



منجزات ٢٠٠٦

مجلة منجزات

رئيس التحرير

د. فواز الخريشة

هيئة التحرير

د. رافع حراحشه

سحر النسور

قمر فاخوري

تصدر عن دائرة الآثار العامة

صندوق بريد ٨٨

عمان ١١١١٨ - الأردن

البريد الإلكتروني

s.alnsour@doa.jo





كلمة العدد

عزيزي القارىء

إيماناً بالدور المنوط بدائرة الآثار العامة بالكشف عن آثار الأردن وتراثه والمحافظة عليه وصيانتته وحفظه للأجيال القادمة فقد أخذت الدائرة على عاتقها الإستمرار بأداء هذا الدور بكل جد وإخلاص مستمدين عزيمتنا من رؤية القائد المفدى بأن الأردن أولاً وبأننا كلنا الأردن. وسوف تجد عزيزي القارىء في هذا العدد تقارير موجزة عن مشاريع دائرة الآثار للعام ٢٠٠٦، المحلية منها والدولية، حيث أنجزت كوادر دائرة الآثار ثمانية وثلاثين مشروعاً بعضها دائم، الهدف منة تأهيل المواقع الأثرية وتطويرها لتكون مقصداً سياحياً يساهم مع المواقع السياحية الأخرى في رفد اقتصاد الأردن وتعزيزه. أما في مجال تعاون الدائرة مع المؤسسات الوطنية والمراكز الأجنبية في الأردن والبعثات من المؤسسات من مختلف دول العالم فقد أنجز أكثر من اثنين وستين مشروعاً، وقد توزعت هذه المشاريع (المحلية والدولية) على مختلف مناطق المملكة، وبينت دراسة هذه المواقع مدى أهمية التنوع الحضاري الذي يحظى به الأردن إقليمياً ودولياً. وستجد عزيزي القارىء ملخصاً عن نشاطات الدائرة في مجال الندوات والمحاضرات والبرامج التدريبية وخاصة التي تعقد بالتعاون مع مؤسسات من مختلف دول العالم الهدف منها مواكبة المستجدات العلمية والتقنية في مجال الآثار لتبقى كوادر الدائرة على إطلاع بما استجد في هذا المجال.

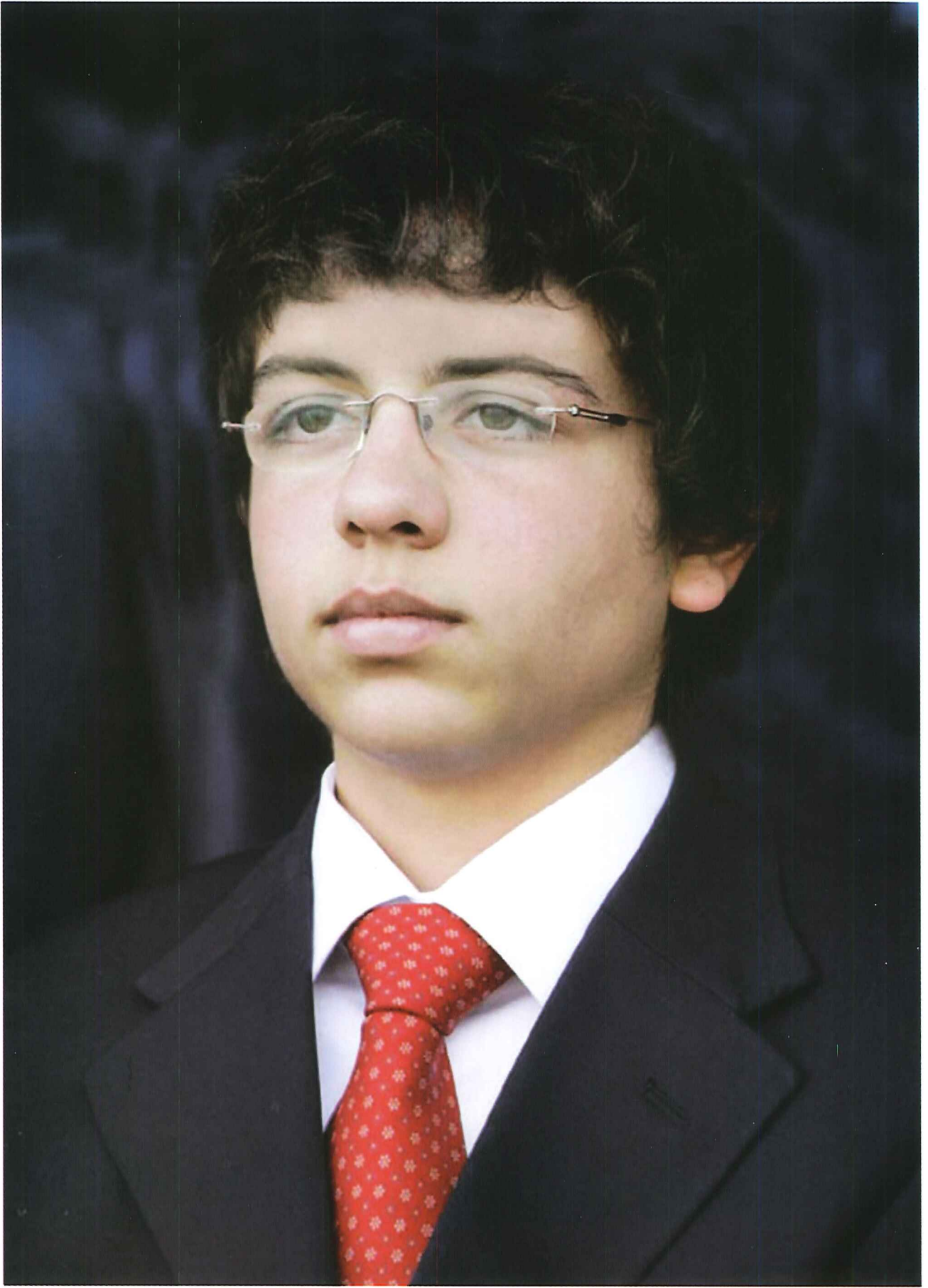
رئيس التحرير

د فواز الخريشة



حضرة صاحب الجلالة الملك عبد الله الثاني ابن الحسين المعظم





صاحب السمو الملكي الأمير حسين بن عبد الله الثاني ولي العهد



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منجـزات ٢٠٠٨

المشاريع المحلية

٢٠٠٨



مجلة منجزات

رئيس التحرير:

د. فواز الخريشة

هيئة التحرير:

د. رافع حراحيشة

سحر النسور

عاصم عصفور

تصدر عن دائرة الآثار العامة

صندوق بريد ٨٨

عمان ١١١١٨ - الأردن

البريد الإلكتروني:

s.alsour@doa.jo

رقم الإيداع لدى المكتبة الوطنية

١٧١٥ / ٢٠٠٤ / د



		محافظة أربد
١١	سلامة فياض	تنقيبات وترميم أم قيس
١١	وجيه كراسنة، عماد عبيدات	تنقيبات بيت راس
١٢	د. إسماعيل ملحم	التنقيبات في الكنيسة الغربية / طبقة فحل
١٣	د. إسماعيل ملحم	التنقيبات في المدرج / طبقة فحل
١٤	م. امجد البطاينة	صيانة وترميم موقع كهف المعصرة
		محافظة عجلون
١٥	محمد البلاونه	صيانة وترميم قلعة عجلون
١٦	محمد البلاونه ، زياد غنيمات	تنقيبات البدية
		محافظة المفرق
١٧	حسين السرحان	التنقيبات في المبنى السكني (B1) / أم السرب
١٩	م. محمد علي الخطيب	ترميم وتأهيل البيت الأموي / أم الجمال
		محافظة جرش
٢٠	عبدالمجيد مجلي	إعادة إعمار جرش
٢٢	م. علي العويصي ، موسى ملكاوي	التنقيبات والصيانة والترميم في البركتين / جرش
٢٤	ناجح أبو حمدان	تنقيبات السور الشمالي لمدينة جرش الأثرية
٢٥	د.محمد أبو عبيلة	حفريات عرضية في مدفن ساكب / جرش
		محافظة البلقاء
٢٦	سعد الحديدي ، يزيد عليان ، بدر العدوان	التنقيبات والترميم في خربة الدير / الضحيص
٢٧	حسين الجراح ، رامي فريحات	المسح الأثري لمنطقة الرويحة / سيل الزرقاء
٢٧	حسين الجراح ، رامي فريحات	المسح الأثري للأنصاب الحجرية لمنطقة الروضة
٢٨	م. رستم مكجيان	الصيانة والترميم في المغطس
		محافظة العاصمة
٢٩	عدنان رفايعه ، م. شان تسي	التنقيبات والصيانة والترميم في جبل القلعة
٣١	أديب أبو شمس	التنقيبات والترميم في خربة المربط / أبو نصير
٣٢	صباح أبو هديب	تنقيبات تل حسان
٣٣	م. نادية محمد عكاشة	ترميم أم الرصاص



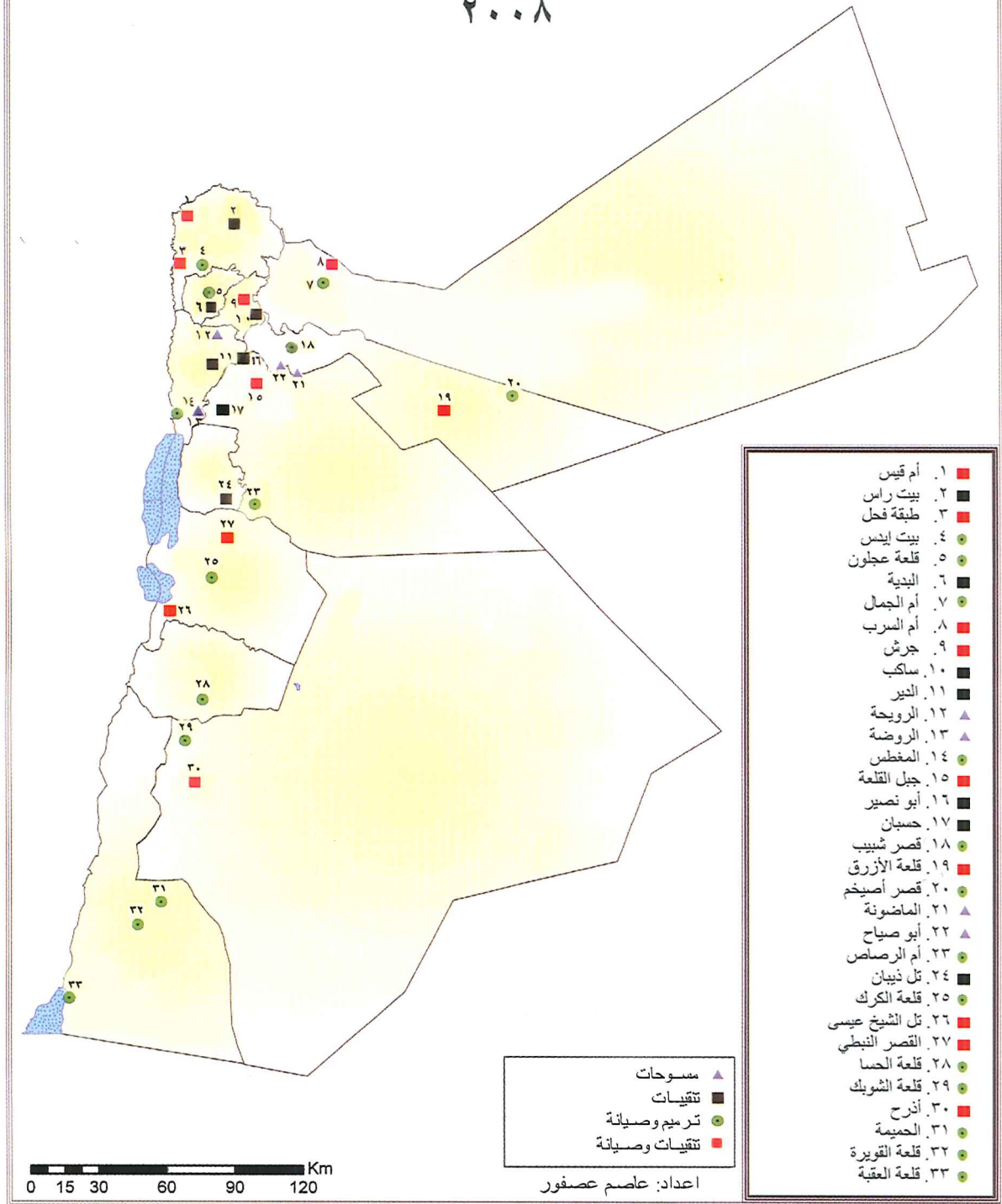
		محافظة الزرقاء
٣٤	د. خالد الجبور	صيانة وترميم قصر شبيب
٣٥	أحمد لاش	التنقيبات والترميم لقلعة الأزرق
٣٧	عارف الدهيثم	صيانة وترميم قصر أسيخم
٣٨	د. خالد الجبور، جهاد هارون	مسح منطقة الماضونة / الزرقاء
٣٩	د. خالد الجبور، جهاد هارون	مشروع توثيق تل أبو صياح (جبل الصور)
		محافظة مادبا
٤٠	خالد الهاورة	تنقيبات تل ذيبان
		محافظة الكرك
٤١	م. نوفل العجارمة	صيانة وترميم قلعة الكرك
٤٣	خالد الطراونة، ساطع المساعدة	صيانة قلعة الكرك
٤٤	عماد الضروس	صيانة موقع تل الشيخ عيسى / غور الصافي
٤٤	أشرف الرواشدة	صيانة موقع القصر النبطي / القصر
		محافظة الطفيلة
٤٥	جهاد درويش	صيانة وتنظيف قلعة الحسا
		محافظة معان
٤٦	م. محمود عزام	صيانة وترميم قلعة الشوبك
٥٠	هاني الفلاحات، عامر البدور	تنقيبات وصيانة وترميم معسكر أذرح الروماني
		محافظة العقبة
٥١	سوسن الفاخري	ترميم المعسكر الروماني/الحميمة
٥٢	سوسن الفاخري	صيانة وترميم قلعة القويرة
٥٢	سوسن الفاخري	صيانة وترميم قلعة العقبة
		نشاطات دائرة الآثار

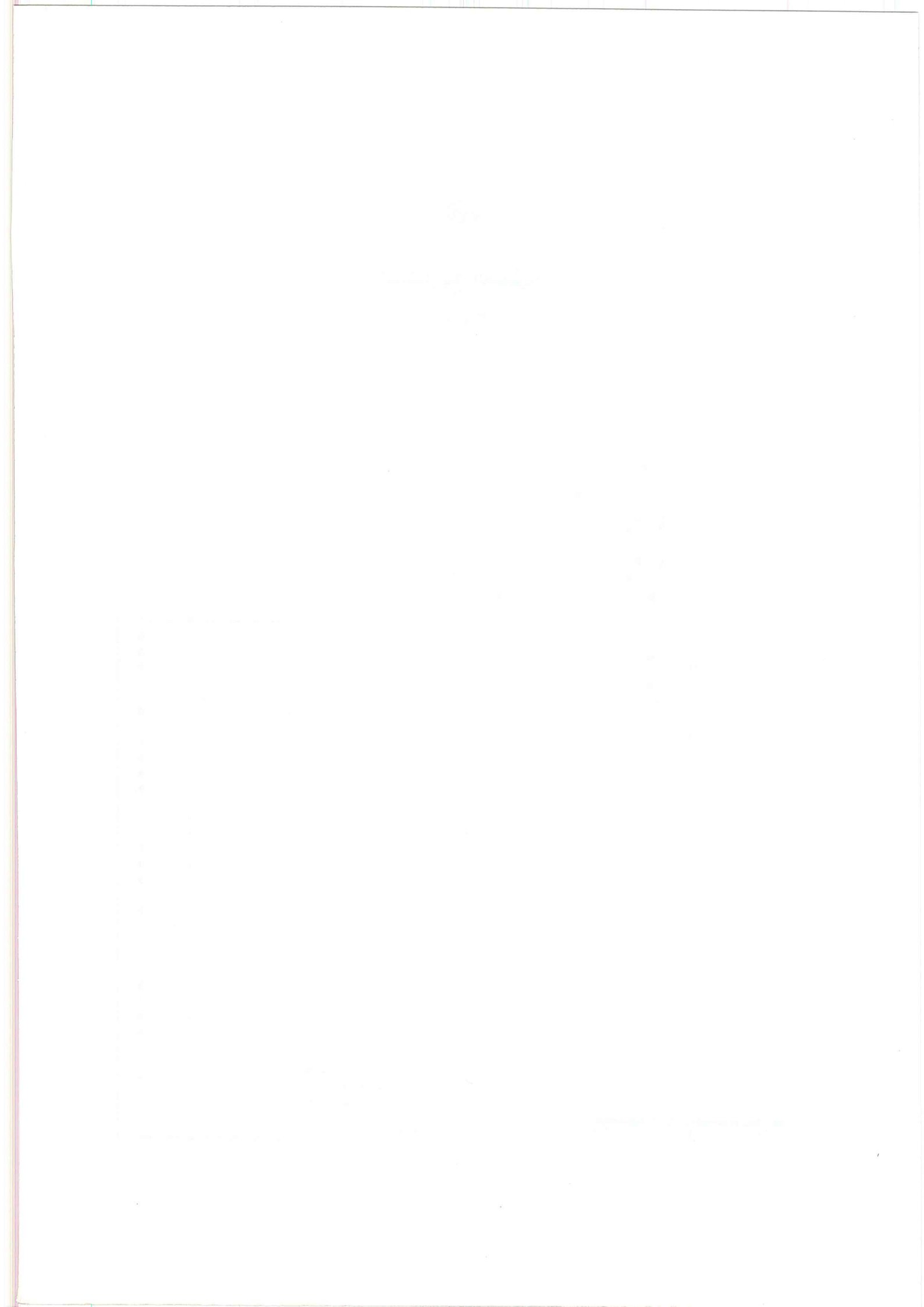


المملكة الأردنية الهاشمية
دولة الأثر العائمة

المشاريع المحلية

٢٠٠٨







محافظة إربد منجزات ٢٠٠٨



الساحة المبلطة المكتشفة



أعمال الترميم للأعمدة



أعمال رفع حجارة المدرج

اسم المشروع: تنقيبات وصيانة وترميم أم قيس.
مشرف المشروع: سلامة فياض .
تاريخ المشروع: ١ / ٤ - ٣١ / ١٢ / ٢٠٠٨ .
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

التنقيبات:

١. الكشف عن معظم أجزاء الساحة الداخلية المبلطة والإطار الخارجي للعمد.
٢. الكشف عن بعض العناصر المعمارية لمبانٍ يعتقد بأنها تابعة للساحة من الجهة الغربية.
٣. الكشف عن أرضية فسيفسائية.

الترميم:

إعادة رفع سبعة أعمدة من أعمدة الساحة المبلطة.

اسم المشروع: تنقيبات مدرج بيت راس

مشرفا المشروع: وجيه كراسنة، عماد عبيدات.
تاريخ المشروع: ١٥ / ٤ - ١٥ / ١٠ / ٢٠٠٨ .
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج:

بدأ التنقيب في المنطقة الشرقية للمسرح حيث كشف عن الأرضية الصخرية وعن جدار من مدماك واحد وصف واحد بارتفاع ٢٠ سم تقريبا. وفي الجهة الجنوبية الشرقية من المسرح، كشف عن العديد من الحجارة الكلسية المشذبة وغير المشذبة. كما أزيل الطمم من منطقة الأوركسترا. وأثناء إزالة الطمم من الجهتين الغربية والجنوبية الغربية عثر على عدد كبير من مقاعد المدرج.



اسم المشروع: تنقيبات الكنيسة الغربية / طبقة فحل.
مشرف المشروع: د. إسماعيل ملحم .
تاريخ المشروع: ١٥ / ٤ - ٣٠ / ٧ / ٢٠٠٨ م.
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

١. الكشف عن أروقة الكنيسة الداخلية والأروقة الخارجية في الجهتين الشمالية والغربية.
٢. الكشف في الأروقة الداخلية للكنيسة عن أرضيات مبلطة، رتبت البلاطات الحجرية فيها ترتيباً هندسياً واستخدم فيها إضافة إلى الرخام البلاط الملون بالأبيض والقرميدي والأسود والرمادي، وقد فقد أجزاء كبيرة منها.
٣. عثر على أرضية فسيفسائية ملونه في وسط الرواق الأوسط بقياس ٣٢٩ × ١٩٠ سم فيها شكل ثور وبقايا شكل حيوان قد يكون وعلاً أو ماعزاً وأشكال هندسية غير أن بقية هذه الأرضية مفقودة، ويشير وجود هذه الرقعة على أن الرواق الأوسط في معظمه كان مرصوفاً بالفسيفساء أصلاً، وتم العبث به وإزالته لاحقاً.
٤. دمرت الكنيسة وملحقاتها ربما بزلزال بين عامي ٧٤٧ م / ٧٤٩ م، إذ وجدت الأعمدة ساقطة على الجدران بوضعها الأصلي.
٥. تم العثور على تقسيمات سكنية لاحقه - على الأغلب - للعصر الأموي تدل على أن الكنيسة استخدمت للسكن في العصر الأموي حيث وجدت جدران تقسم الرواق الجنوبي والرواق الشمالي الداخلي وجدران أخرى في الرواق الأمامي الخارجي والشمالي الخارجي، كما عثر على بقايا ثلاثة طوابق تدل على ممارسة النشاط المنزلي اليومي .



منظر عام للكنيسة الغربية



الأرضية الفسيفسائية



اسم المشروع: التنقيبات في المدرج (الاوديوم) / طبقة فحل.
مشرف المشروع: د. إسماعيل ملحم.
تاريخ المشروع: ٨/١ - ٣٠/١١/٢٠٠٨ م.
مصدر التمويل: وزارة التخطيط / مشاريع تعزيز الانتاجيه.

العمل والنتائج

أظهرت النتائج الأولية أن المدرج يتخذ شكلاً نصف دائري بطول ٣٨,٥٠ م بامتداد شرق - غرب، وطول ٣١,٢٠ م شمال - جنوب. ويتكون من جدارين خارجي وداخلي بينهما ممر (دهليز)، وله أربعة مداخل جانبية مسقوفة بشكل إسطواني بقي منها اثنان وله ثلاثة مداخل علوية أغلقت لاحقاً، ومقاعد من الحجر وساحة متوسطة (الاوركسترا).
المقاعد في منتصف المدرج، تلتف بشكل نصف دائري، كانت تتكون من عشر درجات على الأقل غير أن معظمها تضررت نتيجة هجر المدرج في نهاية القرن السادس الميلادي.
- الكشف عن حجرات سكنية ذات تصميم منزلي عائلي ضمت طابون وجرة خزين وحجرة لمطبخ.



... بعد العمل



المدرج قبل العمل



اسم المشروع: صيانة وترميم موقع كهف المعصرة / بيت إيدس.
مشرف المشروع: م. امجد البطاينة.
تاريخ المشروع: ١ / ٤ - ٣١ / ١٠ / ٢٠٠٨ م.
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

- أ. تأهيل موقع كهف المعصرة.
١. بناء جدران حجرية وجدران إستنادية في الموقع بطول إجمالي بلغ ٧٠ متراً وارتفاع ٣ متر في بعض المناطق.
 ٢. بناء مقاعد حجرية في الموقع تتسع لحوالي ٣٥ زائراً تحت شجرة بلوط معممه داخل الموقع.
 ٣. تنفيذ بناء أرضيات حجرية وأدراج تسهل انتقال الزوار في الموقع.
 ٤. إزالة كميات كبيرة من الطمم والأنقاض من الموقع.
- ب. إعادة بناء وتشغيل أول نموذج أثري لمعصرة زيتون رومانية.
- داخل الكهف الذي تبلغ مساحته ١٠٠ متر مربع تقريباً وجدت آثار معصرة زيتون رومانية لم يبق منها سوى الثقافات الحجرية التي يبلغ وزن الواحد منها قرابة نصف طن، بالإضافة إلى القاعدة الحجرية لمكبس الزيت وحوض تجميع الزيت. ولإكمال أجزاء المعصرة تم إحضار ساق شجرة يبلغ طوله تسعة أمتار ليكون المكبس الرئيسي للمعصرة، وحجر البد الذي يستخدم لهرس الزيتون وادخالهما داخل الكهف وتجميع هذه الأجزاء مع بعضها وإعادة تشغيلها عملياً.



... بعد العمل



كهف المعصرة قبل العمل



اسم المشروع: صيانة وترميم قلعة عجلون.

مشرف المشروع: محمد البلاونه .

تاريخ المشروع: ١ / ٤ - ٣١ / ١٢ / ٢٠٠٨ .

مصدر التمويل: موازنة دائرة الآثار العامة.



سطح القاعة قبل الترميم



... بعد الترميم

العمل والنتائج

١. تدعيم سقف القاعة ٣ من سوق العبيد بالكامل بخشب الطوبار والجكات المعدنية وبشكل يتناسب مع وزن السقف وذلك لتلافي خطر سقوط أو انهيار أي جزء منه أثناء العمل.
٢. إزالة طبقة الإسمنت المسلح والبائع مساحتها حوالي (٢٨٩٠) وسمكها (١٠ سم) والتي تغطي سطح القاعة.
٣. إزالة كميات الطمم والبائع سمكها حوالي (٦٠ سم) من فوق سقف القاعة وتخزينها لإعادتها مرة أخرى إلى مكانها بعد المعالجة.
٤. فك حجر الريش في الجزء المنبعج من سقف القاعة.
٥. إعادة تدعيم الجزء المنبعج بشكل يتناسب واستدارة سقف القاعة نصف البرميلى.
٦. إعادة حجارة الريش إلى مكانها كما كانت.
٧. إعادة الطمم إلى مكانه كما كان سابقاً.
٨. تغطية طبقة الطمم بطبقة من الرمل لتكون فاصلاً بين حجارة الريش وطبقة الإسمنت.
٩. وضع طبقة من الإسمنت المسلح فوق طبقة الرمل لحماية سقف القاعة من مياه الأمطار والتلوج، وطبقة الاسمنت هذه قابلة للإزالة ولا تعتبر جزء من سقف القاعة.
١٠. تغطية طبقة الإسمنت بطبقة من الرمل وذلك لإخفاء الإسمنت وعدم إحداث تشويه في المنظر العام داخل القلعة.



اسم المشروع: تنقيبات موقع البديعة.
مشرفا المشروع: محمد البلاونه، زياد غنيمات.
تاريخ المشروع: ١ / ٥ - ٣٠ / ١١ / ٢٠٠٨.
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

يهدف المشروع إلى عمل تنقيب أثري في المنطقة (G) وهي المنطقة المحصورة ما بين الكنائس المكتشفة في عام ١٩٩٧ والمنطقة (E) وهي التي نقب فيها من قبل فريق جامعة اليرموك في موسم ٢٠٠٣ ومحاولة الربط بين المنطقتين وكشف المزيد من العناصر المعمارية في هذا الجزء من الموقع وذلك لتكوين فكرة واضحة عن طبيعة الموقع بشكل عام والفترات التاريخية التي تعاقبت عليه. ولتحقيق هذا الهدف تم التنقيب في (١٠) مربعات قياس (٥×٥ م). حيث كشف عن جدران يعود تاريخ بناءها إلى الفترة الأيوبية بنيت من حجارة مشذبة واستخدم الطين كمادة رابطة بين الحجارة.

كما عثر على العديد من القنوات المحفورة في الصخر وبعضها بني بالحجارة وترتبط تلك القنوات بعدد من الآبار المحفورة في الصخر التي لها علاقة بالمعاصر الموجودة بالمقطع، كما عثر على الكثير من كسر الفخار وبعض اللقى الفخارية البسيطة، وقد عززت نتائج التنقيب في هذا الموسم الرأي الذي يرجح بأن الموقع كان مخصصاً لعمليات عصر الزيتون والعنب في فترات تاريخية مختلفة.



إحدى الغرف المكتشفة



أحواض وقنوات مكتشفة



اسم المشروع: التنقيبات في المبنى (B1) أم السرب.

مشرف المشروع: حسين السرحان.

تاريخ المشروع: ٤ / ٥ - ٣١ / ٧ / ٢٠٠٨.

مصدر التمويل: موازنة دائرة الآثار العامة .

العمل والنتائج

حسب الخطة المقترحة لموسم ٢٠٠٨ تركز العمل ضمن الغرفة (٥، ٨، ٩، ١٠، ١١).



الغرفة رقم ١٠ قبل العمل

الغرفة رقم (٥)؛ أبعادها الداخلية (٤,٣٠ × ٣,٥٥ م) سقفها المردوم بني بأسلوب التنظيف ولها باب ضمن الجدار الشمالي اتساعه (١٤٤ × ٨٥ سم) يفتح على مدخل الغرفة رقم ٦ كشف التنقيب فيها عن أرضية مرصوفة مدمرة ومقاعد محاذية للجدار الشمالي.

الغرفة رقم (٨)؛ أبعادها الداخلية (٢,٧٥ × ٥,٤٠ م) مستطيلة الشكل تقع بمحاذاة الغرفة رقم (٧) من الشرق وسقفها مردوم، ولها باب أبعاده (١,٤٨ × ٠,٧٥ م) ضمن الجدار الجنوبي يفتح على الساحة المرصوفة أعلاه نافذة صغيرة. كشفت التنقيبات عن أرضيتين الأولى من البلاستر والأخرى مرصوفة بحجارة.



... بعد العمل

الغرفة رقم (٩)؛ سقفها مردوم بني بأسلوب التنظيف أبعادها (٢,٩٥ × ٤,٧٥ م) تقع بمحاذاة الغرفة (٨) من الشمال، وجدارها الغربي منحني يتألف من ٩ مداميك، والشمالي من ١٠ مداميك وهو غير مشترك مع الجدار الشمالي للغرفة رقم (١٠) مما يدل على أنها ربما أضيفت لاحقاً. ولهذه الغرفة باب أبعاده (١,٢٠ × ٠,٦٥ م) ضمن الجدار الشرقي يفتح على الغرفة رقم (١٠). أما الجدار الجنوبي فيتكون من ١٢ مدامكا في أقصى الجهة الشرقية و ٩ مداميك في أقصى الجهة الغربية، وأرضيتها غير مرصوفة أو مدكوكة.



الغرفة رقم (١٠)؛ أبعادها (٨,٦٠×٨,٧٥) م حُمِلَ سقفها المردوم على قوسين أحدهما قائم والآخر هدم، وبعد إكمال أعمال التنقيب تبين أن اتساع القوس الشمالي يبلغ (٥,٧٨ سم). أما القوس الجنوبي المردوم فيبلغ اتساعه ٦ م يمتد من قاعدته الشرقية جدار يتجه للغرب على الأرجح أنه يشكل غرفة مضافة لاحقاً وكذلك غرفة صغيرة في الجهة الجنوبية الغربية. كما تم الكشف عن مقاعد محاذية للجدران، وللغرفة باب صغير (اتساعه ٦٥×١٢٠ سم) ضمن الجدار الغربي يؤدي إلى الغرفة رقم (٩)، وباب رئيسي ضمن الجدار الجنوبي أبعاده (٢,٤٦×١,١٠) م يفتح على الساحة المرصوفة وأرضيتها غير مرصوفة.

الغرفة رقم ١١؛ أبعادها من الداخل (٨,٨٠×٤) م تقع إلى الشرق من الساحة المرصوفة. أضيف الجدار الغربي للغرفة في الفترة الأيوبية المملوكية.



... بعد العمل



الغرفة رقم ١١ قبل العمل



محافظة المفرق

منجزات ٢٠٠٨

اسم المشروع: ترميم وتأهيل البيت الأموي ١١٩ / أم الجمال
مشرف المشروع: م. محمد علي الخطيب.
تاريخ المشروع: ١ / ٤ - ٣١ / ١٢ / ٢٠٠٨.
مصدر التمويل: وزارة التخطيط / برنامج تعزيز الإنتاجية.

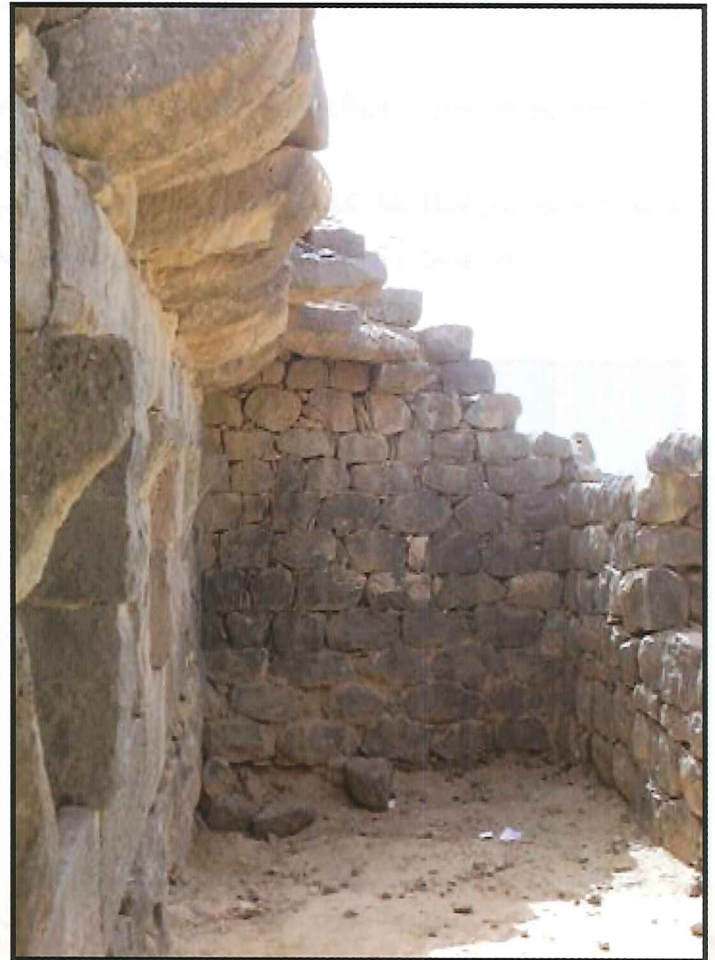
العمل والنتائج

تركز العمل في المنطقة الجنوبية الغربية والغربية للمبنى، حيث أعيد بناء الجدران وتقويتها والتحضير لتسقيف المبنى بطريقة التطنيف (الطريقة المستخدمة في أسقف المباني في مباني أم الجمال)، وفي إحدى الغرف بدأ العمل ببناء السقف من خلال وضع الركائز بشكل مزدوج بهدف تقليل المسافة المراد تغطيتها.

ترميم وإعادة بناء معظم الغرف والبالغ عددها إحدى عشرة غرفة وسقفها بطريقة التطنيف.



... بعد الترميم



سقف غرفة في البيت الأموي قبل الترميم



اسم المشروع: إعادة إعمار مدينة جرش الأثرية.

مشرف المشروع: عبد المجيد مجلي.

تاريخ المشروع: ١ / ١ - ٣١ / ١٢ / ٢٠٠٨.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

أولاً: البوابة الشمالية

١. بناء وترميم حجارة العقد الأوسط والبالغ عرضه ١٠، ٥٥ وارتفاع حجر العقد ٨٥ سم وعدد حجراته ٢٠ حجراً.
٢. ترميم العقد البرميلي للبوابة الوسطى بعرض يتراوح ما بين ٤,٩٠ م - ٥,١٠ م ومتوسط طوله حوالي ٧ م.
٣. ترميم الدرج المؤدي إلى أعلى البوابة والبالغ عرضه ١,١٠ م.
٤. ترميم خمسة مداميك في الواجهة الشرقية للبوابة بطول ١٠ م وارتفاع ٢,٥ م.
٥. ترميم خمسة مداميك في الواجهة الغربية للبوابة بطول ٣,٨٠ م وارتفاع ٢,٢٥ م.
٦. ترميم الوشحات على جانبي العقد الأوسط ما بين الأعمدة والعقد على الجانبين الأيمن والأيسر في الواجهة الجنوبية للبوابة.
٧. ترميم حجارة الصف الأول من الكرنيش للواجهتين الجنوبية والشمالية على الجانب الشرقي والجانب الغربي بطول ٧,٦٠ م وارتفاع ٧٥ سم مع تركيب الزفرين فوق التاجيتين على الجانبين الشرقي والغربي.
٨. ترميم الحجارة المكرنشة والتي تعلو التاجيتين على الجانبين الشرقي والغربي في الواجهة الشمالية والواجهة الجنوبية.
٩. ترميم الحجارة المكرنشة ما بين الزفرين والتي تشكل قاعدتي المثلثين في الواجهتين الشمالية والجنوبية.



... بعد العمل



البوابة الشمالية (الواجهة الجنوبية) قبل العمل



ثانياً:

أ. السور الشمالي المحاذي للبوابة الشمالية من الناحية الغربية:

إزالة وتنظيف الطمم المتراكم في المنطقة المحاذية للسور من الناحية الشمالية بطول ٤٤م وعرض ١٥م وارتفاع ٢,٥٠م لإظهار جسم السور من الخارج.

ب. السور المحاذي للبوابة الشمالية من الناحية الغربية الجنوبية من الداخل:

إزالة وتنظيف الأتربة والحجارة المتراكمة في هذه المنطقة بطول ٦٠م وعرض ١٨م وارتفاع ٢,٥٠م.



أبواب غرف سباق الخيل قبل الترميم

ثالثاً:

قوس النصر (بوابة هيدرمان)

١. ترميم حجارة الكرنيش للصف الأول والبالغ طوله ٢٥,٤٠م وارتفاعه ٦٠سم.

٢. بناء الحجارة المكروشة للصف الثاني بطول أربعة عشر متراً تقريباً وارتفاع ٥٠سم، والواقع ما بين التاجيتين في منتصف البوابة التي تعلو البوابة الرئيسية.

رابعاً: ملعب سباق الخيل (الهيديروم)

١. ترميم قموط الأبواب للغرف المحيطة بالميدان من الناحية الشرقية وعددها خمسة أبواب.

٢. ترميم المداميك التي تعلو الأبواب في الواجهة الشرقية بطول ٢٠م وارتفاع ١,٢٠م.

خامساً: الكنائس

كنيسة الدفن

١. صيانة الأرضية الفسيفسائية وتثبيت الأطراف الناقصة.

٢. صيانة وتثبيت القصارة المتبقية على الجدران.



... بعد الترميم



تثبيت اطراف الارضية الفسيفسائية في كنيسة اشعيا

كنيسة اشعيا

١. تثبيت أطراف الأرضية الفسيفسائية.
٢. إزالة الطمم من أجزاء متفرقة من أرضية الكنيسة والكشف عن طبقة التأسيس وتعبئة الفراغات بمستوى الأرضية لمنع تجمع المياه وتسربها تحت الأرضية الفسيفسائية.

كنيسة جينييسوس

١. إزالة الطمم والحجارة المتساقطة على الأرضية الفسيفسائية من الجدار الغربي بفضل مياه الأمطار الآتية من المنطقة الشمالية.
٢. تنظيف الرواق الأمامي من الحجارة والأتربة المتراكمة.
٣. صيانة وتثبيت الأطراف في الرواق الجنوبي وإظهار الطبقة الفسيفسائية السفلى والعليا.

اسم المشروع: التنقيبات والصيانة في الحمام الروماني

بجانب البركتين / جرش.

مشرفا المشروع: م. علي العويصي، موسى ملكاوي.

تاريخ المشروع: ٥ / ٤ - ٣٠ / ٩ / ٢٠٠٨ م.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج:

التنقيبات

كشفت خلال هذا الموسم في الجهة الشرقية من موقع الحمام عن مقبرة مستطيلة الشكل أبعادها ٢٢٠ - ٢٥٠ سم طول بارتفاع ١٨٠ - ٢٠٠ سم وعرض ٨٠ سم واستخدمت الحصى الصغيرة في أعمال البناء بين المداميك، يتكون المدفن من صفين من القبور متقابلين يفصلهما عن بعضها ممر وسطي عرضه ٣٢٥ سم، عثر في الممر على أربعة توابيت استخدمت للدفن الجماعي اثنين منها زينت جوانبها بزخارف جنائزية من الأكائيل والمرسة تعود للفترة الرومانية وأعيد استخدامها في الفترة البيزنطية، والأخرين احدهما بدون غطاء والأخر جوانبه مكسرة



المقبرة بعد الانتهاء من التنقيب



الحمام قبل الترميم



... بعد الترميم

ونحتت هذه التوابيت من الحجر الجيري، وقد تعرضت لأعمال التخريب في فترات سابقة، لم يعثر للطابق العلوي للقبور إلى ما يشير أنه استخدم للدفن، والقبور السفلية المستخدمة في أعمال الدفن أبعادها ٢٣٣ - ٢٥٠ سم ويعرض ٧٥ - ٩٠ سم وارتفاع ٩٠ - ١٠٥ سم.

عثر إلى الجنوب الشرقي من المقبرة على فرن مبني من الطوب المجفف أحيط الفرن بالحجارة واستخدم التراب ملئ الفراغ بين جدران الفرن والحجارة للتدعيم. الجدران من مدامك واحد أو مدامكين في بعض الأحيان بشكل قوس ربع دائرة على جانبي المدخل وهو غير مكتمل البناء وغير مستخدم.

ويقع على مستوى أعلى من المقبرة ويبدو انه قد بني في فترة لاحقة لفترة بناء المقبرة.

يظهر إعادة استخدام المدفن في فترة لاحقة يشير إلى ذلك أن العظام جمعت في مكان واحد وأغلقت مداخل القبور بحجارة غير مشدبة.

تشير الدلائل وخاصة القبور من الجهة الداخلية في الطابق العلوي أن الممر الداخلي سقف بقبو نصف برميلي. عثر على قطع نقدية نحاسية غير واضحة، وقرط ذهب منقرد، وخرزة تحمل شكل جمجمة مكررة مرتين، وصحن حجري من البازلت مكسر والصحن ذو أربعة أرجل. وأنية فخارية (جرة)، وزبدية صغيرة من الفخار مكسرة مكتملة.

الصيانة والترميم:

نفذت أعمال صيانة وترميم لموقع الحمام الروماني حيث تعرضت أعمدة الأقراص الطينية داخل الحمام للتخريب من قبل عابثين مما استدعى التدخل السريع للحفاظ على هذا المعلم الهام إذ تم رفع الأجزاء المتهدمة والمتساقطة من الأعمدة وعزل الأجزاء المكسرة وتنظيف الأرضيات من الأتربة، وتم إعادة بناء كافة أعمدة الأقراص الفخارية داخل الحمام.



اسم المشروع: تنقيبات السور الشمالي.

مشرف المشروع: ناجح أبو حمدان.

تاريخ المشروع: ٢٦ / ٤ - ٢٧ / ٦ / ٢٠٠٨ م.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

عثر على قبر هليينستي قطع في الصخر ويمتد أسفل السور الشمالي، مستطيل الشكل أبعاده ٢٩٠ × ٦٣ سم، عثر فيه على خمس أمفورات صغيرة، كما عثر على أربع جرار فخارية تم ترميمها، بعضها فقد أجزاء من أبدانها.



الجرار والأمفورات المكتشفة



مدخل المدفن



اسم المشروع: حضرية عرضية مدفون في بلدة ساكب / جرش.

مشرف المشروع: د.محمد أبو عبيلة

تاريخ المشروع: ٢٠ - ٢٦ / ١٢ / ٢٠٠٨.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

إلى الغرب من بلدة ساكب في محافظة جرش كشف عن مدفن أثناء حفر خط الصرف الصحي ضمن مشروع شبكة الصرف الصحي التابع لوزارة المياه والري.

وجد المدفن ومحتوياته على حالته الأصلية، له باب حجري في الجهة الجنوبية ما يزال على حالته الأصلية بشكل عرضي خارج محورة، تعرضت التجاويف التي يدور بها محوري الباب من الداخل للتلوث وقطع مدخل المدفن بشكل مستطيل داخل حنيه قوسيه أبعادها (١٦٧ × ٦٧ سم) وعمقها ٦٣ سم وتبلغ فتحة المدخل (١١٠ × ٨٤ سم) وعمق ٥٤ سم، ويستدل من عمق الحنيه والمدخل أن سمك حجرة المدفن ١١٧ سم. ويتكون المدفن من حجرة مركزية مربعة مقطوعة بالصخر قطعت في واجهاتها الثلاث حنايا جدارية قوسيه بواقع حنيه بكل جهة وبجانب المدخل حفرة للدفن على هيئة تابوت.

يفضي المدخل إلى حجرة دفن مركزية أبعادها ٢٥٣ × ٢٢١ سم سقفا مستو ارتفاعه (١٨٥ سم) قطع بأرضيتها انخفاض ارتفاعه (٣٤ سم) وأبعاده (١٨٠ × ٩٠ سم) وتشكلت حافة عرضها ٣٠ سم على أربعة جوانب حيث استغل هذا الانخفاض كمقاعد حجرية. وهذا النوع من التخطيط يتبع أنموذج المدافن الذي شاع في الأردن في الفترتين الهيلينستية والرومانية وبقي مستمراً في الفترة البيزنطية. وكانت أرضية الحجرة مستوية وهناك بعض الألواح الحجرية موضوعة على الجوانب كانت معدة للتغطية.

وجد العديد من الهياكل العظمية في القبور بالإضافة إلى العثور على مجموعة من المصابيح والأواني الزجاجية وأدوات معدنية ومسكوكات معدنية ومجموعة من الحلبي والخرز وتؤرخ جميع هذه الموجودات إلى الفترة البيزنطية ما بين القرنين الخامس والثامن الميلاديين.

هنالك قطعة فخارية على شكل رأس حيوان يبدو أنها استعملت لأغراض تتعلق بالطقوس الدينية، واللقي الأثرية التي بقيت بحالة ممتازة مكنت من إعطاء تاريخ دقيق الأمر الذي عكس لنا حضارة المجتمع البيزنطي في الأردن من النواحي الاجتماعية والاقتصادية والفنية والدينية والعمرائية، فعلى سبيل المثال وجود العديد من المصابيح في أرضية حجرة المدفن يفسر أنها كانت تستخدم في المواكب الجنائزية، حيث كانت تؤخذ المصابيح إلى داخل المدفن وتضاء وذلك لتبجيل الميت وإحياء ذكراه في العديد من المناسبات السنوية.



القطعة الفخارية



حلي وخرز من المدفن



المدفن من الداخل



اسم المشروع: التنقيبات والترميم في خربة الدير / الضحيص.
 مشرفو المشروع: سعد الحديدي، يزيد عليان، بدر العدوان.
 تاريخ المشروع: ١٠ / ٤ - ١ / ١٢ / ٢٠٠٨.
 مصدر التمويل: موازنة دائرة الاثار العامة.

العمل والنتائج

تركزت التنقيبات في هذا الموسم في الجهة الشرقية من البرج حيث كشفت عن ست غرف وثلاثة ممرات وبئر. تميزت بعض الغرف بوجود فجوات غير نافذة أو ما يعرف بالكوة مبنية من الحجر ومختلفة الأشكال والاحجام فبعضها كان مربعاً وبعضها مستطيلاً والبعض منها كان بسقف برميلي أو قوسي الشكل والأرضيات من الطين المدكوك فوق الصخر الطبيعي.

بوابات الغرف من الحجر غير المشذب والتي خلت معظمها من فجوات التثبيت مما يؤكد على أنها كانت بدون مصراع أو أن بعضها استخدم لأغراض غير سكنية وهو ما يشير إلى الطبيعة العسكرية للمباني فقد كشف في مواسم سابقة عن أقبية ضخمة وعدد هائل من الآبار وخزانات المياه وكميات كبيرة من خبث الحديد غير المصنع والتي تؤكد أنها كانت مدينة عسكرية أو حصناً متقدماً للجيش المرابطه في هذا المكان.

البئر الذي عثر عليه محفور بالصخر ككثير من الآبار التي تم العثور عليها في المواسم السابقة، أما الممرات الثلاث فهي عبارة عن طرق قصيرة تفضي إلى بوابات الغرف المختلفة بلغ طول الممر الأول حوالي خمسة أمتار والثاني ستة أمتار بينما لم يستكمل التنقيب في الممر الثالث.

اللقى الأثرية

عثر على مجموعة كبيرة من الكسر الفخارية التي تعود إلى الفترة الأيوبية المملوكية، وقطع نقدية نحاسية أيوبية مملوكية.

أعمال الترميم :

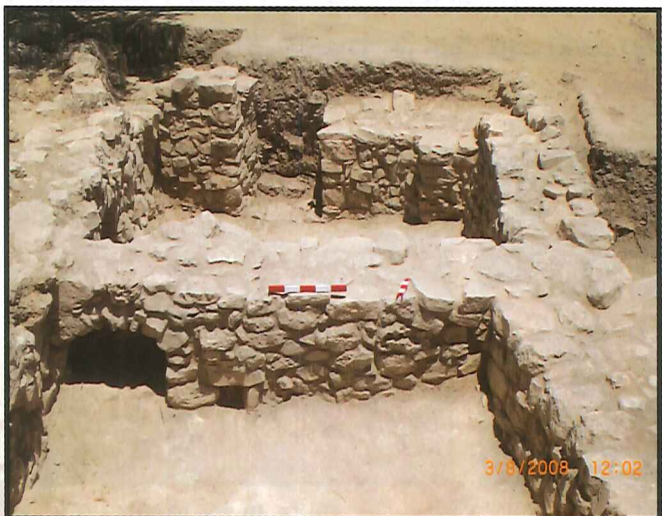
تقوية وتدعيم الجدران والبوابات التي تم الكشف عنها في الموسم الحالي والمواسم السابقة.



الغرف قبل الترميم



... بعد الترميم



من الغرف المكتشفة



اسم المشروع: المسح الأثري لمنطقة أبو الزيغان والرويحة / الأغوار الوسطى

مشرفا المشروع: حسين الجراح، رامي فريحات

تاريخ المشروع: ٤/١ - ٤/٣٠ / ٢٠٠٨ م.

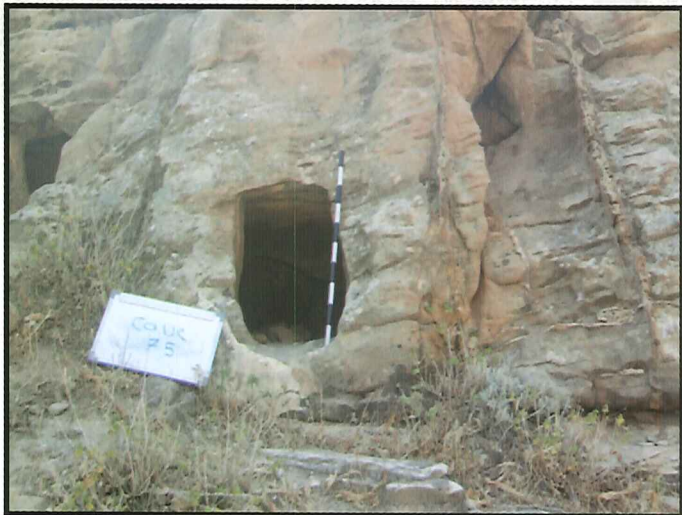
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

يهدف المشروع إلى توثيق عدد من المظاهر الأثرية التي تنتشر على ضفاف سيل الزرقاء منطقة أبو الزيغان والرويحة وعددها ١٢٣ معظمها مدافن مقطوعة بالصخر انتشرت بشكل واضح في الجهة الجنوبية من السيل ذات أحجام مختلفة وعدد قليل من الأنصاب الحجرية عددها سبعة أنصاب.

كان لهذه المدافن أشكال مختلفة من حيث التخطيط العام فمنها ما هو صغير ومنها ما هو عميق يصل إلى أكثر من ٢م. ومعظم هذه المدافن منحوتة داخل الواجهات الصخرية.

تم توثيق عدد من الأنصاب الحجرية وعددها ٧ وثلاثة أجران. وعثر أثناء المسح على كسر فخارية تعود للعصر البرونزي والعصر الحديدي.



مدافن مقطوعة بالصخر

اسم المشروع: المسح الأثري للأنصاب الحجرية / الروضة.

مشرف المشروع: حسين الجراح، رامي فريحات.

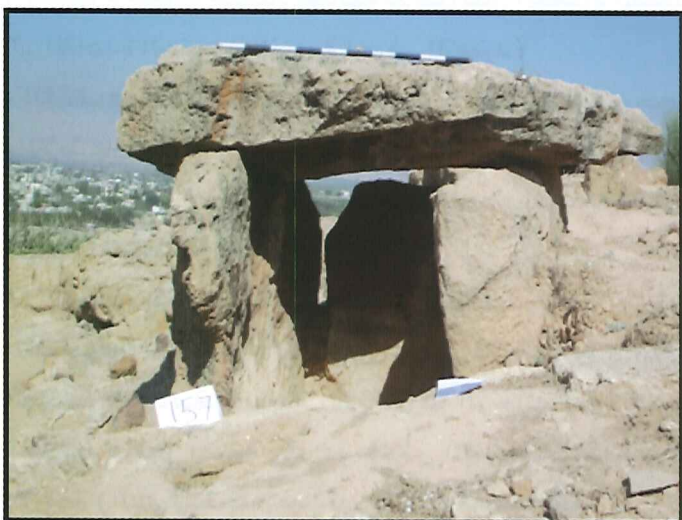
تاريخ المشروع: ٢ / ٦ - ٢٠ / ٦ / ٢٠٠٨ م.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

المظاهر الأثرية التي تم العثور عليها من خلال هذا المسح أنصاب حجرية ودوائر وأجران وأنصاب منهيبر.

أما الأنصاب الحجرية فكانت بكثافة كبيرة بالنسبة للمظاهر الأخرى وكان النمط السائد في الأنصاب الحجرية هو الطراز (A) الذي يتكون من جانبين حجريين يقوم فوقها السقف الذي يتكون من صفيحة حجرية ضخمة تغطي الكتفين وتبرز أطراف السقف عن مستوى حدود النصب الداخلية، ويضم هذا الطراز أيضاً بوابه حجرية تتوسط النصب المستطيل تماماً ولهذا الطراز كذلك مسطبة دائرية مبنية من الحجر غير المشذب بني بعضها من عدة مدايميك، وتم جمع القليل من عينات الكسر الفخارية من المناطق المحيطة بالأنصاب الحجرية لغايات تصنيفها وتحديد الفترة الزمنية التي وجدت بها هذه الأنصاب والمدافن حيث أرخت إلى فترة العصر البرونزي المبكر والعصر الحديدي.



أنصاب حجرية



اسم المشروع: الصيانة والترميم في المغطس.

مشرف المشروع: م. رستم مكجيان .

تاريخ المشروع: ٥ / ٤ - ٣٠ / ١١ / ٢٠٠٨ .

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

أولاً: أعمال الترميم

١. الجدار الجنوبي لدرج التعميد من الجهة الشرقية :

- عمل أساس لمنطقة الترميم يتكون من حجر السيل والملاط وبطول ٢٥ متراً.

- ترميم مدامكين إلى ثلاثة مداميك من الجدار باستخدام الحجارة الأصلية وذلك بهدف حماية الدرج الأصلي المؤدي إلى حوض التعميد المصلب الشكل.

٢. درج التعميد:

دراسة الدرج الأصلي المتبقي في الموقع والقطع التي عثر عليها وترميم كامل الدرج باستخدام الحجارة الأصلية التي عثر عليها أثناء التنقيب واستخدام حجارة جديدة مشابهه للأصل بدل الحجارة المفقودة.

٣. القاعدة الجنوبية الغربية لحوض التعميد:

- الكشف عن أساسات القاعدة الجنوبية وتجهيز أساس من حجر السيل والملاط بارتفاع (٥ ، ٠ م) وعلى شكل مربع بطول ضلع (٥ ، ٣ م).

- بناء مدامكين إلى ثلاثة مداميك من الحجر الرملي وبشكل مطابق للقاعدة الشمالية الغربية.

٤. القاعدة الشمالية الغربية لحوض التعميد:

التنقيب بين القاعدتين الشماليتين لحوض التعميد بهدف إظهار معالم القاعدة الشمالية الغربية التي ذكرها الرحالة (أركولفوس سنة ٦٧٠ م) لإظهار أهمية وفرادة حوض التعميد الواقع بين القواعد الأربعة والذي يستخدم مياه نهر الأردن للتعميد فيه.

ثانياً: أعمال الصيانة

أهم أعمال الصيانة :

- صيانة الأرضيات الفسيفسائية المكتشفة في تل مارالياس وكنائس يوحنا المعمدان.

- صيانة قصارة برك التعميد والآبار وجدران كنيسة روتوريوس.

- تنظيف وإزالة الأملاح عن الجدران والقصارة والأرضيات الفسيفسائية.



منطقة الكنائس قبل العمل



... بعد العمل



اسم المشروع: التنقيبات والترميم لقلعة الأزرق.

مشرف المشروع: أحمد لاش

تاريخ المشروع: ١٨ / ٦ - ٣١ / ١٢ / ٢٠٠٨.

مصدر التمويل: وزارة التخطيط

العمل والنتائج

الترميم

تركزت أعمال الترميم في هذا الموسم على الجدار (٢٢) والذي يشكل الواجهة الجنوبية الغربية للقلعة من الخارج، ويبلغ طول الجدار ٢٢,٨٥م، أما ارتفاعه قبل الترميم فكان من الزاوية الشمالية ٥,٨٠ م وفي الوسط ٦,١٥م وفي الزاوية الجنوبية ٤,٤٠م، يتكون من صفين من الحجارة، وعرضه من ١,٣٠م إلى ١,٥٠م ويحتوي على ثلاث نوافذ وطلاقتي سهام.

معظم أجزاء الجدار أعيد بناؤها في فترات متأخرة باستثناء بعض المداميك السفلية في الزاويتين الشمالية والجنوبية. ونظراً للانبعاجات الكثيرة في هذا الجدار وضعف حجارته في المداميك السفلية مما قد يسبب انهياره في أي لحظة وخطورة البناء فوق هذه المداميك، كان لا بد من فك الجدار بالكامل وإعادة بناؤه من الحجارة الموجودة في القلعة، مع الإبقاء على الحجارة الأصلية في زاويتي الجدار.

أعيد البناء بطريقة التشريك وبلغ عدد الحجارة التي تم تركيبها في الصف الخارجي من الجدار (٦٤٢) حجراً وفي الصف الداخلي (٥٣٩) حجراً، وبلغ ارتفاع الجدار بعد إعادة البناء في الزاوية الشمالية ٦,١٠م وفي الوسط ٦,٥٠م وفي الزاوية الجنوبية ٤,٤٥م.

كما تم ترميم الغرفة رقم (١٣) ورفضها وتكحيلها وتوصيل الكهرباء لها وعمل أبواب خشبية لها على الطراز القديم ، حيث تم تخصيصها لعرض بعض النقوش الصفوية المكتشفة في البادية الشمالية الشرقية.

وخلال هذا الموسم أعيد تأهيل الساحة المقابلة لدخل القلعة لتصبح حديقة تزرع فيها الأزهار والنباتات التي تنمو في المنطقة ورفضها بطبقة من الطف البركاني الأسود.



الجدار قبل الترميم



الجدار بعد الترميم



الغرفة رقم ١٣ بعد الترميم



التنقيبات

تركزت أعمال التنقيب في الغرفة رقم (٤٥) في الزاوية الجنوبية الشرقية للقلعة وما يقابلها من نفس الزاوية في ساحة القلعة وفي الغرفة رقم (٣٧) في الجهة الشرقية من القلعة. وهدف العمل في هذا الجزء الوصول إلى الأرضيات الأصلية للقلعة من الجهة الشرقية، وقد أظهرت التنقيبات أن هذه الأرضيات تنخفض عن مستوى الأرضيات الحالية من ٩٠ سم إلى ١٥٠ سم.

من خلال أعمال التنقيب:

١. تم الكشف عن العديد من الطبقات الأثرية تعود للفترات الأيوبية المملوكية والبيزنطية والرومانية وعثر على العديد من كسر الفخار التي تعود إلى هذه الطبقات.
٢. عثر على جزء من حجر ميللي عليه بقايا نقش لاتيني في الغرفة رقم ٤٥.
٣. كشف عن أساسات الجدار الأصلي للواجهة الجنوبية الشرقية للقلعة.
٤. عثر في ساحة القلعة على جرة وزبدية من الفخار تعودان للفترة الأيوبية بالإضافة إلى كسر صوانية تعود إلى فترة العصر الحجري القديم الأوسط.
٥. الكشف عن المدخل رقم (٨٣) والمؤدي إلى ساحة القلعة من الغرفة رقم ٤٥ أبعاده ١٨٠ سم × ١١٠ سم.
٦. الكشف عن المدخل رقم (٨٤) الذي يؤدي إلى ساحة القلعة من الغرفة رقم ٤٦ وأبعاده ١٥٠ سم × ٩٠ سم.
٧. في الغرفة رقم ٣٧ في الجزء الشرقي من القلعة كشف عن قناة للمياه مرصوفة بالحجارة تمتد من أسفل الجدار الغربي للغرفة إلى الجدار الشرقي، والتي يبدو أنها ترتبط بمظهر معماري إلى الغرب من الغرفة ما يزال تحت الطمم ويتم استخدامها لتصريف المياه إلى خارج القلعة. وهذه القناة شبه مخروطية الشكل يبلغ عرضها من الجهة الغربية (٥٠ سم) ومن الجهة الشرقية (٤٠ سم) وتنحدر نحو الشرق حيث يبلغ عمقها في الجهة الغربية (٣٧ سم) وفي الجهة الشرقية (٤٤ سم).



... بعد التنقيب



الغرفة ٤٥ قبل التنقيب



اسم المشروع: صيانة وترميم قصر أضيخم

مشرف المشروع: عارف الدهيثم

تاريخ المشروع: ١٧ / ٧ - ٣١ / ١٢ / ٢٠٠٨ م

مصدر التمويل: وزارة التخطيط / تعزيز الانتاجية

العمل والنتائج

تركزت أعمال الصيانة والترميم في الجزء الشمالي من القصر حيث تم تنظيف السور من التراب المتراكم فوقه و بجانبه بطول حوالي ٤٧ م و ارتفاع حوالي ٨٠ سم وعرض ما بين ١ م و ٤ م.

كما تم طمر حفرة كبيرة - على شكل مغارة حديثة تمتد باتجاه أسفل القصر- في الجهة الشمالية الشرقية، يبلغ طولها ٣٠ م وعرضها ٢١ م و أقصى ارتفاع لها ٤،٣ م، وذلك بعد أن أصبحت تشكل خطورة على جدران القصر القريبة. وكذلك الحال بالنسبة لوجود الحفرة في الجهة الجنوبية حيث طمرت بالحجارة ومن ثم تغطيتها بالتراب.



... بعد العمل



المنطقة الجنوبية قبل العمل



اسم المشروع: مسح منطقة الماضونة / الزرقاء.
مشرفا المشروع: د. خالد الجبور، جهاد هارون.
تاريخ المشروع: ٦ - ٢٤ / ١٢ / ٢٠٠٨.
مصدر التمويل: موازنة دائرة الآثار العامة.

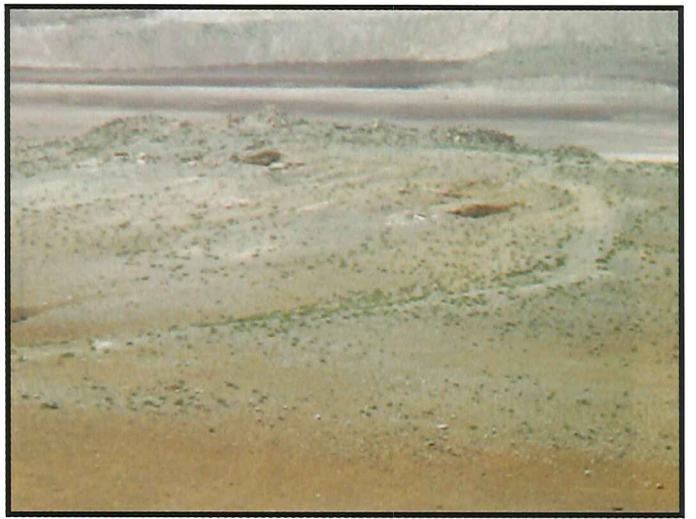
تقع خربة الماضونة شرق الزرقاء على طريق المناخر- الغباوي ويتشكل الموقع من جزئين: القصر والخربة، وهو على شكل تلال، يعود في تاريخه إلى الفترة العمونية وهناك شواهد إستقرار للفترات الرومانية والبيزنطية.

العمل والنتائج

١. مسح المنطقة المقترحة بشكل علمي دقيق باستخدام الخرائط وأجهزة المساحة وجهاز G.P.S.
٢. توثيق كافة البقايا الأثرية من خلال تحديد مواقعها و تثبيت إحداثياتها على الخرائط وتصويرها.
٣. عمل خارطة كاملة لكافة المواقع في منطقة العمل.
٤. تنفيذ أعمال الرسم والتوثيق للموقع تحضيراً لإجراء تنقيبات وأعمال صيانة وترميم.



قصر الماضونة



منظر عام لخربة الماضونة



اسم المشروع: مشروع توثيق تل أبو صياح (جبل الصور)

مشرفا المشروع: د. خالد الجبور، جهاد هارون.

تاريخ المشروع: ١ / ٥ - ٣٠ / ٦ / ٢٠٠٨.

مصدر التمويل: موازنة دائرة الآثار العامة.

تقع قرية أبو صياح إلى الشرق من عمان على بعد ١١ كلم من وسط عمان، وعلى طريق اتوستراد عمان - الزرقاء، ويلاحظ الزائر لهذه القرية وجود جبل مرتفع يقع إلى الجنوب من القرية، على مدخل وادي القطار ووادي العش، ويطلق عليه سكان القرية جبل الصور نسبة إلى السور الضخم إلى يحيط بمعظم التل.

العمل والنتائج

١. رفع مساحي وتثبيت لشبكة المربعات.

٢. تنقيب اثري في منطقة البوابة الرئيسية للموقع.

٣. مسح المنطقة المحيطة لتل أبو صياح.

٤. إن التحليل الأولي والمعتمد على البقايا الأثرية، يظهر وجود استقرار عموني بدأ خلال فترة العصر الحديدي الثاني، لأغراض عسكرية وسكنية، والدراسات تؤكد وجود فترة ازدهار في تاريخ المملكة العمونية خاصة خلال الدور الثاني من العصر الحديدي (القرنين السابع والسادس قبل الميلاد) وحتى ما يعرف بالفترة الفارسية، مع وجود كسر فخارية قليلة تدل على وجود استيطان خلال الفترتين الهيلينستية والرومانية.



منظر عام تل أبو صياح



البوابة الرئيسية للموقع



اسم المشروع: تنقيبات تل ذيبان
مشرف المشروع: خالد الهواري.
تاريخ المشروع: ١ / ٤ - ٣١ / ٨ / ٢٠٠٨.
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج:

استكمل التنقيب في تل ذيبان الأثري بهذا الموسم في موقعين الأول مبنى الحاكم المملوكي والذي يقع في الجهة الشمالية الشرقية من التل الأثري، والموقع الثاني وهو الجدار الرئيسي في الجهة الشمالية الجنوبية من التل الأثري وكذلك الجدار الاستنادي الذي يدعمه.

وكشفت أعمال التنقيب عن:

١. أربع غرف مختلفة القياسات بالإضافة إلى الغرفتين الرئيسيتين وقواعد الأقواس ويبدو أن الغرف كانت مسقوفة بنظام الأقواس.
 ٢. المساحة المكشوفة التي تقع في الجهة الشمالية من المبنى والممرات المؤدية إلى الغرف.
 ٣. بئر ماء يبدو أنه يعود في تاريخه إلى الفترة المؤابية وقناة مياه بنيت من الحجارة الصغيرة تمر أسفل أرضية المساحة المكشوفة.
- من خلال دراسة الفخار تبين وجود ثلاث مراحل استقرار خلال الفترة الأيوبية المملوكية.
- أما بخصوص الجدار الرئيسي للتل الأثري فقد تم إزالة الطمم وكشف عن جدار استنادي بُني بشكل مائل يدعم الجدار الرئيسي للتل الأثري.



الجدار الاستنادي للتل



قناة الماء



اسم المشروع: صيانة وترميم قلعة الكرك
مشرف المشروع: م. نوفل العجارمة
تاريخ المشروع: ١ / ١ - ٣١ / ١٢ / ٢٠٠٨ م.
مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

ينفذ المشروع بالتعاون مع سلطة المصادر الطبيعية من خلال خطط سنوية تركزت في العام ٢٠٠٨ على معالجة الانهيارات الناتجة عن تأثير العوامل الطبيعية كالتلالزل والظروف المناخية على الخصائص الهندسية للمواد المستخدمة في البناء وإضعافها.

تتلخص إنجازات الترميم والصيانة في عام ٢٠٠٨ م على النحو التالي:

١. الكنيسة:

أ. الواجهة الجنوبية

- إزالة الترميم العشوائي وإزالة الطم من داخل الواجهة.
- تلبيس حجر بناء للانهيبار داخل الواجهة بمساحته (٩,٥) م^٢.
- تلبيس حجر بناء للانهيبار في الواجهة من الخارج بمساحته (٣,٦) م^٢.
- إعادة بناء الجزء المنهار داخل الواجهة والمقدر حجمه (١٥) م^٣.
- إعادة بناء الجزء المنهار في الواجهة من الخارج والمقدر حجمه (٧) م^٣.
- تكحيل حلول حجارة البناء داخل وخارج الواجهة بمساحة (١٣) م^٢.

ب. الواجهة الغربية

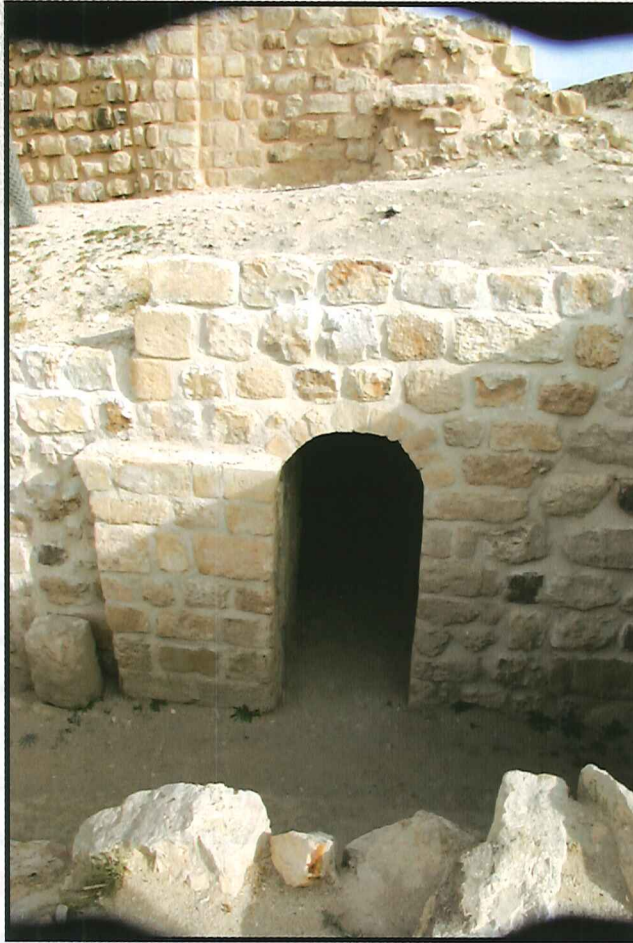
- تم العمل على إزالة الترميم العشوائي وإزالة الدبش من داخل الواجهة.
- تلبيس حجارة بناء داخل الواجهة لما مساحته (٩) م^٢.
- إعادة بناء الجزء المنهار من الواجهة والمقدر حجمه (٤,٥) م^٣.
- تكحيل حلول حجارة البناء القديم والجديد بمساحة (٩) م^٢.

ج. الواجهة الشمالية

- العمل على إزالة الترميم العشوائي داخل الواجهة وإزالة الدبش من داخل الواجهة خلف حجارة الترميم العشوائي.
- تلبيس حجر بناء مناسب للواجهة بديل حجر الترميم العشوائي بمساحة (٩,٩) م^٢.
- إعادة بناء الجزء المنهار من الواجهة والمقدر حجمه (١٨) م^٣.
- تكحيل حلول حجارة البناء الجديد بمساحة (٩,٩) م^٢.



الواجهة الجنوبية الخارجية للكنيسة بعد الترميم



القبور رقم ١ بعد الترميم

٢. الجدار الاستنادي RW3

- تلبيس حجارة بناء في الجزء المنهار من الواجهة بمساحة (١٨,٥) م^٢.
- تكحيل حلول حجارة البناء القديمة و الجديدة بمساحة (٤٢) م^٢.

٣. الجدار الاستنادي RW4

- تلبيس حجارة بناء في الجزء المنهار من الواجهة بمساحة (٤٢) م^٢.
- تثبيت حجارة البناء المخضلة.
- تكحيل حلول حجارة البناء القديمة و الجديدة بمساحة (٦٨) م^٢.

٤. قبو الرواق

- الإنتهاء من ترميم وصيانة جزء من الواجهة الغربية من خلال:

- إزالة كميات من الطمم في الموقع تقدر ب ٣٥ م^٣
- فك حجارة البناء والمتآكلة وإعادة تثبيت الحجارة واستبدال المتآكلة منها.
- تلبيس حجر بناء اثري في أماكن الانهيارات في الواجهات بمساحة (١٠) م^٢
- تكحيل حلول حجارة البناء القديمة و الجديدة بمساحة (١٠) م^٢



الجدار RW3 بعد الترميم



محافظة الكرك

منجزات ٢٠٠٨

اسم المشروع: صيانة قلعة الكرك.

مشرفا المشروع: خالد الطراونة ، ساطع المساعدة

تاريخ المشروع: ١٥ / ٤ - ٣٠ / ١٠ / ٢٠٠٨ م

مصدر التمويل: موازنة دائرة الآثار العامة

العمل والنتائج

١. إزالة أكوام من الحجارة والطمم في الجهة الجنوبية للقلعة بالقرب من برج الحمأة المملوكي ليتم في مرحلة لاحقة نقلها إلى خارج الموقع.
٢. تنظيف المنطقة الغربية الملاصقة للجدار الممتد من غرفة بيع التذاكر وحتى مدخل السوق.
٣. تنظيف سطح القلعة العلوي والسفلي إضافة للأقبية والخوانات من جميع الحجارة الصغيرة والمتوسطة الحجم والأعشاب.



... بعد العمل



الزاوية الغربية لبرج الحمأة المملوكي قبل العمل



الجدار وبرج المراقبة قبل الترميم



... بعد الترميم



الساحة الشرقية بعد التنظيف



بوابة الموقع

إسم المشروع: صيانة موقع تل الشيخ عيسى / غور الصافي.

مشرف المشروع: عماد الضروس

تاريخ المشروع: ١ / ٤ - ٢١ / ١٠ / ٢٠٠٨ م.

مصدر التمويل: موازنة دائرة الآثار العامة

العمل والنتائج

١. رفع مساحي للموقع وعمل مخطط كنتوري له وربطه مع طواحين السكر ومقبرة النقع.
٢. تصنيف الحجارة الأثرية المتناثرة في الموقع ووضعها بالقرب من المباني الأثرية التي يعتقد انها جزء منها.
٣. تنظيف الموقع وإزالة ما نسبته ٣٥٠٠ من الطمم والأنقاض.
٤. تقوية وترميم الأجزاء المتهدمة من المباني والجدران الأثرية الظاهرة، حيث تم ترميم الأجزاء المتهدمة من الجدار الضخم والجزء الذي يعتقد انه برج دفاعي، وترميم المباني الأثرية التي ظهرت خلال التنقيبات الأثرية وتكحيل جدرانها.
٥. تسييج الموقع كاملاً وعمل بوابة في منتصف الجهة الجنوبية عرضها حوالي (٣,٥) متروا ارتفاعها (٢) متر.

اسم المشروع: صيانة موقع القصر النبطي / القصر.

مشرف المشروع: أشرف الرواشدة.

مدة المشروع: ١٥ / ٥ - ١٥ / ٧ / ٢٠٠٨ م.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

- إزالة بقايا أنقاض الأبنية التي كانت تنتشر حول مبنى القصر النبطي بعدما كانت تشكل عائقاً يحجب الجهة الشمالية الشرقية للموقع.
- بناء سور حجري بطول ٦٧ م على إمتداد الجهتين الشمالية والشرقية للموقع.
- عمل بوابة طولها ٥ م وسيج حديدي فوق السور.



اسم المشروع: صيانة وتنظيف لقلعة الحسا.

مشرف المشروع: جهاد درويش

تاريخ المشروع: ٦ / ٧ - ٣١ / ٧ / ٢٠٠٨.

مصدر التمويل: موازنة دائرة الآثار العامة.

العمل والنتائج

١. تنظيف مدخل القلعة والمساحة الداخلية وما يحيط بالبئر.
٢. إعادة ترميم وتبليط للأسقف البرميلية الخارجية الواقعة في الواجهة الغربية للقلعة بما يتناسب مع طبيعة البناء.
٣. عمل بوابة حديدية للموقع.
٤. إعادة ترتيب الحجارة المتناثرة حول جسم القلعة وخصوصاً الجهة الشمالية الغربية ووضعها بشكل يتناسب مع الموقع.



قلعة الحسا بعد اعمال التنظيف



اسم المشروع: صيانة وترميم قلعة الشوبك

مشرف المشروع: م. محمود عزام.

تاريخ المشروع: ١ / ١ - ٣١ / ١٢ / ٢٠٠٨.

تمويل المشروع: موازنة دائرة الآثار العامة.

العمل والنتائج

أولاً: المرحلة الأولى

اشتمل العمل في هذه المرحلة على مناطق عديدة من القلعة

أولاً: منطقة (S1, D3)

تشمل المنطقة المقابلة للكنيسة العلوية من الجهة الشرقية حيث تم بناء جدار حجري (سلسال) دون استخدام مواد رابطة في الجهة الشرقية للحضيرة بطول ٨ م وبمعدل ارتفاع ٧٠ سم.

ثانياً: منطقة (S2, D4)

تشمل الخان المجاور للقصر الأيوبي من الجهة الجنوبية الغربية حيث تتراكم كميات من الأتربة والأنقاض بشكل عشوائي على أرضية الخان وأمام مدخله، كما أن سقف وجدران الخان من الجهة الشرقية تعرضت لانهيارات سابقة أدت إلى وجود فجوتين بمساحة كبيرة، تركز العمل في هذه المنطقة على نقل ٣٦٠ م^٣ من الطمم المتراكم أمام الخان إلى خارج أسوار القلعة وكذلك تنظيف وإعادة تأهيل الموقع.

ثالثاً: منطقة (C1)

تشتمل التنقيبات داخل القصر الأيوبي حيث كشف عن جدران أيلة للسقوط وخصوصاً في الجهة الغربية من الموقع، وأن عمق الحضيرة يشكل خطورة على مرتادي الموقع، حيث تم تثبيت وتدعيم الجدار الأوسط باستخدام الخشب والحديد لمنع سقوطه، وإعادة ترميم مداخل القصر الأيوبي والجدران القائمة والتي فقدت الكثير من حجارتها مما يشكل خطراً على ديمومتها.

رابعاً: منطقة (C2, D2)

تتضمن منطقة الخان المجاور للبرج رقم (٩) من الجهة الشرقية، وقد تضمن العمل في هذا الموقع على إزالة وتجريف ونقل الطمم من داخل الخان إلى خارج القلعة، وكذلك بناء جدار حجري دون مواد رابطة في الجهة الغربية من مدخل الخان لمنع انهيار الأتربة إلى الداخل، وإزالة الطمم المتواجد داخل الخان والمقدر حجمه حوالي ٣١٢ م^٣ ونقله إلى خارج القلعة وكذلك بناء سلسال حجري بمساحة ٢١,٥ م^٢ لمنع انهيار الطمم إلى داخل الخان بعد أن تم تجريف ونقل الطمم المتناثر في تلك المنطقة.



منطقة D4 امام الخان قبل العمل



... بعد العمل



خامساً: منطقة (C3)



جدار الكنيسة قبل العمل

تشمل هذه المنطقة الجدار المجاور للكنيسة العلوية من الجهة الجنوبية من جهة المدخل والتي تضم جدار من البناء القديم يميل إلى الداخل نتيجة دفع الأتربة الموجودة داخل الجدار، وجاء العمل في هذه المنطقة على النحو التالي:

- فك الجدار الحجري العشوائي المقام خلف البناء القديم.
- تنظيف الجدار من الدبش والطمم وتقويم الجدار إلى وضعه الطبيعي.
- تدعيم الجدار من الجهة الخلفية بالمونة الإسمنتية بحيث لا تظهر هذه المونة في الواجهة الأمامية لمنع تسرب المياه.
- إعادة بناء الجهة الداخلية من الجدار بطريقة البناء الجاف (دون مواد رابطة).
- تركيب وإعادة بناء القوس المنهار في الجدار.
- تجريف الطمم والأعشاب المتراكمة على أرضية الممر المجاور للجدار.
- إعادة تأهيل المنطقة المقابلة للجدار وذلك بإزالة الطمم وبناء السلاسل الحجرية لحماية الطمم من الانهيار إلى داخل الممر.
- إعادة تنظيم الدرج المؤدي إلى المنطقة العلوية من القلعة والمقابل للكنيسة العلوية.



... بعد الترميم

سادساً: المناطق (D1, D3, D5, D6 & D7)

- المنطقة (D1): نقل الطمم والأنقاض إلى خارج أسوار القلعة وفرز الحجر والدبش عنه ونقله وتخزينه داخل القلعة.
- المنطقة (D5): إزالة وتجريف ما يقارب 3م50 من الطمم المتراكم على سور القلعة الخارجي (R1).
- المنطقة (D6): إزالة وتجريف ما يقارب 3م40 من الطمم المتراكم على سور القلعة الخارجي (R3).
- المنطقة (D7): إزالة وتجريف ما حجمه 3م70 من الطمم المتراكم على سور القلعة الخارجي (R10) بجزئيه العلوي والسفلي.



ثانياً: المرحلة الثانية

تتضمن هذه المرحلة من العمل ما يلي :

- تنظيف الردم ومخلفات الانهيارات والحجارة من الممرات الداخلية للمدرسة حيث تم إزالة ما حجمه ٤,٥ م٣ من الطمم ونقل الحجارة والدبش المتواجد في الممر وبناء سلاسل حجرية في مناطق تواجد الطمم لمنع من الانهيار داخل الممر.
- تنظيف الردم ومخلفات الانهيارات والحجارة من الممرات الداخلية للسوق التجاري حيث تم إزالة ما حجمه ٣ م٣ من الطمم ونقل الحجارة والدبش المتواجد في الممر.
- تنظيف الأبراج والممرات المطلة على الواجهة الشرقية للقلعة.
- تنظيم وإعادة تأهيل معظم مواقع تواجد الدبش والطمم داخل القلعة وذلك بتجميع الحجارة والدبش المتناثر وبناء سلاسل حجرية لمنعها من الانهيار والتناثر داخل الممرات حيث تم بناء ما يقارب ١٠٠ متر طولي بارتفاعات مختلفة وحسب طبيعة الموقع.
- منطقة الحمامات والقصر الأيوبي الموجودة في الجزء الشمالي الشرقي من القلعة والتي تضم العديد من الغرف ذات الأرضيات المكسوة بالحجر الجيري والمحتوية على العديد من قنوات المياه وقنوات التصريف، وكذلك المنطقة الجنوبية الشرقية من القصر الأيوبي والتي تتضمن ممراً بطول ٥ م وعرض ١,٢ م يربط بين القصر والحمامات كان يملئه الطمم. وقد كانت أهم الأعمال المنجزة في هذه المنطقة كما يلي:-

١. تنظيف أرضية الحمامات المجاورة للقصر الأيوبي من الطمم بحجم ٣٥٠ م٣.

٢. بناء جدران جافة بمساحة ٢٢٥ م٢ في منطقة الحمامات لمنع انهيار الطمم.

٣. تجريف الطمم من المدخل الذي يربط القصر بمنطقة الحمامات بحجم ٣٠ م٣. وفتح الممر الواصل بين القصر الأيوبي والحمامات.

٤. فرز حجر عمار ودبش ونقله خارج منطقة العمل بحجم ٣٨ م٣.

٥. تجريف الطمم من الزاوية الشمالية الشرقية للقصر بحجم ١,٥ م٣.

٦. نقل دبش وحجر بحجم ٣,٠ م٣، وبناء جدران جافة لحماية الردم من الانهيار بمساحة ٢٠,٠ م٢.

ثالثاً: المرحلة الثالثة

أعمال الأدرج وتنظيم المداخل والممرات

- تم العمل في الأماكن الأكثر ارتياداً من القلعة حيث تم إزالة الأتربة والأنقاض والحجارة من تلك المواقع وإعادة تأهيلها ببناء الأدرج الحجرية والخشبية وبناء السلاسل الحجرية وشمل العمل المناطق التالية :
- منطقة الكنيسة الجنوبية وشملت الأعمال التالية :-

١. عمل أدرج عدد (١٠) لتسهيل العبور إلى داخل الكنيسة والمنطقة المجاورة لها.

٢. تنظيف الرمل وبقايا المواد المتراكمة في الممر المجاور للكنيسة وبمساحة (٤٠,٠ م٢).

٣. عمل سياج تحذيري حول الحضريات والمناطق الخطرة المجاورة للكنيسة.

٤. نقل طمم بحجم ٣٥ م٣ لردم الأدرج والبسطة.



اعمال التنظيف في منطقة الحمامات



- المتحف والمناطق المجاورة :

١. إعادة تأهيل وعمل أدراج من الحجر والرمل عدد (٨) على المدخل الجنوبي الشرقي من الخان المؤدي إلى قبو المكتشفات لتسهيل العبور إلى داخله بالإضافة إلى عمل درجتين على المخرج من الجهة الشمالية.
٢. تنظيم المنحدر المؤدي إلى المتحف بعمل أدراج من لاط الخشب والطعم لتفادي انزلاق مستخدمي الممر حيث تم عمل (١٢) درجة.
٣. عمل دريزين حماية من خشب اللاط بطول ٤ م.
٤. نقل طمم بحجم ٧,٠م ٣م لردم الأدراج خلف الخشب لتقليل الانحدار.
٥. إعادة تأهيل المدخل الرئيسي المؤدي للجزء العلوي من القلعة (المتحف والكنيسة العلوية).
٦. عمل أدراج عدد (٥) لتسهيل التنقل داخل المنطقة المجاورة للمتحف وخلف الجدار R٩.

رابعاً: أعمال متفرقة

- عمل سياج تحذيري مكون من قضبان حديد قطر ١٤ ملم وأسلاك ربط مجدولة وشريط تحذيري على طول الواجهة الغربية والشرقية والمناطق الخطرة داخل القلعة.
- عمل درج خشبي عدد (٢٥) مكون من لاط خشب ومرايين في الممر المقابل للبرج رقم ٩.
- نقل الطمم والحجارة المتراكمة في الممر المؤدي للكنيسة العلوية من المدرسة حيث تم نقل ما حجمه ٣,٠م ٣م.
- تركيب درج حجري بجانب النفق المؤدي لعين الماء (البئر) وبناء سلسال حجري حماية للدخل النفق.



... بعد العمل



المنحدر المؤدي للمتحف قبل العمل



الجزء الغربي من السور قبل الترميم



... بعد الترميم



طاحونة الماء

اسم المشروع: تنقيبات وصيانة وترميم معسكر أذرح الروماني.
مشرف المشروع: هاني الفلاحات، عامر البدور
تاريخ المشروع: ١٦ / ٤ - ٣١ / ١٢ / ٢٠٠٨
مصدر التمويل: وزارة التخطيط.

العمل والنتائج

١. كشف عن أجزاء السور الخارجي من الجهات الشرقية والشمالية والغربية للمعسكر وجمع حجارتها وفرزها تمهيدا لترميمها في المواسم القادمة.
٢. كشف أساسات بعض الغرف داخل القلعة العثمانية.
٣. هدم الغرف الحجرية التي أقامها الأهالي داخل المعسكر لحفظ مواشيمهم، وجمع حجارتها التي هي في الأصل من حجارة المعسكر.
٤. الكشف عن طاحونة الماء التابعة للمعسكر الواقعة إلى الشرق منه على بعد حوالي ٥٠٠ متر.
٥. تنظيف أرضية الكنيسة البيزنطية.
٦. تنظيف المخلفات والأنقاض الناتجة عن حفرة جامعة الحسين بن طلال.
٧. عثر على نقش لاتيني مكون من ٩ أسطر. ونقش عربي مكون من ٦ أسطر.



النقش العربي الذي تم العثور عليه



اسم المشروع: ترميم المعسكر الروماني / الحميمة

مشرف المشروع: سوسن الفاخري.

تاريخ المشروع: ١٥ / ٤ - ١٥ / ٩ / ٢٠٠٨.

مصدر التمويل: وزارة التخطيط

يقع المعسكر الروماني إلى الشمال من الموقع ويرجع إلى القرن الثاني الميلادي وتبلغ مساحته (٢٠١٠×١٥٦ م) ومحاط بسور حجري وله أربعة مداخل على الجهات الأربع، ويتألف هذا المبنى من عدة غرف متصلة ببعضها البعض بواسطة ممرات مبلطة بحجارة رقيقة ويلاحظ أن حجارته من العصر النبطي أعيد استخدامها في الفترة الرومانية.

العمل والنتائج

١. إكمال الكشف عن الجزء الشرقي والشمالى لجدران المعسكر.
٢. صيانة وترميم الجدران وتنظيفها من الأتربة، وتكحيلها وحقتها وإغلاق الفراغات بين الحجارة بكحلة ذات لون مناسب للحجر.
٣. تكشف سطح السور وتنظيفه وترميمه وكذلك البوابات بإغلاق الفراغات بين الحجارة.
٤. تنظيف المعسكر بشكل كامل ورفع الأتربة.



... بعد العمل



جدار المعسكر قبل العمل



الجدار الخارجي قبل الترميم

اسم المشروع: صيانة وترميم قلعة القويرة.
مشرف المشروع: سوسن الفاخري.
مدة المشروع: ١٥ / ٤ - ١٥ / ٧ / ٢٠٠٨ م.
الجهة الممولة: موازنة دائرة الآثار العامة.

العمل والنتائج

١. التركيز في هذا الموسم على استكمال حماية أسوار القلعة من الخارج.
٢. إعادة بناء السور الخارجي للقلعة في الجهة الجنوبية.
٣. تنفيخ الجدران الخارجية بعد تنظيفها من الإسمنت وتحويلها بمونة مناسبة للجدران الأثرية.
٤. إعادة بناء وترميم الجزء الجنوبي الداخلي للقلعة.



... بعد الترميم

اسم المشروع: صيانة وترميم قلعة العقبة.
مشرف المشروع: سوسن الفاخري.
تاريخ المشروع: ١٥ / ٤ - ١٥ / ٧ / ٢٠٠٨ م.
الجهة الممولة: موازنة دائرة الآثار العامة.

العمل والنتائج

١. إزالة الحجارة المتآكلة في الجدران واستبدالها بحجارة أخرى من نفس حجر القلعة.
٢. إعادة بناء أساسات بعض الجدران والبرج الشمالي الشرقي والبرج الشمالي الغربي.



... بعد العمل



أساسات الجدار قبل العمل



نشاطات دائرة الآثار العامة

لعام ٢٠٠٨م

- ندوات
- محاضرات
- برامج تدريبية
- ورش عمل
- معارض



التعاون الدولي

نظمت دائرة الآثار العامة بالتعاون مع مؤسسات دولية عدد من الدورات التدريبية في مجال المحافظة على الآثار وحمائتها.

المنظمة الإسلامية للتربية والثقافة "الإيسيسكو"

- عقدت الإيسيسكو بالتعاون مع دائرة الآثار العامة الأردنية، واللجنة الوطنية الفلسطينية للتربية والثقافة والعلوم، الاجتماع الثاني للجنة الإيسيسكو للخبراء الأثريين المكلفة بإعداد تقارير حول الحفريات التي تقوم بها سلطات الاحتلال الإسرائيلي حول المسجد الأقصى في مقر دائرة الآثار الأردنية بعمان وتحت رعاية معالي وزير السياحة والآثار السيدة مها الخطيب، يومي ١٥ و ١٦ نيسان ٢٠٠٩م. وذلك لدراسة ومراجعة التقرير القانوني الذي أعده أعضاء لجنة الخبراء الفلسطينيين بالتنسيق مع اللجنة الوطنية الفلسطينية للتربية والعلوم والثقافة حول عدم شرعية الحفريات الإسرائيلية في محيط المسجد.

المنظمة العربية للتربية والثقافة والعلوم (الكسو)

نظمت دائرة الآثار العامة برعاية سمو الأمير رعد بن زيد في الفترة من ١٢ - ٣٠ / ١٠ / ٢٠٠٨م وبالتعاون مع المنظمة العربية للتربية والثقافة والعلوم (الكسو) ورشة عمل إقليمية تدريبية حول المسوحات الأثرية والتصوير الجوي وتحليل الصور الجوية.

- شملت الورشة التدريب العملي والنظري من قبل خبراء ومختصين من ألمانيا واستراليا واليمن والمغرب ومصر والأردن.
- تدريب عملي على المسوحات الجوية في المنطقة الواقعة بين ياجوز وجرش.
وقد شارك بالورشة ١٥ متدرباً من ١٣ دولة عربية (السعودية، الكويت، البحرين، اليمن، سوريا، فلسطين، مصر، السودان، تونس، ليبيا، المغرب، موريتانيا والأردن).

وفي ختام الورشة وزع مديرعام الدائرة الدكتور فواز الخريشه الشهادات على الخريجين.

مرمون بلا حدود

وسائل ترميم القطع المعدنية والزجاجية

لإكمال وتطوير برنامج «مرمون بلا حدود» الذي تدعمه جامعة لندن عقدت في الأردن وللعام الثاني على التوالي وبالتعاون مع دائرة الآثار العامة في الفترة ١٩ / ١٠ - ١٧ / ١١ / ٢٠٠٨م ورشات للتدريب على ترميم قطع أثرية مختارة من متاحف جرش وإربد وعمان، وتضمن التدريب إرشادات عملية حول وسائل ترميم وحفظ القطع الأثرية. وفي ختام الورشة قدمت محاضرة عن نتائج أعمال برنامج مرمون بلا حدود بالأردن والخارج.





معهد جيتي للصيانة

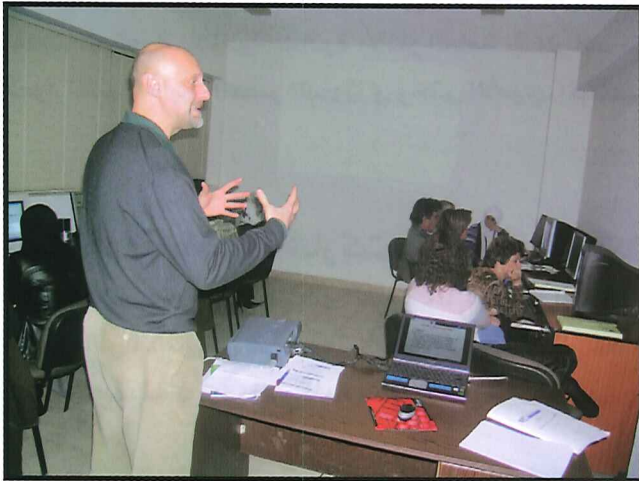
حلقة دراسية حول ادارة المواقع التراثية والآثرية
«موقع جرش الآثري حالة دراسية»

نظمت في مبنى دائرة الآثار العامة في الفترة ما بين ٢٩-٣٠/١٠/٢٠٠٨ بمشاركة ١٥ مشاركا من الاثاريين والمهندسين من موظفي الدائرة للتعريف بأهمية القيم في إدارة الموقع وكيفية التعامل بينه وبين المحيط البيئي والنسيج الاجتماعي للسكان المحليين والوضع الاقتصادي وكيفية الاستفادة من الموقع وتوفير الأسس الصحيحة للحفاظ على المواقع واستغلالها وتطويرها وتأهيلها وتوفير الاحتياجات المستدامة للحفاظ عليها والعمل على الترويج السياحي ليكون عنصر إيجابي يخدم المجتمع المحلي.

اليونسكو

دورة تدريبية في مجال أتمتة المتاحف

عقدت دائرة الآثار العامة بالتعاون مع منظمة اليونسكو دورة تدريبية في الفترة من ٢٧ / ١ - ١٠ / ٢ / ٢٠٠٨ م حول قاعدة بيانات القطع المتحفية وشملت الدورة التي شارك فيها ١٣ مشاركاً تدريباً نظرياً عملياً على أساسيات برنامج قاعدة البيانات المتحفية وكيفية وماهية المعلومات الواجب توافرها وإدخالها وتوثيقها. وفي ختام الدورة وزعت وزير السياحة والآثار الشهادات على المشاركين بحضور مديرعام دائرة الآثار العامة فواز الخريشه وممثل اليونسكو في عمان. وتعتبر هذه الدورة إمتداد لدورة تدريبية سابقة عقدت في العام ٢٠٠٧ م في إدارة المتاحف.



الوكالة اليابانية للتعاون الدولي JICA

ورشة عمل استخدام التقنيات الحديثة في المسح الأثري

لإستكمال برنامج تدريب وتأهيل الكوادر العراقية نظمت دائرة الآثار العامة وبالتعاون JICA ورشة عمل تدريبية نظرية وعملية في موقع أم قيس الأثري في الفترة ما بين ٢ - ٩ / ١٢ / ٢٠٠٨ م في مجال إستخدام التقنيات الحديثة في المسح الأثري (GIS) و(GPS).





نشاطات

منجزات ٢٠٠٨



تسليم العراق ٢٤٦٦ قطعة أثرية

سلمت في مبنى دائرة الآثار العامة الأردنية للحكومة العراقية ٢٤٦٦ قطعة أثرية سرقت من المتاحف والمواقع الأثرية العراقية بعد الحرب على العراق تم ضبطها خلال عمليات تهريب الآثار العراقية، وكانت دائرة الآثار قد حافظت عليها بتوثيقها وأرشفتها.

ألمانيا تعيد للأردن قطعاً أثرية بعد ترميمها

سلمت الحكومة الألمانية لدائرة الآثار العامة في السادس عشر من تموز قطع أثرية (أدوات زراعية وتمائيل فخارية وبرونزية) تعود للفترة ما بين العصر البرونزي وحتى الأموي، إكتشفها ورممها آثاريون ألمان في موقع تل زرع الأثري في منطقة وادي العرب.

إعادة قطع أثرية شاركت في معرض استكشاف البترا ٢٠٠٣ - ٢٠٠٨ م

أعلن مدير عام دائرة الآثار العامة الدكتور فواز الخريشه خلال مؤتمر صحفي مشترك بين دائرة الآثار العامة ومتحف سنسيناتي الأمريكي عن عودة القطع الأثرية التي شاركت بمعرض «إعادة استكشاف البترا» مدينة الصخر الضائعة الذي أقيم في مدينة نيويورك وكندا العام ٢٠٠٣م - ٢٠٠٨م.

قنطرة

مشروع قنطرة الآثار المشترك بين حضارتي ضفتي المتوسط

خلال مؤتمر صحفي مشترك عقد في دائرة الآثار العامة في الثامن والعشرين من كانون الأول لعام ٢٠٠٨م أعلن مدير عام دائرة الآثار العامة الدكتور فواز الخريشه ومساعد مدير معهد العالم العربي في فرنسا مدير مشروع قنطرة الدكتور بدرالدين عرودكي عن إكمال مشروع قنطرة «التراث المتوسطي» تقاطع الشرق والغرب بعد عمل إستمر ثلاث سنوات (٢٠٠٥ - ٢٠٠٨).

تم إدراج ألف قطعة ومعالم أثرية من الدول المشاركة تمثل شواهد تأثر الحضارتين ببعضهما بشكل مباشر وغير مباشر





نشاطات

منجزات ٢٠٠٨

إطلاق موقع «قنطرة» الإلكتروني المخصص للتراث المتوسطي

أطلق في معهد العالم العربي بباريس في ١١/٢٥ موقع قنطرة الإلكتروني (www.qantara-med.org) والموقع عبارة عن قاعدة معلومات تضم ألف عينة تتوزع ما بين أدوات ومواقع أثرية تحصي التراث والمخزون الفني والتفاعل المشترك لضفتي المتوسط.

معرض قنطرة التراث المتوسطي

أفتتح مديرعام دائرة الآثار العامة الدكتور فواز الخريشه في متحف دار السرايا / أربد في الرابع والعشرين من تشرين الثاني لعام ٢٠٠٨ «معرض قنطرة التراث المتوسط تقاطع الشرق والغرب المدعوم من الإتحاد الأوروبي ومعهد العالم العربي في باريس، ضم المعرض الذي أستمر أربعين يوماً معروضات تراثية إسلامية من دول حوض المتوسط (إسبانيا، فرنسا، المغرب، الجزائر، تونس، لبنان، مصر، سوريا والأردن). وصدر عن المشروع مجلد بحجم موسوعي بأربع لغات العربية والإنجليزية والفرنسية والإسبانية اشتمل على ٤٠ صفحة وأكثر من ٢٠٠ صورملونة وخرائط.



معرض الإنجازات الأردنية الأول في ظل الهاشميين

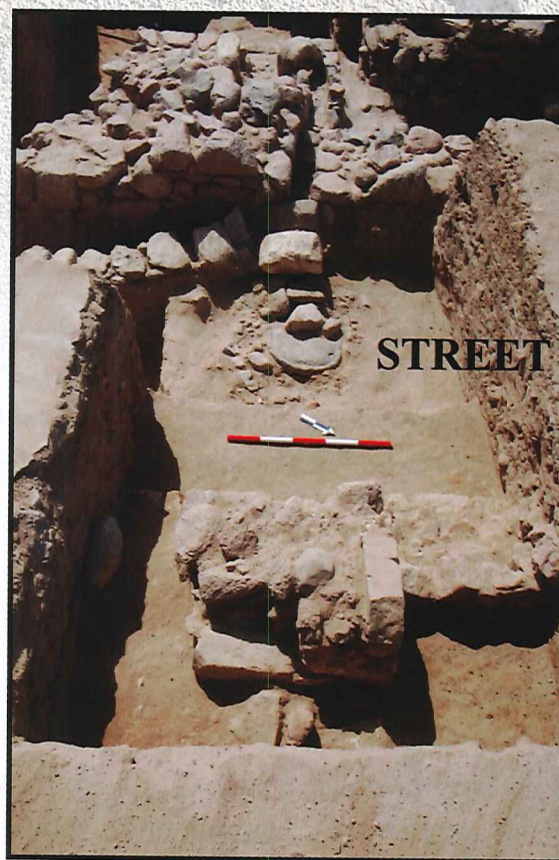
شاركت دائرة الآثار العامة بمعرض الإنجازات الحكومية خلال العشر سنوات الماضية في الفترة الواقعة ما بين ١٤-١٦/١١/٢٠٠٨م الذي أقيم في مدينة السلط مدينة الثقافة الأردنية للعام ٢٠٠٨م حيث خصص جناح خاص للدائرة عرضت فيه إنجازاتها في مجال تطوير المتاحف و تاهيلها





done, probably due to another earthquake. Our research shows that the site was abandoned for a long time. While stones were taken away from its walls, the wind blew sand over the ruin, that finally must have at least partly disappeared, because a cemetery developed on top of its east wall and tombs were dug through the wall.

After levelling the site, the Mamluks constructed a new khan in the early 16th century, of which the gate is still standing. The builder was Sultan Qansawh al-Ghawri (1510-17) whose name appears in the monumental inscription in the outer iwan of the gatehouse. Our analysis shows (confirmed by an inscription) that in the 1580s the Ottoman Sultan Murad III built or rebuilt important parts of the khan like the polygonal towers. It is possible that the work started by the last Mamluk sultan was stopped in 1517 when the Mamluks were overthrown by the Ottomans and that work was only resumed 70 years later. The foundations of the north wall (east) and of the east wall of the entrance are of similar construction and are connected. Later the foundation of the entrance wall was widened over 1m to the east (over a height of only 50cm), while the ashlar of the wall that stand on top of this new foundation are linked into those of the north wall. Why this change of plan? In itself 70 years of interruption seems a long period, but we now know that between the abandonment/



Ayla. View from the north on the excavation with in the street a cesspit.

destruction of the 2nd khan and the start of the work on the 3rd, there was a long period during which the pilgrims passing through Aqaba lacked a functioning khan.

The was probably not much building activity over the following centuries and when the Frenchman de Laborde drew the plan of the khan it had all the regularity of this kind of building with cells grouped around an open courtyard and built against the outer walls.

The pattern only changed in the 1840s when the Egyptian Mohammed Ali ruled over Aqaba and transformed the khan into a military fortress adapted to artillery. The Italian ships that bombarded the fort during the Turkish-Italian War (1911-12) caused a lot of damage that was possibly just restored when British and French (1914-17) naval bombardments again destroyed large parts of the fortress.

The Results of the 2008 fieldwork : Ayla

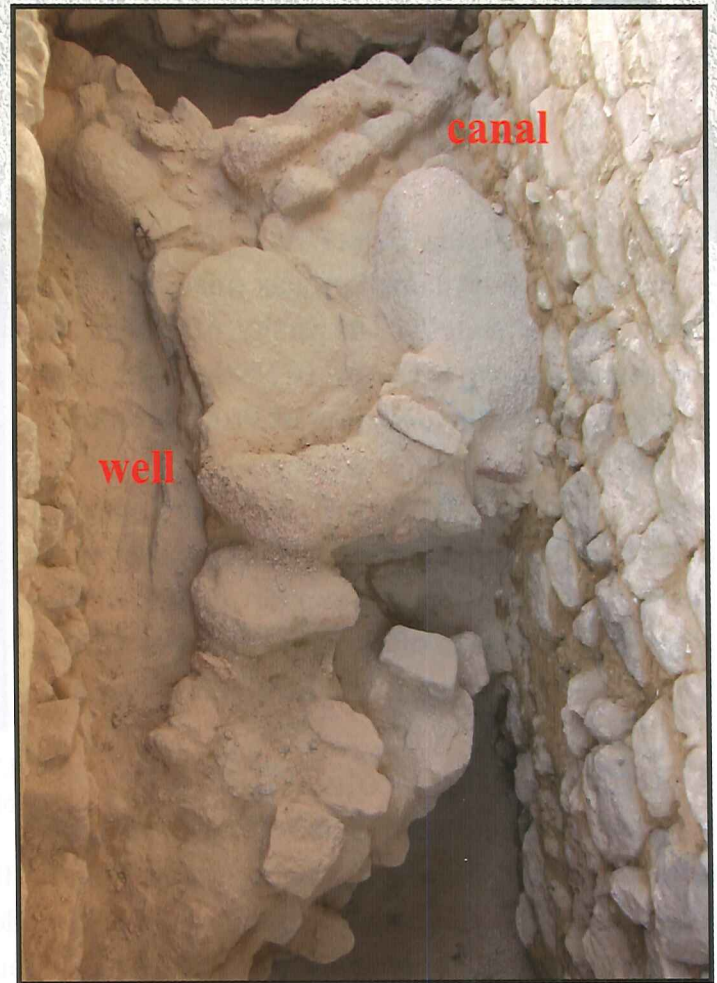
Despite the relatively limited area excavated at Ayla, the stratigraphy shows a long and complicated occupational history. The work conducted this season was intended to be preliminary and diagnostic, and it is perhaps not surprising that little can be concluded about the exact nature of the area excavated, or indeed of the individual structures identified. However, what is evident is that the south western quadrant remained occupied and maintained for the entire lifespan of the city. Furthermore, there ap-



The Results of the 2008 Fieldwork: Aqaba Castle

The 2008 campaign confirmed the established chronology, although for the earlier periods there is more and more proof that the occupation of the site is not just following the abandonment of Ayla but that definitely from the Abbasid periods onwards there was activity in this part of 'Aqaba (maybe agricultural) and that the area was systematically organised with planned walls and irrigation canals and terrace walls all parallel or perpendicular to each other.

Although the Crusader presence is still difficult to prove archaeologically, it is an historic fact that in 1183 the Frankish commander, Reynald de Chatillion, organised a raiding party against the holy city of Mecca, which sailed from the 'Aqaba stronghold. It seems logic that after Saladin took the castle of Jazirat Far'awn and rebuild it, he must have constructed a stronghold on the mainland too. Although the main stronghold was securely established on this offshore island, a bridgehead on the mainland seems necessary to organise an efficient military control. Saladin must have understood this necessity. How this bridgehead looked like is unclear. Does the 1.30m thick wall discovered in 2007 belong to it? Or is it the enclosure of the 1st khan that gave this protection and extra control over the area. This 1st khan can be dated to the Ayyubid period and to the late 12th or first half of the 13th century. This khan has now been fully identified within its 4 walls and corners. It was not yet a fort as it lacked towers to its corners. The structure was partly rebuilt within the 2nd half of the 13th century, probably after destruction by an earthquake. In the 14th century the building became a real khan with cells built on the inside of its outer walls. Although the khan was – again after an earthquake – partly rebuilt, it did not survive the 15th century when it was aban-



Castle. A pre-khan well with its well preserved plateau for bringing water into the irrigation canal.



Castle. Tomb cutting through the wall of the 1st khan.



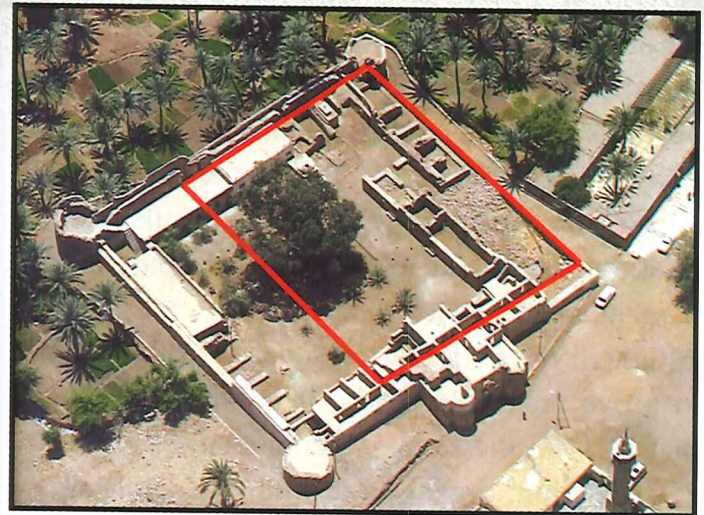
Project Name: Islamic Aqaba Project

Duration: 22/1/ - 6/3/2008

Director: Johnny De Meulemeester and Reem al-Shqour

Representative: Sawsan al-Fakhri

The "Islamic Aqaba Project" is a joint Belgian-French-Danish-Jordanian project financially supported by the Belgian University of Ghent and the French research Centre (CNRS, UMR 5648 in Lyon), under the direction of Prof. Dr. Johnny De Meulemeester and Drs Reem al-Shqour (University of Ghent, Belgium) with the logistical and scientific collaboration of the Department of Antiquities. International support comes further from archaeologists of the universities of Ghent, Copenhagen, Murcia, Lyon, Dublin and Toronto.



Castle. Location of the 1st khan on an aerial photograph of the castle

The aims of the Project

Parallel to the fieldwork (since 2000) an analysis of the historical sources has brought new light on the written history of the area and its castles. The main aim of this field season at the castle is to undertake an archaeological assessment of the khans prior to the actual castle and to get a better idea about the early Islamic settlement outside the town of Ayla. In Ayla the aims is to obtain a stratigraphical and spatial diagnosis before the start of open area excavation.

The Postulation

Ayla was severely damaged in the 1068 earthquake and parts of the city were probably abandoned from this moment on. Ayla was briefly occupied by the Crusader King Baldwin I in 1116-1117, but it was probably not until the 1150s or 1160s that a permanent Crusader military presence was established. The Crusaders probably gave the final blow to the early Islamic town. Subsequently, in Mamluk times the settlement, called al-'Aqaba (or Aqabat-Ayla) developed in the vicinity of the present castle, suggesting the possibility that an earlier fortification may also have been located there. There is no trace of a Crusader fortification on the mainland, the Crusader castle being located on Pharaon Island. But it seems logic that there was somehow a bridgehead and the Crusader could well have used the walls of Ayla to protect themselves too (as the Frankish lords did in NW-Europe with Roman fortifications). The standing structures of Aqaba castle, however, have a later Mamluk layout. It was clear from the previous seasons that more history lay buried beneath the castle courtyard than we could read from the standing structures.



Preliminary Conclusions

The excavation confirmed that the lower cylinder of the dome feature is subterranean. It therefore only makes sense that the sunken domed feature was dug at the same time or before its framing square 'room' and the rooms beyond.

The cultural deposit of pottery, bone, iron and glass on which Room B was founded may indicate the domed feature predates the surrounding rooms, that there was activity at the site before architecture. Alternatively, the cultural remains could have been deposited under the floor when it was laid. Access to and from the dome was certainly possible through the southern door of Room B in Phase II, and also still in use in Phase III.

With no access below the dome (because the cylinder is subterranean), the domed feature could not possibly have been a firm (kiln). It also does not make sense to have stored a liquid, such as olive oil, as it would be difficult to clean or maintain the tank. It is possible that some product, requiring cool storage (possibly olive oil), was stored in skins stacked in the domed feature, and hoisted in and out through an opening at the top of the dome. The processing of the product may have been carried out in the rooms surrounding the dome. The date and contents of the skin 'sack' found in Room D may help in determining the date of the structure and its product.

Until our pottery and other finds are closely analyzed any absolute phasing is not possible. Preliminary reading of the pottery suggests that the domed feature and rooms at least along the north and west were pre-Islamic, but that the complex (and dome) were used into the Islamic period.



Fig. 3: HUMAYMA 08_Room B_Phase II - III, looking S.



meters above the pavement we unearthed a partial leather object. Appearing to be some sort of sack, with a rope fitting and vegetal contents, the 'sack' was successfully lifted and is under conservation. Our macro botanical specialist will identify the contents; C14 analysis should provide a date with a 40-year +/- accuracy.

Most important to our objectives, we excavated below the lowest course of the southern wall of Room B to sterile soil and determined that the entire cylinder supporting the dome is and always was subterranean.



Fig. 2: HUMAYMA 08_Room D flagstone pavement.

Phase II

Phase II begins with the construction of a new set of walls directly on top of the older in at least Room B. A doorway in the southern wall of Room B at its western end was established (051), passing between Room B and the 'room' inscribing the dome (Fig. 3). The level of the threshold is approximately a meter above the top of the highest surviving course in the collapsed dome, and therefore it was likely at about the level of the top of the dome when it was still complete and in use. In other words, this door appears to have provided access to the dome itself (and therefore the storage inside it) via a floor surrounding the dome. The room was fitted also with arches (e.g. 045 and its support 041), a bench (048) just inside the doorway, and a bin (044). Arches were also established in Room D.

Phase III

Room A was created in the eastern part of Room B in Phase III, by constructing a north/south-running wall (018). There was a beaten earth floor associated with this latest wall, which appeared in both Room A and B. We guess that the construction of Wall 018 was an after-thought, and did not post-date the building of the arches (Phase II) by much. The last activity in the two rooms (A & B) was a huge fire, the centre of which must have been close to the centre of Room B. A solid layer of black ash, with a thick layer of grey/white ash above, covered the floor in Room B and came through the door in Wall 018 and into the area in front of the door and arch springers in Room A. It did not spread into the southeastern corner.

Phase IV

Room G is defined by a curious circular wall (101), which is only two courses high and curves, south and eastward. It is definitely later than Phase III in Rooms A & B, but unclear by how much. While the wall orients almost precisely towards Mecca, the unit is too big to be a mihrab.



Al- Humayma

Project Name: Excavation at Structure 72, Al- Humayma

Duration: 29 / 3 – 17 / 4 (excavation), 18 – 25 / 4 / 2008 (post excavation)

Director: R. M. Foote,

Representative: Sawsan Al-Fakhry

Three weeks of exploratory excavation in a new area of the Humayma archaeological site – at an anomalous large domed structure (No. 72, Fig. 1) – yielded remarkable if inconclusive results.

Located in the south of Jordan, just south of the al-Sharah Mountains, at the northern head of the Hisma Desert, Humayma has already yielded Nabataean tombs and a shrine, a Roman fort, five Byzantine churches and the early Islamic qasr and mosque of the Abbasid family have already been discovered and excavated since 1991 at this important multi-period historic site.

Five hundred (500) olive trees are reported at al- Humayma during the Abbasid family residence at the site during the late 7th - early 8th centuries A.D. (Akhbar al-Dawla al-Abbasiyya 1971, 144–145). Yet we have no direct evidence of this (e.g. an olive press), and the site today receives only 80mm of annual rainfall, a mere fifth of the necessary water quotient for growing the high fruit-bearing Mediterranean olive (*Olea europaea* L) in order to yield its full potential volume of fruit. Determining the original function of the curious domed feature, and whether it was related to local olive oil production or storage, drove the interest to carry out exploratory excavation at the site this year. The domed feature itself is too unstable to excavate only in part and we did not have the time or resources to excavate fully. Hence, we explored adjacent areas with obvious collapsed architecture in search of clues regarding its function.

The brief three-week exploratory season concentrated on clarifying and documenting the architectural plan of rooms surrounding the domed feature and excavating to original floor levels in rooms to the north and west, where collapsed walls most clearly extend from the 'room' framing the dome. We opened six areas, revealing seven rooms and preliminarily identified four phases of construction/reconstruction/occupation, followed by collapse and abandonment.

Phase I

Rooms B and D were both established in Phase I, using the northern and western walls of the 'room' framing the domed feature as their southern and eastern walls, respectively. Each room had a different character in its initial phase: the original floor in Room B was beaten earth, while the original floor in Room D was a handsome flagstone pavement (limestone and sandstone pavers) (Fig. 2). A few centi-



Fig. 1: Humayma 08_Structure 72_domed feature, looking E.



Field E128 contains a small mound originally probed in 2005 to reveal two mudbrick walls. Excavations this season revealed the entrance to a building, two exterior walls, and portions of six rooms. The walls were not as carefully constructed as the Nabataean walls in E077 and contained a mixture of construction materials suggesting they may have been pieced together from detritus lying around the site after some calamity. More specifically, the walls consisted of cobble foundations placed directly on orange sand with upper courses combining mudbricks of at least three different types and Nabataean ashlar blocks. The building was built after or during the 1st century AD, subsequently heavily damaged (as evidenced by a great deal of fallen mudbricks), then partially cleared out and reused at a higher level after or during the early third century, and then subsequently reburied by more fallen mudbricks, after which the area was reused as a dump for ash, animal bones, pottery, and other cultural materials, which date up to the six century AD.

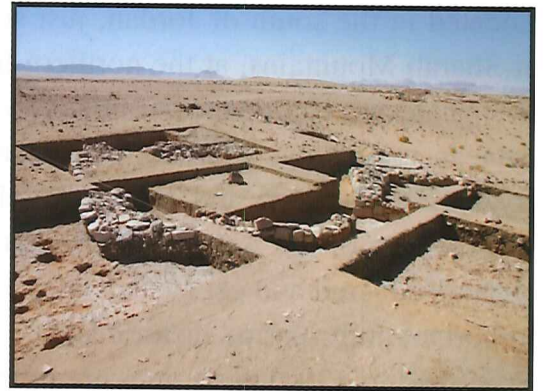
Excavation of Field E121 located just west of the west gate of the Roman fort revealed traces of three different structures: a hardpacked limey surface which is patchy and degraded but extends more than 10m N-S and more than 15m E-W across the excavated region, a square platform constructed of flat cobbles laid in ashy grey mortar over orange sand, and portions of two rooms and an open enclosure from a heavily robbed out structure built from cobbles in mudpacking. Preliminary analysis suggests the hardpacked limey surface may be Nabataean or Roman, the platform may be Nabataean or Roman, and the cobblestone structures are probably Byzantine. After the limey surface went out of use and before the Byzantine structures were constructed, the area was used as a dumping ground for ash and pottery.

Fields E129 and E130 are two related areas to the northwest of the Roman fort which were excavated in order to truth GPR data collected in 2002 which had suggested that three buried linear constructions would be located in this area. It was hoped that one would be either the Roman Via Nova Traiana or the earlier King's Highway. Excavation of 10 squares spanning more than 38m E-W revealed a much more complicated usage for this area than suggested by the GPR. It was however possible to identify three linear constructions, one of which was a very hard dried-out plough area, and the other two were hardpacked limey surfaces (such as in Field E121). The hardpacked soil with lime nodules seems to have been manmade and deliberately laid over orange sand to improve traction. Given that the same material was laid under the Nabataean walls in E077, the surfaces in fields E129 and E130 might be Nabataean, or Roman surfaces built using indigenous construction techniques.

The 2008 excavations have succeeded in collecting a great deal of information about Nabataean, Roman, and Byzantine Hawara. Excavation of Field E121 is now finished as is the truthing of the GPR data in Fields E129 and E130. Fields E077 and E128 will require further excavation next season to determine the plans of the Nabataean and Roman period structures. Next season other buried buildings, whose presence was suggested by the 2002 and 2003 GPR surveys, will also be targeted for excavation.



Buried Nabataean Walls



E 121 Overview



Humayma

Project Name: Humayma Excavation Project

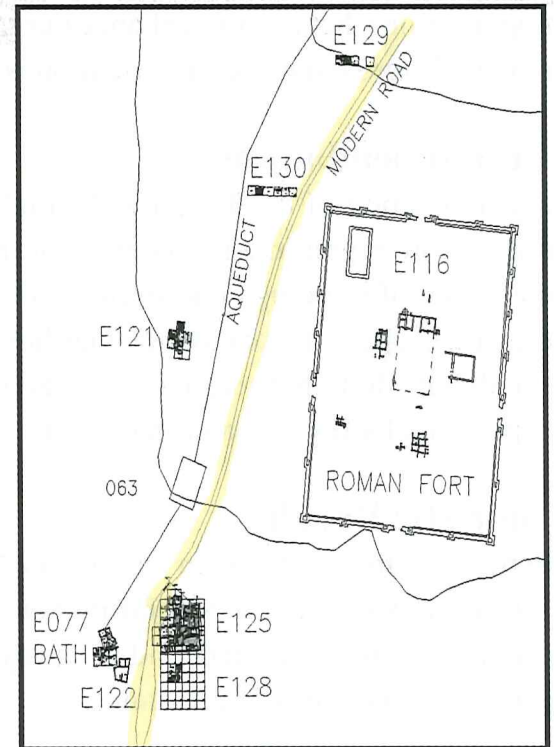
Duration: 4 / 5 – 17 / 6 / 2008

Director: Dr. M. Barbara Reeves

Representative: Amer A. Bdour

Humayma, ancient Hawara, is the largest Nabataean and Roman period site in the Hisma desert of southern Jordan. Two decades of archaeological work at the site (under the direction of John P. Oleson of the University of Victoria) have revealed much about the cisterns and aqueduct built in conjunction with the Nabataean town, as well as the Roman fort (established in the early 2nd century AD), five Byzantine churches (built in the 5th-7th centuries AD), and the Abbasid family's qasr and mosque (built in the 7th century AD). In spite of all this work, however, two fundamental components of the site's history remain poorly understood: the Nabataean and Roman period civilian communities. In 2008 a new cycle of excavations was begun (under the direction of M. Barbara Reeves of Queen's University) with the goal of investigating the character and extent of Hawara's Nabataean and Roman period civilian communities and, more specifically, to see how the nature of these communities changed as the Roman military presence at Hawara evolved. For the 2008 season, four different areas around the perimeters of the fort were targeted which, on the basis of past probes and GPR data, were thought to contain three buildings of different periods and an ancient road.

Field E077 contains a Roman bathhouse excavated in 1989. Probes done that year had indicated that the Roman bathhouse had been built on the foundations of a Nabataean stone structure. Since two decades of further excavations at the site had revealed that the Nabataean town had been robbed out or built over during the subsequent phases of the site's occupation, it was decided to reopen Field E077 to obtain further information about the Nabataean walls in this area. Excavations revealed traces of two different Nabataean buildings sitting on hard packed soil with lime nodules. All of the walls had been robbed out, often so that only a single course of ashlars (or no ashlars) remained over the foundation cobbles. Presumably the missing stones had been carted away for construction of the Roman fort. Over the robbed out walls up to 1.30m of fill had accumulated corresponding to several different phases in history of the later bathhouse as ash was dumped from the hypocaust and the bathhouse was renovated.



Humayma 2008 Excavated Areas



Mudbrick Walls and Tumblein E 128



Conclusions

The 2008 season at Turayf al-Maragh has shown that the southern part of Wadi Ramm is even more complex than we demonstrated in 2007. The variability in the architecture and probable functions of the buildings and features remains enigmatic and open to considerable speculation, but they also reflect surprising aspects about the lives (and deaths) of prehistoric pastoral people whose presence in the valley goes back several thousand years. The Turayf al-Maragh research has confirmed the rich opportunities that exist to enhance our understanding of these elusive groups, and a wider geographic range of more intensive investigation is clearly demanded.

Recommendations

A continuation of the Turayf al-Maragh project is obviously necessary, including the excavation of many more representative samples of the structures to obtain a clear dating framework for the various kinds of buildings that occur in the embayment and in the greater Wadi Ramm area, including the larger open-air sanctuaries that have been known for more than 60 years. The 2008 team was small, but additional seasons of research must include greater numbers of excavators, surveyors, and experts, including human osteologists, paleoenvironmentalists, and geomorphologists.

Touristic Benefits

In the near future, museum exhibits in Amman, Aqaba, and in Wadi Ramm itself would increase the appeal of Wadi Ramm beyond its raw geographic beauty to an intriguing explanation of the ways people have used the stark and (to many outsiders) “forbidding” desert to prosper from generation to generation over tens of millennia.



4. Other. A unique structure (Feature 3) included three bins or compartments along the western side of the circular room, the largest of which was covered with a single slab of stone that measured c. 75 x 85 cm. This was a suspicious element of the architecture, and we considered that it was possible that the slab covered something buried beneath it. In preparation for taking an OSL sample from beneath the slab, we had to excavate a small trench on the eastern side of the compartment to a depth that would permit us to pound the 30 cm aluminum pipe into the sandy sediment. This led to a major surprise: we encountered a pavement of sandstone pavers about 8-10 cm below the modern surface, and this took some time to expose and record before the excavation of the compartment could proceed (Fig. 4). Once the drawing of the paved surface was finished, we were able to take the OSL sample under the slab, after which we lifted the slab, a single piece of sandstone varying from 5 to 8 cm in thickness (Fig. 5). We excavated a narrow trench (25 cm wide) from the eastern edge of the compartment to the opposite side, about 75 cm to the west; the depth of the trench was 26 cm, which equaled the height of the sandstone pavers set on edge to delineate the compartment. We found nothing inside this chamber except sand, disturbed in the upper 5-10 cm by burrowing insects; no artifacts, no bones, no stains. The purpose of the compartment remains a mystery.

5. Finally, a puzzling arrangement of paving stones and small polygonal “chambers”, probably Nabataean in age, was located a few meters to the NE of F14. Part of the pavement was badly disturbed by discarded rocks, and this has added to problems in the interpretation of this feature, F15; it is unlikely that this is associated with a residential purpose, but it is not out of the question that it is associated with F14.



Fig. 4: Feature 3 after the pavement was exposed (cf. Rollefson and Matlock 2007: Fig. 12). The compartment with the large cover slab is to the left of the pavement. (Photo: G. Rollefson).



Fig. 5: View towards the north of the compartment in F3 whose cover slab has been lifted (left) after an OSL sample was extracted (the small hole in the center). (Photo: G. Rollefson).



One particular objective was to intensify the examination of a structure we termed F3, a circular room defined by standing stones that included a “compartment” dominated by a single slab of stone across almost all of the interior of the compartment.

Area Explored this Season

We continued to focus our attention on the country 2.5 hectares explored during the 2007 season. In addition to revisiting some of the 44 structures found in 2007, we noted two more structures that had been exposed as a consequence of erosion due to high winds in the intervening year.

Significant Results

- 1. Dating samples.** Since neither artifacts nor charcoal were associated with any of the features investigated in 2007 and 2008, we extracted OSL samples from several of the structures to help resolve the chronological relationships of the different features. OSL samples, which are used to measure the amount of elapsed time since sand/quartz grains have been protected from sunlight, were taken from several structures recorded in 2007: three of the “stone pathway” features (F2, F5, and F6); from Feature 7, a ritual shrine/platform; from the north wall of Feature 9; and from the compartment in Feature 3. From the 2008 structures, one OSL sample was taken from Feature 10.
- 2. U-shaped structures.** Two new U-shaped structures were found that were not included on the original map produced after the 2007 season. One of these we called Feature 16 (F16), whose axis of architectural symmetry is generally oriented towards the north. Another new U-shaped structure we designated F10, which is oriented towards the south (Fig. 1). Both of these were cleared, drawn, and added to the map. Three other U-shaped structures mapped in 2007 were cleared and drawn, one oriented to the north (S31, now designated F12) and the other two to the south (S30, now F13, Fig. 2) and S25, now F14.
- 3. Rectangular structure (Fig. 3).** One building located in the 2007 season (S24, now designated F11) appears to have had a considerable history of use. The structure evidently began as a simple U-shaped structure oriented towards the south, but sometime later a new rectangle was constructed inside the former U-shape; this newly inserted feature included three standing stones in the SW corner, as well as a single standing stone in the SE corner and another standing stone in the center of the east wall. A third use included the importation of several large rectangular stones to create a four-sided space in the SW corner, although what this modification represents is not known. Finally, the SW corner was excavated to near the bottom of the standing stones in the recent past, probably for use as a wind break in view of the presence of a black plastic bag and fragments of a green plastic yogurt container.



Fig. 3: Feature F-11, an older U-shaped structure later converted to a rectangle that included three standing stones in the SW corner (Upper right). (Photo: G. Rollefson).



Turayf al-Maragh

Project Name: Late Prehistoric Wadi Ramm Project

Duration: 7/16 - 5/7/2008

Director: Gary O. Rollefson

Representative: Abdullah Rawashdeh

Geographical location and Historical Background

Turayf al-Maragh is a small embayment at the base of the southern end of Jabal Umm 'Ishrin in Wadi Ramm. Wadi Ramm's popularity with the general public rests principally on its spectacular sandstone landscapes and as one of the locations associated with the Great Arab Revolt. Archaeological interest has long focused on a small Nabataean temple at the foot of Jabal Ramm, and more recently some attention had focused on a series of more than 200 open-air sanctuaries that presumably date to the Late Chalcolithic to Early Bronze Age and a small PPNB camp near "Lawrence's Spring". A short campaign was undertaken in 2007 to identify, clear, and map a series of what appear to be ritual structures of as yet unknown age.

Objectives of the Project

During the 2007 season, as a contribution to the Joint French-Jordanian Wadi Ramm Project, a total of 44 structures was mapped in an area of only country. 2.25 hectares near the southern end of the west face of Jabal Umm 'Ishrin. Due to the limited amount of time and the size of some of them, only nine could be cleared of drift sand and described in some detail. The absence of any associated artifacts with the structures made it impossible to date them, and we hoped in the 2008 season to obtain suitable dating samples. We also wanted to increase the number of detailed descriptions of other structures in the area to see what patterns of architecture, orientation, and internal variability may be present among the structures.



Fig. 1: Feature 10, a U-shaped structure oriented to the S. The center stone in the south wall (back) has a series of tiny pits carved into the surface. (Photo: G. Rollefson).



Fig. 2: U-shaped structure F13 oriented to the south; note the stones and cobbles "discarded" into the interior after its initial purpose was abandoned. (Photo: G. Rollefson).



fill of organic rich sediment. We have yet to determine their precise relationships, and how many were in active use at the same time.

One pise walled structure appears to have been deliberately filled with pise blocks, levelling the surface. This has preserved a deep building, with a mud floor in excellent condition. There are a number of structures that have been cut and truncated, apparently to create space for depositing rubbish to form a large midden. Previous work had suggested that rubbish disposal was a carefully managed process, providing an interesting insight on an



PPNA House

important issue in early sedentism. Much of the midden material has been excavated, producing vast samples of bone and flint. Preliminary assessment suggests that the flint assemblage is rather different from material previously recovered within the structures. If this proves to be the case, it will support our previous argument that the nature of PPNA assemblages may often be different due to functional and spatial variation across a site, and not because of ethnic or cultural divisions. The bone assemblage will be very useful to help resolve issues regarding the economy, and the level of herd management practiced by PPNA settlers.

A substantial number of burials have been located and excavated. These inevitably slowed the overall rate of progress, but the sample of PPNA human remains will form an important resource for studying PPNA populations. Various patterns appear to recur within the burial data. Burials consist of either primary burials, with the remains in a very tightly flexed position (possibly with hips dislocated to achieve the tight position) and the head resting on one hand, or skulls associated with bundles of rearranged bones. We appear to have more evidence suggesting skulls may have protruded above floor levels. Many burials lie within buildings, often near a groundstone cuphole mortar, in a similar arrangement to that previously identified in evaluation trench 2. A number of other burials are placed through the pise walls, and it is tempting to see the floor level burials as relating to the foundation and maintenance of the buildings, with the burials cutting the walls relating to their end of use.

The entire trench has been protected by plastic sheeting and partially backfilled, to await next year's excavation season.



Wadi Faynan

Project Name: Excavations at Wadi Faynan 16

Duration: 10 / 3 – 19 / 4 / 2008.

Directors: Bill Finlayson, Steven Mithen, Mohammad al-Najjar

Representative: Haroun Amarat

This was the first season of a new excavation project. The site of Wadi Faynan 16 (WF16) was identified within the Dana, Faynan, Ghuwayr Early Prehistory Project, and initial trial soundings during that survey project identified the site as an important Pre-Pottery Neolithic A (PPNA) settlement in southern Jordan, currently dated to between 11,600-10,200 cal BP. The new project is intended to answer a number of important research questions by opening a substantial area of the settlement, and to develop the site as part of the Neolithic Heritage Trail to run from Faynan to Bayda.



PPNA Village

Excavation is being conducted by stratigraphic context with 100% dry-sieving of all excavated contexts through a 2mm mesh, a 10% sampling of contexts by flotation and selected sampling of deposits for geochemical, micromorphological, phytolith and other forms of microscopic analysis. A key part of the excavation is an extensive sampling of plant macrofossils for a major AMS dating programme to enable a detailed understanding of the chronological development of the site.

A number of preliminary observations can be made after the first season:

- 1) Preservation in the upper part of the site profile has been remarkably good.
- 2) Opening the single large trench has fulfilled our objective to expose a significant part of an early Neolithic settlement. In particular, the area around our former Trench 1 has revealed a large number of pise walled structures.
- 3) The large area has also exposed large areas of midden, combining organic rich waste with discarded flint and activity areas.
- 4) A large number of burials have been found. These are mostly PPNA in date, although there are two Roman burials.

Exposing a large area of the settlement was a key objective. A network of structural remains has been found and planned, and excavation of a number of buildings has commenced. Some key features that have emerged include the appearance of some pise walled elliptical shaped buildings. Several of these are being excavated in quadrants and spits. We have found a remarkable collection of the bones of birds of prey on a floor level in one building. We also have some more circular pise walled buildings, one of these has a hearth modelled in mud, reminiscent of the plaster hearth features build in the PPNB structures at Shkarat Msaied. All of these structures appear to have been filled with a mixed



predominated in the Late Roman period (and therefore was contemporary with the Roman occupation at Bir Madhkur). Furthermore, because it has been shown at Petra and elsewhere that these agricultural systems can be rehabilitated, the project's results should provide more data on whether the same systems in Wadi `Araba can be restored, which would significantly improve living conditions for the indigenous Bedouin population.

In conclusion, the 2008 season was highly successful, and the results have shown that more work at Bir Madhkur and in the vicinity is both warranted and necessary. Accordingly, the project plans to return to the field to continue with the survey of the agricultural systems. In 2010, a second season of excavation and survey is then planned. In 2007 the Project Director submitted a detailed plan to develop Bir Madhkur into a small archaeological park to complement the Petra Archaeological Park. The Bir Madhkur Archaeological Park would be supported largely by restoring the ancient Incense Road that once connected Petra and Bir Madhkur. It now appears that interest in this plan is progressing.



Fig. 4: Image showing Excavation of Late Roman Farmhouse.



begin documenting and mapping the ancient agricultural systems in the vicinity of Bir Madhkur.

Excavations at Bir Madhkur focused in three areas. First, two trenches were laid out along the damaged north wall of the fort (Area A) in order to identify the location of the gateway. Instead of a gateway, excavation revealed a small doorway that would have provided convenient access to the area of the wells. It is now believed that the gateway lies along the east wall of the fort. The second area targeted was the presumed bath complex, where the project laid out three trenches. Excavation here revealed important evidence that this is indeed a bath complex.

Tiles and pipes were documented in abundance, and it seems probable that the latrine was found in one of the trenches. The third area targeted at Bir Madhkur was an isolated structure immediately to the south of the fort. Four probes were conducted to determine the function of the building, which remains uncertain and awaits further analysis.

In addition to the site of Bir Madhkur, the project examined the major caravan stations in the region, including Khirbat as-Sfaysif, Qasr Wadi at-Tayba, and Khirbat Umm Qantara. The project established datums at the first two of these sites to facilitate work in future seasons. At Khirbat Umm Qantara, the project examined a small birkat, or water reservoir adjacent to the caravan station. The goal was to determine the capacity of the reservoir. Because all of the walls are visible on the surface, and a probe was excavated to determine the depth. Although the project had secured all of the necessary clearances, work at Khirbat Umm Qantara was halted due to administrative obstacles. While the excavations were progressing, a detailed map of the site was made to document stone-by-stone all existing architectural elements. This was conducted in part to facilitate the excavations and also reflects the project's deep concern for cultural heritage and for preserving the site of Bir Madhkur for future generations.

Finally, the project began intensive survey and mapping of the agricultural systems in the vicinity of Bir Madhkur. The project's goals are to determine the nature and extent of the agricultural activity in the region in relation to the settlement history at Bir Madhkur. Accordingly, in addition to documenting the terraces, field walls, and other hydraulic installations, the project began documenting the many farmhouses in the region. In particular, an excavation probe was conducted at one of the farmhouses closest to Bir Madhkur. Importantly, this allowed the project to identify that the agricultural activity

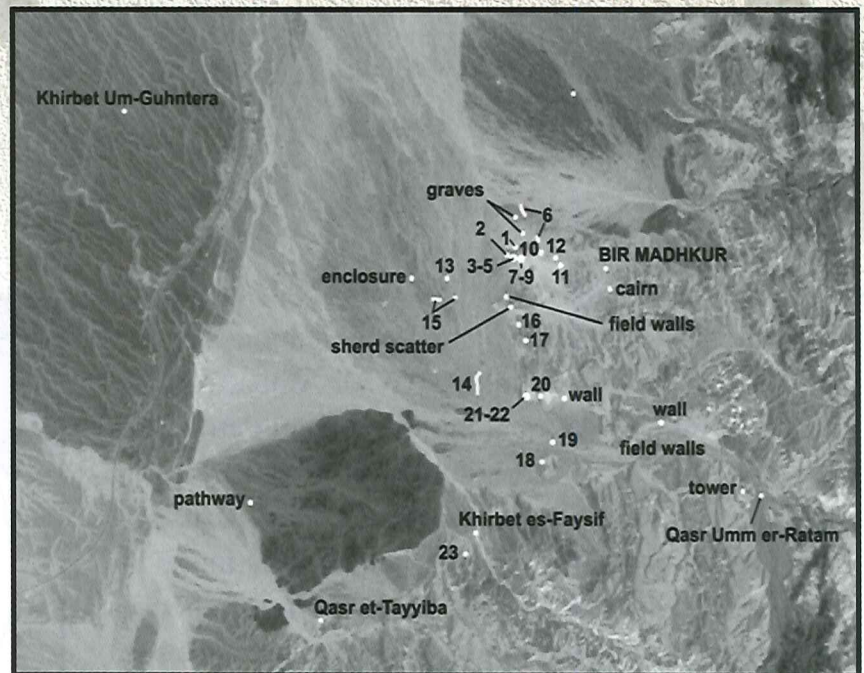


Fig. 3: Regional showing results of the 2003 season of the BMP survey.



Bir Madhkur

Project Name: Bir Madhkur Project

Duration: 16 / 6 – 20 / 7 / 2008.

Director: Andrew M. Smith II

Representative: Mohammed Zahran

Bir Madhkur, occupied between the Nabataean and Byzantine periods, is a principal way-station and military outpost in the foothills of Wadi Araba, roughly 15km northwest of Petra along the ancient Petra-Gaza trade route (Fig. 1). The main features of the site are a Roman fort, a domestic settlement, and perhaps a bath (Fig. 2). In addition, numerous sites lie in the vicinity of Bir Madhkur, which range from farmhouses and campsites to larger caravan stations that once supported the ancient trade that passed through the region (Fig. 3). Ultimately, the range of site types suggests intense interaction between non-indigenous (soldiers and traders) and indigenous (pastoralists and farmers) people. One focus of the Bir Madhkur Project is to examine the nature of the social, economic, and cultural interactions that once took place at the site and in the region.

Before the Bir Madhkur Project, the site and the region around the site had received little archaeological attention, no doubt because of the harsh environmental conditions and the difficulty of launching a project in such a remote sector of Wadi 'Araba. Since 1997, the Project Director has conducted limited fieldwork, primarily survey, at Bir Madhkur. Seasons in 2005 and 2007 enabled the first full season of excavation and survey in 2008. Although the project was logistically difficult the results were excellent. The objectives for the 2008 season were: 1) to begin excavations at Bir Madhkur and to conduct soundings at regional caravan stations (Khirbat Umm Qantara, Khirbat as-Sfaysif, and Qasr Wadi at-Tayba) in order to understand the ancient trade through the region; 2) to begin mapping the site of Bir Madhkur for historic preservation; and 3) to

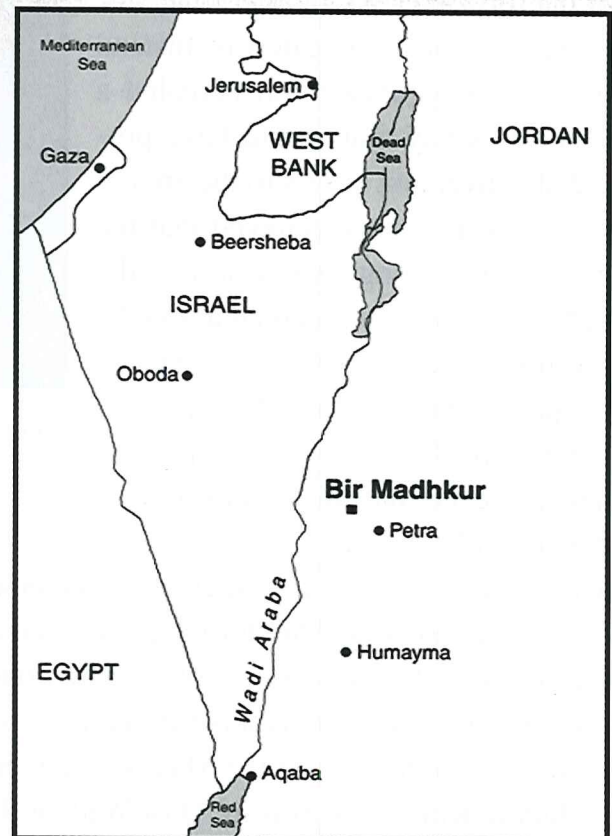


Fig. 1: Regional map showing location of Bir Madhkur.



Fig2. : Image of Bir Madhkur.



South of Jordan.

Project name: Surveying and Studying at the South of Jordan.

Duration: 19 – 20 / 7, 26 – 27 / 7, 1 / 8 – 1 / 9 / 2008.

Director: Autumn Whiteway

Representative: Hyeam Twassi and Samia falahat

Survey Work

My Ethnoarchaeological research was conducted with various Bedouin tribes of Jordan regarding their mortuary practices. I conducted interviews with 26 men and 26 women from various tribes throughout Jordan. Due to the high degree of recent Islamic influence, particularly with women (who are not allowed to visit the grave or take part in the burial), I mainly interviewed older individuals regarding past practices. There seem to be some regional variation that accounts for differences in responses. The data may be affected by the small sample size of 52 individuals. The informants ranged between the ages 28-92.

Many informants were unsure of their age and many individuals supplied estimated ages. Informants were interviewed in the following areas of Jordan : Wadi 'Araba, Wadi Rumm, Dilagha, Rajif Jafir, `Amman, Ruawyshed, Azraq, Safawi, Irbid. I also conducted surface survey of Bedouin cemeteries and traced camel caravan stop in the areas of Humayma, Jafir, little Petra, Wadi 'Araba, Wadi Rumm and `Amman.

Inscriptional evidence of camel caravans was photographed at Wadi Rumm, Azraq, and Safawi. GPS waypoints were taken at all locations of my research and will be plotted on map using google earth to look for trends in caravan related locations and the landscapes selected of graves.





even if it suffered a certain degree of loss due to evaporation and infiltration, it is thought to have easily sustained a few months' stay of a few dozen transhumants (5 liters x 100 days x 20-30 persons = 10-15 cubic meters). They could have saved some water for their livestock.

Our investigation results confirmed that the Neolithic outpost of Wadi Abu Tulayha was equipped with a large cistern in addition to three barrages. It was quite unexpected that the Jafr pastoral Neolithic was based on such a systematic water exploitation strategy. This is the earliest comprehensive water catchment system known in the world.

Tourism Potential and Recommendations

The site of Wadi Abu Tulayha itself is highly interesting and fairly spectacular considering its early date. However, for the time being, touristic use of this unique site seems unfeasible due to difficulties in access. What we must cope with instead is continuous site-destruction activities by local thoughtless persons. In order to keep the potential of the site and its surrounding area as a future historical desert park of Jordan, it is highly recommended that the authorities concerned should embark on further materialization of relevant regulations and, at the same time, more intensive education for the precious cultural heritage of their native land. This is indeed an urgent issue, considering that the large-scale land exploitation, phosphate mining in particular, threatens to completely erase irreplaceable archaeological sites in the area including Wadi Abu Tulayha.



Of particular interest is a stone figurine found at Unit 48, which gives us a glimpse of an ideological aspect of the remote outpost (Fig. 2).

Neolithic Cistern (Area W-III)

The continued excavation at Area W-III revealed an overall picture of a large composite semi-subterranean structure that first came to light in the last season (Fig. 3). It is now evident that the structure, constructed by means of digging through ca. 1.5 m thick limestone bedrock layers as well as overlying silty sand deposits ca. 0.5 m thick, served as a cistern for supplying drinking water to the neighboring Neolithic outpost. Evidence for the date comes from the stratigraphic correlation between the two and the occurrence of diagnostic flint and limestone implements from the floor level. Radiometric dating, now in progress, will hopefully further support for the perspective.

The functional identification is also based on a wide array of collateral evidence. To begin with, digging a 2 m deep pit beside a wadi bed is suggestive of its use as a water catchment facility. This is even more so because the pit is dug through the impermeable limestone bedrock layers up to ca. 1 m in total thickness. Another line of evidence derives from the unique masonry technique where peripheral retaining walls covered the upper permeable half only, leaving the lower impermeable half exposed. In addition, both the total absence of hearths and ashy deposit on the original floor and the scarcity of finds other than flint artifacts are also in favor of the functional identification suggested above. This field season added further evidence, which includes a nesting waterhole or sludge tank at the base of the central room, an intake channel probably doubling as an entrance to the central room, and a unique water-proofing work confirmed at the western room. Taken together, there is little doubt that the structure was used as a cistern.

The composite cistern, c. 15 x 3-4m in floor size and c. 1m in total depth of the impermeable limestone layers, is able to reserve up to c. 50-60 cubic meters of drinking water, a sufficient volume for the livelihood at the seasonal outpost. Even if it witnessed a dry year when the storage was only half of the maximum value, and



Fig. 3: Neolithic Cistern (from E).



Fig. 4: A Close-up View of the Central Room (from N)

**Wadi Abu Tulayha****Project Name: Jafr Basin Prehistoric Project (Phase 2)****Duration: 2 / 8 – 18 / 9 / 2008.****Director: Sumio Fujii****Representative: Ashraf Rawashdeh****Introduction**

The sixth field season at the PPNB agro-pastoral outpost of Wadi Abu Tulayha (JF-0155) focused on a continued excavation at the two major operation areas (Area E-III and W-III) that hold a key to the occupational history and water exploitation strategy of the remote outpost.

Neolithic Outpost (Area E-III)

The continued excavation at Area E-III was intended to further scrutinize the occupational sequence of the outpost that consisted of eleven structural complexes. The excavation revealed a beehive-like structural conglomerate (Complex 00) composed of a few dozen semi-subterranean masonry structures, a unique settlement form common to Middle PPNB sites in southern Jordan (Fig. 1). It was also confirmed that the occupational sequence of the complex falls into at least four phases: Phase I represented by Unit 48 and 49 both constructed nesting in a large pit; Phase II exemplified by Unit 39 and 42; Phase III consisting of Unit 47 and reused Unit 39 and 42; Phase IV containing Unit 38 and two units connected with it through narrow passages. Although C14 data are yet to be available, a series of archaeological evidence suggests that this part of the outpost dates back to the MPPNB or the early half of the seventh millennium uncal. B.C.

The complex yielded a large number of stone products including chipped flint artifacts, grinding implements, heavy-duty digging tools, stone vessels, stone weights, whetstones, cosmetic palettes, and game boards.

In light of the frequency of hunting weapons among lithic artifacts and the predominance of wild animal bones such as gazelles and hares among faunal remains, it appears that the outpost was used primarily as a seasonal hunting station. It should be added, however, that the management of the outpost itself was based on a limited scale of transhumance and basin-irrigated agriculture, both evidenced by faunal and floral analyses as well as the occurrence of relevant artifacts such as querns and sickle elements. The finds also included a small number of bone tools, adornments, pigments, and small clay objects.



Fig. 1: Wadi Abu Tulayha: Complex 00 and its surrounding features (from W).



Fig. 2: A Stone Figurine from Unit 48.



Umm Saysaban

Project Name: Archaeological Expedition to Umm Saysaban in 2008

Duration: 8 – 17 / 9 / 2008.

Directors: Melanie Langbein M.A and Elisabeth Schreyer

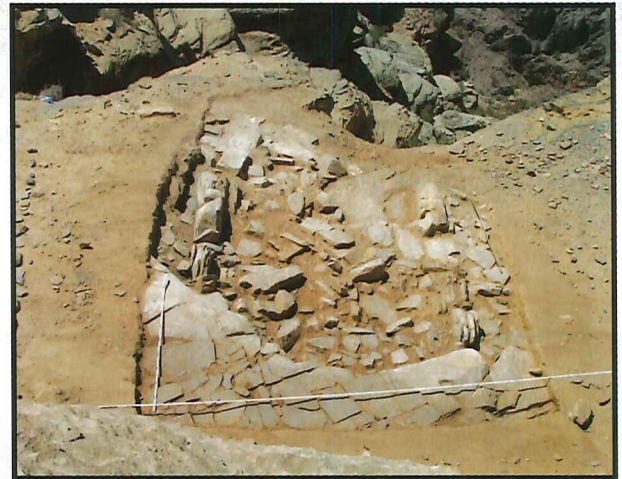
Representative: Sati` Massadeh.

The main goal of the archaeological expedition to Umm Saysaban in 2008 was to excavate a building in a bottleneck position. Four members of the German Society NHG and four to five local workers unearthed the building, which was visible on surface before the excavation started.

Only two of the former at least four walls were discovered. The Western wall most probably was destroyed by the same earthquake that ended the settlement in Early Bronze Age. The Eastern wall might just have consisted of now gone bricks made of clay. Both the North and South walls were built of large, unworked stones without mortar. The highest point was 60 cm above the bedrock. The measurement was c. 4 x 3.5m.

The floor showed a hole, most probably for a pole to sustain the buildings roof. Inside the building were approximately 5-7 broken storage jars. The sherds of them were kept separately as far as possible. In addition there were some tools made of flint and a quern for making flour. In addition to the excavation some large storage jars were saved from being destroyed.

Some surveys were made in the area: it is most likely, that some nearby tombs belonged to the settlement. The number of houses which can be spotted is increasing; the settlement is more likely to be seen as a small city than as a village. Also there is a strong fortification on the way up from Nordeast.



The House after removing the uppermost layer of soil: The rubbish might result both from the earthquake that destroyed the settlement and falling down rocks (from East).



The house after removing the rubbish: where possible, sherds were left in situ (from East).



The house after removing sherds and other findings (from East).



The house from the Northeast



and melting sites, as well as more burial grounds of the Late Chalcolithic / EB.

Tourism Aspects and Recommendations

For the time being, the area is too remote to be subject of tourism, but its rich paleontology (e.g. petrified forests) may make it a candidate for a future natural history park of Jordan. Professional paleontological research is within the purview of our project, as well as other scientific research dedicated to certain other questions to this deflated warm desert environment. A big problem is the continuing looting of graves by the local Bedouin, for which no other recommendations than educational measures can be suggested. Recent illegal archaeological surveys in the area need to be approached by the Jordanian authorities.

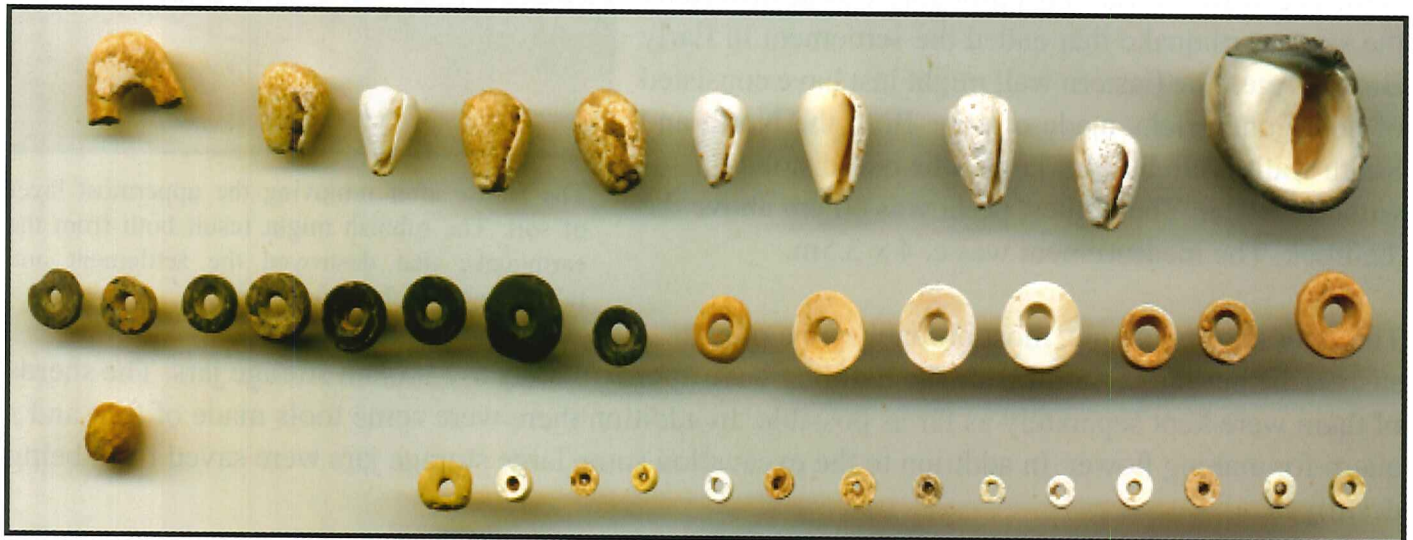


Fig. 5: Qulban Bani Murra: Beads from the looter's back dirt of Grave E44. (photo: H.G.K. Gebel)



Areas Explored this Season, Significant Results and Conclusions

The investigation of the hydrological setting of Qublan Bani Murra revealed that the major aquifer of Wadi as-Sahab al-Abyad was joined by two local aquifers immediately upstream of the well structures; in addition, this favoured situation must have been supported here by an underground structure that pressed groundwater near or temporarily onto the wadi surface (Patrick Keilholz, pers. comm.). One of the more than seven well structures, placed on the small mounds in the wadi floor, was partly excavated: the ground plan (Fig. 1) includes a well "room" with the well's mouth, to which stone-paved curvilinear and tongue-shaped rooms were attached. The excavation of the well shaft did not reach its bottom (4.4m): its upper part (1.2m) is corbelling masonry (Fig. 2), which rests on solid wadi deposits in which small cavities served as steps/ ledges/ supports. The vertical shaft is some 1.2m in diameter. The paved rooms, which must have been water basins to feed the livestock, were lined by upright (0.5m) standing stones, and they had their highest point close to the well's mouth.

All burials at Qublan Bani Murra were probably subject to looting in ancient and modern times, and repeated looting appears to be common. Of these, the megalithic Structures C4, E1, E5a-c, E52 (Fig. 4) were excavated for any remaining archaeological and architectural information; the looters' back dirt was screened and searched for human bones and grave inventories (including E44). Except for the horse-shoe structures E5b-c (Fig. 3), all these graves belong to the single-chamber type with ashlars marking them on their NE-SE sides. In C4 parts of the collective burials were preserved in the main chamber and attached smaller chambers. In the back dirt many beads were found, mostly made of *Conus* sp. and *Dentalium* sp., a black and whitish mineral, and carnelian (Fig. 5); probably animals were also buried in C4. Test trenches in Structure A23a-24a clarified the latest use of the circular structures that form a 130m long chain in Area A. Interior stone pavements and chipping floors were found with chips that appeared to result from shaping the fan scraper edges, as well as animal bones, and a domestic use in that phase of the building is probable.

Non-systematic surveying in the greater area located another petrified forest (Forest III), iron mining



Fig. 3: Qublan Bani Murra: Horse-shoe structures E5b-c next to Chamber Grave E5a. (photo: H.G.K. Gebel)



Fig. 4: Qublan Bani Murra: Chamber Grave E52. (photo: H.G.K. Gebel)



Qublan Bani Murra

Project Name: Eastern Jafr Joint Archaeological Project

Duration: 6 – 20 / 6 / 2008.

Directors: Hans Georg K. Gebel and Hamzeh Mahasneh

Representative: Talal al-Amareen

Location, Historical Background, Objectives of Season

The third season of the Eastern Jafr Joint Archaeological Project concentrated on excavations and survey at the Late Chalcolithic/ Early Bronze Age site of Qublan Bani Murra. Major work objectives were the excavation of one of the well structures in the wadi bottom, the architectural investigation of looted megalithic graves, and the functional understanding of a 130m long chain of round structures in Area A. In addition, investigations of the hydrological and sedimentary environments were carried out, as well as drawing and mapping in the c. 2km² site. Surveys in the vicinity yielded more burial grounds beyond the Qublan Bani Murra's core (Areas A-F), making the project now one of a sepulchral landscape.

The site of Qublan Bani Murra is testimony to a hitherto unknown "green desert culture" flourishing around 4000 BC during a Mid-Holocene climatic optimum; the site most probably was the ceremonial and sepulchral centre of complex mobile herding societies. It appears to represent the regional expression of a megalithic Mid-Holocene green desert horizon stretching from the western Maghreb via the Negev to Yemen (Gebel and Mahasneh n.d.). Qublan Bani Murra is located in Wadi as-Sahab al-Abyad north of Jabal Tubayk, at a distance of 15 km NNW of the Saudi border and c. 120-130 km E of al-Jafr.

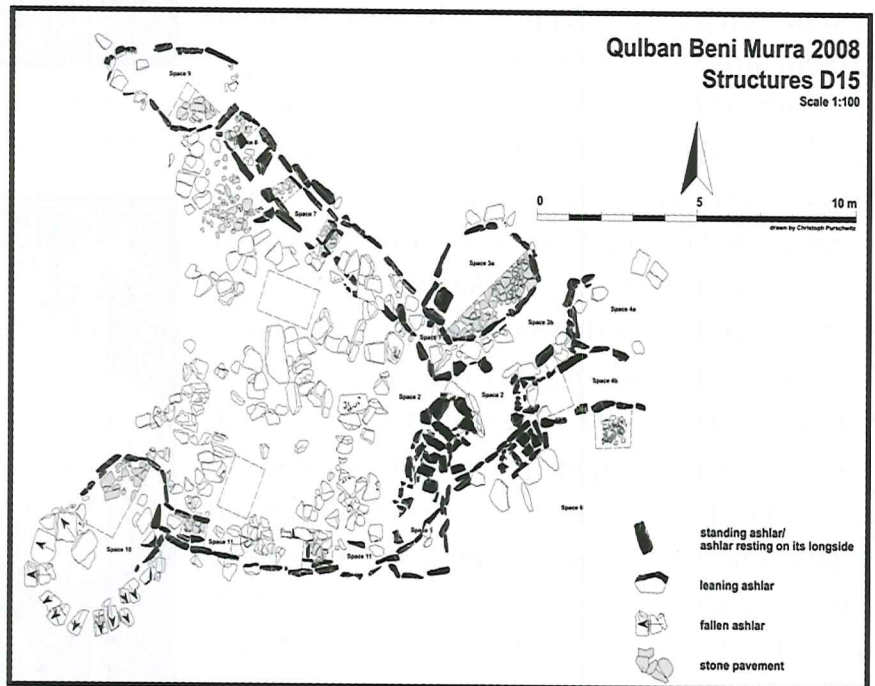


Fig. 1: Qublan Bani Murra: Ground plan of Well Structure D15. (drawing: C. Purschwitz)



Fig. 2: Qublan Bani Murra: Corbelled masonry of well D15 from inside the well. (photo: H.G.K. Gebel)



we hope to build a detailed picture of the experience of war on the Ottoman Army's 'Arab front'.

Work also took place on the escarpment overlooking Wadi Batin al-Ghul, where a substantial Ottoman fort, known to us as Fassu'ah Ridge, is located. The fort is likely to be of medieval origin, and comprises two main elements: a roughly oval enclosure surrounded by a low wall of drystone masonry; and a substantial courtyard building inside the perimeter, located at the highest point on the site.

The entire complex shows evidence for extensive remodelling in the Late Ottoman period, with secure dates for these late phases provided by abundant artefacts recovered in excavation. The modifications included an intermediate line of trenches faced by low breastworks around the main courtyard building.

Other Late Ottoman military sites were located further along the Batin al-Ghul Escarpment. Four distinct clusters of features were identified. Fassu'ah Central comprised ruined blockhouses, breastworks, a probable machine-gun post, and tent-rings. Fassu'ah Mule-lines comprised an area of clearance where mules were tethered, a feeding trough, and further tent-rings. Fassu'ah West was an encampment formed of numerous tent-rings plus a military oven. Fassu'ah North was yet another tent-ring encampment. These posts, scattered across the escarpment, seem to have been designed to cover approaches to the railway, to Fassu'ah Ridge fort, and perhaps also a water-supply route to Aqabat-Hijaz a few kilometres to the north.

Overall, it seems likely that Batin al-Ghul was the single most important Ottoman military base between Ma'an and al Mudawwara during the First World War. With approximately 100 tent-rings at the station, and perhaps a similar number again on the escarpment, the area may have accommodated a thousand or more troops. If it acted as the main base for other garrisons strung out along the line of the Hijaz Railway, then Batin al-Ghul may have been the headquarters of a regiment (equivalent of a modern brigade) or even a division (especially allowing for the fact that Ottoman units were severely under-strength in the later phases of the war).



The perimeter wall at Fassu'h Ridge fort. The outer bank was sampled and the finds recovered proved that it dated to the Late Ottoman period.



The international team – including Britons, Jordanians, Americans, and an Australian – inside Fassu'ah Ridge fort. The Australian ambassador, fourth from the left, was a visitor.



Batin al-Ghul

Project Name: The Great Arab Revolt Project

Duration: 11-27 / 11 / 2008

Directors: Neil Faulkner, Nicholas J. Saunders, and David Thorpe

Representative: Bader al-Edwan

The Great Arab Revolt Project (GARP), a planned ten-year project to investigate the Arab Revolt of 1916-1918 through its material remains, carried out its third season with a Bristol University team of 29, supported by colleagues from the Al-Hussein bin Talal University, used field reconnaissance, GPS survey, metal-detector survey, standing-building recording, and sample excavation to investigate a complex of sites in the Batin al-Ghul area, approximately 55 km south of Ma'an.

Batin al-Ghul lies on the major north-south communications line followed by the former Syrian Hajj route, the Hijaz Railway, and the modern desert highway. It is located at the point where a steep escarpment drops from the upland plateau formed of limestone and basalt into the sand desert represented at this point by Wadi Batin al-Ghul and Wadi Rutm. GARP's work over the last three years has focused especially on a study area defined by three former Hijaz Railway stations in this area – Wadi Rutm (60 km south of Ma'an), Batin al-Ghul, and Aqabat-Hijaz (50 km south of Ma'an).

The whole area was intensively militarised by the Ottoman Army during the Arab Revolt. Detailed work at Batin al-Ghul this year has confirmed the scale of Ottoman military activity. Reconnaissance work located the site of the now largely demolished Late Ottoman station, and also traced the line of the former railway embankment. Both features have been severely damaged by major redevelopment of the area to improve and relay the line, which now forms part of a phosphate railway linking mines to the north with the port of Aqaba. At the same time, two large Ottoman encampments were investigated through a mixture of general survey work, and detailed excavation and recording of a sample of stone tent-rings. Of particular importance was the recovery of a large assemblage of finds representing everyday military occupation, including buttons, uniform fragments, eco-facts, and such exotica as fragments of playing cards and cigarette papers. Work on this assemblage has just begun at Bristol University, and from it



An Ottoman Army tent-ring at Batin al-Ghul after excavation.



A fragment of a playing card – one of many objects representative of everyday military life recovered from Batin al-Ghul camp.



cavated material. The distance between the ceiling and the existing floor level is 1m. The ceiling is made of limestone slabs and is supported by not less than 8 rectangular bricked columns (Fig. 4). On the eastern and western walls, two conduct openings are visible, one of them delineated with a brick structure. In this place we found traces of fire, probably testifying to its use as the “hypocaust room” and consequently to the presence of a bath on the upper level. This interpretation is supported by some other clues discovered during the mission.



Fig. 3: Building C, from the North-West (Photo Ch. March).

The use and the dating of this complex remain questionable. No inscription (or fragment of inscription) was found during the survey. The literary medieval sources both Arab and western, that we consulted, do not mention this toponyme. However its elaborated architectural conception, the fact that it was probably equipped with a bath near Shawbak Castle, allow us to hypothesize the following: rather than an advanced defense post or a caravanserai, it could have been the fortified residence of a medieval prince or amir, probably build at a time of economic expansion in the region. During the medieval period, Shawbak and its territory experienced, an undeniable prosperity under various rulers, notably under the ayyubid prince Al-Mu'azzam 'Isa. Arab medieval sources praised Shawbak, the quality and abundance of its water, its gardens and orchards, and compared it to Damascus.

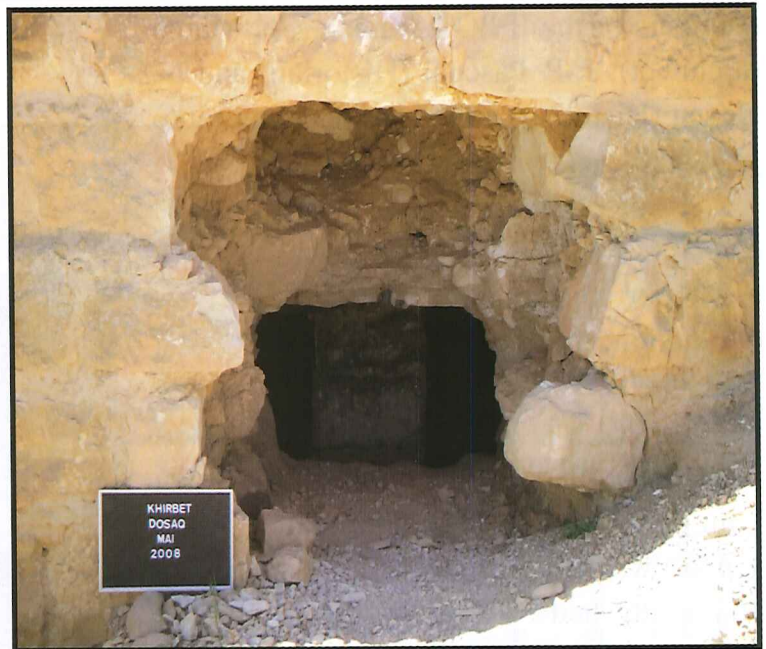


Fig. 4: Entrance of the “hypocaust room”, from the North (Photo Ch. March).



Ath-Thulaythwat

Project Name: Al-Thulaythwat Archaeological Survey and Excavation

Duration: 20 / 1 – 7 / 2 / 2008

Directors: Wael Abu-Azizeh (IFPO) & Saad Twaissi (al-Hussein Bin Talal University)

Representative: Mohammad Al-Marahleh

This project aimed to record and study the archaeological remains of the Al-Thulaythuwat area, south of the phosphate mine of Ash-Shidiyya, half way between Ma'an and Al-Mudawwara close to Saudi Border. This region represents the eastern desertic extension of the Ras an Naqab escarpment. The surveyed area yielded a considerable amount of archaeological remains which could be attributed to pastoral nomadic societies that occupied the area through the different periods.

The second season focused on the excavation of a number of sites already surveyed last year during the first phase of the project. Efforts concentrated on the understanding of the stone circles and their organisation, which are the main constituting feature of the desertic areas occupation for the IIIrd and IVth mill. B.C. Several soundings were excavated on different types of stone circles, in order to understand their general layout and the function of a number of associated structures that are reminiscent in their construction, such as partitioning walls, compartments and small accolated cells.

Three of the sites excavated were located on Wadi Abu Meil, the most important water drainage of the area: TH.073, TH.044 and TH.161. These sites had already showed a great density of surface artefacts during the first season of survey, consisting mainly of Chalcolithic and Early Bronze Age flint, represented in particular by the typical fan scrapers. All of these sites are located along the numerous paths and animal tracks that are running through the wadi, showing the important role played by this wadi course for movement. On site

TH.073, the sounding of an oval shaped structure has yielded quantity of charcoals and few ceramic fragments in what showed to be a large domestic fireplace. Fireplaces were also sounded on several other sites in order to get charcoal for C14 dating of these sites and establish a better understanding of their chronology. On site TH.161, one such fireplace was discovered on the living floor of a small circular cell. Evidence of a small paved area associated to this occupation layer was uncovered.

Other sites were chosen for excavation down in the alluvial fan: TH.001, TH.092, TH.094 and TH.126. All but TH.094 have yielded charcoal datable samples and some carbonised bone fragments. These materials were obtained from contexts that could be observed directly on the surface and covered by



The oval shaped domestic fireplace on site TH.073.



The fire place on site TH.044



Bayda

Project Name: Bayda Documentation Project, 2008

Duration: 3 – 8 / 5 / 2008

Director: Patricia Bikai

Representative: Tahani as-Salhi

During work on the Bayda Documentation Project, it was discovered that what had been thought to be a Nabataean village was in fact a Crusader-era village, the first such installation found in Jordan (Fig. 1). In May of 2005, it was noticed that two structures within that area were possibly mosques. In September 2005, having completed work at the Nabataean elite structure that yielded the classical-era heads and capitals, a few hours were spent clearing parts of these two buildings, referred to here as Mosque #1 (to the east) and Mosque #2 (to the west). A mihrab was defined at Mosque #1.

We finished the excavation of the interior of Mosque #1, and confirmed its construction details. The structure measures 9 x 9m with a 1m projection for the mihrab. It is unlike any other known mosque in Jordan in that the arches are oriented north to south. These are carried on pilasters at each end and columns at the center. A simple packed earth floor was found. The doorway to the north is flanked by steps on both sides and leads to an open courtyard approximately 9m wide by 8m deep. A stone wall apparently surrounded this. The courtyard was only partly explored.

Preliminary analysis of the finds from this mosque indicates that it was abandoned either before or at the time of the arrival of the Crusaders. It is possible that what is visible now is in fact the second phase of the mosque and that the first phase was in the open air.

Mosque #2 was only partially explored. It was confirmed that the mihrab is integral to the building. Unlike Mosque #1, however, the arches in this one are standard east to west type.

All excavation areas were lined with newspaper and backfilled. At Mosque #1, some stones were restored and the site was preliminarily prepared for visitors.

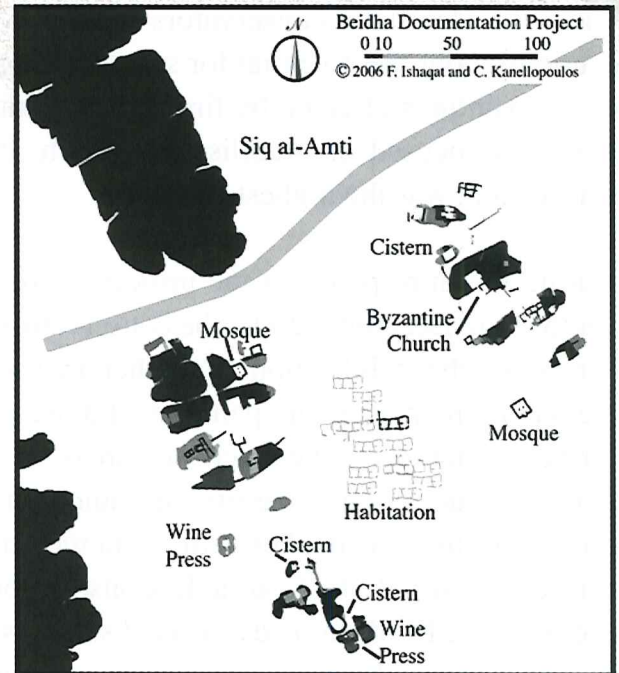
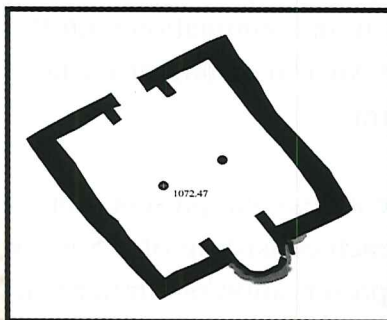


Fig. 1: Part of the Bayda Documentation Project study area showing the locations of the mosques.



Sketch of Mosque #1



Mihrab of Mosque #1 with flanking pilasters for the arches.



Mosque #2, view from the south.



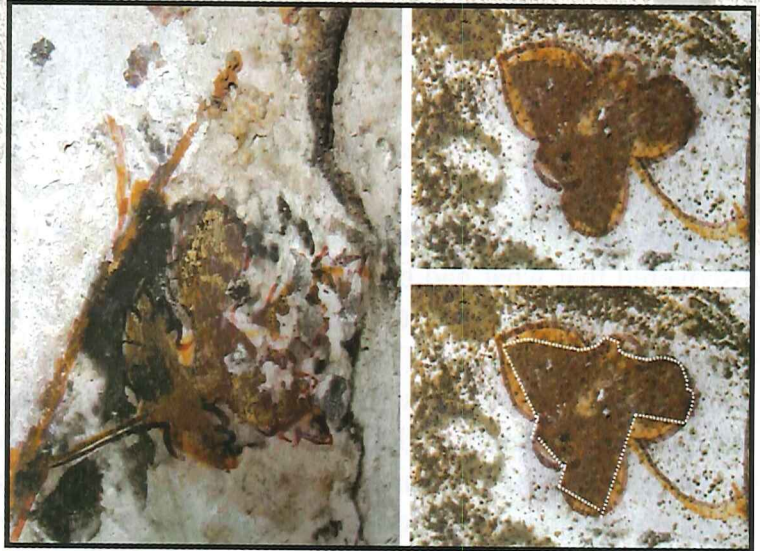
Given the unique importance of these wall paintings and the ways in which appreciation of both their quality and extent have been enhanced over the first two campaigns, and based on their experience at other sites worldwide, the Courtauld conservators were very cautious about the potential for safe cleaning of the paintings affected by fire. As a result the work focused on stabilisation which, it was agreed, was the highest priority.

During the third phase of the project in November and December 2008, the conservators completed the stabilisation of another area of the remaining plaster and painting, and made further reductions to the blackened areas.

However due to their fragility and unique nature, the cleaning process was a great deal slower than originally anticipated when setting out the time frame of the project. It is important to note the cautious nature with which the Courtauld Conservators originally approached the subject of cleaning. By the end of Phase III, the already cleaned surfaces of the Bicilinium were left in a stable condition but their exquisite nature demands that they be presented in the method most appropriate. Given their beauty, to leave the remaining surfaces uncleaned would be unacceptable and a grave error. An outstanding discovery during the third phase is of the use of gilding to highlight the autumnal leaves of the vine scroll decoration. Although only a few of the surviving examples of the gilding has so far been found, there is technical evidence to indicate that many other leaves were originally similarly gilded. Scientific analysis of paint materials had already demonstrated the complexity and sophistication of the painting, for example in the extensive use of organic glazes, but this latest finding adds to its unique quality and value.

Furthermore, the exquisite nature of the wall paintings also demands that they be presented in a manner where they can finally be appreciated for their remarkable quality. It is also important to note one of the original goals of this project was to adequately present the wall paintings to the public, so that Siq al Barid would become a major tourist attraction in the region and visiting it, in combination with Petra, would lengthen the tourists' dwell time thereby bringing income to the Amarin community whose remote location marginalises them from the major profits of tourism in Petra.

In order to undertake cleaning of the remaining surfaces and improving the access and presentation, it will be necessary to extend the current programme by two extra phases, each consisting of a 5 week period. In the long term, this project will help to create a strategy for the preservation of similar wall paintings and plaster decoration in Petra. The project is an example of Petra National Trust's continuous efforts to preserve the antiquities, environment, and cultural heritage of Petra.



Use of gilding to highlight the autumnal leaves of the vine scroll decoration



Bayda / Siq al Barid

Project Name: Preservation and Consolidation of the Wall Paintings in Siq al Barid, Bayda

Duration: 2 years

Director: Aysar Akrawi, PNT

Representative: Tahani Al Salihi

In collaboration with the Department of Antiquities of Jordan, the Petra National Trust (PNT), upon completion of phase I, continued with phases II and III for the preservation project of the wall painting in Biclinium No. 849 in cooperation with the Courtauld Institute of Art (University of London). The project was launched in 2006 with the objective of safeguarding this outstanding illustration of ancient murals from further deterioration. It comprises a principal chamber and a small rear recess that together preserve the finest and most important surviving examples of Nabataean wall painting. It is a unique example in this region and holds importance for the history of art.

At the inception of the project, the condition of the painted surfaces of the wall painting and the supporting plaster layers was in an extreme state of deterioration and highly problematic to safely conserve. The paintings had been severely blackened by smoke from fires and covered by strongly adherent encrustations of soot and greasy substances. In some areas the substances had penetrated to a depth of several millimetres due to the porosity of the plastering and in other areas, layers of plaster were detaching from the wall and the paint was flaking away.

Phase II took place over a 5 week period in June to

July 2008 during which time the conservators carried out treatment measures (stabilisation, repairs, cleaning and presentation) of the entire east wall, much of the west wall, and the lower half of the south

wall; as well as treatment of approximately half of the vault in the painted recess. Since stabilization is often complicated by the surface condition of the paintings, during Phase II the conservators addressed methods of cleaning that could safely precede consolidation. The emerging results were extremely positive, though time-consuming to achieve.



Biclinium 849 vault and wall overview before and after cleaning



Biclinium 849 vault detail before and after cleaning



presenting similarly results. Actually it is usual to find domestic categories of cereals, fruits, nuts and vegetables in Mediterranean funerary contexts.

Ceramic Study: Umm Al-Biyarah, Tomb N 361

The ceramics from Umm al-Biyara, tomb n 361, were recovered from two soundings: the first one, in the middle of the courtyard, and the second one, in the south west corner. In the first sounding, mixed sherds from Nabataean to medieval periods were found in the upper levels. The lower levels were only from Nabataean 1st Century AD to the Byzantine period. No built structures were associated with the ceramic sherds that mainly come from the repeated filling of the courtyard. The ceramics from the second soundings were more interesting, especially the upper levels. An important layer from the Islamic period was composed of many local pots, but also of imported pottery (painted and glazed pottery). Many animal bones were found with the pottery, indicating that this level might correspond with a domestic use of the Nabataean tomb. New excavations, for example in Wadi Farasa, show that we have generally underestimated the medieval occupation of Petra. In the lower levels of sounding number two, mixed sherds from the 1st Century AD to the Byzantine period were found. No sherds from the 1st Century BC were found in the courtyard. Tomb n°361 was probably built during the 1st Century AD but the date of its abandonment is actually unknown. The courtyard of the tomb seems to have been used during the Roman and Byzantine period but the purpose of the occupation remains unclear, whether funerary or domestic. During the medieval period, the tomb might not have been used as a funerary chamber but as a domestic one.



***Ath Thughra and Umm al-Biyara***

***Project Name: Funerary Areas understanding
Petra's Project - French archaeological Mission
in Petra's Necropolis***

Duration: 1 / 7 – 9 / 7 / 2008

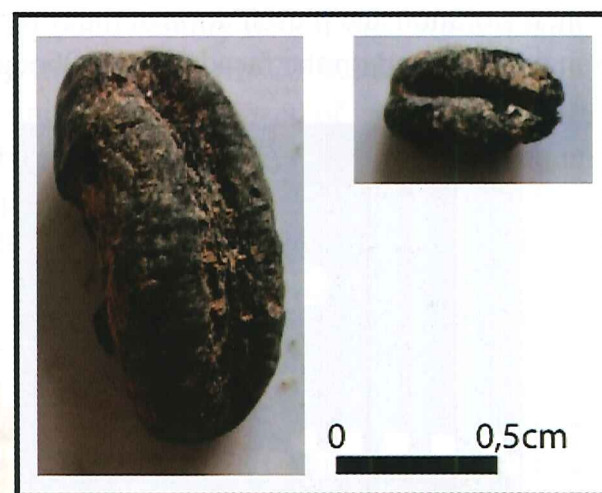
Directors: Christian Augé and Isabelle Sachet

Representative: Talal al-Amareen

The French archaeological mission in Petra's Necropolis – **FAUPP**, Funerary Areas understanding Petra's Project - is part of the main project «From Petra to Wadi Ramm: Nabataeans and Arabs in South Jordan», directed by Christian Augé (IFPO Amman). Two excavations headed by Isabelle Sachet (College de France, Paris) took place in ath-Thughra and Umm al-Biyara necropolis, south of Petra, in 2006 and 2007. In 2006, a chamber-tomb was excavated at the bottom of the tower tomb n°303 in ath Thughra. The study is quite achieved but an archaeobotanical study was necessary for publishing. In 2007, two soundings were made in the courtyard of the façade-tomb n°361 after a geophysical survey (Ground Penetrating Radar). Many ceramic sherds from those soundings remained unstudied. Therefore, a mission was planned in July 2008: Charlène Bouchaud studied the plant macro-remains from ath Thughrah and Isabelle Sachet studied the pottery from Umm al-Biyarah.

**Archaeobotanical Study: Ath-Thughrah,
Tomb N 303**

Among the carpological remains from tomb n°303, we found cereals – wheat (*Triticum* sp.) and barley (*Hordeum vulgare* L.) –, vegetables – lentils (*Lens culinaris* L.), peas (*Pisum sativum* L.) – and a great diversity of fruits – date (*Phoenix dactylifera* L.), *Ziziphus* sp., olive (*Olea europea* L.) and almond (*Amygdalus* sp.). These species are generally used for daily food. Many archaeobotany studies have been carried on offerings in funerary context, mainly in Greece and Italy, both





b. The northern access to the complex (PN2008.18000)

A limited probe was opened this year in what seems to be the northern access of the terrace. It consists in a narrow 3.40m long pathway limited on its eastern side by three raised roughly cut boulders founded on the bedrock and on its western side of a 2.20m long wall of square or rectangular ashlar of which three courses are preserved. Its soils, previously excavated, did cover two 1st century BCE fill layers (PN2008.18054 and 18054 B). Three roughly carved flagstones were used as steps on the southern part of this hallway. Further analysis will determine if they belong to the 1st century BCE or to the 1st century AD phase.



Fig. 2: Northern collapse (PN2008.19000)

c. The northern destruction (PN2008.19000, Fig.2).

The excavation of this major debris that started in 2006 and 2007 was one of the main objectives of the 2008 season. Five different top plans have been drawn of the successive layers of this collapse, in order to record the position of c. 400 blocks (essentially in the layers PN2008.19050 - 19051 and 19054) of this 6.20m by 5.40m square. It appears that these destruction layers are the consequence of at least two major events. A first E-W structure (PN2008.19053, possible terracing wall) primarily built on the top of the hill did collapse towards the north (see the 2007 season) and towards the south. A second structure of which a few ashlar remain in situ was built on the top of this debris (PN2008.18053). It also collapsed at an undetermined date. The find of a mid-fourth century coin close to the surface of the northern gate seems to indicate that this path was still in use at this time. This could suggest a 363 AD date for the final collapse of this later structure. The analysis of these two successive building and destruction phases is particularly complex since a lot of the architectural fragments from the early building seem to have been reused in the later construction. It is also the case of several architectural fragments from what seems to be elements of altars (PN2008.19050.23-25, 19051.26). Of a particular interest is the discovery of a Nabataean inscription (PN2008.19054.47) which is currently under study by Laila Nehmé (CNRS). Layers found under these destructions (PN19055-56) seem to date back to at least the first century BCE.

d. The southern area of the complex (PN2008.21000)

A 1.10m by 1.35m square was opened against the south-western wall of the built triclinium. PN2008.21041 seems to be interpreted as the construction floor of the structure. A limited early first (and possible late second) century BCE ash-layer was discovered underneath (PN2008.21043). At this point, the adjacent bedrock goes down to an absolute level of 969.40 m, which corresponds to the original bottom original wadi. A second probe was opened against the south-eastern angle of the built triclinium (1.30 m by 1.40 m). It revealed the lower course of what seems to be the substructure of a possible square basin built at the angle of the triclinium (PN2008.21054). This structure is connected to a first century AD circulation level (PN2008.21052).

**Obodas Chapel, Jabal Numayr****Project Name :Obodas Chapel Project.****Duration : 7 / 7 – 15 / 8 / 2008****Directors: Christian Augé (CNRS), Laurent Tholbecq (Université Libre de Bruxelles).****Representative: Jihad Darwish.**

The objectives were the following:

- To complete the excavation of the 1st c. BC built triclinium and the earlier structures underneath.
- To complete the excavation of the cistern Dalman Inv. #297.
- To explore at least one of the open-air the coking areas of the complex.
- To define the phasing of the successive collapse of the northern terracing walls.
- To analyse the ceramic material from the 2007 and 2008 seasons.
- To record (description, measurements, picture, sketch, localization, reference to the top plan, additional remarks) and study the architectural fragments.
- To restore the southern access of the complex.

1. Definition of the Squares¹

- The work focused this season on seven areas Fig.1 :
- The cistern Dalman Inv. #297 (PN2008.4000).
- The northern access to the complex (PN2008.18000).
- The northern destruction (PN2008.19000).
- The southern area of the complex (PN2008.21000).
- The central area (PN2008.22000).
- The built triclinium (PN2008.23000).
- The area east of the so-called kitchen and southern annex room (PN2008.24000)

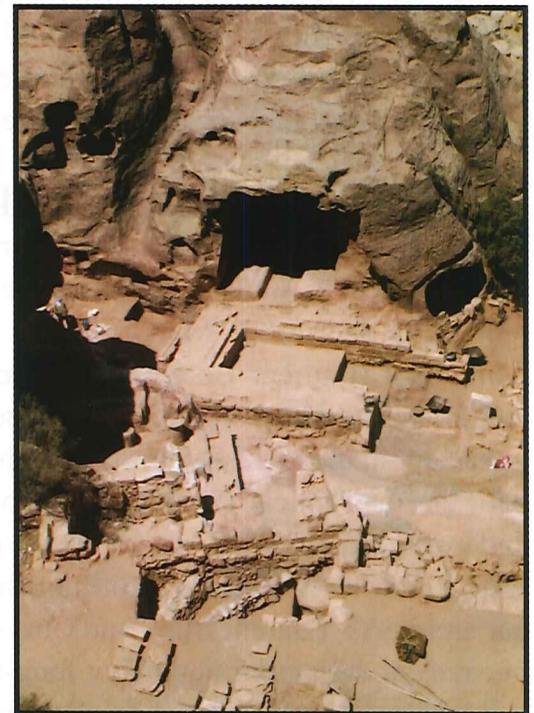


Fig. 1: General view from the east.

2. Preliminary Results

a. The cistern Dalman Inv. 297 (PN2008.4000)

The cistern Dalman 297 (4.8m by 4.8m by 4.6m) partly excavated in 2003 was unfortunately robbed during the next winter. Due to the interest of its ceramic finds (see 2009 forthcoming *ADAJ*), it was decided to complete its study. The northern half of the cistern was therefore excavated. It confirmed the date of its major deposit (late 1st c. AD), its subsequent abandonment at an undetermined date and a limited occupation of its upper layers during the ottoman period.

¹ Loci are defined as PN 2008 (Petra Nmayr 2008), followed by the square number and the corresponding excavated lot (for instance PN2008.23034 is the locus 34 of the square 23000 excavated in 2008).



peared, but alluvial wadi deposits suggest that the northern limit design was more complex than expected. On the contrary, trench E 11 revealed a very solid retaining wall aligned with the structure to the north of the temenos gate. At the exterior foot of this terrace wall, towards the north, a flat level of re-used stones suggests some facilities in direction of the wadi, which need further investigation.

Trench E 10 shows no trace of a hypothetical closing wall to the east of the great altar, in the north-south axis of the peribolos of the temple (Bachmann's hypothesis, 1921). But it revealed a sequence of occupation dating back to the Hellenistic period, directly lying on the bedrock, which was at that place carved into a birkah.

In the area of Bab as-Siq, Dr Michel Mouton had planned the clearing of the base of the funeral tower-like monument ('Djin block') BD 7 with the help of a mechanical excavator: the rock and pebble alluvial deposit from the wadi is not less than 3m thick. But the use of a bulldozer was authorized for one day only and the excavation at the foot of the monument had to be given up.

Significant Results and Conclusions

Significant progress was made in the restoration and drawing of pottery (Sylvie Eliès, Hélène Renel-Morel) and in its study (François Renel, Michel Mouton), in the drawing of plans and structures (Laurent Borel, Chrystelle March), in the architectural study and attempts to reconstruction of the apse monument (Laurent Borel, Chrystelle March, Jacqueline Dentzer-Feydy), in coin-study (Christian Augé) and in the photography of structures and artefacts (André Pelle), including pieces and sculptures kept in the museum. In spite of the shortness of the season and the impossibility to go on digging with the mechanical excavator at Bab as-Siq, important information was obtained on several points under discussion. Thus, we are able to update the manuscript of a detailed article, to be published in ADAJ after its translation into English, and to go on preparing the final publication. In addition, with our architects, Laurent Borel and Chrystelle March, we thought about propositions for the preservation of excavated features, and about long-term solutions for a better presentation of the area to the public and for the improvement of the visitors' circuit, which should be planned and undertaken in close cooperation with the Department of Antiquities.

Recommendations and Complaints

Unfortunately we noticed some intentional destruction to our excavation site which were made after the end of our last season. In addition, architectural pieces kept in boxes hidden on the site were mixed together, which caused significant losses in our documentation. These problems are obviously linked to the very poor condition of the metal fence around the excavation field, which makes it easy for anybody to penetrate on the site and thus causes danger: at a place overcrowded by visitors, by local people and their donkeys, this fence is now torn out and destroyed, and urgently needs to be replaced.



Qasr al-Bint and Bab as-Siq

Project Name: Petra-Qasr al-Bint, a part of the French Mission "From Petra to Wadi Rumm"

Duration: 4 / 10 – 6 / 11 / 2008.

Director: Christian Augé, François Renel

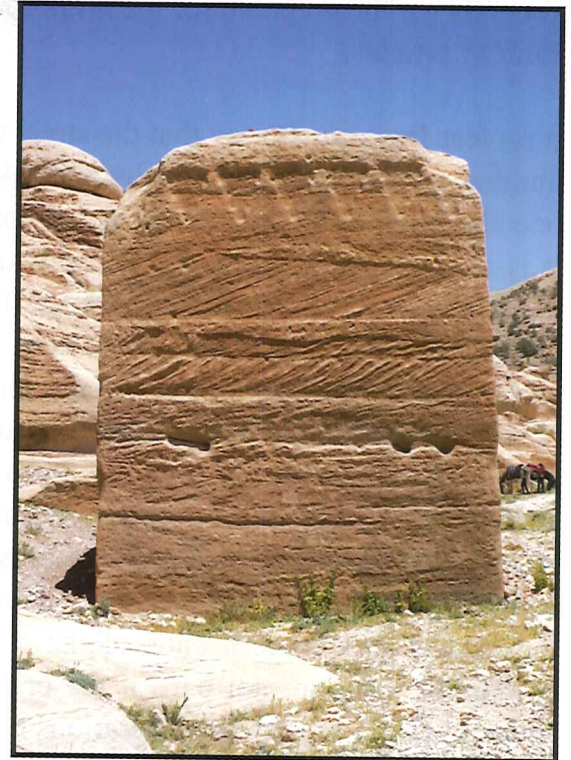
Representative: Adnan Rafayah

Historical background and objectives of the Project

The Qasr al-Bint project, which started in 1999, aims at a better understanding of the sacred area ('temenos') of the greatest sanctuary in Petra. The previous seasons focused on buildings belonging to a Nabataean-date monumental programme - the main and the little altars, the paved courtyard - and on the apse monument ('exedra') on the western limit of the temenos, a Roman structure built for displaying the statues of Emperors Marcus Aurelius and Lucius Verus. We also investigated the northern limit of the temenos, and two large adjacent buildings: one extended to the west of the apse monument, and the second one, east of the temple, was obviously linked to the sacred area. At some places, remains were found of early houses, set up in a different direction, and dating back to the Hellenistic period (3rd-2nd centuries BC).

Areas explored this Season

The excavation of the Western Complex was limited to two rooms in the southern part of the building (P 15-16). It revealed remains of an opus sectile floor dating back to the Nabataean period and, in room P 16, a late re-occupation sequence, posterior to the 363 earthquake, with an earthen ground and evidence of butcher's activity, chronologically linked to the bone workshop already known in the complex. On the paved area of the temenos, two trenches were dug to provide information on the small altar, excavated in 2000. At its south-west angle, between the altar stairs and the apse monument, the finely-built stepped foundation of the altar came to light. This trench sheds new light on the chronology of the altar: it is clearly anterior to the foundation of the apse monument and can be dated to 20-80 AD by pottery evidence (painted plate, type Schmid 2a). The finely-built stairs, clad with coloured stone, belong to the same building-programme. The same trench revealed an oblique wall linked to the Hellenistic buildings already excavated some 15 metres further south-east. In another small sounding on the north side of the altar, at its western angle, a water-channel was excavated, containing a lead pipe and connected to the general hydraulic system of the temenos. Four new soundings (E 8, 9, 10 and 11) were made following the trenches dug in the previous seasons to investigate the northern limit of the temenos (E 8, 9 and 11) and a hypothetical limit wall to the east of the main altar (E 10). Trench E 8 revealed that, on the northern limit of the temenos, the west-east wall was prolonged towards the east, not as shown in P. Parr's plan. In trench E 9 no structure ap-





and one of Brown University) and two trench datum points (one of Graf's trench HPP07-9 and the other of Parr's trench 3) to insure that all previous surveys and excavations in the area complement our work. The plans we were able to prepare prior to leaving Jordan (Fig. 3) are cursory and vastly more detailed versions will be prepared for the proposed *ADAJ* and *BASOR* articles.

It is clear from our survey that the street underwent a number of modifications, repairs and, likely, at least one alteration of its orientation in the Roman period. It is also clear that collapsed portions of the street, especially at the western end, indicate the presence of subterranean water channels. These would have carried water from high ground to the south (the area of the "Great Temple," the "Gardens" and Markets) to debouche into the wadi to the north. It appears, also, that the street in its latest manifestation was not colonnaded for its entire length, but only towards its eastern end. This may be yet another indicator that the central and western ends of the decumanus in its current form are not part of the original Roman street, but later repairs and alterations to it.

In the future we hope to expand the survey to include the area between the Temenos gate and Qasr Al Bint and the paved street east of the decumanus.

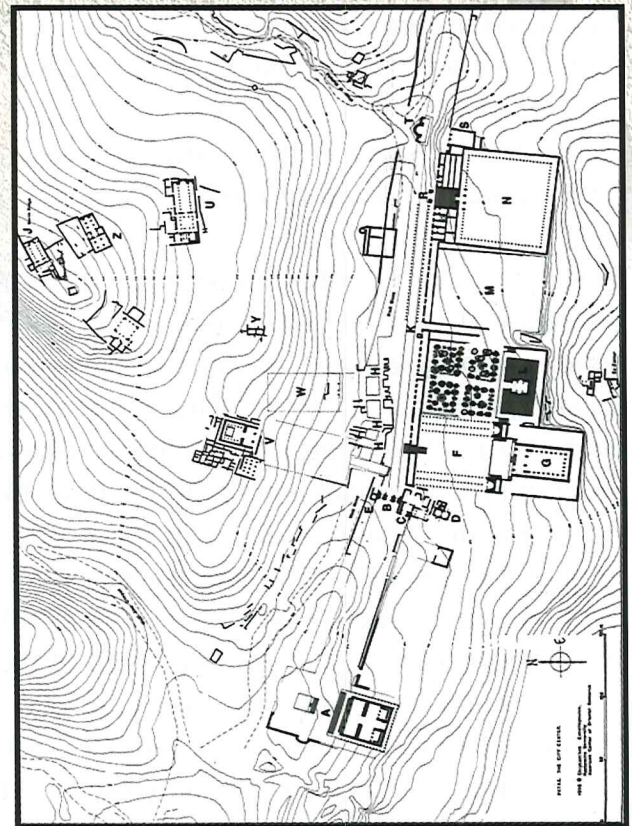


Fig. 2: Plan of Kanellopoulos and Akasheh in *BASOR* 2001

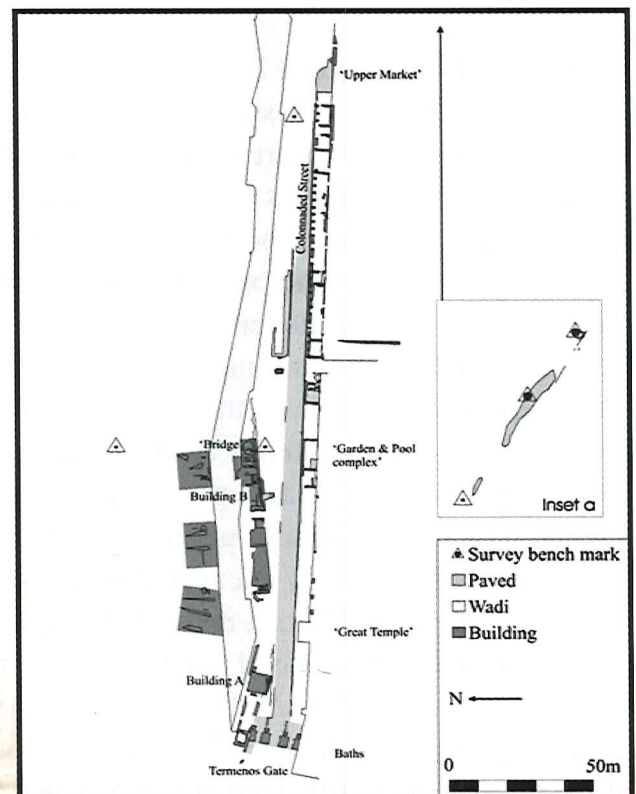


Fig. 3: University of Delaware Survey plan of *decumanus maximus* and adjacent buildings



Petra

Project Name: University of Delaware Petra Street Survey

Duration: 28/6 - 25/7/ 2008

Director: Steven E. Sidebotham

Representative: Ahmad Al-Shami

We undertook a detailed survey of the main east-west street (decumanus maximus). The survey extended from the (temenos) gate/arch at the western end of the street to the stairs leading to the Trajanic-era market (on the south side of the street) on the east (Fig. 1). The Delaware survey also drew a cursory plan of the paved street east of the decumanus. The survey used a Leica TC-300 total station. Programs used to prepare the plans (by R.I. Thomas) generated by the survey were LISCAD, CAD, Corel Draw and Leica Survey Office.

The overall objective of the Delaware survey was to record in great detail (stone by stone) the street and those structures in its immediate environs (south to the retaining wall and north to the wadi).

Plans published previously of the decumanus are accurate (e.g. Kanellopoulos and Akasheh in *BASOR* 2001: 6; see our Fig. 2), but not sufficiently detailed for an in-depth study of the chronology of the street and immediately adjacent structure. In developing a more detailed report (which we plan to publish in *ADAJ* and *BASOR*) we will tie in our phasing of the street and the adjacent buildings with information published by D. Graf and P. Parr on the trenches they excavated south and north of the decumanus respectively. We will also tie in four survey points (three of ACOR's



Fig. 1: view of decumanus looking from temenos gate towards the east



author and Mohammad Qublan, measuring 11m north south-by-28.5m east west. The upper levels of soil were skillfully removed by mechanical equipment. After 62.70m³ was excavated, the upper walls of several rooms were revealed and prepared for future excavation.

Catalogue

Besides the artifacts shown above, the author recorded 18 objects of which four were coins, plus four complete lamps, bone objects, and a Trajanic inscription found in the Small Temple (which we had excavated earlier). The marble torso of the Roman Soldier and the marble head of a female were turned over to the Petra Museum.



Fig. 1. Trench 130 in the foreground



Fig. 2. Special Project 131, the West Perimeter Wall to the east



Fig. 3. Torso of a Roman Soldier (rear)



Fig. 4. Marble head of a female (side view).



Petra Great Temple

Project Name: The Brown University

Petra Great Temple Excavations 2008

Duration: 14 / 6 – 3 / 7 / 2008

Director: Martha Sharp Joukowsky

Representative: Samia Falahat

Brown University Petra Great Temple archaeologists excavated several trenches focusing on the Roman-Byzantine Bath Complex to the west of the Great Temple. Four trenches in the bath complex were excavated. Trenches 130 and 131 combined, measured approximately 21m north south-by-35m east west. These excavations were under the supervision of Eleanor A. Power. The quantity of finds from this deposit was significant. Notable finds were approximately 5500 sea urchin spines, worked bone fragments, oyster shells, a wide variety of Nabataean and later wares, complete lamps, and several coins.

Further to the west of the Roman-Byzantine Bath Complex, at the edge of the Lower and Upper Temenoi, Special Project 131 was excavated. This Special Project measured approximately 34m north south-by-3.10m east west, and followed the West Perimeter Wall. Over 100m³ were excavated, and this wall, which we posit was colonnaded in antiquity, was found to be part of a massive subterranean vaulted system.

A horned altar, the marble torso of a Roman Soldier, and a battered marble female head, were recovered here (see the photos included).

To the south, adjacent to the Colonnaded Corridor of the Roman-Byzantine Bath Complex, is Trench 133, supervised by the



Trajanic Inscription found in the Small Temple, 2007

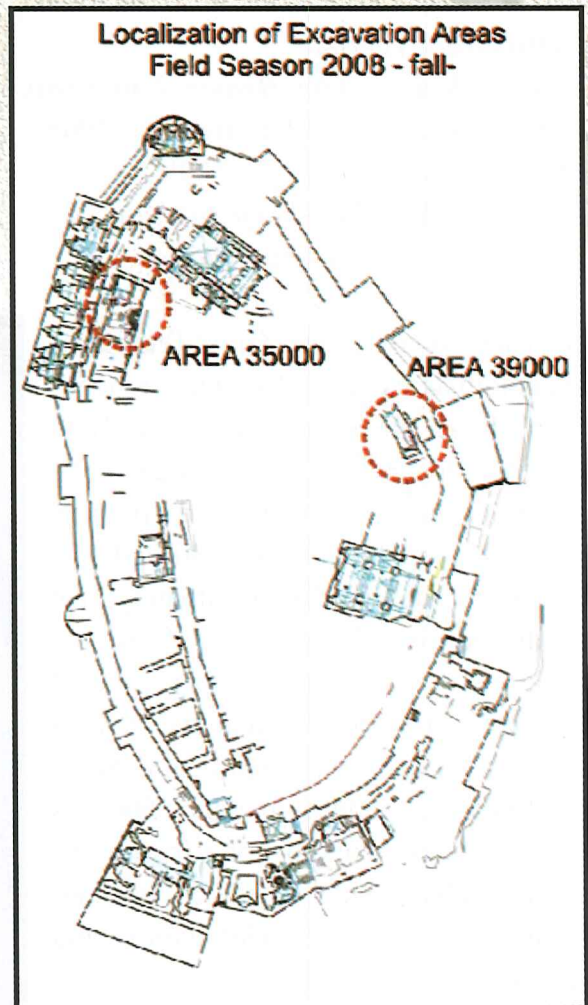


lar, and it is covered by the eventual foundation pit's fill, relevant to the oldest wall courses between the two pillars: the northern pillar (at least the original structure) may be contemporary with the aforesaid stone courses.

Remains of two pavement layers have been found: whilst the more recent is difficult to be said whether of the first setting of the wall between the two pillars, the lower one (050) may at the moment be assumed as of Crusader epoch: study of finds will eventually achieve some data in this sense. However, specific surveying on walls will better result in the comprehension of the masonry sequence, and might ascertain the similarity of those with the courses south of the southern pillar (as it now appears, although they are truncated by a later breach), in terms of typology and chronology. Crusader dating can be expected as for the oldest courses between the two pillars, whereas, as regards the 2007 survey, the eventual Crusader stone courses may have been laid onto Byzantine stone frames.

Like the past season, the artefacts coming from the excavation and survey of the site has cleaned and organised in an inventory. The inventory work has been started from the materials coming from the last 2006 fieldwork. The database adopted is a database already, and specifically created, for recording the al-Wa'ira finds. The main reason beyond this decision was the awareness that the Shawbak finds in general, and pottery in particular, might present several close comparisons with the al-Wa'ira ones. Such comparisons would thus allow a convenient starting point for a comparative study of the two sites. It has been observed so far that a comparison for the categories of pottery, glass, bones, iron slags, iron, lithic finds has already been possible.

As for pottery, typologies have been originally identified through the characterisation of three basic features: the level of technological complexity, the paste type and the surface features. These elements are symbolised by letter codes, and each pottery fragment can then be identified by one or more letters. The Minimum Forms Number has been calculated on the base of the presence of rims, handles and bases only, and not of the presence of other kinds of fragments. This method has been adopted for each typology; however, the total number of fragments has always been specified in each case, in continuity with the original organisation of the database.





Removing these mortar layers in the north of the area was a deep layer (35524) rich in pottery and a small stone pieces; in the south we found a more complicated situation with some small collapsed stones and a layer very hard and rich of small pieces of mortar. Preliminary examination of the pottery shows that most of sherds are unglazed, wheel-thrown coarse ware and from 35524 there are also some pieces probably from Byzantine or Roman period.



Area 39000 at the beginning of this season

Area 39000

The 2008 Campaign has kept on investigating the area 39000 (north survey), which was opened in 2007, in order to ascertain eventual connection with the walls detected outside (area 39000's western side), and eventually Byzantine wall structures exposed in the area 10000 (relevant to any Byzantine wall circuit?). Another aim/question concern the relationship with the corner visible from outside with any frames of the inner room. As to this concern, further surveying and studies in terms of topographic measurements and planning will take place. In the 2008 Campaign the excavation has got to the natural rock over the whole area: the noteworthy point to emphasize is that most of the found layers seem to have followed a cut-



Area 39000 during the excavation

intervention, affecting the previous situation all over the survey area, whereas sparse remains of the older stratigraphic sequence can be detected closed to/in the proximity of the eastern wall only.

Apart from recent "squatting" phases, post-cut-intervention area is featured by fairly deep layers of pebbles, small/medium size stones, pottery and bones (especially the two lowest ones, US 058, 061), generally covering or laid towards a bulk of earth, which is by the northern section of the area, has yielded some pottery and bone finds, and is of uncertain interpretation. The big amount of pottery collected from what may be called two ballasts (058, 061) may represent a good sample and, according to the almost sole presence of coarse ware (probably dating as from Roman/Byzantine time), the span of time between the late-Crusader and Ayyubid (or Mamluk at the latest) epoch might be assumed as for the chronology of the big cut-intervention.

The sequence upon the eastern wall is of much interest as it goes as far as to the earliest activities that have taken place in that area. A feature which might be referred to a pit/silos for storing or collecting water was dug out into the natural rock. Its fill is but to be ascribed to later levelling and arrangement of the site, in order to set a clay and mortar pavement layer. Such layer seems to be connected with the southern pillar (the three lower courses only, as the rest is a later restoration), and the lower wall courses south of this latter (Byzantine?). A big quern is placed towards the "original" part of the pil-



Petra, Shawbak

Project name: Archaeology of Crusader and Ayyubid settlements in Transjordan

Duration: 27 / 10 – 30 / 11 / 2008

Director: Guido Vannin

Representative: Basel Al-Halassa

This season's work was to check the complex stratigraphy, both buried and preserved in upstanding monuments of the site, particularly in the area of the "Crusader Vaulted Room" (Area 35000), in the northern part of the site and the Area 39000, a large vaulted room (CF 39) with the entrance on the N side. The 2008 excavation has started in two principle Areas, in both of them the research has continued last year investigations.

Area 35000

In the "Crusader Vaulted Room" the principle aim is to understand the stratigraphic relations in a very important area, close to the Ayyubid Power Area, where it may be possible to understand the whole sequence. Last year we found a "monumental" stairway connected with the door, later closed, on the right side of the room, under many layers of recent occupation and reuse. According to the shape of the stones used the stairs can be dated to the Ayyubid Period.

This year we opened a larger area (all the area north of the Crusader Vaulted Room) in order to better understand the living phases earlier than the Ayyubid "monumental" stairs. Near the surface all the North area was occupied by many "recent" occupational layers, including one that seems to produce lime mortar. Under these layers we found a very interesting situation with possibly two different mortar floors (35542 and 35539) (it is possible that they are two different actions of the same casting). This mortar floor (almost horizontal, in many places very well smoothed) is important because it was created when the stairs were built and so is an Ayyubid occupational layer. It was cut by some post-holes (like 35528).



Area of the last year excavation of the Crusader Vaulted Room and the stairs



initial situation of this field season at Area 35000



A post-hole in the mortar floor



two meters above a ledge overlooking the wadi and can only be reached by climbing using cut Nabataean handholds. This tomb was partially robbed in antiquity but all of the loculi contained untouched funerary materials including secondary human burials especially in the center of each loculi. Preservation was excellent including a large quantity of carved wooden objects (Fig. 3), fabric, seeds, lithics and pottery sherds. Ceramic materials indicate a date range from the late 1st century B.C. (Hellenistic black glazed ware) to the mid 1st century A.D.

Site 17 is a 1x6m sondage in front of a group of western facing niches and betyls at the junction of the Wadi al Mataha and the Sadd al-Ma`jan. Site 18, in the same area is a rock cut Nabataean high place triclinium isolated above the wadi bed with a rock cut staircase, a water pool and a stone floor used in the early 1st century A.D. based on a quantity of Nabataean light red on orange painted bowls and plates sherds found on the floor as well as a fragment of a decorated ceramic cup showing a bearded deity chasing a nymph. (Fig. 4).

In conclusion, each of these sites provides evidence of the extensive use of ceramic sherds and lithics as votive offerings in Nabataean ritual contexts.



Fig. 3: RI 01 2008.



Fig. 4: RI 55 2008



Wadi al Mataha

Project Name: Brigham Young University Wadi al Mataha

Duration: 2 / 5 – 10 / 6 / 2008

Director: David J. Johnson

Representative: Mohammed Salameen

The major objective of the seventh season of the project was to test the theory generated from previous season's excavations of two rock-cut chambered tombs and three open air shrines, that lithics, pottery sherds, fossils, and other small objects were used by the Nabataeans as votive offerings in ritual situations. These votive offerings were often decorated with the images of Nabataean, Egyptian, or Greco-Roman deities such as Dushares, Allat, Isis, Harpocrates, Thoth, Bes, Hermes, Apollo, and Selene who were syncretized to each other.

Six areas, all located within the Wadi al-Mataha, were selected for excavation. Site 14, is an elevated open-air shrine partially excavated in 2007 with three niches facing east. Excavations in 2008 uncovered an extensive rock cut platform with water channels in front of the niches. Large quantities of ceramic sherds, especially handles and bases, were found piled in the areas in front of the niches.

Site 15 is a large ashlar platform built on bedrock in front of Tomb BD 676 (Fig. 1). Five 5 by 5m trenches uncovered a flat paved platform with a perimeter wall of large ashlar blocks one meter high on the eastern side and three meters high to the south. There is evidence of a monumental staircase leading up to the platform on the eastern side with at

least two construction phases, a late one in the late 1st century A.D. and an earlier one in the first quarter of the 1st century A.D. Large quantities of ceramic sherds and lithics were found on this platform. Site 16 is a rock cut tomb without a façade located high above the northern end of the Wadi al Mataha in the Jabal al Mudhlim area containing 12 loculi designated A through G (Fig. 2). The door is located



Fig. 1: Overview of Site 15 from above.



Fig. 2: Overview of Site 16.



Khirbat adh-Dharih

Project Name: French-Jordanian Mission at Khirbat adh-Dharih

Duration: 26 / 8 – 4 / 9 / 2008.

Directors: Zeidoun al-Muheisen and François Villeneuve

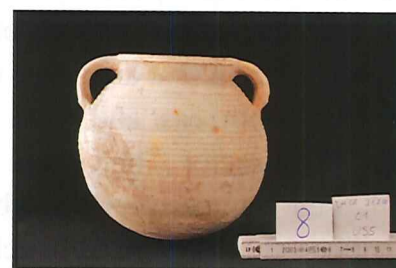
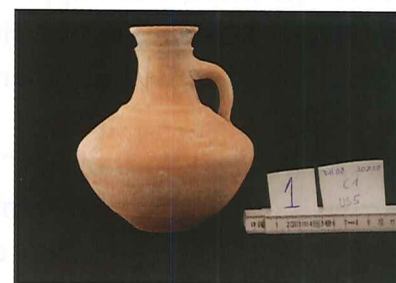
Representative: Sami Alrfu'

The aim of the 14th season of the French-Jordanian archaeological mission at Khirbat adh-Dharih, located in the Wadi al La'ban south of the Wadi al-Hasa, was to explore the main cistern of the site discovered in 2007 between the ruins of the Byzantine and omayyad village filling the second courtyard of the Roman temple (S2). Located under the pavement of the courtyard in its south-east corner and accessible through a circular opening, this cistern dates at the latest from the Roman era.

The work was led on behalf of Paris I University and Yarmouk University Irbid by Charlène Bouchaud, Nicolas Sartori and Moussa Serbel and had two main objectives: to complete the measurement and to try to date precisely the monument. As it is filled with several cubic meters of debris, much higher in the south under the opening, the northern part was chosen as excavation area for its lower level. The debris being carried with buckets by five workers outside the cistern, a pit of 2 x 2.50m has been dug in the north-western corner to explore the depth of the monument. The ground has been reached after 8 days of digging; it is covered with the same impermeable coat as the walls and the five arches supporting the roof. The dimensions of the cistern are:

- Length: 7.60m
- Width: 5.15m
- Height: country 7m
- Width of the archs: country 0.70m

The fill of the monument very clearly shows a progressive accumulation of sediment. As it contains a big amount of plant macro remains (seeds and charcoals), samples of sediment have been taken and will be analysed in order to reconstruct the vegetation past of Khirbat adh-Dharih. The lower level also contained an important group of pottery, most of them complete containers, broken or still intact. The study of these potteries will bring new light on the period of use of the cistern, but no results could be gained to date its building.





occupied by a concrete platform, evidently belonging to modern occupation.

We decided to open another probe following the outline of the West precinct wall of the “West church”’s nave measuring 5 x 2m, to obtain the stratigraphic profile necessary to date the construction, occupational phases and function. The wall was excavated down to its foundation level. Excavation has been less successful in providing a conclusive date for the building period since the fill was almost sterile, yielding no material (especially no pottery) remains. At the foundation level of the wall (ca.94 cm under actual ground level) the remains of a 30cm x ca.2m coloured mosaic. The mosaic is not associated with the west wall but the latter has been constructed on the mosaic: The wall dates thus to a later period, and its function could not be established. The particular features of the mosaic are perfectly similar to those of the mosaic pavement discovered in the South corridor during the 2006 and 2007 Seasons. The mosaic has apparently been cut at a c.30cm width. Proceeding with the excavation of the fill in the probe revealed no other elements.



Mosaic

This area is located West of the “West Church” and occupies the whole sector between the south perimeter wall of the Roman Temple and the Wall at the limit of the archaeological area and the large water tank (Birkat). At its west end are the structures of three loci , probably modern, constructed against the exterior (possibly urban) wall, covering an area of 130 square m, at a level of 0.90 m higher than the visible remains of the pavement sector at its east end. No previous excavations have been conducted in that area. The excavation of the area concentrated on the pavement sector and was enlarged in south, east and north direction. An EW partition wall was uncovered at the same level as the pavement sector. The central area, south to pavement sector may be described as that of a sector of collapsed features very disturbed by modern interventions. The nearly almost modern fill yielded few pottery sherds, among which a number of medieval Islamic glazed yellow and green ceramic fragments. Among the surviving features a number of Roman period architectural elements, not *in situ*, have been found such as column drums and column bases. The area has been drawn. For the time being it is impossible to reach a conclusion as to its function and connection with the remains of the “West Church”. The architectural components (accesses, spatial organization) will to be analysed.



Ar Rabba

Project Name: The Rabbath Moab and Qasr Rabbah Project

Duration: 23 / 6 – 10 / 7 / 2008

Director: Jacqueline Calzini Gysens

Representative: Sati` Massadeh.

Site Location:

The site is to the west of the modern highway located in ar Rabba (Karak District) : K 737 map: PG 20.3/75.5;UTMG: 60.8/63.0

Objectives of the Project:

- Completion of architectural survey, documentation and analysis;
- Stratigraphic excavation in order to establish the occupational levels and associated structural function of the emerging architecture;
- Inventory and study of the material remains including statuary, ceramics, mortars, paintings, mosaics, construction techniques etc.;
- Diagnostic survey of the structural remains in order to establish an agenda for future consolidation and restoration;
- Creation of an archaeological regional park;
- Publications and Media information.

This season focussed on the completion of the archaeological documentation made during the 2005 and 2006 seasons.



Area 2: "West Church"

Area1: The Roman Tetrachic Period Temple

The visible remains of the basalt pavement associated with the original Roman imperial building were drawn and documented.

During the 2007 season a fragment of the mosaic pavement discovered in the "corridor" or adjacent hall to the main rectangular structure now called the "West church" was discovered in the probe opened at its western side following the outline of the (modern) precinct wall. The sector yielded no ancient structures and has been identified following the location of a "tabun" oven as one of relatively recent or modern domestic occupation. During the 2008 season a new probe was opened west of this domestic sector, but the excavation was stopped since the whole sector (3 x 3m) was



Area 3: The Area West in the "West Church" Precinct.



Khirbat ash-Shaykh 'Isa

Excavations at Khirbat ash-Shaykh 'Isa in Trenches II and VIII were continued from the previous 2006-07 season revealing sequences of architecture and occupation from the Abbasid (8th century A.D.) to the Mamluk (ca. 15th century A.D.) periods.

The most significant architectural phasing was the establishment of the history of a small paved street leading through an arched, 1.82m wide entrance in the N-S Wall 2. This 1.6m wide ashlar sandstone wall has a projecting room to the west just north of the small archway which suggested that this might be a city wall with towers. However, the relatively narrow width of the archway meant that this was not the main entrance through this wall, and small-scale excavations in this area in 2004 could not fully clarify the function of either Wall 2 or the archway.

At the end of this season, a paved sandstone street was identified in Trench II, leading eastwards from the archway.

It extends more than 41m to the east, into Trench VIII. Time constraints prevented the excavation beneath some of the pavers, so at present the chronology for the construction of the street remains unclear. At least two sandstone columns still in situ indicate that this was a colonnaded street. The pavement was laid after the construction of Wall 2 and its doorway.

To the west of the archway, a narrow lane or perhaps internal corridor was also floored with an almost completely degraded mosaic floor, using white limestone tesserae.

Trench VII has an earlier, well-built ashlar sandstone Wall 11 running E-W, also continued to be used throughout the medieval period. As with Wall 2, it survives c. 3m (nine courses) above its original associated floor. This wall may belong to the same phase as the paving slabs and construction of Wall 2, but it is unlikely to be a southern return of that wall, since it is a different width. It forms the southern wall of a substantial building adorned by a mosaic pavement depicting pomegranates and florets in alternating interlaced squares and circles. Scattered on the mosaic floor were marble fragments.

The paved road in Trench II appears to continue along the southern face of Wall 11 and another marble column and colonnette were found in an abandonment phase over the paving slabs.

The mosaic paved room in Trench VIII was clearly degraded in antiquity. Part of the central floor bedding has worn so badly that earlier walls are clearly visible in the centre of the trench. Above the mosaic floor is a 10-15 centimetre thick level of nearly sterile soil, above which Abbasid occupation subdivided the building with rubble and adobe brick internal walls. Above this was adobe brick collapse, followed by two successive phases of burnt floors and occupation. Preliminary analysis of these phases suggest early Ayyubid period for both of them. Above the second burning and collapse, a Mamluk courtyard (excavated in 2006-7) with tabuns and low adobe brick corrals suggests that this area was a modest domestic house in the 15th century A.D.



PPNB Wadi Shwayf-Hamarash From NE



PPNB Wadi Shwayf-Hamrash low res



Ghawr as-Safi

Project Name: Ghawr as-Safi Survey and Excavations 2008

Duration: January and February 2008

Director: K. D. Politis, M. O'Hea and A. Sampson

Representative: Mohamed Hamid Zahran

Survey

Survey work conducted during this season was limited to making a new contour map joining the Tawahin as-Sukkar, Khirbat ash-Shaykh 'Isa and an-Naq' sites. This will form the basis of a map of historic Zoara/Zughar and guide future land expropriation. Ard Ramleh-Galeb first identified in 2007 was more closely investigated.

Excavations

Wadi Suwayf-Hamrash

Two 10 x 10m trenches were opened at the site of Wadi Suwayf- Hamrash, located on an extended plateau north-west of the junction of the wadis al-Hasa and Suwayf-Hamrash (31.016 783 Latitude 35. 542 582 Longitude). The site which was identified and registered only a year ago consists of a Pre-Pottery Neolithic B settlement extending over about half a hectare. Excavations revealed closely-built stone houses enclosed by a stone-built perimeter wall around the settlement on a roughly circular plateau.

Thick walls, probably belonging to two-storey buildings of the earlier period of the settlement and thin walls separating rooms within trapezoid buildings with rounded corners were revealed. Smaller rooms, possibly storage rooms were connected to larger ones via narrow openings, closely resembling architecture found at Baydha.

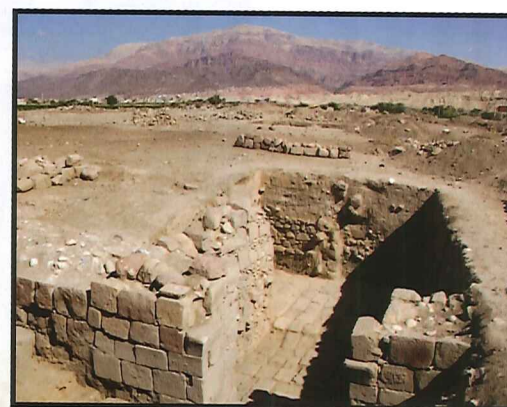
The preliminary conclusion is that there were three different house owners and two or three architectural phases.

Apart from numerous ground stone tools many flint artefacts (blades, pointed tools and cores) were recovered. Amongst the assemblage a carved rounded limestone object was identified which may either be some kind of odd tool, or even a part of a figurine.

Numerous millstones indicate extensive food preparation and cultivation of cereals, presumably on the plateau with its easy access to fresh water from the wadi. Soil samples were taken for analysis which will be part of an environmental study along with animal bones recovered from well stratified contexts.



KSI SW gate from NE



KSI SW gate from SW



the feet cut above the ankle are connected to the base. The size of the base is 28cm x 16cm x 12cm. The altar with its various phases could be dated to the Nabatean-Roman period.

The wall lines that encircle the area east of the qasr appeared to be of Iron Age origin. A probe at the south-eastern corner revealed that this wall can be connected to a stone floor similar to the one found in the area of the altar. Pottery from this probe could be dated to the Nabatean-Roman period. It could well be that the Nabateans reused an older Iron Age wall to create a themenos with an altar in front of the qasr. If this interpretation is correct, there is a possibility of another Nabatean sanctuary beside the one in al-Qasr.



Base of statue



Altar



Khirbat al-Balu'

Project Name: Khirbat al-Balu' Excavation Project 2008

Duration: 19 | 8 – 13 | 9 | 2008

Director: Friedbert Ninow

Representative: Khalid Tarawneh

Khirbat al-Balu' is situated on the northern edge of the central Moabite /al-Karak plateau at the mouth of Wadi al-Balu' which continues on into Wadi ash-Shqayfiyat, and eventually empties into Wadi al-Mujib. The site covers an area of about 125,000m² thus making Khirbat al-Balu' one of the largest sites in this area. The main features and visible remains of the site can be dated to the Iron Age (main and eastern parts of the site) and to the Mamluk period (western parts of the site). The massive remains of the Iron Age point to the specific representative character of the site during this period.

With this year's archaeological excavations a new research project at Khirbat al-Balu' has been initiated by Friedensau Adventist University, Germany. While previous projects were concentrating on the Iron Age strata, the focus of this new initiative is on the overall occupational history of the site.

Six squares were opened to the east of the large qasr that dominates the site. Four squares JM 42, JM43, JM 52, and JM 53 revealed at their centre a stone structure that resembles an altar. A closer look at the various building phases showed that the altar consisted in its first phase of a quadrangle of 3.20m x 3.20m x 3.30m x 3.10m. The stones are carefully hewn, the side walls covered with plaster. In a second phase the altar was enlarged. The southern wall and western wall consisted only of a small addition while the eastern and northern part experienced a larger addition. The area in between the extension was filled with fieldstones while the walls themselves consisted of hewn stones. In a third phase a stairway was added at the northern side of the altar. In front of the western wall a small podium was built. In the vicinity of the podium the base of a statue made of basalt was discovered. only



Khirbat al-Balu' General View



During the second phase, four altars were additionally built next to the earlier one. Two of these new altars were smaller than the first one, one measuring .5 x .5 m and the other measuring 1 x 1 m. The third one was discovered about 5 m northeast of the original altar, which appears to have functioned as the main altar during the second courtyard phase. This large altar measures roughly 3 x 3 m in size. As for the original one, all these new altars were made up of unhewn boulders.



Conclusions

The 2008 excavations at Khirbat 'Ataruz, based on the previous fieldwork, began with an expectation of uncovering a temple courtyard related to the Iron Age temple discovered in the 2000-06 fieldwork seasons. This expectation seems to have been largely substantiated. According to the 2008 excavations, the Iron Age temple had a large size of beaten earth courtyard. The courtyard was constructed on bedrock with at least four outdoor altars, one of which was built during the first temple phase (late tenth-early ninth century BCE) and the other three added during the second phase (the early-mid ninth century BCE).



Recommendations and Touristical Benefits

Further works are warranted in order to fully understand the exact template of the 'Ataruz Iron Age temple courtyard. To this end, in 2010, the research team will continue its exploration by adding more squares to the south and west of the temple proper. The 'Ataruz temple is one of the largest and best preserved Iron Age temple in the Levant. It may be able to attract some tourists who are interested in the cultic history of the Iron Age, particularly in relation to the Hebrew Bible and the Mesha Inscription.



Khirbat 'Ataruz

Project Name: The 'Ataruz Regional Research Project

Duration: 14 / 7 – 16 / 8 / 2008.

Director: Chang-Ho Ji

Representative: Ashraf al-Khraysheh

Khirbat 'Ataruz is a medium-sized ancient ruin located about 13 km northwest of Tall Dhiban on the western slope of Jabal Hamida, Jordan. It is almost certainly identified as the 'Ataroth mentioned in the Hebrew Bible and the Me-sha Inscription. According to the biblical evidence (Num. 32:3; 32:34), 'Ataroth appeared as one of the places that the Reubenites and Gadites desired. It was subsequently built and settled by the Gadites and thereafter remained under the control of the Israelites until the death of Solomon. On the other hand, the Mesha Inscription states, "Omri had taken possession of all the land of Mehadaba. He lived in it during his days and half of the days of his son(s)—forty years.... Now the Gadites had lived in the land of 'Ataroth forever, and the king of Israel had rebuilt 'Ataroth for himself" (lines 7-8, 10-11).



Objectives of the Project and Areas Explored

At the site, four seasons of excavation took place between 2000 and 2006 under the auspices of the 'Ataruz Regional Research Project, centering on three areas: the acropolis (Field A), the southwestern slope (Field B), and the north-eastern slope (Field C). The 2008 fieldwork once again specifically pertains to the acropolis area (Field A), which contains the remains of an Iron Age temple complex. Here, in 2008, the research team opened one 1 x 6 m square and six 6 x 6 m squares in the areas west and south of the main sanctuary, respectively, in order to explore the courtyards of the Iron Age temple. In addition, the excavation team opened one 6 x 6 m square along the city defense wall on the northwestern slope (Field D) with intent of dating the construction of the defense system.

Significant Results

In Field A, two phases of temple courtyard were identified during the excavation. In the early phase, the courtyard contained one square altar, measuring 1.5 x 1.5 m, made up of unhewn stone bricks. Bedrock was skillfully used in the construction of the courtyard floor; part of the earliest floor was composed of bedrock, while the builders added beaten earth where the bedrock dipped or fell away. The original altar was preserved when the temple was expanded during the second phase.



(FP 3 & 4) periods in Field B testifies to significant occupation at this time, the absence of any major structures can be explained by the prolific building activity of Mādabā's new inhabitants in the Late Ottoman period.

Previous field seasons at Tall Mādabā had exposed the remains of a massive structure dating to the Late Hellenistic period (FP 5 & 6). This season's excavations successfully uncovered more of this building and other contemporary structures (Fig. 2). These vestiges confirm that, during the 3rd and 2nd centuries BCE, a sizeable construction project was undertaken just inside the pre-classical fortification wall on the western side of the acropolis. In a second phase, dating to the same cultural period, this building was remodeled and further reinforced.

During the 2007 season, the earliest occupation phase on the west acropolis was exposed along the inner face of the site's fortification wall. This provided a clear occupation sequence that began in the Late Bronze/Early Iron I (FP 10) and continued until the late Iron IIB (FP 7). The Iron Age remains previously excavated at Tall Madaba were sealed by a thick layer of sheet-wash. The 2008 excavations have revealed that this post-abandonment deposit is not present everywhere on site, indicating that perhaps the city's massive fortification wall was responsible for this accumulation.

The latest Iron Age phase at Tall Mādabā (FP 7) dates to the late Iron IIB period and consists of what has been termed a 'squatter' occupation. Excavations in 2008 exposed more of these badly constructed buildings (Fig. 3); however, our efforts this season have also confirmed that this field phase is not present everywhere on the site. The earlier Iron Age phase (FP 8), dating to the Iron IIB, is represented by pilared buildings in the previously excavated area. Exploration in 2008 confirmed the extensive nature of the settlement at this time. Remnants of a massive structure built of very large stones was exposed at the southern end of the site (Fig. 4).

The location of this site within the urban core of the city of Mādabā, within walking distance of the Mādabā Museum and Archaeological Park, increases the need to consider its tourism potential. The site maintenance and presentation effort that has accompanied the excavation project has begun preparing the site for future use as public space, for both the local population and the many tourists who visit the city each year.



Figure 2 Plastered Late Hellenistic wall with foundation and threshold

Fig. 2: Plastered Late Hellenistic Wall With Foundation and Threshold



Figure 3 Late Iron IIB 'squatter' occupation (FP 7) wall

Fig. 3: Late Iron IIB squatter, occupation (FP7) wall



Figure 4 Iron IIB (FP 8) massive structure at southern edge of site

Fig. 4: Iron IIB (FP8) massive at southern edge of site



Tall Mādabā

Project Name: Tall Mādabā Archaeological Project

Duration: 15 / 6 – 24 / 7 / 2008.

Director : Debra Foran

Representative: Ali al-Khayyat



Fig1: Tall Madaba - Field B

The 2008 field season of the Tall Mādabā Archaeological Project concentrated solely on excavations in Field B. The primary objective of this season was to further investigate the extent of remains dating to the Early Roman/Nabataean, Hellenistic, and Iron Age periods located on Mādabā's West Acropolis. With this goal in mind, one unit, at the southern end of the previously excavated area, was re-opened and two new units, one at the northern of this same area and another inside the Ottoman house on the southern edge of the site, were opened. The past eight seasons of excavation at Tall Mādabā have revealed a complex occupational sequence inside the city's fortification wall spanning the Late Ottoman period through to the Iron Age (Fig. 1).

The history of the reoccupation of Mādabā during the Late Ottoman period is well known. The Field B excavations have exposed numerous walls associated with the visible architecture on the site, in addition to several installations that were surely associated with these 19th century structures (FP 1). A large circular silo at the northern end of the excavated area can now be added to this corpus.

The importance of Mādabā during the Byzantine period is indisputable; however, very little evidence from this phase of occupation (FP 2) had been found in Field B before the 2007 season. A fragmentary mosaic pavement associated with a stone threshold was uncovered to the east of the previously excavated area. A second feature can now be added to this field phase. The remains of a silo, first uncovered at the end of the 2007 season, produced a definitive Late Byzantine/Early Islamic ceramic corpus. This installation was clearly built at the same time as the Late Hellenistic walls that surround it, but it continued in use until the 7th or 8th century AD. The upper portions of the silo were robbed out by the construction of a circular pit in the Late Ottoman period. Although the presence of substantial ceramic material from both the Late Byzantine/Early Islamic (FP 2) and Early Roman/Nabataean



The Results of the 2008 Fieldwork : Field D on the Tall

Excavations in Field D on the tell concentrated on two rooms in D1 and D2. The objective was to date the walls of these rooms and this objective was met. The excavation team was able to reach the base of the walls and establish the building was founded in the Late Iron II period (7th-6th centuries BCE) and continued to be used into the Late Iron II/Persian period (5th and possible 4th centuries BCE). Of interest was the fact that in the south eastern room, walls were found below the Late Iron II walls. The earlier walls were built on a different axis and plan. While no firm dates could be established for these earlier, lower wall lines, pottery from the LB IIB/Iron I transition were recovered—including a carinated bowl and a jar with a slightly everted rim (Fig. 4).

Conclusion

While more work is necessary to fully understand the date and function of the North and South Rooms in the eastern sector of Jalul, everything found is consistent with a residential unit or even a khan. There were pens and bins, and tethering holes for animal and grain storage, but also ceramics representing the full range of functions of a residential unit for food preparation and consumption (plates, cups, kraters, store jars, cooking pots, imported wares, etc). Plus there were food preparation tools such as millstones, grinding stones, pounders, etc and some possible textile tools (loom weights, bone awl). There were also a couple of Arabic ostraca, something more likely to be found in a residential area. As for the question of a mosque, time did not permit an excavation of the so-called mihrab but a visual inspection did not reveal anything indicative or determinative of such a structure. This impression was confirmed by a visual examination by Dr Ghazi Bishah who visited the site during excavation. Thus, the function of the structures in the eastern sector of the Jalul village seem unlikely to have served as a mosque, but are not incompatible with those of a khan. Further work will hopefully shed more light on the issue.



Fig. 4: Field D on the Tall. Room D1 and Room D2



South Room. The north door jam and west Wall (L 11) of the South Room were also built at this time; it's width is also narrower than the original external west wall to the north (L. 40, 22). The east wall (L 10) of the South Room was also built at this time and also was not founded on the original bedrock. In summary, it would seem that walls 11, 3 and 10 of the South Room were built as a unit at the same time. The original floor for this room was made of hard packed nari (L. 51). It runs right up to the base of the east wall L 10 .



Fig. 3: Jalul Village.. disassembling and destruction of North and South Rooms

North Room. That the bin and the wall lines were part of the remodeling and not part of the original layout is supported by the fact that the bin in the north room cuts into the area where the wall was cut. The silo was not founded on bedrock, rather, it seems to have been established at about the same level as the walls in the south room. Its floor (L 45) was hard packed nari. Under the nari the silo was built of smaller stones. This probably does not represent an earlier phase of the silo, rather, it is the foundation for the silo above L. 45.

Phase 4—South Room remodeling

There was an additional phase of remodeling that, at this point, seems limited to the South Room. A bin (L. 16) was constructed along the north partition wall (Fig. 3). The base of the bin, and indeed the floor of the South Room, is at a higher level, suggesting some time had gone by since the original remodeling. The precise date is impossible to determine at present. Most ceramics continue to be Mamluk, although perhaps this room continued to be in use into Ottoman times. It is also possible that the North Room continued to be in use during this time (the silo, etc). Some pits were dug into earlier levels during this period; eg. the sw corner of the south room.

Phase 5—final destruction and abandonment.

Eventually, both the North and South rooms ceased to be used. Both rooms were later filled with fallen stones and earth up to the surface, whether from a sudden destruction or gradual abandonment is hard to say at this point. In the north balk of the north room, there is a layer of ash below the layer of fallen stones, which suggest that there was a fire in part of the North Room. However, the fire does not seem to have spread throughout the entire room (no evidence for this in the south part of the North Room) and was probably localized. Rather, it seems the final collapse is part of a gradual period of abandonment.



Phase 1—initial construction

The North Room was initially built on bedrock in most places as far as can presently be discerned. The walls from this phase include the west wall (L. 40, L 22) of the north room; and the east wall (L. 24, 35) of the north room (Fig. 1). These walls are all about 1.20m thick and are built mostly of fairly large hewn stones. The size and style of the stones represents a considerable investment by the constructors and suggests the importance of Jalul at the time this, and adjacent buildings, were constructed. While there were early Islamic sherds in the cracks of the bedrock, most of the sherds in the fills under the various surfaces or floors in the North Room were Mamluk suggesting this as the prominent period of use.

Only the southern part of the North Room was excavated this season. In this southern section, a number of wall lines were revealed that were founded upon bedrock, creating at least three small rooms (Rooms 63, 64, 65) (Fig. 2). It is uncertain at this point whether these wall lines were established during the initial construction or represent a later addition or sub-phase. Some of the smaller wall lines seem to create stone bins, possible for holding feed for animals. Indeed, the bins, and small rooms with low walls suggest the possibility that animals were kept in the southern part of the North Room.



Fig. 2: Jalul Village. number of wall lines were revealed that were founded upon bedrock

Phase 2—disassembling and destruction of North and South Rooms

At some point during the Mamluk period, the southern half of the North Room was systematically disassembled apparently to enable the reconstruction of the South Room which had been completely destroyed. Well hewn stones from the destruction of the South Room were seen covering its floor (L. 61) (Fig. 3). The destruction in the South Room proper looks more random and haphazard, but the original south end of the North Room was clearly taken apart carefully by hand.

Phase 3—remodeling

During the remodeling phase, a new partition wall (L. 3) was constructed to separate the North Room from the South Room. Wall L. 3 is not as substantial as the external walls (L. 40, 22) of the North Room. Rather, L. 3 was built with a narrower width. While the height of partition Wall L. 3 is uncertain, it does not seem to be founded on bedrock as were the exterior walls. This can be surmised from the fact that in the south balk of the north room, there is a pile of collapsed rock below the Wall L3 that protrudes from the balk and seems to run under the Wall L. 3. Also, the view of the Wall L. 3 inside the bin (L. 16) seems to indicate that the base of the Wall L. 3 was reached (however, this is not 100% certain and must be checked next season).



Tall Jalul

Project Name: Madaba Plains project at Jalul

Duration: 9 – 30 / 4 / 2008

Director : Randall W. Younker - Reem al-Shqour

Representative: Issa Syriantee

During the 2008 season, Andrews University conducted excavations at Tall Jalul and initiated excavations at the Islamic Village located immediately south of Tall Jalul and 5km east of Madaba, Jordan.

The Aims of the Project

Two previous excavations of the Jalul Village have been undertaken; one by Ibrahim Zabn in 2002 and one by Ali Khayyat in 2004. The work this summer was intended to expand and clarify the results of these previous two excursions.

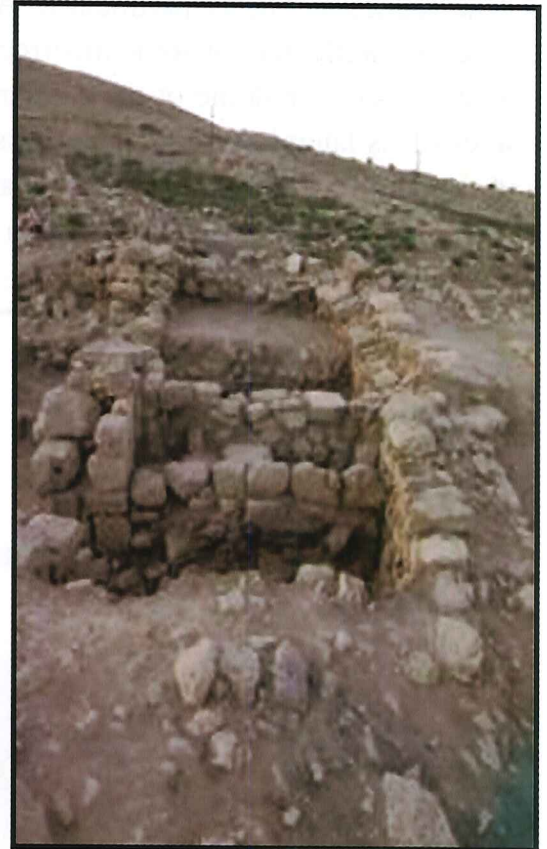


Fig. 1: Jalul Village . The south and north Room (initial construction)

The goals of the 2008 season were modest in that the team had only a couple of weeks to conduct excavations. In view of Ali Khayyat's suggestion that there was a khan located in the village immediately east of the oldest free standing square building in the center of the east quadrant of the site (it has been suggested that the freestanding building dates anywhere from Roman to Byzantine times, although no definitive archaeological evidence has been produced to confirm the actual date), it was decided to open a couple of squares across what appeared from the surface to be a couple of vaulted rooms that opened into an open area to the west (Fig. 1). The layout was suggestive of a khan. The SW corner of Square A 1 was located by GPS at N125134.00 and E 231292.00. The SW corner of Square A2 was located by GPS at N 125126.00 and E231292.00. Each square was approximately 5 x 10 meters, although excavation was concentrated on the inside of the two rooms. The north room was the largest measuring 7.5m by 4m. The doorway was .75m wide. It was not possible to measure the length of the southern room, but it was nearly 3m wide. The door was approximately. 75m wide.

The Results of the 2008 Fieldwork : Jalul Village

The excavations in the two squares (A 1 and A2) exposed parts of two vaulted rooms (Fig. 1); the "north room" and the "south room." The team was able to reach bedrock only in the north room. The debris in the north room consisted of roof fall.



Hammam as-Sarah

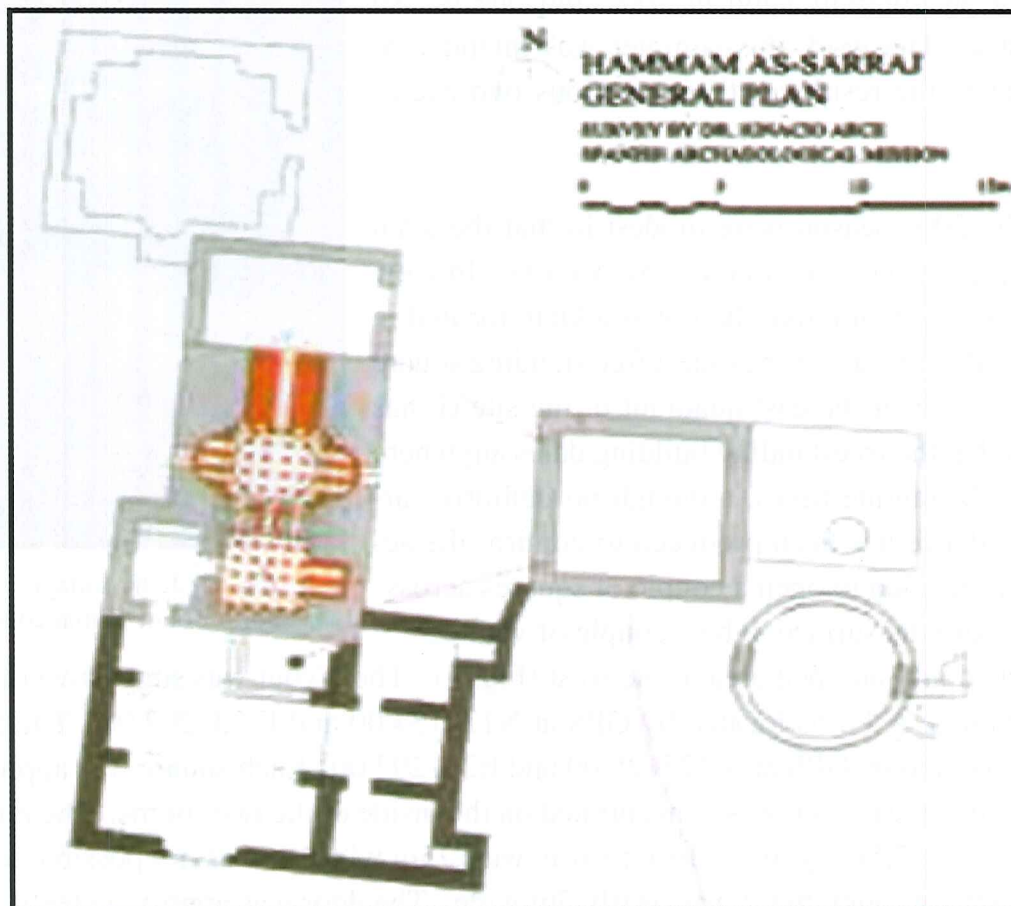
Project Name: 2008 CAMPAIGN REPORT (8th Campaign)

Duration: (ongoing) 8 years (Currently phase at Hammam as-Sarah since 2007)

Director: Ignacio Arce

Representative: Khaled Jbour

At the request of the Department of Antiquities of Jordanian, A restoration work has concentrated on the dismantlement of some incorrect 1974 reconstructions. In this campaign the restoration of the pendentives of the dome of the calidarium has been finished, as well as the restoration of the semi-domes of its lateral semicircular recesses. The rebuilt faces of the external walls were dismantled and rebuilt with lime-based mortar. In addition, the excavation of the hydraulic system and some areas of the garden have been carried out, in order to clarify the way they worked in the past.



Plan and Axonometric section of Hammam as-Sarrah



tially cut away the eastern side of this major building.

The excavation of baulks CpII17/CoII17 and CpII18/19 completed the exploration of a large square EB IV dwelling, House L.530, with its inner room L.560 and semi-circular annex L.564, and a series of installations for food preparation and storage. In squares CmII17 and CmII18 the western side of the Broad-Room Temple was brought to light, also uncovering a north-south wall (W.557) protruding from the southern façade of the building towards the south (Fig. 4). Excavations within the cella (L.500) have revealed the presence of two pillars facing a raised slab-paved platform (B.585) where two vertical slabs delimited a restricted central area. Also the rear wall of the temple was excavated up to its western end, discovering a curvilinear structure (W.587) connected with the north-western corner of the building, which possibly represents a boundary wall, like the one known at at-Tall ('Ayy) EB II temple.



Fig. 5: Area B North. General view of the EB II-III B triple line of fortifications, from west, with main city-wall W.103 (EB II-III B) to the right, outer wall W.155 (EB III A-III B) in the middle, and reinforcing scarp-wall W.165 (EB III B) to the left. In the left background, EB III A curvilinear defensive outwork W.185.

Conclusions

The fourth season of excavations and restorations at Khirbat al-Batrawi improved our knowledge of the Early Bronze II-III city of Batrawy, and, especially, of its formidable defensive system which reached the overall width of around 9m (Fig. 5), and protected the city for many centuries, until its final destruction around 2300 BC. The major Broad-Room Temple erected on the easternmost terrace of the site, overlooking the ford and the crossroad in the valley, today occupied by the modern city of Zarqa, was further investigated uncovering the western side of the cella with its cult installations (a raised platform with a niche delimited by stelae and two pillars).

Thanks to restoration works the Batrawi city-gate and city-wall stand now as among the best preserved monuments of this kind in the region, and hint at the resources and capabilities of the local community during the Early Bronze Age at the dawn of urbanism in Southern Levant.



In squares BpII5, BqII5, BrII5, BqII6, BrII6, facing the EB II city-gate, excavations were made to bring to light and restore a further section of the EB IIIA outer wall (W.155), which was uncovered for a 25m long stretch, both on its outer and inner sides. This impressive defensive work, 1.7m wide, was made of cyclopean limestone boulders laid in superimposed intermingled courses with a battering face on its outer northern side, while on its southern side less big blocks supported the rubble inner filling of the structure and delimited to the north the passageway running in between the main wall and the outer wall.

A section of the inner face of wall W.155 was also restored, in the area just east of the EBII gate, with a reversible technique and using the same stones collapsed from this structure in antiquity, in order to prevent the falling inwards of the inclined cyclopean blocks of the outer face (Fig. 1).

Regarding the EB II city-gate (Fig. 2), further restoration works and the removal of baulk BqII6/BrII6, just east of the gate, lead to the discovery of some blocks abutting the main city-wall foot, on both sides of the passageway, and presumably related to it, and of a squared stone pillar, with a central shallow smoothed depression, which possibly was used in the gate closure (Fig. 3).

Rehabilitation works at Khirbat al-Batrawi also included the systematic removal of a large amount of collapsed and erratic stones from the northern slope of the site, in order to enhance the readability of the urban topography and to facilitate further exploration of the town defences in the next seasons.

Area F – the EB IV Rural Village and the EB II-III Broad-Room Temple

Excavation and restoration works in Area F were aimed at completing the exploration of the western side of the EB II-III Broad-Room Temple, and at further investigation of the EB IV dwellings which par-



Fig. 3: Area B North. Squared stone pillar, possibly used in the city-gate closure.



Fig. 4: Area F. The Broad-Room Temple L.500, from west; in the foreground, the slab-paved platform B.585 with its inner niche and the couple of pillars facing it.



Khirbat al-Batrawi

Project Name: Archaeological Investigations on the Bronze Age Urban Development at Khirbat al-Batrawi, Upper Wadi az-Zarqa

Duration: 26 / 5 – 19 / 6 / 2008.

Director: Lorenzo Nigro

Representative: Ahmed Shorma

The fourth season of investigations at Khirbat al-Batrawi (Lat. 32°05',218" N, Long. 36°04',237" E), the Early Bronze Age fortified town in the Upper Wadi az-Zarqa discovered in 2004 was focused on excavations and restorations of the EB II-III city-wall and city-gate in Area B North, and on the complete uncovering and partial restoration of the EB II-III Broad-Room Temple discovered in the previous seasons on the easternmost terrace of the site (Area F).

Area B North – the EBII-III city-walls and city-gate

In Area B North, corresponding to the central part of the northern side of the site, excavation and restoration works were focused on the articulated fortification line, where a 30m long stretch of the main inner city-wall had been excavated in previous seasons together with the EB II city-gate, and where restorations with antique-like mortar were started. A further stretch of the main city-wall was excavated towards the west, in square BnII5, identifying from the top the following series of defensive structures: an EB IV embankment, regularizing the collapsed previous walls (W.199); the EB IIIB double line of city-walls with the main wall (W.103a) and the outer wall (W.155) with the adjoined scarp wall (W.165); the EB IIIA double defensive line, including the reconstructed inner main wall (W.103b) and the outer wall (W.155); the EB II main inner wall (W.103c) with a varying width of 2.9-3.2m, and a preserved average height of 2m (which indicates the original height of the city-wall was 8-9m).



Fig. 1: Area B North. Restoration work at Wall W.155, from west.



Fig2. : Area B North. The restored EB II city-gate L.160, from north-east, with blocks abutting the sides of the passageway.



Kharrana IV to aid in our reconstruction of the palaeo-landscape during occupation and to better understand the formation and post-depositional changes occurring at such a large, extensive Epipalaeolithic site.

A survey of several sections immediately south and west of Kharrana IV located a number of terrace leels and wadi fills. We documented these sections, collected bulk soil samples for OSL dating of the geological deposits, and mapped the sections with the aim of correlating them across space to work out temporal and spatial differences.

Our work at Kharrana IV this year raises numerous interesting research questions for future research here, particularly regarding the intensity of occupation.

Some of these questions include: How has the changing landscape affected land-use and settlement patterns at Kharrana during the Early and Middle Epipalaeolithic periods? Where are the sources of the flint used to produce such high densities of lithics on-site? What was the nature, duration and extent of settlement at Kharrana during the Epipalaeolithic period? Where was the closest water source? Why did prehistoric people select this particular location for settlement and why did they repeatedly occupy the site throughout the Early and Middle Epipalaeolithic periods? In order to answer these questions, we must understand both the nature of the occupations at Kharrana, as well as the surrounding landscape. This season's excavations were particularly useful for beginning to address these questions. We were able to document a complete vertical stratigraphy for the site and to better understand preservation conditions at the site, particularly in regards to charcoal. One of the most substantial results of our 2008 excavation season was to be able to recognize and document the complex sequences of occupational horizons, even within small horizontal exposures. With the extremely large size of the site and the substantial nature of its material record, our ongoing excavations at the site aim to provide critical data towards refining our understanding late Pleistocene hunter-gatherers in this region.



Fig. 4: Photograph of Area B: dark brown, organic-rich deposit containing large pieces of articulated bone, lithics, and ground stone fragments.



to the two sondages to increase horizontal exposure, d) assessing the current state of preservation of the deposits and artefacts contained within them, and e) evaluating the potential locations of future excavation areas on-site. This year our excavations focussed in two main areas, Area A and Area B (Fig. 2).

In the Middle Epipalaeolithic area (Area A), we discovered deposits containing large pieces of articulated bone, including cow-sized vertebrae and ribs and complete gazelle feet almost immediately below the surface (~10-15 cm), suggesting very good preservation of the deposits. This area was excavated to a maximum depth of ~38 cm, which is about the same level as that reached by Muheisen in 1985. Although the top 20 cm consisted of loose, grey silt containing high densities of lithics and fauna, below this we reached a more compact layer, again containing many pieces of large articulated bone and lithics, and many large pieces of charcoal. Indeed, most of the deposits are notably rich in charcoal. Underlying this locus is another, even more compact one with a notable decrease in large flints and bone. It is at the same elevation, and similar in description, to the living surface that Muheisen reported from his 1985 excavations in this area. This compact deposit appears at 28 cm below the surface and contains high frequencies of charcoal, articulated bone, several mandibles (gazelle-sized), and notably higher frequencies of microliths (trapeze/rectangles) (Fig. 3). Only a small portion of its upper deposits were excavated this year. In 2009, the complete excavation of this surface will be a priority.



Fig. 3: Photograph of Area A: a compact deposit containing high densities of animal bone, lithics, and charcoal.

In the Early Epipalaeolithic area (Area B), we attempted to re-locate the boundaries of Muheisen's sondage. Despite massive slumping of the deposits, we were able to determine the rough boundaries of his excavations to a depth of 1.3m (although not to the 2m depth he reported). In addition, we excavated our own sondage here to expose a full stratigraphic section of these deposits. We reached sterile deposits at ~1.5m below the surface. Here, we were able to further refine the stratigraphy and discovered deposits about ~75cm below the surface consisting of finely laminated ash and charcoal-rich layers interstratified with more clayey layers. We also discovered a 10cm-thick dark brown, organic-rich layer with large fragments of articulated bovid bone, blades and microliths, and groundstone fragments (Fig. 4). However, we were only able to excavate a small horizontal area of these deposits this year and so its full exposure will have to await further excavation in 2009.

In addition to our excavations, we conducted a small-scale geomorphological survey of the area around



Kharrana IV

Project Name: Excavations at the Epipalaeolithic Site of Kharrana IV

Duration: 24 / 5 – 3 / 7 / 2008

Director: Lisa Maher

Representative: Aref Daythem

The Epipalaeolithic Foragers in Azraq Project (EFAP) conducted excavations and geomorphological survey at the Early and Middle Epipalaeolithic site of Kharrana IV, located approximately 1 km southwest of Qasr al Kharrana in the Zarqa District (Fig. 1). This is a multi-year project funded by the Arts and Humanities Research Council of Britain and focussed on examining the nature and duration of occupation of the large site of Kharrana IV as well as local prehistoric hunter-gatherer behaviour during this period. Following from our topographic mapping in 2006, our 2008 excavation season served to contextualise the prior excavations by Muheisen, as well as expand from his important work in order to provide a better picture of the complex nature of occupation at the site over several thousands of years in the Epipalaeolithic period.

In the 1980s Mujahed Muhesien conducted several small sondages at the site. He documented multiple occupational phases, all dating to the Early and Middle Epipalaeolithic (c. 20,000-14,000 yrs BP), and many exhibiting a complex suite of archaeological remains, including living floors, post-holes, hearths and human burials. Sites containing such a wide array of features are extremely rare from this period in Jordan. In addition, this large late Pleistocene site has the potential to provide us with key data on palaeoclimates, prehistoric technology, mortuary practices, sedentism, architecture, and plant-use prior to the Neolithic period.

Our first field season at Kharrana IV focussed on: a) re-opening two of the main sondages dug by Muheisen in order to document the complete stratigraphy of two of these sondages; b) relocating features reported by Muheisen, c) opening new excavation areas adjacent



Fig. 1: Overview of the Epipalaeolithic site of Kharaneh IV as demarcated by a low mound surrounded by cement-pillared fence



Fig. 2: Photograph of the old sondage in Area B after the removal of backfill and slumped-in material, and showing the new section we cut to expose the stratigraphy here. We also dug a deep 1 m² probe down 2m into sterile deposits. Our new excavation squares are located immediately to the right of the sondage shown here.



constructed on top of the mesa; for every other known mesa top, there might be a tower tomb or large tumulus or some minor construction, but Maitland's Hillfort is the only one that has taken on a ("fortified") village-like arrangement. One observation during our survey helps to explain the uniqueness of the settlement: near the center of this *ca.* 4 hectare mesa top is a broad but shallow (less than 40 cm) depression that would have acted as a catchment basin during the rainy season, and this would have been a valuable resource for pastoralists after the rains ended. By bringing their herds up to the top, *c.* 40 m above the wadi floor, sheep and goats could be penned and watered for some time, and simultaneously protected from predators that were probably more threatening at the base of the mesas. In terms of establishing a chronological anchor for Maitland's Hillfort, surface lithics atop the mesa all point to a Chalcolithic or Early Bronze date, although the southern slope revealed Middle and Late PPNB hunting kits (including two broken Jericho points) and a Late Neolithic burin site.

Conclusions

Despite Alison Betts' pioneering archaeological investigations in the eastern badia during the 1980s and 1990s, much remains to be researched concerning the people who exploited the wealth of this forbidding territory before and during the early periods of pastoral nomadism in the region. The Wisad Pools area reflects a strong territorial identity for groups of people who routinely took advantage of the precious resources for several thousand years. The variety of funerary and other ritual structures at both Wisad and Maitland's Hillfort argues for a degree of social complexity that has been insufficiently explored, and for social hierarchies that rarely have been attributed to groups relying on simple herding and hunting.

Recommendations

Based on our initial observations described above, both Wisad Pools and Maitland's Hillfort deserve intensive investigation in the future. Our season was a short one, so the mapping was perforce very under-representative of what remains to be recorded and investigated. Beyond the central elements of both site areas, there are also extensive distributions of rock art and inscriptions deserving of recording and interpretation. The co-directors of the Eastern Badia Archaeological intend to develop a long-term research project in this region.

Touristic Benefits

In view of the location of the site far into the badia, there is little touristic value except for hikers and campers to the Wisad Pools or Maitland's Hillfort.



and rock art in both the core area and within the outer periphery.

For Maitland's Hillfort, we recorded the perimeter of the basalt-covered mesa top as well as significant ritual architecture and some of the domestic/herding structures. The distribution of circular structures ("nawamis") and lithic scatters along the southern base of the mesa were recorded using GPS near the base of the southern slope of the mesa. There appear to be a minimum of five structures similar to the Chalcolithic nawamis from the southern Negev and Sinai deserts, although some of the heavily damaged structures interpreted simply as "tumuli" may in fact be nawamis. Digital imagery was also extensively used in both areas of Maitland's Hillfort.



South wall of the "manse" at Wisad, a nawamis-like structure about 10m in diameter. The function of such buildings remains to be determined.

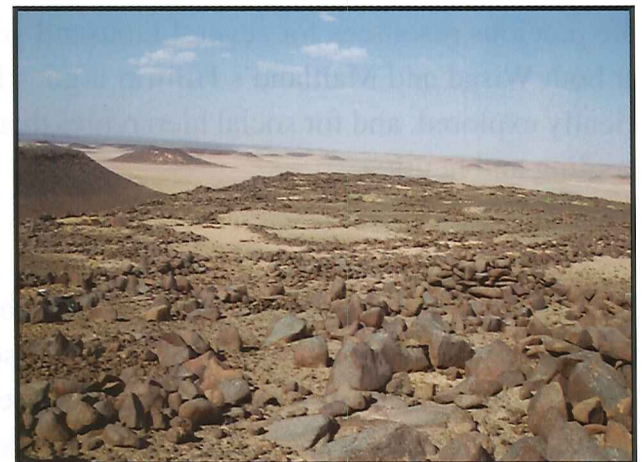
Significant Results

The distribution of architecture and burial structures in the core area of Wisad Pools is astounding, covering more than 85 hectares, making this one of the largest and densest necropolises known in the Levant. Although specific associations between artifacts and structures has not yet been determined, the general indications are that the site was initially exploited during the Epipaleolithic and PPNB periods, and that major construction began sometime around the Late Neolithic and continued into the Early Bronze Age.

The outer periphery of the central necropolis covers a much wider area, and there is evidently a much broader range of temporal use of the outer reaches of the pools

("ghadeer"), ranging from PPNB to recent times. Based on measurements for Pool 1 (with a length of 160 meters, one of the larger-sized pools out of nine pools altogether), this single source of water could hold more than 2,000 m³ (> 2 million liters) long after the rainy season ended. Another of the pools was more than half a kilometer long, although its depth was probably never more than 40-50 cm. Significantly, a semi-permanent Late Neolithic village consisting of ten or more architectural units, as well as a tower tomb, was situated alongside this long ghadeer.

Although Maitland's Hillfort has been known for 80 years or more, no one has found another like it. Maitland's Hillfort is the only known example where domestic/pastoral architecture was densely



View towards the northeast of pens and other structures atop Maitland's Hillfort. A tailed tower tomb occurs just off the photograph to the right.



Wisad Pools and Maitland's Hillfort

Project Name: Eastern Badia Archaeological Project

Duration 20 – 31 / 5 / 2008.

Directors: Gary O. Rollefson, Alex Wasse and Yorke Rowan

Historical background

As a follow-up to a survey season in 2002, the authors revisited Wisad Pools and Maitland's Hillfort to investigate the extent and nature of the archaeological remains inside the site boundaries.

Geographic Location

The Wisad Pools are about 105 km east of Azraq ad-Druze, at an approximate altitude of 650m; the center of the extensive site is near UTM 37R 402242E, 35 30279N. Maitland's Hillfort lies about 60 km ESE of Azraq ad-Druze at an elevation of approximately 660 m at UTM 37R 353 374 E, 35 21337N.



Wisad's Tower Tomb 1 from the south.
Note the large tumuli in the background

Objectives of the Project

The 2008 season aimed specifically to determine by pedestrian survey the extent of the archaeological remains at Wisad Pools and the character of the architecture at Maitland's Hillfort. At more than 100 hectares, the Wisad Pools is a unique desert necropolis, and Maitland's Hillfort has often been held to reflect a "fortified pastoral settlement" unmatched by any other pastoral site in the badia or elsewhere in Jordan.

Areas Explored During the 2008 Season

Wisad Pools is a site that covers an enormous area. The central area is dominated by relatively monumental architecture, including "tower tombs", large chambered tumuli, and substantial ritual architecture; the extent of

the core area was recorded using GPS means, and the area here appears to be in excess of 85 hectares. Outside the core area there continued to be archaeological remains that clearly were associated with the water resources at Wisad Pools, although both tombs and architecture were reduced in size, complexity, and density; we recorded the outer periphery of the site using GPS, and the area inside the outer periphery measures around 25-28 km². Digital photography extensively recorded buildings



Standing stone immediately to the east of Tower Tomb 2. Such standing stones appear to be characteristic of tower tombs at Wisad.



In general, the stratigraphy at Druze Marsh comprises a series of lacustrine, marsh, beach, and eolian deposits (Fig. 2). The bottom of the pits and the trenches corresponded to a basalt surface. The lowest sedimentary layers (those overlying the basalt) were a series of eolian deposits containing Late Acheulian handaxes (Fig. 3). The top deposit of eolian deposits consisted of a silt dune (nebkha or lunette) containing handaxes and Levallois flakes and blades (Fig. 4). This is important because of the implications of these transitional assemblages for understanding the lithic industries associated with the Lower to Middle Paleolithic transition. Overlying these deposits was a series of lacustrine deposits represented by green and black clays with occupations. Occupation layers in the clay deposit indicate a drop of lake level and exposure of the lakebed. The top sequence ends with a dark clay layer containing Upper and Epipaleolithic material. This dark clay grades into a layer of organic deposition, probably in a marsh environment containing Kebaran (early Epipaleolithic material). The significance of finds in the Druze Marsh lies in the deeply stratified sequence of deposits containing Late Lower Paleolithic, Middle Paleolithic, Upper Paleolithic and Epipaleolithic. These sequences are important for the study of hominin migration, subsistence strategies and land-use patterns in relation to changing lake levels. Next year systematic excavations are planned in two localities of the Duruz Marsh and on an upland site behind the Azraq Castle. Mapping and dating of paleoshore benches on the basalt will also provide information on high lake level stands. Our work at the Ma'in Site included survey and excavation of Middle Paleolithic materials. The main goal of this season's project in this region was to collect dating samples (OSL and Uranium series) in deposits to relate our surface collections with in situ materials.



Fig. 3: Two ovate handaxes DM8, Layer 1



Fig. 4: (left to right, DM-8, Layer 1) Levallois blade, Double sidescraper, Mousterian point, and retouched Levallois Point



Ad-Druze Marsh, Wadi An- Naqiyya

WZM-2, WZM-7. MADABA

Project Name: Duruz Marsh

Paleolithic Project

Ma`in Paleolithic Site Project

Duration: 10 | 6 – 22 | 7 | 2008.

Director: April Nowell (University of Victoria)

Representative: Aktham Abbadi

The field season in North Azraq included a survey of Wadi an- Naqiyya and the Druze Marsh site (Fig. 1). The main objective of research in the Wadi an- Naqiyya was to identify Middle Paleolithic sites, some of which were not mapped or clearly defined in previous surveys. An area of high concentration was identified in association with a former spring area. Low density in situ Middle Paleolithic material was found associated with the top of a green clay deposit at the bottom of a lake that filled the Azraq Basin. The Wadi an- Naqiyya was then an inlet or bay of such a lake. OSL and UTh dates will determine the time when the lake, presumably due to wet conditions, attained its maximum extent.

The Druze Marsh site corresponds to the northern part of the former body of water that occupied the northern part of the Azraq Basin before the 1980s. Research in this area included salvage work in the area where Azraq's new Children's Park has been constructed and test trenches in an adjacent field. Salvage work involved the definition of sedimentary layers, mapping, and collection of artifacts and samples for dating. Three backhoe trenches provided a view of the stratigraphy that complemented the long-term geomorphological history of the area.

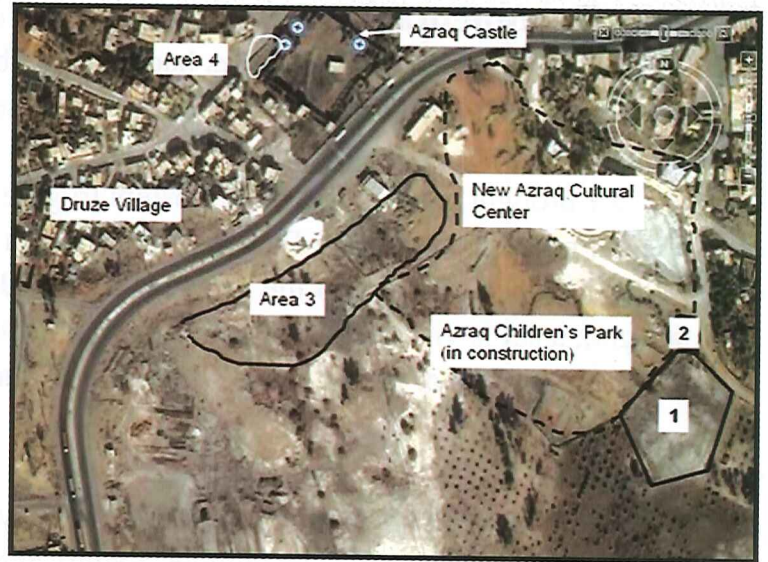


Fig. 1: Druze Marsh area. Survey and excavation in the square areas.

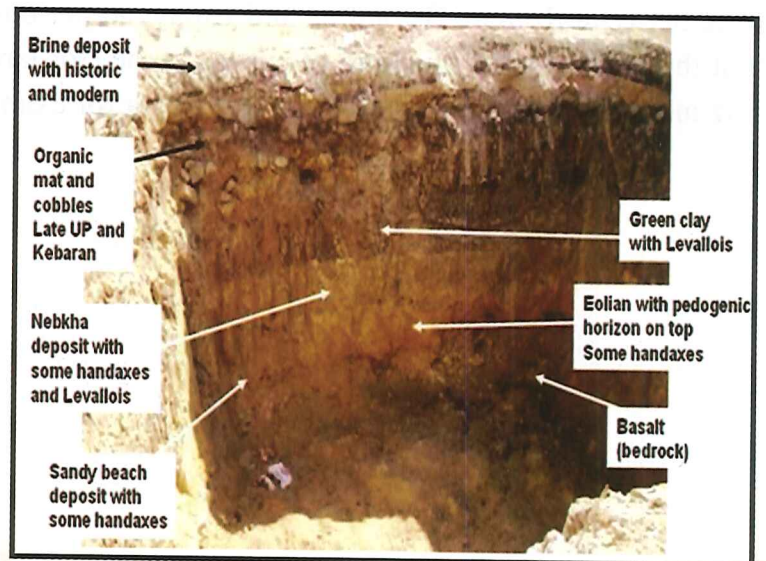


Fig. 2: View of stratigraphy in section DM-1X



Other Discoveries

We collected pottery sherds from Roman, Byzantine and Umayyad periods, few from ancient period (Iron?) or modern, glass, flints, some remains of very old and destroyed bullet and gun, bones. A kind of basalt bowl (broken) has been found on the last surface cleaned.

Visitor's Documentation

In 2007, we saw that visitors and guides had no idea about the archaeological remains and discoveries in the ecological site of the Wetland Reserve. In other hand, visitors did not understand the carved stones displayed at the Azraq Castle.

It is why we brought four documented posters to give information about the field work and the archaeological process. Written in French, translation in English has been possible thanks to the help of Dr. Ghazi Bisheh. Thanks to the director of Wild Jordan, Chris Johnson, and to Omar Shishan, Ecomanager,, a set is visible at the Ecomuseum at the entrance of the Wetland Reserve. Another one set is visible in a room of Azraq castle where are displayed the carved stones.

Conclusions

Architectural evidence still *in situ* shows that the way to build the platform in the wetland context required special cut facing stone techniques, mainly at the north and south extremities. That is the first real link we can make with the platform and some fallen large quadrangular blocks with rectangular tenons.

The carved stones confirm hunting iconography, marine topic and their outlines show the variety of shapes, known or new. More architectural investigations should be necessary to understand difference between Roman, Byzantine and Umayyad periods, according pottery sherds. It seems however that the beginning of this kind of cutting stone (for large quadrangular facing stones) belongs to the Byzantine period, at Umm al-Jimal and Bosra for example.



The workers indicated us also where is the dump of the earth removed from the 'Ayn Sawda pool in the eighties. The area is about less than one km south of the pool, and about 500 m by 300 m. Some groups of cut stones are visible among the dumps; some of them present architectural style. We collected the most remarkable, one column drum (n° 91) and two other with special edges (n°92, 93). A long stone (n°100) presents probably an unfinished cut.

In 2008, at the total, we have inventoried 15 new carved stones (or significant) and all of them have been carried at Azraq castle in the room where are displayed the others.

Architectural Discoveries

Cutting the reeds at the north extremity of the platform, we saw that the small side of this one (on the west side) presents in situ facing stones with rectangular tenons (Fig. 4). It is at this moment, the first evidence that we have a high sophisticate way to joint big stones. At the opposite, south part of the platform, big stones with similar cut have been found collapsed. All the cut stones are recorded, almost 47 have been found this year (A129 to A176). We moved them to the south part of the platform to create a parking protected by wood beams.

As the other years, some white broken stones of not good qualities have been found.

We cleaned the north-east corner of the platform to find indication of steps that Rees saw in 1929.

This part is very interesting and should be analysed, also the channel cutting the wall starting at the south part of the platform. The slope is toward east, covered by a layer of white mortar.

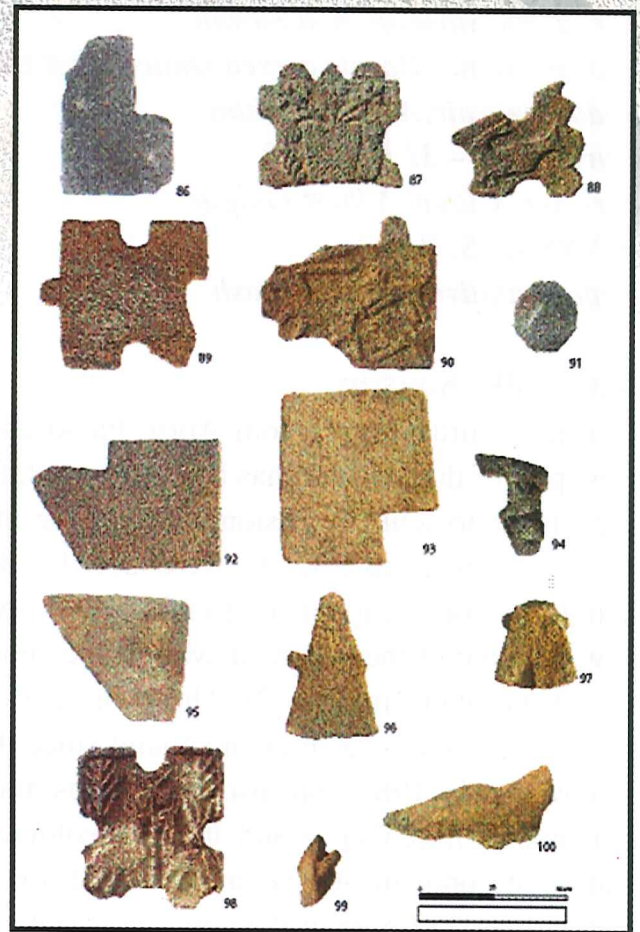


Fig. 3

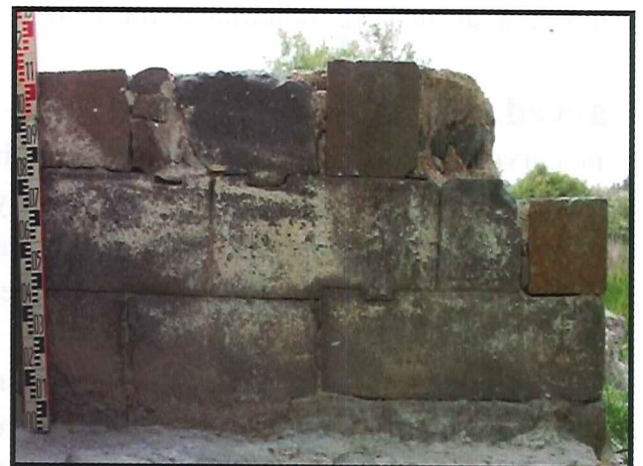


Fig. 4



Azraq ash-Shishan, Ayn Sawda

Project Name: Basalt carved stones from the 'Ayn Soda reservoir, Azraq Shishan

Duration: 1 – 31 / 4 / 2008.

*Director: Claude Vibert-Guigue
(CNRS-ENS, Paris)*

Representative: Ahmed Laash

The 2008 Season

During a third season, from April 3th to 24th, the west part of the platform has been surveyed, following a north to south extension which began in 2004. As it was projected (Fig. 1), we ended the cleaning below the south part of the platform and opened a new area along the reservoir wall at the south corner of the platform (Fig. 2). The main goal was to find carved stones, as they are found since the first discoveries in 1983, but also indications about the monument, its collapse and its archaeological and water environment. As we are in a pool now dried, there are no stratigraphical layers, but we take care to remove the large quantity of stones (unformed, broken, shaped, carved) according five phases of drawings (scale 1:20). Cut sections have been drawn at the south area, at the perpendicular of the wall.

Carved and Shaped Stones (Fig. 3)

Nine carved stones have been found during the field work (n° 86, 89, 90, 94, 95, 96, 97, 98, 99, only in the new extension of the survey south of the platform, from the west to the east, since the top of the actual ground to the last layer.

Looking for the stone n° 35 (that we saw in 2001 at the Lodge and now not visible since the rebuilding of this one), the workers of the Wetland Reserve have indicated us that two carved stones were in the basement of the bird watchtower of the reserve. Effectively, two fine carved stones were stored, n° 87 (fruit basket) and n° 88 (marine peacock).

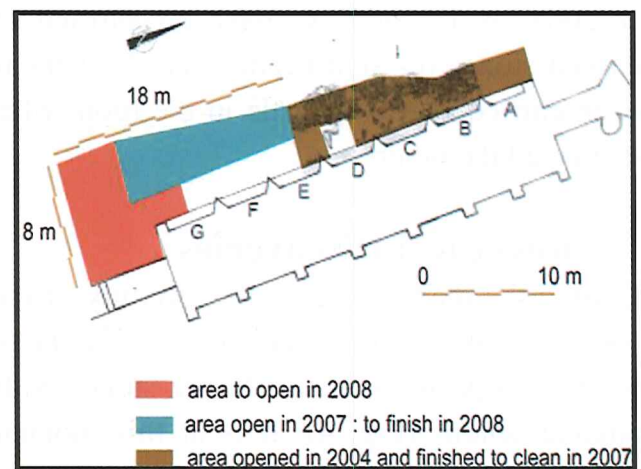


Fig. 1

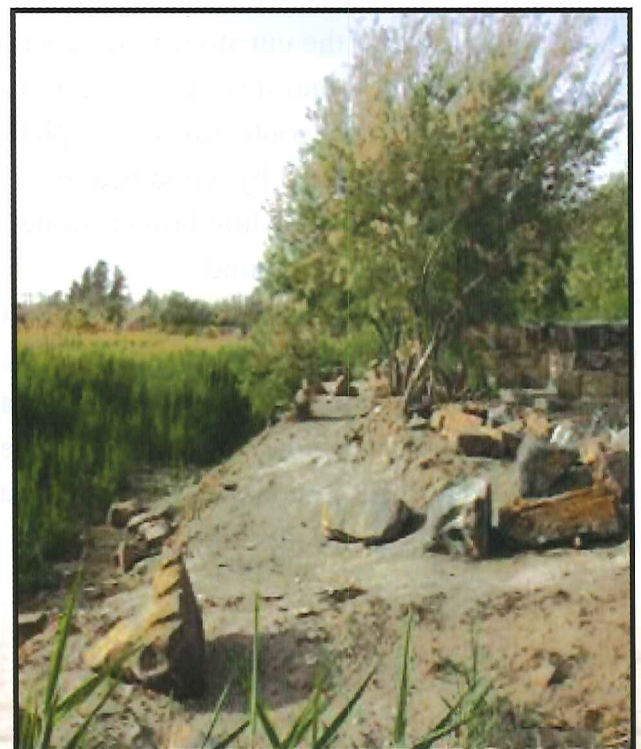


Fig. 2



who lived at the site before the Ammonites. According to Larry Herr and Doug Clark, Co-Directors of the project, Tall al-'Umayri is a rich Bronze and Iron Age site which began about 3000 BC and lasted until the Persian Empire around 500 BC. At the very beginning of the history of 'Umayri, a dolmen tomb was built of huge stones in the shape of a large box. While thousands of dolmens exist from southern Jordan around the Mediterranean and Atlantic oceans, only a handful have remains in them, including the 'Umayri dolmen. This year Elzbieta Dubis also found a building associated with the dolmen which, as far as we know, shows up nowhere else. The largest settlement at the site is 4500 years old, the middle of the Early Bronze Age. Farmers from the area banded together for protection to form a sprawling conglomeration of house compounds and narrow streets.

However, the most important period of occupation at the site dates to about 3200 years ago, a period that archaeologists call Iron Age 1. Two houses from this period were excavated in earlier years. This summer, excavators Bob Bates and Monique Vincent began to uncover several other houses. They found a deep, fiery destruction layer overlying the houses. Under the destruction were many crushed pottery vessels, mostly very large storage jars.

According to Gloria London, the project's pottery technologist, there were three separate potters' marks on the handles, showing that only three potters made the approximately 15 vessels. A team of excavators also explored the ancient city wall from this time period. It stands almost five meters high and they have not yet found the base. Yet another team was able to clear a house that was about 2800 years old (the Iron 2B period). It had cobble and dirt floors with walls preserved over a meter high.

Two other teams, led by Aren LaBianca and David Hopkins with Mary Boyd, discovered houses that were about 2500 years old (the Persian period). Rooms in these houses contained typical domestic goods and bins for storage. One building contained a large tabun almost a meter in diameter and preserved almost 40 cm high.

Small finds from the various parts of the excavation include nine seals, figurine heads of humans and animals, jewelry, and pottery vessels. By far the most frequent finds were food-processing stone objects like grinders and pounders, often made of basalt.



The new Iron 2B house with cobbled floors.



The tabun found in Field L from the Late Iron 2/Persian period.



Project Name: Madaba Plains Project - 'Umayri - 2008

Duration: 15 / 6 - 25 / 7 / 2008

Director: Larry G. Herr and Douglas R. Clark

Representative: Hussam Hjazan

3500 Year Old Religious Building Discovered

Archaeologists from the Madaba Plains Project digging at Tall al-'Umayri have discovered an ancient stone building with two rooms dedicated to the worship of ancient deities. The large construction at the site, situated along the Queen Alia Airport Highway about 12 km south of Seventh Circle, contained five rooms and dated to ca. 1500 BC. The site is clearly visible from the road entering the Amman National Park.

The building was preserved almost three meters high and was built of stone topped with mud bricks for the second story. According to the American and Canadian excavators, working for the Department of Antiquities and its Director General Fawwaz Al-Khrayshah the ancient builders carved a small niche into a mud brick wall and placed standing stones into a thick layer of plaster. Excavators found pottery gifts still lying in the niche next to the standing stones.

Worshippers entered the structure from the east through a monumental gateway and passed by a large standing stone set onto a plastered base as they walked into the inner room for worship at the niche. Archaeologist Kent Bramlett, whose team excavated the building, says that the standing stones probably represent ancient gods. He further stated that the structure probably served as a temple, but no one has been able to identify the names of the gods or just how they were worshiped. The people who constructed the building were probably ancient Amorites



The Late Bronze Age building from above with the cultic niche.



The entry room of the Late Bronze Age building with two fallen standing stones and the stepped entryway.



Significant Results and Conclusions

The southern peristyle court is smaller than expected. The northern one was touched in its southern stylobate. The military or administrative buildings east of the southern peristyle court from the late Roman time (3rd or 4th century A.D.) were destroyed by an earthquake (363 A.D.?). They were partly reused in the early Byzantine period.

Recommendations

Generally, the site should be protected against robbers by a fence and a permanent guard..



foreground: square 77 after end of excavation



all squares from aerial view after end of excavation. Top from left to right: Sq. 78 and 77, Second row from left to right: Sq. 94 and 93. At the right margin: sq. 90-91 from 2006 excavation.



Project name: Tulul adh-Dahab: Interdisciplinary research concerning the fortified central location in the lower Wadi al-Zarqa

Season, Duration: 23 | 7 – 19 | 8 | 2008

Director: Thomas Pola

Representative: Mohammed al Balawneh

Geographical Location

lower Wadi al-Zarqa, eight km eastward from the Abu al-Zighan crossing.

Historical Background

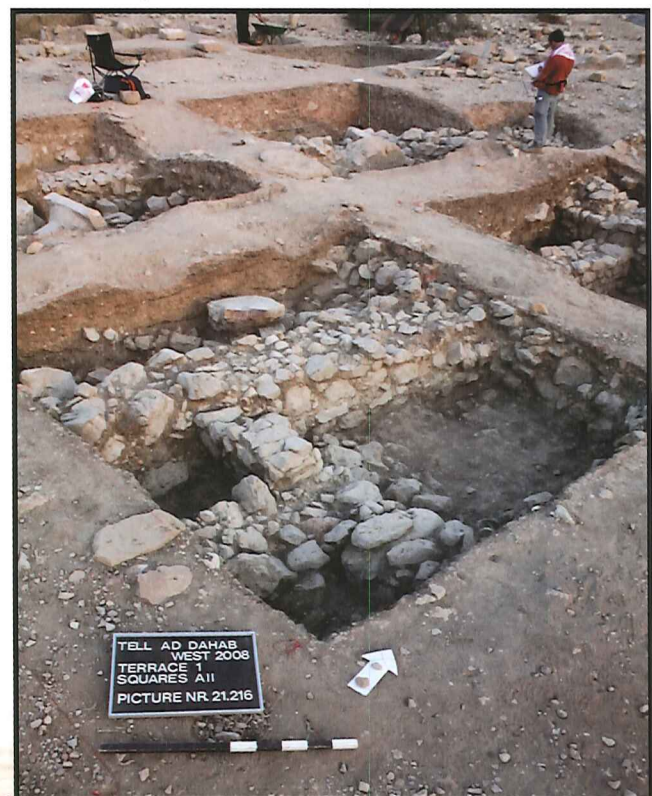
The site must have been of strategic importance as it lies between the ancient route in the Jordan valley, the route from the Samaritan mountains passing Tall Damyā, and (before the construction of the Roman road near Abu al-Zighan) the route from the site to the Ammonite territory.

Area Explored this Season:

The excavation of terrace I was continued with the adjacent buildings to the southern peristyle court towards the east slope (squares 108/93/94/77/78). In addition to that the terraces I to III were extensively explored by tachymetrical measurement (Prof. Dr. Frank Siegmund).



Terrace I (Plateau), squares 77-78 and in the background 93-94 before excavation.



foreground: square 78 after end of excavation



It is clear that the fort was completely destroyed on one single occasion (an attack?), as shown by the traces of burning found almost everywhere during the 2007-2008 seasons, just under the surface fills, and as testified by the finds inside the cistern which include many remains of houses: bricks, fragments of roofs, burnt beams, etc. The exact date of this destruction is still unknown.

The aims of the next 2009 season will be to explore the southern part of the fort, to complete its plan, and to expose the outer face of the curtain walls, all along its perimeter. Then, some consolidation works will be undertaken (2009-2010), for a final presentation of the Umm Hadar fort in 2010.



Fig. 7: The central courtyard, Loci F and E in the background

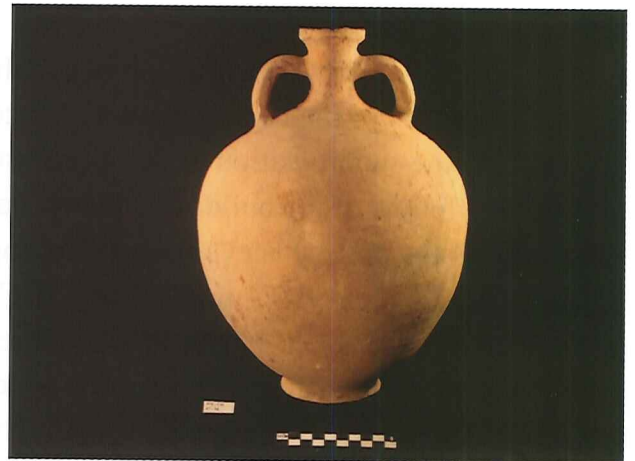


Fig. 8: Pottery from Umm Hadar

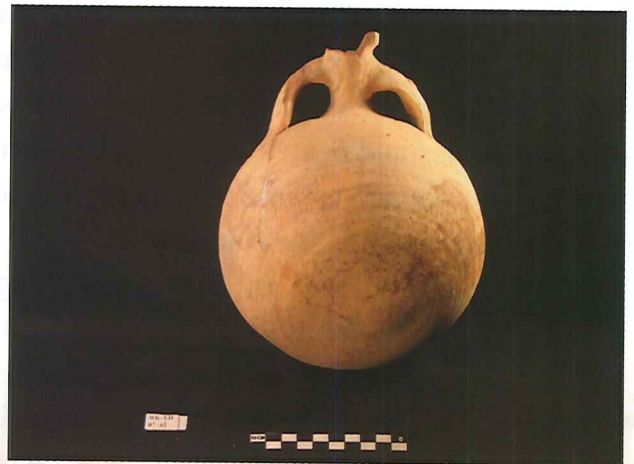


Fig. 9: Pottery from Umm Hadar



excavated during the 2009 season, and a complete plan will then be available. The 2008 season brought to light interesting information. (a) At least in two places, there are remainings of a staircase leading either to the roof (probably the case along wall M9, to the North), or maybe to an upper floor, as supposed for wall M27 to the East (Fig. 5), where the Locus is nicely built by comparison with all the other rooms. (b) There were many re-constructions during the life of the fort: some doors were blocked, some loci were separated into two sub-parts, another old wall was found under wall M16 (to the East), about 1m West of it, etc. Repairs or reconstructions are also visible in Locus L1 (to the West), but are more difficult to interpret.

Although there are obviously two phases in the architectural evolution of the fort, as shown by reconstructions and by the superposition of two floors in several places, the lifetime of the building need not have been very long, as the pottery is everywhere homogeneous in time, mid-2nd cent BC – mid 1st cent. BC (after a preliminary study, which has to be completed). This is very clear in the cistern (Fig. 6): the bottom was reached 6.70m under its upper ridge, and no true stratigraphy could be defined in the fill: as mentioned, the pottery is very homogenous in types (amphoras, cooking vessels) from the top to the bottom.

Finally, the central courtyard was fully excavated north of the cistern on its full width between Loci L, F and I (fig. 7): in several places the floor made of small stones and beaten earth was beautifully preserved. The pottery is similar to what was found inside the cistern and in the rooms.

The preliminary dating of the pottery suggests a timespan between the mid-2nd cent BC and the mid 1st cent. BC, although some slightly earlier or later shapes were probably found (figs. 8 and 9). But a thorough study of all this material is needed, and is being undertaken by Dina Frangié.



Fig. 4: The southwestern tower in course of excavation



Fig. 5: The western part of the fort, Loci L and M



Fig. 6: Wall M27 and the base of a staircase



Project Name: Wadi al Kafrayn

Project / Umm Hadar

Duration: 9 / 1 – 7 / 2 / 2008

Director: Jean-François Salles

Representative: Rami Freihat

As a continuation of the 2007 season, the objectives in 2008 were (a) to complete the excavation of the cistern and to try to understand how it functioned, and (b) to uncover the plan of the interior of the fortress all along the curtain walls (Fig. 1). Three sectors were explored: the northern part of the building, where Locus F was fully excavated (Fig. 2); the eastern area of the fort, where more precise excavations were carried out in Locus H and I (now separated into I North and I South), and new loci were exposed, Locus J (North and South), and Locus K. In the same area, the south-western Tower was also explored.

(Note: on the western part of the tower there was a large hole dug for military purposes years ago: most of the upper filling of the tower came from this hole, and the «true» filling of the ancient tower has been reached in several parts, but needs closer excavation (Fig. 3). The outside face of the Tower's walls was exposed, very badly destroyed to the East, better preserved to the South. but the original exterior floor remains to be discovered).

The western section of the fort was also excavated on more than 20m North-South: Loci L1, L2, L3 L4, and M were exposed (Fig. 4). Loci L and M, which have only one door leading to the central courtyard and are communicating together inside (without door in Locus L), seem to have been a long warehouse more than a domestic area, although there is one small fireplace inside. Locus 1, separating the curtain wall M 25 from the «warehouse», is not really clear and need further investigation. It was discovered at the very end of the season that the West-East wall M31 was bound with the western curtain wall M25.

Only the southern part of the fort remains to be

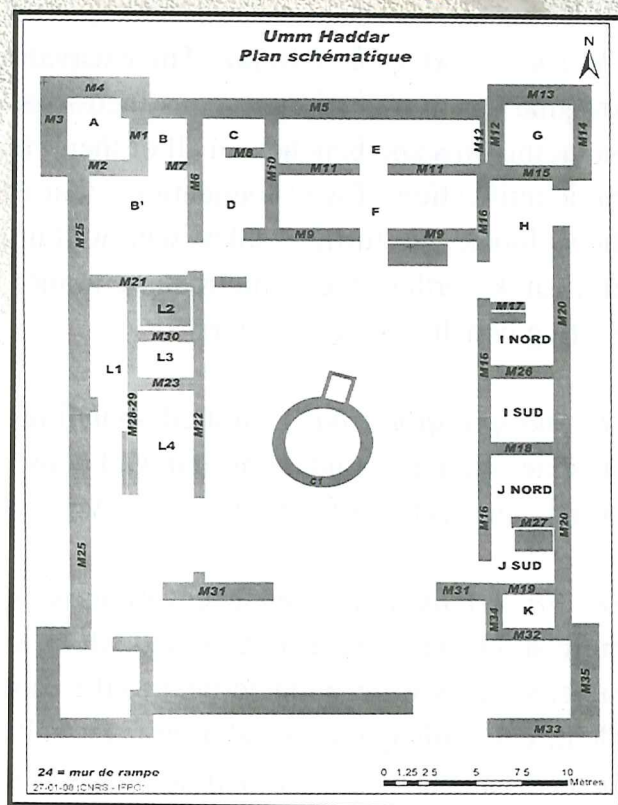


Fig. 1: General sketchplan of the fort at Umm Hadar



Fig. 2: Locus F



Fig. 3: Fragmentary jar found *in situ* in Locus F



The shops east of the mosque. The excavation of the five shops positioned east of the mosque in an irregular space created by its construction next to the main street has identified internal subdivisions, including bins and benches, in all of them, indicating concentrated usage. It was established, through the identification of wall foundations, that the front of the shops ran parallel to the cardo, but not on the stylobate. No further tablets with writing, like those found in 2007, were recovered. The clearing of a baulk north of the semicircular entrance to the mosque just north of the shops revealed a simple waiting bench next to the stairs.

The mosque qiblat hall. Limited soundings were undertaken to clarify features of the hall of the mosque, such as foundations and wall construction. A sondage in the southwest corner identified the initial construction of the qiblat wall, followed by the west wall.

The Eastern building. New excavations were initiated to the east, across the main cardo street, where more shops were suspected, behind which a major public building could be expected. Two 10 by 10 meter squares were initiated next to the cardo, which produced exciting results. Further shops were identified, built against a wall running parallel to the cardo stylobate, east of which paved rooms were uncovered (Fig. 4). The function of these rooms is not yet clear, but two lead seals and the sherds of many large storage vessels points to a governmental/administrative role for this building.

Street planning (Hugh Barnes). Continued planning of the streets around the mosque, cleared but not adequately recorded in the mid-20th century, has continued to discover many details of the use of streets and the space they created in the late antique and early Islamic periods. Special attention was paid to the cardo water system and its projection onto the oval piazza, terminating in a water basin and related features.

Recommendations

The restoration and presentation of the mosque and related buildings as a positive visual record of early Islamic settlement at Jarash is recommended. The planning of this stage of the project is now at an advanced level.



Fig. 3: The ink bowl



Fig. 4: The north rooms of the Eastern Building



Results

The 2008 season focused less on the mosque, which needed only limited soundings in selected areas, and more on the expansive structures lying adjacent to the east and west, as well as on the clearly important bathhouse demolished sometime in the 730s AD to make way for the mosque.

The bathhouse. Further work was centered on the northern section of the bathhouse, consisting of the cold room and, it was hoped, the main entrance area of the bath. A lane, perhaps leading from a street located to the west (but yet to be located) gave access to the north-facing door into the bathhouse, from which the first rooms of the bath were reached along a paved corridor (Fig. 1). An unexpected discovery were two adjacent deep semicircular pools built into the north wall of the cold room, clearly meant for bathing as the steps and thick waterproof plaster would suggest. In a later phase the easternmost of these was filled in and paved over. The other significant finding associated with the bathhouse was a semicircular latrine, also reached at the end of the laneway. While, sadly, the seating has gone, the water system for washing, the deep sewer and a mosaic floor with a simple decorative regime have been preserved (Fig. 1). However, the slot in the wall for the seats, which were perhaps cantilevered out from the walls, is clearly visible. Such semicircular latrines are rare in Bilād ash-Shām, where a rectangular form was favored, but are more common in North Africa. This may reflect the irregular space available for building the latrines, wedged between the decumanus shops and the bathhouse, or the age (ca. late third/early fourth century) in which this particular latrine was built at Gerasa.



Fig. 1: The northern section of the bathhouse, showing the two semicircular pools and latrines



Fig. 2: View eastwards over the building west of the mosque

A building to the west of the mosque. Located northwest of the mosque, on the other side of a narrow lane that runs north-south along the mosques' west wall, is a building compound so far identified by a small, two-roomed structure facing out onto an open courtyard (Fig. 2). First uncovered in 2007, excavation this season uncovered paved floors, a tabūn, a work area, and two functioning doorways, each preceded by a step to keep out the rising level of the courtyard to the north. A rare discovery in this area was what may well be an ink bowl, carved from a greenish stone with white and dark grey striations (Fig. 3). Pottery looks suspiciously like Abbasid types identified at Khirbat Mafjar and Pella, including red painted jar with a high neck, and so-called "Mefjar ware" of demonstrable ninth century date and later in Bilād ash-Shām.



Project Name: The Danish Jordanian Islamic Jarash Project

Duration: 2 – 28 / 8 / 2008

Director: Alan Walmsley

Representative: Akram Atoom

Historical Background

The Islamic expansion into Bilād ash-Shām between 635 and 640 AD has been viewed as the result of social and urban decay in the decades preceding, and resulted in further, permanent change to population and settlement histories in the region. However, archaeology has questioned such assumptions, rather arguing for considerable social and economic continuity, although not without changes and, even, discontinuities. The study of written sources, coins and material culture has revealed that life continued unabated at Jarash, resulting in the construction of a large mosque in the center of the city, as first discovered by this project in 2002, and extensive occupation in the area around.

Tourism Potential

The well-known tourist site of Jarash is renowned for its Roman and Byzantine monuments, but only recently for the Islamic periods. To develop this potential, the Islamic Jarash Project has commenced extensive excavations and a restoration program at the focal southern crossroads of the city (the tetrakionia plaza), where a large early Islamic mosque and important adjacent buildings will serve, through a heritage program, to promote the dynamic Islamic history of Jarash.

Area Explored This Season

The summer 2008 season of the Danish-Jordanian Islamic Jarash Project had as its primary objectives the final excavation and recording of the mosque, the late

Roman bathhouse underlying it, a line of shops built on the east side of the mosque, continued excavations of an adjacent building to the west, and new excavations of a major public building, probably administrative, located to the east across the main street. Continued planning and study of the cardo – south decumanus layout was also undertaken by the surveyor on the team.

Most Significant Monuments in the Area

Structures of the early Islamic period are located all around the Tetrakionia plaza: to the northwest, northeast, southeast and southwest. Others also existed within the plaza area, but were unceremoniously removed, without adequate recording, in the mid-20th century. The primary mosque of Jarash, constructed in the Umayyad period (41-132 H/661-750 AD), is located to the southwest of the Tetrakionia plaza, while to the southeast is another important building, probably of Byzantine origin but with clear Islamic-period occupation. Predating the mosque was a late Roman-period bathhouse, which is also the subject of detailed investigation.



Auge (Numismatist, IFPO-Amman). The first results already allows us to assume that the construction of the building could be dated to the end of the Hellenistic / beginning of the Roman periods, and that its abandonment might have occurred during the late Roman time. Its function, still unknown, might be related with the South Theatre located next to it.

Restoration of the Southern Wall of the Cella

Due to the lack of any intervention on the Southern wall of the cella since the beginning of the restoration project in 2001, its terribly bad state of preservation required the removal and replacing of several blocks formerly in a very precarious setting. The first stage of this operation (i.e. urgent consolidation works, setting down of the column, complementary excavation of the dump, fixing of the scaffolding, etc.) was in completed in 2007 (see previous report, 2007), and a second step of the operation in 2008 allowed us to undertake the risky removal of 196 stones in June-July 2008 (Fig. 3). This difficult and successful operation-revealed very important new scientific data, concerning ancient construction techniques related to the laying of the successive courses of the wall. The rebuilding of those blocks has to be conducted during next summer 2009.

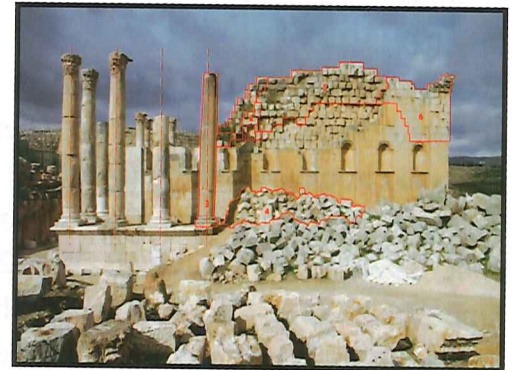


Fig. 3: Restoration of the Southern Structures of the Cella: Dismantled and Excavated Parts (Photo L. Borel / DAO Ch. March © IFPO 2007-2008).

The Restoration South-Eastern Corner of the Cella

Before we started the rebuilding of the Southern wall as described above, we undertook the restoration of the South-Western corner of the cella, where serious ameliorations needed to be done. Actually, most of the stones of the upper part of this architectural element were also in a precarious setting, and its state of preservation was getting worse. After having prepared the necessary steps of this operation (i.e. consolidation works, displacing of several stones from the lower tumble heap, fixing of the scaffolding, etc.), we were able to remove 197 stones in November 2008 (Fig. 4). This risky and difficult operation was fully successful, and it also revealed very important new scientific data concerning ancient construction techniques (see above); it also led to the discovery of a new window lightening the inner staircase of the corner from its Eastern façade too. The rebuilding of those architectural elements is under progress since December 2008.



Fig. 4: Restoration of the South-Eastern Corner of the Cella: Before and After Dismantling (Photo S. Desoutter © IFPO 2008).



Jarash, Sanctuary of Zeus

Project Name: Study, Restoration and Enhancement of the Sanctuary of Zeus

Duration: 2006 – 2010 / year 2008

Director : J. F. Salles

Representative: Mohammed Abu Abileh

Restoration of the Temenos Wall

To ensure security of the public when coming out from the the atre and circulating on the top of the Northern part of the Temenos wall, the consolidation and restoration of its four last parts, undertaken during the winter 2006-2007, has been achieved. Since June 2008, the final step of this operation, then focused on its North-Western corner, has been engaged and is still in progress (Fig. 1); to be completed very soon.



Fig1: Restoration of the North-Western corner of the Temenos Wall
(Photo J. Brunet © IFPO 2009).

Rehabilitation of the Northern Stone Parking, and Complementary Excavation of the North Building

Due to the lack of maintenance of the terraces created in 1996 to store the blocks unearthed from the excavations, and to the fact that most of these fragments were later re-used for the anastylosis of the temple, a rehabilitation programme of this area has been launched since 2007. Still in progress and focused on the Northern stone parking, the plan is to complete the rebuilding of the terraces, and the storing the blocks in a coherent exhibition, according to the results of their scientific analysis.

Within that area, enough space was available to carry on the excavation of the North building, partially undertaken in 1997, in order to try an interpretation of this structure. After a first season of excavation in 2007 (see previous report, 2007), a second one was undertaken in September-October 2008, by S. Desoutter (Archaeologist, INRAP France), under the responsibility of Ch. March. The whole surface of the building was then exposed, revealing its square plan, the main feature being a small and nice entrance hall leading both to a large room and a staircase, definite evidence of an upper level: the remains are well preserved (Fig. 2). The study of the excavated material of the two seasons is being prepared, with contributions of I. Kerhberg (Ceramologist, Univ. Sydney) and Ch.

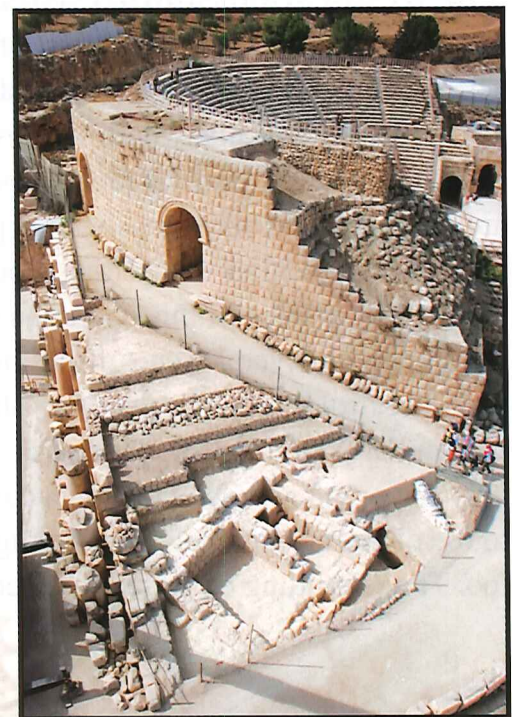


Fig2: Excavation of the North Building
(Photo S. Desoutter © IFPO 2008).



The eastward extension of the excavation revealed a room perpendicular to the tunnel, exactly aligned with the north face of the East Propylaeum (partly demolished and transformed into the Byzantine basilica's apse). Only the haunches of the barrel vault roofing were preserved.

At the back of the apse, in the place of the flight of steps, that in the Roman sanctuary of Artemis connected the east Propylaeum to the bridge, terraced rooms were traced. Within the earth filling, various architectural elements of the demolished pedimented triple gateway articulated by four free standing columns on pedestals were recognized.

Easternmost, by clearing a zone of the bridge surface, the original Roman flag stones of the well preserved pavement was uncovered. A 1 x 1m pit within it should be considered, according to local information, as a witness of an artillery position going back to the struggles occurred in Jarash during the 1970.



Propylaea church



Artemis bridge after dig



Project Name: *Excavation in the Sanctuary of Artemis*

Duration: *19 / 4 – 15 / 5 / 2008*

Director: *Roberto Parapetti*

Representative: *Adnan Mjelli.*

This year campaign was mainly concentrated in the area north and east of the apse of the Propylaea Church (the East Propylaeum of the Sanctuary of Artemis).

At the east end of the basilica's north nave, part of the surface tumble of architectural elements, which had collapsed for repeated earthquakes, was removed and documented. 4.5 m. below the surface, a succession of overlapping compacted earth floors was reached, related, by the pottery collected, to the last use of that area in Byzantine-Umayyad times. The area corresponds to the north end of the tunnel under the presbytery (the reason why the basilica is also called the Viaduct church) which is still full of soil up to the impost of the barrel vault roofing it. In the forthcoming campaign, not less than one metre below, we expect to reach the pavement of the parallel street east of the Main Colonnaded Street that in Roman times pre-existed the Artemis Bridge building. The tunnel is a 4m wide space, presumably 6m. high at the key stone of the vault. Once emptied, it is also expected to find traces of its probable use as the church's crypt.

On top of the above mentioned earth floor a 2m thick homogeneous tumble of collapsed stone blocks, to be attributed to the 748 AD earthquake, was removed. Above it, a further succession of compacted soils, connected with a crude wall made of blocks of various origin that sealed the tunnel, was recognized. The associated material suggests the latest use of that area in the Mamluk period.



Propylaea church before dig



Propylaea church during dig



church after dig



However, if the broad outline of the monument is understood today, many details remain misunderstood and research of additional information is essential to ensure the final publication of the painted and stuccoed structure.

This is why we proposed to dismount carefully an internal wall of the building of IInd century made up of more than 250 architectural reused blocks having belonged to the “naos hellenistic”. The project was to study all the blocks reused, then to rebuild the wall, with the same original stones, in 2009. For technical reasons the projected operation could not take place this year and had to be deferred.

On the other hand, the completion of the sounding undertaken at the base of the monumental altar and stopped in 1996 was concluded. Work reached the bed rock to study the still *in situ* totality of the stratigraphic sequence under the built structures, at the entry of the cultic cave (Fig. 5). The stratigraphic sequence was examined (Fig. 6) as well as the systematic collection of samples for C14 and palynological analysis. Parallel to this work, the regrouping of the blocks of the monuments of Roman time were undertaken, thanks to the assistance of the representatives of D.o.A. of Jerash (Mr Abu Abilah, Mr Abd el Majid Mujali and Mr Khalil Hamdan), in preparation for future restoration work.

This field research was supplemented by the study of ceramics (Anne-Michele Rasyon Seigne) and that of the coins (Christian Augé) discovered in 2007 during the preliminary excavations of the “ East Suq”. Lastly, thanks to the assistance of the Municipality of Jerash, the realization of the vectorized and GIS plan of the ancient vestiges was undertaken under the direction of Thomas Lepaon (Fig. 7).



Fig. 5: The entrance of the grotto of the naos

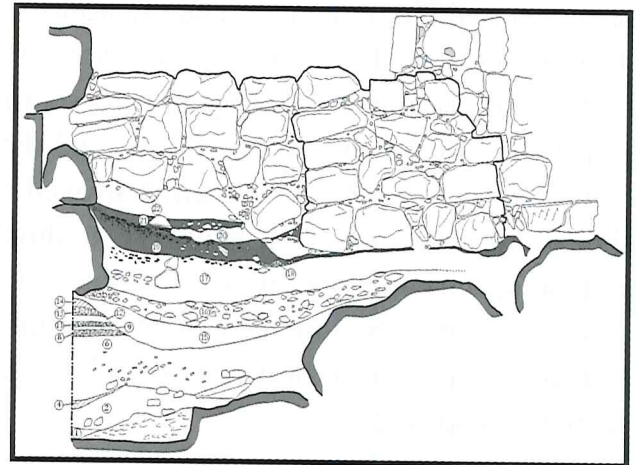


Fig. 6: Drawing of the stratified levels under naos structures.

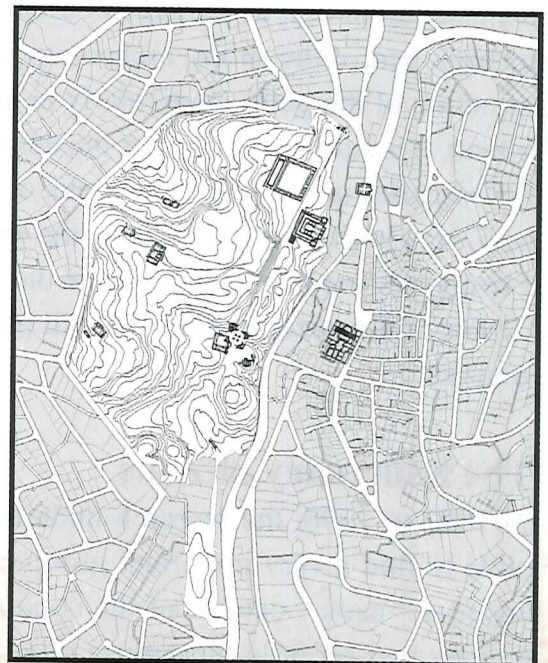


Fig. 7: Preliminary version of the GIS vectorised plan of Gerasa (Th Lepaon)



of area 1. Those of areas 2 and 4 were discovered south of area 1, which was not expected as the upper part of the front wall did not appear before the excavation. It even seems that one (or two) shops remain to be found because the front wall continues beyond the last partition wall. The location of these buildings very close to the South Gate is interesting as it could explain why no wheel tracks appear under the East way of the gate.

The dimensions of the five workshops are very similar (c. 5.85m x 3.40 to 3.70m). The walls are preserved only in foundation and the floors have disappeared. The destruction seem to have been systematic: as one goes along toward south, the level of preservation of the walls is lower and the west part of the partition walls have been destroyed for a more significant length (Fig. 3). However, it should be possible to specify the date of construction of the building as we excavated the foundation trench of the front wall and found a pit full of broken potteries in a corner of the southern shop (Fig. 4).

The stratigraphy had been severely disturbed by the works conducted between 1975-1980 near the South Gate (installation of a drain and electrical conduits in the back part of the shops, archeological trenches, construction of the path), particularly in areas 2 and 4.

However, it is sure now that after the destruction (probably end of IIIrd century), the workshops were refilled with dump and that a new road, of which we found the very hard layer of small stones in areas 3 and 5, was built over the ruins of the shops, leading from the South Gate to the Oval Plaza. In the next two years, we intend to continue the excavation towards north where we expect preserved floors and levels of destruction. Then we will propose a restoration and presentation of all this craft area for the tourists.

2- The Sanctuary of Zeus

From 1992 to 1996, the research undertaken on the lower terrace of the sanctuary of Zeus made it possible to find a very important group of architectural blocks carved, stuccoed and painted having belonged a “ naos “ datable of the conquest of the area by the troops of Pompée. This exceptional monument was recently the subject of a museographic presentation (Louvre project) and is now partially presented to the public.



Fig. 3: View of the destroyed partition walls, from the South.



Fig. 4: Pit full of broken potteries in the Southern shop, from the North- East.



Jarash, South Gate

Project Name: South Gate and Zeus Temple

Duration: 24 / 10 – 4 / 12 / 2008

Director : Jacques Seigne (CNRS/University of Tours)

Representative: Khalil Hamdan

The first campaign of this new four year project at Jarash had two main objectives :

- 1- the excavation of a group of shops built along the South Street,
- 2- the study of the earliest levels of the sanctuary and of the remains of the so called “Hellenistic temple”.

1- The “East Suq”

In 1982-1983, French excavations at Jarash between the South Gate and the south wall of the sanctuary of Zeus revealed, under a military camp of the IVth century A.D., exceptionally well preserved buildings of the IInd century, destroyed by fire at the end of IIIrd century (oil-mill, carpenter workshops, first floor apartments with all their furniture). Between the ancient road bordering the East cryptoportico and the present path going up to the Oval Plaza the front wall of eleven workshops, which seemed to have been destroyed by fire at the same period, was discovered in 1994. The buildings located under the path remained unexcavated.

During the first campaign in 2007, we uncovered in the area 1 (6 x 5m) what we assumed to be the most southern workshop. During our second campaign, we opened one after the other four new areas (in total 17 x 5m) in which we excavated four workshops down to a maximum depth of 1,50m (Fig. 1 and 2).

The workshops of areas 3 and 5 are situated north



Fig. 1: Excavation in progress, from the North



Fig. 2: General view at the end of the excavation, from the East.



Over 100 fine quality architectural and sarcophagus fragments were located in all survey areas around the city on bulldozer dumps and on waste ground or re-used in later walls. A weathered and defaced bas relief of three figures was located above the entrance to a hypogeaum tomb.



Bulldozer damage and robbing at Palmyrene tomb in NW Necropolis

In the Wadi ad-Dayr the scattered remains of the water channels that brought water to Gerasa were recorded along with four olive / wine press installations and two possible mills. Two mills were recorded in the south Wadi Jarash, one of them possibly Roman in origin.

Over 75 rock cut tombs were located, some of them robbed only recently and only a few may still be intact. Four distinctive artificial platforms located in the Wadi ad-Deyr may be platforms for mausolea or funerary temples or perhaps even farmsteads. Some 45 quarry sites and around 20 cisterns were also located throughout the survey area.

Seven traditional houses of late 19th – early 20th century date were recorded by the project and a separate project to record these fast disappearing structures should be undertaken and indeed the traditional houses should be restored and preserved.

A new Roman Milestone was located and recovered near to the three previously reported in 1998 one Roman mile N of Gerasa and all four milestones have been recovered for safe keeping by the Department of Antiquities.

The NW necropolis of Gerasa where a highly elaborate Palmyrene style tomb and other high status tombs were first recorded in 1992 has suffered further bulldozer damage, levelling and robbing despite the 2005 recommendations that this site be given immediate protection.

While the survey has been successful in identifying many new sites we think only c. 50% are visible due to soil build up. It is also very depressing work to find significant archaeological sites destroyed by development with no archaeological intervention in advance or during new construction works. We urge the Department of Antiquities to introduce a system where all new excavation and development works are evaluated by archaeologists in advance of and monitored during development.



Project Name: *Jarash Hinterland Survey*

Duration: *6 – 25 / 9 / 2008.*

Directors: *Dr David Kennedy and Fiona Baker*

Representative: *Mr Abd al Mujeed Mujalli*

The Jarash Hinterland Survey completed the second season of a multi-season project with the objective of surveying a 10km sq area centred on the ancient city of Gerasa during September 2008. The area surveyed included the urbanised east side of the ancient city, outside the city walls, part of the south Wadi Jarash and the north Wadi ad-Deyr as far as Birkatayn and an urbanised area to the NW of the ancient city. The total area now covered by the survey amounts to 2.5sq km and now encircles the ancient city. A total of 625 sites have been recorded.

Urban development and expansion is happening at a rapid pace at Jarash and the objectives of the survey, in response to this rapid development, are to record the archaeological sites of the Gerasa hinterland before they are destroyed by development and to contribute this information to our understanding of Gerasa. Sites that were recorded in 2005 were revisited to determine survival rates and over 30% of site recorded just three years ago have been destroyed. This indicates that the archaeological sites outside the ancient city wall are being destroyed at a rate of 10% per year.



Bulldozered heaps of architectural fragments and inscriptions at the Medical centre (left) & the Circassian cemetery (right)



Mill, possibly with Roman foundations

The survey identified several significant sites including a bulldozered monumental structure on the site of the new Medical Centre outside the North Gate of Gerasa. Two Greek inscriptions were recovered from the bulldozer spoil as well as several fine architectural fragments and Mr Mujalli is continuing salvage works at this site, which may be the site of the Temple of Nemesis. No archaeological monitoring or intervention was carried out before or during the construction of the Medical Centre.

A further monumental structure also now represented as a bulldozer heap of architectural fragments including a red granite column and a total of 16 columns, tesserae and pottery was located at the Circassian cemetery immediately adjacent to the Jarash Ladies Society from where it probably originated.



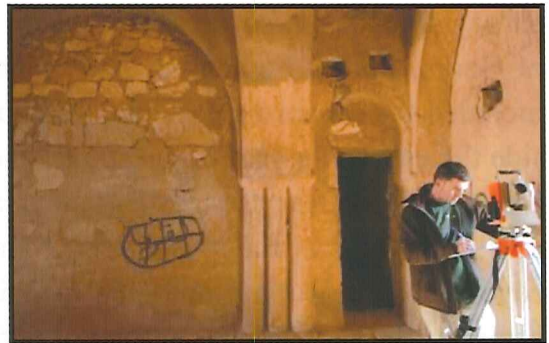
recording 3-D models are being built to evaluate the different hypothetical solutions.

7. Al-Qastal (Umayyad qasr): In parallel with the research of the vaulting system from Harrana, the 3-D reconstruction of the vaulting systems of the 'entrance block' from Qastal started in previous campaigns was continued.



Documentation at Qasr abu al- Kharaq

8. Hammam As-Sarah (Umayyad Baths): Analysis of the vaulting system, and restoration hypothesis. This work is the basis for the intervention of consolidation and restoration project, ongoing since 2007. See above.



Documentation in Room #26 at Qasr al-Harrana

9. Al-Hallabat: Roman Fort transformed and reused from 3rd C through 7th C AD

a. Analysis of the structure and its decoration patterns in Ghassanid Period; b. Studies on the Mosque porch were continued with the construction of the first 3-D models that will be used as basis for the reconstruction of the dome on pendentives identified as focal point of the porch



Reconstruction Hypothesis of Qasr al-Hallabat decoration in the the 6th C AD

Aims of the project

The main aim of this project is twofold: On the one hand to improve the know ledge and documentation of the archaeological built heritage of Jordan from Late Antiquity to Early Islamic period, in order to assist its preservation. This would help in its management and guide the eventual interventions that these built structures require. The positive results of this approach are particularly evident in the ongoing restoration of the Qasr al-Hallabat-Hammam as-Sarah complex, the other project we are directing). On the other hand we will contribute to research on the building typologies and building techniques used in the transitional period between Late Antiquity and Early Islamic periods to enhance our knowledge not only of the construction history of these periods, but also of the changes in the social, cultural and political context of that period, of which material culture stands as unique and almost sole witness. The analysis of the Material Culture and of the physical transformation of these structures offers a clearer and deeper picture of the social, political and military changes that took place from the third throughout the eighth centuries AD.

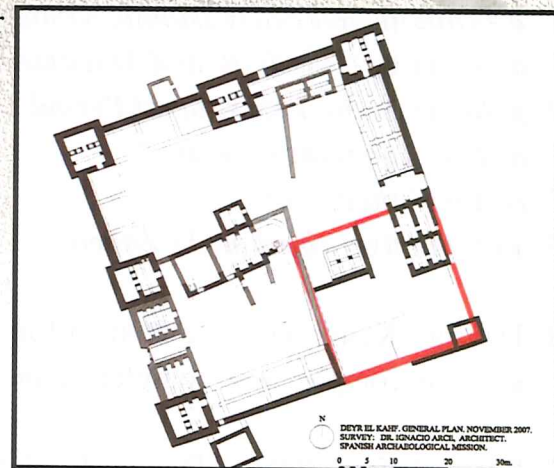
The historical period of our interest spans from Late Antiquity to the Umayyad period and focuses on the processes of continuity/change that took place during the Early Islamic Period. This long-term project foresees the study of a numerous series of relevant buildings from these periods in the coming years.



enclosure with elongated rooms that limit with the former quarry transformed into a water deposit (birkah).

4. Qasr Bashir: Tetrarchic Quadriburgium.

Orthophotographic recording of the main external façade and internal elevations was carried out in continuation to previous campaign. Documentation of the towers (plans) and ortho-photographic recording of the internal sections of the perimeter walls. External ortho-rectification continued (NW & SW elevations).



Deayar al-Kahf. General plan

5. Qasr Abu al- Kharraq: Iron Age fort. Tachymetric and photographic recording was carried out to prepare orthophotographic rectification recording. The aim is to compare the building technique used in this building with that used in nearby Qasr Bashir (that makes use of the same kind of stone, quarried with apparently similar systems but built with slightly different techniques).



Image from the "Praetorium" taken with a metric camera for Photogrammetric recording

6. Qasr al- Kharanah (Umayyad qasr): Analysis of the vaulting and constructional systems. This campaign has focused the work on the 'entrance block' integrated by the entrance corridor and the room above it (room n° 26).

Photogrammetric recording was carried out, as well as tachymetric survey that will be used for the orthophotographic recording and 3-D modelling.

The research is lead by the assumption that the restoration carried out in the 1960s concealed the original presence of a dome in this important room (placed axially in the center of the building in the upper floor above the entrance corridor). Our work has proved that dimensionally and structurally there might have been a dome on squinches. This would fit with the Early Umayyad 'standard' reception domed halls placed above the entrances ('high domes') of the qusur. Now different hypothesis are being built to study which sort of squinches could have been used to support the dome: whether arched ones supporting a flat coffering (like those from room n° 51 at al-Hallabat itself); conoid ones (like those from Amman Citadel Vestibule or the small ones from al-Harrana's room 51); conoidal-stepped ones (like those at room n° 59 at al-Kharanah itself); or 'lintelled' (i.e. horizontal beams placed diagonally in plan) supporting a flat coffering (like the ones discovered by us at Amman Citadel throne hall). With the support of the photogrammetric, and orthophotographic



Qasr Bashir: SW Elevation (Entrance)



Late-Antique and Early Islamic Architectural Analysis

Project Name: Analysis and Documentation Project on Building Techniques and Architectural Typologies in the Transitional Period between Late-Antique and Early Islamic Period in Jordan.

Duration: (ongoing) 5 years

Director: Ignacio Arce

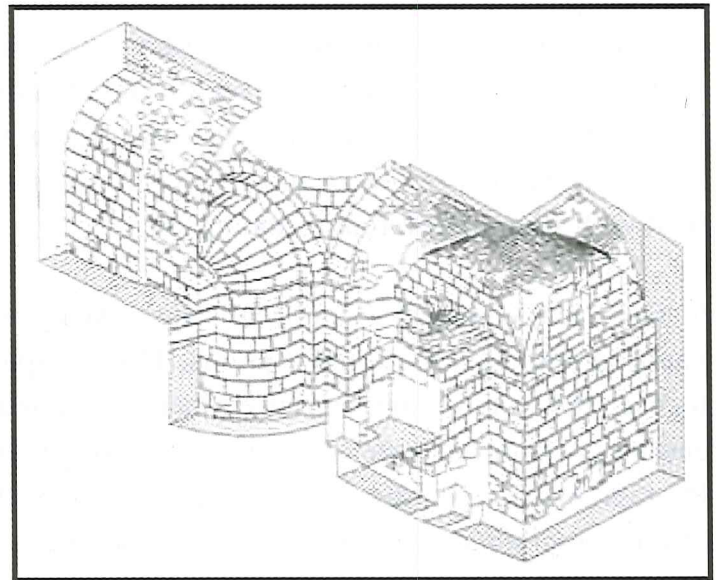
Representative: Ibrahim Az Zaben

1. Dayr al- Kahif: This is a Roman fort transformed and reused from 3rd C through 7th C AD. The plan of the complex was completed, and the orthorectification of the elevations started

2. Umm al-Jimal (6thC AD civic & religious structures):

- a. "Barracks" (internal section),
- b. West Church,
- c. Praetorium.
- d. Dwelling complex to the West of the Pretorium

3. Dayr al-Qinn, Umm al-Quttayn, Qasr al-Ba'ja, Umm as-Surab, etc. Work comprised preliminary research of the military, religious and civic structures from the southern (Jordanian) Hauran bordering the 'Harra'. After the similarities discovered in between al-Hallabat and al-Kahif, regarding the transformation of the original Roman forts from Severan period into quadriburgii during the Tetrarchy (to be afterwards transformed into monastic settlements, and ultimately used in the Umayyad period before their abandonment) our quest has continued in these other sites. They present similar characteristics that would confirm the same or similar patterns of transformation. The sequences of building techniques obtained from our analysis at al-Hallabat, Dayr al-Kahif, Qasr Bashir, etc allow us to extrapolate some of these results to be compared with the relative sequences present in these sites. Dayr al-Qinn is in this sense a paradigmatic sample: The original tower, built with rusticated bossed ashlar (that present the characteristic 'mason marks' seen also in the Severan fort at Dayr al-Kahif) was afterwards surrounded by a rectangular



Dayr al-kahif. North walls. External elevation



Umm al-Jimal "Barracks". Internal elevation



Khirbat as Samra

Project Name: Ceramics study season 2008

Duration: 30 / 8 – 1 / 9 / 2008.

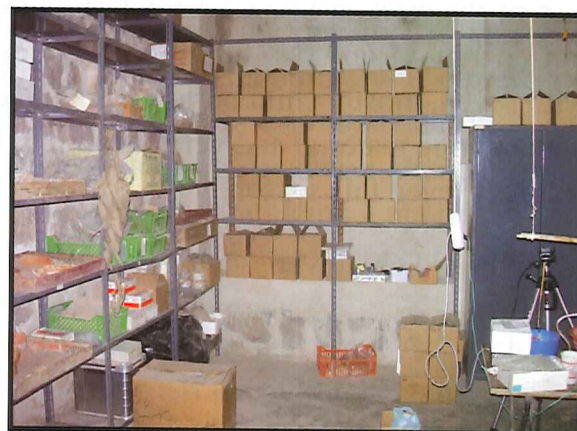
Director: Alain Desreumaux.

Representative: Abd el-Qader al-Husan.

The season was organized according to two purposes. The first one was to organize all the archaeological material excavated since the first season in 1981. Since the housing of the French mission in Samra was completed last year, it was now possible to arrange conveniently the material in the new furniture of the rooms. All the ceramics are now housed in the big store. The small finds, the samples and the restored bowls are now displayed in a secured room; glass, bones and mortar are kept on separated shelves. Bronze and iron objects are preserved in convenient packings; a part of them have been treated mechanically. Coins have been treated by electrolysis.



The second purpose was the core of the study season. As the publication of the second volume of Samra will be dedicated to the Roman mansio, the team worked on the sorting, restoring and drawing of the ceramics of this building. According to the numerous coins found in it, this mansio only dated between the middle of the 2nd century AD and the middle of the 3rd century at which time it has been razed to the ground. This precise chronology gives its ceramics a particular value since many shapes and pottery manufacturings can now be dated with a good precision. The totality of pottery finds having been kept from the excavations of 4 seasons in the spot, this ceramics will require more than two years examination before publication. One can already perceive major trends and characteristic kinds of vessels: painted plates, vertical-edges rimmed cups, ovoid juglets, cylindrical spiraled goblets, cooking-pots, lids, etc. A first sorting of hundreds fragments of lamps has been prepared. All the study of the ceramics is placed under the direction of Jean-Baptiste Humbert, from École biblique et archéologique française of Jerusalem.





Mughur al-Hamam

Project Name: The Western `Ajlun Early Prehistory Project

Duration: 7 / 10 – 7 / 2008

Directors: Aaron Stutz (Oxford College), Tobias Richter (UCL), and Liv Nilsson-Stutz (Emory University)

Representative: Mohammad Al-Balawnh

The early prehistoric archaeological record of Northwestern Jordan is known to be rich, holding great promise, but large areas within the region north of `Amman and west of Jarash have yet to be systematically surveyed for Stone Age sites. The Western `Ajlun Early Prehistory Project is a new effort to investigate the region's Paleolithic and Prepottery Neolithic archaeological record. The project plans to focus on the Wadi Rajib and Wadi Kufranja. We are building on Dr. John Shea and Dr. Patricia Crawford's (2003) preliminary survey of caves in the upper Wadi Kufranja, as we hope to carry out a more comprehensive survey of cave and open-air sites in a region that would have been ecologically rich and diverse —very likely supporting human settlement, from the Early Paleolithic through the early Neolithic. In 2008, we carried out the first step in the project, conducting a survey of the cave site Mughur al-Hamam. We learned of the site from Dr. Jaimie Lovell (Council for British Research in the Levant), director of the Ritual Landscapes in the Chalcolithic and Early Bronze Ages Project in December 2006. Her team identified the site, and she alerted us to its potential for investigating the Paleolithic of Northwestern Jordan. Mughur al-Hamam is located at coordinates N32' 15'25.35"/ E35' 38' 04.86". Here, a series of five caves open onto a narrow terrace from a low limestone cliff, which is situated at ca.





tacular find from the Abbasid period or even from Umayyad times is a complete and intact elaborate bronze object, most likely an incense burner with incised decoration, which once might have been gilded. An Iron Age complex was exposed below the Abbasid structures. It includes domestic dwellings, defence structures and a workshop for metal processing. The former is represented by a bakery in which a large tabun, several storage jars and a container for the storage of grain were found. The workshop produced numerous arrow heads of iron but also objects of copper and bronze. A complete cylinder seal of stone is most likely of Assyrian origin: it depicts a scene where a king is standing behind a horse and ready to shoot an arrow. The bearded king is clad in a decorated foot-long dress and a belt. The horse shows ears and a possible horn. Imported, high quality, pottery derives from Cyprus and Lebanon which demonstrates far-reaching contacts during the Iron Age.

The plans for the next season in 2009 are to expose more of the Iron Age and to preserve essential architectural structures which were exposed during previous seasons. These comprise the five meter wide city wall from the Early Bronze Age, a bakery from the Late Bronze Age and an Iron Age house with four rooms.



Tall Abu al-Kharaz

Project Name: The Twelfth Season of Excavation at Tall Abu al-Kharaz

Duration: 30 / 8 – 2 / 10 / 2008.

Director: Peter M. Fischer

Representative: Ismaeel Melhim

The Swedish Jordan Expedition under the direction of Professor Peter M. Fischer from the University of Gothenburg, Sweden, carried out the twelfth season of excavation at Tall Abu al-Kharaz during September 2008. The excavation was supported by the Department of Antiquities of Jordan.

The isolated, impressive mound of Tall Abu al-Kharaz, “The Mound of the Father of the Beads”, lies in the ancient landscape of Gilead in the Central Jordan Valley and is located just above the eastern border of the Jordan Valley, north of the perennial Wadi al-Yabis / Wadi ar-Rayyan about 4 km east of the Jordan. A clear day provides an excellent panoramic view over large areas of the Jordan Valley from the summit of Tall Abu al-Kharaz. This view from the north-west to the south-west includes the hills around Nazareth, Mount Tabor, Beth Shan and the eastern Yizreel Valley, and large parts of the West Bank. Tall Abu al-Kharaz lies along the ancient north-south trade route which connects the Sea of Galilee and the Dead Sea. The distance between Tall Abu al-Kharaz and the Mediterranean Sea is approximately 80 km. Approximately 6 km to the north is Tabaqat Fahil



(Pella of the Decapolis). Tall Abu al-Kharaz is located at a strategically important point, where the Wadi al-Yabis / Wadi ar-Rayyan emerges from the eastern hills into the Jordan Valley. A large area in all directions could be supervised from the top of the site, which makes it the most convenient settlement mound as regards defence. This is very well reflected in the occupational sequence of the site: it was inhabited during the Early, Middle and Late Bronze Ages (approx. 3200-1200 BCE) and in the Iron Age (approx. 1200-600 BCE). Many scholars believe that Tall Abu al-Kharaz is identical with the Biblical site of Jabesh Gilead of the Iron Age.

The objective of the 2008 season was to investigate the Iron Age sequence and to date it by radiocarbon/ Charcoal of short-lived plants from good contexts, for example, from the floor of the inside of a house is essential for radiocarbon dating. Such samples were found and will be processed by the radiocarbon laboratory VERA in Vienna, Austria.

Abbasid remains were discovered just below surface and above the Iron Age occupation. A spec-



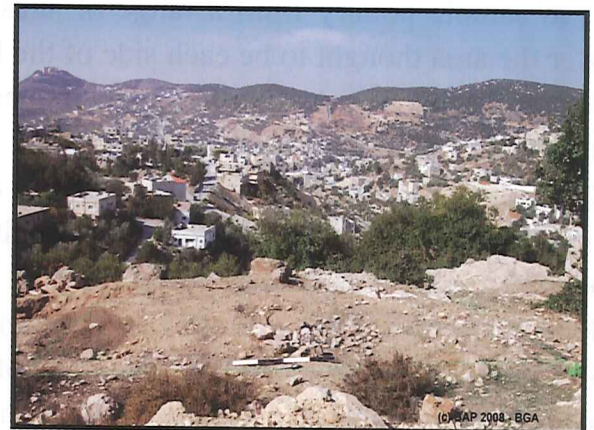
clear differences between sites, even allowing for the different time periods each settlement was inhabited. One of the most important discoveries of the team was the extent of underground structures in this region. Many sites contained modified caves, some used for housing and stabling, others for housing alone, in addition to the standard range of shaft and chamber tombs. Furthermore, a variety of processing installations were planned and photographed. Many were clearly for products other than grapes or olives. Further investigation of the range of agricultural or other activities needs to be carried out. As far as time allowed, the BAP team made plans and took still and video photographs of the underground structures, to give the Department of Antiquities as much data as possible to manage these important cultural resources.

Despite intensive efforts, it proved very difficult to find any traces of the former major Roman road between Pella and Jarash. Only one stretch of kerbing, a milestone and a probable column section were located between Tabaqat Fahil and Miryamin, about 3km south east of Pella.

It would be the work of a new project to excavate selected locations along the route, as we suspect that the road is deeply buried under alluvial soils and “modern” tracks.



Setting up squares at Nu'ayma



Tor Hanah square 8 view W



Wadi ar-Rayyan / an-Nu'ayma

Project Name: Borders of Arabia and Palaestina Project 2008 season

Duration: 1/ 11 – 17/ 12 | 2008

Director: Kate da Costa

Representative: Zuhair al-Zuobi and Ahmad el-Shami

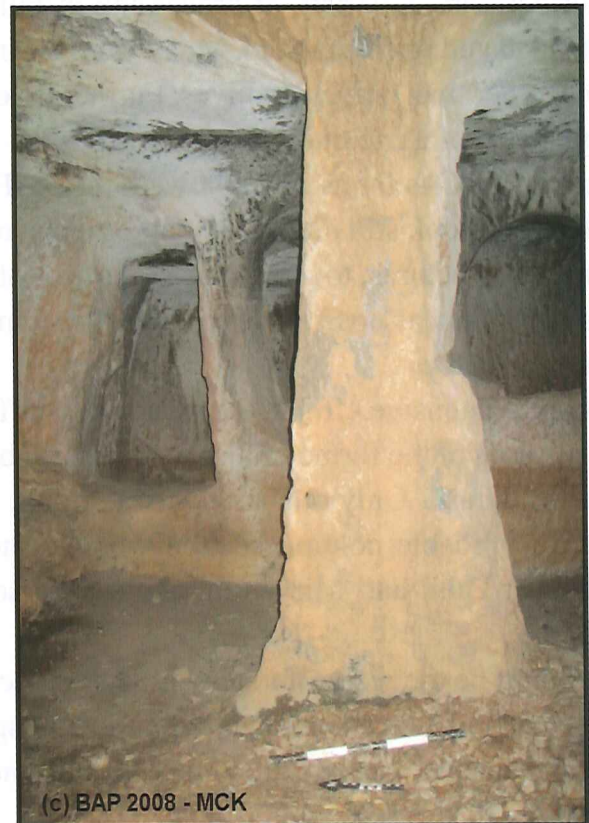
The second season of sampling and survey for the Borders of Arabia and Palaestina (BAP) Project, in the Wadi ar-Rayyan/an-N'ayma region has taken place from November 1 to December 17 2008. A team of 16 from the University of Sydney were based at Tabaqat Fahil.

The aims of the project were :

- 1) to sample pottery from a range of sites distributed over the area thought to be each side of the Roman provincial border. Various sampling techniques were used to test methodological approaches.
- 2) To plan the visible architectural remains of each site, as far as time allowed, to determine the site extent (if possible), assess significance and modern threats, and document unusual features of sites, if present.
- 3) To attempt to survey in detail the route of the Roman road between Pella and Jarash, as this information is important to properly model land transport systems.

There is currently no certain route for the border between the Roman provinces of Palaestina and Arabia. This is the same situation across the Empire, where no documentary evidence survives for the administrative divisions of territory. The BAP project is seeking to use archaeological evidence to develop data to answer the question, based on differences in pottery distribution between the provinces. We have been collecting all sherds from a series of 5 x 5 metre squares across twenty sites, nine of them in 2008.

In addition, test pits of 1 x 1 or 1 x 2 metres have been excavated at most sites, to compare the types of pottery recovered from above and below ground. There are



(c) BAP 2008 - MCK

Maqati cave house and stable D view NE



(c) BAP 2008 - BGA

Maqati sounding 2 end of day view E



Wadi ar - Rayyan

Project Name: The Wadi ar- Rayyan Archaeological Project (WRAP)

Duration: 5 / 4 – 1 / 5 / 2008.

Director: Jaimie Lovell

Representative: Ziad Ghnaimat

In April 2008 Dr Jaimie Lovell returned to the site of al Khawarij for a 3rd season of excavation because of the exciting results obtained during the 2005 season. At that time it was believed that the longroom building excavated in E6 and E7 had an extension which indicated that it belonged to the same architectural style as the buildings excavated in the Jaulan by Claire Epstein.

The Wadi ar Rayyan Archaeological Project (WRAP) is focused upon hill country settlement in the Chalcolithic period (4500-3500 BCE). Many excavations in Jordan have focused upon valley sites (Tulaylat al-Ghasul, Abu Hamid, Tall Findi) but far less attention has been paid to hill country sites. This is despite the fact that we know that olive production was extremely important to Chalcolithic settlers and it is likely that olives were grown in altitudes above 400 m asl. al Khawarij was selected for excavation on this basis. The site showed rock-cut installations (possibly for olive processing) and Chalcolithic pottery, and it was selected as a site for further investigation and comparison with valley sites of the same date.

The renewed 2008 excavations, by a small team, were extremely successful. In further extending the area (see the team clarified the extent of the architecture. Further a sondage was excavated through that area to establish the depth of deposit. Excavations here revealed earlier Early Chalcolithic pottery - this provides additional evidence for earlier occupation at the site. The team also clarified the architectural sequence. The result was that the earliest phase of the building appears to be represented by Walls [1769], [1411] and [1407] and during this phase the 'interior space' of the main long room was actually open space. Thus, Walls [1411] and [1407] do NOT form part of a Golan structure but a multiphase longroom which shifted orientation over its history.





Umm al-Amud focused on two components: conservation/restoration, and excavation. The conservation/restoration included removing balks from previous seasons of excavation, repairing an ambo that was destroyed by vandals, and cleaning floor tiles that were exposed by the baulk removal. This season involved exposing the narthex of the church, and excavating rooms located along the southern aisle beyond two thresholds that were uncovered during the 2006 excavation season.

Tawfiq Elhunaiti from the Department of Antiquities, alongside this year's team architect Ronnie Rama, continued surveying site elevations and taking GPS data points. These were inserted into the developing computer site plan, along with new drawings of all churches under excavation this year. During the season, we also worked cooperatively with Bernhard Lucke, who ran several probes in wadis in the Qwayliba region. In addition to his extensive diachronic analysis of soil layers, two interesting results were quite pertinent to any continued excavation of the site. Dr. Lucke continued a probe against a supporting arch of the well-known "Roman bridge" below the main city. In collaboration with our ceramicist, the pottery calls and soil layers indicate a significant movement of water and sediment along this bridge during the Late Roman and Early Byzantine periods. Beneath the foundation course of this arch there lies an older wall, with adjacent pottery from the Iron Age. Also, upstream from 'Ayn Qwayliba, Dr. Lucke located an aqueduct that once connected to a nearby water tunnel; this he also sampled for soil deposits.

Key goals for future seasons include: (1) to further examine Area E church mosaic and continue exposing structures along the west wall; (2) to continue vertical exposure of Area AA, allowing for more study of Iron and Bronze Age materials; (3) to expand GPS survey to enable three dimensional computer modeling of the site, including a GPS map locating all known tombs; (4) to continue restoration and preservation efforts of exposed structures; (5) to install signage throughout the Abila site, especially focusing on exposed key monumental structures.



Paement in narthex at the entrance to the Area G church.



I age wall lines. Square 8 exposed a wall that existed from the Middle Bronze into the Iron II period – with nearby soil, pottery, and a tabun indicating a living area. Square 5 was capped by a Middle Bronze plaster floor, beneath which was discovered a wall and a series of surfaces with much pottery dating from the Early Bronze IV period. The Area A church atop Tall Abila had been largely excavated prior to this season. However, two questions were posed in particular this year concerning the extent of the atrium mosaic outside the narthex and regarding the possible presence of Roman remains beneath the church. Both questions were answered together when, along the north side of the atrium, the mosaic apparently ran into a previously existing wall. One square (A66) then was found to contain a nicely laid pavement approximately a meter below the atrium mosaic. The sherds under this pavement were Early and Late Roman. Also, to the south of the church a probe along its foundation evidenced another high quality pavement beneath the foundations of the Byzantine church. Excavations in the five-aisled church in Area E to the east of Tall Abila have contributed to the understanding of the phased development of the structure. Four large probes (just outside the eastern wall, and within the church along the outer stylobate line), all suggest that the church began as a three-aisled church that was later expanded to five aisles. A burial shaft, containing the bones of an infant, was discovered too. Meanwhile, the attached room to the south also shows evidence of at least two phases of structural development, including an obvious seam in the north wall of the room, and a mosaic in the northeast that terminates on the south along the presumed earlier wall. Further excavations were conducted in the western plaza just outside the narthex. Here a second cistern was found, as were a chancel screen, a plastered column, and a large niche in the retaining wall to the southwest of this plaza.

Work in Area G, the church that lies east of Tall



Worker standing under the level of limestone pavement beneath the mosaic atrium outside the Area A church. Sherds from this probe were overwhelmingly Early and Late Roman, providing long sought stratified evidence of Roman era architecture atop the tall.



In the plaza outside the narthex of Area E a new cistern and chapel screen were discovered. Also note the *in situ* column to the left (which upon closer examination shows an outer coating of plaster).



Abila /Qwayliba

Project Name: Abila of the Decapolis Archaeological Project

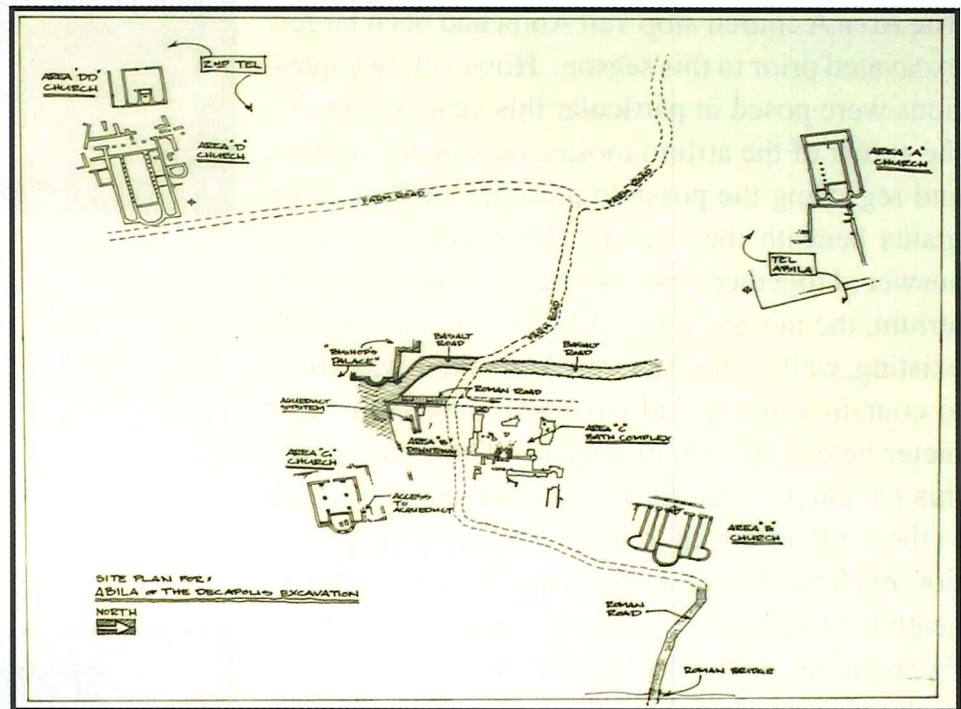
Duration: 14 / 6 – 2 / 8 / 2008

Director: David W. Chapman, Director; Robert Wayne Smith, Field Director; and David Vila, Assistant Director

Representatives: Emad Obeidat and Lina Bakkar.

Abila was a Decapolis city just 12 Roman miles east of Gadara (Umm Qays). The site evidences its most substantial occupation in the Late Roman, Byzantine, and Umayyad periods. However, since the 1980's stratified remains have been excavated indicating nearly continuous habitation from the Early Bronze (EB I) to the Umayyad periods (with significant secondary reuse of the site in the later Islamic eras as well).

The central goals for the 2008 season of the Abila Archaeological Project were: (1) To deepen the excavation in key AA Squares in order to examine how the Roman, Hellenistic, Iron and Bronze Age habitations extended east and north on Tall Abila; (2) To complete excavation on three Byzantine churches in preparation for publication, and for better presenting the churches for tourism. (3) To continue the GPS/GIS resurvey of the site in conjunction with departmental technical assistance. (4) To take soil samples near the Roman bridge. Area AA (supervised by Dr. Susan Ellis) represents the entire life history of Tall Abila from Umayyad to Early Bronze. This season's goals were to uncover more of the Middle Bronze living area and to continue a second square to Early Bronze. Square 7 began with clearing the water channel for removal, resulting in the exposure of Roman and Iron I



Abila Site Map



Work in Area AA. In center of picture the Middle Bronze plastered floor is being excavated to reveal an Early Bronze IV habitation layer.



There are only a few other examples of burials from this time period which, along with the findings from `Uyun al-Hammam, allow us to better situate these pre-Natufian groups within the larger context of Terminal Pleistocene hunter-gatherer behaviour and treatment of the dead.

Our 2008 excavations focussed on several areas near the centre of the site (Fig.1). Our aims were to further explore on-site activity areas, such as midden deposits, and to complete our work on a human burial discovered in 2005 that we had been unable to excavate fully. Grave VI, as partially excavated in 2005, consisted of the lower limbs of an adult individual. The remaining bones were deeply buried under several metres of colluvium. In the process of fully excavating this grave in 2008, we discovered that it actually consists of two burials, one superimposed on top of the other (Fig. 2). The lower limbs identified in 2005 belong to the first adult burial, with the feet facing towards the northwest. At some subsequent point in the Epipalaeolithic period, a second adult individual was interred almost directly on top of the first, disturbing most of the bones of the first burial. The second individual was interred with the feet facing towards the southeast. Both of these individuals were likely originally primary interments into the palaeosol. However, the skull and other bones of the second individual were also badly damaged and disturbed by a later Byzantine field wall whose large rocks, despite being separated from the burials stratigraphically, crushed many of the bones.

In addition, we also re-opened an excavation area that produced several human burials in 2005. Here, within the last week we discovered an additional human burial, again belonging to an adult individual, whose skull was badly damaged and whose post-cranial skeleton remains buried in our baulk. To the southeast of the burial we discovered a small cache of flint tools, consisting of endscrapers and cores (Fig. 3), and to the southwest we discovered several articulated tortoise shells and a possible child skull, both of which were eroding out of the edge of the terrace. The bones are badly damaged and further analyses are required to confirm their identification. Finally, immediately to the east of this individual, and ~30 cm west of another burial containing grave goods, red ochre, and a complete fox skull, we discovered the fully articulated skeleton of what might be a small canid, missing its skull (Fig. 4). Several flint tools and large cobbles were also found in this area. Analysis of the lithics and fauna, detailed studies of the human remains, and radiometric dating of the human and animal bones remain as the focus of our continuing work at `Uyun al-Hammam.



Fig. 3: A small cache of flint tools, including endscrapers and cores.



Fig. 4: The burial of an adult individual, with only the skull visible, adjacent to the articulated skeleton (missing skull) of a canid sp.



`Uyun al-Hammam

Project Name: *Wadi Ziqlab Project*

Duration: *20 / 7 – 31 / 8 / 2008*

Director: *Lisa Maher*

Representative: *Amjed Bataineh*

From July 20-August 31, 2008, the Wadi Ziqlab Project conducted excavations at the Geometric Kebaran encampment of `Uyun al-Hammam, located in al-Koura District outside of the village of Dayr Abu Sa'id. The Wadi Ziqlab Project is an ongoing University of Toronto, project focussed on researching both the transition from hunting and gathering groups to farming communities and the interactions between farmers and pastoralists in northern Jordan. In 2005 the project conducted excavations at a Geometric Kebaran campsite that is extremely rich in flint and basalt tools, animal bones and human remains; making it a unique and important Epipalaeolithic site in Jordan (Fig. 1). `Uyun al-Hammam exhibits many characteristics not found at many contemporary sites in the Levant. In particular, the presence of several human burials is a rare and important contribution to our understanding of Epipalaeolithic mortuary practices.

Ongoing excavations since 2000 have revealed that `Uyun al-Hammam is a single-component Geometric Kebaran site dating to approximately 14,500 cal BP. `Uyun al-Hammam's large size, diversity of artefact types, and the depth of occupational debris, suggest it was inhabited repeatedly over several generations as a favoured locale. The subsequent use of the site for multiple interments also attests to social importance within the landscape. Our 2005 excavation season discovered seven human graves, representing the remains of at least nine individuals. Some of the burials represent primary interments, while others are secondary burials or show reuse of an earlier grave. Flint implements, groundstone, red ochre, and partial animal skeletons were found associated with several of the skeletons. The discovery of these burials more than doubles the number of known human remains from this time period in the Levant. More importantly, this discovery highlights a deeper chronology for some of the mortuary practices characterizing later Natufian cemeteries.



Fig. 1: `Uyun al-Hammam terrace showing the location of our excavation areas.



Fig. 2: Grave VI: Two superimposed adult human burials.



Area I

Some work was also undertaken in Area I. In squares AE 116 and AF 116 a mud-brick wall was removed in order to prevent it from collapsing into the surrounding area as a result of weathering. With the removal of the mud-brick wall, the Late Bronze Age stratum is at one level and ready to be excavated to a further level in 2009. Area I was also extended by 500m² to the north, but only to remove on the surface the waste soil from previous campaigns in 2003 and 2004 and the colluvium which had been severely disturbed by ploughing in the modern period. Excavation of the cultural layers below will begin in spring 2009. Under the courtyard of the southern courtyard house a second bottle-shaped, stone-lined 'hollow' in the ground (AF 116) has been uncovered. It has been excavated to a depth of 1.4m. An Egyptian faience figurine and a mace head belonged to the special finds from this context.



eastern wall of the Byzantine courtyard and a small building that used previous walls as foundations further to the south. It is interesting that in all of these building phases, earlier structures were reused and altered, showing that there was never a period of disuse long enough for the original ground plan to no longer be visible and workable. Perhaps the complex was even used continually throughout these phases.

The same cannot, however, be said for the most recent phase: The stone structures that had been visible on the surface revealed themselves to be extremely shallow. Although in some cases built in roughly the same direction, these structures did not present a reuse of the earlier building complex, nor did they use earlier walls as foundations, only the building material from the earlier complex was reused with fieldstones in these structures. The thickness of the earth between these and the earlier structures is also considerable. In other words, the period of disuse of this area between this and earlier periods must have been quite long, at least long enough for the original ground plan to have disappeared from view. No floors or foundations have been found for this phase and because it is so close to the surface it has been severely disturbed. As a result, it is impossible to date at this stage.

The chronological relationships of a set of structures excavated in the easternmost squares of the summer 2008 excavation area (W 127-128 and X 127-128) has yet to be clarified. They include a number of thick, well-built walls preserved to a height of over 1 m and finely built doorways with threshold stones. One of the rooms of the complex was filled with charcoal and ash, and the remains of a well-built door were found in the form of nails, hinges and handles. The courtyard of the complex was used over a long period: various levels of floor were revealed, each with a tabun oven still embedded into the floor. In the north easternmost corner of this area a well-preserved oil mill was uncovered, consisting of a round surface made of segment stones and bordered by a thin wall toward the outside. In the middle, the stone hub of the wheel contained a square opening to hold the structure supporting the arm of the mill. The mill sits c. 40cm high in the room, however the bottom has not yet been reached. The lowest of the floors excavated contains a great deal of Mameluk pottery, indicating the structures were used intensively in this period. A further stratum below this floor was, however, partially uncovered on the last day and appears to consist of well-made, intact mosaic floor resembling that of the large Byzantine courtyard described above, suggesting a much earlier original date for this complex and some of its walls.





most extension of the large Roman-Byzantine building complex could be verified. In the squares AV 132 and AV 133 the eastern extension of the thick wall could be found. However, in AV 133 all walls in this direction eroded down the slope. In the squares AY 131 and AX 132 the northern limit of the large Roman-Byzantine building could be identified.

Significant results in summer 2008

Area III

The excavations on Tall Zar`a in Summer 2008 focused on the new Area III in the southern part of the tall plateau. This area is the highest on the plateau and has a large number of stones and wall structures on the surface. The surface survey of 2001 produced in this area a great deal of Roman and Byzantine pottery, suggesting a large Roman-Byzantine building complex. Closer initial investigations also revealed the existence of a large Roman cistern. In spring 2007 all surface stones not obviously belonging to walls were removed and aerial photographs were made using a helium balloon. In summer 2007 a test trench was opened in the western part of the area, revealing a wall with gateway and part of a courtyard with some mosaic floor still intact.

Summer 2008 was the first large-scale excavation campaign. 24 squares of 5m x 5m; 600m² in total, were opened in the central part of the area. These were U 123-128, V 123-128, W 123-128, X 123-128. The entire area, especially in the south, was badly disturbed by recently-dug holes, presumably the result of grave-robbing activity. The oldest stratum exposed consists of a large Byzantine-period courtyard with a gateway of finely dressed stones. Towards the middle of the courtyard itself are what remains of a mosaic floor: a large roundel of patterned mosaic stones (red, black, white) embedded into a thick, white plaster floor. To the east is the opening of a large underground barrel-vaulted cistern. A basin and drain leading under the mosaic floor into the cistern were revealed to the north of the opening. Adjoining the south of the courtyard are two 5m x 5m square-shaped rooms with thick walls, similar to those found in areas I and II and suggesting that rooms of this shape and size were a main component of the ground plan of this period. At a later date, the spacious Byzantine rooms and courtyards were subdivided into smaller spaces using thick, well-built walls. Across an alleyway opposite the gate into the courtyard, a new building was added. As yet, only one wall of this phase could be revealed: a large wall (preserved circa 1 m high) with a low, long shelf attached to the south. The filling of this shelf and the floor behind the wall (a room?) contained nothing but Byzantine sherds, dating it also to the late antique period.

In a further phase, probably dating to the Mamluk period, in squares U 123-125 and V 123-125 many of the earlier walls were leveled to create a large, stone-flagged courtyard. The flagging consisted of large, flat stones taken from the earlier walls and incorporated the top edges of the flattened walls. In squares W 124-125 and X 124-125 (towards the north) some new walls were built in the courtyard area, but much thinner than the previous walls. A tabun was constructed in the corner of the new, stone-flagged yard.

In a transitional period between the construction of the stone-flagged floor and the appearance of the structures visible on the surface, a number of small alterations and additions were made to the existing structures which appear to have continued to be used, including a forewall in zig-zag pattern along the



un-carved cylinder of faience and a cylinder of limestone with an unfinished carving suggests cylinder seal production at the site. The large number of glass beads that have been found and the appropriate industrial pottery vessels suggest that the tell may have been also home to a glass processing workshop in the late Bronze Age. Further excavations have to clear the questions for the function of the complex as entity and the special activities in each room.

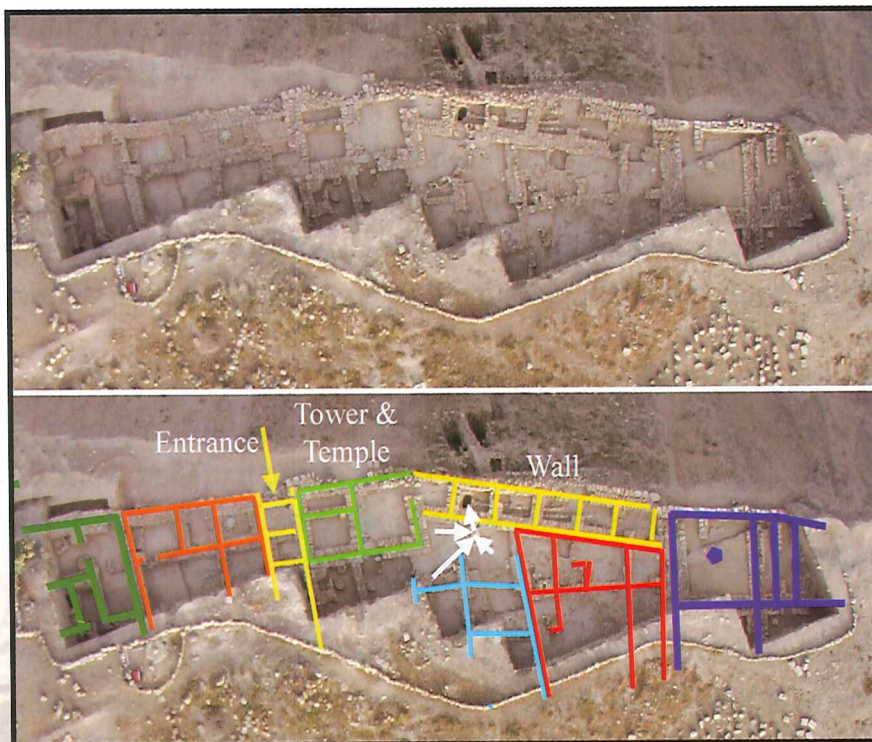
The solid architecture of the new, partly-uncovered house in the south of Area I points to an important function of the complex and an important owner for the house. Up until now, four well-made rooms and parts of two additional ones were exposed. The wealth of the city and its wide-reaching trade links are reflected in the manifold finds of this period, among them five scarabs and imported pottery from Cyprus and Mycenae. Apart from these finds a well-preserved kernos, a part of a silver miniature vessel, some bronze tools (needles, awls, a chisel), an Egyptian/Egyptianising painted figurine, other figurine fragments and well-preserved daggers were found.

Area II

Area II is situated in the northeast of the tell. Because of its high position this area was expected to yield administrative and/or cultic buildings. By the end of spring 2008, an area of more than 800m² (AT-AX 128-133) had been opened. A large building with several building phases of the Roman-Byzantine period has been uncovered which was re-used in the Islamic period. It was built over smaller houses which probably date to the Roman period. The southern extension of the large Roman-Byzantine building excavated in the last two years could be followed. Three rooms and two courtyards have been found which show a reorganisation of the large structure after heavy destructions which can be dated to the Byzantine period. In the debris inside the rooms two complete and two almost complete

amphorae were found. The entrances were blocked at the end of the occupation. A tabun, a storage basin and a pillar base were found on an earlier occupation level in the northernmost room. In the room south of it a floor covered with lime plaster was found. A large oven was also found in the eastern room as well as in one of the courtyards. Some fragments of wall paintings discovered in the debris show that the house was originally decorated with frescoes.

In the easternmost square, a separate building with several building phases could also be identified. In AV 132 and AW 132 the eastern-





Age I surface in the south is taken up by a very high quality courtyard house with two integrated silos (2m diameter) made out of mud bricks. A tabun constructed in three layers can also be seen lower in the trench. Another large part of the surface towards the north is taken up by a four-roomed house whose massive walls are well-preserved. While the courtyard house continues Late Bronze Age traditions, the four-roomed house marks the transition to the Iron Age. The area between the two houses is characterized by agricultural installations (e.g. pits for storage), sheds and stables. The Late Bronze Age level has been reached in the whole area of Area I (1025m²), however, up to now only 4.5 m of the expected 12 m cultural layers have been excavated.

Area I revealed a continuing habitation area. The most significant structure uncovered so far is the massive casemate wall that once protected the city on its north-western edge. The pottery dates it to the Late Bronze Age and the scientific analysis of charcoal remains confirms this, giving an approximate dating to somewhere between 1450 and 1300 cal. BC. Six casemate chambers have been excavated thus far. Behind the wall was a large courtyard with three covered channels. These collected the rainwater that accumulated behind the city wall into a settling basin in one of the casemate chambers, and from there into a vertical chute.

In the south the casemate wall ended in a large, inward-facing tower in two parts. In the southern half a large room was found which had seen a number of conversions, the latest of which involved a low partitioning wall in the west, creating behind it a small room only one meter wide. On this wall were two large basalt column bases which once supported wooden columns that held up the roof. The peculiar character of this small partitioned structure calls to mind the Bronze Age gate sanctuaries found elsewhere. A large stone, cut flat on the bottom and with a symmetrical peak towards the top, which lay toppled beside the column bases, may be a cultic stone due to its similarity to such cult stones found in Palestine.

To the south of the 'gate sanctuary', a 2.75m wide gate opening was uncovered. This gate would have provided the most direct access for pedestrians to the lower cities to the north and west. To the south of the gateway we also uncovered a bottle-shaped, stone-lined 'hollow' in the ground, the entrance to which was covered by a meticulously worked, disc-shaped stone with a diameter of roughly one meter and bearing a 15 cm wide hole in its centre. It has been excavated to a depth of 2.6 meters. Due to the problem of collapsing, we will not be able to investigate this structure further until the surrounding layers have been removed.

In the spring campaign of 2006, the first domestic structures were found inside the casemate wall. Up to now, we have uncovered large parts of three courtyard houses and parts of another two huge courtyard houses which belong to monumental architecture. The monumental house in the north consists of a large roofed room with a column base, a part of a staircase, a little uncovered part of the courtyard and one more adjacent room. Two radiocarbon samples from this context have yielded dates of 1450/1440 and 1300 BCE with 95.4 % probability. The valuable finds that were made in this structure suggest it may have had a special function. Among these are 28 cylinder seals of varying quality and image type measuring 2.5-3cm in height and (in average) 1-1.3cm in diameter. Most of them are made of faience and covered with a green glaze. They belong to the western group of the so-called 'Common Style' of the Mitanni glyptic and can be dated to the 14th-13th centuries BC. The discovery of an



Tall Zar`a

Project Name: Gadara Region Project

Duration: 9 / 3 – 13 / 4 & 20 / 7 – 2 / 8 / 2008

Directors: Dieter Vieweger, Jutta Häser

Representative: Mohammed Bashabsheh, Salameh Fayyad

The 'Gadara Region Project' was initiated by Prof. Dr. Dr. Vieweger in 2001. The first extended excavation was carried out in 2003. Since 2004 the project has been a co-operative effort of the Biblical Archaeological Institute in Wuppertal and the German Protestant Institute of Archaeology.

Significant Results in Spring 2008

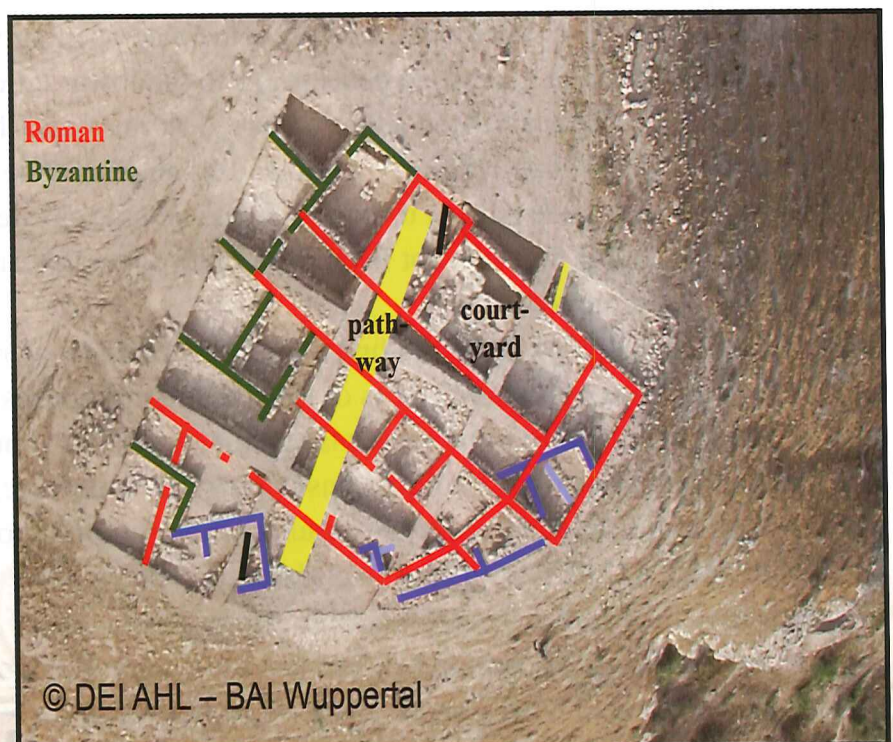
During the spring campaign 2008 the German team worked in Area I on the western side of the tall and in Area II on its northern side.

Area I

The main original objective of opening Area I in the western part was to understand the stratigraphy of the tell. By the end of this year's spring campaign, Area I comprised 1075m² of excavated surface. The evidence from this area is impressive: the successive layers have given us a valuable insight into the history of northern Transjordan from the Late Bronze Age to the Umayyad period. In 2004, the older strata of Middle and Early Bronze Age were excavated in three squares. It is expected a reference stratigraphy for the Gadara/Umm Qays region representing remains from a long succession of archaeological periods (Early Bronze Age – Ottoman period). In 2008, all squares with remains which are younger than the Late Bronze Age were excavated; these are: AG 115-116, AH 115-116, AI 117 and AL 118. Additionally, the squares AQ 120, AR 118-120 in the north and AE-AF 115-116 in the south were excavated.

Two major discoveries were made:

First, the Iron Age I settlement on Tall Zar`a was apparently unfortified, although the structures uncovered do not present a consistent picture. This very interesting period (carbon-dated to 1200 to nearly 1000 BC) can be characterized as an important transitional phase. Approximately one third of the Iron





stones were found; the average size of these stones is 0.40 x 0.60m. One of them was removed and a wall of large sized well-cut limestone blocks running EW was excavated. It was noticed that this wall has another extension under along eastern part of squares H16 and I15, where the main eastern upper wall of the rooms was erected. According to its location, construction, and orientation, it is probably that this wall represents the earlier phase of construction in this area of excavation, Furthermore, it seems that this possible earlier wall was reused as a foundation for the later rooms structure and they covered it by the rectangular stones to level the room's floor.

Further to the north, excavation revealed a huge basalt wall located under the northern baulk of square I15. The wall survives to a maximum height of 1.20. The upper courses had been removed and reused, probably by the army for military purposes. The bottom of the wall was reached, where traces of ashy materials were noticed, probably, related to firing activities. It became clear that the wall's foundation cut into the room's floor level. The exact function of this wall is uncertain.



The House

The most interesting discoveries during this season are the remains of a house. Two main plastered rooms were partially excavated. The main eastern wall of the house were located under the eastern baulk of square H15, running NS and built by using both basalt and limestone. This wall is part of a complex of four walls forming four sides of a square of two main rooms adjacent to each other were partly excavated. The walls varied in height from 0.40 to 0.50m. All walls were built in large and medium sized limestone and basalt, while, small chips of basalt and limestone were used to fill the area between the rows. The interior wall faces were covered with thick layer of mud plaster, while white and smoothed lime plaster was used as a final coated surface. The most significant plastered wall built of well-cut fine large sized limestone was found in squares H15 and I15. Three main courses of the wall remained, its unexcavated interior face seemed to be covered by thin layer of fine white lime plaster, probably representing the outer eastern wall of another rectangular central room with entrance and plastered corridor which was partly excavated. The only entrance for the rooms was found in the NE corner of in the main eastern wall in square H15 leading into a room to the west. The doorway with a threshold 0.81m wide and 1.6m high was completely blocked, probably during a later phase of construction. The fill inside these rooms was a thick layer of reddish compacted soil, with several fallen large sized chunks of soft limestone with remains

of white plaster. Numerous, complete and fragments of collapsed cornice and soft lime plaster were found. They probably belong to the ceiling, and fragments of colored plaster were found in the fill inside rooms, providing evidence for the kind of decoration used in the house, however, none of the colored plaster was in situ. The decoration pattern consists mainly of wide horizontal bands of red, yellow, and pink on white background, which have been part of large geometric pattern. The fill provided potsherds with sherds of Megarian ware. It can be roughly dated around the late first century B.C-early first century A.D. Due to that uncertainly, we are not yet able to say it the rooms belong to the Roman period.

Excavation in square I15 reached the bottom of the structure on a possible floor level; it consists of compacted reddish soil. It was decided to dig a probe near the EW plastered wall, located in middle of square H15, in order to reach the foundations and to get some materials date the wall. Underlying the possible floor level, several alignment EW limestone and basalt rectangular





Umm Qays / Gadara

Project Name: Kokushikan archaeological mission to Umm Qays

Duration: 1 / 8 – 31 / 10 / 2008

Director: Ken Matsumoto, Kokushikan University, Tokyo

Representative: Naser AL Zoubi, Abed Alraouf Tbashat, and Taha Batayneh

Excavation was conducted at the lower city on the area located northern of main street (Decumanus Maximus) near Early Roman City Gate in the site of Umm Qays (Ancient Gadara).

An important structure in the Lower City consists of a basalt wall oriented from west to east. Almost 40m length of the wall was exposed by the end of the 2008 season. The wall extended toward north, constructed using limestone blocks with width of approximately 0.45m. Erosion probably destroyed its north-west end, however, on the north-west excavated area, almost three courses were preserved, while bedrock was reached. Upon excavation, it became clear that

the basalt wall represents the southern wall of a huge structure associated with mosaic pavement covered the whole excavation area north of the main street.



Mosaic Pavement

The original paving at the eastern part of the structure was mosaic floor, using plain white large sized mosaic tesserae, unfortunately completely destroyed by later military construction. However, a fortunately almost preserved polychrome mosaic floor along the western part of the structure, was excavated. The western part of the excavation area is entirely covered by a mosaic pavement, one complete floor was completely excavated, it is set inside a double frame with central pattern which was hardly damaged. The pavement consisting of a central hardly damaged pattern was partly excavated. To the east of the main mosaic floor several rectangular alignments of well-cut limestone stones running NS along eastern end of main mosaic floor were found and the mosaic pavement is laid along them. These stones are bonded with the end of the south-west part of the basalt wall, which is evidence that the mosaic pavement is part of basalt wall. The exact function of these stones is uncertain, However, the stones seem to be separated between the eastern and western mosaic pavements of the structure. Another extension of mosaic was found in square J12 located NW of excavation area. It was partly cleaned showed that small sized of white and red tesserae were used in this mosaic pavement.



Documentation of the Finds

The objects found during former campaigns were subjected to scientific analysis. The site produced pottery fragments in great quantities. All the pottery was classified by fabrics. The number of sherds and the average weight of the sherds of any fabric in any context were recorded. In general a predominance of buff storage jars and red kitchen ware from Galilee was recorded. Imported wares are Eastern Sigillata A and Hellenistic colour coated wares as well as wine amphorae from Rhodes and some storage vessels of Lebanese origin, maybe from the Beqaa-plain. Some specimens were imported from the Mediterranean coast. Pottery from Syria was not found. There is no doubt about the local origin of the kitchen and storage vessels. A total of about 200 rim sherds of pottery were drawn as illustrations of the final report of the excavations. Glass vessels are generally not well preserved. Frequent are early Roman bowls made of greenish glass, maybe of Syrian origin. Fragments of white and grey marble dominate in Gadara. Reddish sandstone and limestone of pale brown colour are frequent as well. The sources of the marbles are in general uncertain so far, but some of them are attributed to Turkey and Greece. Cattle bones are predominant in all parts of the site. Particularly sheep/goat bones are well represented.



Fig. 4: Photo documentation; capitals along the east-west-axis



settlement was expanded onto a terrace in the northeast. There a temple precinct gradually evolved – extra muros – between the first half of the 2nd century B.C. and the early 1st century B.C. It comprised a freestanding podium temple I (Fig. 2) that was oriented towards the south and probably dedicated to Zeus Olympios. Beginning with the construction of the North Theatre at the beginning of the 1st century A.D. – which is situated to the south of and almost on the same axis as the main sanctuary – the area near the area at the “eastern city entrance” was redesigned and defined anew (Fig. 2).

The interest of research is at present mainly concentrated on the analysis of the building and cultural history, also in the context of urban development, of the urban structural ensemble at the area at the “eastern city entrance” of Gadara throughout the whole period of utilisation. The area covers the so-called north theatre (Fig. 2) in the south with the Roman podium temple II, the temple quarter with a late Hellenistic podium temple I in the north, as well as the east gateway, as yet unexcavated, in the Hellenistic city fortifications in the east.

Documentation Work in 2008, Building Measurement and Photo

The main task of this campaign was to document the architectural situation in the orchestra of the North Theatre and in particular in front (north side) of the scaene building by aerial view with our photo crane (Fig. 3) and by building measurement.

Topographical Map

The recent research project “Gadara: On the Urban Development and Cultural History of the ancient City” clarified the inner city architecture, its development and the significance for the municipal settlement of Gadara. This required the precise knowledge of the ancient city and regional maps, public buildings with religious and profane uses and infrastructural installations including the residential areas. Therefore the topographical map is continuously up-dated with all the results of archaeological research in ancient Gadara/Umm Qays. In 2008 there was a special focus on the documentation of the capitals along the east-west-axis (Fig. 4).

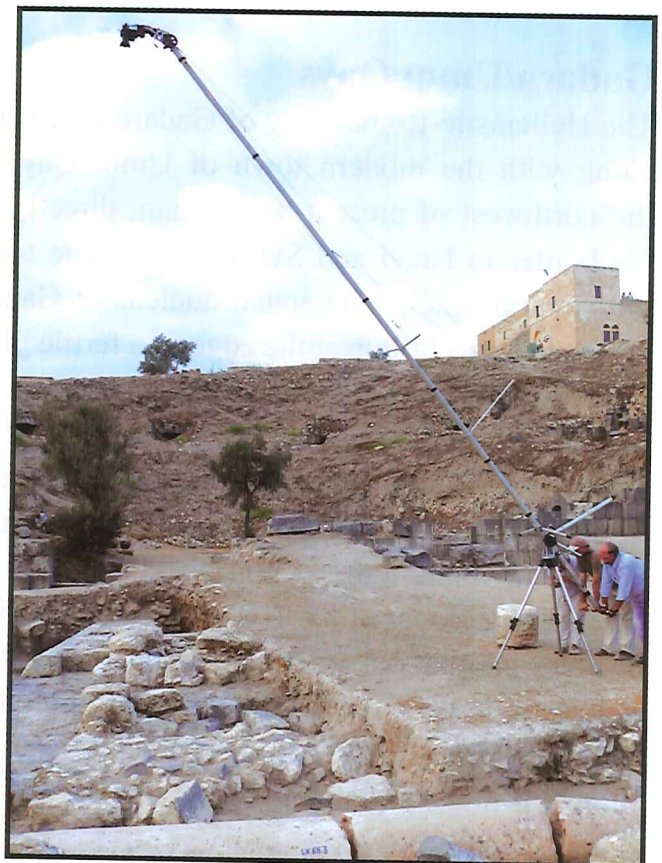


Fig. 3: Photo-documentation of the north theatre and the podium temple II by crane.



Gadara/Umm Qays

Project Name: Archaeological and Architectural Studies on the History of Gadara "Urban development and cultural history of the ancient city"

Duration: 21 / 8 – 24 / 9 / 2008

Director: Claudia Bührig

Representative: Asma Al Zipdeh

Gadara/Umm Qays

The Hellenistic-Roman city of Gadara is situated along with the modern town of Umm Qays in the northwest of present-day Jordan, directly on the border to Israel and Syria, in a unique topographical position. The actual nucleus of Gadara is situated on a hilltop at the edge of a fertile plain bordering the eastern Jordan Valley. The key focus of the research project is the analysis of the urban development and cultural history of the city of Gadara from the Hellenistic to the Byzantine era and its relation to the hinterland. In 2008 the Orient Department of the German Archaeological Institute carried out a season of documentation and research on the 'eastern city area' including the North Theatre with an amphitheatre and the Temple II in the north (Fig. 1).

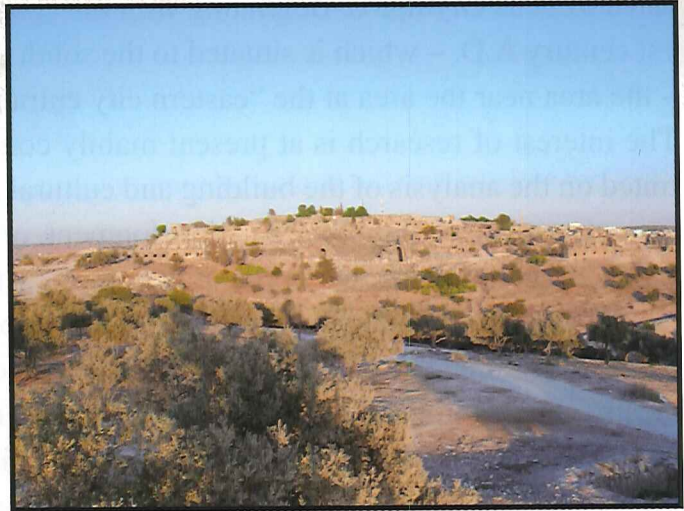


Fig. 1: Settlement hill of Gadara / Umm Qays. View from west

Our work in Gadara / Umm Qays; A summary of the Results from the Last Years

The fortification that dominates the appearance of the settlement hill (Fig. 1) today was most likely constructed in c. 200 B.C. as a stronghold on the frontier to the Ptolemaic Empire in the south and the Seleucid Empire in the north. On account of the excellent environmental conditions, the strategically favourable situation and the supra-regional communication and traffic connections, Gadara was a choice settlement location. Already in the second half of the 2nd century B.C. the hilltop

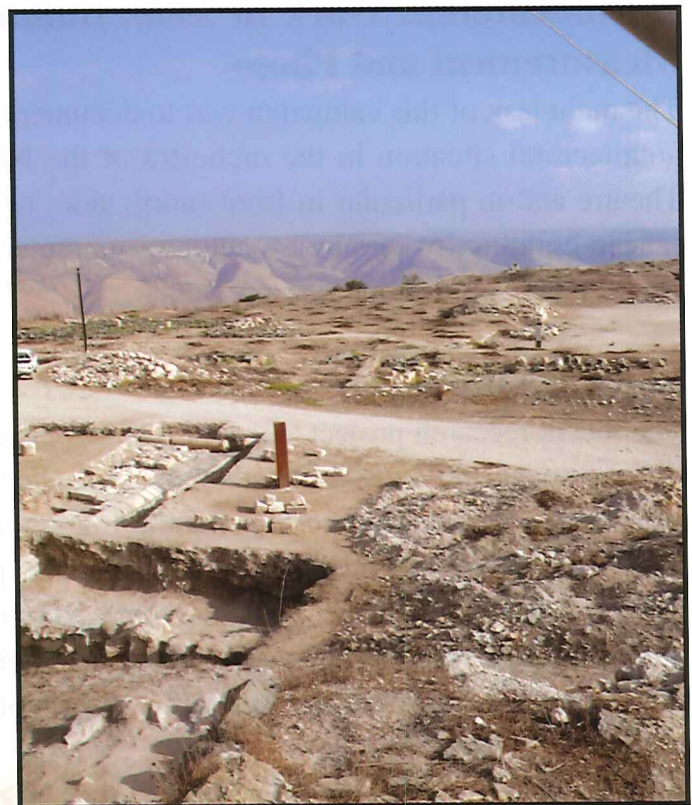


Fig. 2: View from the east to the area at the "eastern city entrance" with the north theatre and the temple area



suggest that major soil erosion had taken place at several locations where water outlets delivered water. Other sites with major remains of dressed stone architecture, especially those on hill-tops (for example Tall Haliya), had their own water systems, presumably not directly connected with field irrigation, but rather with water collecting and water storage for other purposes.

Pottery chronology

Most of the pottery collected in the “landscape” plots are of Early Roman date; later Roman and Byzantine pottery, and some Hellenistic material was also identified. The connected “settlement sites” had the same material, including quite a percentage of red-slipped table ware. Some settlement sites had some Iron II material as well. It is not yet possible to exclude use during other periods.

Conclusions

It became clear from the sample that irrigation installations were well preserved and traceable. It became also, more tentatively, clear that the region was intensively used for collecting water and for distributing it via outlets for agricultural purposes - also in areas that have little or no soil nowadays - and that this use took place during a specific period, namely that of the Early Roman through Byzantine times.



studied not only technologically, but also economically and socially. Consequently the field study of the landscape concerned is expected to have good results in a sense of remains of water installations and settlements from many periods. A complete research programme will be designed following the study of results of this pilot and will comprise further survey work as well as probably some test excavations for chronological reasons and for study of installations.

This pilot survey: methods and results

1. Several general data were started to be collected about the region concerning the subject. Of main concern were the distribution of water sources, together with topographic maps (e.g. 1:25000); geological and soil data (with maps); air-photographic documentation (Royal Jordanian Geographic Centre).
2. Two small parts of the region were focused on. Firstly, just North East Umm Qays, where remains had been previously identified (Fig. 1), and secondly at the eastern end of the region, near 'Aqraba. In these two parts the traces of water installations and settlement sites were documented. Documentation meant localization (using GPS and existing maps), photography, occasional sketching, and description (the format and scenarios designed were tested in the field). For this the survey assistants from Umm Qays, with a long life of landscape experience in the region, were of great value. Mr M. Bataineh from Yarmouk University plotted by total station the first area three dimensionally.
3. Pottery was sampled along the canals and at specific features, installations and "sites"/settlement remains. The main purpose of sampling was to chronologically connect the remains, but could also be used to help determine the function of specific points. The method of sampling included a division of a spot, site or stretch (along the two sides of a canal) in plots of 20-50 m and collection along a straight line (or curved line following a canal).

Results

Water installations

The canals carved in rock surface were generally well preserved and could be traced along great lengths, with divisions, branches and outlets. Two functional types could be distinguished: those collecting and moving water from surface rain or from a source towards a storage facility (basin or cistern). Secondly: guiding water from the storage towards a place with soil and plants to be watered; these had outlets (Fig. 2).

Sites and agricultural land

Several sites appeared to be closely connected with the water management systems, such as at the confluent spot of two steep wadis, at a water source, or at major soil deposits to which water was guided. We



Fig. 2: Detail of an irrigation canal, with closed out-let.



Umm Qays/ Bani Kanana

Project Name: Umm Qays/ Bani Kanana Irrigation Survey, 2008 pilot

Duration: 19 / 10 – 1 / 11 / 2008

Directors: Gerrit van der Kooij, Sufyan Al-Karaimah (field director)

Representative: Jihad Harun

Summary

The pilot was a project of the University of Leiden in cooperation with the Department of Antiquities and Yarmouk University. Fieldwork concerned a two-weeks archaeological test survey in the region North-East of Umm Qays. The short surface exploration was meant to study this sloping limestone landscape in the Bani Kanana district in order to assess the amount and quality of remains of ancient irrigation systems and settlements sites. These remains were chronologically interpreted by pottery sampling and, as a result, connect the systems to the Early Roman through Byzantine times. Since the results of the pilot are clearly positive it is intended to develop a larger research project aiming at documenting and mapping of these remains and sites and to the study and interpretation of them in the socio-economic context of the related ancient societies, especially of Umm Qays. The project thus concerns both archaeology and heritage management.

Introduction

The study of irrigation systems in the past contributes much to the understanding of their economic and social context as shown in our recent study of ancient irrigation systems in the Dayr `Alla region and in several other studies in the Levant, including Jordan with its rich heritage of both sub-recent and ancient systems. Mr Sufyan Al Karaimah recently recorded ethnographically the currently used physical features of irrigation systems North-East of Umm Qays, and studied the economic and social aspects of irrigation activities and their organisation.



Fig. 1: General view of the more western part surveyed showing rock-cut water collecting canals.

The Aegion and Aims

The Liwa Bani Kananah is part of an archaeologically important region because of the Decapolis site of Umm Qays and other remains from the Hellenistic-Roman-Byzantine periods. Some site oriented landscape surveys and excavations are taking place in the region and some attention is being paid to water systems, however a major part of the Bani Kanana district (North of the main East-West road) has not yet been archaeologically surveyed, although the landscape probably had a good agricultural potential during the Hellenistic to Byzantine times, judging from currently available water sources, agricultural soil and grazing fields. Accordingly agricultural installations and settlements are expected there from that time. Furthermore irrigation systems and other agricultural installations are being



1911
No. 1000

The following is a list of the names of the persons who have been appointed to the various offices of the Board of Education for the year 1911-1912. The names are listed in alphabetical order of their surnames.

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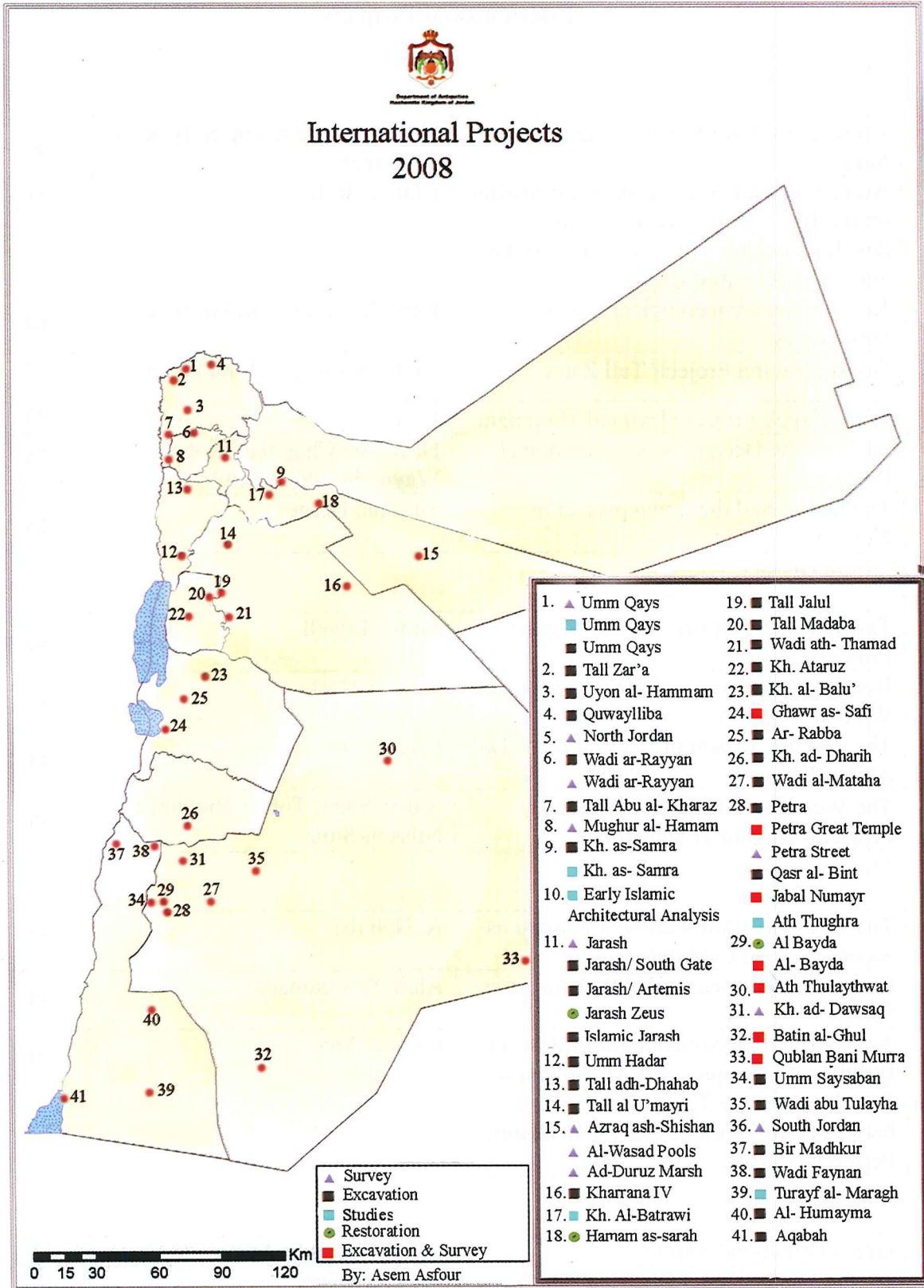
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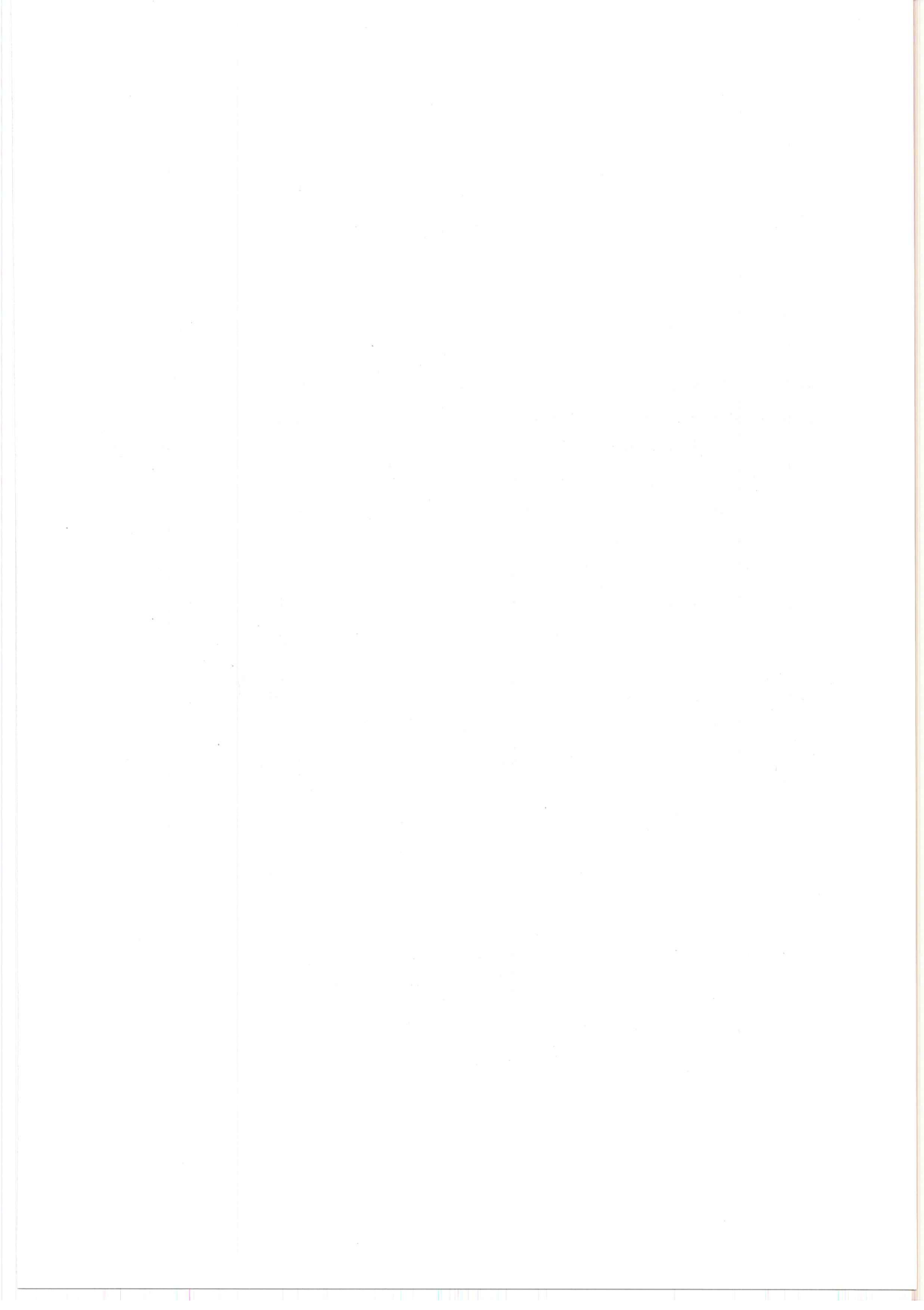
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