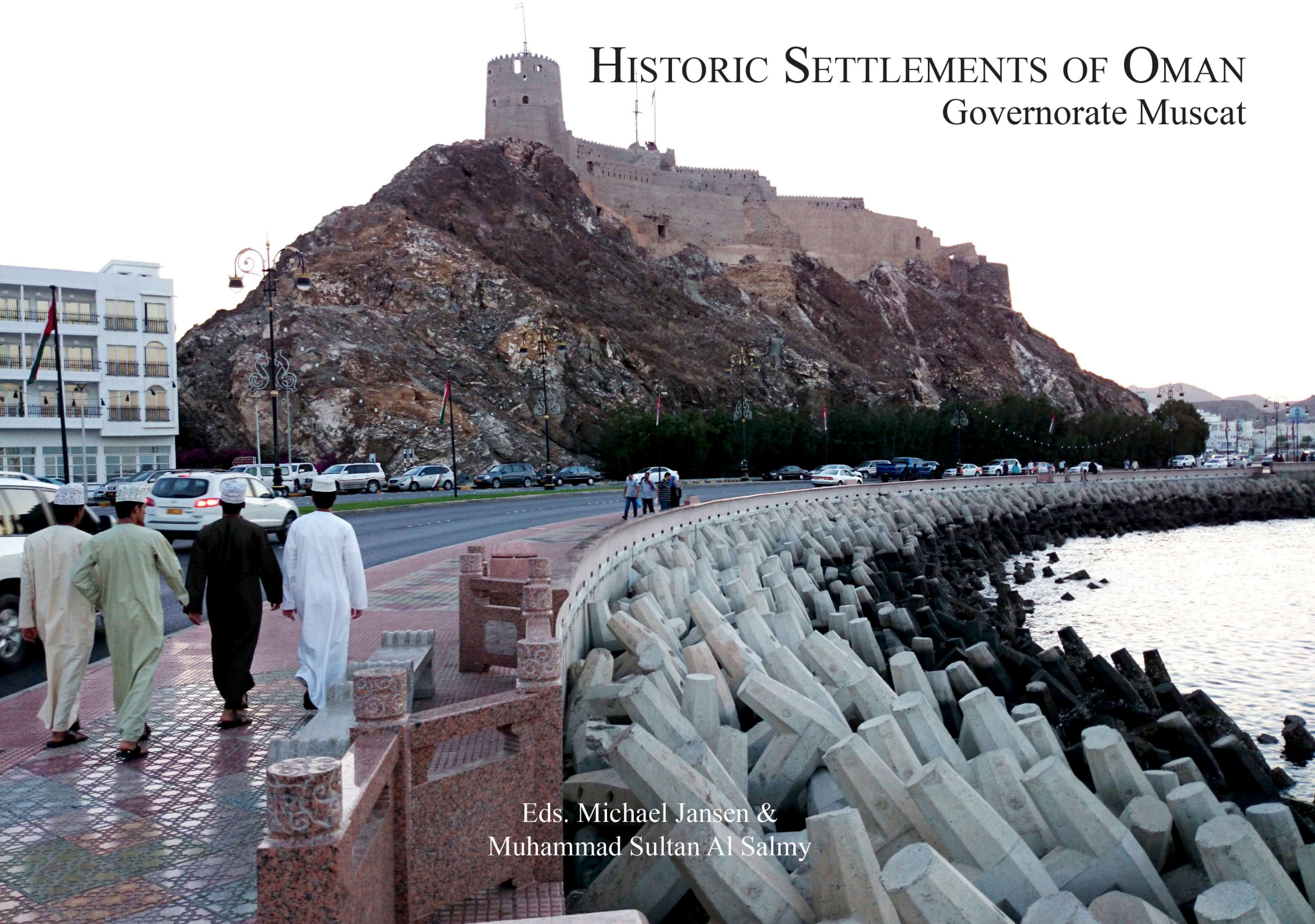
Historic Settlements of Oman

Governorate Muscat



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Muhammad Sultan Al Salmy

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Content

Foreword

by Fred Scholz

A country's cultural wealth finds particular expression in its settlements, these being the dominant elements of its cultural landscape. Settlements are the man-made attestation of the need for protection, safety, security, well-being, community, work, and homeland. They, in turn, find expression in the layout of the streets, roads, fields, and buildings, as well as in the materials used and the architectural and functional design of the dwellings and places of worship. Ultimately, observations regarding settlement periods and processes can be derived and conclusions drawn in regard to the forms of political rule and social differentiation.

In Central Europe in particular, there is a long tradition of research into settlements - towns, villages, hamlets, farmsteads, castles, fortresses, etc. - that offers insight into cultural features and architectural diversity, as well as into the life and economic activity of the past. This research gives a materialized insight into social changes and political processes in its historical and spatial (geographic) dimension, and it makes constraints in ecological adaptation and natural threats comprehensible. Contemporary research is based on a wealth of knowledge about the creation and setting of the Central European cultural landscape and its transformation down to the present.

In all of the countries that have only recently become interested in their long history and rich cultural tradition, scientific attention is now also beginning to turn toward settlements and their structural elements. Previously, these human habitats were actually considered historically inferior and often not worth preserving, probably because of their having become part of the everyday "lifescape". Also related is the fact that buildings were usually constructed of clay or wattle-work that was susceptible to weather-related damage. In many countries, consequently, only badly degraded remains of former settlements can be found.

The Sultanate of Oman was also a country that paid little attention to its traditional settlements in the past. However, Oman, unlike its neighbors in the Gulf region, was not only a desert through which Bedouins roamed with their herds. It is a country with numerous sedentary and concrete settlements. Besides them there existed seasonal used habitats for the Bedouins too. But they didn't use tents here. Rather, they lived near the oasis in extensive camps of huts (samrah, 'arish, khaymah) - in some cases skillfully crafted from palm-frond mats. The extremely diverse structural design and varied material characteristics of Oman's settlements have now been recognized and have begun to attract appreciation.

It is only possible here to give a rudimentary presentation of the cultural wealth of Oman's settlements, and this will be done through some typical examples: There are first of all the extensive oases with their thousands of date palms. These oases have a central fortification, high detached watchtowers, effective irrigation systems (aflaj, falaj), a souk district, mosques, and several scattered, multi-storey residential neighborhoods constructed with the settlement's defense in mind. They include for instance Afi, Bani Bu Ali, Bani Bu Hasan, Nakhl, Nizwa, Samail and Sanaw. Another oases, Bahla, stands out due to its high fortified wall that surrounds the entire oasis, a structure unique in the world.

The oases Adam, Ibri, Iraqi, Rustaq or Samail, for example, use the effluent groundwater in the depth of the wadis, where it is naturally dammed by a rock barrier. By contrast, in many parts of the country, oases situated in an open, flat location receive their life-giving water from low tunnels. They are often dug horizontally over a distance of several kilometers into the sediments at the foot of mountains to where they

tap into the aquifer. Examples are Jabrin, Al Hamra, Al Hazm, Manah, Mudaibi and Sanaw. The oases in Batinah, in contrast, are supplied by wells, and the dwellings are scattered. In comparison, in the nearby fishing villages along the coast, once made exclusively from palm-frond mats, the dwellings are constructed in a closed configuration.

The oases in Wadi Batha are organized completely differently: each gets its water from a single Falaj. Along the open channel, which usually runs through the center of the respective residential area, there is a row of separate outlets for drinking, washing, industrial water, and water for the washing of corpses. Only then is it available for the irrigation of garden plots, which are arranged in strips. The residential areas of the belonging Oases Al Izz, Al Qabil, Hasaw, Hawayah, Ibra and Shahiq have no defensive fortifications, whereas the neighboring oases of Al Daris, Al Ghabbi, Al Qabil, Jahis, Mintirib and Mudayrib boast impressive forts and reinforced housing complexes with intricately carved doors and windows.

In the Omani mountain, the settlements, e.g. Al Ayn, Balad Sed, Misfah and the ancient Ghul, as well as those of the wadis Awf, Bani Kharoos and Sahtan, almost adhere to the rock walls like nests. In a few cases, they are also located on elevated terraces within the narrow wadis, where they are protected from the rare but violent floods. Particularly appealing in these regions are the countless caves and semi-cave dwellings used during the mountain nomads' (Shawawi) seasonal migrations. And in the peripheral mountainous areas of Dhofar and Musandam, there are completely different settlements and dwellings. In Dhofar, they range from the massive, usually multi-storey stone houses on the coast, to mountain dwellers' (Qara) dome-shaped huts made of branches, to caves and lodgings in rock crevices that are sought out by the roaming mountain nomads (Jebalis). The settlement design in Musandam, in Oman's extreme north, also displays originality and individuality.

Only a superficial hint of the diversity of the prominent features of Oman's settlements have been presented in this brief listing, but the wealth of formal and structural elements that existed and, fortunately, are still extant and visible for the most part today should be quite apparent. However, this wealth is undergoing rapid change. For example, common regional and ecologically adapted building materials like clay and woven mats are being replaced by cement blocks and fiber cement boards. And because the old dwellings are being deserted or converted for other purposes, the buildings are collapsing, resulting in the desolation of entire neighborhoods.

The knowledge of this rich cultural heritage, unique in the world, must not be lost, and Oman, which recognizes its diverse cultural endowment and has successfully championed it for decades, is challenged to undertake both further action and scientific research. This book provides initial documentation, showing examples of the goals and tasks science must set for itself. Moreover, it provides an idea of the possible results and findings to be expected. This effort will certainly win the appreciation of Oman's future generations and the world community as a whole.

Foreword

by Kenneth K. M. Liao

When I assumed my post in Oman in December 2013, what struck me most about this country at the onset was its picturesque landscape--the geological formations are simply unique and dramatic--jagged mountains made of pure rock that juts out to the skies, and rocks, big and small, fill the land. The spectacular landscape of Oman has also encouraged me to explore the different sites and attractions of this beautiful country.

It is amazing how the country, under the wisdom and visionary leadership of H.M. Sultan Qaboos has harnessed their land and built modern cities throughout the country. What used to be mainly dry, arid desert land has been developed and built upon and to this day, the country continues its path to full modernization. Yet, it is a different kind of modernization that respects history, tradition and the environment. It is also not "over the top". Oman is a country that maintains and stays true to its cultural roots, yet is modern in terms of services and facilities, tourism and all.

Moreover, Oman has developed into a progressive and modern country, still maintaining its cultural traditions. With a settlement history dating back to the Neolithic Period, the Omanis lived in their traditional villages and towns which have been gradually abandoned after early 1970s when Oman began its modernization project. To safeguard and preserve its tradition as part of the country's identity, the Omani government has been keen to document and conserve the abandoned historical sites before their disappearance with the passing of time.

Like Oman, Taiwan is known for its modern and dynamic cities while Taiwanese culture has also made an indelible mark on the world stage. As it maintains its rich cultural traditions, Taiwan also embraces and absorbs other cultures, while fostering a high quality of life and cultural creativity for all its residents. It is home to the National Palace Museum, famous for its collection of Chinese antiquities and one of the world's finest museums. Traditional architecture is another attraction, not only as seen in Taiwan's temples and historical residences, but also in the many old structures restored and re-purposed as community centers, cafes, stores and other public spaces. In fact, many facets of traditional Chinese arts, crafts and customs are better preserved in Taiwan than anywhere else in the world.

Dr. Michael Jansen, as a UNESCO senior expert, is a world-renowned scholar on architectural history, archaeology and conservation. I was deeply impressed by his studies and devotion to his work when we first met this year. Together with his long, dedicated service and experience in Oman's past Dr. Jansen is an ideal person to work on the pilot project to preserve the Omani cultural heritage and traditions. I admire his passion and dedication in bringing this book from idea to print form.

With an aim to raise awareness about the rich historical culture and the architectural heritage of Oman and to further strengthen Oman-Taiwan cultural exchange and cooperation, my government is pleased to sponsor the publication of this book, "Historical Settlements of Oman," which may attract your attention to learn more about the richest and most complex part of Oman's built tradition, the historic villages and towns themselves. I am hoping that this book will raise public interest and stimulate further research on this subject.

Last but not the least, I hope that a bridge can be built for mutual understanding and more cooperation between Taiwan and Oman in the future.

Thank you.

I. Introductions

General Introduction

Historic settlements in Oman

The architecture and settlements in Oman represent a high variety of forms based on local materials, climate and, of course, settlemental and residential behavior out of the Omani tradition.

Primarily along the coast one will find influences from outside imported by the sailors and travelers who since the third millennium learned to sail with the monsoon winds the Omani Seas. Therefore, most of the foreign reports are dealing with their reports and descriptions with coastal settlements. The inside settlements were difficult to access, mostly through the dry beds of the wadis. Once flooded, they became inaccessible. Hardly any European had had the chance to get into contacts with the Bedus of the deserts, the Sharkiyra Sands and the Empty Quarter. Here Henry Thesinger was one of the few whose wonderful photographs have conserved the vivid impression of their simple lives. The architecture and settlements of Oman till today have hardly been studied. This is even more surprising as we find many settlements with mighty walls and impressive architecture of fortified seats of the elite along with mostly decent sacred architecture. One of the first who began to document and to describe the Omani architecture is Paulo Costa. Already in the 80th the Ministry of Culture and Heritage began with the systematic conservation of the forts as symbol of the national pride. In addition some mosques also were conserved (e.g. Biancifori; mosque of Bani bu Ali). Otherwise, the residential architecture remained un-conserved primarily based on the fact, that the traditional houses and buildings had been abandoned in the early seventies based on the *´Renaissance´* lead by His Majesty Sultan Qaboos. The *´new´* Oman represented itself in proud, new architecture and cities as can be studied in Muscat and other cities. The quick change from traditional architecture and settlements to *´modern´* ones resulted in two phenomena: 1. In the abandonment of complete settlements like Izki, Ibra, Birkat al Maws etc. and 2. In the often unplanned or not well planned settlement spaces and public/ private buildings of the new settlements as can be seen in Salalah and most of the smaller settlements in the country.

When we carried out the establishment of the Archaeological Park Al Baleed in Salalah between 1994 and 2000 we began to document first houses and settlements in the Salalah plain such as Mirbat.

Already then we came across the idea to build up a national inventory of historic settlements of Oman. A first attempt for the full study of the settlement and architectural history was first made in 2002 when we prepared a first general plan for the documentation of the Omani historic settlements. In 2008 a grant was given by the Research Council for a first generalized study based on the new technology of satellite images. More than 200 historic sites could be identified and depicted with markings of historic monuments.

A first wonderful satellite image publication had been prepared through the Office of the Advisor to His Majesty mentioning more than 200 wadis.

Already in the late 90th the German research group from Stuttgart lead by Heinz Gaube and Anette Gangler had carried out a large scale survey on Oasis Settlements in Oman.

With the establishment of The German University of Technology in Muscat, based on the RWTH Aachen University, Germany charter (since 2008) the department of Urban Studies and Architectural Design has systematically began to study the historic settlement patterns in Oman. Since recent the Ministry of Heritage and Culture is prepar-

ing master plans in cooperation with the Nottingham Trent University including systematic recordings and documentation of important historic sites. The research had been initiated by a PhD thesis of Soumyen Bandyopadhyay on Manah (2005). Today the sites of Ibri, Birkat al Maws, Izki, Fanja and Bahla have been recorded and form in their formal documentation a major contribution to the development of master plans. Still the question of diachronic- synchronic history and based thereupon an according typology of urban space and architecture has to be answered.

With the research presented here a new technique has been introduced based on an open data bank system which was specially developed for the cultural heritage of Afghanistan and which is presently introduced in the province of Sindh, Pakistan. It consists of an open text structure and GPS based photography, allowing to trace back each photo immediately.

As is well known in the digital world: it is today easy to collect data and photographs but it is difficult to manage the data and to trace photos back even after a longer time. Therefore the primary question remains that of data collection, control and data management. This can only be realized in complex data banks as basis for national inventories.

This little book gives some examples of the Muscat Governorate area and of some sites in the vicinity, some of them having already been included in the list of the Ministry of Heritage and Culture. We primarily collected basic data from settlements, hitherto unknown and of which hardly data are available. We want to show that with a data bank we are not only dealing with *´attractive´* ruins like Izki, shown in every tourist guide, but also with fragmentary ruins in settlements alive. The main issue for improved urban planning will be how to integrate such historic structures, how to conserve them and how to honor them as part of history as is common today all over the world. In addition, we also want to emphazise that from the urban planning point of view, much wore can be done in planning and execution to ´beautify´ the business and residential spaces of Omani settlements.

This *´picture´* book has to be understood as an attempt to establish a larger research on systematically recording the settlemental history of Oman as a basis for the further development of a typology of architecture and settlements which till now has not been carried out.

We are very thankful to Taipei Economic and Cultural Office, Muscat, Oman, our dear friend ambassador Kenneth K. M. Liao, Mr. Diego Yao Jen Wen who developed jointly with us the idea of this book, the Freunde des Reiff e.V, RWTH Aachen University and the architect´s office Höhler & Partner, Muscat, for their financial and moral support to print this book.

The editors

Islamic Cities in History and Interpretation
A Brief Introduction to a Grand Morphological Diversity

by Karsten Ley

The issue of defining the «Islamic City» is a significant constant in architectural and cultural history as well as in current urbanistic debates. The traditional Western approach from the oriental studies of the late 19th and early 20th century tried to summarize all artistic and design developments since 622 CE under one cultural headline. Following the thorough socio-political transformation and expansion that ensued after the commencement of Islam, this headline included a vast area spreading from Morocco in Northwest Africa to Indonesia in the Far East – with its centre of gravity at the holy places of Makka (Mecca), al-Madīna (Medina) and al-Quds (Jerusalem) and the early political capitals of Dimašq (Damascus), Baġdād (Bagdad) and al-Qāhira (Cairo).

Since more than 30 years researchers from all over the world but especially those with oriental or Muslim background heavily scrutinize this approach (Germen 1983). The French born Turkish architectural historian Doğan Kuban for instance argues that «It is the plurality of forms and styles that characterises Islamic Culture. It is not a culture which may be defined by the homogeneity of its material products» (Kuban 1983: 4). This verdict goes along with an essential reinterpretation of the conventional chain belief – culture – arts – architecture that determined the scope of research for so long. However, other than presumably intended by Kuban it also puts the overall idea of a homogenous Islamic culture at question. The Islamic World beyond or maybe despite its substantial religious and ethical basis includes various ethnicities and languages (even from different language groups), as well as diverging topographies and climates.

Already this makes the investigation of common morphologies utter difficult, as it is true for the «West» (for which it is likewise inappropriate to summarize all developments under one headline, as it is often done to stress a dichotomy of Orient and Occident): Of necessity a settlement, village, town, or city in land-locked Mali will show a different morphology than those on the Malaysian shore etc. At the same time we might find intriguing similarities in the urban morphologies in North Africa and South Italy, where the Mediterranean Sea for centuries allowed for a dense cultural exchange that was fostered by traditional trade routes. Thus, among others the German geographer Eugen Wirth pinpoints the common history of Orient and Occident, which share beside little times of being against each other, rather long times of being side by side, to each other, and also together (Wirth 2000: 2).

Not enough attention is given though to the dramatic historic developments that took place since 622 not only in the Christian but also in the Islamic World (as these are the two world religions we ought to remain with for the thread of this brief contribution – not implying that it would not be sensible and fruitful to engage with other beliefs and their interrelation). These developments evidently changed the cultural and political framework and consequently also the socio-economic relations of people and nations, at times resulting in the fundamental transformation of urban morphologies and spatial appearances. Maybe it is the often misleading titles that incite debates, where the content is rather agreeable and conciliate. When the Swiss architectural historian and urban designer Stefano Bianca speaks of «Urban Form in the Arab World» (Bianca 2000), he is actually presenting scientific biopsies of different urban layers in the long Arab history and thus actually explaining different urban forms (in plural!) at different stages of time (Seifert 2003). It also seems to be a Western concept to understand the varying forms of one physical entity, as they have been evolving over time, as one phenomenological and formal entity. This is surely an approach

with a great potential, however it must be carefully explained and clearly stated that this does not mean that the phenomenological and formal entity has fixed and unchangeable properties, but that its properties are subject to varying conception and interpretation (Ley 2009).

Still, it is the biopsies into different layers of urban history that result in significant comprehensions about why and how certain urban forms evolved in particular periods of time. Consequently we do learn a lot of the development of Islamic cities by understanding the traditional settlement behaviour on the Arabian Peninsula at the time of the Prophet, as well as examining the interaction of Muslim belief with the organisation and structure of the extant cities in the Levant and Mesopotamia. These two developments usually pretty much coin the current understanding of the morphology of «Islamic cities».

For the residential areas that is the principle of house clusters with dead end streets that in the manner of grapes produce neighbourhoods and quarters with little orientation for the stranger. A form that can be explained by the strong significance of family and tribe that closes itself off in one compound from other families and tribes (Bianca 1979: 15-84; Bianca 2000: 23-72; Ragette 2003: 29-91). This particularisation of a whole within a whole again is reflected in ornamental geometric patterns that base on subdivisions of simple forms such as circle and square into a manifold fractured exuberance of shapes (Critchlow 1976; El-Said, El-Bouri et al. 1993; Broug 2008; Abdullahi and Rashid Bin Embi 2013).

For the commercial areas it is the principle of concentration and congestion in the existing economic centres of the settlements. While this peculiar development started already at the end of late antiquity (Koenigs 1997: 93ff.), the main transformation process of main streets with adjacent arcades or colonnades into covered suqs or bazaars by building up the former street area and using the extant sidewalks as pedestrian walkways took place in the early Islamic period between 650 and 800 (Wirth 2000: 34ff.).

The Medina of Fès (Fès el Bali/el Medina el Qadima) exemplifies what for centuries Western research coined «Islamic urbanism». Within its fractal urbanization that goes back to the 8th century one can clearly identify the great mosques, the suqs, several courtyard houses and the bordering fortification.
- Satellite imagery shows the same scale -
© Google earth (image: Digital Globe, 05/JAN/2013)

Both principles have been interpreted as producing a chaotic and labyrinth morphology, a supposed disorder, which sharply contrasts to either the orderly antique city by the Greeks and Romans and also to the European Renaissance ideals – which still, in the beginning of Western

The center of Halab (Aleppo; here before the recent destructions) as well features the main elements of «Islamic cities»: Great mosque, suq, courtyard houses, citadel, etc. Yet the urban fabric itself bases on a Hellenistic grid structure from the 3rd century BCE, when Halab was a Macedonian colony with the name «Beroia».
© Google earth (image: Digital Globe, 04/JUL/2010)

occupation with the Orient in the early 19th century fostered also a certain romanticism among researchers as well as tourists that heavily continued in the 20th century.

Today, however, it becomes clear that these principles of supposed disorder are neither genuine Muslim – nor can they be proposed as basic principles of Islamic urbanism for all times. The first error is easy to prove: the transformation of Byzantine cities in the Orient started before the Arab conquest, which becomes evident in the architecture (Kennedy 1985: 177 & 180), as well as in the written sources (Claude 1969: 51ff.; Pitz 1991: 3ff.). Moreover, the «Western city» of the early Middle Ages shows similar developments of deviations from a strict geometric order, when though obviously with other formal features (Humpert and Schenk 2001).

The second error is a methodological one: The biopsy into one historic layer is an inductive method. To mishandle the inductive method in proclaiming its results as a universal dataset is questionable. To reverse the inductive process, however, into a deductive methodology, which shall be explanatory to all future biopsies, is bound to fail. Obviously the two principles for the Islamic City as laid out are principles to be found in a time period of some 120 years after the death of the Prophet: The Rashidun Caliphate (632-661) and the Umayyad rule (661-750) over the first Islamic realm still focused the extension of the belief and their rule, with little obligation to found new cities in the already heavily urbanised regions of North Africa, the Levant and Mesopotamia, the coast of the Arabian peninsula, and eventually Persia and Central Asia. Consequently the introduction of Islam in these regions was certainly concurrent, maybe influential, but certainly not parental to the ongoing urban transformation processes. To architecturally manifest their power the Umayyads in Syria built Mosques, such as the great ones of Dimašq and Ḥalab (Aleppo) and a series of fortified residences, several of which locate quite remote to the extant urban centres – for instance Qaṣr Mshattā, ar-Ruṣāfa, or the twin ensemble Qaṣr al-Ḥair aš-šarqī and al-Ġarbī (Hillenbrand 1994: 377-390; Michell, Grube et al. 1978: 230-235; Renz 1977: 55-97).

Affirmation for such a perspective can be found already with the following Abbasid rule (since 750). Al-Mansūr (714-775), relocating the governmental centre of the empire to the East, founded his new capital

Madīnat as-Salām (=Baġdād) on a strict circular plan with little potential for geometric deviation (Ettinghausen, Grabar et al. 1987: 76; Creswell and Allan 1989: 236; Novák 1999: 236-248). In comparison with the Umayyad urbanism in Syria, this city on the Tigris River must be understood as an original Islamic City – and it is far away from any alleged disorder of the former developments, but rather embodies the caliph's will to properly and beneficially execute his power. Similar dissimilarities to the alleged disorder of Islamic cities can be observed with other residence cities of the Abbasids' in Mesopotamia, for instance Sāmarrāʾ. When under Hārūn ar-Rashīd (763-809) there was already a proposal for an octagonal city (that remained unfinished), it was al-Muʿtaṣim (794-842), who initiated an urban development that should be characterized as a linear urban layout with parallel avenues connecting a series of palaces, gardens and grand Mosques with other administrative, commercial, and residential quarters (Herzfeld 1948; Northedge 2005). Eventually, the city spread some 42 kilometres along the Tigris River, producing a morphology that could easily conform to a contemporary garden city scheme.

Beyond these deliberations that clearly point at a so-to-say Inner-Islamic development rhythm in time, research on Islamic cities never denied the ability of cultural integration that worked especially on the periphery of the Islamic realm – while this sometimes even lead to a cultural permeation of the whole realm, as can be observed for example with the influx of Persian building tradition. Such a case is exemplified in Esfāhān (Isfahan), which became the Savafid capital (1598-1722) and since the end of the 17th century features parkways and ample esplanades that likewise resemble ancient Persian as well as Baroque-European urban design (Moshfeghi 2003). Still, one of the most obvious integration and re-interpretation of non-Islamic built heritage and the thorough transformation of culture and politics within the Islamic World is the Ottoman rule (1453-1924).

The urban transformation of Isfahan under the Safavid rule (1598-1722) ensued in the production of vast urban squares, parks and avenues within the extant fractal fabric. To represent the power of the Sultans, this transformation followed rather new urbanistic parameters, such as perspectives, vistas, and consecutive spaces, as is evident with Naqsh-e Jahan square.
© Google earth (image: Digital Globe, 18/JUL/2013)

Already this very brief visit of 1400 years of grand morphological diversity demonstrates that there are no basic formal principles, which determine what is so often called «Islamic cities». As is true for the cities in the West, it is geographical as well as historical parameters shaping the individual urban development. Yet, why have generations of researchers and tourists experienced or examined cities as Islamic? Obviously, it is the different and yet associated cultures in the Islam-

Despite the urban renewal after the 1917 fire, until today one can clearly see the major morphological differences with the urban fabric of the Macedonian city of Saloniki. While the Southern part of the city, which originally stemmed from Greek antiquity (since 315 BCE) features a geometrical footprint, the Northern part that represents the Byzantine extension shows features of disorder and congestion, which are similar to those of the «Islamic cities».
© Google earth (image: CNES / Astrium, 07/AUG/2013)

ic World, which base on the common belief and common ritual that prerequisite the developments. And these are seemingly or presumably different from, for instance, a Western World. Maybe the start for an investigation of common denominators for the large variety of cities in the Islamic world must go hand in hand with an analogue investigation for Western denominators. A start could be: In how far is Dubai an Islamic or a Western city – or do we already have «international cities»?

Another starting point can be the examination of the rich urban culture in the Sultanate of Oman. Documenting and examining the different architectural and urban morphologies to better understand original traditions, cultural import/export, as well as the modern development in the recent 40 years might make understand the flexibility as well as the transformability of urban culture in the Islamic world; maybe even giving guidance for the future urban development of cities in the Islamic world. When pursuing such an approach towards the «Islamic Cities in History and Interpretation» by taking the Sultanate as a defined study area, one can already built up on a considerable amount of significant and profound research undertaken by scholars from the East and the West (Scholz 1980, 1990; Casey-Vine 1995; Damluji 1998; Costa 2001; El Baz 2004; Gangler 2008; Sālimī, Gaube et al. 2008; Gaube and Sālimī 2013). The key issue for the proposed endeavour, however, is not a thematic, topical, or typological one, but a general architectural and urbanistic that focusses the large diversity of urban forms and functions.

An according preparatory research is already undertaken by the author to make use of the full digital inventory on the historic sites in the Sultanate Oman, which is currently produced in form of a database. This database, which will have also a very hands-on functionality of facilitating the management of historic sites, will also form the foundation for a thorough scientific analysis of the settlements in Oman with respect to their morphology and territorial dependencies, what should lead to a comprehensive settlement typology and spatial-functional classification that is lacking so far. From there can then evolve an investigation of the various relations among the Omani towns and villages, as well as of the interrelation with the adjacent cultural regions in Asia and Africa – that eventually will contribute to a better understanding not only of the Omani urban heritage, but also for the Islamic urban heritage in general.

Conservation and Rehabilitation of Historic Settlements and Sites as seen through UNESCO/ICOMOS Charters, Recommendations and Resolutions.

by Michael Jansen

Conservation and rehabilitation of historic settlements is a great concern of ICOMOS/ UNESCO.

After World War II major parts of central Europe had terribly suffered from the war. This was one of the reasons why in 1947 through the UNITED NATIONS the *´United Nations Cultural and Scientific Organization´* (UNESCO) was founded. Later, in 1965 the *´International Committee of Monuments and Sites´* (ICOMOS) was founded in Warsaw as sub- organization of UNESCO.

One year before, in 1964, the *´Charter of Venice´* had been released as fundamental statement for the future strategies relating heritage management and protection.

In 1972 the UNESCO World Heritage Convention *´on nature conservation and the preservation of cultural properties´* was ratified with first member states.

Aside these charters and resolutions the *´Declaration of Amsterdam´* by the CONGRESS ON THE EUROPEAN ARCHITECTURAL HERITAGE, 21 - 25 October 1975 in Amsterdam was of great influence on the following UNESCO/ ICOMOS charters and resolutions. The Amsterdam Congress emphasized the following basic considerations:

´a. Apart from its priceless cultural value, Europe's architectural heritage gives to her peoples the consciousness of their common history and common future. Its preservation is, therefore, a matter of vital importance.

b. The architectural heritage includes not only individual buildings of exceptional quality and their surroundings, but also all areas of towns or villages of historic or cultural interest.

c. Since these treasures are the joint possession of all the peoples of Europe, they have a joint responsibility to protect them against the growing dangers with which they are threatened - neglect and decay, deliberate demolition, incongruous new construction and excessive traffic.

d. Architectural conservation must be considered, not as a marginal issue, but as a major objective of town and country planning.

e. Local authorities, which whom most of the important planning decisions rest, have a special responsibility for the protection of the architectural heritage and should assist one another by the exchange of ideas and information.

f. The rehabilitation of old areas should be conceived and carried out in such a way as to ensure that, where possible, this does not necessitate a major change in the social composition of the residents, all sections of society should share in the benefits of restoration financed by public funds.

g. The legislative and administrative measures required should be strengthened and made more effective in all countries,

h. To help meet the cost of restoration, adaptation and maintenance of buildings and areas of architectural or historic interest, adequate financial assistance should be made available to local authorities and financial sup-

port and fiscal relief should likewise be made available to private owners.

i. The architectural heritage will survive only if it is appreciated by the public and in particular by the younger generation. Educational programmes for all ages should, therefore, give increased attention to this subject.

j. Encouragement should be given to independent organizations - international, national and local - which help to awake public interest.

k. Since the new buildings of today will be the heritage of tomorrow, every effort must be made to ensure that contemporary architecture is of a high quality.´

After this declaration Europe wide differentiated laws for the protection of culture and heritage were re- formulated in most of the European countries.

Within ICOMOS as one of their charters in 1987 the *´Charter on the Conservation of Historic Towns and Urban Areas´* was passed in Washington.

It says in its pre-amble:

´PREAMBLE AND DEFINITIONS
All urban communities, whether they have developed gradually over time or have been created deliberately, are an expression of the diversity of societies throughout history.

This charter concerns historic urban areas, large and small, including cities, towns and historic centres or quarters, together with their natural and man-made environments.

Beyond their role as historical documents, these areas embody the values of traditional urban cultures. Today many such areas are being threatened, physically degraded, damaged or even destroyed, by the impact of the urban development that follows industrialisation in societies everywhere. Faced with this dramatic situation, which often leads to irreversible cultural, social and even economic losses, the International Council on Monuments and Sites (ICOMOS) deems it necessary to draw up an international charter for historic towns and urban areas that will complement the "International Charter for the Conservation and Restoration of Monuments and Sites," usually referred to as "The Venice Charter." This new text defines the principles, objectives, and methods necessary for the conservation of historic towns and urban areas. It also seeks to promote the harmony of both private and community life in these areas and to encourage the preservation of those cultural properties, however modest in scale, that constitute the memory of mankind. As set out in the UNESCO "Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas" (Warsaw - Nairobi, 1976), and also in various other international instruments, "the conservation of historic towns and urban areas" is understood to mean those steps necessary for the protection, conservation and restoration of such towns and areas as well as their development and harmonious adaptation to contemporary life.´

In 1999 the *ICOMOS Charter of Mexico* stated:

´PRINCIPLES OF CONSERVATION

1. The conservation of the built vernacular heritage must be carried out by multidisciplinary expertise while recognising the inevitability of change and development, and the need to respect the community's established cultural identity.

2. Contemporary work on vernacular buildings, groups and settlements should respect their cultural values and their traditional character.

3. The vernacular is only seldom represented by single structures, and it is best conserved by maintaining and preserving groups and settlements of a representative character, region by region.

4. The built vernacular heritage is an integral part of the cultural landscape and this relationship must be taken into consideration in the development of conservation approaches.

5. The vernacular embraces not only the physical form and fabric of buildings, structures and spaces, but the ways in which they are used an d understood, and the traditions and the intangible associations which attach to them.

GUIDELINES IN PRACTICE

1. Research and documentation
Any physical work on a vernacular structure should be cautious and should be preceded by a full analysis of its form and structure. This document should be lodged in a publicly accessible archive.

2. Siting, landscape and groups of buildings Interventions to vernacular structures should be carried out in a manner which will respect and maintain the integrity of the siting, the relationship to the physical and cultural landscape, and of one structure to another.

3. Traditional building systems
The continuity of traditional building systems and craft skills associated with the vernacular is fundamental for vernacular expression, and essential for the repair and restoration of these structures. Such skills should be retained, recorded an d passed on to new generations of craftsmen and builders in education and training.

4. Replacement of materials and parts
Alterations which legitimately respond to the demands of contemporary use should be effected by the introduction of materials which maintain a consistency of expression, appearance, texture and form throughout the structure and a consistency of building materials.

5.Adaptation
Adaptation and reuse of vernacular structures should be carried out in a manner which will respect the integrity of the structure, its character and form while being compatible with acceptable standards of living. Where there is no break in the continuous utilisation of vernacular forms, a code of ethics within the community can serve as a tool of intervention.

6. Changes and period restoration
Changes over time should be appreciate d and understood as important aspects of vernacular architecture. Conformity of all parts of a building to a single period, will not normally be the goal of work on vernacular structures.

7. Training
In order to conserve the cultural values of vernacular expression, governments, responsible authorities, groups and organisations must place emphasis on the following:

a) Education programmes for conservators in the principles of the vernacular;

b) Training programmes to assist communities in maintaining traditional building systems, materials and craft skills;

c) Information programmes which improve public awareness of the vernacular especially amongst the younger generation.

d) Regional networks on vernacular architecture to exchange expertise and experiences.´

Resolutions of the Symposium on the introduction of contemporary architecture into ancient groups of buildings, at the 3rd ICOMOS General Assembly. Budapest, 30th June 1972

´The introduction of contemporary architecture into ancient groups of buildings is feasible in so far as the town-planning scheme of which it is a part involves acceptance of the existing fabric as the framework for its own future development.

Such contemporary architecture, making deliberate use of present-day techniques and materials, will fit itself into an ancient setting without affecting the structural and aesthetic qualities of the latter only in so far as due allowance is made for the appropriate use of mass, scale, rhythm and appearance.

The authenticity of historical monuments or groups of buildings must be taken as a basic criterion and there must be avoidance of any imitations which would affect their artistic and historical value.

The revitalization of monuments and groups of buildings by the finding of new uses for them is legitimate and recommendable provided such uses affect, whether externally or internally, neither their structure nor their character as complete entities.´

These examples out of the rich UNESCO/ ICOMOS sources (see bibliography) clearly show the international trend and strategies followed today by most of the UNESCO member-states.

The Sultanate of Oman, being since long a member of UESCO and having its own national ICOMOS group is strongly willing to imply the international rules and regulations. It is very positive to see how this country has been developing since its beginning of the new era under His Majesty Sultan Qaboos. After having established a modern infrastructure the Sultanate is continuing to further protect his very rich cultural heritage also in its built tradition of settlements and architecture. This book may help to create further awareness amongst the people of Oman to protect their own historic properties in the countryside and villages.

For this the charters and recommendations may be of help. It is the responsibility of the universities to create further awareness and also technical know- how with architects, urban planners and engineers to help to preserve the rich historic settings as witness of the past for the future.

Selected Bibliography:

Charters are passed either by the ICOMOS General Assembly or by National Committees. Resolutions and declarations are passed by symposia.

ICOMOS CHARTERS: International Charters for the Conservation and Restoration

• International Charter for the Conservation and Restoration of Monu-

ments and Sites (Venice Charter 1964)
• Historic Gardens (Florence Charter 1981)
• Charter for the Conservation of Historic Towns and Urban Areas (Washington Charter 1987)
• Charter for the Protection and Management of the Archaeological Heritage (1990)
• Charter on the Protection and Management of Underwater Cultural Heritage (1996)
• International Cultural Tourism Charter (1999)
• Charter on the Built Vernacular Heritage (1999)
• Principles for the Preservation of Historic Timber Structures (1999)
• ICOMOS Charter – Principles for the analysis, conservation and structural restoration of architectural heritage (2003)
• ICOMOS Principles for the preservation and conservation/restoration of wall paintings (2003)

Other documents:

• Resolutions of the Symposium on the introduction of contemporary architecture into ancient groups of buildings
Budapest, 1972
• Guidelines on Education and Training in the Conservation of Monuments, Ensembles and Sites (1993)
• Nara Document on Authenticity (1994)
• Principles for the Recording of Monuments, Groups of Buildings and Sites (1996)
• Stockholm Declaration (1998)

UNESCO

Conventions and Agreements of Standard-Setting Nature adopted under the auspices of UNESCO solely or jointly with other International Organizations. Member states who sign or agree to abide by the convention are added to the list of state parties. (Extract)

2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions Paris,

2003 Convention for the Safeguarding of the Intangible Cultural Heritage Paris

2001 Convention on the Protection of the Underwater Cultural Heritage Paris,

1972 Convention concerning the Protection of the World Cultural and Natural Heritage Paris

1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention The Hague,
- First Protocol, The Hague, 14 May 1954
- Second Protocol, The Hague, 26 March 1999

UNESCO Recommendations (extract)
1956 Recommendation Concerning International Competitions in Architecture and Town Planning.
1956 Recommendations on International Principles Applicable to Archaeological Excavations.
1968 Recommendations Concerning the Preservation of Cultural Property Endangered by Public or Private Works.
1976 Recommendations Concerning the Safeguarding and Contemporary Role of Historic Areas.

Electronic Databases for Historic Monuments and Sites

by Georgios Toubekis

In order to maintain the beauty and value of historic sites for future generations contemporary Cultural Heritage Management requires an information system that provides comprehensive data on a specific point of interest for a variety of purposes. Management authorities have to take care of a monument. They have to identify threats and damages and are in need of a comprehensive documentation, which includes maps and photographies for planning conservation or restoration activities. Within the framework of regional development they might need to provide basic information to other planning bodies, such as road or infrastructure planners, which are requested to respect historic sites in the execution of their plans.

Such an information system shall be able to provide answers on what a site is about, its history and its properties. It has to give information where a site is precisely located and its extent based on recent map information. In order to understand the change of the physical condition of a monument in the course of time, access to historic and recent photography is required, for the use of site managers and also restorers dealing with the restoration of historic structures.

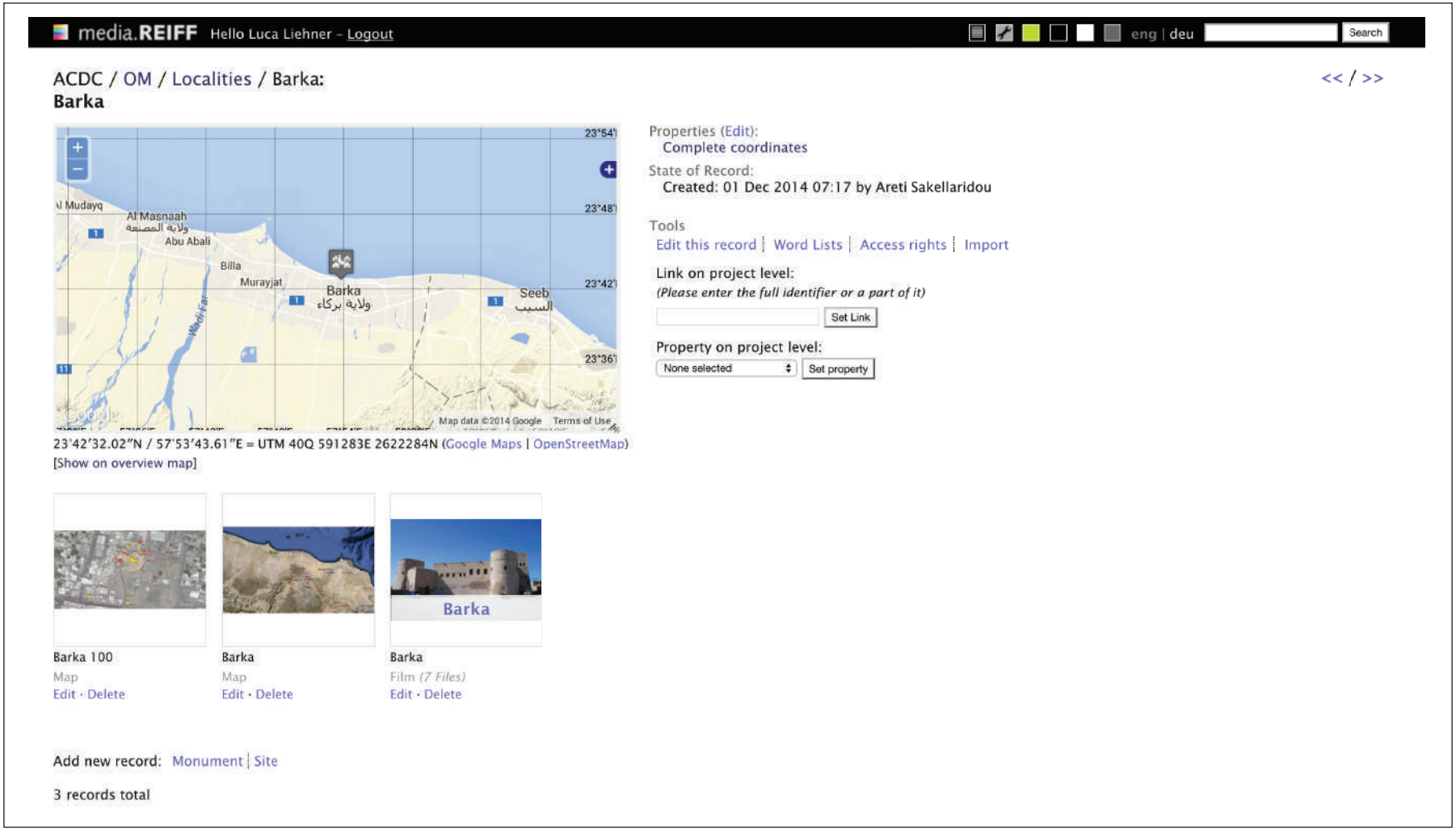
However, it must be noted that, although sophisticated GIS technologies for planning purposes are in use today, such a comprehensive information system for the management of Historic Sites and Monuments is effective only in few places worldwide. The collection of these pieces of information on conventional (sometimes still paper based) archival systems with diverse formats and at dispersed locations even within a single institution is the more common practise. An easy to use electronic database able to handle even large amounts of digital images designed to provide information specifically on historic monuments and sites for the daily use of managing authorities is still most wanted. The RWTH Aachen Center of Documentation and Conservation (RWTHacdc) and the Research Center Indian Ocean (RIOheritage) in Muscat under the guidance of Professor Michael Jansen have developed over the last decade a comprehensive methodology for a time and cost efficient recording of historic monuments and sites.

Based on the usage of contemporary web-based geo-location services the approach comprises a systematic photographic recording of the single monument as well as a short description of its spatial context and the exact geographic positioning by GPS. The photo positions as well as the textual descriptions are recorded in situ on a sketch and in a subsequent process transferred into a media database once returned to the office.

This method has been explored in the past under very rough conditions, such as for documenting the condition of historic sites in Afghanistan after more then two decades of military unrest and more recently for the Central Cultural Authority of the Province of Sindh in Pakistan to build up a complete inventory of protected monument and sites.

Contemporary Remote Sensing satellite technologies allow detailed mapping of even remote areas.

The documentation unit consists of a field team equipped with GPS enabled photographic cameras that is operating throughout the country. Digital images are captured directly with geographic coordinates stored into the metadata of the digital file. These geo-coded images are then automatically processed and will appear on their correct geographic location when displayed onto an electronic map (see Fig. 1). The truth-



Example of Barka taken from the database

fulness of the recorded geo-location with the reality on the ground is based on the strength of the GPS signal during recording time (5-15m), but it can be adjusted manually if required during post processing.
The work of the field team unit is supported by an off-site team unit with access to internet, coordinating the schedule for monitoring and reporting, validation of field data and database handling.

The database originally has been established to support teaching and learning within the Faculty of Architecture of RWTH Aachen University/Germany, making use of standard Open-Source (PHP/MySQL) Internet technologies. Since then it has been further developed to accommodate multi-lingual needs and can be easily adapted to regional necessities.

The database itself structures the storing of the digital objects (photographs, sketches) and their features (geographic coordinates, editor etc.) in different sizes and formats, as well as the relations between these objects (e.g. the relation with other monuments or publications). This process is enhanced by the consistent utilisation of unique Uniform Resource Locators (URL) for all datasets, which simplifies the flexible interrelation of single datasets within the database – as well as with external sources. To be specifically noticed for the project is the circumstance that the database after prior authentication of access rights is accessible via internet and that it features an interface to map the monuments and the relevant photographs with the help of digital map services (such as Google, Bing, Open Street Map etc.).

The system was primarily designed to register and collect dispersed information on cultural and historic sites. Based on an analysis of requirements the system can be developed further to address users needs from four different angles: government and administration, such as the in the tourism or heritage sector; research sector with national and international academics in different countries; preservation sector, such as engineers and planners in the cultural heritage conservation field and if desired also the general interested public domain can be granted access. The new communication technologies such as GPS enabled telephones and ubiquitous High-Speed Internet services even in remote areas offer possibilities for collaborative work on a global scale, involving experts crossing languages and cultural practices. The accuracy of digital images taken in the field can be controlled immediately by displaying them via online map services thus ensuring more accurate results already during the field survey phase. When deciding for a digital documentation strategy, the first step is to accomplish the identification and registration of historic monuments in a given region according the requirements defined by national laws and national or regional Heritage Preservation authorities.

Methods and technologies have to comply with international standards and should be designed to allow easy integration of more complex data at later stages. Then the refinement and adaptation of these methods according to local requirements can be scheduled based on a continuous capacity building process of the teams involved.

In the context of the recent study this method was applied for the first time in the Sultanate of Oman to document the state of conservation of some of the major historic settlements of the country. The collection of images has been conducted accordingly by young Omani architects that graduated from the German University of Technology in Oman (GUtech). In a very short period of time they made themselves acquainted with the technologies and the methodology and returned intriguing results that are now presented in this publication.

Research Strategies for the Study and Interpretation of Historic Architecture and Settlements

by Michael Jansen

The architecture and the settlements of Oman, as they are known to us, have been formed by different parameters. We can formulate at least seven major parametrical groups, which are directly involved in the formal-functional setting of architecture and settlements:

1. The climate and available material of the environment
2. Settlemental and residential behavior based on individual systems (see e.g. F. Scholz, J. Wilkinson, K. Wittfogel etc.)
3. Influence from outside (especially in the coastal settlements; see e.g. H. Gaube))
4. The geographic position as coastal, inland oasis, inland mountains, desert (mobile settlements)
5. Settlemental hierarchy (e.g. as based on Walter Christaller´s central place theory) reflected in centers, sub centers, sub- sub centers
6. Along with the settlement hierarchy the question of the triadic relation of power as 1. sacred power, 2. elite power and 3. profane power also taking into consideration potentials of tribal structures
7. Along with 5 and 6 the question of regional and interregional nets of access and communication.

In addition to these parametrical approaches the one of the time dimension is of greatest importance for the change of architectural and settlement patterns. For the settlements, the question of morphological change along with horizontal and vertical dynamics is crucial, especially as several of the settlements have eroded or are eroding to mere archaeological sites, which can only be examined with high efforts of excavation.

For the architecture, similar parameters can be applied. While in most countries of the world an architectural/stylistic typology has been established, such a typology does not yet exist in Oman. It would be very important, as is the case in most countries, to be able to identify and classify historic building by their forms in time (diachronic) and geography (synchronic). So far hardly any scientific formal criteria have been worked out for a stylistic classification of settlement patterns, house forms and decorative elements, such as door and window decorations, wall paintings decorations of inner beams etc.

In Europe we know for example the Greek, Roman, Medieval, Renaissance, Neo Classic- Modern architecture and styles, or the architecture of South, Middle and North Europe, even to be differentiated in their forms to micro regions identified by their individual forms and functions. In Oman, such a diachronic- synchronic study never has been carried out, also based on the fact, that the architecture rarely has been documented accordingly. In this context, however, we find first attempts of documentation with the works of S. Bandyopadhyay, while there is an outspoken practical focus on conservation rather than a scientific focus, as we know it from historic building research (Historische Bauforschung).

H. Gaube (2008: 39) suggested a classification of settlement forms in saying: “In general there seem to be two basic types: 1. The uncircumvalleted open settlement consisting of a number of individual clusters of buildings and 2. The circumvallated settlement.” In the following, he is trying to prove that Taif (near Mecca) had a city wall but was not a *‘typical’ ‘Islamic city’*. It is not yet clear whether such a classification differentiating between presence/absence of walls would serve the purpose of classifying Omani settlements.

Already as early as 1980 Fred Scholz, the doyen of settlement research in Oman, had already essentially contributed to settlement studies (see Scholz, F. 1980). Going back to the 'central place' theory of the German geographer Walter Christaller he developed first settlement hierarchies and regional networks for the Omani settlements. In differentiation of Christaller's regular hexagon with the central places in the geometric center and smaller settlement around, he identified a network of settlement hierarchies with Muscat in the north as central place and a total of five sub- centers with many sub- sub centers.

If we look into Christaller's model, developed in 1933 for the south German region, we come across not only individual settlements but also settlement clusters and their communication networks, which show hierarchic orders within the network. The *'central place'* would be the *'city'* of the settlement network. The network itself consisting of different hierarchic *'orders'*, dependent on their inner relation of functions directly reflected in their forms.

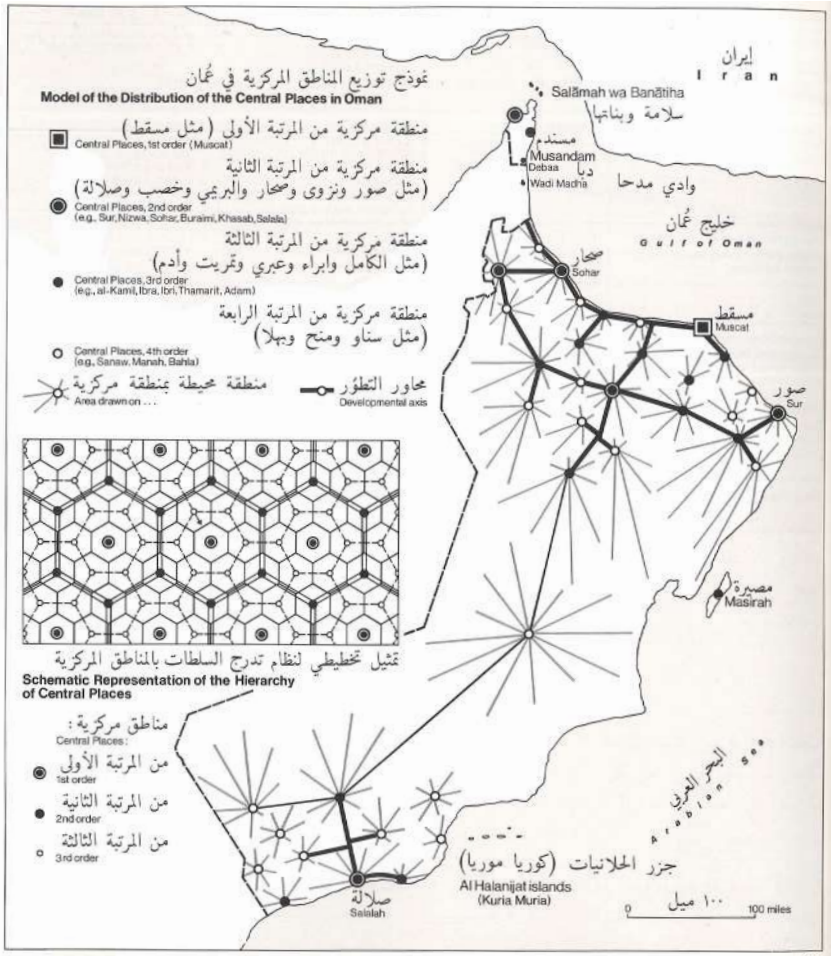
Robert Mc Adams and Hans Nissen applied Christaller's model successfully in the 1960s for a settlement analysis of Mesopotamian settlements in the Diyala Region of the fourth/third millennium in Mesopotamia (Mc Adams, R. 1960; 1968). There they could prove a pattern shift from many small and de-centralized settlements in the 4th millennium to a few very large settlements in the 3rd millennium – a phenomenon which seems to appear today not only in Oman.

In our research we have been differentiating not only the forms but also their functions anticipating that each settlement consists of both, form and function directly and permanently influencing each other:

Form <=> Function

Within a settlement network a central place would be the settlement with most functions at highest hierarchic level. Whether we can term such central places *'cities'* has still to be seen. (see: Gaube, H. 2008). Based on Scholz's approach of 1980, our first research within the area of the Governorate of Muscat has clearly indicated that such settlement networks did and do exist. While today's hierarchy of organization and functions has been drastically changed in accordance with the modern management structures of the Sultanate and can be studied directly, the interesting question remains: How was the hierarchic order in the past, naturally to be differentiated in time and space . Taking the form *'circumvalleted'* (Gaube,H 2008) as indication for a central place, indeed, Old Muscat and Mutrah would have been *'Central Places'*. But definitely there was a functional hierarchic difference between the two. How would have been the relation between Old Muscat, Mutrah and Bowshar, being without walls but featuring a castle? How would have been the relation of the other settlements between themselves and the *'central places'*?

The complexity of the Omani society in the past has been partly described and studied by Fred Scholz, John Wilkinson (1977, 2013) and others . Besides their tribal structures and also migrations, their belief, and here especially Ibadism played a major role in social life. The ancient water supply system by aflaj determined their communal behavior, social hierarchy and segregation (Wittfogel, K. 1977).



Scholz, F. 1980: 277.

Looking into the form-function relation another important question arises: that of power structures. In principle we can differentiate between sacred, elite and profane powers directly involved in the founding, maintaining and changing of settlements. The relation can be shown in a triad as follows:

We can observe that these powers were directly involved e.g. in the medieval German city development. At the early stage of the Middle Ages, from approx 800 AD, after the coronation and anointing of Charlemagne in 800 AD as new Christo-Roman emperor by the pope in Rome, till 1077 when a serious conflict between the pope and the emperor occurred, the emperor (elite power) was primarily dominating the empire. Thereafter the continuous power struggle between the sacred power (pope) and the elite power (emperor) led to the strengthening of the third power (profane), that was represented by the people living in the medieval German (and Italian) cities. The permanent struggle between the pope and the emperor resulted in the strengthening of the high medieval cities of the German empire where many cities became independent with significant privileges. Finally in 1254 the last 'Hohenstaufen' emperor Konradin was put to death by the French Anjou with the help of the pope in Naples. In 1306 the papal residence was shifted away from Rome to Avignon by the French kings.

With the changing of the power structures (functions) the forms of the medieval cities changed: While in the beginning the castles of the emperor or the pope were dominating the cities, in the High Middle Ages, the town halls dominated the central market places of the cities as ex-

pression of the peoples rule and power. This pattern of the domination by the 'Bürger' (citizens) changed in the cities with the beginning of the absolutism in the 16th/17th century, when the seat of the elite within the city was separately fortified again (see e.g. Florence and the Medici).
This short excursion in European urban history gives an example of known developments of urban forms and architecture along with their architectural styles where we can identify e.g. *'Romanic'*, *'Gothic'* or *'Renaissance'* architecture as architectural forms of different life styles and historic expressions.

Such time-space-power relations have not yet been studied for the Omani culture, where, of course, completely different historic developments took place. Though different time- space- power relations did exist and had their direct reflection in the settlement patterns.

To study all these phenomena, the documentation of urban and architectural forms has to be completed. After having completed the architectural documentation, the development of a typology based on the time-space relation has to be initiated to further develop the stylistic setting. Parallel to these studies the program for saving and integrating historic architecture into today's settlement and urban planning has to be further advanced.

As can be shown in this first documentary attempt, in most villages and sites, several historic remains, have survived – mostly as ruins. Though it will be not possible, and probably also not essential, to re-vitalize historic centers as they were, but at least the remains ought to be integrated in today's urban planning, respecting the past of this wonderful country. This goes directly parallel with the improvement of public awareness and capacity building at universities to meet this challenge.

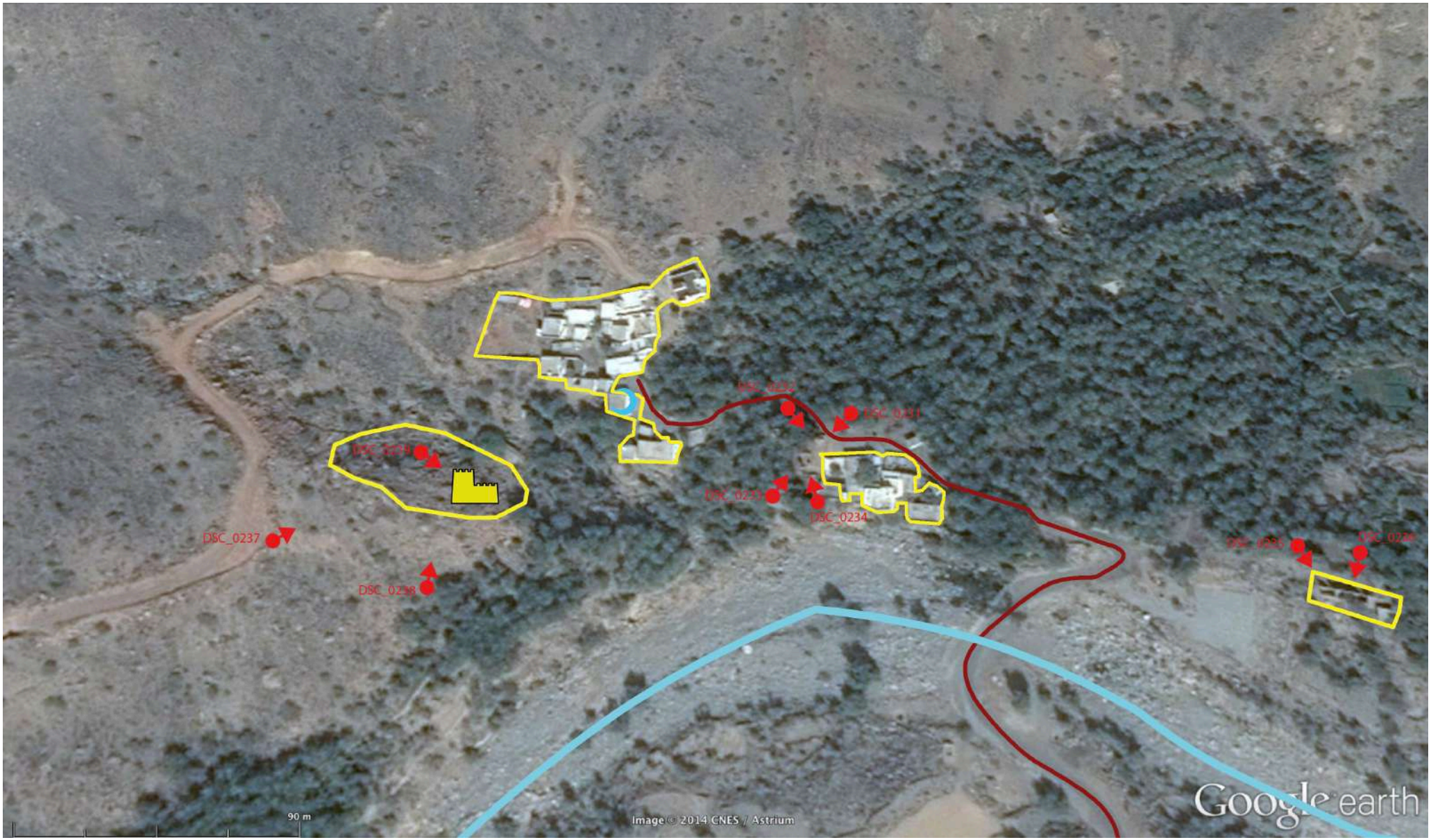
The databank, established at the Research Center Indian Ocean (RIO) at GUtech Muscat will hopefully expand and will serve as a central information system for further research.

http://www.rio-heritage.org

II . Documentation

ACDC/OM/Maps/Satellite-Images/Abayah/01-Abayah

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



ACDC/OM/Maps/Satellite-Images/Abayah/1-Abaya

ACDC/OM/Photographs/Abayah/DSC-0231

ACDC/OM/Photographs/Abayah/DSC-0234

"Derived from Alab which is the heavy burden; plural is Aba which is the hardship. Named so due to the ruggedness of its road and difficulty in reaching it."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p. 62)

ACDC/OM/Photographs/Abayah/DSC-0235

ACDC/OM/Photographs/Abayah/DSC-0236

ACDC/OM/Maps/Satellite-Images/Abu-an-Nakhil/02-Abu-an-Nakhil

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Abu-an-Nakhil/Abu-an-Nakhil-100

ACDC/OM/Photographs/Abu-Nakhil/DSC-0160

ACDC/OM/Photographs/Abu-Nakhil/DSC-0161

ACDC/OM/Photographs/Abu-Nakhil/DSC-0162

ACDC/OM/Photographs/Abu-Nakhil/DSC-0163

ACDC/OM/Maps/Satellite-Images/Al-Amrat/03-Al-Amrat

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Al-Amrat/Al-Amrat-100

ACDC/OM/Photographs/Al-Amrat/DSC-0100

ACDC/OM/Photographs/Al-Amrat/DSC-0101

"Plural of Amirah which is an adjective for the place taken from populousness. Arabs used to name the derivatives of Alomran to name places such as the Amiriah city in the west of Alexandria, jebil Ameir in Mecca.

It is said, the man Amur Tameirn meaning lived for long time; and Amur the money: meaning becomes plenty ; and Amura the house by its residents meaning it was occupied by themthus it is Ameir; and somebody Amera the house meaning build it; Alamer: is the tall treesand the good dates.

Meaning that Allah given us permission for Amartha (making it place for living); and Almamer: is the wide house in relation to water and pasture; and Aatmrh meaning visited him; and it is said that person came to us Moatamer meaning as a visitor. Al Amrat is group of orchards with plenty of water and greenery. People used to visit the area and live therein in date harvesting season at the time of extreme heat."

ACDC/OM/Photographs/Al-Amrat/DSC-0104-2

ACDC/OM/Photographs/Al-Amrat/DSC-0105

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p. 33)

ACDC/OM/Maps/Satellite-Images/Al-Khawd/06-Al-Khawd

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Al-Khawd/Al-Khawd

ACDC/OM/Photographs/Al-Khawd/DSC-0171

ACDC/OM/Photographs/Al-Khawd/DSC-0178

"Khada with the horse Khoudan: bring to the water; Khada the water: means enter and walk in it; Khada the pasture meaning having plenty of grass. Called so due to the availability of water from Wadis running therein. A recharging dam was constructed recently to preserve the accumulated water from wadis."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p. 21)

ACDC/OM/Photographs/Al-Khawd/DSC-0179

ACDC/OM/Photographs/Al-Khawd/DSC-0181

ACDC/OM/Maps/Satellite-Images/Al-Mazarea/04-Al-Mazarea

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Al-Mazarea/Al-Mazarea-100

ACDC/OM/Photographs/Al-Mazarea/DSC-0240

ACDC/OM/Photographs/Al-Mazarea/DSC-0241

"Diminutive of Al Ghobra which is the land with plenty of dust."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p.33)

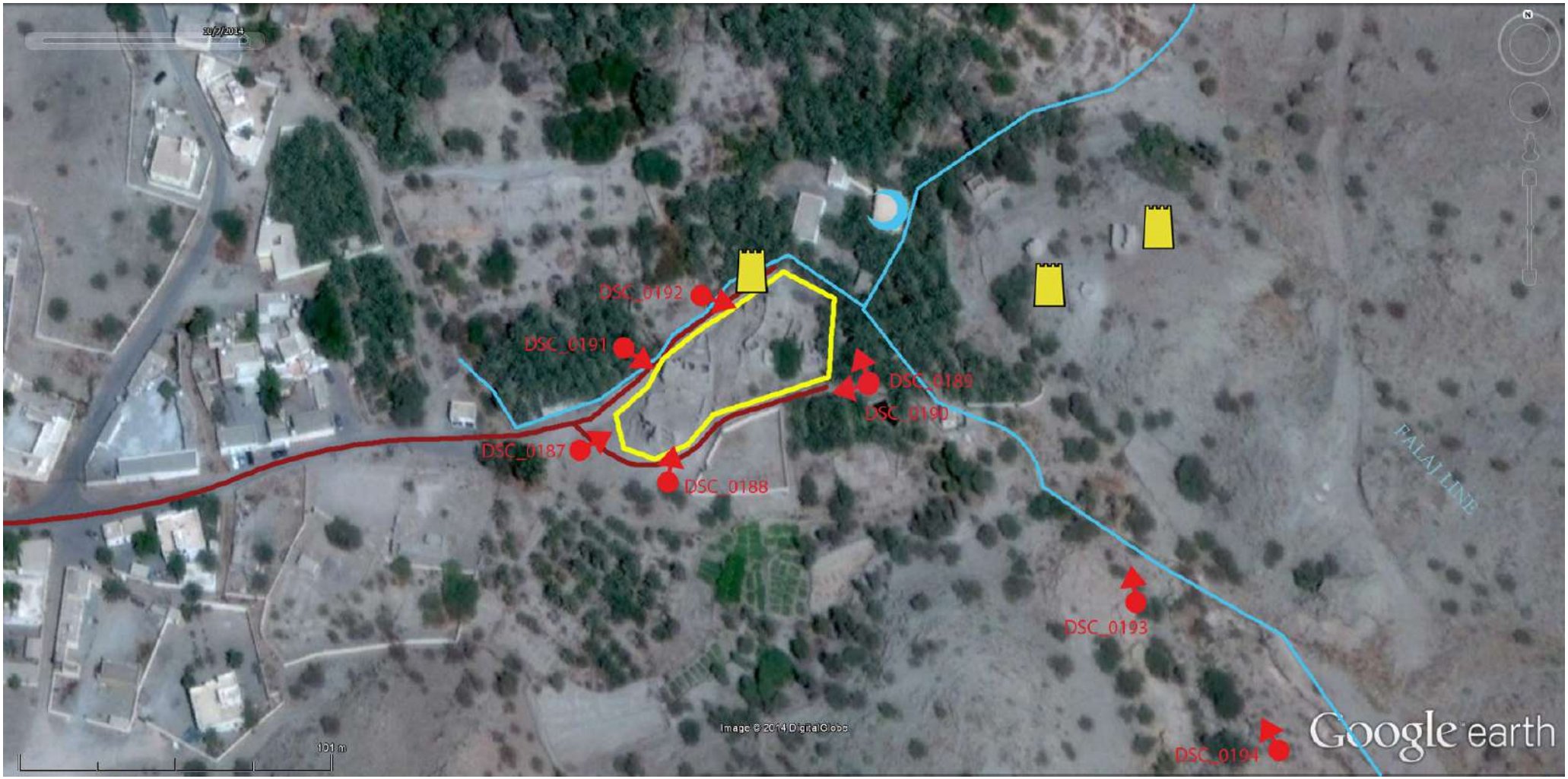
Al Ghubairyah is located close by Al Mazarea (Editors comment).

ACDC/OM/Photographs/Al-Mazarea/DSC-0242

ACDC/OM/Photographs/Al-Mazarea/IMG-5506

ACDC/OM/Maps/Satellite-Images/Al-Misfah-(1)/07-Al-Misfah-(1)

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



ACDC/OM/Maps/Satellite-Images/Al-Misfah-(1)/Al-Misfah-100

ACDC/OM/Photographs/Al-Misfah-(1)/DSC-0187

ACDC/OM/Photographs/Al-Misfah-(1)/DSC-0189

"The wind "safa" the dust, meaning carried it. Thus, the wind is "safia" and the dust is "masfi","safi" and "masfah". Al Safa: The dust. Every tree having thorns is called the "safa"; and "asfa" meaning that its spikes sides became coarse. "Masfah" is a common naming in many areas in Oman."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p. 15)

ACDC/OM/Photographs/Al-Misfah-(1)/DSC-0191

ACDC/OM/Photographs/Al-Misfah-(1)/DSC-0192

ACDC/OM/Maps/Satellite-Images/Al-Mushabut/Al-Mushabut

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Al-Mushabut/Al-Mushabut-100

ACDC/OM/Photographs/Al-Mushabut/IMG-6737

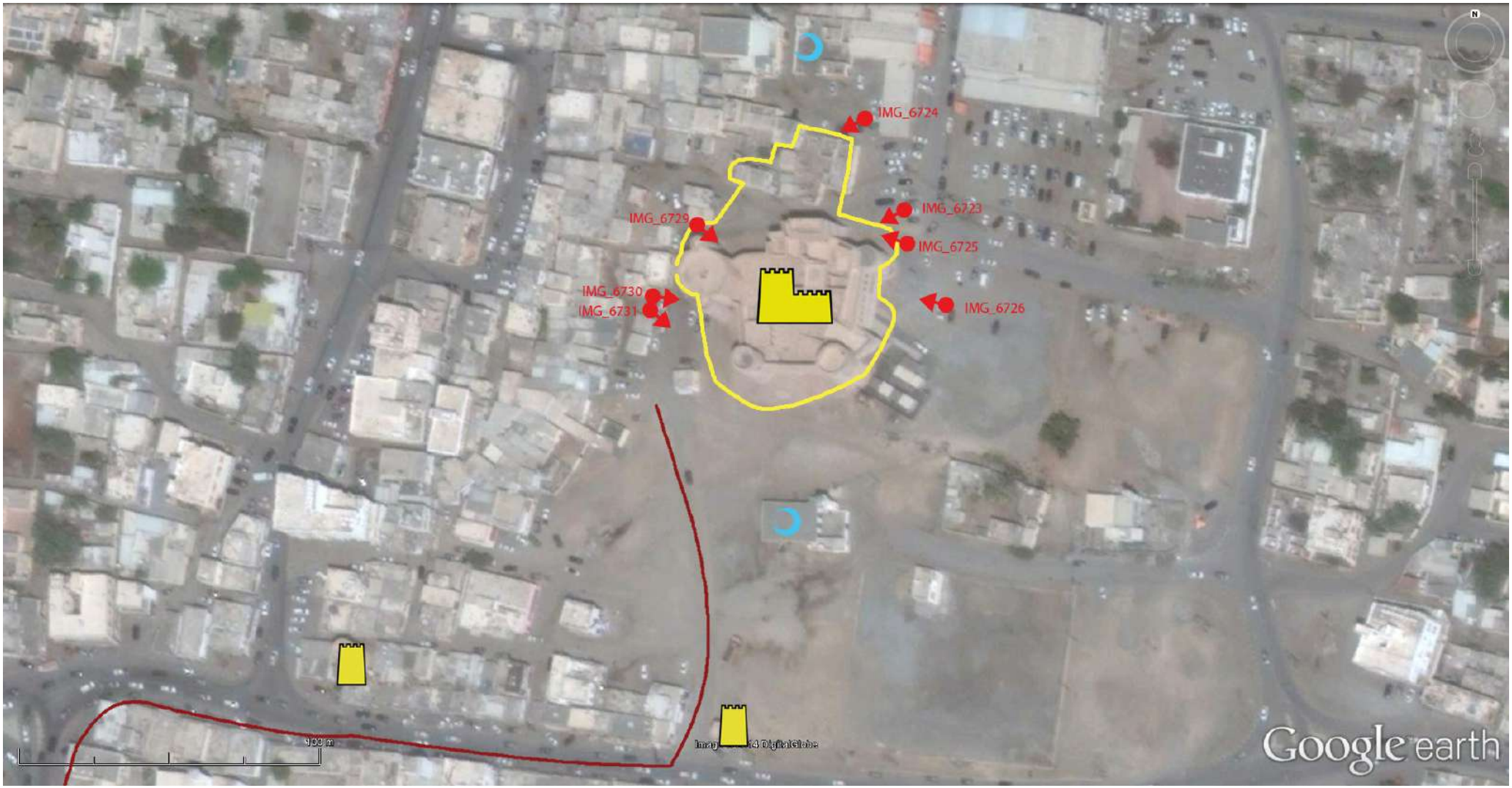
ACDC/OM/Photographs/Al-Mushabut/IMG-6736

ACDC/OM/Photographs/Al-Mushabut/IMG-6743

ACDC/OM/Photographs/Al-Mushabut/IMG-6738

ACDC/OM/Maps/Satellite-Images/Barka/25-Barka

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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ACDC/OM/Photographs/Barka/IMG-6730

ACDC/OM/Photographs/Barka/IMG-6724

ACDC/OM/Maps/Satellite-Images/Bawshar/08-Bawshar

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Bawshar/Bowsher-200

ACDC/OM/Photographs/Bawshar/IMG-1659

ACDC/OM/Photographs/Bawshar/IMG-1662

"Originally it is Bouashier meaning Albusharah which is the good news not kown by the person informed. Albushaier plural of Bushrah which are goodness and pleasure news. It is said that it was called Buwsher after the first product of ripe dates from date palm trees."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p. 12)

ACDC/OM/Photographs/Bawshar/IMG-1664

ACDC/OM/Photographs/Bawshar/IMG-1672

ACDC/OM/Maps/Satellite-Images/Bidbid/24-Bidbid

Settlement
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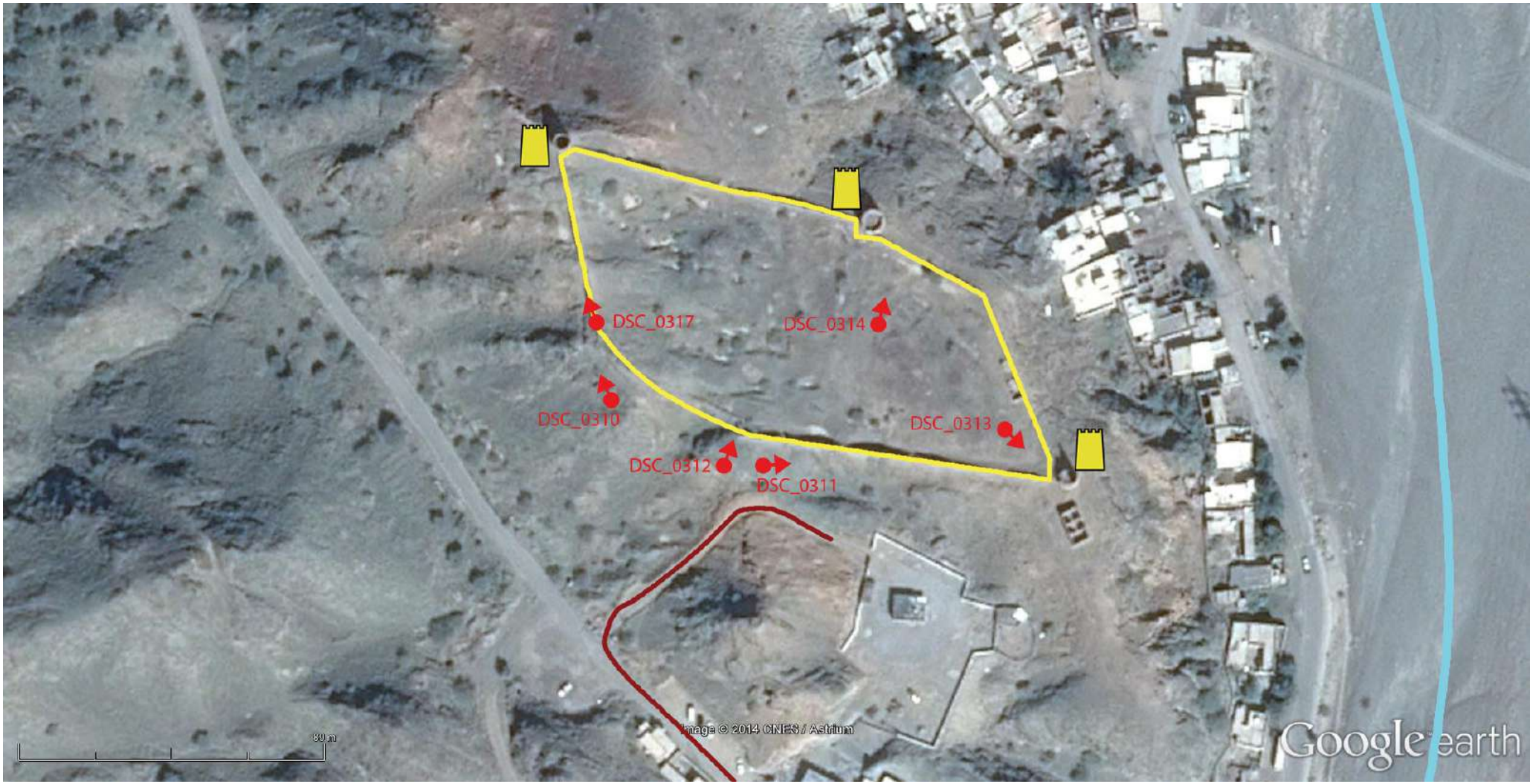
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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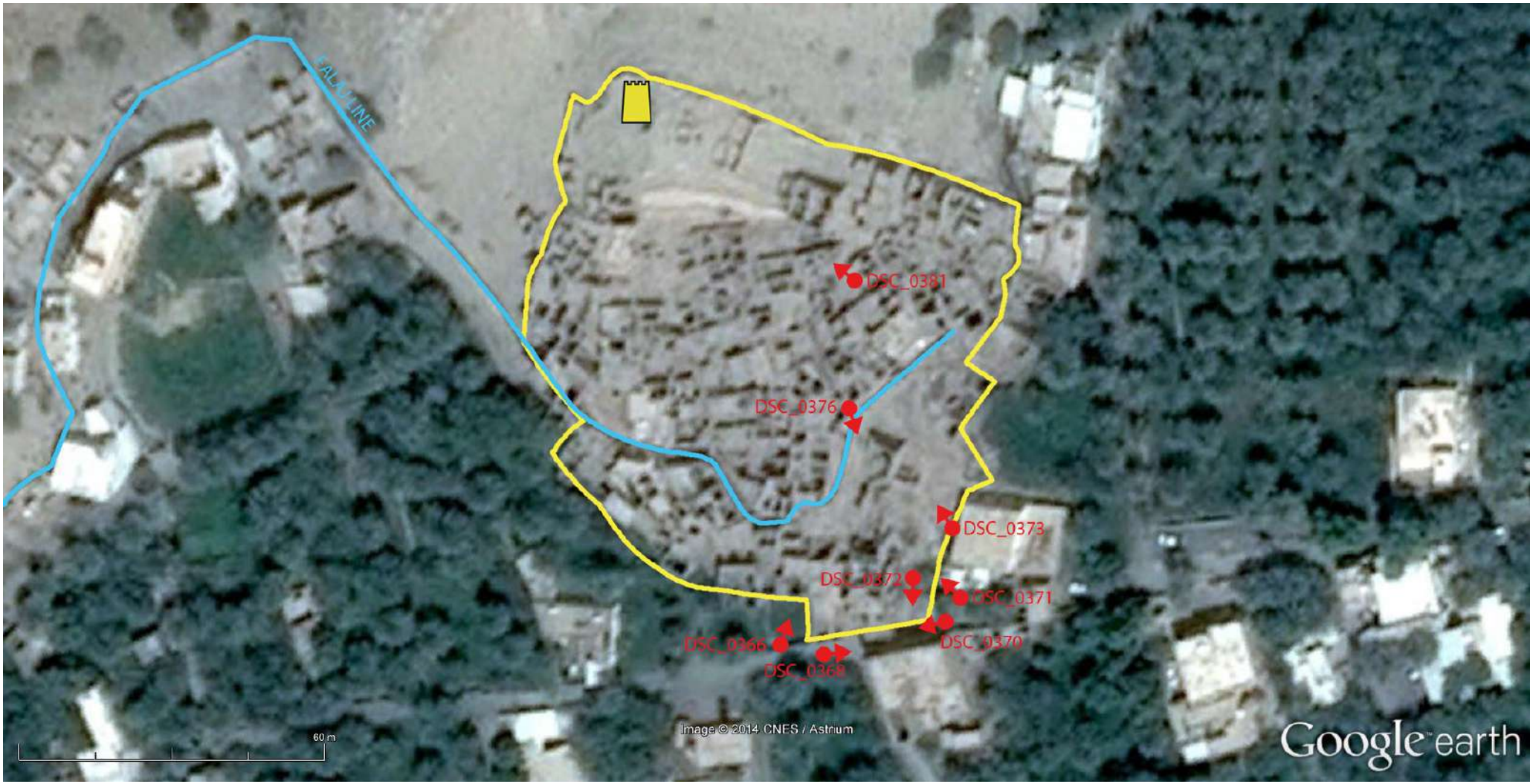
ACDC/OM/Photographs/Bidbid/DSC-0313

ACDC/OM/Photographs/Bidbid/DSC-0314

ACDC/OM/Photographs/Bidbid/DSC-0317

ACDC/OM/Maps/Satellite-Images/Birkat-al-Mouz/22-Birkat-al-Mouz

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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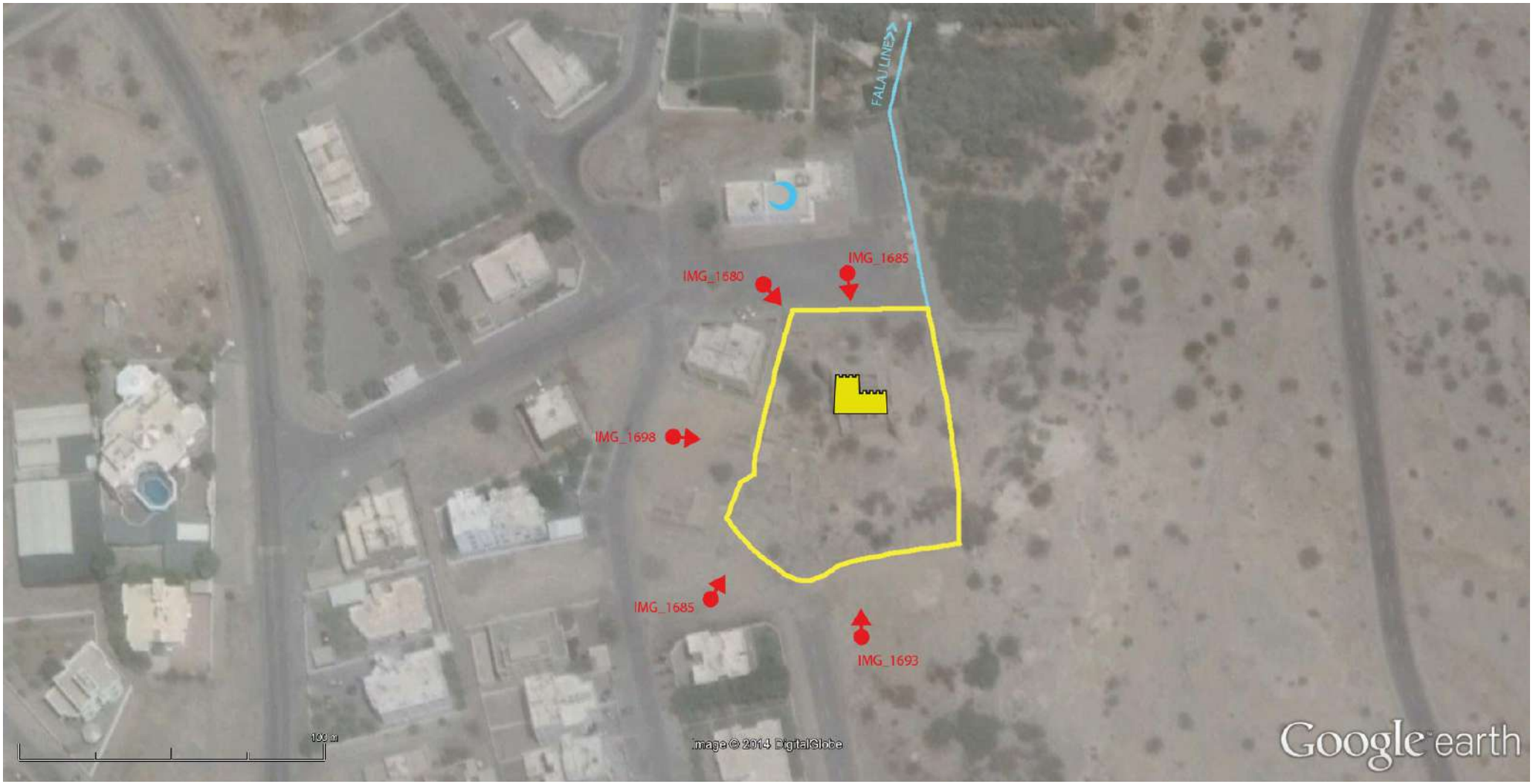
ACDC/OM/Photographs/Birkat-al-Mouz/DSC-0372

ACDC/OM/Photographs/Birkat-al-Mouz/DSC-0376

ACDC/OM/Maps/Satellite-Images/Bowshar/09-Bowshar-Fort

Settlement
Access Road
Wadi/Falaj
City Wall
Mosque
Fort
Tower
Photo-Position
see next pages



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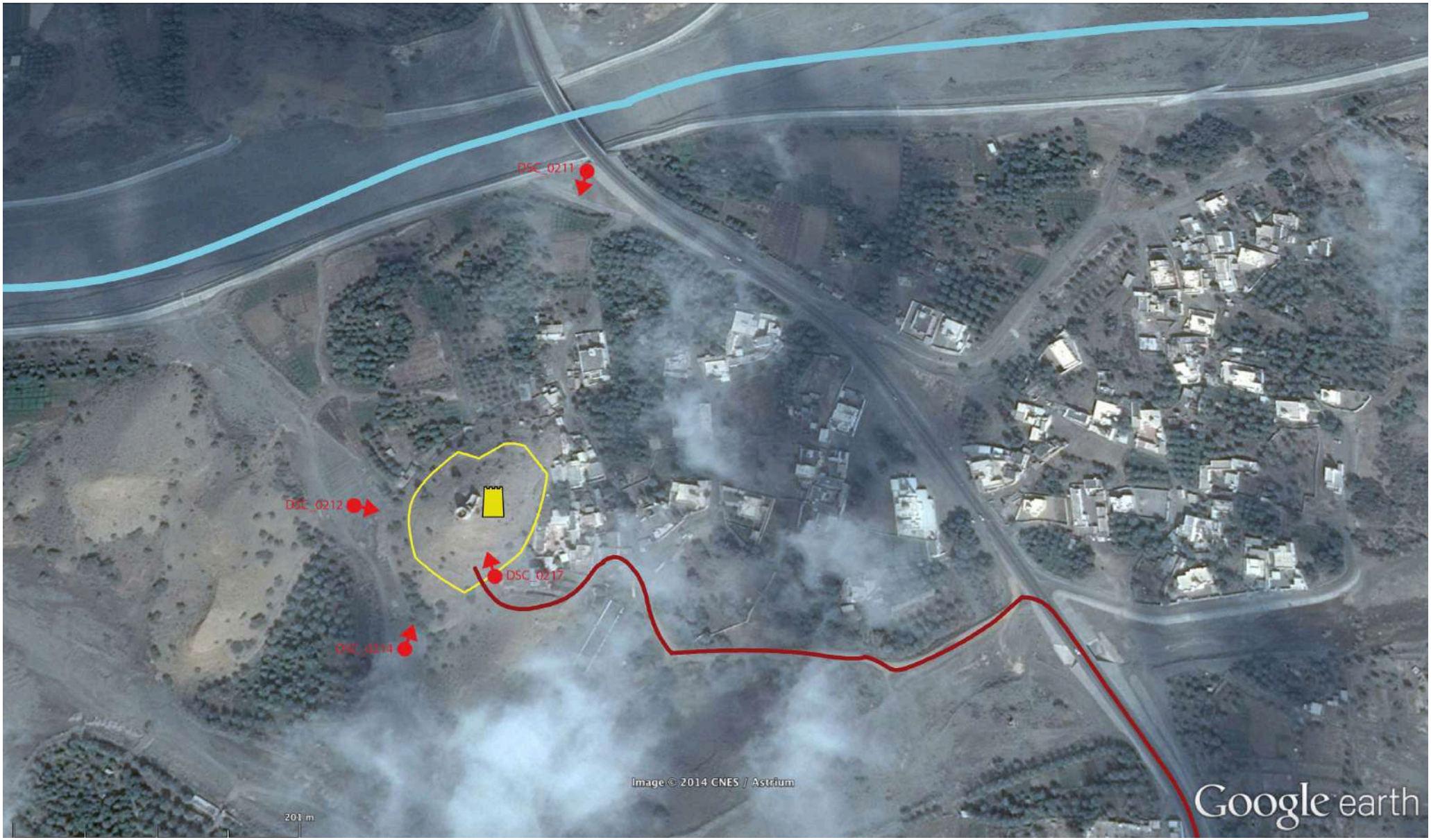
ACDC/OM/Photographs/Bowshar-Fort/IMG-1687

ACDC/OM/Photographs/Bowshar-Fort/IMG-1693

ACDC/OM/Maps/Satellite-Images/Dagmar/05-Dagmar

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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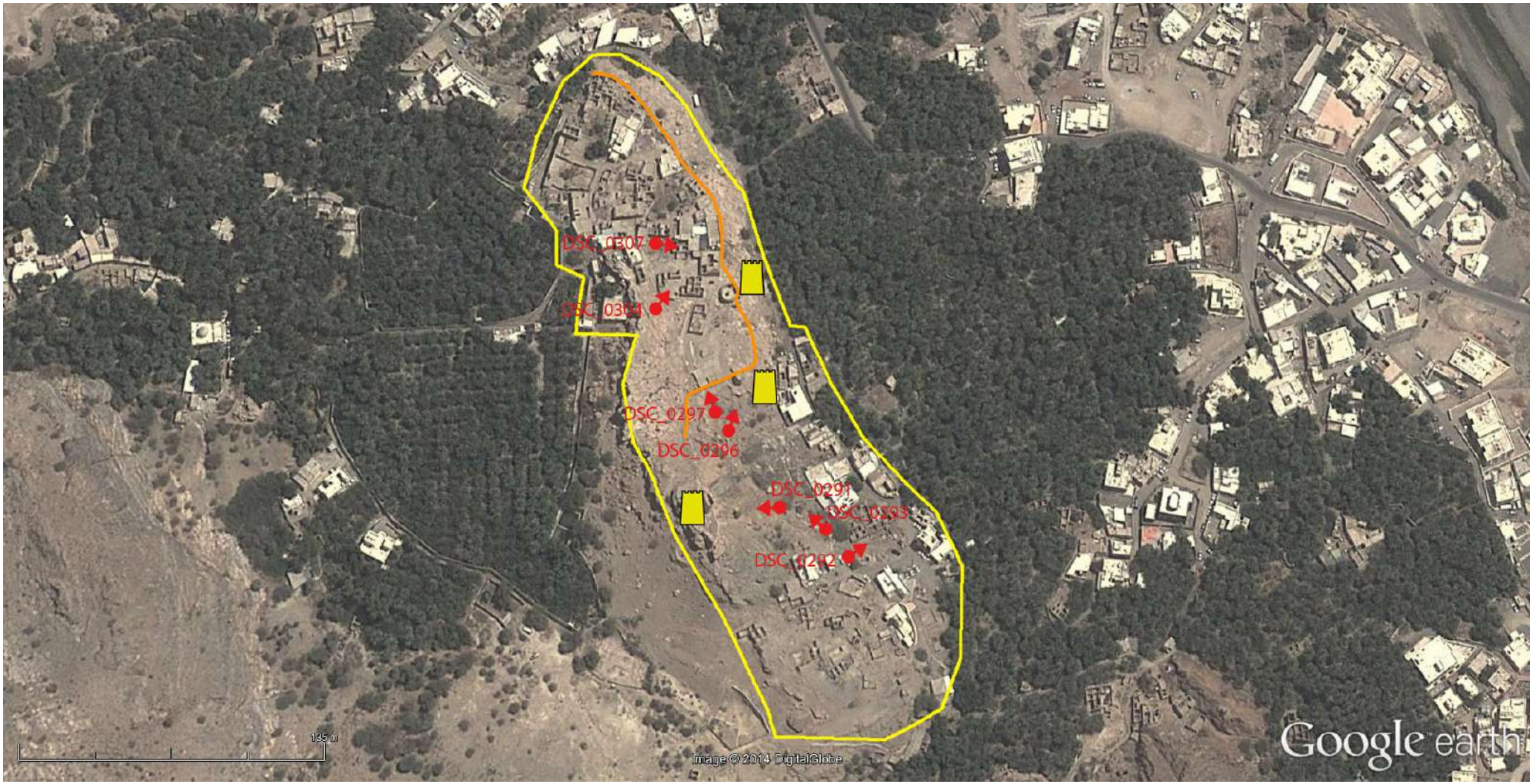
ACDC/OM/Photographs/Dagmar/DSC-0212

ACDC/OM/Photographs/Dagmar/DSC-0214

ACDC/OM/Photographs/Dagmar/DSC-0217

ACDC/OM/Maps/Satellite-Images/Fanja/23-Fanjah

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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ACDC/OM/Photographs/Fanja/DSC-0304

ACDC/OM/Photographs/Fanja/DSC-0307

ACDC/OM/Maps/Satellite-Images/Halban/10-Halban

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Halban/31-Halban

ACDC/OM/Photographs/Halban/DSC-0168

ACDC/OM/Photographs/Halban/DSC-0169

ACDC/OM/Photographs/Halban/DSC-0165

ACDC/OM/Photographs/Halban/DSC-0167

ACDC/OM/Maps/Satellite-Images/Hayl-al-Ghaf/11-Hayl-al-Ghaf

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Hayl-al-Ghaf/Hayl-al-Ghaf-200

ACDC/OM/Photographs/Hayl-Al-Ghaf/DSC-0219

ACDC/OM/Photographs/Hayl-Al-Ghaf/DSC-0220

"Alhail: the water collecting on the wadi bottom and the place where Wadis water collect. Algaf is type of trees with thorny many branches with composite feathery leaves with short neck flowers. The area have many trees and water pondsand its Wadis are running throughout the year."

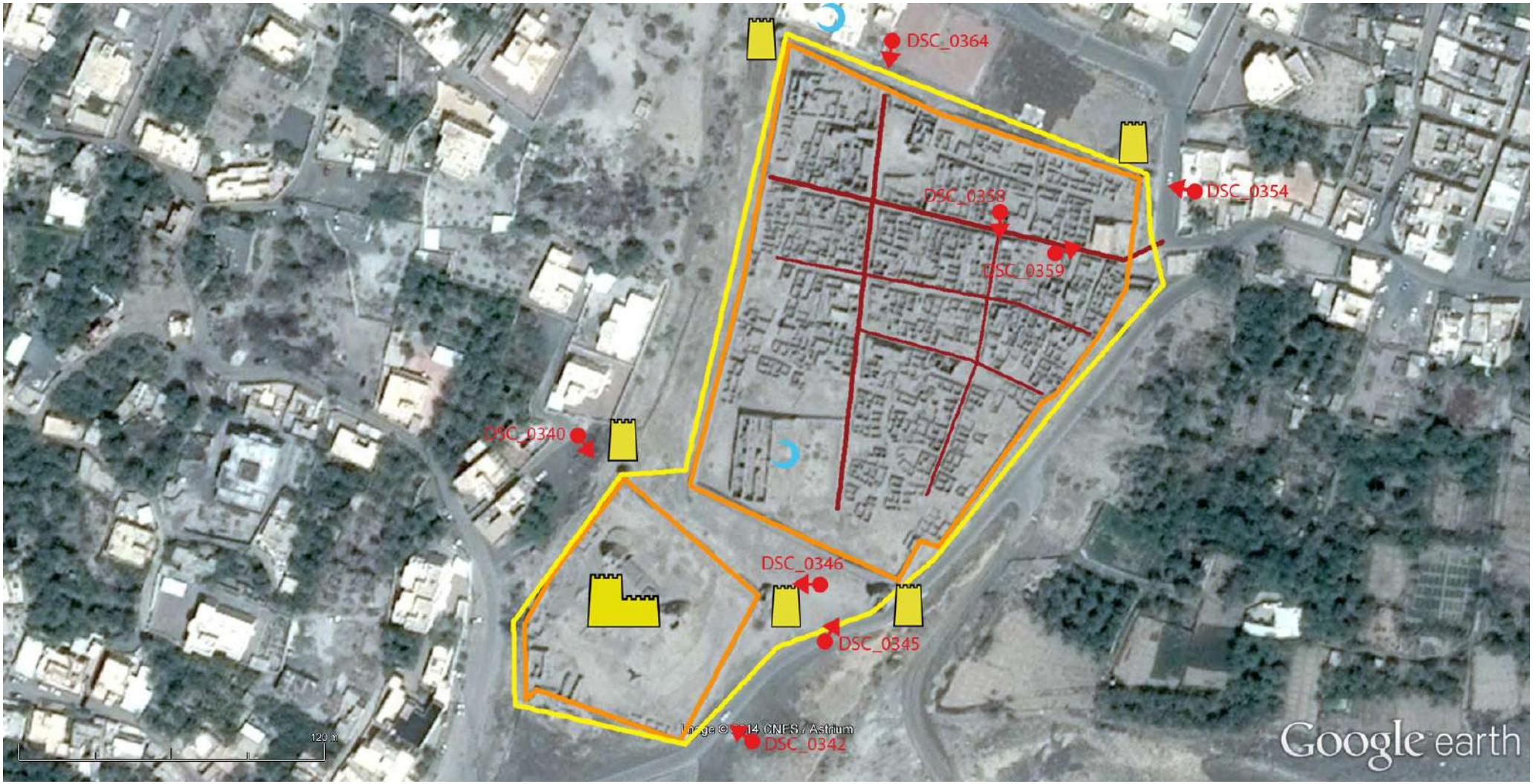
(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p.33)

ACDC/OM/Photographs/Hayl-Al-Ghaf/DSC-0221

ACDC/OM/Photographs/Hayl-Al-Ghaf/DSC-0223

ACDC/OM/Maps/Satellite-Images/Izki/21-Izki

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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ACDC/OM/Photographs/Izki/DSC-0364

ACDC/OM/Photographs/Izki/DSC-0358

ACDC/OM/Photographs/Izki/DSC-0342

ACDC/OM/Photographs/Izki/DSC-0340

ACDC/OM/Maps/Satellite-Images/Muscat/12-Muscat

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Muscat/Muscat-750

ACDC/OM/Photographs/Muscat/DSC-0136

ACDC/OM/Photographs/Muscat/DSC-0137

"(Muscat) as in "mifal" in Arabic grammar. The name is usually given to a fortified strategic area laying at a mountainous sea firth where waves of Arabian Sea and Indian Ocean meet, hence it is where the Arabian Sea and Indian Ocean meet. Its location is therefore a strategic one. It is called Muscat due to its location among high mountains or due to fall of Wadis on it from the mountains slopes and highlands surrounding it. It has only one sea gate which was previously an anchorage for ships. The gate is characterized by being fortified by two higj mountains extending in the sea as two lateral sides. Separated by a very deep gulf. Two large fortresses were built on the summits of these two mountains to guard the town. Previously the word "Mscad" and "Msct" was used to point for Muscat in many sources and references. It was mentioned by travelers and historians. It was also mentioned by "yagout al Humawi" in his lexicon of the seventh century of the Hegira. It was also mentioned by the author of " Alruwd Almiatar fi khabr Al agtar" where he said "it is a town passed by those who are travelling to India and China, and it is

ACDC/OM/Photographs/Muscat/DSC-0140

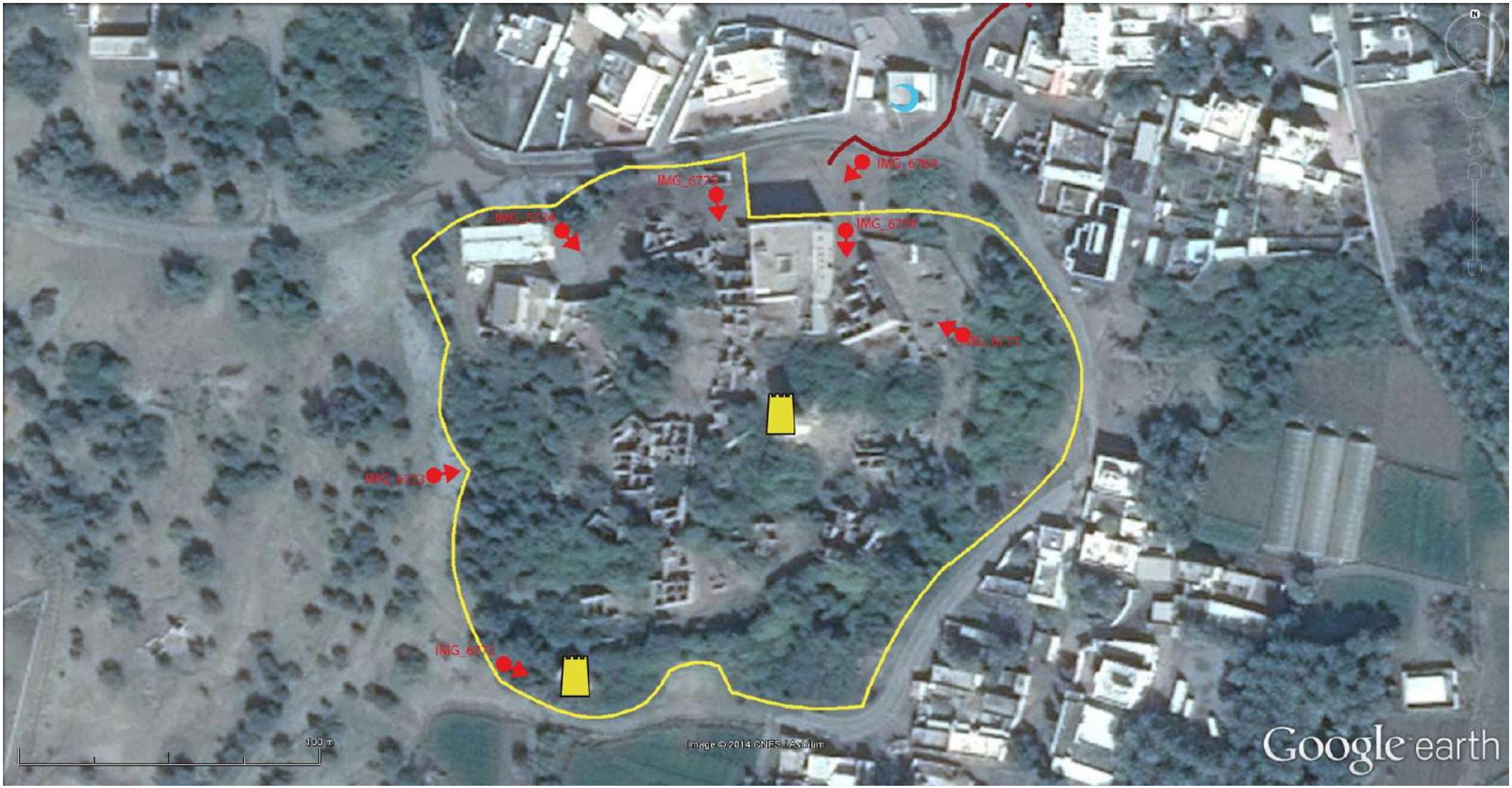
ACDC/OM/Photographs/Muscat/DSC-0142

an anchorage for ships located between two mountains and travelers can get fresh drinking water from its wells and can carry stones to throw the his attckers if any. In the recent renaissance the name Muscat included Oman capital with all its suburbs. The town played a silent role in the maritime and political history of the region since the "Busaidains" made it the capital of state."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p.33)

ACDC/OM/Maps/Satellite-Images/Musilmat/18-Musilmat

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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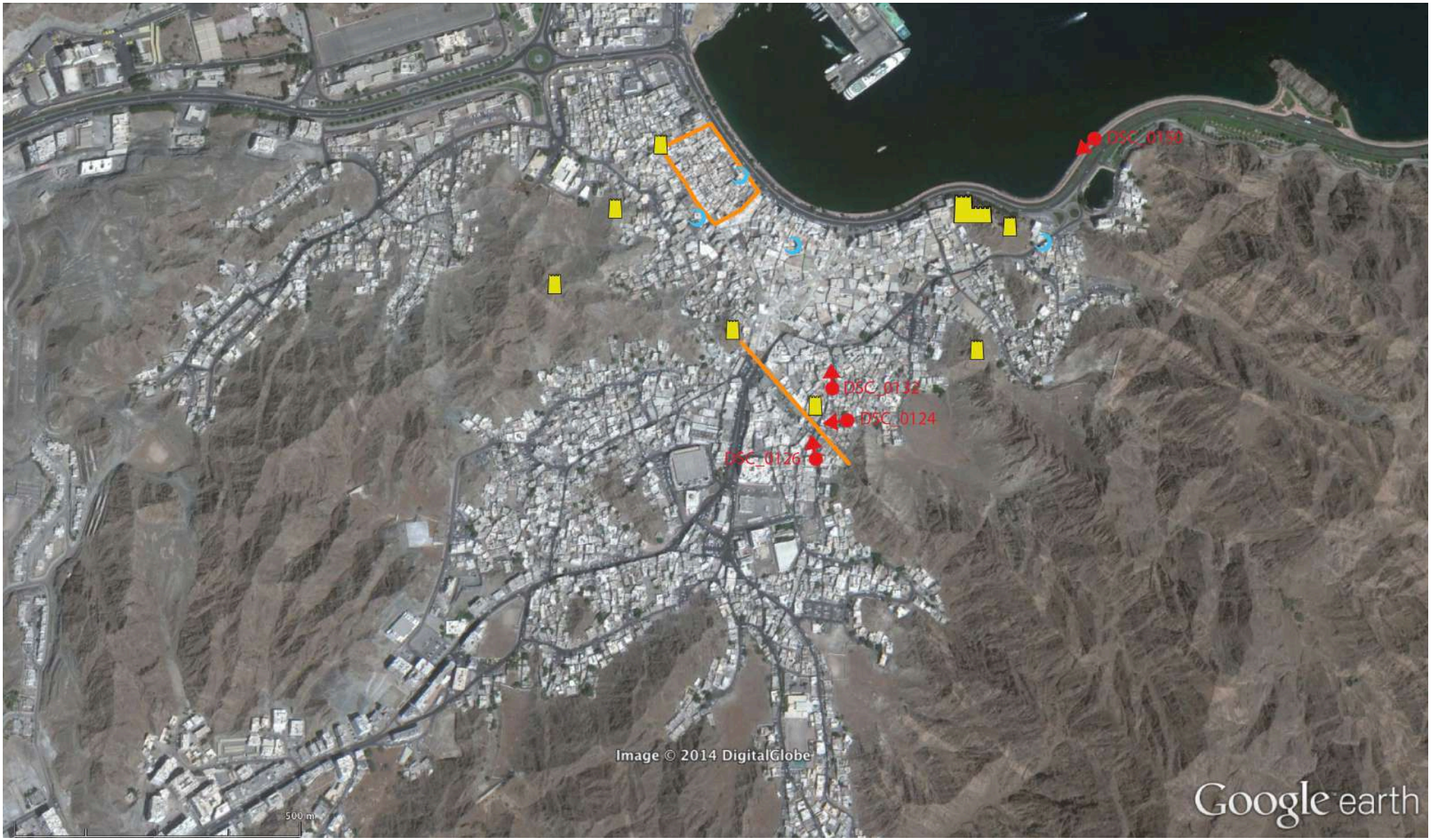
ACDC/OM/Photographs/Musilmat/IMG-6771

ACDC/OM/Photographs/Musilmat/IMG-6774

ACDC/OM/Photographs/Musilmat/IMG-6775

ACDC/OM/Maps/Satellite-Images/Mutrah/13-Mutrah

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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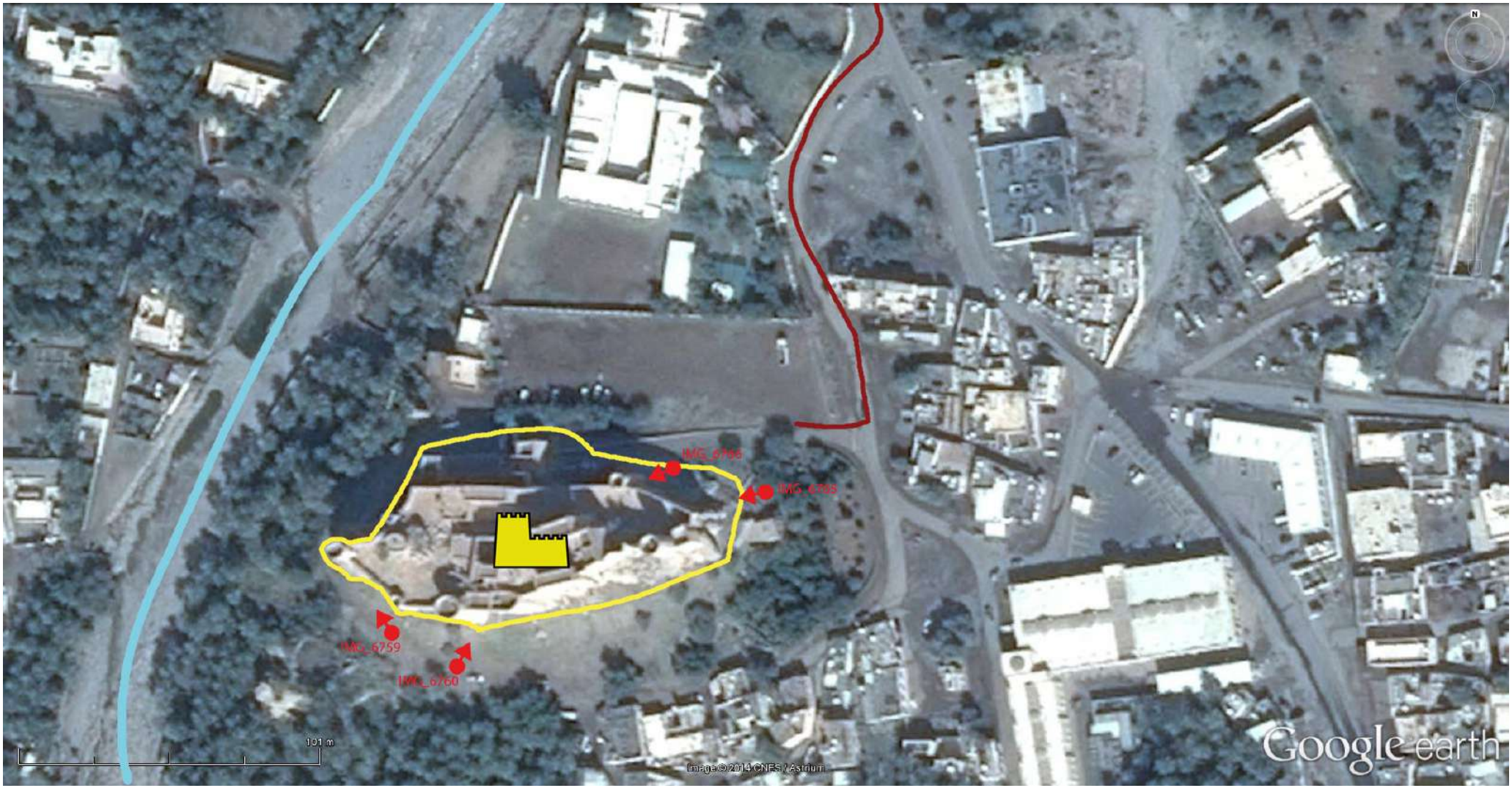
ACDC/OM/Photographs/Mutrah/DSC-0132

ACDC/OM/Photographs/Mutrah/DSC-0150

ACDC/OM/Maps/Satellite-Images/Nakhal/16-Nakhal-(1)

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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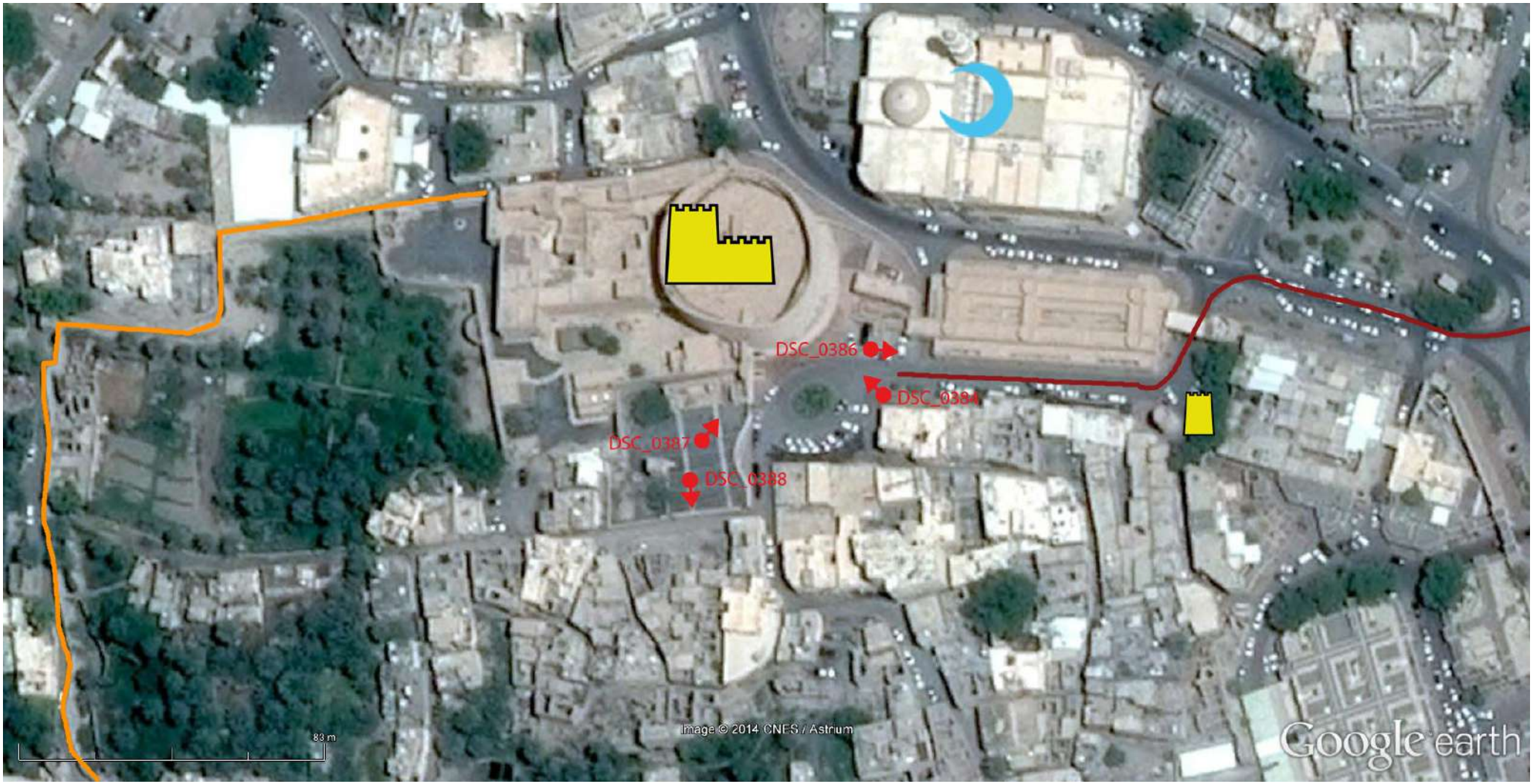
ACDC/OM/Photographs/Nakhal/IMG-6760

ACDC/OM/Photographs/Nakhal/IMG-6765

ACDC/OM/Photographs/Musilmat/IMG-6766

ACDC/OM/Maps/Satellite-Images/Nakhal/16-Nakhal-(1)

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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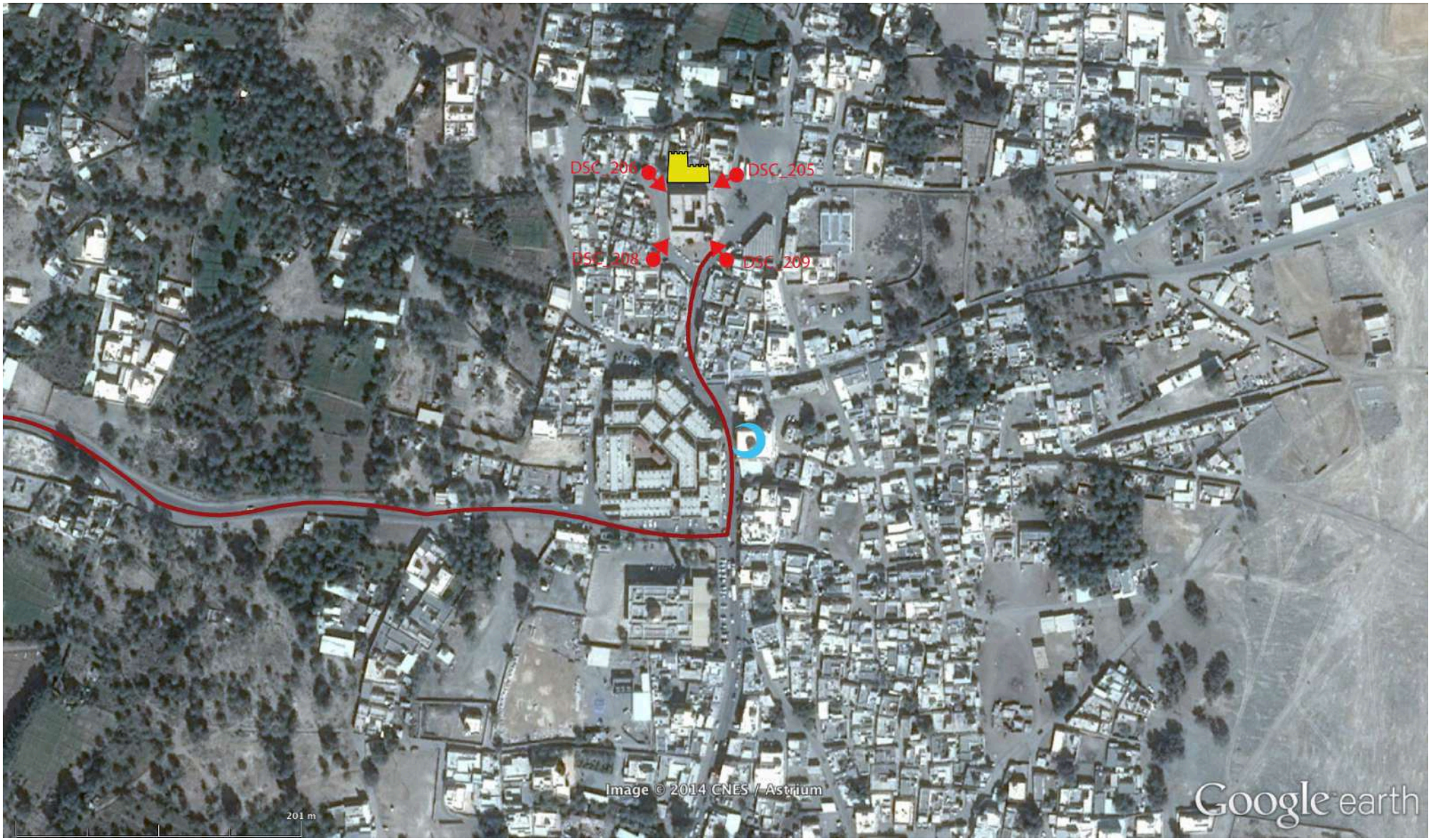
ACDC/OM/Photographs/Nizwa/DSC-0386

ACDC/OM/Photographs/Nizwa/DSC-0387

ACDC/OM/Photographs/Nizwa/DSC-0388

ACDC/OM/Maps/Satellite-Images/Qurayyat/14-Qurayyat

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages



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ACDC/OM/Photographs/Qurayyat/DSC-0205

ACDC/OM/Photographs/Qurayyat/DSC-0206

"Plural of the diminutive of Quria (village); and Alquria is any place with connected buildings and taken for settlement, plural is Qura. So called due to the great number of its villages whereas it is formed of many villages. Yagoot in his lexicon mentioned the name of Quriat. It is considered one of the important towns of the Sultanate and have an important position in the Omani history."

(Zubair, M. B. (2005). Encyclopedia of the land of Oman. Muscat: The advisor of His Majesty-Economic Planner, p.51)

ACDC/OM/Photographs/Qurayyat/DSC-0208

ACDC/OM/Photographs/Qurayyat/DSC-0209

ACDC/OM/Maps/Satellite-Images/Sifalat-Samail-(2)/19-Sifalat-Samail-(2)

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Sifalat-Samail-2/Sifalat-Samai-2-70

ACDC/OM/Photographs/Sifalat-Samail-(2)/DSC-0324

ACDC/OM/Photographs/Sifalat-Samail-(2)/DSC-0331

ACDC/OM/Photographs/Sifalat-Samail-(2)/DSC-0333

ACDC/OM/Photographs/Sifalat-Samail-(2)/DSC-0337

ACDC/OM/Maps/Satellite-Images/Wadi-As-Sarin/15-Wadi-as-Sarin

Settlement
Wadi/Falaj
Mosque
Tower
Access Road
City Wall
Fort
Photo-Position
see next pages

ACDC/OM/Maps/Satellite-Images/Wadi-As-Sarin/Wadi-as-Sarin-100

ACDC/OM/Photographs/Wadi-As-Sarin/DSC-0267

ACDC/OM/Photographs/Wadi-As-Sarin/DSC-0268

ACDC/OM/Photographs/Wadi-As-Sarin/DSC-0270

ACDC/OM/Photographs/Wadi-As-Sarin/DSC-0272

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IV. ACDC Oman / RIO Oman / GUtech

THE FUTURE IN THE PAST

Documentation | Conservation | Management
Capacity Building | Master Plans | Professional Services

RWTH acdc
RWTH AACHEN CENTER FOR DOCUMENTATION AND CONSERVATION

rio heritage
research center indian ocean

background

YOUR PROFESSIONAL INTERNATIONAL PARTNER IN

Documentation

- > Research
- > Recording
- > Processing
- > Presentation

Conservation

- > Archaeology
- > Architecture
- > Settlements
- > Landscapes

Management

- > Feasibility
- > Development
- > Coordination
- > Monitoring

Capacity Building

- > Workshops
- > Seminars
- > Training
- > Exhibitions

The RWTH Aachen Center for Documentation and Conservation is an academic consultant agency associated with RWTH Aachen University in Germany and the Department History of Urbanization within the Faculty of Architecture.

Throughout years the experts of ACDC together with various departments within the university achieved an outstanding expertise in documentation and conservation, as well as heritage management. In addition, close bounds to international organizations like UNESCO and ICOMOS and fellow research institutes produced a sound network of expertise and proficieny in these fields.

Several projects, predominantly in the Middle East and Central Asia, in Western as well as Eastern Europe, have been under the guidance and execution of ACDC's experts – these include the excavation of archaeological remains, the documentation and conservation of architectonic structures including historic building research, the design and implementation of archiving procedures and databases, as well as the development of archaeological parks, national heritage inventories, and cultural master plans for cities and landscapes.

This small brochure is meant to give a rough and yet comprehensive overview over the activities of ACDC, both highlighted through some projects executed in the last decade. These activities relate to four major groups of action: documentation, conservation, management, and training - all of which ACDC is glad to offer not only to supranational and national, as well as to provincial and municipal agencies, but also to the private sector.

background

'The conservation and restoration of monuments must have recourse to all the sciences and techniques which can contribute to the study and safeguarding of the architectural heritage.'
Article 2 (Venice Charter 1964)

'In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs. Every stage of the work of clearing, consolidation, rearrangement and integration, as well as technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made available to research workers. It is recommended that the report should be published.'
Article 16 (Venice Charter 1964)

17° 00' 22" N
54° 07' 50" E

Still one of the most sustainable and valid contributions to the understanding and handling of built heritage is the Venice Charter of the International Council on Monuments and Sites. According to this charter the preparation of a 'precise documentation' represents an indispensible prerequisite for any occupation with built heritage. This documentation must represent the current condition of a monument and should give an understanding of its authenticity. Both which determine and encourage its future conservation and management.

With due reference to this philosophy, the Aachen Center for Documentation and Conservation is an international, multidisciplinary and multilingual center for the study and protection of cultural heritage. As a collaborative of various experts it has been founded by Professor Dr. Michael Jansen in 2002, meeting the growing demand on documentation and conservation of cultural heritage.

A very important asset of ACDC, stemming from Michael Jansen's wide range work in this field, is the expertise on the UNESCO World Heritage Program. Until today ACDC's projects involved five World Heritage sites and three tentative sites; moreover, Michael Jansen largely contributed to the enlisting of Oman's „Land of Frankincense" in 2000.

The Archaelogical Park Al-Balid

Sultanate of Oman,
Salalah (1994 - 2004)
Office of the advisor for Culture to H.M.
Sultan Qaboos, Ministry of Information

documentation

Seeking to secure a sustainable future for the historic environment, the documentation of cultural heritage should assure a scientific identification of all layers of its history up to the present.

ACDC and its consultants have a long experience in preparing 'critical and analytical reports' about the actual state of conservation. Different types of buildings and sites yet require different techniques and scales of documentation and detailing:

Historic Research

This type of research is done on archival information; for example, photographs, books and maps. It documents the history of a site's construction and subsequent modifi cations.

Thematic Research

Spatial and typological studies (context and architecture) deal with the analysis of a building's geometry, set within its context (topographic – urban geometry).

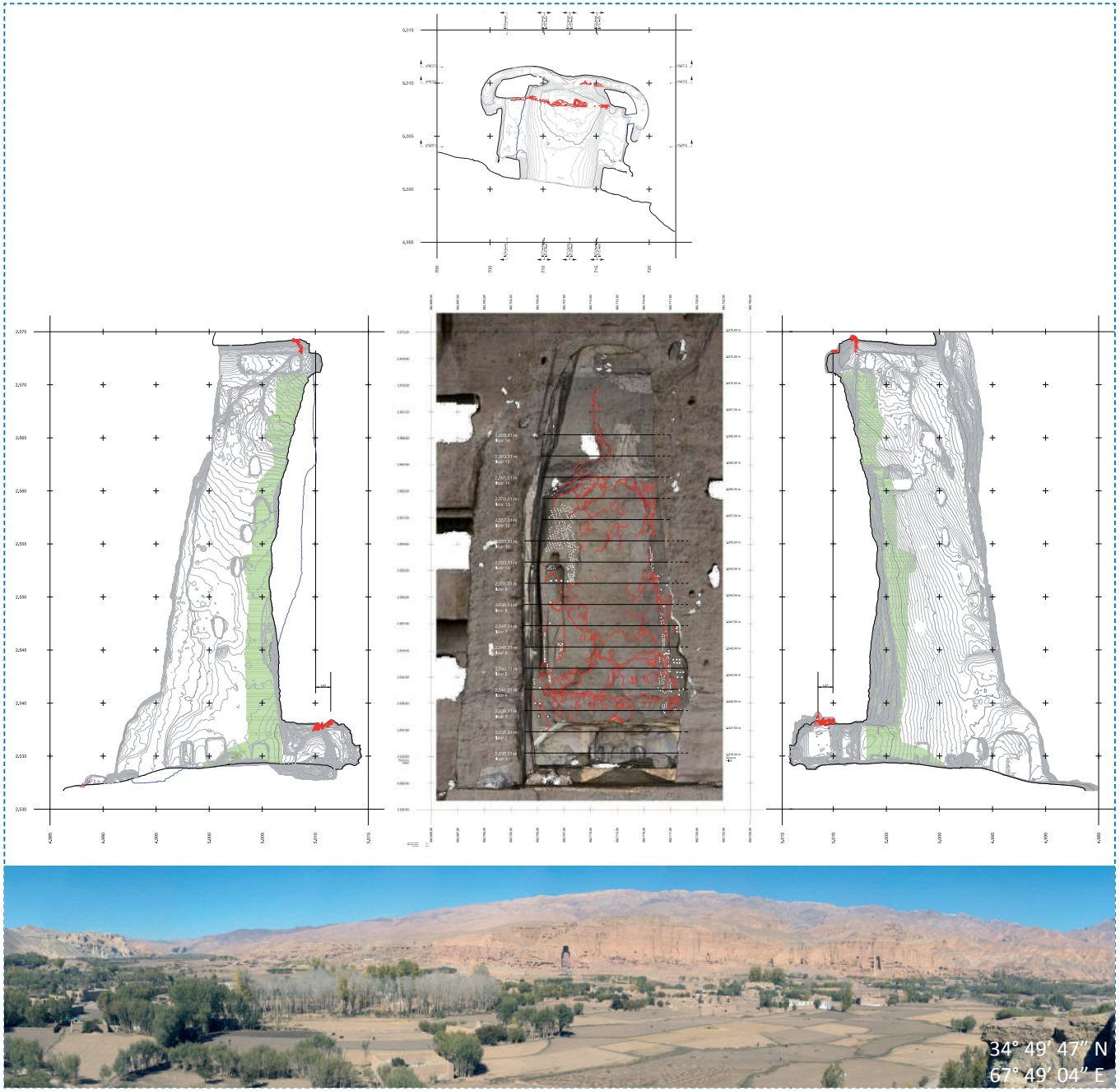
Condition Evaluation

This section evaluate a monument's fabric by mapping the materials and weathering forms and its causes (condition mapping); as well as the structural analysis (deformation, crack analysis, stability, etc). The metric survey dataset is used as a base for this mapping process.

Otrar Tobe - Site Atlas

Kazakhstan
Otrar (2005 - 2006)
UNESCO (World Heritage Center,
Japan Funds-in-Trust, Almaty Office)

documentation



Quick Survey

For a quick mapping of endangered or damaged structures, fast survey methods are needed. High resolution satellite images, paired with GPS devices and cameras, allow orientation and mapping on an urban scale. The data acquired can be included in GIS applications.

High-precision measurement

Wherever measured drawings are needed, high-precision measurement appliances such as Total Stations provide opportunities to document topographic situations of archaeological or urban areas in the field. The three-dimensional data can be utilised to reconstruct, give mass information, or simply to document the actual state of the site and its change over time. Architectural structures, revealing the physical appearance of their building history, can be documented in a wide range of detailing. Total station measuring gives fast, but precise outlines of the site. Details and surfaces are documented with photogrammetry and hand measurements.

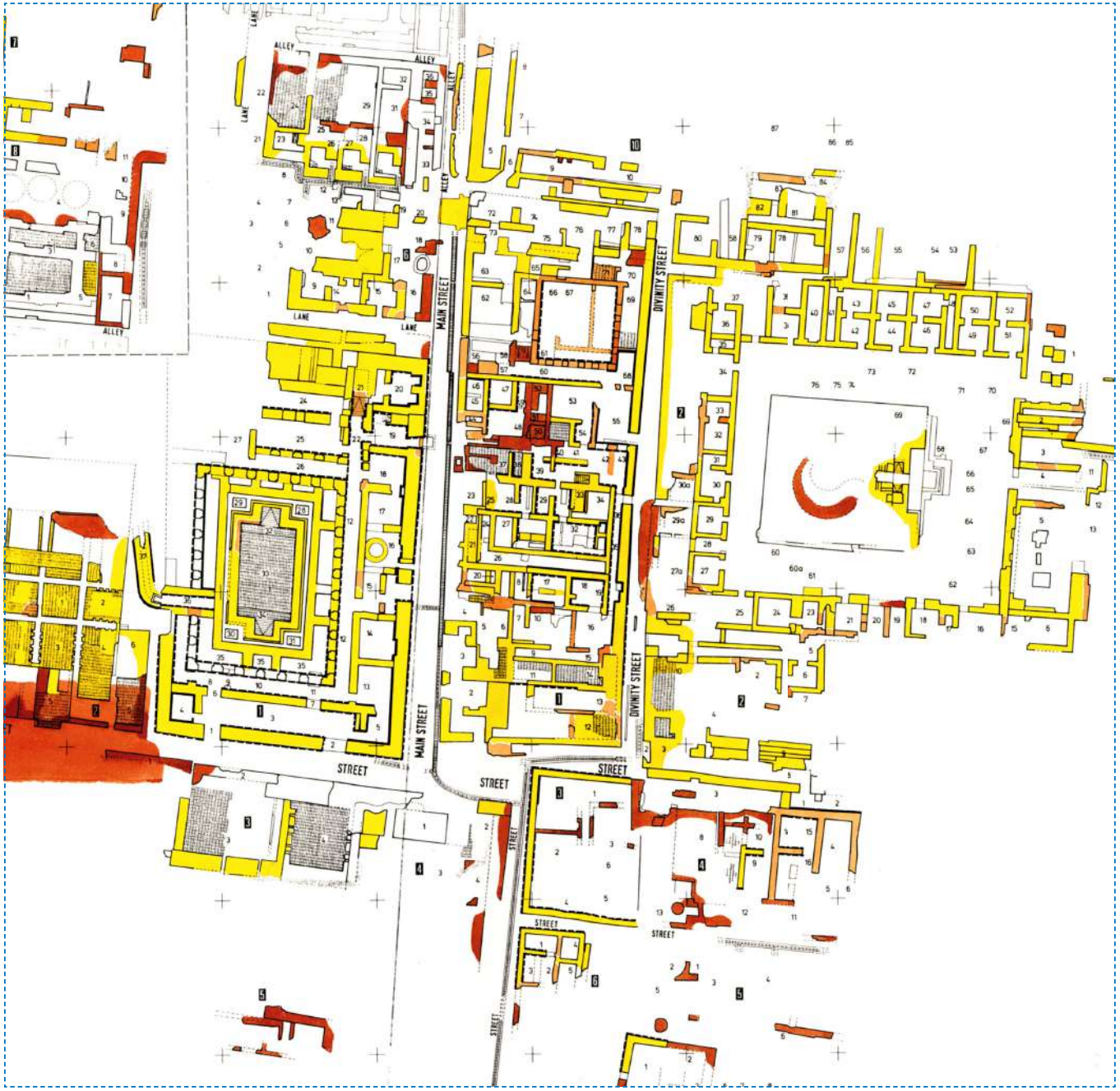
Laser Scanning

The revolutionary technique of 3D Laser Scanning can provide exact 3D data of large scale objects (see the project of the Bamiyan Buddha's, Afghanistan), providing possibilities for reconstruction, 3D modelling, and detailed high-precision documentation.

Preservation of the Buddha Fragments

Islamic Republic of Afghanistan
Bamiyan (since 2002)
UNESCO (JFT), ICOMOS (AA), Afghan Ministry of Information, Culture and Tourism

conservation



Obviously any built heritage is subject to a diligent conservation that must likewise sustain its history and allow its current and future utilization, may it be the didactical preparation within a secure exhibition area or the consideration of today's agriculture and urban development of a whole landscape.

ACDC and its consultants have a profound expertise on all levels of conservation, from the individual object to large spatial contexts. These levels include:

Material Analysis

Using the latest scientific methods, ACDC performs various laboratory analysis. The results of which are used to diagnose material defects or reveal original design, including colour schemes, materials, moulding profi les, light fixtures, and other historic features so that restoration recommendations can be made.

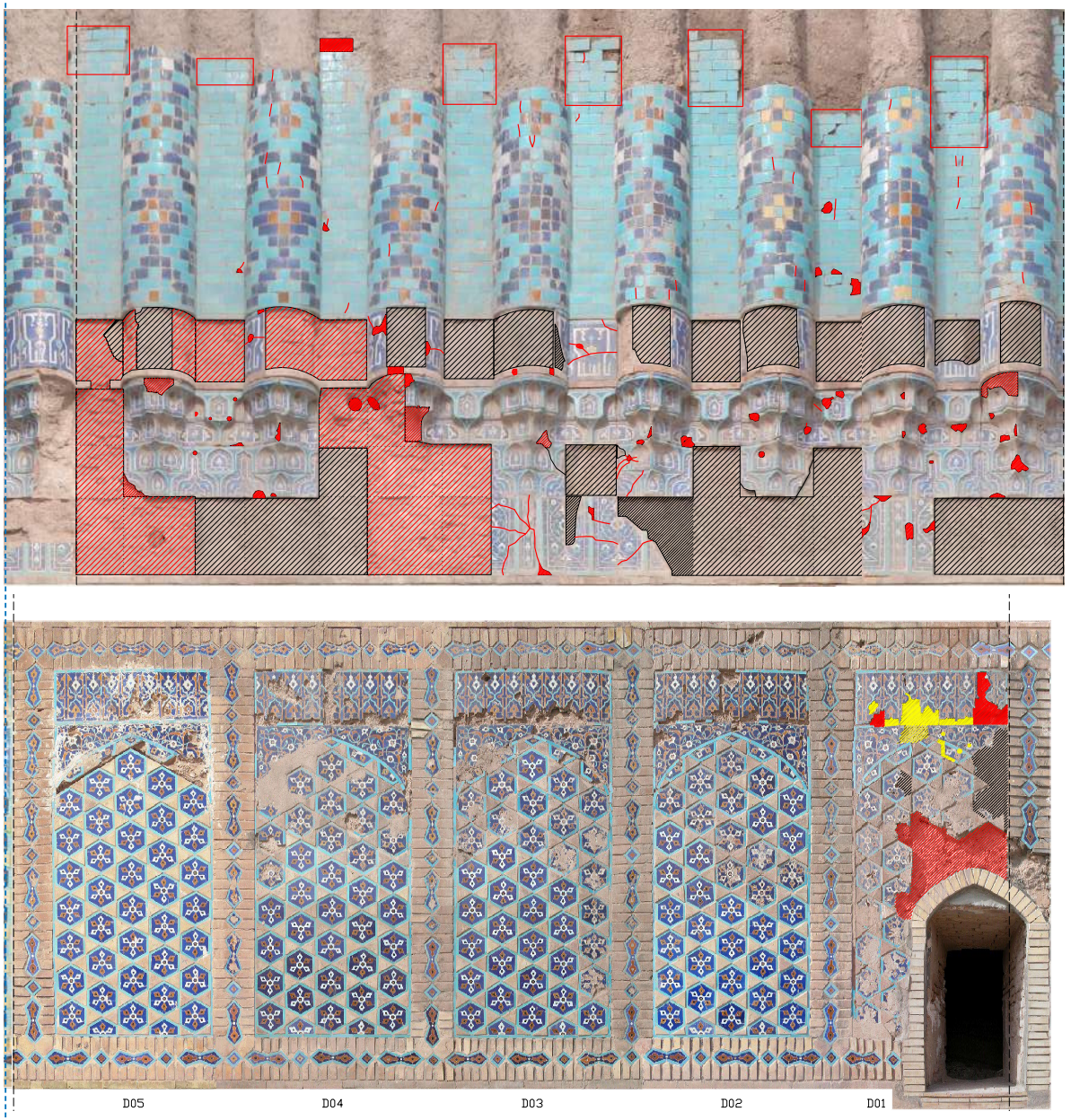
Preservation

The preservation of original material and substance and the reversibility of any applied change to the original substance are basic principles to any conservation. Sheltering this substance at large scale (enclosure) or immediately (shelter coat, anastylosis, reconstruction) however have to be evaluated with respect to potential climatical, mechanical, and material issues.

Moenjodaro - Site Atlas

Islamic Republic of Pakistan
Moenjodaro (since 1979)
UNESCO, Pakistan Department of Archaelogy and Museums

conservation



Monitoring

The practice of monitoring and controlling changes on site is important to ensure that its historic integrity is not altered and features are not lost. To be effective, the monitoring program must have a guiding philosophy, approach or strategy; an understanding of preservation maintenance techniques; and a system for documenting changes in the site.

Preservation Master Planning

A preservation master plan is a detailed document for the rehabilitation of an entire property that reflects a preservation approach. Various levels of importance are assigned to different features based on public visibility and historic architectural and archaeoliogical significance. Includes and defines legal regulations and restrictions for new constructions and changes on site to prevent possible alteration and destruction.

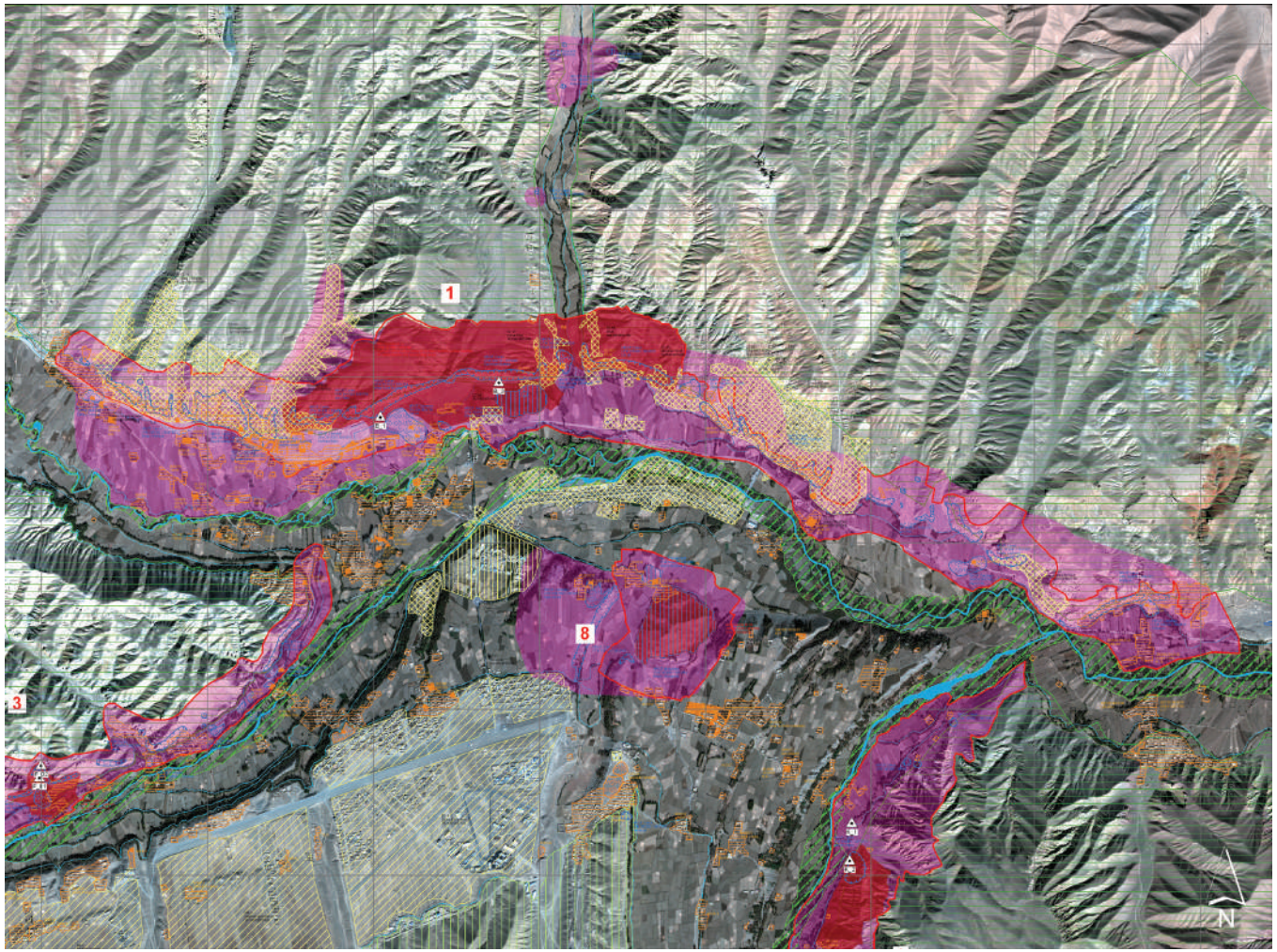
Rehabilitation

ACDC`s aim of rehabilitation is to reinforce the preservation and maintenance of architectural and urban forms as a factor of sustainable development (social, economic and environmental). It sets out to contribute to the improvement of living conditions of its inhabitants and to preserve historical and cultural identity.

Gawhar Shad Mausoleum

Islamic Republic of Afghanistan
Herat (2005)
UNESCO Kabul

management



Beyond documenting and conserving heritage sites it is crucial to foresee their further develolment and to establish methods and techniques for a sustainable management. Hereto the heritage status of course must be focal, while other legitimate demands and requirements must also be met or reconciled. ACDC and its consultants developed various management methods and techniques during their field work, while any project clearly brings up new issues.

Site Management

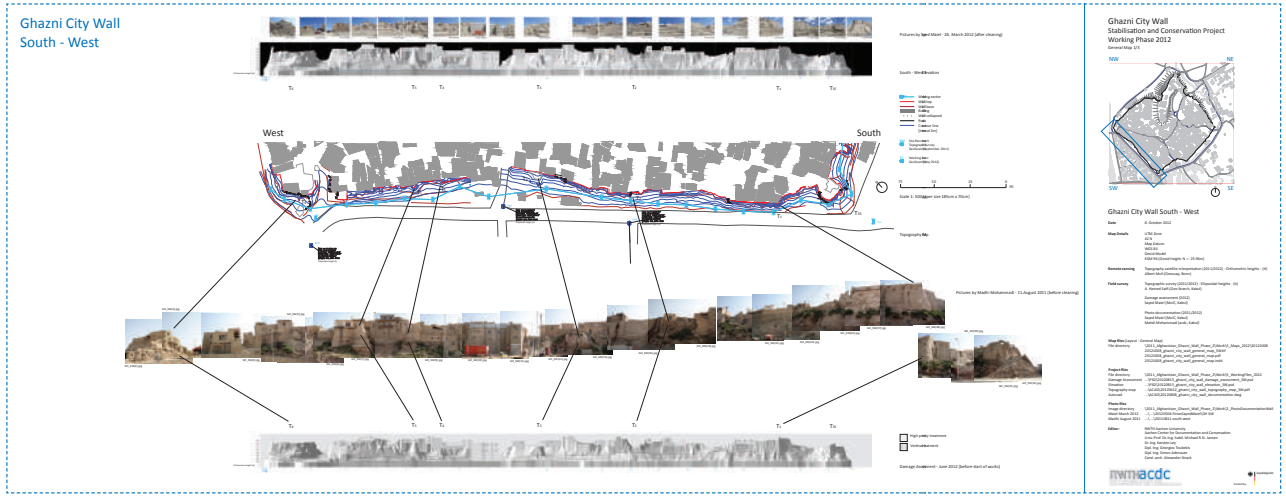
Our site management section focuses on management, planning, and decision-making for all types of heritage sites- from individual buildings to historic site. Site management can save archaeological sites from the inherent dangers that mass tourism introduces. It can also be used to prepare sites for conservation, restoration, artefact recordation and training programs, and it may be of considerable use to Archaeologists and Conservers doing scholarly work. Master Plans are thus consequently results and guidelines of a proper site management.

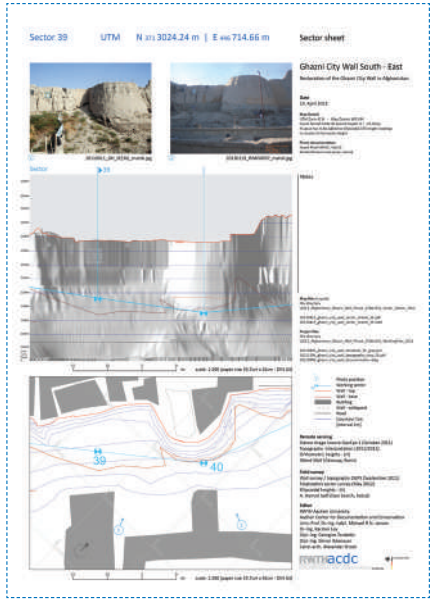
Strategic Development

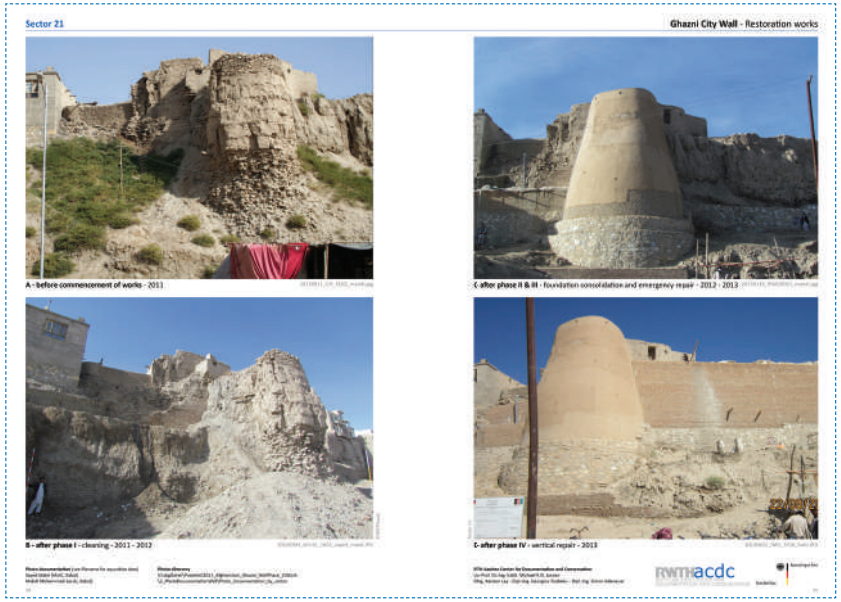
ACDC assist organizations with strategic planning, feasibility studies, interpretation, audience development, and partnership arrangements. It can consult on fund raising, museum and historic site planning, exhibition design, and all other aspects of establishing a heritage conservation program.

Cultural Master Plan Bamiyan

Islamic Republic of Afghanistan
Bamiyan (since 2004)
UNESCO (JFT), Afghan Ministries of Information and Culture and Urban Development







33° 33’ 27” N
68° 25’ 26” E

Reports

The documents produced reflect the attributes of the site in various ways: Hand drawings are unique artistic representations of the site, whereas CAD drawings provide scalable, reproducible and changeable data. The means of visualisation of ACDC include, parallel to the traditional representation in plan, section and elevation,rendered 3D models, simulated flights, and 3D reconstructions.

Data Bases

Various research and documentation activities produce in time a considerable amount of data and media of different types and formats. This ranges from primary source data like pencil drawings and written notes to secondary sources like articles and other publication. Also other documentation material like photographs and maps require a comprehensive data management in order to ensure validity and accessibility of the information.

Contemporary IT-Systems offer a wide variety in the storage, retrieval and display of different type of data. Data can be compiled according to actual presentation needs and in combination with accurate map information thematic maps can be created.

Ghazni City Wall

Islamic Republic of Afghanistan
Ghazni (since 2010)
AA, Afghan Ministries of Information and Culture, and Urban Development

capacity building

To reach out to a wider audience, ACDC organizes international workshops, seminars and capacity building training programmes in cooperation with International and regional organizations.

Workshops and Seminars

Workshops and seminars examine the trends and implications of architectural and archaeological transformations in the world. Designed to address developments in the built environments and the conservation issues, they bring together government officials, architects, academics, planners, social scientists, designers and architectural experts.

Training

In cooperation with international experts and national heritage institutions, ACDC has been developing different training components for local academics and officials of a country as well as interested indiciduals within its projects. Although basic capacity ususally exists, specific efforts are needed to strengthen and improve attitudes, skills and competence for participatory conservation approaches.

The purpose of capacity building programs in general is to provide rigorous training and the production of awareness by involving local authorities in a hands-on training. To support our training activities, we are coincurrently generating educational materials aimed both at the amateur and professional levels.

Training

Islamic Republic of Pakistan
Moenjodaro (2004)

Consultant for

International Council on Monuments and Sites
Conseil International des Monuments et des Sites

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