



United Nations
Educational, Scientific and
Cultural Organization

FINAL REPORT

on Damage Assessment in Babylon

**International Coordination Committee for the
Saveguarding of the Cultural Heritage of Iraq**

International Coordination Committee for the Safeguarding of the
Cultural Heritage of Iraq

Sub-Committee on Babylon

Report on Damage Assessments in Babylon

Table of Contents

- 1 Introduction
- 2 Historical Background
- 3 Reports on damage assessments in Babylon
 - 3.1 Report by the State Board of Antiquities and Heritage Iraq (SBAH)
 - 3.2 Report on behalf of the international audit commission, prepared by Polish archaeologists attached to the MNF-I Iraq
 - 3.3 Visit and Report by Dr. John Curtis
 - 3.4 Assessment of Damage to Babylon based on Digital Globe Satellite Imagery by Professor Dr. Elizabeth Stone, Stony Brook University
 - 3.5 Report by Professor Roberto Parapetti on behalf of the *Centro Ricerche Archeologiche e Scavi di Torino*
 - 3.6 Report by Professor John Russell on behalf of the US Department of State
 - 3.7 Visit by Professor John Russell in July 2008
 - 3.8 UNESCO mission in February 2009 (Annex 7)
- 4 Pre-2003 Damage
 - 4.1 The new Al-Hawliyah moat or canal
 - 4.2 The new lakes
 - 4.3 Earthen mounds
 - 4.4 Parking lots
 - 4.5. Modern structures
 - 4.6. Parks scattered throughout the city
 - 4.7. Encroachments caused by agriculture and construction
 - 4.8. Improper restoration/reconstruction
 - 4.9. Firing positions
 - 4.10. Previous archaeological excavations
- 5 Post-2003 Damage
 - 5.1 Direct Damage
 - 5.1.1 Excavation Works
 - 5.1.2. Cutting Works
 - 5.1.3 Scraping and Leveling Works
 - 5.1.4 Earthen berms (banks of earth)
 - 5.1.5 HESCO Containers
 - 5.1.6 Barbed Wire and Steel Stakes
 - 5.1.7 Concrete Blocks
 - 5.1.8 Direct Damage to Archaeological Structures
 - 5.2. Indirect Damage to Archaeological Structures
 - 5.3 Modern Buildings
- 6 Recommendations

1. Introduction

Further to the request made to UNESCO in February 2005 by the Minister of Culture of Iraq, it was agreed to devote a working session to the archaeological site of Babylon where a military base was installed (150 hectares) in the central part of the site since in April 2003. The Special Session that took place on 24th of June 2005 at UNESCO Headquarters in Paris aimed at assessing the condition of the site of Babylon, devising measures to mitigate the damage, coordinating activities and efforts, and assisting the Iraqi authorities to prepare an overall conservation and management plan for the site of Babylon. Some thirty participants participated in the meeting, including the Iraqi Minister of Culture and the Iraqi Minister of State for Tourism and Antiquities, Iraqi representatives from the State Board of Antiquities and Heritage (SBAH), international experts and observers from international organizations.

Participants at the meeting elaborated a three phase action plan, to be implemented under the auspices of UNESCO, that aimed at producing an exhaustive and detailed assessment of damages caused since 2003: 1) The First Phase should consist of collecting reports on the damage to Babylon since 2003, including those of the SBAH, the Polish archaeologists and the British Museum; 2) The information collected should be presented to the next Special Session on Babylon fixed for November 2005 in Berlin; 3) The Third Phase of the action plan recommended preparations for a comprehensive conservation and management plan for the site of Babylon, with a view to its nomination for inscription on the UNESCO World Heritage List.

As recommended by the First Special Session, the Second Special Session on Babylon was organized by UNESCO in cooperation with the German Archaeological Institute (DAI) in Berlin, on the occasion of the 150th birthday of Robert Koldewey, the first excavator of Babylon. This Session took place on 22 November 2005. Some fifteen participants, including Iraqi representatives from the State Board of Antiquities and Heritage (SBAH), as well as international experts and international organizations, participated in the meeting. The Second Special Session aimed at reviewing the progress made by the experts since the First Special Session, exploring further steps of action needed to obtain a thorough assessment of the damage sustained at the archaeological site of Babylon (and making sure that all efforts are properly coordinated), and assisting the Iraqi authorities to prepare an overall conservation and management plan for the site.

Following the recommendations of the First Session, it was requested for the second time that an ICC Sub-Committee should be established for the protection, conservation and management of the archeological site of Babylon. In the meantime, it was proposed that the working group should act under the auspices of the Iraqi Ministry of Culture and the SBAH.

This Second Session reiterated that a full assessment of the damage caused to Babylon during the period from April 2003 to December 2004 should be submitted by the expert group of the two Special Sessions on Babylon to the ICC for its approval. The assessment should draw on the reports compiled by the SBAH, the Polish archaeologists, and Dr J. Curtis, as well as information supplied by individuals such as Prof E. Stone, Prof. Parapetti and Prof. J.

Russell. Dr M. van Ess should coordinate the collection of data with a view to preparing a thorough assessment.

After November 2005, the first opportunity to discuss the different assessment reports prepared occurred only on 12th of November 2007 at the Third Special Session on Babylon in Paris. This was due primarily to the deterioration of the security situation in Iraq which dramatically slowed down the ability to follow up of the recommendations of the Babylon working group.

The Third Special Session on Babylon made the following recommendations: 1) That the International Coordination Committee for Safeguarding of the Cultural Heritage of Iraq (ICC) should establish an ICC Sub-committee for the protection, conservation and management of the archaeological site of Babylon; 2) That the reports on the condition of Babylon should be completed and presented for review in another working meeting in Berlin in June 2008, and they should form a final assessment of the damage caused to Babylon between March 2003 and December 2004, which would be presented to the ICC for formal approval; 3) That the archaeology of the disturbed areas should be investigated by the SBAH and reported upon, and urgent conservation work should be undertaken by the SBAH and reported upon; 4) That a comprehensive conservation and management plan for the site of Babylon should be prepared with a view to its inscription on the World Heritage List; 5) That the provision of the Iraqi Antiquities Law should be observed on the site of Babylon.

The ICC Plenary Session on 13-14 November 2007 in Paris confirmed the establishment of an ICC Sub-committee for the protection, conservation and management of the archaeological site of Babylon. Its First Session took place in Berlin on 25th of June 2008. The ICC Sub-committee prepared a draft report on damage assessment in Babylon (see below) and made the following recommendations: 1) That the provisions of the Iraqi Antiquities Law should be observed on the site of Babylon; 2) That the SBAH should develop and implement a site management conservation plan for Babylon in close cooperation and consultation with the UNESCO ICC Babylon Sub-committee; 3) That emergency interventions should be undertaken by the SBAH and reported upon, including in particular the repair of the Ninmakh Temple, the Nabu-sha-Hare Temple, the Ishtar Temple and the Inner City Wall; 4) That the SBAH should consider the partial reopening of the site; 5) That UNESCO should call for an extraordinary Plenary Session of ICC Iraq to approve the finalized assessment report on damage caused to the site from April 2003 to December 2004; 6) That a site visit by one or more members of the Sub-Committee should be organised as soon possible in order to provide up-to-date assessments of condition and present needs.

Following recommendation 6) above, Prof John Russell visited Babylon in July 2008 and Dr. John Curtis (together with Tamar Teneishvili of UNESCO) visited Babylon in February 2009. Where appropriate, their findings have been incorporated in the report below.

2. Historical background

Babylon is unquestionably one of the most important archaeological sites in the world. It was the capital city of two of the most famous kings of antiquity, Hammurabi (1792-1750 BC) who introduced one of the world's first law codes, and Nebuchadnezzar (604-562 BC) who built the Hanging Gardens of Babylon, one of the Seven Wonders of the World. Alexander the Great chose Babylon as his new capital but died before he could implement this plan. The existence of Babylon is first mentioned in cuneiform texts of the Akkadian period (2371–2230 BC), but the city did not become significant until the time of Hammurabi. It was substantially enlarged in the Neo-Babylonian period (626–539 BC) when it became the largest city of the contemporary world. Although its location was forgotten for centuries the fame of Babylon survived through a number of historical and religious texts. In view of the historical and archaeological significance of Babylon, recent allegations of damage to the site during its occupation as a military camp are particularly serious.

The archaeological site of Babylon is situated c. 90 km south of Baghdad. It belongs to the municipal area of al-Hillah and the governorate “Babil”. The Inner City covers an area of 2.99 km² and the outer walls which surround the city east and west of the Euphrates enclose an area of 9.56 km². Babylon was listed as an archaeological site in the year 1935. The Inner City as well as the outer town were legally determined in the year 1979 and part of the site has been protected by a fence since the 1970s. This includes the definition of a buffer zone of 1 kilometer width outside the fence where development of industrial and/or urban structures is not allowed.

The location and ancient layout of the city of Babylon remained unknown to the world until the beginning of scientific research in the first half of the 19th century. Systematic excavations did not begin, however, until 1899, when Robert Koldewey started work at Babylon, focussing on the central palatial and religious areas. He continued excavations until 1917, and unearthed the famous palaces and religious buildings of the Neo-Babylonian kings Nabonidus, Nebuchadnezzar and others. A first, accurate plan of the huge city was drawn up and several additional excavations carried out in different parts of the city provided an insight into the structure, function and layout of Babylonian cities and buildings (Fig. 1). It became clear that Babylon consisted not only of an extended Neo-Babylonian settlement still preserved under the many hills of the site but also of older and more recent settlements as well (the earliest of these dates to the end of the 3rd millennium BC, and the most recent to the Islamic period). There have been only limited archaeological investigations of these periods to date.

Between 1962 and 1973 the German Archaeological Institute excavated several monuments in Babylon, working in the area of the “Tower of Babylon”, the Greek Theatre and the so-called New Year's Festival House. Italian archaeologists in 1988/89 carried out a sondage near the Urash Gate and initiated a new mapping program for the site. Excavations by the Iraqi State Board of Antiquities and Heritage started in 1977 and shed new light on the area near to the main palatial and religious centre of the city. The Nabu-sha-khare temple and several Babylonian houses were unearthed. In addition, all those areas which had been excavated in the past by the German expedition were re-excavated.

The 'Archaeological Restoration of Babylon Project' officially commenced on 14th February 1978. This ambitious project, ordered by the Iraqi government, was carried out by the SBAH mostly between 1978 and 1987: several ancient buildings were reconstructed and modern facilities for visitors were introduced into the centre of the archaeological site. In addition there was major landscaping work to the great detriment of the site, in part to support a new palace for Saddam Hussein. The Greek Theatre as well as the South Palace of Nebuchadnezzar were used for performances in the annual "Babylon International Festival".

There have therefore been excavations at Babylon over a period of more than 100 years. Some parts of the city have been uncovered but much remains buried beneath the earth and there is still a great deal to discover about ancient Babylon.

During the war in 2003, the archeological city was subjected to encroachment and damage. The Nebuchadnezzar and Hammurabi museums were broken into and everything in the two museums was stolen. Fortunately, the objects exhibited in the two museums were plaster replicas rather than originals, but this did not prevent them from being stolen. Some of these replicas were found scattered and destroyed in the grounds of the two museums. The Project Management Headquarters (Study Centre) and the Museum Office also attracted the thieves and robbers. Whatever could not be stolen was burned. Everything in the Babylon Library and Archive was destroyed, including important reports, maps, and studies on the results of excavation and preservation works undertaken by the Babylon Archeological Restoration Project.

On April 21, 2003 Babylon was occupied by military units of the Coalition Forces and on September 2nd, 2003 it became the military "Camp Alpha". It served as such until December 22nd, 2004 when it was handed back to the SBAH. Assessment studies of the state of preservation of Babylon were carried out in November and December 2004. In February 2005 the Iraqi Ministry of Culture asked for the creation of an international committee of experts focusing on Babylon which in June 2005 met as a special working group of UNESCO.

3. Reports on damage assessments in Babylon

Damage assessments and reports have been carried out by different national and international scholars and institutions. The majority of the reports focus on the damage observed at the end of 2004, mentioning both damage caused by military activities and damage caused by erosion as well as the misuse of archaeological monuments¹.

3.1. Report by the State Board of Antiquities and Heritage, Iraq (SBAH) (Annex 1)

Responsible members of the SBAH provided their observations and information in a preliminary report in December 2004 and a final report handed over to the Ministry of Culture in the beginning of 2006. The preliminary report was made available in Arabic in 2005, the final report in Arabic and English to UNESCO in 2006. The final SBAH report describes all interventions on the archaeological site and the monuments of Babylon prior to 2003 and during the period between April 2003 and December 2004.

3.2. Report on behalf of the international audit commission, prepared by Polish archaeologists attached to the MNF-I Iraq (Annex 2)

A detailed report on the condition of Babylon, including areas of the archaeological site and the excavated and modern buildings and monuments, was prepared by Polish archaeologists in November 2004 and submitted to an international commission in December 2004.

3.3. Visit and Report by Dr. John Curtis (Annex 3)

At the invitation of Dr. Mufid al-Jazairi (Minister for Culture at the time), Dr. John Curtis visited Babylon for three days (11th -14th Dec. 2004). He reported to the SBAH and the Iraqi Ministry of Culture. His report was published in January 2005 via the website of the British Museum. The report aimed to provide a first assessment about the damages and the state of preservation of the ancient site of Babylon at the end of its function as a military base for the Multi National Forces.

3.4. Assessment of Damage to Babylon based on Digital Globe Satellite Imagery by Professor Dr. Elizabeth Stone, Stony Brook University (Annex 4)

On the basis of high-resolution satellite imagery, this study provides a chronology of the visible changes to the open areas of Babylon between 5th July 2002 and 26th November 2005.

3.5. Report by Professor Roberto Parapetti on behalf of the Centro Ricerche Archeologiche e Scavi di Torino (Annex 5)

This report gives a summary of former site management concepts for Babylon and informs about recent studies using Web-GIS methodology for the identification of surface changes through aerial and space based sensor data.

3.6. Report by Professor John Russell on behalf of the US Department of State (Annex 6)

¹ Annexes to be found on CD

This report assesses changes to the site of Babylon from 1965 to November 2005 using Corona and Digital Globe satellite imagery, the reports cited above and photographs from various sources.

3.7. Visit by Professor John Russell in July 2008.

The visit aimed at assessing the feasibility of carrying out a site management project at the site itself and at reporting on the actual condition of the site. The report is included in report annex 6.

3.8. UNESCO mission in February 2009 (Annex 7)

Following the recommendation made at the first official meeting of the ICC Babylon subcommittee in Berlin on 25th June 2008, an inspection of Babylon on behalf of UNESCO was made on the three successive days 25th–27th February 2009 by John Curtis and members of UNESCO.

4. Pre-2003 Damage

Before detailing the damage sustained to the site in 2003 after the MNF-I entered the city, we should list the damage to the site that occurred before 2003:

4.1. The new Al-Hawliyah moat or canal (Figure 2, Map Point 1)

The moat surrounds the city of Babylon on the east and partially on the north and south. It has a length of 4.5 km and a width of 15 m. The bottom and sides of the moat are lined with cement.

4.2. The new lakes

The moat is linked to three lakes on the north, south, and east. A fourth lake north of the Greek Theater is connected to “Babylon Stream” to the north.

- Lake No. 1 (Figure 2, Map Point 2): Called Nissan Lake, it is located in the southeast part of the city between the inner and outer walls. With an area of 116 dunams (29 ha), it is the largest of the lakes.
- Lake No. 2 (Figure 2, Map Point 3): Called Saddam Lake, it is located in the northern part of the city and has an area of 16 dunams (4 ha).
- Lake No. 3 (Figure 2, Map Point 4): Called Tammuz Lake, it is located to the south of the ancient city, near the village of al-Jumjumah. It has an area of 17 dunams (4.25 ha).
- Lake No. 4 (Figure 2, Map Point 5): Located in the northeast part of the city, inside the inner wall north of the Greek Theater, it has an area of 10 dunams (2.5 ha).

4.3. Earthen mounds

Three artificial mounds were established under the International Babylon Festival plan. Each has a height of 30 m, an area of 30 dunams (7.5 ha), and a slope of 100 m. These mounds are:

- Mt. Tammuz (Figure 2, Map Point 6): It is to the south of the city.
- Mt. Nissan (Figure 2, Map Point 7): In the east of the city between the inner and outer city walls.
- Mt. Saddam (Figure 2, Map Point 8). It is to the west of the city, on the east bank of the river Euphrates. One of the presidential palaces was built on it.

4.4. Parking lots

Parking lots (flat areas covered with gravel) were built in scattered areas of the city and have different dimensions:

- 1st lot (Figure 2, Map Point 9): In the east of the city, it has an area of 58 x 116 m, a part of which (26 x 16 m) is unpaved.

- 2nd lot (Figure 2, Map Point 10): Outside the eastern part of the inner wall and the moat, it has an area of 260 x 271 m.
- 3rd lot (Figure 2, Map Point 11): Located opposite of the interior side of Marduk Gate, at the start of the street leading to the archeological city, it has an area of 100 x 126 m.
- 4th lot (Figure 2, Map Point 12): West of the theater, it has an area of 53 x 98 m.
- 5th lot (Figure 2, Map Point 13): North of the Babylonian House, it initially had an area of 98 x 54 m, and before April 1st, 2003 was expanded to 340 x 134 m. It was later used as an airfield by MNF- I Iraq.
- 6th lot (Figure 2, Map Point 14): Across from the rest house north of the Ishtar Temple, it has an area of 18 x 67.
- 7th lot (Figure 2, Map Point 15): On the north side of the road leading to the presidential palace, near the new Ishtar Gate, it has an area of 16 x 100 m.
- 8th lot (Figure 2, Map Point 16): It is located south of the presidential palace, across from three modern buildings. It has an area of 52 x 127 m
- 9th lot (Figure 2, Map Point 59): It is located across the street south of the Greek theater, it has area of 141 x 68 m.

4.5. Modern structures.

The modern structures built on the archaeological site of Babylon include:

- Restaurants and service buildings in the center of the archaeological site, around the lake north of the theater, and in the pavilions area.
- The palace and buildings surrounding it.
- In addition, there are also old encroachments: the main street, which cuts through the city from the north to the south, from the Summer Palace to the moat in the southern part; the street that branches off from it, which formerly led to the village of Kuwayrish (currently the area of the presidential palace); the street running alongside the outer side of the moat on the north, east, and south of the city; the road linking the village of al-Jumjumah and the archaeological city of Babylon from the south to the city of al-Hillah; and the road built on the southern and eastern side, along the outer wall of the city (the road may cut through the wall); other streets in the north of the city that link the presidential palace with modern buildings. In addition, the Nebuchadnezzar Museum, Hammurabi Museum, the Study Centre, office, and rest house were built in the center of the city.

4.6. Parks scattered throughout the city

These include the so-called “Pavilions Park” located in the center of the city, near the inner wall and near the Temple of Ninmakh, in addition to parks located in the area of the presidential palace.

4.7. Encroachments caused by agriculture and construction

These encroachments, caused by citizens who own the land, have resulted in the removal of parts of the walls. Much of the land—specifically the western part of the city, the village of Sinjar, and other parts of the village of al-Jumjumah on the eastern side—is still private property.

The features of the western side of the city of Babylon disappeared many years ago due to encroachment by agriculture and development on the archaeological zone, excluding a small portion of the city wall that remains in the southwestern part.

On the eastern side of the city, one can observe the remains of the outer wall in the form of extended tells. Between the tells are areas from which the remains of the wall have been removed in the eastern and southern portions. Some houses incorporate remnants of the outer wall. Encroachments have also been caused by the Hillah-Baghdad Road and the secondary road parallel to the wall, which was built during the International Babylon Festival in 1987.

Two bitumen pits were dug in the vicinity of a brick factory.

There is an irrigation canal (Nile stream), running Northwest – Southeast, located partly within the outer city (Figure 2, Map point 58).

4.8. Improper restoration/reconstruction

Many additions and modifications to numerous archaeological structures in the city were not made according to modern standards of restoration. These include: the Southern Palace of Nebuchadnezzar, the northern portion of the Processional Way, the temple of Ninmakh and the temple of Nabu-sha-Hare, the eastern portion of the inner wall, the Babylonian houses, and the Greek Theater. In particular, the use of concrete for the foundations of the reconstructed Greek Theatre is in clear contravention of internationally acknowledged standards.

4.9. Firing positions

These consist of 13 defensive trenches dug prior to April 1st, 2003 in scattered areas of the city near the presidential palace, the Southern Palace, and the Greek theater (Figure 3) as well as one on Tell Babil, i.e. the remains of the summer palace of Nebuchadnezzar.

The largest of these trenches (Figure 3, Map Point 25) is located southwest of the Nabu-sha-Hare Temple, near the area of the excavations conducted by the Babylon Archaeological Restoration Project in 1982. It has a length of 15 m, a width of 3 m, and a depth of 2 m. The spoil from this trench contains archaeological material including a glazed vessel.

4.10. Previous archaeological excavations (Figure 1)

Earlier excavations covered important parts of the city – for example, the temples, palaces, streets, gates, etc. These excavations yielded valuable information. However, the lack of appropriate maintenance and protection caused major damage to the exposed remains from rain, wind, ground water, salt, plants and human activity.

5. Post-2003 Damage

The use of Babylon as a military base was a grave encroachment on this internationally known archeological site. During their presence in Babylon, the MNF-I and contractors employed by them, mainly KBR, directly caused major damage to the city by digging, cutting, scraping, and leveling. Key structures that were damaged include the Ishtar Gate and the Processional Way.

The military presence in the city required the establishment of a military zone, entailing fortification and defensive measures that caused indirect and direct damage, as detailed below:

5.1. Direct Damage

5.1.1 Excavation Works

From April 2003 until end of 2004 many trenches of different sizes were dug in different parts of the city, including three trenches running approximately alongside the inner wall, with different dimensions, as follows:

1. First trench (Figure 6, Map Point 17): 30 m x 2-3 m x 1.15-2 m.
2. Second trench (Figure 8, Map Point 18): 13 m x 2-3 m x 1.15 m.
3. Third trench (Figure 6, Map Point 19): 14 m x 2 m x 2 m, south of the second trench, alongside it. The soil removed from trenches 2 and 3 was used to create a barrier and contains artifacts including stamped bricks.
4. Fourth trench (Figure 7, Map Point 20): West of the Marduk Gate to the west of the main entrance of the city. This fourth trench is 30 m in length, has a width of 2 m, and its depth is 25 cm to 1 m.
5. A fifth trench (Figure 6, Map Point 21) is located north of the presidential palace, to the east of the Euphrates. The fifth trench has a length of 18 m, a width of 2 m, and a depth of 1.15 m.
6. A sixth trench (Figure 6, Map Point 22) is located in the same area, on the east side of the road. It has a length of 25 m, a width of 2-3 m, and a depth of 1.15 m. The soil removed from both the fifth and sixth trenches contains fragments of ancient baked brick and pottery.
7. The seventh trench (Figure 6, Map Point 23) is considered the one that caused the most damage, because it was dug at the start of the northeast corner of the ziggurat. The trench has a length of 62 m, a width of 2-3 m, and a depth of 2.5 m. The soil removed from the trench was placed on both sides and contains ceramics and baked brick fragments. The drawing of the section of this trench makes clear that it penetrated undisturbed archaeological deposits.

8. Eighth trench (Figure 6, Map Point 24): This is the longest trench dug in the city. It is located in the religious area of the city, north of the seventh trench. It is 162 m in length, 1-1.5 m in width, and 2 m in depth. A trench with a length of 10 m branches off from its eastern side. The soil removed from the trench contains pottery fragments and baked brick fragments with inscriptions of Nebuchadnezzar. A section drawing from the middle of this trench makes it clear that it penetrated undisturbed archaeological deposits. This trench has begun to collapse causing additional damage.

9. Pit (Figure 6, Map point 26). In the southern part of the city, to the west of the road between Babylon and al-Jumjumah there is a circular pit with a diameter of 7 m, and a depth of 5.2 m. The soil removed from this pit was packed into bags or used to fill containers.

10. Pit (Figure 6, Map point 27). Near the pit mentioned in the previous paragraph is another pit. It is larger in area and is approximately circular in shape, with a diameter of 10 m and a depth of 2 m.

11. In addition to these trenches, a trench (Figure 8, Map point 60) made by the MNF-I was observed in photographs taken by the MNF-I. It is located in the northern part of the area north of the presidential palace. The MNF-I filled in the pit at the time.

5.1.2. Cutting Works

(horizontal cutting into a mound, removing deposits)

1. First cut (Figure 5, Map point 28): 8 x 7 x 6 m. It is located northeast of the theater in a chain of tells that extends along the length of the former main road between Baghdad and al-Hillah (al-Humayrah area). The cut begins approximately in the northeastern corner of the inner wall. This area has not been excavated and may contain antiquities.

2. Second cut (Figure 5, Map point 29): It is south of, and bigger than, the first cut. It has an area of 30 x 19 x 7 m.

3. Third cut (Figure 5, Map point 30): 23 x 24 x 5 m. It is south of the second cut.

4. Fourth cut (Figure 6, Map point 31): 5 x 16 x 12 m.

5. Fifth cut (Figure 6, Map point 32): This cut is in the southern part of the city, west of the street that links the city to the village of al-Jumjumah. The objective of the cutting works in this area was to create earthen barriers. Most of the earthen barriers and obstacles located in this area contain fragments of baked bricks and pottery. The fifth cut has a length of 38 m, a width of 6 m, and a depth of 3 m. A section through the cut shows a deposit with various archaeological fragments.

6. Sixth cut (Figure 6, Map point 33): On the eastern side of the street, close to and similar to the fifth cut, it contains ancient pottery fragments, etc. It has a length of 30 m, a width of 1-8 m, and a height of 6 m.

7. Seventh cut (Figure 6, Map point 34): It is north of cuts 5 and 6, to the west of the main road, between the area of the brick kiln and the southern airfield built by the MNF-I. The cut was made to build a road for vehicles transporting supplies and food to residential locations. The cut is 60 m in length, 3 m in width, and 3 m depth.

8. Eighth cut (Figure 6, Map point 35): It is south of the brick kiln. This cut covers a large area estimated at 600 m². The soil removed from the cut contains fragments of baked bricks and diverse pottery fragments.

9. Ninth cut (Figure 7, Map point 36): Located to the east of the brick kiln, it has a length of 100 m. The soil removed from this cut containing pot sherds was used to fill HESCO¹ containers. Parts of the tells located on the two sides of the road were removed.

10. Tenth cut (Figure 5. 6, Map point 37): This cut with a length of 30 m is an encroachment for a parking area south of the Southern Palace. The soil removed was mixed with sand brought from outside Babylon and used to create an earthen barrier.

11. Eleventh cut (Figure 6, Map point 38): It is east of the Temple of Ishtar, near the observation post. The cut has a length of 3 m, a width of 2 m, and a depth of 3 m.

12. Twelfth cut (Figure 5, Map point 39): It is located north of the Babylonian house and has a length of 150 m. Parts of tells were removed.

13. Thirteenth cut (Figure 6, Map point 40): This cut is located in the northern part of the airfield. It has a length of 180 m.

14. Fourteenth cut (Figure 6, Map point 41): This cut is located east of the Babylonian House and west of the Greek Theater. The cutting works resulted in the removal of an area measuring 12 x 13 m with a depth of 1–2 m. Fragments of pottery and baked bricks are evident. The cut also extends to a wall built of baked bricks that is very clear on the surface

5.1.3 Scraping and Leveling Works

The encroachments caused by the MNF-I in Babylon include the scraping and leveling of several archaeological areas and tells, which were then covered with sand and gravel. Some of them were treated with chemicals in addition. This operation covered broad areas of Babylon and entailed the use of heavy equipment to compact the soil, which may have destroyed any antiquities beneath the surface. The effects of chemical treatment on the archaeological sub-surface layers are not yet known.

1. The Area South of the Theater and Babylonian House (Figure 6, Map point 42) The existing parking lot, which was not paved, was expanded by the MNF-I. A 2075 sq m area, including the old parking lot, was leveled, covered with sand and gravel, and surrounded with HESCO containers. The MNF used this parking lot to park large trucks and machinery.

¹ [sandbags made by the US-owned Handling Equipment Specialty Company]

This area has not been excavated. It is located within the boundaries of the center of the city. In addition, a road was opened to link the lot to the temples area.

2. The area surrounding the theater to its south and west (Figure 5, Map point 61), which is 2000 sq m, was covered with coarse gravel, as well as the area located east of the theater, which was used as a parking lot for different vehicles.

3. The area surrounding the Babylonian House and the Hammurabi Museum (Figure 5. 6, Map point 43). This 10,000 sq m area, which served as the headquarters of the American KBR Company, was leveled, covered with gravel and sand, and occupied by various pieces of military equipment of varying shapes and sizes and caravans.

4. South of the asphalt-paved street (Figure 6, Map point 62), and north of the Babylonian House, several tells were cut into. The area was leveled, covered with coarse gravel and used as a residential area.

5. The area north of the Presidential Palace (Figure 5. 6. 7, Map point 44) in the northwestern part of the eastern part of the city, has been modified and covered with coarse gravel. This area is 80 x 70 m area.

6. The area south of the Presidential Palace (Figure 5, Map point 45). This encroachment involves the leveling of a portion of this area, which was then covered with gravel and made into a landing area for helicopters. In addition, caravans were parked here.

7. The area south of the temple of Ninmakh (Figure 5. 6, Map point 46). This area (3300 sq m) is between the Temple of Ninmakh to the north and the Study Centre to the south. It was covered with sand and used as a residential location and vehicle parking lot. Barbed wire surrounds it.

8. The area north of the first airfield (Figure 5. 6. 7, Map point 47). A road with a length of 130 m and a width of 8-10 m was built to the observation tower north of the airfield. The tower was built on a tell in this area. The road was leveled, covered with gravel, and flanked by concrete blocks. The area covered totals 1300 sq m. A continuation of the road with a length of about 300 m and a width of 8-10 m was built east of the tower. It leads to another tower near the lake, north of the theater. The disturbed area surrounding the tower is 400 sq m.

9. To the south of the fuel depot and northwest of the theatre (Figure 6, Map point 63) is a 1300 sq m area that has been covered with gravel. Traces of heavy vehicles are clear in this area.

5.1.4 Earthen berms (banks of earth)

1. There are three, linear earthen berms (Figure 5. 6, Map point 48-50) of varying lengths northeast of the theater, running parallel to each other. The soil removed from the first trench

was used to make one of these berms. The length of the first berm is 30 m. The length of the second berm is 29 m. The length of the third berm is 21 m.

2. East of the theater is an earthen berm with a length of 35 m (Figure 5, Map point 51). It contains pottery fragments. This berm is made with surrounding earth that was cut into.

3. West of the Greek Theatre is a 1200 sq m area (Figure 5–8, Map point 52) divided into seven squares by earthen berms intended to protect areas for the storage of fuel. This soil contains pottery fragments and inscribed baked brick fragments.

4. Northwest of the presidential palace are long berms with a total length of 138 m (Figure 6, Map point 53). Most of these berms contain baked bricks with inscriptions by Nebuchadnezzar II.

5. South of the presidential palace an ammunition depot has been installed protected by earthen berms (Figure 5. 6, Map point 66).

5.1.5 HESCO Containers

Each HESCO container has a height of 1.5 m and is 1.10 m square. They are still present in the following locations:

1. Along both sides of al-Jumjumah Road (Figure 9, Map point 54), within the boundaries of the city of Babylon, covering a length of 380 m on the left and 250 m on the right side of the road. The containers are all filled with soil from the city of Babylon containing pottery fragments and baked brick fragments.

2. Along the northern entrance of the city, north of the presidential palace (Figure 6, Map points 55), on the two sides of the entrance, are soil-filled HESCO containers for a distance of 200 m. In some of the containers are fragments of pottery and baked bricks.

3. South of the Greek Theatre and connected to the parking area (Figure 9, Map point 56)

4. Parking area to the west of the Marduk gate (Figure 9, Map point 57)

5.1.6 Barbed Wire and Steel Stakes

The MNF-I surrounded the city with barbed wire, secured with steel stakes which is still there. The barbed wire is not limited to a specific location. Rather, it was set up in different locations on the perimeter of the central area established as a camp for the MNF-I, or in the city's center as needed. The damage in this case was caused by the implantation of stakes in archaeological ground and on several tells and walls, as happened to a wall in the central area and a wall in the sacred precinct.

5.1.7 Concrete Blocks

Concrete blocks of various sizes and shapes were found placed in the entrances to the city, on the periphery of the city, and inside the city.

5.1.8 Direct Damage to Archaeological Structures

1. Ishtar Gate (Figure 5. 8, Map point 64): The Ishtar Gate serves as a ritual gate leading into the northern part of the inner city. The damage to the gate includes smashed bricks on nine of the bodies of the animals adorning the gate. These animals depict the legendary dragon-snake, the symbol of Marduk, the god of the city of Babylon.

2. Southern portion of Processional Way (Figure 5. 8, Map point 65): Major damage can be observed in the southern part of the Processional Way, which was rediscovered during the Babylon Revival Project excavations in 1979. Starting from the Nabu-sha-Hare Temple, the effects of heavy vehicle wheels are clear, breaking the paving of the street. Three rows of 2-ton concrete blocks were placed in the middle of the Processional Way on top the paving by heavy vehicles, which is itself an encroachment. These blocks were removed by helicopter on November 29, 2004 to prevent further damage to the Processional Way. In addition, a row of HESCO containers with soil taken from the eastern wall of the sacred precinct were placed on the way, and barbed wire was attached by steel stakes to the wall itself and in the middle of Processional Way. There is also a cut in the wall itself with a length of 2.5 m, a depth of 50 cm, and a height of 1.5 m.

5.2. Indirect Damage to Archaeological Structures

Many of the reconstructed features and buildings have suffered damage, including the Inner Wall, the Temple of Ninmakh, the Temple of Ishtar, the Nabu-sha-Hare Temple, the royal palaces and the Babylonian houses. Part of the roof of the Ninmakh Temple collapsed and cracked. Fractures and openings can be seen in the walls of various buildings. The presence of the MNF-1 in Babylon made these structures inaccessible, preventing the SBAH from maintaining their normal procedures of monitoring and repair. A contributing factor to the damage in the Ninmakh Temple may have been the vibration resulting from constant air traffic coming from the close-by helipad. Also, the movement of heavy vehicles within the site caused undefined damage to the archaeological sub-surface layers by churning up or compressing earth.

In February 2009 the situation of several archaeological structures worsened due to the difficulties, still unresolved, regarding the ability of the SBAH to maintain structures. Further direct damage, however, has not been observed.

5.3 Modern Buildings

Although they lack the historical significance of the preceding monuments, the modern buildings in Babylon were also damaged significantly after the war. After the MNF-I entered

the city, they used materials from these modern buildings, rendering them shells devoid of doors, windows, and electrical fixtures. These buildings include the presidential palace and buildings surrounding it, as well as other buildings located throughout the city: the restaurants located around the lake north of the theater, the rest house, the buildings located in the pavilions area, the Project Office, the administration and Study Centre and the museums.

At the end of February 2009, some of the modern buildings showed additional damage due to the lack of maintenance. Other buildings remain closed and secured. Disputes between the Governor of Babil Province and the local SBAH about the responsibility for, and access to, the site slow down the process of planning necessary activities. In particular the reconstructed Ishtar Gate needs maintenance.

Some of the modern buildings (guest-houses, pavilions, offices) bordering the river and south-west of the Saddam Palace mound are inhabited by people moved there by the Governor of Babil Province. The residents created gardens. In addition, the Governor flattened with a bulldozer the ground between modern buildings as well as the artificial mound. The Governor also planted palm-trees and created gardens.

On the west bank of the river, the Governor is in the process of constructing a large garden. The whole area has been flattened and covered with picnic tables. The southern part of this area as well as the area of modern buildings on the east bank of the river, are situated within the neobabylonian city west of the ancient river course.

6. RECOMMENDATIONS

Recommendation 1

The provisions of the Iraqi Antiquity laws should be observed on the site of Babylon.

Recommendation 2

The archaeological implications for the disturbed areas should be investigated by the SBAH and reported upon.

Recommendation 3

Based on the results of the assessment and aforementioned archaeological investigations, the SBAH should develop and implement a site management conservation plan for Babylon in close cooperation and consultation with the UNESCO ICC – Babylon Sub-Committee.

Recommendation 4

Emergency interventions should be undertaken by SBAH and reported upon, including in particular repair of the Ninmakh temple, Nabu-sha-Hare-, Ishtar-Temple and the Inner City Wall.

Recommendation 5

To call on the SBAH to consider the partial reopening of the site.

Recommendation 6

All activities should be undertaken with a view to the nomination of Babylon for inscription on the UNESCO World Heritage List..