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**Tell El-Mura (Northeastern Nile Delta
Survey) : Season 2010**

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TELL EL-MURRA (NORTHEASTERN NILE DELTA SURVEY) SEASON 2010

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Abstract: Much of the work of the Northwestern Nile Delta Survey Project involved research at Tell el-Murra, a site in the northeastern part of the Nile Delta chosen for excavation on the basis of results from the 2008 survey season. Archaeological testing was coupled with magnetic prospection and geological core drillings in an effort to establish site stratigraphy and chronology. An analysis of the assemblage of finds (mainly pottery), confirmed occupation of the northeastern part of the site in the Old Kingdom period, after the southwestern part had already been abandoned. Core drilling results suggested the presence of Predynastic layers below the Protodynastic strata explored in 2010. A continued survey around Tell el-Murra comprised prospection at the sites of Tell Abu el-Halyat, Tell el-Akhdar, Minshat Radwan, Tell Gezira el-Faras, Gezira Sangaha, Mantiqat el-Qalaa and Kafr el-Hadidi. Naqada III pottery was confirmed at the first four of these sites.

Keywords: Tell el-Murra, Egypt, Nile Delta, Predynastic, Early Dynastic, Naqada III

The main aim of the 2010 archaeological season was to continue the survey in the Al-Sharqiyah governorate in the northeastern part of the Nile Delta. Several sites were visited. Moreover, test trenches were

opened at Tell el-Murra, the site which, on the basis of data collected in 2008, had been selected for further research. The work included geological core drilling and geophysical prospection.

TELL EL-MURRA

Tell el-Murra is located about 1 km to the south of the modern village of Abu Umrán, about 10 km to the east of Tell el-Farkha and about 6 km to the west of Tell el-Iswid [Fig. 1]. It was mentioned among the sites visited by the Amsterdam University

Survey Expedition to the North-Eastern Nile Delta, during which pottery dated to the Old Kingdom was noted (van den Brink 1987: 23, Table 2; van den Brink 1988: 75, Fig. 7). Since 2008 it has been investigated by a Polish archaeological expedition

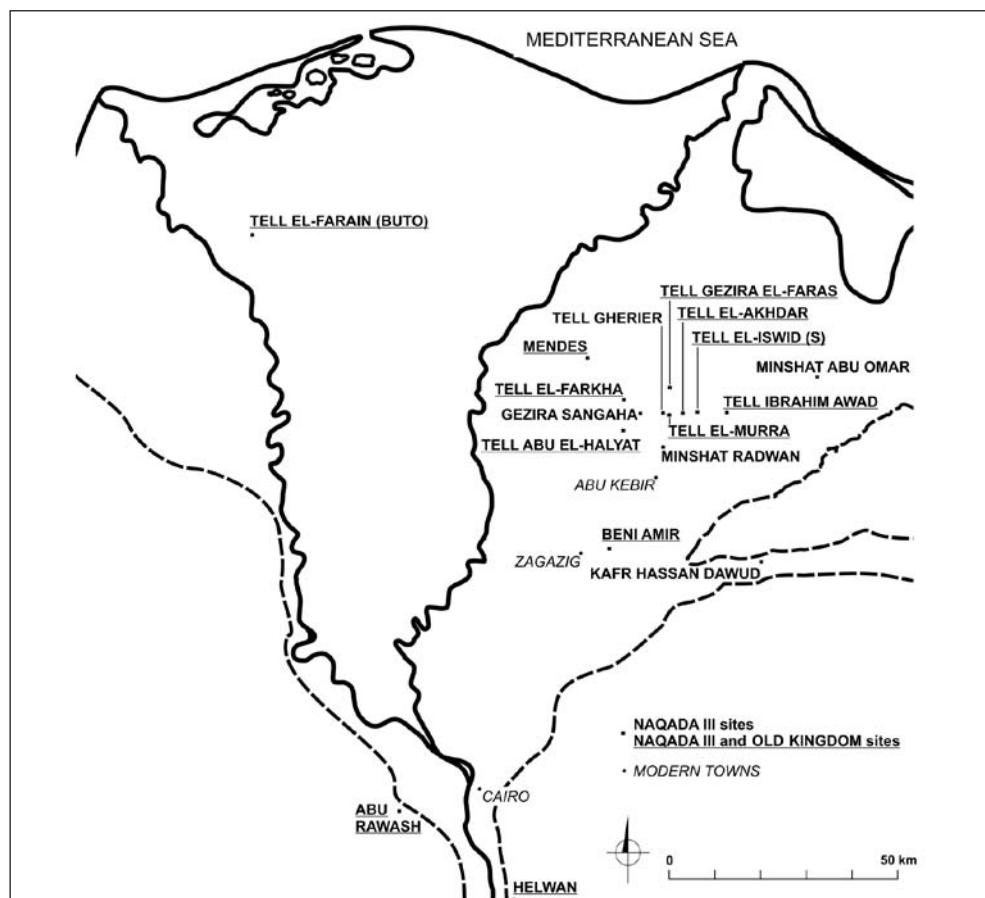


Fig. 1. Map of the Nile Delta with the main Naqada III–Old Kingdom sites
(Drawing M.A. Jucha)

Team

Dates of work: 27 February–24 March 2010

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from the Institute of Archaeology of Jagiellonian University in Kraków. The site is almost undisturbed (only some sections have been leveled by agricultural activity) and it still rises about 3–4 m above field

level. Preliminary work conducted during the survey in 2008 revealed Naqada III and Old Kingdom pottery (Jucha 2009: 86–88, Figs 40–41). Three test trenches were opened during the 2010 season [Fig. 2].

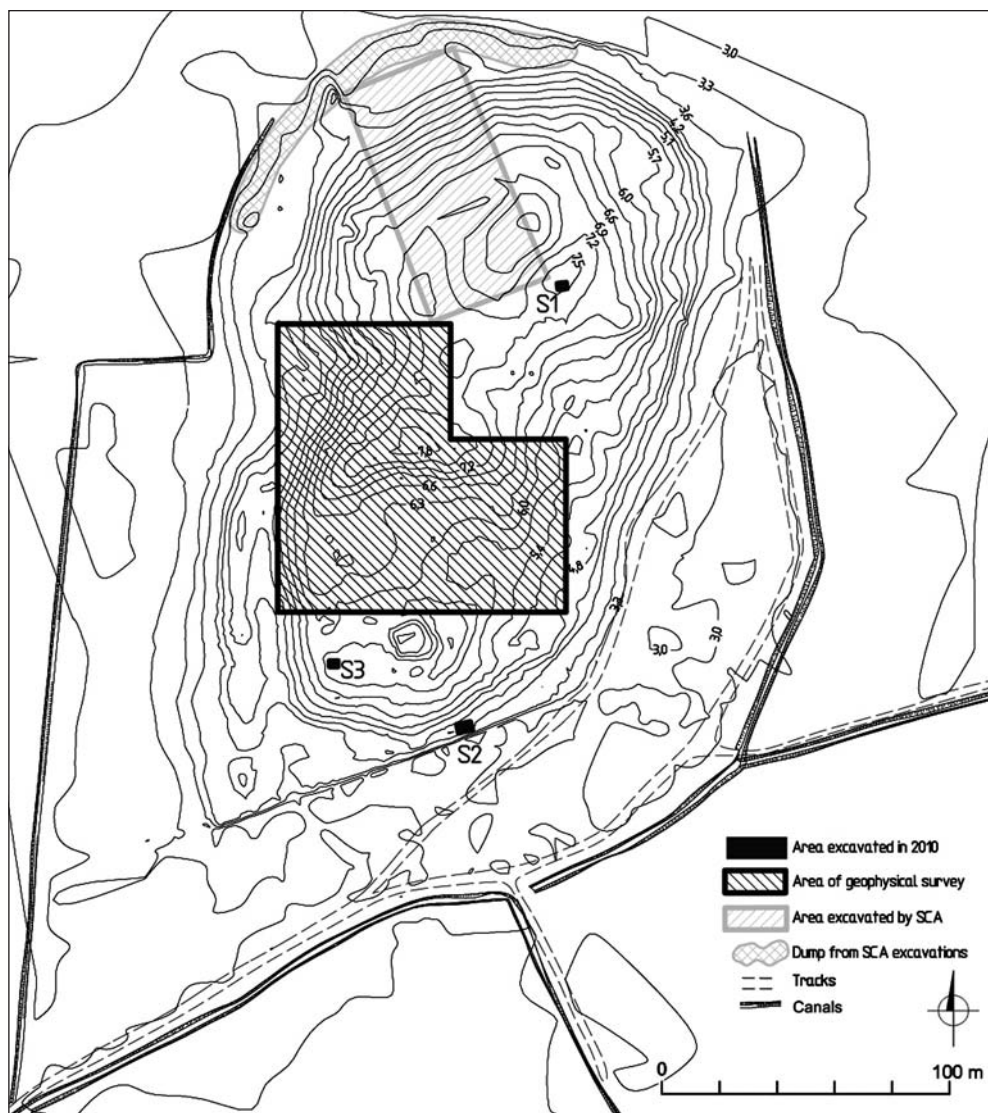


Fig. 2. Tell el-Murra. Map of the site
(Drawing A. Buszek)

EXCAVATION WORK

TRENCH S1

Test trench S1 [Figs 2, 3], measuring 3 m by 3.50 m, was located in the northeastern part of the tell, in the vicinity of a trench (about 40 m by 80 m) excavated by Egyptian archaeologists several years earlier. The main objective of the work was to establish the stratigraphy and chronology of that part of the site. The surface material collected in 2008 contained mostly Old Kingdom, as well as Early Dynastic pottery (Jucha 2009: Figs 40–41), hence it was assumed that this part of the site had been inhabited at least until the Old Kingdom.

Material from the topsoil was not considered due to possible mixing that may have occurred because of the earlier excavations in the vicinity. Abundant material came from the undisturbed archaeological layers located below. It consisted mostly of pottery, flint tools and animal bones. Remains of structures made of dry bricks were also attested. Two very thin walls (up to 0.16 m thick) forming the northeastern corner of the structure (1) were exposed at a depth of approximately 0.60 m below surface level. Yet other walls (2A, 2B), forming the southeastern corner



Fig. 3. *Tell el-Murra. Trench S1*
(Photo K. Błaszczyk)

of a room (2) were exposed at a depth of about 1.10 m. The wall oriented along a NW–SE axis (2A) was 0.60 m thick, while the wall along the NE–SW axis (2B) was much thinner (about 0.30 m). The two walls were made of both sand and mud bricks. A barely visible outline of the northeastern corner was also noted. Moreover, a concentration of bricks (2C) was recorded in the northwestern part of the trench. A rounded structure (3), 0.50 m in diameter, surrounded by a 0.10 m thick layer of mud was located inside room 2. At a depth of 1.70 m, the extension of wall 2A to the southeast was confirmed. It continued most probably under the unexplored area to the south and enclosed yet another room (4) belonging to the same structure. A layer of burnt soil (5),

containing among others a fragment of a stone vessel, was recorded alongside the western edge of the trench.

The analysis of the pottery found in the trench confirmed the first assumption concerning the chronology of this part of the site, made on the basis of surface material collected during the survey in 2008. The uppermost strata of trench S1 contained forms characteristic mostly of the Late Old Kingdom, especially of the Sixth Dynasty, although some of them were known from the Fifth Dynasty as well. These included, among others, Meidum bowls with a rounded shoulder, carination situated very high and a rim diameter equal or greater than the diameter measured at the shoulder [Fig. 5:1]. Examples with angular shoulders and an outturned rim



Fig. 4. Tell el-Murra. Trench S3
(Photo G. Pryc)

were also found [Fig. 5:3]. Other forms included bowls with incised parallel lines or raised ribs in the outer part of the rim zone [Fig. 5:2], bowls with a rounded rim, bowls with an internal lip-rim as well as bowls [Fig. 5:4] and platters, both with incised horizontal lines on the inner part of the walls (Jucha 2010: 381, Fig. 2).

The lower strata in trench S1 comprised pottery which showed affinity to forms characteristic of the earlier part of the Old Kingdom. These in most cases showed affinity to forms known from the Fourth Dynasty, although there were also forms, which appeared for the first time during the Third Dynasty or even during the Early Dynastic period. Meidum bowls were still present. However, contrary to examples from upper strata, their maximum diameter was on the angular shoulder [Fig. 5:5]. Other forms included bowls with an internal ledge [Fig. 5:6], fragments of rough-ware beer jars with a collar, different types of jars with simple [Fig. 5:7] or lip rim [Fig. 5:8], red-polished bowls with simple rim and examples with an angular inner edge of the rim. Flat plates with a red-coated and polished interior and uncoated, smoothed outer surface were also found. Among the bread moulds there were forms with angular transition dividing the body into two zones and a thickened internal part of the rim [Fig. 5:9], examples with flat rim top as well as examples with a diagonal outer part of the rim of flat contour (Jucha 2010: 381–385, Fig. 3; see Jucha 2011: Figs 1–4).

TRENCH S2

Test trench S2, measuring 5 m by 3 m, was opened on the southern slope of the tell. The edge of the tell in that part of the site, with vertically ditched sides, follows

the line apparently marked by the remains of a narrow and shallow canal providing water to the fields. The presence of fields, which previously bordered the site from the south, has been confirmed by the results of geophysical prospection as well as a study of satellite images. This part of the tell was expected to provide a suitable trench profile and artifactual data useful for a study of the stratigraphy and for establishing a preliminary chronology of the site, but the uppermost layers up to 30 cm below the surface did not provide any anthropogenic remains. A negligible quantity of potsherds was found. The same was true of the test dug in the western part of the trench which, although explored down to a meter below the surface, did not uncover any structures. The number of finds was very scarce. Moreover, a disordered arrangement of layers was observed, suggesting that the explored area had eroded away partly or was the place of deposition processes of an uncertain nature.

TRENCH S3

Test trench S3 [Figs 2, 4], measuring 3 m by 3 m was located in the southwestern part of the tell, also with the purpose of establishing the stratigraphy and chronology of this part of the site. The 2008 survey there had not produced any material later than Naqada III. Current exploration yielded mostly fragments of pottery vessels, stone and flint tools, as well as animal bones. Remains of architectural structures made of dry bricks were attested as well. The uppermost strata, down to about 0.70 m below the surface of the tell, were severely disturbed by animal burrowing (visible clearly in the trench wall in Fig. 4). These were filled with loose dark brown soil and provided many artifacts, including mostly

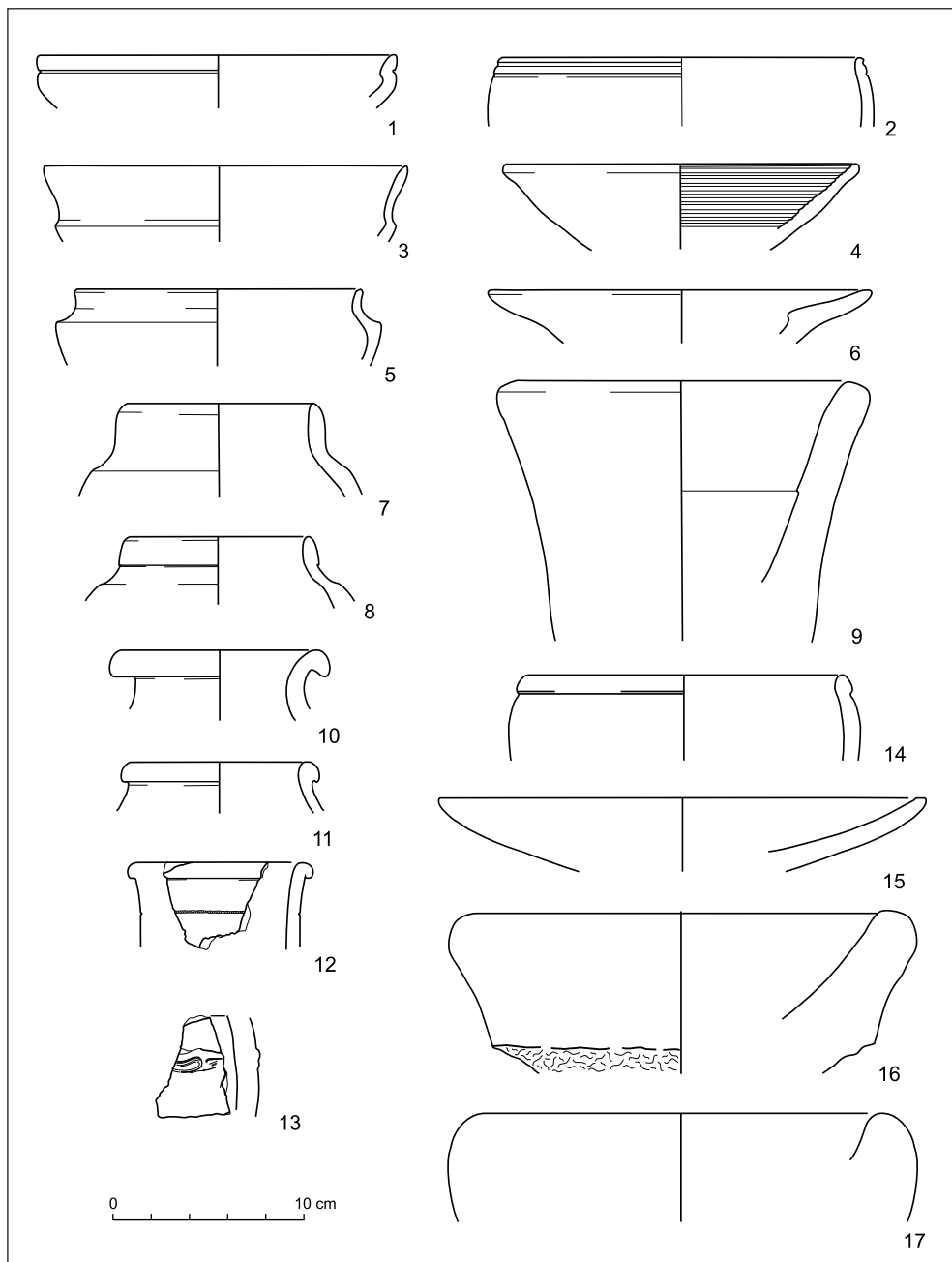


Fig. 5. Tell el-Murra. Pottery from trenches S1 (Nos 1–9) and S3 (Nos 10–17)
(Digitizing U. Bąk)

potsherds, which were undoubtedly out of place. A cohesive layer of lighter color (light brown to yellow), which did not contain abundant finds, appeared to be remains of architectural structures too disturbed for either a plan or function to be determined. In the lower strata, down to 1.30 m below the surface, remains of mud- and sand-brick structures were revealed. Mostly potsherds were collected there. A mud-brick wall (1A) of SW–NE orientation was exposed in the eastern part of the trench at a depth of about 1.00 m below the surface. It was 0.50 m thick and constituted most probably part of a larger structure which continued under the unexplored area surrounding the trench. Yet another unit (3), located in the southwestern part of the trench, was likely to be a remnant of a mud-brick wall of NW–SE orientation joining wall 1A. The most interesting structure, revealed at a depth of about 1.10 m below the surface, was a sand-brick wall (A2) which enclosed unit (2). The fill consisted of loose brown soil. It was most probably the southeastern corner of a structure continuing under the unexplored area located to the north and west. Moreover, a thin layer of white color, probably of organic origin, was also attested. It could represent the remains of a mat. Due to the fact that mats were used, among others, in sepulchral context, it was assumed that the structure could have been a grave and this part of the site should be considered as a cemetery. This idea will be tested in the upcoming season.

An analysis of the pottery from the trench confirmed preliminary assumptions concerning the chronology of this part of the site made on the basis of surface material collected during the survey in 2008. Unlike the assemblage from trench

S1, this material comprised forms dated to the Naqada III period and included different types of fineware jars with concave neck and lip-rim [Fig. 5:10] or a rim with angular lower edge [Fig. 5:11], cylindrical jars with an impressed decoration pattern situated beneath the rim [Fig. 5:12] and potsherds decorated with a rope-band pattern [Fig. 5:13]. The red-polished bowls comprised forms with convex sides and simple rim or thickened external lip-rim [Fig. 5:14]. The finds included also flat plates with red-coated and polished interior and uncoated, only smoothed, outer surface [Fig. 5:15]. Among the bread moulds there were examples with rounded [Fig. 5:17], flattened and concave rim top, forms with a diagonal outer part of the rim of flat or rounded outer contour, forms with diagonal, slightly convex outer part of the rim and angular transition between the inner wall and rim edge [Fig. 5:16], as well as forms with diagonal and wavy external contour of the rim (see Jucha 2005: Pls 68–69; Jucha 2011: Figs 1–4).

The presence at the site of potsherds dated to the Protodynastic, Early Dynastic (S3) and Old Kingdom (S1) periods points to the fact that the latest occupation should be dated to the latter period. Moreover, geological core drillings have indicated that there were further layers with pottery material below the Protodynastic strata explored in 2010, hence presumably Predynastic period strata should be expected there. This conjecture seems to be further confirmed by the occurrence of a potsherd decorated with a zigzag pattern (although found in strata dated to later periods), which is quite characteristic of Predynastic–Lower Egyptian Culture (Jucha 2010: Fig. 4). Furthermore, on the basis of the present research at Tell

el-Murra, it seems that the size of the site decreased between the Early Dynastic and Old Kingdom periods. Most probably the southwestern part had been abandoned

earlier and Old Kingdom occupation continued only in the northeastern part of the site.

[MAJ, GP, KB]

MAGNETIC SURVEY

The geophysical prospection at Tell el-Murra in 2010 was a continuation of research conducted in 2008 (Jucha, Buszek 2011: 181–182, Fig. 4). Altogether, the survey covered an area of 1.48 ha (0.64 ha in the 2008 season and 0.84 ha in 2010). Its purpose was to locate ancient structures and at the same time to verify that this particular method is efficient on Nile Delta sites from the early periods. Examination of several sites in the region has already proved the high efficiency of the magnetic method in detecting structures built of Nile silt (Herbich 2003).

FM256 fluxgate gradiometers by Geoscan Research were used. The sampling grid was 0.25 m by 0.50 m (measurements were taken every 0.25 m along lines traced 0.50 m apart). A parallel mode of measurements was applied, i.e., the instrument was moved in one direction only. The measured units were 20 m by 20 m in size. A log zero drift procedure at the reference point was performed after completing measurement in every unit. Preliminary processing of the measurements used Geoplot 3.0 software (by Geoscan Research), while greyscale magnetic maps (i.e., maps of changes in intensity of the Earth's magnetic field) were plotted using Surfer 9.0 (by Golden Software). The range of recorded readings was between -20 nT and + 30 nT (nanoTesla).

In 2008, two areas of the site were investigated, one located on the high part of the tell and the other at the foot of the site. No manmade structures were detected

at the low end of the site, thus failing to confirm the presence of settlement remains in the area around the tell. This could have been due partly to the small area that was prospected (small-area survey credibility is limited and the data difficult to interpret). More information came from prospecting the high part of the site where linear anomalies recorded on the magnetic map were read as corresponding to settlement remains (Jucha, Buszek 2011: Fig. 4).

In the 2010 season, the survey was focused on the central part of Tell el-Murra [Figs 2, 6]. An analysis of the magnetic map shows clearly that the area can be divided into three zones: two zones characterized by very stable values of the Earth's magnetic field intensity (one in squares A1–B1, and the other in C5–D5–E5) and a zone characterized by anomalous values, within the range of +/- 20 nT. The zone of stable values corresponds to a layer of mud (at least 0.50 m thick).

The disturbance noted in the central part of the magnetic map could reflect the geological structure of the tell for the most part. Black dots in squares A2, B3, C3–4 and D4 could indicate pits or fire places. It is not clear whether all these anomalies are the result of human activities. It is quite possible that at least some of them are animal burrows, as there are many animal holes visible on the surface, disturbing the upper layers of the tell. Other anomalies, like a white circular structure in square C1, correspond to

robbery pits which are also visible on the surface. Linear anomalies noted in squares C–D 2–3 could correspond to mud-brick walls of different sizes, but the low amplitude of readings and a low contrast with values obtained for the surroundings do not support a reconstruction of the layout of these structures. Rounded anomalies, approximately 2 m in diameter, located in squares A2 and B3, will be interpreted only

after the geophysical results are verified by excavation.

The magnetic map has revealed many anomalies, some of which could be interpreted as the remains of ancient structures. Poor conditions, like a thick layer of mud on top, many modern animal burrows, and thin ancient walls do not provide for a readable plan of the site.

[AB]

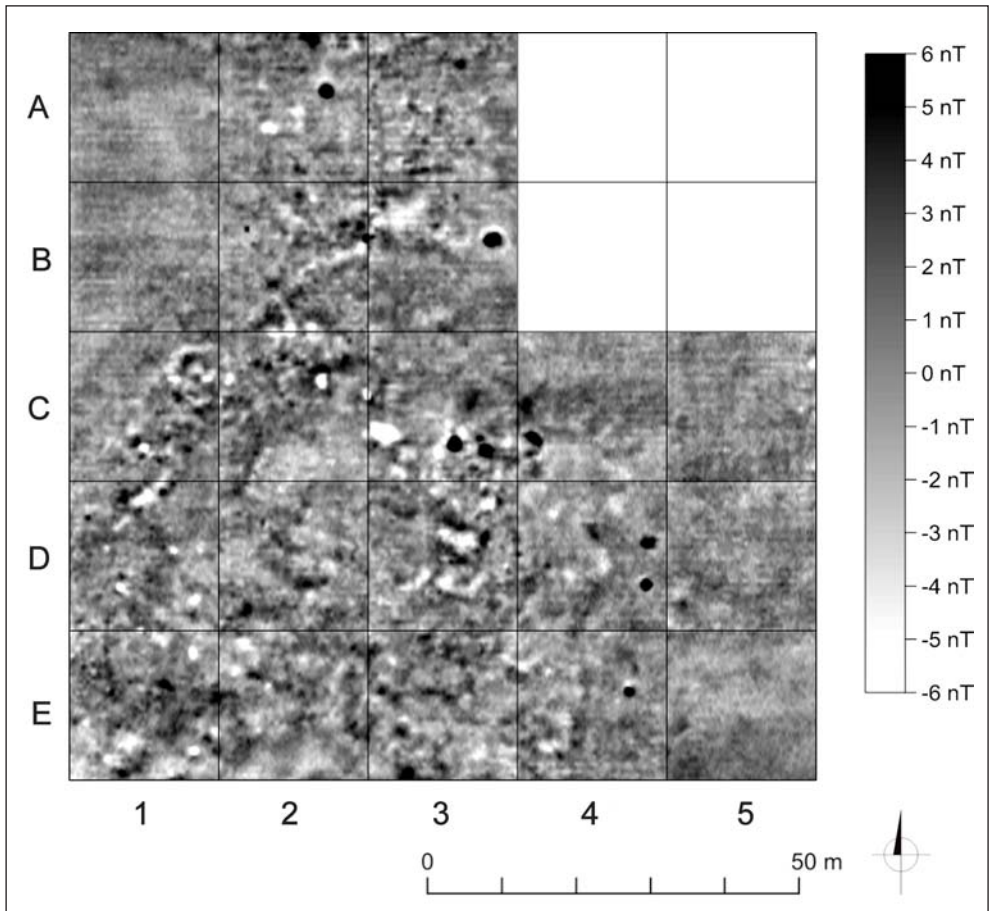


Fig. 6. Tell el-Murra. Magnetic map. Fluxgate Geoscan Research FM256 gradiometers. Sampling grid 0.25 by 0.50 m, interpolated to 0.25 m by 0.25 m. Dynamics -6 nT (white)/+6 nT (black). Grid lines every 20 m (Processing A. Buszek)

SURVEY

The main aim of the continued survey around Tell el-Murra in 2010 was to locate other settlements from the Predynastic and Early Dynastic periods situated in the vicinity. Sites visited during the second season included Tell Abu el-Halyat, Tell el-Akhdar, Minshat Radwan, Tell Gezira el-Faras, Gezira Sangaha, Mantiqat el-Qalaa and Kafr el-Hadidi [see *Fig. 1*]. Potsherds collected during visits to the sites allowed the first four to be dated to the Naqada III period.

Tell Abu el-Halyat is situated about 1 km to the south of the modern town of Abu el-Shuqûq, about 6.5 km to the south of Tell el-Farkha and about 10 km southwest of Tell el-Murra. It was investigated archaeologically this season. Cultivated fields divide the site presently into three main parts. The western part is overbuilt by a modern cemetery. The eastern and northern parts have been disturbed by agricultural activity. The latter part consists of two small mounds with vertically ditched sides. Moreover, several robbery trenches were attested on the eastern mound. Pottery was collected mostly from the surface of the northern and eastern mounds and from a trench situated in the western part of the eastern mound.

The ceramic assemblage included, among others, fragments of different types of bread moulds. Among the forms there are examples with flattened rim top, with diagonal outer part of the rim of a flat or only slightly convex outer contour [*Fig. 7:2*], as well as with diagonal and wavy-formed external contour of the rim [*Fig. 7:1*]. Red-polished bowls had convex sides and a simple rim [*Fig. 7:3*]. Flat plates were red-coated and polished on

all surfaces as well as red-coated and polished only inside, the outer surface being uncoated and only smoothed [*Fig. 7:4*]. There were also examples with both surfaces only more or less smoothed. These included, among others, forms with an angular transition between the sides and the base [*Fig. 7:5*]. Bowls comprised one with flat rim top and thickened external part of the rim and a form with slightly thickened internal lip-rim [*Fig. 7:6*]. Small bowls were also present. Moreover, there was a fragment of a bowl with concave sides and lip-rim and a yellow-coated and smoothed outer surface [*Fig. 7:7*]. Different types of fineware jars had very well-smoothed, uncoated or yellow-coated [*Fig. 7:8*] surfaces. The assemblage comprised also fragments of rough-ware beer jars with simple rim. Among them there occurred broad-shouldered forms [*Fig. 7:9*], as well as examples with narrower body [*Fig. 7:11*]. There was also a fragment of a jar with slightly thickened external part of the rim and almost straight sides [*Fig. 7:10*]. Among other forms, there occurred jars of an almost rounded body and simple rim. There was also an example of a pointed base.

The pottery material described above comprises forms which in most cases show affinity to forms found at other Nile Delta sites in strata dated to the Early Dynastic period. The similarities are visible especially when compared with pottery coming from phase 6 at Tell el-Farkha (see Jucha 2011: 957–967, Figs 1–3) and the Naqada III material from Tell el-Murra [see *Fig. 5*] (Jucha 2009: 87–88, Figs 40–41; Jucha 2010: 383–385, Fig. 3). Although most of the pottery is dated to the above-men-

tioned period, the occurrence of several fragments that could belong to both the earlier and the later forms may indicate that Protodynastic as well as Old Kingdom(?) periods were also represented at this site.

Tell el-Akhdar was investigated by the Polish archaeological team during the 2008 and 2010 survey seasons. It is located about 3 km to the east of Tell el-Murra and halfway between that site and Tell el-Iswid.

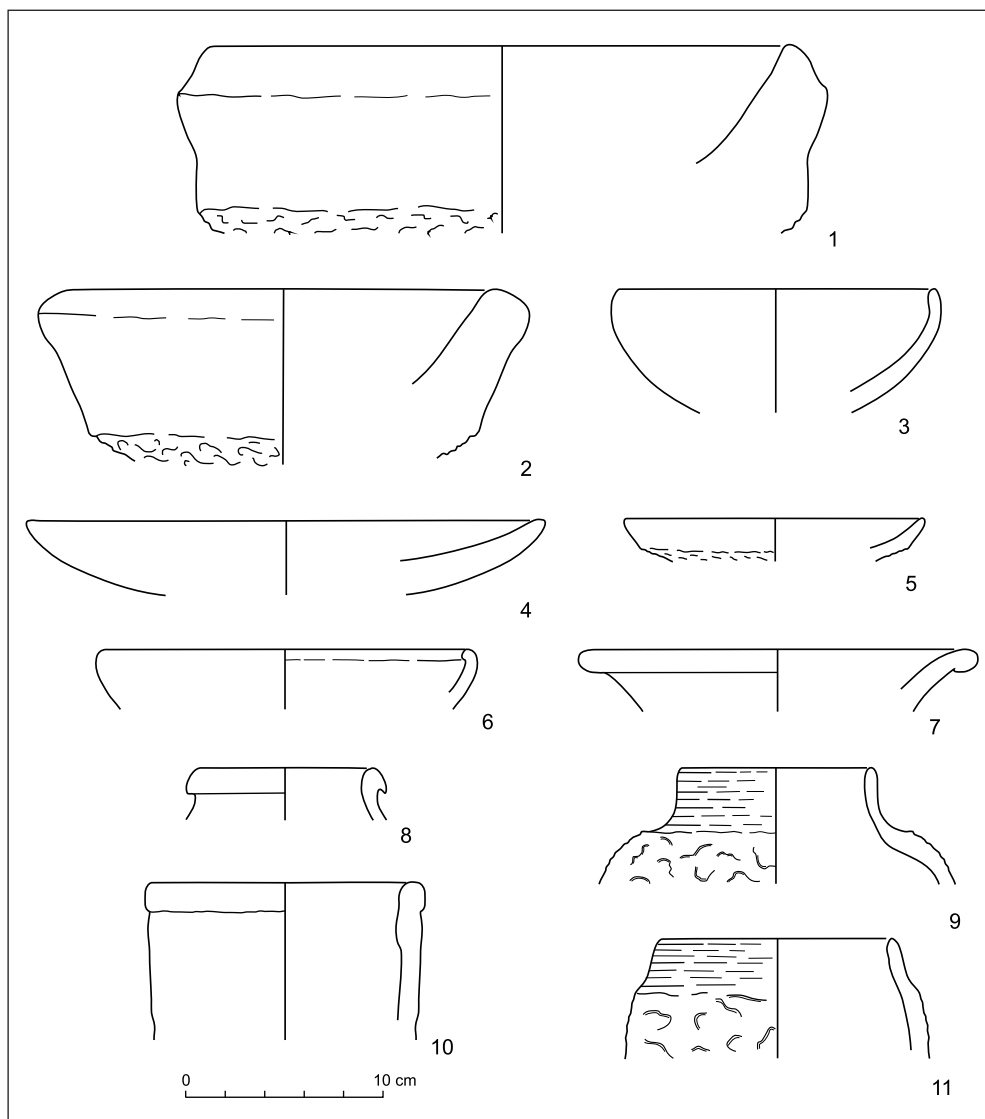


Fig. 7. Pottery from Tell Abu el-Halyat
(Digitizing U. Bąk)

It was also visited by the Amsterdam University Survey Expedition, which noted the occurrence of pottery dated to the Old Kingdom, as well as the First Intermediate Period and New Kingdom (van den Brink 1987: 24, Table 2; 1988: 72, Fig. 4). Like most of the sites visited by the Polish team (apart from Tell el-Murra), it has been severely disturbed by modern installations (construction in the center of the mound, embankments made from material from the site and paths). The surface collection comprised mostly potsherds, but there was also a small fragment of a rectangular stone palette of Naqada III date with grooves on the edges. Moreover, dredging of a small water canal just prior to our visit at the site in 2010 supplied the opportunity to collect pottery from the subsurface in an area on the outskirts of the field bordering the site on the west; this material proved to be older than the previously recorded set.

The ceramic assemblage included, among others, fragments of different types of bread moulds. There were examples with flattened, concave [Fig. 8:1] and rounded rim top, as well as examples with rounded and diagonal outer part of the rim. Forms with an angular transition dividing the body into two zones and a thickened internal part of the rim [Fig. 8:2] were also present. The finds included red-polished bowls with convex sides and a simple rim [Fig. 8:3], as well as examples with angular inner edge of the rim [Fig. 8:4]. Flat plates with surfaces only more or less smoothed, as well as red-coated and polished interior, but uncoated and smoothed outer surface [Fig. 8:5] were also recorded. Among the latter, plates with two grooves on the outer surface were attested. Other types comprised fragments of red-coated and polished hole-mouth bowls with thickened

external part of the rim. At least some of these may be part of spouted bowls. A fragment of such a spouted brewing vat with lip-rim [Fig. 8:6] was noted. Rough-ware jars included forms with slightly convex [Fig. 8:7] or almost straight walls and lip-rim, examples with slightly thickened external part of the rim [Fig. 8:8], as well as hole-mouth restricted jars with simple rim. Moreover, a fragment of a high neck with slightly concave walls and simple rim was identified [Fig. 8:9]. The pottery assemblage comprised also a fragment of a rough-ware beer jar with simple rim and irregular (wavy) surface at the shoulders. Fragments of vats with rounded lip-rim and forms with convergent sides and rim with flat top and diagonal outer contour were also found. Other forms comprised fragments of a bowl with convex sides and thickened external part of rim [Fig. 8:10], a bowl with lip-rim, a bowl with lip-rim and slightly narrowing area of concave contour below the rim [Fig. 8:11], a jar with convergent and concave sides of the neck and lip-rim [Fig. 8:13]. The ceramic assemblage also included fineware jars [Fig. 8:12].

The pottery described above comprised forms, which in most cases show affinity to forms dated to the Early Dynastic period, but some of them may be linked also to the Old Kingdom. It is comparable especially to that from Tell el-Farkha (Jucha 2011: 957–970, Figs 1–4), but also to pottery forms found at other Naqada III sites examined during the present archaeological survey [see Figs 5 and 7].

Minshat Radwan was investigated by the team in the 2010 survey season. It is located about 7 km to the south of Tell el-Murra and is almost completely overbuilt by a modern village and a cemetery.

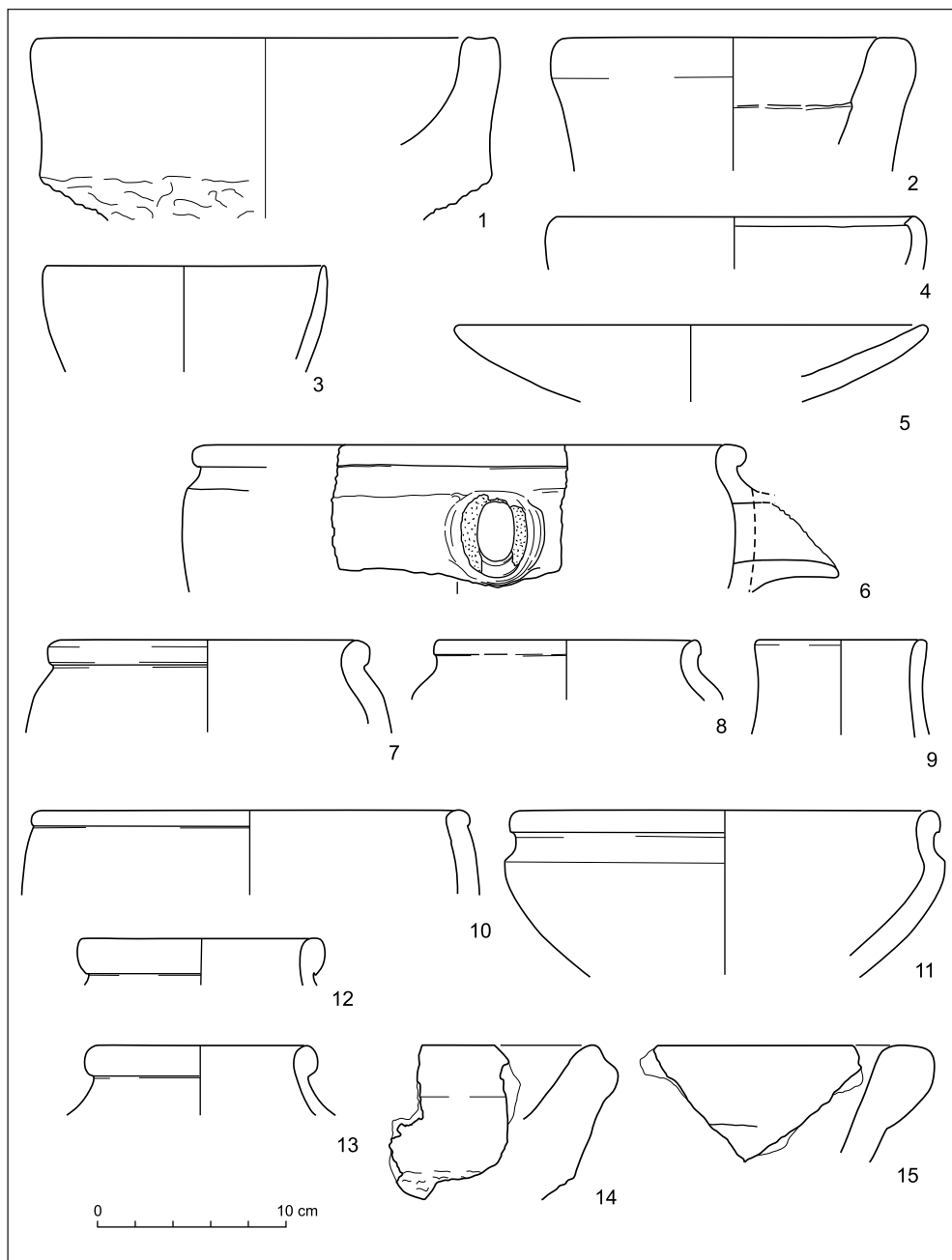


Fig. 8. Pottery from Tell el-Akhdar (1–13) and Minshat Radwan (14–15)
(Digitizing U. Bąk)

Only very few diagnostic potsherds were found there, mostly from the outskirts of the tell, but it seems that some of them could be linked to the Naqada III period. These included, among others, a fragment of bread mould with diagonal and wavy external contour of the rim [*Fig. 8:14*], showing affinity to forms found at other sites investigated during the present survey. The form appears to be typical of the Early Dynastic period and occurs in contexts dated to this period at Tell el-Farkha among others (Jucha 2011: 960, Figs 1:31, 33; 2:27, 29; 3:34–36). A fragment of vat with rounded lip-rim [*Fig. 8:15*] was also found. Similar vats from Tell el-Farkha were generally found in Naqada III strata of phase 5 and occurred also in the subsequent phase 6 (Jucha 2005: 52, Pls 75; Jucha 2011: 959, Figs 1:23, 2:20, 3:27).

Tell Gezira el-Faras, located about 6 km to the north of Tell el-Murra, was investigated in the 2008 and 2010 survey seasons. It was also visited by the Amsterdam University Survey Expedition which reported pottery dated from the Old Kingdom (van den Brink 1987: 24, Table 2; 1988: 75, Fig. 7). The site is presently almost completely overbuilt by a modern village and a cemetery. Only a few diagnostic potsherds were collected in 2008, mostly from the outskirts of the tell. Among these were

forms showing affinity to Naqada III shapes (Jucha 2009: 86–87, Fig. 39). Additional fragments, however mostly nondiagnostic, were found in 2010 in the village.

Gezira Sangaha, located about 6 km to the west of Tell el-Murra, was visited both in 2008 and 2010. Its huge dimensions allowed only a few parts of it to be investigated. Although a Late Predynastic cemetery was reported there before (Krzyżaniak 1989: 271), virtually no anthropogenic remains could be found in the northern and eastern part of the site surveyed in 2010. Only a few, mostly nondiagnostic pottery fragments of uncertain date were found.

Mantiqat el-Qalaa is located about 2.5 km to the southeast of Minshat Radwan. More than half of the site is overbuilt by a cemetery. The pottery collection from the edge of the tell and its western part, which is free of graves, did not provide any fragments which could be dated to Naqada III and most of the forms seem to be later than the Old Kingdom.

Kafr el-Hadidi is situated about 5 km to the northwest of Tell el-Murra. It is presently almost completely overbuilt by a village and a cemetery, so it was excluded from any further work. Nondiagnostic potsherds found during the visit did not enable a determination of the date.

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REFERENCES

- (van den) Brink, E.C.M.
1987 A geo-archaeological survey in the North-Eastern Nile Delta, Egypt; the first two seasons, a preliminary report, *MDAIK* 43, 7–31
1988 The Amsterdam University Survey Expedition to the North-Eastern Nile Delta (1984–1986) [in:] E.C.M. van den Brink (ed.), *The Archaeology of the Nile Delta. Problems and Priorities*, Amsterdam: Netherlands Foundation for Archaeological Research in Egypt, 65–114
- Herbich, T.
2003 Archaeological geophysics in Egypt: the Polish contribution, *Archaeologia Polona* 41, 13–55
- Jucha, M.A.
2005 *Tell el-Farkha II. The Pottery of the Predynastic Settlement (Phases 2 to 5)*, Kraków: Institute of Archaeology, Jagiellonian University; Poznań: Poznań Archaeological Museum
2009 The North-Eastern part of the Nile Delta — research perspectives. Polish Archeological Survey in the Ash-Sharqiyyah Governorate [in:] J. Popielska-Grzybowska, J. Iwaszczuk (eds), *Proceedings of the Fifth Central European Conference of Egyptologists. Egypt 2009: Perspectives of Research, Pultusk 22–24 June 2009* [= *Acta Archaeologica Pultuskiensia* 2], Pultusk: The Pultusk Academy of Humanities, 83–88
2010 Tell el-Murra. The Predynastic–Old Kingdom site in the North-Eastern Nile Delta, *Folia Orientalia* 47, 379–390
2011 The development of pottery production during the Early Dynastic Period and the beginning of the Old Kingdom: a view from Tell el-Farkha [in:] R.F. Friedman, P.N. Fiske (eds), *Egypt at its Origins 3. Proceedings of the Third International Conference “Origin of the State. Predynastic and Early Dynastic Egypt”, London, 27th July–1st August 2008* [= *OLA* 205], Leuven–Paris–Walpole, MA: Peeters, 953–974
- Jucha, M.A., Buszek, A.
2011 Tell el-Murra (Northeastern Nile Delta Survey). Season 2008, *PAM* 20 (*Research 2008*), 177–182
- Krzyżaniak, L.
1989 Recent archaeological evidence on the earliest settlement in the Eastern Nile Delta [in:] L. Krzyżaniak, M. Kobusiewicz (eds), *Late Prehistory of the Nile Basin and the Sabara* [= *Studies in African Archaeology* 2], Poznań: Poznań Archaeological Museum, 267–285