



KERKENES PROJECT

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Sometimes things don't go as planned. The 2019 season of the Kerkenes Project was planned to run from April 27 to July 17. However, delays in issuing all of the archaeological permits in Yozgat province, connected to a change in the local governor, led to a shorter season being undertaken from June 11 to July 17. This delay did mean that the ongoing electrical resistance surveys, which we undertake every year in May and early June to reveal more of the buried late-seventh to mid-sixth century BC city, had to be cancelled for the 2019 season. There was just not enough moisture in the soil when we arrived on June 11 for the electrical resistance meter to yield useful readings, despite our best attempts. However, the shortened season and the lack of the resistance survey did not stop us from continuing excavations in the northern portion of the city or from undertaking other forms of geophysical survey.

GEOPHYSICAL SURVEY

While the electrical resistance survey has been the primary form of geophysical survey at Kerkenes over the past seventeen years, the first large-scale geophysical exploration of the plan of the city was undertaken using geomagnetic survey. For an eight-year period from 1995 to 2002, almost the entirety of the 271 ha area of the site was surveyed using magnetometry, measuring the direction and intensity of the magnetic fields across the site to reveal buried structures and activity areas.

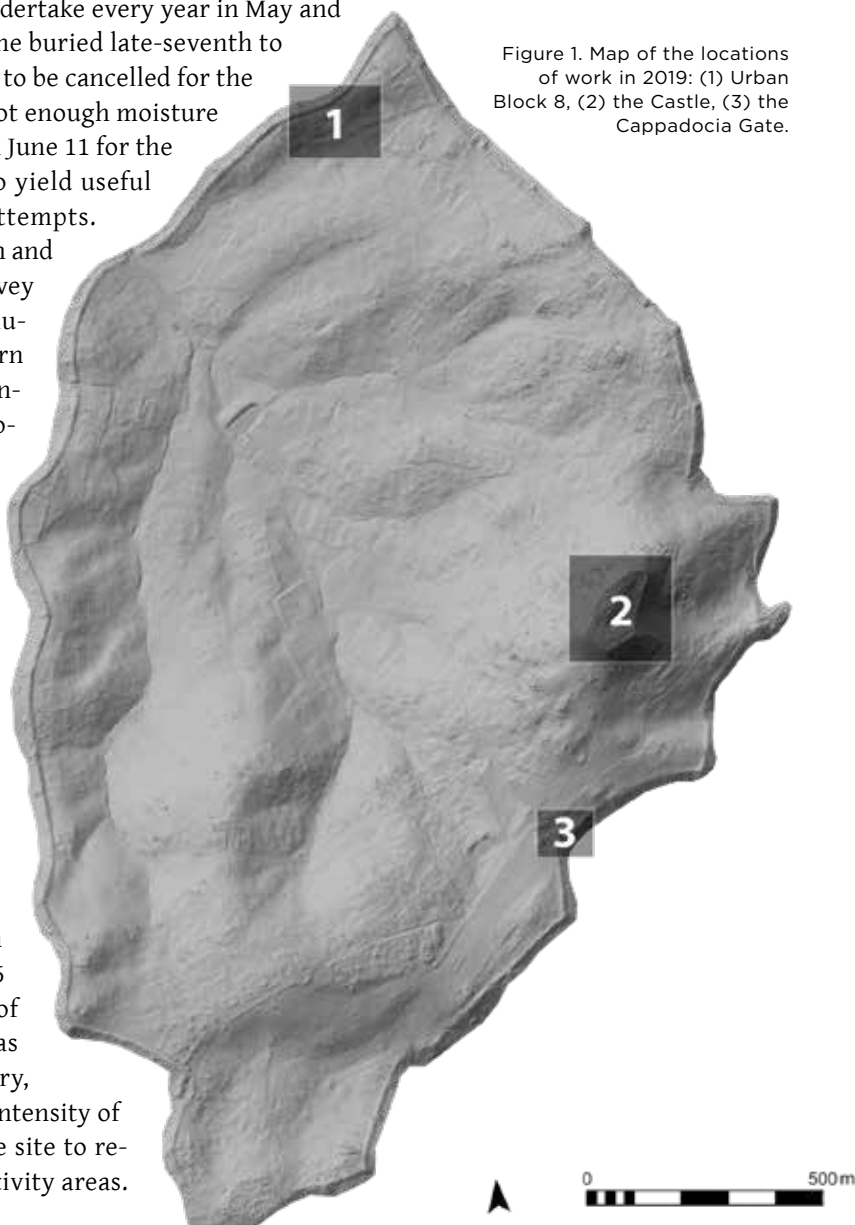
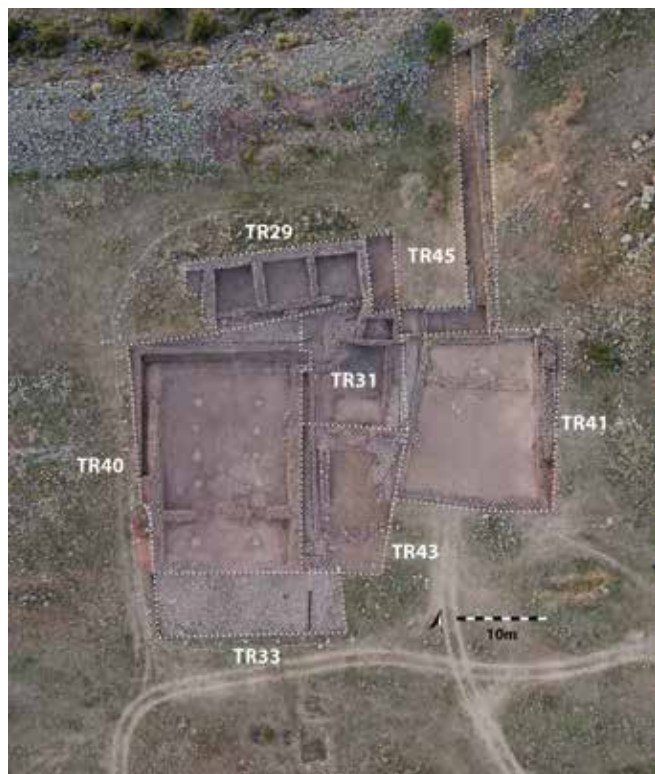


Figure 1. Map of the locations of work in 2019: (1) Urban Block 8, (2) the Castle, (3) the Cappadocia Gate.

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LEFT: Figure 2. Aerial Photograph of the Excavation Areas of Trenches 45, 41, 43, 33, 40, 29, and 31 in Urban Block 8.
BELOW: Figure 3. Aerial Photograph of Trench 45.





ABOVE: Figure 4. Excavated area of TR45 just inside the threshold between TR45 and TR41. The stone staircase that leads up to the raised area is to the left and the black patch of burning just above it is the remains of the wooden door that once stood in the threshold.

Particularly in areas of the city that burned heavily in its final destruction by fire, this work produced spectacular maps of the city's buried buildings, streets, and infrastructure. However, in areas where there was less burning on that fateful day in the 540s BC, little of the plan of the buried structures could be discerned in the resulting imagery. The two reasons why the Kerkenes Project spent the first eight years focused on magnetometry data collection is that it can be collected more rapidly than the electrical resistance survey and, because it does not rely on soil moisture to work, it can be collected throughout the spring and summer. It was this later property that drew us back to the use of magnetometry survey during the 2019 season.

During two days in June, the 24th and the 25th, we were able to undertake magnetometry survey in collaboration with colleagues from Koç University in Istanbul, who generously provided the equipment. This extended the use of the magnetometer from the Iron Age town up to the Byzantine Kale, the one area of the site that had not been surveyed in 1995–2002. The survey focused on a 1,200 m² test area on the castle and revealed a wall and the edge of the water cistern. The geomagnetic data complements data collected with Electrical Resistance Tomography (ERT) reported on in last year's report. It also provided an excellent opportunity to train students

and colleagues from Koç University in the use of the equipment for a subsequent survey in the Hatay province of Turkey, much like how the earlier magnetometry survey at Kerkenes helped train numerous students in the use of the equipment at sites across Turkey throughout the 1990s and 2000s.

EXCAVATION

Excavations continued during the 2019 season within Urban Block 8, a large urban block in the northern portion of the city. We had also planned to further investigate Urban Block 7, where preliminary excavations in 2018 had revealed a room containing the first stone seal from Kerkenes, but the delay in the issuance of the permit precluded that additional work this year. Urban Block 8 is an estimated 6,000 m² sized urban block, and excavations by the end of the 2019 season have uncovered a large contiguous area of just over 1,800 m². Work in Urban Block 8 took place within a single trench, Trench 45 (TR45) in the northeastern corner of the urban block.

Previous geophysical survey had revealed that the area within TR45 possessed two freestanding structures, the northeastern extent of the urban block wall, and several open areas. The two freestanding structures appear to be architecturally and contextually unique and are set apart by walls from the areas of the urban block that we had previously excavated. Understanding the range of activities that took place within these unique structures could prove of significant value. In addition, previous geophysical surveys indicated that the north–south section of the Urban Block 8 wall runs directly toward the city wall. However, the stone collapse of the massive city wall obscured

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whether the two walls actually touched or if an open area was left between the urban block and the city wall. Following the urban block wall all the way to the city wall in the northeastern corner of the urban block would allow us to answer a major city planning question of whether there was a ring road just inside the entire 7 km length of the city wall.

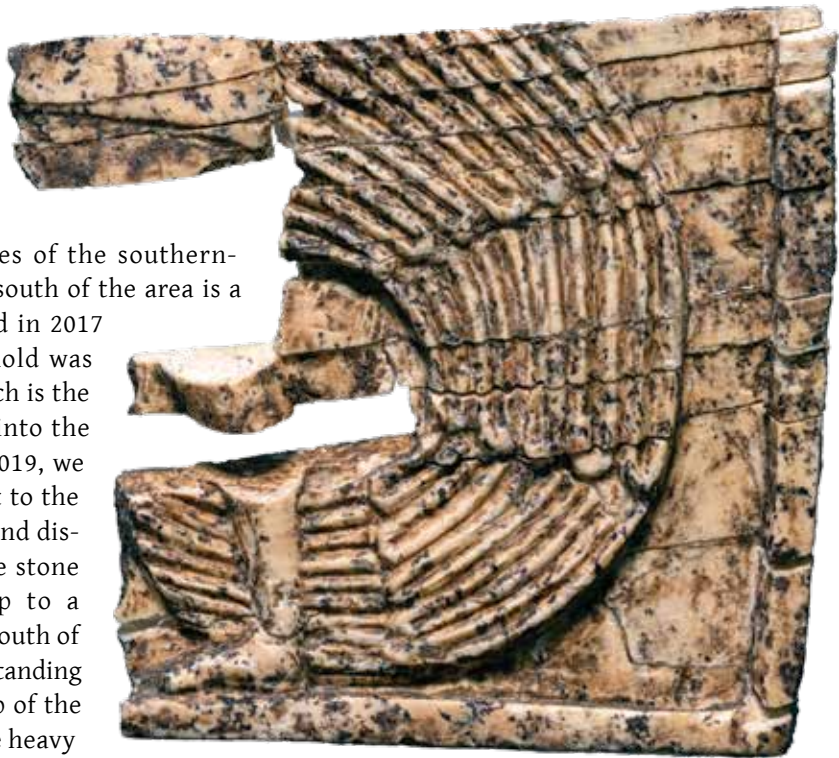
Excavations within the southern end of TR45 began in areas adjacent to the previous areas of excavation in Trench 29 (TR29), Trench 31 (TR31), and Trench 41 (TR41). An 8.6 m x 2.8 m exterior space extending from the edges of the prior excavation areas were exposed all the way up to the two free-standing buildings. A small section of an original stone paved surface was found running up to the northernmost building, though no significant finds were discovered on this surface.

Meanwhile, a range of exterior spaces was excavated around two other sides of the southernmost building. To the south of the area is a wall that we excavated in 2017 within TR41. A threshold was found in this wall, which is the only known entrance into the area within TR45. In 2019, we excavated the area just to the north of the doorway and discovered a long, granite stone staircase that led up to a raised area just to the south of the southernmost freestanding building. Laying on top of the stair, we discovered the heavy burnt and poorly preserved remains of the wooden door that had once stood in the doorway of the wall between TR41 and TR45. On a raised

area measuring 10.8 m x 3.1 m at the top of the stair, we found three fragmentary ivory plaques, two of which retained some preservation of a carved surface. Other finds from this area include a metal tack, a copper alloy arrowhead, and some pieces of sandstone. The shortened excavation season did not leave us enough time to excavate within either of the freestanding structures, so uncovering more information about the relationship of these finds to activities inside and outside of the buildings will have to wait for our next excavation season.

The final area of TR45 that we excavated during 2019 was a 29.5 m x 3.5 m long area across the top of and just inside the eastern urban block wall. The circa 1 m wide urban block wall runs for 31 m north to south from TR41 to the city wall. With the rubble removed from the top of its northern extent, we discovered that the urban block wall abuts against the city wall, leaving no room for a

Figure 5. One of the fragmentary ivory plaques recovered from TR45.

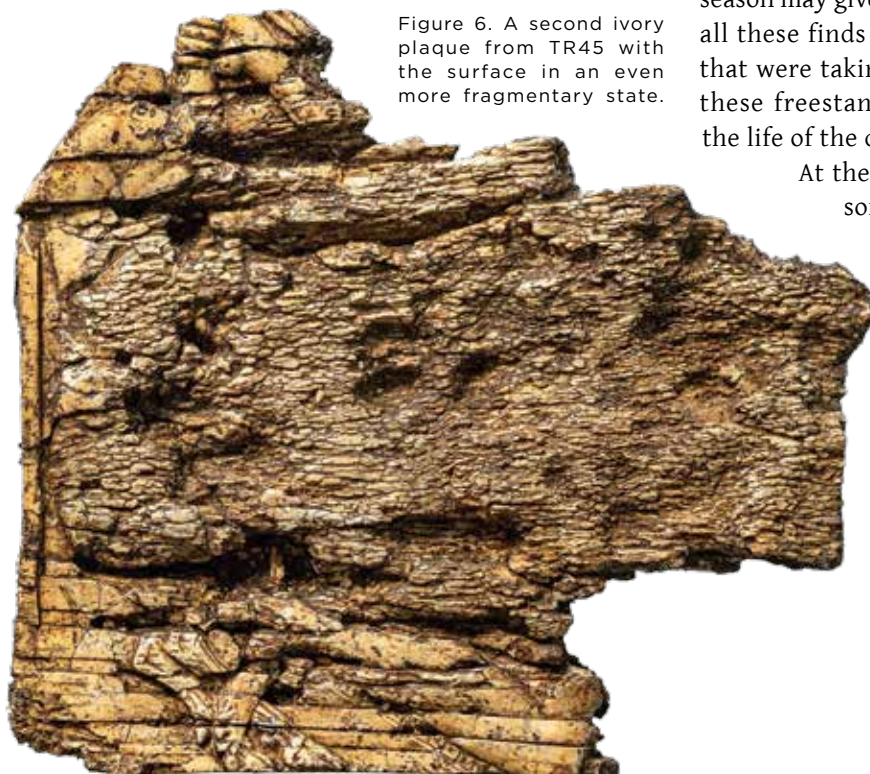


ring road to run inside the city wall. This changes our understanding of the city plan as a whole in significant ways. This stretch of urban block wall also abuts against the stretch of urban block wall along the north of TR41, perhaps indicating that this urban block wall was constructed in segments. From south to north the wall is in an increasingly collapsed state, spilling down into the area of the urban block. At a point just beyond the northern wall of the southernmost freestanding building, we found a significant area of smashed in situ pots along this collapsed wall, representing several vessels. Soil samples that we collected from this area may give us a better idea of what these vessels contained. In addition, we found several ivory and antler inlays in this general area at the midpoint

of the Urban Block 8 wall. The expansion of our excavations in TR45 next season may give us a better idea of how all these finds relate to the activities that were taking place in and around these freestanding buildings during the life of the city.

At the end of excavation season, we covered the areas of excavation within TR45 with geotextile, and we put a thin layer of stone and soil on top of the geotextile to hold it in place. We also added new fencing around TR45 and repaired or reinstalled fencing all around the extents of the 1,800 m² of excavation in Urban Block 8.

Figure 6. A second ivory plaque from TR45 with the surface in an even more fragmentary state.



CONSERVATION AND LABORATORY ANALYSIS

Accompanying the excavations, we continued our program of collecting soil samples from the excavation areas and using flotation to reveal carbonized plant material, animal bones, and micro-artifacts. In 2019, we systematically and opportunistically sampled 571 liters of soil within the TR45 excavation areas. Our team was able to float and move ahead with processing 967.5 liters of soil, including catching up on samples from earlier years. This work is proving very useful in allowing us to interpret distributions of artifacts and to identify activity areas. Combined with our ongoing work developing the ceramic typology and investigating ceramic and metal production practices, the enhanced collaboration among all our specialists allows us to make better use of the artifactual and

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Figure 7. The Urban Block 8 wall abutting against the city wall and demonstrating the absence of a complete ring road within the city.

ecofactual data to interpret the use of space in Urban Block 8 and across the ancient city. Conservation work also continued on new finds discovered within TR45 and those recovered during flotation. Our conservator, Soran Avcil, undertook significant work in the shortened 2019 season on the cleaning and consolidation of the fragmentary ivory plaques from TR45. We coupled this conservation work with a comprehensive program of recording, including both photography and, in some cases, 3-D scans of material recovered in the excavations. We are also continuing the reorganization of the depot and laboratory workspaces, integrating earlier

material that was off limits to us for five years following the beginning of the renewed project in 2015.

On the site, annual maintenance activities were delayed into June by the delays in the issuance of the excavation permits. Unfortunately, six days into the shortened season, several very heavy rainstorms took place onsite. During these storms a portion of the face of one of the freestanding walls in the Cappadocia Gate chamber fell into the chamber. When discovered, immediate efforts were undertaken to record the collapse and to assess the impact upon the structure in consultation with the project's restoration architects. It was determined from the initial analysis that the collapse of this section had created a more stable buttress for the glacis and other portions of the gate, which will aid in preventing further collapse. On July 5, a meeting was held at Abdullah Gül University in

Figure 8. The 1,800 sq m excavation area within Urban Block 8, fenced and covered with geotextile at the end of the 2019 season.

Kayseri with a team of restoration architects, and we decided to bring in a team from Rekare Mimarlık in Istanbul to scan the entire Cappadocia Gate with a Leica





ABOVE: Figure 9. Working with Rekare Mimarlık of Istanbul to scan the entire Cappadocia Gate with a Leica 3-D RTC360 scanner.

BELOW: Figure 10. Schoolteachers from Sorgun and the Sorgun mayor visiting Kerkenes to discuss future collaborations.



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3-D RTC360 scanner on July 6. We are using these data, along with data collected in previous seasons, to assess further the collapse and the overall gate structure, and to augment ongoing monitoring efforts. A revised plan, incorporating this latest information and the collapse, will be developed as the basis for future work to further stabilize this area, and funding will be sought from interested donors to implement this plan and preserve this ancient structure.

In addition to these efforts, we continued our annual cleaning of the area of the Palatial Complex, the Cappadocia Gate area, and along the wall near the entrance to the upper area of the site. Plants were removed from the stone glacis in all three areas, and both the area in front of the glacis and the stone-paved areas were cleaned and the plants cut back. We also repaired the surrounding fencing in all three areas.

FACILITIES AND INFRASTRUCTURE IMPROVEMENTS

During the 2019 season, we undertook the maintenance and repair of various buildings within the excavation house compound. This includes roofing repairs, repairs to walls, and the connection of several buildings to the new water and sewer system within the village. Our thanks once again go to the Sorgun Kaymakam Dr. Mustafa Altınpınar, whose program of village improvement created the new water and sewer system in the village in 2018. It not only benefits us during the field season, but also is a major long-term improvement for everyone in the village throughout the entire year. In addition, the plan for a new dormitory building, to replace a dilapidated old prefabricated structure, was completed by project architects from Abdullah Gül University. The plans have been submitted to the authorities in Yozgat for approvals, and we hope to break ground on this needed accommodation for our team prior to the 2020 season. Ongoing support from donors is being sought for this major infrastructural improvement to our facilities.

OUTREACH

While outreach is a priority of the Kerkenes Project, several planned outreach activities were unable to be completed in 2019 because of the late issuance of the permit. For instance, we had to cancel visits to local elementary and secondary schools when the team's arrival was delayed until the final week of their school year. However, we did host a large group of local teachers from Sorgun in a tour of the site and discussions of future collaborations. This took place after the end of the school year and was sponsored by İŞGEM: Sorgun İş Geliştirme Merkezi (Avrupa Birliği finansmanlı) and the Sorgun mayor. We also gave a site tour for a group from Araplı İmam Hatip Middle School in Sorgun and members of the Swiss Embassy. Students and teachers from the school attached to the Yozgat Social Service Department also came and greatly enjoyed a tour of Kerkenes, an event that was written about in the local press.

Other outreach efforts included printing the latest edition of the bilingual Kerkenes News in Sorgun and hosting several visits to the site by the Sorgun mayor. He is very interested in filming a movie that includes Kerkenes for promoting tourism in Sorgun and Yozgat. We also continued to provide site tours for visitors who come while we are in the field. If any Oriental Institute members find themselves in Sorgun between May and July each year, we will happily show them around this impressive and important Iron Age site.



Figure 11. Visit to Kerkenes by teachers from the Araplı Imam Hatip Middle School in Sorgun and members of the Swiss Embassy.

ACKNOWLEDGMENTS

We are very grateful for the support of the Ministry of Tourism and Culture during the 2019 season. In particular, we are deeply indebted to Ertan Yılmaz from the Karaman Museum, who for a second time in twenty-seven years served as our ministry representative. We received excellent advice from Hasan K. Şenyurt, the former director of the Yozgat Museum, who is now serving as the Yozgat director of culture and tourism; Ömer Yılmaz, now serving as the director of the Yozgat Museum; and the entire museum's staff, which help greatly to make all of this work possible. We also were very grateful for the outreach opportunities coordinated by the Sorgun mayor, Mustafa Ekinçi. In addition, we received support from the Yozgat governor, Kadir Çakır; the Sorgun district governor, Dr. Mustafa Altınpınar; the Şahmuratlı mayor, Turan Baştürk; and the Sorgun administrative director, Metin Kayhan. Financial support for this work was received from the National Science Foundation (NSF) Grant Award #1624105, National Endowment for the Humanities (NEH) Digital Humanities Advancement Grant HAA-256218, the Merops Foundation, and the University of Central Florida. Our team included collaborators and students from Istanbul Technical University, Abdullah Gül University, FORTH Institute of Mediterranean Studies, Koç University, University of Central Florida, Netherlands Institute in Turkey, Arizona State University, Simon Fraser University, University of Toronto, University of Connecticut, Johns Hopkins University, University of Liverpool, University of Virginia, Kocaeli University, and Middle East Technical University.