**Suggested Citation:** Tartaron, Thomas F. "Eastern Korinthia Archaeological Survey Final Field Report, 2000." EKAS Field Reports. Ancient Corinth: The Eastern Korinthia Archaeological Survey, 2000.

# Eastern Korinthia Archaeological Survey Final Field Report, 2000

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August 2, 2000

## **Overview**

The Eastern Korinthia Archaeological Survey (EKAS) conducted its second of three planned archaeological field seasons in summer 2000. The field season ran from June to July 28 (five weeks). The following teams were involved in the field research: two Discovery Teams walking intensive survey units; one LOCA team performing gridded survey on Localized Cultural Anomalies (LOCAs); one Extensive Team constituted as a small, mobile unit for ranging far and wide to investigate targeted areas not included in the intensive survey plan; and two Processing Teams charged with analyzing, in the field, artifacts collected by the Discovery Teams, as well as analyzing and curating limited LOCA collections.

Other teams and individuals provided support for these and other phases of the project: a Geomorphology Intern was assigned to each of the Discovery Teams and the Extensive Team, Richard Rothaus and Eduard Reinhardt carried out an EKAS-affiliated program of research on harbors and coastline change in the Eastern Korinthia; Lita Diacopoulos continued work on an ethnographic and archaeological study of the modern and recent Eastern Korinthia; Tom Tartaron began work on sampling and assessing raw materials for ceramic production; Amber DeMorett continued her study of the vegetation history of the Eastern Korinthia; and Lee Anderson continued to use satellite imagery and GIS to create site probability models and to detect ancient roads.

## Survey locations and coverage

In 2000, four main locations were targeted for intensive survey: 1) the area around the presumed ancient settlement of Kromna, especially south and southeast of the ancient quarries; 2) The plain beneath the prehistoric sites of Gonia and Yiriza, and the saddle between them; 3) the plain north of the modern Examilia–Kyras Vrysi road, between Ayios Kosmas and Kyras Vrysi village; and 4) the pass through Oneion that lies southeast of the village of Xylokeriza. Details and overviews of the survey units, and analysis of artifacts, may be found in the final reports of the appropriate teams.

The total ground coverage in 2000 may be expressed in square kilometers for both intensive and extensive survey. The chief limiting factor on ground coverage is our insistence that Discovery Units must not violate Geomorphological Unit boundaries. In geomorphologically complex locations, such as the ancient quarries, the GUs tend to be rather small and irregular. The Discovery Teams must conform to these units, meaning that the size and shape of many DUs would be considered less than optimal, or even absurd, under other circumstances. We are nonetheless satisfied that the control we obtain over context is worth the reduced ground coverage, and that we have streamlined all other procedures for maximum efficiency.

For 2000, the statistics are as follows:

Team	Units	Coverage (sq km)
Discovery Teams	645	2.097
Extensive Team	120	1.120
TOTAL	765	3.217

In 1999's permit-delayed season, the following was achieved:

Team	Units	Coverage (sq km)
Discovery Teams	275	1.04

# **Comments on Field Operations**

## Discovery Teams

The two Discovery Teams were ably led by David Pettegrew and Dimitri Nakassis. David and Dimitri were trained in our system as Field Walkers in 1999, and their experience was fundamental in ensuring a smooth transition to the new season, especially since neither of the 1999 Discovery Team Leaders returned. In addition to enjoying the benefits of many logistical improvements, David and Dimitri participated in developing methodological refinements, and refining field observations and field forms. For the most part, the Discovery Teams operated efficiently, and in most cases acquired accurate and consistent data.

Initially, there was some difficulty mapping enough GUs and DUs ahead of time so that teams could simply walk them during the morning field day. But after the first day of the survey, steps were taken to ensure that mapping was at least a day ahead. This normally involved the Geormorphology Interns and Team Leaders returning to the field in the afternoon to complete this mapping. This preparation permitted the teams to proceed without delays during the morning, and also allowed the Team Leader and Geomorphology Intern to remain in continuous consultation during the field day. Both parties benefited from this interaction with an enhanced appreciation of the natural and human landscape.

The Field Walkers were trained fairly well in procedures, artifact recognition, and other matters by the Team Leaders, with some assistance from the Field Director, Processing Teams, and others. There remained a few nagging inconsistencies and missed opportunities, which were resolved during the course of the season. One involved recognition of certain classes of artifacts, such as ground stone and chipped stone. It seemed to me that Field Walkers were not adept at recognizing stone artifacts, particularly ground stone. After I found and showed several examples to the teams, the yield increased. This sort of situation is not uncommon in survey when field walkers lack experience in such materials. It would have been helpful to have more show-and-tell at the beginning of the season (the collections at Isthmia are not strong in ground or chipped stone). With the collections made from LOCAs in 2000, such demonstrations can include stone objects. A few troublesome inconsistencies persisted in the information recorded on the DU form. The data for visibility caused the most problem, specifically the categories "Plowed?", "Soil Loose?", "Soil Compacted?", and "Surface Clast Size." Each of the teams had different conceptions of the criteria for plowing and soil compaction, which in turn did not seem to conform exactly to those of the creator of these categories, Rob Schon, either. Surface clast size was difficult to assess in many cases, as many fields with rock clasts had a wide range of clast sizes without a single dominant size. It will be important for 2001 to discuss in great detail these categories, and I am not sure at this point whether these data for 1999 and 2000 have any value. In addition, for the category "Surface Clast Composition," both "Rocks" and "Organics" were almost always checked, leading one to wonder whether any useful distinctions were made by treating this phenomenon in this way. I mention these potential problems because visibility, however it is defined (to include obtrusiveness, ground visibility, disturbance, etc.) and evaluated, is one of the most crucial factors limiting the amount of information that can be extracted from surface material, and Ammerman and others are correct to emphasize it so heavily in the literature. There is no shortage of everyday examples of the dramatic impact on artifact recovery that visibility and field conditions (plowing, loose or compact soil, etc.) impart. Fallow fields with compact soil and no recent plowing, for example, can yield almost no artifacts, even if surrounded by other fields producing copious artifacts-and the stark contrast can be from one meter to the next at the border of the fallow field. There will be creative ways to develop algorithms designed to smooth out the statistical deviations, and thus give a more realistic picture of artifact quantity (when the data merit it), but these are complex and are not yet field-ready.

Apart from these inconsistencies, the DU field form worked very well, and the other categories and check boxes seemed to be clear and well understood by the teams. I devoted some time in the first week to helping the members of each team learn the categories and terms, and how exactly the forms were to be filled out. All team members had plenty of practice, as the Team Leaders often asked a Field Walker to fill out the non-interpretive parts of the form. A redesign of the "Features" section caused some problems, and it required a second redesign. Once this was worked out, the section seemed to be clear, and the data recorded for it should be consistent and useful. In discussion with Dimitri, a few additional changes might be recommended: on page 1, a box for facing direction might be added after the Digital Photo box; on page 3, "Quarried Bedrock" might be added as a feature. This latter change recognizes that the quarry option in the Land Use section on page 2 refers to modern land use. Overall, the changes that were made and are proposed are not so fundamental that the data will be incompatible with previous seasons.

A logistical problem in the field arose as the Discovery Teams placed bags of artifacts for the Processing Team to analyze at a later time. Standard procedure was to leave bags in the northeastern corner of the survey unit. There was some problem with bags being stolen, so the Discovery Teams began to conceal them in locations that would not be easily visible. There was also some concern for leaving bags in more easily accessible locations for the Processing Teams if the northeastern corner was heavily overgrown, at a considerable distance from other bags, or in some other way inconvenient for the Processing Teams. For these rather random changes to work, very close interaction with the Processing Teams, as well as accurate information, were required, and the Discovery Teams often failed on one or both counts. There are some legitimate concerns that might lead to the desire not to place a bag in the northeastern corner, but these

cases need to be approached in a systematic and failsafe way. The Processing Team wasted a great deal of time searching for bags with incorrect, vague, or no information.

## Geomorphology Interns

Once again, EKAS was blessed with excellent Geomorphology Interns, Carrie Bruno, Stella Kortekaas, and Sarah King. Each worked well with the team to which they were assigned. The observations made by Carrie and Stella were highly consistent, and I think that the GUs for the Discovery Teams are entirely compatible from a systematic point of view. The GUs laid out by Sarah for the Kenchreai area were larger and more inclusive, however, and Carrie and Stella found it necessary to redefine them. I do not know the reason for this divergence—perhaps a different conception of the purpose of the units, perhaps a real difference in what was observed—but in the future it will be important that all the GIs work closely as Carrie and Stella did.

If we expand our operation, and perhaps even if we do not, we might consider an additional Geomorphology Intern for 2001. Rob Schon makes a convincing case for the benefits of having a GI around for discussion of geomorphological processes at every stage of the LOCA investigation, or at least intensively as the LOCA is being set up and its initial grid squares collected. The intention was to have the GI available in the early stages of LOCA investigation, and I don't think we followed through on this well enough.

Jay Noller's system of integrating geomorphology into the archaeological survey via Morphostratigraphic Units (MUs), Geomorphic Units (GUs), and other observations and contributions has worked beautifully for EKAS. The GIs have incorporated themselves seamlessly into the work of the archaeological teams, and this interaction has tremendously enhanced the project's understanding of the artifact scatters and the landscapes upon which they are found.

# LOCA Team

After a slow beginning, the LOCA Team, led by Rob Schon, quickly hit its stride and became an efficient and effective unit, fully investigating 10 LOCAs in 2000. The first LOCA happened to be a rather large and complex one, and considerable difficulties laying out a grid, combined with the need to train inexperienced team members, caused the team to take a week to complete its investigation. But the team was very well organized, and soon developed an impressively efficient system in which each member knew his/her job, and carried it out in a workmanlike fashion. In fact, the main glitch in carrying out LOCA investigations resulted from Rob's team being ahead of everyone else's ability to decide which LOCA was to be next, or to feed Rob sufficient information. In 2001, we will need to place a higher priority on considering nominated LOCAs for full investigation, and providing the LOCA Team with all the pertinent data well in advance so scheduling can be more timely.

As noted above, Rob felt that the GI was not made sufficiently available to his team. The absence of this interaction was inevitably felt at times; a deeper understanding of geomorphological processes may have changed the strategy for laying out grid squares. Moreover, for purposes of interpretation, discussions with the GI would have been beneficial to

Rob and the team members. In 2001, we must ensure that the LOCA team gets its fair share of time with a GI, though neither Rob nor I feel that this need be a full-time GI.

## Processing Teams

The Processing Teams had the most difficult job of all, overwhelming almost. Under Daniel Pullen's direction, the two Field Processing Teams (occasionally arrayed as three) worked tirelessly and ably. The task of processing all the artifacts that were ChronoTyped in the DUs, along with the large LOCA collections, was almost more than the Processing Teams could do. In 2001, whether we expand the survey teams or not, we will need another Processing Team and at least one person to stay in the laboratory as a registrar to curate artifacts, enter data, and scan photos and drawings. Even though we knew 2000 would be more productive in every sense than 1999, it was impossible to anticipate the sheer magnitude of artifact processing work.

Daniel's report will detail some of the problems that the Processing Teams encountered. These were mainly communication problems with the Discovery Teams, particularly regarding the placement of artifact bags (see above in Discovery Teams). There must be serious discussion aimed at solving this problem, which developed into one of the few major sources of discontent during the season.

One area for improvement in logistics for the Processing Team would be to have them in closer contact with the Discovery Teams. It was not simply the amount of work that prevented closer contact and more opportunities for Continuous Consultation Mode (see below). During the first week, Daniel kept the two teams together for training. This training, though absolutely necessary, started the Processing Teams behind. Although the PTs did come close to catching up on several occasions, there was still a backlog of data entry, scanning, etc., to perform. I think it would be advisable to bring the PT in a week early for training. If the PT is also expanded and a registrar appointed, all of these modifications will ease the furious crunch of the final week after the field season ends.

#### Extensive Team

It is with great ambivalence that I attempt to assess the Extensive Team. It is difficult to judge whether the ET fulfilled its mission, because the mission was not clearly conceived. The ET had some great successes and brought back important and useful data. It is nonetheless difficult to escape the conclusion that more could have been accomplished with more guidance (or at least participation) from archaeologists, and with a clearer purpose and research design. I do not mean to point fingers at specific individuals or suggest that the ET was unsuccessful. But we (the senior archaeologists) should have had a coherent plan for this work. The potential for excellent data collection was obvious whenever Tim or I accompanied the ET in the field—clearly, an experienced archaeologist's perspective complemented and enhanced the good work that Bill and Sarah had done. Examples of this were the Ryto area, for which we developed a survey strategy for 2001, and visits to Ayios Athanasios and Ayia Paraskevi, which Tim illuminated admirably. But too much time was wasted and too much effort attenuated by going off into the field with only a vague notion of purpose.

It is uncertain whether such a team will have a firm place in the 2001 survey. The scouting capability of an extensive team will be less relevant since 2001 is meant to be the final field

season, and the Ephoreia has stated its desire to have more precise locations for next year's survey NOW rather than later. An extensive team could still play an important role in testing our settlement models, but, as Bill and Sarah declare in their final report, that model was never provided to them this summer. An extensive team might also work ahead of the Discovery Teams to lay out GUs or help with selecting specific locations for intensive survey.

In summary, good data were obtained by the Extensive Team, and some exciting discoveries were made. The contribution could have been greater if more care were taken to develop strategies and logistical plans for the team. The team really needed more input and participation from experienced archaeologists. We put Bill and Sarah in a difficult position that in some ways condemned them to achieve less than we had hoped.

## Continuous Consultation Mode Survey (CCM)

In 2000, we attempted to implement Continuous Consultation Mode in the field operation, with some measure of success and some room for improvement. CCM worked beautifully quite often, but was not universally in evidence. Instrumental to the success of CCM was the commitment on the part of our full range of experts to being in the field with the teams. Thus, on many occasions, Tim Gregory, Lita Diacopoulos, the Field Processing Teams, the Geomorphology Interns, and the Field Director were all in close proximity to Discovery Teams. A good example is the series of DUs at Kesimia/Kromna that ultimately made up LOCA 9003 (jokingly referred to as the "Pantheon"). Discovery Team Leader Dimitri Nakassis was assisted by this full complement of experts in examining artifactual, architectural, and environmental evidence, and in making decisions about unit walking and LOCA declaration. In other cases, the desired focus of expertise was not accomplished quite as well. The Processing Teams, through no fault of their own, fell behind the Discovery Teams, with the result that they were often not available for the kind of real-time feedback that is the ideal for CCM.

A feature of CCM that we implemented in 2000 was the appointment, for each Discovery Team, of a recorder to write down narrative and numerical information in a notebook, as a sort of running account of the discovery process. For Discovery Team 1, this was Seth Button; for Team 2, Brian Trail. On balance, this record is very helpful, though not all that it could be (or was envisioned to be). Because both Brian and Seth are very meticulous observers, their records contain useful, even crucial, information that is not contained on the DU form. The chief area for development would be to utilize these notebooks to also record discussions among the various experts in consultation as part of CCM. The notebooks were envisioned as a repository for the observations and musings of the braintrust—just the sort of information that is often lost because there is no formal way to preserve it. In this, we were only partially successful, and it will take training and discipline to fully realize the full potential of such a record.

In spite of the uneven achievements of CCM, it has already enriched our results and strengthened the confidence of our inferences about the archaeological record.

#### **Logistical Matters**

Tremendous strides were made in every area of the field survey in 2000, and it is possible to say that the problems encountered in the field were all relatively minor. The problems that plagued the survey in 1999—largely logistical and to some extent beyond our control—were solved by careful planning in the academic year between seasons. Improvements in these areas were critical to the success of the survey in 2000. To place these changes in proper perspective, the final field reports from the two seasons may be usefully contrasted.

The sources of logistical problems in 1999 were operational on the one hand, and permit-related on the other. Operational inefficiencies we resolved by redefining priorities in budget, scheduling, and personnel. Unanticipated permit limitations in 1999 caused a series of logistical predicaments. Because we were able to anticipate our permit limitations (and they were indeed less stringent than expected), appropriate methods were developed for 2000 and refined during the season.

#### Field equipment

Considerable effort was directed to finding money for essential field equipment. Each field team was supplied with a laser rangefinder, in view of the extraordinary savings in time in mapping. The laser rangefinders were used to map both GUs and DUs, as well as making other useful measurements in a fraction of the time required for taping. Additional digital cameras and GPS units were purchased so that each team would have these items as needed. Digital cameras were used by all field teams, and GPS units were used by DU, LOCA, and Extensive teams. A significant improvement was effected in field communication by switching from walkie-talkies to cell phones. The cell phones solved virtually all of the myriad problems we had with walkie-talkie communication in 1999.

### Survey unit logistics

Changes in our permit eased tremendously the burdens of dealing with artifacts discovered in survey units. In 1999, we were required to leave artifacts more or less exactly in the place they were found on the ground, and none could be removed from the field. We had not anticipated that limitation, and so we rushed into place a method of flagging artifacts to be evaluated by a Processing Team that came out to the field, rather than running a lab at the Excavation House as had been planned. This system, although a good solution to a difficult problem, proved to be nightmarish in many respects. We had fortunately brought a supply of pin flags for use in survey experiments, but their quantity was woefully inadequate for the needs of the survey teams. The survey bogged down at times for lack of flags, and as Field Director, I found myself wasting huge amounts of time walking flags from team to team. In 2000, we were permitted to pick up and carry artifacts to the end of each survey unit, though not to bring them in from the field (except for small collections from some LOCAs). The need for most flags was thus obviated.

The 2000 permit, while still somewhat restrictive relative to those of most surveys past and present, was much more flexible than the 1999 version. The main differences were permission to bring artifacts to the end of each survey unit, to be bagged for evaluation by the Processing Team; and the possibility to collect artifacts from certain important "sites" (LOCAs) for analysis and curation in our laboratory at the Isthmia Excavation House.

#### Camp management

One of the most important logistical improvements came with the appointment of two of the Field Walkers, Katherine Panagakos and Manuel Guterres, as part-time co-Camp Managers. Their contributions were many and indispensable. Katherine handled the assignment of weekly cleaning and maintenance tasks, ensured that survey equipment boxes were ready for each morning, supplied snacks to field teams, and made frequent trips to New Korinth to acquire supplies, make photocopies, etc. Manuel kept meticulous records of accounts, composed the daily transportation plan with Tom Tartaron, and shared shopping duties with Katherine. Both Manuel and Katherine acted as liaisons with the hotel management, and organized several group activities. This system of camp management succeeded because of good planning, but just as much because we were able to identify two highly talented and conscientious individuals.

#### Database management

Three persons, Lee Anderson, Bill Caraher, and Andy Davis, formed a Database Management committee, charged with all matters related to computers and databases. There were successes and failures in this realm. The most critical concerns, i.e., database maintenance and data entry, were handled pretty well, especially after Amber DeMorett arrived to lend her extensive experience. There were certainly some pains involved in getting all databases up and running, and this in part may be readily attributed to the complexities of database construction and of the data, which do not always lend themselves easily to data fields or "either-or" assessments. But as some of the members of the committee readily admitted, they did not have much experience in the sorts of software problems that we encountered, and we can hardly fault them for this. It was hard to know which of these factors aggravated the problems with electronic mail, which was a disaster from start to finish. During the season, messages were lost, new messages were not downloaded and sent on a regular basis, and e-mail was often "down." There was certainly some kind of problem with OTENET, though I don't believe this was sufficiently explored. In the end, I think it is also very difficult to ask one or more persons to handle computers and database part-time. We did try to find someone to be a full-time database manager, but our efforts did not work out. Each of the committee members made solid contributions, and the bottom line is that we do have working databases with data entered in them, but there seemed to be little coordination of effort. The remedy for this problem is of course to appoint a full-time database manager who will exercise oversight over the entire process. When Richard Rothaus was around, he exercised strong leadership over the database process, and this is the kind of leadership that is needed.