stretching from east to west. Along the perimeter, the hillfort is surrounded by a wall that has turned into a shaft 2 m high. In the topography there is a square in terms of shahristan 220 x 220 m in size, towering over the general level of the hill mound by 3 meters (Drawing 1). On its surface can be traced "street network" and building blocks. In the southwest corner of shahristan there is a 60 x 60 m square citadel in plan.

In the 2018 field season, basic research was carried out at excavation No.14, which was laid behind a street in the northwestern part of a previously investigated residential area located in the center of shahristan (Drawing 2). Another excavation number 15 was laid in the southwestern part of the shahristan.

Excavation No.14. The excavation area was 200 square meters. The length from east to west is 20 m, from north to south is 10 m. In total, seven dwellings were identified in the excavation area.

In the conducted research, two construction horizons of the monument were discovered. The upper building horizon was completely destroyed as a result of the influence of natural factors. The second building horizon consisted of remnants of structures deciphered on aerial photographs and visually observed on the surface. The preservation of the second building horizon is satisfactory, but in some rooms the floor has not been preserved, and the walls, as a rule, were erected on the early walls, using them as a foundation. For the construction of the walls used raw brick.

The walls of the rooms are made of mud brick 30 x 20 x 10 cm, the wall thickness is 0.5-1.2 m, the average remaining height is 0.6-0.7 m (5-7 rows of masonry).

After removing the upper inflatable layer was carried out cleaning the surface in order to identify structural elements. As a result of the stripping in the central part of the excavation, ash spots were revealed (photo 11-12), the contours of the walls of the premises. At the same level late burials were revealed (photo 19-20), which, most likely, relate to the end of the XIX - beginning of the XX century.

Room No.1 with a size of 7.5 x 4.2 m, the long side is oriented along the north-south line. A sufa with a width of 0.9 m and a height of 0.53 m is attached to the western wall. The side of the sufa is well preserved. The inner space of the sufa is filled with debris - fragments of bricks and lumps of clay. A clay plaster is partially preserved on the surface of the sufa (Photo 33). Before the sufa, there were remains of a hearth with a diameter of 0.5 m, a preserved wall height of 10 cm, and a thickness of 2 cm (photo 34). The hearth is filled with ash; the hearth floor is calcined. The walls of the room are made of mud brick of 30x20x10 cm in size: the eastern wall is better preserved: it has 7 rows of brickwork with a height of 0.7-0.8 m (photo 35). The northern wall is common for rooms 1 and 2 and is preserved to a height of 0.5-0.7 m (4-5 rows of masonry), wall thickness 1 m, preserved plaster (photo 36).

Room No.2 with a size of 7.9 x 3.7 m, stretched along the north-south line, is located in the western half of the excavation (photo 37). No interior details were revealed, the floor level of the room was cleared at a depth of 0.8 m.

Walls of the room: the eastern wall is common with room No.3, 1.2 m thick, the preserved height is 0.8 m (photo 38). Clearly traced 6-7 rows of masonry. The eastern wall is common with room No.4, stands at an earlier one, the lower one is offset to the west (photo 39). The thickness of the upper part of the wall is 0.8 m, the preserved height is 0.5 m. 4 rows of masonry are clearly visible. The bottom wall is fixed in two rows of masonry. The southern wall of room No.2 is the southern wall of rooms 1, 4 and 5 – this is the longest wall in the excavation area. It separates the residential buildings from the street, the wall thickness is 1.2 m, the preserved height is 0.8 m (photo 40). On all the walls of the room is partially preserved coating.

Room No.3 is located in the northern part of the excavation (photo 41). A room width of 4.9 m was recorded, the northern part of the room remained outside the excavation site and its length is unknown. The southern wall of room No.3 is a common room with room No.4 (photo 42). The wall stands on the lower, earlier, it is somewhat offset to the west. The thickness of the upper part of the wall is 0.8 m, the preserved height is 0.6 m. The plaster on the two sides of the wall is well preserved.

Room No.4 is located in the central part of the excavation. The size of the room is 5.5 x 4.5 m (photo 44). In the southwestern part of the room, remains of a destroyed hearth were found.

The eastern wall of the room is common with room No.6 1-1.2 m thick, preserved to a height of 0.6 m (photo 45). Partially preserved plaster. A center was attached to the wall, its upper part was destroyed, the center of the center with a diameter of 0.40 m, a preserved height of 0.65 m, and a wall 2 cm thick (Photo 46). It is likely that a ceramic vessel, the hum, was used as a hearth. Filling inside the hearth - earth and ash.

Room No. 5, measuring 4.2 x 3.7 m, is located in the southwestern part of the excavation (photo 49). In the north wall, a passage 0.9 m wide is connected to room No. 6. When clearing the premises in the field layer, a lot of fragments of raw bricks and several fragments of *dastarhan* were revealed.

In the southern part of the room, a *sufa* was fixed, attached to the southern wall. The inner space of the *sufa* is buried in the fragments of raw bricks. The width of the *sufa* is 0.9 m, the preserved height is 0.2 m.

Another wall of the east – west direction, 1–1.2 m thick, preserved to a height of 0.6 m, erected from raw bricks of standard size 30 x 20 x 10 cm, stucco partially preserved.

Room No.6, measuring 4.2 m by 2.5 m, is the northern room of the household. The inner space is filled with soil mixed with ash. The room had several levels of the floor, possibly due to repairs. Interior details are not revealed.

During the clearing of the filling of the room, fragments of ceramic dishes and bones were found – kitchen remnants of domestic animals. Ceramics are mostly stucco, represented by loop-shaped handles, flat bottoms, body sides, various corollas — in oval-shaped cross-section and bent outward, corollas with christmas-tree ornaments, a fragment of an ornamented cover.

In the central part of the premises, a hum was dug in the floor (the level of the floor of the upper building horizon). The hum is 0.70 m high, the body diameter is 0.65 m, the corolla is 0.40 m, and the bottom is 0.25 m (Figure 9). Two loop-shaped handles are attached to the corolla of the hum on both sides, the upper part of the body is decorated with a thick roller with a “christmas ornament”. The corolla is also decorated with christmas tree ornaments (Figure 10).

Room No.7 is located in the northwestern corner of the excavation (Photo 59-60). Most of the premises remained outside the excavation site. The size of the room within the excavation is 2.8 x 1.8 m. The room was filled with loose soil. The southern wall of the room within the excavation, 1.5 m long, 0.8 m thick, the preserved height is 0.5 m, oriented along the east-west line. The western wall of the room is common with room No.6 (photo 61). The wall is oriented along the north-south line, the preserved height is 0.5 m (4 rows of brickwork 30x20x10 cm), the wall thickness is 1 m. The

walls were plastered. An accumulation of ceramics was found on the floor, mainly from large thick-walled vessels (photo 63).

The main findings at the excavation number 14 - fragments of dishes and whole forms, mainly made by molding, roasting red. The bulk of the fragments belong to the kitchen pots and jugs, hums. Less common are fragments of mugs, lids, bowls and dastarkhan.

Ceramic material found during archaeological excavations dates back to X-XII centuries.

With the help of an unmanned aerial vehicle, a series of photographs were taken of the investigated part of the settlement - a residential area and excavations.

1. Excavation No.14.

The list of items found during the excavation

Element 0. Upper inflatable layer.

Element 398. Fly Ash.

Element 399. Late burial.

Element 400. Room No.1.

Element 401. Inter room wall between rooms No.1 and No.2

Element 402. The northern wall of room No.1 and room No.2.

Element 403. The southern wall of the premises No.1, 2, 4 and 5.

Element 404. The western wall of room No.1.

Element 405. Sufa room No.1.

Element 406. The hearth in the room No.1.

Element 407. Room No.2.

Element 408. Interior wall of rooms No.2 and No.3

Element 409. The interior wall of rooms No.2 and No.4.

Element 410. Room No.3.

Element 411. Inter room wall of rooms No.3 and No.4.

Element 412. Room No.4.

Element 413. The hearth in the room No.4.

Element 414. The interior wall of rooms No.3, 4, 5, 6.

Element 415. Room No.5.

Element 416. The interior wall of rooms No.5 and No.6.

Element 417. Sufa room No.5.

Element 418. Room No.6.

Element 419. The interior wall of rooms No.6 and No.7.

Element 420. Room No.7.

Element 421. The accumulation of ceramic fragments on the floor of room No.7.

Element 422. South wall of the room No.7.

Description of items

Element 0. Upper inflatable layer. This is a soil of a friable gray and brown consistency, covered with a thin salt crust from above, the thickness of the layer is about 10-15 cm, evenly distributed over the surface of the excavation. The layer was formed in the process of destruction of structures of the upper building horizon under the influence of wind erosion and precipitation.

A large number of fragments of stucco red clay ceramics were recorded on the surface, among them are the corollas of massive Hum with loop-shaped handles, fragments of lids, sides of boilers and pots, fragments of dastarhans with a traced vegetative ornament, fragments of protoms decorated with stamps. The excavated layer is saturated with gray ash, charcoal. Osteological material is found in the removed excavation layer.

Element 398. The ash spot of the right-angled form was revealed after removing the upper inflatable layer in the central part of the excavation (Photo 11-12). The power of ash mixed with coals, 3-5 cm.

Element 399. Late burial. After clearing the surface of the excavation in the central part 2.5 m from the northern edge, the remains of human bones are revealed - the gravel pit is not fixed, the bones in the cluster congregate (Photo 19-20). The remains of bones, most likely, belong to the 30 years XX century.

Element 400. Room No.1 measuring 7.5 m by 4.2 m (the largest room in the block) was found in the western part of the excavation. A sufa was attached to the western wall, the remains of a hearth were fixed on it. The walls of the rooms: the eastern (the best preserved) height of 0.7-0.8 m has 7 rows of masonry (brick size 30 x 20 x 10 cm).

Element 401. The interior wall between rooms No.1 and No.2 (photo 33). The wall is well-preserved, 0.8 m high, has 7 rows of masonry (brick size is 30 x 20 x 10 cm), the wall thickness is 1 m. Partly preserved plaster.

Element 402. The northern wall of rooms No.1 and No.2 has been preserved to a height of 0.5-0.7 m, it has 4-5 rows of masonry (brick size 30 x 20 x 10 cm). Wall thickness 1 m, preserved plaster.

Element 403. The southern wall of rooms 1, 2, 4 and 5 is the longest wall in the excavation area. It separates residential buildings from the street. The wall thickness is 1.2 m; the preserved height is 0.8 m. Traces of coating are visible.

Element 404. The western wall of room 1 has been partially preserved.

Element 405. Sufa Room No.1 is located in the western part of the room. Width 0.9 m, height 53 cm. The board of the sufa is well preserved. The inner space of the sufa is clogged with fragments of raw bricks. A clay coating is partially preserved on the surface of the sufa (Photo 35).

Element 406. The hearth in room No.1 (photo 36) is built into the sufa. The remains of the destroyed hearth were cleared: diameter 0.5 m, preserved wall height 0.1 m. Thickness of the wall 2 cm. The center is filled with ash; the floor of the hearth is calcined.

Element 407. Room No.2, 7.9 x 3.7 m in size, is located in the western half of the excavation. It has no details of the interior been identified.

Element 408. Interior wall of rooms No.2 and No.3 (photo 38): wall thickness 1.2 m, preserved height 0.8 m 6-7 rows of masonry are clearly visible. Partially preserved coating.

Element 409. The interior wall of rooms No.2 and No.4 (photo 40) stands on the wall of the lower layer, partially offset to the west. The thickness of the upper part of the wall is 0.8 m, the preserved height is 0.5 m. 4 rows of masonry can be clearly traced, the plastering of the clay mortar is partially preserved (plaster).

Element 410. Room No.3 partially opened: the northern part of the room remained outside the excavation site. The width of the room is 4.9 m; the length of the room is outside the excavation.

Element 411. The interior wall of rooms No.3 and No.4 (photo 41). The wall stands on the wall of the lower layer, partially offset to the west. The thickness of the upper part of the wall is 0.8 m, the preserved height is 0.6 m. The plaster on the two sides of the wall is well preserved.

Element 412. Room No.4, 5.5 x 4.5 m in size, in its south-western part, remains of a destroyed hearth were found (photo 44).

Element 413. The lesion in room 4 is mounted in the body of a small bollard (photo 46). The upper part of the center is destroyed, the diameter of the preserved body is 0.4 m, the height is 0.65 m. The center wall thickness is 2 cm. Probably, the center is made of a thick-walled ceramic hum-type vessel. The interior of the hearth is filled with ash.

Element 414. The interior wall of the premises No.3, 4, 5, 6 (photo 45, 48, 50). The wall is oriented along the north - south line. Preserved to a height of 0.6 m, folded from standard brick raw (30 x 20 x 10 cm). Wall thickness 1-1.2 m. Partly preserved plaster.

Element 415. Room No.5 (photo 49) measuring 4.2 x 3.7 m. From the north is connected by a passage 0.9 m wide with room No.6. When clearing the room in the filling of the earth and fragments of raw bricks were found fragments of dastarhan - a ceramic dining table.

Element 416. The interior wall of rooms No.5 and No.6 (photo 57-58). The wall is made of mud brick with a size of 30 x 20 x 10 cm, preserved to a height of 0.6 m, and a wall thickness of 1-

1.2 m. Partly preserved plaster. In the wall in the western part there is a passage with a width of 0.9 m.

Element 417. In room No.5 along the southern wall a sufa stretches (photo 49). The side of the sufa was poorly preserved, the inner space is filled with fragments of mud bricks and construction debris. The width of the sufa is 0.9 m, the height of the preserved part is 0.2 m.

Element 418. Room No.6 of 4.2 x 2.5 m in size (photo 56). When clearing the room interior details are not revealed. A large, wide-mouth vessel, hum, was dug into the floor. In the filling were found fragments of ceramics and kitchen remains - the bones of domestic animals. Handmade ceramic crockery: horizontal loop-shaped handles, flat ends, fragments of the sides of the body, rims in the oval-shaped cross-section and bent outward, rims with christmas-tree ornaments, a fragment of an ornamented kitchenware lid.

The hum is 0.70 m high, the diameter of the body is 0.65 m, the diameter of the corolla of the neck is 0.40 m, the bottom diameter is 0.25 m. Two loop-shaped handles are mounted under the hum at the sides of the body. The upper part of the body is girded with a thick roller decorated with "christmas ornament", the bottom of the corolla is also decorated with "christmas ornament".

Element 419. The wall between rooms No.6 and No.7 (photo 61) was preserved to a height of 0.5 m - 4 rows of 30 x 20 x 10 cm brick masonry. The wall thickness is 1 m, and the plaster is partially preserved.

Element 420. Room No.7 was located in the northwestern corner of the excavation. The size of the room within the excavation is 2.8 x 1.8 m, part of the room remained outside the excavation (Photo 59-60).

Element 421. Room No.7. The accumulation of fragments of ceramics of large thick-walled vessels on the floor (photo 62).

Element 422. Room r No.7. The south wall is oriented along the east-west line. Within the excavation, the length of the wall is 1.5 m, the thickness is 0.8 m, the preserved height is 0.5 m (photo 63).

2. Excavation No.15

Excavation No.15 - exploration, was laid on the territory of the rabad in its central part closer to shahristan. The size of the excavation was 5x5 m. The surface was cleaned of dry vegetation before the start of work and leveled; no traces of building structures were observed (photo 66).

The top layer is loose, sandy, dusty structure. Fragments of ceramic tableware — kitchen and household: corollas, handles, sides of boilers and pots — from the economic — large fragments of the body and halos of the hums are found in the layer.

At a depth of 0.20 m were found remnants of building structures - the walls of the premises. The walls are oriented along the northwest - southeast line (photos 71-74). Here, raw brick of a different format was used: rectangular with a size of 30 x 14 x 10 and square - 33 x 30 x 10 cm. The total width of the wall is from 0.8 m to 1 m. The preserved wall height of 0.25 m is two rows of masonry.

In the northern part of the excavation, the southern part of the room is 2 x 1.7 m in size. Ceramics fragments were not found. Filling rooms loose, sandy.

3. Ceramic complex

During the research, many fragments of non-woven ceramics were discovered. In total, 60 fragments were selected for rendering. Basically, these are fragments of corollas, donuts, lids, dastarhan - kitchen and tableware (Figure 1-5).

Fragments of the rims of the molded vessels of the boiler type. The vessels are made of medium-mixed loose dough with admixtures of fine and coarse sand and inclusions of mica, roasting in a break of dark gray color. Outside are covered with red engobe, the edges of the rims are thickened, rectangular in cross section of the shape, wall thickness is 1 cm. Sometimes the edge of the corolla is decorated outside with oblique lines or “christmas tree”. Wall thickness from 1 cm to 2 cm.

The loop-shaped handles of small vessels are made of well otmuchennogo dense test, with a slight admixture of fine sand, firing uniform red color. The handles of the flattened-oval cross-section of the form are attached to the hanger of the vessels.

Fragments of molded lids for vessels are made of medium-mixed not dense dough with an admixture of fine and coarse quartz sand, roasting incomplete, in a reddish-gray fracture. The covers are richly ornamented with a cut-out geometric or floral ornament. The outer surface and partially inner is covered with a red engobe. The edge of the cover is oval in cross-section.

Fragments of dastarhan - table. The edge in the form of a side is bent upwards, in the cross section of an oval shape, 4.7 cm high, the thickness of the base of the table is 1.2 cm. The fragments are made of well-mixed dense dough, with insignificant admixtures of fine quartz sand, roasting is full, red. The surface is covered with a light red engobe.

Donets flat different sizes, belong to different vessels: mugs, tagora, pots. Made from dense, well-mixed dough, with minor admixtures of fine sand and mica, roasting red.

The bowl is small, rounded in shape (Figure 4), the bottom is flat. Shallow (1.5 cm) grooves are present on the corolla from four sides.

CONCLUSION

In 2018, archaeological excavations were continued on the shahristan and rabad settlements of the Kesken-Kuyuk-Kala settlement within the framework of the research program (grant) from the **“Society for the Exploration of EurAsia” (Switzerland)**.

Excavation area of 200 square meters. m was laid across the street to the north-west of the residential quarter investigated earlier.

Prior to the beginning of the excavation at the site designated for research, traces of building structures were not visible. In total, the area of excavation No.14 was opened and investigated 7 rooms that form a residential quarter. Found 2 ceramic floor of the hearth, as well as a large thick-walled vessel - hum, adorned with knurled rollers with drawn herringbone stripes.

All investigated constructions belong to two building horizons. Fragments of ceramics were found, mostly hand-made and decorated with carved floral ornaments.

The second excavation site is a reconnaissance area of 25 square m - was laid on rabad. It revealed powerful raw walls of the premises, a ceramic material similar to the excavations of shahristan.

The report describes the results of the excavation, analyzes in the aspect of studying the medieval urbanization of Kazakhstan in the Aral Sea region. The topography of the Kesken-Kuyuk-Kala settlement is similar to such famous monuments as Big Kuyuk-Kala, Malaya Kuyuk-Kala, Dzhankent and testifies to them as cities with developed citadel – ark, shahristan – inland town and rabad - handicraft suburb. Topography is characterized by a well-traceable street network; powerful fortification system - walls around the citadel, shahristan and rabad, towers around the perimeter of the walls, fortified entrances.

Excavations Kesken-Kuyuk-Kala discovered urban quarter building, the nature of dwellings. The houses are built of mud brick, consist of living quarters with sufas and hearths, and utility rooms. In the neighborhoods, fire sanctuaries with altars decorated with protoms of the totem animal ram stand out.

Excavations revealed two cultural layers: the upper, dated X-XII centuries, and the lower – VII-IX centuries.

The top layer is destroyed – blurred and inflated by the winds.

In the lower layer opened the premises of multi-room houses, separated by streets. The overlapping's of the rooms were flat, relying on four columns, from which the bases made of mud brick remained.

Turgesh, Tang, Khorezm, and Bukharhudat coins were collected at the Kesken-Kuyuk-Kala site; metal plaques, lugs and buckles; belt sets, carved stones, beads, testifying to the international relations of the town.

Found pottery suggests that the "swamp" settlements existed since antiquity, at least since the beginning of AD to X-XII centuries. The vast majority of ceramics are coarse, thick-walled, made without a circle, with uneven roasting – reddish-brown, grayish and dark shades. The surface of the vessels is often covered with a rich ornament. Among the fragments stand out the corollas with a bent, flattened edge; fragments of the body, surrounded by a protrusion, ornamented with a herringbone, oval or linear imprints of a stamp, cone-shaped bands. There are pots and bowls, richly ornamented with drawn vegetative ornament – spirals and leaf-shaped patterns.

The capital centers of Yangikent and Huvara were founded by the local population. The formation of urban culture was influenced by the Dzhetyasar culture and Khorezm.

History of Eastern Priaralye IX-XII centuries. It is connected not only with the earlier Dzhetyasar culture of the Kangju state, a significant contribution was made by the Oghuz and Kypchak tribes, who left a bright and original material culture.

The study of the Oghuz cities is important in the study of the interaction of cultures and civilizations along the Great Silk Road, opens up new opportunities in recreating the history of mutual influence and mutual enrichment of the town and steppe, allows you to better understand the development of material and spiritual culture of the Turkic peoples.

In general, the materials obtained as a result of archaeological research in the Aral Sea region characterize the “steppe civilization of Kazakhstan”, which is characterized by interaction and mutual enrichment of sedentary and nomadic cultures.

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APPENDIX A
PHOTO ILLUSTRATIONS



Photo 1. Excavation No.14. General view of the site before the start of excavation.



Photo 2. Excavation No.14. Work moment breakdown excavation. Northeast view



Photo 3. Excavation No.14. General view of the site before the start of excavation. West View



Photo 4. Excavation No.14. General view of the site before the start of excavation. North view

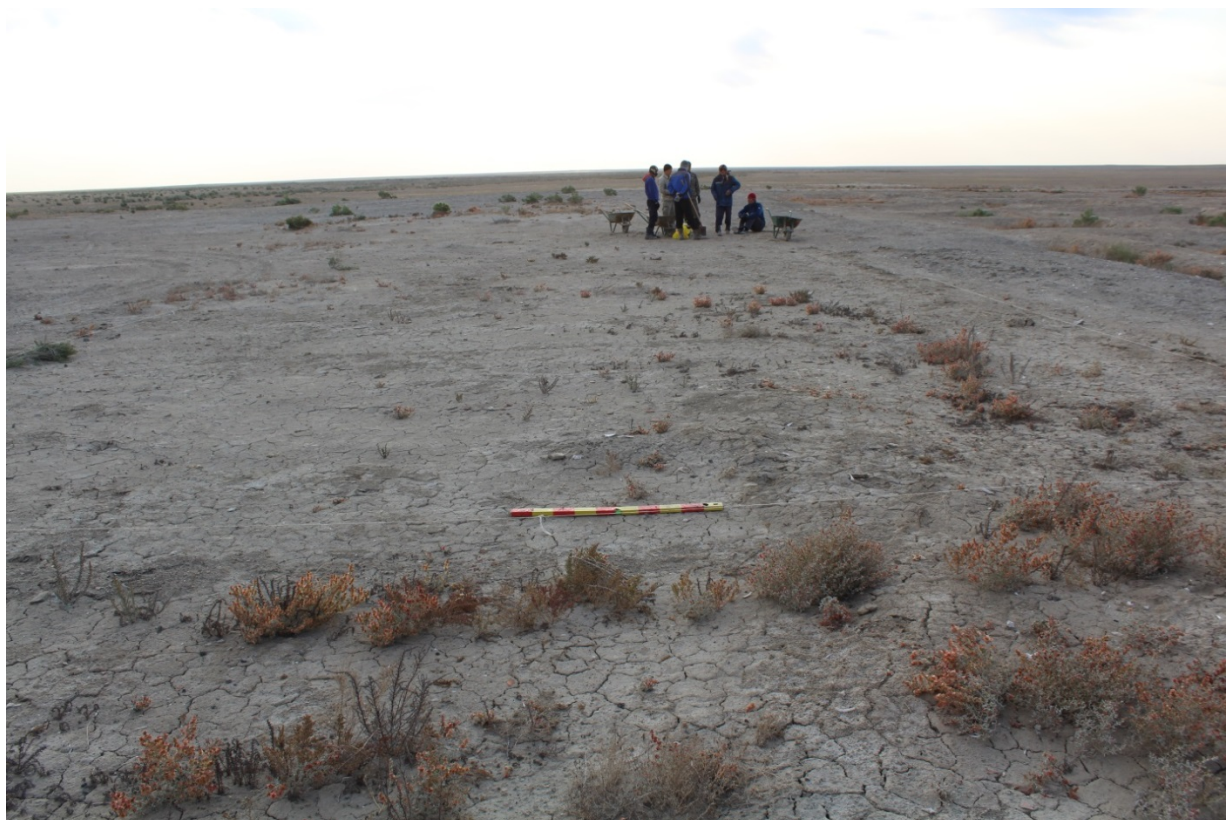


Photo 5. Excavation No.14. General view of the site before the start of excavation. East view



Photo 6. Excavation No.14. General view of the start of excavation. East view



Photo 7. Excavation No.14. Work moment: removal of the top layer



Photo 8. Excavation No.14. Work moment: removal of the top layer



Photo 9. Excavation No.14. View after removing the top layer. West View



Photo 10. Excavation No.14. View after removing the top layer. East view



Photo 11. Excavation No.14. Ash spots (traces of fire) in the central part of the excavation



Photo 12. Excavation No.14. Ash spots (traces of fire) in the central part of the excavation



Photo 13. Excavation No.14. Work moment: clearing the premises



Photo 14. Excavation No.14. Work moment: clearing the premises



Photo 15. Excavation No.14. Work moment: clearing the premises



Photo 16. Excavation No.14. Work moment: clearing the premises



Photo 17. Excavation No.14. Work moment: clearing the premises

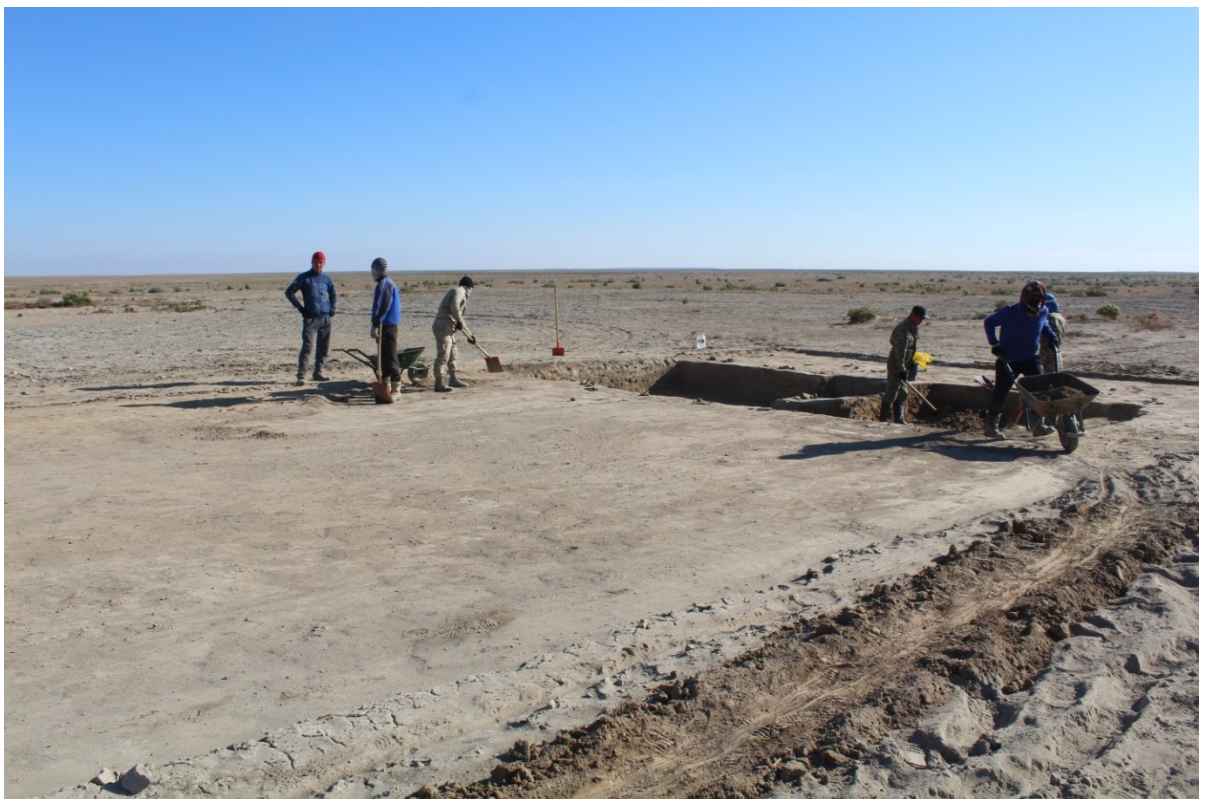


Photo 18. Excavation No.14. Work moment: clearing the premises



Photo 19. Excavation No.14. Work moment: clearing the late burial



Photo 20. Excavation No.14. Late burial in the central part of the excavation



Photo 21. Excavation No.14. Work moment: clearing the premises



Photo 22. Excavation No.14. Work moment: clearing the premises



Photo 23. Excavation No.14. Work moment: clearing the premises



Photo 24. Residential array with unmanned aerial vehicle. Southeast view



Photo 25. Excavation No.14. Photo from an unmanned aerial vehicle. Southeast view



*Photo 26. General view of the excavation No.14. Photo from an unmanned aerial vehicle.
North-east view*



*Photo 27. General view of the excavation No.14. Photo from an unmanned aerial vehicle.
Southwest view*



Photo 28. General view of the excavation No.14. View from above



Photo 29. General view of the excavation No.14. Northeast view



Photo 30. General view of the excavation No.14. East view



Photo 31. General view of the excavation No.14. West view

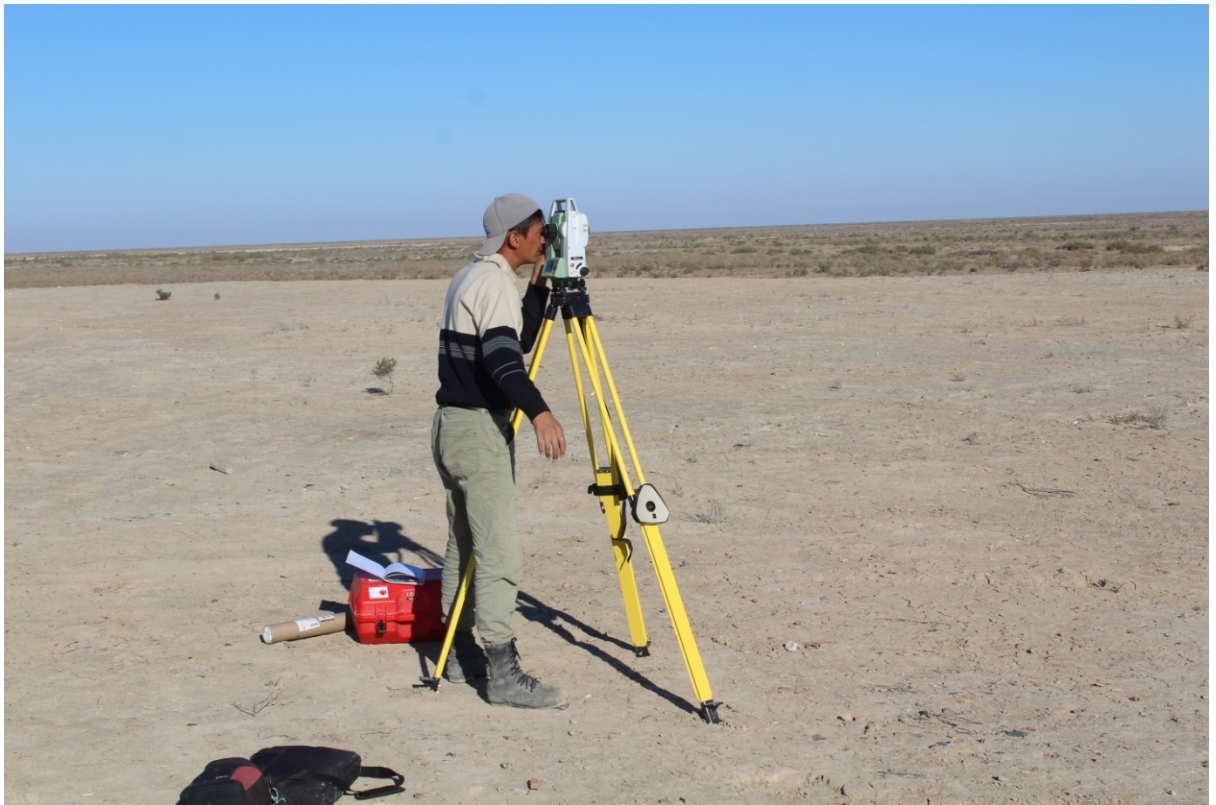


Photo 32. Work moment: removal of the excavation plan with a Leica TC02 electronic total station



*Photo 33. Excavation No.14. Room number No.1. Sufa along the western wall of the room.
Southwest view*

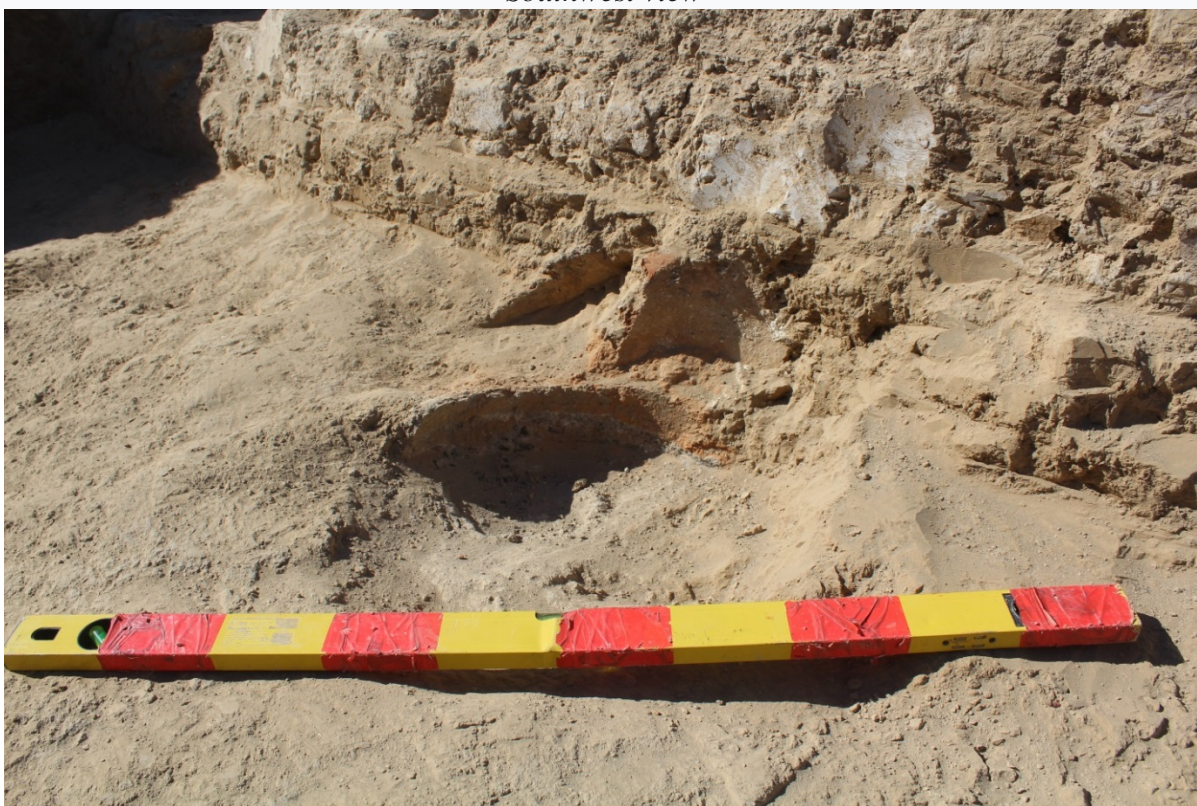


Photo 34. Excavation No.14. Room No.1. Hearth in sufa



Photo 35. Excavation No.14. Room No.1. East wall. Northeast view

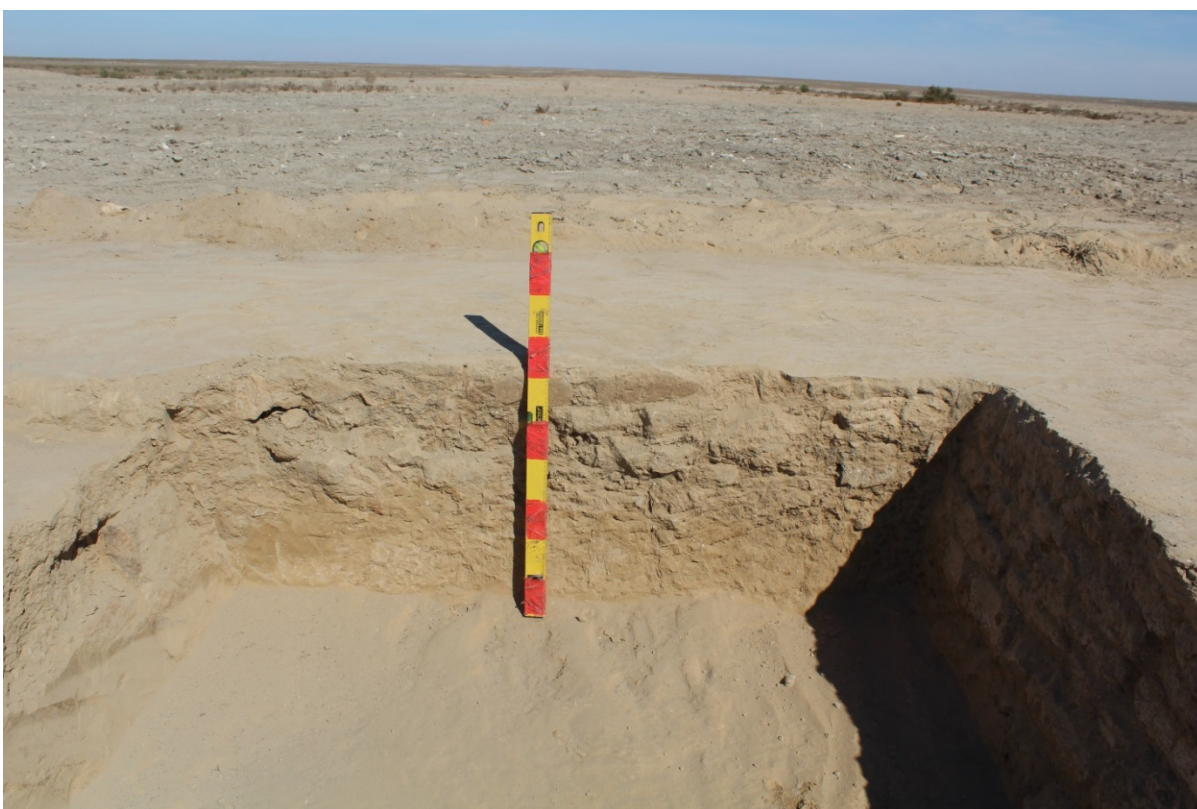


Photo 36. Excavation No.14. Room No.1. North wall. North view



Photo 37. Excavation No.14. Room No.2. South view





Photo 39. Excavation No.14. Room No.2. East wall



Photo 40. Excavation No.14. Room No.2. South wall



Photo 41. Excavation No.14. Room No.3. Southeast view



Photo 42. Excavation No.14. Room No.3. East wall



Photo 43. Excavation No.14. The wall between rooms No.3 and No.6. West View



Photo 44. Excavation No.14. Room No.4. South view



Photo 45. Excavation No.14. Room No.4. East wall



Photo 46. Excavation No.14. Room No.4. Hearth in the east wall

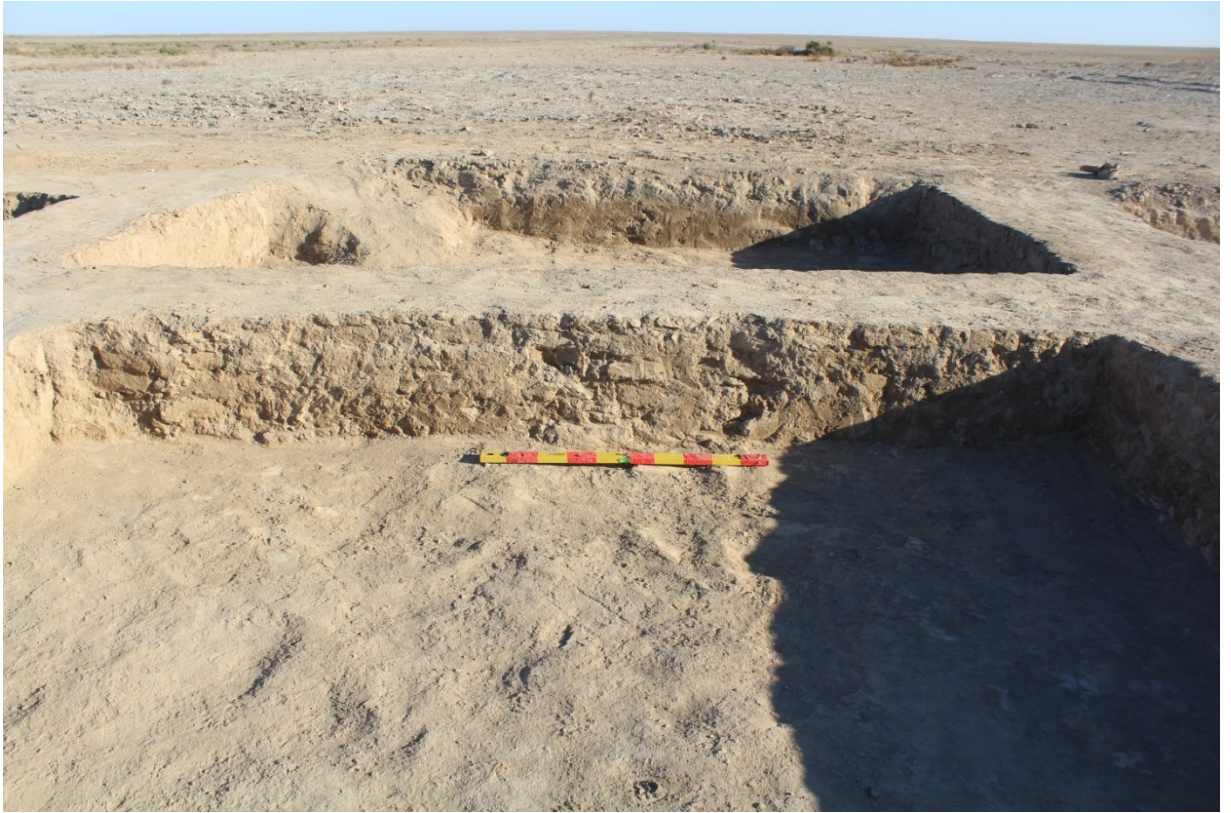


Photo 47. Excavation No.14. North wall of room No.4

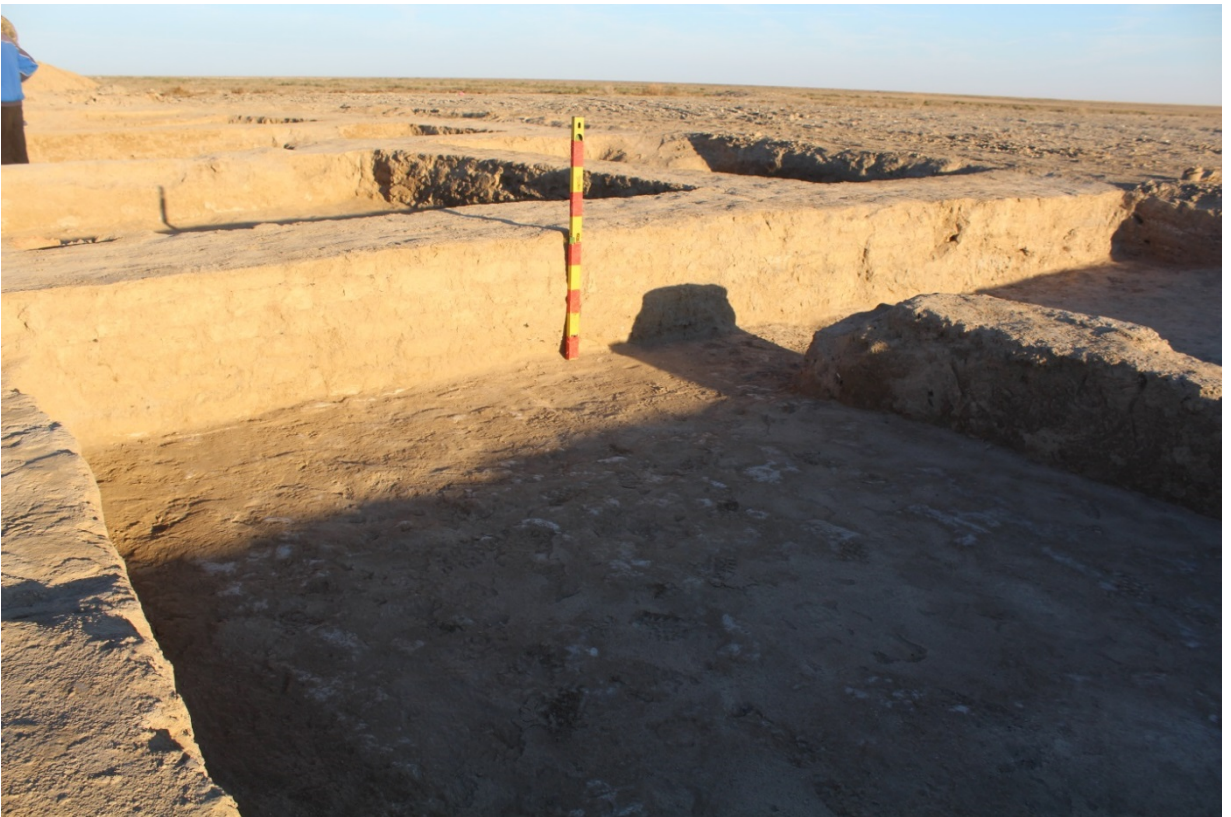


Photo 48. Excavation No.14. The western wall of room No.4. Northwest view



Photo 49. Excavation No.14. Room No.5. North view



Photo 50. Excavation No.14. The western wall of room No.5. Southwest view



Photo 51. Excavation No.14. Work moment: clearing hum in room No.6



Photo 52. Excavation No.14. Large ceramic vessel - hum in room No.6



Photo 53. Excavation No.14. Work moment: clearing hum



Photo 54. Excavation No.14. Hum



Photo 55. Excavation No.14. Hum



Photo 56. Excavation No.14. Room No.6. South view

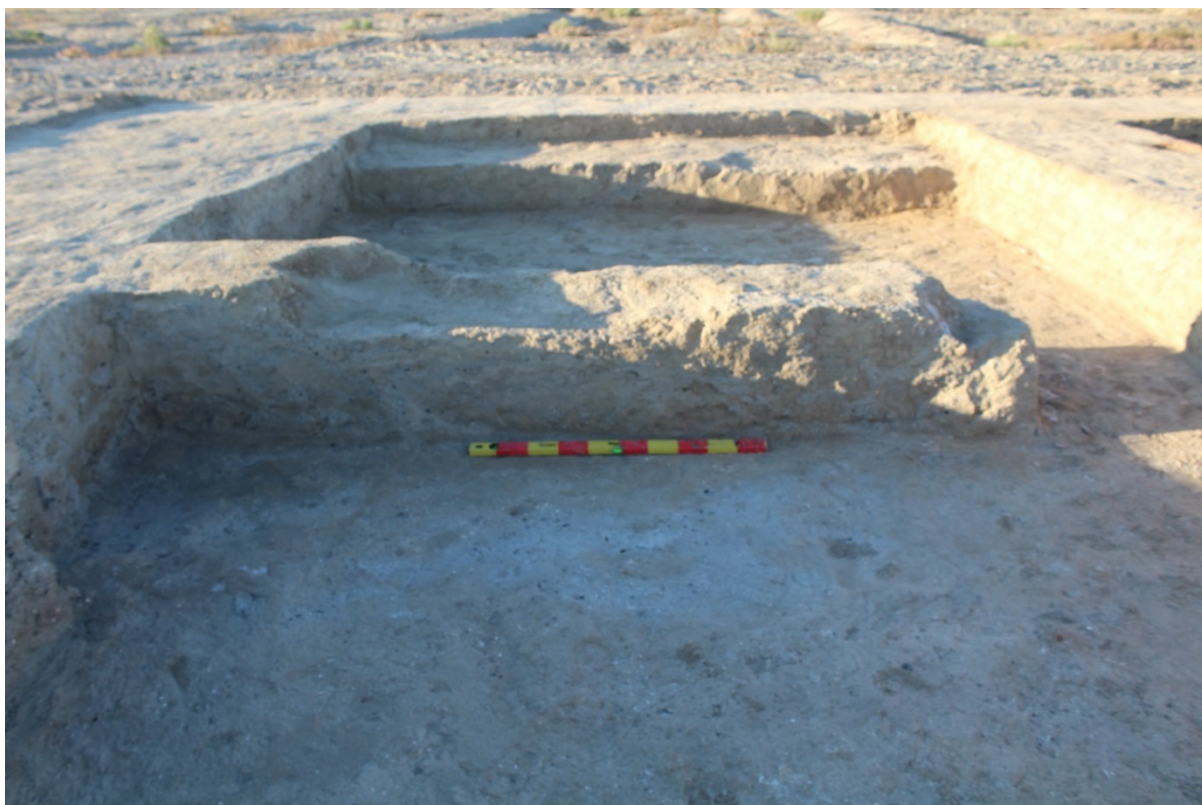


Photo 57. Excavation No.14. South wall of No.6



Photo 58. Excavation No.14. Room No.6. North view

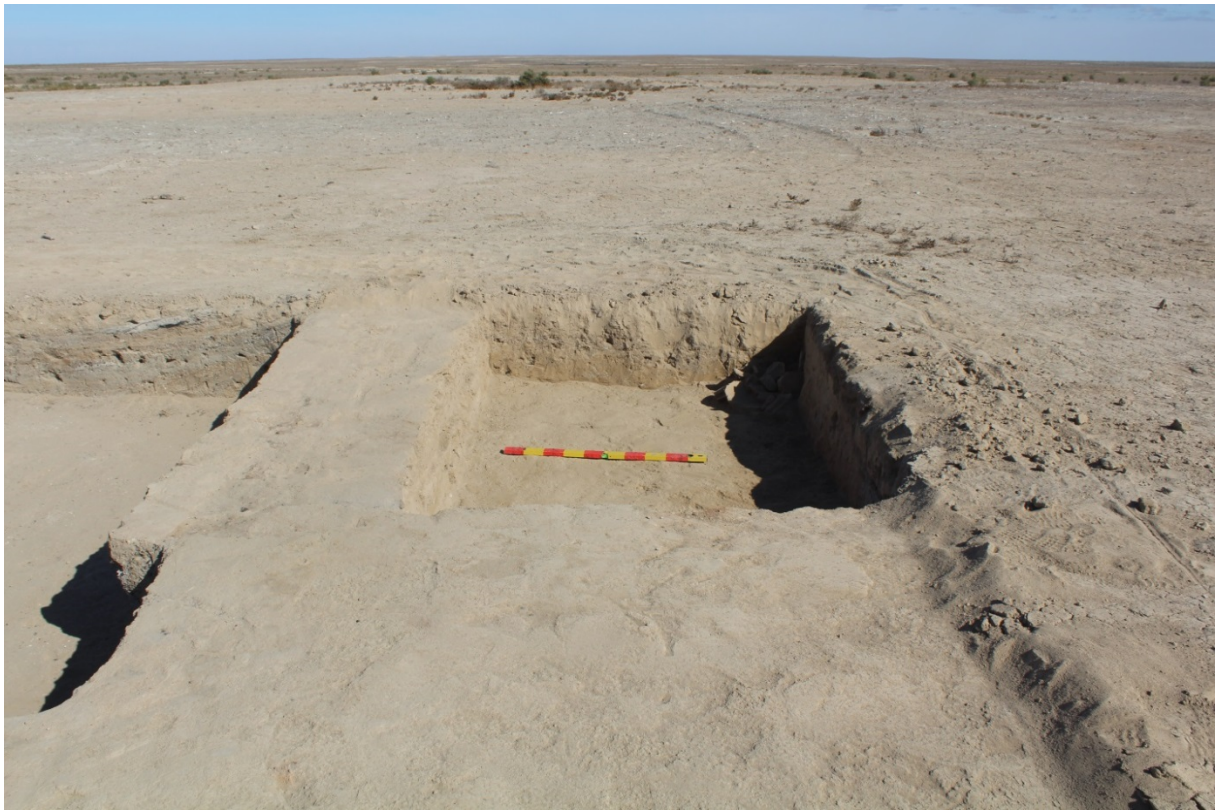


Photo 59. Excavation No.14. Part of the room No.7. North view



Photo 60. Excavation No.14. Part of the room No.7. North view

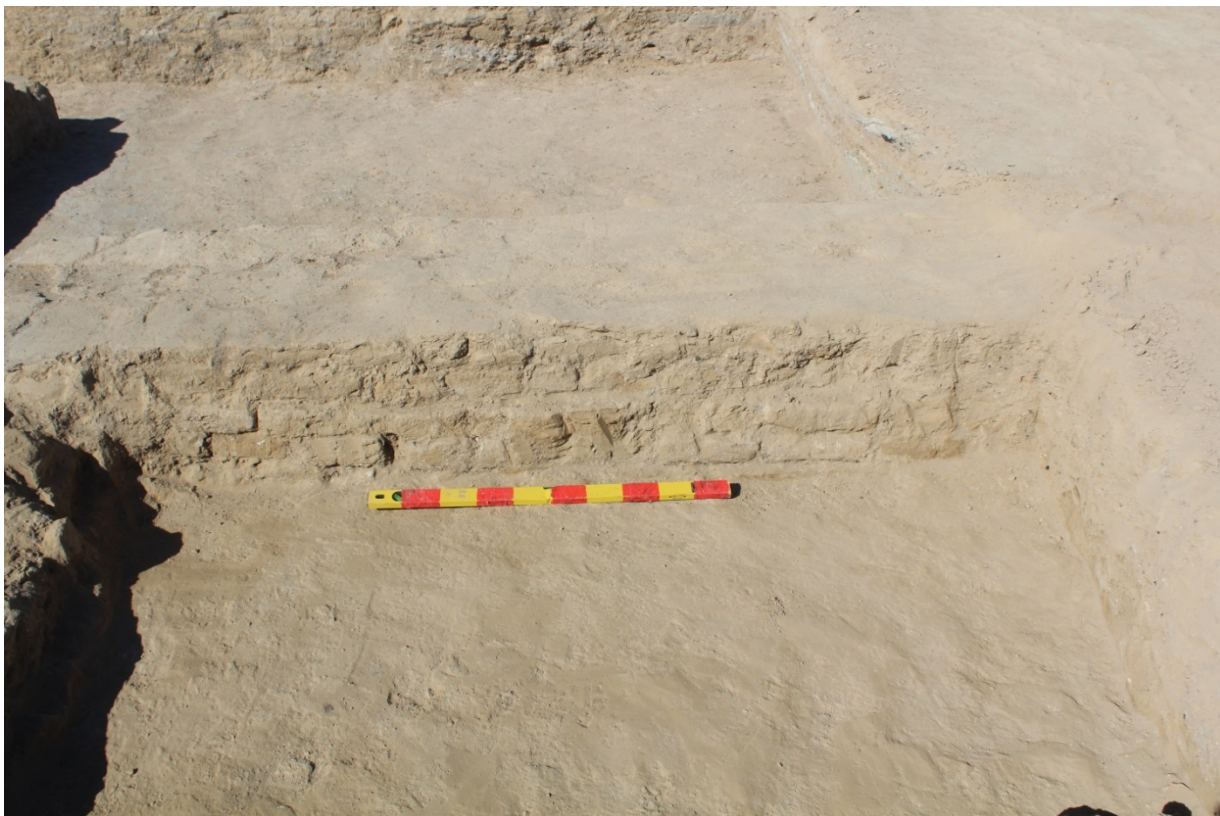


Photo 61. Excavation No.14. West wall of room No.7



Photo 62. Excavation No.14. The accumulation of fragments of ceramics on the floor of room No.7



Photo 63. Excavation No.14. South wall of room No.7



Photo 64. Excavation No.14. Archaeological conservation of identified structures



Photo 65. Excavation No.14. Archaeological conservation of identified structures



Photo 66. Excavation No.15. General view of the site before the start of excavation. North view



Photo 67. Excavation No.15. Work moment: removal of the top layer

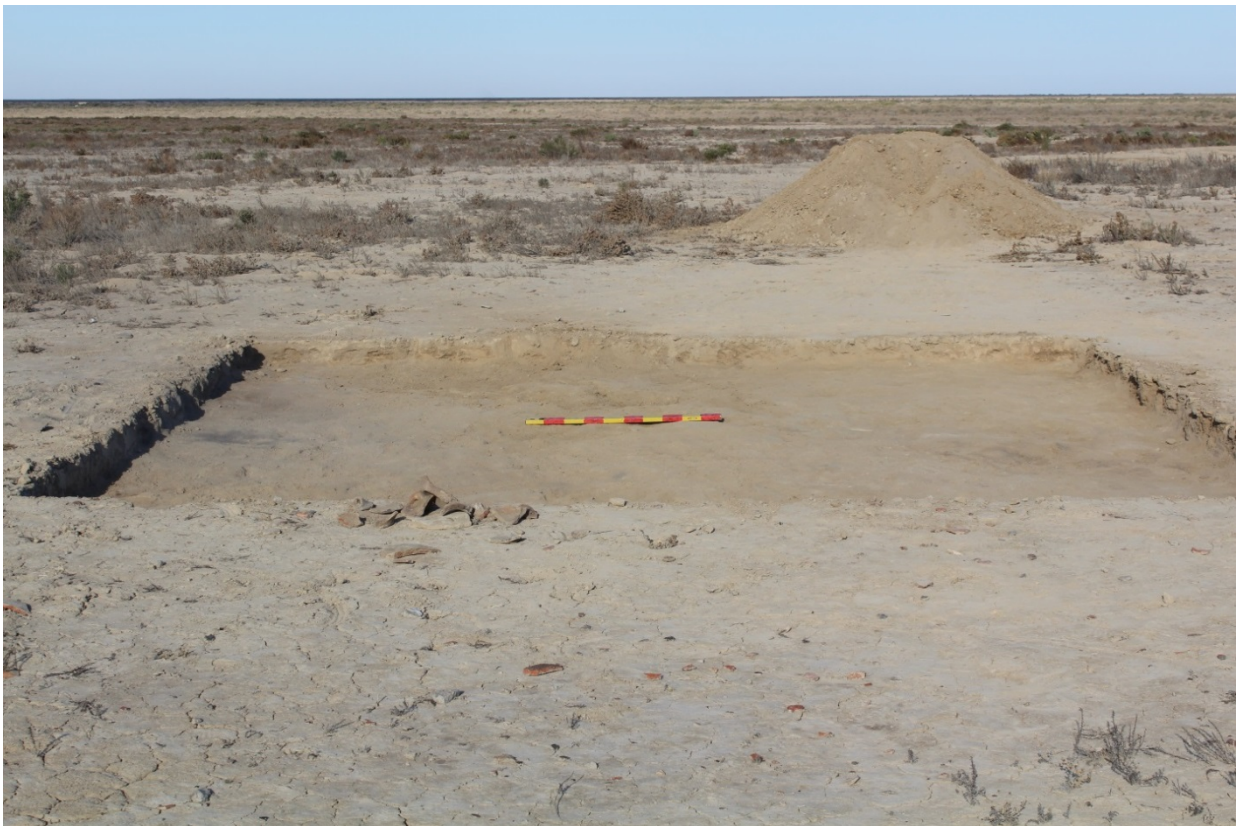


Photo 68. Excavation No.15. View excavation after removing the top layer. West View



Photo 69. Excavation No.15. Work moment



Photo 70. Excavation No.15. Work moment: identification of structures



Photo 71. Excavation No.15. Brickwork



Photo 72. Excavation No.15. Brickwork

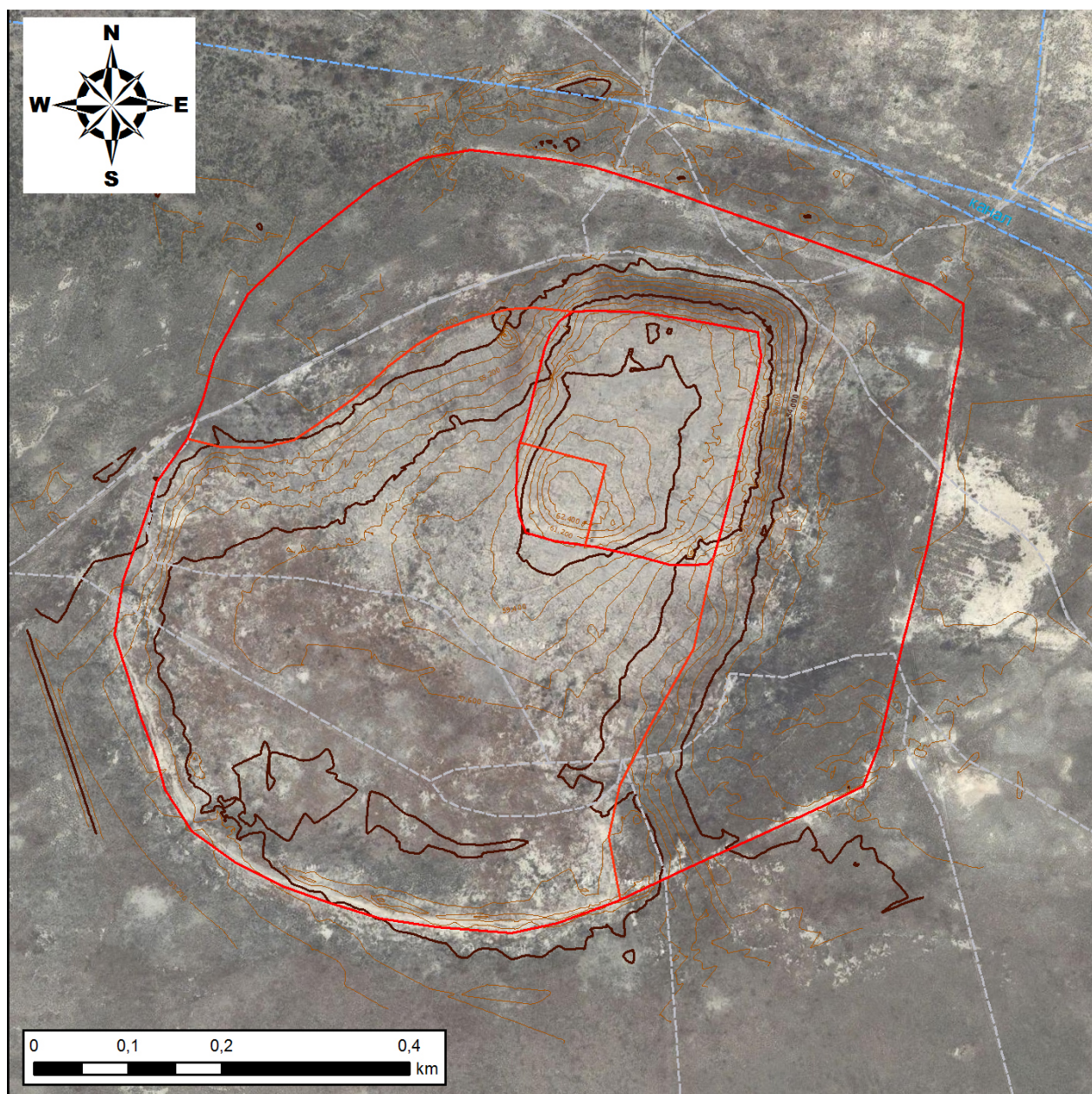


Photo 73. Excavation No.15. View from above



Photo 74. Excavation No.15. View from above

APPENDIX B
Drawing documentation

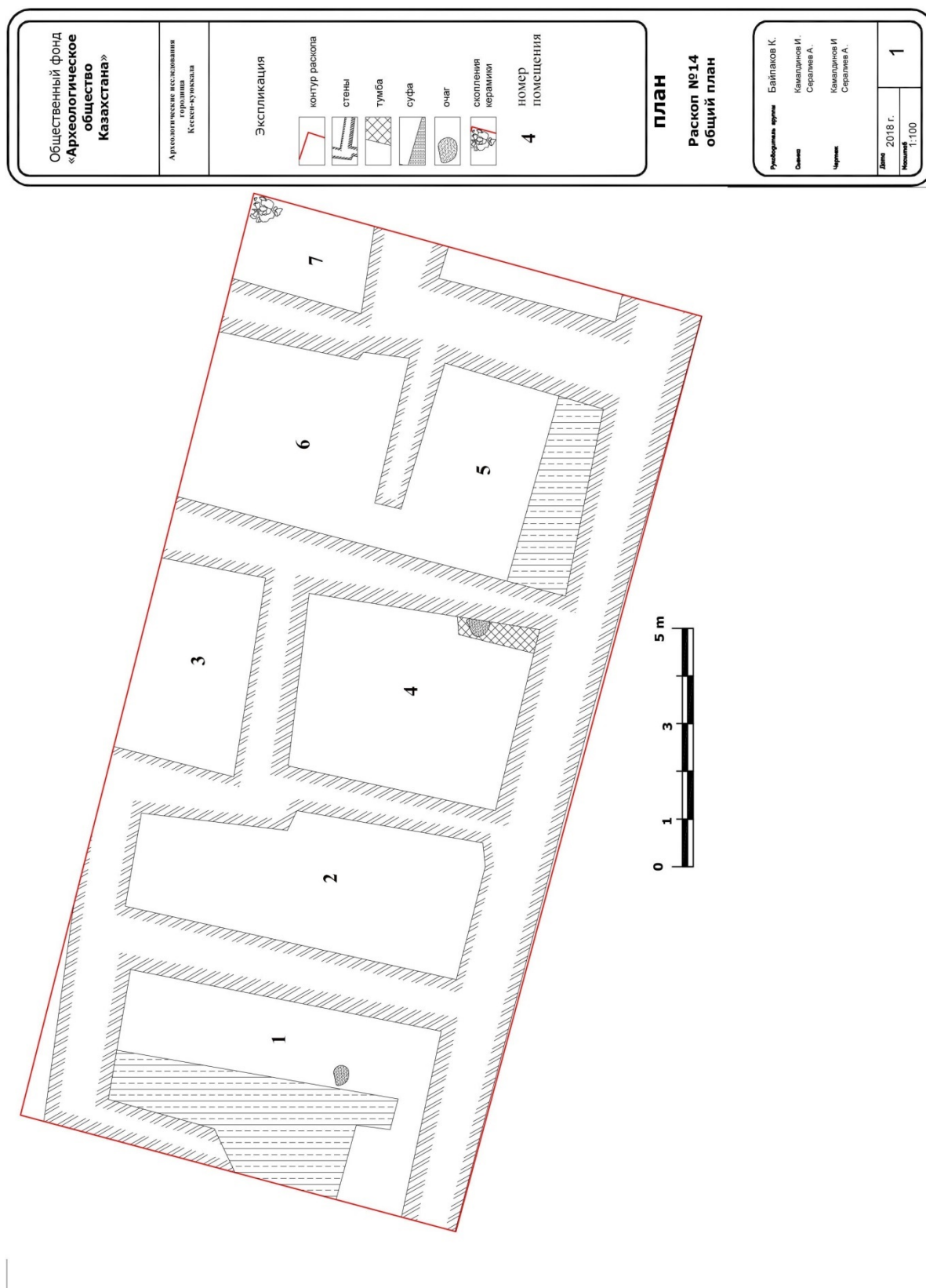


Drawing 1. Topoplan castle Kesken-Kuyuk-Kala

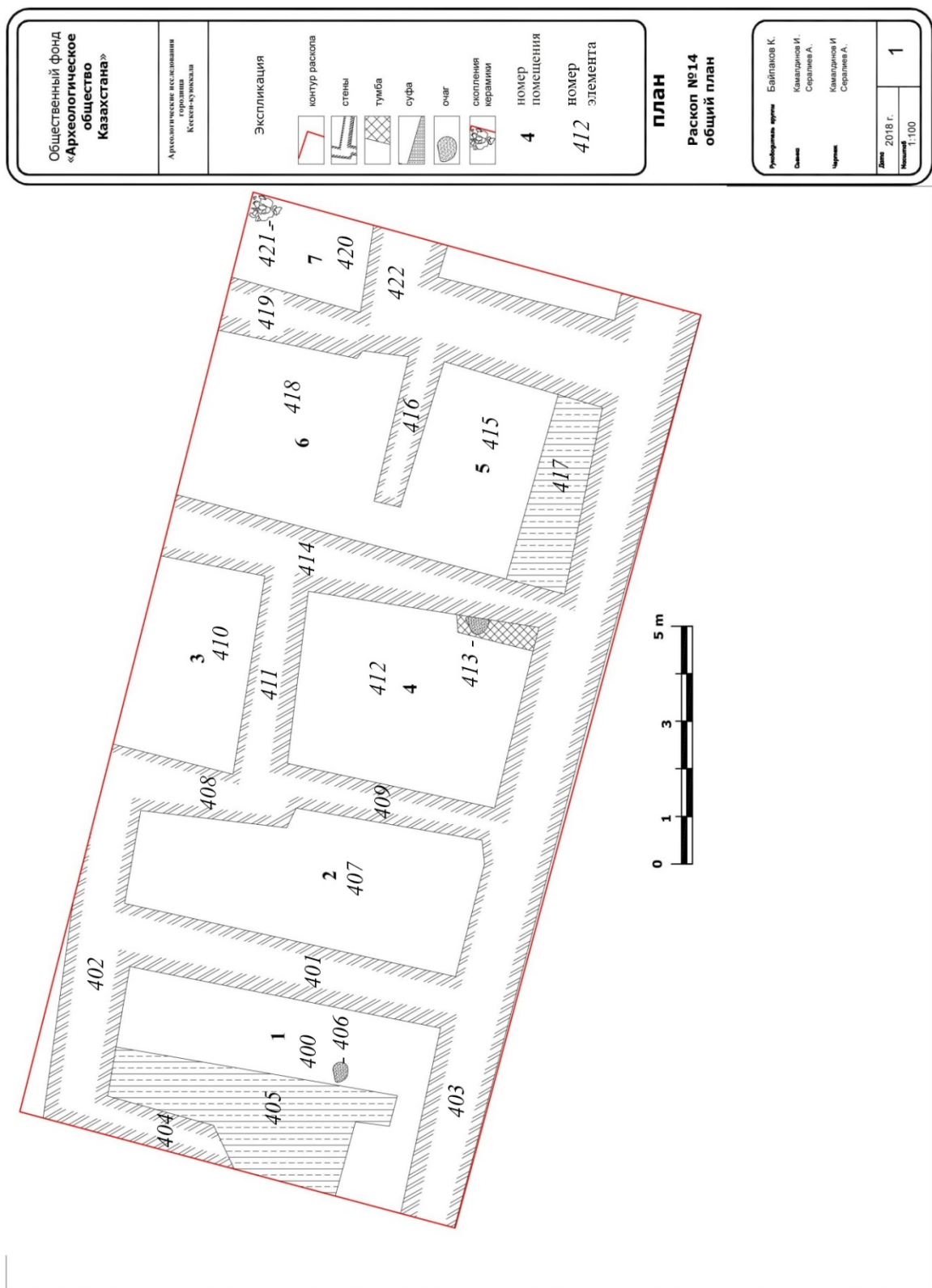
Общий план



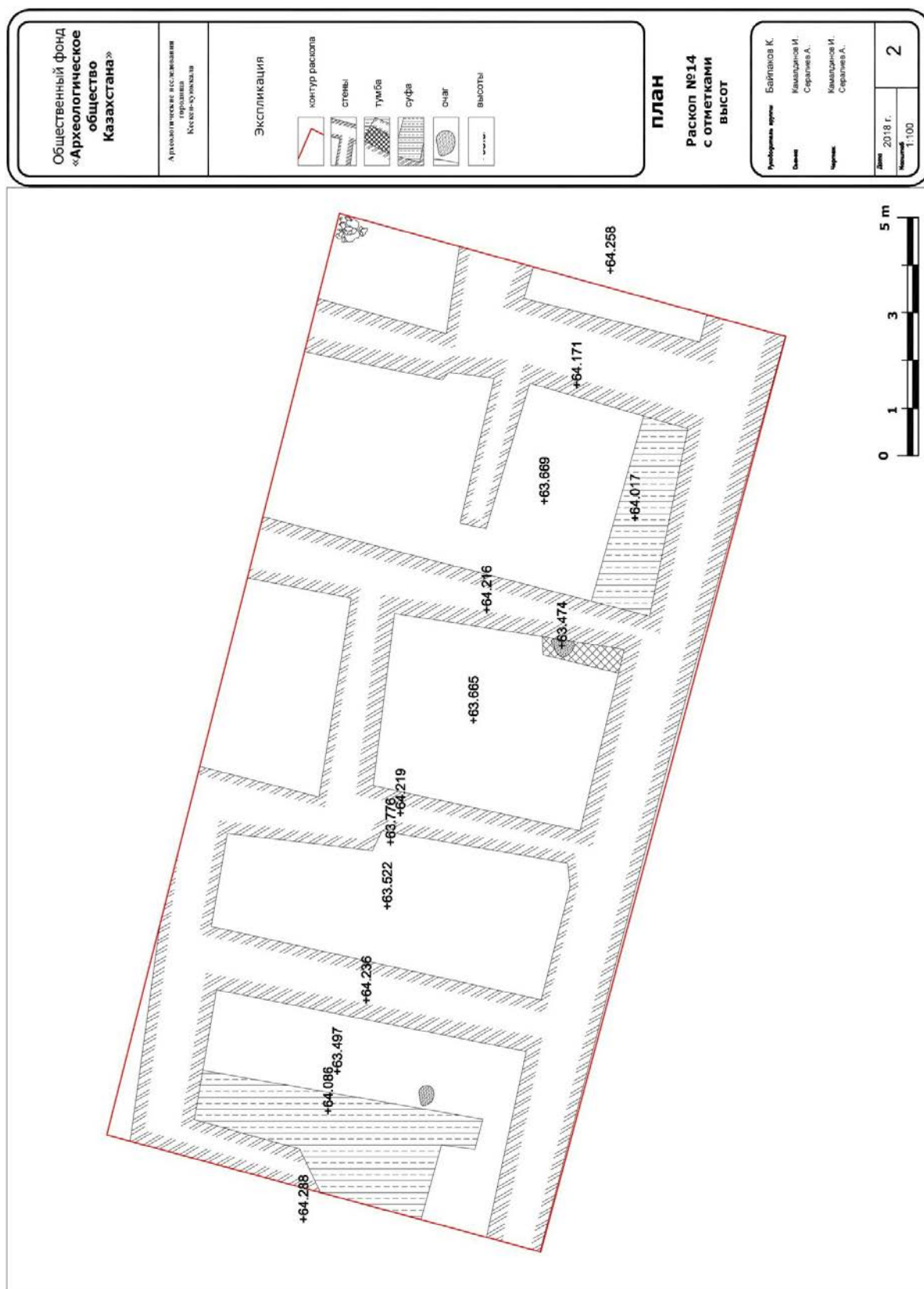
Drawing 2. The plan of the investigated quarter



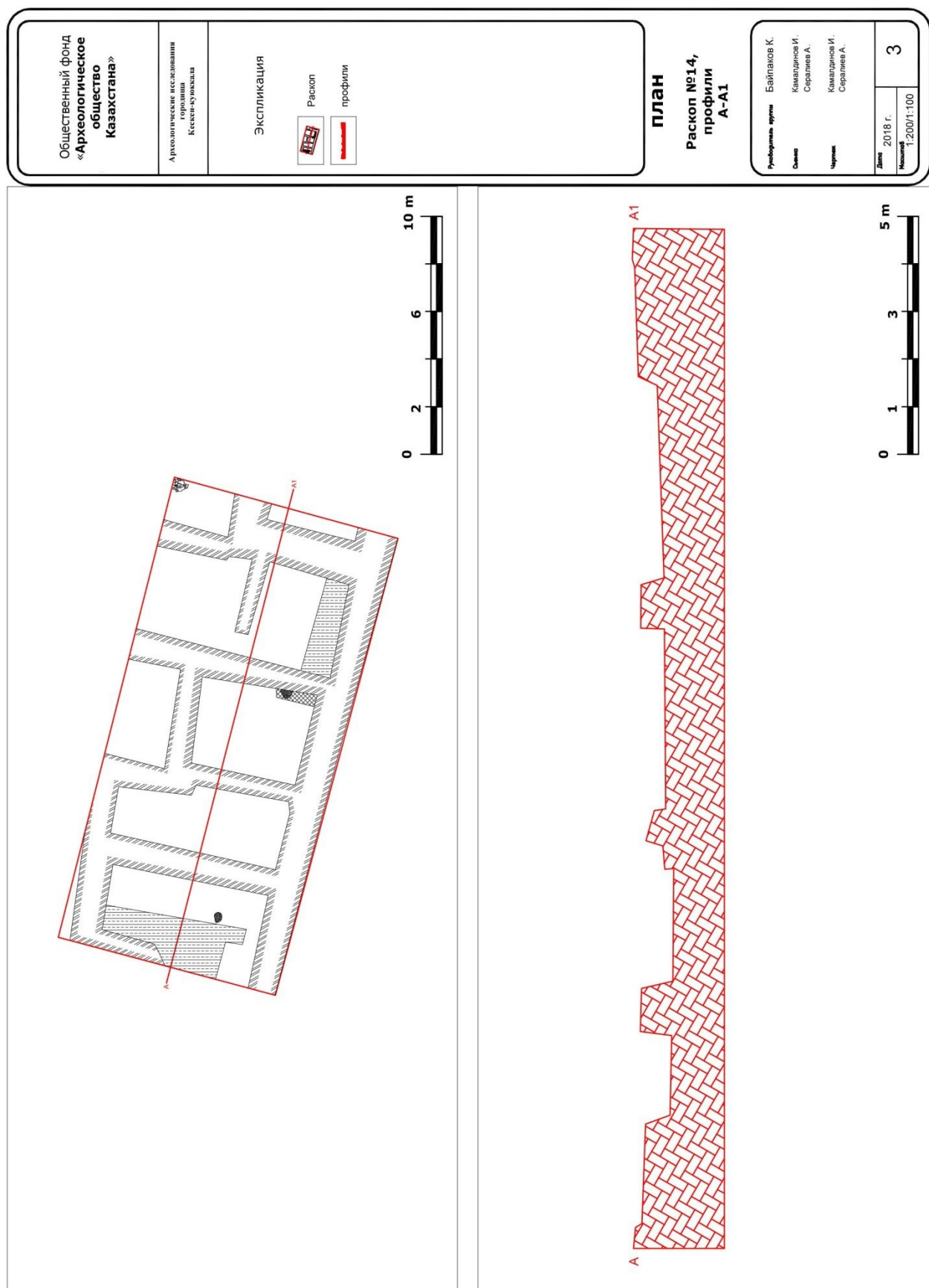
Drawing 3. Plan of excavation No.14



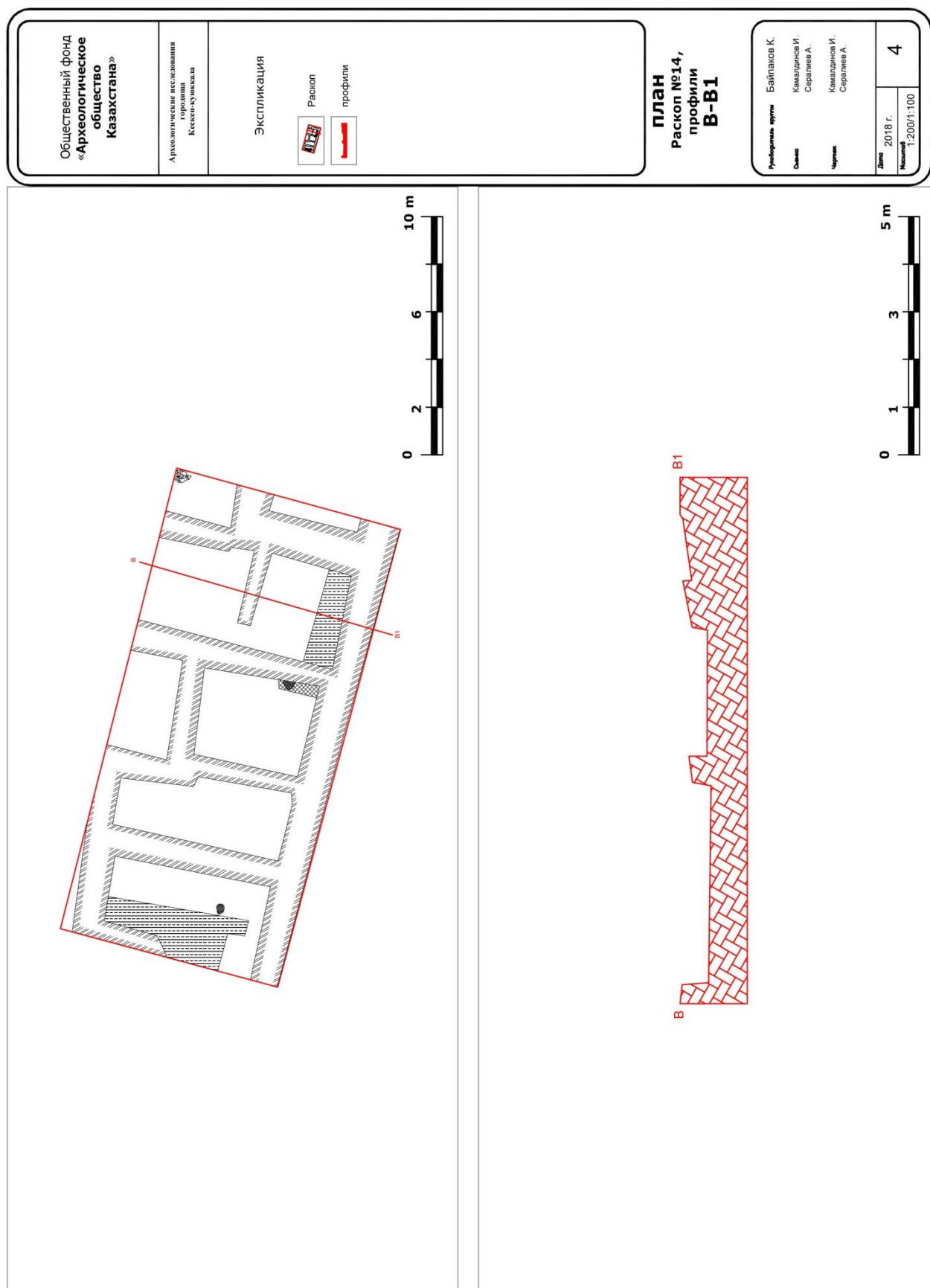
Drawing 4. Plan of excavation No.14 with the indication of the elements



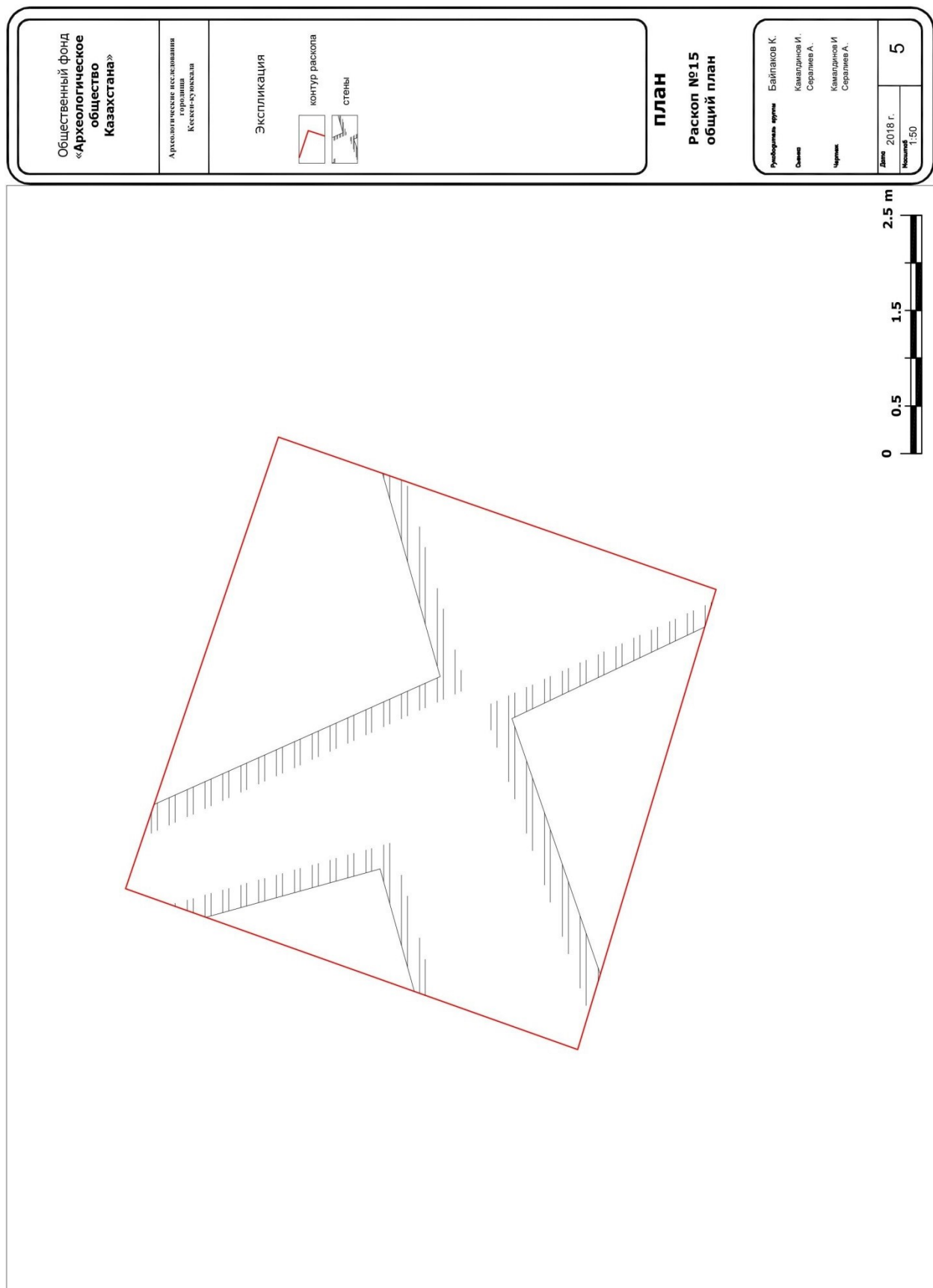
Drawing 5. Plan of the excavation No.14 with elevation marks



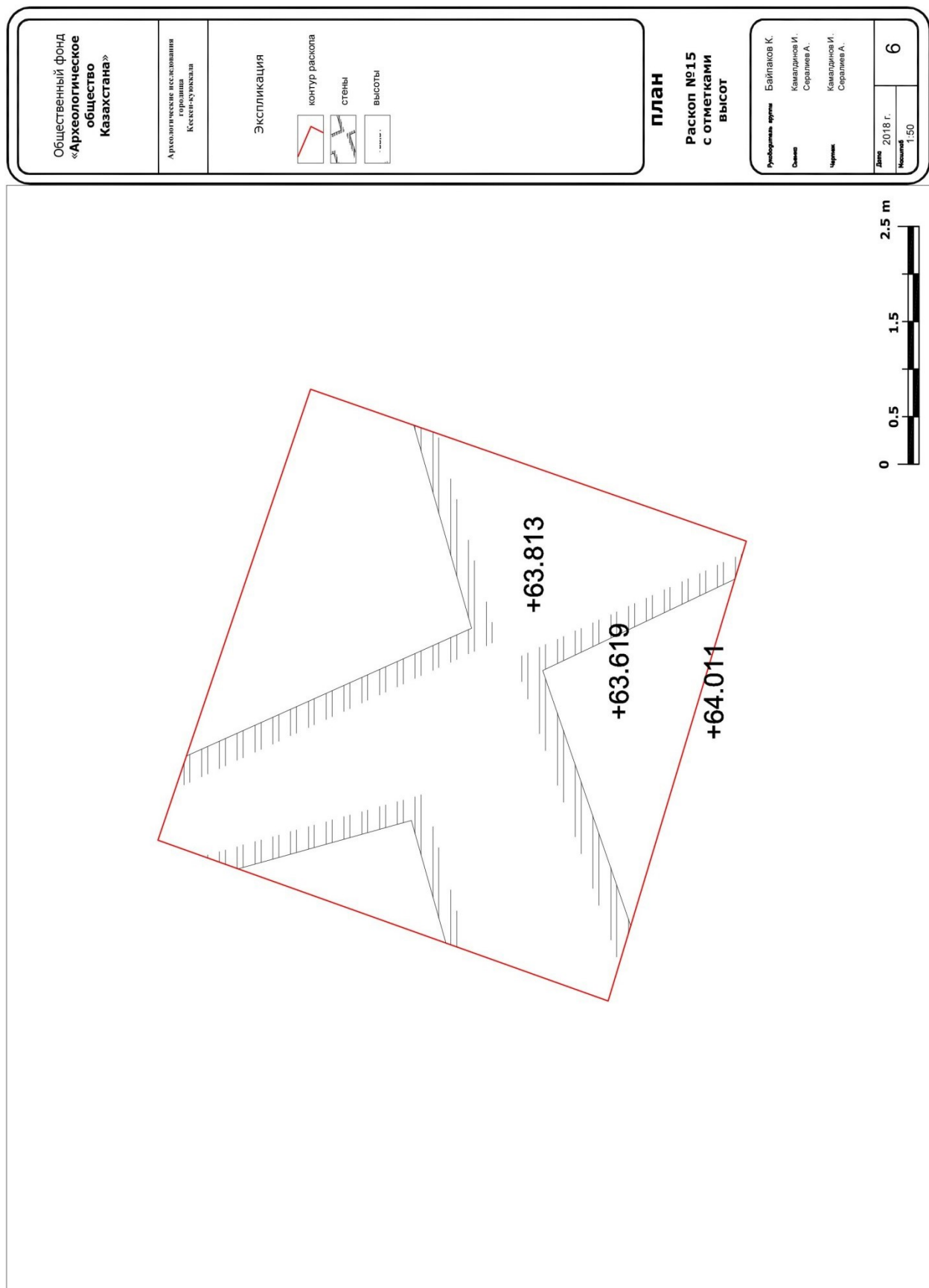
Drawing 6. Excavation No.14. Plan and cut (from east to west)



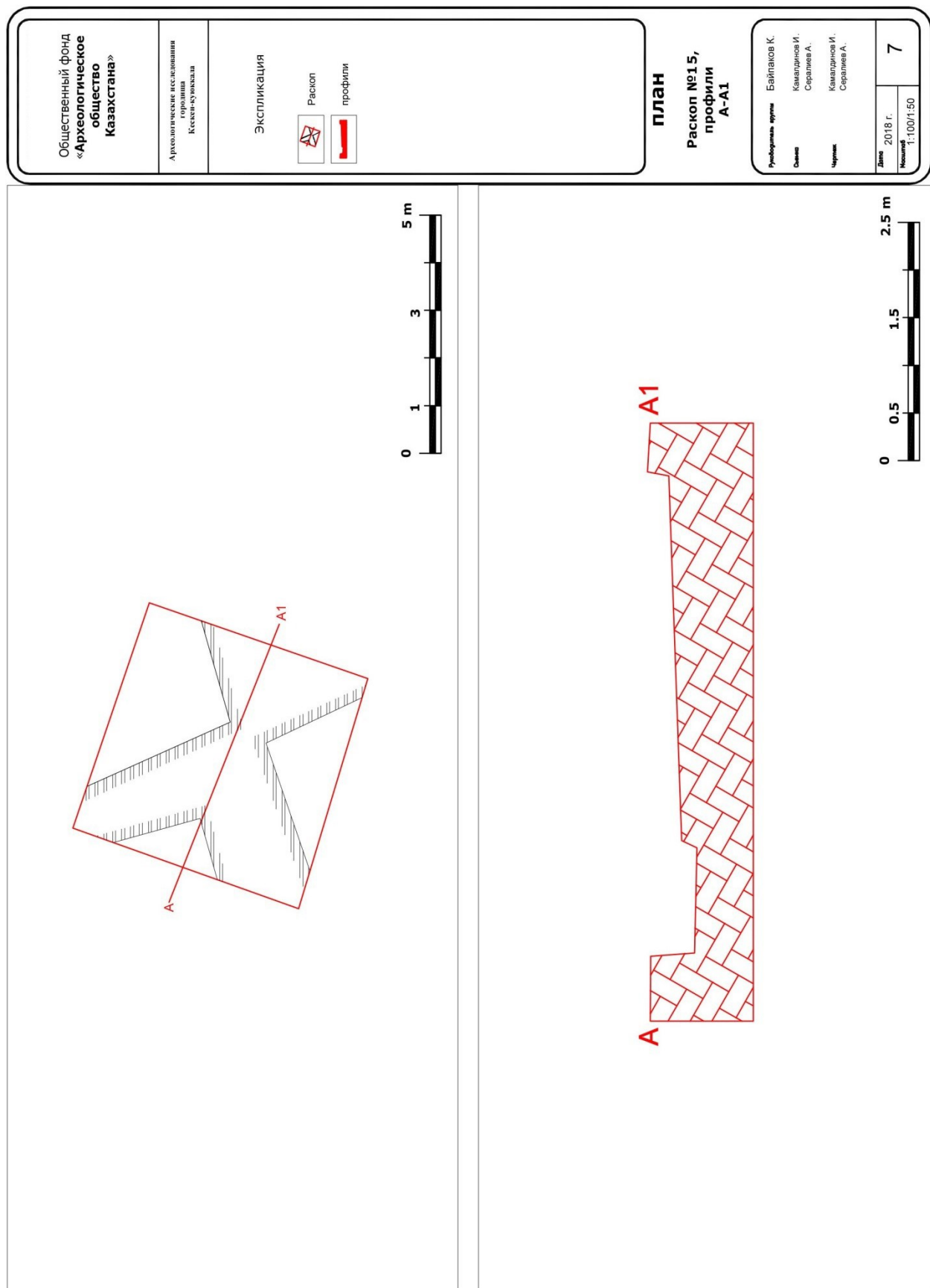
Drawing 7. Excavation No.14. Plan and cut (from south to north)



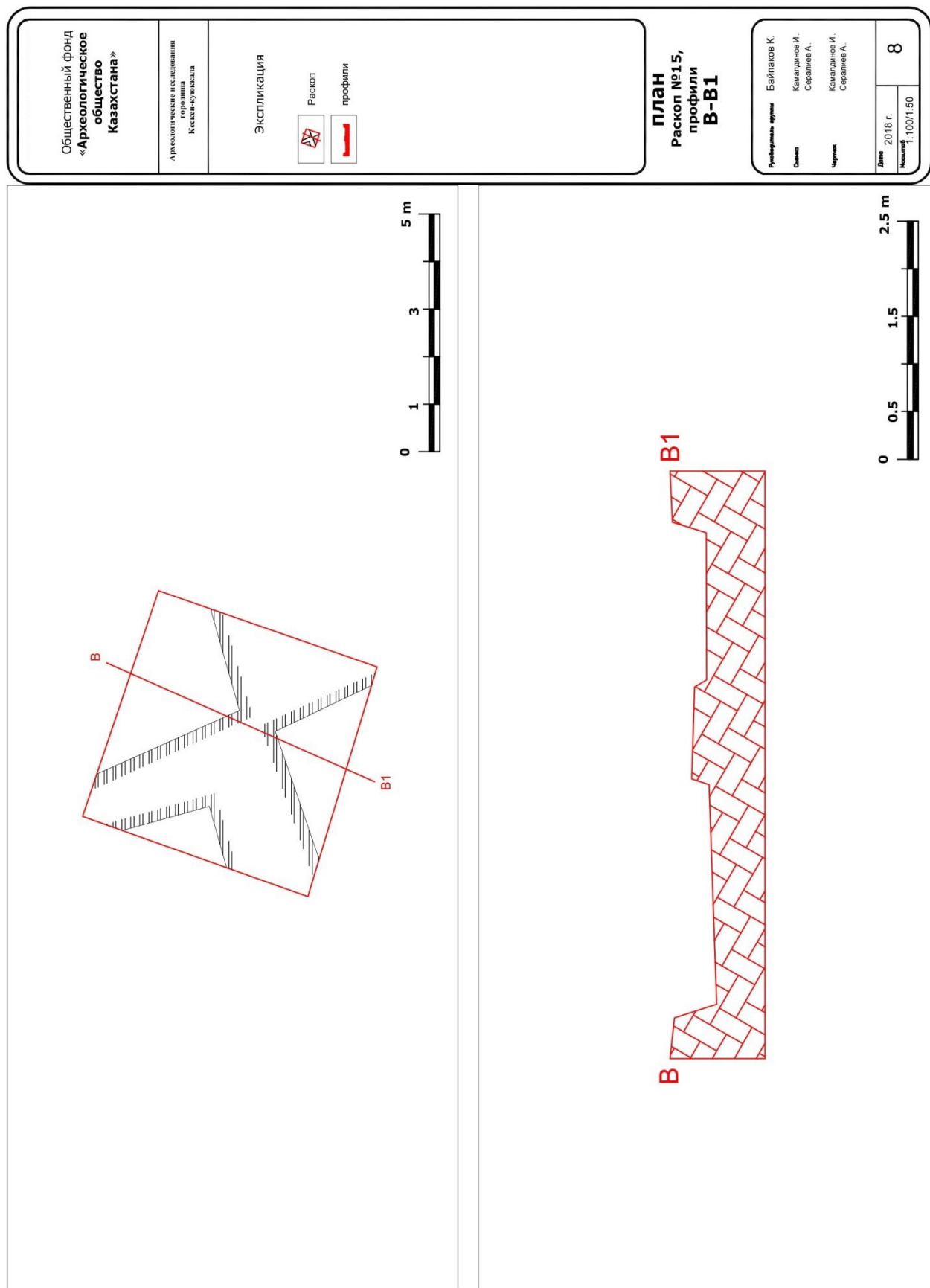
Drawing 8. Excavation No.15. Plan



Drawing 9. Excavation No.15. Plan with elevations



Drawing 10. Excavation No.15. Plan. Section 1



Drawing 11. Excavation No.15. Plan. Section 2

APPENDIX C
Ceramic material

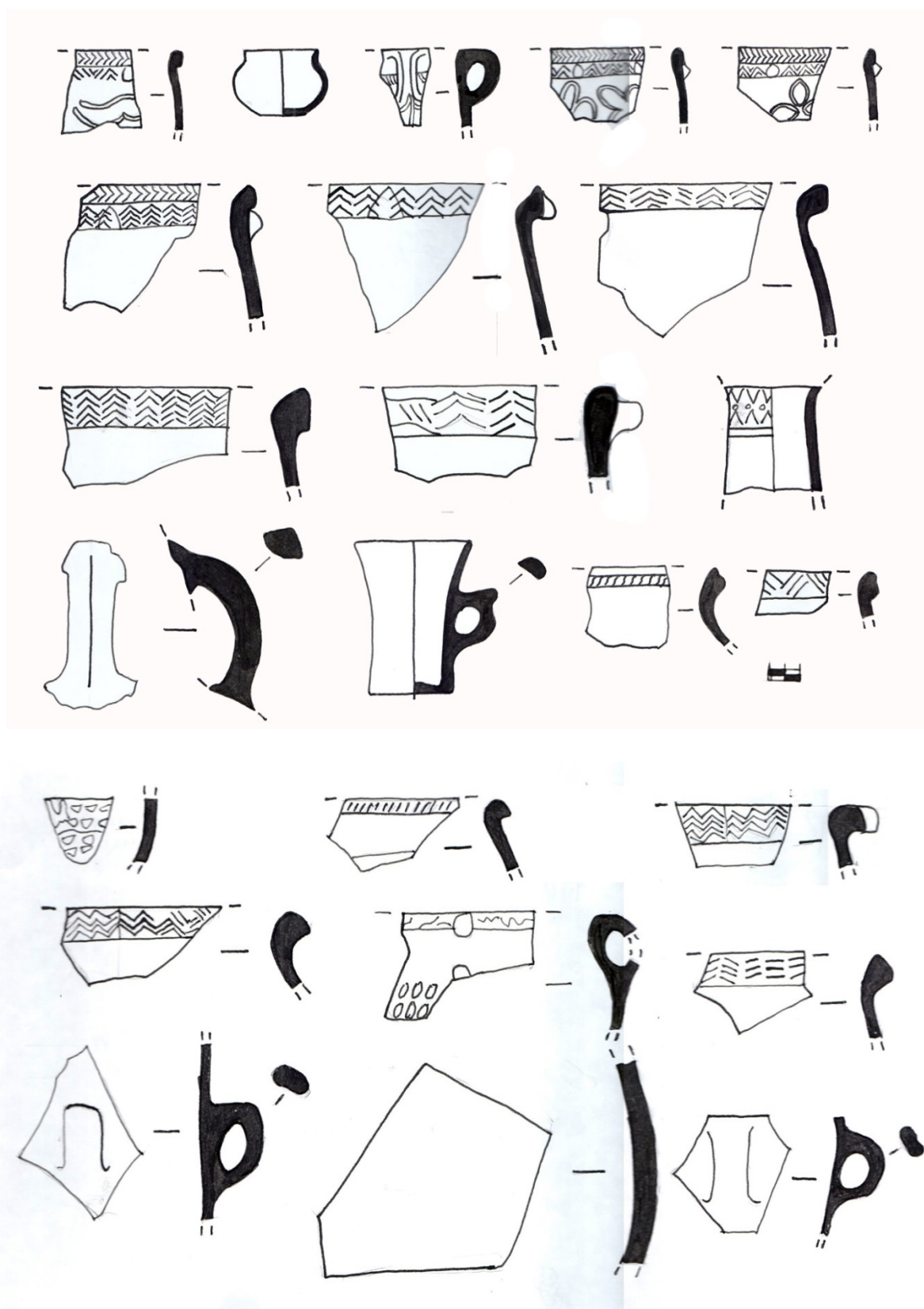


Figure 1. Fragments of sidewalls, handles, rims of ceramic vessels

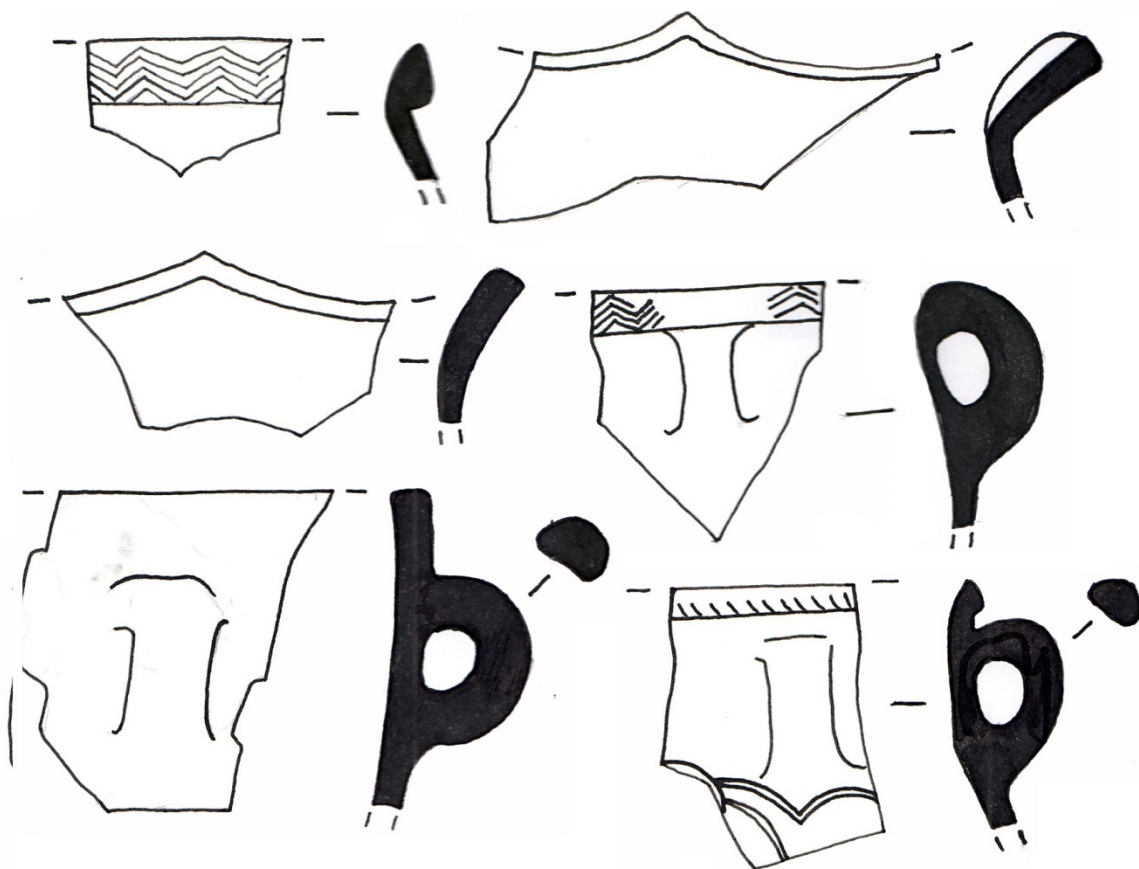


Figure 2. Fragments of the rims, handles, sidewalls of ceramic vessels

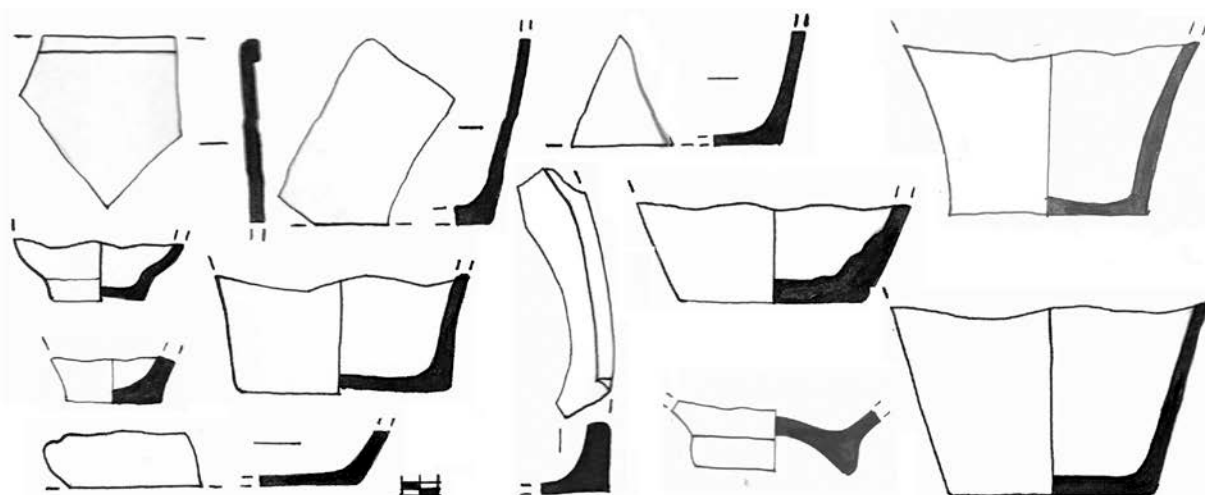


Figure 3. Fragments of the ends of the ceramic vessels

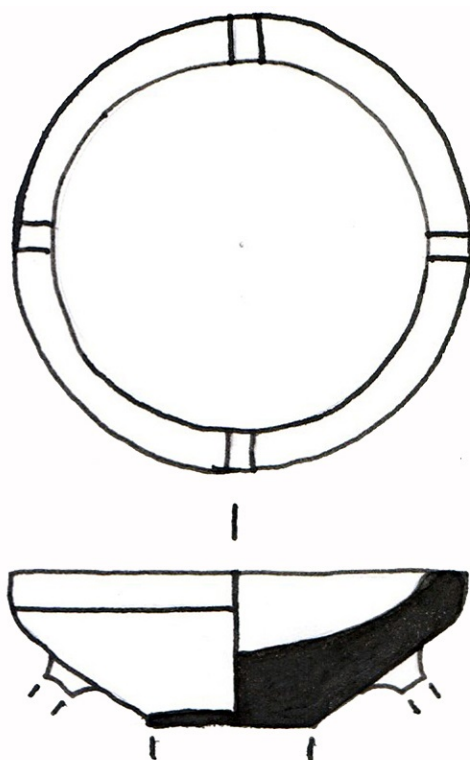


Figure 4. Bowl

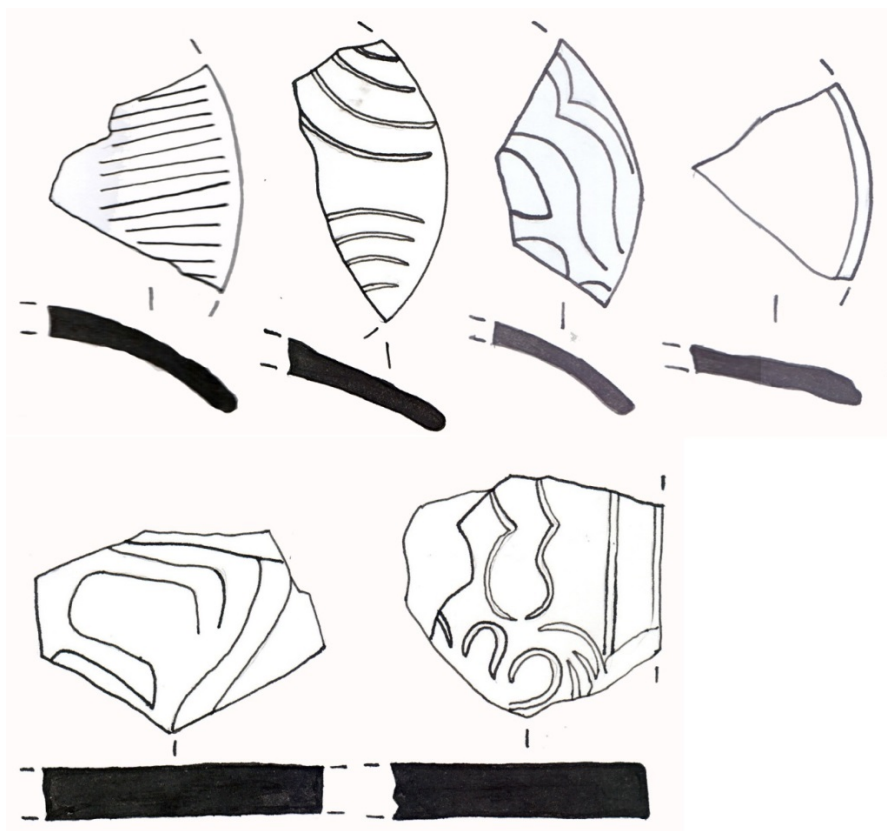


Figure 5. Fragments of ceramic lids

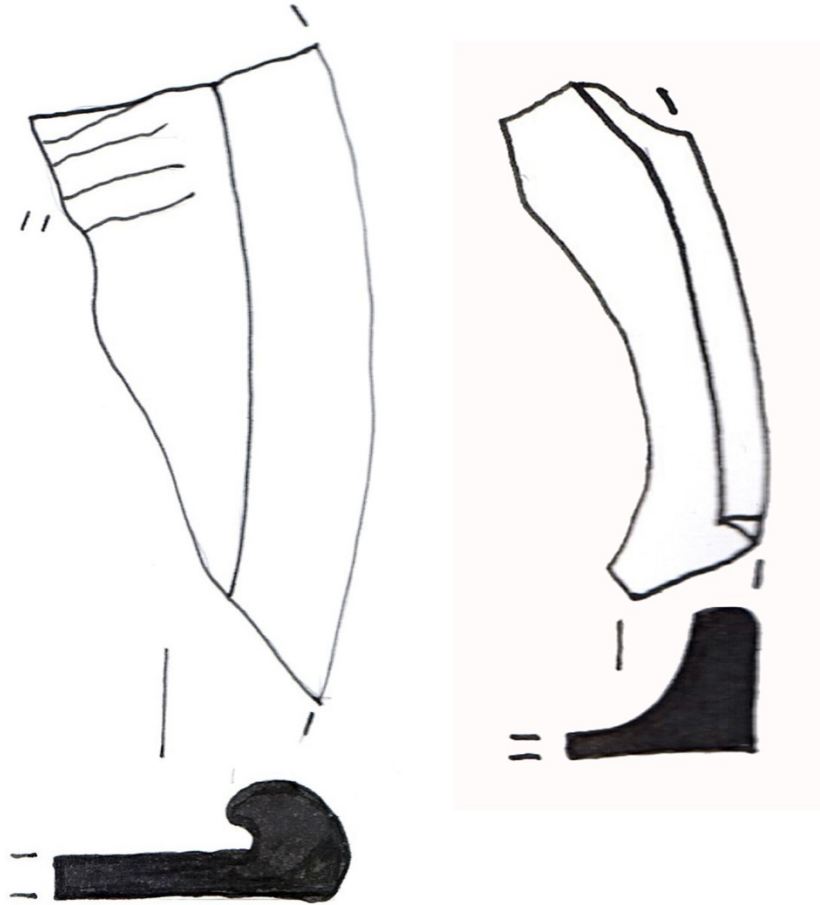


Figure 6. Fragments of dastarhan