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DU Team 1 Final Report, 2001

Eastern Korinthia Archaeological Survey David K. Pettegrew August 2001

Team Leader: David K. Pettegrew (DKP) Assistant Team Leader: Jon Vanderplough (JRV) Geomorph Intern: Carrie R. Bruno Regular Fieldwalkers: Laurie Wienke (LAW), June 25-June 29 Dionysios Kavadias (DKK) Dan Sarefield (DCS) Missy Eppihimer (MAE) Paddy Emparan (PJE) Sarah James (SAJ)

Visiting Fieldwalkers:

Gay Fournier (GMF) Emma Bates (EKB) Robert Tate (RRT) Bill Childs (BC) Nick Thompson (NCT)

Overview

This is the final report for Team One's activity during the 2001 EKAS Field Season. This is a slightly expanded version of the mid-season report. It is different from the mid-season report in that it contains information regarding the final two weeks of the season.

During the five weeks of the official (not including the pre-season) EKAS 2001 field season, DU Team One worked in the following areas: Rachi Boska, Vayia, Vigla, Ayia Katerini (Lakka Skoutara), Kromna, Rachi, Kyras Vrysi, and Perdikaria. In addition to intensive survey, Team

One's work involved the documentation of sites, mapping features, and conducting experimental survey. During the final two weeks of the season, Team One's work was intensive survey.

Fieldwork for the season occurred on the following days:

- 1. Rachi Boska (Training): June 25
- 2. Vayia: June 26-27
- 3. Vigla: June 28-29, July 2-3
- 4. Ayia Katerini (Lakka Skoutara): July 6, 12
- 5. Rachi Boska (Experiments): July 9
- 6. Kromna: July 10-11
- 7. Rachi / Kyras Vrysi: July 17, 18
- 8. Kyras Vrysi: July 18, 19
- 9. Perdikaria: July 20, 23-27

I will report on the work undergone at these places. Much of this information from the first three weeks is from the Team One field notebook, which Missy Eppihimer and John Vanderplough were kind enough to type into MS Word (most of the field notebook exists as a Word Document). Maps of the features exist for each of these areas. Dionysios Kavadias, with others, mapped most of these features and also digitized them into GIS. The final two weeks of the season is constructed from what we recorded on the DU forms. Special thanks to these who helped with this report.

1. Rachi Boska (June 25), DUs 2053-2054

Together with Teams Two and Three, Team One began the season at Rachi Boska for a day of training. We walked to DUs: 2053 and 2054. DU 2054 was part of a young apricot grove that had been bulldozed, revealing in the scarp high concentrations of Late Roman pottery, ground stone, marble revetment, etc... This may in fact be the remains of a LR villa. The two DUs were designated as LOCA #9070.

2. Vayia (June 26-27), DUs 2055-2069

Together with Teams Two and Three, our team went out to Vayia for two days to map and document the remains of structures and cairns scattered across the plateau. Team One was responsible for documenting and mapping all features lying east of a line projected due south from the geodetic marker. On the second day, we surveyed the areas that we had mapped out.

Mapping and Documenting

The area was mapped using compasses, laser range finders, and 50 meter tapes. All features have been documented, photographed (digitally), and mapped onto graph paper. Presumably the map will be scanned, with the hard copies kept at the Isthmia Excavation House. All orientations and distances from datum points and bench marks can be found in the Team One field notebook. The following table (taken from the notes recorded in the field notebook) annotates and briefly describes the features that were mapped:

Table One: Features at Vayia Recorded by Team One

Feature A: Rubble Pile- linear, stones range in size from 10cm to 55cm, running roughly E-W, just south of the geodetic marker

Feature B: Rubble Pile- scattered rubble with varying density over a large area interspersed with trees and bushes. Its located south of the geodetic marker. The shape is varied. Max height is 1m; density and height decreases moving east; feature C is located to south; no distinct boundary to the west

Feature C: low rubble spread, with bushes and trees interspersed; greater density in the north end, tapering to wide scatter after slope

Feature D: large rubble pile, south of C, oval in shape, mounded with height sloping to ground level. Olive trees in the eastern end. Max height approx. 1.5m Ppile is the northern boundary of a large enclosure of open space with very little rubble fill. Wall height varies from 0.5m to 1.5m. Eastern segment is dense, with a greatest height of 1.5m, width 3.3m. Western segment slopes downhill, high densities throughout, max width 8m. The border is unclear. The southern border is similar to the northern in density and height.

Feature E: Rubble pile south of area D, sloping west downhill. The extent of the rubble is 8 to 10m from the northern, clearly defined edge of the feature down the slope, where the border is poorly defined. The height of the wall is at best 0.5 to 1m.

Feature F: Rubble pile, somewhat cone shaped, max width is 3.6m, max height is 1 to 1.25m, downward slope to the northern edge. Thinner at center of wall near bushes. Located east of area D.

Feature G (4190070 N, 682552 E): Rubble pile, oval in shape, long axis at 110 degrees from tree. At the center of the pile, a depression (hollowing) of the rubble about 1m deep, circular in shape. The pile has clearly delineated boundaries, but with medium density scatters beyond in all directions.

Feature H: Rock pile, heavily covered in bushes, a SE slope, Width is 5m

Feature I: Long rubble wall, running NW to SE, orientation 140 degrees. Western edge falls down slope with no clear boundary, Max width is 7.4m, eastern edge meets shrub line.

Intensive Survey

On June 27, Team One surveyed the area that had been mapped the previous day. DUs were set to take into consideration the areas demarcated by the features. Hence, cairns were walked as their own DUs. Similarly, one place in our area was enclosed by low rubble walls on several sides; this area also was walked as its own DU (2058).

Fifteen Units were surveyed intensively: DUs 2055-2069. All units were walked in accordance with standard EKAS DU survey methods (Cf. field manual).

Generally, the area that we surveyed exhibited poor visibility. There are exceptions, especially to the south (ex., DUs 2060, 2064). Nonetheless, artifacts could be seen in the rock piles themselves (perhaps representing ceramic material used as filler in the rubble construction) and wherever the ground was visible. It is thought that if this area were plowed with better visibility, much higher densities of artifacts would be observed. Most of the pottery is prehistoric, but Daniel said that at least some is from later historical periods.

LOCAs for the area that we surveyed at Vayia included the SIA (9035), two cairns (9061, 9062), and high artifact densities on the southern part of the plateau (9063).

3. Vigla (June 28-29; July 2-3), DUs 2070-2085

The Vigla survey area is located on top of a ridge overlooking the Saronic Gulf and a marsh. Artifact density is high on the upper section of the ridge but decreases downslope to the south. There are a number of distinct features here: exposed bedrock has been cut into a cylindrical basin and an adjacent rectangular basin; a large cut block and unfluted column are present; a Wiseman (1978) pottery pile can be seen here; a threshing floor marks the NW boundary.

Intensive Survey

Intensive survey was conducted in three main areas here:

1) The relatively flat area (DUs 2070-2077) at the top of the plateau overlooking the Saronic Gulf exhibited very high artifact densities. In order to control for artifact densities across the plateau (E-W), we created relatively small Discovery Units. Generally, where visibility was good (especially DUs 2075-2077), the site bore very high densities of both pottery and tile, between 400 and 500 pieces per DU. Densities were much lower in the non-plowed DUs. Features A-G were found in this area. Some of these features have been given LOCA numbers (9065-9068). The ancient material here is generally from the classical period, but there are some exceptions. Cf. the SUIR forms.

2) A transect running from the top of the plateau northeastward as far as the sinkhole. We walked this transect to get an idea of whether high artifact densities continue from the top. Although these DUs (2079, 2081, 2083, 2085) in fact bear much lower densities than the units on top, the densities remain relatively high all the way to the sinkhole. Thus, each of these DUs had artifact densities of about fifty or more. These included both pottery and tile, but especially pottery.

3) Finally, we also walked 4 units (2078, 2080, 2082, 2084) in a transect that runs northwest from the plateau along the bluff that overlooks the road to Vayia. Artifact densities were generally low in this area, probably because visibility was poor and soil was compacted. Most artifacts were found in rubble piles (Features H-O), perhaps suggesting their use in the construction of walls. The rubble piles are low, probably the remains of rubble-constructed walls and buildings, not cairns. These have all been mapped, documented, and listed in Table 2 below. Tim Gregory says that some of the material in these piles is prehistoric. We had hoped to do some grab samples from these piles but simply ran out of time.

Mapping and Documenting

After two days of planning and surveying, we returned to Vigla to map the features, which have been identified as the threshing floor, the rock piles, the basin, cut stone blocks, the course of a wall, and rubble walls. Bibiane has sketched these features and Dionysios made a map of the area. Presumably, these will be scanned. The features are listed in Table 2.

Table Two: Features at Vigla Recorded by Team One

Feature A (4189928 N, 677234 E): The Basin- located to the NW of the large tree which is functioning as our main benchmark. Two depressions are cut into the bedrock. The first, on the north end of the feature, is circular with a diameter at ground level of approx. 40cm and a depth of max 65cm. The height of the wall varies, the highest along the southern end and rising only to a height of approx. 8cm on the northern end. A patch of yellow cement lines a portion of the wall. A channel runs north under the continuation of the bedrock. The opening (at ground level) into the basin measures 8 x 10 cm, but narrows considerably inside the bedrock. The second depression lies to the south of the first. It is roughly rectangular in shape, although the western and southern walls are not as defined as the northern and eastern walls. The length of the eastern wall is 120 cm at the top, and the northern wall is 100cm. The depth of the basin is 65 cm, although the portion along the eastern wall falls to a depth of 45 cm. Here, the bedrock at the bottom of the basin is marked by channel-like grooves running north/south. They continue over the median strip between the two cut areas. The width of the eastern wall of the second depression ranges from 15 to 25 cm. Bedrock continues to be exposed to the south and north of these depressions. The median strip connecting these two depressions is at its highest point between 35 and 50 cm wide. Weeds grow on patches of the features, and in the basins.

Feature B (4189927 N, 677214 E): Wiseman's "Poros column fragment"- The column drum lies to the south of the basin feature but is separate from it. It sits amidst a pile of rubble. The dimensions are diameter 78 cm, height 40 cm. The column is unfluted but shows signs of weathering. Sherds are piled on top of the drum. It lies tilted to the south.

Feature C (4189936 N, 677210 E): Stone Block A- Wiseman "conglomerate block". Nearby A and B is a cut stone block. Its dimensions are $100 \ge 64 \ge 43$ cm. Two rectangular cutouts are located on two opposite sides of the block. Both are cut into two meeting walls of the block, and are centrally located along the edge. The northernmost cutting measures $16 \ge 22 \ge 12$ cm. A circular cutting inside this has a diameter of 4.5 cm and a depth of approx. 1 cm. It is in the center of the rectangular cutting. The second cutting, on the south edge, measures $16 \ge 22 \ge 12 \le 22 \le 13 \le 13 \le 10 \le 100 \le 100$

Feature D (4189948 N, 677141 E): The Aloni- It is located in the NW part of the area. It is a large, flattened feature covered with stones flat to the ground. Weed cover is patchy, so some of the floor is more visible than the rest. There are also patches of charred organics. The floor stones varies in size from 10 to 15 cm to 50 cm. The area is roughly circular in shape. It is bounded along the NE by the rise in the topography. The other three sides are bounded by terrace walls that slope down the hill. A portion of the wall is floor has been dug up. The pit along the western edge of the Aloni is an area in which the stones have been dug out, creating a circular pit 1 m deep filled with weeds. The stones that were removed are piled directly adjacent to the pit. The diameter of the pit is 2.25 m to 2.5 m. It contains some charred organics.

Feature E (4189960 N, 677170 E): Structure Foundation- As described by Wiseman (1978). The foundation walls are only roughly discernable at certain parts along the length. Only the lowest course of large masonry is visible. The eastern corner is visible. The longest wall runs SE to NW. Stone blocks are intermittent, oriented 42 degrees W of N, as Wiseman describes. Some of the visible blocks measure 1.2 m in length, about .65 m in width. The last visible part of the wall is at 16 m (from the easternmost block), but the ridge of soil from plowing suggests that it extends for another 10 meters. Along the line of the course of the wall, but not part of the wall itself (perhaps fallen out?) are several cut stone block fragments, one including a circular cutting. One can only delineate one wall of the building. There are stones 4 meters to the south of the wall course which may represent a southern wall of the building; likewise, there is a stone about 4 meters to the north of the southeast corner that might suggest a northern wall. In both cases, however, the stones are too few to really delineate a second wall. It would require some imagination as the stones are not aligned and differ from those in shape, size, and material from those of the course of the wall that is clearly defined.

Feature F (4189923 N, 677232 E): Stone rubble wall- roughly in the shape of a small enclosure. The southern wall extends 2.3 m. The western wall extends 3.2 m. Max. Height is 1.1 m. The northern wall extends 2.0 m. It appears as if the southern and western wall have fallen in, as their boundaries are less discernable. The walls contain ancient tiles and pottery, and a cut block of a different stone with encrustation.

Feature G (Perhaps 4189960 N, 677169 E): Two stones in the ground are visible, aligned at 241 degrees. The NE stone show signs of a large rectangular cutting. The measurements visible are 60 cm x 25 cm. The max width is 75 cm. The second rock is 82 cm wide x 60 cm in length. It shows signs of the cutting continuing in the rock, but this is doubtful as it is not in alignment. The cuttings are 151 degrees and 241 degrees, length is 1.7 cm. The length of the feature is 2.4m.

Feature H (GPS, taken at the northernmost edge: 4189869 N, 677281 E): Light rubble scatter- Bounded by the cliff's edge. The inland boundary is not demarcated, only defined by the absence of scatter. Portions of the area charred. There is a slight depression in the center of the pile, where the rocks are largest. The rest of the rubble is much smaller in size, particularly toward the north. On closer inspection, there is a length of rock running N to S. From this point one can see the Saronic and the Road. A number of interesting things extend from this channel to the W. There is a square cutting into the stone from which a wall runs west. At the northern end, there is a rock with a channel cut all the way through it, and at the south, one with a partial cut groove. It is difficult to say whether these grooves are cultural or natural.

Feature I (GPS, taken at the midpoint, where the wall turns in orientation: 4189841 N, 677316 E): Rock pile running along the edge of the cliff surface includes scattered pot sherds and tiles. Size of rock range from 5 to 40 cm. The scatter extends downslope to the edge of the cliff. The scatter is very dense but also variable, particularly in the size of the rubble.

There are patches of smaller rocks and some of larger rocks. The steepest slopes are covered with maquis and phrygana. The shape of the pile is irregular, as it follows the contours of the cliff. There is no clear boundary on the edge opposite the cliff. The SE and NW endpoints are fairly clear, as the density of scatter drops noticeably. The orientation if roughly 104 degrees E of N for the northern segment of the pile, where the width of scatter is 12-13 m, and the length is 23 m. The southern segment continues for roughly 15 m longer at 164 degrees E of N. Thus, this linear rubble pile runs along the bluff for a total distance of 35 to 40 meters. Certainly, by its shape, it bears the appearance of the rubble remains of a wall. The rubble remains are significant and are piled perhaps a meter deep. The main course of the wall is, in many places, 8-10 meters wide (much of the width, of course, is the collapse of the building). In a few places, the rubble extends down the bluff for many meters. It is possible that this is some kind of fortification wall. It sits above the pass below (running to Vayia) and is placed at a part of the bluff where the slope is not as steep (hence, the need to fortify). On the other hand, there are other parts of the same bluff that have an equally weak slope where there is no wall. Certainly, the position of the rubble on the bluff would also make a good lookout point, since both the Saronic Gulf, the Oneion Mountains, and the pass to the Argolid are all very visible from this position. Yet, the shape of the feature is not that of a tower but of a wall. Despite the problems with this idea (mentioned above), the shape suggests that the wall guards this high plateau and watches over the Saronic Gulf and the pass below.

Feature J (GPS taken at NW edge: 4189859 N, 677280 E): Large rock pile- Stones vary in size from 5 cm to almost .75m. Several large stones are concentrated in a line running 119 degrees. The scatter includes pottery fragments. A portion is charred. The density of the scatter is thick throughout, and the boundaries can be discerned, although they are not defined by anything beyond the lack of rubble. It does not extend to the cliff. The density is greater downslope. The upslope portion has smaller rocks and is covered by weeds, but is not included in the feature. It is roughly rectangular in shape. The soil beyond the W border is plowed.

Feature K (4189902 N, 677231 E): Stone block at the top of the plateau, near the large cypress tree. Possibly in situ, only the surface is visible. Measures 1.25 m. x .55 m in width and length. Because it is still buried, only the surface shows, and the height is unknown. It runs length-wise at an orientation of 41 degrees E of N.

Feature L (4189838 N, 677268 E): Rubble pile. A roughly circular pile of rubble obscured by vegetation in northern corner. Located on moderate slope that faces south.

Feature M (4189836 N, 677241 E): Rubble Pile. This is an irregularly-shaped rock scatter that slopes to the south. It is obscured by vegetation, but is slightly circular, with the exception of a tail-like extension from the southern end. Extends approximately 3 meters wide. Medium-sized rocks along northeastern border. The pottery scatter is light.

Feature N (4189797 N, 677291 E): Rubble Pile. An oddly shaped rubble pile with deposition of ceramics comparable to other piles. Cobblestone and coarse gravel, with maquis shrubs bordering the eastern area. There seems to be a point about which the pile direction changes from an orientation of 20 degrees to 300 (or more) degrees east of north.

Feature O (4189772 N, 677279 E): Rubble Pile. Irregularly shaped rubble pile. Rubble density is thick along southern edge where large rocks concentrate. Western and northern boundaries are not clearly defined because of vegetation. Concentration of larger rocks at north, encircling a small depression. Pottery scatter is light but noticeable (includes loomweight).

Feature P (4189753 N, 677271 E): Rubble Pile. Roughly rectangular in shape with an orientation of 325 degrees along northern (longest) axis. The westernmost part is comprised of smaller-sized rubble, whereas the eastern mound includes larger rocks and cement block fragments, many of which retain their shape. Boundaries are clearly defined except for the southern slope, where the scatter decreases incrementally; this border is also obscured by vegetation.

4. Ayia Katerini (Lakka Skoutara) (July 6, 12)

On Friday, July 6, John Vanderplough took over responsibilities for leading Team One, and I had the opportunity to visit the abandoned farmsteads at Ayia Katerini with Bill Caraher, Zenon, Lita, Dan Sarefield, and Tim Gregory. We began documenting this area on July 6. On July 12, we returned with a small group (Bill Caraher, Bill Childs, Naomi Levin, and me) and developed a method for surveying abandoned houses that will enable us to document cultural formation processes and assess the relationship between the house structures and artifact densities surrounding. Confer the appendix at the end of this report for the methodology that we developed.

5. Rachi Boska: Experiments (July 9)

Andy Davis led our team in a day of experiments in the area of Rachi Boska. Team One tested the ChronoType system by walking 5 DUs. These were interesting experiments and Andy has written a more detailed report that discusses them. One concern I have about the data from the experiments is that the sherd crusting in all of the DUs was "light" to "heavy". We did not walk any DUs where sherd crusting was absent. However, the ChronoTyping system works best under such conditions. The experiment should be repeated in an area where sherd crusting is not a factor.

6. Kromna (July 10-11)

We spent two days at Kromna more carefully documenting all of the features that we saw last year: the main features include the two dining rooms (LOCAs 9130 and 9131), the "wheel ruts" (LOCA 9133), the agricultural processing equipment (LOCA 9132), and the many architectural blocks in the general area of Kromna (the SIA for Kromna, LOCA 9074). Confer Appendix 3 for descriptions of all LOCAs and features recorded in Team One's transect at Kromna.

7. Rachi / Kyras Vrysi (July 17, 18), DUs 2118-2135

Along with Teams 2 and 3, we spent two days in the immediate area of "Rachi," a settlement of the Hellenistic period.

On the first day, Team One walked the far eastern area of the plain below Rachi. We began directly south of the Greek stadium and walked a transect (50-75 meters N-S) westward, ending up below (south of) the Rachi settlement, at the eastern border of Team Three's transect. Generally, a continuous carpet of moderate artifact densities throughout, 50 to 100 artifacts / DU. The easternmost unit, DU 2118, had exceptionally high densities (ca. 450 artifacts), and was designated as LOCA 9077. We also surveyed the hillslope surrounding the Mycenean Wall investigated by Wiseman. The wall was designated as LOCA 9078.

On the second day, we surveyed the area on the ridge west of the Rachi settlement, to the west of the gravel road running northward down to Kyras Vrysi. Nine DUs, 2127-2135, variable artifact densities, none particularly high. No LOCAs assigned for this area.

8. Kyras Vyris (July 18, 19), DUs 2136-2173

After finishing the Rachi / Kyras Vrysi area, we proceeded to walk a 150 meter wide transect, beginning at a V-shaped gully running north from the Rachi ridge all the way to the Hexamilia-Kyras Vrysi Road. The purpose of this transect was to determine whether this area might have been used as settlement in association with the sanctuary of Isthmia during the Classical period. Also to connect the area of the Rachi with the surveyed units on the north side of the Hex-Kyras Vrysi Road. Several DUs (2159 and 2160?) on the eastern edge of the transect traversed the area of the West Cemetery. Team Two walked a parallel transect to the east of our own.

Generally, artifact densities increase to the north, with the southernmost units (at base of gully) having very few artifacts. To the north of the gully, the artifact densities were generally moderate, ranging from 25-100 artifacts / DU. The highest density units were near the modern paved Hexamilia-Kyras Vrysi road, ranging from 50-300 artifacts / DU. One LOCA (9079) assigned in this area based on high artifact densities.

Because this area borders on the modern village of Kyras Vrysi, many houses, and hence, many unsurveyed units.

To answer the question concerning settlement, one would need to analyze the SUIR data and differentiate the artifactual landscape by periods. However, as a preliminary conclusion based upon the continuous carpet of moderate artifact densities and the range of material encountered, we can say that this area was probably a place of habitation during the Classical and / or Roman periods.

9. Perdikaria (July 20, 23-27), DUs 2174-2291

We spent the last 6 days of the season surveying in the area between Rachi Boska and Kromna, along the N-S asphalt road connecting the two areas. Our team surveyed an area that was at most 700 meters wide E-W and 1 km long N-S. There were 3 aspects / objectives to surveying in this area:

1) During the previous year, a fallow field just below Rachi Boska had been plowed up, with some bulldozing, exposing significant quantities of late Roman and Byzantine artifacts and architecture. This area was investigated as a LOCA (I do not know the number but have been calling it the Roman Villa Site) and then walked as DUs 2228-2233. We surveyed an area of 150 meters in each direction of the Roman Villa Site to ascertain the limits of the cultural material. The DUs that are within this sphere include 2174-2190, as well as 2209 and 2210. Generally, there is a continuous carpet of high artifact densities in this area, even in poorly visible units; typical densities range between 100 and 300 artifacts / DU. One unit (DU 2189) had higher-than-normal densities and was designated as its own LOCA (9080). One will need to analyze the SUIR data to determine if the high densities that characterize all of these units are from the same period as the Roman Villa Site.

2. Several units at Kromna during the 1999 field season were designated and investigated as LOCA 9005. These units lay just north of the gravel South Kromna Road. In the 2001 season, we surveyed a series of fields and properties to the south of the road, in the triangle-shaped area enclosed by the South Kromna Road (on east and north) and an east-west gravel road. The objective was to determine whether the densities from that LOCA extended to the south, as well as determine the relationship of this area to the Kromna area in general. Is this area characterized by the high densities of artifacts and features we encountered last year at Kromna? The units surveyed (2193-2208, 2211-2222) can generally be characterized as low to moderate densities, fewer than 150 artifacts, and usually between 5 and 60 artifacts / DU. The exceptions to this were the olive grove units (2220-2221) on the far west, where densities were exceptionally high, in the order of 300-500 artifacts / DU. This area was designated as LOCA 9005. Much of this material is Late Roman.

Features in unit 2214 were designated as LOCA 9162.

To answer the question in a superficial way (without having looked at SUIR data), we can say that this entire area was inhabited during the Roman period, probably with earlier (Classical) phases of habitation. No immediate evidence that the high densities of LOCA 9005 continue into this area.

3. Finally, we wanted to survey areas between Kromna and Boska that were west of the transects that we walked in the last two years, simply for reconnaissance and discovery purposes. Units include 2222 to 2292.

Generally, a continuous carpet of varying artifact densities, often quite high (more than 100 objects / DU), but ranging between less than 5 artifacts and several hundred. Two areas of exceptionally high densities were designated as LOCAs 9163 and 9164. Cut stone blocks associated with these LOCAs.

One will need to differentiate these densities by period in order to make meaningful assessments about where artifacts cluster from different periods of land use

Appendix 1: Team One LOCA Numbers for 2000 and 2001

Team One LOCA Numbers for 2000 and 2001

9005 – Kromna – Artifact Scatter. High-density (mostly classical period) fields along gravel road. Corresponds to #2000-I-1 (=DUs 1012, 1036-1040) and 2000-I-2 (=DU 1028). I originally nominated the these areas for 2 LOCAs, but Rob combined them into one LOCA at the time of investigation. Hence, we are using his number 9005 for both parts, although we have filled out two forms, 9005a and 9005b, to account for my original division of the two areas.

9006 – Boulberi / Kromna – Roman Tomb and Artifact Scatter. High-density artifacts (especially tiles) near Roman tomb (2000-I-8 = DU 1099). Rob did LOCA investigation here in 2000 season.

- 9027 Bourtzi / Kenchreai The Kummer Tomb (declared archaeological site of Roman date). Corresponds to #2000-I-9. The unit itself (DU 1147) was unsurveyed, but units to west (including 1146) were surveyed.
- 9028 Bourtzi / Kenchreai Possible Early Christian Church near the Kummer Tomb, including the high artifact densities and nice architectural members (Dana has recorded). This area also corresponds to #2000-I-9, as well as DUs 1146 and 1147.
- 9031 Panorama / Kenchreai Wiseman's "Hellenistic Tower overlooking the Roman harbor". This corresponds to DU 1162 and LOCA N-2000-I-10. Dana has recorded the tower. Two *in situ* walls, one 10 meters long running 60 degrees E of North, another 4 meters long running 150 degrees SE of N. Internal walls are still visible.
- 9032 Kokkinia / Kenchreai Artifact Scatter. High-artifact density area. Corresponds to DU 1209 (LOCA N-2000-I-11), an olive grove south of weedy field below the high ridge north of Kenchreai. Unfortunately, the DU is near houses, and the artifact bags were stolen before the processing team could get to them. Nonetheless, they processed some of the pottery that they saw while out there. I believe that much of the pottery was Roman period.
- 9034 Kyras Vrysi Deposit of fine-ware pots, perhaps ritually deposited. Artifacts were collected by processing team. Corresponds to LOCA N-2000-I-12 and DU 1256.
- 9035 Vayia SIA
- 9061 Vayia Cairn. Runs about 30 meters in an E-W direction, approximately 15 meters north of bluff.
- 9062 Vayia Cairn. Runs 38 meters N-S, down the slope from the plateau above (DU 2058). It is directly south of the geodetic marker by 25-30 meters. The cairn was surveyed as 2 DUs (2068, 2069) because of shrubbery that ran through it, but the 2 DUs constitute the same feature.
- 9063 Vayia Artifact Scatter. High artifact densities (mostly prehistoric) on southern part of plateau

- 9064 Kyras Vrysi West Foundation roadside monument and high-density units east of monument (DU 1258 and some DUs in Team Two's swath). Designated in 2000 as N-2000-I-13. Also includes cut stone blocks.
- 9065 Vigla Basin. Located 20 meters to the northwest of the large cypress trree (see Aerial photo), in northwest area of DU 2070.
- 9066 Vigla Wiseman's 30 meter wall, running for 26 meters at 42 degrees West of North on the plateau at Vigla. Cf. Team One notebook and final report for a more extensive description. DUs 2075 and 2076.
- 9067 Vigla Aloni, located in the northwest area of Team One transect. Roughly circular in shape with a diameter of approximately 22 meters. DU 2073.
- 9068 Vigla Wall along bluff. LOCA includes 3 rubble piles, which run east along the ridge line. These piles each contain a number of ceramic artifacts. One of piles is linear and perhaps represents a fortification wall. DUs 2078, 2080, 2082.
- 9069 Vigla Rubble Features along NW transect, on slope below the plateau at Vigla. Five piles were mapped for this LOCA (9112-L through 9112-P), each characterized by high density of rubble scatter with ceramic artifacts in low densities. Cf. field notebook or end of season report for fuller details. DUs 2082, 2084.
- 9070 Rachi Boska –Artifacts exposed in bulldozed scarp. High-density artifact densities, coming from scarp resulting from bulldozing of grove. Includes both the bulldozed apricot grove (DU 2054) and the olive grove to the east (2053).
- 9073 Ayia Katerini (Lakka Skoutara) SIA. The modern abandoned settlement around the church, including a total of 14 houses.
- 9074 Kromna– SIA. This is the SIA for the entire Kromna area. It includes everything bounded by the Hexamilia-Kyras Vrysi Road on the north, and the South Kromna (gravel) road on the south. It includes the areas of the quarries, the ritual dining rooms (9130, 9131), the wheel ruts (9133), agricultural processing equipment (9132) scattered architectural blocks, and high artifact densities (9005). I designated this area as a LOCA to account for the numerous features and cut stone blocks encountered in Team One's transect in the 2000 field season. Dimitri Nakassis' transect also cut through this area and the features in his transect should also be grouped with this LOCA. During the 2001 season, Team One recorded most of the architectural blocks in this area. Confer field notebook and final report for brief descriptions. All blocks photographed, and many drawn or sketched.
- 9075 Agios Kosmas / Kyras Vrysi A north-south linear feature, perhaps a road with wheelruts, and the citrus grove surrounding it. High artifact densities. Corresponds to N-2000-I-14 and DUs 1277 and 1278.
- 9077 Rachi / Kyras Vrysi Artifact Scatter. High-density artifact concentration just above (and to south of) the Greek stadium. Debris is LR and Modern. DU 2118.
- 9078 Rachi / Kyras Vrysi Mycenaean (?) Retaining Wall, described by Wiseman. Wall runs approximately 20 meters E-W through DU 2124, maximum height is 2.2 m., thickness is

1.60 meters. Constructed of large boulders, perhaps suggesting Mycenaean cylcopedic construction, but the pottery found near wall is from later periods.

- 9079 Kyras Vrysi Artifact Scatter. This LOCA is constituted by 3 DUs (2170-2172) with higher than average artifact densities. The LOCA extends from the Hexamilia-Kyras Vrysi Road to the northern boundary of these 3 DUs. The highest densities are in the long vineyard strip.
- 9080 Perdikaria / Rachi Boska Artifact Scatter. Corresponds to DU 2187: Long strip of matted hay stubble running south from Rachi Boska Raod between two almond groves on both East and West. The DU had relatively high artifact densities, especially considering the poor visibility (50%). High densities may continue to the west, but this area was unsurveyed. Also, the high densities may continue to the east into the almond grove (2186), but the visibility is so poor here (10%) that it is impossible to tell. It is possible that this LOCA is a continuation of the Late Roman Villa Site, the plowed LOCA to the east, on the other side of the almond grove.
- 9112 Vigla SIA. DUs 2070-2085.
- 9130 Kromna Upper Dining Room and associated architectural blocks (2000-I-3 = DU 1074)
- 9131 Kromna Lower Dining Room (#2000-I-4 = DU 1080)
- 9132 Kromna Agricultural Processing Equipment (2000-I-5 = DU 1082)
- 9133 Kromna Wheel Ruts (2000-I-6 = DU 1091)
- 9134 Boulberi Millstone and Artifact Scatter (2000-I-7).

9161 – Perdikaria / Kromna – Arifact Scatter. High artifact densities in the northern end of the olive groves, DUs 2220 and 2221, located between the Hexamilia quarries on the north and an E-W gravel road on the south.

- 9162 Perdikaria / Kromna Wall and other features, formed from the quarrying of limestone, just above (south of) main quarry area along Hexamilia-Kyras Vrysi Road. Sixty meters west of the South Kromna gravel road. The following features have been associated with DU 2214, although several of them are actually in the olive grove to the east: 1) A wall that is 8 meters long, 1 meter wide, with a cutting that looks like a doorway towards the south end. Wall oriented on cardinal direction, E-W, +/- 1 degree. The wall was photographed with digital camera: 2214-3 and 2214-4. 2) Another circular cutting into bedrock, the function of which is unclear. Currently an olive tree is planted in it. Photographed 2214-5. 3) A buried cut stone (or, alternatively, outcropping of limestone) near the wall. Photographed 2214-6. The almond grove (2214) was surveyed, but visibility was very poor, hence, few artifacts found. However, one can see large fragments of Corinthian pan tiles in the area of these features.
- 9163 Perdikaria Cut stone blocks, artifact scatter, and rubble pile. LOCA situated at the southern end of 2 DUs (2257, 2258)—both weedy fields—between olive groves (2259, 2289), north of vineyard (2260), and 30 meters west of house complex (2268). There are several cut stone blocks (photographed) in DU 2258, and a rubble pile on southern end of

2257. Classical fineware pottery, large pithoi fragments, large Corinthian tiles, and 2 loomweights found in the LOCA.

9164 – Perdikaria – Artifact Scatter. Concentration of artifacts—especially tiles—at northern end of 3 DUs (2278-2280: all olive grove DUs) ca. 350 meters west of the paved Rachi Boska-Kromna Road, 140 meters south of E-W gravel road. DUs 2278 and 2279 are part of a large olive grove (50 m. E-W x 90 m. N-S); DU 2280 is a younger strip of olive trees to east. Surrounding DUs: L-shaped stubble field (2276) to north and west; vineyard (2281) to northeast; almond grove (2282) to east. Plowing has turned up a significant amount of tiles. Artifacts taper off about 40-50 meters to the south. Carved marble architectural fragment in DU 2278 and some cut stone blocks on the southern edge of DU 2280. Altogether, these remains suggest a building on this spot. The high densities of these DUs in relation to adjacent ones may be a result of plowing and better visibilities.

Appendix 2: The Modern Farmstead Project, A Preliminary Report on Methods for Surveying Houses at Ayia Katerini (Lakka Skoutara)

Today (July 12, 2001), Bill Caraher, Naomi Levin, Tim Gregory, Bill Childs, and I went out to Ayia Katerini to begin to document the abandoned modern houses in this area. Our first objective was to develop a methodology to accommodate our research questions for this area. This took most of the morning. There was contemplation, confusion, and resolution. Some of the major research interests for this area include: 1) Recording the cultural and geomorphological processes that are affecting the modern assemblages; 2) Assessing the relationship between modern-period artifact densities and the modern structures; and 3) Assessing the archaeological signature of (modern) habitation on the artifactual landscape, especially in terms of the continuous carpet of ancient and modern artifact densities. To address these issues, we have developed a methodology as follows.

1. Detailed Description and Assessment

We are describing these houses in as much detail as possible, in order to address our first research question. This documentation is subjective and thorough. Generally, it includes describing the prominent features and conditions of the features. More specifically, we are recording everything that should help us determine the cultural formation processes operative in the house. Thus, detailed description minimally includes:

--Dimensions of all features (houses, enclosures, ovens, alonia, etc...) of the area, with map / plan view and photographs

--Artifactual material present: types, amounts present, condition (Cf. Lita's Modern Form)

--Roof tiles: types, amounts present, condition

--Walls: construction, dimensions, size and kinds (Cf. Lita's Modern Form)

--Condition of buildings and area: ground cover, visibility

--Assessment of Temporal Periods of Use of Houses: Construction phases, time of abandonment, change of building functions, current use

--Assessment of Cultural Formation Processes: Construction (materials used), Habitation (de facto refuse), Discard (primary, secondary, reuse), Abandonment (provisional discard, curate behavior, least-effort model, material transfer, scavenging, abandonment deposits), Post-Depositional (quarrying, looting, modern use)

--Assessment of Geomorphological Processes (gravitational-house collapse, fluvial action, erosion)

2. Artifact Density Data

In addition to purely qualitative data, we are also collecting information on the amounts and types of artifactual material in the area, which will help us to address all of our research questions for this area. Our methods / guiding principles are as follows:

a). Habitation Unit Count

We begin by surveying the inside of all habitation areas. Habitation areas include the enclosures for both early and late phases of habitation, enclosed areas attached to the house that are not clearly habitation areas, and individual rooms within houses. Together, all these units constitute the habitation unit, which is the unit of focus for our investigations.

Each habitation unit is given a number that, together with the LOCA number, represents a unique sub-unit of the LOCA. An example is 9076-1, where "9076" is the LOCA number for the habitation unit and its environs, and "1" is the first habitation area investigated in the LOCA. We record descriptive information on each of these areas in a field notebook that will be typed into a Word Document.

The survey of the interior of habitation spaces includes a total count of artifactual material (pottery, tiles, metal, etc...) within each habitation area. The sum of the total counts of each of the habitation areas represents the Habitation Unit Count.

Counts are recorded by types (see TyloTypes, below). All artifactual material visible on the surface is counted. Although tiled roofs often collapse into habitation units and lie to a significant depth on the floor of the house, we count only what can be seen; we do not dig down to the original floor to find more artifacts. Hence, except in special cases where the original floor of the house is totally visible, the Habitation Unit Count does not necessarily represent the amount of the total abandonment assemblage. However, the Habitation Unit Count should reflect the variety of materials represented in the abandonment assemblage of the house.

Artifacts are counted and collected by walking over the habitation area and gathering each unique piece of pottery, tile, and other material. There should be only one CT for each habitation area.

b.) TyloTypes

Tiles within the Habitation Unit Count are recorded differently. First, representative pieces of all tile ChronoTypes are chosen as the "TyloTypes" for the habitation area. A "TyloType" is a highly localized ChronoType. "TyloTypes" are directly linked to specific LoCAs. Thus, each new type of tile found in an Habitation Unit takes as part of its TyloType the number assigned to that specific Habitation Unit. If certain "TyloTypes" appear at several Habitation Unites, a cross-reference "TyloType" table will be produced (the CRTTT or CReTTT). As an example,

the glossy red "Marseilles"-type tiles seen on many modern Greek houses today are recorded as TISX, an abbreviation for "Tile, Modern, Present." A specific concentration of TISX which we tied directly to a particular Habitation Unit, 9076, might be 9076 TISX. Others, for example:

9076 TISE = Tile, Modern associated with the unit 9076.

9076 TIA = Tile, Ancient associated with the unit 9076.

9076 Tile, Corinthian Pan associated with the unit 9076.

After the TyloTypes have been identified for the Habitation Unit, we attempt to record the percentages of each type present within the Habitation Unit. We do this by simply tallying (with a hand-held tally counter) all tile fragments represented by at least 25% (this is an estimate) of the original tile type. This tally is noted for each sub-unit habitation area, with the thought that certain parts of the Habitation Unit might be responsible for certain types of tiles. Thus, one possible scenario is that a habitation area represents an older phase of the house and is connected with an older set of tiles. Another scenario is that one habitation area was not in fact covered with a tiled roof but represented an enclosure attached to the house.

The advantage of TyloTyping by each area of the Habitation Unit is that potentially, we may be able to isolate the source of a particular kind of tile. This system has the additional advantage that we can and do add up the total amount of each TyloType for the entire Habitation Unit. In theory, this represents the total number of TyloTypes and their relative representation (in the form of ratios and percentages) in the final roof of the house. As noted above, what is counted is in fact only a representative sample of the abandonment assemblage in the Habitation Unit; it is not the total abandonment assemblage. In most houses, determining the Total Abandonment Assemblage would be a tedious project involving shovels, "painful toil, thorns and thistles, and the sweat of one's brow."¹

The rationale for the TyloType system is that tiles can provide the most direct and reliable link between the Habitation Unit (in its final phase of abandonment and collapse) and the land that surrounds it. Pottery and other small finds in the house will certainly be represented by both the abandonment assemblage and the artifactual spread outside the house, but it is more difficult to relate what is outside the house to the Habitation Unit itself. Tiling is more directly connected to the house structure itself since tiles were certainly needed in large quantities for the roof of the house.

Moreover, because farmhouse roofs are often tiled with different kinds of tiles, a study of the TyloTypes can provide relative percentages of each type in the Habitation Unit. By then studying the spread of TyloTypes outside the house, one can create a spatial relationship (whether direct or inverse) between the types and ratios of tiles within and outside the house. As an example, confer the discussion of LOCA 9076 below.

c.) Surveying outside the Houses

The area outside the Habitation Unit is surveyed in the following way. Our survey units correspond to 12 meter spaces that run parallel with each dimension of the house. On Thursday, we were able to survey one side of an abandoned farm house, LOCA 9076. We walked three

¹ Genesis 3:17-19.

units (9076-5, 9076-6, 9076-7) running parallel to the southern wall of the Habitation Unit. We lined up at 4 meter intervals from north to south, walking west to east parallel to the orientation of the house (in this case, 74 degrees), as far as the Habitation Unit extended. The southern wall of the Habitation Unit was approximately 40 meters long. Hence, the dimensions for each for each unit: North-South: 12 meters; West-East: 40 meters.

HABITATION UNIT: Habitation Area 9076-4	HABITATION UNIT: Habitation Area 9076-3	HABITATION UNIT: Habitation Area 9076-2	HABITATION UNIT: Habitation Area 9076-1
Survey Unit 9076-5			
\rightarrow			
Survey Unit 9076-6			
→			
Survey Unit 9076-7			
\rightarrow			

A 50-meter tape was stretched out to the south from the southwest corner of the Habitation Unit to provide the western boundary of the survey units and the point at which we should line up. We walked swaths at 4 meter intervals, giving (assuming that each fieldwalker looks at one meter of space to the left of his transect, and one meter of space to the right) a two meter swath representing 50% coverage of the total area around the house. Thus, the first walker lined up at 2 meters from the wall of the Habitation Unit, the second walker lined up at 6 meters from the wall of the unit, and the third walker lined up at 10 meters from the wall.

Survey procedures are modified from the normal EKAS DU data-recovery methods. Fieldwalkers (Naomi Levin, Bill Childs, Bill Caraher) carried counter clickers and bags. However, rather than chronotyping in the field, they collected all lithics, pottery, tile, and other (see below) objects in the bag and gave them to Bill Caraher, who processed the artifacts. The counts of the pottery and tile that each fieldwalker saw were recorded on a DU form. "Other" objects seen were noted in the comments section but were not counted. Hence, fieldwalkers noted pop cans, plastic bottles, shotgun shells, etc..., which were recorded but not counted. On the other hand, some of these objects were collected because of their unique and diachronic features.

The procedures for processing: Pottery was processed according to the ChronoGrab system. That means that for each LOCA unit (outside the Habitation Unit), only one CT was collected, regardless of how many others were found. This cuts down on artifact processing time while still allowing some gross resolutions for the kinds and periods of artifactual materials present. As in the Habitation Unit, the tiles were processed slightly differently. Like pottery, all tiles were collected. However, rather than record one TyloType / survey unit, we recorded the total number of tiles for every TyloType found in the house. For example, the total number of TISX (Tile-Contemporary-Modern), TISE, etc... Additionally, some new TyloTypes were found in the field that were not represented within the house. The types and amounts of these new TyloTypes were recorded for the LOCA unit.

As a preliminary statement of results on this small area investigated, we can say that the overall density of artifacts decreases with growing distance away from the house (9076-5 is closest to house; 9076-7 is furthest), as one might expect.

	Pottery	Tile	Total
9076-5	13	22	35
9076-6	28	20	48
9076-7	8	11	19

It is interesting that artifact densities were actually highest not in the unit closest to the Habitation Unit, but in the second unit (9076-6). One can also see that the tile clearly spreads evenly through the first two units, a distance approximately 25 meters from the house. Finally, the furthest unit (9076-7) clearly shows a drop in both overall artifact densities and individual types.

Some preliminary observations on the TyloType:

	Number of Tiles identical to TyloTypes identified in house	Number of Tiles not seen in house (New TyloTypes)	Total Number of Tiles
9076-5	21	1	22
9076-6	9	6	20
9076-7	6	5	11

The preliminary features of this data are interesting. Apparently, from this data, we can see that there is a positive relationship between new TyloTypes and distance from house. As one moves away from house, one begins to pick up either older roof tiles from the modern period or the background pre-modern continuous carpet. Certainly, more can be done with this data (comparing the relative percentages of tiles within and outside the house), but this data can potentially give us some control over the signature of habitation against continuous carpet.

3. Other Features

On occasion, features associated with the houses may be surveyed as their own sub-units. An example of this is the phournos that is often found outside of modern Greek houses. Because the floor of these ovens is often made up of tile fragments, we think it is reasonable to record separately.

4. Significance of Study

The survey of modern farmhouses in the manner described above is significant for a number of reasons.

- a.) Through this season, the intensive survey and LOCA aspects of the EKAS project have focused almost entirely on the pre-modern period, with a relative neglect of the early modern and contemporary present. Certainly, this is understandable given the restraints on our time and resources, as well as issues of funding and grants. Also, there have been few modern LOCAs within our survey transect areas that are as exceptional as the abandoned houses, farmsteads, churches, and villages that we have encountered this season at Ayia Katerini. However, given our claims to be diachronic in our survey methodology, it is essential that we investigate exceptional modern LOCAs such as Ayia Katerini. Moreover, the recent push in intensive survey archaeology in Greece (cf., for example, the sections on modern [ethno]archaeology in *The Greek Countryside*, *Landscape Archaeology as Long-Term History*, and the section on churches in *A Rough and Rocky Place*) has been to account for all cultural periods across the Greek landscape. The data from Ayia Katerini will certainly help with this process.
- b.) Formation Process Archaeology There is a significant debate in Greek landscape archaeology about how cultural (e.g., Bintliff and Snograss 1988; Alcock *et al.* 1994) and natural (e.g., Jameson *et al.* 1994: 228-246; James *et al.* 1997; Zangger *et al.* 1997) processes affect artifactual landscapes. It is important that EKAS contributes to this debate. Certainly, the geomorphology has been accentuated in our survey, and this is quite important. The cultural processes, however, should also be considered as they ultimately provide some keys to interpreting artifact density data. Moreover, Ayia Katerini and the other recently abandoned houses offer an exciting opportunity to document both cultural and geomorphological processes that are affecting sites in very visible ways.
- c.) Continuous Carpet and the Signature of Habitation Related to formation process archaeology, there is some general confusion in survey archaeology about what all of the pottery means. What does habitation look like on the surface, after the cultural and natural processes above have affected the record? What does habitation look like against a continuous carpet of low-density artifacts? (Cf. the recent article by Bintliff in *JMA* on the ephemeral prehistoric landscapes of Greece for a review of what is currently being said about this.) This is a very important interpretive issue.
- **d.**) Additionally, our study of the abandoned houses of the Korphos region can help to address the relationship between subsurface features and artifact densities, a question that

scholars are attempting to answer with geophysical prospecting equipment and excavation.

Appendix 3: LOCAs and Features at Kromna

LOCA 9074 – SIA – Cut stone blocks

As the Kromna area contains multiple limestone quarries, it is not surprising that a large number of cut stone blocks are scattered around the area. It is also possible that the blocks are finished architectural blocks. Because these blocks were not documented well last year, we sought to measure, draw, photograph, and GPS all of these. Tom Kieliszewsky sketched many of the distinct blocks. Missy Eppihimer and John Vanderplough measured and described them. Unless stated otherwise, the dimensions are given in the order of length x width x thickness.

Table 3: Features for Kromna SIA

 $A - 1.0 \ge 0.67 \ge 0.4 \text{ m}$ GPS: 4196934N, 671775E DU 1082 This is the largest block in a 10 by 10 meter area filled with cut stone debris. It appears to be the only block that retains all three dimensions intact. All other pieces are fragmentary. The area is adjacent to a grape vineyard, suggesting that the stones are debris removed from the area of the vineyard.

B - Incomplete GPS: 4196926N, 671781E DU 1082 This fragment of a cut stone slab is 15 cm thick. No other dimension is complete, as the stone is clearly broken. A series of striations associated with production are visible. They are similar to those found on the cut stone blocks in LOCA 9030.

 $C - N/A \ge 0.65 \ge 0.30 \text{ m}$ GPS: 4196915N, 671781E DU 1082 This large cut stone block fragment is partially buried, which does not allow a length measurement. It is located approximately 3 m east of LoCA 9032 and is possibly associated with it.

 \mathbf{D} – 1.40 x 0.6 x 0.4 m GPS: 4196910N, 671777E DU 1082 This material of this large cut stone block is a conglomerate rock, unlike the other cut stones in the area. It is either unfinished or fragmented. Three small, rounded pieces of the same material are nearby.

 $E - 1.10 \ge 0.6 \ge 0.32 \text{ m}$ GPS: 4196911N, 671781E DU 1082 Only one corner of this large block is intact. It is composed of a distinct yellowish limestone. It is located in the area containing debris from the vineyard.

 \mathbf{F} – 1.66 x 0.55 x 0.25 m GPS: 4196907N, 671778E DU 1082 Few edges of this long, thin block are still intact, but it is clear that it is a quarried stone.

 $G = 0.43 \times 0.28 \times 0.20 \text{ m}$ GPS: 4196948N, 671740E DU 1075 Two edges of this small stone block are intact. $H - 0.47 \ge 0.33 \ge 0.25 \text{ m}$ GPS: 4196960N, 671716E DU 1075 This small block looks to be unfinished, as only one face has been ground.

 $I - 1.30 \ge 0.50 \ge 0.42 = 0.4$

 $J - 0.69 \ge 0.50 \ge 0.50 = 0.5$

 $\mathbf{K} - 0.44 \ge 0.40 \ge 0.27 \text{ m}$ GPS: 4196971N, 671666E DU 1075 This small, nearly square block is partially buried.

 $L - 0.82 \ge 0.68 \ge 0.23 \text{ m}$ GPS: 4197004N, 671612E DU 1075 Two right angles suggest that this is a block, but it is partly buried.

A number of blocks (M through Z) are clustered in an area southwest of the geodetic marker (*Photo 9074-1*). GPS: 4196895N, 671629E (center of cluster). In the 2000 field season, an unfluted column was identified among these blocks. It could not be found in 2001; the team did locate a depression in the ground where the column was previously located, suggesting that it had been removed (*Photo 9074-Column*). GPS: 4196894N, 671633E. Newly planted olive trees near the cluster show recent use of the land.

M – 0.95 x 0.51 x 0.19 m

All six faces of this cut stone block are preserved. One large face contains a cutting $11 \ge 5 \ge 4$ cm near the long edge of the face, likely a hole for lifting. Small, shallow grooves also mark this face. *Photo* 9074-M

N – 0.38 x 0.23 x 0.19 m

Although six faces of this stone block are preserved, one corner is heavily broken. A long, channel-like cutting runs the length of the block. It measures $34 \times 7 \times 7$ cm. *Photo 9074-N*

O – 0.63 x 0.36 x 0.22 m

This block lies underneath block N. Its faces are worn and therefore the dimensions given are minimum estimates. *Photo* 9074-N

P – N/A x 0.47 x 0.21 m

Five faces of this block are preserved. The last is broken off, preventing one from measuring the original length of the block. The extant length is 0.74 m. *Photo 9074-P*

 $\mathbf{Q} - 0.69 \ge 0.44 \ge 0.21 \ \text{m}$

A square measuring 17 x 17 cm is cut out of one corner of this block. Otherwise, the block is complete. The surface shows some shallow striations. *Photo* 9074-Q

R – N/A x 0.52 x 0.31 m

Five faces of this block are preserved. The last is broken off, preventing one from measuring the original length of the block. The extant length is 0.41 m. *Photo* 9074-R

S – 0.7 x N/A x 0.30 m

Only three faces of this cut block are visible. The rest are buried underground, prohibiting a measure of width. *Photo 9074-S*

T – N/A x 0.49 x 0.17 m

This heavily weathered block contains two rectangular cuttings for lifting on its only preserved face. They measure $8 \times 5 \times 2$ cm and $10 \times 9 \times 2$ cm.

U – 0.76 x 0.37 x 0.39 m

Only two of the faces of this cut stone block are preserved. The others are worn or broken away.

 $V - N/A \ge 0.28 \ge 0.23 m$ Only two faces of this block fragment are visible. The others are either broken or buried.

 $W - 0.50 \ge 0.36 \ge 0.23 \text{ m}$ Portions of four faces of this block remain. One visible face is marked by deep grooves. *Photo 9074-W*

 $X - 0.56 \ge 0.56 \ge 0.14 \text{ m}$ The edges of this roughly square block are unclear, but the dimensions can be reconstructed. One face is marked by deep grooves.

 $Y - 0.94 \ge 0.65 \ge 0.27 \text{ m}$ One corner of this block is broken away, otherwise the six faces are complete.

 $Z - 0.57 \ge 0.54 \ge 0.20 \text{ m}$ The edges of this block fragment are unclear, although four faces remain.

 $AA - N/A \ge 0.47 \ge 0.36 \text{ m}$ This block is located in the olive grove near the cluster of cut stone blocks. The length is at least 0.77 m, but the rest is broken away. *Photo 9074-AA*

 $BB - 0.67 \ge 0.50 \ge 0.44 \text{ m}$ Despite heavy weathering, portions of at least four faces of this block are preserved. It is located in the olive grove near the cluster of cut stone blocks. *Photo 9074-BB*

 $CC - 0.87 \ge 0.71 \ge 0.43 \text{ m}$ GPS: 4196922N, 671658E This large stone block sits by itself between the cluster of cut stone blocks and the geodetic marker. *Photo 9074-CC*

DD – Incomplete GPS: 4196844N, 671591E

This cut stone block is used to cover part of a well. No measurements are complete, as only one face is intact, measuring roughly 1.0 x 0.35 m. *Photo 9074-DD*

EE – Group of cut blocks GPS: 4196769N, 671769E Within an area of approximately 15 by 7 meters, at least ten rocks exhibit cut faces. None has more than one face. A number of other limestone pieces without cut faces are present in the scatter. *Photo 9074-EE*

FF – Incomplete GPS: 4196764N, 671773E This cut block is notable because of a channel cut across the center of its face. The width of the channel ranges from 4 to 9 cm and is 45 cm long and approx. 4 cm deep. The block has a maximum width of 0.56 m. The piece may have been used as an olive/wine press spout. *Photo* 9074-*FF*

GG – 1.56 x N/A x 0.35 m

This large conglomerate blocks exhibits three cut faces. The width is at least 0.70 m, but the original dimensions are poorly preserved. *Photo 9074-GG*

HH – Rock pile GPS: 4196755N, 671795E

This feature is a moderately sized pile of non-limestone rocks spread over an area of approximately 4.5 square meters. Most rocks are of a coarse, sandstone material. It also includes a high density of pithos, tile, and pottery fragments. One large rock on the top of the pile may have a ground surface. *Photo 9074-HH*

II – Three large blocks GPS: 4196812N, 671792E One conglomerate, and two limestone blocks, the largest of which measures 0.47 x 0.43 m. Its third dimension is not preserved. *Photo 9074-II1, 9074-II2*

JJ – Two cut stones GPS: 4196822N, 671784E One block measures 0.7 x 0.4 x 0.23 m, with all faces preserved. The other block is marked by two parallel grooves up to 4 cm deep running across it. *Photo 9074-JJ*

LOCA 9130 – "Upper Dining Room"

Located east of the geodetic marker, LOCA 9130 is defined as a rectangular depression cut into the limestone bedrock. Three of the four walls are visible, and a number of large stone blocks and other features are associated with the LOCA. Despite heavy vegetation, the density of artifacts is high. A large number of Corinthian cover and pan tiles are found within and around the LOCA. Other ceramics are less common.

GPS: 4196941 N, 671743 E

NB: The LOCA was surveyed during the 2000 field season as DU 1074. The feature letters used here are those given on the DU form, which includes a rough plan of the area.

The western wall is cut into the limestone bedrock and measures 7.15 m in length along its inside edge. Its orientation is 14°. Its width cannot be determined as the bedrock continues further to the west upslope. At the northwest corner, the height of the wall is 15 cm. At the southwest corner, the height is 37 cm, the greatest height along the wall.

The southern wall extends for at least 2.63 m from the southwest corner at an orientation of 283°. The height of the wall is fairly even, at an average 38 cm.

The northern wall extends for at least 3.30 m from the northwest corner at an orientation of 105°, but its full extent cannot be determined because it is covered by phrygana and a beehive. The height of the wall is fairly even, at an average 15 cm.

The presence of the perirhantereion fragments and a cut stone block resembling a triclinium couch lead to the suggestion that the LOCA was a ritual dining room. Three of the large stone blocks (B, C, and I) share the same width (0.77 m). If feature C is a triclinium couch, the same might also be true of features B and I. Neither of these blocks exhibits a depression like that found on feature B, however this could be present on the face that is not visible. The other dimensions of these three stone blocks are not as nicely coordinated. In particular, all three have different lengths, and only two (B and I) have a similar height.

Table 4: Features for LOCA 9130

A – Mound

In the center of the walled area, a roughly circular mound of soil rises to a height of approximately 0.33 m above the level of the ground to the east. The height of the mound is nearly 0.66 m elsewhere, as it is likely the result of digging inside the walled area, particularly in the southwest and northwest corners. The diameter of the mound is approximately 5 m.

 \mathbf{B} – Cut stone block

148 x 77 x 42 cm

The block rests on the mound (A) and slopes downward to the west. The long axis is at an orientation of 262°.

C- Cut stone block

161 x 77 x 52 cm

The block rests on the mound (A) and slopes downward to the east. The long axis is at an orientation of 17°.

The largest face of the block has a rectangular depression (maximum 5 cm deep) that covers the entire surface, with the exception of a border 9 cm wide on all sides. The dimensions of the block, when coupled with this depression, suggest a triclinium couch.

D – Irregular stone Max dimensions 187 x 125 x 50 cm The surface of this large piece of stone is roughly flat, but any sense of a cut surface is not apparent. It rests in the southwest corner of the walled area.

E- Floor cuttings

Three rectangular floor cuttings lie in a line parallel to and near the northern wall. For all three, the long axes are oriented at a 93° bearing. The dimensions of the cuttings are not certain, as many are covered in part by soil.

The first cutting (easternmost) measures 51 cm in length and is at least 19 cm wide and 11 cm deep.

The second cutting (the middle cutting) measures at least 46 cm in length, 17 cm in width, and 7 cm deep.

The third cutting (the westernmost) measures at least 38 cm in length, 35 cm in width, and 5 cm deep.

The distance between the first and second cuttings is obscured by soil; the distance between the second and third cuttings is 50 cm. The southern edges of the three cuttings are 1.58 meters from the northern wall. The westernmost cutting is 2.26 meters from the western wall. Although the cuttings are rectangular in shape, their corners are not always cut squarely or cleanly.

\mathbf{F} – Cut stone block

31 x 49 x 20 cm

The block is located outside of the western wall. The appearance of the stone is different from features B and C, as well as from the limestone bedrock; it is more yellow in color. One of the small faces of the stone contains two rectangular cuttings. The first measures $4.5 \times 6 \times 3 \text{ cm}$; at its center, a metal pin protrudes for approx. 1 cm. The second cutting measures $6 \times 7 \times 3 \text{ cm}$. The distance between the two is 9.5 cm. It is noted on the DU form that the size of the block matches the size of the floor cuttings inside the LOCA walls (E).

G – Perirhantereion fragments

Two ceramic rim fragments of a perirhantereion lie in the northwest quadrant of the walled area. For each, the length of the rim preserved is 17 cm. The exterior surfaces include parallel, linear ridges. One fragment is drawn on the DU form.

H – Floor cuttings

Additional cuttings similar to feature E are found along the southern wall, although they are highly obscured by soil. Unlike feature E, these cuttings are flush against the southern wall. On the DU form, only one cutting is shown, however two are discernable. Neither cutting, however, is as clearly defined as those in feature E.

The first cutting (westernmost) measures 26 cm in width and is 12 cm deep. Only 3 cm of the length is visible.

The second cutting (easternmost) measures at least 9 cm wide, 16 centimeters long, and 7 cm deep.

The distance between the two cuttings is 43 cm. The distance from the western wall to the first cutting is 2.50 m.

I – Cut stone block

131 x 77 x 40 cm Located outside the walled area to the southeast.

J – Cut stone block

47 x 23 x 20 cm

The block is heavily deteriorated; none of the surfaces is flat, nor do any corners exist. The material of the block is similar to feature F. Located outside the walled area to the south.

K – Fragments of a cut stone block

The fragments are located outside the walled area to the east. The material is similar to that of features F and J. The fragments are not included on the DU form.

LOCA 9131 – "Lower Dining Room"

This LOCA is located along the road that turns off into the fields from the road running between Isthmia and Examilia. Cuttings into the limestone bedrock delineate the walls of two connected rooms. Both rooms are littered with tile and pottery fragments, as are the areas outside the structure.

Eastern Room GPS (center of room): 4197051N, 671791E

The eastern room is the most clearly defined of the two. The visible portion of the southern wall (cut into the bedrock) extends for 4.02 m, before it meets the western wall. It is highest at this point, reaching a height of 0.8 m; the height decreases gradually as the wall runs east until it reaches ground level. The thickness of the wall varies between 0.55 and 0.67 m. The wall is oriented at a 271° bearing.

The western wall functions as a wall for both the first and the second rooms. It is most clearly defined where it meets the southern wall. From a height of 0.8 m at this point, it quickly drops to a height of 9 cm. This segment of the wall runs north for 1.90 m and is, on average, 0.35 m thick. After a length of 1.30 m, a small corner of the wall picks up, where only 8 cm in length and 11 cm in width is showing. The area between two wall segments is depressed 6 cm below the height of the smaller wall segment; it sits approximately 10 cm above floor level. (See below.) The wall is oriented at a 181° bearing.

This lowered segment raises the possibility of a doorway connecting the two rooms of the LoCA. In this case, there would have been a step up from the eastern room into the doorway leading to the western room.

In front of this area, a portion of a cement floor is visible. The extent is unclear, as the edges of the floor are covered by soil. The portion that can be seen is roughly 0.94 m by 1.30 m, with the longest dimension running parallel to the western wall. A large portion in the center of the visible floor is broken away. Adjacent to this floor (to the east) is a second cement floor 3 cm below the first, but the extent of this second floor is unclear, as it is mostly covered by soil.

Dr. Tim Gregory has suggested that the first cement floor could have served as a platform of a triclinium, as its dimensions and the dimensions of the room would fit this function. Alternatively, if a doorway was located in the western wall, the cement floor may have been home to a mosaic lying before the step through the doorway. Only by clearing away the soil can the extent of the cement be determined and the identity of the features be more firmly established.

The portion of the eastern wall that is extant is not connected to the southern or northern wall. The wall extends for 1.90 m with a width of 0.37 m at an orientation of 181°. The two ends of the segment are fairly square, suggesting deliberate cuttings with unknown functions. The maximum height of the wall is 10 cm. At the northern end of this wall, a linear groove is cut across the width of the stone. It is not straight, nor is it aligned with the wall. Its width is 6 cm, and its depth is a maximum 1.5 cm.

The northern wall is not visible. The only suggestion of the wall is cutting 10 cm long near the western wall. The natural bedrock extends further to the north beyond this cutting. If the cutting did identify the northern wall, it would provide the complete dimensions of the room, but this cannot be established. Its orientation is roughly 102°, which is not in alignment with the orientations of the other three walls, which are aligned more closely to the cardinal directions.

The interior of the room is covered with soil, rocks, and organics, including an olive tree growing in the southwest corner.

Western Room

GPS (center of room): 4197050 N, 671785 E

The western room is not as clearly defined as the eastern room.

The southern wall extends for 6.58 m with a width varying between 0.48 and 0.55 m. The height also varies, ranging from a maximum 0.43 m, where is connects with the eastern wall, to a minimum of 5 cm, near the midpoint of the wall. Its orientation is 280° . The western end of the wall is obscured by soil and vegetation. At a point two meters from the southwest corner, a cutting reduces the width of this segment of the southern wall by 4 cm.

The western wall extends 2.53 m from the southwest corner at a width varying from 0.41 to 0.53 m before it reaches a similar cutting. Beyond this cutting, the wall continues for at least one meter, but the northwest corner is unclear. Here, the width of the wall is variable, as the external bedrock appears to be uncut. A groove is cut into this bedrock, roughly parallel to the wall at an orientation of 359°. The length of the groove is 0.58 m; its width is, on average, 6 cm. At the southern end, it is wider, but the portion is not as deep, as is also the case on the northern end. The maximum depth, in the center of the cutting, is 10 cm.

Any trace of the northern wall is covered by brush and soil, as is location of the northeast corner. The eastern wall has already been described, as it is shared with the eastern room. The interior of the room slopes down to the north and is covered by thick weeds. A few cobbles litter the ground, possibly representing a floor or a collapsed wall. The dirt in this area is well above the level of the floor in the eastern wall.

LOCA 9132 - "Olive Press"

Three chambered depressions are cut into the limestone bedrock of a slope to the east of LOCA 9131.

The first depression is circular and has a diameter of 0.84 m and a maximum depth of 0.22 m. The base of the depression is uneven. A ring roughly 4 cm wide running around the circumference of the circle is 2 cm deeper than the rest of the base. At the eastern edge of the circle, a triangular pit is cut at least 18 cm deep into the base. Its sides measure 18, 13, and 16 cm in length. From this point, a channel runs away from the depression at an orientation of 39° for 1.07 m, connecting this first circular depression with a second circular depression below. The channel is 2 cm wide and 10 cm deep.

A rectangular basin is adjacent to and north of the first depression. The distance between the two is 27 cm at the shortest point. The basin is 137×71 cm, with the long axis at an orientation of 79°, and is 54 cm deep. The interior sides of the basin are smoothly cut. On the eastern wall of the basin, a channel cuts through the base of the wall. It is 25 cm in length and 12 cm in diameter. The channel runs into the third depression.

The third depression is circular, with a diameter of 83 cm. Where it meets the rectangular basin, the height of the wall is 81 cm. The distance from the base of the circular depression to the drainage channel on this wall is 35 cm. The height of the walls of the rest of the basin is on average 23 cm.

Beyond the three clearly defined basins, no other cuttings define the feature. The extent of the surrounding bedrock is not a factor when considering the function of the LOCA. The maximum dimensions of the visible bedrock are roughly 2.9 x 2.6 m. Cf. Appendix 4, for a fuller discussion of this LOCA.

LOCA 9133 – Kromna Wheel Ruts

A set of possible wheel ruts at Kromna. The following are the typed notes that Joe Rife (JLR) recorded in the 2000 field season.

Wheel Ruts at Kromna, 7 July 2000

1. A stretch of wheel ruts (pair) running NNE-SSW (bearing 12-18 degrees) found near gravel road through quarries.

GPS taken from southwest edge of most distinct area: 4197058 N 671806 E Elevation: 91 m.

--Ruts are parallel, narrow and fairly well-defined at lowest depth (4-6 cm) with wider top and rounded edges (15-22 cm.)

--Cut into bedrock (oolitic limestone) at various depths (6-15 cm); West rut preserved for 3.80 m. stretch; East rut for 1.05 meters.

--Distance between ruts is mostly regular (1.27-1.33 m.)

-- This appears to follow a low-lying ridge between two sections of deep quarrying

2. Another piece of exposed limestone (19.55 m. to SSW) on same orientation (16-18 degrees) as easternmost rut = clearly this is more of same road.

--.36 m. stretch; bottom rut = 6 cm; top rut - 12-20 cm; depth = 6.8 cm (partly worn by modern dirt road)

GPS (taken in 2001 season): 4197038 N 671803 E

--No other road-ruts in the immediate vicinity (especially to south)

In the 2001 fieldseason, when we returned to Kromna, we reinvestigated these features. One thing we concluded is that the second southern stretch of ruts, which JLR thought aligned with the more pronounced ruts to the north, is on an orientation that does not correspond well with the first stretch. The orientation of the first stretch has an orientation of 12-18 degrees, while the second stretch has an orientation of 23 degrees. If the two stretches are part of the same road, then the road shifts significantly in a span of 20 meters. This may suggest that the second stretch does not belong with the first.

As part of this investigation, Paddy Emparan read parts of W. Kendrick Pritchett's study of Greek roads and took notes on the section on wheel ruts. Generally, Paddy thought that the ruts at Kromna are comparable to those listed by Pritchett from other parts of Greece. For Roman roads, Pritchett notes that the depth of wheel ruts falls ranges between 6 and 30 centimeters, and that the gauge between ruts varies from 1.05 to 1.85 meters. The values for the Kromna ruts (6-15 cm.; distance between ruts = 1.27-1.33 meters) fall nicely within the range of Roman wheel ruts. On the other hand, Pritchett notes that wheel ruts were most often intentionally engineered on hillsides, where the carriage would need support to stay on course; the ruts at Kromna lack the regularity that would suggest intentional cutting and seem to be the result of the wear of the limestone.

According to Pritchett, wheel ruts can only be dated by associated features and artifacts in the area (the possible exception is Oscar Broneer's demonstration that Classical / Hellenistic ruts in the area of Isthmia are consistently 1.40 meters wide). Unfortunately, very few artifacts were found in this area (one would need to examine the SUIR database to be sure). If, as is suggested

above, the ruts were formed by wear from continual use of the area (rather than by intentional cutting), the ruts could probably be associated with the periods of quarrying in the area. (Unfortunately, we do not yet know all the main periods of quarrying for this area or understand the complicated patterns of settlement occurring at Kromna.). On the other hand, the ruts may be associated with the Lower Dining Room (9131) several meters to the west. If this is the case, that room would lie along one of the roads through the area.

Appendix 4: Discussion of LOCA 9132, the Kromna Agricultural Processing Equipment

Kromna Stone Basin- Olive Press?

Sarah James

University of Toronto

To the west of the geodetic marker at Kromna, there is a large roughly rectangular feature (2.90m by 2.63m) with three depressions cut into the bedrock. Using comparative analogies to known olive presses, we can identify the three elements of this feature as two pressbeds and a catch basin. Presses of this type used a weight block and a press to crush the olives into a pressbed, which had a channel to direct the oil into a container (Jameson 384). There have been many finds of late fifth century pressing equipment in the Halieis area in the southern Argolid, a total of fourteen pressbeds, and 18 weight blocks attest to the amount of olive oil production in the region in the period (van Andels 109). However, (while the available research material was limited), it would thus far appear that the feature at Kromna may be unusual in several respects. The first is the fact that it is cut directly into the bedrock, since most presses are made of separate pieces of stone. The second unusual element is that there are two different types of presses side by side, in contrast to a situation like the Classical house at Halieis.

The depression to the south is circular with a diameter of 84 cm and a maximum depth of 22 cm. The base of the depression has a ring that is 4cm wide and 2 cm deep around the circumference. On the east, a thin channel cut into the rock connects it to the lower circular basin. Just below the opening to the channel from the pressbed is a roughly triangular pit with a depth of at least 18cm.

Many olive presses of this round type have been found throughout in the southern Argolid, and appear to date to the Late Classical/Early Hellenistic period (Jameson 271). A characteristic feature of this type of press is a small depression running around the outer edge of the pressbed, presumably to direct the oil into the channel (Countryside 273, fig. 5.8). The presence of the shallow groove and channel on the southern depression at Kromna seems to confirm its identification as a round olive press. As yet, I have been unable to find an analogy to the triangular pit within the pressbed. However, it may have acted as a settling area for heavier waste products from the pressing, such as pits and stems.

The well-cut rectangular basin is 27cm north of the circular pressbed, it measures 137cm by 71cm and is 54 cm deep. At the eastern side of the basin there is a channel (25cm by 12cm) cut through the bedrock leading to the lower circular basin. The fact that the pressbed is directly

lined up with the catch basin by way of a straight channel, may indicate that it was carved before the round bed.

Rectangular olive presses are the other major type of press found in the southern Argolid and on Keos. Comparisons can be drawn between the Kromna pressbed and the rectangular pressbeds from Koressia (Cherry 78, fig 5.17). Also at Thermisi, a large rectangular press weight block was found (Jameson 489, fig 5.7). The shape of the basin and the presence of the channel would seem to confirm the identification of this depression as an olive pressbed. Interestingly, several large stone cut rectangular blocks were found in the immediate area of the stone basin, it is possible that one of these may be the weight block for this pressbed.

The lower depression is directly in front of the rectangular basin with the side of the upper basin forming the east wall of the depression. It is roughly circular with a diameter of 83 cm, and an average depth of 23 cm. The stone cut channels from both the round and rectangular upper basins lead directly into this lower catch basin. The basin was probably used to hold a vessel in place while oil flowed into it from the presses.

One analogy to this style of press and catch basin can be seen at the Rachi settlement near Isthmia, where several channels were cut into the rock to connect separate rock-cut chambers. Another analogy for this feature comes from a Classical house in Halieis where a pressbed with an associated raised circular area for a storage vessel were found (van Andels 106, fig 6).

Based on the available evidence from other sites, it would seem that the olive pressbeds at Kromna are unusual. The fact that they are cut into the bedrock and thus a permanent installation is in contrast to the available analogies of more portable pressbeds. However, the rock-cut chambers in the commercial area of the Rachi settlement may be olive presses, thus making this kind of installation a regional occurance. As well, I have found no evidence of different styles of pressing equipment being used concurrently, but since most presses were portable it is possible that it did occur. In the Kromna case, the fact that we have two different types of press in use side by side may suggest that the region experienced an increase demand for olive oil and thus increased its production facilities by cutting a second (round) press into the bedrock.

Works Cited

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Appendix 5: General Comments On the 2001 EKAS Season

A word about the size of Discovery Units: I delineated units for survey first by 1) geomorphic boundaries, 2) conditions of soil (hard packed, loose, plowed) and visibility, and 3) by size. If we encountered high densities in units, I sometimes divided the unit to control for potential changes in densities. Unfortunately, I did not record in the field notebook why I divided units. However, by simply examining the forms for adjacent units, one can ascertain the reason for the division. A plowed field will never be grouped together with an overgrown field, even if they have the same GU number.

I sometimes kept people back to work on data entry and GIS. This was a great idea and we never had any problems with getting behind. For future reference, I would suggest that every other day, one person from the team should stay back for the purpose of data management. Although it means one less person out in the field, it is better than the heartache caused by data out of control.

I have many positive feelings regarding the 2001 field season, especially in light of the permit problems. I think we did as well as we could. My one criticism I would like to offer though: I thought that I as a team leader was unaware of why we were working in certain regions and how decisions were being made. It would help team if team leaders were better informed.