

THE ṬAFĪLA-BUṢAYRA ARCHAEOLOGICAL SURVEY: PHASE 2 (2000)

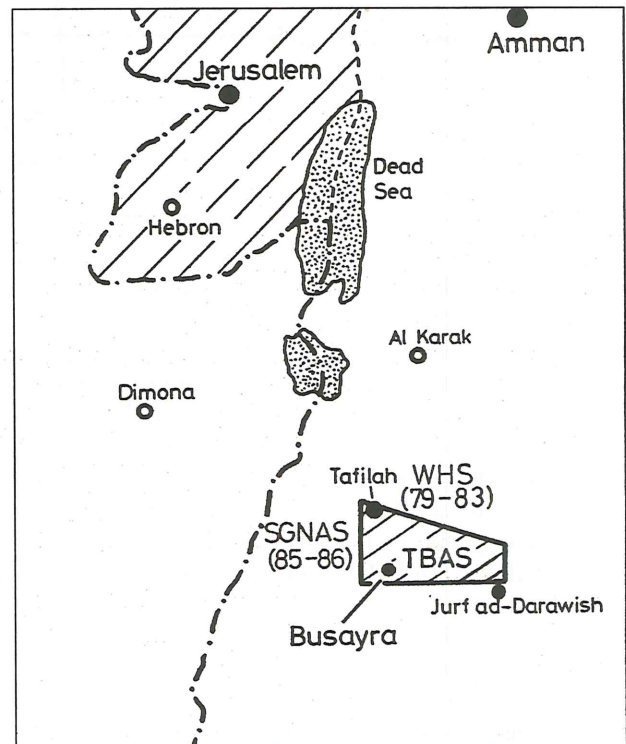
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Introduction

The Ṭafila-Buṣayra Archaeological Survey (TBAS) was in the field for its first season in 1999 (MacDonald 1999; MacDonald and Quaintance 2000; MacDonald *et al.* 2000). The second infield season, Phase 2, took place from April 29-June 16, 2000. It is this field season that is the focus of this report.¹

The TBAS territory covers an area of ca. 480km² in west-central Jordan in the region from just west of aṭ-Ṭafila (الطفيلة) and Buṣayra (بصيرة) to just north of Jurf ad-Darāwīsh (جرف الدراويش) in the east. It is immediately to the south and east of the areas investigated by the “Wadi al-Hasa Archaeological Survey (WHS)” (1979-1983) (MacDonald *et al.* 1988) and the “Southern Ghawrs and Northeast ‘Arabah Archaeological Survey (SGNAS)” (1985-1986) (MacDonald *et al.* 1992) respectively (Fig. 1).

A general objective of the TBAS is to connect geographically the survey area with the territory of both the WHS and the SGNAS. A primary objective of the project is to provide a statistically, valid sample of artifacts and archaeological sites in the various topographical zones of the survey area. Towards this end, the survey territory is divided into three topographical zones based on the 1:50,000 scale maps: a) Zone 1: the gorges, an area of steep wadis that generally flow in a north-westerly direction towards the Southern ‘Aghwār and Northeast ‘Arabah (11 random plots, each measuring 500 x 500m); b) Zone 2: the area of the so-called Edomite Plateau, or part of the Trans-jordanian Plateau, from just west of aṭ-Ṭafila and Buṣayra towards Jurf ad-Darāwīsh in the east (70 random plots, each measuring 500 x 500m); and c)

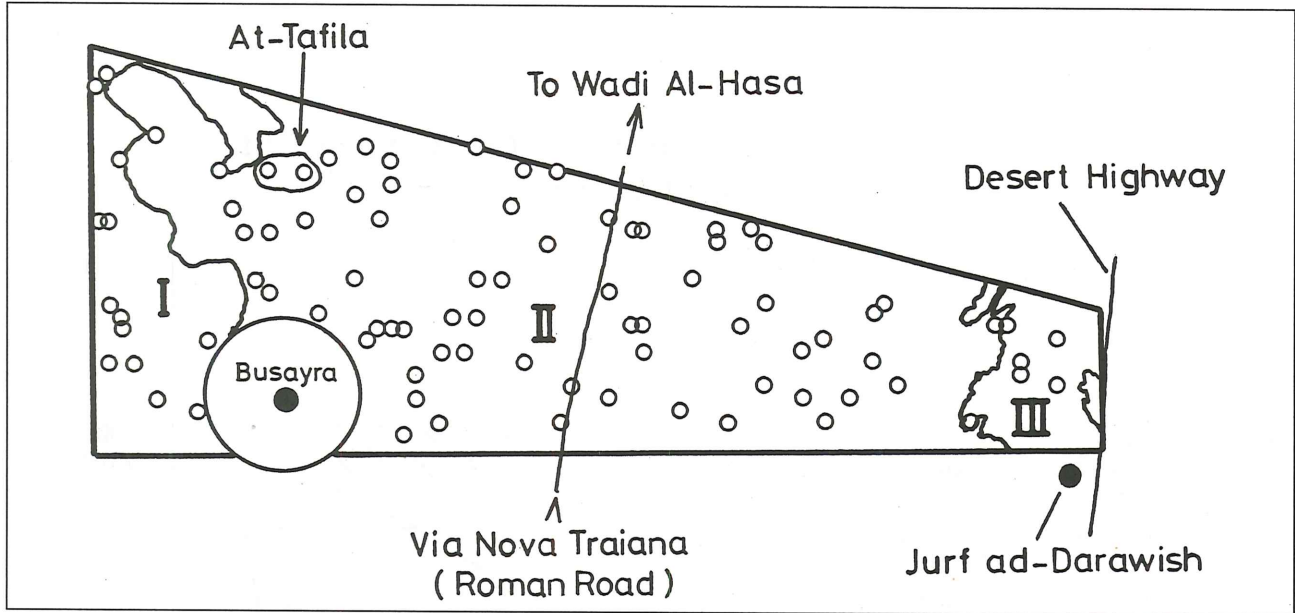


1. General map of TBAS territory in relation to that of WHS and SGNAS territory.

Zone 3: the desert region immediately north of Jurf ad-Darāwīsh (six random plots, each measuring 500 x 500m) (Fig. 2). Secondary objectives included: 1) carrying out a “hinterlands” survey of the Buṣayra Citadel, part of the Edomite capital (Bennett 1983; Bienkowski 1997); 2) “ground-proofing” potential sites on several aerial photographs of the survey territory; and 3) investigating the archaeological materials, specifically lithics, associated with the “Wadi al-Juheira Lake” and

1. TBAS team members for the 2000 season included: B MacDonald, St. Francis Xavier University, Antigonish, Nova Scotia, director; A. Bradshaw, also of St. Francis Xavier University, B & W photography, GPS, and aerial photos; L. Herr, Canadian University College, College Heights, Alberta, ceramics; M. Neeley, Montana State University,

Bozeman, lithics; and S. Quaintance, Kansas State University, Manhattan, digital camera, sketcher, and computer specialist. In addition, Imad ad-Drous served as representative of the Department of Antiquities while Abu Sami was cook.



2. TBAS territory and topographical zones (reproduced from GIS database design and cartographic composition by Peter S. Johnson).

“Jurf-Burma Lake”, Pleistocene lakes in the Jurf ad-Darāwīsh region (Moumani 1996: 144-146).

Specific objectives of the 2000 season were: 1) to survey the remaining 63 random squares in Zone 2 not covered during the 1999 season and the six squares in Zone 3;² 2) to carry out a purposive survey of areas not covered by the random squares of the two zones in question; 3) to continue to investigate the archaeological materials associated with the “Wadi al-Juheira Lake” and “Jurf-Burma Lake”; 4) to continue to “ground-proof” potential sites that D. Kennedy (1998a, b), University of Western Australia, Perth, identified on aerial photographs 9.036 (i), 9.036 (ii), and 9.035 of the survey territory; and 5) to continue to connect geographically, where possible, with the territory of the WHS.

Methodologies

The methodologies employed varied according to the project’s objectives. For example, when investigating a random square of Zones 2 or 3, a corner of the square was first located using a Global Positioning System (GPS).³ Once a corner was located, survey team members positioned themselves, usually at 50m intervals, along one of the lines of the square. Then, with the help of compasses to keep a straight line, team members transected the square and collected all observed ar-

tifacts (two transects were required to cover the square.). Where higher densities of artifacts occurred, these areas were designated as sites and were collected separately. Samples derived from sites were collected in one of two ways. Sites characterized by diffuse surface scatters or architectural features were collected using generalized grab samples from within the site boundaries in order to obtain a representative sample of material and/or any temporally diagnostic elements. In the case of high-density lithic scatters, a more systematic strategy was used that involved collecting all material within a circular unit measuring 2m diameter. Diagnostics were generally more abundant at these sites making a grab sample unnecessary.

TBAS team members used more closely spaced pedestrian transects to cover the previously uninvestigated shores of the “Wadi al-Juheira Lake” and “Jurf-Burma Lake”. In locations designated as sites, the two surface collection strategies described above were also utilised.

Finally, a purposive, survey methodology was used extensively for locating sites throughout the Tafila-Buṣayra-Jurf ad-Darāwīsh region. This involved surveying all sites noted within the vicinity of the random squares, interviewing Department of Antiquities personnel regarding the location of sites, and also talking with the farmers, shepherds, and

2. All TBAS random squares have been chosen on the basis of a Geographic Information System (GIS) database design and cartographic composition by Peter S. Johnson, Center for Applied Spatial Analysis, The University of Arizona, Tucson (co-ordinates in meters, UTM projection, Zone 36) (Fig. 2).

3. GPS readings for the 2000 season are probably more accurate than those for the previous season. This is due to the fact that President Bill Clinton ordered that “selective availability”, that is, the U.S. government’s introduction of intentional errors into GPS signals, be removed as of May 1, 2000 (West 2000; Dixon 2000).

Bedouins living in the region about the whereabouts of sites. Once a site was located and surveyed, TBAS team members made every effort to insure that the local name of the site was ascertained.

Accomplishments

During the second infield season, TBAS team members transected 63 random squares of Zone 2 and six random squares of Zone 3. In addition to these 70 survey plots, 139 sites (Nos. 152-290) were recorded.

The results of the examination of 63 squares in Zone 2 are listed in **Table 1**.

There are 31 sites within and 29 sites near the RSs of Zone 2 transected during the 2000 season (**Table 2**). (TBAS team members had surveyed nine of these sites [39, 81, 84, 122, 123, 137, 142, 143, and 149] during the 1999 season while investigating potential sites on aerial photos).

The archaeological periods represented by the RSs of Zone 2 (**Table 1**) and the sites within and near these squares (**Table 2**) are comparable.

TBAS team members transected the six squares of Zone 3. The results of this work are listed in **Table 3**.

There are five sites that fall within the squares of Zone 3 (**Table 4**).

Here again, the periods represented in the RSs and sites of Zone 3 are almost identical. A minor difference is in the probable presence of Early Islamic in one square and Middle/Late Islamic sherds at one site.

The TBAS survey team purposively surveyed 18 sites in the "Wadi al-Juheira Lake" and "Jurf-Burma Lake" region (**Table 5**).

Lithic Materials from the 2000 Season

Introduction

Lithic materials were collected from 94 sites and 64 survey plots during the 2000 field season. These collections generated a total of 2,973 lithic artifacts including 1,752 from the sites and 1,221 from the plots. The average sample sizes for sites and survey plots were 17.8 and 19.0 pieces, respectively.

Although collection strategies differed between survey sites and plots (see above), the proportions of lithic categories are quite similar between these groups (**Table 6**). In both cases, flakes are the most dominant class of lithic artifact (66.6 vs 78%) followed by blades (14.4 vs 13.7%) and cores (6.2 vs 7.5%). Interestingly, the percentage of retouched items in both site and plot collections are nearly identical (13.7 vs 13.9%). Discrepancies are noted between sites and plots in terms of bladelets (4.4 vs

0.6%) and shatter (8.4 vs 0.2%). These differences can be explained in terms of the more intensive search and collection techniques applied to sites versus the general pattern of artifact collection within the survey plots. These items are also likely to have lower surface visibility in the context of survey plots due to their small size and less distinctive morphology.

Lithic Periods Represented

The goal of the infield analysis of lithic materials was to provide a general indication of the cultural-temporal affiliation of these artifacts. These determinations were made on the basis of the presence/absence of temporally sensitive retouched pieces, core and debitage morphology, the degree of patination, and the quality of the lithic material. These criteria were also used for the 1999 season and a fuller description of the justification for these categories can be found in that report (MacDonald et al. 2000).

During the 2000 field season, the 94 sites containing lithic components resulted in the identification of 126 cultural-temporal units (**Table 7**). Paleolithic periods comprised 34.2% (N=43) of this total. In comparison, the 64 survey plots yielded 116 cultural-temporal units, of which 49.1% (N=57) are attributed to the Paleolithic. In the following, the results of the 2000 field season are summarized along the lines of the major Levantine cultural-temporal units. The primary emphasis is on the Paleolithic periods since these are generally well-defined in terms of their lithic technology. The lithic technologies of the later ceramic periods are less well-known, with the exception of certain tool classes (e.g. points, fan scrapers, sickles [Rosen 1997]), and are lumped together in an undifferentiated ceramic category.

Lower Paleolithic components are rare, occurring at one site and two survey plots (**Table 7**). The single Lower Paleolithic site (256) was recorded in proximity to Pleistocene "Jurf-Burma Lake" in the easternmost portion of the survey area. During the initial field season, Lower Paleolithic sites were also found farther north along the ancient lakeshore near Jurf ad-Darāwish, confirming earlier observations made by Bender (1974) regarding the Lower Paleolithic in this area. Several hand axes were found along Wādī al-Juhayra/ "al-Juheira" (وادي الجهيرة) to the southwest, but these were isolated occurrences and not associated with artifact scatters of a similar age. Lower Paleolithic components were also located within survey plots in the eastern portion of the project area.

Table 1: Random squares (RS) (500 x 500m) of Zone 2, the Edomite Plateau, transected in 2000.

RS #	Sample #(s)	Periods Represented
4	358 (Ceramics)/359 (Lithics)	LPL/MPL; Ceramic period lithics; Iron II; Byz; Mod
5	371 (Ceramics)/370 (Lithics)	NL lithics (?); Ceramic period lithics; Iron II; ERom; Byz; MIsI/LIsI
8	360 (Ceramics)/361 (Lithics)	Ceramic period lithics; LRom; MIsI/LIsI
12	376 (Ceramics)	Chal; Byz
13	380 (Ceramics)/381 (Lithics)	PL/MPL; Ceramic period lithics; ERom (Nab); Byz; MIsI/LIsI
14	362 (Ceramics)/363 (Lithics)	Ceramic period lithics; Rom; Byz; MIsI/LIsI
15	366 (Ceramics)/367 (Lithics)	Ceramic period lithics; ERom (Nab); Rom; Byz; MIsI/LIsI
16	311 (Ceramics)/312 (Lithics)	Ceramic period lithics; Iron II; Rom; LIsI
17	377 (Ceramics)/378 (Lithics)	LPL/MPL; Ceramic period lithics; Rom; Byz, dom
20	314 (Ceramics)/315 (Lithics)	MPL; PL; Ceramic period lithics; Rom; Byz
21	364 (Ceramics)/365 (Lithics)	Early PL (?); Ceramic period lithics; Iron II; Rom; Byz, dom; MIsI/LIsI
22	403 (Ceramics)/404 (Lithics)	MPL; Late UPL/EPL; Ceramic period lithics; ERom (Nab); LRom; Byz; Mod
23	310 (Ceramics)	Iron II; Rom; Byz
24	313 (Ceramics)	Iron II; ERom (Nab); Byz; MIsI/LIsI; Mod
25	411 (Ceramics)/412 (Lithics)	MPL; EPL/UPL (?); Ceramic period lithics; Chal, prob; Rom; Byz, dom
26	413 (Ceramics)/414 (Lithics)	Ceramic period lithics; Rom; Byz
27	490 (Lithics)	MPL; PL; Ceramic period lithics
28	487 (Ceramics)/488 (Lithics)	LPL/MPL; Ceramic period lithics; Iron II; Byz
29	384 (Ceramics)/385 (Lithics)	PL/MPL; Ceramic period lithics; Iron II; Rom; Byz
30	489 (Lithics)	MPL; Ceramic period lithics
31	483 (Ceramics)/482 (Lithics)	MPL; Ceramic period lithics; Byz
32	326 (Ceramics)	Iron II; Byz, dom
33	356 (Ceramics)/357 (Lithics)	PL (?); Ceramic period lithics; Iron II; Byz, dom; MIsI/LIsI
34	388 (Ceramics)/389 (Lithics)	Ceramic period lithics; Iron II; Rom; Byz; MIsI/LIsI; Mod
35	399 (Ceramics)/400 (Lithics)	LPL/MPL; Ceramic period lithics; ERom (Nab); Byz; Mod
36	506 (Ceramics)/507 (Lithics)	PL; Ceramic period lithics; Ud ceramics
37	327 (Ceramics)	Iron II; Hell; Rom; Byz
38	416 (Ceramics)/415 (Lithics)	MPL; Ceramic period lithics; Byz; MIsI/LIsI; Mod
40	471 (Ceramics)/472 (Lithics)	PL (?); Ceramic period lithics; Byz

Table 1 cont.

RS #	Sample #(s)	Periods Represented
41	542 (Ceramics)/543 (Lithics)	MPL; PL (?); Ceramic period lithics; Rom-Byz
43	328 (Ceramics)/329 (Lithics)	Ceramic period lithics; Iron II, poss; Byz, dom
44	390 (Ceramics)/391 (Lithics)	Ceramic period lithics; EB III; LB, prob; Iron II; Rom; Byz
45	392 (Ceramics)/393 (Lithics)	Ceramic period lithics; Iron I; Iron II; Per, prob; ERom (Nab); Byz
46	545 (Ceramics)/546 (Lithics)	PL/MPL; Ceramic period lithics; Byz, poss
48	321 (Ceramics)/322 (Lithics)	Ceramic period lithics; Iron II; ERom (Nab); Byz
49	323 (Ceramics)/324 (Lithics)	Ud lithics; Iron II; Byz, dom
50	348 (Ceramics)/349 (Lithics)	Ceramic period lithics; LRom; Byz
51	427 (Ceramics)/428 (Lithics)	LPL/MPL; Ceramic period lithics; Rom
52	423 (Ceramics)/424 (Lithics)	PL; Ceramic period lithics; Rom; Byz; MIsI/LIsI
53	508 (Ceramics)/509 (Lithics)	LPL (?); MPL; Ceramic period lithics (?); MIsI/LIsI
54	570 (Ceramics)/571 (Lithics)	LPL/MPL; Byz
57	319 (Ceramics)/320 (Lithics)	Early PL; Iron II, poss; Rom; Byz
58	514 (Lithics)	PL; NL lithics (?); Ceramic period lithics
60	350 (Ceramics)/351 (Lithics)	Ceramic period lithics (?); Rom; Byz
61	354 (Ceramics)/355 (Lithics)	PL (?); Ceramic period lithics; Rom; Byz
62	419 (Ceramics)/420 (Lithics)	LPL (?); MPL; Ceramic period lithics; Rom (Nab); Rom; Byz
63	504 (Ceramics)/505 (Lithics)	PL; Ceramic period lithics; Iron II, poss; Rom, poss
66	445 (Ceramics)/446 (Lithics)	PL (?); Ceramic period lithics; Byz, dom; MIsI/LIsI
67	537 (Ceramics)/538 (Lithics)	PL (?); Ceramic period lithics (?); ERom (Nab)
69	346 (Ceramics)/347 (Lithics)	MPL; Ceramic period lithics; Iron II; Byz
71	436 (Ceramics)/435 (Lithics)	Ceramic period lithics; ERom (Nab); LRom; Byz; MIsI/LIsI
72	522 (Lithics)	Ceramic period lithics
73	534 (Ceramics)/535 (Lithics)	PL (?); Ceramic period lithics (?); Byz
76	344 (Ceramics)/345 (Lithics)	Ceramic period lithics; Iron II, prob; Byz
77	441 (Ceramics)/442 (Lithics)	MPL; Ceramic period lithics (?); Byz
78	526 (Lithics)	MPL; PL; Ceramic period lithics
79	533 (Lithics)	LPL/MPL; Ceramic period lithics
81	439 (Ceramics)/440 (Lithics)	PL (?); Ceramic period lithics; Rom; Byz
82	342 (Ceramics)/343 (Lithics)	MPL; Ceramic period lithics (?); Byz
83	429 (Ceramics)/430 (Lithics)	Ceramic period lithics; LRom; Byz
84	516 (Ceramics)/517 (Lithics)	MPL; PL; Ceramic period lithics; Mod
85	531 (Ceramics)/532 (Lithics)	LPL/MPL; UPL; Ceramic period lithics; Iron II, poss; MIsI/LIsI, poss
87	330 (Ceramics)/331 (Lithics)	Ceramic period lithics; Iron II; Byz, dom

Table 2: Sites within and near RSs of Zone 2 transected in 2000.

Site #	Within RS #	Near RS #(s)	Periods Represented
39	-	23	Iron II; Hell-ERom (Nab)
81	-	4 and 8	Byz; LIsl; Mod
84	-	4	Iron Age; Nab; Mod
122	-	48	Rom-Byz
123	48	-	Iron II
137	-	48	Iron II; Rom (Nab); Byz
142	-	44	Chal-EB; EB; Iron I; Iron II; Iron Age; Rom; Byz; MIsl/LIsl
143	44	-	Iron Age; Rom; Byz; MIsl/LIsl
149	-	69	Byz/EIsl
154	-	32	Iron II; Byz, dom; MIsl/LIsl
155	87	-	LPL/MPL
160	-	82 and 76	Iron II; ERom (Nab); LRom; Byz; LIsl
161	82	-	Ceramic period lithics; Late Iron I, poss or poss Hell; Byz
162	76	-	Neither lithics nor sherds found
163	-	50	Neither lithics nor sherds found
167	-	5	Iron II; ERom (Nab); LRom; Byz; EIsl; MIsl/LIsl
170	-	13 and 29	Iron Age I/II; ERom; Byz; MIsl/LIsl
171	-	13	Late PL (?); Ceramic period lithics; ERom; Byz; MIsl/LIsl
172	-	44	Neither lithics nor sherds found
174	34	-	Neither lithics nor sherds found
176	45	-	Ceramic period lithics; Iron II, prob; Byz; LIsl
178	-	22	Ceramic period lithics; ERom (Nab); Byz
179	22	-	Neither lithics nor sherds collected
180	22	-	Neither lithics nor sherds collected
181	22	-	Neither lithics nor sherds found
182	22	-	Ceramic period lithics; ERom (Nab); LRom; Byz
184	25	-	Ceramic period lithics (?); ERom (Nab); Byz, dom
185	25	-	Ceramic period lithics; Byz
186	26	-	Neither lithics nor sherds collected
187	-	62	Ceramic period lithics; LRom-Byz; Byz
188	62	-	MPL (?); Ceramic period lithics; ERom (Nab); Byz
189	51	-	Ceramic period lithics; Byz-EIsl
190	-	83	Ceramic period lithics; ERom; LRom; Byz, dom; MIsl
191	83	-	Neither lithics nor sherds collected

Table 2 cont.

Site #	Within RS #	Near RS #(s)	Periods Represented
192	71	-	Ceramic period lithics (?); Iron II, prob; ERom (Nab); Byz; EIsl; MIsI/LIsl
194	81	-	Ceramic period lithics; Byz; LIsl
196	66	-	Neither lithics nor sherds found
216	40	-	Neither lithics nor sherds found
223	28	-	MPL (?); Ceramic period lithics; Chal prob; Rom; Byz
224	28	-	MPL (?); Ceramic period lithics
225	27	-	Neither lithics nor sherds found
228	-	63	Ceramic period lithics
229	-	63	Ceramic period lithics; Chal sherds
230	-	63	PL (?); Ceramic period lithics
231	-	63	Ceramic period lithics; Byz; MIsI/LIsl
232	-	63	Late NL/Chal/EB lithics
233	-	63	Ceramic period lithics; Chal; Byz
234	63	-	Neither lithics nor sherds found
235	53	-	PL (?); Ceramic period lithics
236	-	58	Ceramic period lithics; Chal, poss; Rom; Byz
237	58	-	Rom; LRom-Byz
238	-	84	Ceramic period lithics; Rom; Byz; EIsl; MIsI/LIsl
239	-	84	Late PL; Ceramic period lithics; Chal; Iron Age; Byz; MIsI/LIsl, prob; Mod
240	-	78	Ceramic period lithics
241	-	78	Ceramic period lithics; Chal; Rom-Byz; MIsI/LIsl
242	-	78	Ceramic period lithics; Byz; MIsI/LIsl
243	85	-	Ceramic period lithics
244	85	-	Ceramic period lithics
245	67	-	Ceramic period lithics
246	41	-	Ceramic period lithics; Pre-EB III, prob Chal

Table 3: Random squares (RS) (500 x 500 m) of Zone 3, the Desert region north of Jurfaḍ-Darāwish, transected.

RS #	Sample #(s)	Periods Represented
55	572 (Lithics)	LPL/MPL; Ceramic period lithics (?)
59	575 (Lithics)	LPL/MPL; Chal lithics (?)
68	580 (Lithics)	MPL; PL
70	583 (Ceramics)/584 (Lithics)	LPL/MPL; Byz
74	587 (Ceramics)/588 (Lithics)	LPL/MPL; EIsl, prob
86	547 (Ceramics)/548 (Lithics)	LPL; MPL; UPL; Rom; Byz, dom

Table 4: Sites within the RSs of Zone 3.

Site #	Within RS #	Periods Represented
261	55	Ceramic period lithics; Rom; Byz; MIsl/LIsl
263	68	Late NL/Chal/EB lithics; Rom-Byz
264	70	MPL/UPL (?); UPL
265	70	LPL/MPL
267	74	LPL/MPL

Table 5: Sites Surveyed in the "Wadi al-Juheira Lake" and "Jurf-Burma Lake" region.

Site #	Sample #(s)	Periods Represented
207	455 (Ceramics)/456 (Lithics)	MPL; PL (?); Ceramic period lithics (?); Chal sherds, poss; Rom-Byz
208	457 (Lithics)	MPL (?); Late NL/Chal/EB lithics
209	458, 465 (Ceramics)/459 (Lithics)	Late EPL; Chal lithics (?); Chal; Byz
210	460 (Lithics)	Late EPL; Chal (?)
211	461,463 (Ceramics)/462,464 (Lithics)	UPL/EPL; Chal/EB lithics (?); Ceramic period lithics (?); Chal sherds
212	466 (Lithics)	Late EPL
213	467 (Ceramics)/468 (Lithics)	Late EPL; PL; Chal/EB sherds; Rom, poss
214		Neither lithics nor ceramics collected
215	470 (Ceramics)/469 (Lithics)	MPL; UPL; EPL; Pre-Rom bods; ERom (Nab); Byz; LIsl
226	491, 492 (Lithics)	MPL; MPL/Early UPL; PL
227	493 (Lithics)	LPL/MPL
252	556 (Lithics)	LPL/MPL
253	557 (Ceramics)/558 (Lithics)	MPL; LPL/MPL (?); UPL (?); Chal sherds, prob; Byz
254	559 (Ceramics)/560 (Lithics)	MPL; UPL/EPL (?); Chal lithics and sherds
255	561 (Ceramics)/562 (Lithics)	Late NL/Chal/EB lithics; PL (?); Chal sherds, dom; Byz
256	563 (Lithics)	LPL; MPL/UPL (?)
257	564 (Lithics)	MPL
271	592 (Lithics)	MPL

Table 6: Lithic artifact frequencies from survey sites and plots.

	Survey Sites	%	Survey Plots	%	Total
Blades	253	14.4	167	13.7	420
Flakes	1166	66.6	952	78.0	2118
Bladelets	78	4.4	8	0.6	86
Cores	108	6.2	92	7.5	200
Shatter	147	8.4	2	0.2	149
Tools ¹	240	13.7	170	13.9	410
Total	1752	100.0	1221	100.0	2973

¹Tools are included in the various debitage categories

Table 7: Frequency and percentage of cultural-temporal components represented in the lithic assemblages.

Period	Survey Sites	%	Survey Plots	%	Total
Lower Paleolithic	1	0.8	2	1.7	3
Lower/Middle Paleolithic	8	6.3	9	7.7	17
Middle Paleolithic	11	8.7	21	18.1	32
Middle/Upper Paleolithic	2	1.6	0	0.0	2
Upper Paleolithic	3	2.4	1	0.9	4
Upper/Epipaleolithic	3	2.4	2	1.7	5
Epipaleolithic	5	4.0	0	0.0	5
Undifferentiated Paleolithic	10	8.0	22	19.0	32
Late Neolithic/Chalco/EB	13	10.2	3	2.6	16
Undifferentiated Ceramic	70	55.6	56	48.3	126
Total Periods Represented	126	100.0	116	100.0	242

Sites and survey plots attributed to an undifferentiated Lower/Middle Paleolithic category were more numerous than in the 1999 season. Eight sites and nine survey plots yielded material assigned to this temporal unit (Table 7). Seven of the eight sites are located in the east along either “Jurf-Burma Lake” or the drainage of Wādī al-Jurf (وادي الجرف). Survey plots containing Lower/Middle Paleolithic components are more widely distributed. However, the survey plots in the east (Zone 3) contain a greater proportion of these components than the central area (Zone 2).

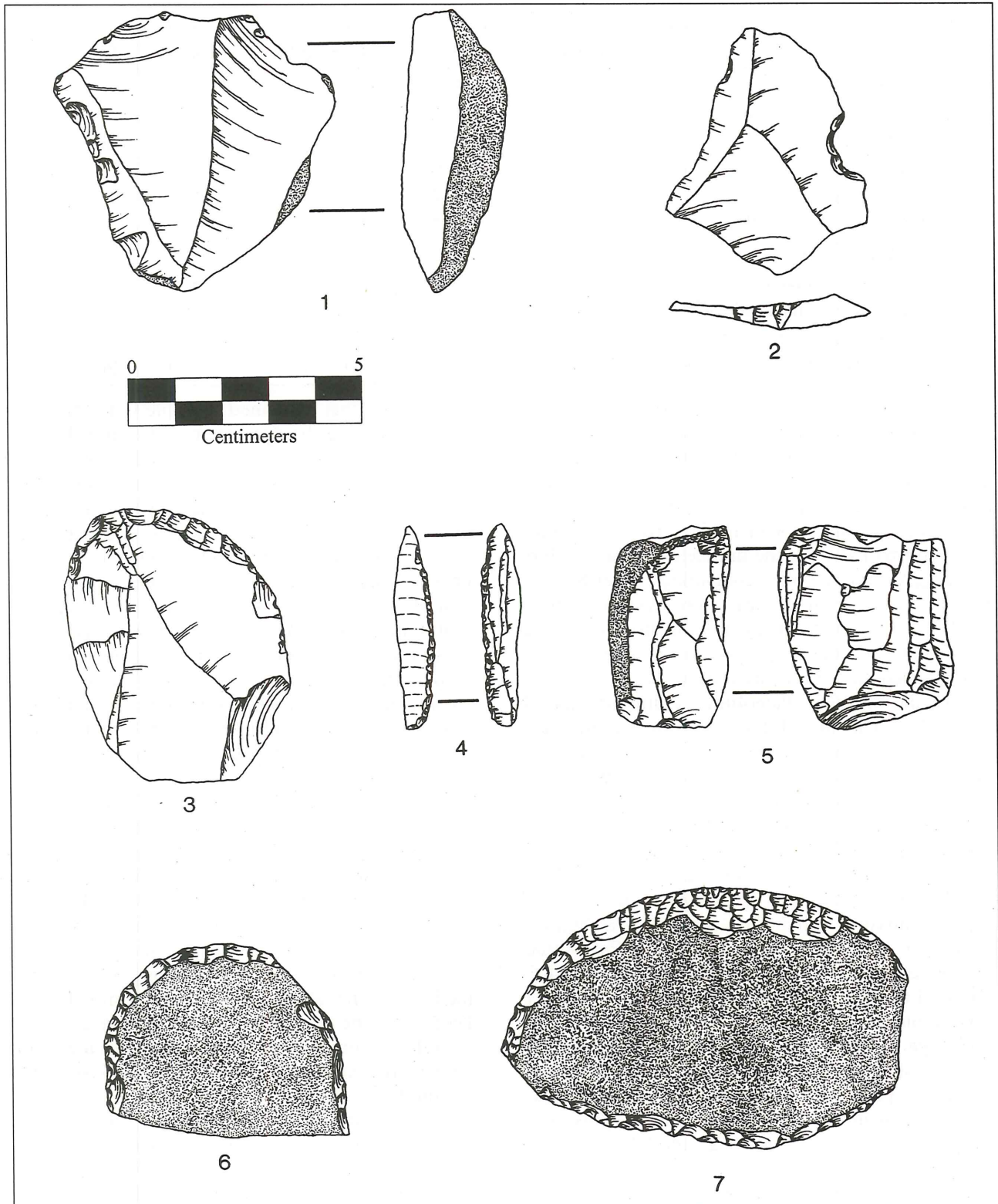
Of the various Paleolithic cultural-temporal units identified, the Middle Paleolithic is the best represented. Middle Paleolithic components are represented at 11 sites and 21 survey plots (Table 7). Characteristic elements include cores, flakes, and points manufactured using the Levallois technique (Fig. 3:1-3). In addition to the presence of Levallois elements, these items tend to have greater platform preparation (faceting) than materials representative of other time periods. The highest frequency of sites containing Middle Paleolithic components are situated in the vicinity of the “Jurf-Burma Lake” (8 of 11), indicating the attraction of this resource zone for more intensive settlement. Although Middle Paleolithic sites are concentrated in the eastern portion of the project area, 19 of the 21 survey plots containing Middle Paleolithic materials are scattered throughout Zone 2. This suggests that certain locations (e.g., the lakeshore settings) were favored for repeated or long-term occupation while other areas were exploited in a less intensive fashion.

Upper Paleolithic components are few and confined to the east along the margins of the Pleistocene lakes (Jurf-Burma and Wādī al-Juhayra) or bordering the drainage of Wādī al-Jurf. In all cases, the Upper Paleolithic materials were identified

at locations that contained multiple temporal components making the age assignment somewhat tenuous. The assignment of an Upper Paleolithic age was based largely on gross techno-typological characteristics as temporal diagnostics such as el-Wad points or Ouchtata bladelets were not observed (Coinman 1998). These included the presence of blade cores, laminar products, and the general absence of platform faceting. It is recognized that blade production is not particularly reliable as a marker of time, nor is it a trait unique to just the Upper Paleolithic (Bar-Yosef and Kuhn 1999). However, at these multi-component sites this technology differed significantly from other surface materials to suggest the presence of multiple-occupational episodes.

Sites and plots assigned to the Upper/Epipaleolithic unit were relatively rare (see Table 7) and were done so based on the presence of blade/bladelet cores and bladelets in the debitage. This generalized pattern is consistent with the industries of the Late Upper Paleolithic and Epipaleolithic (Coinman 1998). All of the sites with these components were located along the shores of the Pleistocene lakes in the region south of Jurf ad-Darāwish. The two plots containing material of this period are located in the west-central portion of the survey area and indicate a low intensity use of this region during the Paleolithic.

Lithic materials assigned to the Epipaleolithic were limited to sites along the shores of Pleistocene “Wadi al-Juheira Lake”. Survey along the north side of the wadi drainage yielded five sites from this period, all of which appear to be representative of the late Epipaleolithic (i.e. they are most similar to Natufian-like industries). These sites are characterized by the production of small bladelets from bladelet cores and the use of the same lustrous, gray chert found at late Epi-



3. Lithic artifacts: 1. Zone 2, Plot 30, Levallois point core; 2. Zone 2, Plot 22, Levallois point; 3. Site 257, sidescraper; 4. Site 210, Helwan bladelet; 5. Site 213, bladelet core; 6. Site 232, tabular scraper; 7. Site 255, tabular scraper.

paleolithic sites on the south side of the drainage in 1999. Diagnostic artifacts include various straight and curved backed bladelets, Helwan bladelets,

and microburins (Fig. 3:4-5). Combined with the 1999 data, late Epipaleolithic settlement in the survey region appears to be both restricted to and

most intensive along the “Wadi al-Juheira Lake”. In contrast, the nearby “Jurf-Burma Lake”, with abundant evidence for Middle, Upper Paleolithic, and Early Epipaleolithic settlement, has yet to yield evidence of an occupation dating to the late Epipaleolithic.

In addition to these specific Paleolithic cultural-temporal entities, a number of collections were assigned to a category of undifferentiated Paleolithic (Table 7). These collections lacked the sorts of temporal diagnostics associated with the previous temporal units, yet differed qualitatively from the ceramic period materials. General Paleolithic components were more than twice as common in survey plot collections (19%, N=22) than in the site collections (8%, N=10). There is no apparent pattern in their distribution among survey plots as these components are widely represented in Zones 2 and 3. Similarly, sites containing undifferentiated Paleolithic components are scattered throughout the survey region.

The subsequent Pre-Pottery Neolithic (PPN) is not represent within the survey region as implements diagnostic of this cultural tradition, such as naviform cores and projectile points, were not identified. The absence of settlement data for the PPN mirrors the results of the 1999 season. The best evidence for an early Holocene occupation in the survey region is represented by the category of Late Neolithic/Chalcolithic/Early Bronze Age. Materials of this age are found at 13 sites and 3 survey plots (Table 7). This designation was made primarily on the basis of fan or tabular scrapers present in the site or plot collections (Fig. 3:6-7). These implements first make their appearance in the Late Neolithic and are part of the toolkits into the Early Bronze Age (Gopher 1995; Rosen 1997). Since many of these sites contain ceramic artifacts, a more precise cultural-temporal determination can be provided from the associated ceramics. The distribution of these sites are represented by two clusters: the first around the ancient Jurf ad-Darāwish lakes; and the second in the northeastern quadrant of the survey region south of Wādī al-Ḥasā. The cluster of Late Neolithic/Chalcolithic/Early Bronze Age sites near the ancient lakes is interesting as both earlier (PPN) and later archaeological remains are absent from this area. This might suggest a brief resurgence in local resource availability or a change in land-use strategies during this interval.

The most frequent category to which lithic ma-

terials were assigned was that of the undifferentiated ceramic periods. This general category constituted 55.6% of the survey sites and 48.3% of the survey plots. Lithic materials in this category lacked the diagnostic elements that allowed a precise assignment of age and were generally characterized by the use of low-grade raw materials, the production of flakes, and amorphous, expedient cores. These collections differed significantly from the patterns of raw material selection and manufacture found in other sites and plots. The ubiquity of these materials over the landscape is evident by the presence of undifferentiated, ceramic-period lithics in 56 of the 70 plots surveyed. The area with the least evidence for these ceramic period artifacts was that of Zone 3 – the easternmost portion of the survey region – where Paleolithic surface finds were more numerous. The absence of ceramic period materials from this arid zone is in general agreement with the results of the investigations around the lakes near Jurf ad-Darāwish and Qā‘ al-Jinz (قاع الجنز) (Neeley 2000).

Ceramic Materials from the 2000 Season

TBAS team members collected ceramics from 84 or 60.4% of the 139 sites surveyed and from 60 or 85.7% of the plots transected during the 2000 season. The former yielded 179 and the latter 122 cultural-temporal units (Table 8). The dominant period represented in both sites and plots is the Byzantine. This is followed by ceramics from some phase – Early Roman to Roman-Byzantine – of the Roman period. Team members collected ceramic materials from the Middle/Late Islamic period at 24 sites and 13 plots. Iron II materials were found at 16 sites and 17 plots within the survey territory. A total of nine sites and one plot yielded Chalcolithic ceramic materials (Table 8). Preliminary analysis of the ceramic materials have resulted in the identification of little from the Early Bronze and nothing from either the Middle or Late Bronze periods. The sites and plots yielded no identifiable ceramics from the Persian period and Hellenistic sherds were collected at only one site (Table 8).

“Ground-Proofing” of Potential Sites on Aerial Photos

TBAS members “ground-proofed” 18 potential sites that Kennedy had identified on three aerial photos (9.036 [i], 9.036 [ii], and 9.035) (Table 9).⁴

4. Potential sites Nos. 17, 21-27 on aerial photo 9.035 are south of the TBAS territory. TBAS team members did not investigate these potential sites with the exception of Ken-

nedey’s potential site number 22, TBAS Site 259, Rujm al-Qirān, because of its prominence in the region (Glueck 1935: 96; Hart 1986).

Table 8: Frequency and percentage of cultural-temporal components represented in the ceramic assemblages.

Periods	Survey Sites	%	Survey Plots	%	Total
Chalcolithic	9	5.0	1	0.8	10
Chalcolithic/Early Bronze	1	0.6	0	0.0	1
Early Bronze	1	0.6	0	0.0	1
Early Bronze III	1	0.6	1	0.0	2
Iron Age	2	1.1	0	0.0	2
Iron I	2	1.1	1	0.8	3
Iron I/II	1	0.6	0	0.0	1
Iron II	16	8.9	17	13.9	33
Hellenistic	1	0.6	0	0.0	1
Early Roman	7	3.9	1	0.8	8
Early Roman (Nabataean)	16	8.9	9	7.4	25
Late Roman	7	3.9	5	4.1	12
Roman	11	6.1	21	17.2	32
Late Roman-Byzantine	2	1.1	0	0.0	2
Roman-Byzantine	7	3.9	1	0.8	8
Byzantine	60	33.5	46	37.7	106
Byzantine-Early Islamic	1	0.6	0	0.0	1
Early Islamic	5	2.8	0	0.0	5
Middle Islamic	1	0.6	0	0.0	1
Middle/Late Islamic	24	13.4	13	10.7	37
Late Islamic	3	1.7	1	0.8	4
Modern	1	0.6	5	4.1	6
Total Periods Represented	179	100	122	100	301

* Preliminary readings that were "probable" or "possible" are not included.

Table 9: Investigation of Kennedy's potential sites on aerial photos 9.036 (i), 9.036 (ii), and 9.035.

No.	Description	Observed	Results
1	Meandering wall	Meandering Wall	Site 186
2	Cairn/tower?	Dark bedrock and stone pile	No site
3	Faint enclosure	Rock fall down side of small wadi	No site
4	Small dark circle	Bulldozed; a modern building	No site
5	Small dark spot. Cairn?	Rock pile	No site
6	Small dark spot. Cairn?	Small rock pile, mostly natural	No site
7	Faint curving wall	Enclosure	Site 276
8	Faint circular enclosure	Enclosure	Site 286
9	Faint circular enclosure	Enclosure	Site 287
10	Faint circular enclosure	Enclosure	Site 288
11	Small dark spot. Cairn?	Possible field clearance and/or tomb	No site
12	Small dark spot. Cairn?	Possible field clearance	No site
13	Small dark spot. Cairn?	Exposed, dark-coloured bedrock	No site
14	Small flat enclosure	Rectilinear structure	Site 194
15	Ruin?	Rock fall on east side of wadi	No site
16	Small faint enclosure	Water-catchment facility	Site 289
18	Small dark spot	Camp (?); wall lines and tombs (?)	Site 290
19	Dark feature - cairns?	Rock fall in wadi	No site

They had previously surveyed two of the potential sites, namely, Nos. 1 and 14 and assigned TBAS Site numbers 186 and 194 to them respectively. Of the remaining 16 potential sites, TBAS team members judged six to be sites while the others are field clearance, exposed bedrock, and/or cairns. Thus, in the judgment of TBAS team members, 8 of 18 or 44% are sites. This is in comparison to 41% of potential sites that TBAS team members judged to be sites during the previous season (MacDonald *et al.* 2000: 8).

The TBAS team members' approach to Kennedy's identification of potential sites on aerial photos differed this season from the previous one. In the 1999 season, the practice was to study the aerial photos, identify potential sites on them, and then go into the field in an attempt to find the sites. This work was done before the area in which the potential sites are located was surveyed. This season, however, TBAS team members completed their survey of random squares and did purposive survey work prior to looking at the aerial photos. Thus, at the end of the 2000 season, two days were set aside to investigate potential sites that Kennedy had identified on aerial photos.

One major result of the investigation of potential sites on aerial photos during the 2000 season was that team members entered and surveyed an area in Zone 2, north of the main aṭ-Ṭafila to Jurf ad-Darāwīsh road and west of the modern landfill, that had not been previously examined by random square or purposive survey. This area had been "fenced-in" by the Department of Agriculture to restrict sheep and goat access and to give the natural vegetation a chance to regenerate. TBAS team members' work in this "fenced-in" area resulted in the location of nine sites (276-284), all enclosures or seasonal camps, which would not have been otherwise recorded. Thus, this was a good lesson in survey methodology. Neither work on the random squares nor purposive survey had resulted in the discovery of the nine sites in question.

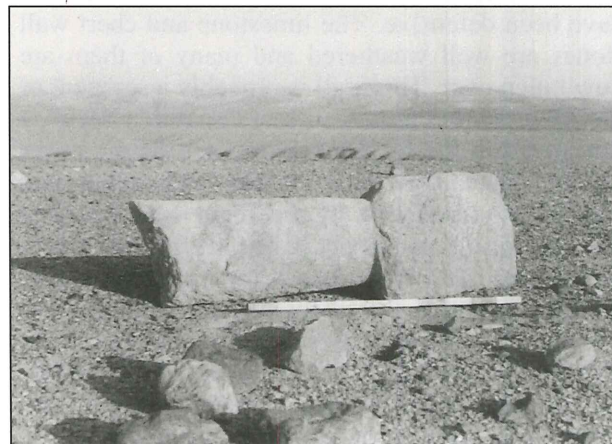
Site Types of the 2000 Season

The 139 sites that TBAS team members surveyed during the 2000 infield season can be categorized into different types. These types include:

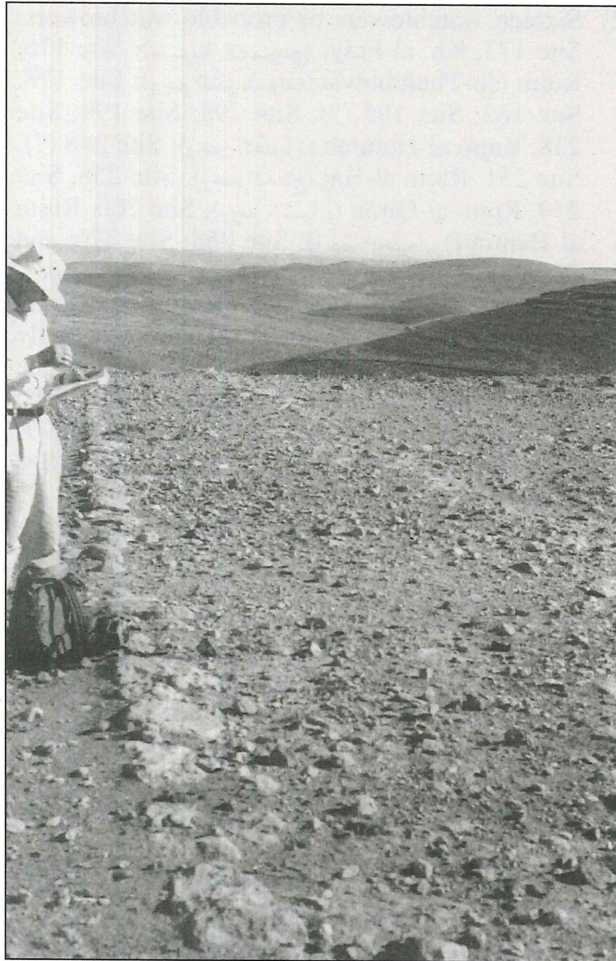
- 1) Forty-nine enclosures/seasonal camps with architecture: Sites 184-185; Site 189; Site 194; Site 207; Site 211; Site 213; Sites 216-220; Sites 222-225; Sites 228-237; Sites 240-242; Sites 245-247; Site 249; Site 261; Site 263; Site 269; Sites 276-284; Sites 286-288; and Site 290 (?).

- 2) Sixteen watchtowers or probable watchtowers: Site 173, Kh. al-Frayj (خربة الفريج); Site 176, Rujm ath-Thalithuwāt (رجم الثلاثوات); Site 178; Site 182; Site 195 (?); Site 198; Site 199; Site 238, Rujm al-Ḥumrah (رجم الحُمرة); Site 248 (?); Site 251, Rujm al-Ḥāj (رجم الحاج); Site 258; Site 259, Rujm al-Qirān (رجم القران); Site 260, Rujm al-Ḥamrā (رجم الحمرا); Site 268; Site 270; and Site 272, Rujm Umm al-'Aẓām (رجم أم العظام).
- 3) Twelve seasonal camps/production/processing centres, mostly without architecture: generally the lithic sites associated with the Pleistocene lakes in the Jurf ad-Darāwīsh area: Site 208; Site 210; Site 212; Site 215; Sites 226-227; Sites 252-254; Sites 256-257; and Site 271 (See **Table 5**).
- 4) Nine milestone(s) and/or fragments of milestones sites: Site 191; Site 193 (with inscription); Site 197 (with inscription); Sites 200-201; Sites 203-204; Site 206; and Site 250 (associated with the Ḥajj route rather than with the *Via Nova Traiana*) (**Fig. 4**).
- 5) Four possible forts: Site 164, Kh. aṭ-Ṭawlāniyah (خربة الطولانية); Site 177, Kh. Mughāmis (خربة مغماس); Site 190, Kh. al-Khunayṣrah (خربة الخنيسرة); and Site 273, Kh. ad-Dabbah (?) (خربة الدبة).
- 6) Four water-catchment facilities: Site 221; Site 239; Site 243; and Site 289.
- 7) Two major north-south highways: Site 180, *Via Nova Traiana* (Thomsen 1917; MacDonald *et al.* 1988); and Site 250, Ḥajj Route (درب الحج) (MacDonald *et al.* 1988) (**Fig. 5**).

Although there are many wall lines in the survey territory, TBAS Site 186 is of particular interest. It cuts through the eastern segment of the survey territory, east of the *Via Nova Traiana*, in a north-south direction. TBAS team members first encountered this wall in the north-central segment



4. TBAS Site 250, milestone fragment along Ḥajj Route.



5. TBAS Site 180, Roman road (Via Nova Traiana); looking north.

of the survey territory while transecting RS 26, Zone 2. It was also encountered later while TBAS team members transected RS 81, Zone 2, and randomly surveyed TBAS Sites 285-289.

The site is probably a boundary wall of some kind. It presently measures only ca. 0.50-1.00m wide and ca. 0.40-0.50m high and, thus, cannot have been defensive. The limestone and chert wall stones are well weathered and many of them are now fallen over. This wall is probably a segment of the *Khatt Shabib* (خط شبیب), or “Shabib’s Wall”, a line marking the border between the desert zones and the plateau. Relative to this wall, which can also be observed east of the main road between Ma’an and Rās an-Naqab, Kirkbride writes: “There seems, therefore, some reason for accepting as true the local tradition that it formed the boundary between the land owned by cultivators and that at the disposal of their nomadic neighbours” (1948: 154). And on this same feature, Abujaber states: “In years of drought or in times of weakness of the government, these nomads tried to move from the

desert border zones into the plateau seeking pasture for their herds and flocks as well as water.... *Khatt Shabib* in the Rās an-Naqab area could have been one of the devices executed by the authorities to regulate nomadic incursions into the settled plateau. The name probably refers to the Governor of Jordan *Shabib al-Uqayli* at the time of the *Ikhshidis* just before the end of the tenth century. However, further excavations and studies will have to be made to ascertain the true background” (1995: 740). As Abujaber notes, caution is certainly warranted relative to the dating, builder, and function of the *Khatt Shabib*.

Major Architectural Sites of the 2000 Season

Of the 139 sites that TBAS team members surveyed during the 2000 season, 26 of them are major architectural ones (Table 10). Excluded from this total are the 49 small enclosure or seasonal camps with architecture.

Glueck’s Work in the Survey Territory

Although not a specific objective of the TBAS project, team members also surveyed many of the sites that Glueck (1934; 1935; 1939) had visited. Comments relative to some of the sites that Glueck surveyed in the territory covered by Phase 2 of the TBAS project are necessary since there are glaring contradictions between what Glueck reported about the sites and what TBAS team members observed and are here reporting.

Glueck describes Kh. al-Frayj, TBAS Site 173, as “an extensive, completely ruined site, presenting a confusion of foundation-ruins of walls and houses, with the usual complement of cisterns and cave-cisterns. Numerous Nabataean, Roman, Byzantine, and mediaeval Arabic sherds were found. This site was once a thriving farm village” (1939:49). We found this site to be a watchtower and we think that what Glueck is describing is ‘Ābūr (عابور), TBAS Site 170. Relative to this latter site, Glueck describes it as “a small, featureless site, on which there is a single modern house. A few Nabataean sherds were found, and also a few mediaeval Arabic sherds” (1934: 80). TBAS team members found the site of ‘Ābūr to be a major architectural site at which there was, at the time of our visit, two families in residence. The remains at the site include several structures that date at least to the Ottoman period. Clearly, Glueck does not seem to be describing the site of ‘Ābūr that the TBAS team members surveyed. Is he confusing the site with Khirbat al-Frayj? Just as startling is Glueck’s description of Rujm al-Mughāmis, TBAS Site 177, which he states, “represents the ruins of a small

Table 10: Major architectural sites of the 2000 season.

Site #	Site Name	Description	Periods Represented
157	Kh. al-Qaṣr خربة القصر	Church/chapel (?)	Byz; EIsl; MIsI/LIsI
159	Kh. Ibn Hadāyah خربة ابن هدايه	Agricultural site	Late NL/Chal/EB lithics; EB; Byz
160	Kh. ash-Sharī'ah خربة الشريعة	Agricultural village	Iron II; ERom (Nab); LRom; Byz; LIsI
164	Kh. aṭ-Ṭawlāniyah خربة الطولانية	Fort	Ceramic period lithics (?); ERom (Nab); LRom; Byz; LIsI prob
166	Kh. al-Frayj خربة الفريج	Agricultural complex	ERom (Nab); Byz; MIsI/LIsI
167	Kh. al-'Adāwīn خربة العداوين	Agricultural complex	Iron II; ERom (Nab); LRom; Byz; EIsl; MIsI/LIsI
168	Kh. an-Naṣrāniyah خربة النصرانية	Agricultural complex	Ceramic period lithics; Iron II; Rom poss; Byz dom
169	Kh. aṣ-Ṣīr خربة الصير	Agricultural village	Iron II; Byz; MIsI and/or LIsI
170	Kh. 'Ābūr خربة عابور	Agricultural village	Iron I/II; ERom; Byz; MIsI/LIsI
173	Kh. al-Frayj خربة الفريج	Watchtower	Ceramic period lithics; Iron II poss; Byz
176	Kh. ath-Thalīḥuwāt خربة الثليثوات	Watchtower	Ceramic period lithics; Iron II prob; Byz; LIsI
177	Kh. Mughāmis خربة مغماس	Fort	Ceramic period lithics; Iron II dom; MIsI/LIsI
178	Unknown	Watchtower	Ceramic period lithics; ERom (Nab); Byz
180	<i>Via Nova Triana</i> طريق تراجان	Roman road	Roman
182	Unknown	Watchtower	Ceramic period lithics; ERom (Nab); Byz
183	Qaṣr al-Bāshā قصر الباشا	Caravanserai	Ceramic period lithics; ERom (Nab); Byz; MIsI/LIsI
186	<i>Khatt Shabīb</i> خط شبيب	Border line	Ud
192	Kh. at-Tuwānah ⁵ خربة التوانه	Town on <i>Via Nova Triana</i>	Ceramic period lithics; Iron II prob; ERom (Nab); Byz; MIsI/LIsI
196	Unknown	6.90m wide wall	Neither lithics nor sherds found
248	Unknown	Major watchtower/ tombs	Iron II; Rom-Byz
251	Rujm al-Hāj رجم الحاج	Major watchtower	Ceramic period lithics; Byz
259	Rujm al-Qirān رجم القران	Major watchtower	Ceramic period lithics; Iron II; ERom (Nab); LRom; Byz
260	Rujm al-Ḥamrā رجم الحمرا	Major watchtower	Iron Age; Rom; Byz dom
268	Unknown	Watchtower	Byz; MIsI-LIsI
272	Rujm Umm al-'Azām رجم أم العظام	Watchtower	Ceramic period lithics; Iron II; Rom; Byz
273	Kh. ad-Dabbah خربة الدبة	Defensive "citadel" (?)	Iron II; Byz; MIsI

5. This site is located along the *Via Nova Traiana* in the central segment of the TBAS territory. It is the largest site in

the survey area and the most easterly located of all the towns/villages (Fiema 1993; 1997).

block-house, 8 m. square, oriented n.-s., and built of roughly hewn flint blocks" (1939: 49). The TBAS team members, on the other hand, found Khirbat al-Mughāmis to be a major fortified architectural site, measuring ca. 75 (N-S) x 59 (E-W) m with the wall on the east side measuring ca. 2.30-2.50m wide. Thus, it seems that Glueck is not describing the same site that the TBAS team members visited.

Finally, Glueck characterizes Rujm al-Qirān (his Rujm Hala el-Qaraneh, 1935: 96), TBAS Site 259, Rujm al-Ḥamrā (1939:51-52), TBAS Site 260, and Rujm Umm al-'Azām (1939: 51), TBAS Site 272, as fortresses. Although, all three sites are impressive, TBAS team members judge them to be watchtowers rather than fortresses.⁶ In conclusion, it is necessary to exercise caution with regard to Glueck's description of sites in this region.

Conclusions

During the 2000 season, TBAS team members were able to connect the survey territory geographically with that of the WHS territory. This was accomplished along two main, north-south highways, namely, the *Via Nova Traiana* (TBAS Site 180; WHS Site 429; see MacDonald *et al.* 1988: 206 and figs. 2 and 57) and the Ḥajj Route (TBAS Site 250; WHS Site 1073; see MacDonald *et al.* 1988: 280 and figs. 2 and 65),⁷ in the central and eastern segments of the TBAS territory respectively. Furthermore, in an effort to connect the two territories, TBAS team members surveyed Site 272, Rujm Umm al-'Azām, a major watchtower that is located immediately east of the *Via Nova* and both north and south of the territories of the TBAS and WHS respectively.

Relative to lithic periods represented in the survey territory, the Middle Palaeolithic is dominant at seasonal camps/production/processing centres in the "Wadi al-Juheira Lake" and "Jurf-Burma Lake" region. However, it is also represented in other segments of the survey territory. Epi-palaeolithic materials are also well represented, especially in the southern segment of the Pleistocene lakes. The Chalcolithic period is well represented by both lithics and sherds.

There is very little evidence of Early Bronze settlement in the surveyed territory. Moreover, there is no evidence of Middle Bronze and only one probable sherd from the Late Bronze period. Thus, the area appears to have been devoid of settlement during most of the Bronze Age.

There is some evidence of an Iron I presence. However, this is probably near the end of the period.

The best-represented materials from the ceramic periods come from the Iron II, Early Roman (Nabataean), and Byzantine. However, while there is little in the way of Early Islamic materials, the Middle/Late Islamic period is well represented, especially at major agricultural sites (see Table 7).

At-Tuwānah (التوانه) (Fiema 1993; 1997), TBAS Site 192, located in the central segment of the survey territory, is the largest site surveyed this season and the most easterly located of all villages/towns in the entire survey territory. It is an impressive site that begs to be better known.

The best known site in the survey territory is the *Via Nova Traiana* (TBAS Site 180). It cuts through the central segment of both the TBAS and WHS territories. Along its route, there are many milestone and/or fragments of milestone and watchtowers.

The large number of enclosures/seasonal camps surveyed are located for the most part in the eastern portion of the territory. They are generally positioned on an east-facing slope where they are protected from the northwest wind. Moreover, they are usually in locations where there are modern Bedouin camps and/or evidence of former Bedouin encampments. Thus, it appears that such slopes have been favoured camping spots for millennia, especially in light of the Chalcolithic period artifacts found in association with them.

Aerial photos, in conjunction with other forms of surveys, can be a valuable tool in the location of sites. However, most of the obtrusive sites in the survey area would probably be discovered without the help of such a resource.

TBAS team members met all their specific objectives for the 2000 season.

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6. See also Moumani 1997: 51 on Rujm al-Qirān as a watchtower.

7. Unlike the *Via Nova Traiana*, the Ḥajj Route is "paved"

only in places. For example, it is "paved" in the area of the marls close to Wādī al-Ḥasā. However, once the edge of the marls is reached, the "paving" stops.

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