In the 2010 season, there were two research campaigns in Ptolemais: in May and in September/October. The main aim of the Spring campaign was to finish the project of documentation of the Christian churches identified in Ptolemais. There were conducted geophysical surveys, precise measurements and an architectural analysis in order to construct a 3D model of the Western Basilica, as well as studies of portable finds from the surveys conducted near the Central Basilica. No excavations were carried out then.

The Autumn campaign included excavations which constituted a continuation of the study of dwellings in insula EXXI, in the eastern part of the city, conducted since 2001 by the Institute of Archaeology of the University of Warsaw. Geophysical measurements were carried out as well as part of the project of preparing a geophysical map of the accessible areas of the city, which is an important element of Polish topographic studies in Ptolemais.

Excavations
(Zofia Kowarska, Szymon Lenarczyk, Jerzy Żelazowski)

The main aim of the Autumn excavation campaign, apart from a number of supplementary and maintenance works, was to examine the area of the insula south of the House of Leukaktios, in the eastern part of which a number of rooms situated around a large paved courtyard (R 68) and probably belonging to another dwelling complex, adjacent to the eastern street, were uncovered in previous years (Figs. 1, 2; CD Fig. 1).

The area of excavations occupying a surface of about 1.5 ares (Trench H) was marked out in the area limited to the north-east by the late Wall W 157, situated alongside the eastern street of insula EXXI. On the south, Trench H was limited by Wall W 150, probably the border of this plot (Fig. 3).

1 The text is based on the preliminary reports submitted to the Department of Archaeology in Tripoli and Benghazi following each season and presented on the website www.ptolemais.pl. The exact dates and names of team members can be found there.
5 It is also worth mentioning that during this campaign the Polish Archaeological Mission to Ptolemais has organised workshops for Libyan colleagues from the Department of Antiquities in Benghazi for the first time. With kind permission of Director of the Department, Mr Mohamed Ateetallah Shelmani, 10 persons in total stayed in Tolmeita for the period of about three weeks. They participated in work on current documentation. Supervised by Polish archaeologists, they improved their archaeological and documentation skills. Cooperation with Libyan archaeologists would not have been possible without organizational, linguistic and accommodation help of Mr Faraj Abdul Karim Omran Tahir, Director of the Tolmeita Museum.
Fig. 1. Plan of the excavated area in 2007–2010 (by W. Malkowski, S. Lenarczyk, J. Żelazowski).

Ryc. 1. Obszar polskich badań w Ptolemais 2007–2010 z zaznaczonymi wykopami z poszczególnych lat.
Fig. 2. Measured plan of the excavated area (by W. Małkowski, S. Lenarczyk, J. Żelazowski).
Ryc. 2. Obszar polskich badań w Ptolemais – plan ogólny.
About 0.3 m below the surface level (humus layer: Unit 01/10), a continuation of Wall W 157 was found together with some kind of stone paving (Unit 04/10 = Unit 13/09, Unit 17/10 = Unit 40/08), covered by a layer of small stones, related to this wall (Fig. 4, CDFig. 2). It is worth to note a small fragment of inscribed marble found in the layer of stones (inv. No. s/015/10, Fig. 5:2). Apart from that, not many other items were found in Unit 17/10. They included i.a.: a ball-shaped stone, probably a projectile (inv. No. s/017/10, Fig. 5:7), a fragment of a lamp (inv. No. 1/034/10, Fig. 8:12), two fragments of metal artefacts (inv. Nos. mt/068/10, mt/070/10), a dozen or so fragments of cooking pottery and a dozen or so small fragments of glass (e.g. inv. Nos. g/178/10, g/190/10, g/194/10), unfortunately in a poor state of preservation (Fig. 6:18,20,22).

Fig. 3. Measured plan of the excavated area in 2010 (by W. Małkowski, S. Lenarczyk).
Ryc. 3. Fragment planu ukazujący obszar badań wykopaliskowych prowadzonych w 2010 roku.
Wall W 157, preserved in 3–4 courses of small irregular stones bonded in clay mortar, the northern part of which was uncovered in September 2008, belongs to the latest, perhaps even post-antique phase of using this eastern part of the insula. In the central part of the paving (Unit 04/10=17/10) made of white stones resembling a rock (height 30.37–30.54 m a.s.l.), traces of presumable ruts were noticed.

After finishing documentary works, the trench was restricted to a smaller area limited to the east by the outer face of Wall W 159. Considering the area to be excavated, Trench H was divided into two parts by Baulk 14 (1 m wide), marked out along the southern face of Wall W 155. In this way, Trench H was divided by the baulk into Trench H 1, on the north-east, and Trench H 2 on the south-west (Fig. 3).

Trench H 1
(areas CXCI 92, CXCI 93, FI 2)

The aim of exploration of this area was to uncover the whole paved courtyard (R 68), partly investigated in the 2007 Spring campaign (Figs. 9, 10). During the exploration of Trench H 1, a sequence of destruction layers were noticed (Figs. 11, 12):
- upper destruction layer (Units 10/10, 25/10, 29/10, 30/10, height from 30.25–30.19 m to 29.64–29.74 m a.s.l.) characterised by brown soil mixed with irregular stones and a small amount of coarse pottery and other artefacts – including an almost completely preserved lamp (inv. no. I/045/10, Fig. 8:11), probably manufactured locally (Unit 10/10), and two fragments of rims (inv. Nos. s/070/10, s/008/10, Fig. 5:5,6) of marble vessels (Unit 25/10);
- lower destruction layer (Unit 33/10, height 29.56–29.36 m a.s.l. and Unit 38/10, height 29.36–29.10 m a.s.l.) characterised by greyish brown soil with traces of mortar. Nineteen coins, fragments of a lamp (inv. No. l/109/10, Fig. 8:3), glass vessels, a fragment of an unidentified sculpture (inv. No. s/085/10, Fig. 5:4), several small fragments of marble facings (inv. Nos. s/083/10, s/087/10, s/091/10, Fig. 5:9,11,12), a fragment of an ornamented ivory artefact (inv. No. b/007/10, Fig. 6:36),

During the excavations season, 91 coins in total were found and they were mainly bronze. The majority of coins was found with the use of metal detector. Only their conservation, expected in the next campaign, will permit an identification. The numismatic finds from the Polish excavations at Ptolemais are being studied by Piotr Jaworski.

and a fragment of a bone pin (inv. No. b/009/10, Fig. 6:33) were found in this layer (Unit 38/10), several dozen centimetres above the stone floor;
– accumulation layer above the stone pavement (height 29.10–28.96 m a.s.l.) in Room R 69/68 (Unit 40/10 = Unit 20/08 above the mosaic, height 28.96 m a.s.l.) – a reddish brown solid layer of soil mixed with small pieces of pottery, stones and traces of mortar. The finds also included a few coins and many well preserved parts of glass vessels (inv. No. g/211/10, Fig. 6:19), a fragment of a bone artefact, perhaps a gaming piece (inv. No. b/010/10, Fig. 6:35), as well as a fragment of a bone pin (inv. No. b/011/10).

The exploration of the layers resulted in uncovering the pavement (29.03 m a.s.l.) made of regular stone slabs (0.50×1.10×0.40 m) (CDFig. 3). The pavement lies on a level above the level of the House of Leukaktios. This courtyard (R 69/68) is delimited by walls: W 155 (height 29.16–29.14 m a.s.l.) (CDFig. 4, 5) to the south, W 172 to the east (height 29.27–28.95 m a.s.l.), W 107 to the north and W 140 to the west. In the central part of the courtyard, there is a shallow pool (Fig. 13). This impluvium is decorated with a geometrical mosaic M 16 (black and white teseac, height 28.96 m a.s.l.) (CDFig. 6). The shape of the bordering slabs makes it possible to assume the presence of columns supporting the roof at least on three sides. It is

Fig. 5. Selected stone finds from the 2010 season of excavations (Photo J. Balcerzak, elaborated by Z. Kowarska).
Ryc. 5. Wybrane zabytki kamienne z sezonu badawczego 2010.
Fig. 6. Selected small finds from the 2010 season of excavations: 1–17 – fragments of metal finds; 18–30 – fragments of glass finds; 31–36 – fragments of bone items (Photo J. Balcerzak, elaborated by Z. Kowarska).


worth noting that, on the eastern side, the courtyard is prolonged in such a way that it is possible to assume an open air space in this part.

In the south-eastern corner of the impluvium, a small stone basin was found. The geometrical pattern of the mosaic proves that the basin belongs to an earlier phase. On the same side of impluvium, a canal inlet was noticed. The rest of the canal is covered by the stone pavement and it leads to the presumed cistern mouth located near Wall W 107. There are also some traces of a canal leading to the lower part of the insula. Together with the fact that Wall W 107 was demolished to the level of the pavement, it proves that the courtyard was associated with the large industrial area in the later phase.

**Pottery kiln in R 68**

In the north-western part of courtyard R 68, in the middle of a large impluvium (between two walls added secondarily, W 154 on the east and W 141 on the west), there is a small kiln (K 4), uncovered already in the course of the excavations in 2008 (CDFig. 7). Now it was explored (1.2 × 0.7 m; height 0.85 m [without the dome], from
The construction of the upper chamber of the kiln was made of bricks (0.25×0.15×0.08 m). Also a stone base of the kiln (0.3 m in height) and a part of a damaged dome of the kiln made of semicircular bricks (0.25×0.15 m) connected with mortar were uncovered.

The kiln was a secondary structure, built in the impluvium of the courtyard, directly on the mosaic covering it, in the period when the courtyard lost its original function and became a part of rooms related to craft activity in this part of the house. It is another example of adaptation of living quarters in this part of the insula in the period of the end of functioning of the houses, as can be assumed on the basis of other examples, after the earthquake in AD 365. However, the time of the construction of the kiln and other craft installations has not been defined precisely so far. Around the kiln area, there were found a great number of Late Roman coarse pottery (also some...
The only identified finds inside Kiln K 4 are fragments of coarse pottery, dated to the Mid/Late Roman Period. In the upper fill layer of the kiln and near the kiln, fragments of cooking and table pottery, as well as fragments of amphorae (D 902; D 296, D 365, D 348, D 874–D 879, D 501-506; D 516, D 517; D 1145, D 1146 D 1151) were identified. Inside the kiln, only a dozen or so non-diagnostic fragments of functional pottery were documented, including a fragment of a jug (D 1151) – the typology according to J.A. RILEY, *Coarse Pottery*, (in:) J.A. Lloyd (ed.), *Excavations at Sidi Khrebish Benghaza (Berenice)*, vol. II, Supplement to Libya Antiqua V, Tripoli 1978, 91–467; cf. infra.

Apart from Cyrenaica, analogous kilns are known e.g. from Sirmium in Pannonia, dated to the 4th c. AD, cf. M. JEREMIĆ, *Brick Kilns in Sirmium*, “Starinat” 50, 2001, 131–153. It is worth emphasising that there is another kiln nearby (R 66), namely Kiln K 3 (CDFig. 8), which is, by contrast, a large one. It occupies a considerable area of the room and it may have been used to fire bricks. Both the direct proximity of both kilns and the characteristic analogous portable finds identified within both structures suggest that both features functioned at the same time.

**Trench H 2 (ares CXCI 93, FI 2, FI 3)**

The exploration of Trench H 2 was an extension of the works conducted in Spring 2008, in a house reused as an industrial zone in the later period (Fig. 14). During the exploration of this area, a sequence of destruction layers were noticed (Figs. 15, 16):

- destruction layer beneath the aforementioned layer of paving (Unit 04/10) – Unit 19/10, 20/10, 21/10 = 10/10 on the opposite side of the baulk, height 29.10 m a.s.l.);
- a solid layer of dark brown soil mixed with small stones and fragments of mortar;
- upper destruction layer (Unit 25/10 = Unit 20/10 in Trench H 1, height from 30.25–30.19 m to 29.64–29.74 m a.s.l.) characterised by brown or reddish brown soil mixed with coarse pottery fragments;
- lower destruction layer, a stone debris (Units 32/10,
34/10, 37/10, 39/10, height 29.56–29.10 m a.s.l.) characterised by dark greyish brown soil mixed with a huge amount of stones of different sizes;  
- layer of soil mixed with ash (Unit 35/10, height 29.73–29.52 m a.s.l.) located within the lower destruction layer, next to Baulk 14, in the central part of Trench H 2 (this unit is also seen on the opposite side of Baulk 14, above the level of Wall W 155);  
- accumulation layers (Units 42/10 and 49/10 above the paving in R 84, Unit 53/10 and 50/10 above the bedrock level in the area around the kiln, R 82 and R 85, Unit 46/10 above the floor level in the room R 83) – dark reddish, clayish soil mixed with small pieces of stones, mortar, charcoal, fragments of pottery and lumps of ash.
On the eastern side, the excavations area was finally delimited by Wall W173. Between Wall W173 and the south-eastern section of Trench H2, two new rooms were discovered. One of them, in the southern part, was delimited by partially preserved walls with small fragments of few layers of white plaster. A mosaic floor (CDFig. 9) was discovered in this room (height 29.34 m a.s.l.). In the second room, in the northern part, fragments of floor made of mortar were found.12

In the south-western corner of the trench, delimited by walls W152 and W150, already on the level of Unit 27/10 (height 30.10 m a.s.l.), there were traces of destroyed (crashed) fired bricks (also visible in the south-western section of the trench) (CDFig. 10). The exploration of this unit showed an outline of a rectangular kiln (height about 29.30 m a.s.l.) (CDFig. 11). Further works permitted to distinguish all of the kiln (K 5) walls made of rows of bricks with clay mortar between. The construction was supported by two walls (W 150 and W 152) and, additionally, by many particular stones fixed from the outside.

Exploration inside the kiln revealed several destruction layers (Unit 36/10, 47/10, 54/10) of destroyed bricks mixed with clay mortar (CDFig. 12) and coarse pottery fragments and some fragments of lamps.13 Beneath, a level of clay, presumably connected with the kiln construction, was found. The cleaning of outer kiln walls showed two inlets located on both sides of the construction. Traces of ash were found next to the northern inlet. This inlet (width 0.3 m), made of single stones and bricks, and even of a stone fragment of a vertical column, led to the lower, preserved chamber of the kiln situated directly on the bed-rock (height 28.51 m a.s.l.). It was used for fuel (CDFig. 13).14

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12 Considering that only limited parts of these rooms were discovered, they remained temporarily without names and their exploration and complete documentation will be continued in the future.

13 One triangular handle of a lamp (inv. No. I/063/10, Fig. 8:4) is said to be decorated with an acanthus palmette.

14 Near the kiln inlet, within Unit 45/10, a marble leg or a small column (inv. No. s/103/10, Fig. 5:1) was found.
On the south, Kiln K 5 is limited by Wall 150 – which was built several dozen centimetres from the wall limiting the house on the south. On the west, there is a stone wall that was added to the earlier W 152 and made of two large stone blocks. By contrast, on the east, the kiln was restricted by a wall made of clay bricks. At a height of 0.5 m above the kiln base, there was an additional inlet. It may have been used to control the temperature inside the kiln during the firing process.

The walls of the kiln formed a structure measuring about 3.2 × 3 m (Fig. 17). Only the lower chamber of the kiln has been well preserved, while the upper parts of the walls of the structure collapsed. Fragments of bricks were found not only inside the kiln, but also near it. Beside the eastern and western walls of the kiln, remains of a grate were discovered. Inside the kiln, on the western and eastern sides, characteristic narrowings for fixing the grate were preserved. Between them, there is a 0.8 m wide canal.\textsuperscript{15} Inside it, a considerable number of semicircular bricks from the kiln dome as well a layer of soil mixed with a large amount of ash and single pottery fragments were found.\textsuperscript{16} The walls of the kiln were covered with mortar on the inside. Inside the canal, the bottom of the chamber is a floor made of hardened clay reinforced with single stones.\textsuperscript{17} The characteristic structure of the kiln suggests that it was used to fire bricks.\textsuperscript{18}

The area around the kiln is characterised by different levels of occupation (Unit 53/10, height 28.90–28.66 m a.s.l.) situated directly above the rock. The irregular shape of the rock was completed by small stones to obtain the requested support for the levels of occupation (CDFig. 14).

The kilns for firing bricks and other terracotta items (vessels, pipes etc.) were most often located near water intakes due to production reasons and the situation is analogous in this case as well. Near Kiln K 5, two cisterns were found, namely C 8 and C 9. The former (C 8) is located in Room R 73 (Fig. 3), which was directly adjacent to the kiln.

\textsuperscript{16} It is a frequent phenomenon. The kiln is cleared after the last firing, only the material found in direct proximity can be a useful dating element, cf. R.G. Goodchild, Roman Sites on the Tarhuna Plateau of Tripolitania, (in:) J. Reynolds (ed.), \textit{Libyan Studies}. Select Papers of the Late R.G. Goodchild, London 1976, 88.
\textsuperscript{17} An analogous kiln was found in nearby Tocra, cf. A.M. Buzaian, \textit{Excavations in Tocra}, “Libyan Studies” 31, 2000, 59–102.
Fig. 13. Rectangular pool (impluvium) in the courtyard R 68 (Photo Polish Archaeological Mission to Ptolemais).

Ryc. 13. Impluvium na dziedzińcu R 68

Fig. 14. General view of Trench H 2 from SE (Photo Polish Archaeological Mission to Ptolemais)

Ryc. 14. Ogólny widok wykopu H 2 od SE.
Fig. 15. Trench H 2 (CXCI 93, FI 3), SW section, layers: 1. greyish brown compacted soil; 2. light brown loose soil mixed with small stones; 3. greyish brown compacted soil mixed with a large amount of pottery fragments and with stones of various sizes; 4. loose brown soil; 5. greyish red soil mixed with a large amount of very small stones; 6. loose greyish brown soil mixed with ash; 7. greyish brown loose soil with a small amount of stones; 8. loose brown soil mixed with a large amount of ash and pieces of charcoal; 9. light greyish brown compacted soil; 10. greyish brown compacted homogeneous soil mixed with a small amount of medium-sized stones; 11. brownish grey compacted soil; 12. dark brownish grey compacted soil; 13. reddish brown soil mixed with a very large amount of very small stones (gravel); 14. brown compacted soil; 15. dark brownish grey compacted soil; 16. loose reddish brown soil mixed with stones of various sizes (cut); 17. Wall W 150; 18. dark reddish brown compacted soil (a layer of accumulation above the paved floor-mosaic) (Drawing J. Balcerzak, A. Klimek, elaborated by S. Lenarczyk).

Ryc. 15. Wykop H 2 (CXCI 93, FI 3), profil SW, warstwy: 1. szarobrązowa, zbita ziemia; 2. jasnobrązowa, syka ziemia, przemieszana z małymi kamieniami; 3. szarobrązowa, zbita ziemia, przemieszana z dużą ilością fragmentów ceramiki oraz kamieniami różnej wielkości; 4. brązowa, syka ziemia; 5. szaroróżowa ziemia, przemieszana z dużą ilością małych kamieni; 6. szarobrązowa, syka ziemia, przemieszana z popiołem; 7. szarobrązowa, syka ziemia, przemieszana z niewielką ilością małych kamieni; 8. brązowa, syka ziemia, przemieszana z dużą ilością popiołu i kawałkami węgla drzewnego; 9. jasna, szarobrązowa, zbita ziemia; 10. szarobrązowa, jednolita i zbita ziemia, przemieszana z niewielką ilością kamieni średniej wielkości; 11. brązowoszara, zbita ziemia; 12. ciemna, brązowoszara, zbita ziemia; 13. czerwonobrązowa ziemia, przemieszana z dużą ilością bardzo drobnych kamieni (ziwru); 14. brązowa, zbita ziemia; 15. cienka, brązowoszara, zbita ziemia; 16. czerwonobrązowa, syka ziemia, przemieszana z kamieniami różnej wielkości (wkop); 17. mur W 150; 18. cienka, czerwonobrązowa, zbita ziemia (akumulacja nad mozaiką).

Fig. 16. Trench H 2 (FI 3), NW section, layers: 1. greyish brown compacted soil; 2. light greyish brown loose soil mixed with small stones; 3. light brownish grey loose soil mixed with a large amount of small stones and pottery fragments; 4. greyish red loose soil with a large amount of small stones; 5. grey compacted soil with a large amount of pottery fragments; 6. greyish red soil mixed with a large amount of very small stones (gravel); 7. light brownish grey compacted soil with a small amount of stones; 8. brown compacted clayey soil; 9. grey compacted soil with greyish red insertions and a large amount of large stones and large pottery fragments; 10. light brown loose soil mixed with a large amount of small stones; 11. greyish brown compacted homogeneous soil mixed with a small amount of medium-sized stones; 12. brown compacted homogeneous soil; 13. dark brownish red soil with small fragments of bricks; 14. dark brownish red compacted soil; 15. brownish grey compacted soil (Drawing A. Kaliszewska, K. Żebrowska, elaborated by S. Lenarczyk).

Ryc. 16. Wykop H 2 (FI 3), profil NW, warstwy: 1. szarobrązowa, zbita ziemia; 2. jasna, brązowoszara, syka ziemia, przemieszana z kamieniami małej wielkości; 3. jasna, brązowoszara, syka ziemia, przemieszana z dużą ilością małych kamieni i fragmentów ceramiki; 4. szaroróżowa ziemia, przemieszana z dużą ilością małych kamieni; 5. szara, zbita ziemia, przemieszana z dużą ilością fragmentów ceramiki; 6. szaroróżowa ziemia, przemieszana z dużą ilością bardzo drobnych kamieni (ziwru); 7. jasna, brązowoszara, zbita ziemia, przemieszana z niewielką ilością kamieni; 8. brązowa, gliniasta i zbita ziemia; 9. szara, zbita ziemia, przemieszana z zbiornicą szaroróżową oraz dużą ilością kamieni i fragmentów ceramiki dużych rozmiarów; 10. jasnobrązowa, syka ziemia, przemieszana z dużą ilością małych kamieni; 11. szarobrązowa, zbita, jednolita ziemia, przemieszana z małą ilością średniej wielkości kamieni; 12. brązowa, zbita, jednolita ziemia; 13. cienka, brązowoszara, zbita ziemia, przemieszana z fragmentami zniszczonych cegiel; 14. cienka, brązowoszara, zbita ziemia; 15. brązowoszara, zbita ziemia.
connected with the room where Kiln K5 was built (CDFigs. 15, 16). By contrast, the latter cistern (C9), having a capacity of several dozen cubic metres, has an inlet situated directly in the floor of Room R 83 (CDFig. 17). It is conspicuous that the floor made of hydraulic mortar (Unit 52/10) overlaps the round mouth with very good preserved elements of closing of Cistern C9, thus providing a clue to the relative chronology of both features. A preliminary exploration of the cistern (Unit 48/10) brought a huge amount of pottery vessels, also a few complete forms (cf. infra).

In the north-west part of the trench, near the baulk, adjacent to Wall W 174, about 2.5 m from Kiln K5, another stone structure was found (Fig. 18). It consists of several walls and a stone paving between them. In this area, many distinctive thin layers of ash and soil mixed with charcoal were noticed (Unit 42/10 and 49/10, height 29.46–29.06 m a.s.l.) (CDFig. 18). They are also well visible in the section of the baulk (Fig. 19). Remains of probably the same structure (about 1.8×3 m) were also found near the courtyard, above Wall W 155 and it was most probably related to craft activity carried out nearby. This room (a workshop?) is situated immediately next to the southern border of the courtyard R 68 and it is delimited by three short walls. Three regular stone blocks have been preserved from the eastern wall (W 174), although it probably ran further, along the regular border of the mortar floor in Room R 83. The northern and southern walls are made of a greater number of stone blocks of different sizes bonded with mortar, coming from earlier structures and used secondarily, which is proved, e.g., by a fragment of a stone threshold (CDFigs. 19, 20).

The walls are founded on a paved floor preserved within the area of a few metres which is made of middle-sized stones fitting tight together. The floor was laid on a layer of tamped soil about 0.3 m above the rock. The continuation of the stone paving is visible under the floor of the adjacent Room R 83 (which may prove that both the paved floors were built chronologically at the same time or earlier in the case of the workshop). On the west, the workshop was not limited by any wall, and there was a 0.8 m wide entrance leading inside. The north-western part of the workshop was not uncovered because it is covered by a baulk that was left there (Baulk 14).

In the northern wall of the room, there was a small stone with a shallow hole carved in it, considerably worn out.
on the inside, which probably served to fix a potter’s wheel.\footnote{Analogous blocks with similar carved holes were found e.g. in the nearby city of Taucheira, cf. J.A. Riley, *Excavations of a Kiln Site at Tueria, Libya in August 1974*, “Libya Antiqua” 13–14 (1976–1977), 1977, 265, pl. LXVII:b; J. L. Combes, A. Louis, *Les Potiers de Djerba*, Tunis 1967, 49, fig. 117.} The stone is located at a height of about 0.25 m, so it was easily possible to put a small wheel for producing pottery on it, although no elements of a potter’s wheel have been found there so far.

On the opposite side of Wall W 174, a surface of hydraulic mortar was found (Unit 52/10, height 29.15–29.06 m a.s.l.), delimited on the east by Wall W 173 (CD Fig. 21). It should be noted that this surface is rounded down on two sides. So, presumably, it is not a simple floor (Room R 83), but some kind of platform connected with surrounding workshops. Exploration demonstrated that not only the kiln construction was situated on the rock but also its surroundings were organised in relation to the natural rock shape, beneath the original floors of the earlier phase of the house.

**Cistern C 8 in Room R 73**

During the 2010 campaign, it was impossible to examine Cistern C 9 in Room R 83 because it was discovered at the end of the excavations and only a preliminary analysis of its fill was conducted. Even so, it was possible to partly explore Cistern C 8, located in Room R 73, in the area studied in Spring 2008,\footnote{Cf. J. Żelazowski et al., *Polish Archaeological Research*... (cf. note 8), 12–13.} where a number of structures related to craft activity in the Late Antique Period in the ruins of an earlier house were found.
Cistern C8 (CDFigs. 15, 16) is situated in the south-eastern corner of R 73 (diameter inside 0.90 m). The mouth of the octagonal form was constructed with irregular stone blocks, some irregular stones and a layer of mortar. It should be emphasised that the form of the inlet is definitely different than in the other cisterns, which may have resulted from its late construction. The cistern is funnel-shaped, and has a diameter of about 0.92 m in the upper part, and its exploration was finished at a depth of about 1.5 m. The material documented inside the cistern indicates that it was used in the Late Roman Period, probably from the end of the 4th c. to the 6th c. AD. 21

The cistern was filled with soil, small stones, Mid- and Late Roman pottery, animal bones, a layer of unfired clay with some fragments of unfired vessels and fragments of bricks. A damaged fragment of an architrave with dentils and a small, broken fragment of a column base were also found in the cistern. The following layers of the fill were identified: Unit 02/10 = Unit 20/08 – destruction layer, greyish brown soil; Unit 05/10 – destruction layer, reddish brown soil with a layer of stones mixed with charcoal, lintel; Unit 08/10 – light brown soil mixed with unburnt clay; 22 Unit 24/10 – a layer of unfired clay mixed with unfired fragments of vessels, albeit very small ones. 22

Wall W 21

The construction of the walls of the houses in insula E XXI was variegated. Although generally they were made of stone blocks, the upper parts of the walls were

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21 Cf. infra. A coin from the cistern found in 2008 (cn/044/08) dated the archaeological assemblage to the end of the 4th and early 5th c. AD – J. ŻELAZOWSKI ET AL., Polish Archaeological Research... (cf. note 8), 13.
22 Within Unit 08/10, a fragment of a lamp with a depiction of a small animal (a dog?) on a disc (inv. No. l/032/10) and a fragment of a lamp mould (inv. No. l/118/10) were documented (Fig. 8:8,9).
23 In the layer Unit 24/10, an almost completely preserved lamp (inv. No. l/055/10) with a depiction of a woman (?) was found (Fig. 8:10).
often built of dried bricks, most of which were not preserved but whose shapes were impressed in the layers of plaster that were put on them. In the wall as well, stone blocks were often located only in several rows in the lower part, they were sometimes placed higher in the form of pillars, which clearly had a load-bearing function as a support for joists. By contrast, the space above the stone wall socle and between the pillars was filled with compacted soil with a large amount of clay. The wall built in this manner was called *paries formaceus* by Pliny the Elder and it was a fairly common technique in the housing industry in the Roman times, known in Africa as well. It is worth emphasising that its employment did not result from the unavailability of worked stone, but it was dictated by the wall insulation reasons. Even so, considering the fact that stone blocks were repeatedly and carefully used secondarily in houses in Ptolemais and in Cyrenaica in general, "economising" on stone while building walls was not without significance.

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In order to learn more about this type of wall construction, the fill of Wall W21 was explored during the 2010 campaign, especially as it eroded gradually due to cyclical rains (Fig. 18). The wall (3.64 m of length) is located between two small rooms R12 and R17 in the northern part of the House of Leukaktios (are BC90). Both faces of Wall W21 were covered with paintings, preserved in small fragments and the scheme was to alternate panels and interpanels of different colours in the central register of the wall decoration.28

Wall W21 is set on the stone socle (height c. 0.3 m) and above the shuttering was filled in with mixed soil, clay and other small-sized materials (CDFigs. 22, 23). The filling consisted of brownish soil mixed with clay, charcoal and cinder, small stones, pottery and others. Its content was sieved and grouped into various categories: pottery, animal bones, metals, glass, paintings and others (tesserae, a bead).

The most numerous group is pottery, characterised by small fragments. After a preliminary analysis, it is possible to distinguish fragments of terra sigillata, coarse ware (dated to the Early and Mid-Roman Period), amphorae and lamps.29

Animal bones are represented by a large amount of very small pieces. We can note remains of sheep, goat, cattle, pig, horse and birds. A fragment of a bone pin (inv. No. b/003/10, Fig. 6:31) was documented as well. Metal finds included six nails (inv. Nos. mt/003/10, mt/017/10, mt/030/10, mt/036/10, mt/043/10, mt/046/10, Fig. 6:8,9, 11,12), two small bronze coins (inv. Nos. cn/003/10, cn/013/10), one bead (inv. No. oth/008/10, Fig. 7:5), a half of an unidentified metal ring (inv. No. mt/016/10, Fig. 6:6) and one metal find, flat in the central part and bent at one end (found in several fragments, inv. No. mt/028/10, Fig. 6:1). A couple of fragments of non-diagnostic glass vessels were found. Obviously, after a more detailed study, all these finds may provide additional clues to the chronology of the wall, but above all, they indicate that the soil used as the fill was not particularly refined.

Pottery from excavations
(Zofia Kowarska, Szymon Lenarczyk)

Fine wares
Fine pottery finds included fragments of Late Hellenistic, Roman and Early Byzantine date. Hellenistic pottery was represented by fragments of imported black glazed pottery and local wares. A small amount of terra sigillata, red slip wares (mainly African Red Slip Ware) and related pottery fragments, from different production centres, was also found.30

Coarse pottery31

Excavations in the Autumn 2010 season brought a huge amount of coarse pottery finds (Figs. 7, 21, 22). The upper destruction layers contained a large quantity of different categories of pottery fragments dated to different archaeological periods. Almost all the artefacts have been preserved only fragmentarily, most of them are not so-called diagnostic fragments, mainly of amphorae, jugs or cooking pots. The majority of pottery fragments from Polish excavations could be identified by comparing with analogous finds from the excavations at Sidi Khrebish (Berence, modern-day Benghazi).32 Analogies from sites in Cyrenaica (except Berenice, also Tauchëra)33 are also a basis of dating the coarse ware from Ptolemais, because the identification of forms on the basis of the archaeological context is rarely possible due to considerable mixing of material in the destruction layers.

Main categories of fine and coarse pottery are present and they belong to periods from Hellenistic and Early Roman, through Mid- and Late Roman, up to Byzantine, however, most finds are vessel forms dated to the Mid-/Late Roman Period, which reflects the period of usage of the examined rooms. The coarse pottery finds were divided into basic functional categories. In general, most of coarse pottery forms fit into types recognised at Sidi Khrebish:
– cooking wares (Hellenistic shallow cooking pots with a wide variety of shapes, cf. D 416–421, Early Roman

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29 Including a fragment with a depiction of a human face on a disc (inv. No. 1/002/10) and other small fragments of lamps (inv. Nos. 1/001/10, 1/007/10, 1/011/10, 1/015/10, 1/017/10, 1/018/10, Fig. 8:1,2,5–7).
30 The fine ware pottery material from the Polish excavations at Ptolemais are being studied by Krzysztof Domżalski.
31 On the coarse pottery from Ptolemais see also: Z. KOWARSKA, S. LENARCZYK, Preliminary Remarks on Coarse Pottery from Polish Excavations in Ptolemais, (in:) J. Żelazowski (ed.), Ptolemais... (cf. note 27).
32 The terms referring to the chronology of coarse wares as well as references to specific forms follow the ones developed for Sidi Khrebish owing to the similarity of shapes occurring at both sites, cf. J.A. RILEY, Coarse Pottery... (cf. note 10), 91–467.
33 Cf. J.A. RILEY, Coarse Pottery...; idem, Excavations of a Kiln... (cf. note 19), 235–259.
globular cooking pots cf. D 492 (Fig. 21:17), Mid-Roman carinated cooking pots, cf. D 501–508 (Fig. 21:9,13,16) and Mid-Roman corrugated cooking pots, cf. D 515–522 (Figs. 7:10,12, 21:10–12,14,15), Late Roman cooking pots made of very coarse fabric, cf. D 538–542 (Figs. 7:14–16, 21:18,19,21–24), D 546–549, D 581, D 584; and presumably some fragments of Pompeian Red Slip Cooking Ware (pans, lids);

- plain wares/table wares (most of them recognised as rims of bowls or dishes, Hellenistic plain wares, cf. D 593, D 611–614, D 602–605, D 645, Early Roman plain wares, cf. D 814, D 829 and D 845, Mid-Roman plain wares, cf. D 875–877, D 879, D 890, D 893–D 895, D 951 (Fig. 22:17) and bucket-like vessels (or simulae), cf. D 900–902 (Figs. 7:18, 22:9);

- jugs (Hellenistic jugs, cf. D 1094, D 1102, D 1103, D 1116, Mid-Roman jugs (Fig. 22:6–8), e.g., a jug with a trefoil mouth, cf. D 1145–1146 and D 1150, D 1151) and Late Roman jugs with flat bases (Figs. 7:2–4, 21:1–4);

- amphorae – there were found a huge number of amphora body sherds and many examples of rims, bases and handles dated to different periods (Hellenistic amphorae, cf. D 47–52, D 86; Early Roman amphorae, cf. D 113, D 118, D 114, D 125, D 137, D 143, D 178, D 196; Mid-Roman amphorae, cf. D 222, D 223, D 243, D 266, D 301 and Late Roman amphorae, cf. D 349, D 354, D 374, D 384, Fig. 7:1);

- lids – they are usually small fragments, most of them have not been preserved completely cf. D 761, D 762, D 763, D 787, D 797, D 798;

- mortaria of Early Roman type – two fragments of rims, cf. D 671–679, and rim fragments recognised as presumably North Syrian mortaria with a distinctive fabric;

- dolia – several fragments of unstamped rims cf. D 749–751 and some fragments of bases (Fig. 22:10–12);

- Late Roman unguentaria – two fragments (one unstamped base and one body fragment, cf. D 1030, D 1034–35, Figs. 7:17, 21:26);

- pot stands (similar to D 959, Fig. 22:17–18);

- brazier lugs (Fig. 7:13, 22:20);

- other clay-made forms, including tiles ( tegula and imbrex type), and loom weights (five discoidal weights, cf. D 739, Figs. 7:5–9, 22:13–16).

Despite a considerable number of fragments of pottery dated to the Hellenistic and Early Roman Periods, the most frequent and best preserved fragments belong to the broadly defined Mid-Roman Period and, albeit to a lesser extent, the Late Roman Period.

The best defined and identified group of Mid-Roman vessels consists of characteristic globular pots with various types of rims, particular types of jugs and fragments of large bowls and bucket-like vessels. An additional feature of cooking vessels and jugs typical of this period is ribbing on outer walls of many of the types.

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34 Very characteristic are forms resembling D 951 (a rim whose top surface is covered with impressions forming a wavy line), J.A. RILEY, Excavations of a Kiln... (cf. note 19), 249–250, Type C1, fig. 6:26,29,30.


36 Few fragments of vessels identified as dolia have been found at the site so far, which makes it difficult to create a precise typology of them.


38 A total number of 26 roof tile fragments have been found. Among them, 8 are imbrex fragments, the other 18 are tegulae fragments. No complete examples have been found.
Fig. 21. Selected fragments of pottery vessels from the 2010 season of excavations (Drawing A. Kaliszewska, A. Klimek, Z. Kowarska, K. Szajkowska, elaborated by Z. Kowarska).

It is interesting that almost identical vessel types occur at the same time at other sites in Cyrenaica, which is probably connected with some change in the manufacture process in the discussed period.\(^4\) It is almost certain that the shape of vessels manufactured in Cyrenaica was influenced significantly by those produced in the Aegean Sea basin, which is proved by the very similar vessel forms.\(^5\)

What turned out to be most interesting for the study of the pottery documented during the excavation research conducted in 2010 and particularly for the identification of the forms of Late Roman vessels was the fills of two cisterns: C 8 and C 9.

The fill of Cistern C 8

During the exploration of Cistern C 8, in Room R 73, a thick layer of unfired clay was found (Unit 24/10). There were also some fragments of unfired pottery vessels – handles and fragments of amphorae/jugs or cooking ware bodies. About twenty small fragments of unfired vessels and one unfired base of an amphora were also found near the kiln area (Trench H, F 2, Units 36/10 and 45/10). This clay, or already “fabric,” is very similar to the unfired clay deposits and unfired pottery fragments which were found in Storage Vats V 1 and V 2 in the previous season of excavations (in 2009).\(^3\)

In the layer of unfired clay (Unit 24/10), a dozen or so fragments of pottery were found, i.e. a bottom together with the lower part of the body of a jug dated to the Late Roman Period (inv. No. p/048/10, Figs. 7:4, 21:3,4) and the lower part of a Late Roman jug/flagon of a shape similar to the form D 1196–D 1198 from Berenice. Despite the lack of an exact analogy to this jug, it can be assumed that it belongs to the type of Late Roman flagons with flat bottoms (inv. No. p/044/10).\(^4\)

In the layers above (Units 02/10, 05/10, 08/10), several dozen fragments of coarse ware pottery were found, most of them non-diagnostic, as well as a dozen or so small fragments of fine pottery, including terra sigillata.

In the layer Unit 05/10, there was found a large fragment of a small jug (the rim together with the neck, the handle and a large part of the body, inv. No. p/041/10), similar in terms of shape and size to the Late Roman Jug No. D 1195 from Berenice (Figs. 7:3, 21:1).

In spite of the fact that fragments of pottery dated to the Late Roman Period prevailed in the cistern, which indicates the final moment of its usage, the ceramic material included fragments of Early Roman and Hellenistic pottery. Their small sizes and considerable chronological diversification prove that they found their way there rather accidentally. In the layer Unit 05/10, a small fragment of...
Fig. 22. Selected fragments of pottery vessels and other items made of clay from the 2010 season of excavations (Drawing A. Kaliszewska, A. Klimek, Z. Kowarska, K. Szajkowska, elaborated by Z. Kowarska).

Ryc. 22. Fragmenty wybranych naczyn ceramicznych oraz innych przedmiotów wykonanych z gliny z sezonu badawczego 2010.
the body of a Late Roman unguentarium (inv. No. p/005/10) was found, and in the layer Unit 08/10 – a coin (inv. No. cn/029/10).

**The fill of Cistern C 9**

The pottery found in the fill of Cistern C 9 (Unit 48/10) is relatively consistent chronologically, and several complete or almost complete vessel forms are analogous to the almost identical forms from Berenice-Benghazi.

Among them, there are i.a. fragments of amphorae: D 221 (Mid-Roman), D 384 (Late Roman) and two almost completely preserved table amphorae/flagons of different proportions, slightly similar to nos. D 1156–1158, D 1162 or D 1217.

There are also fragments of jugs, including: two complete small jugs of probably Late Roman date; with a flat base and a ribbon-shaped handle, (cf. the above-mentioned inv. no. p/041/10, *Fig. 7:2–4*), a jug similar to D 1150, D 1151 (dated to the 2nd–3rd c.), a bottom with the body of a jug (cf. D 1212), as well as a trefoil jug/oinochoe, of medium size (cf. D 1145). What stands out among fragments of cooking vessels, is the fragments of pots similar to the Late Roman cooking pot D 547–550.

*Translated by Grzegorz Żabiński*
In season 2010 two campaigns took place at Ptolemais. Wiosenna kampania dealt with the completion of the documentation of early Christian basilicas, accompanied by physical excavations. The autumn campaign was dedicated to the continuation of the excavations in insula E XXI. The results of this campaign will fill the map of the ancient city, which, along with the excavations, is an important element of the research program of the Polish Archaeological Institute of the UW in Ptolemais.

The focus of the autumn campaign was the southern-northeastern corner of the building limited by the afternoon wall W 150 and the street lying alongside it W 157. Initially, the entire area was examined, revealing another fragment of W 157 and a layer of marble pavement suggesting the presence of columns supporting the courtyard roof. In the southwestern corner of the garden, a smaller stone reservoir was found, which was associated with the ceramic oven K 4, which was built when the house stopped serving its original function, and its remains were used for the next activity, most likely a pottery workshop. By the time of excavation, the above-mentioned area had been covered with a layer of earth and wood remains. Combustion tests showed that besides earth and clay, there were also charcoal, small fragments of pottery, bone, tesserae, and metal fragments. Pottery could be dated to the early-middle Roman period. The stones were mostly from domestic animals, and in the context, it can be assumed that they were gathered, and the waster was not cleaned, and the finds were fortuitous.

Although the events in Libya did not allow us to complete the project, we can express hope that we will be able to continue the excavations in other parts of the island in Ptolemais in the same way and to complete the analysis of the house surrounding the courtyard R 68.

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