

REPORT OF 1999 AND 2001 KARAK RESOURCES PROJECT REGIONAL SURVEY

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The Karak Resources Project (KRP) Regional Survey conducted an intensive surface survey on the al-Karak Plateau between June 26 and July 24, 1999. The focus of the KRP is to research how inhabitants of the region managed available natural resources. The Regional Survey focused on the region east of the limits of the Miller-Pinkerton Survey (MPS). This area is east and south of Muḍaybi' (المضبيع) and east of Muḥay (المحي), an area of around 35km². The Regional Survey identified twenty-two sites that were not included in the MPS. Seventeen of these sites are not included in the Jordan Antiquities Database and Information System (JADIS). Two of the sites had a total of forty-five separate ruins. The twenty-two sites were assigned numbers continuing from the last number in the MPS (Fig. 1). The team also revisited seven MPS sites.

Co-directors of the 1999 KRP Regional Survey were Maurice Luker of Emory and Henry College and Daniel Hoffman of Lee University. Team members included Charles Bartlett (Emory and Henry College), John Foss (University of Tennessee), Eley Wagon, Gregory Linton (Great Lakes Christian College), Jihad Haroun (Department of Antiquities of Jordan), and Monther Tarawneh.

The KRP Regional Survey also conducted a surface survey of the al-Karak Plateau between June 14 and July 24, 2001. The team continued surveying areas east of the 1999 survey area and south of the survey area of the Limes Zone Survey (see map in Miller 1991: 21, Fig. 3). The team systematically covered each sq.km. of the Palestine Grid by vehicle and by foot. The NW corner of the 2001 survey area is PG: 32.0/56.0. The NE corner is PG: 36.0/57.0. The survey area continues in a southeastern direction until it reaches its SE corner at PG: 45.0/45.0. The entire area covered was around 50km².

The 2001 Regional Survey identified forty-one archaeological sites that were not identified by the MPS. Of the forty-one sites, thirty-four are not list-

ed in JADIS. At the end of the season, each site was assigned a permanent number following consecutively from the last number assigned in the 1999 survey. Numbers were assigned beginning with the site nearest the MPS area and ending with the easternmost site. The survey team also re-examined nine MPS sites. Also, the team revisited two sites first identified in the 1999 Regional Survey in order to gather more information (Table 1).

The 2001 survey was coordinated by Daniel Hoffman (Lee University) and Gregory Linton (Great Lakes Christian College). Other team members were Jihad Haroun (Department of Antiquities representative), Deborah Valiton (student at Lee University), and David Fiensy (Kentucky Christian College). Others participated in the reexamination of MPS sites, including Kevin Wilson (student at Johns Hopkins University) and Heather McMurray (student at Vanderbilt University).

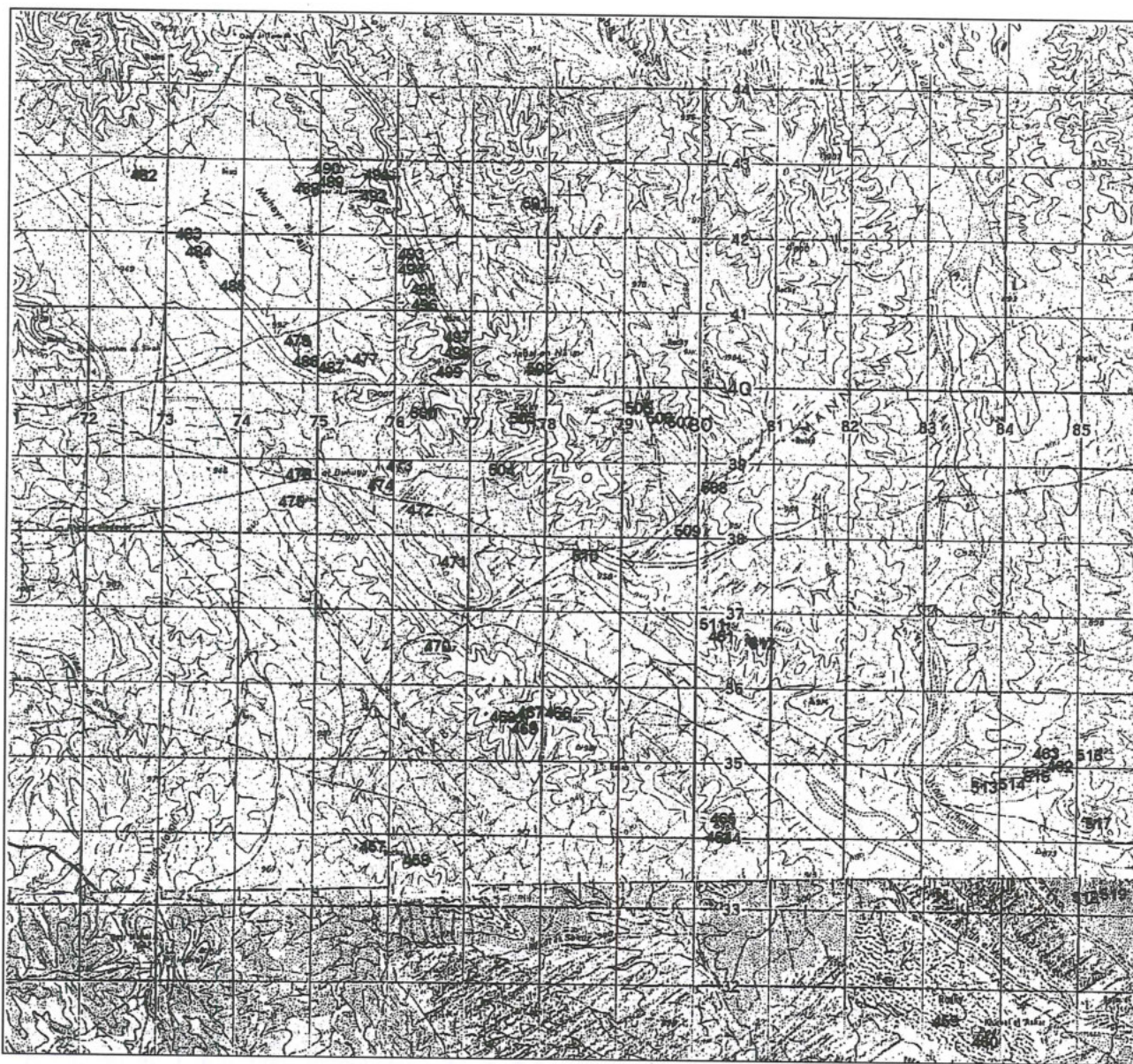
1999 KRP Survey Sites

Site 457

PG: 34.62/46.12; UTM: 76.06/33.64; Elev. 986m. Lithics, Rom, MIs. Non-JADIS. Located 5.5km SE of Muḍaybi' and 3km ENE of Muḥay, this site has two visible wall lines. The N wall is 4.1m, and the W wall is 7.3m. Its position on top of a ridge provides extensive visibility in all directions. A U-shaped dam, 8m long, was located about 60m S of the site. A limestone grinding hole or watering hole was found about 90 meters SW of the site.

Site 458

PG: 35.43/45.68; UTM: 76.49/33.16; Elev. 988m. Lithics, LRom, Byz. JADIS 2304.006, Qaṣr az-Zumaylah (الزُمَيْلَة). Located .9km SE of Site 457 on top of the same ridge, this site has four walls approximately 6m x 6m with a maximum of two courses still visible. It may have been a watchtower. This site may be Site 70 in Glueck's 1939 report. He described it as "a small, completely de-



1. Sites Identified in 1999 and 2001 KRP Regional Survey (K737 series map of the Adir region).

stroyed tower, with only the foundation stones visible, and a small rujm, perhaps the stones over a grave, in the center.” He noted that they were told that the name of it was Rujum Shokhar, but they doubted whether that was correct. He says it is oriented NNE by SSW and is 6m², a description that fits this site. They found a few Nabataean sherds at the site (Glueck 1939: 79).

Site 459

Site 459 and Site 460 are known as Khirbat al-‘Askar (خربة العسكر), a complex of forty-five separate ruins. It is listed as JADIS 2404.003. Musil mentions this site but does not describe it (Musil 1989: 81). Glueck visited the site but believed that it was

“a comparatively modern ruin” (Glueck 1939: 67). It is located on the N side of the road that leads from Muḥay to the Desert Highway, which is visible from the site. To simplify recording of the ruins, the site was divided into two sites (459 and 460) centered on the two most prominent ruins, which have been assigned the letter A. Site 459 is the W side of the complex and consists of thirteen separate ruins. Site 460 is the E side of the complex and consists of thirty-two separate ruins. Only one of the ruins had Nabataean sherds, but forty-one of the forty-five ruins contained Roman ceramics. Every ruin had Byzantine ceramics. Thirty-five had Early Islamic pottery, and fourteen had Middle Islamic pottery.

Table 1: Preliminary Pottery Readings.

Site	IR	IRII	NAB	EROM	ROM	LROM	EBYZ	BYZ	LBYZ	EIS	MIS	LIS
457					X						X	
458						X		X				
459A						X	X	X		X	X	
459B					X			X		X		
459C					X			X		X	X	
459D					X			X	X	X	X	
459E					X			X				
459F					X			X				
459G					X			X		X		
459H					X		X	X	X	X		
459I					X			X		X	X	
459J				X	X			X		X		
459K					X			X		X		
459L					X			X		X		
459M					X			X		X		
460A	X				X			X		X	X	
460B					X			X		X	X	
460C					X			X		X	X	
460D					X			X				
460E								X				
460F								X			X	
460G					X			X				
460H					X			X		X		
460I					X			X		X	X	
460J					X			X		X		
460K					X			X		X		
460L					X			X		X		
460M					X			X		X	X	
460N					X			X		X		
460O					X			X		X		
460P								X				
460Q					X			X		X		
460R					X			X		X		
460S					X			X		X		
460T					X			X		X		
460U					X			X		X		
460V					X			X				
460W					X			X		X		
460X	X				X			X		X	X	
460Y					X			X		X	X	
460Z								X				
460AA					X			X		X	X	
460BB					X			X		X	X	
460CC					X			X		X		
460DD					X			X		X		
460EE					X			X		X		
460FF	X				X			X				
461	X				X			X			X	
462	X				X			X		X		
463								X				
464					X							
465					X							

Con. Table 1: Preliminary Pottery Readings.

Site	IR	IRII	NAB	EROM	ROM	LROM	EBYZ	BYZ	LBYZ	EIS	MIS	LIS
466					X							
467					X							
468					X							
469												
470					X							
471												
472	X											
473					X			X			X	
474					X							
475	X				X			X				
476					X			X			X	
477					X			X			X	
478	X				X			X		X		
479	X				X			X				X
480					X							
481					X			X				
482				X	X							
483		X			X			X				
484					X							
485	X				X							
486	X				X							
487	X											
488					?							
489					X							
490					X							
491					X			X		X	X	X
492				X								
493												
494		X										
495		X			X							
496				X								
497					X							
498												
499					X			X				
500				X	X							
501					X							
502					X						X	
503					X							
504					X							
505						X						
506					X							
507		X			X							
508					X			X				
509					X			X				
510					X							
511					X							
512					X							
513					X			X				
514					X						X	
515					X							
516			X		X							
517					X			X				
518					X							

Site 459A

PG: 42.26/43.86; UTM: 83.20/31.52; Elev. 890m. Nab, ERom, Rom, LRom, EByz, Byz, EIs, MIs. Site 459A is the highest point and most visible structure in the E section of Khirbat al-'Askar. The main wall lines are approximately 15.5m x 14.7m. A maximum of three courses were visible. The W wall has two adjacent chambers on its exterior beginning at the SW corner. The southernmost chamber is approximately 3.5m x 4m. The N chamber measures 5.4m x 4m. An additional outlying L-shaped wall on the S side of the main structure measures 20.4m x 18m. This is the only ruin in Sites 459 and 460 that provided evidence of Nabataean ceramics.

Site 459B

PG: 42.17/43.97; UTM: 82.92/21.44; Elev. 885m. Rom, Byz, EIs. 1 basalt grindstone; 1 Rom roof tile, 1 zoomorphic figure. Located NE of Site 459A, this is a multi-chambered, square structure. The four walls measure between 14.5m and 15.5m. Three chambers along the W wall measure roughly 5m x 5m. The E wall may have an entrance.

Site 459C

PG: 42.24/44.22; UTM: 83.09/31.85; Elev. 875m. Rom, Byz, EIs, MIs. 3 basalt grindstones, 1 glass fragment, tesserae. This ruin, located at the N edge of the complex of ruins, has four double walls that measure between 26m and 30m. They are a maximum of two courses high. The NE corner has been bulldozed. A number of interior walls are visible. The SW corner has at least eight separate rooms. A courtyard or terrace extends from the E wall about 10m and is 23m long. A smaller external room that measures approximately 8m x 7.5m extends from the S wall beginning at the SE corner.

Site 459D

PG: 42.28/44.20; UTM: 83.22/31.85; Elev. 880m. Rom, Byz, LByz/EIs, MIs. 1 basalt grindstone. Located SE of Site 459C, this site is trapezoidal. The W wall is 28m; the N wall is 21.2m; the E wall is 22.7m, and the S wall is 27.7m. The ruin has no interior walls. A line of stones 7.7m long extends N from the N wall near the NE corner.

Site 459E

PG: 42.28/44.06; UTM: 83.24/31.71. Rom, Byz. Located S of Site 459D, this site has two roughly square ruins. The easternmost ruin has two discernible walls. The N wall runs E to W and measures 4m. The other ruin is SW of the first one.

The walls measure approximately 4.8m.

Site 459F

PG: 42.24/44.01; UTM: 83.23/31.74. Rom, Byz. Located S of Site 459E, this site is an oval enclosure about 30m in diameter. The NE side has parallel stones turned on edge leading into the enclosure.

Site 459G

PG: 42.30/43.87; UTM: 83.26/31.62. Rom, Byz, EIs, UD. Located S of Site 459F, this complex ruin consists of at least a dozen connected chambers or rooms, most of which measure 5m x 5m. It forms a U-shape with the opening to the courtyard on the E side. The N wall is 13.4m. The W wall is 20.9m long. The S side is 39.3m.

Site 459H

PG: 42.14/44.10; UTM: 83.30/31.69. Rom, Byz, EByz/LByz, EIs. 2 basalt grindstones. Located E of Site 459G, this multi-chambered ruin is located E of the previous ruin. Its W wall is 17.1m long, its S wall is 23.1m long, and its N wall is 19.7m. It contains seven rooms.

Site 459I

PG: 42.30/43.98; UTM: 83.30/31.64. Rom, Byz, Byz/EIs, EIs, MIs. Glass cup base. Located S of Site 459G, this ruin is 19.8m x 17.4m. It contains at least six rooms.

Site 459J

PG: 42.33/43.72; UTM: 83.25/31.53. ERom, Rom, Byz, Byz/EIs. 1 basalt grindstone, 2 bases. Located SE of Site 459A, this is a five-chambered ruin. The W wall is 12.6m, and the S wall is 10.1m. The E wall extends N 9.5m, and then it runs 3.2m to the W and turns to the N for 4.5m and then W again for 4.3m.

Site 459K

PG: 42.27/43.93; UTM: 83.24/31.52. Rom, Byz, EIs. Located SE of Site 459A and NW of Site 459J, this small ruin has two chambers. The W wall is 5.8m, and the N wall is 8.4m. It is divided by a wall into two lengths of 4.6m and 3.8m. The E wall extends 3.9 S and then extends to the W 4.3m where it joins a wall that extends 3.8m to the N. The S wall extends from the W wall 3.3m and then ends.

Site 459L

PG: 42.35/43.93; UTM: 83.30/31.52. Rom, Byz, EIs. Located SE of Site 459J, this L-shaped ruin contains four rooms. Its S wall is 12.4m and is

divided by two walls into three sections. The E wall is 7.8m. The N wall extends W 6.3m, then runs S 3.1m and then W 5.0m.

Site 459M

PG: 42.30/44.00; UTM: 83.29/31.65. Rom, Byz, EIs. 1 Byz lamp fragment. This ruin is located E of Site 459H. The W wall of this ruin is 12.3m and is divided by three E-W walls, which are about 5m long. The S wall is 9.8m. The N wall is 7.4m.

Site 460A

PG: 42.70/43.64; UTM: 83.74/31.29; Elev. 900m. Ir, Rom, Byz, EIs, MIs. 1 basalt figurine, 1 basalt grinder base, 1 ceramic lid with a stamp on it, numerous tesserae of various colors, 2 glass fragments. This large, U-shaped ruin measures 48.9m on the W side and 62m on the S side. It is the largest and most visible ruin on the E side of Khirbat al-'Askar. Its W wall is divided by E-W walls into nine rooms. The E-W walls vary in length from 8m to 5.5m. The sixth room from the N has an adjacent room with a mosaic floor on its E side.

The S wall may have eight or nine rooms adjoining it, but not all the walls are clearly visible. Remnants of walls are visible extending toward the interior from these rooms. A wall on the E side of the ruin is 31m long, but no rooms adjacent to it are discernible except in the corner. The NE part of the site slopes down the hillside.

Site 460B

PG: 42.67/43.64; UTM: 83.59/31.29. Rom, Byz, EIs, MIs. 1 basalt platter fragment, 1 steatite box fragment, 1 marble fragment, 1 glass rim. Located SW of 460A, this is a multi-chambered ruin that measures 25.4m x 19.4m. At least ten different chambers of varying sizes are visible.

Site 460C

PG: 42.74/43.57; UTM: 83.79/31.18. Rom, Byz, EIs, MIs. 1 basalt basin fragment, tesserae, inscribed ceramic bowl fragment. This site is a large complex S of 460A and E of 460B. It has three sections and numerous chambers in each section. The sections were possibly connected by walls no longer clearly visible. Altogether, the structure measures about 63m x 46m. Dams are located on the E and W sides of the site.

Site 460D

PG: 43.74/43.50; UTM: 83.73/31.22. Rom, Byz. Tesserae, steatite bowl, bottle stopper. This small site is located E of 460C and S of 460A. The

walls were barely discernible, but the structure contains chambers. A wall connects Site 460C and 460D, perhaps forming a dam.

Site 460E

PG: 42.80/43.36; UTM: 84.09/30.95. Byz. This site is located SE of 460D. Much of this site has been disturbed by bulldozing. Two 5m-x-5m chambers are visible.

Site 460F

PG: 42.73/43.59; UTM: 83.78/31.24. Byz, MIs. Tesserae, steatite object, lamp fragment. This site is located N of 460E. It is a multi-chambered ruin that measures 16.3m x 11.5m. The width is divided into two parts of 5.5m and 6.0m by a wall running through the middle of the site. The W half contains five chambers, and at least two chambers are visible in the E half. East of the site are walls that form a courtyard or dam. Another semicircular wall is connected to the SE corner of the structure.

Site 460G

PG: 42.86/43.57; UTM: 83.85/31.19. Rom, Byz. 1 tessera. This small ruin, about 5m x 5m, has two chambers that are barely discernible. It is located E of 460F and SE of 460A.

Site 460H

PG: 42.89/43.49; UTM: 83.90/31.20. Rom, Byz, EIs. 1 lamp fragment, 1 Islamic pipe fragment. This small ruin, located E of 460G and ESE of 460A, has four chambers in L shape. It measures 10.5m x 10.2m.

Site 460I

PG: 42.88/43.55; UTM: 83.88/31.22. Rom, Byz, EIs, MIs. 2 tesserae. This multi-chambered ruin, located S of Site 460H, has an irregular shape. It measures 25m x 17m.

Site 460J

PG: 42.00/43.47; UTM: 83.90/31.14. Rom, Byz, EIs. This small, rectangular ruin is located S of 460I. It measures 12m x 5.5m and has two or three chambers.

Site 460K

PG: 42.87/43.48; UTM: 83.89/31.21. Rom, Byz, EIs. 1 glass rim. Located S of 460J, this multi-chambered, rectangular ruin measures 11.7m x 18.9m.

Site 460L

PG: 42.91/43.62; UTM: 83.91/31.28. Rom,

Byz, EIs. Located SE of 460G and NW of 460K, this multi-chambered, L-shaped ruin measures 11.2m for the E wall, 18m for the S wall, and 18.8m for the W wall.

Site 460M

PG: 42.85/43.62; UTM: 83.84/31.29. Rom, Byz, EIs, MIs. Tesseræ. This ruin appears to be two multi-chambered ruins connected by a long wall. The W wall is 42m. It is located close to the SE corner of 460A.

Site 460N

PG: 42.84/43.69; UTM: 83.63/31.41. Rom, Byz, EIs. Tesseræ, steatite object. This large, complex site perhaps was connected to the NE corner of 460A.

Site 460O

PG: 42.76/43.76; UTM: 83.73/31.45. Rom, Byz, EIs. Tesseræ. This is a multi-chambered ruin located N of the W wing of 460A.

Site 460P

PG: 42.70/43.71; UTM: 83.70/31.37. Byz. Located NW of 460O, this site is a square stone pile, which has been robbed.

Site 460Q

PG: 42.76/43.84; UTM: 83.74/31.46. Rom, Byz, EIs. Located N of 460P, this site is a large, rectangular ruin containing twelve chambers.

Site 460R

PG: 42.73/43.80; UTM: 83.74/31.50. Rom, Byz, EIs. This site is a small, rectangular structure located N of 460Q.

Site 460S

PG: 42.79/43.87; UTM: 83.78/31.55. Rom, Byz, EIs. Tesseræ, 1 metal pin, glass fragments, a dark green object (perhaps a button fragment). Located N of 460R, this ruin contains five chambers.

Site 460T

PG: 42.65/43.88; UTM: 83.74/31.56. Rom, Byz, EIs. 1 Islamic lamp fragment, 1 Byzantine lamp fragment. Located NNW of 460S, this site consists of two sections connected by a W wall. The S section has three chambers, and the N section has four chambers.

Site 460U

PG: 42.77/43.86; UTM: 83.78/31.56. Rom, Byz, EIs. Tesseræ, lamp fragment, rectangle of

marble. Located ENE of 460S, this site is another multi-chambered complex.

Site 460V

PG: 42.76/43.83; UTM: 83.76/31.49. Rom, Byz. 1 flint tool. This small ruin is located S of 460U and contains two or three chambers.

Site 460W

PG: 42.80/43.77; UTM: 83.80/31.45. Rom, Byz, EIs. 1 flint blade. This small, square ruin is located NE of 460A.

Site 460X

PG: 42.73/43.70; UTM: 83.73/31.39. Ir, Rom, Byz, EIs, MIs. Tesseræ. Located S of 460W, this site is a two-chambered ruin.

Site 460Y

PG: 42.74/43.76; UTM: 83.79/31.42. Rom, Byz, EIs, MIs, UD. Tesseræ. Located S of 460X, this site is a two- or three-chambered ruin.

Site 460Z

PG: 42.72/43.73; UTM: 83.75/31.42. Byz. Located W of 460Y, this site is a small, rectangular ruin.

Site 460AA

PG: 42.58/43.92; UTM: 83.59/31.90. Rom, Byz, EIs, MIs. Tesseræ. Located W of 460T, this site contains two adjacent ruins. The E ruin has two chambers, and the W ruin has three chambers.

Site 460BB

PG: 42.65/43.97; UTM: 83.59/31.62; Elev. 910m. Rom, Byz, EIs, MIs. Tesseræ, 1 lamp fragment. This site consists of two adjacent, L-shaped ruins that contain multiple chambers. They are located NNW of 460AA.

Site 460CC

PG: 42.60/43.94; UTM: 83.50/31.55. Rom, Byz, EIs. 1 steatite platter fragment. Located SW of 460BB, this site is a rectangular ruin with six chambers. It measures 33.7m x 15.75m.

Site 460DD

PG: 42.60/43.94; UTM: 83.49/31.42; Elev. 806m. Rom, Byz, EIs. Located W of 460CC, this site has four chambers and measures 17.70m x 14.30m.

Site 460EE

PG: 42.60/43.94; UTM: 83.52/32.38. Rom,

Byz, EIs. Glass fragments. Located N of Site 460DD, this five-chambered ruin measures 14.5m x 13.7m.

Site 460FF

PG: 42.29/44.00; UTM: 83.45/31.67. Ir, Rom, Byz. Located N of 460FF, this six-chambered ruin measures 17.5m x 22m.

Site 461

PG: 39.420/48.91; UTM: 80.37/36.63. Lithics, Ir, Rom, Byz, MIs. 1 bottle stopper. Non-JADIS. This site is located on the SE face of a ridge that runs NW-SE along Wādī Ghayth (وادي غيث). It consists of five rock circles grouped around several caves. Hundreds of lithics were collected from the site. Above the site on top of the ridge are inscriptions on the surface.

Site 462

PG: 43.60/47.03; UTM: 84.47/34.76; Elev. 873m. Ir, Rom, Byz, EIs. Non-JADIS. This is a large, rectangular site that measures 40m x 50m (Fig. 2). It contains at least three internal chambers. Its N side abuts the end of a ridge. A wall extends 20-25m E along the ridge.

Site 463

PG: 43.53/47.04; UTM: 84.45/34.76. Byz. Non-JADIS. This site is a 5m-x-5m watchtower located on the ridge above Site 462. It provides extensive visibility to the E and S. At least four courses are visible in the walls.

Site 464

PG: 39.31/46.21; UTM: 80.25/33.72; Elev. 940m. Lithics, Rom, UD. Non-JADIS. Located 4km WSW of Site 463, this site is a rock pile with visible walls in a U-shape. It is located at the SE end of a ridge that continues to run to the NW. The Wādī Ghayth runs along the NE length of this ridge. The N and S walls are 4.8m, and the W wall is 6.8m. Burials are located 1km SE of this site, but no ceramics were found there.

Site 465

PG: 39.33/46.37; UTM: 80.27/33.97; Elev. 955m. Lithics, Rom, MIs. Non-JADIS. Located .1km N of Site 464, this site has square walls 5m x 4.6m and good visibility in all directions.

Site 466

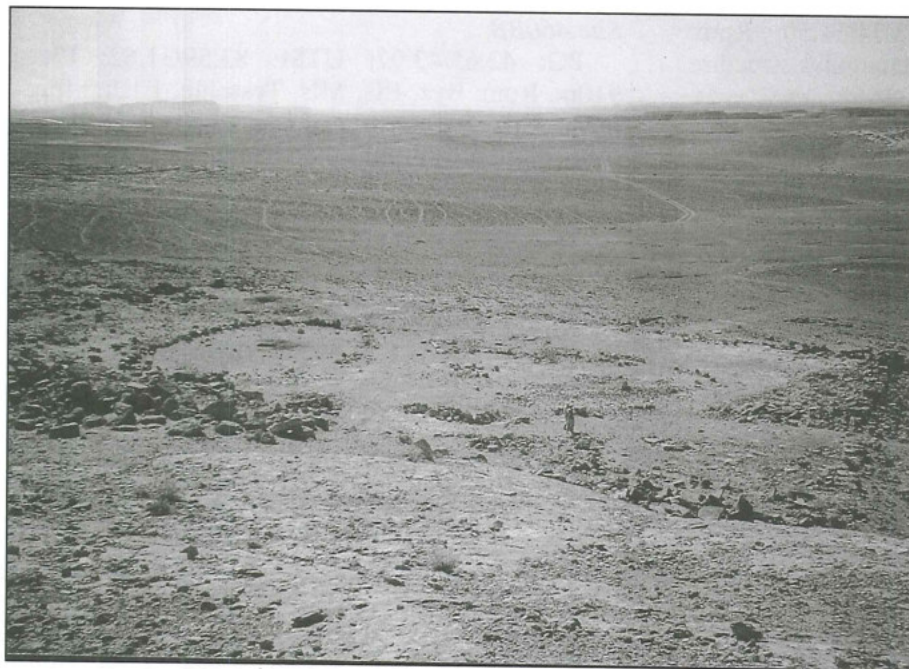
PG: 37.12/47.89; UTM: 78.06/35.43; Elev. 955m. Rom. Non-JADIS. Located 2.6km NW of Site 465 on top of a ridge, this site's walls measure 6.2m x 3.1m. The longer walls run N to S. Two inner walls that run E to W divide the structure into three chambers.

Site 467

PG: 36.95/47.89; UTM: 77.88/35.44; Elev. 950m. Rom. Non-JADIS. Located .2km W of Site 466, this site is a robbed burial.

Site 468

PG: 36.77/47.76; UTM: 77.68/35.34; Elev. 950m. Rom. Basalt grindstone. Non-JADIS. Locat-



2. Site 462 may be an Iron Age fort that was reused by the Romans.

ed .2km SW of Site 467, this site has one visible wall, which is 10.4m long and runs N-S. Three other walls may have formed a rectangular structure. Two robbed graves were located ENE of the site.

Site 469

PG: 36.70/47.80; UTM: 77.61/35.35; Elev. 940m. No ceramics. Non-JADIS. Located .13km NW of Site 468, this site includes a stone enclosure (perhaps modern) and a cistern.

Site 470

PG: 35.67/48.81; UTM: 76.56/36.37; Elev. 967m. Rom, UD. Non-JADIS. Located 1.5km NW of Site 469, this site is a large circular stone pile on top of a ridge from which Muḍaybi' and Muḥay are visible. Three burial cairns were found along the ridge to the NW, one to the SE, and one to the S, but no ceramics were found at any of them.

Site 471

PG: 35.83/49.95; UTM: 76.83/37.25; Elev. 945m. No ceramics. Non-JADIS. Located on top of a short ridge, this site is a burial that has been robbed. Other burials are located NW on top of the ridge.

Site 472

PG: 35.47/50.64; UTM: 76.33/38.19. Ir. Non-JADIS. Located on the valley floor at the N end of the ridge on which Site 471 is located, this site consists of robbed burial cairns.

Site 473

PG: 35.12/51.18; UTM: 76.01/38.77; Elev. 967m. Rom, Byz, MIs. Non-JADIS. Located .63km NW of Site 472 on a hill that projects S from a ridge, this site is a stone pile.

Site 474

PG: 34.90/50.90; UTM: 75.85/38.42; Elev. 945m. Rom. Non-JADIS. Located .3km SW of Site 473 on a knoll, the 5m-x-6m wall lines are oriented N to S. Only one course is visible. A cistern and a dam (10m wide) were located E of the site. Another dam (20m wide) was located at PG: 34.83/51.04.

Site 475

PG: 33.67/50.81; UTM: 74.56/38.30; Elev. 900m. Ir, Rom, Byz. JADIS 2305.047. Located 1.25km W of Site 474, this site has four wall lines with only one course visible. The N wall is 10.1m; the E wall is 5m; the S wall is 10.7m; and the W wall is 5.2m. One cistern was located 15m NW of

the site.

Site 476

PG: 33.87/51.17; UTM: 74.68/38.64; Elev. 953m. Rom, Byz, MIs. Basalt grindstone. JADIS 2305.040 incorrectly identifies this site as *Akhawayn al-Khādim*, but that site is the same as 2305.008 (Site 488 in the 2001 Survey). The 1:25,000 map identifies it as Bir al-Buhay. This site should be identified with JADIS 2305.044, but the coordinates in JADIS for this entry are incorrect. Glueck described this site (141) as a small, completely ruined site at which he found "numerous Nabataean-Roman sherds, including one piece of sigillata and some late painted Arabic ware" (Glueck 1939: 76-77).

Located 3km ENE of Muḍaybi' on the floor of the Fajj and .3km NNE of Site 475, this site is a multi-chambered, rectangular building. The N side is 15.2m; the E side is 9m; the S side is 13m; and the W side is 9.5m. Interior walls divide the structure into at least six rooms. On the S side, two walls .7m apart run parallel from the SE corner and end midway down the S wall to allow an entrance into the structure. Two L-shaped walls are located 7m east of the site. The E wall is 8.3m, and the S wall is 6.9m. Four cisterns were found near the site, one to the E, one to the N, and two to the NW. A broken trough was standing on end at one of the cisterns.

Site 477

PG: 34.78/52.62; UTM: 75.06/40.08; Elev. 1004m. Rom, Byz, MIs. Non-JADIS. This site is located 1.7km NNE of Site 476 at the southern end of a U-shaped ridge. It is a 5m-x-5m watchtower that has extensive visibility to the S and W. At least five courses are visible in the walls. Mu'ai and Muḍaybi' are visible from the site.

Site 478

PG: 33.86/53.10; UTM: 74.74/40.25. Ir, Rom, Byz, EIs. Non-JADIS. Located NW of 477, this is a large sheepfold and camp constructed from stones that were moved from their original settings.

2001 KRP Survey Sites

Site 479

PG: 18.02/45.29; UTMG: 58.98E/32.47N; Elev. 1025m. 113 sherds, 71 diagnostics: Ir, Rom, Byz, Lis. 1 metal fragment, 1 lamp fragment. Non-JADIS. Site 479 is located on top of an E-W ridge opposite Khirbat al-'Akkūza (خربة الكوزة), W of the hairpin curve of the King's Highway. The S side of the ridge slopes down into the Wādī al-Ḥasā, and

the N side of the ridge slopes down into a smaller wadi. Khirbat at-Tannūr is located directly south of the site on the opposite side of the Wādī al-Ḥasā. The Dead Sea is visible to the west. The site was not identified by MPS. The abundance of ceramics and water installations on the site make it one of the most significant finds of the 2001 KRP Survey.

The site contains seven cisterns, two reservoirs, one structure, and several burials. One cistern (PG: 18.22E/45.26N; UTMG: 59.18/32.45; Elev. 1010m) is located on the S slope of the site near the E end. The cistern is 2m x 2m x 1.5m.

Five of the cisterns are located along the N slope of the site. The easternmost cistern (PG: 18.16/45.29; UTMG: 59.12/32.48; Elev. 1004m) has two limestone blocks wedged into its .4m-x-.4m opening. A collar found to the W of the cistern may have originally rested on top of it. Its opening is .25m x .25m. A robbed tomb was located nearby.

The next cistern to the W has a circular, plastered opening (.9m x .9m) in the top of the limestone. A channel was carved in the limestone above it to funnel water into it. It was 2.6m deep.

The next cistern to the W has an upper and a lower opening. The upper opening is .6m x .6m. The depth to the soil from this opening is 1m. The lower opening is .7m x .7m and has a depth of 4m. Several stone slabs have been placed around the lower side of the mouth of the opening.

West of the previous cistern is a reservoir cut into the limestone. It is 2m x 1m and is 1.2m deep. Next to the SE corner of the reservoir, an additional .7m-x-.7m square has been carved in the limestone to a depth of .5m. Above the reservoir is a series of five vertical channels carved into limestone. They may have funneled water down the slope into the reservoir. A cistern collar was also found near the reservoir.

Farther above the reservoir on the side of the slope is another cistern. Its opening is .8m x .8m, and it is 2.1m deep. Above the cistern opening is a trough (1m x .5m) carved into the limestone. Farther up the slope from the trough is a large opening in the ground to collect water. Another reservoir (2m x 1m) nearby was cut into the limestone to a depth of .7m.

West of the previous cistern and farther up the slope is another cistern. Its opening is 1m x 1m, and it was filled with rubble.

On top of the ridge are two perpendicular walls. The N-S wall is 13m long, and the E-W wall, which extends E from the S end of the other wall, is 9m long. Only one course of stones is visible. At the northern end of the N-S wall is a cistern whose

opening is .5m x .5m. It was filled with rubble and soil.

Site 480

PG: 17.33/60.93; UTMG: 57.97/48.09; Elev. 902m. 2 diagnostics: Rom, UD. Non-JADIS. This site consists of a small ruin located on a hilltop near al-Karak-aṭ-Ṭafilah road about 4km south of al-Karak. Sites 269 and 270 of the MPS are located nearby, but this site is distinct from those two sites. Four possible walls in the shape of a square are visible up to one course. Stone tumble surround the walls suggest a burial site. The entire site is about 12m x 12m.

Site 481

PG: 32.45/45.96; UTMG: 73.40/33.43; Elev. 964m. 22 sherds, 5 diagnostics: Rom, Byz. Non-JADIS. This possible reservoir is located 1km NNE of Muḥay. To form the reservoir, soil was removed to a depth of 3m, and stones were placed in the sides up to three courses high. Its dimensions are approximately 18.3m x 9m.

Site 482

PG: 31.90/55.17; UTMG: 72.68/42.60. 5 diagnostics: ERom, Rom. JADIS 2305.053. This burial is located on a small knoll in the gap in the east ridge of the Fajj al-'Usaykir (فجج العسكير).

Site 483

PG: 32.50/54.24; UTMG: 73.27/41.84; Elev. 910m. 2 diagnostics and other sherds: IrII, Rom, Byz. Non-JADIS. This stone pile is located about 1km SE of Site 482 at the N end of a ridge that is oriented NW-SE. To the W of this ridge is the Fajj al-'Usaykir. To the E is the Muḥayr al-Fajj (مهير الفجج). Discerning visible walls is difficult due to human disturbance.

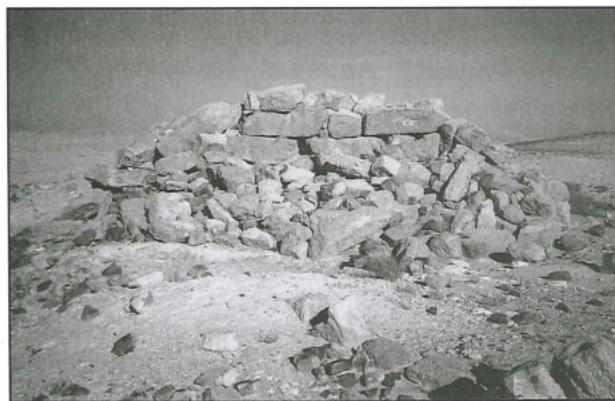
Site 484

PG: 32.63/054.03; UTMG: 73.44/41.51; Elev. 980m. 1 diagnostic: Rom. Non-JADIS. Located .25km SE of Site 483 farther up the ridge, this site also consists of a stone pile that may have been used as a burial.

Site 485

PG: 33.09/53.63; UTMG: 73.90/41.11; Elev. 985m. 1 diagnostic: Rom, sherds: Ir. Non-JADIS. Located about .5km SE from Site 484 on the top of the same ridge, the site consists of a stone pile, which originally may have been a watchtower or a building.

Site 486



3. Glueck called Site 486 "Qeseir 'Amrah" and described it as a "small, box-like tomb".

PG: 34.24/52.49; UTMG: 75.03/40.06; Elev. 1013m. 2 diagnostics: Rom, sherds: Ir. Non-JADIS. Located 1.5km E of Site 485 on top of the same ridge, the site has a collapsed square watchtower (Fig. 3). The watchtower is about 4m x 4m. Up to four courses of limestone blocks are visible. The S wall faces toward Bir al-Buhay (Site 476).

This site is not recorded in JADIS, but it appears to be Site 142 in Glueck's 1939 report. He called it Qaşayr 'Amra and included a picture of it (Glueck 1939: 76, Fig. 34). He described it as a small, box-like tomb. He could detect five courses and reported that "several fine, painted Nabataean sherds were found, in addition to some which could have been Nabataean or Roman, and one glazed mediaeval Arabic sherd" (Glueck 1939: 76). JADIS mistakenly identifies 2305.045 with Glueck's Site 142, but that entry actually refers to the site called Qaşr at-Tamra (قصر التمر) on the 1:25,000 map (MP Site 379).

Southeast of the watchtower are terraces formed by limestone blocks laid into the S side of the ridge. The N line of stones is 25m long. The E and W walls are 15m long. The S end is open and slopes down the side of the ridge. An additional enclosure is located adjacent to the E wall. Its N and S walls are 15m long, and its E wall is 11m long. The S wall begins 11m from the N end of the E wall of the terraces.

Site 487

PG: 34.54/52.54; UTMG: 75.36/40.05; Elev. 1000m. 1 diagnostic: Ir. Non-JADIS. Located .3km directly to the E of Site 486, this site appears to be a burial. Site 499 is visible to the SE.

Site 488

PG: 34.04/54.95; UTMG: 74.81/42.35; Elev. 963m. 3 sherds: possibly Rom. This site is called Qaşr al-Juwayn (قصر الجوين). The JADIS entries for

the site are 2305.008 (Qaşr el-Juwein) and 2305.039 (Qaşr el-Khuwein). It is listed as Site 149 in the Limes Zone Survey, which identified it as a large enclosure and a rectangular structure (Koucky 1987: 86-87).

Musil mentions this site but does not describe it (Musil 1989: 81). Glueck visited it and called it *Akhawayn al-Khādim*. He described a square, masonry platform, which had monumental flights of steps leading to the top on its N and S sides. Large, rectangular limestone blocks flanked the lowest steps, and the top of the structure was covered with masses of flat stones. On the east side was a large courtyard, which had an entrance on the N side.

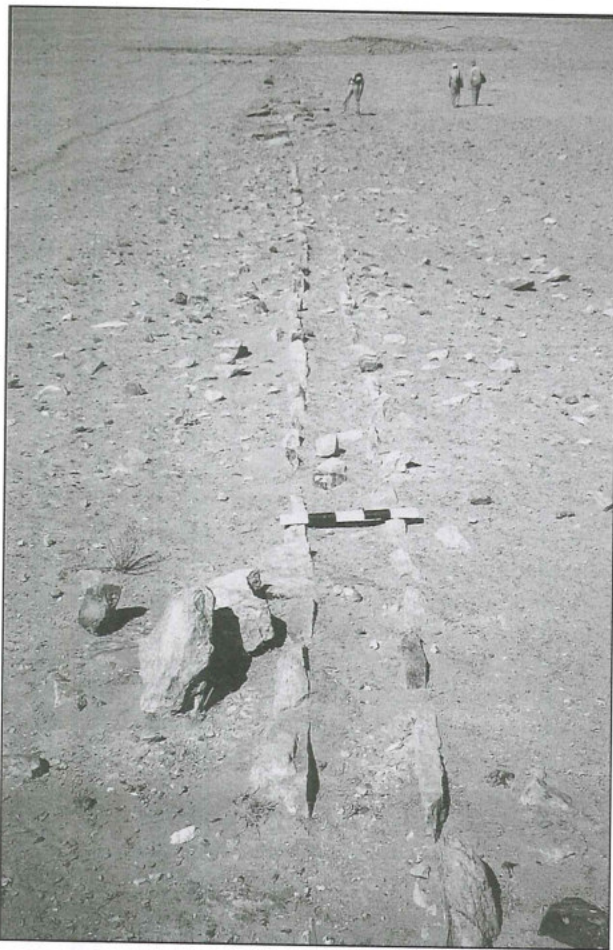
He described the water system located in this area: "On the outside of the entrance, at its right as one emerges from the courtyard, there is a large basin, made of large slabs of limestone. When the basin was almost full, the water in it overflowed through an open stone channel into a large, long watering trough inside the courtyard. Water was supplied to the basin through a conduit, which led northeast up a gradual slope for about 275 metres to a very large, cemented cave-cistern, called *Bir en-Nāyim*" (Glueck 1934: 43).

He noted that no pottery was found at the site, but its similarity to other structures caused him to conclude that it was a Nabataean structure. He believed that this site was the burial place of an important personage and that a cult of the dead was practiced there. He conjectured that a priest resided on the site and that pilgrims with their animals were lodged in the courtyards (Glueck 1934: 44). In his 1934 report, he included both a picture (43, Fig. 18) and a plan of the platform (94, Plate 8).

Several years later, Glueck revisited the site but again failed to find any Nabataean sherds (Glueck 1939: 75). On this occasion, he discovered on the ridge E of the site "a number of small, isolated, stone-built burial chambers or tombs, by some of which Nabataean sherds were found" (Glueck 1939: 76). He believed that these tombs confirmed his belief that this site connected with a cult of the dead.

This site is located on the eastern edge of the Muhayr al-Fajj. A ridge runs to the E of it in a NNW to SSE direction. The top of the ridge is about 60m higher than the site. About .25km E of the site and slightly N are sites 489, a watchtower called Qaşayr Bir az-Zayt (قصر بير الزيت), and site 490, a complex of water channels and cisterns called *Bir an-Nāyim* (بيير الناييم). Qaşr abū-Rukba (قصر أبو ركة) is located 3km directly north.

A water channel runs westward from site 490 to the NE corner of site 488 (Fig. 4). It begins at PG:



4. This water channel descends westward from Site 490 to Site 488.

34.29/55.13; Elev. 980m. It ends at PG: 34.09/54.99; Elev. 965m. The channel consists of limestone slabs set perpendicular in the ground in two parallel lines about .5m apart. Plaster was still visible in the bottom of the channel at its western end. At the NE edge of the site, the channel adjoins large limestone blocks that have been carved in the middle to form gutters. One block was carved to make a ninety-degree turn to the S. The channel in the blocks runs several meters until it makes another ninety-degree turn to the W at which point it disappears in the rubble.

The middle of the site has been plowed out with machinery. The E wall is 32.5m long and runs NNE to the SSW. The S wall is 48.3m long and runs ESE to the WNW. The other two walls were not easily discerned because of human disturbance. The interior of the site contained large piles of rubble caused by bulldozing.

Site 489

PG: 34.35/55.08; UTMG: 75.12/42.60; Elev. 995m. 6 sherds: Rom. Non-JADIS. No more than

one course of stones is visible in the walls. The walls form a square about 5.4m on each side. To the N of the site, Qaşr at-Tamra and Qaşr Abū Rukba are visible. The entire Muhayr al-Fajj is visible from the site.

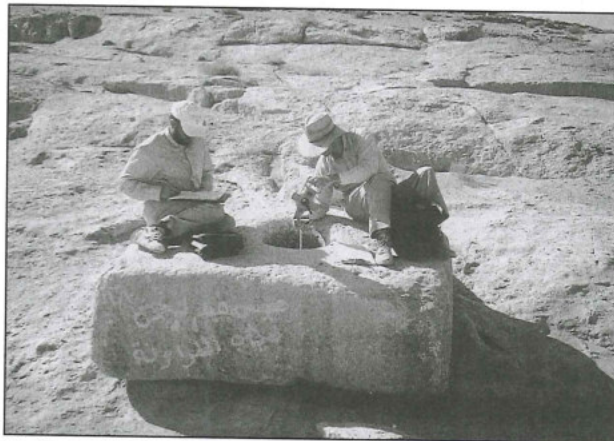
Site 490

PG: 34.30/55.17; UTMG: 75.07/42.64; Elev. 981m. 34 sherds, 2 diagnostic: Rom, Byz, EIs, MIs, LIs. JADIS 2305.007. This site is called Bīr an-Nāyim. This is Glueck's Site 40 in his 1934 report: "The cistern has two openings, a short distance removed from one another. Channels cut into the rock of the hillside above it conducted the rain-water into it. Close to the cistern are two large watering troughs" (Glueck 1934: 43).

Just to the S of site 489 is the beginning of a water channel that winds its way along the W side of the ridge until it turns toward the W and ends at this site. Since this site is located S of site 489, the northern PG reading must be inaccurate. The water channel consists of one row of limestone slabs set perpendicular in the ground so that the water would collect as it ran off the side of the ridge. As the channel approaches the site, it forms a deep rut in the ground. A wadi runs E to W just N of the site.

The site consists of two cisterns, two reservoirs, two water troughs, and a dam. The L-shaped dam is located W of the cisterns and reservoirs and measures 18.8m directly from end to end. The first cistern, located at the bottom of the ridge, has a large limestone cap over it (Fig. 5). Water was detected 5.5m below the cap. The bottom of the cistern was 6.3m. The second cistern is located on the flat ground about 4m NW of the first cistern. The opening is partially covered by several limestone slabs. Water was detected 4.5m below the opening.

The first reservoir was a rectangular hole carved



5. One of the cisterns at Site 490 is covered by a limestone cap.

into the limestone ridge about 5m above the first cistern (Fig. 6). It is 1m x 4m. A channel carved into the limestone on the E end would direct water into the reservoir. The second reservoir consisted of a groove carved into the side of the ridge in a N-S direction. It is about 3m from the W end of the first reservoir. It was 4.0m long, 1.5m wide (at its widest), and 1.3m deep. A .5m-x-5m limestone block was lying on the ground at the open end of the reservoir. Both limestone water troughs were located next to the second cistern. They were carved into long, narrow limestone blocks.

A second water channel runs S from the site along the western edge of the ridge. The channel begins at PG: 34.82/54.54. Another water channel runs W from the site toward site 488.

Site 491

PG: 34.90/55.27; UTMG: 75.66/42.79; Elev. 1032m. 12 sherds: Rom. Non-JADIS. This site is located .6km E of sites 489 and 490. Both are visible from this site. It is a 5m-x-5m pile of limestone blocks, perhaps a watchtower. Several robbed graves were located both N and S of the site.



6. This reservoir at Site 490 collects water running down the slope above it.

Site 492

PG: 34.84/54.80; UTMG: 75.61/42.32; Elev. 994m. 20 sherds, 1 diagnostic: ERom. Non-JADIS. South of site 491 begins a water channel that converges at this cistern with another water channel running from the S (Fig. 7). A dam constructed from piled soil is located below the cistern to the N. The opening to the cistern is .5m wide and carved into the limestone. Lying above the opening is a limestone boulder about .7m wide and about .7m high.

Site 493

PG: 35.38/53.95; UTMG: 76.17/41.48; Elev. 1030m. No ceramics. Non-JADIS. The site consists of a stone pile oriented N to S. Up to three courses are still visible in the walls. The N wall is 7.2m long, the E wall is 14m long, the S wall is 5.7m long, and the W wall is 13m long. Because of the elevation, visibility to the E and especially to the W is extensive.

Site 494

PG: 35.38/53.88; UTMG: 76.17/41.41; Elev. 1034m. Sherds: IrII. Non-JADIS. This stone pile is



7. This cistern at Site 492 collects water from two converging water channels.

located S of site 493 at the highest point of the ridge. Up to four or five courses were visible in the walls. The N side is 9m long, the E side is 15m long, the S side is 7m long, and the W side is 16m long. At the SE corner, part of a double ring of limestone blocks was visible. Site 488 was still visible to the NW.

Site 495

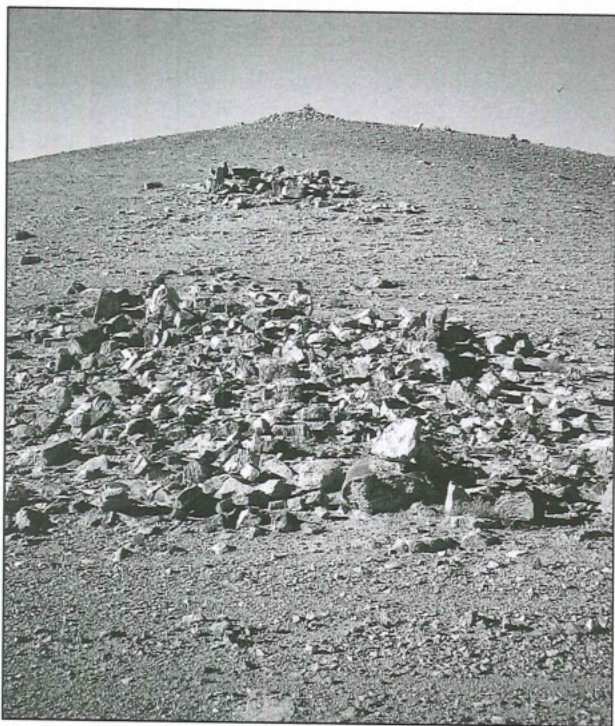
PG: 35.58/53.62; UTMG: 76.37/41.16; Elev. 1011m. Sherds: IrII, Rom. Non-JADIS. Southwest of site 494, the ridge descends and then begins to rise in elevation again. Located about .35km SW of site 494, two stone piles, perhaps burials, are located on the slope of the ridge as it begins to ascend.

Site 496

PG: 35.59/53.51; UTMG: 76.39/41.04; Elev. 1031m. Sherds, 1 diagnostic: ERom. Non-JADIS. Located .11km directly S of site 495 on top of the ridge, this site is another stone pile (Fig. 8). Walls are visible up to 2m high. The walls form a quadrilateral oriented E to W. The N wall is 10m long, the E wall is 13m long, the S wall is 9.3m long, and the W wall is 8.3m long.

Site 497

PG: 35.85/52.97; UTMG: 76.66/40.40; Elev. 1032m. Sherds: Rom. JADIS 2305.042. Located about .6km SSE from site 496, this square structure



8. Sites 495 and 496 were described by Glueck as box-like tombs that were part of a Nabataean cult of the dead.

may have been a watchtower reused as a burial. Four to five courses, up to 1.2m high, are still visible in the walls. It is oriented N to S. The N wall was 2.8m long, the E wall was 3.0m long, the S wall was 2.6m long, and the W wall was 3.0m long. Visibility to the E and especially to the W was extensive.

The JADIS coordinates for this site are wrong. This is Site 139 in Glueck's 1939 report. Although he says it is located SE of Quşayr 'Amra (his Site 142; our Site 486), it is actually ENE of it. He calls it Quşayr Bir az-Zayt (I). He noted that it was 3m x 3m and was 1.4m high. He found only a "few worn Nabataean-Roman sherds" (Glueck 1939: 77).

Site 498

PG: 35.92/52.78; UTMG: 76.73/40.31. No ceramics. JADIS 2305.043. Located .2km S of site 497, this site is a watchtower reused as a burial site. This site is located at the SE end of the Muḥayr al-Fajj. A saddle among the surrounding ridges descends SW from this point and opens out into the beginning of the Fajj al-'Usaykir 1km NE of Bir al-Buhay. Four to five courses, up to 1.6m high, are visible in the walls. The N wall is 4.3m long, the E wall is 5.0m long, the S wall is 4.4m long, and the W wall is 4.3m long.

The coordinates in the JADIS entry are incorrect. This is Site 140 in Glueck's 1939 report. He calls it Quşayr Bir az-Zayt II. He noted that it was 200m to the south-southeast of Site 139 (KRP Site 497). He said that it was 4.2m x 4.2m and was 2.1m high in some places.

Site 499

PG: 35.75/52.63; UTMG: 76.57/40.16; Elev. 975m. Sherds: Rom, Byz. Non-JADIS. The coordinates in JADIS 2305.039 are located about .5km WSW of this site. JADIS calls it Bir Bashbash (بیر بشبش), but it also applies that name to 2305.029. The coordinates of the latter appear to correspond to the actual Bir Bashbash, which is MPS Site 381. Therefore, Site 499 should be considered a non-JADIS site.

Glueck described the site in connection with Site 140 in his 1939 report. He noted that below Site 140 (our Site 498) in the Wādi az-Zayt were two different dams that deflected water into two different cave-cisterns. He also noted the remains of several other cisterns between these two. He also described two long stone watering troughs near one cistern, one measuring 3.2m and the other 3.7m. They averaged about .6m in width. He concluded that these cisterns "reflect the workmanship, ingenuity, and industriousness of the

Nabataeans" (Glueck 1939: 77).

This site is located .2km SW of site 498. It consists of water channels, two cisterns, a dam, two troughs, and remains of walls. The system is nestled in a swale through which a wadi runs. The first cistern is located at the bottom of the S bank of the wadi. The circular opening, .45m in diameter, was cut vertically into the limestone bank. The cistern is 2.4m deep. On the opposite bank are two perpendicular walls, one oriented NW to SE and the other oriented NE to SW. The corner of the walls faces directly N. Up to six courses, a height of 1.2m, were visible in the walls. They may have channeled water toward the cistern on the opposite side.

On the slope above the first cistern were two water troughs. The higher trough was carved from a limestone block 3.15m long. At one end, it is 1.1m wide, but it tapers on both sides to a width of .7m on the opposite end. At the widest end, a hole was cut through the limestone to form an opening to the cistern below (Fig. 9). Water would run down the slope into the hole in the ground underneath the cap, which was about .4m in diameter. The carved trough runs E of the opening in the same limestone block. Below the first trough and



9. This combination cistern cap/watering trough at Site 499 reveals the ingenuity of the ancient people who created it.

slightly to the W of the cap was a second trough, whose end was broken. It was 1.4m x .65m.

The second cistern is located SW of the other cistern farther up the slope. Next to the opening was a limestone cap, which was 1.5m x 1m. The opening was .45m in diameter. The bottom of the cistern was 2.6m below the surface. A water channel constructed from limestone slabs set perpendicular into the ground would funnel water from the SW into the cistern opening. The coordinates for the beginning of the water channel were PG: 35.60/52.38; Elev. 1004m.

On the N slope opposite the second cistern is a mound of soil that appears to form a dam. At one time, the dam may have extended across the wadi, but the wadi has eroded the middle of it.

Site 500

PG: 35.47/51.84; UTMG: 76.14/39.10; Elev. 980m. Sherds, 2 diagnostics: ERom, Rom. Non-JADIS. This stone pile is located on the peak of the southernmost end of the E ridge of the Muhayr al-Fajj. Its visibility to the N, W, and S is extensive. Up to two courses are visible in the walls. It forms a circular mound about 6m in diameter. It is probably a burial.

Site 501

PG: 37.02/54.65; UTMG: 77.80/42.21; Elev. 1009m. 12 sherds: Rom, UD. Non-JADIS. This isolated 7m-x-7m stone pile was a watchtower or a burial. From the site, Qaşr Abū Rukba is visible 4.75km to the NW, and site 502 is visible 2km to the S. It also has at least 3km of visibility to the E, and the N-S ridge that runs E of site 488 is visible 2km to the W.

Site 502

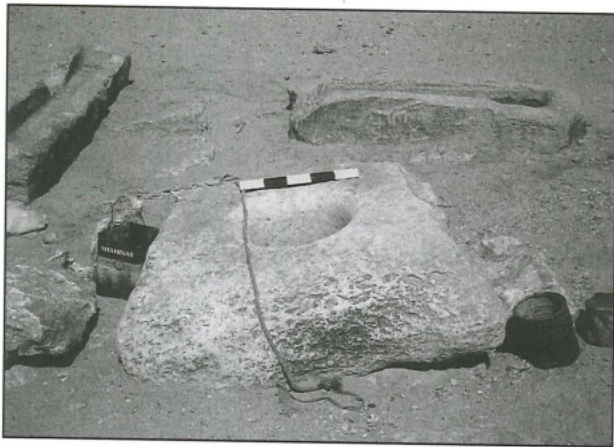
PG: 36.96/52.26; UTMG: 77.86/39.90; Elev. 1030m. 3 diagnostics: Rom, MIs. Non-JADIS. This 4m-x-4m structure had courses in its walls up to eight high. Next to the N wall and the S wall were burials. Because of its high elevation, the site has extensive visibility in all directions. Muḥay is visible 9km to the SW. The 1:25,000 map calls this peak Jabal an-Nāyīm (جبل النایم).

Site 503

PG: 36.77/51.73; UTMG: 77.60/39.39; Elev. 1000m. 1 diagnostic: Rom. Non-JADIS. Located .55km S-SW of site 502, this site is a small pile of rubble that measures 6m x 4m.

Site 504

PG: 36.50/51.24; UTMG: 77.35/38.79; Elev.



10. Site 504 is an ancient water-system that is still in use today.

900m. 1 diagnostic: Rom, 1 sherd: UD. Non-JADIS. This water system is located .55km SSW of site 503. It consists of two water channels, a cistern, two troughs, and a dam (Fig. 10). The water channels slope toward the site from the E and from the S. On top of the cistern is a limestone cap. Water was discovered 4.5m below the surface of the cap. A rope was lying on the cap and cans were sitting nearby, so the cistern is used currently.

Two troughs carved in limestone blocks were located next to the cistern. They measured 2.4m x .4m and 1.6m x .8m. One of the troughs contained water at one end. To the NW of the troughs was a crescent-shaped dam formed by a pile of soil. The distance was 25m from one tip of the crescent straight across to the other. The 1:25,000 map gives it the name Bir an-Nāyim, but JADIS gives that name to site 490.

Site 505

PG: 38.30/52.03; UTMG: 79.14/39.61; Elev. 960m. 11 sherds, 1 diagnostic: LRom. 3 chert tools. Non-JADIS. The site has two lines of stones that form an L. The W line, 13m long, is oriented N to S, and the S line, 11.5m long, is oriented E to W. A 6m-x-6m circular pile of stones, possibly a burial, is located N of the center of the S line.

Site 506

PG: 38.54/51.83; UTMG: 79.38/39.42; Elev. 951m. 19 sherds, 4 diagnostics: Rom. Non-JADIS. Located at the base of a ridge, this site consisted of burials, a large reservoir, and a dam. The burials are enclosed by lines of stones that form a rectangle. The N line was 13m; the E line was 6.5m; the S line was 13.5m; and the W line was 5.7m. Another line of stones formed a 6m-x-5.5m rectangle on the N side of the larger rectangle. North

of these stones was an oval reservoir, which measured 17.5m x 25m and was 2.5m deep. The dam was 20m long, 10m high, and 13m wide.

Site 507

PG: 38.88/51.74; UTMG: 79.71/39.33; Elev. 978m. 35 sherds, 7 diagnostics: IrII, Rom. Non-JADIS. Located .38km ESE of site 506, this site consists of lines of stones no more than one course high measuring 34m x 17m. It contains an interior wall.

Site 508

PG: 39.25/50.87; UTMG: 80.11/38.48; Elev. 934m. 12 sherds: Rom, Byz. JADIS 2305.048. Located beside a wadi that runs E to W at this point, this site consists of a reservoir, dam, and two troughs. The reservoir measures 13m x 10.7m and is 1.1m deep. The dam, located to the W and N of the reservoir, is 25m long and 3.5m high. This system would trap water running from the E in the wadi. The two troughs, carved in limestone blocks, are located near the E edge of the reservoir. They measured 2.2m x .65m and 2.2m x .45m.

Site 509

PG: 38.96/50.39; UTMG: 79.82/37.99; Elev. 932m. 27 sherds, 5 diagnostics: Rom, Byz. Non-JADIS. Located .6km SSW of site 508, this water system is located on the SE edge of the same wadi on which site 508 is located. It consists of a reservoir, dam, and up to eleven burials. The reservoir is circular with a diameter of 19.7m. It is 1.7m deep. The dam, located to the W of the reservoir, is 20m long, 20m wide, and 4m high. A water channel 23m long formed by limestone rocks set into the ground was located north of the dam. It would direct water from the west into the dam. The burials are located S of the reservoir.

Site 510

PG: 37.55/49.97; UTMG: 77.54/43.75 (note: this reading is incorrect); Elev. 917m. 5 sherds, 1 diagnostic: Rom. Non-JADIS. This water system consists of a water channel, a dam, and a cistern. It is located beside the Wādi Ghayth in a gap between two ridges. A wadi runs from the NE of this site. Site 509 is 1.5km to the NE along this wadi, and site 508 is .6km NNE of that site. A steep slope is located to the S of the site, but the ground is flat in the other directions.

The water channel begins 1km E of the site at the following coordinates: PG: 38.58/49.98; Elev. 919m. Limestone and chert blocks were set on edge to trap water flowing from the slope to the S

of the channel. The cistern had two openings. The top opening was formed by cutting a .6m-x-.6m opening down through the limestone. The bottom of the cistern was 4.7m below the opening. The other opening was located on the side of the slope 6m to the N of the top opening. It was 1.3m high and 2.3 wide. The interior of the cistern measured 10m x 11m. The walls of the cistern were plastered.

The dam was located N of the lower opening. It was formed by piling soil and stones in a curve that would trap water below the cistern where the water channel ended. It was 13m long, 10.5m wide, and 4m high.

Site 511

PG: 39.41/49.12; UTMG: 80.30/36.73; Elev. 950m. 48 sherds, 2 diagnostics: Rom. JADIS 2304.009, Rujum Hijāra (رجم حجارة). From site 510, a ridge runs NW to SE along the Wādī Ghayth. This stone pile was located on top of the ridge 2km SE of site 510. Site 461 is located .5km to the S. The site has extensive visibility, especially to the S. The wall lines, only one course high, form a trapezoid. The N wall is 5.8m long, the E wall is 13.7m long, the S wall is 7.6m long, and the W wall is 13.4m long.

Site 512

PG: 39.93/48.77; UTMG: 78.08/36.41 (note: this reading is incorrect); Elev. 930m. 48 sherds, 2 diagnostic bowl fragments: Rom. Non-JADIS. This stone pile is located .6km SE of site 511, which is visible from the site. Another stone pile was visible to the ENE, but the survey did not cover that area this season. The dimensions of the site were 6m x 7m. No walls were visible.

Site 513

PG: 42.88/46.85; UTMG: 83.81/34.52; Elev. 887m. 37 sherds, 4 diagnostics: Rom, Byz. Non-JADIS. From site 512, the area 2.5km to the SE was not covered by the survey team. Site 513 is located 3.5km SE of site 512. This site is the westernmost of a series of five sites located along the S base of an E-W ridge. From this site, the Desert Highway and the 'Abayd mine are visible to the E, and the view to the S is unlimited.

The site has visible walls, up to three courses high. Its N side is 25.5m long, its E side is 22.8m long, its S side is 28.3m long, and its W side is 11.7m long. The N wall is formed by stones piled along the side of the ridge. A N-S wall divides the site. On the SE side of the site, wall lines extend to form a rectangular outline measuring 11.1m on the

E, 10m on the N, and 13.4m on the W. Three burials within the site had been robbed.

Site 514

PG: 43.09/46.91; UTMG: 84.02/34.60; Elev. 850m. Sherds, 1 diagnostic: Rom, MIs. Non-JADIS. This site is located .23km to the ENE of site 513. It is also located at the S base of the ridge. Courses in the walls were visible up to three high. Its N wall was 24.5m long, its E wall was 17m long, its S wall was 24m long, and its W wall was 15m long. A N-S wall divides it into two parts.

Site 515

PG: 43.27/47.04; UTMG: 84.29/34.73; Elev. 910m. 70 sherds, 17 diagnostics (9 bowl fragments, 1 cup fragment): Rom, UD. Non-JADIS. This site is a collapsed watchtower located .2km ENE of site 514. The watchtower was built on a level place part-way up the side of the ridge. It measured about 6m x 6m. The stones tumbled S down the ridge, extending about 30m. Site 460, Khirbat al-'Askar, was visible 3.5km to the S. The visibility in all directions except the N was unhindered. Six to eight burials were located near the site.

Site 516

PG: 44.04/47.27; UTMG: 84.96/34.82; Elev. 893m. Sherds: Nab, Rom. Non-JADIS. This site appears to be the remains of a watchtower. Up to four courses are visible in the walls. Beginning at the NW corner and going in a clockwise direction, the first side is 5.3m, the second side is 6.8m, the third side is 6m, and the fourth side is 7.6m.

Site 517

PG: 44.24/46.41; UTMG: 85.18/34.11; Elev. 884m. 28 sherds, 3 diagnostics: Rom, Byz. Non-JADIS. This site is located .9km S and slightly E of site 516. A ridge above the site curved around to the W and N. It has extensive visibility to the E and S. Stones formed a rectangular outline. The N side was 22m, the E side was 22m, the S side was 27m, and the W side was 25.6m. Up to two courses of stone were visible in the SE corner. Several holes had been dug in the site.

Site 518

PG: 44.07/45.35; UTMG: 85.00/33.06; Elev. 905m. 23 sherds, 1 diagnostic: Rom. Non-JADIS. Located 1km S and slightly W of site 517, this site is a small stone pile.

Site 519

PG: 44.24/45.37; UTMG: 85.18/33.13; Elev.

892m. 18 sherds, 4 diagnostics: Rom. Non-JADIS. Located .17km E of site 518, this site is a circle of stones. Up to two courses of stones were visible. The N-S diameter of the site was 21.5m. The E-W diameter was 21.8m. A quarry was located 50m SSW of the site.

Sites Revisited in 2001

Site 106: PG: 22.53/76.70; UTMG: 62.88/63.98. 47 sherds, 28 diagnostics: IrII, Rom, Byz, MIs.

Site 206: PG: 16.02/63.25; UTMG: 56.62/50.39; Elev. 1087m. 8 diagnostics: IrII, Rom, Byz, EIs, MIs, LIs.

Site 207: PG: 17.16/62.64; UTMG: 57.79/49.81; Elev. 1021m. 23 diagnostics: Ir, ERom, Byz, MIs.

Site 259: 70 sherds: Ir, Rom, Byz.

Site 260: 19 sherds, 3 diagnostics: Ir, Rom, Byz.

Site 290: PG: 12.85/56.21; UTMG: 53.59/43.29. 11 diagnostics: MIs, Byz, Rom. The MPS verified Glueck's observation of the site that up to four courses were visible in the wall (Miller 1991: 116). However, we could discern only one to two courses. One cistern is located S of the site, and another is located W of the site.

Site 296: PG: 14.02/55.45; UTMG: 54.77/42.52; Elev. 1200m. 174 sherds, 11 diagnostics: LIs, Byz, Rom, ERom/Nab, IrII. The building ruin described in MPS is still visible (Miller 1991: 118). The W wall was 13.7m long. The E wall was 9.5m long. The N wall was 17m long. No wall is visible on the S side. A wall line runs parallel to the E wall 1.2m to the W. A cistern was located 20m S of the building. Two burial mounds were located about 50m N of the site.

Site 460A: 13 sherds, 4 diagnostics: EIs, Byz. 29 tesserae.

Site 460H: 1 tessera.

Site 460I: 1 tessera, 1 basalt grindstone, and 1 lamp base.

Site 460S: 14 sherds, 2 diagnostics: EIs, Byz, Rom. 1 grindstone.

Site 460T: 20 sherds, 5 diagnostics: EIs, Byz, Rom. 5 glass fragments.

Site 460V: 15 sherds, 3 diagnostics: EIs, Byz, Rom. 3 tesserae.

Site 462: The survey team collected sherds on three different occasions: MIs, Byz, Rom, IrII. Further investigation of this site has raised the possibility that this was an Iron Age fort or settlement that was reused by the Romans. The corner farthest away from the ridge faces S and has remains of a projecting corner or tower. The NE-SW wall is located at the base of the ridge. An additional enclosure extends from the NW-SE wall.

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