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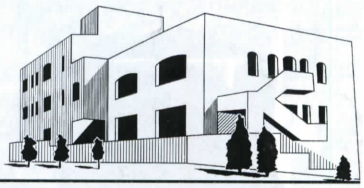
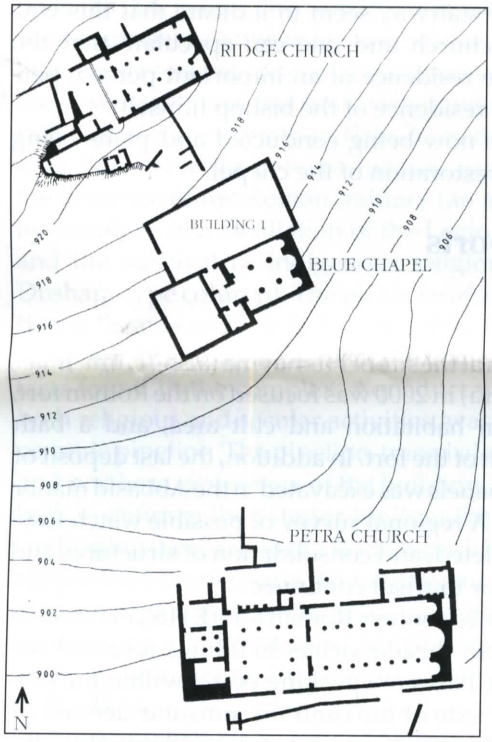


Petra: Blue Chapel Complex

Patricia M. Bikai and Megan Perry



Above, plan of the general area by C. Kanellopoulos, using the base map of ACOR and Hashemite University; below, general view of the chapel, facing east

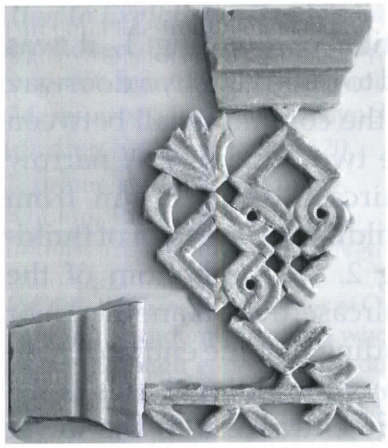
The tenth season of excavations on the North Ridge at Petra was conducted from April 1 through May 4, 2000. Under Director Patricia M. Bikai and Assistant Director Megan A. Perry, the project seeks to delineate the city plan and pattern of population circulation between the Ridge Church and the Petra Church. While defining the buildings and streets in this sector, a large building complex was discovered.

The upper or northern building, designated "Building 1," measures ca. 28 m E-W x 15 m N-S, while the slightly larger lower building, "Building 2," measures ca. 30 m E-W x 15 m N-S. Building 1 is a tripartite structure running east to west, with the halls separated by walls. It appears to have been built originally in the Nabataean period. The eastern end of the building in general has been destroyed by later looting and farming activity. While we have a great deal of evidence that this building was used by the 6th to 8th century A.D. inhabitants of Petra, who left remnants of cooking fires and domestic debris, we have little artifactual or architectural evidence for its function in the earlier eras.

During the investigation of Building 1, it was discovered that it is joined to Building 2 by a doorway in the common wall between the two buildings. A narrow staircase drops 3.7 m from Building 1 to the floor of Building 2. At the bottom of the staircase, there is another door leading into the entrance hallway of Building 2; this is the only entrance into the lower building. To the south, directly across from the entrance stair is a small room. A sounding in the room revealed that it had two successive layers of stone flooring. The western room of

The steps between the two sections of the complex

Pulpit



Part of the blue marble surround of the pulpit

Building 2, measuring 10.5 m x 13.5 m, was also paved with stone. The very few artifacts and architectural elements in this quarter gave no indication of its function. The eastern end of the building proved to be a small chapel.

The interior of the chapel or church measures ca. 11 m N-S x 12.6 m E-W. It has a nave and two side aisles. There were two columns (and two pilasters) on each side. The colonnade is the most spectacular part of the monument. Each installation appears to have consisted of 1) a pedestal; 2) a column base; 3) three Egyptian granite drums; and 4) a two-part Nabataean capital. These appear to have carried arches as dozens of voussoir stones were recovered. Of the 12 granite drums that would be required for this colonnade, 11 pieces were recovered at the site. Additionally, many parts of the capitals were recovered and it is likely that they can be restored.

The chancel, which was paved with both stone and re-used marble pieces, was reached by three limestone steps, but only the lowermost of these is intact. Three of the four slots for altar posts were found in the pavement of the chancel. These were almost immediately in front of the apse. In the apse itself is a stone construction which appears to be the substructure for a throne (for the bishop?). Finally, on the northern side of the chancel there was a pulpit. The substructure of the steps and the base for a six-sided ambo were found *in situ*. Additionally a displaced step which would have led up to the ambo, a number of blue marble openwork lattice fragments, and a post that may have been part of the ambo were found. There was no evidence that there were ever mosaics, either on the floor or the walls, in this structure.

The discovery of yet another church in this area of Petra was a surprise. The Petra Church is ca. 50 m to the south and the Ridge Church only 20 m to the north of this structure. The original name of the chapel is not known; as the builders seem to have made a conscious attempt to match the blue of the granite columns with blue sandstone flooring and blue marble furnishings, it has been dubbed the Blue Chapel. The small size of the chapel and the fact that it could only be reached via the rather narrow stairway seem to indicate that this was not a public church and one can speculate that the complex is the residence of an important person, perhaps even the residence of the bishop himself.

Studies are now being conducted and plans being made for the restoration of the chapel.

Field Reports

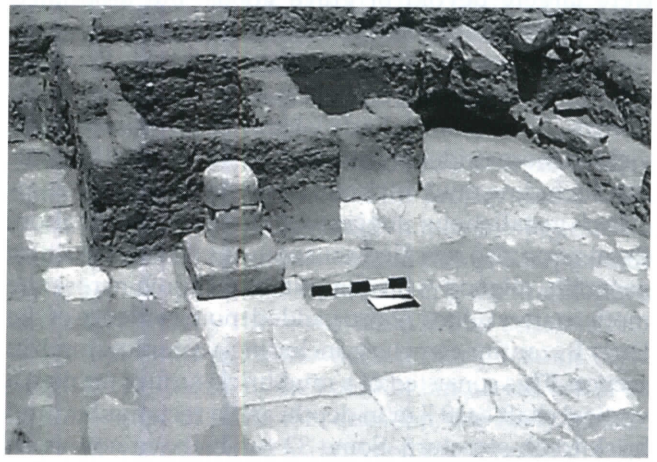
Humayma

Excavation at the site of Humayma (also "Humeima", ancient Hawara) in 2000 was focused on the Roman fort, a Late Roman habitation and cult area, and a bath building south of the fort. In addition, the last deposit of carved ivory panels was excavated in the Abbasid manor house (F103). A regional survey of possible watch towers was completed, and consolidation of structures and preparation for tourism continued.

In the early 2d century Roman fort (E116), excavation of the principia (headquarters building) revealed numerous statue bases or speaking podia within the portico on either side of the central room, and defined all four sides of the parade ground. A paved room abuts the principia on the north side. A substantial structure in the northwest quadrant of the fort, probably the praetorium (commander's residence), proved to have mosaic floors made of large but colorful stone tesserae defining geometric patterns—the first mosaics found south of Petra. Some of the patterns are identical to those used in a first-century Nabataean villa at Wadi Musa. The praetorium was decorated as well with frescoes imitating colored stone revetment panels, some of which carried Greek graffiti and Latin dipinti. Excavations in the NE quadrant uncovered a massive structure roofed with arches and paved with tiles, possibly a stable or granary. For the first time, terracotta water pipelines were found in the fort, tapping either the reservoir in its NW corner, or the Nabataean aqueduct. During the fourth century some structures were altered for domestic activities and encroached on the south end of the via praetoria.

Field E116, Area I04, detail of mosaic floor

Excavations outside the fort focused on Fields E125 (Late Roman habitation area) and E077 (a Late Roman bath building). The third season of excavation at E125 revealed an insula-like structure containing over 20 rooms, probably comprising several discrete clusters of living and working areas sharing common walls. One of the areas functioned as a small shrine, which dates to the initial phase of occupation (late-2d to mid-3d century A.D.). Within the shrine were dedications reflecting both the presence of the Roman military (an altar dedicated by members of a vexillation of the Legio III Cyrenaica) and the survival of indigenous religious customs (a Dushara-type column). The presence of a Greek dedication to Serapis and the dedication of the legionary altar to Jupiter Ammon complement the many Egyptian artifacts found in the complex. Aqueduct water, used for both religious and secular activities, was supplied by a ceramic pipeline. The pipeline, traced along the eastern and northern perimeters of the building, proved useful both in defining the exterior limits of the insula, and in confirming the location of a Roman-period road—possibly the Via Nova Traiana. The shrine and other portions of the complex were built on the carefully constructed foundations of a dismantled Nabataean building. The walls of a similar building underlie the bathhouse built by the Roman garrison ca. 50 m to the west, suggesting that an early habitation area of Nabataean Hawara lies under the later Roman vicus.



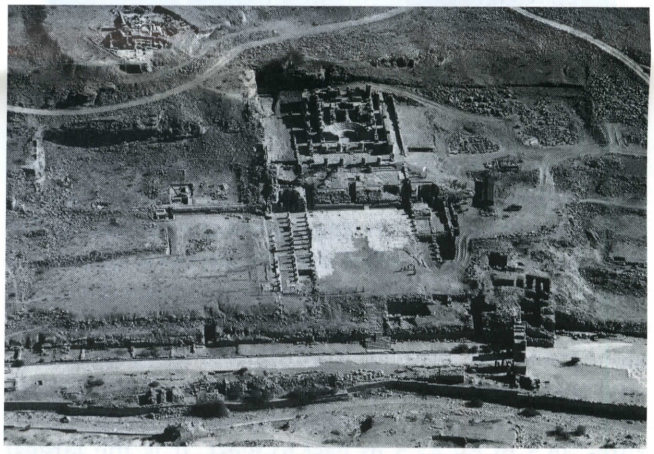
Field E125, Dushara block and basin

During the next two years the results of the Nabataean and Roman period investigations will be prepared for final publication. A small team will return in 2001 to complete the excavation of the Early Islamic period manor house and mosque in which the Abbasid family plotted the overthrow of the Umayyad Caliphate.

John P. Oleson, University of Victoria, Erik de Bruijn, University of British Columbia, M. Barbara Reeves, State University of New York, Buffalo

Petra: Great Temple

The Great Temple's spectacular setting and architecture as the largest freestanding monument in Petra strengthens its significance as one of the primary Nabataean ceremonial cult centers of the city. The Upper Temenos surround has been cut out of the living rock where there is a sacred cult effigy in relief. Springs and a complex series of hydraulic systems were diverted to serve its ritual. Its significance is emphasized by its eclectic architecture—the Lower Temenos flanked by porticoes, colonnades and distyle exedrae were constructed purposefully for cult practices. The massive tetrastyle-in-antis Great Temple and its Theatron were set apart from the hustle and bustle of the center city and suggest that it was dedicated to consecration.



General view of the Great Temple area

The eighth excavation season was carried out by Brown University archaeologists from June to August 2000. This year's work concentrated primarily on the Great Temple, but the so-called Small Temple identified by Wiegand and Bachmann, located to the west of the precinct, was also investigated.

Using the Total Station, we converted our data to Global Positioning Satellite technology. These data are presented in Universal Transverse Measurements grid coordinates. These data for the Petra Mapping Project, sponsored by the American Center for Oriental Research and undertaken by the Hashemite University, provide researchers with a plan of central Petra with sub-centimeter accuracy.

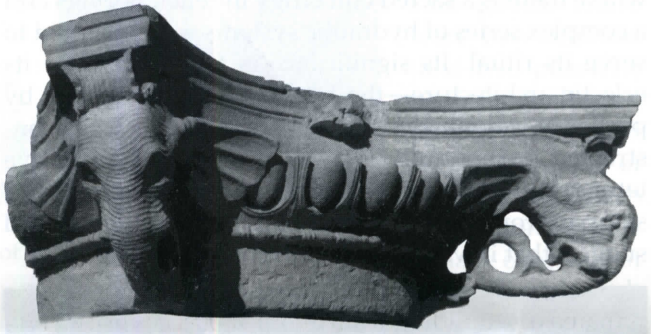
The Small Temple

The Small Temple was cleared of overburden—the

building measured 13.3 m east/west by 7.7 m north/south. *In situ* blocks were surveyed, as well as gray and white marble wall decoration from Carrara.

The Great Temple

The West Propylaeum was excavated. Here was an arcade, which continued to the west and then turned to the south for 34 m into a double vaulted arch system. For structural support, under the West Colonnade, was a massive east west retaining wall built into a subterranean double arched arcade under the triple colonnade and the Lower Temenos. The most compelling artifacts from the west propylaeum were a horned altar and two limestone elephant-headed capitals in excellent condition. One capital adorned an engaged column, and the other, a west colonnade column. After consolidation these superb capitals were moved to the Petra Museum where they greet the visitor upon entry.



Elephant-headed capital

A dramatic find was that the Upper Temenos southeast perimeter wall had been constructed against a sheer L-shaped scarp of bedrock, measuring 45 m in length by 10 to 11 m in height, creating a great paved plaza to the east. Carved in low relief into the bedrock was a cult image resembling a sword deity emerging from an anvil-shaped block. It was probably chiseled by the stone masons as an act of contrition to the rock.

The east corridor and east walkway were completely defined. It is now known that the Great Temple measures 35.5 m by 42.5 m east-to-west. It is the largest freestanding monument in Petra, covering 1507 m^2.

Catalogued were fragmentary Latin inscriptions: P R O VI [NCIA] could be read on one. Other artifacts included ceramic figurines, Nabataean bowls, an ostracon fragment and an outsized marble hand, bone pins, complete lamps (the majority were Nabataean), and 24 coins. Our object databases served us well for the recording of all artifacts including architectural elements.

Between excavation seasons, consolidation in 2000 has included the re-erection of the southwest heart-shaped temple column, the theatron, the west corridor walls and the southeast stairway. Restoration also continued on the west corridor murals, and bilingual signs were erected to identify the major components of the Great Temple precinct.

Martha Sharp Joukowsky, Brown University

Roman Aqaba Project

The fifth field season was conducted from May 24 to July 9, 2000. The project's principal goal is to reconstruct the role of the city of Aila (ancient 'Aqaba) in the economy of the Roman Empire. The research design consists of a regional environmental and archaeological survey and excavation of the city to recover evidence about its economy. The regional survey was completed in 1998. Therefore the 2000 season focused exclusively on continued excavation of Aila, mostly in previously opened areas. These extended from the eastern 'Circular Area' to the area just northwest of Early Islamic Ayla. One new area was opened to address a specific historical question about the Early Islamic settlement. The following summary proceeds from north to south, which also corresponds roughly with the chronological order of the remains.

Area O consists of soundings scattered over a wide area to locate the northern edge of Nabataean Aila. These soundings exposed portions of a Nabataean mud brick domestic complex. The goal in 2000 was larger horizontal exposure of this complex. It was founded in the 1st century A.D., briefly abandoned around the turn of the 2d century, then reoccupied later in the same century. The complex seems to have been finally abandoned by the early 3d century.

Area M lies southeast of Area O. Excavation in 2000 revealed more of a mud brick domestic complex from the Early Roman/Nabataean and Late Roman periods, with rich artifactual remains, including terra sigillata and Nabataean painted and unpainted fine ware. Quantities of natural clay, ceramic slag and kiln wasters , and several water channels suggested a local pottery industry in these periods. As in Area O, the Area M complex was briefly abandoned around the turn of the 2d century, then reoccupied early in the 2d century. After its abandonment in the 3d century, several human burials were laid into pits cut into windblown sand among the structures. Thirteen graves have been excavated to date. Nearly all the individuals were oriented east-west, with the head towards the west and facing south. The graves were largely devoid of grave goods, but associated pottery sherds suggested a 4th century date.

Area A lies ca. 300 m south of Area M. Previous excavation revealed occupation extending from Early Roman/Nabataean to Early Islamic. Excavation in 2000 yielded more evidence from the late 3d/early 4th centuries, including mud brick and stone structures and associated installations suggesting domestic occupation. Excavation also revealed a massive mud brick structure generally aligned with the putative church across the modern street. Area A also yielded more evidence of the Early Byzantine cemetery, including a complete tomb in section. This consisted of a mud brick surface marker, a vertical shaft ca. 0.7 m in depth, and a rectangular mud brick tomb-structure. Some 32 tombs have now been excavated in Area A. As in the Area M cemetery to the

north, nearly all the tombs were oriented E-W with the head to the west and the face to the south. The evidence suggests a date in the late 4th and early 5th centuries.

Area J is located along both sides of al-Istikhlal Street. Excavation has revealed two major structures: a monumental mud brick structure of the 4th century (tentatively identified as a church) and a stone fortification wall of the late 4th or early 5th century. The mud brick structure (26 m E-W by 16 m N-S) is oriented ESE-WNW and is surrounded by a complex of structures in all directions but the east. It yielded rich artifactual remains, including imported African Red Slipware, fragments of glass oil lamps, and several hundred coins. A major find this season was a complete rectangular alabaster plate recovered from the foundations of the structure. The structure was erected ca. A.D. 300 and experienced three phases of use before its destruction, apparently in the earthquake of 363. The eastward orientation, the plan, and some artifactual evidence suggest that the building was a church. A rectangular ancient trench in the putative chancel area suggests the prior burial of an important personage, presumably later removed after the building went out of use. This structure, if in fact a church, is possibly the oldest purpose-built church in the world.

Just to the south of this building is the Byzantine city wall; ca. 120 m of the wall have now been exposed. Three rectangular towers project from the northern or outer face of the wall. A large structure was also built against the inner (south) face, consisting of two elliptical mud brick towers connected by a mud brick wall, all erected on stone foundations set nearly as deep as the city wall itself, presumably as a rampart. It was apparently added to the wall in the late 6th century.

Previous excavation of Area K, ca. 50 m southeast of Area J, had yielded evidence inside the city wall, including structures of the Umayyad and Abbasid periods (late 7th to 10th centuries). Excavation in 2000 revealed stone and mud brick structures of the Early Byzantine period (4th and 5th centuries) built along a street. Rich artifactual remains, including imported fine wares, amphorae, and numerous coins, suggest the vibrancy of Aila's economy in this period. Deep probes in several trenches reached Late Roman (2d to 3d century) strata before season's end. Area K has thus produced a stratigraphic profile of Aila's history from the 2nd through 10th centuries.

Area R was a new area opened to date the city wall of Early Islamic Ayla, southeast of the project's excavation areas. The excavator (Donald Whitcomb) suggested a mid-7th century date for the foundation of Early Islamic Ayla, but was prevented from reaching the foundations of the city wall by the water table. Other scholars had suggested that the fortifications of Early Islamic Ayla might actually date to the Late Roman period (ca. 300). In an attempt to settle this question, the Early Islamic city wall was excavated to recover datable material from its foundations. Once the wall was articulated, a pump was employed to permit excavation below the water table. Pottery from soil layers against the north face of the masonry foundations and from a soil layer extending under the foundations dated to the 7th century, confirming Whitcomb's date for the foundation of Early Islamic Ayla.

S. Thomas Parker, North Carolina State University

Madaba Plains Project: Tall al-'Umayri

The 2000 excavations at Tall al-'Umayri have uncovered new levels of occupation that date to times when settlements in Jordan were rare. Located near the Amman National Park on the Airport Highway south of Amman, the site has already produced over 20 impressive settlements altogether.

Excavations during the season uncovered more earthen and plaster floors surrounding a dolmen, or large stone burial monument, on the southeast slope of the hill, dating to ca. 3000 B.C. Although not representing a new settlement, there were at least six distinct surfaces on the uphill side of the dolmen and at least three below. This is the first dolmen in the Mediterranean basin to produce quantities of burials (20), complete pottery vessels (20), and surfaces indicating ceremonial use patterns.

Discoveries of the current season also include the remains of a building from about 1300 B.C whose stone walls were over 1 m wide and still stand 3.5 m high in places and whose second story was mudbrick. Very few buildings from this period have been found in Jordan and this one must have been an important structure.

Tall al-'Umayri boasts one of the best preserved towns in Jordan from the early Iron Age (ca. 1200 B.C.). The walls of several houses stand 2 m high and pillar bases indicate that the roofs were supported by wooden posts. This settlement probably represents nomadic tribal groups settling into towns and villages, perhaps the people we now know as the Ammonites. One of the houses provides an excellent example of a typical hill-country "four-room house." The floor of an adjacent house revealed a layer of burned and broken ceramic

The Late Bronze Age building with its massive walls surviving 3.5 m high in places and forming two rooms of a larger structure which disappears into the northern balk

vessels. It was a major building consisting of three wide rooms and a fourth, smaller room jutting out to the south in which were seven curious stones lying down. These may have served some kind of cultic function.

Another new story can now be told as the team excavated a large plastered area which turned out to belong to the 11th-10th centuries B.C. On the uncovered plaster and cobble surfaces lay many smashed vessels, including a cult stand with two curious standing figures having masculine heads, but only one breast each. They faced each other in the stand, clearly identifiable as female from the profiles they presented, but each one missing the breast on the inner side of the cult stand. What might these say about religious practice here?

A minor settlement at the site is also apparent from the late Hellenistic period (ca. 150-50 B.C.) when a few residents constructed a small farmstead on the southern edge of the tall. It may have produced wine on the surrounding hillsides and grain in the valley bottoms. In the courtyard of the building, the team found complete pottery juglets and lamps as well as food-producing implements.

Parts of a late Iron I cult stand with two one-breasted figurines which evidently occupied the sides of an opening on the stand

Among the small finds were several seals including one made by the Hyksos rulers of Egypt. This brings the total number of seals discovered at 'Umayri to over 80. Most of the seals were associated with the administrative complex from the late Iron Age and represent bureaucratic activity there. Continued research on the bones recovered from the early Iron I trash pit has revealed the presence of bones from a lion, a brown bear and Nile Perch.

To help keep the remains at 'Umayri accessible by scholars and other visitors, a major restoration effort is underway. This includes protective boundaries, observation platforms, wall/building consolidation, interpretive signs and a one-to-one scale complete reproduction of the Iron I four-room house which will serve as a visitors center.

Douglas R. Clark, Walla Walla College, Larry G. Herr, Canadian University College, and Warren C. Trenchard, La Sierra University

Jabal Hamrat Fidan

During July and August, 2000, the University of California, San Diego, the University of Bristol and the Department of Antiquities of Jordan completed Phase I (1997 to 2000) of field research in the Jabal Hamrat Fidan (JHF) region of southern Jordan. Located at the 'gateway' to the copper ore rich Faynan district, the JHF project focuses on the role of early ore procurement and metallurgy on the evolution of societies from the Neolithic to the Iron Age. The 2000 season, recently completed, had three primary goals: a) completion of excavations in the Khirbet Hamra Ifdan (KHI) Early Bronze (EB) III metal manufactory; b) botanical, geophysical and geomorphological surveys in the JHF; c) processing of data from both the 1999 and 2000 season including the complete archiving of the material; and d) preparation of the sites excavated in the JHF for local visitation and ecotourism.

The 2000 excavations, directed by T.E. Levy and R.B. Adams, at KHI aimed at trying to identify domestic structures linked to the inhabitants of the EB III site. Previous excavations demonstrated the widespread nature of EB metal working activities at the site with nearly 50 rooms and courtyards linked to this specialization. By opening an additional 11 squares of 5 x 5 m each adjacent to the 1999 excavation, domestic units were located. In addition, information regarding the recycling of metal during the EB III came to light. All artifact and architectural data was collected using GPS technology adapted to standard EDM survey equipment.

Students from the UCSD Archaeology Field School carrying excavation equipment up to Khirbet Hamrat Ifdan (KHI)

A botanical survey focused on identifying the main landscape and vegetation units in the JHF; a total of 9 major units were defined and mapped. In addition, new plant types never recorded in this part of Jordan were identified. Substantial work was also carried out on the identification of paleo-springs that would have been used in the JHF from the Neolithic through Iron Age.

The geophysical survey focused on the mapping of the closest mining complex to KHI situated at Umm Tha'hor. Using an Electro magnetic induction (EMI) tool, a series of mine shafts and galleries were identified.

A geomorphological survey was made along the Wadi Fidan for a distance of 7 km. The aim of the survey was to identify changing landscapes in the Wadi Fidan portion of the JHF from the Paleolithic through the Iron Age. A series of ancient terraces were identified, and the data is now being modeled using GIS. This data will be

Excavations in the Early Bronze III metal 'manufactory' at KHI; note the large ceramic vats in the room in the foreground

instrumental for analyzing human/land relationships in the JHF 'deep-time' study of ancient metallurgy and social change.

During the excavation substantial resources and time were devoted to processing: a) the lithic data from the 1999 PPNB excavations; b) the human remains from the 1997 excavations at the Iron Age cemetery of WFD 40 ; c) the archaeozoological remains from both the PPNB site of WFD 1 and the EB II-IV site of KHI; d) the conservation of artifacts from both the 1999 and 2000 excavations; e) the ceramic assemblage from KHI; f) the archaeometallurgical remains from both the 1999 and 2000 seasons at KHI; g) digital photography of the 2000 artifacts; h) digital survey and mapping data as well as the excavation GIS data input and analyses.

In accordance to the JHF project's commitment to preserving and presenting the sites excavated since 1997 to the public, M. Najjar directed the construction of trails and presentation walls at four major sites excavated by our team. These sites include the PPNB village of WFD 1, the EB I metal workers village at WFD 4, the EB II to IV copper metal manufactory at KHI, and the Iron Age cemetery at WFD 40. To facilitate visitation at these sites, large signs in Arabic and English were placed at each site. The signs provide a brief explanation of the significance of each site.

Thomas E. Levy, University of California, San Diego, Russell B. Adams, University of Bristol, and Mohammad Najjar, Department of Antiquities

Khirbet Iskander

The 2000 Expedition to Khirbet Iskander took place between May 23 and July 8. A consortium of three schools sponsors the project: Gannon University, Lubbock Christian University, and McMurry University.

Work concentrated on the northwest corner of the mound in Area B. The site of Khirbet Iskander is well known for its wonderfully preserved and substantial remains from the Early Bronze IV period, a non-urban period sometimes called the "Nomadic Interlude," dating to ca. 2300-2000 B.C. First, work this season provided greater horizontal exposure of the previously investigated EB IV settlement phases in Area B. Second, the project also investigated earlier phasing from the urban EB II/III periods discovered in 1997.

A new tier of six squares was opened on the southern side of Area B, bringing the total to 18 (5 x 5 m) squares over which the Phase A settlement has been traced. As expected, a series of (mostly interconnected) domestic structures came to light. Though the southern boundary walls of the complex had been visible from surface tracings, this summer's work revealed the exact nature of the arrangements of rooms and the use of space. Compared with the earlier EB IV Phase B settlement, the arrangement of broad and long room houses and the extent of domestic equipment in Phase A is distinctive. By the end of the period, in Phase A, the northwest neighborhood had apparently shifted from being a public area to a more domestic one.

In one of the new buildings uncovered, a kitchen room was identified. The B19 room included a tabun, a mortar, a preparation stone, a bin area, as well as two doorways. In B15, a unique and somewhat enigmatic silo or well came to light in the courtyard of a large broadroom house. It was ca. 2.5 m in diameter and even deeper than that. In fact, by the end of season, we had not found the bottom. Finally, for the first time, evidence for house walls abutting the outer line of defenses was discovered in Area B, Phase A. This phase is contemporary with our "Gateway" Phase in Area C.

The second major focus of the campaign was to investigate Phases C-E. These are the transitional and pre-EB IV strata on the mound. A number of exciting discoveries took place at the west end of the field, including the uncovering of what appears to be the earlier western perimeter wall, a mudbrick wall on a stone socle. It lay below the poorly constructed stone wall that is currently visible along the west side of the mound. The latter wall—the one visible to Nelson Glueck when he surveyed the site—abuts the tower at the southwest corner and is clearly a later rebuilding at a much higher founding level. This latter wall was constructed in Phase C2, reused in C1, Phase B, and apparently partially in Phase A as well.

This discovery greatly clarifies the construction his-

Square B15, the silo or well in a courtyard