# TAYINAT ARCHAEOLOGICAL PROJECT 2010 SEASONAL REPORT

[Not for Publication]

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### INTRODUCTION

The Tayinat Archaeological Project (TAP) completed its seventh season of excavations at Tell Tayinat in 2010, conducted between June 21 and August 14. The field excavations were followed by two months of laboratory analysis and research, conducted between September 13 and November 12, 2010, in preparation of reports and conference presentations on the results of the 2010 season.

The 2010 TAP senior staff consisted of Dr. Timothy Harrison (Project Director), Dr. Elif Denel (Assistant Director), Dr. Stephen Batiuk (Senior Field Archaeologist), Dr. Charly Bank (Geophysics), Dr. Lynn Welton (Field 1 Operations), James Osborne (Field 2 Operations), Dr. Jack Dessel (Field 5 Operations), Dr. David Lipovitch (Zooarchaeologist), Mairi Capper (Paleoethnobotanist), Dr. Fiona Haughey (Artifact Illustrator and Shell Specialist), Julie Unruh (Conservator), and Jennifer Jackson (Photographer). Dr. Elif Ünlü, of Boğazici University, also participated in the field season. The project was assisted by fourteen archaeology students from Ankara University, Harvard University, Koç University, Mustafa Kemal University, the University of California at Berkeley, and the University of Toronto. Mr. Resul İbiş served as government representative on behalf of the Directorate of Cultural Heritage and Museums.

The primary objectives of the 2010 TAP field season were to (1) complete excavation of the Early Iron Age levels in Field 1, and expand the exposure of the Early Bronze Age levels; (2) complete an extensive geophysical survey of the upper mound and portions of the lower mound; (3) conduct detailed analyses of the artifact assemblages from Fields 1, 2, 4 and 5, in preparation for reports; and (4) complete the stabilization and conservation of the extensive artifact assemblages accumulated from recent field seasons, most notably the artifacts and cache of cuneiform tablets recovered in 2009 from Building XVI in Field 2.

### FIELD 1 EXCAVATIONS (L. WELTON)

Field 1 is located in the center of the upper mound, on the southern edge of the Syro-Hittite Expedition's West Central Area excavations (**fig. 1**). The Field 1 excavations were initiated as part of a two-week exploratory sounding in 2004, and in 2005 expanded to the current four 10x10 m squares (G4.55, G4.56, G4.65 and G4.66). To date, the excavations have succeeded in delineating nine superimposed architectural phases, or Field Phases (FP), with the primary sequence (FPs 3-6) dating to the 12<sup>th</sup>-11<sup>th</sup> centuries BCE, or the Early Iron I (or Iron IA) period. The 2010 excavations were conducted exclusively in Squares G4.55 and G4.56 (**fig. 2**). As noted above, the primary objectives of the 2010 season were (1) to complete excavation of the Early Iron Age levels, specifically in Square G4.56, and (2) to expand the exposure of the Early Bronze Age levels in Squares G4.55 and G4.56, specifically the late third millennium BCE, or Amuq Phase J cultural horizon.

## Square G4.55 (J. Roames; assisted by F. Dolğun)

The Early Iron Age levels in Square G4.55 were completely removed by the end of the 2007 season. As a result, excavations have since focused on the Early Bronze Age levels in this area. The main goal of the 2010 excavations in G4.55 was to identify the floor surface in the central room of the building, assigned to Field Phase (FP) 8 (**fig. 2**). During the 2009 season, it was believed that the floor surface in this room had been identified, due to the large amounts of smashed pottery and artifacts uncovered (**figs. 3-4**). However, upon removal of this material, additional pottery was located, continuing downward to a lower level, suggesting the possibility that the higher material represented collapsed remains from an overlying story.

By the end of the season, however, excavations had not succeeded in identifying a potential floor. Moreover, in the northwestern corner of the room, and the east central and southeastern areas of the room, mud brick material, including potential wall lines began to

become evident after the removal of soil debris from this area, and by the end of the season, it became evident that this material represented a new, earlier, architectural phase. In addition, examination of the walls of the FP 8 room indicated that we had reached the bottoms of the walls, basically at the level identified as the possible floor surface in 2009. Examination of the walls in the vicinity of the eastern doorway revealed that the walls likely extended only a few centimeters deeper than the original floor surface. An upper floor level may have existed at a significantly higher level, perhaps associated with the change in color and preservation of the upper portions of the walls of this room. The fill in the doorway revealed the possibility of two floor surfaces with flat lying sherds, separated by approximately 5-8 cm.

The pottery associated with FP 8, and the new FP 9, is characteristic of the Amuq Phase J horizon, and included Simple and Painted Simple Wares (**figs. 5-6**), Smeared Washed Wares (**figs. 7-8**), and a limited amount of Brittle Orange Ware.

# Square G4.56 (D. Lumb; assisted by H. Demir, Ç. Gozay and K. Neumann)

The primary aim of the 2010 season in Square G4.56, the sixth season conducted thus far in the square, was to complete excavation of the Early Iron Age levels, and outline the walls of the EBA building (FP 8) that continues from G4.55. This effort was moderately, if not completely successful.

The northern face of the southern wall of the EB building was difficult to identify, likely due to the presence of pits identified at the end of the season, which remain unexcavated and which obscure the location of this wall face (**fig. 2**). However, the south face of this wall was traceable further east, before it too disappears, apparently cut by a number of disturbances that prevent its identification. However, it is interesting to note that a potential wall line was also observed running north (represented as a dotted line in **fig. 2**) from the south wall; it is not clear whether this wall represents the eastern extent of the building, or was an internal dividing wall.

The western face of this eastern wall was more clearly discernable at the point where it cornered with the north wall of the room. It also appears to incorporate an internal buttress, at a point that coincides nicely with the large buttress observed along the western wall of this room. The eastern face of the wall was not identified.

While no new Iron I features were encountered during the 2010 season in G4.56, a number of pits with mixed EB and Iron I pottery were excavated. Moreover, the EBA remains appeared to drop off in the eastern portion of the square. It is not clear at this point whether this is because the EBA levels slope downward in the eastern part of the square, or whether it is due to substantially deeper Early Iron Age deposits (a similar drop-off was observed in the southern portion of G4.65). A probe in the northeast corner of G4.56, which reached a depth of approximately 0.75 m, suggests that Iron I deposits continue significantly deeper in this area of the square. This would support the suggestion that the FP 8 complex was perched on the southeastern edge of a small rise or mound during this period. If this is the case, excavations to the south and east may not achieve significant EBA exposures until considerably deeper than elsewhere in Field 1.

## GEOPHYSICAL SURVEY (S. BATIUK AND C. BANK)

A new remote sensing program was initiated during the 2010 season, led by Charly Bank of the Department of Geology at the University of Toronto. Given the past success with magnetics, a two-pronged geomagnetic survey was undertaken. The magnetics team was divided in two. One person was outfitted with a GEM Systems GSM-19W magnetometer, equipped with a GPS capable of recording readings every second. This allowed for autonomous roving data collection, free from the time consuming process of a grid setup, and resulted in a large-scale but coarse-resolution survey of the entire site. Secondly, when magnetic anomalies were detected, small-scale detailed surveys were undertaken in a grid pattern at 25 cm spacing, which achieved optimal resolution. The intensive processing of the data produced by the geomagnetic survey is ongoing, but nevertheless has produced significant preliminary results.

The large scale map (**fig. 9**) shows the extent of territory that was covered by the roving Magnetometer, approximately 22 ha in only three weeks. Although coarse in resolution, many details are readily visible. The northern city wall in the lower mound is readily visible (**fig. 10**), as is an intriguing anomaly at the very apex of the defensive system (marked by the arrow in the upper left corner of **fig. 11**), which might represent another city gate, and a number of linear anomalies that might represent parts of Tayinat's street pattern, including an east-west street between Gateways VII and XI (**fig. 12**), excavated by the Syro-Hittite Expedition in the 1930s. On the upper mound, the survey identified a large positive anomaly in the northeast quadrant that appears to have been a large rectilinear structure (**fig. 13**).

A third team initiated a large-scale resistivity survey at a number of locations on the upper mound to investigate the feasibility of employing this remote sensing technique at Tayinat. Unfortunately, the initial results were not as good as hoped, due to the adverse geophysical environment created by excessively dry soil conditions near the surface. Nevertheless, a number of areas produced interesting results, including an area north of the new Temple XVI (**fig. 14**), which produced a high-resistant anomaly between 9 and 17 m, at 2.5 m depth, and an area southwest of Field 5, which produced evidence of intense burning.

The results of the 2010 geophysical survey, when combined with the earlier geomorphological research conducted at Tayinat, has shown the value of a mutli-pronged approach to reconstructing the ancient settlement landscape that surrounded the site. Despite the coarse resolution, the 2010 survey has now established concretely the general layout of the Iron Age settlement at Tayinat, with its extensive lower mound, now largely buried in an area heavily aggraded with riverine sediments.

### **ARTIFACT CONSERVATION (J. UNRUH)**

A total of 105 small finds from the 2010 excavation season were treated and conserved. Materials included ivory, bone, basalt, ceramic, copper alloy, faience, glass, iron, shell, stone and wood. Objects of particular interest included an unusually shaped crucible, several arrowheads in very good condition, a copper nail with a wooden washer, several clay sealing fragments, and figurine fragments. In addition, work was conducted on a group of artifacts uncovered at the end of the 2009 season that required major conservation treatment. Particular attention was devoted to four major conservation projects within this group.

## Oath Tablet (TT 1801)

TT 1801, found *in situ* on the podium platform in the back chamber, or cella, of Temple XVI in Field 1, is a partially fired cuneiform tablet, now identified as a so-called Vassal Treaty, or Oath Tablet, of Esarhaddon (**figs. 15-17**). The tablet was block-lifted in 2009, and brought to the project lab, where it was photo-documented and given a preliminary cleaning to assess its condition. Since it was excavated at the end of the season, and required extensive, prolonged treatment, the decision was made to stabilize the tablet and transfer it to the Antakya Museum for safe-storing, with full treatment planned for 2010. In February 2010, the reverse face of the tablet, still in the block-lift support, was partially cleaned at the Antakya Museum. This cleaning allowed its identification by the Jacob Lauinger, the Tayinat Project epigrapher.

The plan for the 2010 season was to fully clean, stabilize and reconstruct the tablet. However, permission to work on the tablet was not obtained until the mid-point of the season, rendering full conservation and reconstruction impossible in the time remaining. Consequently, the conservation objectives were revised to the following: (1) complete cleaning of the reverse face (or back) of the tablet to achieve legibility, and, in consultation with the epigrapher, photodocument the text so that full translation could proceed; (2) clean and photo-document the

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obverse face (or front) of the tablet to achieve legibility; and (3) consolidate as much of the tablet as possible from the obverse position, while still in block-lifted configuration.

These three objectives were achieved. The remainder of the reverse was mechanically cleaned and photo-documented, and the photos checked by the epigrapher for legibility. The tablet was then stabilized and cushioned and, still in its block-lift support, then flipped so that the obverse face was accessible. The first text block in the first column on the obverse was cleaned and photo-documented for translation. In order to stabilize the unbaked clay for future reconstruction, all unbaked clay on the obverse face was heavily consolidated with 5 % Paraloid B67 in 50/50 acetone/ethanol. In addition, several joining fragments were adhered into position using approximately 20% Paraloid B67 in acetone. Finally, supportive removable fills composed of Paraloid B72 in acetone, further bulked with glass micro-balloons, were inserted into the voids created during the cleaning process. Nine "braces" were also inserted to provide additional protection and support to fragile areas until further treatment is possible.

### Iron shield (TT 1926)

TT 1926, uncovered in front of the podium in the back chamber, or cella, of Temple XVI in Field 1, was block-lifted at the end of the 2009 season. It was then excavated from the block-lift in the lab so that its pieces could be stored in desiccation. In 2010, the object was removed from its desiccated storage and laid into position, at which point it was identified as a shield. Approximately 65% of the shield is preserved, including its handle. Its design is not completely clear. However, two sets of straps are evident, running across the face in an as-yet uncertain configuration, as are a large number of bosses, or nails. Some are arranged around the perimeter, some appear to be securing the straps, and several groups of three may represent handle attachments. The shield also appears to have had a central omphalos. The corrosion features were

partially mapped to get a sense of the shield's construction and decoration. The shield was then re-packed in desiccation and returned to storage pending further study.

# Glazed Ware Jar (TT09.G4.28.57)

TT09.G4.28.57, recovered from the inner chamber of Temple XVI in Field 1, is a straight-sided basin with a flat base and slightly rolled rim, and glazed on both interior and exterior. The condition of the glaze is in places damaged yet coherent, but elsewhere deformed and bubbled due to fire, or sacchroidal and more firmly attached to the surrounding soil than to the pot. When saturated out with water or solvent, design details are evident in the sacchroidal glazes; otherwise, they are blanched to white.

In 2010, the treatment goals were to clarify the dimensions, profile, and decoration of the pot. Testing was performed to determine whether the glaze could be safely cleaned. Cleaning was determined to be possible, but time consuming. Consequently, selected pieces were cleaned in order to identify the design, which appears to have been divided into fields separated by horizontal yellow stripes; the central field was possibly originally blue-green over yellow, with an arrangement of four (?) yellow, black and white bulls encircling the pot, separated by yellow and white rosettes (**fig. 18**). The interior glaze is yellow. In general, the pot seems to have been first coated with a yellow glaze, with design details painted on top; the yellow glaze appears to underlay all other colors.

# "Mystery Object" from Temple XVI

A "mystery object", also recovered from Temple XVI in Field 2, is a proposed composite of fragments of copper alloy and wood, and possibly also gold leaf, bone, and ivory. Pieces of this object were recovered in 2008, 2009 and 2010. In 2010, the accumulated pieces were laid out and examined by team members. It now seems possible that at least part of the assemblage

represent fragments of a bronze door attachment. Further analysis of this assemblage is anticipated, as more pieces are recovered in future field seasons.

### **CONCLUDING OBSERVATIONS**

In summary, the Tayinat Archaeological Project investigations have continued to uncover the remarkably well-preserved remains of the Early Bronze and Early Iron Age settlements at Tell Tayinat. As a result of the 2010 season in Field 1, excavations below the Early Iron Age levels have now begun to uncover the substantial remains of a large structure dating to the EB IVB, or Amuq Phase J (ca. 2250-2000 BCE), with ceramic evidence indicating that earlier EBA phases still lie below.

The renewed geophysical survey, meanwhile, has identified a number of promising features, most notably a series of large structures on the upper mound, possibly part of the Late Assyrian settlement, as well as parts of the street pattern in the lower settlement, including what appears to have been the street that connected Gateways VII and XI. These features will be investigated in future field seasons. It is anticipated that the geophysical survey will continue in 2011, and will expand to explore the area between Tayinat and Tell Atchana.

During the 2010 season, considerable time and effort was devoted to the analysis and conservation of the extensive artifact assemblages that have been recovered in the course of recent excavation seasons, in particular from Fields 1, 2, 4 and 5. This effort included the documentation and analysis of pottery assemblages from all of the principal cultural phases represented at Tayinat, the faunal and botanical data, and the small finds, as part of the preparation of a series of lengthy reports scheduled for publication.

Finally, detailed plans were prepared as part of an application to the Ministry of Culture for an archaeological park project, entitled "Amik Höyükleri Arkeolojik Park Projesi", which will include an extensive conservation program at both Tell Tayinat and Tell Atchana.

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# Field Phase 7 & 8: Early Bronze IV (Phase J)













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# Resistivity N of temple







# T-1801 Before Extraction



# **T-1801 Extraction**

# **T-1801: The Oath-Tablet**





# **Assyrian Glazed Ware Vessel**

