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Iron Age settlement patterns at Salūt *c.* 1300–300 BC

CHIARA CONDOLUCI, MICHELE DEGLI ESPOSTI & CARL PHILLIPS

Summary

The Wādī Bahla region of the Sultanate of Oman entered the record of the areas of archaeological relevance forty years ago, thanks to the work of the Harvard Archaeological Expedition. Among several Bronze Age sites, two Iron Age sites were identified and numbered BB15 and BB4. Site BB15, now widely known as ‘Salūt’, was also visited shortly afterwards by Beatrice de Cardi. More recent excavations at the site, by the Italian Mission to Oman (IMTO) in cooperation with the Office of the Adviser to His Majesty the Sultan for Cultural Affairs, have provided the opportunity for a more detailed survey of Iron Age remains located nearby. The latter include areas of settlement, places of burial, and other possibly contemporary features.

The surveys gave back a substantial surface collection of pottery, which has been extensively illustrated and can be compared with the pottery typology established by the excavations at Salūt, which also easily finds parallels from other Iron Age sites in south-eastern Arabia. New data allow a refinement of the chronological sequence of the area, while distribution maps resulting from this investigation, and consideration of the variety of sites, can be compared with similar data and Iron Age settlement patterns found elsewhere in south-east Arabia.

Keywords: Iron Age settlements, Salūt, Oman, survey, Iron Age pottery

Introduction — past and present research

One of the first archaeological missions in Oman was the 1973 Harvard Archaeological Survey, which reported a large number of sites in Wādī Bahla. Most of these discoveries were attributed to the Bronze Age, with a concentration of sites near Bisayah. Two sites, however, were identified as being from the Iron Age period and labelled BB-4 and BB-15 (Hastings, Humphries & Meadow 1975: fig. 2; Humphries 1974: 52, fig. 2). Of these, the latter (BB-15) is now better known as Salūt, which is located a short distance north of Bisayah and stands proud on an isolated hill in the flood plain of Wādī Sayfam, a major branch of Wādī Bahla (Fig. 1).

After the Harvard survey, Salūt was further visited by the British Archaeological Expedition and listed as site 38 (de Cardi, Collier & Doe 1976: 164). As one of the many sites reported by Beatrice de Cardi, the Seminar for Arabian Studies 2013 appropriately offered an opportunity to present new survey data from Salūt as part of the celebration of Beatrice de Cardi’s contribution to archaeology in Arabia and neighbouring regions as well as the 40th anniversary of the Harvard Survey.

The many characteristic survey reports published by de Cardi are always profusely illustrated, usually with diagnostic pottery assemblages. This makes them a

fundamental resource for anyone working in the region, particularly when conducting further surveys or initiating new excavations. It also means that de Cardi’s criteria used for dating specific sites can be checked and, when necessary, amended on the basis of more secure dating criteria obtained from more recent excavations. The importance of this cannot be overstated: the progress of research allows a better understanding and definition of the different chronological and cultural periods for south-east Arabia, and with more key artefacts for the various periods being identified, the possibility of checking — and where necessary amending — illustrated survey data is a positive attribute. Conversely, the tendency towards presenting comprehensive tables of quantified data but with an absence of illustrated chronological indicators, makes it difficult critically to assess the data. With this in mind, and the fact that no pottery from surveys in Wādī Bahla/Wādī Sayfam has been published since the early 1970s,¹ the Italian Mission to Oman (IMTO) initiated a

¹ The only exception is a single sherd published by J.C. Orchard (1995: fig. 4). Orchard’s proposed dating of the sherd (Jamdat Nasr) is disputed by Potts (1997: 70) who suggests that it can be more correctly dated to the second millennium BC, based partly on a comparable sherd illustrated by de Cardi, Kennet and Stocks (1994: fig. 6/11). An almost identical sherd has been found more recently, in a second-millennium grave excavated near Salūt (Phillips, Condoluci & Degli Esposti, in preparation).

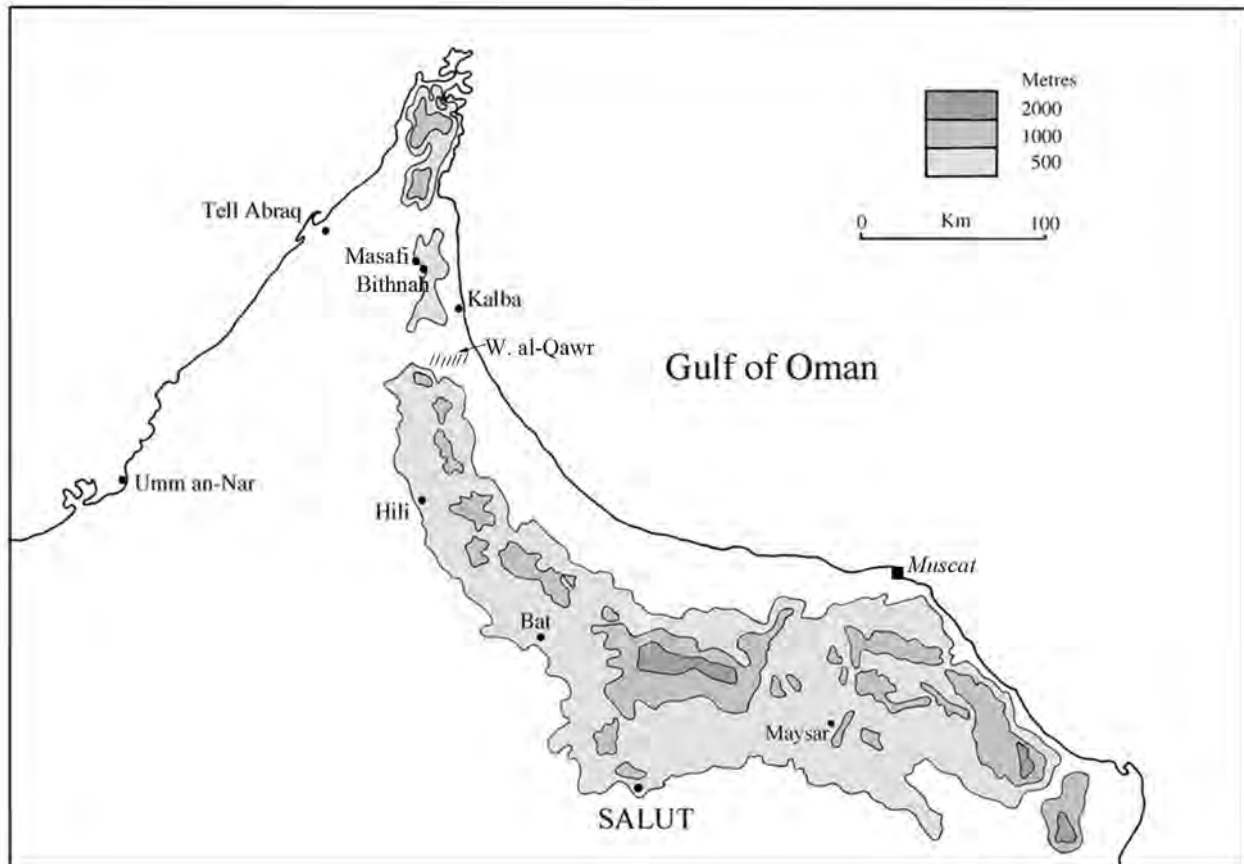


FIGURE 1. The location of Salūt in central Oman and other sites mentioned in the text.

programme of surveys focused on the surroundings of Salūt and some other nearby areas in Wādī Bahla.

For example, following the description contained in the 1970s reports, when simple GPS devices were not yet available, it has nevertheless been possible to relocate the site BB-4 near Bahla, and to complement the data published by the Harvard survey with a more extensive range of diagnostic Iron Age shapes. The renewed survey of the site was also of importance because it is now being completely destroyed by high-impact bulldozing. In addition to the previously unreported Iron Age pottery types found at the site, a previously unreported Early Bronze Age occupation was also located close by (Phillips, Condoluci & Degli Esposti 2012).

The same strategy of surface survey, representative pottery collection, and illustration was adopted at a site not far from Salūt (Phillips, Condoluci & Degli Esposti 2010). Located on a small hill overlooking Wādī Bahla, Jabal al-Agma is characterized by a large quantity of Iron

Age potsherds and a number of stone wall alignments. The pottery indicates that the occupation was clearly contemporary with the earliest period of occupation at Salūt (c.1300–650 BC) and perhaps later, although as yet no definite pottery of the later period found at Salūt (c.650–300 BC) has been recovered. Although it is smaller than Salūt, Jabal Agma is probably the next largest Iron Age site found near Salūt and south of BB4.

The proximity of Jabal Agma to Salūt (c.2.5 km) raises questions about the extent and nature of the occupation at Salūt itself. In particular, during the Iron Age (c. 1300–300 BC) was it an isolated site in the middle of the flood plain, as earlier survey reports appear to suggest, or was it part of a more extensive settlement? During the first season of excavation at Salūt in 2004 a preliminary survey around Salūt led to the identification of a second Iron Age site (Salūt 2), adjacent to the *falaj* (pl. *aflaj*) north of the main site (Avanzini, Sedov & Condoluci 2005: 358). Further investigation of this site, which comprises a distinct earth

mound, showed that this is not an archaeological ‘tell’ but more likely a feature resulting from the dumping of soils and gravel derived from the creation of fields — a feature common in Oman and the UAE (i.e. *nud*, pl. *nadud*). A cluster of similar mounds is also located south-west of Salūt, and several of them contain Iron Age and more recent Islamic pottery. On aerial photographs, however, it is clear that some of these mounds overlie historically recent field boundaries. The Iron Age material found in them is, therefore, redeposited and not in a primary context. Where precisely the deposits that form these mounds were derived from is not yet clear and requires further investigation. In the meantime a more comprehensive survey of the foothills and isolated natural hills surrounding Salūt was conducted in 2012–2013 and the results are described below.

The pottery collected during the survey can be compared with that from the excavations at Salūt, from the Early Bronze Age site ST1 and from a number of tombs excavated on the nearby Jabal Salūt. The excavations at Salūt have produced a wide range of Iron Age pottery,

both in terms of shapes and fabrics. The pottery can be divided in two broad chronological periods, defined by stratigraphy and absolute ^{14}C dates, comprising an Early Iron Age assemblage (c.1300–650 BC) and a Late Iron Age assemblage (c.650–300 BC) (Avanzini & Phillips 2010; Phillips 2010). In addition, the excavation of the third-millennium BC Bronze Age tower ST1, located c.300 m west of Salūt, has revealed, on the basis of the quantity of sherds collected during preliminary survey and cleaning of the site, an Iron Age reoccupation of the site that appears far more substantial than first envisaged. Extensive Iron Age deposits have since been revealed, providing more abundant pottery, stone vessels, seals, and stone structures (Degli Esposti 2011). The excavation of the actual Bronze Age tower and the system of ditches that surround it has produced a wide range of Early Bronze Age pottery types and characteristic fabrics that suggest primarily a local production, with the addition of some pottery more likely derived from northern Oman/UAE, Iran, and the Indus. Added to this, pottery and soft-stone vessels dating from between the Early Bronze

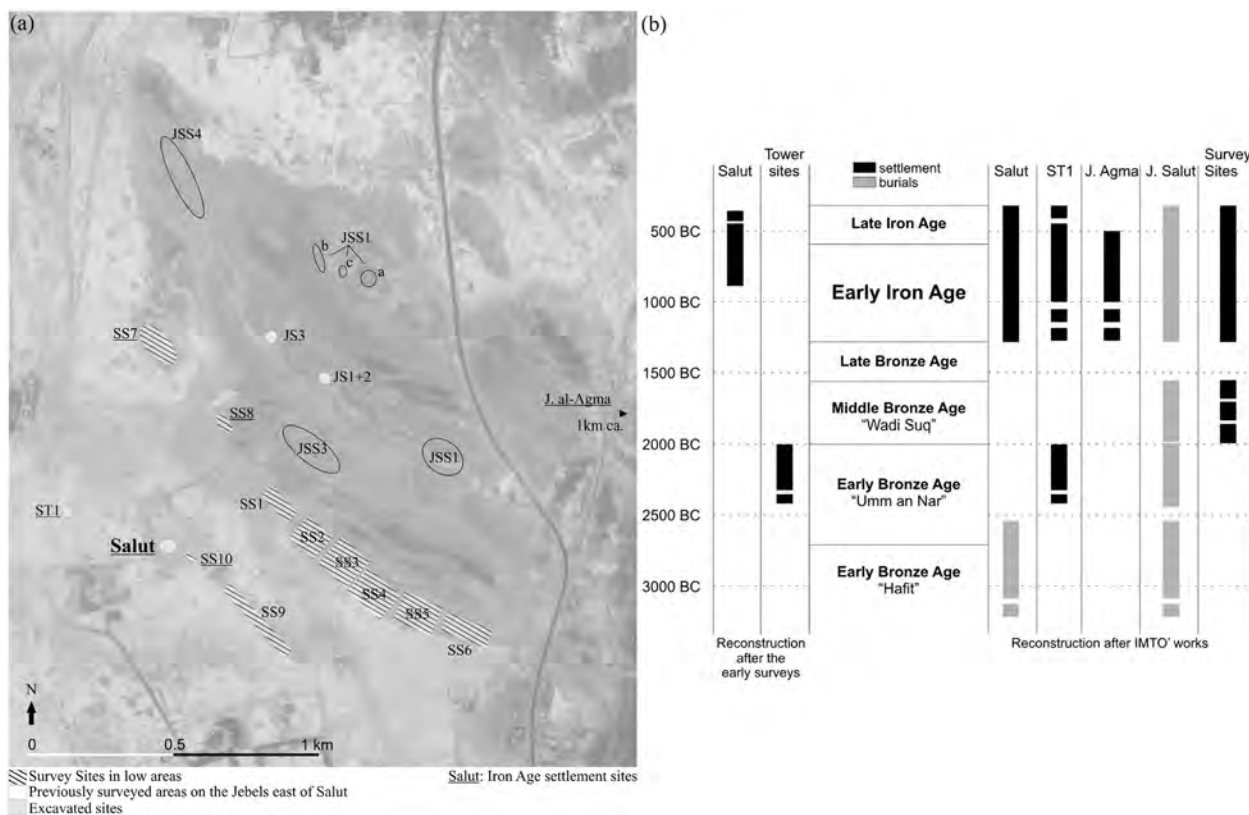


FIGURE 2. **a.** Distribution of excavated and surveyed sites, including previous works; **b.** the chronological sequence of the area has been greatly improved thanks to recent works (small squares indicate less certain evidence).

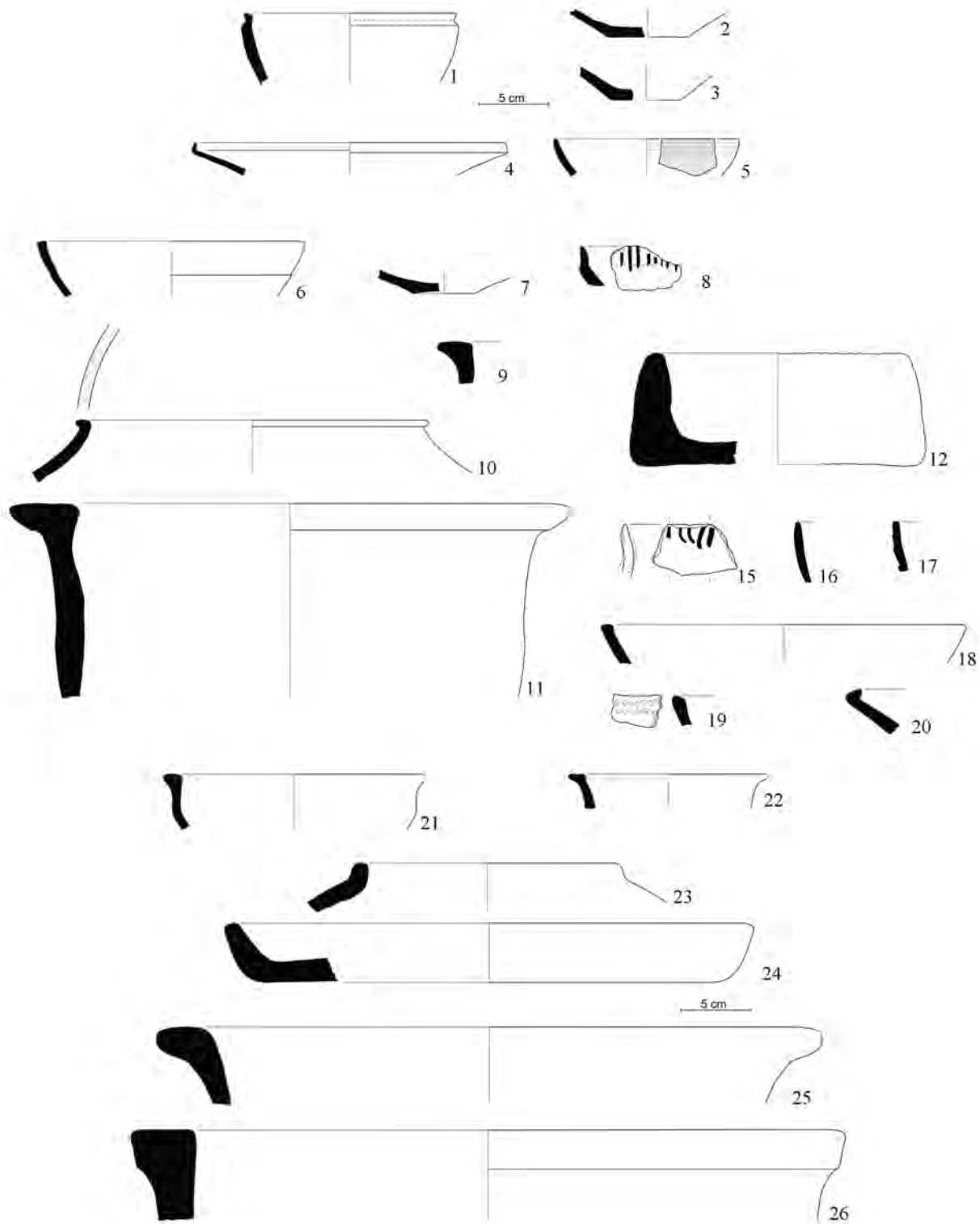


FIGURE 3. Pottery from SS1 (1–5), SS2 (6–12), and SS3 (15–26)
(drawings C. Condoluci and M. Degli Esposti).

Age and Early Iron Age (i.e. c.2000–1300 BC) have been recovered from a number of excavated tombs on Jabal Salūt, which overlook the plain below (Phillips, Condoluci & Degli Esposti, in preparation).

The excavated pottery assemblages and other objects, ranging from the third to the first millennium BC, enable a more accurate dating and attribution of survey data than when the first surveys were conducted in the 1970s (Fig. 2). In particular the addition of the second-millennium tombs and their contents allows the refinement of the chronological sequence at Salūt and a partial filling of the gap coinciding with the second millennium (Fig. 2/b). At the same time, the presence of second-millennium funerary remains and the apparent absence of contemporary settlements was a further incentive for a more detailed survey of the Salūt plain.

Survey of the Salūt plain

Between late 2012 and early 2013 the Italian Mission to Oman (IMTO) surveyed the Salūt plain, with a specific focus on a series of low hills south-east and north of the main Iron Age site. Ten ‘survey sites’ (SS) were defined based mainly on the presence of surface pottery scatters, with only a few of them featuring noticeable Iron Age architectural remains. Where architectural remains were not visible it was observed that the pottery scatters had not been affected by fluvial redeposition and were always found above the level of the flood plain. It is likely, therefore, that they are indicative of habitation or some other localized activity and not derived from elsewhere. In contrast to this the surface of the flood plain is strewn everywhere with predominantly Iron Age and Islamic pottery sherds that have been redeposited by the wadi and possibly also as a result of the manuring of fields (Wilkinson 1982).

Survey Sites 1–6

Survey Sites SS1 to SS6 are located on a continuous rocky ridge that runs northwest–southeast, approximately 400 m east of Salūt. The ridge effectively separates the flood plain from the lower slopes of Jabal Salūt.

SS1 corresponds to the northernmost part of the ridge where the heavily eroded remains of several prehistoric tombs are visible. No pottery or other finds were found in the vicinity of the tombs but on the west-facing slope below, a few Iron Age sherds and a fragment of a soft-stone bowl were collected (Fig. 3/1–5). The pottery includes three Late Iron Age dishes (Fig. 3/2–4) that

display the typical burnished maroon slip and fine fabric (BMSW). An intriguing clay human figurine, with traces of red painting was also discovered (see Fig. 7, bottom left).

Moving south, SS2 represents an area occupied by an Islamic graveyard marked by the usual vertical stones set in the ground. A few Iron Age fragments were collected (Fig. 3/6–12), including a small carinated cup with black-painted vertical strokes on the rim interior (Fig. 3/8). The base of a Late Iron Age dish was also found (Fig. 3/7).

Towards the central part of the ridge, SS3 is not associated with any clear architectural features. Nevertheless, pottery of Iron Age date was well represented (Fig. 3/15–26). A Late Iron Age presence was indicated by the incurving rim of another dish (Fig. 3/20), while several fragments belonged to Early Iron Age shapes. Among these were a small cup, probably originally spouted and internally decorated with black-painted vertical strokes (Fig. 3/15), and typical plain or multi-carinated cups (Fig. 3/16,17). Large storage jar rims were also collected (Fig. 3/25,26); similar fragments were noted in other areas, specifically at SS7 and SS9, but were not collected. At SS3, other observed fragments included lugs or steeply inclined handles in a typical Iron Age medium/coarse fabric (see Fig. 9) and a small rim fragment with an exterior decoration of small round impressions roughly set along two parallel lines (Fig. 3/19): the fabric is quite similar to medium/coarse Iron Age samples, but this odd decoration leaves some doubt about its actual dating.

Further south, SS4 and SS5 occupy the same slope of the ridge separated by a modern dry-stone wall running perpendicular to the ridge. At SS4 a group of bowls displaying a number of different rims (Fig. 4/35–43) were found together with a spout (Fig. 4/46) and the rim of a closed vessel (Fig. 4/44), which bears on the exterior an impressed decoration closely resembling that seen on Figure 2/19. From SS5 the Early Iron Age pottery included a probable necked jar (Fig. 4/54), a peculiar closed vessel (Fig. 4/55), and a fragment of what was presumably a large jar decorated with an applied horizontal ridge incised with crosses (Fig. 4/51). Late Iron Age pottery was also indicated by a bowl with wide-flaring walls (Fig. 4/50) and by the almost complete profile of a typical carinated ‘tulip bowl’ (Fig. 4/49).

The southernmost extension of the ridge was designated SS6. Although fragments of Iron Age pottery were present, no diagnostic sherds were collected. It is probable that this area represents the furthest limit of the occupation extending from SS1 to SS6.

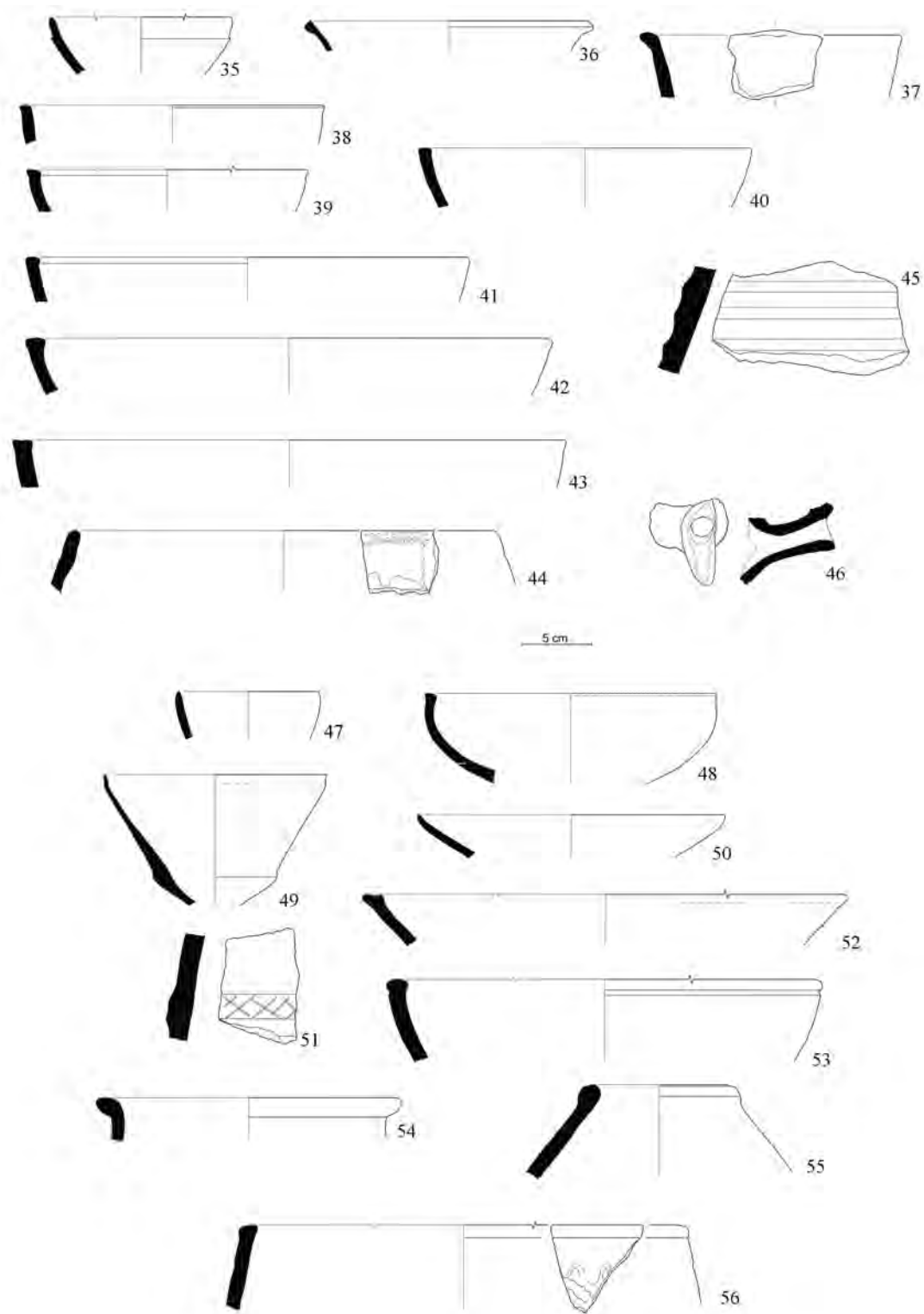


FIGURE 4. Pottery from SS4 (35–46) and SS5 (47–56) (drawings C. Condoluci and M. Degli Esposti).



FIGURE 5. *Survey Sites with probable Iron Age architectural remains: a. a panoramic view of SS7 from the west; b. a detail of the substantial terrace wall at its southern end; c. SS7 seen from SS8 with d. a detail of the terrace visible there; e. another clearly visible terrace at SS10; f. a panoramic view of SS9 with Salūt on the left.*

Survey Site 7

Moving to SS7 the situation changes in that all the remaining sites feature architectural remains. The various wall alignments that have been observed appear

comparable with the remains excavated at Salūt and also as observed at Jabal al-Agma. As suggested by the associated pottery, the architectural remains are, therefore, most likely of Iron Age date, but the possibility that some might be even earlier should not be entirely dismissed.

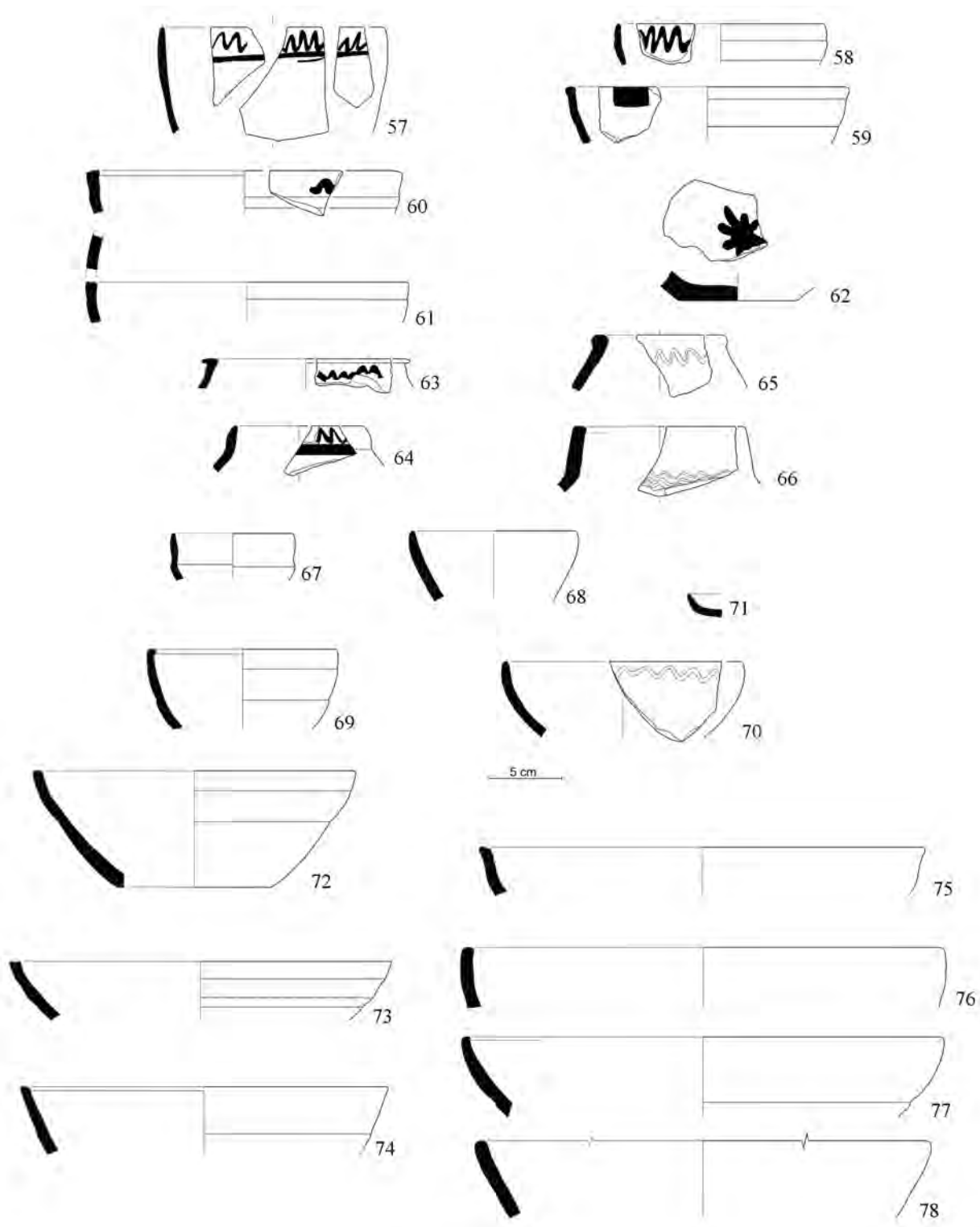


FIGURE 6. Pottery from SS7 (drawings C. Condoluci and M. Degli Esposti).

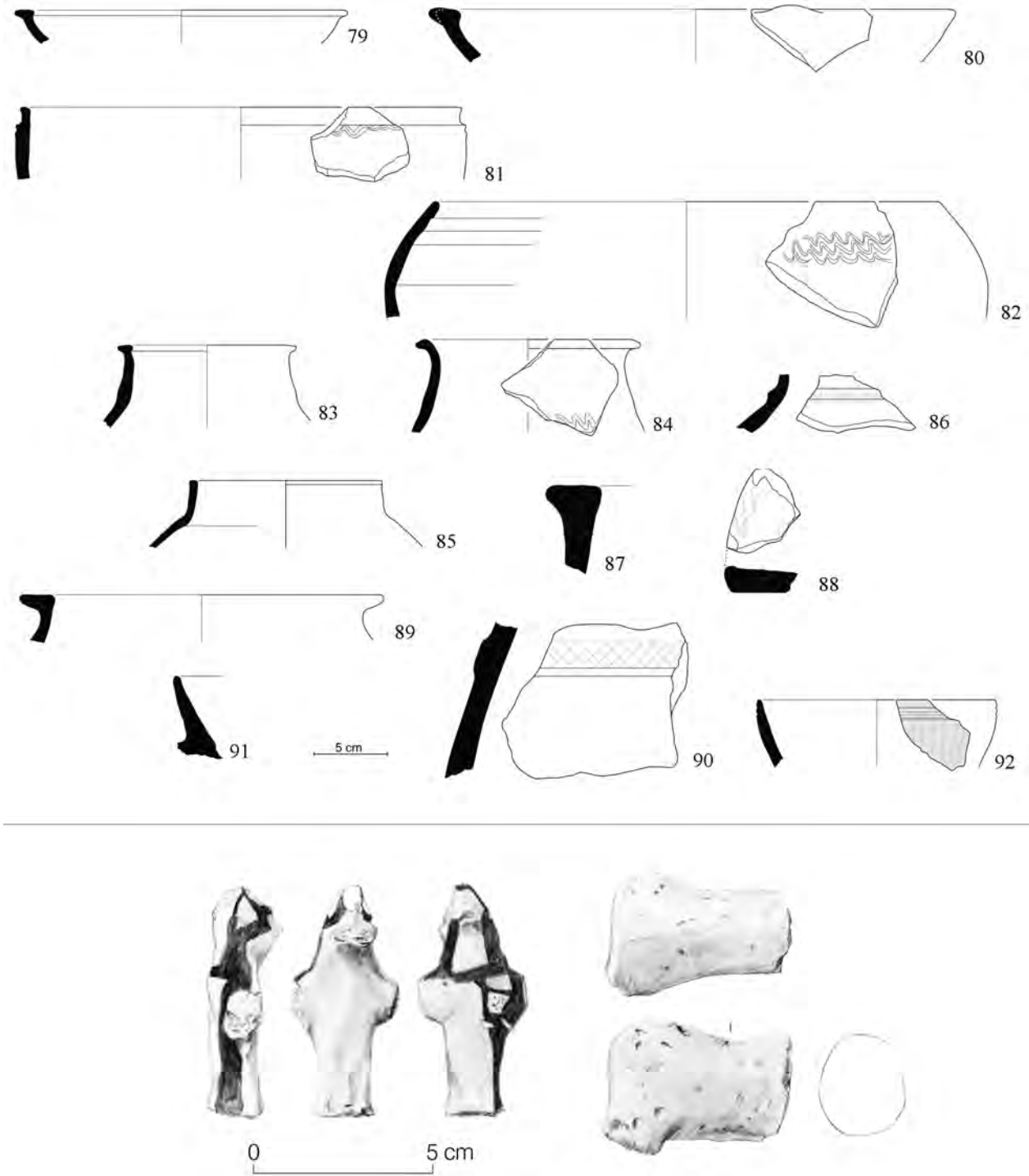


FIGURE 7. (Top) pottery from SS7 (drawings C. Condoluci and M. Degli Esposti); (bottom) the human figurine found at SS1, with traces of red colour, and the animal figurine from SS7 (drawings S. Martelli).

SS7 occupies a small hill isolated in the plain approximately 500 m north of Salūt (Fig. 5/a). At the foot of the hill stands one of the three Early Bronze Age towers that are located in the plain.² Several walls are visible on the south-facing slope of the hill, which suggests that it had been levelled at different heights in order to create a small terraced settlement, in all likelihood comparable to the one discovered on Jabal al-Agma (Phillips, Condoluci & Degli Esposti 2010). A wall built of large boulders is very noticeable and frames the southern end of the hill, thus forming a wide terrace (Fig. 5/b).

The large amount of pottery at SS7 further supports the settlement interpretation. Most of the pottery appears to be of Early Iron Age date, with just one fragment of a burnished maroon slipped dish (BMSW) with pointed rim that is clearly of Late Iron Age date (Fig. 7/79). Painted pottery appeared more abundant at SS7 and comprised simple and carinated bowls (Fig. 6/58–62) and short-necked jars (Fig. 6/63,64). Incised decoration was also present, again on bowls and jars (Figs 6/65,66,70; 7/81,82,84). All shapes conform to the standard Iron Age typology, including some less frequently seen at Salūt, such as a bowl with a marked groove under the rim (Fig. 7/81), a closed, globular hole-mouth jar (Fig. 7/82), and a jar with a straight vertical neck (Fig. 7/85). Large storage jars were also abundant on the site, some displaying the characteristic raised incised cordon (Fig. 7/90) and others indicated by the presence of a large lid fragment (Fig. 7/88).

A fragment of a long-handled bowl (Fig. 7/91) is also typical of the Early Iron Age. The same date can also be attributed to a fragment of soft-stone bowl (Fig. 7/92).

A second clay figurine collected during the survey was found at SS7. It is a fragmentary representation of a quadruped of which only the rear half of the body remains (Fig. 7, bottom right). Because of the state of conservation it is not possible to identify the portrayed animal, although it looks more likely to be a bovid than a camel.

Survey Site 8

Survey Site 8 is located between Salūt and SS7, on the north-west slope of a small ridge adjacent to Jabal Salūt. In this area, a large number of large boulders give the misleading impression of a wall, rather than a natural

feature that has been taken advantage of. Built walls are actually visible north of this natural feature, and among them stands a small rectangular terrace (see Fig. 5/d) that provides views towards both Salūt and SS7 (Fig. 5/c). In this area there is a scatter of pottery among which are definite Iron Age-type shapes, and a less clear fragment of a closed shape decorated with an incised pattern (Fig. 8/100).

Survey Site 9

Survey Site 9 occupies a long, slightly elevated ridge south of Salūt and parallel to the ridge where Survey Sites SS1–6 are located (see Fig. 5/f). This area was not subdivided because fragmentary stone walls and alignments were rather continuous, including an area of Islamic burials that clearly overlie some of the earlier walls.

Pottery from SS9 comprises Early Iron Age fabrics and at least two Late Iron Age fragments, a burnished maroon slip dish (Fig. 8/106) and the bottom of a bowl with flaring profile (Fig. 8/105). Numerous coarse fabric storage-jar fragments were scattered on this area, but no diagnostic sherds were collected.

The fragment of a thin-walled beaker with black-painted decoration on the exterior, which was found at SS9, can be dated to the Wādī Sūq period (Fig. 8/102). The fabric of the beaker is also comparable with second-millennium vessels excavated on Jabal Salūt. In the same place where the beaker was found more body sherds were discovered, which could also be dated to the early second millennium. One of them bears a black-painted decoration comprising three parallel wavy lines, a typical pattern for Wādī Sūq pottery (Fig. 9/121).

This rare occurrence of early second-millennium Wādī Sūq pottery so close to Salūt could be of some importance, especially if it can be shown that they are associated with settlement activity. It is equally possible that some of the walls observed in this area, especially those close to the edge of the silt plain, are indicative of one or more tombs that only excavation can confirm.

Survey Site 10

The last Survey Site, SS10, is located at the foot of Salūt on the side of a small rocky crest made of detached large boulders that are a continuation of the ridge surveyed as SS9, unevenly buried under more recent alluvial deposits. The area is characterized by a clearly visible terrace wall (see Fig. 5/e) and by a concentration of Early Iron Age sherds, mainly fragments coming from large storage jars.

² The site, mainly unpublished, has been recorded as 'Building 4' by the al-Hajar project team working on it (see Orchard & Orchard 2007: pl. 6/d).

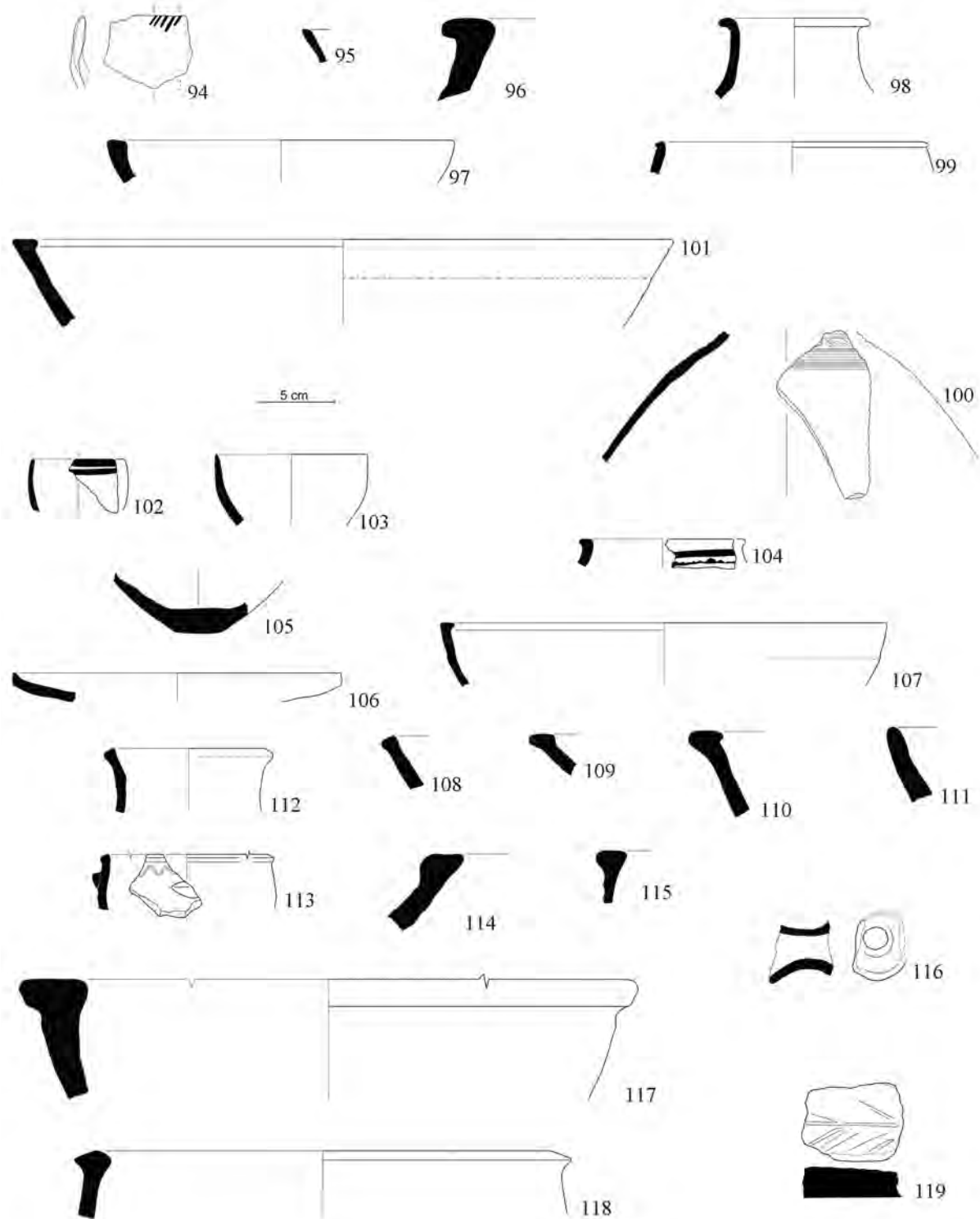


FIGURE 8. Pottery from SS8 (94–100) and SS9 (101–119) (drawings C. Condoluci and M. Degli Esposti).

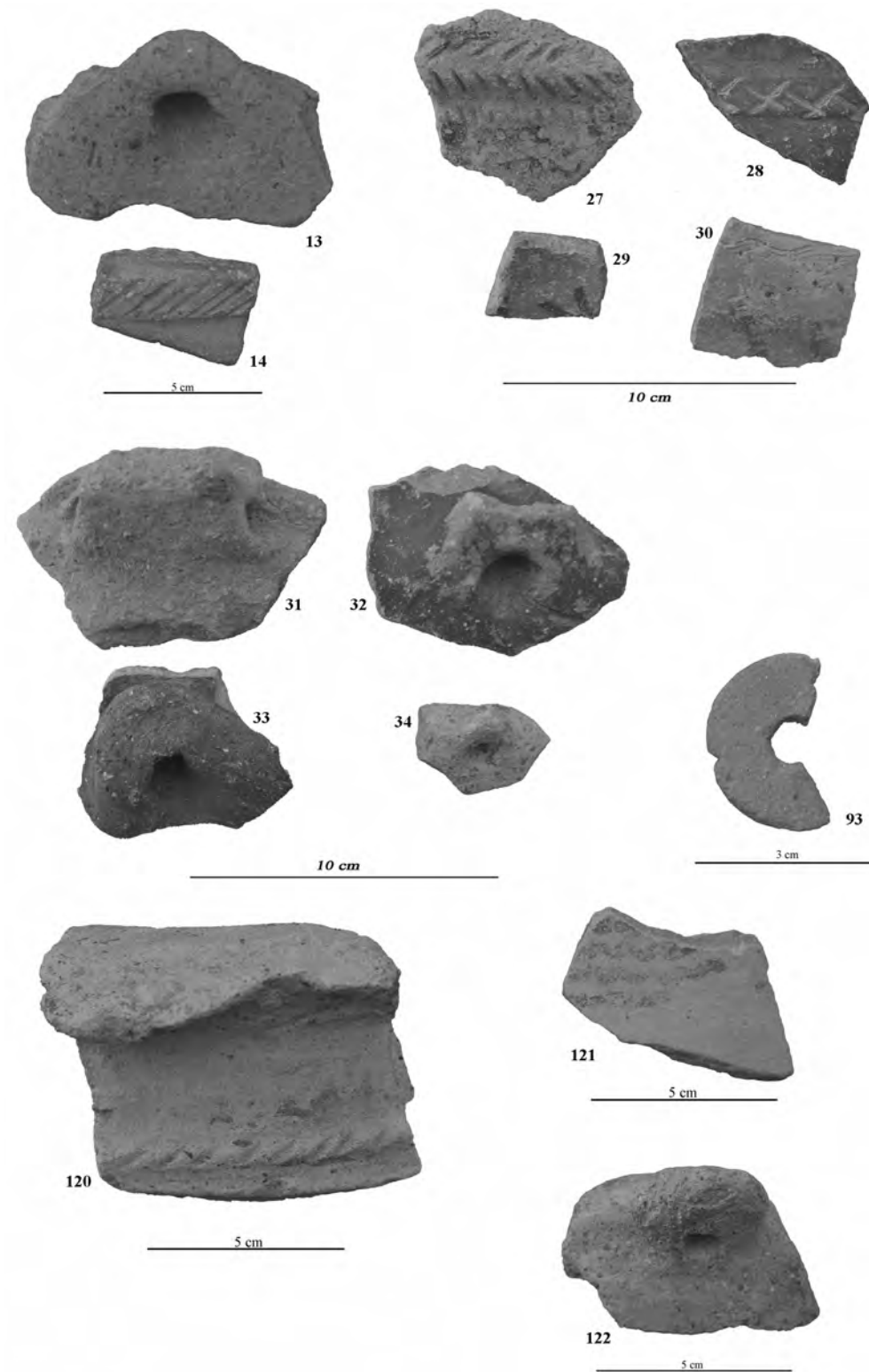


FIGURE 9. Pictures of sherds from different survey sites, not drawn.

Discussion and conclusions

The main object of the survey in the immediate vicinity of Salūt was to determine if it had been an isolated site or whether it was at the centre of a more extensive settlement. The results clearly show that it was the latter and that on the east side of the wadi there is a string of survey sites on isolated hills (SS7), the lower slopes of Jabal Salūt (SS8), the ridge that forms the wadi bank (SS1–6), and along the low ridge that outcrops south of Salūt (SS9 & 10). At a few of these locations architectural remains are present (SS7, 8 & 9) and Iron Age pottery is present at all of them. West of Salūt there is also the extensive Iron Age reoccupation of the Early Bronze Age tower, ST1.

All the Iron Age pottery collected during the survey can be compared with assemblages from other Iron Age sites (c.1300–300 BC) in south-eastern Arabia and corresponds to shapes reported, for example, from Period I contexts at Rumeilah (Boucharlat & Lombard 1985: pls 45–49). In addition to the shapes, the range of fabrics also appears similar, with mainly medium to coarse wares and rare fine specimens, as well as the common presence of a red slip and occasional black-painted decoration (Fig. 10). It is hardly surprising that almost all of the survey pottery can be compared with the ‘Early Iron Age’ assemblage so far recorded in the excavations at Salūt itself.

At Salūt, the Early Iron Age is defined on the basis of pottery dated by comparative study, stratigraphic contexts, and accompanying absolute ¹⁴C dates (Phillips 2010). It should be noted, however, that the earliest dated contexts (c.1300–1000 BC) contain pottery that can only be compared with what elsewhere might be designated Iron Age II (Magee 1996) and that there is no evidence at Salūt for an earlier, distinct Iron Age pottery assemblage that could be compared with Magee’s Iron I assemblage. In chronological terms the ‘Early Iron Age’ at Salūt is contemporaneous, therefore, with both Magee’s Iron I and Iron II periods, but in terms of vessel types and decoration, the earliest assemblage at Salūt is comparable with Magee’s Iron II only. It is probable, therefore, that in central Oman the so-called Iron II assemblage appears considerably earlier than it does on sites in the northern part of the Oman peninsula/UAE.

In addition to the Early Iron Age, some of the survey pottery has been described as ‘Late Iron Age’, reflecting the two periods of occupation revealed at Salūt. In all instances this period is indicated by a distinct category of pottery known elsewhere as Burnished Maroon Slip Ware (BMSW; Magee 2005), some comparable shapes from Rumeilah Period II (Boucharlat & Lombard 1985:

pls 57–58), and also the pottery assemblage from Rafaq 2 in Wādī al-Qawr (Phillips 1997; 1998). In Magee’s chronological scheme (1996: fig. 3) the BMSW, and presumably the other distinct shapes known from Rumeilah Period II and Rafaq 2, define the so-called Iron Age III phase.

In the excavations at Salūt BMSW occurs only in stratigraphic contexts that clearly post-date 1000 BC and are likely to be considerably younger, based on Magee’s comparative study for the dating of this specific type of pottery. A date of c.650 to c.300 BC is, therefore, acceptable for the dating of the Late Iron Age at Salūt, where the BMSW occurs in some contexts that show the abandonment of earlier rooms and the establishment of a new architectural plan, while other contexts can be interpreted as showing the continued use of pre-existing rooms. What is clear, however, is that in this period the main fortification wall surrounding the site was enlarged significantly, thus giving the site the outward appearance that it now has.

When interpreting the survey data from sites surrounding Salūt (and this might also apply elsewhere in Oman and the UAE) it should be noted that an Iron III/Late Iron Age presence (c.630–300 BC) is primarily indicated by the occurrence of a single diagnostic element, namely the BMSW. Until further work has been completed on the pottery from specific later Iron Age contexts, it is difficult to say what earlier Iron Age vessels and fabrics might have remained in circulation alongside the newly introduced BMSW and a few more obvious later additions. For this reason, it could be argued that a surveyed site such as Jabal al-Agma provides no evidence of a Late Iron Age occupation in that no BMSW has so far been found there. The discovery of a single sherd would nevertheless change the picture completely! It is perhaps going too far at this stage, therefore, to say that all surveyed sites where BMSW has not been recorded were necessarily abandoned in the latter half of the first millennium BC. Only when a more complete understanding of what constitutes Early and Late Iron Age pottery assemblages is achieved, will a more accurate and informative quantitative analysis of survey data be possible. Until then, it is difficult to see what can be done beyond recording the simple presence/absence of recognized pottery types.

The presence of Late Iron Age pottery/BMSW at a majority of the survey sites and also at ST1 would suggest, therefore, that there was an extensive settlement focused on Salūt throughout the Iron Age period. Ringed by a number of smaller sites, it is possible that the main site

<i>Survey Site 1</i>	
1	Medium red-brownish fabric with abundant and abundant grey and white grits. Red slip on exterior and interior.
2	Fine red fabric with grey core. Dense, with vegetable temper and sparse white and black grits. Burnished red slip exterior and interior. Late Iron Age.
3	Fine red-orange fabric with outer grey section. Dense, with vegetable temper and sparse white grits. Burnished red slip interior. Late Iron Age.
4	Fine dense red fabric with occasional white and black small grits. Burnished red slip exterior and interior. Late Iron Age.
5	Medium-grained grey-bluish soft stone. Incised decoration, mainly shallow.
<i>Survey Site 2</i>	
6	Medium-fine pale brown fabric with sparse vegetable temper and small red and black grits. Red slip on interior and exterior.
7	Fine dense pale brown fabric with rare small white grits. Burnished red slip exterior and interior. Late Iron Age.
8	Fine-medium brown fabric with grey core. Vegetable temper and sparse small black and red grits. Red slip exterior and interior, black-painted decoration on interior.
9	Medium dark red fabric with sparse vegetable temper and abundant small white grits, some larger. Traces of red slip on interior, badly weathered on exterior.
10	Medium pale brown-greyish fabric with abundant vegetable temper and abundant tiny black grits, occasional larger ones. Dark brown slip exterior and interior, incised decoration on flattened rim.
11	Coarse pale brown-reddish fabric with inner grey section. Abundant vegetable temper and abundant large grey grits (> 2mm). Dark red-brown slip exterior.
12	Coarse pale brown-reddish fabric with abundant large grey and red grits, some > 8 mm.
13	Handle. Coarse brown fabric with abundant vegetable temper and abundant large red grits. Red slip exterior. (Photo only.)
14	Wall. Medium red fabric with abundant white and dark grits. Red slip exterior, dark brown interior. Raised ridge with incised decoration. (Photo only.)
<i>Survey Site 3</i>	
15	Medium-fine red-orange fabric with vegetable temper and sparse red grits, some larger. Red slip exterior and interior, black-painted decoration interior.
16	Fine red fabric with rare vegetable temper and occasional small white grits.
17	Fine sandy brown fabric with rare vegetable temper and sparse small white grits. Dark brown slip exterior and interior.
18	Medium-fine red fabric with vegetable temper and sparse black grits. Red slip exterior and interior.
19	Coarse red fabric with grey core and abundant large red grits. Dark red slip exterior.
20	Medium red fabric with vegetable temper and sparse medium grey and red grits. Dark slip exterior and interior. Late Iron Age.
21	Coarse light brown fabric with vegetable temper and abundant red and grey grits. Dark slip exterior, red interior.
22	Fine light red-brownish fabric with grey core. Vegetable temper and sparse red and black grits. Red slip exterior and interior.
23	Fine-medium red-brown fabric with vegetable temper and red and grey grits. Red slip exterior and interior.
24	Coarse pale red-pinkish fabric with thick grey core. Abundant vegetable temper and abundant medium red and grey grits, some larger.
25	Coarse red fabric with thick grey core. Vegetable temper and abundant large red grits.
26	Coarse brown fabric with thick grey core. Vegetable temper and abundant large grey and red grits. Red slip interior.

27	Wall. Coarse brown-reddish fabric with abundant vegetable temper and abundant medium and large grey grits. Red slip exterior, brown interior. Black-painted decoration on exterior, incised cordon exterior. (Photo only.)
28	Wall. Medium dark red fabric with black core. Sparse vegetable temper and abundant dark, red, and white grits. Dark red slip exterior and interior, incised cordon exterior. (Photo only.)
29	Small cup bottom. Medium-fine red fabric with vegetable temper and sparse grey grits. Red slip interior, weathered on exterior. Black-painted decoration interior. (Photo only.)
30	Wall. Medium brown fabric with vegetable temper and sparse red grits, occasionally larger. Red slip exterior and interior. Incised decoration exterior. (Photo only.)
31	Tubular handle. Coarse brown fabric with grey core. Abundant vegetable temper and abundant grey and red medium–large grits. (Photo only.)
32	Handle. Medium brown fabric with thick red core. Vegetable temper and abundant medium white grits. Dark brown slip exterior and interior. (Photo only.)
33	Handle. Medium red fabric with thick grey core. Vegetable temper and abundant medium white grits. Over-fired. (Photo only.)
34	Handle. Coarse pale brown fabric with sparse vegetable temper and abundant large red grits. Trace of dark brown slip on exterior. (Photo only.)
<i>Survey Site 4</i>	
35	Fine light brown-orange fabric with vegetable temper and tiny white and black grits. Traces of dark red slip exterior and interior.
36	Fine orange fabric with grey core. Rare small white grits. Red slip exterior and interior. Wheel-made, possibly Late Iron Age.
37	Medium orange fabric with abundant red (small, medium, large) and small white grits. Brownish-red slip exterior and interior.
38	Fine dark orange-brownish fabric with vegetable temper and scarce small red grits. Light-brown slip exterior, self-slipped (smoothed) interior.
39	Fine orange fabric with vegetable temper and small grey and tiny white grits. Black slip exterior, traces of red slip interior.
40	Fine light orange fabric with vegetable temper and tiny red, grey, and white grits. Red slip exterior and interior.
41	Fine light brown fabric with vegetable temper and occasional large red inclusions. Black slip exterior and interior.
42	Medium–fine red-orange fabric with small white and dark grits and large white and red grits. Light red slip exterior and interior.
43	Medium light brown fabric with grey and white (small, medium, large) grits. Black slip exterior and interior.
44	Medium dark orange fabric with abundant large and medium red grits, occasional small grey and small red grits. Light red slip inside. Impressed dots decoration below the rim.
45	Coarse orange fabric with grey core. Vegetable temper and abundant large white, red, and grey grits (some >5 mm). Brown-reddish slip exterior, brownish interior. Ridged exterior.
46	Fine orange fabric with vegetable temper and red and grey grits. Red-brownish slip exterior, traces of red slip interior.
<i>Survey Site 5</i>	
47	Fine light orange fabric with vegetable temper and sparse red grits. Black slip exterior and interior.
48	Medium orange fabric with vegetable temper and red and grey and tiny white grits. Red slip exterior, dark red interior.
49	Fine dark orange fabric with dark grey core. Vegetable temper and tiny white grits. Red slip exterior and interior. Late Iron Age.

50	Fine light brown fabric with slightly grey core. Small white grits. Light brown-reddish slip exterior and interior. Late Iron Age.
51	Medium light brown fabric with slightly grey core. Abundant grey and red grits. Self-slipped (smoothed) exterior, red slip interior. Incised criss-cross decoration on applied cordon.
52	Medium brown-dark orange fabric with abundant grey and white grits. Self-slipped (smoothed) exterior and interior.
53	Medium light orange fabric with grey core. Abundant small red and grey grits, some larger. Self-slipped (smoothed) exterior and interior.
54	Medium light brown fabric with grey core. Vegetable temper and grey and red grits. Light brown slip exterior and interior.
55	Fine brown orange fabric with tiny black grits and occasional mica. Wheel-made.
56	Medium light brown fabric with vegetable temper and abundant black grits. Self-slipped (smoothed) exterior and interior.
<i>Survey Site 7</i>	
57	Fine light brown fabric with small white and grey grits. Orange slip exterior, red interior. Black-painted decoration exterior.
58	Fine light brown fabric with small white and red grits. Orange slip exterior, red interior. Black-painted decoration interior.
59	Fine dark orange fabric with rare vegetable temper and small white, grey, and red grits. Red slip exterior and interior. Black-painted decoration interior.
60	Fine dark orange-brownish fabric with rare small black and red grits. Red slip exterior and interior. Black-painted decoration exterior.
61	Fine dark orange-brownish fabric with vegetable temper and occasional red grits. Dark orange slip exterior and interior. Black-painted on rim.
62	Fine orange-brownish fabric with small white grits. Black slip exterior, red interior. Black-painted decoration on interior bottom.
63	Fine light orange fabric with vegetable temper and sparse red grits. Red slip exterior, dark red-brownish interior. Traces of black-painted decoration on rim and exterior.
64	Fine light brown fabric with tiny red inclusions. Red slip exterior and interior. Black-painted decoration exterior.
65	Fine light brown fabric with tiny white and rare red grits. Red slip exterior. Incised decoration exterior.
66	Fine light orange fabric with vegetable temper and small red and grey grits. Red slip exterior and interior. Incised decoration exterior.
67	Fine dark orange fabric with rare small white grits. Red slip interior.
68	Fine light brown fabric with abundant black grits, some large. Dark red slip exterior, brown interior.
69	Fine dark orange-brownish fabric with rare small white and grey grits. Dark red slip exterior, light brown interior.
70	Fine orange-brownish fabric with vegetable temper and small white grits. Red slip exterior, light red interior. Incised decoration exterior.
71	Fine orange fine fabric. Burnished red slip exterior and interior. Late Iron Age.
72	Fine light brown fabric with vegetable temper and small white grits. Red slip exterior, dark red on rim and interior.
73	Fine light brown fabric with occasional vegetable temper and tiny white grits. Light brown-reddish slip interior. Black paint decoration on rim.
74	Fine dark orange fabric with small white and red grits. Self-slipped light brown exterior, self-slipped red interior. Slow wheel-made. Possibly Late Iron Age.
75	Fine orange fabric with vegetable temper and white and red grits. Dark brown slip interior.
76	Fine light brown fabric with red grits. Light red slip exterior and interior.

77	Medium brown-pinkish fabric with abundant grey grits. Self-slip exterior and interior.
78	Medium light brown fabric with vegetable temper and abundant grey, red, and white grits. Red slip exterior and interior.
79	Fine brown fabric with small red grits. Self-slipped exterior and interior.
80	Medium orange fabric with abundant red grits. Red slip exterior and interior.
81	Fine orange fabric with occasional small white grits. Black slip exterior and interior. Incised decoration exterior.
82	Fine brown-pinkish fabric with red grits, some large. Dark orange slip exterior and interior. Incised decoration exterior.
83	Fine light brown-orange fabric with abundant grey, red, and tiny white grits. Red slip exterior and interior.
84	Fine brown fabric with vegetable temper and abundant small white and red grits, some large. Black slip exterior and upper neck interior. Incised decoration exterior.
85	Fine dark orange fabric with tiny white and small grey grits, some large. Black slip exterior and upper neck interior.
86	Fine orange fabric with abundant white and grey inclusions. Red slip exterior, traces of brown slip interior. Incised decoration on raised cordon.
87	Coarse dark orange fabric with grey core. Vegetable temper and abundant grey grits. Red slip exterior, red-brownish interior.
88	Medium dark orange-brownish fabric with grey and red grits. Traces of black slip exterior. Incised decoration exterior.
89	Coarse dark orange-reddish coarse fabric with grey core. Abundant grey grits. Red slip exterior, dark slip interior.
90	Coarse light orange fabric with abundant red and grey grits. Self-slipped exterior and interior. Incised decoration on raised cordon.
91	Fragment of long handle bowl. Medium dark orange fabric with vegetable temper and grey and larger red grits. Red slip exterior, dark interior. Impressed fingerprints inside the reservoir and impressed decoration on the flat handle.
92	Medium-grained light grey soft stone. Incised decoration.
93	Fragment of a possible pendant, flat in section. Orange fine fabric with small white grits. (Photo only.)
<i>Survey Site 8</i>	
94	Medium pale red fabric with abundant vegetable temper and rare black grits. Dark red slip exterior and interior. Black-painted decoration exterior.
95	Fine light brown fabric with occasional small black grits. Dark slip exterior and interior.
96	Coarse red-orange fabric with thick grey core. Abundant vegetable temper and abundant large red grits.
97	Coarse dark brown fabric with abundant vegetable temper and abundant red and white grits. Red slip exterior, light brown interior and rim.
98	Coarse light brown fabric with vegetable temper and abundant large pale red grits. Pale brown-pinkish slip exterior.
99	Medium-coarse pale red-brown fabric with vegetable temper and abundant black, and small red and white grits. Brown slip exterior, dark red interior.
100	Fine red fabric with occasional vegetable temper and occasional white and red small grits. Dark red-brown slip exterior and rim, red interior.
101	Medium pale red fabric with abundant black and red grits. Occasional larger white grits. Red slip exterior.
<i>Survey Site 9</i>	
102	Fine sandy red-orange fabric with sparse tiny white and black grits. Red slip exterior and interior. Black-painted decoration on exterior. Wādī Sūq.
103	Fine red fabric with rare vegetable temper and occasional tiny white grits rare. Red slip exterior.

104	Fine pale brown-yellowish fabric with occasional vegetable temper and rare small grits. Red slip exterior and interior. Black-painted decoration on exterior.
105	Fine light red-orange fabric with rare vegetable temper and occasional small white grits. Burnished dark red-brown slip exterior, self-slipped interior. Late Iron Age.
106	Fine red fabric with grey core. Dense, with and occasional tiny white grits. Burnished red slip exterior and interior. Late Iron Age.
107	Fine-medium light brown fabric with abundant red and grey grits. Dark red-brownish slip exterior, red interior.
108	Medium brown fabric with abundant small white grits. Dark red slip exterior and interior.
109	Medium red fabric with abundant light red grits. Red slip exterior and interior.
110	Medium brown-red fabric with abundant grey grits, some larger, and vegetable temper. Traces of red slip on exterior.
111	Coarse pale brown-yellowish with abundant large black and red grits.
112	Medium red fabric with abundant small black, white, and red grits. Pale brown slip exterior, red interior.
113	Fine light-brown fabric with occasional small white grits. Red slip exterior and interior. Incised decoration exterior.
114	Medium red fabric with thick grey core. Vegetable temper and occasional large grits.
115	Medium-fine brown-red fabric with abundant tiny black grits and rare mica.
116	Fine light-brown fabric with grey core. Vegetable temper and abundant small white grits. Red slip exterior and interior.
117	Coarse brown fabric with thick grey core. Abundant large (some >0.8 mm) grey and pink grits.
118	Fine light brown-orange fabric with vegetable temper and occasional white grits.
119	Fragment of long handle bowl. Medium-coarse red-orange fabric with red (some large) and occasional small white grits. Traces of red slip. Incised decoration.
120	Large jar rim. Coarse brown fabric with pale brown-whitish external section. Abundant black grits, with occasional large black and white ones. Dark red-brown slip exterior, red interior. Traces of decoration on exterior. Uncertain date. (Photo only.)
121	Wall. Fine bright red fabric with rare tiny white grits. Flakes on internal surface. Brown-ochre slip exterior. Black-painted decoration exterior. Wādī Sūq. (Photo only.)
122	Handle. Medium-coarse pale red fabric with vegetable temper and abundant white and rare red grits. Dark brown slip exterior. (Photo only.)

FIGURE 10. *Description of the collected pottery.*

was a focal point in the community, which is reflected in its size and impressive defensive aspect. It has previously been inferred that the construction of such a site would have required a considerable workforce (Avanzini & Phillips 2010: fig. 8) and now the results of the survey provide clear evidence that there was a larger population, distributed around Salūt, which could have contributed to any communal labour requirements.

The smaller components of settlement surrounding Salūt possibly define the extent of cultivated land that would have been necessary to support the population and thus give the impression of an oasis settlement. The presence of viable agricultural soils would have been a major determining factor in the location of settlement at

Salūt from the Bronze Age to recent times. While a general indication of the existence of cultivated soils in the Iron Age has already been established (Cremaschi & Zerboni 2010), further work remains to be done. In particular, the methods of irrigation need to be investigated and any evidence of periods of abandonment needs to be explained.

In the course of the survey no sherds were found that might be dated to the beginning of the third millennium (Haftit period), despite the vast number of Haftit/bee-hive tombs on the nearby mountains. As already stated, excavations conducted by the IMTO in 2011 showed that many of these tombs had been reused during the second-millennium Wādī Sūq period and throughout

the Iron Age. The presence of Middle Bronze Age/Wādī Sūq burials containing typical pottery and soft-stone vessels is problematic since no nearby settlements of this date have yet been identified. Excavations at the Early Bronze Age tower, ST1, provide abundant evidence for occupation in the latter half of the third millennium BC, but no subsequent reoccupation until the Early Iron Age c.1300 BC. In the survey around Salūt, only a few Middle Bronze Age/Wādī Sūq sherds were found at SS 9.

From SS9, the beaker no. 102 belongs to a type well known in the standard Wādī Sūq assemblage (for a general account see Velde 2003: 104, figs 2/5–10, 4/1–3), and its decoration is typical (2003: fig. 2/7). Likewise, the decoration of no. 121, comprising a composition of wavy lines, is a widely represented motif during the Wādī Sūq period (e.g. Righetti & Cleuziou 2010: fig. 1). The presence of this pottery at SS9 will need to be further investigated by excavation to see whether or not it indicates a small area of habitation or just further burials.

The IMTO surveys have highlighted the recurrent pattern of Early Iron Age sites being established in the same locations as much older Early Bronze Age sites: Salūt is located close to ST1, Survey Site SS7 is close to an Early Bronze Age tower, Jebel al-Agma is close to the Early Bronze Age site known as Jebel al-Sulaiman (Orchard & Orchard 2007: pl. 6/d), and further north, BB-4 is adjacent to an area of Early Bronze Age occupation. In the sedimentary record, revealed in a number of test pits excavated in the plain between Salūt and ST1, there is nothing that indicates a more arid climate in the second millennium BC, which it has been suggested elsewhere could be a contributing factor in the reduction of settlements at this time (among others, Parker et al. 2006; Mayewski et al. 2004). That an entire population would abandon once-occupied fertile areas and centuries later reoccupy precisely the same area requires explanation.

Perhaps the reoccupation of the areas was made possible due to technological advances that included the introduction of new irrigation techniques. For example, the introduction of *falaj* irrigation, now widely accepted to date to the first millennium BC (i.e. al-Tikriti 2010), may have had a profound impact, regardless of the fact that earlier sophisticated irrigation techniques dating to the Early Bronze Age had existed, for example at Hili 8 (Cleuziou 1998) and possibly at al-Ghubra near Bahla (Orchard & Orchard 2010) and in the vicinity of ST1 (Degli Esposti 2013). To date, there is no conclusive evidence for Iron Age *aflaj* in the vicinity of Salūt, although these were clearly important there in subsequent historical times.

There is clearly no easy explanation for the apparent reduction of settlement c.2000 to c.1300 BC in the area surrounding Salūt and elsewhere in the Wādī Bahla region. In the meantime, the admittedly scarce evidence from surveys excludes a complete abandonment of the area but serves as an impetus for further excavations, detailed surveys, and environmental studies that might ultimately help to explain the remarkable transformations that enabled the Early Bronze Age and Early Iron Age societies of south-east Arabia to emerge at the beginning of the third and the first millennium BC respectively.

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References

- Avanzini A. & Phillips C.
2010. An outline of recent discoveries at Salūt in the Sultanate of Oman. Pages 93–108 in A. Avanzini (ed.), *Eastern Arabia in the first millennium BC, International Conference, Pisa 12th–13th May 2008*. Rome: ‘l’Erma’ di Bretschneider.
- Avanzini A., Sedov A.V. & Condoluci C.
2005. Salūt, Sultanate of Oman. Report (2004–2005). *Egitto e Vicino Oriente* 28: 339–389.
- Boucharlat R. & Lombard P.
1985. The Oasis of Al Ain in the Iron Age: Excavations at Rumeilah, 1981–1983, Survey at Hili 14. *Archaeology in the United Arab Emirates* 4: 44–73.

- Cleuziou S.
1998. The foundation of Early Bronze Age oases in the Oman Peninsula. Pages 181–227 in M. Pearce & M. Tosi (eds), *Papers from the EAA third annual meeting at Ravenna, 1997*. i. *Pre- and protohistory*. (British Archaeological Reports International Series 717). Oxford: Archaeopress.
- Cremaschi M. & Zerboni A.
2010. Geoarchaeological investigation in the Salūt area. 2010 Field Season Preliminary Report. Preliminary report submitted to the Office of His Excellency the Adviser to His Majesty the Sultan for Cultural Affairs, Muscat. [Unpublished circulated report.]
- de Cardi B., Collier S. & Doe B.
1976. Excavations and survey in Oman, 1974–1975. *Journal of Oman Studies* 2: 101–188.
- de Cardi B., Kennet D. & Stocks R.L.
1994. Five thousands years of settlement at Khatt, UAE. *Proceedings of the Seminar for Arabian Studies* 24: 35–95.
- Degli Esposti M.
2011. The excavation of an Early Bronze Age tower near Salūt (Bisyah, Sultanate of Oman): the Iron Age levels. *Egitto e Vicino Oriente* 34: 189–224.
2013. The 5th and 6th campaigns of excavation at the Salūt Bronze Age Tower (ST1). (Preliminary reports of the Italian Mission to Oman). Available online at http://arabiantica.humnet.unipi.it/uploads/media/ST1_2012B-2013A.pdf
- Hastings A., Humphries J.H. & Meadow R.H.
1975. Oman in the Third Millennium BCE. *Journal of Oman Studies* 1: 9–55.
- Humphries J.H.
1974. Harvard archaeological survey in Oman: II — Some late prehistoric sites in the Sultanate of Oman. *Proceedings of the Seminar for Arabian Studies* 4: 49–77.
- Magee P.
1996. The chronology of the southeast Arabian Iron Age. *Arabian Archaeology and Epigraphy* 7/2: 240–252.
2005. Investigating cross-Gulf trade in the Iron Age III period: chronological and compositional data on Burnished Maroon Slipped Ware (BMSW) in southeastern Arabia and Iran. *Arabian Archaeology and Epigraphy* 16/1: 82–92.
- Mayewski P.A., Rohling E.E., Stanger J.C., Karlén W. et al.
2004. Holocene climate variability. *Quaternary research* 62: 243–255.
- Orchard J.C.
1995. The Origins of Agricultural Settlement in the Al-Hajar Region. *Iraq* 57: 145–158.
- Orchard J.C. & Orchard J.J.
2007. The third millennium BC oasis settlements of Oman and the first evidence of their irrigation by *afaj* from Bahla. Pages 143–173 in J.C. Orchard & J.J. Orchard (eds), *Proceedings of the International Symposium: Archaeology of the Arabian Peninsula Through the Ages. 7th–9th May 2006*. Muscat: Ministry of Heritage and Culture.
2010. A 5000 Year Old *Falaj* in the Wadi Bahla, Oman. Pages 511–524 in P. Matthiae, F. Pinnock, L. Nigro & N. Marchetti (eds), *Proceedings of the 6th International Congress on the Archaeology of the Ancient Near East 2*. Wiesbaden: Harrassowitz.
- Parker A.G., Goudie A.S., Stokes S., White K. et al.
2006. A record of Holocene climate change from lake geochemical analyses in southeastern Arabia. *Quaternary research* 66: 465–476.
- Phillips C.S.
1997. The pattern of settlement in the Wadi al-Qawr. *Proceedings of the Seminar for Arabian Studies* 27: 205–218.
1998. The Wadi al-Qawr pottery assemblage. In Mouton M. (ed.), *Assemblages céramiques des sites de l'Âge du Fer de la péninsule d'Oman*. (Documents d'Archéologie de l'Arabie 1). Lyon: Maison de l'Orient Méditerranéen. [CD-Rom.]

2010. Iron Age chronology in South East Arabia and new data from Salūt, Sultanate of Oman. Pages 71–80 in A. Avanzini (ed.), *Eastern Arabia in the first millennium BC, International Conference, Pisa 12th–13th May 2008*. Rome: ‘l’Erma’ di Bretschneider.
- Phillips C., Condoluci C. & Degli Esposti M.
2010. Archaeological survey in Wadi Bahla (Sultanate of Oman): an Iron Age site on Jabal al-Agma, near Bisyah. *Egitto e Vicino Oriente* 33: 151–168.
2012. Further consideration of Bronze and Iron Age Settlement patterns at Salūt. *Egitto e Vicino Oriente* 35: 193–217.
- (in preparation). High places in Oman: the IMTO excavations on Jabal Salūt.
- Potts D.T.
1997. Rewriting the late prehistory of South-eastern Arabia: a reply to Jocelyn Orchard. *Iraq* 59: 63–71.
- Righetti S. & Cleuziou S.
2010. The Wādī Sūq pottery: a typological study of the pottery assemblage at Hili 8 (UAE). *Proceedings of the Seminar for Arabian Studies* 40: 283–292.
- al-Tikriti W.Y.
2010. Heading North: an ancient caravan route and the impact of the *falaj* system on the Iron Age Culture. Pages 227–247 in Avanzini (ed.), *Eastern Arabia in the first millennium BC, International Conference, Pisa 12th–13th May 2008*. Rome: ‘l’Erma’ di Bretschneider.
- Velde C.
2003. Wadi Suq and Late Bronze Age in the Oman Peninsula. Pages 102–113 in D.T. Potts, H. Al-Naboodah & P. Hellyer (eds), *Archaeology of the United Arab Emirates. Proceedings of the First International Conference on the Archaeology of the U.A.E.* London: Trident Press.
- Wilkinson T.J.
1982. The definition of ancient manured zones by means of extensive sherd-sampling techniques. *Journal of Field Archaeology* 9/3: 232–333.

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