

KENArea AJournal**October, 6-11.2002**

Excavation concentrates on the outer face of what seems to have been a complex gate structure to the west of the fort at the northern part of the site. The main effort was invested at the southern side. The excavation of the sediment and rocks (L.3,12) followed the removal of the upper layers of rock debris (L.1,2). Rock debris was likewise removed at the outer faces (L.4,6) of the walls to the east, facing inside the fort on both sides of the 3.00 wide entranceway, and on a more limited scale at the northern (L.5) and western (L.6, faces).

At all places sediment mixed with debris was found directly below the first layer of fallen rocks. At the southern inner face the debris was completely removed and excavation reached the general surface level of the site. That surface is characterized by very sift and ashy soil, in stark contrast with the debris materials which seem to have been of wind blown origins that covered the fallen rocks.

A hint to the reason for the collapse of the walls is the fact that the walls, particularly the southern one, are noticeably tilted outwards with a considerably more accentuated destruction at the outer face of the walls. Earthquake or man-caused destruction, rather than long term post-abandonment deterioration are the more feasible options.

Very few ceramic and other finds were discovered during the first days of work with a single shard (non-indicative though estimated to be Iron Age from material) found each day and very few fragments of slag. At the later part of the week more slag has been found along with some ceramics at the south-western part of the strip excavated by the southern face of the wall. The finds seen related to a room or structure defined by a new wall built on a straight line from the southern gate wall towards the south. Excavation will continue here during the next week.

Outside the fort to the west of the gate several round stone corals were found, which seem to coincide with crude installations within the gate structure, that make use of the ruined building stones for construction and in one case as foundations. Installations of differing sizes are found in relatively great number in and along the fort, including one that was excavated within the fort's perimeter, by the south-eastern corner (L.10). They cannot yet be clearly dated, though they may belong to a single stage with the Roman-Byz pottery found in small quantities over the site's topsoil.

October 13, 2002L12,11,15

Represent the first layer under the rock debris. Similar layers are excavated throughout the area by the outer face of the wall. Layers characterized by stones mixed with sediment and very few finds. Several ceramic shards found at each of these loci, particularly at L11. At L12 two copper objects and a large conical bead of what seems to be dark red semi-precious stones were found in addition to some shards. Several courses

of the outer face of the gate structure can now be seen at western and eastern sides in addition to the larger exposure of the southern face.

L14

Located under L3 by the southern face of the gate. L14 represents the layer of sediment between the lowest course of debris and the ash layer that represents the present surface at the inner fort. Layer still characterized by the relatively thick presence of stones among the white sediment. At the center of the strip excavated by the wall a crude circular installation ca. 1.5m diameter was discovered. Although this installation, as the wall found at the western part, are below the debris that represent the final destruction of the gate it is not yet clear whether they post-date the main phase of occupation or are contemporaneous with it. A shard of what must have been a bowl, painted with thin strips along the inner face, was found in the locus. Preliminary dating to the Iron Age.

L13

Represent the roughly square space (ca. 1.80x1.80 m) excavated at the western end of the strip by the southern face of the gate. Here too there is a thick appearance of stones among the sediment. Ceramic finds here include diagnostic Iron Age shards as well as a dense although limited in scale concentration of slag, unique so far in the area. Relation to the gate and the wall still unclear.

October 14, 2002

L11, 18

Excavation by the western (outer) face of the gate complex continues into the fill below the first layer of rock debris. As in other similar levels around the gateway complex here too the layer consists of many fallen stones and some what seems to be wind blown sediment. Very few ceramics and no other finds.

L12,15

Continues exposure of the eastern (inner) face of the gateway complex. Work at the southern part reaches just above the ashy surface reached at L13,14 and seen through the fort's courtyard. At the north efforts concentrates in the following of the wall as it appears at lower course preservation below much debris in attempt to locate the corner to the west. Very few ceramic shards and pieces of slag.

L13, 14

Careful exposure of what seems to be an activity area probably post-dating the main occupation phase of the site yet early enough to have been destroyed and covered by the debris of the collapsed gateway complex. Activity area so far consists of at least 2 rough circular installations and two or three thin single line walls surrounding them. Installation L10 may also have belonged to the same phase but even though it appears at a similar layer it lacks the positioning below the gateway debris. At L13 a concentration of slag was found at one spot, near the foot of the wall to the west. Some shards found in both loci offer a preliminary Iron Age date to the complex.

October 15, 2002

L13,14,21

Excavation of loci 13, 14 concluded. L14 includes at least 2 and possibly three rough installations. The smallest is surrounded by thin walls to the north and west and reinforcements at the south and east. No discernable installations at L13, although some of the stones exposed there seem to correspond to some planning. Further work there continues under new L21. Slag in concentrations considerable beyond what is found elsewhere in the area continues to appear with growing amounts of ash, evidence to possible copper working activities taking place there.

L20

Below L12. Large stones concentrated at the southern part, with no discernable features. Possible round feature begins to appear at the northern side. No shards, few pieces of slag indicate that the layers so far exposed are still connected with the fallen debris and windblown sediment accumulated there post-destruction.

L18

Continues descend at the debris and (windblown?) sediment accumulation by the outer western face of the gateway complex. Some slag and a few pieces of Early Iron Age (2a?) pottery found.

L15

Continues exposure of the inner north-eastern part of the gateway complex. No clear spotting yet of the corner with the yet unclear northern side. Material and finds similar to L20.

October 16, 2002

L5, 23

Following the removal of the first layer of fallen rocks on the estimated line of the northern wall of the gate complex (L5) further excavation into the sediment mixed with fallen stones (L23), a layer well known from the immediate vicinity by the outer faces of all the walls of the fort. The main difficulty at this point lies in the absence of any clear indication to a preserved structure. Options include minimal preservation of lower courses only or lack of any preservation and line indicated by fallen debris alone. Single piece of pottery, bottom of a spherical vessel of probable Iron Age dating, found in the debris, along with slag.

L21

Continuing attempts to identify possible installations among the thick and dense deposit of fallen rocks met with only partial success. Half circular installation (ca. 50cm diameter) found against the inner face of the wall, containing several pieces of slag within. Further slag found outside though in thinner spread. Other possibly built lines still uncertain. Ash found mixed with the soil at other parts of the small locus. Work here halted temporarily.

L20

Continues exposure of thick concentration of stones in attempt to discover installations and activity signs as by the southern wall. Possible half circular installation found the previous day removed by mistake. Additional installation found today includes four flat stones arranged around a small square space about 40x40cm. No ceramics found today, few pieces of slag.

L15

Continues exposure of the northern part of the outer face of the eastern wall of the gateway complex. Picture here similar to that at the southern extension, with sediment mixed with stones covering a layer of rocks. Slag found in limited quantities, no stones.

L22

Represents thin triangular extension southwards of the strip to the south of the southern wall of the gateway complex. In fact, an extension of L14, added in order to correct the southern section and place it within a single line to the southern section of L13. L22 contained ashy fill identical to that of L14 and probably of the same appearance as at the surface of the fort yard in general. Closed today.

L18, 24

End of excavation of L18, as activity layer similar in character to that found by the southern face of the gateway complex discovered at a considerably higher level. The discovery at this level, as well as the fact that it is situated *outside* the fort's wall adds substance to the possibility that these activity areas relate to a later phase than the main occupation phase of the site. Alternatively, it is possible that the higher elevation is due to a rampart that existed at the original stage outside the main gateway. At least two installations found, both showing a very rough construction style comprising of single courses of stones haphazardly placed. The southern installation is devoid of slag and ash and roughly round, in both these characteristics similar to those at L14. The installation at the north is half circular (or so preserved) and includes ash and pieces of slag. A relatively substantial amount of slag and ash found at the center of the strip. Ash and slag disappear again at the northern part. Additional cleaning done prior to photography. L24 closed, since locus must be subdivided according to installations and different characteristics.

Misc

Further clarification of the outer face of the built feature connecting the gateway, inner entrance, shows that the primary interpretation as retaining structure for post-destruction installation L17 was mistaken and now it is clear that the construction represents an intentional blocking of the gate. Circumstances unknown, possibly connected with a seasonal abandonment or final abandonment prior to destruction event.

October 17, 2002

L25

Installation in activity layer L13. The installation is shaped as a rough stone “bench” or shelf, made of a flat slab of stone supported by stones at both sides. The use of the installation is unclear as is, in definite terms, its very identity as an independent installation.

L10

Renewed excavation of the relatively large installation by the southeastern corner of the gateway complex. Excavation concentrates on the western part where two possible subdivisions, or more likely, later installations were detected. Both are very rough in style and it is not certain they in fact existed as separate structures. As an alternative, they could have been accidentally “organized” collapsed debris. Of the two, there is more likelihood that the southern one was indeed man-made. It comprises of a basic circle of stones (ca. 60cm in diameter). In some places there may have been two foundation courses under the stones that make up the upper ring. Use unclear but if it was indeed an installation it is clearly superimposed over the earlier L10. The northern feature was dismantled after photograph. Clarifying work continues at the southern one.

L15, 20

Continues exposure of stone layer by the eastern wall of the gateway complex at the general level of the fort’s yard’s surface. No differences detected between the two and with the exception of a small square feature and a possible wall within L20, no installations or built features exposed.

L23

Continues concentrated effort in tracing the northern wall of the gateway complex. Part of the wall has been discovered as a built line relatively well preserved but it is not yet clear whether this is the inner or outer face of the wall. The material excavated consists of many stones mixed with sterile sediment, no finds.

L24

Further efforts to better clarify the installations yielded few results, mainly due to the prevalence of fragmenting shale and some monzo granite among the structures. Subdivision will probably be between a small scale industrial (smelting) activity area at the center of the strip relatively well defined in both north and south. The smelting activity was probably sub-divided into two parts, identified by respective concentrations of slag and ash. Possible stone deliniation between the two can be suggested though without certainty.

October 18, 20, 2002

L30, 31

Represent two roughly oval installations located by the southern wall of the gateway complex, part of the activity area of possible post-main stage date. The installations are both stone lined and roughly constructed. They vary in size and probably use. L30 measures ca. 80cm in diameter. Within it (ca. 40cm) a large quantity of slag of different size was found among some ash. L31 is smaller (ca. 50cm in diameter) and located within what seem to be slim walls and basic retaining structures. It was used for fire related activities, probably connected to copper industry, as represented by the large amount of ash and pieces of slag and copper waste found within. Several pieces of pottery were also retrieved, probable Iron Age date. The two installations remain in process of excavation.

L21

Excavation concentrated at the north-western corner of the locus, where the corresponding corner of the gateway complex meets with the inner face of the gateway complex. The fill excavated here is ashy and contains a large amount of copper pieces and slag, all probable waste of copper activity. Locus remains in excavation, expansion southwards still in attempt to define the installations that might be related to the industrial activities there.

L28

Represents area at the outer southeastern corner of the gateway complex, immediately to the north of Installation L29. The isolation of this corner from L20 is due to the concentration of slag found there, which was unusual within the context. Excavation exposed slag of different types and sizes. Excavation still in progress.

L26

Represents probe conducted at the central area by the blocked inner entrance of the gateway complex. Probe intended to discover the foundations of the blocking as well as those of the gateway complex itself at this point, since the area covered extends to the two gateway corners. Layer of rocks found ca. 20 cm into the probe was mistakenly assumed to have represented a rough pavement. The existence of several large stones placed diagonally in a disorderly manner indicated that this is more likely to be another layer of fallen stones. Continued descent reaches new layer of stones with what seems like different characteristics. The present appearance is characterized by stones that seem placed within rough lines and considerable stone-free, ashy lenses in between. The meaning of the appearance is still unclear, as are the relation between it and the entrance blockage or the gateway complex itself. Locus in progress.

L23

Intensive efforts proceed in attempt to outline the northern wall of the gateway complex. One built line clearly defined, probably the outer line, while the inner line remains obscured by masses of debris and sediment within the structure (L9). Material excavated by the wall (L23) characterized by large quantities of rocks of various types and sizes

amongst thick light colored sediment. The material is very similar to that found in similar loci located by the other walls of the gateway complex below the first layer of fallen rocks. It is also similar to those layers in the almost total absence of finds. Very few shards found, no ceramics. Among the irregular finds are a round conical stone object (ca. 10cm in diameter) and two coins of probable Byzantine or Islamic dating. Some slag was also found. Efforts to locate the inner wall line will continue as well as further advance to the north of the existing line in attempt to discover possible installations as found by the southern and western walls (and possibly by the eastern).

L27, 29

Excavation of the large, roughly square installation by the southeastern corner of the gateway complex renewed with the definition and removal of the rough and probably later installation built at the western part (L27) and with the entire clearance of L29. The installation, or structure, has its entrance (ca. 50cm wide) roughly at the center of the western wall. Its outer wall was built of a single course in height and width. Despite the basic architecture it is a relatively well built structure with its walls of similar length and all corners rounded. Within it a thick ash layer was discovered, which may relate to the original activities but also may represent an earlier layer, similar to that which is found throughout the fort's yard. Finds include slag, few shards and small pieces of copper.

October 21, 2002

L30, 31, 39

Excavation of these three installations by the southern wall concluded. The installations seem contemporaneous, and probably include the larger structure immediately to the east and at the same level (L29). Altogether they represent an activity area probably connected with the industry of copper, and seem to postdate the main industrial stage of the site. finds in all installation include pieces of slag in varying quantities and types, some pottery and several copper pieces, probably also industrial waste. Following photographs and planning they will be removed as the area south of the gateway is dedicated to a deep probe. Restorable bowl found at Installation L31.

L37

Beginning of next stage of excavation at the area adjacent to the southern wall of the gateway. Concentrated on the parts outside the installations mentioned above, but eventually to include the whole area, including below the installations. Material today includes soft ashy fill, most probably connected with the copper industry of the main stage of occupation at the industrial complex. Some slag, pottery.

L34

Excavation today finalized the identification of the wall line as that of the outer face of the northern limiting wall of the gateway (W32). Still no clear definition of the inner face, effort in that direction will be invested in the following days. material excavated today included practically no finds save for a single small piece of copper, probably industrial waste. The sediment seems to be the same wind blown material well known from around the gateway walls and excavated here in the previous days.

L, 26, 36

Excavations of L26 is concluded with the discovery and clearing of the rock layer. Possible lines detected at the southern part of the probe, to be further examined in the following days. If they represent walls there seem to be no relation between them and the gate and they may be the remains of structures predating the structure. There is still a strong possibility that they are no true structures and instead just accidental formations of fallen rocks, a large quantity of which found in the probe. At the southern part of the probe, in an area devoid of rocks, excavation of a thick layer of ashy sediment (L36) began today. Some slag and ceramic shards found in the fill. Following a section below two possibly pavement rocks at by the corner between the gateway eastern wall and the blocking, there are three distinct layers in the following order: An ashy layer above a line of ash or possibly lime or plaster above a layer of brownish sediment mixed with ash. The sections shows clearly that this part was not accidental and does represent human occupation. Further expansion southwards planned for the next days.

October 22, 2002L9

Renewed efforts of removal of layers of rocks accumulated at the northern tower. Rocks seem to cover the upper part to a deeper level than at the walls, though not to a considerable level. In several cases air pockets were found under large stones found at the debris. Two pieces of pottery, both storage jars, including one of a necks and rim.

L34

Excavation here aimed at the leveling of the area immediately north of the northern part of the gateway complex. Work slowed due to the discovery of many large stones and the need to check the possibility of construction, perhaps contemporaneous with the late activity layers discovered to the south and west of the gateway walls. A relatively long line of rocks was uncovered ca. 60cm to the north of the wall, on a parallel axis, but it may well be part of the collapsed debris. In any event it cannot be the outer face of the northern wall due to the minimal width that would emerge in this case, in clear contrast to the far thicker walls known from elsewhere at the gateway complex. Sediment discovered among the stones almost devoid of any finds, ceramic or slag.

L26, 36

Deeper excavation at the probe in front of the gateway complex reveals a layer of ash with almost no large stones immediately below the final debris layer (L26). That last layer suspected of being part of a rough pavement. Ash below (L36) includes at least three layers to be excavated separately.

L30, 31, 39, 37

Installations 30, 31, 39 removed at excavation deepens into a layer of thick ash where several fragments of pottery and some slag were found. Since it lays clearly below the installations the layer predates the installations, or, at most, is contemporary with the stage of their construction.

October 23, 2002

L9

Major debris removal effort inside the northern part of the gate reveals that this part was divided into two chambers of similar size on a N-S orientation, with a thick wall, ca. 1.20m, in between. The rooms were also blocked at the south, where they connect with the entrance corridor. Unless they were blocked off at the final stage, as was the inner part of the entrance, these rooms had no entrances and may have been accessed through ladders. Inner face of the southern wall, between the chambers and the corridor, still not clearly defined. No excavation into the sediment mixed with rocks that was exposed below the upper debris layer beyond the scraping of the uppermost layer. No finds. If the plan of the yet unexcavated southern tower fits a similar plan the gateway structure has a four-chamber plan, as at Hatseva on the Israeli (western) side of the border.

L36, 40

L36 closed. L40 represents an adjacent layer to the north, still within the probe in front of the blocking of the gateway inner outlet. L40 is the higher ashy layer above a layer of harder reddish clay found below. Several pieces of bone and copper found in the sediment as well as furnace fragments. (L36 excavated at a limited scale, with the differentiation between these two layers not yet finalized). L40 seems to continue below the blocking of the gateway complex inner (eastern) side.

L37

Excavation of the larger probe to the south of the gateway complex reaches several defined deposits within a similar level. To the east removal of the ashy layer exposes a harder, reddish clay layer that seems to stretch all the way to the wall. No foundation trench determined. To the west a layer of harder soil that includes both ash and minute limestone pieces was exposed. This layer seems connected with human activities, perhaps industrial, or it may have served as foundation layer for the activity related to the installations since removed. Finds in both include shards, a large amount of slag, bones and other copper industry related artifacts such as furnace fragments, copper ore, and pieces of partially processed copper.

W16

The wall that seemed like a makeshift construction now includes at least three well-built courses of stones. W19, that meets W16 in a straight corner and stretches to the east, included one course only. At the southern part the wall line shifts inward, possibly representing a blocked entrance.

October 24, 2002

L9, 43, 44

End of removal of the dense layer of collapsed stones debris covering the northern part of the gateway complex. No finds. Layer of rocks covered several walls now exposed at the top, offering a subdivision of the gateway complex at this part to two chambers- thus gateway complex may correspond to the four-chamber plan known from an 8th century

example at Hatseva and several others. The wall that divided the two chambers (W45) was exposed as well as parts of the two walls that separated the two chambers from the corridor that forms the passageway through the gateway complex. So far it seems that no entrances were fitted in any of these walls and that the access to the chambers (L43, 44) was done with the use of ladders.

L34

Clearing of the area immediately adjacent to the northern wall of the gateway complex continues, as well as the cleaning of the possible roughly constructed line that appeared ca. 60cm to the north of the wall and in a parallel line. This line is likely to represent part of the collapsed debris, with the straight axis probably coincidental and a result of the excavation itself.

L41

Locus represents a layer of red-orange clay that contained lenses of ash. Finds in the layer seem to be connected with copper industry, and include copper particles representing various stages of production, some pieces of slag, furnace fragments, tier pipes, and shards of crucibles. Some bones and pottery also in the finds. The finds represent mainly production waste with no clear indication to actual installations that were utilized for production activities at this location. Locus covers the eastern part of what was covered by L37, with the western part that is adjacent to W16 left as section and for control.

L40

Excavation of the thick ash layer continues with no changes in the sediment and a clear penetration of this layer below the lowest courses of the blocking at the inner side of the gateway entrance. Finds include pottery, a large number of small fragments of bone, small pieces of slag and a grinding slab as well as two hammer stones in close vicinity. It is yet unknown whether the layer predates the gateway structure itself since excavation has not expanded to meet the wall lines of the gateway in either direction, although it is likely that the wall's foundations will be deeper.

October 25, 2002

L48, L34

Represents a possible built line parallel and 60cm north of W33, the northern wall of the gateway complex. The line may have represented the remains of a retaining wall or a later installation or part of a series of crude installations such as those found at post-main phase layers by the western and southern walls. Yet, the line is more likely to have belonged to the general debris from the final destruction event of the gateway complex, as is L34 which surrounds L48 from all sides. L48 included stones of various sizes placed at irregular intervals, in some cases they varied widely, with large stones siding with stones almost too small to fit construction. Single course identified, with rubble as cover and base. While it is possible that the line was there, yet suffered serious damage during its covering by the fallen debris of W33 or later and that stones were accidentally removed during excavation, its identification of a true construction is unlikely and is

suggested for caution only. Line dismantled after full recording. Clearing of L48 and leveling also concludes the excavation of L34.

L43

Limits in manpower prevent the excavation of both chambers discovered at the northern part of the gateway complex. Excavation concentrates at the eastern of the two chambers and is conducted in fair colored sediment mixed in large quantities of stone debris, similar to several loci discovered under the upper, sediment free layer of debris encountered pre-excavation at the areas immediately adjacent to the western, southern, eastern and northern walls. As there, this layer, covered originally by stone debris L9, seems to incorporate fallen stones from the gateway complex with wind blown sediment deposited there since the destruction and final abandonment. Finds include some shards and 10cm-long leg of a limestone object, possibly a large bowl of the type that included a shallow bowl over three legs.

L49

Excavation of the probe in front of the blocking at the inner side of the gateway complex' entranceway extends about 1m to the north, and the new expansion was excavated under L49. Layer of rocks encountered seems similar in character to those excavated at the central part of the probe, seems to have been part of the debris following the final destruction event of the gateway complex and is being dismantled. Finds include stone grinders and what seems to have been a part of a basalt hammer, of probable industrial use. The ash layer found to the south (L36, 40) has not been reached here yet nor was the northern end of the gateway entrance, but the impression that the blocking's lower course has been exposed over the ash layers seems to be confirmed here too, even though the blocking itself is damaged here and only partly preserved.

L41

Excavation of the reddish clay layer mixed with lenses of ash continues with similar results to those of the previous day. Some shards found along with some slag, copper industrial particles and small bones. Additional courses of stone found at the southern face of the gateway complex.

October 27, 2002

L49, 40

Excavation of expansion northwards of the probe in front of the gateway blocking is concluded, as several large rocks have been removed and the lower courses of the blocking and the gateway entrance, northern wall corner, were exposed. The corner includes with fragmentary shale and is badly preserved. The blocking at this side is also badly preserved and partly destroyed. L40, representing the ash layer reached lower and to the south, expanded with the closure of L49 to include the area below the expansion. Finds include small bones, ceramics and slag, including a small concentration at L49. Below L40 a reddish brown layer similar to L51 by the southern wall was found and is still being excavated. The layer seems uneven and contains many lenses of ash.

L50

Opened in order to better expose the western face of the western perimeter of the gateway complex, including the outer entrance to the gateway corridor. Most of the work included the removal of rock debris with no finds. The gateway is still obscured by a large amount of rock debris and the outer wall, southern side is partly hidden by a later round coral, for which construction stones from the wall were utilized.

L43, 44

Continues excavation of the two northern chambers of the gateway complex. Most efforts concentrated at the NE chamber, where L43 represents a thick layer of debris and sediment. During today's excavation the southern part was excavated to a depth of ca. 50 cm lower than the previous level and two additional courses were exposed at the three adjacent walls. The eastern part of WCC, which separates the chambers from the entranceway corridor, is so far missing, evidence for either lack of preservation or a passageway, which if there, was later blocked, as the southern face survived. No finds. Single piece of pottery found in limited work done at L44, the NW chamber. Shard belongs to Edomite bowl, white slip over red clay with basic black painted decoration in outer and inner faces. Similar shards found at probes to the south and west of the gateway complex.

L41, 51

L41 concluded with the exposure of a probable surface beneath. The surface – L51 - is made of similar orange-brown clay but considerably more compact and lacking the ash lenses evident at L41. Finds at L41 today include several additional shards that originated in large storage jars and at least one fragment of a crude bowl with two punctures for mending. The surface seems to contain pits, evident by uneven circles of ash and possibly two postholes, in one of which a piece of carbon, possibly remains of the post, is preserved.

October 28, 2002L52

Layer of stones mixed with sediment below L50 at the outer western face of the gateway complex, west of W35. Fill encountered is similar to that found below first layer of rocks debris in and around the gateway, also similar in the exceedingly small number of finds. Those include today single shard (punished at corners and re-adapted for some other use), a flint core, a grinding slab and a leg of a stone vessel, or a pestle.

L43

End of excavation of that locus following leveling to ca. 50cm below the preserved top of the walls. Few shards are the only finds. continued appearance of rocks and sediment throughout the chamber. No success yet in delineating the inner face of **WMMMMM** (the northern wall of the gateway complex, which seems to have been very damaged at this point. Similarly the eastern face of the wall between the two chambers remains unclear at the northern part. A closer look into the walls shows the crude technique used by the builders, who seem to have created two outer built shells, later to be filled in with

mixed debris and dirt. Occasional air pockets within the wall fill is evidence to the carelessness of the builders, who seems to have been working hastily. Change of locus technical since there is no evidence for a change in the material excavated. At the Southern wall, eastern part there seem to be a gap, possibly a passageway from the chamber to the gateway corridor that later was sealed, possibly at the same blocking event of the inner outlet.

L40

End of excavation of the locus as excavation levels to a hard brown-orange soil that may represent a surface. The surface seems similar to that found at the southern probe (L51) and likewise, it seems related to the last (deepest) course of the wall. The ash layer represented by the locus sits upon uneven ground and collects to several lenses in the deeper parts of the surface below. large flat rock, possibly used as anvil, found over the ash and removed after recording. Beneath it several bones were found in better than usual preservation, including jawbones, probably of goats or sheep. Deepest lens by the wall at the northern end next to the blocked outlet. This is also the spot where sediment lower than the wall has been noticed. Finds include isolated concentrations of slag, bones and some shards as well as a copper or bronze pin.

L21, 25

Renewed excavation of the small space created between W16 and the wall by the southern wall of the gateway complex. Several fallen stones removed, possible installation in partial preservation found at lowest level by the wall. Excavations today exposed a large part of the inner face of the wall, showing clear difference from the gateway both in the considerably superior quality of construction of the wall and in the use of much larger rocks. Close inspection shows that the gateway is attached to the wall and the two do not interlace, proving that the gateway's construction post-dates that of the wall, either technically on the same plan or following a time gap. The considerable differences in style and material indicates an advantage to the second option.

October 29, 2002

L55

Continued excavation at the NE chamber of the gateway complex with technical change of locus while material excavated remains similar: sediment mixed with a large number of rocks with almost no finds. Excavation today focused in an additional descend of about 40cm at the southern side of the chamber.

L52

Locus represents collapse below upper debris to the west of the gateway corridor. Material includes a large amount of stones mixed with sediment, similar to layers found practically at all places excavated adjacent and within the gateway complex. Very few finds that included some slag and large grinding stones.

L53, 54

Both loci are in the probe to the east of the blocked inner outlet of the gateway corridor, below a layer of debris from the structure's final collapse. L53 represents a layer of hard packed' light, colored ash, ca. 20 cm thick, located above a layer of reddish-orange soft fill. Similar fill was found immediately to east (L54). Finds in both include some pottery and slag. The two layers are parallel and contemporary with L40 to the north, and placed over a hard surface of a similar color of the fill and to the surface at L51, southern gateway wall probe. Both loci closed today as excavation leveled with the lower surface.

L21

Excavation between the corner of the southern wall of the gateway complex (W7) and the inner face of the wall concentrates at the removal of the layer of rocks discovered to the west of W16, in order to define its western face and identify possible installations. Neither had been achieved today and it seems now that the known W16 is all that was. The possible installation at the southern part still not clearly defined. Ash layer excavated includes a relatively large amount of ceramics, slag and copper industry related objects.

October 30, 2002

L55

Excavation of the northern part of the chamber finally met and defined the inner face of the northern limit wall of the gateway complex. The wall here is relatively well preserved, yet it should be noted that also at the inner face of the eastern wall (W32) better quality of construction featuring larger stones was noted, similar also to the situation at the wall, at least at the corner by L21, which is so far the only segment exposed to relative depth.

L52

A section was cut at the western limit of the locus, where a slope consisted mainly of washed or collapsed material from the gateway complex and the area immediately adjacent to the western entrance. Purpose of the section to improve possibility of defining surfaces and possible different layers obscured by the collapsed debris. No differences noted in the 70cm high section so far. Additional aim was to test the possibility of a rampart below the activity layer immediately to the south, but here too the sections shows nothing but collapsed stones and sediment. No finds.

L21

Excavation today included the removal of most of the layer of rocks adjacent to the west to W16. It has been determined that the wall is indeed very thin (ca. 40cm), which corresponds to several walls exposed at area S and seems characteristic to the site. This wall could not have held many additional courses. (See also description of L56, 57 below). Possible installation at the southern part of the locus now more clearly shown but identification as constructed feature will remain unclear and there is no indication of the possible use of this feature, if indeed it was a built installation. The problem of fragmentary stone feature of questionable human utilization is common at this area. Ash layer seems mixed with reddish soft fill. Finds include pottery in a relatively large

amount, many pieces of slag concentrated mainly by the wall, and various copper production related objects.

L56, 57

Both loci located to the east of W16 and to the west of L41. L56 represent a thick ashy deposit between the southern limit of the area and a presumably built line of stones to the north, which separates it from L57. A significant concentration of slag was found at this locus, amidst much ash. While the appearance is clearly connected with copper industry the presence of domestic pottery indicates a different activity here other than intensive smelting.

L57 represents a layer of ash ca. 20 cm thick between the line of stones that divides it from L56 and the gateway's southern wall (W7). Finds include some slag and pottery. The activity here is probably related to that which took place at L56 immediately to the south.

November 4, 2002

L52, 60

Excavation of L52 ends due to the appearance of some slag and burnt materials, as well as due to a change of material excavated. Still continues appearance of debris in somewhat lesser thick concentration, as excavation reaches nearer to the entrance itself. The reason for that may be technical; materials falling from relative high structures tend to fall a certain distance from the wall's foundation, and roll forward at impact, especially as the ground slopes forward as is the terrain now and as may have been the situation during the structure's existence.

L55

Change of soil is also evident within the NE chamber, with reddish-brown soil the yellow-white material excavated so far. Once the white material is completely removed there will be a change of locus. Apart from the change in material there is no difference between in the dense appearance of rock debris that is scattered throughout the chamber, and the presence of ceramic finds remains low.

L59

Located at the southern part of the eastern probe. material excavated is reddish-orange and density seems to shift depending on part of probe to be dug. Finds were extracted from this layer although in very poor quantity, single piece of pottery, two small pieces of slag, a few very small pieces of ore. At the end of the day a new ashy layer was exposed at the bottom of the reddish fill. The layer matches yet another course at the southern corner of the gateway entrance, although W8 that continues with the corner towards the south seems to have reached its lowest level. Final clarification will be done in the following days.

L58

Below ash layer L57, between installation (?) L56 and the southern wall of the gateway complex (W7). Material excavated is dense but not particularly hard. Very little ash, mainly charcoal pieces. Finds include some pottery, a relatively large number of bones and few pieces of slag. The reddish material may correspond with the fill excavated at the eastern probe.

L21

End of excavation of this locus with the appearance of what seems to have been a semi-circular installation at the southern part and a possible other feature at the east. Ashy soil appears at all parts of the "chamber". Finds here, as in previous days, include pottery, including shards painted with black strips and geometric motifs, a relatively large number of slag and several other copper industry related artifacts.

November 5, 2002L63

Change of color of sediment accumulated between the stone debris leads to a change of locus. While sediment in L55 retained a white-yellow color typical of these layers throughout the area, in and out of the gateway complex, the deposit at these lower levels of the NE chamber show a reddish-brown color, possibly linked with a surface at near by levels. Finds remain similar, few shards and copper industrial related artifacts. Excavation at the SE part reached an ash layer. Spread unclear, possible indication for the surface, further investigation forthcoming.

L60

Continues dense appearance of rock and sediment debris. Change of locus God help us due to the presence of a limited amount of ash and some slag in the fill. Excavations reaches an ash layer, in its central part a basalt mortar has been uncovered. The mortar is set within what seems to have been an installation constructed with stones of various sizes. An additional development was the discovery of a second pilaster (?) by the northern corner of the entrance. The pilaster is of similar characteristics to the one already exposed at the center of the gateway's entranceway. They probably represent a later adaptation, at a phase when the gateway was no longer in operation. If so, the ash layer may have resulted of the destruction of a roof constructed with organic materials which is a fancy term for a shitty reed and branches ceiling.

L61

Represents a asemi-circular stone-built installation located at the corner betwixt the Southern wall of the gateway complex (W7) and the wall. The installation may have served an industrial purpose, because several concentrations of slag were discovered within. In addition, an ash layer (L62), also containing slag and all the fucking furnace fragments for which Victoria hates Josh (this passage is courtesy of Vic with my full consent, Y.A.) and other copper industrial related objects was exposed around and above the installation.

L58, 56

Both loci closed today. L58 reaches the gard surface that probably predates the gateway structure, and which was also found below L41 to the east. L56 represents a layer rich with ash and slag fragments directly to the south, behind a probably intentionally constructed line of stones. Below that industrial layer appears a reddish layer similar to the one excavated as L58.

L28

Renewed excavation by the SE corner of the gate structure. Continues dense appearance of slag deposits among the ash and the debris. No signs for an installation that may have been connected to the slag appearance which is considerable denser than at other parts of the area at the same level.

November 7, 2002

L66, 68, 69

Excavation of the area outside the western gateway entrance spreads northwards below the southern part of a later stone built corral of unknown date. The excavation is intended to reveal the western face of the wall and the gateway structure, to the north of the entrance, and to understand the context of what seems to be a protruding structure at this point. An additional architectural unit that seems to predate the corral is a built straight corner of two fragmentary walls under the western part of the corral. At first, the relevant part of the corral wall was removed (L66) and the ground immediately below (L68) was isolated and excavated separately. No ceramic or other finds that may assist in the dating of the corral, but as it was constructed over a slope created by the collapse from the gateway structure, it obviously post-dates the main phase of occupation at the site and probably was built following a considerable time gap after the wall's destruction. At the conclusion of the removal of the corral's wall and fill below, considerable effort was invested in the excavation of collapsed debris (L69) similar to that exposed and removed at earlier stages of the season to the west of the gateway as well as at all other parts excavated so far at this area. There were no surfaces or distinct strata within the debris layer excavated today. The finding of burnt ore may indicate limited copper production activities at the vicinity, although its dating and larger context are still unclear. It should be mentioned that the ore was found at similar level to the industrial layer discovered a few meters to the south (L24).

L63

Locus excavation near conclusion, with only a small part still to be dug at the NW corner. Beneath there is clear indication for a considerable ash layer, which will be excavated in the coming days under different loci numbers. L63 included many fallen rocks immersed in reddish brown sediment, with very few finds of any type. Yet several bones were found for the first time in the chamber, as well as more ceramics than usual and several large pieces of copper waste as well as burnt ore. These finds probably relate to the ash layer immediately below. Among the shards at least one bowl rim decorated with white slip and black lines, probably 7th century Edomite.

L67

Eastern probe is concluded as deeper excavation at the southern part reaches clear bedrock layer below a sandy deposit that included very few artifacts, one being a flint flake and another a possible metal object or waste. The metal seems to have been iron, although the artifact may still be natural. No ceramics. The surface above (L59) was partially preserved, and included possible shallow postholes as well as crushed limed or plaster remains in isolated spots. L67 represents the lowest layer of sediment, immediately over the bedrock.

L65

Excavation of this locus near conclusion with the leveling to the lowest (pre-gateway structure) surface, that seems similar in characteristics to the earliest surface at the eastern probe. Few ceramics, some slag, very little ash within the reddish-brown sediment below the ash layer that corresponds with the industrial activity (L56).

L62

Ash layer adjacent to the semi-circular installation (L61) excavated mainly at the strip immediately to the west of W16. The layer includes many copper-production related artifacts as well as slag and a considerable amount of pottery. It is not yet clear whether there is a connection between the installation and the ash layer and if the layer represents waste from activities related with the installation. Yet it should be remarked that several very large pieces of slag were found within the installation, evidence either for actual production activity or for waste accumulation.

November 8, 2002

L62

Continues excavation outside installation 61, with similar finds and general character as described in the previous days. Large pieces of slag found, similar to those discovered within installation 61. It now seems that the installation belonged to the latest phase of industrial exploitation at this part of the area, as did installations 30, 31, and 39, all found east of W16 on a similar level, and that the slag found inside in fact belongs to the earlier phase represented by L62. If so, no surface survived, or was detected for installation L61, but it should have been at a shallow level below the top of the stones.

L72

Isolated remains of a furnace, probably related to the mass of slag found at L52 at immediate vicinity. The furnace fragments included well preserved inner parts of tier pipes, and serve as evidence for smelting activities that took place at this part of the site, probably later than the main phase of occupation at the site.

Note:

This phase may represent the earlier of two phases of small scale copper industrial activities that took place here post main phase, the second phase represented by installations L30, 31, 39, 10, 61.

L71

Excavation below surface 51 began at the easternmost part, in attempt to determine whether this is the earliest phase represented, as in the eastern probe (L67). So far that seems to be the case, since the material excavated is a soft, sandy, fair colored silt, with only very few bones disturbing an otherwise sterile appearance.

L70

With the conclusion of L63 begins the exposure of the ash layer that seems to cover the surface of the NE chamber of the gate system. The ash layer does cover the whole space of the chamber and include clear evidence for copper working, such as numerous pieces of crushed and burnt ore, some slag and mortars. This must have been a stage that post-dated the original, probably military purpose of the chamber, and may be contemporaneous with the copper smelting activities that had been identified outside the gateway building to the south and to the west. Among the finds a large fragment of a big limestone mortar, found at the northern part of the chamber among a large concentration of rocks, probably fallen, since no pavement order could be identified. Very few ceramic finds. It is not yet clear whether the layer is above the original surface re-adapted for secondary use or over a secondary pavement sealing the original.

L69

Concluded the exposure of the wall part immediately adjacent to the gateway outer entrance on the northern side. Very few finds, mainly coincidental copper industry related ore, mostly burnt. Additional mortar fragment found ca. 2m to the north of the complete basalt mortar discovered the previous day within an installation of stones.

November 10, 2002

L73, 75

Represent excavation below the collapsed debris accumulation to the west of the western entrance of the fort. Divided between a northern (L75) and southern (L73) parts, with several flat stones in between, possibly representing the remains of a pavement. The excavation takes place at a distance of ca. 3m. from the entrance, leaving, for the time being, the installations exposed at that area undisturbed. The picture emerging at the sections shows a very clear differentiation between the collapsed debris and two superimposed packed earth surfaces, with a fill of ca. 10cm in between. The upper surface is connected with the later activity and the mortars, and possibly with the pilasters at the gate, and represents a stage later than the original phase of the gate structure. The lower surface is thinner but harder, contains much consolidated ash and is based on a reddish, sterile material elsewhere (L.51, 59) identified as natural soil or introduced fill. This surface may represent the actual phase when the gateway operated as the entrance to the compound. No ceramic finds.

L44

Continues removal of the collapsed debris and fill. No difference from previous day, some slag found within the fill as well as two shards.

L74

Represents the excavation below the activity layer exposed in the previous day (L70). The layer is undoubtedly connected with copper production, as indicated by the waste objects found within the fill, such as crushed and burnt ore, tap slag and misc. copper “objects”. There are two options as for the interpretation of the layer: 1. Activity area haphazardly adapted within the debris and fallen stones. 2. Waste and ruins belonging to the activity but not representing a surface. Finds include basalt objects, many bones and few ceramics. The layer excavated includes mainly ashy fill. On the SE corner there is an installation consisting of a line of stones and particularly harder soil to its immediate south. Purpose unclear.

L71

Reddish, compact layer below surface (?) 51 remains sterile of finds despite ca. 35cm of excavation, and probably can be identified as virgin soil as in the eastern probe (L67).

L62

Continues excavation of ash layer by the corner between the western wall and W7, the southern wall of the gate structure. As in previous days a large amount of slag and ceramics found as well as other copper production related objects of a similar character to that previously found. Remains of rough ceramic vessel or structure may be identified with a cooking oven (*tabun*) but no remains or circle shape discovered. Still, the soil shows clear signs and remains of burning. Due to the clear remains of copper production, and despite cooking pots within the ceramic evidence, the option of domestic activity is unlikely and it is possible, instead, that the place was utilized for waste disposal.

November 11, 2002

L44

End of excavation of locus after leveling to a layer where the white-yellow fill is replaced by a reddish fill, similar to that in the NE room. The dense appearance of rocks within the fill continues undisturbed and unchanged. The inner face of the northern wall (W33) of the gate structure was exposed today at this chamber. No ceramic finds at all and only a few pieces of slag in the finds record, in addition to an intact copper artifact that consists of two circles at the two sides of a veridical/ cylindrical mid-part, which may be decorated with a face at one end.

L62, 76, 77

L76 represents the sealed fill directly below installation L61, at the corner between W7 and the inner face of the western wall. The ceramic finds include indicative shards as well as two pieces of an open oil lamp, the first lamp fragments to be identified in the field at this area. With the removal of the fill, an even level with the bottom height of L62 was achieved and the whole context will be excavated under new locus L77. The new locus contains large pieces of tap slag at the northern side and ashy fill at the southern. The considerable amount of pottery continues to appear.

L28

Continues excavation of the slag layer by the corner between the southern and eastern walls of the gate structure (W7/W8). The layer of slag is superimposed over the reddish fill that has been met at all places at the area that have reached the necessary depth. No signs for installations and the slag seems to have been placed here as waste.

L74

The layer of rocks at the northern part of the NE chamber of the gate complex are being gradually removed, exposing a layer of ash and burnt material underneath, for the first time since the excavation began here devoid of scattered rocks. This may have been the surface of the chamber at the later stage of its occupation, as copper working activities replaced the guard positions that can be assumed to have been the original aim. Finds include few ceramics but many artifacts connected to copper working such as large quantities of slag, ash, ore, crushed and burnt slag and furnace fragments.

L75

Excavation of the northern part of the probe is concluded with a correction of the axis of the sections at this side and a clarification of the sections to the east and south. In the better light of today it had been determined that the eastern section of both parts of the probe include at least four layers:

1. A yellow-white fill, consisting of crumbling and soft material that includes some ash. Despite the soft consistency this seems to have been the remains of a surface belonging to the same stage as the two mortars and the attached stone installations. This stage post dates the main phase of the gate.
2. An ash layer, probably remains of the activity at the lower surface.
3. A relatively hard and dense thin layer of packed earth and ash. This may represent the original surface of the gate complex. The intensive copper working activity at the site could explain the accumulated ash layer (2). This may have been simply accumulated dust.
4. A layer of reddish silt, either constructive fill for the building of the gate complex or natural soil as found at all parts of the area where sufficient depth had been achieved. The different loci will be excavated separately at two stages: The first stage will bring the exposure of all four to the same eastern line as L73, to create a section that will cut across the full width of the gate entrance. the second stage will include the systematic excavation of each levels up to the gate itself.

November 12, 2002

L79

Fill and stone debris form the final destruction of the gate complex, similar to the layers above with a difference in the color of the sediment that turns from white-yellow to reddish-brown and in considerably increased quantity of ceramics and slag.

L78

Represents the occupation surface connected with the mortars at the western probe. First part removed today down to the second fill of ash over an earlier surface, which will be excavated under a different locus number. No finds.

L28

Excavation shows similar results as in previous days with a large quantity of slag appearing throughout the locus but very few ceramic finds. Small round installation found at the southern end similar in style and elevation to installations found at the southern probe and related to the latest small-scale industrial occupation phase, which predated the gate main utilization.

L74

Excavation and removal of the layer of stones at the north of the NE chamber concluded and a layer of ash and yellow material was exposed underneath. Appearance of slag, tear pipes, hammerstones and grinders continues to be extensive. A relatively large quantity of pottery and bones in the find may be indication to the fill being related to waste.

L77

Removal of the copper industrial layer at the corner between W7 and the wall concluded. Continued appearance of finds as in previous days. Red sediment shows underneath. As both walls continue to descend there is little reason to doubt that the fill was artificially introduced.

November 13, 2002

L74

Continues excavation of the thick layer of copper industry remains, finds and soil excavated as in previous days. Ash free red sediment discovered ca. 20cm below the present excavation level.

L89

Represents excavation of red sediment below industrial phase by the corner wall/W7. Most finds so far are bones considerable decline in the ceramic appearance that down to this level was considerably higher than at all other parts of the area.

L79

Continues excavation of the fill that contains a large number of stones within a reddish sediment at the NW chamber of the gate complex. In contrast to the southern part, no shards whatsoever found today at the northern part despite the similarity in the fill in any other aspect. The localized nature of the ceramic finds was typical in both chambers, even though no surfaces were involved and the shards belong to clearly different vessels.

L82, 90

L82 represent the compact surface seen first at the section by the western entrance, upon which a layer of soft ashy sediment (L80) accumulated. The surface is thin (ca.5 cm) but hard and involves ash as well as what seems to be baked or fired clay. The identification

of this layer as a surface must remain questionable because it appears diagonally with a moderate but noticeable decline towards the north. Beneath it is a dense reddish soil (L90) which is similar to sediment found in all parts of the gate complex in which the deeper levels were reached. Work centers in the leveling of the red sediment to a uniform height prior to the clearing of the eastern section and the excavation of the different layers as they appear at the area immediately adjacent to the gate entrance.

L81, 83, 84

These loci are located at A1, which is a structure to the SE of the gate, ca. 8m from the SE corner of the gate complex. The structure shows at least 4 walls and two inner spaces below debris and a large amount of slag that was collected from the topsoil (L81), as well as fallen stones from the wall's destruction. Following the removal of slag and fallen debris from the topsoil A1 was divided into two loci divided by a clearly defined S-N wall, with a visible chamber to the west and a possible second chamber in lesser preservation at the east. The first layer encountered in both sides contained a thick ashy fill with very limited slag appearance and few shards. The minimal appearance of slag should be noted in comparison to the rich finds on topsoil, indicating that the rooms were not, at this stage, involved in slag producing activities and that the slag on the surface originated elsewhere. Following the clearing of this layer A1 will be divided again in accordance to the better clarified different chambers.

November 14, 2002

Due to time limits and other consideration it has been decided to abandon the excavation at the structure to the SE of the gate (A1), and to close operations there at the conclusion of loci 83 and 84. No difference in the materials and finds in comparison with the previous day. Work proceeded at loci 74, 89, 79 and at the western probe by the western entrance way with no changes in material and finds from the previous day.

November 15, 2002

L92

L92 represents a layer of copper industrial waste. The layer includes a dense appearance of slag covering practically the whole space of the chamber. Additional items include tuyere pipes (some in very good preservation), and furnace fragments. All artifacts are found within an ashy sediment. Small amount of ceramics also found in the fill. This appearance is identical in both character and volume, as well as elevation to that discovered in the NE chamber (L70, 74).

L74

Excavation of this locus is completed with the leveling to a reddish brown sediment that seems free from copper industry waste. Final clearing yielded similar finds as those of previous days, mainly copper industry related artifacts, worked stones, and some pottery. As mentioned above, L74 resembles L92 at the adjacent NW chamber.

L89, 93

Excavation along the corner between W7 and the inner face of the western wall of the fort reached an additional ashy layer that seems connected with copper industry. This layer appears below reddish brown soil such as the material excavated to the east of W16 (L41). This new layer of ash, if indeed is representative of copper industry is the earliest in a sequence delineated so far, and is followed by at least one and probably two later phases. It should be remarked that the fill between each industrial layer is thin, and it is possible that at least the lower layers originated in a single period and the separation between them is evidence for a limited time span within that same period. The lowest layer (L93) predates W16, since it is clearly lower than its lowest course. Pottery was found both in L93 and in the reddish layer that superimpose it.

L91

The locus represents a thick layer of very fine sterile and sandy fill discovered at a probe within the area directly in front of the western entrance of the fort gate. The probe is intended to reach virgin soil or bedrock. At the end of this excavation's day a much harder material of a darker color appeared at the probe's bottom. This material may represent natural soil. The origin of the sandy fill is uncertain. It is possible that it was introduced to this location as part of a deep foundation bed upon which the gate structure was erected. This possibility is supported by the fact that the material contained no pebbles, which are always found within natural wadi sand. On the other hand the absence of any cultural finds prevents a certainty as for human agency in the introduction of the fill. As for the original surface of the passage way into the fort no clear floor has been discovered. A horizontal appearance of a compact sediment in the section of the probe may be identified with that surface but this cannot be proven until a full stratigraphic of the various layers in front of the gate is conducted.

17-18 November 2002

L92

Excavation of the copper production layer continues mainly at the eastern part. The layer of slag and copper waste is ca. 50cm deep, with a layer of brown soil rich with crushed slag underneath. Pottery found within the layer amounts to ca. 1/3 of a bucket a day, which is a considerable increase in comparison with similar quantities at the debris layer above. Many of the shards are of large storage vessels, a similar appearance to that of the surface below the slag fill at the NE chamber (L74). The industrial waste fill includes a very dense appearance of slag, as well as of furnace fragments and relatively many tuyere pipes. 5 such pipes in good preservation were found in the eastern excavation as well as many fragments. Additional copper production waste include twisted pieces of raw copper as well as copper within chunks of slag. The options concerning the layer include waste concentration and actual smelting. It is not clear why would the two chambers would have been preferred for either purpose and this may be a simple issue of maximal available space exploitation. Excavation now spreads to the western part of the chamber where a similar appearance seems to show. The yet unexcavated passageway to the main access corridor of the gate allows the preservation of a section in which it is now possible to see both the deep layers of debris and the copper waste layer, with what seems to be an uneven green-yellow fill layer in between.

L94

The complete removal of the thick copper production waste layer led to the exposure of the probable remains of a surface. This is a reddish-brown dense yet relatively soft layer, free of large pieces of slag, furnace fragments and large pieces of raw or twisted copper. There are, however, some crushed slag and many small pieces of copper. Lenses of ash appear at some parts. A relatively large amount of pottery was collected including a restorable large storage vessel, found by the western wall of the chamber. Its discovery is additional indication to the ID of the layer as a surface. The layer is ca. 15cm deep with an additional ash layer beneath (L95). It is unclear whether this layer represents the original surfaced of the chamber at the first stage of occupation.

L93

Concluded the excavation of the ash layer and the locus is now cleared in order to begin the excavation of what seems to be the last layer there with possible human related activity. Continued appearance of ceramics and some copper industry related waste.

L91

Excavation of the western probe reaches deeper into the sterile fill. At the lowest excavated level the fill changes color and texture, becoming darker and harder. This material is most probably virgin soil superimposing bedrock, which is yet to be exposed. No pottery or any other finds were collected and the main purpose of the excavation is to better understand the geomorphology of the site, and detect possible changes related to the foundation beds of the gate structure. The long section left on the eastern and of the probe will be drawn and photographed. So will be the southern section, in which the layers of debris is well represented.

November 19-20, 2002L92, 98

Completed removal of slag and other copper production waste from all parts of the NW chamber save from the northernmost part, where, at the central and western sides the remains of a furnace have been exposed. While furnace fragments appeared among the copper production waste throughout the chamber at this level third seems to have been an actual furnace, as indicated by a roughly circular part adjacent to the northern wall and by very large fragments found in immediate vicinity, as well as at least 3 tuyere pipes. Additional shards found as well as more pieces of charred wood. The furnace will be excavated separately, in at least two parts, the first of which (L98) covers the upper layer of fill and slag up to the surviving upper edge of the furnace.

L94, 95, 97

There are significant difficulties in the definition of the surface since its preservation is very fragmentary and the layer of ash and crushed slag immediately underneath can be seen through in most places. The layer appeared below the lowest course of stones of the gate walls. Beneath that layer a dense reddish-brown sediment (L95) appears directly above the bedrock. A similar appearance is known from the eastern probe but here, unlike in the latter case, pottery continues to appear despite the depth and bedrock connotation.

It was clearly noticed that the crushed slag layers appears diagonal and tilted northwards. This appearance continues at the layer below, and probably represents human related material that accumulated in accordance with the natural topography at this place prior to the leveling of the ground that was necessary for the construction of the gate complex. This also illustrates the limited preparations invested in the construction of this building since no major leveling have been down before the first courses were placed. The lowest layers are clean of massive copper production waste.

At the NE corner a mass of small stones with a space between them and the northern wall of the chamber may represent a crude installation (L97). Crushed slag within and lack of slag probably indicates that the installation predates the utilization of the room for copper production or industrial waste accumulation.

L96

Concluded excavation of the part of the area at the corner between the inner part of the western wall and W7 of the gate structure. The layer excavated under L96 is most probably a natural deposit, similar to other such sediments found at both the southern and eastern probes. No finds other than fragmentary rodent bones.

L91

Excavation of this locus is also concluded with the certainty of no further human introduced layers below what seems as a sequence of natural alluvial deposits. No finds. In the next days, following a section drawing, the various loci near the western entranceway to the fortified perimeter will be systematically excavated.

21, 25-6, November, 2002

L28, 102

Concluded excavation by the SE corner of the gate structure. Slag layer found there represents layer of industrial waste that is also attested to at the eastern probe, in an appearance that descends towards the north, probably following the topography of the site at that time. Accordingly, the layer at L28 appears near topsoil, while at the eastern probe, ca. 8 m. to the north, it is ca.30 cm below topsoil. The layer probably represents the utilization of the gate complex for copper smelting following the cessation of the original use of the gate for military (?) purposes. Testimony for this secondary use appears at all parts of the excavation at this area, inside and outside the complex. L102 represents a small and well preserved round installation within the slag layer. The installation is similar in style, size and elevations to installations 29, 30,31, 39, all found within similar industrial waste at by the southern wall of the gate.

L78, 80, 82, 90, 91

Following the drawing of the section received in front of the western entrance to the fort complex, excavation proceeds with the removal of the layers as appeared at the preliminary excavation at a distance of ca. 3m west of the gate. L78 represents the upper layer, upon which an occupation was detected even though no solid floor was identified. The occupation included at least two mortars found in situ, with accommodating stone

installations around one of them, a well preserved basalt mortar discovered at the southern part. Accumulations of stones scattered throughout the occupation layer were removed, after which the remains of a stone-built pavement were exposed at the entranceway, in front of the central pilaster, spreading southwards towards the southern gate frame.

L80 represents the ashy material below the occupation layer (L78). This material contained far fewer stones and was spread upon a hard surface that included a large amount of crushed slag. Similar (though thicker) layers of crushed slag were also found below the foundations of the frame walls of both northern chambers.

Relation of pavement to stratigraphy: The pavement is not appear throughout the excavated space in front of the west entrance but only between the actual gate walls. The stones varied in size and were not laid perfectly flat, though use and post-use movement may account for some of the differences in elevation. The option of steps is not supported by enough evidence. As things stand, it seems that the stones were laid upon the layer represented by L82, the hard surface that includes dense deposits of crushed slag below lenses of hard-packed clay. At this point it cannot be clearly determined whether the clay lenses represent an independently laid deposit or are the remains of a packed clay surface placed upon the less solid slag layer. The pavement most probably represents the original stage of utilization of the gate complex. It seems to penetrate directly beneath the collapsed debris that seals the entranceway, although it could not be determined whether it does so under the central pilaster. No clear signs of pavement were found between the central and northern pilaster and the northern entrance frame, although it is very possible that such pavement does exist below the debris still accumulated at that part.

The pavement was slightly disturbed during the excavations, particularly at the northern end but it can be fairly estimated that little has been removed, since the relevant layer to the west of the paved part was excavated *after* the pavement was already known. It remains unclear whether the pavement extended outside the gate entrance in its original stage.

Very few finds were collected from L78, mainly few pieces of pottery and some slag.

L74, 97, 94, 95

Excavation of the NE chamber concluded, with the drawing of the section at the southern side, wall and collapsed debris within the passage-entrance connecting with the passageway.

L100, 101, 103

Excavation of the NW chamber concluded with the removal of the furnace remains by the NW corner. NO discernable in situ fragments were found but the presence of a furnace at that location is probable due to the unusual concentration of very large fragments in a relatively small space, as well as that of tuyere pipes, several of which were found scattered by and below the furnace remains. The corner was particularly rich with tap slag of pieces, some of considerable size. The furnace remains rested upon an additional layer of tap slag and ash mixed with crushed slag, all of which were laid upon reddish

brown material similar to that found below the crushed slag layer (L101) elsewhere in the chamber.

The crushed slag layer appeared in both chambers as well as west of the gate entrance. The appearance of the crushed slag is particularly important because it is clearly laid below the lowest course of the walls of both chambers (L94, 100), i.e. laid prior to the construction of the gate complex and probably placed as a foundation bed for the gate. The origins of the materials must have been in waste produced during copper working activity that predated the construction of the fort at the site.

Excavation of Area A concluded at the 26th of November.