

TAP Project: 2024 field campaign of the Joint Archaeological Mission at the Bronze Age Settlement of Togolok 1 (southern Turkmenistan)

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According to the agreement with the Ministry of Culture of Turkmenistan, the joint team from the FU Berlin, ISMEO, and the University of Bern conducted a 4-week field campaign at the Bronze Age site of Togolok 1¹, thanks to the collaboration with the National Historical Park “Ancient Merv” (Figs 1-3).



Fig. 1. The joint team at Togolok 1.

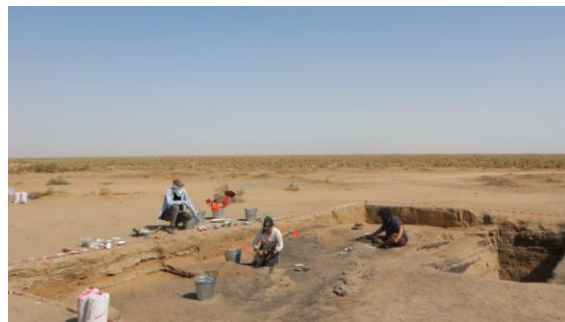


Fig. 2. The team at work in Trench 1.



Fig. 3. The team at work in Trench 2 and 3.

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Togolok 1 is located at the southernmost end of the eastern section of the Murghab alluvial fan and comprises two mounds, a large northern ‘tepe 1’ and a small lower ‘tepe 2’ (**Fig. 4**).

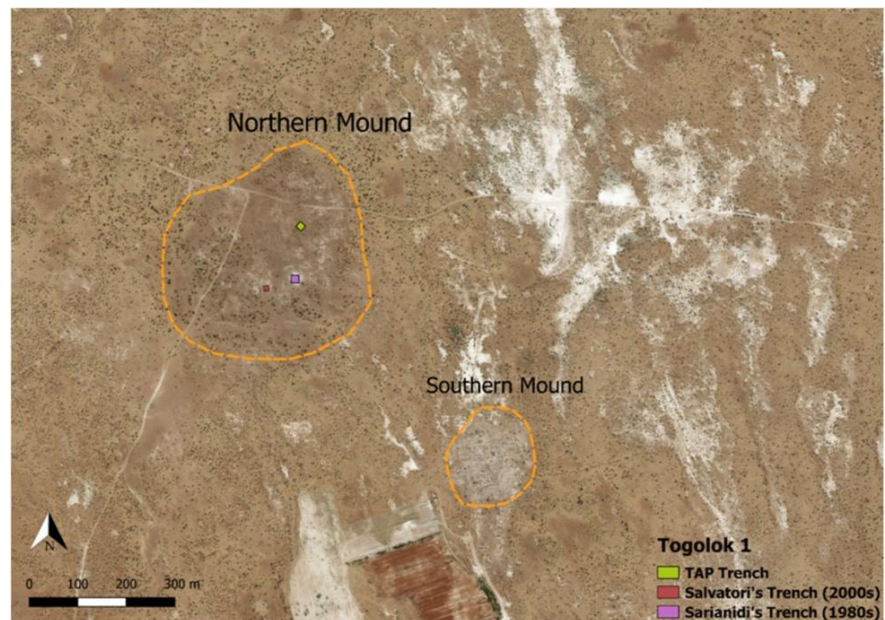
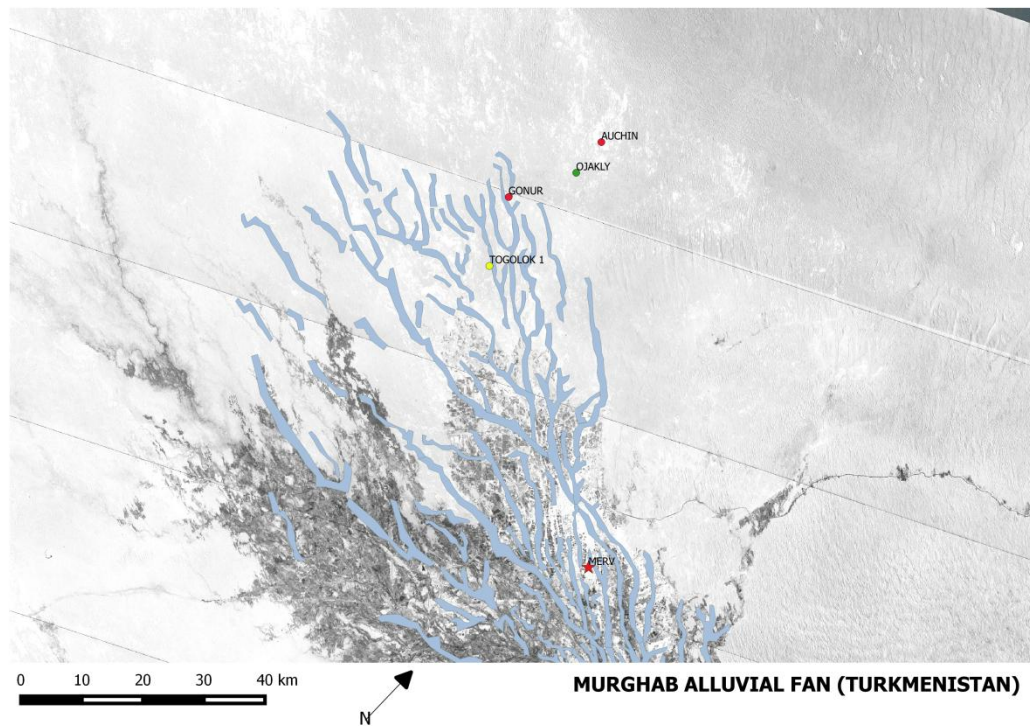


Fig. 4. Togolok 1 along the main fluvial ridges and its location respecting the Bronze Age sites of Gonur, Ojakly, and Auchin (above). The two main mounds of Togolok 1 (below) (map by R. Arciero).

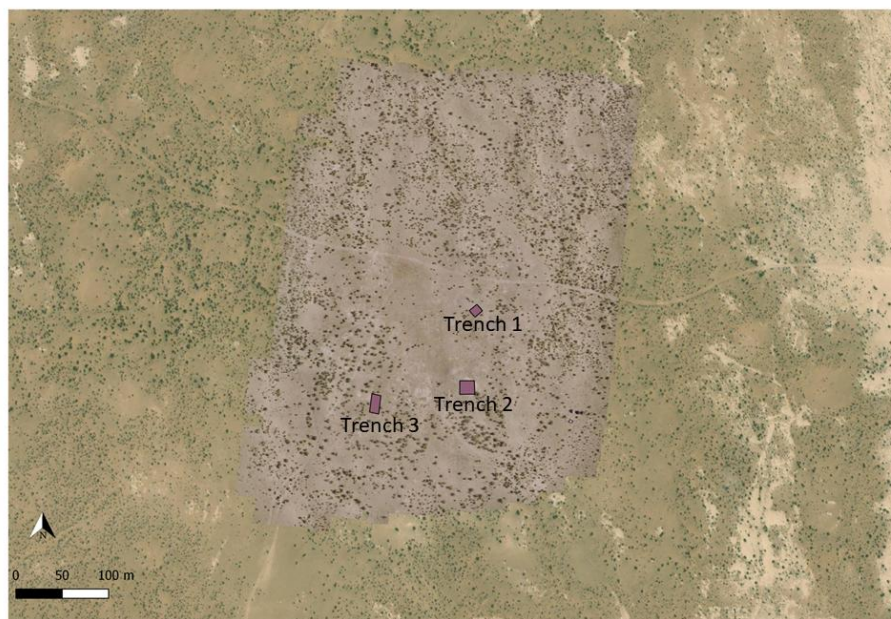


Fig. 5. Map of Togolok 1, with the location of the three trenches (map by R. Arciero)

In 2023, three main trenches were opened: in the upper part of the mound (Trench 1), in the trench already excavated by V.I. Sarianidi in the '80s in the south-eastern area (Trench 2), and in the south-western area of the mound (Trench 3) (**Fig. 5**). In 2024, the excavation was continued in all three trenches and ended in Trench 2.

TRENCH 1

The 2023 fieldwork season revealed in Trench 1 the presence of structures (i.e., walls and floors) in two sectors of the trench, which belong to the same phase of occupation. The ash deposit and black organic layer could be interpreted as repeated human activities (at least 3 phases), more recent than the structures below (walls and floors), which were already in place before. In 2024, the excavation revealed still the presence of several artificial platforms in the southern-west part of Trench 1. On top of the last platform, a structure was built, probably to create a private space. In contrast, the north-western part of the trench showed evidence of platforms and post holes, almost aligned in an east-west direction, probably supporting a lightweight structure or wooden poles for a light roof. It was likely an open space where light structures were located, together with a probable kiln or large fireplace (**Figs 6-7**).



Fig. 6. The figure (red square) shows the northern part of the trench, with post-holes and one pit.



Fig. 7. General overview of the western part of Trench 1 at the end of the campaign.

The analysis of the special finds (e.g., bronze objects, beads, and fragments of figurines) suggests a GKC (Greater Khorasan Civilization) occupation phase. However, these items were uncovered in the same organic deposit, that was connected to the semi-mobile occupation identified in the season 2014-2015. An incised pottery, with a similar decoration to which was collected by V.I. Sarianidi in Togolok 1 and Togolok 21, was discovered (Fig. 8).



Fig. 8. Decorated pottery from Trench 1, with a stylized phytomorphic image.

TRENCH 2

The old step-shaped trench, excavated by V.I. Sarianidi in the 1980s, was reopened to have an immediate stratigraphic and chronological sequence. The massive stepfill from the previous excavation was removed. During the excavation, we carefully determined the chronological and structural sequence of the different settlement phases, through a well-controlled stratigraphic excavation. The upper part of the northern section was recut by 30 cm to obtain enough material for ceramic, botanical, osteological, and charcoal analysis, as well as fresh samples for radiocarbon dating (Fig. 9).



Fig. 9. Process of recutting the northern section for collecting sediment samples for flotation.

Meanwhile cleaning the new section, we discovered a large funerary jar sealed with a stone. During the removal of the jar, a fragment of one terracotta male figurine was found (**Figs 10-11**).



Fig. 10. Discovery of the funerary jar. The wall structure on the upper part .



Fig. 11. Male terracotta figurine.

At the bottom of the 3.3 m deep trench, we finally reached the virgin soil. The original depth of Sarianidi's excavation reached 3.5 m, including the original cover sediment (c. 20 cm).

TRENCH 3

Trench 3 was opened close to the south-west living quarter of the main mound to shortly reach a robust chronological sequence, both based on radiocarbon dates and pottery collection from a well-controlled stratigraphical excavation, as an anchor point to revise the GKC chronology. In 2023, below a sequence of artificial platforms of open courtyards, drilled by post-holes, with the presence of fireplaces and pottery pits, part of a two-phase building, composed of at least two rooms, was discovered, probably connected to the same building excavated by V.I. Sarianidi to the east.



Fig. 12. Trench 3 after the removal of the upper eroded structures to the north.



Fig. 13. The pottery vessel from Trench 3.

In 2024, the contents of the room were removed and various ash clusters came to light. The most interesting feature of Trench 3, however, was the installation along the western section (**Fig. 12**, red circle). Since last year's excavation was able to document a large fireplace to the east of the installation, we have the impression that it can be interpreted as a base on which logs were laid to be burned in an open hearth. Numerous wattle and daub were present in almost every layer. It can therefore be assumed that the structures were plastered with unburnt clay. During the excavation process, a whole vessel was excavated on the southwestern corner of the trench (**Fig. 13**). The vessel was standing on top of an artificial platform in the living area and was filled with soil, a few sherds and a very small amount of charcoal and ash.

After the structures were gradually dismantled, a fired layer was uncovered. This was relatively thick and contained animal bones and beautiful stone spindle whorls in various sizes (**Fig. 14**). A pit, which contained the bones of a child such as a rib and a pelvic bone, cut the burnt layer. Among the special finds found in the trench, two deserve to be mentioned: the head of a male Bactrian figurine, which has its direct reference in an object found in Gonur (Sarianidi 2007), and a chlorite stamp-seal/amulet representing a wild boar (Fig. 15).



Fig. 14. Fired layer from Trench 3.



Fig. 15. The head of a male Bactrian figurine (left) and the one from Gonur North (Sarianidi 2007) (right). A chlorite stamp-seal/amulet representing a wild boar from Togolok 1.

In the southern part of the trench, the area contained only layers, that were alternately interspersed with ash lenses and fire horizons. These layers sloped from north to south, which suggests that these layers simply slipped over time along the slope, due to the processes of erosion of the northern living area (**Fig. 16**).



Fig. 16. Final stage of the excavation in Trench 3.

The layers, some of which were up to 20 cm thick, contained many artifacts and many pieces of raw clay. A not insignificant amount resembled the rough shapes of spindle whorls. They were all the same size, lentil-shaped, with the characteristic protuberance in the center where the hole would later be drilled.

ARCHAEOBOTANICAL REPORT

One hundred and three sediment samples (totalling approximately 758 liters) were collected during the 2024 field season to investigate and better understand the ancient economy at Togolok 1. The sampling strategy combined blanket sampling (i.e., when possible one sample from every stratigraphic unit) and targeted sampling (i.e., prioritizing samples from contexts of archaeological interest). At least 10 liters of sediment were taken from contexts where possible. This strategy was adapted throughout the excavation to meet the limitations and other conditions in the field. Understanding the chronology of Sarianidi's trench is crucial to the mission's research questions. To ensure there was adequate botanical material for analysis, more soil was taken for bulk samples from each SU. Likewise, limited botanical material was recovered from Trench 3 during the last field season. To try to increase the possibility of recovery of plant macro remains, we increased the soil taken for bulk samples from each SU in Trench 3 to between 12 and 14 liters (approximately 3 bags) when possible. Samples were collected in geological cloth bags and transferred to the field house at Merv to be processed using machine flotation (**Fig. 17**).



Fig. 17. Machine flotation .

After the samples arrived, we inventoried the samples and began to process them. Priority was placed on samples from Trench 2. Several samples were processed during this field season but some samples remain to be processed. These samples will be stored in the container until the next field season. Then they will also be processed using machine flotation.

The flotation machine allows samples to be processed faster and it conserves water. To process the samples, we measure, record, and then wet sieve and float the material in the machine. After the sediment was processed, the light fraction (the material that floated off into a 0.355 mm geological sieve) was hung in the shade on a rope in muslin cloth to dry (Fig. 18).



Fig. 18. (top) Light fraction drying; (bottom) Documenting light fraction samples.

If the samples had a large amount of light fraction, they were laid on trays in the shade to dry. The light fraction was then transferred to bags and prepared to be taken for analysis. The

heavy fraction (the material that stayed in the 2.00 mm geological sieve) was wet sieved and then laid on trays until dried. Heavy fraction was rough sorted in the field (**Fig. 19**). Material collected from heavy fraction samples included bone, pottery, charcoal and charred seeds, eggshell, shell from molluscs, wattle and daub, lithics, and metal. Bone fragments, charcoal and charred seeds, eggshell, and shell from molluscs were stored and prepared to be taken for analysis, while the pottery, lithics, metal, and wattle and daub were given to the other specialists to be further processed. A large number of flotation samples have been selected to be exported during the next campaign in spring 2025 and to be analyzed in the laboratory.



Fig. 19. Sorting heavy fraction samples.

Table 1. Flotation sediment sample inventory.

Trench	SU	SQ	Description	# of bags
1-D	658	B11	compact ash	1
1-D	658, 678	B11	compact ash, loose sand	2
1-D	678	B11	loose sand	2
1-D	657	B10	compact ash	2
1-D	661	B10	compact ash	1
1-D	659	B10, B11	compact ash	1
1-D	659	B11	compact ash	1
1-D	630	B4	sand with burnt layer	1
1-D	630	B2	sand layer	1
3	44	E9, D9		5
3	42	A9		3
1-D	680	B11		2
1-D	684	C1		1
1-D	639	C6		2
3	45	E7		3
3	45	E8		3
3	43	E1, E2, F1		3
2	2d	C1		2
2	2d	A1		2

1-A	709	B3		1
3	46	C1		2
2	2e	A1		1
2	2e	B1		1
2	2d	B1		2
1-D	660	B9		2
3	50 (corrected to 51)			2
1-D	711	B6		1
1-D	675	B9		1
2	2g	D1		2
1-D	710	C3		2
2	2f	A1		2
2	2g	C1		2
2	2g	B1		2
2	2f	B1		2
2	2g	A1		2
3	55	E7		3
1-D	675	B10		1
1-D	711	B5		1
2	13	D1, D2		2
2	12	B1, B2		2
2	12	D1, D2		2
2	12	C2	lower level	2
2	12	C1, C2		2
1-D	715	B9		2
1-D	646	B8	top layer of wall	2
2	12	D1, D2		2
3	62	A2		2
2	12	A1, A2		2
3	59	C9, C10		3
2	13	C1, C2		1
2	13b	D1, D2		2
3	74	B7		2
3	65	C2		2
2	17	B3	pit filling	3
2	16	B3		3
3	68	C1		2
2	18	C3		4
3	72	A10		2
3	73	D7		2
3	75	A3		1
1-A	803	H2		1

1-A	800	J3	gray light	2
1-A	803	H3		1
1-A	803	H5		1
1-A	801	K3	red soft	1
1-A	805	I2, I3	white ash	1
3	65	B2		1
3	77	B1		3
3	77	C2		1
3	77	A1, B1		1
3	77	C1		2
2	18	B3		1
2	18	B3	structure gray lens	1
2	18	B3	gray lens with charcoal structure	1
3	83	D1		3
2	2a	A1		3
1-D	690	C2		1
1-D	705	D1		1
1-D	696	D3		1
1-D	702	C2		1
1-D	699	D3		1
1-D	639	D6		1
1-D	693	D2		1
1-D	687	C2		1
2	2a	A1		1
1-D	706	B7		2
3	34	B3		3
3	42	B10		2
3	34	E2		3
3	34	C2, D2		3
3	47	C8		2
2	2a	B1		2
1-D	681	C7		2
3	43 (corrected to 49)	C2, D2		3
3	48	C1, C2, D1, D2		1.5
2	2b	B1		3
1	681	B6		1
2	2c	C1		1
2	2c	B1		1
2	2b	A1		3
2	2b	C1		2
2	2c	B1		3
2	2c	A1		2

Table 2. Handpicked samples; samples of seeds, charcoal, or burned dung collected directly from excavation.

Handpicked sample #	Trench	SU	Grid Square
1	1-D	639	C6
2	1-D	639	C5
3	1-D	681	B3
4	1-D	706	B7
5	1-D	732	C11
6	1-D	649	C9
7	1-D	649	D9
8	1-D	734	E8
9	1-D	649	C8
10	1-D	733	C11
11	1-D	639	C5
12	1-D	639	C7
13	1-D	639	B4
14	1-D	731	C4
15	1-D	639	C6
16	1-D	639	B1
17	1-D	681	D5
18	1-D	681	C7
19	1-D	639	C7
20	1-D	681	C7
21	1-D	681	C7
22	1-D	681	D3
23	1-A	803	J1
24	1-A	803	H2
25	1-A	800	K2
26	1-D	725	B6
27	1-A	803	I?
28	1-D	675	B10
29	1-A	803	H2
30	1-D	731	C4
31	1-D	711	B5
32	1-D	729	C8
33	1-D	680	C8
34	1-D	711	B6
35	1-A	803	K1