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SERIAL NOMINATION OF

Jabal Umm Sinman, Jubbah
and
Jabal al-Manjor / Jabal Raat, Shuwaymis

Submitted by the
Saudi Commission for Tourism and Antiquities
as a proposal for inclusion in the
UNESCO World Heritage List as a Serial Nomination
2013 / 2014 AD - 1434 / 1435AH

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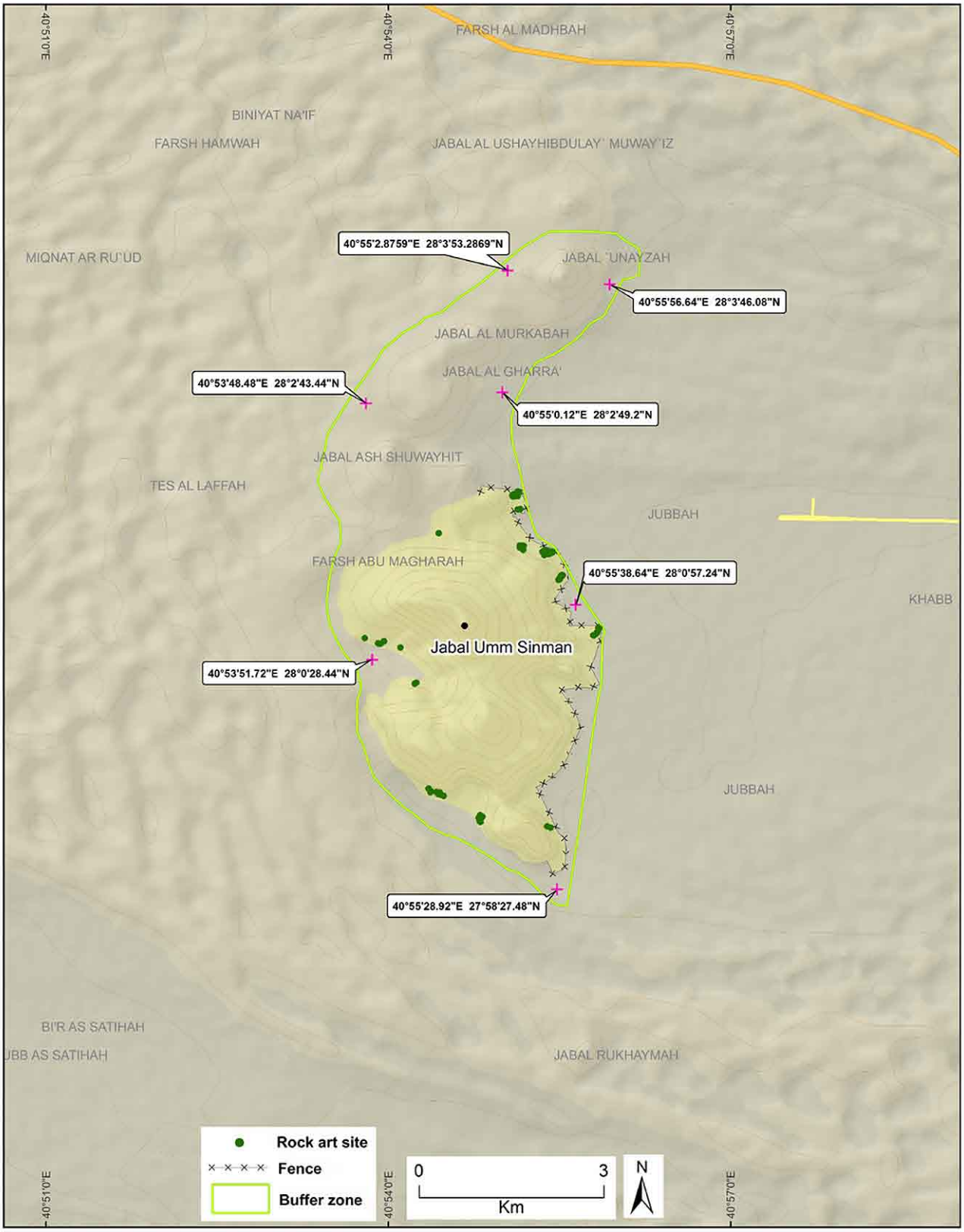
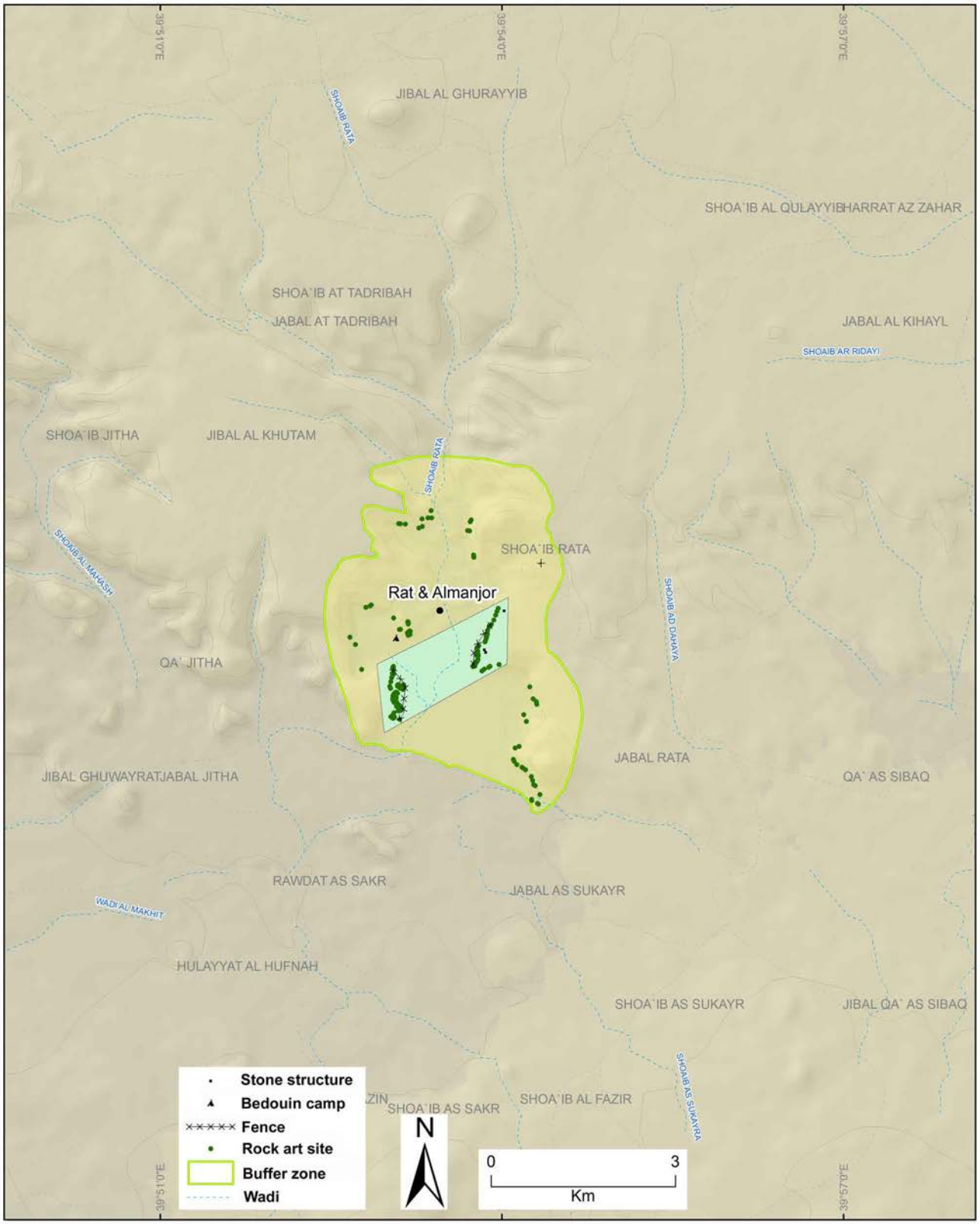
Executive Summary

State Party	Kingdom of Saudi Arabia
State, Province or Region	Northern Province, Hail Region
Name of Property	Rock art in the Hail Region of Saudi Arabia
Serial properties	Serial nomination of two properties: 1. Rock art at Jabal Umm Sinman, Jubbah and 2. Rock art at Jabal al-Manjor and Jabal Raat, Wadi al-Mukhayet, Shuwaymis
Geographical coordinates to the nearest second	1. Jabal Umm Sinman, Jubbah: 28° 00’ 33” N, 40° 55’ 44” E 2. Jabal al-Manjor and Jabal Raat at Shuwaymis: 26° 09’ 13” N, 39° 53’ 48” E
Textual description of the boundaries of the nominated properties	1. Jabal Umm Sinman, Jubbah, 90 km northwest of Hail, is bounded in the west, north and south by desert sands and in the east by a security fence that borders the town of Jubbah. The buffer zone is bounded on the east by the westernmost north-south road of Jubbah, from its northern end to east of Jabal ‘Unayzah, then skirting this hill to its west and trending southwesterly to include Jabals al-Murkabah, al-Gharra and Ash Shuwayhit, then south to the westernmost limit of Umm Sinman, skirting the mountain to its southernmost extent, from there returning to the westernmost road of Jubbah. 2. Jabal al-Manjor and Jabal Raat are located on the Wadi al-Mukhayet, about 40 km west of Shuwaymis, situated about 250 km south of Hail. Both sites are bounded by security fences along the foot of the escarpments enclosing the rock art sites, and by the margins of the plateau above, but including ruins of ancient stone structures. The nominated core zone includes both sites within a paralellogram-shaped area. The surrounding buffer zone boundary proceeds from the end of the access road and the interpretation centre west across the width of Wadi al-Mukhayet, and from there follows the line of the demarcation poles (green line), measuring about 4 km north-south and over 3 km east-west.

Maps of the nominated properties, showing boundaries of core zones and and buffer zones:



Jubbah core area (yellow) and buffer zone (within green line).



Shuwaymis core area (green) and buffer zone (yellow).

Criteria under which property is nominated	(i), (ii), (iii) and (v)
Statement of Outstanding Universal Value: Brief synthesis	***a) Brief synthesis*** The outstanding universal values embodied in the rock art of Jabal Umm Sinman and Jabal al-Manjor/Raat are the high quality of the petroglyphs (engravings) that display distinctively different rock art traditions over the last 10,000 years and reflect major economic and cultural changes, and the adjustments that people made to climate change in a region that has always been a bridge between Africa and the continents beyond. Situated at the geographical nexus between Africa and Eurasia, Saudi Arabia has long served as a corridor through which people moved, exchanging technological innovations, trade goods, cultural values and beliefs. The exceptionally abundant and well-preserved petroglyphs on rocky outcrops in what is now a sandy desert record some of these major events in human history against a backdrop of climatic change. The oldest rock art tradition evident at both of the properties in the serial nomination is one of the world's largest and most magnificent surviving examples of early Neolithic petroglyphs. It includes animals such as the ibex, which was revered by early Neolithic people who depicted the horns in exaggerated form. This artistic device and the associated bold representations of people herald the monumental arts of later civilizations of the Middle East. Neolithic stone artefacts were left behind at encampments near the shores of palaeolakes more than 6000 years ago. As cattle and horses were domesticated, they were brought to the region and images of them were added to the art corpus. With increased desiccation and the drying up of lakes after 3000 years ago, camels became essential to the economy of the ancestors of the Bedouin and are illustrated in abundance alongside Thamudic and Arabic script. Depictions of weapons of war suggest that this was a contested landscape. Graves and stone structures within the buffer zones are further testimony to the rich history of the region and have great potential for further research in the region where some of the world's major religions and writing systems evolved.
Statement of Outstanding Universal Value: Justification	***b) Justification for criteria under which the Properties are nominated*** Criterion (i): The exceptionally large number of petroglyphs created by using a range of techniques with simple stone hammers, against a background of gradual environmental deterioration, are visually stunning expressions of the human creative genius by world standards, comparable to the messages left by doomed civilizations in Mesoamerica or on Easter Island. In that sense alone they are of highest outstanding universal value. Criterion (ii): "To exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in … monumental arts", applies to Jubbah and Shuwaymis, where certainly more than 6000 years of continuous human occupation is archived in both rock art and inscriptions. Criterion (iii): At Jubbah we can follow the battle of past societies against the environmental catastrophe they experienced and adapted to, in a truly exceptional example of such a situation where the petroglyphs record the nature of the changes and the stone artefacts show where people lived in relation to the rock art and to the lake as it gradually dried up. At Shuwaymis, by contrast, the petroglyphs are all that remains of the testimony of a society that vanished, leaving behind a pristine record of its existence that is of a magnitude rarely encountered elsewhere in the world. Criterion (v): Description as a traditional human settlement or human interaction with a vulnerable environment "under the impact of irreversible change" seems to have been formulated specifically for the Saudi site complexes. It is hard to think of alternative, similarly comprehensive records of civilizations facing environmental oblivion, anywhere in the world, that have left such brilliant testimony of their genius. The two properties nominated literally exemplify this criterion.

Statement of Outstanding Universal Value: Integrity	***c) Statement of Integrity*** The boundary of the core area of Jabal Umm Sinman is designed to conserve the visual integrity of the property as a landscape that encompasses 14 clusters of petroglyphs all around the lowest slopes of the mountain, and ends where the rocky edges of the mountain meet the surrounding desert sands. The buffer zone extends northwards to include several smaller hills with fewer petroglyphs to protect them and to emphasise the integrity of the higher density of rock art in the core area. The core area of Jabal al-Manjor and Jabal Raat serves the same purpose of visual integrity in the landscape with a total of 18 rock art clusters. It additionally includes the sandy valley between the two mountains to emphasise the visual connections between the palaeolake that once existed there and the mountain slopes where the petroglyphs were made. The buffer zone includes the neighbouring mountain to the north where additional habitation sites might be discovered in future. In both cases, about 8 km of steel fencing with locked access gates prevents uncontrolled human access to sections of the core area in order to conserve the integrity of the properties. Both the Jubbah and Shuwaymis properties have thus been spared any adverse effects of development or neglect, and continue to retain their integrity within the landscape. All elements necessary to express the OUVs of the two properties, namely numerous well-preserved petroglyphs, identifiably different rock art traditions over the period from hunting and gathering to animal domestication and writing, independent evidence for climatic change at nearby palaeolake deposits, and evidence for human interaction in a vulnerable environment, are amply represented at the Hail properties, and both core zones are of adequate size to ensure the complete representation of the features that convey the OUVs.
Statement of Outstanding Universal Value: Authenticity	***d) Statement of Authenticity*** The petroglyphs at both properties have retained their original location, setting, materials, form and design at the foot of the mountain slopes in the desert, but they no longer function within a cultural tradition. The petroglyphs as well as Thamudic and Arabic inscriptions that have been added within the last three thousand years hint at intangible heritage that contributes to the spirit and feeling of the petroglyphs and that is still evident in their unspoiled setting. As no vandalism or illegal entry has been possible in the last few decades, and there is no evidence of reconstruction or recent modification of any of the rock art, deterioration processes are entirely limited to the effects of natural erosion. The causes of deterioration have been mostly meteoric water, wind and geological weathering, which are inevitable and have so far had limited effect on the petroglyphs, considering their age. The clearly different phases of weathering in fact underline the authenticity of the rock art corpus as they would be impossible to replicate. Although there is evidence on the lower slopes of Jabal Raat that some rocks with petroglyphs on them have been displaced since the petroglyphs were first made, this was undoubtedly a natural occurrence and there is no need to doubt the authenticity of the rock art. Dating of a series of key motifs by colorimetric sequencing of patina and other direct dating methods supports the age of the rock art estimated from independent palaeoenvironmental, archaeological and historical research.

Statement of Outstanding Universal Value: Management	***e) Requirements for protection and management*** Both Jabal Umm Sinman at Jubbah and Manjor and Raat at Shuwaymis are well managed within the legal protection system provided by the Department of Antiquities and Museums. It is proposed to extend the management and protection of the sites by preparing for risks caused by increased visitation; continuing the constructive collaboration with the key stakeholders, the local municipalities; improving visitor facilities and infrastructure; and the improvement of staff expertise. Of particular importance is the establishment of a comprehensive monitoring system of key indicators measuring the state of conservation of the sites, especially in terms of the effects of increased visitation and natural deterioration. The Management Plan submitted with this nomination sets out the general parameters of managing the properties, but it will remain flexible to accommodate any new requirements deriving from the findings of the monitoring program. The managing authority, the Saudi Commission for Tourism and Antiquities, possesses the required human and financial resources to continue managing these monuments most effectively. It has at its disposal adequate legislative means, the political will and support to discharge its duties to the best standards, and a long-term commitment to the protection and preservation of properties that are entirely under its executive control. The administrative structures in the Kingdom of Saudi Arabia are highly centralized and effective, and the commitment of the SCTA, representing the State Party, to the long-term protection, preservation and effective management of the nominated properties is beyond question.
Name and contact information of official local institution / agency	Organization: Saudi Commission for Tourism and Antiquities Address: P.O. Box 3734, Riyadh 11481 Tel: 966 1 403 6637 Mobile: 966 50 3439301 Fax: 966 1 403 6952 E-mail: OmarJ@scta.gov.sa Web address: http://www.scta.gov.sa/en/Pages/default.aspx

Table of Contents

1. IDENTIFICATION OF THE PROPERTIES

1.a Country
Kingdom of Saudi Arabia

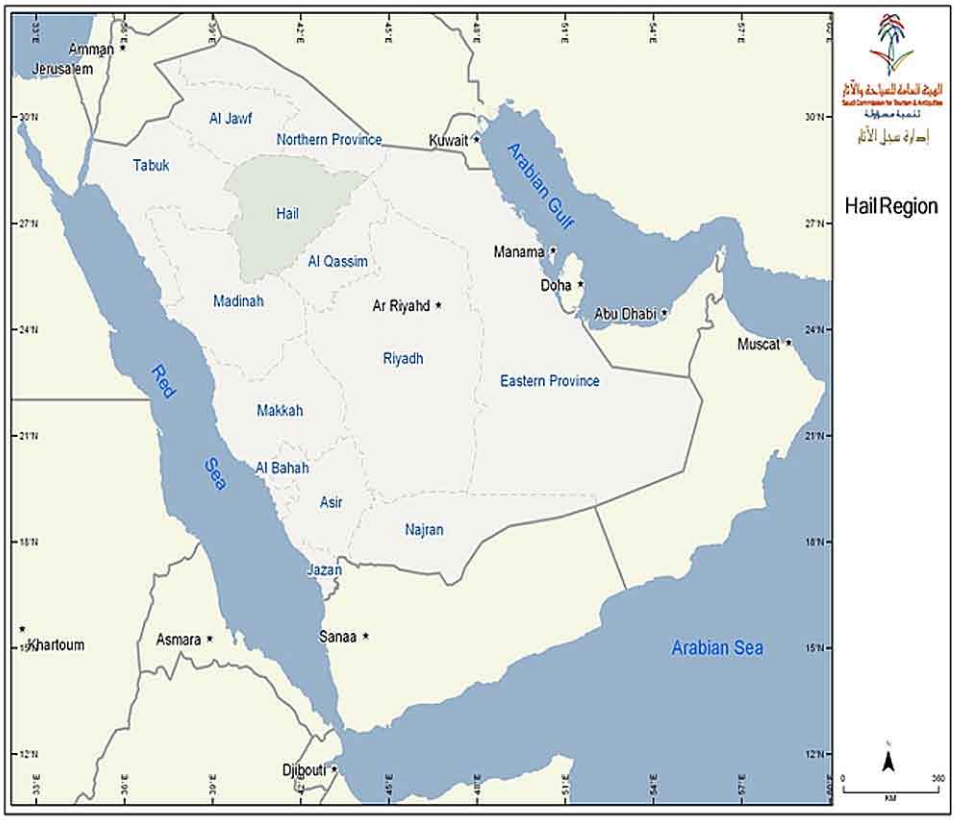
1.b State, Province or Region
Hail Region

1.c Name of property
Rock Art in the Hail Region of Saudi Arabia

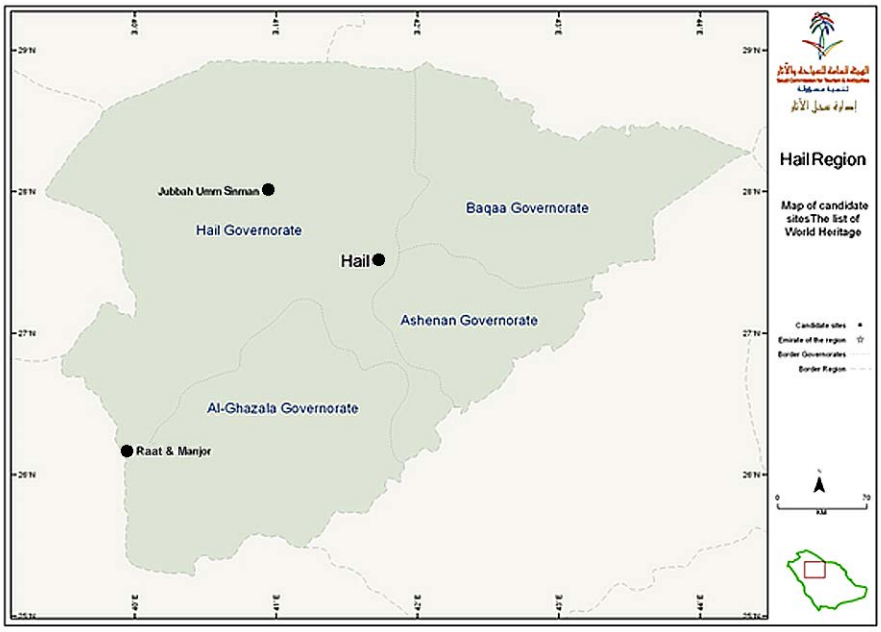
1.d Geographical coordinates to the nearest second

Id n°	Name of the component part	Region(s) / District(s)	Coordinates of the Central Point	Area of Nominated component of the Property (ha)	Area of the Buffer Zone (ha)	Map N°
001	Jabal Umm Sinman	Hail	40º55'44.4"E 28º0'33.48"N	1783.9 ha	1951.0 ha	3, 4, 7
002	Jabal al-Manjor and Jabal Raat	Hail	39º53'48.12"E 26º9'13.68"N	259.9 ha	1658.5 ha	5, 6, 8, 9, 10
			Total area (in hectares)	2043.8 ha	3609.5 ha	

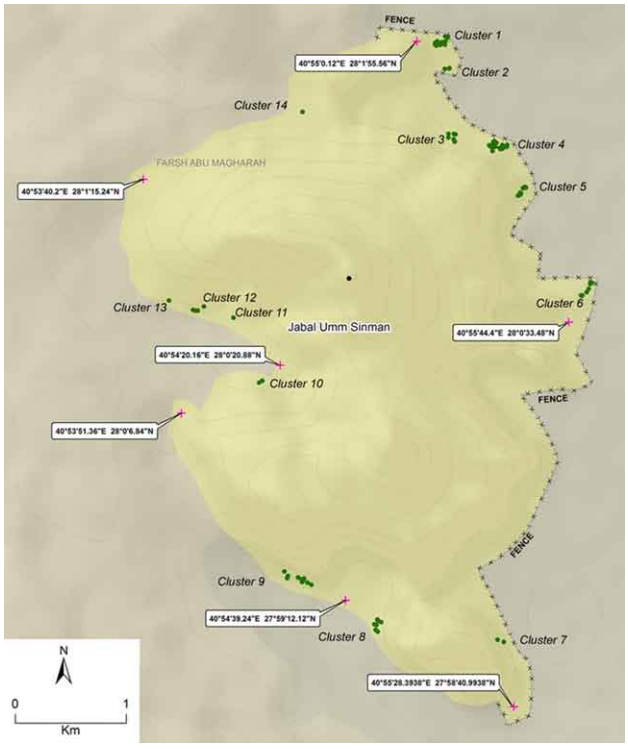
1.e Maps and plans, showing the boundaries of the nominated property and buffer zone



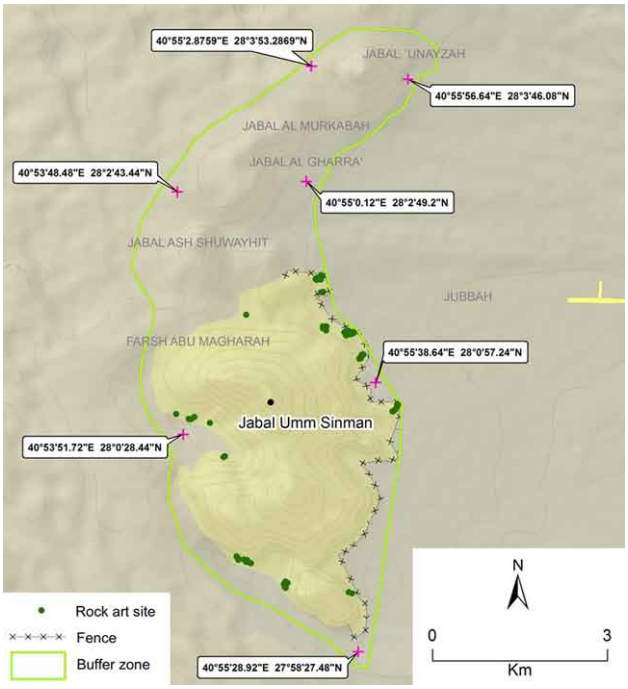
Map 1. The Kingdom of Saudi Arabia, showing Hail region.



Map 2. Locations of the two nominated properties within the Hail region.



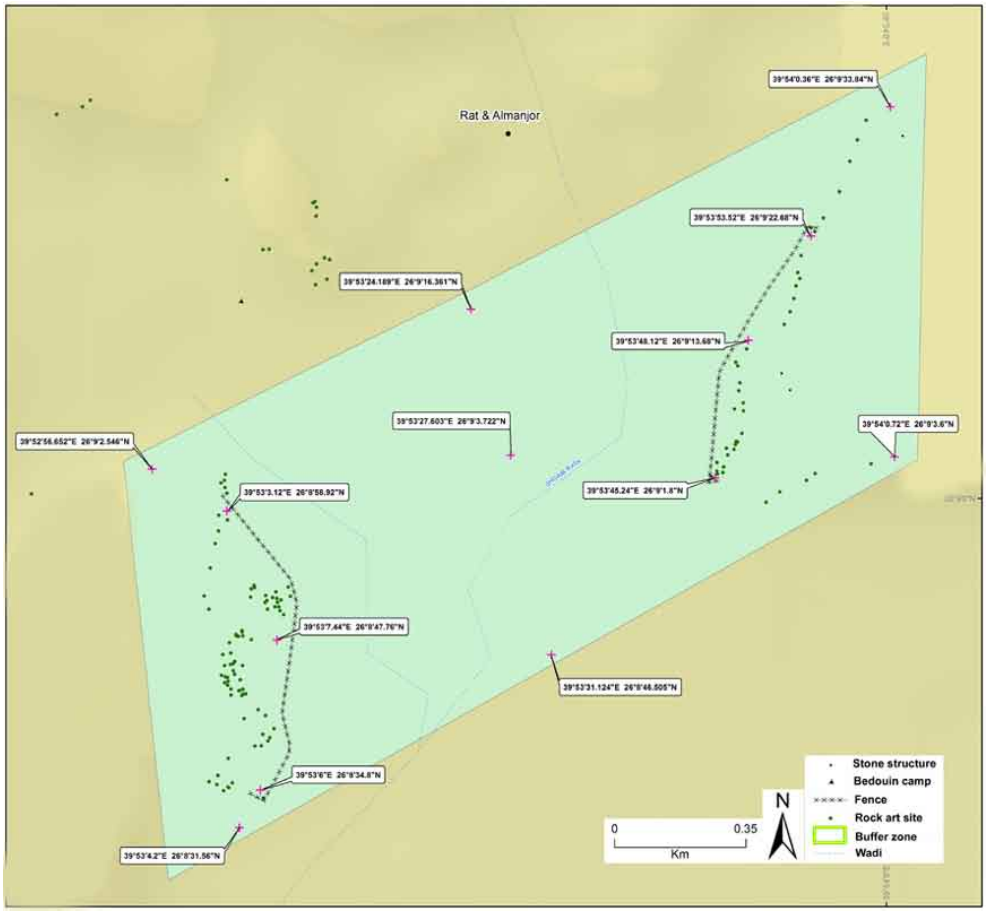
Map 3. The nominated core area of Jabal Umm Sinman at Jubbah.



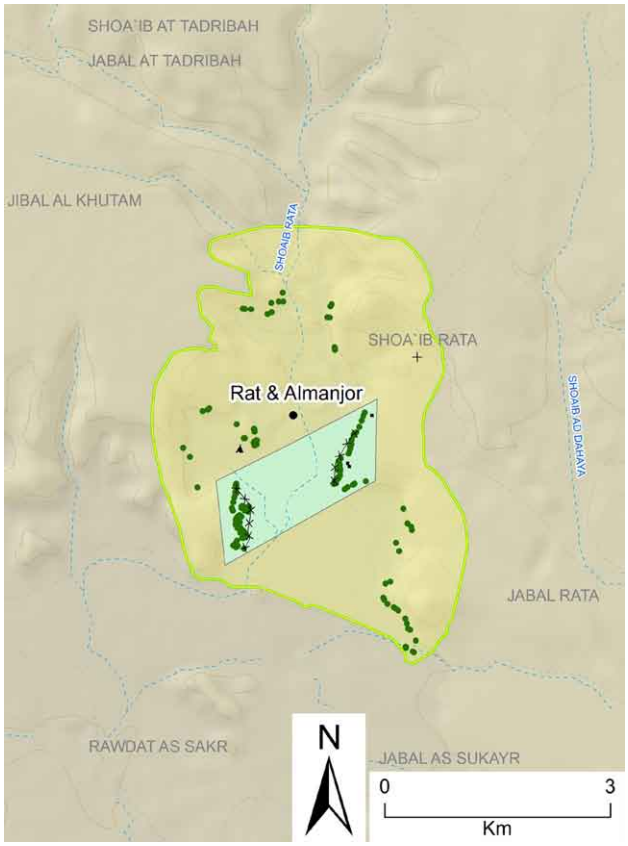
Map 4. The nominated buffer zone of Jabal Umm Sinman at Jubbah.

1.f Area of nominated properties (ha) and proposed buffer zones (ha)

Areas of nominated properties: 2043.8 ha
Areas of buffer zones: 3609.5 ha
Total: 5653.3 ha



Map 5 (above). The nominated core area (green) of Jabals al-Manjor (right) and Raat (left) at Shuwaymis.



Map 6. The nominated buffer zone (yellow) of Jabals al-Manjor and Raat at Shuwaymis.

2. DESCRIPTION

This serial nomination of the 'Rock Art in the Hail Region of Saudi Arabia' comprises two properties, one of which is situated in the Great Nafud Desert, the other about 300 km to the southwest of Hail in the volcanic plains of Harrat Khaybar, north of Al Madinah. At the latter location, two escarpments richly decorated with rock art occur in close vicinity, sharing a core zone and a buffer zone. The rock art on each of the three mountains or *jabals* has distinctive features, but together they incorporate all the main stylistic elements that make the combined rock art of the wider Hail Region of outstanding universal value. The properties are among the biggest and richest rock art complexes not only in Saudi Arabia, but in the Arabian Peninsula and the Middle East generally. They stand among the most fascinating and largest rock art sites of the world, and could be compared with the world-famous rock art sites of Australia, France, India, Namibia, South Africa and the Saharan Desert.

2.a Description of properties

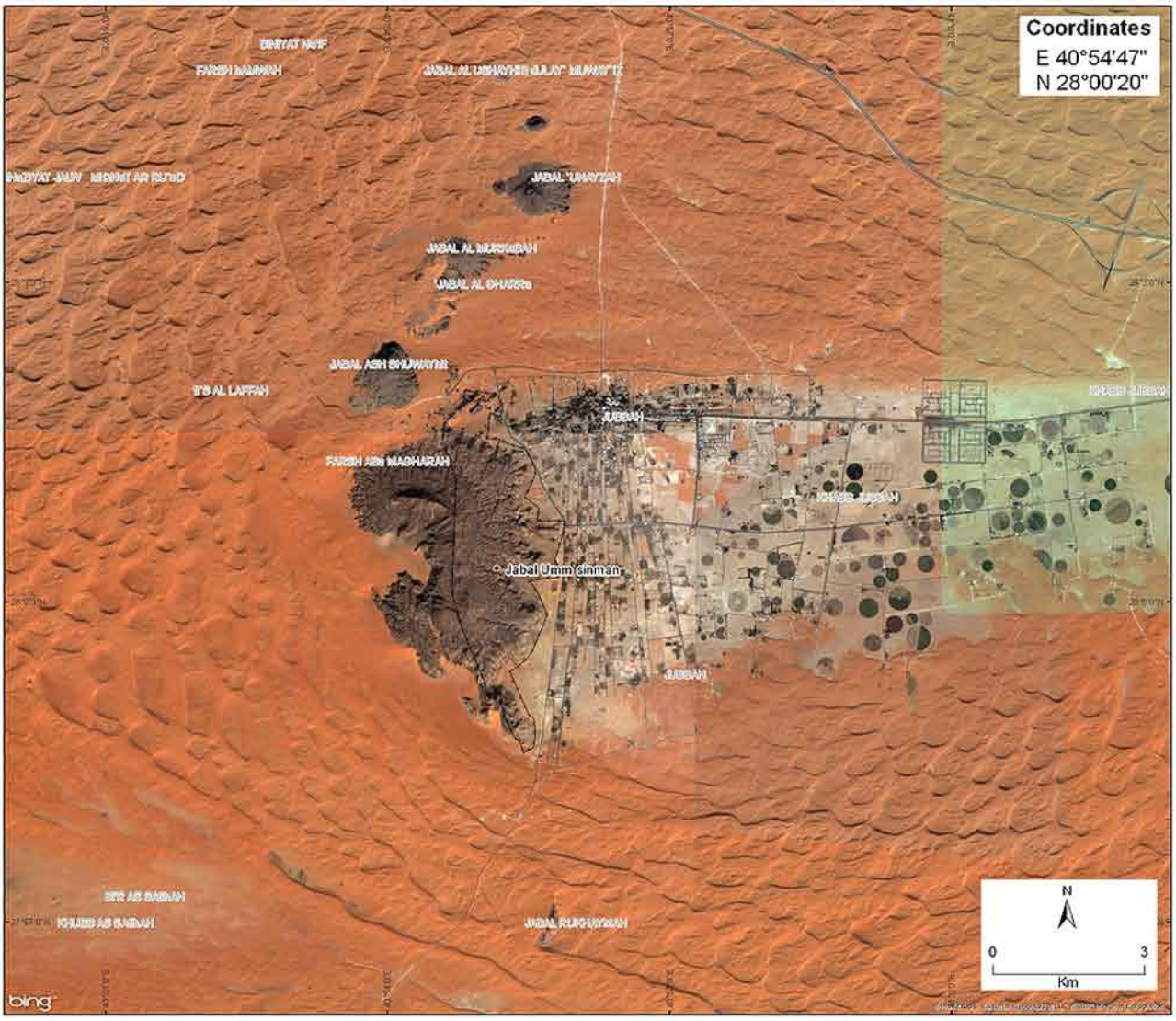
The Great Nafud Desert in northern Saudi Arabia covers an area of about 68,000 square kilometres stretching

between 300 to 400 km east-west and 125 to 250 km north-south. The town of Jubbah is located inside the southern border of the sand sea at about 90 km northwest of the city of Hail in northern Saudi Arabia. The Jubbah oasis is located at 28° 00' 20" N longitude and 40° 54' 47" E latitude, and at 820 m above sea level. The site consists of several hills and mountains and a dry lake-bed which was active until 6000 years before present (McClure 1976; Garrard and Harvey 1977).The sand of the Nafud has covered most of the rocks and hill bases and if there were any remains of ancient settlements near the lake, they are now buried under the prevailing sand dunes that are up to 60 m high in the area.

2.a.i Jabal Umm Sinman, Jubbah

In the southern part of Great Nafud Desert, surrounded by its golden sands, lies a small green oasis, Jubbah, which was the centre of an advanced culture during the very beginnings of Arab civilization. Overlooking the freshwater lake that then existed was the hill range of Umm Sinman, providing shelter and water to both people and animals. Here on these hills, the ancestors of present Arabs left the marks of their presence, their religions, social, cultural, intellectual and philosophical perspectives of their beliefs about life and death, metaphysical and cosmological ideologies.

The former freshwater lake of Jubbah was one of several such water bodies owing their existence to a series of sandstone inselbergs, occurring mostly in a north-south alignment. Lakes have in the geological past formed on the lee sides, the east, of some of these rock stacks dominating the landscape. The largest of these mountains is Jabal Umm Sinman, rising to a height of 1264 m asl., or almost 450 m above the surrounding desert. The palaeolake on its lee side was up to 20 km long and 5 km wide at its peak. The present town of Jubbah has been established on its sediments (Map 7). During the region's desertification, beginning in mid-Holocene times, the oasis of Jubbah provided the only substantial source of water within the desert, facilitating its continuing human occupation up to the present and the gradual adaptation of the population



Map 7. Satellite image of Jabal Umm Sinman and the oasis of Jubbah.

to the significant environmental changes (McCorriston and Martin 2009). These changes are distinctly expressed in the numerous petroglyph panels and rock inscriptions, the greatest concentrations of which occur in the lower rock exposures of the eastern flanks of Jabal Umm Sinman.

2.a.ii Jabal al-Manjor and Jabal Raat, Shuwaymis

Jabals al-Manjor and Raat are rock escarpments of a now sand-covered wadi that is thought to have been a broad valley with flowing water during the early Holocene. Both Jabal al-Manjor and Raat contain a large number of human and animal figures, and other hills and outcrops within the buffer zone feature smaller concentrations. These sandstone exposures occur in a region that has seen numerous volcanic eruptions and lava flows in recent geological history.

The large number of petroglyphs and inscriptions at these site complexes has been attributed to almost 10,000 years of human history. Although the bulk of this vast corpus of petroglyphs is of a single cultural period of human history, preceding and subsequent rock art traditions have been identified and dated. As the aquifer subsided, probably around mid-Holocene times, the formerly permanent human population became increasingly transient, but the sites were still visited in recent millennia as indicated by the rock art. The intensive and comprehensive survey of the Jabal al-Manjor and Raat complexes since their recent re-discovery resulted in the location of hundreds of rock art panels, several stone structures and typical stone objects of the Neolithic era (Map 8).

Map 8. Satellite view of the Jabals al-Manjor and Raat and their environment: 1 – interpretation centre and southernmost extent of the buffer zone; 2 – recent Islamic cemetery.

2.a.iii Environmental setting of Jubbah and Shuwaymis

Jabal Umm Sinman is located in a fully arid environment, the great Nafud Desert surrounding the mountain on three sides while the fourth side (east) had until the relatively recent past (c. 6000 years BP) been dominated by a freshwater lake. The desert floor beneath the dunes of the Nafud is characterized by a network of relict lake and river systems (Schultz and Whitney 1986), some of which have yielded Pleistocene fauna (Thomas et al. 1998). The lacustrine and other fluvial and aeolian deposits in the Jubbah Basin were studied and analyzed by Garrard et al. in 1980–81, who defined seven major sedimentary units. Deposit 3 was found to consist of a thick layer of black colour suggesting a high organic content. It contained a quantity of plant remains that indicated wet conditions. It was ^{14}C-dated to 6685 ± 50 BP (Garrard and Harvey 1977). Modern water-wells in Jubbah and alongside Jabal Umm Sinman indicate that stratified sediments extend to a depth of at least 30 m, and include inter-digitated deposits of sands and silts and signs of a fluctuating water table. These deposits mostly underlay a radiocarbon age of 25,630 ± 430 BP (Garrard et al. 1981), indicating ages for the deposits older than MIS 3, though caution is warranted given the sample was taken some time ago, and is a bulk age from humid soils (Petraglia et al. 2011, 2012; Groucutt and Petraglia 2012; cf. Engels et al. 2006). More recent studies have suggested that lake formation occurred during several humid phases, such as Marine Isotope Stage (MIS) 5e (c. 125 ka BP, 125,000 years), MIS 5c (c. 100 ka BP) and the early Holocene (c. 9–6 ka BP), also as smaller water bodies situated within interdunal depressions and at the base of jabals (e.g. Rosenberg et al. 2011; Crassard et al. in press). This is confirmed by the Middle Palaeolithic and perhaps even Lower Palaeolithic occupation evidence from the region.

Jubbah lies on an ancient caravan route, which has given rise to many thousands of rock inscriptions, from Thamudic to Islamic, accompanied by many hundreds of camel images

and tribal symbols of recent millennia (Winnet and Reed 1979; Winkler 1952; Al-Theeb 1999; Al-Dowsary 2009; Khan 2000a, 2007).

The palaeoenvironmental conditions of the Shuwaymis sites have received far less attention so far, essentially because of their very recent discovery. The extensive cliffs facing Wadi al-Mukhayet and its deep tributary canyons indicate significant erosion by flowing water in the distant past, but traces of fluvial sediments remain elusive and are perhaps all buried by sand. Although most of the region's extensive volcanic activity seems to be of the Early Pleistocene, there have also been some very recent, Holocene lava flows, and a possibility exists that the collapse and displacement of many petroglyph-bearing blocks at the Shuwaymis sites may have been exacerbated by volcanic effects.

The depositional sequence of Jubbah lake is very similar to that described by McClure (1976) from Lake Mundafin at the western end of the al-Rub' al-Khali and from other localities in the Empty Quarter of the country's south. McClure found evidence of two main generations of lake deposits, the earlier dated between 36,000 and 17,000 years BP, with a concentration of dates between 30,000 and 21,000 BP, and the later between 9000 and 6000 years BP. At the rock art site Ain Jamal in the Kingdom's far south the onset of the final phase of surface water has been dated to about 3500 years ago by optically stimulated luminescence analysis (Liritzis et al. 2013).

To the north-west of Jubbah in the Levant, further lacustrine evidence has been found of increased precipitation during early periods. In the al-Jafr Basin in southern Jordan 25 m of lacustrine limestone and marl were deposited in the mid-glacial and the shorelines are littered with Levallois-Mousterian artefacts. A ^{14}C date of 26,400 years BP was obtained from the upper part of these deposits. Evidence for mid-glacial lakes has also come from the Damascus and Palmyra Basins dating from the same period.

A similar chronology was also found in the lake basins of northern Africa (Arz et al. 2003). Street and Grove noted that the lake levels were high in this area in the period prior to 15,000 BP, and between 8000 and 9000 years BP. The lake basin areas disappeared due to increase in temperatures and evaporation. Thus human activities and the production of rock art of similar periods can be seen in these regions.

2.a.iv Climate and hydrology

Rainfall is very low in the present days in Jubbah and the records for 1966–1974 suggest a highly variable, but average rainfall of 103.2 mm, a mean January temperature of 10.1 degrees centigrade and a mean August temperature of 31.8 degrees centigrade. The temperature, however, drops below zero in winters and can rise above 45 degrees in summer. Water can be found lying in small silt depressions or clay pans in the dunes area for a few days following heavier rainfall, but regular supply of water in the Jubbah area has to be pumped from 50–75 m below ground level at the present time. Before the start of artesian drilling the water table may have been considerably higher and at the time of Blunt's visit in January 1879 and Euting's visit in October 1883, water was being obtained from hand-dug wells at 12–23 m below ground level (Khan 1985, 2000a, 2011). Just as the annual rainfall is very low in Jubbah, similar conditions pertain in Shuwaymis, of less than 100 mm per annum. The temperature regime is also similar. The high mountain summits at Jubbah manage to harvest enough rainwater to recharge their aquifer that provides enough water to the local inhabitants. In 2013 the citizens of Jubbah were so concerned about water flow from the mountain slopes into their town that they constructed a diversionary dam of several kilometres length immediately inside the buffer zone's eastern border.

The sand dunes absorb water easily and retain it below the evaporation zone for deep-rooted plants. Consequently, the Nafud is relatively rich in perennial forage and particularly in *ghada* bushes. There is also a lush growth of annuals after winter rain. Blunt noted tracks of hare (*Lepus capensis*) and oryx (*Oryx leucoryx*) in the central Nafud and Carruthers reported tracks of the latter and the ostrich (*Struthio camelus*) in the western Nafud in 1909. The local people have in their houses the horns of male and female goitered gazelle (*Gazella subgutturosa*) caught at Jabal Ghawata. The jabal may have supported ibex (*Capra ibex*) as do others in central Arabia and ibex have been reported from various places of the Nafud in the northern region (Kabwi et al. 1986, 1989).

The underground water around Jabal Umm Sinman is sweet and mineralized and is now used for agriculture, gardening and plantations. Jubbah village has several fruit gardens, palm trees and wheat and barley fields. The presence of underground and rain water at present, and in the form of a large active lake in the past, have allowed fauna and flora to develop. These combined factors have fostered human presence since the Palaeolithic era. Even after the climate of the region became drier, pastoral nomads have supported their life style using several perennial and seasonal springs and water bodies around Jabal Umm Sinman and its environs.

2.a.v Geology and geomorphology

The sands of the Nafud have accumulated in arrow-shaped formations of up to 100 m depth pointing east in the direction of the Ad-Dhana sand belt which links it to the al-Rub' al-Khali or Empty Quarter in the south. The northern and southern parts of the sand sea are characterized by complex linear dune ridges which run eastward to the prevailing winds, whilst the western margin and central Nafud are composed of compound crescent-shaped dune ridges and pyramidal dunes are found in the south-eastern region.

Figure 1. Impressively shaped stacks and pillars created by weathering and erosion, Jabal Umm Sinman.

Jubbah lies in the south-central Nafud and the range of Jabal Umm Sinman, which contains the highest number of petroglyphs, is located at the western end of the palaeolake basin and rises to over 1200 m. At the eastern end of the basin a similar but smaller range known as Jabal Ghawata has impeded sand deposition in a further area of about 8 km east-west by 3 km north-south. Both ranges are thought to have bases of Saq sandstone and summits of Tabuk sandstone (Khan 1993a).

Similar lacustrine deposits were also noticed near the windward side of the dunes. In this case, the black sandy silt gave way at higher elevations in the dunes to what appeared to be slightly calcareous or cemented sand full of root and stem encrustations. Neolithic/ Chalcolithic occupation sites were frequently found on the surface of the latter, and it seems possible that the divide between black sandy silt and calcareous sand marks the borders of a marshy area. These marshy areas suggest increased humidity in the Jubbah area around 6685 years before present as well human presence at the same time.

Jabal Umm Sinman is a superlative example of a highly varied geological and desert landscape that is the result of the interplay between complex geological factors, both structural and lithological as well as climatic influence that have fluctuated considerably over the long period that it has taken the landscape and the hills to evolve and be shaped in awe-inspiring forms. The hills have been shaped primarily by weathering that is driven largely by high temperature differentials, erosion accomplished by the wind and occasional rainfall.

A geomorphological anomaly at Jubbah is the large integrated lake bed which is now dry but was active until 6000 years before the present. There have been times in the past when the climate was more humid and rainfall more plentiful. With the rise in temperatures, increased aridity and depletion of aquifers the lake dried up gradually and the hills of and around Umm Sinman were eroded and developed various attractive forms and shapes. The hills are highly colourful and range from grey-pink to light-brown sandstones that are amenable to pecking and engraving.

The long-term weathering and erosion has resulted in the weakening of the sandstone rocks and creating distinctive morphologies and appearances. The run-off rainwater collecting around such hills developed springs and short-term water bodies that surrounded the southern, western and eastern area of Jabal Umm Sinman.

The vertical joints and columns produced by the processes of erosion, both by rain and wind, are one of the essential aesthetic elements of Jabal Umm Sinman and are characterized by pyramidal hill tops and hump-like summits. Thus the mountain comprises spectacular towers of varying heights and width. Within this dramatic and highly symbolic landscape the distinctive hill tops give the area its unique character (Figure 1).

The geomorphology of Jabal al-Manjor and Jabal Raat also explains their present state. The boulders are of a relatively weathering-resistant facies formed as horizontal strata, supported by a distinctively argillaceous, more readily decomposing sandstone stratum. As the later deteriorated it could no longer support the rock mass above it, and large portions of the decorated upper layer broke off through gravity and rolled or slid a few metres, only to be engraved again in their new positions as they gradually made their way down the slopes. This process may have been exacerbated by volcanic activity.

2.a.vi Archaeology of Jubbah and Shuwaymis

Evidence has been found of four major phases of human settlement at Jubbah. However, the only evidence for permanent occupation is from the latest phase. In the Nafud Desert, 'Mousterian' lithic assemblages were first reported from a factory/quarry site near the summit of Jabal Umm Sinman and localities on the Jubbah palaeolake margins and floor (Clark 1970; Garrard et al. 1981). Two typical Middle Palaeolithic (probably in the order of 90–40 ka old) sites containing Levallois-Mousterian stone artefacts were located during the Comprehensive Archaeological Survey. One of these sites was found on the very summit of Jabal Umm Sinman (site No. 201-26a), where a large number of worked and discarded stone objects scattered over the site suggests that it might have been a quarry or factory site exploiting the summit outcrop of hard ferruginous sandstone. The second site was found on a sandstone platform at the base of the north-eastern corner of the mountain (site No. 201-25a), and contained both local ferruginous sandstone and local quartzite artefacts. Middle Palaeolithic or Mousterian

implements were also found on the weathered surface of deposits (201-25b) just to the east of the previous site; a ^{14}C date of 25,630 ± 430 BP was obtained from a similar elevation, 100 m to the west. It is evident from the analysis of a well deposit that lacustrine conditions prevailed during the Middle Palaeolithic in the Jubbah area.

Petraglia et al. (2012) report the excavation of three roughly dated Middle Palaeolithic occupation sites near Jubbah: at the southern end of Umm Sinman (site JSM-1, with two weak Late Pleistocene OSL dates), at nearby Jabal Katefeh to the south (site JKF-1, at ~90–85 ka to ~50 ka), and at Jabal Qattar to the east of the palaeolake (site JQ-1, the occupation having been dated to ~75 ka BP; Petraglia et al. 2011). In 2013 the Palaeodeserts team also located several Middle Palaeolithic tool scatters near the southern peak of Umm Sinman (Petraglia and Alsharekh 2013). Moreover, its members have recently found the region's first Lower Palaeolithic evidence, in the form of an Acheulian handaxe at site AJHA R1 and several more bifaces at site QAN-1. Both sites are to the southwest of Jubbah but still within the Nafud (Petraglia and Alsharekh 2013).

Although evidence of human occupation in the Middle Palaeolithic period is thus commonly found at Jubbah, none of the rock art could possibly be attributed to this period. Either the petroglyphs of this period could not survive taphonomic processes or rock art was not produced by the Jubbah people at that time (Khan 2008, 2011).

Despite seemingly favourable environmental conditions during the Upper Palaeolithic period no evidence was found so far of settlement in Jubbah during this time. However, Neolithic sites are abundantly located in the area. Twelve sites of possible Neolithic date have been found, eight of them near the base of the windward side of sand dunes along the northern and southern borders of the basin (e.g. sites 201-25e-j and 201-27a-b).These were associated with evidence of a palaeo-soil and possible marshy conditions. The contents of these sites were described by Parr et al. (1978; cf. Ingraham et al. 1981) and included finely retouched, tanged arrowheads, bifacial points, blades, side and bi-face scrapers and disc cores, awls, tabular scrapers, large choppers and a little pottery. The tools were prepared on a variety of stone including chert, rhyolite, ferruginous sandstone and quartz.

Some of these sites are located near rock shelters and close to some rock art panels on the nearby rocks. However, in no case could any rock art be linked to them. The stone artefacts are said to be typical of pre-pottery Neolithic in Arabia (Parr 1977; Ingraham et al. 1981). Similar artefacts of pre-pottery Neolithic type have been reported from southern Jordan bordering Saudi Arabia and in the Levant and Palestine. Parallels to these artefacts have also been found in central and other parts of Saudi Arabia (Parr and Dayton 1970; Zarins et al. 1982; Khan 2000b, 2007, 2008).

No archaeological excavations have been carried out at rock art sites so far, at both the Jubbah and the Shuwaymis properties. Since the sites are generally not relatable to stratified sediment deposits there are no real prospects of archaeological minimum dating of rock art at these sites. Indeed, the amount of archaeological research so far conducted at Shuwaymis is minimal (Petraglia and Alsharekh 2013). Nevertheless, it is clear that this site complex offers a great number of opportunities for archaeological studies, especially of its range of stone structures. Four Middle Palaeolithic occupation sites have been reported about 40 km to the east of Wadi al-Mukhayet, in the vicinity of Shuwaymis village (Petraglia and Alsharekh 2013).

2.a.vii Cairns and tombs

There is a general tendency in Saudi Arabia to find cairns and tombs on top of hills or on their slopes. The hill ranges of Jubbah, Jabal Unayza, Jabal Shouwaith and Jabal Umm Sinman contain stone structures which are usually cairns and circular tombs. Many of these burials are not very well preserved but the stone structures are still in adequate shape to convey their identity.

The tombs are usually located on the top of the hills or on their lower levels. On Jabal Unayza and Jabal Showiath at Jubbah the tombs are located on three levels, that is at the top of the hills, on the first and then on the second level. These tumuli are mostly circular in shape with rectangular or circular pits. In some cases tail-like structures are associated with these features. It is certain, due to the limited number of tombs located on these hills, that common people were not buried on hills, otherwise a much greater number of tombs should have been found on them (Khan 2005).

At Shuwaymis the cairns are located in Wadi al-Mukhayet and in the elevated areas besides the wadi at Jabal al-Manjor (Figure 2). These are circular or roughly square-shaped structures. Although it is as yet not possible to positively link them with any of the Shuwaymis rock art the alignment of several extensive stone structures along the margin of the plateau overlooking the dense concentration of petroglyph clusters at Jabal al-Manjor is suggestive of a connection between these structures and one of the rock art phases evident on the cliffs below them. Most particularly, the large central ruin, above petroglyph cluster 4, does not appear to be a burial monument, but has the appearance of a ritual centre of some kind. It is based on a square stone platform erected hard against the edge of the plateau. On this base a circular wall with a diameter of about 25 m surrounds a paved courtyard that has an opening facing away from the escarpment's edge. In its centre appears to have been a small structure and there are further stone features that seem indicative of specific purposes (Figure 3). The structure's minimum age is indicated by the presence of one elongate stone slab outside the circular wall, which seems to have fallen from the structure and on whose upper side are the petroglyphs of three 'camels' of limited patination. Safely

Figure 2. Major stone structure on the edge of the Jabal al-Manjor plateau, overlooking the densest petroglyph concentration. A second such structure is visible in the background, as is part of the protective fence at the base of the escarpment.

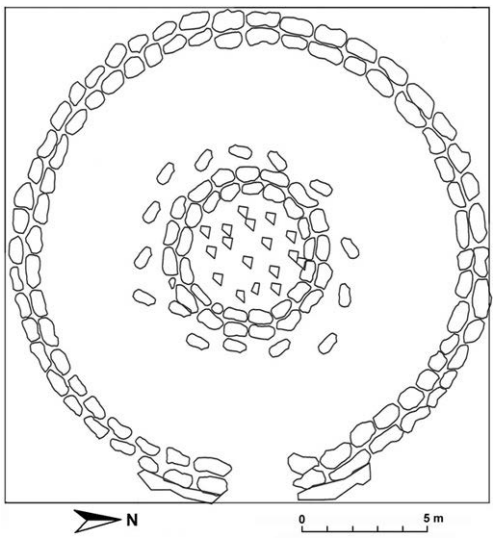


Figure 3. Plan view of the stone structure shown in Figure 2.

attributable to the last two millennia, this suggests a greater age of the structure, but as these stone structures are not known from the Neolithic (when stelae would be more typical) they are perhaps most likely of the Bronze Age. Although this is speculation it is confirmed by the observation of numerous relatively late petroglyphs at other stone structures at Wadi al-Mukhayet, for instance near the interpretation centre being constructed.

Three different types of tombs can be identified. Circular tombs for individual persons made with local stone slabs were arranged in a regular circular order, with central rectangular pits for the deceased's body. The second type is a circular structure in the middle associated with smaller circles, thus having additional compartments for the burial perhaps of the deceased's family members. In one such case (Jabal Showaith at Jubbah) a tail consisting of eleven small circles is included; in another case on Jabal Unayza a tail consisting of five circular structures is located. We may presume that each circular pile of stone represents a relative of the deceased. This assumption is based on the location of different numbers of circular structures with different graves.

The third type of stone structure consists of circular arrangements with small circular pits in the middle. It is not possible to bury humans in such small pits, thus these could be the graves of sacrificed animal remains as have been found in Bir Himma (Najran, southern Saudi Arabia), Darb al Feel and Dammam, where camel and ibex bones are located in circular pits of large circular burials.

Almost all the tombs at Jubbah and Shuwaymis were previously opened and nothing is preserved in them. Absence of any objects in these tombs has prevented their dating so far. However, in one case some fragments of human skulls were located and have been collected for dating.

2.a.viii Rock art of Jubbah

The study of rock art and associated artefacts and cultural finds in the Jubbah and Hail area suggest intensive human activities during the Neolithic period (c. 9000–5000 years before present). Frequent cattle figures are suggestive of a relatively cool and wet climate and grassy, perhaps savannah-type vegetation. These are essential conditions required for the survival of cattle, which cannot live in dry desert conditions (Khan 1991, 1999, 2007). These environmental conditions are confirmed by the analysis of the Jubbah Lake lacustrine deposits. Carbon dating of these deposits suggests a humid and cool climate around 6500–6000 years before present (Garrard et al. 1981). These results accord with the analysis of the Mundafin Lake in al-Rub' al-Khali (McClure 1976), and Masry's investigations (1974) in the Eastern Province.

The shift from humid and cool to dry desert conditions commenced around 6000 years before present (Garrard et al. 1981; Khan 2007), and in due course human activities at Jubbah were progressively curtailed. Jubbah Lake commenced to dry out and huge masses of sand begun to accumulate, thus converting the green grassy region of the Nafud into a desert as the aquifer level fell. Pastoral and herder groups which had been attracted to Jubbah due to the availability of a permanent water body and natural rock shelters would have migrated elsewhere with their herds of domesticated cattle, sheep and goats.

The changes in the environment are reflected in the zoomorphic content of the rock art through time (Khan 1988a, 1996, 2000a). The fauna depicted at Jubbah includes presumed images of cattle, long-horned oxen, deer, gazelle, oryx, ibex, lion, dog, horse, donkey, ostrich and camel

Figure 4. Patinated equine figures at Jubbah, probably of the late Neolithic.

Figure 5. Apparently female human figure of a unique design, Jubbah, probably late Neolithic.

(Figure 4). While these have been ascribed to periods from Neolithic times to the Chalcolithic and Metal Ages, it is to be noted that tracks of the ostrich (*Struthio camelus*) and oryx, now extinct in all Arabia, were still observed in the western Nafud as late as 1909, and the goitered gazelle *(Gazella subgutturose)* still occurred in the most recent history (Khan 1985, 1988a, 1990b, 1993a).

After the Neolithic, characterized by fully patinated petroglyphs, there seems to have been a change in stylistic conventions, possibly to Chalcolithic and Bronze Age traditions. The relatively large-sized human and animal figures in semi-naturalistic style give way to more schematized and small-sized animal figures of the Chalcolithic period (Khan 1993a, 2007, 2011). The formation of the Jubbah oasis probably facilitated continuous occupation of the site, and its importance is perhaps underlined by the recent observation that 82.2% of the prehistoric rock art sites overlook palaeolakes (Jennings et al. 2013). There appears to be even an increase in human occupation and cultural activities in the Jubbah and Hail area during the Bronze and Iron Ages (between 3500–2500 years before present). The region's rock art is now dominated by hundreds and thousands of petroglyphs of camel, ibex, dogs and human figures (Khan 1991, 1993a, 2000a). This re-appearance of larger populations in the region of Jubbah and Hail indicates a change in climate and increase in humidity, which coincides with the geological and environmental results suggesting an increased humidity in the Bronze Age that has been detected also in the south of the Kingdom. At the rock art site Ain Jamal near Najran, OSL dating of sandstone grains concealed by reprecipitated carbonate has shown that the most recent ponds of water at the site began forming only 3580 ± 250 years BP (Liritzis et al. 2013). About 2000 camel figures are located at the site of Jubbah which may support the contention that Jubbah, also, witnessed an increase in humidity, and perhaps the dry lake of Jubbah was partially reactivated during the Bronze Age, thus attracting again both animals and humans. Similarly the sites of Janin, Milihiya and Yatib in the Hail area, with high concentrations of camel figures and Thamudic inscriptions, testify to the increased human activities during the same period (Bednarik and Khan 2002, 2005). The superimpositions and juxtapositions of figures clearly indicate different cultural activities and rock art of different periods, depicted one over the other on the same rocks.

The numbers of human (Figure 5) and animal figures recorded by the Department of Museums and Antiquities from 490 localities at Jabal Umm Sinman, in addition to ancient Arabian and Kufic inscriptions (Table 1).

However, more recent estimates place the total number of petroglyphs and rock inscriptions at about 15,000. As we have no archaeological excavations at the Jubbah Neolithic

Human figures	Cattle	Camel	Horse	Others	Total
626	80	1378	45	4073	6202
Thamudic and other inscriptions 3500					

Table 1. Early estimate of rock art motif and inscription numbers at Jabal Umm Sinman, Jubbah.

Site	Dating	Range (BP)	Approx. age (BP)
Um Asba'a	Calibration	Known age 1120 BP	
Al Usayla	'Ibex'	3180 – 2120	E2680 + 500 / - 560
Umm Sinman	Calibration	Known age 1150 to 1200 BP	
	Anthropomorph 1 Anthropomorph 2	5650 – 4240 7070 – 5650	E4890 + 760 / - 650 E5877 + 1190 / -220
Jabal Ash Shuwayhit	Inscription 1 Inscription 2	3530 – 2130 3530 – 2120	E2830 ± 700 E2540 + 990 / - 420
Janin	'Gazelle'	Greater than 1820 ± 50 BP	
Jabal al-Bargh	'Date palm'	3180 – 1770	E2370 + 810 / - 600
Jabal Raat	Anthropomorph 1 'Ibex' Anthropomorph 2 Cupule	5660 – 4960 6000 – 5300 4940 – 4240 9330 – 6220	E5310 ± 350 E5550 + 450 / - 250 E4590 ± 350 E7968 + 1360 / - 1750
Ain Jamal	Calibration	Known age 1300 to 1350 BP	
Ta'ar	Anthropomorph	2360 – 1570	E2109 + 250 / - 540

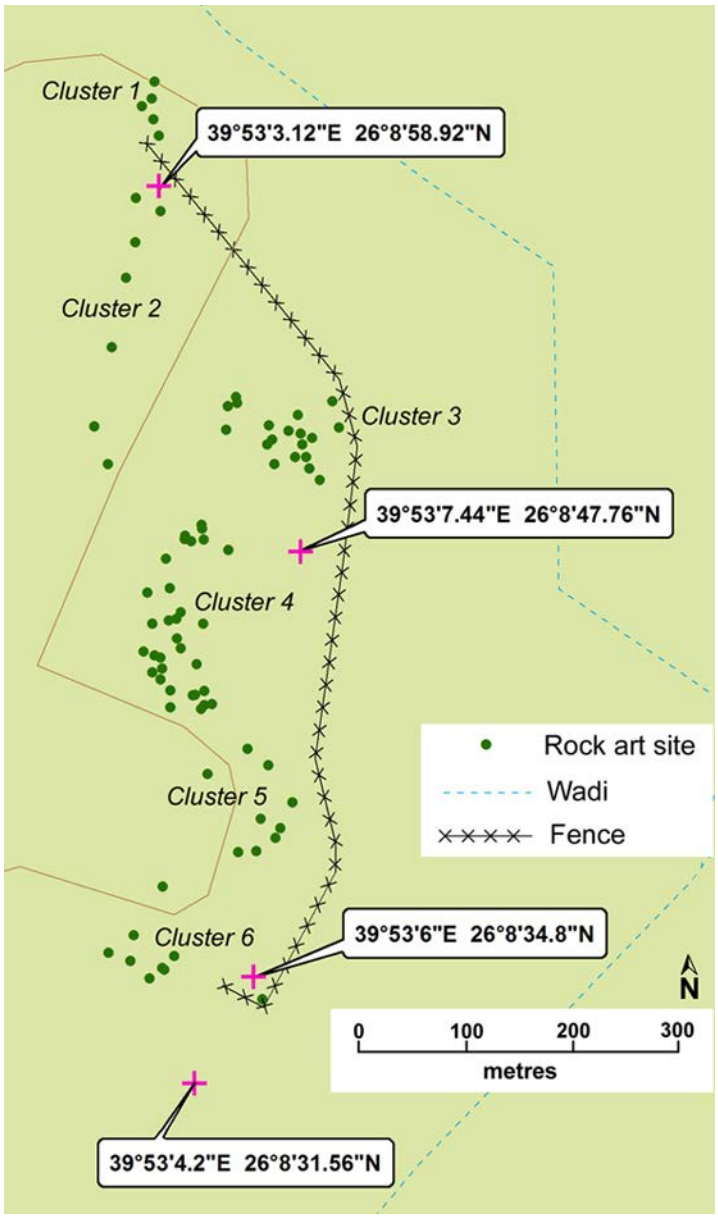
Table 2. Preliminary direct dating results from rock art and inscriptions by microerosion analysis and radiocarbon analysis, from nine sites in central, northern and far-southern Saudi Arabia.

and later occupation sites and our study is based on the surface collection of stone objects only, rock art is the only source that can tell us about the weapons, clothing, ornaments etc. used by the prehistoric people in the region. But to do this effectively and anchor the rock art to archaeological evidence, it is essential that some idea of its age be secured. The first direct dating of rock art in the Middle East occurred at Jabal Umm Sinman in 2001 (Bednarik and Khan 2005: 62), when an early Kufic inscription among the rock art was used to determine a microerosion calibration curve (Bednarik 1992). Since then a program of dating Saudi petroglyphs by several direct and preferably non-intrusive methods (radiocarbon analysis, microerosion, optically stimulated luminescence and colorimetry) has been conducted in many parts of the Kingdom, in the north (at Umm Sinman, Jabal Ash Shuwayhit, Janin, Jabal al-Bargh, Jabal Raat), central region (Al-'Usayla, Umm Asba'a) and in the south (Ain Jamal and Ta'ar in the Jabal Qara site complex). This has provided a number of reliable chronological anchor points for rock art that is unequalled in much of the rest of the world.

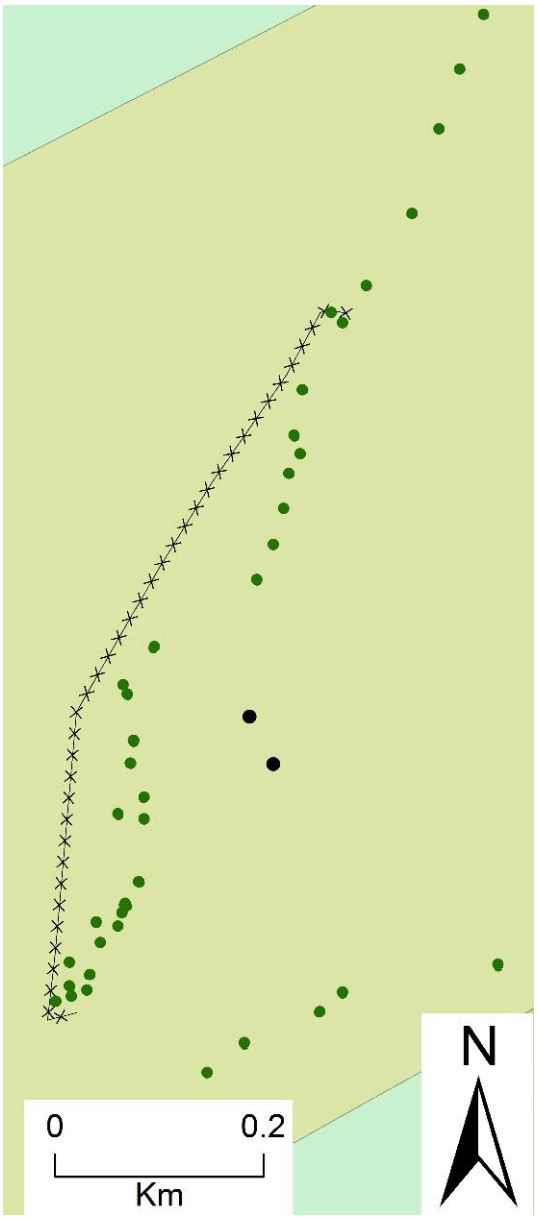
Figure 6. Typical 'Jubbah style' anthropomorph.

Figure 7. Local people call this petroglyph Malik, a King, due to its prominent and elevated location, his dress and traits such as the crown-like headdress; facial features such as nose, ears and mouth and eyes are shown in a naturalistic manner. Jabal Umm Sinman, Jubbah.

Therefore two anthropomorphs at Jabal Umm Sinman are safely dated, as are four of the thousands of petroglyphs at Jabal Raat. Anthropomorph 2 at Umm Sinman is considered to be one of the earliest of the 'Jubbah style' human figures. These are of highly characteristic features, one metre tall or higher, typically slim, wearing skirt-like apparel, in distinctive attitudes with a slight angle between upper and lower body, always painstakingly executed but with ambiguous faces, and frequently found in regimented, closely formed groups of identical size. These figures are so idiosyncratic and utterly unique that they are easily recognizable as the region's signature motif of the



Map 9. The rock art of Jabal Raat, Shuwaymis.



Map 10. The rock art of Jabal al-Manjor, Shuwaymis.

Neolithic. Always fully patinated, they are strictly limited to the Hail region and have never been found elsewhere (Figures 6 and 7). With an age of between 5600 and 7000 years, they date clearly from the last major humid phase when the Jubbah lake was filled. Similarly, the large bovid figures with their often exaggerated horns are also fully patinated and of the same period, and they, like the Jubbah-style humans, occur also at Shuwaymis. Anthropomorph 1 from Umm Sinman, by contrast, offers no distinctive stylistic features and is not fully patinated, and presumably dates from the time of first desertification, as the economy enters the Chalcolithic tradition.

2.a.ix Rock art of Shuwaymis

The Jabals al-Manjor and Raat area is now hardly suitable for human habitation, but even at mid-Holocene times the area was still densely settled, as shown by the abundance of archaeological evidence (Khan 2007).This includes numerous burial sites, other stone structures, stone implements scattered widely over sites, and the extensive rock art. This complex is the most spectacular of the sites of northern Saudi Arabia (Maps 9 and 10). Its sites consist of slopes of jumbled, sub-angular boulders, mostly 5–10 metres in size, on which many thousands of motifs occur (Figure 8). Some compositions bring to mind monumental masonry work, in that the very detailed and meticulously pounded figures of one or two metres are rendered 15–20 mm deep, as bas-relief figures (Figures 9 and 10). The profusely decorated panels on many of these huge boulders are no longer right way up, and as they changed their orientation every time the boulders moved down the slope, differently oriented figures were added (Figure 11). Some of them occur entirely upside-down, and many are truncated

Figure 8. One of the almost 200 petroglyph panels of Jabal al-Manjor.

Figure 9. Typical Neolithic petroglyphs at Jabal Raat.

by subsequent fractures. The site therefore offers good potential for in-depth seriation studies to create relatively complete sequences of rock art traditions.

The Jabal al-Manjor/Raat complex near the village of Shuwaymis was rediscovered only in the recent past. The remote and relatively inaccessible area far to the west of the village of Shuwaymis features several Pleistocene lakebeds and a series of widely spaced eroding cliffs. Like Jubbah, the site has been in use over a prolonged period of time, certainly for most of the Holocene at least (Figure 12). On one steeply sloping panel at Raat, about fifteen large cupules of 5–10 cm diameter occur. They appear to be the oldest surviving component of the site, and were already in 2001 considered to be either of the final Pleistocene or the earliest Holocene (Bednarik and Khan 2002). The surface of the panel has largely fallen victim to exfoliation since the cupules were made, and the original surface has best survived within the cupules. The same panel bears a series of archaic geometric motifs, such as circles, chronologically followed by hoof-prints, human footprints occurring in pairs

Figure 10. The extraordinary Neolithic rock art of the Shuwaymis rock art complex is dominated by these fully patinated bas-relief figures of humans and animals, often of bovids.

Figure 11. This decorated block, bearing a series of "Jubbah style figures" and a large bovid image, now lies upside down below the cliffs of Jabal Raat, Shuwaymis.

and superimposed large motifs. Much of this panel is no longer accessible to work on because of a massive boulder gravity has placed above it. The flat underside of this boulder bears large petroglyphs that are also early, but a set of motifs on its present front face postdates the placement of the boulder. One of its several anthropomorphs, of a post-

Figure 12. Some of the thousands of superimpositions of petroglyphs at the Shuwaymis sites. Here, the earlier, presumably late Neolithic images are clustered in the panel's upper part, followed by various more recent phases of rock art production.

Figure 13. A panel of late Holocene petroglyphs at Jabal al-Manjor, estimated to be 2000 to 2500 years old.

Jubbah style, has been dated to around 4500 years BP. Most recently the great antiquity of the cupule panel was confirmed, when one of its motifs was dated to about 8000 years ago, or possibly somewhat older.

Because of the extraordinary density of petroglyphs at these major sites, petroglyph-making stone tools (hammer stones) can be found readily, at the Shuwaymis sites as well as at Jubbah. They were made mainly from a dark siliceous contact-metamorphic quartzite occurring locally. These tools were in every formal respect similar to such

Figure 14. The presumably Neolithic component of this panel is dominated by the image of a 2-m-long carnivore, called "The Lion of Shuwaymis".

stone implements found by studies in many other countries around the world (Bednarik 1998). Just as Jubbah comprises a large component of Bronze Age, Iron Age (Figure 13) and historical rock art, these forms also occur at al-Manjor and Raat, though here they are somewhat less commonly represented. Recent graffiti or Islamic inscription, still common at Jubbah, appear to be absent at the Shuwaymis sites.

The Jabal al-Manjor corpus has been divided into twelve clusters comprising a total of 190 panels of petroglyphs (Jennings et al. in press). A complete inventory has not been attempted so far. At Jabal Raat six major clusters of rock art can be discerned.

There is evidence of the continuity of the art at Jubbah and Shuwaymis for several millennia and we have a comprehensive record of cultural activities at Jubbah and Shuwaymis for up to 10,000 years that ceased about 1300 years ago with the advent of Islam and change in belief, faith and life style (Figure 14). Before this period of surviving rock art production, both regions were occupied for about 100,000 years, and apparently beyond that.

2.a.x Inscriptions

The practice of producing rock art in Arabia ceased long ago and there are no oral or written record, legends or stories about it; the culture has been fossilized in the form of the petroglyphs. With the exception of ancient writings (in Thamudic script) and early Kufic inscriptions nothing can be read or interpreted with certainty.

The presence of Islamic and pre-Islamic inscriptions demonstrates the reliability of patina colour as a relative guide to age. The Jubbah area was occupied by people continuously from the Neolithic until the present day. There are thousands of ancient Arabic inscriptions such as Thamudic and early Islamic writing (Figure 15), suggesting the use of camping and living sites for long times (Al-Theeb 1999; Khan 2007). The Thamudic inscriptions reveal the names of persons and tribes, the tribal symbols representing the tribes that camped or lived near or

Figure 15. This Kufic (early Arabic) inscription at Jubbah dated 147 AH has provided the calibration curve for all rock art datings in the Hail region.

around Jabal Umm Sinman, and in rare cases (e.g. at Yatib) comment directly on rock art imagery. Such cases provide valuable glimpses of the original meaning of rock art motifs. The Arabic writing contains generally verses from the Holy Quran.

In two cases at Jabal Ash Shuwayhit, to the immediate north of Umm Sinman, Thamudic letters were dated by microerosion analysis. In one inscription, the letter 'sh' was determined to have been made E2830 ± 700 years ago, which identifies this as a relatively early example of the use of Thamudic script. The nearby letter 'p' in another inscription has been estimated to be roughly 2500 years old.

2.b History and development

At both Jubbah and Shuwaymis it is the former presence of surface water that has determined the nature of human interaction with the natural landscape. The former freshwater lake at Jubbah was formed on the lee side of Jabal Umm Sinman and existed until mid-Holocene times. Human occupation of the region can be traced back to occasional Acheulian finds, while Middle Palaeolithic stone tools have been observed both on Umm Sinman and in its immediate vicinity. This suggests that already in the Pleistocene, climatic variations attracted human occupation of the Jubbah oasis during dry periods, perhaps acting as a refuge area to both humans and fauna. Near the Shuwaymis sites, streams and lakes occurred during Pleistocene periods and some of this surface water also persisted well into the Holocene. Here, too, Middle Palaeolithic occupation evidence has been reported. Both properties offered apparently excellent living conditions during the first half of the Holocene, attracting significant occupations by Neolithic societies. Present data indicate that the record of surviving rock art commences shortly after 10,000 years ago, providing an insight into Neolithic culture through thousands of petroglyphs that is not equalled anywhere else. Through the depicted fauna the pictorial content of the rock art indicates clearly that living conditions were favourable during this period, at both properties.

However, this extraordinary record provided by the rock art continues through the remainder of the Holocene, first as pictures and eventually these are supplemented by inscriptions. This veritable library provides a continuous record illustrating how human populations coped with environmental fluctuations marking an overall deterioration and gradual desertification. After the lake at Jubbah disappeared wells had to be dug, which by the late 19th century were up to 23 m deep. (Today, with deep wells and pumps, the aquifer has receded to up to 75 m below ground level.) But as the Jubbah lake bed became the only secure water source in the Nafud Desert, the occupants remained and adapted to the arid conditions they faced. This is well reflected in the late Neolithic, Chalcolithic and Bronze Age rock art. The introduction of Thamudic writing, probably in the order of 3000 years ago, is documented in thousands of inscriptions at Jubbah, compared with significantly lower numbers at Shuwaymis. From the locations and contents of these early inscriptions it is evident that Jubbah had become an important staging place for camel caravans, whereas there was rather less human activity at Shuwaymis. Jubbah lies on an ancient caravan route to Jordan and Syria.

Between 3000 and 2000 years ago, the desertification process became complete across Arabia. Camels now become the dominant animal motif in the surviving rock art and some of the inscriptions express the thoughts, concerns or priorities of their authors. The next major change in the rock art record comes with the introduction of Islam around 1400 years BP, when earlier scripts were replaced by early Arabic writing (Kufic), and the depiction of living things, especially humans, declined markedly. Nevertheless, there are still a small number of depictions found from the subsequent period.

The Jubbah oasis was visited by several European travellers and historians in the late 19th and early 20th century, including by Doughty (1888), Huber (1899), Euting (in 1914), Philby (1952) and Musil (1914). They wrote brief accounts of the site but did not pay any detailed attention to recording rock art or inscriptions from the area.

Scientific archaeological investigations at Jubbah began after the Department of Antiquities and Museums initiated a Comprehensive Archaeological Survey of the entire Kingdom in 1976. As a result, the site was mentioned by Peter Parr and McAdams in their first report in 1976 published in *Atlal* Vol. 1. Christopher Clarke, a British student presented a firsthand account on the rock art of Jubbah in the Arabian Seminar in London in 1979.

The rock art of Jubbah was first thoroughly investigated and recorded by the Rock Art Survey team of the Department of Antiquities and Museums in 1986, which published its initial report on Jubbah in *Atlal* Vol. 11, in 1987. A brief reference of Jubbah with its dating and interpretations was given by Majeed Khan in his PhD thesis of 1989, published by the Ministry of Education (Khan 1993a). Besides these brief reports, a new book by Khan (2011) highlights the importance of this site and provides ample information to visitors. The Ministry established extensive fencing of the eastern side of Jabal Umm Sinman, facing the town of Jubbah, to prevent uncontrolled access to the rock art. Site guards and facilities were installed. In recent years a visitor centre has been built at Jubbah and a new museum in Hail is under construction, all as part of the development of the cultural heritage of the region.

The Shuwaymis sites, although always known to the local Bedouin, were officially rediscovered only in 2001, by the principal of the school at Shuwaymis, Mamdouh al-Rasheedi. He reported the vast corpus of rock art to the Department of Antiquities and Museums, and Majeed Khan went to investigate the report. In November 2001 he and

R. G. Bednarik undertook the first scientific investigation of Shuwaymis rock art (Bednarik and Khan 2002, 2005). In the subsequent years a sealed road was constructed up to Shuwaymis village, and this is now being extended to the visitor centre at the boundary of the buffer zone of the rock art sites.

On 17 September 2012 the Permanent Delegation of Saudi Arabia to UNESCO submitted two rock art site complexes in the Hail region, northern Saudi Arabia, for World Heritage listing. They are currently on the Tentative List, together with almost 1600 other properties around the world. In response to this initial submission, an advisory mission was carried out by Roberto Ontanon-Peredo in April 2013. He had been designated by ICOMOS International to conduct a feasibility study, and he established that a solid case can be made for the nomination, identifying any work that needs to be done to proceed with the nomination. Ontanon-Peredo (2013) noted the need for a comparative study to justify the claim of Outstanding Universal Value. He also found that the state of conservation of the sites included in the proposal is very good, and that there is no serious risk or imminent threat in the short or middle term that might endanger the property. His report was supportive of the nomination also in several other respects, for instance he noted that legislation in the Kingdom is "markedly protectionist towards its cultural heritage", and its administration highly centralized. The land areas concerned are the property of the Saudi Government, the local town councils are "extremely cooperative" and existing physical protection of the rock art sites is excellent. Funding conditions for the relevant infrastructure are "more than enough", as is the potential commitment of human resources. Ontanon-Peredo (2013) concluded that the two site complexes "appear to have potential as the basis for a robust serial nomination".

3. JUSTIFICATION FOR INSCRIPTION

3.1.a Brief synthesis

Jabal Umm Sinman near the town of Jubbah and Jabals al-Manjor and Raat in the area of Shuwaymis are about 300 km apart in the Northern Province of Saudi Arabia, the geographical nexus between Africa and Eurasia. The qualities that justify their inscription include not only their spectacular environmental setting in the midst of a desert, but also large numbers of petroglyphs of exceptional quality attributed to between 6000 and 9000 years of human history, followed in the last 3000 years by very early development of writing (Thamudic) that reflects the Bedouin culture, ending in Quranic verses. These stages reveal the use of the sites in different cultural periods during which populations adapted successfully to severe environmental changes by acquiring domesticated animals such as cattle and horses, and latterly the camel.

The Jubbah and Shuwaymis rock art sites comprise, among numerous other rock art and archaeological features, the world's largest and most magnificent surviving corpus of Neolithic petroglyphs. Neolithic rock art occurs in many locations across Eurasia and northern Africa, but nowhere in such dense concentration or with such consistently high visual quality. The excellence of the bas-reliefs precedes similar masonry work elsewhere by several millennia.

Together these bodies of exquisite rock art represent a continuous record of human endeavour covering the past 10,000 years. The record commences with a massive component of Neolithic artwork, followed by comprehensive Chalcolithic, Bronze Age, Iron Age and Historic traditions, all of which used the same localities to create their respective art corpora.

The rock art records the dramatic climatic and environmental changes during the entire Holocene period in the region. When hunting was possible during the early Neolithic, the ibex was frequently depicted in the petroglyphs alongside human figures with unusual garments and head-dresses. When lakes filled during the mid-Holocene, it was possible to acquire cattle and horses from neighbouring regions and find adequate grazing for them. They are illustrated along with wheeled chariots in the petroglyphs. As the lakes gradually dried up the camel became the most important theme in the rock art, as the process of desertification progressed. Thousands of inscriptions in Thamudic and Arabic script were added in the last three millennia. No similarly comprehensive library chronicling such changes, covering a similar time span, has been inscribed on the World Heritage list.

Although precise inventories are not yet available, the number of petroglyphs and inscriptions at the Jubbah property is estimated at about 15,000. Their number is even greater at Shuwaymis, and here some of the areas included in the buffer zone have not even been examined yet. There are larger rock art complexes in other parts of the world, but rarely are they as compact and visually impressive as these two.

In contrast to most other rock art sequences in the world the approximate antiquity of the components of the Hail rock art is reliably known, because their ages are anchored

to a series of direct dates derived from key elements. This satisfies the implied need in three of the four criteria under which inscription is proposed, to identify the specific cultures that created the Outstanding Universal Values in question.

It follows from these preliminary factual considerations that the qualities of the immovable cultural heritage at Jubbah and Shuwaymis are outstanding. It is equally evident that the OUVs of these properties need to be protected and managed in perpetuity, because they form a crucial and integral part of the story of how Middle Eastern civilizations developed in the important first half of the Holocene. These monuments fill the current gap between the many Palaeolithic properties on the World Heritage List, and the subsequent monumental structures of emerging civilizations beginning with the middle of the Holocene. The inscription of the Hail monuments in the List is an absolute necessity, if only to fill the current lacuna.

3.1.b Criteria under which inscription is proposed

The property manifests outstanding universal values with respect to four complementary World Heritage criteria:

Criterion (i), "*representing a masterpiece of human creative genius*": The size, diversity, skilful workmanship and sheer number of images in all rock art traditions at both of the properties nominated are evidence of the ability of a series of cultural traditions to create masterpieces that have lasted for thousands of years and are likely to last for many more, with some care. Whether the purpose of the rock art was to illustrate religious ideas and experiences or to make places powerful for different reasons, the artistic skills demonstrated are undeniably exceptional.

Criterion (ii), "*exhibiting an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design*": The environmental setting of both properties along caravan routes across the desert has no doubt contributed to the interchange of values, reflected in the work of successive generations of artists to, in a virtually monumental way, setting high depictive standards. Over a period of some 10,000 years, the development of the monumental arts at the Hail sites reflects not only changes in the environment and the human adaptations to these; it also reflects changes in human values, thoughts and priorities. The outstanding property of rock art, of remaining available for contemplation and response to later cultural traditions, is particularly pertinent at these sites, which feature a cumulative record of many millennia, each tradition responding to all of the previous.

Criterion (iii), "*bearing a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*": From the early to the late Neolithic, through the subsequent Chalcolithic, the Metal Ages and the historical period, this corpus of rock art presents an exceptional record of cultural priorities and dramatic environmental adaptations covering the entire Holocene period. Especially the graphic documentation from the Arabian Neolithic period is of utterly unique detail in bringing to life a rich cultural epoch about which we would otherwise be most inadequately informed. The two Hail properties present the world's largest and most magnificent surviving corpus of Neolithic petroglyphs, therefore they are unquestionably unique, not just exceptional. The quality of the bas-reliefs is unequalled anywhere else at the time in question, 6000 to 9000 years ago.

Criterion (v), "*being an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change*": The cultures that were responsible for the petroglyphs at the two properties nominated here have adapted to changing climate and severely fluctuating water availability. As a library recording the interaction of successive societies with their volatile environment, subjected to desertification, lowering of aquifer, volcanic eruptions and the irreversible changes that characterize Arabia today, the rock art provides a unique testament. It is also a comprehensive demonstration of the people's resilience and determination in the face of catastrophic changes. Emphasizing the developments that led to present-day circumstances affecting the vulnerability of traditional Bedouin culture in the region, and Saudi society at large, this rock art offers an exceptional record of human interaction with a deteriorating environment.

3.1.c Statement of Integrity

The integrity of the properties of Jabal Umm Sinman, Jabal al-Manjor and Jabal Raat is protected by the boundaries of the core areas and adjacent buffers.

In the case of Jabal Umm Sinman, the boundary of the core area follows the junction between the sandy desert and the edge of the rocky mountain outcrop. It is designed to conserve the visual integrity of the property as a cultural landscape that encompasses 14 clusters of petroglyphs on all sides of the mountain. The paved road to the east provides a clear separation between the petroglyphs and their context on the lower mountain slopes to the west, and the town of Jubbah to the east. The buffer extends northwards to enclose several smaller rocky outcrops with fewer petroglyphs.

The core area of the Shuwaymis property includes both rocky outcrops, Jabal Raat to the west and Jabal al-Manjor to the east, as well as the sandy valley between them. Here the visual integrity of the landscape that includes a total of 18 clusters of petroglyphs emphasises the deliberate selection of rocks for petroglyphs on the lower slopes close to the desert sands, mostly facing the intervening land where a lake once existed. Neighbouring rocky outcrops to the north

are incorporated into the buffer as they have not yet been thoroughly investigated. Apart from a Bedouin camp with fewer than 25 people, there is no town or large settlement nearby.

Covering more than 8 km at Jabal Umm Sinman (Figure 16) and about 6 km at Manjor and Raat, steel fences, bars and locked access gates protect the finest examples of rock art. The core areas include the iconic sandstone hills located in the middle of the great desert and also encompass the large number of petroglyphs and inscriptions placed in these desert ecosystems. The ancient cultural entities demonstrate the long established interaction between early populations and their environment. In addition the fenced areas are situated within larger buffers and at both sites no changes to the landscape are permitted, and no human access other than controlled visitation is allowed. Therefore the integrity of the sites is secured in perpetuity and no vandalism or illegal entry is possible.

Figure 16. Part of the 8-km-long steel fence protecting the rock art of Jabal Umm Sinman at Jubbah.

All elements necessary to express the OUVs of the two properties, namely numerous well-preserved petroglyphs, identifiably different rock art traditions over the period from hunting and gathering to animal domestication and writing, independent evidence for climatic change at nearby palaeolake deposits, and evidence for human interaction in a vulnerable environment, are amply represented at the Hail properties, and both core zones are of adequate size to ensure the complete representation of the features that convey the OUVs.

3.1.d Statement of Authenticity

The petroglyphs at Jabal Umm Sinman, as well as Jabal al-Manjor and Jabal Raat, have retained their original location, setting, materials, form and design, but they no longer function within a cultural tradition. The petroglyphs as well as Thamudic and Arabic inscriptions that have been added within the last three thousand years hint at intangible heritage that could contribute to the spirit and feeling of the culture of the people who made the petroglyphs.

As no vandalism or illegal entry has been possible in the last few decades, and there is no evidence of reconstruction or recent modification of any of the rock art, deterioration processes are limited to the effects of natural erosion. The causes of deterioration have been mostly meteoric water, wind and geological weathering, which are inevitable and have so far had limited effect on the petroglyphs, considering their age. The clearly different phases of weathering in fact underline the authenticity of the rock art corpus as they would be impossible to replicate.

The following significant attributes of authenticity of the nominated rock art properties can be further elaborated.

Authentic form and design can be seen in the depiction in the rock art of ancient modes of apparel, tools, weapons and ornaments that do not occur outside of Saudi Arabia.

Authentic materials and substance are evident in the heavily patinated condition of thousands of petroglyphs and their state of weathering, the occurrence of some of the petroglyphs on the undersides of massive blocks that have tumbled from the cliffs, and in the presence of hammerstones used in the creation of the petroglyphs.

Changes in the use and function of particular images are evident in the inscriptions as well as in the depiction of animal species that have long disappeared from the region. There is a distinctive separation of the zoomorphs of different periods into the wet and cool phase (bovine figures) and the hot and dry-phase (camel figures).

The integrity of the authentic location and setting of the petroglyphs is evident in the frequent occurrence of archaeological remains nearby and the truncation of motifs by fractures and the occurrence of the separated fragments many metres apart.

Finally, the age of successive traditions of petroglyphs has been established through several direct dating methods, including colorimetric sequencing of patinae. All these factors are in agreement with the finding that the rock art dates from between 9000 years ago to the recent past, and the approximate age of each individual motif can be roughly estimated on the basis of the chronological framework currently available.

The scientific dating by Bednarik and Khan (2002, 2005) and various analyses of Jubbah Lake palaeo-soils (Gerrard et al. 1981; Petraglia et al. 2011, 2012; Jennings et al. 2013) pertain. The former provides age estimates for selected key motifs and the latter offer palaeoenvironmental information broadly relatable to the rock art's iconographic content.

3.1.e Protection and management requirements

Both Jabal Umm Sinman at Jubbah and Manjor and Raat at Shuwaymis are well managed within the legal protection system provided by the Department of Antiquities and Museums. The overriding concern of protection and management of the Hail rock art properties is not just to ensure, but to virtually guarantee the preservation of the Outstanding Universal Values of these properties over time. The specific long-term expectations are that in addition to the already secured physical and legal protection of the petroglyphs, there will be a program in place for monitoring their precise condition, especially in terms of effects of increased visitation and natural deterioration.

It is proposed to extend the management and protection of the sites by preparing for risks caused by increased visitation; continuing constructive collaboration with the key stakeholders, the local municipalities; improving visitor facilities and infrastructure; and the improvement of staff expertise.

Of particular importance is the establishment of a comprehensive monitoring system of key indicators measuring the state of conservation of the sites. It is acknowledged that the challenges, especially of a major increase in visitor numbers, may not be readily predictable for the long term, and may demand significant adjustments to the Management Plan. While there are no foreseeable threats to the authenticity or integrity of the attributes engendering Outstanding Universal Value, adjustments to management practices may become necessary in the future.

The Management Plan submitted with this nomination sets out the general parameters of managing the properties, but it will remain flexible to accommodate any new requirements deriving from the findings of the monitoring program. Various aspects are set out in subsequent sections below, including the pressures arising from development and environmental factors (see 4.b.i and 4.b.ii), the projected level of visitation (4.b.iv), the available legislative protection (5.b) and the means of implementing protective measures. It is relevant to emphasize that the two properties and most of the surrounding desert zones are government-owned and administered land, and that both sites have enjoyed very effective physical protection for several years already. They have been enclosed in substantial and extensive steel fences totalling 14 km length, and a system of site supervision by guards has been installed at both Jubbah and Shuwaymis (Figure 17). Therefore basic protection measures have been in place for some years and have been shown to be most effective.

The managing authority, the Saudi Commission for Tourism and Antiquities, possesses the required human and financial resources to continue managing these monuments most effectively. It has at its disposal adequate legislative means, the political will and support to discharge its duties to the best standards, and a long-term commitment to the protection and preservation of properties that are entirely under its executive control. In this sense it is in a far better position than State Parties in countries where various agencies share the management of immovable cultural heritage. The administrative structures in the Kingdom of Saudi Arabia are highly centralized and effective, and the commitment of the SCTA, representing the State Party, to the long-term protection, preservation and effective management of the nominated properties is beyond question.

3.2 Comparative analysis

The data so far gained from the Jubbah and Shuwaymis petroglyph complexes is supplemented in a number of ways at other Saudi Arabian rock art sites, and needs to be seen within the wider region's palaeoenvironmental context as well as the archaeological setting. A comparative analysis is also required to assess what renders the nominated property particularly outstanding, and needs to include comparisons with the state of conservation of similar properties.

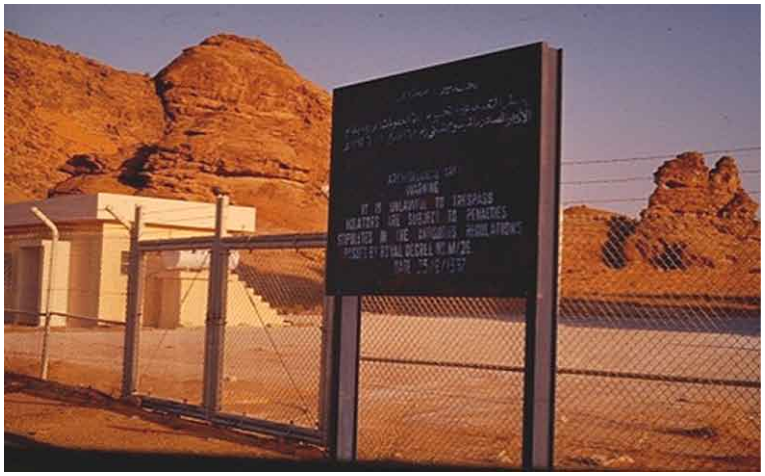


Figure 17. Guard house and sign board on the fenced site of Jubbah.

3.2.i Comparisons with other Saudi Arabian sites

Rock art occurs at numerous other sites in the northern region of Hail, but their survey indicates that they are generally of significantly smaller assemblages. Of particular interest is Janin Cave, east of Hail, because it is one of very few deep caves in the predominantly sandstone region.

The cave is about 100 m deep and well decorated, but mostly so in the part accessed by daylight. At the nearby main site of Janin, one of those in the Kingdom that are protected by long steel fences, the patination of a zoomorph resembling an antelope was sampled for accelerator mass spectrometry radiocarbon analysis. The result, 1820 ± 50 years BP (OZF900) was, however, regarded as an inconclusive and conservative minimum date, because of the inherently open carbon system of such deposits (Bednarik and Khan 2005: 61–62).

The Milihiya site, in the same area, comprises only sporadic occurrences of petroglyphs on low cliffs and boulders, whereas nearby Yatib is a spectacular site on a high cliff and the boulder scree below it. This site is also well protected by a steel fence and a caretaker from a nearby community. Yatib presents rock art of exceptional quality, but is of significantly smaller size than Umm Sinman or the massive Shuwaymis sites. Further south, just outside the township Al-Hayet is a small petroglyph site named Qilat al-Hissan, located on volcanic tuff containing basalt clasts. Of more interest is Jabal al-Bargh, to the south of Shuwaymis village. Although also a small site, its purported depiction of date palms is of interest because of the question of that tree's debut in central Arabia. One of these tree images has provided excellent conditions for microerosion analysis and has yielded a date of E2370 + 810 / - 600 years, which falls into the early part of the final desertification period.

Two more petroglyph sites in the central part of the Kingdom have been subjected to scientific analysis, and one of them has also yielded a dating from one of its hundreds of motifs. This is Al-'Usayla, about 115 km southwest of Riyadh. The site is very compact and exceptional in the number of motifs over a small surface area. One zoomorph, resembling an ibex, has provided a direct age estimate of E2680 + 500 / - 560 years BP, using the Jubbah calibration curve (rather than the geographically much closer, but less reliable Umm Asba'a curve). The second site, Umm Asba'a, is c. 85 km west of Riyadh. Marked by its prominent mushroom-shaped rock it features a relatively small assemblage of petroglyphs.

In comparing these various sites to those nominated herein their numbers of rock art motifs are very significantly smaller and, with the possible exception of Yatib, the visual quality of their rock art is also markedly less impressive. The state of conservation, however, is uniformly superb, although few if any of these sites can match the Neolithic antiquity of the early components of the nominated sites.

Another major rock art complex of Saudi Arabia that has received recent scientific attention is the great concentration of sites north of Najran, generally of the mountains of Al Qara and Jabal al Kawbab. In contrast to the relatively compact properties at Jubbah and Shuwaymis, the many sites of this complex are spread over a considerable area, measuring with outliers up to 130 km in north-south extent. This is clearly the only other Arabian contender for highest protection status, but several considerations speak against World Heritage nomination. One is the proximity to the volatile border with Yemen, another its low accessibility relative to the two other site complexes, and the current lack of protective measures. Whereas the Jubbah and Shuwaymis properties have been enclosed in extensive steel fences for many years, no such safeguard exists anywhere in the extensive Al Qara site complex. Nor have formal caretaker arrangements been established, like those at several sites in the Hail region.

Nevertheless, for the purpose of comparison it needs to be appreciated that the Al Qara complex houses several tens of thousands of petroglyphs, and its substantial library of Arabian rock inscriptions may exceed those at Jubbah in number. However, their Thamudic content is very low, with Kufic and recent Islamic texts clearly dominating. Although there are some minor early petroglyph sites, the great bulk of this massive heritage monument is of more recent date than much of the nominated Hail rock art; most of the Al Qara and Jabal al Kawbab rock art is probably under 3000 years old (Bednarik and Khan 2009). The complex includes several dozen major concentrations of rock art, some of which have been examined scientifically. This has resulted in OSL and microerosion datings, and it is especially relevant that the new method of colorimetric patination analysis was pioneered at one of these sites, Najd Sahî. After determining 1620 colorimetric readings there from five petroglyphs, their seriation was calibrated against a microerosion-dated petroglyph at the nearby Ta'ar site (Bednarik 2009), providing a base for easy age estimation in the region.

Recent optically stimulated luminescence dating from the site Ain Jamal in the vast Jabal Qara rock art complex, derived from the former surface of the sandstone bedrock, now concealed by reprecipitated carbonate, dates the presence of the last water source at the site. This final wet phase in the interior of southern Arabia began about 3600 years ago, diminishing over the following millennium, with rapid desertification between 2500 and 1500 years ago. Yet some of the most impressive rock art of the region dates from E2109 + 250 / - 540 years BP, at the nearby Ta'ar site. This confirms an observation made in many parts of the world that rock art production seems to peak during periods of environmental stress, perhaps in response to such conditions, as part of supplication rituals and similar activities.

The example of the Najran rock art complexes indicates that large rock art concentrations exist elsewhere in the Kingdom of Saudi Arabia, but this corpus, although more recent than the bulk of the Jubbah and Shuwaymis rock art, is often less well preserved. There is the evidence of the frequent practice of using prominent rock art panels for target practice in the Najran region, which has left numerous bullet impacts, and the sandstone is also slightly less

stabilized. Again this implies that the integrity of the Universal Outstanding Values found at Jubbah and Shuwaymis is not matched by any other rock art site in Saudi Arabia.

3.2.ii The Middle East

Rock art occurs in practically all the countries of the Middle East, but knowledge about it remains very uneven. Moreover, apart from the few motifs from Saudi Arabia listed above, no other rock art has been dated anywhere in the Middle East, be it by archaeological (excavation) or scientific means. Intricate relative chronologies have been invented for some regions, such as the Sinai Peninsula and southern Saudi Arabia, but have been refuted at least in the latter case (Khan 1998; Bednarik and Khan 2005). It has been claimed that 40,000 images exist at the Sinai's main concentration, the extensive mountain Har Karkom (Anati 1996), but the reliability of the claim has been questioned and most of the Sinai rock art does not occur in such localised concentrations as at Jubbah and Shuwaymis. Also, the tentative dating of Anati's (1996) Negev sequence is dependent on his earlier, clearly false stylistic chronology of Arabia (Anati 1963, 1968, 1972, 1974).

Some of the earliest rock art in the Middle East has been claimed to be in southern Turkey, at sites such as Belidibi (Mellaart 1975), Kara'In and Öküzlü'In, but these contentions refer to portable art rather than rock art, which has in fact been found of earlier ages in the Levant (Weinstein-Evron and Belfer-Cohen 1993; Goring-Morris 1998; Kaufman 1999). Rock art in Anatolia occurs in small concentrations and lacks the spectacular dimensions and visual impact found in Saudi Arabia. Relatively richer concentrations are found in northern Syria, where a great wealth of pre-Islamic inscriptions (reportedly 28,000) has been reported, in Safaitic, Hismaic, Thamudic, Nabatean, Greek and Latin. A large proportion of these have been related to adjacent petroglyphs. Rock art continues in Jordan, where again portable art has been dated through epigraphy (Betts 1998). About a hundred rock art sites are known in Yemen, which include rock paintings (Jung 1991, 1994). The petroglyph traditions resemble those of southern Saudi Arabia and they are better documented in the north of the country than in the south. There are no major concentrations in Yemen, and Al Qara is clearly the main centre of rock art on the southern Arabian Peninsula.

Similar conditions are apparent in neighbouring Oman, with only two notable concentrations of rock art, at Jabal Akdhar in the al-Hajjar mountain range (Clarke 1975; Preston 1976; Jäckli 1980) and in Dhofar (al-Shahri 1991). There is a preference for limestone regions which tend to preserve petroglyphs poorly. These occur frequently in wadis where they are worn by floodwater. The Dhofar sites comprise paintings, as well as painted inscriptions. In United Arab Emirates, several scattered petroglyph sites have been reported (e.g. Jongbloed 1994), but they are small groups and of comparatively crude execution. Further north along the coast of the Gulf, even the small state of Qatar contains a few rock art sites, where the occurrence of presumed boat petroglyphs is noteworthy (Facey 1987). There are also cupules (cup marks) and game-boards on the limestone pavements.

Rock art certainly does occur in Iraq, but there are virtually no detailed reports of it, although it appears the major occurrences may be in the Kurdish parts. Most certainly petroglyphs are plentiful across Iran, as well as in the small countries of the Caucasus region, but published reports about this wealth have only begun to emerge in recent years (Lahafian 2004, 2010; Ghasrian 2007). Further east, in both Pakistan and Afghanistan, the level of knowledge about rock art is even lower than in Iran. Although it is known that there are great bodies of rock art in those regions, nothing of consequence is known about them internationally, and there are, in contrast to Iran and especially India, not even established traditions of surveying rock art. Finally, as part of the actual Middle East, Egypt features substantial rock art sites (Winkler 1938; Červíček 1986; Reimer 2009), especially in the Eastern Desert (Redford and Redford 1989; Judd 2007). In fact Egypt is the only Middle Eastern country, apart from Saudi Arabia, to have provided scientific dating for any rock art (Huyge et al. 2001). However, due to the strong focus on dynastic archaeology, rock art has been neglected in Egypt and there are no sites of a quality approaching that of the Hail sites.

In short, there is no rock art complex known in the Middle East that would match the Outstanding Universal Values found at the two Hail properties, or match their petroglyphs, preservation or management qualitatively.

3.2.iii The global context

To complete this comparative analysis it is essential to relate the Saudi rock art, especially the two complexes being submitted, to the global scene. Contrary to popular belief, the largest concentrations of world rock art are not in Europe, but, in roughly descending order of size, in Australia, southern Africa, India, the Sahara, China, the Southwest of the USA, and in parts of South America such as the Brazilian Noreste and sections of the Andean region. Within this framework, in sheer quantity, Saudi Arabia probably matches the Sahara, so it possesses, on current indications, one of the four or five most prolific rock art corpora of the world. This needs to be somewhat qualified, by observing that the largest rock painting bodies are in many cases related to the sandstone facies of the former Gondwana plate (southern Africa, India, northern Australia, northeastern Brazil), i.e. they are determined by geology. This is because of the particular susceptibility of these sandstones to shelter formation, and rock paintings survive very poorly without shelter. The largest petroglyph regions, however, are found in arid and semi-arid environments, and here Saudi Arabian rock art is a prime

example: the absence of capillary moisture from an aquifer, low rainfall and high atmospheric pH all combine to provide the best preservation conditions, which are accentuated by the low incidence of iconoclasm.

Quantity of rock art is not the only variable determining the importance of a rock art corpus. For instance the Final Pleistocene cave art of southwestern Europe is a relatively small body of a few thousand images, but of great scientific and cultural importance, and is therefore heavily over-represented on the World Heritage List. Other factors determining the relative importance of regional rock art corpora are their visual appeal, their potential for tourism, their significance to specific living societies, and their roles in determining the identities of cultures and societies. Just as French cave art underscores the French belief in cultural pre-eminence or the Australian rock art establishes the belief of the Aboriginal people of "who they are", significant rock art in other parts of the world can greatly help define the cultural origins of peoples.

On the basis of current information, three of the four largest rock art accumulations of the Middle East are in Saudi Arabia. Of these, Jubbah and Shuwaymis are the densest concentrations, also showing the most impressive artwork by far, and they include the oldest tradition represented. If one were to take the most finely worked large Neolithic petroglyph panels of these two places and placed them immediately next to the best panels of generally younger Saharan, Chinese, Indian, South African, American or Australian petroglyphs, or the exquisite workmanship of some Rapa Nui panels, it would be apparent that, purely in terms of visual impact, technical perfection or "impressiveness", they would easily match or surpass the best of them. In terms of age they generally eclipse them. Therefore it can be said that the best panels of the two Saudi site complexes are among the very best petroglyph panels in the world, simply in terms of quality of workmanship and overall visual impact. Of course each rock art tradition has very different properties and stylistic variables, and "visual impact" is not the only OUV to be considered here. However, it needs to be said that the Jubbah and Shuwaymis Neolithic rock art is the best preserved and most impressive rock art of that period in the world. That is its primary OUV.

In terms of their state of conservation, the Jubbah and Shuwaymis petroglyphs compare favourably with most rock art corpora around the world. The state of rock art preservation is clearly a function of antiquity, rock type and relative protection from the elements. The rock art nominated here is generally exposed to precipitation and occurs on a variety of sandstones, which are of variable resistance to weathering. The older traditions, essentially those exceeding c. 5000 years in age, are uniformly patinated by iron and manganese salts, and this accretionary mineral coating has certainly contributed to their conservation. The Neolithic images, which form the perhaps most impressive component of this body, are generally better preserved than petroglyphs of similar ages and on comparable rock types anywhere else. Low annual precipitation and high ambient atmospheric pH have very probably contributed to this state, which in the absence of nearby sources of industrial and carbon emissions will hopefully continue.

3.3 Proposed statement of Outstanding Universal Value

a) Brief synthesis

Jabal Umm Sinman near the town of Jubbah and Jabals al-Manjor and Raat in the area of Shuwaymis are about 300 km apart in the Northern Province of Saudi Arabia, the geographical nexus between Africa and Eurasia. The qualities that justify their inscription include not only their spectacular environmental setting in the midst of a desert, but also large numbers of petroglyphs of exceptional quality attributed to between 6000 and 9000 years of human history, followed in the last 3000 years by very early development of writing (Thamudic) that reflects the Bedouin culture, ending in Quranic verses. These stages reveal the use of the sites in different cultural periods during which populations adapted successfully to severe environmental changes by acquiring domesticated animals such as cattle and horses, and latterly the camel.

The Jubbah and Shuwaymis rock art sites comprise, among numerous other rock art and archaeological features, the world's largest and most magnificent surviving corpus of Neolithic petroglyphs. Neolithic rock art occurs in many locations across Eurasia and northern Africa, but nowhere in such dense concentration or with such consistently high visual quality. The excellence of the bas-reliefs precedes similar masonry work elsewhere by several millennia.

Together these bodies of exquisite rock art represent a continuous record of human endeavour covering the past 10,000 years. The record commences with a massive component of Neolithic artwork, followed by comprehensive Chalcolithic, Bronze Age, Iron Age and Historic traditions, all of which used the same localities to create their respective art corpora.

The rock art records the dramatic climatic and environmental changes during the entire Holocene period in the region. When hunting was possible during the early Neolithic, the ibex was frequently depicted in the petroglyphs alongside human figures with unusual garments and head-dresses. When lakes filled during the mid-Holocene, it was possible to acquire cattle and horses from neighbouring regions and find adequate grazing for them. They are illustrated along with wheeled chariots in the petroglyphs. As the lakes gradually dried up the camel became the most important theme in the rock art as the process of desertification progressed. Thousands of inscriptions in Thamudic and

Arabic script were added in the last three millennia. No similarly comprehensive library chronicling such changes, covering a similar time span, has been inscribed on the World Heritage list.

Although precise inventories are not yet available, the number of petroglyphs and inscriptions at the Jubbah property is estimated at about 15,000. Their number is even greater at Shuwaymis, and here some of the areas included in the buffer zone have not even been examined yet. There are larger rock art complexes in other parts of the world, but rarely are they as compact and visually impressive as these two.

In contrast to most other rock art sequences in the world the approximate antiquity of the components of the Hail rock art is reliably known, because their ages are anchored to a series of direct dates derived from key elements. This satisfies the implied need in three of the four criteria under which inscription is proposed, to identify the specific cultures that created the Outstanding Universal Values in question.

It follows from these preliminary factual considerations that the qualities of the immovable cultural heritage at Jubbah and Shuwaymis are outstanding. It is equally evident that the OUVs of these properties need to be protected and managed in perpetuity, because they form a crucial and integral part of the story of how Middle Eastern civilizations developed in the important first half of the Holocene. These monuments fill the current gap between the many Palaeolithic properties on the World Heritage List, and the subsequent monumental structures of emerging civilizations beginning with the middle of the Holocene. The inscription of the Hail monuments in the List is an absolute necessity, if only to fill the current lacuna.

The outstanding universal values embodied in the rock art of Jabal Umm Sinman and Jabal al-Manjor/Raat are the high quality of the petroglyphs (engravings) that display distinctively different rock art traditions over the last 10,000 years and reflect major economic and cultural changes, and the adjustments that people made to climate change in a region that has always been a bridge between Africa and the continents beyond.

Situated at the geographical nexus between Africa and Eurasia, Saudi Arabia has long served as a corridor through which people moved, exchanging technological innovations, trade goods, cultural values and beliefs. The exceptionally abundant and well-preserved petroglyphs on rocky outcrops in what is now a sandy desert record some of these major events in human history against a backdrop of climatic change.

The oldest rock art tradition evident at both of the properties in the serial nomination is one of the world's largest and most magnificent surviving examples of early Neolithic petroglyphs. It includes animals such as the ibex, which was revered by early Neolithic people who depicted the horns in exaggerated form. This artistic device and the associated bold representations of people herald the monumental arts of later civilizations of the Middle East. Neolithic stone artefacts were left behind at encampments near the shores of palaeolakes more than 6000 years ago.

As cattle and horses were domesticated, they were brought to the region and images of them were added to the art corpus. With increased desiccation and the drying up of lakes after 3000 years ago, camels became essential to the economy of the ancestors of the Bedouin and are illustrated in abundance alongside Thamudic and Arabic script. Depictions of weapons of war suggest that this was a contested landscape. Graves and stone structures within the buffer zones are further testimony to the rich history of the region and have great potential for further research in the region where some of the world's major religions and writing systems evolved.

b) Justification for criteria
under which the Properties are nominated

Criterion (i): The exceptionally large number of petroglyphs created by using a range of techniques with simple stone hammers, against a background of gradual environmental deterioration, are visually stunning expressions of the human creative genius by world standards, comparable to the messages left by doomed civilizations in Mesoamerica or on Easter Island. In that sense alone they are of highest outstanding universal value.

Criterion (ii): "To exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in … monumental arts", applies to Jubbah and Shuwaymis, where certainly more than 6000 years of continuous human occupation is archived in both rock art and inscriptions.

Criterion (iii): At Jubbah we can follow the battle of past societies against the environmental catastrophe they experienced and adapted to, in a truly exceptional example of such a situation where the petroglyphs record the nature of the changes and the stone artefacts show where people lived in relation to the rock art and to the lake as it gradually dried up. At Shuwaymis, by contrast, the petroglyphs are all that remains of the testimony of a society that vanished, leaving behind a pristine record of its existence that is of a magnitude rarely encountered elsewhere in the world.

Criterion (v): Description as a traditional human settlement or human interaction with a vulnerable environment "under the impact of irreversible change" seems to have been formulated specifically for the Saudi site complexes. It is hard to think of alternative, similarly comprehensive records of civilizations facing environmental oblivion, anywhere in

the world, that have left such brilliant testimony of their genius. The two properties nominated literally exemplify this criterion.

c) Statement of Integrity

The integrity of the properties of Jabal Umm Sinman, Jabal al-Manjor and Jabal Raat is protected by the boundaries of the core areas and adjacent buffers.

In the case of Jabal Umm Sinman, the boundary of the core area follows the junction between the sandy desert and the edge of the rocky mountain outcrop. It is designed to conserve the visual integrity of the property as a cultural landscape that encompasses 14 clusters of petroglyphs on all sides of the mountain. The paved road to the east provides a clear separation between the petroglyphs and their context on the lower mountain slopes to the west, and the town of Jubbah to the east. The buffer extends northwards to enclose several smaller rocky outcrops with fewer petroglyphs.

The core area of the Shuwaymis property includes both rocky outcrops, Jabal Raat to the west and Jabal al-Manjor to the east, as well as the sandy valley between them. Here the visual integrity of the landscape that includes a total of 18 clusters of petroglyphs emphasises the deliberate selection of rocks for petroglyphs on the lower slopes close to the desert sands, mostly facing the intervening land where a lake once existed. Neighbouring rocky outcrops to the north are incorporated into the buffer as they have not yet been thoroughly investigated. Apart from a Bedouin camp with fewer than 25 people, there is no town or large settlement nearby.

Covering more than 8 km at Jabal Umm Sinman (Figure 16) and about 6 km at Manjor and Raat, steel fences, bars and locked access gates protect the finest examples of rock art. The core areas include the iconic sandstone hills located in the middle of the great desert and also encompass the large number of petroglyphs and inscriptions placed in these desert ecosystems. The ancient cultural entities demonstrate the long established interaction between early populations and their environment. In addition the fenced areas are situated within larger buffers and at both sites no changes to the landscape are permitted, and no human access other than controlled visitation is allowed. Therefore the integrity of the sites is secured in perpetuity and no vandalism or illegal entry is possible.

All elements necessary to express the OUVs of the two properties, namely numerous well-preserved petroglyphs, identifiably different rock art traditions over the period from hunting and gathering to animal domestication and writing, independent evidence for climatic change at nearby palaeolake deposits, and evidence for human interaction in a vulnerable environment, are amply represented at the Hail properties, and both core zones are of adequate size to ensure the complete representation of the features that convey the OUVs.

d) Statement of Authenticity

The petroglyphs at Jabal Umm Sinman, as well as Jabal al-Manjor and Jabal Raat, have retained their original location, setting, materials, form and design, but they no longer function within a cultural tradition. The petroglyphs as well as Thamudic and Arabic inscriptions that have been added within the last three thousand years hint at intangible heritage that could contribute to the spirit and feeling of the cultures of the people who made the petroglyphs.

As no vandalism or illegal entry has been possible in the last few decades, and there is no evidence of reconstruction or recent modification of any of the rock art, deterioration processes are limited to the effects of natural erosion. The causes of deterioration have been mostly meteoric water, wind and geological weathering, which are inevitable and have so far had limited effect on the petroglyphs, considering their age. The clearly different phases of weathering in fact underline the authenticity of the rock art corpus as they would be impossible to replicate.

The following significant attributes of authenticity of the nominated rock art properties can be further elaborated.

Authentic form and design can be seen in the depiction in the rock art of ancient modes of apparel, tools, weapons and ornaments that do not occur outside of Saudi Arabia.

Authentic materials and substance are evident in the heavily patinated condition of thousands of petroglyphs and their state of weathering, the occurrence of some of the petroglyphs on the undersides of massive blocks that have tumbled from the cliffs, and in the presence of hammerstones used in the creation of the petroglyphs.

Changes in the use and function of particular images are evident in the inscriptions as well as in the depiction of animal species that have long disappeared from the region. There is a distinctive separation of the zoomorphs of different periods into the wet and cool phase (bovine figures) and the hot and dry-phase (camel figures).

The integrity of the authentic location and setting of the petroglyphs is evident in the frequent occurrence of archaeological remains nearby and the truncation of motifs by fractures and the occurrence of the separated fragments many metres apart.

Finally, the age of successive traditions of petroglyphs has been established through several direct dating methods, including colorimetric sequencing of patinae. All these factors are in agreement with the finding that the rock art dates from between 9000 years ago to the recent past, and the approximate age of each individual motif can be roughly estimated on the basis of the chronological framework currently available.

The scientific dating by Bednarik and Khan (2002, 2005) and various analyses of Jubbah Lake palaeo-soils (Gerrard et al. 1981; Petraglia et al. 2011, 2012; Jennings et al. 2013)

pertain. The former provides age estimates for selected key motifs and the latter offer palaeoenvironmental information broadly relatable to the rock art's iconographic content.

e) Protection and management requirements

Both Jabal Umm Sinman at Jubbah and Manjor and Raat at Shuwaymis are well managed within the legal protection system provided by the Department of Antiquities and Museums. The overriding concern of protection and management of the Hail rock art properties is not just to ensure, but to virtually guarantee the preservation of the Outstanding Universal Values of these properties over time. The specific long-term expectations are that in addition to the already secured physical and legal protection of the petroglyphs, there will be a program in place for monitoring their precise condition, especially in terms of effects of increased visitation and natural deterioration.

It is proposed to extend the management and protection of the sites by preparing for risks caused by increased visitation; continuing constructive collaboration with the key stakeholders, the local municipalities; improving visitor facilities and infrastructure; and the improvement of staff expertise.

Of particular importance is the establishment of a comprehensive monitoring system of key indicators measuring the state of conservation of the sites. It is acknowledged that the challenges, especially of a major increase in visitor numbers, may not be readily predictable for the long term, and may demand significant adjustments to the Management Plan. While there are no foreseeable threats to the authenticity or integrity of the attributes engendering Outstanding Universal Value, adjustments to management practices may become necessary in the future.

The Management Plan submitted with this nomination sets out the general parameters of managing the properties, but it will remain flexible to accommodate any new requirements deriving from the findings of the monitoring program. Various aspects are set out in subsequent sections below, including the pressures arising from development and environmental factors (see 4.b.i and 4.b.ii), the projected level of visitation (4.b.iv), the available legislative protection (5.b) and the means of implementing protective measures. It is relevant to emphasize that the two properties and most of the surrounding desert zones are government-owned and administered land, and that both sites have enjoyed very effective physical protection for several years already. They have been enclosed in substantial and extensive steel fences totalling 14 km length, and a system of site supervision by guards has been installed at both Jubbah and Shuwaymis (Figure 17). Therefore basic protection measures have been in place for some years and have been shown to be most effective.

The managing authority, the Saudi Commission for Tourism and Antiquities, possesses the required human and financial resources to continue managing these monuments most effectively. It has at its disposal adequate legislative means, the political will and support to discharge its duties to the best standards, and a long-term commitment to the protection and preservation of properties that are entirely under its executive control. In this sense it is in a far better position than State Parties in countries where various agencies share the management of immovable cultural heritage. The administrative structures in the Kingdom of Saudi Arabia are highly centralized and effective, and the commitment of the SCTA, representing the State Party, to the long-term protection, preservation and effective management of the nominated properties is beyond question.

4. STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

4.a Present state of conservation

The sites of Jabal Umm Sinman, Jabal al-Manjor and Jabal Raat have been preserved in excellent condition under the custody of the Department of Antiquities and Museums, now under the care of the Saudi Commission of Tourism and Antiquities (SCTA). They are fenced by steel structures, debris has been removed and guards have been posted to look after both site complexes. Minor vandalism has occurred on just a few of the Umm Sinman panels before the area was secured. The effects of natural deterioration are relatively limited, owing to the low precipitation and the high ambient atmospheric pH that characterize most arid regions in the world. Aeolian erosion, by the effects of air-borne quartz sand, does occur, but it is limited to low elevations that are usually free of rock art, and microscopy has shown it to be of comparatively low effect. The principal weathering process is through the removal of interstitial colloid silica, leading to granular exfoliation. However, on most surfaces this process proceeds very slowly, and in particular it seems to be effectively inhibited where adequate patination, probably stabilized by silica, has been established. On such surfaces it is clear that no significant deterioration

has taken place in more than 6000 years, and it would be reasonable to expect that, in the absence of any significant changes in climatic and atmospheric conditions, these petroglyphs can survive several more millennia — provided that anthropogenic (humanly caused) impairment can be avoided. This would include direct threats, essentially from visitation, and indirect, specifically through acidification of the atmosphere. Of particular importance seems the absence of capillary moisture, probably attributable to the extremely low aquifer level.

These factors already establish the basic parameters of effective management practices for the site complexes. Jabal Umm Sinman at Jubbah and Jabals al-Manjor and Raat at Shuwaymis are all located in the deep desert and are naturally protected by the desert environment and the relative inaccessibility to humans. That is indeed the main reason for the pristine preservation of the Shuwaymis properties: so far they were visited so rarely by sightseers that no damage was incurred. Similarly, the resident Bedouin have treated the sites with respect, and it is the policy of SCTA to involve them in research and to impress upon them that the graves in the area are those of their own ancestors, and that the rock art is the work of their distant forebears. This policy has been found to be most effective. These properties are the largest protected and best-preserved rock art sites not only in the Arabian Peninsula, but in the entire Middle East. Indeed, in proportion to the age of some of their rock art, they are arguably among the best preserved rock art outside of deep limestone caves. The boundaries and perpetual integrity of the sites are very well secured and no vandalism or illegal entry has been possible for some years.

4.b Factors affecting the property

The sites and the area around them and nearly all surrounding lands are the property of the State and there is now no danger of any kind of human activities or other impact on the sites, with the exception of natural disasters outside of human control. Nevertheless, the rock art panels do need physical preservation. This applies especially if there arises a need to cater for visitors at carefully selected sites, which might involve the installation of walkways, viewing platforms, interpretation material and visitor books. Effects of natural factors such as wind and rainwater erosion, diurnal temperature differences and unloading stresses have created some deterioration of the rock surfaces but in an overall perspective the sites are in excellent condition.

One extended Bedouin family, consisting of a patriarch and less than 25 family members, has traditionally lived in the buffer zone of the Shuwaymis property. Their semi-permanent camp, mostly of tents, is located about 1 km from Jabal Raat, within the nominated buffer zone. The family is most cooperative and regards the rock art as its own ancient patrimony. Their presence on the land within visual range of the rock art sites is considered to be of benefit to the protection of the property. It would be impossible to approach the sites without their noticing. The family derives its livelihood from camel herding, most of their animals graze in the upper reaches of Wadi al-Mukhayet.

The oasis town of Jubbah has approximately 12,000 inhabitants. It consists entirely of single storey buildings, which include about 100 to 150 traditional mud-brick buildings. There are no people living within the buffer zone or the nominated rock art core zone of the Jubbah property.

4.b.i Development pressures

The sites of Jabal Umm Sinman, Jabal al-Manjor and Jabal Raat are located far away from any industrial, agricultural or mining areas and hence experience no danger of any kind of vandalism, destruction or damage by this or any other development. The buffer zone at Jubbah is well protected and the nominated rock art reserve is fenced in. The land is generally the property of the State.

Consequently the only pressure from development that can be envisaged for the future is that arising from tourism. At present tourism at Jubbah is fairly minimal and almost non-existent at Shuwaymis. If visitation increases significantly it will be necessary to install paths for visitors, as well as other access and interpretation facilities. This may also necessitate the erection of temporary shade structures and possibly water points along paths. It will then be incumbent upon the managing authority to employ best-practice procedures for such work, modelled on rock art properties elsewhere in the world and employing minimal visual and environmental impact methods.

4.b.ii Environmental pressures

Paradoxically, climate change and the further desertification it is likely to engender would be of benefit to the rock art, because it is precisely the highly arid environment that has facilitated its survival so far. Therefore no danger is anticipated for the Outstanding Universal Values from environmental pressures. Industrial pollution would present such danger, but there is no indication of the establishment of polluting industries in the entire region.

4.b.iii Natural disasters and risk preparedness

Although depressions and clay-pans between the sand dunes may hold shallow water for a few days after heavy rains, actual flooding as such does not occur in the region. Moreover, all rock art occurs at elevated locations. Wildfires are an impossibility in these deserts because the vegetation is far too sparse. Earthquakes and volcanic eruptions are a realistic possibility, especially at Shuwaymis, but there has been no volcanic activity for many millennia, so the risk is extremely low. If such events were to occur they might lead to the dislodgement of several more large blocks. In the absence of severe seismic activity during historical times no contingency plan has been designed in that respect. The sites

are located in the central part of the Arabian plate where none of the epicentres of the 358,214 seismic events recorded from 1963 to 1998 occurred.

4.b.iv Responsible visitation at World Heritage sites

There are currently no plans for permitting or encouraging large-scale international visitation of these monuments. It is anticipated that there will be mostly domestic tourism, although it must be acknowledged that some level of international visitation will be unavoidable if the properties are listed as World Heritage sites. However, in view of the remoteness of the sites only the most determined visitors are expected to reach them. It is planned that the new museum and rock art centre in Hail will become the main focus of public attention, soaking up a significant part of the anticipated tourism by providing high-quality facsimiles of rock art. Moreover, vehicular traffic up to the sites will not be permitted, access will be by walking, horse carts or on camels, which will suppress dust development at the sites and ensure that only the most intrepid visitors will be privileged to see the actual rock art sites.

At both Jubbah and Shuwaymis the sites are sufficiently spread over an open area to realistically receive hundreds of visitors each day. At present the number of visitors is small due to the remote locations and lack of proper transportation facilities. It is reported to number about 4000 per year at Jubbah, and so far only a few hundred per year at Shuwaymis. At the latter site all along the access dirt roads to most of the rock art localities, protective signs are being posted and the buffer zone is indicated by large white concrete blocks spaced 40–50 m apart. Official tourist guides are available on request. Due to the sandy and rocky terrain of the area there is no danger of any deleterious effect by uncontrolled visitors. Some seasonal bushes grow in the rainy season, which provides only low rainfall annually, and these die with the arrival of summer. Therefore there is little impact of visitors on fauna or flora.

A 40-km-long road is currently under construction at the cost of 37 million riyals, joining the village of Shuwaymis to the interpretation centre at the entrance to the buffer zone, which will facilitate the transport of tourists to visit the sites of Jabal al-Manjor and Jabal Raat.

4.b.v Number of inhabitants within the property and the buffer zone

There is no habitation in the site areas or the buffer zone at Jubbah. The nearest village of Jubbah at Jabal Umm Sinman is away from the site, separated by a road as buffer zone and an iron fence around the site. Jabal al-Manjor and Jabal Raat are located within a substantial buffer zone of desert, 40 km from any town or village. In the vicinity of the sites there is no settlement other than the semi-permanent Bedouin camp of about 25 people, located within sight of both Manjor and Raat but outside the nominated core area.

Estimated population located within:
Area of nominated property _____0_____
Buffer zone _____25_____
Total _____25_____

5. PROTECTION AND MANAGEMENT OF THE PROPERTY

5.a Ownership

Jabal Umm Sinman, Jabal al-Manjor and Jabal Raat are located in the north of the Kingdom and come under in the Governorate of the Hail region. These are government properties and are protected zones under national law that satisfy all key requirements for effective long-term management and protection of the sites of Outstanding Universal Values. The protected sites are managed by a competent, well equipped staff that has ample monitoring and enforcement capabilities, and is adequately backed by legal mandates and regulations. There are antiquities laws and regulations imposed by a Royal Decree in the Kingdom that prohibit any digging, excavations or damage to the heritage sites in the Kingdom. There is a museum and antiquities office in Hail where the museum staff and its director are responsible for the protection and management of rock art sites and all antiquities of the Hail region.

5.b Protective designation

A Royal Decree No. M/26 dated 23/6/1392 H (1972 AD) was issued over 40 years ago, and through the Resolution by the Council of Ministers No. (78) dated 16/3/1429 H (2008 AD). The properties are managed by the Saudi Commission for Tourism and Antiquities (SCTA).

Royal Decree No. M/26 contains the following relevant Articles:

Article (8): Movable and immovable antiquities and archaeological sites existing in the Kingdom shall be considered government property.

Article (12): When planning development, expansion and improving villages and cities, preserving archaeological sites shall be considered. Planning projects in archaeological sites shall not be approved unless having the approval of the Antiquity Directorate which shall determine the archaeological areas and inform the

city planning body thereof.

Article (14): The Antiquity Directorate in association with relevant departments of land surveys shall determine archaeological hills, buildings and sites close to populated areas in order to secure them from being inhabited.

Article (22): The Antiquity Directorate alone shall be responsible for maintaining and restoring registered immovable antiquities in order to preserve them.

Article (23): Registered archaeological land shall not be used for storage. No cemeteries, buildings or irrigation system shall be placed, or planting or any of trees removed that cause change to the land's feature without a license from the Antiquity Directorate. Remains of the historical buildings and ancient ruins shall not be used nor any sand or rock shall be removed from archaeological sites without the written approval of the Antiquity Directorate.

Article (55): The Antiquity Directorate is the only body which shall have the right to excavate and investigate for antiquities in the Kingdom. Commissions, scientific associations and archaeological delegations shall have the right to undertake excavations with a license according to these regulations.

Article (57): Excavation license shall not be issued for associations and scientific commissions unless proven to be qualified both financially and academically.

Article (59): Commissions, associations and delegations licensed to carry out excavations shall comply with the following:

c) Not to remove any part of the archaeological building unless approved by the Antiquity Directorate.

f) Provide detailed scientific report valid for publication regarding the results of the excavation in a one-year-period following the end of each season.

g) Submit the discovered movable antiquities at the end of each season to the Antiquity Directorate and undertake the expenses of wrapping and transporting to the specified location, provided that antiquities are not removed from the excavation location without an approval from the Antiquity Directorate.

Article (65): All discovered antiquities found by the commissions, associations and delegations shall be of the government properties and shall not be transferred to others.

5.c Means of implementing protective measures

The nominated rock art properties are under the jurisdiction of the provincial SCTA office in Hail, which operates under the supervision of the SCTA head office in Riyadh. On the ground protection of the Jubbah site complex is in the hands of the staff already operating there, which completely controls access to the sites. Similarly site guards will be installed at Shuwaymis once the road and the interpretation centre have been completed. Visitors will only be permitted to enter the nominated zones under the supervision of the designated site guards, and will be required to strictly comply with their directions.

Records will be kept of daily visitor numbers and of the composition of groups. The operation of site visitation practices will be subjected to regular review by the directorate of the SCTA office in Hail, in consultation with the Riyadh office.

The actual process of legal protection involves a report by a site guard or indeed any citizen about any infringement of the laws detailed in 5.b above, most especially any interference with or defacement of a rock art panel, made to the local police. This has resulted in the apprehension of the responsible parties and subsequent processing by the courts. Local Bedouin tribesmen have also become involved in protecting the rock art and have reported misdemeanours to their sheikh or directly to the police, and people defacing rock art have been prosecuted under the existing legislation. This process has already resulted in significant adjustments to public attitudes.

5.d Existing plans related to municipality and region in which the proposed property is located

The municipalities of Jubbah and Shuwaymis have no jurisdiction over the management of the rock art properties. However, they have both been extensively involved in discussions and consultations with the SCTA, and both are highly supportive of the serial nomination. Jubbah municipality will not permit the construction of buildings that are more than one storey high, and a hotel to be established south of Jabal Umm Sinman will consist of Bedouin-type tents. Recently the municipality became concerned over the run-off water from the mountain during heavy rains and proposed to construct a retaining wall of several kilometres length. The SCTA suggested a less obtrusive reinforced dam structure and the city council readily acquiesced. The dam designed to drain storm waters is currently (late 2013) being built. Thus the municipal authority has been most accommodative to suggestions by the SCTA, and this will also apply to future changes to the town, building permits and road access.

Similarly the Shuwaymis municipality authority is most cooperative and supportive, having already gained the advantage of securing an excellent road as a result of the attention given to the rock art properties. Both municipalities would rightly entertain plans of gaining economically from the nomination of the sites, through securing employment of their citizens in the management of the sites and through tourism. However, it needs to be emphasized that SCTA plans to limit tourism, especially international tourism: from its perspective the two properties are not nominated to secure any significant economic benefit from tourism. Rather, the primary objective of the State in this serial nomination is the prestige to be gained, and the improved public appreciation of the Kingdom's ancient cultural heritage. Thus the principal purpose of this

nomination is not to secure large-scale tourism, but to instil in the nation a greater understanding of the importance of its immovable cultural heritage through the international recognition engendered in World Heritage listing.

A Provincial Tourism Plan for the Kingdom of Saudi Arabia was completed in 2002, and a plan specifically for Hail was prepared in 2004. The latter refers essentially to the natural environment and landscapes and to flora and fauna. It also mentions historical and archaeological sites, including rock art, but states that there is not a single *outstanding* attraction to serve as a focus of tourism development. It is proposed that the new Hail Museum and its unique rock art centre, together with the protected rock art properties can serve as such a focus.

The Hail tourism plan recommends the establishment of tourism facilities at Jubbah and Shuwaymis and the development of community-based tourism, eco-tourism and Bedouin camp visits. Apart from the Management Plan for the two rock art properties (see Annex 1) there are no existing conservation, regional or local plans with a bearing on the protection and preservation of the Jubbah and Shuwaymis, which are entirely the responsibility of the SCTA.

5.e Property management plan or other management system

The management plan submitted with this nomination considers the long-term development, preservation and protection of the sites, governance arrangements with the local mayors and administration of Jubbah and Shuwaymis villages, the impact on the ecosystem and aesthetics generated by the use of camels and horses to transport visitors to major attractions. The site of Jubbah is already easily accessible to the public, transport and guides are available on the site. Local community played an important role not only in preserving and protecting the sites but also takes an interest in the development of the area and welcoming visitors.

The management objectives according to the Management Plan submitted together with this serial nomination are to:

1. Protect the rock art sites and their Outstanding Universal Values in line with international best practice and guidance, and as an exemplar of good practice.
2. Engender wider appreciation and understanding of the sites in their communities and beyond.
3. Enhance the experience of visitors engaging with the sites.
4. Realize the potential of the sites to serve the tourism, economic and social development of Hail Province and the communities associated with the sites.

5.f Sources and levels of finance

As the rock art properties and surrounding buffer zones being submitted for World Heritage listing are all State properties, all the development funds are provided by the Government. For the year 2013, a budget of 700 million Saudi Riyals has been allocated to the SCTA for development projects and establishments of museums in the Kingdom.

- The site of Jabal Umm Sinman was fenced (8 km long) by steel posts and wires, at a cost of 2 million riyals in 1408 H.
- A tourist information centre was built at a cost of 2 million riyals at Jabal Umm Sinman.
- Information signs and plates are to be placed at Jubbah at a cost of 700,000 riyals.
- A new museum is under construction in the nearby city of Hail, on an area of 10,000 sq. metres, at a cost of 37 million riyals.
- For intensive survey and investigations and documentation of sites, 700,000 riyals were spent during the last three years.
- A 40-km-long road is under construction from the village of Shuwaymis to Jabal al-Manjor and Raat at a cost of 37 million riyals.
- A 6-km-long fence was erected around Jabal al-Manjor and Jabal Raat at a cost of 3 million riyals.
- An information centre at Shuwaymis is under construction.
- There are further plans to fence the entire area of Jabal al-Manjor and Jabal Raat for which a proposal of several million riyals is under approval by the finance department.

These details show that the levels of financial support for the project are more than adequate and would be considered most generous in most countries.

5.f.i Political support

King Abdullah bin Abdulaziz al-Saud and Prince Saud bin Abdulmoshin bin Abdulaziz al-Saud, the Governor of Hail region, are keenly interested in preserving and highlighting the cultural heritage of the country and the government provides a substantial financial budget for the development and safeguarding of the Jubbah and Shuwaymis rock art sites as the common heritage of humanity. The local people understand the importance and value of the sites while the Mayors of Jubbah and Shuwaymis provide all the facilities to protect, preserve and develop the site as a tourist attraction.

The SCTA, headed by Prince Sultan bin Salman, is the motivating centre for tourism and antiquities that works in close partnership with various stakeholders to achieve the vision and mission of tourism in the Kingdom through the creation of sustainable tourism development.

The Saudi Council of Ministers issued Resolution No. (9) on 12/1/1421H (16/04/2000) to establish the Supreme Commission for Tourism (SCT). The resolution came to emphasize tourism activity as one of the productive sectors in catering to Saudi tourists within the country while at

the same time increasing opportunities for investment, development of human resources and expansion and creation of new job opportunities for Saudi citizens.

Subsequently, in view of the importance of the antiquities and museums, another resolution by the Council of Ministers No. (78) dated 16/3/1429H (24/3/2008) was issued to integrate the Antiquities and Museums sector into the Supreme Commission for Tourism. With this, the SCT became a body responsible for the implementation of their related tasks in addition to being responsible for tourism.

According to the resolution, the name 'Supreme Commission for Tourism' (SCT) was changed to 'Saudi Commission for Tourism and Antiquities' (SCTA), with the confirmation that domestic and international tourism is a reality that requires the formation of a national authority responsible for its planning and development owing to the distinct components of tourism in the Kingdom.

The private sector has been invited to open hotels and restaurants both at Jubbah and Shuwaymis. Tent hotels are to be established at Jubbah and Shuwaymis in the near future.

5.g Sources of expertise and training in conservation and management techniques

The staff of the SCTA is very well trained and educated in restoration and conservation of antiquities. In some cases, wherever this is required, private companies are contracted to do some technical assignments and the appropriate funds are provided by the State. Saudi archaeologists are educated and trained both inside the country and in European and American universities. There are some joint archaeological projects with foreign institutions who also trained Saudi archaeologists on the sites in various aspects of archaeology and rock art. The current Palaeodeserts Project with British archaeologists and palaeoenvironmentalists is an example of such collaboration, in this case between Oxford University and King Fahd University in Riyadh.

There are archaeological departments in many universities from where undergraduates and graduates are now working as researchers and archaeologists in the Saudi Commission of Tourism and Antiquities. In these universities they receive training in all aspects of restoration, conservation and rock art studies.

5.h Visitor facilities and infrastructure

This section describes the inclusive facilities available in the vicinity of the nominated sites for visitors and demonstrates that they are appropriate and compatible with the protection and management of the properties' Outstanding Universal Values. This includes the need for effective presentation of these values, as well as the needs of visitors and their safety. The following facilities and infrastructure are either currently available or will be provided in the near future.

5.h.i Hail, Jubbah and Shuwaymis

The village of Jubbah, facing Jabal Umm Sinman, is located about 90 km from the main city of Hail and is connected by two-way excellent paved road. There is an airport at Hail where taxis, private cars and public buses are available for Jubbah.

Hail is a green oasis with many farms and gardens and is a well-developed city with all modern facilities. There are 4 and 3 star hotels in addition to many furnished apartments available for long or short-term stays for individuals or families. Hail has many small hotels and restaurants, and also features outlets of international fast food chains and other food shops. Most importantly Hail will soon have a new museum which is expected to operate also as a rock art centre, in conjunction with Hail University.

In the village of Jubbah there are shops and a mini-supermarket as well as small food and fruit shops. A hotel of Bedouin-style tents will be established in Jubbah as well as in Shuwaymis. The nearest town from Shuwaymis is Al-Hayet, some 30 km east by excellent sealed road. Hayet has small hotels and furnished apartments, restaurants and a supermarket besides numerous smaller shops, and it is expected that larger hotels will be established there in due

Figure 18. Visitors information centre at Jubbah.

course. The sites of Jabal al-Manjor and Jabal Raat are located about 40 km west of the village Shuwaymis, which comprises currently no shops or service station. The last 40 km to the sites, on a road that is currently under construction, is devoid of any human occupation.

5.h.ii Site facilities

There are guards for the safety and security of the visitors at the sites. Guides are also available on request. Publications, brochures and leaflets are currently available in Arabic and English. At present there are few visitors, about 4000 at Jubbah annually, while only a few hundred visit Shuwaymis sites due to their remote locations and lack of transportation and lodging facilities.

Information centres are being established in Jubbah (Figure 18) and at the end of the road to the Shuwaymis sites, immediately before reaching the boundary of the buffer zone. These centres will provide information about the sites and comprise ticketing facilities, first aid equipment, lavatories and guards' facilities, as well as search and rescue equipment. Guards or guides will take the visitors to the gates of the nominated core zones, unlock the gates, and guide the visitors to the rock art panels, providing explanations and ensuring appropriate conduct of all visitors.

Further site facilities yet to be decided and established will need to include formed paths through the maze of boulders, and possibly elevated ramps and viewing platforms at selected locations. It may also be decided to establish temporary shade structures and water points in appropriate locations. Concerning on-site interpretation, at Jubbah large rock slabs have been erected at the sites, consisting of local sandstone that blends in with the nearby rocks. These will be furnished with basic explanations for the visitors. A similar system is yet to be introduced at the Shuwaymis sites.

5.i Policies and programs related to the presentation and promotion of the property

The World Heritage Convention requires that State parties adopt a general policy which aims to give the cultural heritage a function in the life of the community. The most important effect of World Heritage listing is that it provides to the public a measure of relative importance of the cultural content of the property in question. It is therefore imperative that programs of presenting and promoting the nominated estate be developed and implemented. Obviously this can only occur after the property has been inscribed on the World Heritage List, but it would be prudent to prepare for this event by planning a major promotion of the Jubbah and Shuwaymis sites, through the media, the schools and public channels. In the Kingdom of Saudi Arabia, such an exercise would be most effective if, in response to successful listing, senior members of the Royal Family were to visit the sites and commented appropriately on the importance of the nation's appreciation of its earliest origins, and to honour the genius of the rock artists and their masterworks, created long before the advent of metallurgy.

Such a climate of public appreciation of the value of ancient rock art would lead to a number of desirable effects, among them an understanding of the need to preserve this heritage, to protect and conserve it, to develop scientific methods of study and preservation, and to support the relevant legal, scientific, administrative and financial measures all this involves. Ultimately such policies will foster the establishment of relevant research centres, raising the status of the immovable cultural heritage throughout the Kingdom. The achievement of World Heritage listing can in this way have far-reaching positive consequences.

To this end it is planned to develop an effective awareness-raising program for the public, with special emphasis on young people, if a positive response were to be signalled by UNESCO. The implementation of this program would coincide with the public announcements concerning listing.

5.j Staffing levels and expertise (professional, technical, maintenance)

The skills required for the good management of the rock art properties relate to its presentation to visitors, to the management of these visitors, and to issues concerning the rock art's conservation. It is the latter aspect that involves the greatest need for technical expertise, which is currently of limited scope in Saudi Arabia. Over the past decades rock art conservation has developed into a sophisticated discipline that is engaged in arresting or alleviating a range of natural deterioration factors, such as hydrology, physical weathering, biological weathering factors as well as anthropogenic effects (Bednarik 2007: 85–114).

The scientific and technical skills involved in rock art conservation will need to be imported and taught, and Saudi specialists will need to be trained in this field. This is realistically possible and the SCTA is committed to establishing a domestic technical knowledge and skill base of modern rock art conservation and management practices, to ultimately manage not only the properties nominated here, but the vast rock art heritage of the Kingdom generally. This will involve the selection of suitable candidates to undergo specialized training, either in Saudi Arabia or abroad, preferably the former.

6. MONITORING

For monitoring of the cultural resource, the Outstanding Universal Values of the Hail region rock art sites, to be effective it is essential that a baseline be established for the time of the properties' listing. This is proposed to be instituted on the basis of the following criteria.

6.a Key indicators for measuring state of conservation

Since it would be impracticable to expect that each of the many thousands of petroglyphs at the rock art site complexes could be individually monitored, it will be essential to establish a representative number of monitoring stations across the sites. These need to be carefully selected, ensuring that all major rock art phases, rock types and represented morphological circumstances and weathering states are somehow accounted for. The criteria to be taken into account include particularly the Outstanding Universal Values of the sites, and the entire enterprise of monitoring is intimately connected with, and preludial to, conservation intervention when this might become necessary. It is proposed to select permanent monitoring stations on the following basis:

1. Individual petroglyphs of the Neolithic, Chalcolithic/Bronze Age, Iron Age/Thamudic inscription, and historical images or Islamic inscription (i.e. of significantly different ages).
2. Where differences in sandstone facies are detectable, these need to be accounted for.
3. Monitoring stations need to include fully exposed and protected locations (under roofs).
4. Fully patinated, partially patinated and unpatinated sampling sites will need to be included.
5. In addition to monitoring stations of petroglyphs, some will be located away from decorated areas, and they will include areas of obviously active granular exfoliation.

A simple example of organizing the monitoring program at each of the two properties is given in the following table:

Each monitoring station will measure from one to a few square millimetres in size and will be identified in such a way that it can easily be re-found. Monitoring will be by binocular light microscopy and records in the form of microphotographs will be taken by digital field microscope. Special attention will be given to deterioration or changes in mineral accretions, degree of inter-granular porosity and the removal of colloid silica. Another variable to be observed closely will be differences between sites immediately next to visitor tracks and sites not accessed by visitors.

Monitoring studies need to be conducted at regular intervals to be meaningful. In view of the rock art's relatively stable condition, as evidenced by the great antiquity of some of it, it is proposed that monitoring be undertaken once every five years.

6.b Administrative arrangements for monitoring property

Monitoring of the condition of the property is fundamental to designing informed conservation procedures, but to be meaningful the records need to be kept safely over long periods of time. The Saudi Commission for Tourism and Antiquities will be responsible for monitoring, for storing the data and for designing and implementing conservation measures. The responsible person, in the first instance, will be the Director of the SCTA office in Hail, Saad al-Rawsam, Tel. 06/5331684, Mobile 0505165317.

6.c Results of previous reporting exercises

There has been no previous monitoring or reporting of the detailed conditions of both rock art properties. Listing of the Jubbah and Shuwaymis properties would provide great momentum to the introduction of such practices in Saudi Arabia because it would reinforce the need for developing such forms of formal scrutiny, and for producing condition reports generally in cultural heritage management.

Survey date ……..	Attribution of petroglyph				
	Neolithic	Chalcolithic/Bronze Age	Iron Age	Historic	Control
Protected weathered					
Open weathered					
Protected unweathered					
Open unweathered					

Note: patination state to be noted for each sample, from 0 = unpatinated to 10 = fully patinated.

Table 3. Example of organizing monitoring program.

7. DOCUMENTATION

7.a Photographs and audiovisual image inventory and authorization form

See Annex 2 for details.

Id. No.	Format (slide/ print/ video)	Captions	Date of Photo (mo/yr)	Photographer	Copyright owner (if different than photographer/ director of video)	Contact details of copyright owner (Name, address, tel/fax, and e-mail)	Non exclusive cession of rights
1-45	Prints	As per Annex 2	2013	Dr Majeed Khan	SCTA	Diplomatic Quarter Tel: 011/8808622 - 011/8808855 Fax: 011/8808625 P.O. Box 66680 Riyadh - Zip Code 11586 E-mail: info@scta.gov.sa	Yes for all images

Table 4. Photographs inventory and authorization form.

7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Other than the Management Plan for Jubbah and Shuwaymis (Annex 1) there are no texts being submitted.

7.c Form and date of most recent records or inventory of property

Jabal Umm Sinman at Jubbah and Jabal al-Manjor at Shuwaymis are being intensively investigated and most of the petroglyph and inscription localities are registered and properly documented. A computer record of these sites is available on the websites of the National Museum and Saudi Commission. Also, the hard copies of all records of registered sites and petroglyphs are safely stored in the Survey and Excavation Centre, with original digital photographs, maps and charts etc. available for researchers and students.

7.d Address where inventory, records and archives are held

Saudi Commission for Tourism and Antiquities in Riyadh

Diplomatic Quarter
Tel: 011/8808622 - 011/8808855
Fax: 011/8808625
P.O. Box 66680
Riyadh - Zip Code 11586
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7.e Bibliography

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8. CONTACT INFORMATION OF RESPONSIBLE AUTHORITIES

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8.b Official Local Institution/Agency

Mr Saad al-Rawsam, Director of Antiquities and Regional Museum in Hail, is responsible for the management of Jabal Umm Sinman at Jubbah and Jabal al-Manjor and Jabal Raat at Shuwaymis.
Tel: 06/5331684
Mobile: 0505165317

Mr Mubarak Salama, Director of Tourism Sector, is responsible for the development of tourism in the Hail region.
Tel: 06/5338855-111

The Saudi Commission for Tourism and Antiquities, Government of Saudi Arabia, controls rock art and archaeology in all regions, including Hail.

8.c Other Local Institutions

The two rock art sites are the property of the government of Saudi Arabia. There are no private stakeholders. The Saudi Commission for Tourism and Antiquities controls all the archaeological sites, museums and rock art sites all over the country. However, local tribal Sheikhs and Mayors cooperate in the development, monitoring and preservation of the sites.

1. Ahmed al-Shidi is the Mayor of Jubbah - Tel. 06/5412279
2. Khalid Abdullah al-Tamimi, Mayor of Shuwaymis - Tel. 056979665

8.d Official Web address

There is currently no webpage specifically dedicated to the nominated properties. However, it is planned to develop such a page on the site of the National Museum of Saudi Arabia, the location of which is:
http://sauditourism.sa/ar/Pages/default.aspx
Contact name: Jamal Omar
E-mail: *OmarJ@scta.gov.sa*

8.e Nomination file prepared by:

1. Professor Dr Ali I. Alghabban, Vice President, SCTA
2. Dr Majeed Khan, Rock Art Specialist and SCTA Consultant
3. Mr Robert G. Bednarik, Convenor, International Federation of Rock Art Organizations, Australia
4. Dr Janette Deacon, South Africa
5. Dr Aylin Orbasli (Management Plan), 4/3 Northwood Hall, Hornsey Lane, Highgate, London N6 5PJ, United Kingdom T +44 (0)20 83414454, M +44 (0)7733 264436, E *aorbasli@aol.com*, W *www.aylinorbasli.com*
6. Mr Jamal Omar, Director General, Research and Studies Centre, SCTA.

9. SIGNATURE ON BEHALF OF THE STATE PARTY

.....

Professor Dr Ali I. Alghabban, Vice President, Saudi Commission for Tourism and Antiquities

ANNEX 1: Management plan for Jabal Umm Sinman, Jubbah, and for Jabal al-Manjor and Raat, Shuwaymis.
ANNEX 2: Photographs of rock art and archaeological sites.
ANNEX 3: List of rock art sites with reference maps.

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Saudi Commission for Tourism & Antiquities
scta.gov.sa

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ROCK ART IN THE HAIL REGION OF SAUDI ARABIA

MANAGEMENT PLAN

Table of Contents

List of Figures

Unless otherwise stated all photographs are by Aylin Orbasli.

Executive Summary

This management plan for The Rock Art in the Hail Region of Saudi Arabia has been prepared as part of the nomination of the rock art sites for inscription on the World Heritage List. The two rock art sites of Jabal Umm Sinman in the town of Jubbah and Jabal al-Manjor and Jabal Raat near Shuwaymis are located in the Hail Province of the Kingdom of Saudi Arabia.

The Jubbah oasis in the southern part of Great Nafud Desert, was the centre of an advanced culture during the very beginnings of Arab civilization. Overlooking the freshwater lake that then existed was the hill range of Umm Sinman, providing shelter and water to both people and animals. Here on these hills, the ancestors of present Arabs left the marks of their presence, their religions, social, cultural, intellectual and philosophical perspectives of their beliefs about life and death, metaphysical and cosmological ideologies.

The former freshwater lake of Jubbah was one of several such water bodies owing their existence to a series of sandstone inselbergs. The largest of these mountains is Jabal Umm Sinman, rising to a height of almost 450 m above the surrounding desert. The present town of Jubbah has been established on the sediments of the paleolake on its lee side. During the region's desertification, beginning in mid-Holocene times, the oasis of Jubbah provided the only substantial source of water within the desert, facilitating its continuing human occupation up to the present and the gradual adaptation of the population to the significant environmental changes. These changes are distinctly expressed in the numerous petroglyph panels and rock inscriptions, the greatest concentrations of which occur in the lower rock exposures of the eastern flanks of Jabal Umm Sinman.

Jabals al-Manjor and Raat are rock escarpments of a now sand-covered wadi that is thought to have been a broad valley with flowing water during the early Holocene. Both Jabal al-Manjor and Raat contain a large number of human and animal figures, and other hills and outcrops within the buffer zone feature smaller concentrations. These sandstone exposures occur in a region that has seen numerous volcanic eruptions and lava flows in recent geological history.

The large number of petroglyphs and inscriptions at these site complexes has been attributed to almost 10,000 years of human history. Although the bulk of this vast corpus of petroglyphs is of a single cultural period of human history, preceding and subsequent rock art traditions have been identified and dated. As the aquifer subsided, probably around mid-Holocene times, the formerly permanent human population became increasingly transient, but the sites were still visited in recent millennia as indicated by the rock art. The intensive and comprehensive survey of the Jabal al-Manjor and Raat complexes since their recent re-discovery has resulted in the location of hundreds of rock art panels, several stone structures and typical stone objects of the Neolithic era.

The rock art on each of the three mountains or *jabals* has distinctive features, but together they incorporate all the main stylistic elements that make the combined rock art of the wider Hail Region of outstanding universal value. The properties are among the biggest and richest rock art complexes not only in Saudi Arabia, but in the Arabian Peninsula and the Middle East generally. They stand among the most fascinating and largest rock art sites of the world, and could be compared with the world-famous rock art sites of Australia, France, India, Namibia, South Africa and the Saharan Desert.

The aim of this management plan is to provide an operational framework for the protection of the rock art sites of Hail Province, most notably the sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Raat (Shuwaymis).

The objectives of the management strategy are to:

1. Protect the rock art sites and their outstanding universal value in accordance with international good practice and guidance, and as an exemplar of good practice.
2. Engender wider appreciation and understanding of the sites in their communities and beyond.
3. Enhance the experience of visitors engaging with the sites and the rock art of the Hail Region.
4. Realise the potential of the sites to serve the tourism, economic and social development of Hail Region and the communities associated with the sites.

Both the sites are well protected by their geographic location, prevalent climatic conditions, legally through Royal Decree No. M/26 dated 23/06/1392H, protective fencing and site guards appointed by the Saudi Commission for Tourism and Antiquities (SCTA).

The following management policies are proposed for implementation by the SCTA, their office in Hail and other regional partners towards fulfilling the management objectives identified:

Landscape, context and setting policies

L1: The site zones recommended as core zones for the World Heritage nomination will be fully protected.

L2: Areas of archaeological and potential archaeological significance should be established and included in the buffer zones.

L3: Key views of the rock art sites and significant views from the sites will be protected.

L4: The collective value of rock art sites and their landscape settings in Hail Province will be recognised as a cultural landscape.

Land use and planning policies

P1: Building and infrastructure developments taking place within the identified view shadows will not unduly impact on

the setting and landscape values of the sites.
P2: Where the buffer zone extends into an existing settlement as at Jubbah, all development within this zone and in close proximity to its boundary will conform to strict design guidelines.
P3: Where the buffer zone is open land, any proposed structures within this zone will conform to strict guidelines in terms of design, materials and impact.
P4: Any development work within a buffer zone will be preceded by archaeological investigations.
P5: All major structures, paved surfaces and services will be restricted to the periphery of the sites and conform to established design guidelines.
P6: Only structures of a temporary nature, which are fully reversible and are in the interest of protecting the sites' outstanding universal value will be permitted within the site boundaries.
P7: Vehicular traffic will not be permitted within the site boundaries.

Archaeology, research and conservation policies

A1: A province-wide 'rock art' database has been established to share all scientific information pertaining to rock art sites in the province.
A2: Archaeological excavations at the sites in partnership with Saudi Universities and international institutions will be continued.
A3: Secure and suitable storage facilities for archaeological material and finds that result from excavations will be provided.
A4: A state-of-the-art research centre for Rock Art Studies will be established in partnership with Hail University.
A5: The rock art will continue to be protected in accordance with Royal Decree No. M/26 through existing measures, considered visitor access, management and regular monitoring.
A6: Measures to improve protection and safeguarding of areas of known and potential archaeological significance will be implemented.
A7: A monitoring program as per the WHS nomination (6.a) will be established and implemented.

Visitor management policies

V1: Hail Museum will be developed with major exhibits to become the 'gateway' to the World Heritage Site and rock art in the province.
V2: A visitor complex in Jubbah town will act as the main hub for visitors.
V3: Visits to Jabal Umm Sinman will be by appointment (timed tickets) and by guided tours in small groups only.
V4: A locally managed small rest point/visitor reception close to Jabal al-Manjor and Jabal Raat, at the end of the metalled road and immediately outside the buffer zone, will provide services to researchers working at the site and visitors.
V5: Visits to Jabal al-Manjor and Jabal Raat will be by appointment/permit under the control of the SCTA and only and in small guided groups.
V6: The opening up of smaller and accessible rock art sites to visitors will be considered where sensitive and sustainable interventions are possible.

Presentation and interpretation policies

I1: A province-wide rock art interpretation plan will form the framework for on-site interpretation and a coordinated approach to the key messages, as WHS nomination (5.i).
I2: State-of-the-art and engaging displays that will appeal to a broad non-specialist audience will position Hail Museum as a 'gateway to the WHS'.
I3: The visitor complex located in Jubbah town will convey the links between the rock art and life in the oasis.
I4: Visitor reception points will provide information on each site and give an introduction to the visit.
I5: Local site guardians will be the main point of information and guides at the sites.
I6: Interpretation material and signage within the site boundaries will be kept to a minimum.

Education policies

E1: Through the proposed Centre for Rock Art Research and other initiatives the educational potential of the sites will be actively promoted.
E2: A strong educational component will be developed as part of the interpretation of the sites and rock art in Hail Province.
E3: A system of local rangers (guides/guards) developed in partnership with the local Bedouin communities living in close proximity to the sites, will form the core of site protection and visitor services offered at the site.

Tourism policies

T1: Hail Museum will be the centre for the launch of the Rock Drawings of Hail Province World Heritage Site.
T2: Longer term tourism strategies for the province will position the WHS as a significant asset for Hail Province.
T3: Tourism development projects in proximity to the rock art sites will be sensitive to the significance of the sites and their natural setting.

The responsibility for implementation of this management plan lies with the specially created SCTA directorate responsible for World Heritage Sites, in partnership with the SCTA Hail branch. Where appropriate, the implementation of the recommended management strategies will be undertaken in collaboration with local, national and international partners and institutions. The management plan is designed for the first five years of the site being recognised as a World Heritage Site. It is recommended that visitation and interest in these sites is closely monitored during this period and the management plan is regularly reviewed and adjusted accordingly.

Introduction

Introduction

This management plan for The Rock Art in the Hail Region of Saudi Arabia has been prepared as part of the serial nomination of the rock art sites for inscription on the World Heritage List. The two rock art sites of Jabal Umm Sinman in the town of Jubbah and Jabal al-Manjor and Jabal Raat near Shuwaymis are located in the Hail Province of the Kingdom of Saudi Arabia.

The site of Jubbah is situated 90 km to the northwest of the provincial capital Hail, Shuwaymis is some 250 km to the southwest close to the border with Medinah Province. Both sites are under the protection of the Saudi Commission for Tourism and Antiquities (SCTA) and the core archaeological areas are protected by extensive fences surrounding the sites. The sites and the designated buffers zones are in the ownership of the Saudi State. To date the sites have not been opened to regular visitation.

This management plan is conceived as a first step towards recognising the broader archaeological significance and impact of the sites, seeking operational means for their protection and conservation and communicating the value and significance of the sites to a broad audience, including managed opening of the sites to visitors.

The effective protection and management of rock art sites are complex in most parts of the world. They are often spread out over a wide geographical area, and may share more characteristics with an area of natural beauty than a typical cultural heritage site. The fragility and vulnerability of the rock art to a number of threats requires visitation to be carefully managed. Furthermore, like many prehistoric sites, interpretation plays an important role in explaining the significance of the sites, telling their story and 'bringing them to life'. The sites of Jabal Umm Sinman, Jabal al-Manjor, Jabal Raat and other rock art sites in Hail Province share many, but not all of these characteristics.

Aims of the Management Plan

The aim of this management plan is to provide an operational framework for the protection of the rock art sites of the Hail Region, most notably the sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Raat (Shuwaymis).

The objectives of the management strategy are to:

1. Protect the rock art sites and their outstanding universal value in accordance with international good practice and guidance, and as an exemplar of good practice.
2. Engender wider appreciation and understanding of the sites in their communities and beyond.
3. Enhance the experience of visitors engaging with the sites and the rock art of the Hail Region.
4. Realise the potential of the sites to serve the tourism, economic and social development of Hail Region and the communities associated with the sites.

Remit (site boundaries)

The primary remit of this management plan is the two nominated sites of Jubbah and Shuwaymis and their buffer zone as determined in the nomination document that this plan accompanies (Figures 1.1 and 1.2).

It is, however, well recognised that there is a much broader wealth of rock art sites across the Hail Region, and the management proposals in part cover these others sites, as indeed the protection and management of the sites nominated as World Heritage Sites cannot be viewed in isolation from other similar sites in the region.

Methodology

This management plan has been prepared in accordance with the Operational Guidelines (2013 edition) of the World Heritage Convention, following values-based methodologies developed by the Getty Conservation Institute.

The historic and archaeological information and context are provided by the research undertaken for the justification of the sites' nomination for World Heritage Site listing and therefore reflect the nomination document.

The team

The management plan has been prepared by Dr Aylin Orbasli as a collaborative process with the Saudi Commission for Tourism and Antiquities and a small team of expert consultants including Dr Majeed Khan and Robert Bednarik; and in consultation with national, regional and local stakeholders.

1 Description and History of the Sites

1.1 Geographic location, description and site boundaries

1.1.1 Jubbah, Jabal Umm Sinman

Jabal Umm Sinman, Jubbah, 90 km northwest of Hail, is bounded in the west, north and south by desert sands and in the east by a security fence that borders the town of Jubbah. The buffer zone is bounded on the east by the westernmost north-south road of Jubbah, from its northern end to east of Jabal 'Unayzah, then skirting this hill to its west and trending southwesterly to include Jabals al-Murkabah, al-Gharra and Ash Shuwayhit, then south to the westernmost limit of Umm Sinman, skirting the mountain to its southernmost extent, from there returning to the westernmost road of Jubbah (Figure 1.1).

Jubbah lies on an ancient caravan route to Jordan and Syria and is one of the largest and richest rock art sites not only in Saudi Arabia but in the Arabian Peninsula and in the Middle East as a whole. It is still the sole oasis of any size in the Nafud and supports a permanent settlement and seasonal influx of Bedouins.

Jabal Umm Sinman, a mountain that is the product of millions of years of geological processes, faces the ancient

dry lakebed at Jubbah with large numbers of well-made petroglyphs of human and animal figures, and ancient Thamudic, Arabic and early Kufic inscriptions suggesting continued use of the site for well over 6000 years. In even earlier times, Middle Palaeolithic people camped there between 50,000 and 90,000 years ago, emphasizing the significance of lakes as a resource of major importance in this desert environment at the crossroads between continents.

1.1.2 Shuwaymis, Jabal Jabal al-Manjor and Jabal Raat

Jabal al-Manjor and Jabal Raat are located on the Wadi al-Mukhayet, about 40 km west of Shuwaymis, situated about 250 km south of Hail. Both sites are bounded by security fences along the foot of the escarpments enclosing the rock art sites, and by the margins of the plateau above, but including ruins of ancient stone structures. The nominated core zone includes both sites with a parallelogram-shaped area. The surrounding buffer zone boundary proceeds from the end of the access road and the proposed interpretation centre west across the width of Wadi al-Mukhayet, and from there follows the outline of the wadi, including side valleys, tracing the outline of the plateaus, measuring about 8 km north-south and over 3 km east-west (Figure 1.2).

1.1.3 Other rock art sites in Hail Province

Rock art occurs at numerous other sites in the northern region of Hail, but they are generally of significantly smaller assemblages. Of particular interest is Janin Cave, east of Hail, because it is one of very few deep caves in the predominantly sandstone region. The cave is about 100 m deep and well decorated, but mostly so in the part accessed by daylight. At the nearby main site of Janin, protected by long steel fences, the patination of a zoomorph resembling an antelope was sampled for accelerator mass spectrometry radiocarbon analysis. The results remain inconclusive (Bednarik and Khan 2005: 61–62).

The Milihiya site, in the same area, comprises only sporadic occurrences of petroglyphs on low cliffs and boulders, whereas nearby Yatib is a spectacular site on a high cliff and the boulder scree below it. This site is also well protected by a steel fence and a caretaker from a nearby community. Yatib presents rock art of exceptional quality, but is of significantly smaller size than Umm Sinman or the massive Shuwaymis sites.

Further south, just outside the township Al-Hayit is a small petroglyph site named Qilat al-Hissan, located on volcanic tuff containing basalt clasts. To the south of Shuwaymis village is Jabal al-Bargh. Although also a small site, its purported depiction of date palms is of interest because of the question of that tree's debut in central Arabia. One of these tree images has provided excellent conditions for microerosion analysis and has yielded a date of E2370 +

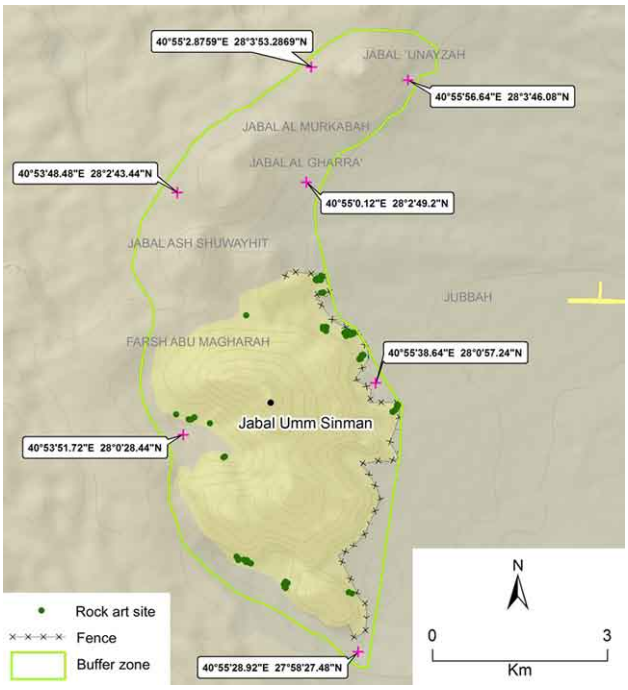

Figure 1.1. Jubbah Jabal Umm Sinman core area (yellow) and buffer zone (green line).

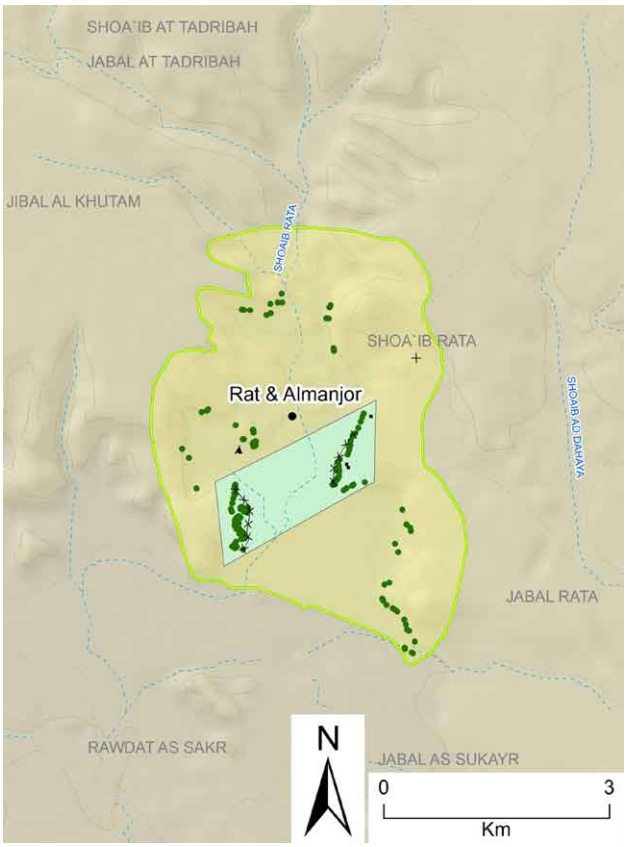

Figure 1.2. Shuwaymis Jabal al-Manjor and Jabal Raat core area (green) and buffer zone (yellow).

810 / - 600 years, which falls into the early part of the final desertification period.

1.2 Geology and climate

1.2.1 Jubbah

Jabal Umm Sinman is located inside the southern border of the Great Nafud desert which stretches over an area of 68,000 square kilometres of northern Saudi Arabia. The site is located 820m above see level. The site is made up of the mount, Jabal Umm Sinman, several smaller outcrops of rock and a dry lake bed, where the present town of Jubbah is located. Any evidence of ancient settlements is likely to be covered by sand dunes. To the eastern end of the basin, the similar but smaller Jabal Ghawata range has impeded sand deposition in an area of about 8 km east-west, and 3 km north-south. Both ranges are thought to have bases of Saq sandstone and summits of Tabuk sandstone (Bramkarp et al. 1963).

The Nafud desert is a sand formation reaching up to 100m in depth in an arrow-shaped formation pointing east in the direction of the Ad-Dhana sand belt which links it to the Rub Al Khali or Empty Quarter to the south. The northern and southern parts of the desert are characterised by the complex linear dune ridges which run eastward to the prevailing winds, whilst the western margin and central Nafud are composed of compound crescent-shaped dune ridges and pyramidal dunes are found in the south-eastern region (Holm 1960; Breed et al. 1979).

Overall, this is a highly varied and complex geological and desert landscape, shaped by weathering caused by high temperatures and erosion caused by winds. The boulders, onto which most of the rock drawings have been carved, are horizontally stratified with an argillaceous and more readily decomposing sandstone strata, which has caused the upper layers to fall down the rock face. The vertical joint meanwhile have created pyramidal hill tops and hump-like summits caused by rain and wind erosion. The sandstone appears in a range of colours from grey-pink to light brown.

1.2.2 Shuwaymis

Jabal al-Manjor and Jabal Raat are located either side of a valley (Wadi Al-Mukhayet) that was an ancient source of running water. The site features several Pleistocene lakebeds and is characterised by volcanic and igneous mountains and hills.

The geomorphology of Jabal al-Manjor and Jabal Raat also explains their present state. The boulders are of a relatively weathering-resistant facies formed as horizontal strata, supported by a distinctively argillaceous, more readily decomposing sandstone stratum. As the later deteriorated it could no longer support the rock mass above it, and large portions of the decorated upper layer broke off through gravity and rolled or slid a few metres, only to be engraved again in their new positions as they gradually made their way down the slopes. This process may have been exacerbated by volcanic activity.

1.2.3 Climate of Hail Province

The climate of Hail is continental, with temperatures reaching 35-40 degrees in the summer and falling to about 10 degrees in the winter. The rainfall, not exceeding 125 mm annually but fluctuating from one year to the next, takes place during the winter season. Figures for Jubbah indicate an average 100mm of rain fall, a mean January temperature of 10.1C and mean August temperature of 31.8C. Temperatures can drop below freezing in winter and reach highs of 45 in the summer.

1.3 Archaeology and History

1.3.1 Overview and developmental phases

Evidence has been found of four major phases of human settlement at Jubbah. However, the only evidence for permanent occupation is from the latest phase. In the Nafud Desert, 'Mousterian' lithic assemblages were first reported from a factory/quarry site near the summit of Jebel Umm Sinman and localities on the Jubbah palaeo-lake margins and floor (Clark 1970; Garrard et al. 1981). Two typical Middle Palaeolithic (probably in the order of 90 – 40 ka old) sites containing Levallois-Mousterian stone artefacts were located during the Comprehensive Archaeological Survey. One of these sites was found on the very summit of Jabal Umm Sinman (site No. 201-26a), where a large number of worked and discarded stone objects scattered over the site suggests that it might have been a quarry or factory site exploiting the summit outcrop of hard ferruginous sandstone. The second site was found on a sandstone platform at the base of the north-eastern corner of the mountain (site No. 201-25a), and contained both local ferruginous sandstone and local quartzite artefacts. Middle Palaeolithic or Mousterian implements were also found on the weathered surface of deposits (201-25b) just to the east of the previous site; a ^{14}C date of 25,630 ± 430 BP was obtained from a similar elevation, 100 m to the west. It is evident from the analysis of a well deposit that lacustrine conditions prevailed during the Middle Palaeolithic in the Jubbah area.

Petraglia et al. (2012) report the excavation of three roughly dated Middle Palaeolithic occupation sites near Jubbah: at the southern end of Umm Sinman (site JSM-1, with two weak Late Pleistocene OSL dates), at nearby Jabal Katefeh to the south (site JKF-1, at ~90–85 ka to ~50 ka), and at Jabal Qattar to the east of the palaeo-lake (site JQ-1, the occupation having been dated to ~75 ka BP; Petraglia et al. 2011). In 2013 the Palaeodeserts team also located several Middle Palaeolithic tool scatters near the southern peak of Umm Sinman (Petraglia and Alsharekh 2013). Moreover, its members have recently found the region's first Lower Palaeolithic evidence, in the form of an Acheulian handaxe at site AJHA R1 and several more bifaces at site QAN-1. Both sites are to the southwest of Jubbah but still within the Nafud (Petraglia and Alsharekh 2013).

Although evidence of human occupation in the Middle Palaeolithic period is thus commonly found at Jubbah, none of the rock art could possibly be attributed to this period. Either the petroglyphs of this period could not survive

taphonomic processes or rock art was not produced by the Jubbah people at that time (Khan 2008, 2011).

Despite seemingly favourable environmental conditions during the Upper Palaeolithic period no evidence was found so far of settlement in Jubbah during this time. However, Neolithic sites are abundantly located in the area. Twelve sites of possible Neolithic date have been found, eight of them near the base of the windward side of sand dunes along the northern and southern borders of the basin (e.g. site Nos. 201-25e-j and 201-27a-b). These were associated with evidence of a palaeo-soil and possible marshy conditions. The contents of these sites were described by Parr et al. (1978; cf. Ingraham et al. 1981) and included finely retouched, tanged arrowheads, bifacial points, blades, side and bi-face scrapers and disc cores awls, tabular scrapers, large choppers and a little pottery. The tools were prepared on a variety of stone including chert, rhyolite, ferruginous sandstone and quartz.

Some of these sites are located near rock shelters and close to some rock art panels on the nearby rocks. However, in no case could any rock art be linked to them. The stone artefacts are said to be typical of pre-pottery Neolithic in Arabia (Parr 1977; Ingraham et al. 1981). Similar artefacts of pre-pottery Neolithic type have been reported from southern Jordan bordering Saudi Arabia and in the Levant and Palestine. Parallels to these artefacts have also been found in central and other parts of Saudi Arabia (Parr and Dayton 1970; Zarins et al. 1982; Khan 2000b, 2007, 2008).

No archaeological excavations have been carried out at rock art sites so far, at both the Jubbah and the Shuwaymis sites. Since the sites are generally not relatable to stratified sediment deposits there are no real prospects of archaeological minimum dating of rock art at these sites. Indeed, the amount of archaeological research so far conducted at Shuwaymis is minimal (Petraglia and Alsharekh 2013). Nevertheless, it is clear that this site complex offers a great number of opportunities for archaeological studies, especially of its range of stone structures. Four Middle Palaeolithic occupation sites have been reported about 40 km to the east of Wadi al-Mukhayet, in the vicinity of Shuwaymis village (Petraglia and Alsharekh 2013).

1.3.2 Cairns and tombs

There is a general tendency in Saudi Arabia to find cairns and tombs on top of hills or on their slopes. The hill ranges of Jubbah, Jabal Unayza, Jabal Shouwaith and Jabal Umm Sinman contain stone structures which are usually cairns and circular tombs. Many of these burials are not very well preserved but the stone structures are still in adequate shape to convey their identity.

The tombs are usually located on the top of the hills or on their lower levels. On Jabal Unayza and Jabal Showiath at Jubbah the tombs are located on three levels; that is at the top of the hills, on the first and then on the second level. These tumuli are mostly circular in shape with rectangular or circular pits. In some cases tail-like structures are associated with these features. It may be assumed that the tombs located on top of the hill were for the heads of the tribes, those on the second level might have been for the religious leaders and on the third level other important people. It is certain, due to the limited number of tombs located on these hills, that common people were not buried on hills, otherwise a much greater number of tombs should have been found on these hills (Khan 2005).

At Shuwaymis the cairns are located in Wadi al-Mukhayet and in the elevated areas besides the wadi at Jabal al-Manjor. These are circular or roughly square-shaped structures. Although it is as yet not possible to positively link them with any of the Shuwaymis rock art the alignment of several extensive stone structures along the margin of the plateau overlooking the dense concentration of petroglyph clusters at Jabal al-Manjor is suggestive of a connection between these structures and one of the rock art phases evident on the cliffs below them. Most particularly, the large central ruin, above petroglyph cluster 4, does not appear to be a burial monument, but has the appearance of a ritual centre of some kind. It is based on a square stone platform erected hard against the edge of the plateau. On this base a circular wall with a diameter of about 25 m surrounds a paved courtyard that has an opening facing away from the escarpment's edge. In its centre appears to have been a small structure and there are further stone features that seem indicative of specific purposes. The structure's minimum age is indicated by the presence of one elongate stone slab outside the circular wall, which seems to have fallen from the structure and on whose upper side are the petroglyphs of three 'camels' of limited patination. Safely attributable to the last two millennia, this suggests a greater age of the structure, but as these stone structures are not known from the Neolithic (when stelae would be more typical) they are perhaps most likely of the Bronze Age. Although this is speculation it is confirmed by the observation of numerous relatively late petroglyphs at other stone structures at Wadi al-Mukhayet, for instance near the interpretation centre to be constructed.

Three different types of tombs can be identified. Circular tombs for individual persons made with local stone slabs were arranged in a regular circular order, with central rectangular pits for the deceased's body. The second type is a circular structure in the middle associated with smaller circles, thus having additional compartments for the burial perhaps of the deceased's family members. In one such case (Jabal Showaith at Jubbah) a tail consisting of eleven small circles is included; in another case on Jabal Unayza a tail consisting of five circular structures is located. We may presume that each circular pile of stone represents a relative of the deceased. This assumption is based on the location of different numbers of circular structures with

different graves.

The third type of stone structure consists of circular arrangements with small circular pits in the middle. It is not possible to bury humans in such small pits, thus these could be the graves of sacrificed animal remains as have been found in Bir Himma (Najran, southern Saudi Arabia), Darb al Feel and Dammam, where camel and ibex bones are located in circular pits of large circular burials.

Almost all the tombs at Jubbah and Shuwaymis were previously opened and nothing is preserved in them. Absence of any objects in these tombs has prevented their dating so far. However, in one case some fragments of human skulls were located and have been collected for dating.

1.3.3 Rock art of Jubbah

The study of rock art and associated artefacts and cultural finds in the Jubbah and Hail area suggest intensive human activities during the Neolithic period (c. 9000–6000 years before present). Frequent cattle figures are suggestive of a relatively cool and wet climate and grassy, perhaps savannah-type vegetation. These are essential conditions required for the survival of cattle, which cannot live in dry desert conditions (Khan 1991, 1999, 2007). These environmental conditions are confirmed by the analysis of the Jubbah Lake lacustrine deposits. Carbon dating of these deposits suggests a humid and cool climate around 6500–6000 years before present (Garrard et al. 1981). These results accord with the analysis of the Mundafin Lake in al-Rub' al-Khali (McClure 1976), and Masry's investigations (1974) in the Eastern Province.

The shift from humid and cool to dry desert conditions commenced around 6000 years before present (Garrard et al. 1981; Khan 2007), and in due course human activities at Jubbah were progressively curtailed. Jubbah Lake commenced to dry out and huge masses of sand begun to accumulate, thus converting the green grassy region of the Nafud into a desert as the aquifer level fell. Pastoral and herder groups which had been attracted to Jubbah due to the availability of a permanent water body and natural rock shelters would have migrated elsewhere with their herds of domesticated cattle, sheep and goats.

The changes in the environment are reflected in the zoomorphic content of the rock art through time (Khan 1988a, 1996, 2000a). The fauna presumed to have been depicted at Jubbah includes images of cattle, long-horned oxen, deer, gazelle, oryx, ibex, lion, dog, horse, donkey, ostrich and camel. While these have been ascribed to periods from Neolithic times to the Chalcolithic and Metal Ages, it is to be noted that tracks of the ostrich (*Struthio camelus*) and oryx, now extinct in all Arabia, were still observed in the western Nafud as early as 1909, and the goitered gazelle *(Gazella subgutturose)* still occurred in the most recent history (Khan 1985, 1988a, 1990b, 1993a).

After the Neolithic, characterized by fully patinated petroglyphs, there seems to have been a change in stylistic conventions, possibly to Chalcolithic and Bronze Age traditions. The relatively large-sized human and animal figures in semi-naturalistic style give way to more schematized and small-sized animal figures of the Chalcolithic period (Khan 1993a, 2007, 2011). The formation of the Jubbah oasis probably facilitated continuous occupation of the site, and its importance is perhaps underlined by the recent observation that 82.2% of the prehistoric rock art sites overlook palaeo-lakes (Jennings et al. in press a). There appears to be even an increase in human occupation and cultural activities in the Jubbah and Hail areas during the Bronze and Iron Ages (between 3500–2500 years before present). The region's rock art is now dominated by hundreds and thousands of petroglyphs of camel, ibex, dogs and human figures (Khan 1991, 1993a, 2000a).

Figure 1.3. Rock art at Jubbah.

This re-appearance of larger populations in the region of Jubbah and Hail indicates a change in climate and increase in humidity, which coincides with the geological and environmental results suggesting an increased humidity in Bronze Age that

Human figures	Cattle	Camel	Horse	Others	Total
626	80	1378	45	4073	6202
Thamudic and other inscriptions 3500					

Table 1. Early estimate of rock art motif and inscription numbers at Jabal Umm Sinman, Jubbah.

has been detected also in the south of the Kingdom. At the rock art site Ain Jamal near Najran, OSL dating of sandstone grains concealed by reprecipitated carbonate has shown that the most recent ponds of water at the site began forming only 3580 ± 250 years BP (Liritzis et al. 2013). About 2000 camel figures are located from the site of Jubbah which may support the contention that Jubbah, also, witnessed an increase in humidity, and perhaps the dry lake of Jubbah was partially reactivated during the Bronze Age, thus attracting again both animals and humans. Similarly the sites of Janin, Milihiya and Yatib in the Hail area, with high concentrations of camel figures and Thamudic inscriptions, testify to the increased human activities during the same period (Bednarik and Khan 2002, 2005). The superimpositions and juxtapositions of figures clearly indicate different cultural activities and rock art of different periods, depicted one over the other on the same rocks.

The numbers of human and animal figures recorded by the Department of Museums and Antiquities from 490 localities at Jabal Umm Sinman, in addition to ancient Arabian and Kufic inscriptions, are shown in Table 1.

However, more recent estimates place the total number of petroglyphs and rock inscriptions at about 15,000. As we have no archaeological excavations at the Jubbah Neolithic and later occupation sites and our study is based on the surface collection of stone objects only, rock art is the only source that can tell us about the weapons, clothing, ornaments etc. used by the prehistoric people in the region. But to do this effectively and anchor the rock art to archaeological evidence, it is essential that some idea of its age be secured. The first direct dating of rock art in the Middle East occurred at Jabal Umm Sinman in 2001 (Bednarik and Khan 2005: 62), when an early Kufic inscription among the rock art was used to determine a microerosion calibration curve (Bednarik 1992). Since then a program of dating Saudi petroglyphs by several direct and preferably non-intrusive methods (radiocarbon analysis, microerosion, optically stimulated luminescence and colorimetry) has been conducted in many parts of the Kingdom, in the north (at Umm Sinman, Jabal Ash Shuwayhit, Janin, Jabal al-Bargh, Jabal Raat), central region (Al-'Usayla, Umm Asba'a) and in the south (Ain Jamal and Ta'ar in the Jabal Qara site complex). This has provided a number of reliable chronological anchor points for rock art that is unequalled in most of the rest of the world (Table 2).

Preliminary direct dating results from rock art and inscrip-

Site	Dating	Range (BP)	Approx. age (BP)
Um Asba'a	Calibration	Known age 1120 BP	
Al Usayla	'Ibex'	3180 – 2120	E2680 + 500 / - 560
Umm Sinman	Calibration	Known age 1150 to 1200 BP	
	Anthropomorph 1 Anthropomorph 2	5650 – 4240 7070 – 5650	E4890 + 760 / - 650 E5877 + 1190 / -220
Jabal Ash Shuwayhit	Inscription 1 Inscription 2	3530 – 2130 3530 – 2120	E2830 ± 700 E2540 + 990 / - 420
Janin	'Gazelle'	Greater than 1820 ± 50 BP	
Jabal al-Bargh	'Date palm'	3180 – 1770	E2370 + 810 / - 600
Jabal Raat	Anthropomorph 1 'Ibex' Anthropomorph 2 Cupule	5660 – 4960 6000 – 5300 4940 – 4240 9330 – 6220	E5310 ± 350 E5550 + 450 / - 250 E4590 ± 350 E7968 + 1360 / - 1750
Ain Jamal	Calibration	Known age 1300 to 1350 BP	
Ta'ar	Anthropomorph	2360 – 1570	E2109 + 250 / - 540

Table 2. Preliminary direct dating results from rock art and inscriptions by microerosion analysis and radiocarbon analysis, from nine sites in central, northern and far-southern Saudi Arabia.

tions by microerosion analysis and radiocarbon analysis, from nine sites in central, northern and far-southern Saudi Arabia.

Therefore two anthropomorphs at Jabal Umm Sinman are safely dated, as are four of the thousands of petroglyphs at Jabal Raat. Anthropomorph 2 at Umm Sinman is considered to be one of the earliest of the 'Jubbah style' human figures. These are of highly characteristic features, one metre tall or higher, typically slim, wearing skirt-like apparel, in distinctive attitudes with a slight angle between upper and lower body, always painstakingly executed but with ambiguous faces, and frequently found in regimented, closely formed groups of identical size. These figures are so idiosyncratic and utterly unique that they are easily recognizable as the region's signature motif of the Neolithic. Always fully patinated, they are strictly limited to the Hail region and have never been found elsewhere. With an age of between 5600 and 7000 years, they date clearly from the last major humid phase when the Jubbah lake was filled. Similarly, the large bovid figures with their often exaggerated horns are also fully patinated and of the same period, and they, like the Jubbah-style humans, occur also at Shuwaymis. Anthropomorph 1 from Umm Sinman, by contrast, offers no distinctive stylistic features and is not fully patinated, and presumably dates from the time of first desertification, as the economy enters the Chalcolithic tradition.

1.3.4 Rock art of Shuwaymis

The Jabals al-Manjor and Raat area is now hardly suitable for human habitation, but even at mid-Holocene times the area was still densely settled, as shown by the abundance of archaeological evidence (Khan 2007).This includes numerous burial sites, other stone structures, stone implements scattered widely over sites, and the extensive rock art. This complex is the most spectacular of the sites of northern Saudi Arabia. Its sites consist of slopes of jumbled, sub-angular boulders, mostly 5–10 metres in size, on which many thousands of motifs occur. Some compositions bring to mind monumental masonry work, in that the very detailed and meticulously pounded figures of one or two meters are rendered 15–20 mm deep, as relief-like figures. The profusely decorated panels on many of these huge boulders are no longer right way up, and as they changed their orientation every time the boulders moved down the slope, differently oriented figures were added. Some of them occur entirely upside-down, and many are truncated by subsequent fractures. The site therefore offers good potential for in-depth seriation studies to create relatively complete sequences of rock art traditions.

The Jabal al-Manjor/Raat complex near the village of Shuwaymis was rediscovered only in the recent past. The remote and relatively inaccessible area far to the west of the village of Shuwaymis features several Pleistocene lakebeds and a series of widely spaced eroding cliffs. Like Jubbah, the site has been in use over a prolonged period of time, certainly for most of the Holocene at least. On one steeply sloping panel, about fifteen large cupules of 5–10 cm diameter occur. They appear to be the oldest surviving component of the site, and were already in 2001 considered to be either of the final Pleistocene or the earliest Holocene (Bednarik and Khan 2002). The surface of the panel has largely fallen victim to exfoliation since the cupules were made, and the original surface has best survived within the cupules. The same panel bears a series of archaic geometric motifs, such as circles, chronologically followed by hoof-prints, human footprints occurring in pairs and superimposed large motifs. Much of this panel is no longer accessible to work on because of a massive boulder gravity has placed above it. The flat underside of this boulder bears large petroglyphs that are also early, but a set of motifs on its present front face postdates the placement of the boulder. One of its several anthropomorphs, of a post-Jubbah style, has been dated to around 4500 years BP. Most recently the great antiquity of the cupule panel was confirmed, when one of its motifs was dated to about 8000 years ago, or possibly somewhat older.

Figure 1.4. Rock art at Shuwaymis, reversed by rock fall.

Because of the extraordinary density of petroglyphs at these major sites, petroglyph-making stone tools (hammer stones) can be found readily, at the Shuwaymis sites as well as at Jubbah. They were made mainly from a dark siliceous contact-metamorphic quartzite occurring locally. These tools were in every formal respect similar to such stone implements found by studies in many other

countries around the world (Bednarik 1998). Just as Jubbah comprises a large component of Bronze Age, Iron Age and historical rock art, these forms also occur at al-Manjor and Raat, though here they are somewhat less commonly represented. Recent graffiti or Islamic inscription, still common at Jubbah, appear to be absent at the Shuwaymis sites.

The Jabal al-Manjor corpus has been divided into twelve clusters comprising a total of 190 panels of petroglyphs (Jennings et al. in press). A complete inventory has not been attempted so far. At Jabal Raat two major clusters of rock art can be discerned.

There is evidence of the continuity of the art at Jubbah and Shuwaymis for several millennia and we have a clear record of cultural activities at Jubbah and Shuwaymis for up to 10,000 years that ceased at about 1300 years ago with the advent of Islam and change in belief, faith and life style. Before this period of surviving rock art production, both regions were occupied for about 100,000 years, and apparently beyond that.

1.3.5 Inscriptions

The practice of producing rock art in Arabia ceased long ago and there are no oral or written record, legends or stories about it; the culture has been fossilized in the form of the petroglyphs. With the exception of ancient writings (in Thamudic script) and early Kufic inscriptions nothing can be read or interpreted with certainty.

The presence of Islamic and pre-Islamic inscriptions demonstrates the reliability of patina colour as a relative guide to age. The Jubbah area was occupied by people continuously from the Neolithic until the present day. There are thousands of ancient Arabic inscriptions such as Thamudic and early Islamic writing, suggesting the use of camping and living sites for long times (Al-Theeb 1999; Khan 2007). The Thamudic inscriptions reveal the names of persons and tribes, the tribal symbols representing the tribes that camped or lived near or around Jabal Umm Sinman, and in rare cases (e.g. at Yatib) comment directly on rock art imagery. Such cases provide valuable glimpses of the original meaning of rock art motifs. The Arabic writing contains generally verses from the Holy Quran.

In two cases at Jabal Ash Shuwayhit, to the immediate north of Umm Sinman, Thamudic letters were dated by microerosion analysis. In one inscription, the letter 'sh' was determined to have been made E2830 ± 700 years ago, which identifies this as a relatively early example of the use of Thamudic script. The nearby letter 'p' in another inscription has been estimated to be roughly 2500 years old.

1.3.6 History of exploration of the sites

The rock art sites at Jubbah are mentioned briefly in the records and writings of several European travellers, historians and journalists who visited the region, notably Lady Anne Blunt and her husband in 1879, Doughty in 1888, Huber in 1899, the German historian Julius Euting in 1894 and 1914, Musil in 1914, Gertrude Bell who took and published photographs in 1914 and the explorer and writer H. S. Philby in 1952.

Scientific and Archaeological investigations at the site, however, started in 1976 when the Department of Antiquities and Museums initiated a comprehensive archaeological survey of the entire Kingdom. This first survey was reported by Parr and McAdams in *Atlal*, Volume 1 (1976). C. Clarke presented an account of the site at the Arabian Seminar in London in 1979.

A more comprehensive study and recording of the rock art at Jubbah was undertaken by the Rock Art Survey Team on behalf of the Department of Antiquities and Museums in 1986 and published in *Atlal*, Volume 11 (1987). A brief reference of Jubbah with its dating and interpretations was given by Majeed Khan in his PhD thesis of 1989, published by the Ministry of Education (Khan 1993a). Besides these brief reports, a new book by Khan (2011) highlights the importance of this site and provides ample information to visitors. The Ministry established extensive fencing of the eastern side of Jabal Umm Sinman, facing the town of Jubbah, to prevent uncontrolled access to the rock art. Site guards and facilities were installed. In recent years a visitor centre has been built at Jubbah and a new museum in Hail is under construction, all as part of the development of the cultural heritage of the region.

The Shuwaymis sites, although always known to the local Bedouin, were officially rediscovered only in 2001, by the principal of the school at Shuwaymis, Mamdouh al-Rasheedi. He reported the vast corpus of rock art to the Department of Antiquities and Museums, and Majeed Khan went to investigate the report. In November 2001 he and R. G. Bednarik undertook the first scientific investigation of Shuwaymis rock art (Bednarik and Khan 2002, 2005). In the subsequent years a sealed road was constructed up to Shuwaymis village, and this is now being extended to the visitor centre at the boundary of the buffer zone of the rock art sites.

Research on rock art sites across the Saudi Arabia the site has been ongoing for over 30 years and has been published by Dr Majeed Khan.

1.4 Landscape

1.4.1 The landscape setting of the sites

Jubbah

The landscape of Jubbah is characterised by craggy hills with a range of capped pyramidal peaks and sand dunes of the Great Nafud desert lapping up to them. The second prominent landscape feature is of indentation of the paleolithic lake bed, in which the modern town of Jubbah is situated (Figure 1.5).

Figure 1.5. Landscape setting and character of Jabal Umm Sinman.

Figure 1.6. Landscape setting and character of Jabal Al Manjoor and Jabal Al Raat.

The urban morphology of the Jubbah Oasis is characterised by long strip plots and an irregular pattern of roads and alleys.

Shuwaymis

Jabal al-Manjor and Jabal Raat form either side of a valley with low craggy lying rock faces, and vegetation that indicates the location of river bed running through it. The environs of Jabal al-Manjor and Jabal Raat are another notable example of a highly varied desert landscape and changing climatic influences that have fluctuated considerably over the long period that it has taken the landscape to evolve. Geology has been the ever-present artist, a sculptor playing with abundant possibilities of form, colour and texture, especially around the recent lava flow from a nearby mountain that dates to about 10,000 years ago.

The absence of a settlement in close proximity to the site further exemplifies its desert setting with wide open 360 degree horizons.

1.4.2 Flora and fauna

The presence of water, underground and through rainfall allows flora and fauna to flourish. Many trees and other plants naturally grow in the province. Water levels continue to fall, however, as the regional water demand exceeds the renewable water resource and new-renewable resources. The fossil water of the aquifers is being drawn down to make up the deficit, increasingly from deeper wells.

Wild animals known in Hail Province include the ibex, rabbits, desert rats, foxes, wolves, several types of lizards, poisonous and non-poisonous snakes and several species of birds including eagles, falcons and pigeons. Several early twentieth century accounts report the presence of

oryx and gazelle. Wildlife populations have been reduced as a result of hunting and expanding urban development.

The Nafud desert is relatively rich in perennial forage and ghada bushes. The deep aquifers of Jubbah oasis support agricultural activities, including palms, fruit trees as well as grain crops such as wheat and barley.

2 The Sites Today

2.1 Ownership and management

2.1.1 Ownership and responsibility

The sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Raat (Shuwaymis) and the areas indicated as their buffer zones are the property of the Government of Saudi Arabia, and in accordance with Royal Decree No. M/26 dated 23/06/1392H (1972) and through the Resolution by the Council of Ministers No (78) dated 16/3/1429H (2008), are managed by the Saudi Commission for Tourism and Antiquities (SCTA).

Immediate responsibility for sites lies with the Provincial office for the SCTA in Hail, and the Director of Antiquities and the Regional Museum in Hail. At the SCTA the responsibility for World Heritage Sites falls into a specifically created Directorate General, overseen directly by Dr Ali Al-Ghabban, Vice President for Antiquities Sector.

The site of Jabal Umm Sinman (Jubbah) was fenced by a 7 km length of fence on its eastern side in 1408H (1987). More recently, fencing 6 km in length was erected at Jabal al-Manjor and Jabal Raat (Shuwaymis), with plans to extend it. The mouth of the valley has been demarcated with boundary markers that have been painted white.

2.1.2 Legal status

The sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Raat (Shuwaymis) are government property and as site of archaeological and historical significance protected by Royal Decree No. M/26 dated 23/06/1392H (1972), Law on Antiquities. A revised and updated version is currently in the process of being passed by the Council of Ministers. This updated version broadens the scope of the original legislation, but will not effect the way in which these sites are protected.

All antiquities sites in the Kingdom are managed and protected by the Saudi Commission of Tourism and Antiquities, following the integration of Antiquities and Museums into the Supreme Commission for Tourism through the Resolution by the Council of Ministers No (78) dated 16/3/1429H (2008). Royal Decree No. M/26 clearly stipulates that,

Article (8): Movable and immovable antiquities and archaeological sites existing in the Kingdom shall be considered government property.

Article (12) When planning development, expansion and improving villages and cities, preserving archaeological sites shall be considered. Planning projects in archaeological sites shall not be approved unless having the approval of the Antiquity Directorate which shall determine the archaeological areas and inform the city planning body thereof.

Article (14) The Antiquity Directorate in association with relevant departments of land surveys shall determine archaeological mounds, buildings and sites close to populated areas in order to secure it from being inhabited.

Article (22) The Antiquity Directorate alone shall be responsible for maintaining and restoring registered immovable antiquities in order to preserve them.

Article (23) Registered archaeological land shall not be used for storage. No cemeteries, buildings or irrigation system shall be placed, or planting or any of trees removed that cause change to the land's feature without a license from the Antiquity Directorate. Remains of the historical buildings and ancient ruins shall not be used nor any sand or rock shall be removed from archaeological sites without the written approval of the Antiquity Directorate.

Article (55) The Antiquity Directorate is the only body which shall have the right to excavate and investigate for antiquities in the Kingdom. Commissions, scientific associations and archaeological delegations shall have the right to undertake excavations with a license according to these regulations.

Article (57) Excavation license shall not be issued for associations and scientific commissions unless proven to be qualified both financially and academically.

Article (59) Commissions, associations and delegations licenced to carry out excavations shall comply with the following:

c) Not to remove any part of the archaeological building unless approved by the Antiquity Directorate.

f) Provide detailed scientific report valid for publication regarding the results of the excavation in a one year period following the end of each season.

g) Submit the discovered movable antiquities at the end of each season to the Antiquity Directorate and undertake the expenses of wrapping and transporting to the specified location, provided that antiquities are not removed from the excavation location without an approval from the Antiquity Directorate.

Article (65) All discovered antiquities found by the commissions, associations and delegations shall be of the government properties and shall not be transferred to others.

2.1.3 Habitation within the buffer zones

Neither the protected area or the buffer zone of the Jubbah site is inhabited and as State property, there is no possibility for it to be inhabited. The oasis town of Jubbah is located stretches out to the east of the boundary fencing. A small municipal park and a football pitch are located within the buffer zone on the edge of the core area (Figure 2.1).

In Shuwaymis, an extended Bedouin family of approximately 25 members, has traditionally lived in the buffer zone of the property. Their semi-permanent camp, mostly of tents, is located about 1 km from Jabal Raat. The family derives its

Figure 2.1. Municipal park at the site entrance in Jubbah.

Figure 2.2. Bedouin encampment in Wadi Al-Mukhayet, Shuwaymis.

livelihood from camel herding, most of their animals graze in the upper reaches of Wadi Al-Mukhayet. This family's presence is instrumental to the protection of the rock art, which they regard as their own ancient patrimony. It would be impossible to approach the sites without their noticing (Figure 2.2).

2.2 Excavations and Archaeological investigation

2.2.1 Jubbah

There is an ongoing Late Pleistocene and Holocene archaeological research survey Palaeodeserts Project at Jubbah since 2011. The survey, being undertaken by an interdisciplinary team from Oxford University and King Fahd University in Riyadh, is directed by Professor Michael Petraglia of Oxford University. This survey has been instrumental in recording the rock art sites using GIS technologies and research approach.

The team have started to publish their findings and annual fieldwork is planned to continue for the coming years. It is anticipated that this project will continue to supply valuable complementary information about the sites, their environmental history and their use by the human groups living there in Prehistory.

2.2.2 Shuwaymis

This follows extensive previous survey work of the rock art and archaeological resources by the Department of Antiquities and Museums since the 1970s, recently including comprehensive GIS recording of all sites. The work was extended to the scientific dating of the rock art, beginning in 2001 at Jubbah and Shuwaymis, which has since been extended to various other parts of the Kingdom.

This site complex has been subjected to studies since its re-discovery in 2001 by the Department of Museums and Antiquities, and more recently the SCTA, especially through the work of M. Khan and R.G. Bednarik. In 2013, the Palaeodeserts Project team working at Jubbah, also carried out a survey of the rock art sites at Shuwaymis. Otherwise, this more recently discovered site has not as yet been the subject of substantive organised research expeditions.

2.2.3 Other sites in Hail Region and gaps in knowledge

Apart from the 1976 and 1987 comprehensive surveys, there has been limited exploration and research of rock art sites across the Hail Region. Dr Majeed Khan's work on rock art in Saudi Arabia is a comprehensive record of investigations and surveys that have been undertaken since the first survey of 1976.

There are no current research excavations being undertaken at other rock art sites in the province, but a programme of 'direct dating' of the rock art was commenced immediately after the Shuwaymis rock art complex became known in 2001.

To date the rock art sites have not been systematically linked to archaeological deposits at an intra-site scale to complete palaeo-ethnographical, geo-archaeological and palaeo-environmental context for the sites. The Palaeodeserts Project has started to address this gap at the Jubbah, but there is still a significant gap in this knowledge.

2.2.4 Hail University Department of Archaeology

Hail University, based in Hail City is one of two Universities in the Kingdom to have a dedicated Archaeology department. Although the study of rock art is not being taught at the current time, the Department and University have expressed an interest in developing research and teaching in the field.

2.2.5 Information sources and archaeological record

All the data obtained from the comprehensive archaeological surveys and by the Rock Art exploration team in the Department of Antiquities and Museums are filed in the Antiquities Research Centre of the Saudi Commission for Tourism and Antiquities (SCTA) at its offices in Riyadh.

Various other publications and reports emerging from

the more recent Palaeodeserts Project are held in and can be consulted in the SCTA Research Centre.

An extensive reference bibliography of published sources on the sites is provided in Appendix 1 of this management plan and in the nomination document.

Figure 2.3. Jubbah, Jabal Umm Sinman, site boundary to northeast.

Figure 2.4. The present day settlement of the Jubbah oasis is located in the indent of the Paleolithic lake.

2.3 Conservation

2.3.1 Rock Art

The sites are in very good state of conservation. This is attributed to the ideal climatic conditions of the desert with significantly limited moisture and associated vegetation growth. The sites have been protected by fences and local guards for some time in an established pattern of stewardship that discourages vandalism or intentional damage. The remoteness of some sites has also acted as a deterrent.

In terms of their state of conservation, the Jubbah and Shuwaymis petroglyphs compare favourably with most rock art corpora around the world. The state of rock art preservation is clearly a function of antiquity, rock type and relative protection from the elements. The rock art nominated here is generally exposed to precipitation and occurs on a variety of sandstones, which are of variable resistance to weathering. The older traditions, essentially those exceeding c. 5000 years in age, are uniformly patinated by iron and manganese salts, and this accretionary mineral coating has certainly contributed to their conservation. The Neolithic images, which form the perhaps most impressive component of this body, are generally better preserved than petroglyphs of similar ages and on comparable rock types anywhere else. Low annual precipitation and high ambient atmospheric pH have very probably contributed to this state, which in the absence of nearby sources of industrial and carbon emissions will hopefully continue.

In Jubbah the proposed buffer zone includes some waterworks, parks and playing field, but is free of residential developments (Figure 2.3). An irrigation project immediately inside the buffer zone boundary is intended to protect the town from flash floods.

The skills required for the good management of the rock art properties relate to its presentation to visitors, to the management of these visitors, and to issues concerning the rock art's conservation. It is the latter aspect that involves the greatest need for technical expertise, which is currently of limited scope in Saudi Arabia. Over the past decades rock art conservation has developed into a sophisticated discipline that is engaged in arresting or alleviating a range of natural deterioration factors, such as hydrology, physical weathering, biological weathering factors as well as anthropogenic effects (Bednarik 2007: 85–114).

2.3.2 Areas of archaeological significance and potential archaeological significance

Although the rock art sites have been extensively surveyed and are therefore protected, much less is known about areas of archaeological deposits that could assist the understanding and analysis of the rock art. The boundaries of such sites have not been established and areas of potential archaeological deposits have often not been identified.

Much of these areas lie under desert sands, and as such are protected. Where there are settlements, however, there are threats to archaeological material from farming practices, infrastructure projects and potentially from uncontrolled development. This is particularly the case in parts of Jubbah.

2.4 Social and economic context

2.4.1 Jubbah town

The oasis town of Jubbah has c. 12,000 inhabitants. The present day settlement is characterised by modest single storey buildings, many of them attached to gardens. Jubbah is easily accessible from Hail city, the provincial capital. Jubbah town is a thriving town, with a laid out road network, mosques, a modest centre with small shops, and recreational facilities including a football pitch and several small parks. The cultural offer of the town includes a private museum, run by the Al Naif family and a recently

Figure 2.5. Decaying mud brick building in Jubbah in close proximity to the privately owned Al Naif Museum.

Figure 2.6. Visitor centre at Jubbah.

completed cultural centre including up-to-date meeting and conference facilities.

All the oasis structures would originally have been built in mud brick in a typical Najdi style, though much of these have now been replaced by rendered concrete blocks. Between 100-150 mud brick buildings reportedly survive in the town.

2.4.2 Shuwaymis

Shuwaymis is a largely rural and remote area with Bedouin herders. Al Hayet is the closest town. A local Bedouin family living in Wadi Al Mukhayat, at the heart of the site, are paid and trained by the SCTA Hail Branch to act as guards at the site.

Shuwaymis village is a modest settlement located 40 km from the sites with few facilities. The road connecting the site to the village is not metaled and devoid of any service facilities. A further 30 km from Shuwaymis is the town of Al Hayet, which is an established centre with commercial and retail facilities, and several small hotels/furnished apartments. At Al Hayet there is also the ruins of the ancient oasis of Fadak with its extensive stone city wall and now largely abandoned mud brick buildings. One of the mud brick houses has been restored and converted for use as a local museum.

2.5 Visitor facilities

2.5.1 Access to the sites

Jubbah is reached by asphalt road from Hail City where the regional airport is located. The trans-national highway connecting Riyadh with Jordan runs immediately to the north of the site.

Jabal al-Manjor and Jabal Raat are located in a remote area currently reached by un-metaled desert road for approximately 40 km from Shuwaymis village and the town of Al Hayet beyond that. A new asphalt road is currently being constructed. However, this is a largely remote area with little habitation and consequently few facilities, including service stations, outside of the centres such as Al Hayet. Nonetheless, the proximity of the sites to Medinah Province, and the site of Madain Saleh should not be discounted with a view to future tourism planning.

2.5.2 Buildings and services

Jubbah

There are two buildings at the designated entrance to Jabal Um Sinman (Jubbah), a guards hut and newly completed visitor centre (Figure 2.6). The visitor centre, currently unoccupied, has not been fitted out. There are currently no toilet facilities at the site.

Opposite the entrance and outside of the site boundaries is a municipal park with landscaping, shade structures, and a children's play area (Figure 2.1).

Shuwaymis

There are currently no visitor facilities at the site. Tentative plans have been drawn up for a visitor centre, similar to the one at Jabal Um Sinman.

2.5.3 Interpretation

In the absence of the sites being open to visitors at the present time, there is little in the way of information and interpretation at any of the rock art sites in the province. There is, nonetheless, a growing body of information on the site that is available to the public, including:

National Museum in Riyadh

The National Museum in Riyadh includes displays and interpretation material on rock art sites in Saudi Arabia.

Hail Museum

A small provincial museum is located in the centre of Hail. Typical of provincial museums in the Kingdom, the museum display follows a chronological order from the geology of the Kingdom and region in particular, through historic stages of development up to the present Kingdom of Saudi Arabia. A further room holds ethnographic material.

The display provides information on the two sites as well as exhibiting a small number of artefacts and samples of rock art. The Museum is to move into a new building which is under construction within the next year.

Figure 2.7. Display of rock art sites in Hail Museum (September 2013).

Figure 2.8. Interpretation panels at Jubbah.

Local museums

In Jubbah, the Al Naif Museum is a privately owned museum managed by a family trust. Although the museum does not focus on rock art, it contains considerable ethnographic material relating to rural life in an oasis, an ancient well and restored mud brick buildings that include the room where the travellers Lady Blunt and her husband stayed on their visit in the late nineteenth century.

The local museum in Al Hayet mainly focuses on the Fadak, including finds from the site dating to various periods and several inscriptions and stone carvings. As part of the network of national museums, this small museum may be of significance for its proximity Shuwaymis.

On site interpretation

At the present time there is very limited information available at the sites, due to the limited visitation to these sites. Several panels have been erected at the base do Jabal Umm Sinman in Jubbah with a stone plinth and panel, with interpretation to be added to them (Figure 2.8).

Books and publications

Small fold out map brochures on the sites and other cultural heritage sites in the province have been produced by the SCTA Office in Hail.

There is also a more comprehensive and high quality guide to Jubbah, in Arabic and English, written by Dr Majeed Khan and published by the Saudi Commission for Tourism and Antiquities.

The SCTA website has a selection of 200 images with captions that can be easily accessed with a link from the homepage 'Rock Art in the Hail Region'.

2.6 Tourism in Hail Province

2.6.1 The Provincial Tourism Plan

Following the National Sustainable Tourism Plan for the Kingdom of Saudi Arabia completed in 2002, a province level tourism plan was prepared for Hail in 2004.

The plan identifies tourism resources of the province as being:

- Resources related to the natural environment such as scenic landscape beauty of the mountains and deserts, flora and fauna with a variety of wildlife.
- Resources related to archaeological sites and historic places including prehistoric sites especially rock art, and, buildings in the traditional architectural style and materials.
- Resources related to other aspects of cultural heritage including Bedouin way of life, traditional markets, handicrafts and cuisine.
- Other types of resources including a strong sense of hospitality, agricultural techniques and products, museums, festivals and use of camels and horses.

However, the report also identifies Hail as not having 'any single outstanding attraction to serve as a focus of tourism development'.

The vision for tourism development is based on 'cultural and environmental heritage and sense of traditional hospitality, with a mission to preserve cultural integrity and ensure environmental protection.

The first five year plans recommended by the report, include a visitor centre at Jubbah and tourism development at Al Hayet, which is at a distance of 40 km proximity to Jabal al-Manjor and Jabal Raat, and the closest centre to the sites. The plan also recommends better application of land use controls and zoning regulations and the development of community based tourism including eco-tourism, Bedouin camp visits and traditional handicrafts development.

The Provincial Tourism Plan is being actively implemented by the SCTA Branch in Hail in collaboration with national and regional partners.

2.6.2 Visitor profiles and growth forecasts

The Provincial Tourism Plan for Hail identifies the highest visitor activity in the province as being visiting friends and relatives (VFR). The report also predicts this market to remain strong for the foreseeable future, 'given the demographic make-up of the Kingdom and the high number of Hailis living outside the province'.

Growth areas are seen as the youth market attracted to the adventure, sports and cultural activities that will be available in the province. The expatriate market, the Arab and GCC markets will come for adventure, relaxation and culture. The Umrah Plus market will come to relax after their pilgrimage. Hail will be a 'must see' stop for the international market on cultural tours. With the development of the proposed conference complex, Hail will become a conference destination.

Visitor numbers to rock art sites has been limited as a result of the requirement to obtain a permit from the SCTA. Current estimates indicate approximately 4000 vistors a year to the Jabal Umm Sinman in Jubbah. Its remote location has meant that visitor numbers at the Shuwaymis site have been much smaller. All visitors at both sites, and other rock art sites in the region, are accompanied on their visit by the trained guards or guardians at the sites.

2.6.3 Implications for rock art sites

Saudi families visiting friends and relatives in the province are not the immediate target for visits to rock art sites, whilst groups that are most likely to be attracted to such sites are much less well represented in Hail's tourism profile.

Most tourist facilities, including hotels and furnished apartments, continue to be located in Hail City, which is where 40% of the population is located. Hail City is also the only Tourism Development Area (TDA) recommended for the province.

Jubbah and Al Hayet have been identified as potential Tourism Sites. Handicrafts development is recommended for Jubbah. There is already an existing expectation of tourism growth in Jubbah, exemplified in a number of municipality-led projects, including a new conference centre, a new *souq*, shopping complex including crafts shops, and various municipal parks. Further proposals for a hotel (*istraha*) rest house complex have been submitted.

The accommodation offer in Al Hayet, the closest centre to Shuwaymis, remains limited.

Rock art sites in general are more likely to be part of a composite attraction combining natural and other complimentary cultural resources.

3 Key Stakeholders and Interest Groups

3.1 Stakeholders

Although the primary responsibility for the protection and conservation of the sites lies with the Saudi Commission for Tourism Antiquities, Antiquities and Museums Section and its various directorates, a number of stakeholders who either have authority in making planning decisions beyond the site boundaries have been identified as potential project partners in realising the objectives of the management plan.

3.1.1 Government Departments

The Saudi Commission for Tourism Antiquities (SCTA)
Antiquities Study and Research Centre
Museums Directorate
Archaeology Directorate

SCTA Branch in Hail,
Director of Antiquities and the Regional Museum in Hail (Mr Saad Al-Rawsam)
Director of Tourism (Mr Mubarak Salama)

Ministry of Municipalities and Rural Affairs (MOMRA)
As overseeing the Municipalities of Jubbah and Al Hayit

3.1.2 Local partners
Governor of Hail Province
Hail Province Development Commission

Governor of Jubbah
Municipality of Jubbah (including planning department)

Governor of Al Ghazalah
Municipality of Al Hayet

Owners of the Al Naif Museum, Jubbah
Local Bedouin families acting as site guards.

3.1.3 Supporting organisations
University partners and academics
Archaeology departments in King Fahd University of Riyadh and Hail University
International research teams working in the Hail Region
Other experts

3.2 Process of consultation

As part of the information gathering and preparation for the WHS nomination and this management plan that accompanies it, one on one briefing and information exchange meetings were held by the consultant and SCTA team with:

The Saudi Commission for Tourism Antiquities (SCTA)
Dr Ali Al-Ghabban, Vice President for Antiquities and Museums Sector
Mr Jamal Omar, Director General, Antiquities Study and Research Centre
Director General for Museums

SCTA Branch in Hail
Mr Saal Al-Rawsam, Director of Antiquities and the Regional Museum in Hail
Mr Mubarak Salama, Director of Tourism
Eng. Ziyad Eyedah Al Musaiwel

Jubbah
Mr Fawzan al Fawzan, Mayor of Jubbah
Eng. Khamiss Ak Saadi, Municipality of Jubbah
Governor of Jubbah

Shuwaymis
Mayor of Al Hayet
Governor of Al Ghazalah region

Archaeological excavation and research teams
Dr Majeed Khan
Dr Robert Bednarik
Prof Michael Petraglia, director of Palaeodeserts Project, University of Oxford

University of Hail
(Dr Daifallah al Tahli, Head of Department of Archaeology, University of Hail)

Local community representatives.

These meetings took place as part of a well established and dialogue developed between the SCTA and local stakeholders in the run up to the World Heritage Site nomination process. Furthermore, the SCTA branch in Hail has an established working relationship with most local stakeholders as part of a commitment to deliver the Provincial Tourism Plan since 2004.

All the stakeholders have expressed their support of the World Heritage Site nomination and are aware of the supporting role they will need to play in the protection, conservation and management of the sites through the context of the local surroundings.

4 Significance

4.1 Statement of Significance

The ***outstanding universal values*** embodied in the rock art of Jabal Umm Sinman and Jabal al-Manjor/Raat are the high quality of the petroglyphs (engravings) that display distinctively different rock art traditions over the last 10,000 years and reflect major economic and cultural changes, and the adjustments that people made to climate change in a region that has always been a bridge between Africa and the continents beyond.

Situated at the geographical nexus between Africa and Eurasia, Saudi Arabia has long served as a corridor through which people moved, exchanging technological innovations, trade goods, cultural values and beliefs. The exceptionally abundant and well-preserved petroglyphs on rocky outcrops in what is now a sandy desert record some of these major events in human history against a backdrop of climatic change.

The oldest rock art tradition evident at both of the properties in the serial nomination is one of the world's largest and most magnificent surviving examples of early Neolithic petroglyphs. It includes animals such as the ibex,

which was revered by early Neolithic people who depicted the horns in exaggerated form. This artistic device and the associated bold representations of people herald the monumental arts of later civilizations of the Middle East. Neolithic stone artefacts were left behind at encampments near the shores of palaeolakes more than 6000 years ago.

As cattle and horses were domesticated, they were brought to the region and images of them were added to the art corpus. With increased desiccation and the drying up of lakes after 3000 years ago, camels became essential to the economy of the ancestors of the Bedouin and are illustrated in abundance alongside Thamudic and Arabic script. Depictions of weapons of war suggest that this was a contested landscape. Graves and stone structures within the buffer zones are further testimony to the rich history of the region and have great potential for further research in the region where some of the world's major religions and writing systems evolved.

Criteria under which WHS inscription is proposed

The property manifests outstanding universal values with respect to four complementary World Heritage criteria:

Criterion (i), The exceptionally large number of petroglyphs created by using a range of techniques with simple stone hammers, against a background of gradual environmental deterioration, are visually stunning expressions of the human creative genius by world standards, comparable to the messages left by doomed civilizations in Mesoamerica or on Easter Island. In that sense alone they are of highest outstanding universal value.

Criterion (ii), "To exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in … monumental arts", applies to Jubbah and Shuwaymis, where certainly more than 6000 years of continuous human occupation is archived in both rock art and inscriptions.

Criterion (iii), At Jubbah we can follow the battle of past societies against the environmental catastrophe they experienced and adapted to, in a truly exceptional example of such a situation where the petroglyphs record the nature of the changes and the stone artefacts show where people lived in relation to the rock art and to the lake as it gradually dried up. At Shuwaymis, by contrast, the petroglyphs are all that remains of the testimony of a society that vanished, leaving behind a pristine record of its existence that is of a magnitude rarely encountered elsewhere in the world.

Criterion (v), Description as a traditional human settlement or human interaction with a vulnerable environment "under the impact of irreversible change" seems to have been formulated specifically for the Saudi site complexes. It is hard to think of alternative, similarly comprehensive records of civilizations facing environmental oblivion, anywhere in the world, that have left such brilliant testimony of their genius. The two properties nominated literally exemplify this criterion.

4.2 Values associated with the sites

Alongside the significance and outstanding universal value of the site, there are a number of values associated with the sites that enhance and support their cultural significance, notably:

Research value: Apart from a small number of research expeditions, the sites have not been studied in significant detail to date and there is huge potential for ongoing research at the two sites as well as other sites in the region and wider region. As such the sites and their surrounding environments withhold high research value.

Education value: The sites have educational value in the contribution they can make to professional level training in a number of disciplines at graduate and post-graduate levels in archaeology and its related disciplines, as well as for school age children.

Artistic/aesthetic value: The sites bear evidence to a long artistic tradition spanning several millennia. The high quality engravings (petroglyphs) display distinctively different rock art traditions over a period of 10,000 years.

Cultural historical value: The sites embody evidence of Bedouin lifestyle over thousands of years with links to Bedouin communities and traditions today. They also reflect major economic and cultural changes that have been experienced in a region that has always been a bridge between Africa and the continents beyond, including (caravan) trade routes.

Intangible value: The petroglyphs as well as the Thamudic and Arabic inscriptions that have been added within the last three thousand years point to an intangible heritage that contributes to the spirit and feeling of the petroglyphs and their links to present day local lifestyles and traditions.

Landscape value: The landscapes in which the sites are located bear evidence to the cultures that created the rock art, their settlement patterns, and the impacts climate change has had on settlements and the landscape itself. The present day natural settings of the sites are an important component of how they are understood, interpreted and appreciated.

Economic value: Although tourism activity at the sites has been minimal to date, the sites can generate economic value at various levels from job creation, servicing visitor requirements and the development and sale of handicrafts. In this respect, the sites have low, but nonetheless notable economic value.

5 Management Assessment

The management assessment considers the sensitivities

of the sites, threats and known, perceived and probably future risks that will need to be addressed in the management policies. This section also considers the strengths of the site opportunities that can be built on when planning for their effective management.

5.1 Sensitivities and threats

There is consensus that the sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Al Raat (Shuwaymis), and indeed other rock art sites in Hail Region are well protected through climatic conditions, extensive secure fencing and guards, and sufficient legal instruments. The relative distance of the sites from major centres of population and growth also reduce the threat of encroachment or nearby industrialisation. Mining is also not seen as a current or future threat. Natural geological events such as earthquakes or volcanic activity are also considered to be a negligible threat based on historic occurrences in the region.

There are nonetheless a number of sensitivities and threats that need to be addressed in short or medium term management policies:

Figure 5.1. Much of the rock art is located on uneven terrain and at a height.

Figure 5.2. Bird droppings, like vegetation are minimal at the sites.

5.1.1 Accessibility and safety

- The sites are spread out and some are at some distance from centres of population.
- Although the distance and isolation of some of the sites helps protect them, this can also mean they are difficult to manage.
- The location of the art on rock faces, some of it at quite a height or above unstable terrain poses limitations to safe access.

5.1.2 Protection and conservation

- Adverse weather, exposure to wind and rainwater erosion and temperature differentials, especially between night and day have a minor impact on the rock art and its conservation.
- Some damage has been recoded from animals and bird droppings (birds of prey and smaller species).
- There is limited vegetation growth linked to the low annual rainfall. The few scrubs and plants that do grow at the sites are not a serious threat to the rock art.
- There is no recent graffiti postdating the installation of the fences and garbage in and around the sites has been largely removed.
- The conservation of rock art requires specialist scientific and technical expertise, which at the present time does not exist in Saudi Arabia.

5.1.3 Development pressures

- There are minimal development impacts (and the threat of future developments) on areas surrounding the rock art sites that are of archaeological or potential archaeological significance in Jubbah.
- The successful inscription of the sites on the World Heritage List could have a significant impact on the number of visitors wishing to visit the sites, and the impacts of developments to safely accommodate visitors at the sites will need to be carefully considered.

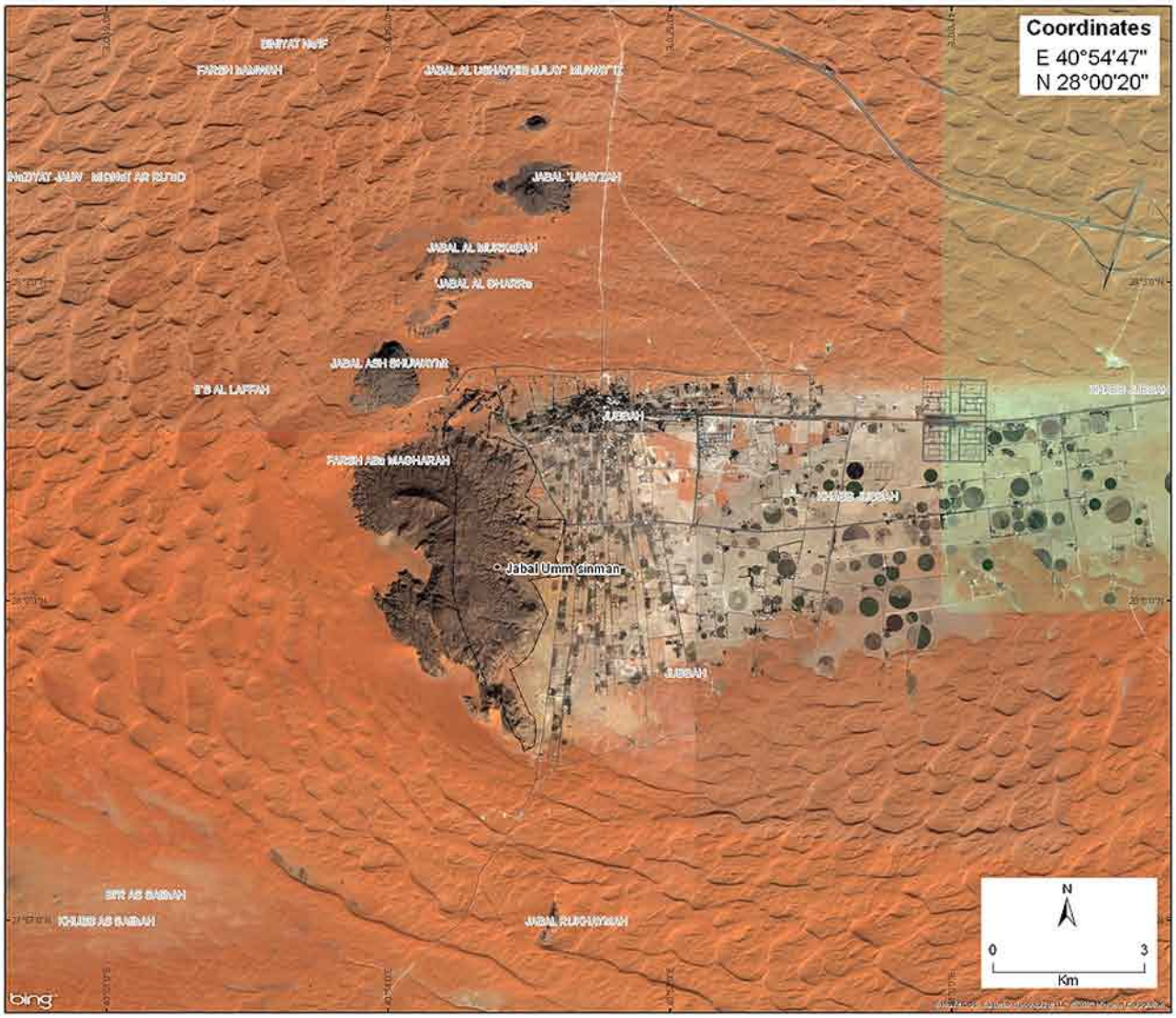

Figure 5.3. The growth of Jubbah town will need to be managed so as not to impact on areas of potential archaeological significance that lie beyond the buffer zone.

5.2 Opportunities

Some of the opportunities identified for the sites include:

- Level of preservation and favourable conditions for the conservation of rock art and the capacity to designate and manage extensive protective buffer zones.
- Central location and connectivity of Hail and human resource capacity, supported by an established University presence in Hail.
- Local commitment to the World Heritage Site nomination and local ownership and identification with the rock art.

6 Vision and Objectives

6.1 Aim

The aim of this management plan is to establish a framework that will ensure the sustainable development of the two sites within their broader regional context to provide a memorable and educational experience for users and visitors, within the guidelines of internationally accepted conventions.

6.2 Rationale and approach

The general consensus is that rock art is best preserved under strictly managed conditions and with controlled and limited visitation. At the same time the importance of the site needs to be communicated to and shared with locals and visitors alike, while also generating local and regional socio-economic development opportunities.

In the interest of steering visitor focus and pressure away from the sites themselves, and capitalising on the resource availability in Hail City, the major population centre in the province, Hail will be developed as the centre and for rock art. Hail will play a **gateway** function to rock art in the region, through a state of the art museum and an inter-disciplinary Rock Art Research Centre. This will not only bring rock art to a wider audience in a format that appeals to the largely

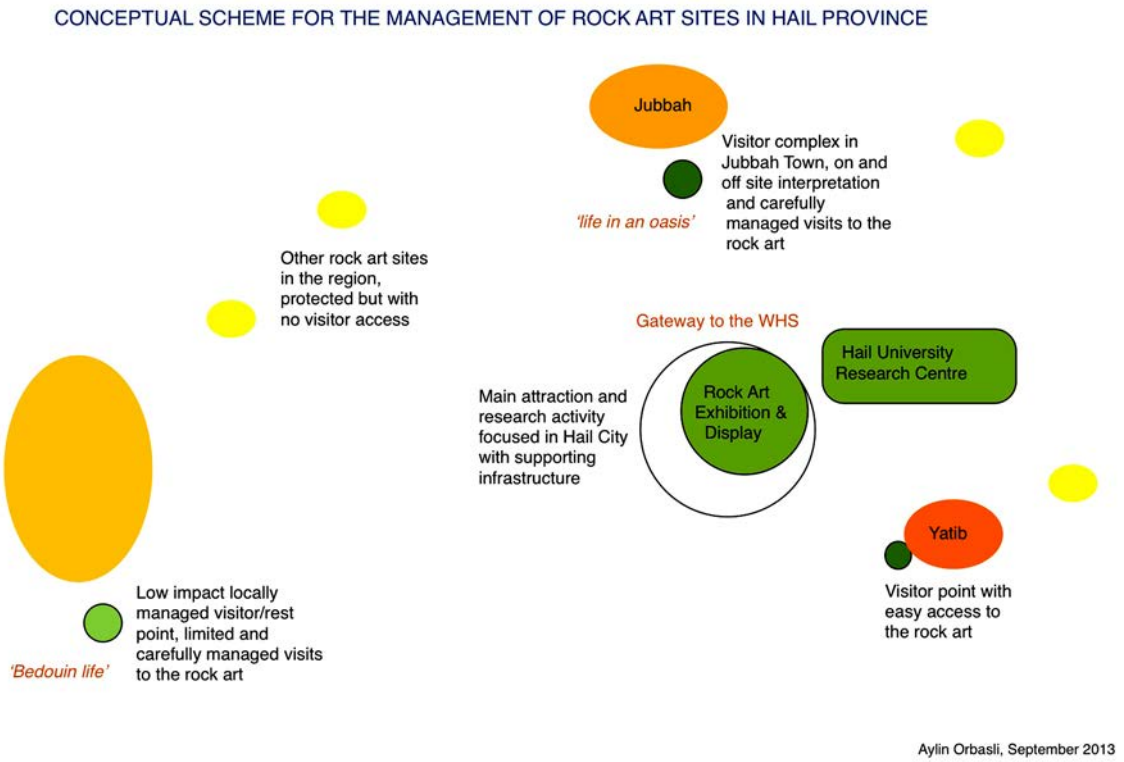

Figure 6.1. Overview of approach to visitor management and interpretation of rock art sites in Hail Province.

family oriented visitor market, but also generate a flagship attraction to compliment other cultural heritage attractions in the city. The research centre on the other hand will capitalise on Hail's excellent transport connections and Hail University's existing archaeology department. The SCTA branch office in Hail will continue to play a major in the protection and management of the sites.

The town of Jubbah is keen to capitalise on a potential World Heritage Site on its doorstep and the opportunities tourism can develop at a time where agriculture is in decline. Placing a visitor complex in the centre of Jubbah town, will reduce impact on the site and its setting whilst focusing the economic benefits from visitors into the town. An effective visitor complex in Jubbah and good facilities could also reduce the actual visits to the site. This generates opportunities to use the interpretation to link the rock art to **life in the oasis** and associated agricultural practices and traditions.

It is also important that Jebel Umm Sinman is protected and presented within its natural setting and that facilities and interpretation in and around the site can be kept to a minimum and what is placed there is sympathetic to the natural environment. Visits to the site are envisaged in small guided groups, following a short easily accessible route and a slightly longer, 'tougher' route, all on designated walkways. A stabilised path at the base of the rock could enable less able visitors to see parts of the site from horse-drawn carts, or similar low-impact means.

Given the remoteness of the sites at Shuwaymis, and its more likely appeal to a small specialist audience, visits will be low impact guided tours to selected parts of the site. The tours and any visitor services at the site will be developed in collaboration with the local Bedouin families acting as guards/guides.

In addition, local low-key visitor facilities will be developed at rock art sites in close proximity to Hail, as this could appeal to visitors seeing the exhibition at the museum but who do not wish to travel far. This type of development would also help absorb visitors away from the more remote and sensitive sites by providing a viable alternative. The approach is explained in Figure 6.1.

It is inevitable that there will be a notable increase in requests to visit the sites following their nomination and inscription on the list of World Heritage Sites. It is therefore essential that the sites are prepared in advance for the visits though interventions that are sensitive to the rock art and their landscape setting, that visits are carefully monitored and that a good monitoring system for the state of conservation of the rock art is in place beforehand.

6.3 Management objectives/ goals

The management objectives are to:

1. Protect the rock art sites and their outstanding universal value in accordance with international good practice and guidance, and as an exemplar of good practice.
2. Engender wider appreciation and understanding of the sites in their communities and beyond.
3. Enhance the experience of visitors engaging with the sites and the rock art of the Hail region.
4. Realise the potential of the sites to serve the tourism,

economic and social development of Hail Region and the communities associated with the sites.

6.4 Management team/ structure

Responsibility for the implementation of the management plan lies with the SCTA and its regional office in Hail Province. The SCTA, under its Directorate for World Heritage Sites, may establish a special entity with responsibility to manage the World Heritage Site, and coordinate the various agencies with administrative responsibilities for the localities in which these dispersed properties are placed.

At the SCTA the responsibility for World Heritage Sites falls into a specifically created Directorate General, overseen directly by Dr Ali Al-Ghabban, Vice President for Antiquities Sector.

7 Management Strategy and Policies

This section of the management plan lists the management policies that will be adopted to realise the management objectives identified in the previous section. Each policy is linked to a number of actions that will form the Action Plan for the next five year period of implementation of the management plan.

7.1 Landscape, context and setting policies

Maintaining the natural environment and setting of the rock formations is the key objectives in protecting the outstanding universal significance of the rock art sites of Hail Province.

7.1.1 Archaeological context and buffer zones

As noted in earlier sections of this management plan, the archaeological context of most rock art sites in Hail Province have not as yet been fully investigated. To date excavations have only been undertaken in Jubbah around Jabal Umm Sinman and several other rocky outcrops within the vicinity. These excavations clearly identify the need for wider archaeological exploration at all sites and the potential such excavations and surveys have in contextualising the rock art.

Ongoing archaeological studies are a long term prospect, but as surveys have revealed, it is essential that areas identified as being of potential archaeological significance are adequately protected at this time.

L1: The site zones recommended as core zones for the World Heritage nomination will be fully protected.

- The fencing will be extended to include site boundaries as recommended for the WHS nomination.
- Any further developments within the buffer zone boundary will be restricted and confirm to a masterplan for the site.

Linked to: Land-use planning policies (7.2.2)

L2: Areas of archaeological and potential archaeological significance will be established and included in the buffer zones.

- Existing survey information will be used to identify areas of archaeological significance and potential archaeological significance and determination of the buffer zone boundaries.
- Commission surveys to identify areas of archaeological significance and potential archaeological significance for areas where this information does not exist and might impact on the buffer zones.
- Communicate location of buffer zone to land owners and local planning authorities.

Linked to: Archaeology, research and conservation policies (7.3)
Land-use planning policies (7.2.2)

7.1.2 Landscape and setting

Various sources relate the distinct landscape of the sites, notably the rocky outcrops set in a desert landscape of sand dunes at Jubbah, and the valley setting with clear views spanning into the distance at Shuwaymis. These features also contribute to the understanding and appreciation of the sites.

Landscape considerations for the sites should consider the views to the sites, especially from key vantage points, as well as the views from the sites themselves.

L3: Key views of the rock art sites and significant views from the sites will be protected.

- Undertake viewshed studies to determine views of the sites from key vantage points, to include landscape features and land formations that contribute to the understanding and study of the sites.

Linked to: Land-use planning policies (7.2.1)

7.1.3 Cultural landscape

Beyond the two sites nominated for World Heritage inscription, the richness of rock art in the Great Nafud desert as well as in the southern and western parts of Hail Province make it into a significant cultural landscape. Especially as research in the field is developed and stronger connections are made between the rock art, settlements and the pilgrim and trade routes that passed through the region, this aspect is likely to be emphasised.

L4: The collective value of rock art sites and their landscape settings in Hail Province will be recognised as a cultural landscape.

- Continue province-wide studies to map rock art sites within their archaeological and landscape context.
- Continue raising awareness with local stakeholders on the significance and value of this cultural landscape.

7.2 Land-use planning policies

7.2.1 Developments impacting on the setting of the sites

The landscape and setting of the sites have been identified as a significant value and a means of contextualising the sites in an evolving environment. In the case of Jabal Umm Sinman, this rock formation is already locally recognised as symbol of the town. It is therefore important that key views to the sites, as well as from the sites themselves are protected from developments that would negatively impact on them.

P1: Building and infrastructure developments taking place within the identified view shadows will not unduly impact on the setting and landscape values of the sites.

- Ensure viewsheds linked to the sites are incorporated onto local development plans.
- Stipulate guidelines (height and volume) for developments undertaken within viewshed zones that fall outside of the buffer zones.
- Discourage any urban/municipal lighting projects that could negatively impact on the setting and appreciation of the sites.
- Uphold policy restricting night time lighting of the sites.

7.2.2 Developments within the buffer zones

The buffer zones are areas that contribute to the conservation and understanding of the site. They are likely to include areas of archaeological significance or potential archaeological significance, as well as form an important component of the landscape and setting of the sites. Additionally, it is anticipated that some visitor facilities will be located in the buffer zones.

Developments within the buffer zones will be carefully monitored and directed to ensure that the significance and values of the sites are not compromised. Any development on the immediate boundary of the nominated World Heritage Site, should be treated with additional sensitivity and conform to similar planning and design guidance as the buffer zone.

P2: Where the buffer zone extends into an existing settlement as at Jubbah, all development within this zone and in close proximity to its boundary will conform to strict design guidelines.

- Review the masterplan for Jubbah to ensure necessary development controls are in place for zones falling within the buffer zone, that are of potential archaeological significance and that impact on the setting of Jabal Umm Sinman and linked rock art sites.
- Work with the Municipality of Jubbah and its planning authority to establish design and height guidelines for any infrastructure and building construction work being undertaken within the buffer zone or on its immediate boundary.
- Communicate these guidelines to owners of land bordering the buffer zones.
- Continue arrangements that require all construction works within or on the edge of the buffer zone to obtain permission from the SCTA or a body appointed by the SCTA to oversee the management of the World Heritage Site.

P3: Where the buffer zone is open land, any proposed structures within this zone will conform to strict guidelines in terms of design, materials and impact.

- Establish design guidelines for such areas that stipulate low rise small imprint structures that are ecologically sound using locally available materials and follow traditional norms of building.
- Liaise with the relevant infrastructure agencies to avoid location of paved roads and other infrastructure passing through the buffer zone.

P4: Any development work within a buffer zone will be preceded by archaeological investigations.

- Coordinate with local planning and national infrastructure agencies to ensure prior notice is given of planned developments within the buffer zones and ensure all archaeological investigations are undertaken by suitably qualified teams.

7.2.3 Developments within the site boundaries

By their very nature, rock art sites are spread out over a large expanse of nature. Their preservation and interpretation within this natural setting is essential for their effective protection, understanding and appreciation.

As part of the management strategy adopted for the sites of Jabal Umm Sinman (Jubbah) and Jabal al-Manjor and Jabal Raat (Shuwaymis) and the objective of protecting the sites as a natural environment, even minimal and low impact developments will **not** be permitted within the site boundaries.

P5: All major structures, paved surfaces and services will be restricted to the periphery of the sites' buffer zone and conform to established design guidelines.

- Establish design guidelines for the site periphery that stipulate low rise small imprint structures that are ecologically sound, use locally available materials and are reversible.
- Ensure that mains services (water and electricity) are limited to service areas at the site entrance.

P6: Only structures of a temporary nature, which are fully reversible and are in the interest of protecting the sites' outstanding universal value will be permitted within the site boundaries.

- Commission the design of international standard raised walkways that will ensure the rock art and associated archaeological deposits are protected in the best possible way.
- Commission the design of temporary shade structures

that could be placed on the agreed visitor route walkways at the sites.

P7: Vehicular traffic will not be permitted within the site boundaries.

- Car parks will be placed outside the buffer zones.
- For areas where a higher level of visitation is expected, develop designs for a low impact consolidated surface that is suitable for pedestrian traffic, carts and emergency vehicles.

7.3 Archaeology, research and conservation policies

7.3.1 Documentation

Building on surveys undertaken by the Department of Antiquities in 1976 and 1986, more recent research and publications on the subject (see Appendix 1) and ongoing surveys are generating an important body of information relating to the sites and their geological, archaeological, environmental and social context. As a growing number of researchers start working on the sites the need for a coordinated and accessible GIS linked database of publications, reports and finds becomes even more important.

A1: A province-wide 'rock art' database has been established to share all scientific information pertaining to rock art sites in the province.

- In partnership with the teams currently working at the sites develop and host a GIS linked database of information and finds.
- Maintain hard and electronic copies of all reports and publications relating to the rock art sites in Hail Province and in Saudi Arabia in the SCTA Resource Centre.

7.3.2 Archaeological excavation

Archaeological excavation and exploration surrounding the rock art sites, and essential to contextualising and dating the rock art, is as yet in its infancy. With growing awareness of the significance of the sites nominated for the World Heritage List and other numerous sites in Hail Province, it is important that archaeological explorations, excavations and surveys should continue.

A2: Archaeological excavations at the sites in partnership with Saudi Universities and international institutions will be continued.

- Promote and support ongoing archaeological investigations at rock art sites and areas surrounding them.

A3: Secure and suitable storage facilities will be established for archaeological material and finds that result from excavations.

- Agree location that is safe as well as easily accessible for storage of archaeological materials.
- Design storage facilities in consultation with the archaeological teams and to internationally accepted standards and conditions for the storage of different types of material.
- Ensure stores are accessible for scientific research purposes and materials that are stored are linked to the database.

7.3.3 Research and analysis

Research to date clearly points to the extent of discovery and research still to be undertaken to better understand rock art both in Hail Province and in Saudi Arabia. The establishment of a state-of-the-art research centre will serve a number of purposes, including furthering multi-disciplinary research on the subject, providing a base and facilities for Saudi and international teams working at the sites, coordination of information and finds, and training Saudi archaeologists to work and research in this discipline.

A4: A state-of-the-art research centre for Rock Art Studies will be established in partnership with Hail University.

- Work with Hail University to establish a centre for Rock Art Studies linked to their archaeology department.
- Establish links with international partner institutions to support and facilitate the founding of the centre.
- Through the centre train and develop local scientific and technical expertise in the conservation of rock art.

Linked to: Education policies

7.3.4 Protection and conservation

The state of conservation of the rock art sites has been reported as being very good with local climatic conditions being 'ideal' for their long-term survival. Threats linked to human activities are addressed in land use, protection and visitor management policies.

Underground archaeological material is less well protected, largely because areas where significant material deposits and other valuable information may be found have not been fully identified and therefore protected.

A5: The rock art will continue to be protected in accordance with Royal Decree No. M/26 through existing measures, considered visitor access, management and regular monitoring.

- Work with local guards to regularly monitor the condition of the sites and maintain the fencing surrounding them.
- Link the condition of the rock art to the database and monitor through regular condition surveys.
- Establish the maximum number of visitors per group to the various sites that will not cause damage to or endanger the rock art.

A6: Measures to improve protection and safeguarding of areas of known and potential archaeological significance will be implemented.

- The buffer zones for the Jubbah and Shuwaymis sites will include areas of known archaeological deposits and areas identified as having archaeological potential.
- Ensure areas of archaeological evidence within the

buffer zones, including base sediment and rock faces are not impacted on by visitation.
- Through surveys establish similar zones or areas connected to rock art sites in the province.
- All newly designated areas will be safeguarded in accordance with Royal Decree No. M/26.

Linked to: Land-use planning policies
Visitor management policies

A7: A monitoring program as per the WHS nomination (6.a) will be established and implemented.
- Establish a comprehensive monitoring system of key indicators measuring the state of conservation of the sites, especially of the effects of increased visitation and natural deterioration.
- Select permanent monitoring stations at both sites in accordance with the WHS nomination document Section 6.a.
- Ensure all monitoring data is logged with the SCTA and stored safely.

7.4 Visitor management policies

Visitor management policies are predominantly linked to the visitor experience and ways in which it can be enhanced. They are also closely linked to presentation and interpretation policies (Section 7.5) as well as policies concerning the protection and safeguarding of the rock art.

7.4.1 Hail City

As the major population centre of the province and with increasingly developing connectivity Hail has the potential to become the gateway to the rock art sites and the major point for visitor interaction and interpretation. Hail is the major population centre and point of arrival and even awareness of the sites for most visitors. There is an opportunity to generate a memorable visitor experience (without even visiting the sites), and linked educational activities for families as well as for local schools and different age groups.

V1: Hail Museum will be developed with major exhibits to become the 'gateway' to the World Heritage Site and rock art in the province.
- Evaluate existing plans for the new museum in Hail to determine ways in which the rock art displays can be enhanced and enlarged.
- Engage museum designers to develop state-of the art and interactive displays that tell the story of rock art in Hail Province and Saudi Arabia in ways that will appeal to a predominantly family audience.

Linked to: Presentation and interpretation policies

7.4.2 Jubbah

In order to reduce the impact of visitors to the site, as much as possible of the visitor services and interpretation as possible are being places away from the sites and within dedicated visitor centres or visitor complexes. This also generates opportunities to use the interpretation to link the rock art to life in the oasis and associated agricultural practices and traditions.

Visits to the actual sites will be carefully managed through low impact and guided tours. Given the uneven, and in places hazardous terrain, it is advisable that general visitation is restricted to the more easily accessible and low level clusters of rock art. It is paramount that visitation does not impact on the rock art or the as yet unexplored archaeological material and sediments at the sites.

V2: A visitor complex within the heart of Jubbah town will act as the main hub for visitors.
- Work with the Municipality of Jubbah to identify a suitable location for a visitor centre that is in close proximity to other cultural heritage attractions in Jubbah town.
- Commission designs for a low impact visitor complex that is built in accordance with the design guidelines as recommended in P2.
- Facilities in this off-site visitor complex should include welcome, ticketing point, interpretation and displays, rest and food and drink facilities.
- Place road signage that clearly direct visitors to the visitor complex as the point of entry to the site.

Linked to: Land-use planning policies

V3: Visits to Jabal Umm Sinman will be by appointment (timed tickets) and by guided tours in small groups only.
- Identify areas of rock art that are reasonably easy to access for the guided groups and are not a health and safety hazard to visitors.
- Develop a visitor route for the groups to follow that is in the best interest of the protection of the rock art and associated archaeological material with minimal impacts for access.
- Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as identified in P6).
- Develop the existing visitor centre at the entrance to the site as a gathering and introduction point for groups, with toilets, drinking water and first aid equipment.
- Monitor the impact of visitors to the site, health and safety considerations and enjoyment of the visit.

Where the use of horsecarts is proposed then this should be on specially designed pathways and on the edge of the site following an impact assessment. Additionally an area outside of the site boundary needs to be identified for stabling, and sufficient shade areas and water sources provided for the animals at the start of the route.

7.4.3 Shuwaymis

It is recommended that visits to the site in the immediate future remain strictly limited to small groups and specialist visitors. Given the remoteness of the site, even in the longer term it is more likely to appeal to a small specialist audience.

V4: A locally managed small rest point/visitor reception close to Jabal al-Manjor and Jabal Raat, at the end of the metalled road and immediately outside the buffer zone, will provide services to researchers working at the site and visitors.

- Commission designs for a small rest point/visitor reception that is built in accordance with the design guidelines recommended in P3, as a cluster of low rise small imprint structures that are ecologically sound using locally available materials and follow traditional norms of building.
- Facilities in the locally managed visitor reception will include a small display, toilets, rest and picnic facilities, as well as first aid equipment.

Linked to: Land-use planning policies

V5: Visits to Jabal al-Manjor and Jabal Raat will be by appointment/permit under the control of the SCTA and only and in small guided groups.

- Visits to the sites will be in small groups led by a local guide, starting from the visitor reception/rest point.
- Identify areas of rock art that are reasonably easy to access for the guided groups and are not a health and safety hazard to visitors.
- Develop a visitor route for the groups to follow that is in the best interest of the protection of the rock art and associated archaeological material with minimal impacts for access.
- Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as identified in P6).
- Demand for visits and impacts at the sites will be monitored.

Linked to: Education, training and capacity building policies

Presentation and interpretation policies

7.4.4 Other rock art sites in Hail Province

None of the rock art sites in the province are open to unrestricted visitation. With the development of dedicated rock art displays at Hail Museum it is likely that there may be an increased interest in visiting sites that are close proximity to Hail City. The site of Yatib for example is easily accessible from Hail. It is also small and compact enabling relatively simple interventions, whilst offering a good selection of rock art and inscriptions for visitors to view.

A site or several sites that may be opened up in such ways will be carefully selected and visitor impacts at the sites carefully monitored.

V6: The opening up of smaller and accessible rock art sites to visitors will be considered where sensitive and sustainable interventions are possible.

- Assess suitability of a site based on easy accessibility from transportation routes, easy accessibility of rock art for viewing, safety of terrain for visitors, vulnerability and fragility of rock art, possibility of viewing a cluster of rock art that will make a visit memorable and worthwhile.
- Based on the boundary of the site, and views to and from the site, establish a suitable location for a small visitor reception point.
- Commission designs for a small rest point/visitor reception that is built in accordance with the design guidelines recommended in P3, as a low rise small imprint or temporary structure that is ecologically sound using locally available materials and follows traditional norms of building.
- Facilities in the locally managed visitor reception will include a small display, toilets, rest and picnic facilities.
- Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as identified in P6).
- Establish a system of local guides who will lead the small group visits to the site starting from the visitor reception/rest point.
- Demand for visits and impacts at the sites will be monitored.

Linked to: Education, training and capacity building policies

Presentation and interpretation policies

Land-use planning policies

7.5 Presentation and interpretation policies

The interpretation of the rock art sites will follow the same rationale for visitor management, by focusing interpretation 'hard ware' in an easily accessible and serviceable location in Hail City, and then cascading down to the sites through a series of small visitor centres and visitor receptions, and supported by mobile technologies.

This is intended to reduce visitor pressure at the sites themselves as well as 'clutter' of interpretive materials at the sites, with interpretation delivered through visitor centres and reception points, mobile technologies and local guides. A range of interpretive approaches and materials will also assist in reaching and appealing to different audiences.

I1: A province-wide rock art interpretation plan will form the

framework for onsite interpretation and a coordinated approach to the key messages, as WHS nomination (5.i).

- Commission an interpretation plan for the proposed Rock Drawings of Hail Province World Heritage Site and other rock art sites across the province.
- Use the interpretation plan to inform the development of interpretive materials at the major centres, at the sites and in other media.
- Update the interpretation plan on a regular basis to include new information that comes to light.

7.5.1 Museums, visitor centres and visitor receptions

The type and size of buildings proposed for the various visitor facilities have been identified in Sections 7.2 Land use planning policies and 7.4 Visitor management policies. The following interpretation policies focus on the types of interpretive messages and materials that could be delivered across the sites.

I2: State-of-the-art and engaging displays that will appeal to a broad non-specialist audience will position Hail Museum as a 'gateway to the WHS'.

- Work with the museum designers to seek the most effective means through which the rock art story can be conveyed to audiences.
- Consider the use of good quality replicas for part of the display.
- Work in partnership with the proposed Rock Art Research Centre to develop displays on the archaeological process and ongoing research.
- Work with education specialists to build in provision for children and schools groups, including dedicated learning environments.

Linked to: Education, training and capacity building policies

Archaeology, research and conservation policies

I3: The visitor centre located in Jubbah town will convey the links between the rock art and life in the oasis.

- Work with museum designers and local partners in Jubbah to develop displays that introduce the Jabal Umm Sinman rock art as well as the development of the oasis from prehistory to the present day.
- Develop interpretive activities that will appeal to families with children.
- Promote the protection and conservation of traditional buildings and street morphology surrounding the visitor centre as an additional attraction to visitors.

Linked to: Visitor management policies

Land use planning policies

I4: Visitor reception points will provide information on each site and give an introduction to the visit.

- Work with designers to develop simple, easy to maintain and robust display panels on the individual sites for indoor use in the reception points.
- Develop podcasts or similar mobile technologies to provide more in-depth interpretation on the rock art and other aspects (e.g. flora and fauna) of the sites. These should be linked to the display panels and accessed by scanning a code on the panels with a mobile phone.
- Develop a short video to be shown at the start of a group visit that conveys things to be aware and considerate of when visiting the sites.

Linked to: Visitor management policies

7.5.2 On-site interpretation

Interpretation materials placed on site will be kept to a minimum, reducing the impact of 'clutter' on the sites and negating the difficulty of maintaining signs and panels in desert conditions and high temperatures. Instead, interpretation will be provided by an introduction at a visitor reception point, local guides who will guide small group visits, and material (text, oral or video) downloadable to mobile phones.

I5: Local site guardians will be the main point of information and guides at the sites.

- Train local guards to welcome and guide visitors around the sites.

Linked to: Education, training and capacity building policies

Visitor management policies

I6: Interpretation material and signage within the site boundaries will be kept to a minimum.

- Only essential and directional signage should be placed at the sites. This signage should be uniform in appearance, and sensitive to the environment and natural setting of the sites.
- Where rock art may be visible from beyond the site boundary a view point with interpretation panels might be considered on the boundary fence. Such interpretation should be low level, conform to the design guidelines for structures within the site boundary and in no way visually impact on the site and its setting.

Linked to: Visitor management policies

Land use planning policies

7.6 Education policies

7.6.1 Archaeology education and research

One of the key benefits the recognition of the rock art sites in Hail Province will bring is the development of research and professional training in the field of rock art, which will be a first in the Kingdom of Saudi Arabia, and the wider region. The nomination seeks to build on this opportunity by establishing a Centre for Rock Art Research hosted by Hail University (7.3.3). This will support Saudi scholars to become experts and lead research into this field.

E1: Through the proposed Centre for Rock Art Research

and other initiatives the educational potential of the sites will be actively promoted.

- Working in partnership with research and excavation missions working at the rock art sites enable Saudi students to participate in the work of the missions (on site, in research laboratories and in material conservation).
- Seek funding for Saudi scholars to undertake PhD level studies or research at international partner institutions and centres specialising in rock art.
- Establish means through which Saudi students can be trained in the most up-to-date scientific and technical methods required for rock art conservation.
- Introduce lectures or modules on rock art at the Departments of Archaeology in Riyadh and Hail, including input from international experts working in Saudi Arabia.

Linked to: Archaeology, research and conservation policies

7.6.2 Schools and linked education projects

The sites and the knowledge pertaining to them is also of educational value to school level children in subjects ranging from history, biology and social sciences. Working in collaboration with the proposed Centre for Rock Art Research the new rock art displays at Hail Museum will be the focus for school visits, benefitting from the catchment area of Hail and its young population.

E2: A strong educational component will be developed as part of the interpretation of the sites and rock art in Hail Province.

- As part of the development of Hail Museum appoint an education specialist to work with the museum designers to develop displays that are suitable and attractive to various age groups.
- Commission from an education specialist, educational materials, including teacher guides, linking the exhibition material to the Saudi Ministry of Education curriculum.
- Train education officers to work in the Museum to liaise with schools and guide school visits.

Linked to: Presentation and interpretation policies

7.6.3 Capacity building at sites

A third strand of the training involves improving capacity at the sites and partnering with local communities and training guards and guides to protect the sites, manage local visitor services and act as guides.

E3: A system of local rangers (guides/guards) developed in partnership with the local Bedouin communities living in close proximity to the sites, will form the core of site protection and visitor services offered at the site.

- Establish a centre in Hail to coordinate the appointment, training and activities of local site rangers.
- Provide adequate training to appointed rangers, including the importance of the sites, managing and protecting the rock art and areas of archaeological significance, leading and guiding visitor groups, and basic first aid.
- Monitor efficacy of training and organise regular refresher courses that also allow rangers to share their experiences.
- Roll out the ranger programme to other rock art sites in the province.

7.7 Tourism policies

Tourism in Hail Province is steadily growing and is supported by a growing number of diverse visitor attractions and visitor services, notably hotels. The prime market remains families visiting friends and relatives.

7.7.1 Tourism promotion

The inscription of sites on the World Heritage List regularly generates a renewed local interest in them, with a surge of visitor numbers in the weeks that follow. The sites are not suitable for large number of visitors, and nor is a large increase in visitor numbers desirable. Therefore it is essential that the initial interest generated by a successful nomination is absorbed and catered for in Hail, in ways that will encourage future visits and engagement with rock art.

T1: Hail Museum will be the centre for the launch of the Rock Drawings of Hail Province World Heritage Site.

- Prepare a temporary exhibition either in Hail Museum (or elsewhere in the transition to the new museum) in preparation for the launch of the World Heritage Site nomination.
- Promote the WHS nomination through events and activities that will appeal to broad audience, as well as through conferences and scientific workshops.
- Promote the WHS nomination through similar events and activities in Jubbah.
- Use the WHS nomination as a key theme for promoting Hail in 2014 (1435H).

Linked to: Presentation and interpretation policies

T2: Longer term tourism strategies for the province will position the WHS as a significant asset for Hail Province.

- Actively promote Hail Museum as a gateway to the rock art sites and the cultural heritage of Hail Province.
- Develop links to other cultural heritage sites beyond the province in developing tourism itineraries and thematic clusters.

Linked to: Visitor management policies

7.7.2 Tourism infrastructure

The development of tourism activity beyond Hail City in particular will require strengthening of tourism infrastructure and facilities, including rest stops and overnight accommodation provision. Several of the rock sites across the province are in areas that are simply not suitable for

the development of tourism infrastructure. Almost all are in areas where such developments will need to be treated with care and are more likely to be of the low impact, eco-tourism, village tourism or Bedouin encampment variety recommended in the Hail Province Tourism Development Plan.

T3: Tourism development projects in proximity to the rock art sites will be sensitive to the significance of the sites and their natural setting.

- Work in close collaboration with local municipalities, planning departments and potential investors to ensure that proposals for tourism projects are designed to be sensitive to the sites and their natural surroundings, following similar design principles and guidelines as recommended for the buffer zones.
- Establish ways in which proposed new transportation links can be connected to cultural heritage sites where this is desirable.

Linked to: Landscape, setting and context policies

7.8 Implementation and review policies

These policies relate to the implementation of the management plan, the management structures that will be put in place to do so, and annual monitoring and review procedures.

- Agree final version of the action plan with all stakeholders identified as responsible organisations and partners
- Review the Management Plan on an annual basis to monitor progress and make any adjustments that may be necessary as a result of changing circumstances
- At the end of five years, review and revise the Management Plan, update as necessary and issue a new Action Plan to cover the next five year period.

8 Action Plan

8.1 Implementing management policies

The table on the following pages identifies responsibilities for undertaking each of the management strategies identified in the previous section, the timeframe in which the action should be implemented, financing and relationship to the management objectives identified in this plan (Section 6).

8.1.1 Implementation and key players

Responsibility for the implementation of the management plan lies with the SCTA and its regional office in Hail Province. The SCTA, under its Directorate for World Heritage Sites, may establish a special entity with responsibility to manage the World Heritage Site.

The full implementation of the management plan will only be possible with the participation of various other key players and partners. These have been identified during the consultation process and are indicated in the Action Plan.

8.1.4 Urgency

Actions emerging from the policies will be classified as being:

Essential to the fulfilment of the management objectives and most likely requiring immediate action, with negative impacts resulting from a failure to fulfil the task.

Necessary to the fulfilment of the management objectives, but not of immediate urgency, and possibly dependent on the completion of other actions.

Desirable, not essential to the fulfilment of the management objectives, but will enhance and strengthen the delivery of the strategy.

8.1.3 Timeframe

The timeframe for implementation is noted as:
Short term 1-5 years
Medium term up to 10 years
Long term 10+ years

The action plan will largely focus on actions to be undertaken within the first five years of the realisation of the management plan, although a number of actions will have longer term implications for the development of and future sustainable management of the sites.

The management plan will become operational in 2014, enabling a number of actions to be completed prior to the WHS inscription of the properties.

8.2 Action plan

Landscape, context and setting policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
L1	**The site zones recommended as core zones for the World Heritage nomination will be fully protected**				
L1.1	The fencing will be extended to include site boundaries as recommended for the WHS nomination.	SCTA		Essential	Year 1
L1.2	Any further developments within the buffer zone boundary will be restricted and confirm to a masterplan for the site.	SCTA		Essential	Year 1
L2	**Areas of archaeological and potential archaeological significance will be established and included in the buffer zone.**				
L2.1	Existing survey information will be used to identify areas of archaeological significance and potential archaeological significance and determination of the buffer zone boundaries.	SCTA		Essential	Complete
L2.2	Commission surveys to identify areas of archaeological significance and potential archaeological significance for areas where this information does not exist and might impact on the buffer zones.	SCTA		Necessary	Year 1-2
L2.4	Communicate location of buffer zone to land owners and local planning authorities.	SCTA with local municipalities	Governorates of Jubbah and Al Ghazalah	Essential	Year 1
L3	**Key views of the rock art sites and significant views from the sites will be protected.**				
L3.1	Undertake viewshed studies to determine views of the sites from key vantage points, to include landscape features and land formations that contribute to the understanding and study of the sites.	SCTA		Necessary	Year 3
L4	**The collective value of rock art sites and their landscape settings in Hail Province will be recognised as a cultural landscape.**				
L4.1	Continue province-wide studies to map rock art sites within their archaeological and landscape context.	SCTA			Medium term
L4.2	Continue raising awareness with local stakeholders on the significance and value of this cultural landscape.	SCTA in Hail	Local municipalities and governorates		Short - Medium term

Land-use planning policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
P1	**Building and infrastructure developments taking place within the identified view shadows will not unduly impact on the setting and landscape values of the sites.**				
P1.1	Ensure viewsheds linked to the sites are incorporated onto local development plans.	Municipality of Jubbah	SCTA in Hail	Necessary	Year 1-2
P1.2	Stipulate guidelines (height and volume) for developments undertaken within viewshed zones that fall outside of the buffer zones.	Municipality of Jubbah	SCTA in Hail	Essential	Year 1

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
P1.3	Discourage any urban/municipal lighting projects that could negatively impact on the setting and appreciation of the sites.	Municipality of Jubbah	SCTA in Hail	Necessary	Years 1-5
P1.4	Uphold policy restricting night time lighting of the sites.	Municipality of Jubbah	SCTA in Hail	Desirable	Years 1-5
P2	**Where the buffer zone extends into an existing settlement as at Jubbah, all development within this zone and in close proximity to its boundary will conform to strict design guidelines.**				
P2.1	Review the masterplan for Jubbah to ensure necessary development controls are in place for zones falling within the buffer zone, that are of potential archaeological significance and that impact on the setting of Jabal Umm Sinman and linked rock art sites.	Municipality of Jubbah	SCTA in Hail	Essential	Year 1
P2.2	Work with the Municipality of Jubbah and its planning authority to establish design and height guidelines for any infrastructure and building construction work being undertaken within the buffer zone or on its immediate boundaries.	SCTA in Hail	Municipality of Jubbah	Necessary	Years 1-2
P2.3	Communicate these guidelines to owners of land bordering the buffer zones.	Municipality of Jubbah	SCTA in Hail	Necessary	Years 1-2
P2.4	Continue arrangements that require all construction works within the buffer zone or on the edge of it to obtain permission from the SCTA or a body appointed by the SCTA to oversee the management of the World Heritage Site.	SCTA	Municipality of Jubbah	Necessary	Year 2
P3	**Where the buffer zone is open land, any proposed structures within this zone will conform to strict guidelines in terms of design, materials and impact.**				
P3.1	Establish design guidelines for such areas that stipulate low rise small imprint structures that are ecologically sound using locally available materials and follow traditional norms of building.	SCTA		Necessary	Year 2
P3.2	Liaise with the relevant infrastructure agencies to avoid location of paved roads and other infrastructure passing through the buffer zone.	SCTA		Necessary	As the need arises
P4	**Any development work within a buffer zone will be preceded by archaeological investigations.**				
P4.1	Coordinate with local planning and national infrastructure agencies to ensure prior notice is given of planned developments within the buffer zones and ensure all archaeological investigations are undertaken by suitably qualified teams.	SCTA	Municipality of Jubbah	Essential	As the need arises
P5	**All major structures, paved surfaces and services will be restricted to the periphery of the sites' buffer zone and conform to established design guidelines.**				
P5.1	Establish design guidelines for the site periphery that stipulate low rise small imprint structures that are ecologically sound, use locally available materials and are reversible.	SCTA		Necessary	Year 2
P5.2	Ensure that mains services (water and electricity) are limited to service areas at the site entrance.	SCTA	SCTA in Hail	Essential	Year 2

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
P6	**Only structures of a temporary nature, which are fully reversible and are in the interest of protecting the sites' outstanding universal value will be permitted within the site boundaries.**				
P6.1	Commission the design of international standard raised walkways that will ensure the rock art and associated archaeological deposits are protected in the best possible way.	SCTA		Essential	Prior to inscription
P6.2	Commission the design of temporary shade structures that could be placed on the agreed visitor route at the sites.	SCTA		Necessary	Year 1
P7	**Vehicular traffic will not be permitted within the site boundaries.**				
P7.1	Car parks will be placed outside the buffer zones.	SCTA		Necessary	Year 1
P7.2	For areas where a higher level of visitation is expected develop designs for a low impact consolidated surface that is suitable for pedestrian traffic, carts and emergency vehicles.	SCTA		Necessary	Year 2

Archaeology, research and conservation policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
A1	**A province-wide 'rock art' database has been established to share all scientific information pertaining to rock art sites in the province.**				
A1.1	In partnership with the teams currently working at the sites develop and host a GIS linked database of information and finds.	SCTA	Saudi and international Universities	Essential	Year 3
A1.2	Maintain hard and electronic copies of all reports and publications relating to the rock art sites in Hail Province and in Saudi Arabia in the SCTA Resource Centre.	SCTA Resource Centre		Desirable	Year 2
A2	**Archaeological excavations at the sites in partnership with Saudi Universities and international institutions will continue.**				
A2.1	Promote and support ongoing archaeological investigations at rock art sites and areas surrounding them.	SCTA	Hail University	Desirable	Years 1-5 Medium term
A3	**Secure and suitable storage facilities for archaeological material and finds that result from excavations will be established.**				
A3.1	Agree location (outside of the buffer zones) that is safe as well as easily accessible for storage of archaeological materials.	SCTA	SCTA in Hail (Director of Antiquities and the Regional Museum)	Necessary	Year 1
A3.2	Design storage facilities in consultation with the archaeological teams and to internationally accepted standards and conditions for the storage of different types of material.	SCTA	SCTA in Hail Saudi and international University partners	Necessary	Year 2
A3.4	Ensure stores are accessible for scientific research purposes and materials that are stored are linked to the database.	SCTA	SCTA in Hail Saudi and International University partners	Necessary	Years 3-5 Medium term

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
A4	**A state-of-the-art research centre for Rock Art Studies will be established in partnership with Hail University.**				
A4.1	Work with Hail University to establish a centre for Rock Art Studies linked to their archaeology department.	SCTA & Hail University		Essential	Years 3-4
A4.2	Establish links with international partner institutions to support and facilitate the founding of the centre.	Hail University	International University partners	Desirable	Years 4-5
A4.3	Through the centre train and develop local scientific and technical expertise in the conservation of rock art.	SCTA & Hail University	International University partners	Necessary	Medium term
A5	**The rock art will continue to be protected in accordance with Royal Decree No. M/26 through existing measures, considered visitor access, management and regular monitoring.**				
A5.1	Work with local guards to regularly monitor the condition of the sites and maintain the fencing surrounding them.	SCTA in Hail		Essential	Short term
A5.2	Link the condition of the rock art to the database and monitor through regular condition surveys.	SCTA	Hail University	Necessary	Medium term
A5.3	Establish the maximum number of visitors per group to the various sites that will not cause damage to or endanger the rock art.	SCTA	Site guards and guides	Essential	Year 1
A6	**Measures to improve protection and safeguarding of areas of known and potential archaeological significance will be implemented**				
A6.1	The buffer zones for the Jubbah and Shuwaymis sites will include areas of known archaeological deposits and areas identified as having archaeological potential.	SCTA	SCTA in Hail Saudi and International University partners	Necessary	Completed Medium term
A6.2	Ensure areas of archaeological evidence within the buffer zones, including base sediment and rock faces are not impacted on by visitation.	SCTA		Essential	Prior to inscription
A6.3	Through surveys establish similar zones or areas connected to rock art sites in the province.	SCTA in Hail Hail University	SCTA	Desirable	Medium/ long term
A6.4	All newly designated areas will be safeguarded in accordance with Royal Decree No. M/26.	SCTA		Essential	Long term
A7	**A monitoring program as per the WHS nomination (6.a) will be established and implemented.**				
A7.1	Establish a comprehensive monitoring system of key indicators measuring the state of conservation of the sites, especially of the effects of increased visitation and natural deterioration.	SCTA	Local and international institutional partners	Essential	Prior to inscription
A7.2	Select permanent monitoring stations at both sites in accordance with the WHS nomination document Section 6.a.	SCTA & SCTA Hail branch		Essential	Year 1
A7.3	Ensure all monitoring data is logged with the SCTA and stored safely.	SCTA		Essential	Year 1

Visitor management policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
V1	**Hail Museum will be developed with major exhibits to become the 'gateway' to the World Heritage Site and rock art in the province.**				
V1.1	Evaluate existing plans for the new museum in Hail to determine ways in which the rock art displays can be enhanced and enlarged.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Essential	Year 1
V1.2	Engage museum designers to develop state-of the art and interactive displays that tell the story of rock art in Hail Province and Saudi Arabia in ways that will appeal to a predominantly family audience.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers and interpretation consultants	Necessary	Years 2-3
V2	**A visitor complex within the heart of Jubbah town will act as the main hub for visitors.**				
V2.1	Work with the Municipality of Jubbah to identify a suitable location for a visitor complex that is in close proximity to other cultural heritage attractions in Jubbah.	SCTA (Museums Directorate), SCTA in Hail (Director of Antiquities and the Regional Museum) and Municipality of Jubbah	Local owners and local private museum	Desireable	Year 1
V2.2	Commission designs for a low impact visitor complex that is built in accordance with the design guidelines as recommended in P2.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)		Desireable	Year 1
V2.3	Facilities in this off-site visitor complex should include welcome, ticketing point, interpretation and displays, rest and food and drink facilities.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)		Desireable	Year 2
V2.4	Place road signage that clearly direct visitors to the visitor complex as the point of entry to the site.	Municipality of Jubbah		Desireable	Within 2 years
V3	**Visits to Jabal Umm Sinman will be by appointment (timed tickets) and by guided tours in small groups only.**				
V3.1	Identify areas of rock art that are reasonably easy to access and are not a health and safety hazard to guided group visits.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Prior to inscription

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
V3.2	Develop a visitor route for the groups to follow that is in the best interest of the protection of the rock art and associated archaeological material with minimal impacts for access.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Prior to inscription
V3.3	Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as P6).	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Rock art experts	Essential	Prior to inscription
V3.4	Develop the existing visitor centre at the entrance to the site as a gathering and introduction point for groups, with toilets, drinking water and first aid equipment.	SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Year 1
V3.5	Monitor the impact of visitors to the site, health and safety considerations and enjoyment of the visit.	SCTA in Hail	SCTA	Essential	Years 1-5
V4	**A locally managed small rest point/visitor reception close to Jabal al-Manjor and Jabal Raat, at the end of the metalled road and immediately outside the buffer zone, will provide services to researchers working at the site and visitors.**				
V4.1	Commission designs for a small rest point/visitor reception that is built in accordance with the design guidelines as recommended in P3, as a cluster of low rise small imprint structures that are ecologically sound using locally available materials and follow traditional norms of building.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Necessary	Year 1/2
V4.2	Facilities in the locally managed visitor reception will include a small display, toilets, rest and picnic facilities, as well as first aid equipment.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Necessary	Years 2-3
V5	**Visits to Jabal al-Manjor and Jabal Raat will be by appointment/ permit under the control of the SCTA and only in small guided groups.**				
V5.1	Visits to the sites will be in small groups led by a local guide, starting from the visitor reception/rest point.	SCTA & SCTA in Hail	Local guides and guardians	Essential	Years 1-5
V5.2	Identify areas of rock art that are reasonably easy to access and are not a health and safety hazard to guided group visits.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Prior to inscription
V5.3	Develop a visitor route for the groups to follow that is in the best interest of the protection of the rock art and associated archaeological material with minimal impacts for access.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Prior to inscription
V5.4	Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as P6).	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Rock art experts	Essential	Prior to inscription

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
V5.5	Demand for visits and impacts at the sites will be monitored.	SCTA	Local guides and guardians	Necessary	Year 1 onwards
V6	**The opening up of smaller and accessible rock art sites to visitors will be considered where sensitive and sustainable interventions are possible.**				
V6.1	Assess suitability of a site based on easy accessibility from transportation routes, easy accessibility of rock art for viewing, safety of terrain for visitors, vulnerability and fragility of rock art, possibility of viewing a cluster of rock art that will make a visit memorable and worthwhile.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Desirable	Year 3
V6.2	Based on the boundary of the site, and views to and from the site, establish a suitable location for a small visitor reception point.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Desirable	Year 4
V6.3	Commission designs for a small rest point/visitor reception that is built in accordance with the design guidelines recommended for the buffer zone (P3), as a low rise small imprint or temporary structure that is ecologically sound using locally available materials and follows traditional norms of building.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Desirable	Year 4
V6.4	Facilities in the locally managed visitor reception will include a small display, toilets, rest and picnic facilities.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Desirable	Year 5
V6.5	Establish paths and/or raised walkways that will not impact on the floor deposits or slope stability, that will prevent visitors from making contact with rock art panels and conform fully with international best practice of developing rock art sites for visitation (as identified in P6).	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)		Essential	Prior to opening up site to visitation
V6.6	Establish a system of local guides who will lead the small group visits to the site starting from the visitor reception/rest point.	SCTA in Hail		Necessary	Medium term
V6.6	Demand for visits and impacts at the sites will be monitored.	SCTA	Local guides and guardians	Necessary	Year 3 onwards

Presentation and interpretation policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
I1	**A province-wide rock art interpretation plan will form the framework for onsite interpretation and a coordinated approach to the key messages, as WHS nomination (5.i).**				
I1.1	Commission an interpretation plan for the proposed Rock Drawings of Hail Province World Heritage Site and other rock art sites across the province.	SCTA		Essential	Prior to inscription
I1.2	Use the interpretation plan to inform the development of interpretive materials at the major centres, at the sites and in other media.	SCTA	Interpretation consultants & museum designers	Necessary	Year 1 onwards

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
I1.3	Update the interpretation plan on a regular basis to include new information that comes to light.	SCTA		Desirable	Medium term
I2	**State-of-the-art and engaging displays that will appeal to a broad non-specialist audience will position Hail Museum as a 'gateway to the WHS'.**				
I2.1	Work with the museum designers to seek the most effective means through which the rock art story can be conveyed to audiences.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers & interpretation consultants	Essential	Year 2
I2.2	Consider the use of good quality replicas for part of the display.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Museum designers	Desirable	Years 3-4
I2.3	Work in partnership with the proposed Rock Art Research Centre to develop displays on the archaeological process and ongoing research.	SCTA (Museums Directorate), SCTA in Hail (Director of Antiquities and the Regional Museum) & Hail University	Museum designers	Desirable	Years 4-5
I2.4	Work with education specialists to build in provision for children and schools groups, including dedicated learning environments.	SCTA in Hail (Director of Antiquities and the Regional Museum) & Hail Educations Department	Interpretation consultants and education specialists	Desirable	Years 4-5
I3	**The visitor complex located in Jubbah town will convey the links between the rock art and life in the oasis.**				
I3.1	Work with museum designers and local partners in Jubbah to develop displays that introduce the Jabal Umm Sinman rock art as well as the development of the oasis from prehistory to the present day.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Municipality of Jubbah and local private museum and collection holders	Necessary	Year 1
I3.2	Develop interpretive activities that will appeal to families with children.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Interpretation consultants	Necessary	Years 2-3
I3.3	Promote the protection and conservation of traditional buildings and street morphology surrounding the visitor centre as an additional attraction to visitors.	Municipality of Jubbah	SCTA	Desirable	Year 3 onwards
I4	**Visitor reception points will provide information on each site and give an introduction to the visit.**				
I4.1	Work with designers to develop simple, easy to maintain and robust display panels on the individual sites for indoor use in the reception points.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Interpretation consultants	Necessary	Year 2

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
I4.2	Develop podcasts or similar mobile technologies to provide more in-depth interpretation on the rock art and other aspects (e.g. flora and fauna) of the sites. These should be linked to the display panels and accessed by scanning a code on the panels with a mobile phone.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Interpretation consultants	Desirable	Year 3
I4.3	Develop a short video to be shown at the start of a group visit that conveys things to be aware and considerate of when visiting the sites.	SCTA (Museums Directorate) & SCTA in Hail (Director of Antiquities and the Regional Museum)	Interpretation consultants	Desirable	Year 4
I5	**Local site guardians will be the main point of information and guides at the sites.**				
I5.1	Train local guards to welcome and guide visitors around the sites.	SCTA in Hail		Essential	Year 1
I6	**Interpretation material and signage within the site boundaries will be kept to a minimum.**				
I6.1	Only essential and directional signage should be placed at the sites. This signage should be uniform in appearance, and sensitive to the environment and natural setting of the sites.	SCTA & SCTA in Hail (Director of Antiquities and the Regional Museum)	Interpretation consultants	Necessary	Year 2
I6.2	Where rock art may be visible from beyond the site boundary a view point with interpretation panels might be considered on the boundary fence. Such interpretation should be low level, conform to the design guidelines for structures within the site boundary and in no way visually impact on the site and its setting.	SCTA in Hail (Director of Antiquities and the Regional Museum) & Municipality of Jubbah	Interpretation consultants	Desirable	Year 3-4

Education policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
E1	**Through the proposed Centre for Rock Art Research and other initiatives the educational potential of the sites will be actively promoted.**				
E1.1	Working in partnership with research and excavation missions working at the rock art sites enable Saudi students to participate in the work of the missions (on site, in research laboratories and in material conservation).	SCTA	Hail University, Saudi Universities and international research expeditions	Necessary	Years 1-5
E1.2	Seek funding for Saudi scholars to undertake PhD level studies or research at international partner institutions and centres specialising in rock art.	SCTA, Saudi Ministry of Higher Education	Saudi Universities	Necessary	Year 2 onwards
E1.3	Establish means through which Saudi students can be trained in the most up-to-date scientific and technical methods required for rock art conservation.	SCTA	International research centres	Essential	Year 3 onwards
E1.4	Introduce lectures or modules on rock art at the Departments of Archaeology in Riyadh and Hail, including input from international experts working in Saudi Arabia.	Hail University, Saudi Universities with Archaeology departments and international research expeditions		Desirable	Year 2 onwards

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
E2	**A strong educational component will be developed as part of the interpretation of the sites and rock art in Hail Province.**				
E2.1	As part of the development of Hail Museum appoint an education specialist to work with the museum designers to develop displays that are suitable and attractive to various age groups.	SCTA in Hail (Director of Antiquities and the Regional Museum)		Necessary	Year 2
E2.2	Commission from an education specialist, educational materials, including teacher guides, linking the exhibition material to the Saudi Ministry of Education curriculum.	SCTA in Hail (Director of Antiquities and the Regional Museum)	SCTA in Hail & Hail Education Department	Desirable	Years 3-4
E2.3	Train education officers to work in the Museum to liaise with schools and guide school visits.	SCTA in Hail (Director of Antiquities and the Regional Museum)	SCTA in Hail & Hail Education Department	Desirable	Year 3
E3	**A system of local rangers (guides/guards) developed in partnership with the local Bedouin communities living in close proximity to the sites, will form the core of site protection and visitor services offered at the site.**				
E3.1	Establish a centre in Hail to coordinate the appointment, training and activities of local site rangers.	SCTA in Hail		Necessary	Year 2
E3.2	Provide adequate training to appointed rangers, including the importance of the sites, managing and protecting the rock art and areas of archaeological significance, leading and guiding visitor groups, and basic first aid.	SCTA in Hail		Necessary	Year 2
E3.3	Monitor efficacy of training and organise regular refresher courses that also allow rangers to share their experiences.	SCTA in Hail		Desirable	Year 3 on-wards
E3.4	Roll out the ranger programme to other rock art sites in the province.	SCTA in Hail		Desirable	Year 3-4

Tourism policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
T1	**Hail Museum will be the centre for the launch of the Rock Drawings of Hail Province World Heritage Site.**				
T1.1	Prepare a temporary exhibition either in Hail Museum (or elsewhere in the transition to the new museum) in preparation for the launch of the World Heritage Site nomination.	SCTA in Hail (Director of Antiquities and the Regional Museum)	Exhibition designers	Essential	Year 1
T1.2	Promote the WHS nomination through events and activities that will appeal to broad audience, as well as through conferences and scientific workshops.	SCTA WHS Di-rectorate & SCTA in Hail	Saudi and international Universities, and IFRAO	Necessary	Year 1
T1.3	Promote the WHS nomination through similar events and activities in Jubbah.	SCTA in Hail & Municipality of Jubbah		Necessary	Year 1

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
T1.4	Use the WHS nomination as a key theme for promoting Hail in 2014 (1435H).	SCTA in Hail (Director of Tourism)	Local tourism agencies	Necessary	Year 1
T2	**Longer term tourism strategies for the province will position the WHS as a significant asset for Hail Province.**				
T2.1	Actively promote Hail Museum as a gateway to the rock art sites and the cultural heritage of Hail Province.	SCTA in Hail (Director of Antiquities and the Regional Museum)		Necessary	Year 3 onwards
T2.2	Develop links to other cultural heritage sites beyond the province in developing tourism itineraries and thematic clusters.	SCTA & SCTA in Hail	SCTA in Medinah Province	Desirable	Medium term
T3	**Tourism development projects in proximity to the rock art sites will be sensitive to the significance of the sites and their natural setting.**				
T3.1	Work in close collaboration with local municipalities, planning departments and potential investors to ensure that proposals for tourism projects are designed to be sensitive to the sites and their natural surroundings, following similar design principles and guidelines as recommended for the buffer zones.	SCTA in Hail	Municipalities of Jubbah and Al Ghazalah Tourism investors and developers	Essential	Years 1-5
T3.2	Establish ways in which proposed new transportation links can be connected to cultural heritage sites where this is desirable.	SCTA	Highways Department?	Necessary	Medium term

Implementation policies

Ref	Policy	Responsible organisation	Partners	Urgency	Time period
Imp 1	Agree final version of the action plan with all stakeholders identified as responsible organisations and partners	SCTA WHS Directorate	All	Essential	Prior to inscription
Imp 2	Review the Management Plan on an annual basis to monitor progress and make any adjustments that may be necessary as a result of changing circumstances	SCTA WHS Directorate		Essential	Annually
Imp	At the end of five years, review and revise the Management Plan, update as necessary and issue a new Action Plan to cover the next five year period.	SCTA WHS Directorate		Necessary	Year 5

Sources consulted for the Management Plan

Hail Province Tourism Development Plan (2004)

Hail City Tourism Development Plan (2005)

Operational Guidelines of the World Heritage Convention, UNESCO (2013)

Report of the ICOMOS Advisory Mission, Mr Roberto Ontanon-Peredo (2013)

Rock Drawings in the Hail Region, The Kingdom of Saudi Arabia – draft nomination document (Dr Majeed Khan)

Royal Decree No. M/26 dated 23/06/1392H (1972), with updates.

All academic sources relating to the history and archaeology of the sites are listed in the Reference Bibliography in Appendix 1.

Appendix 1: Reference Bibliography

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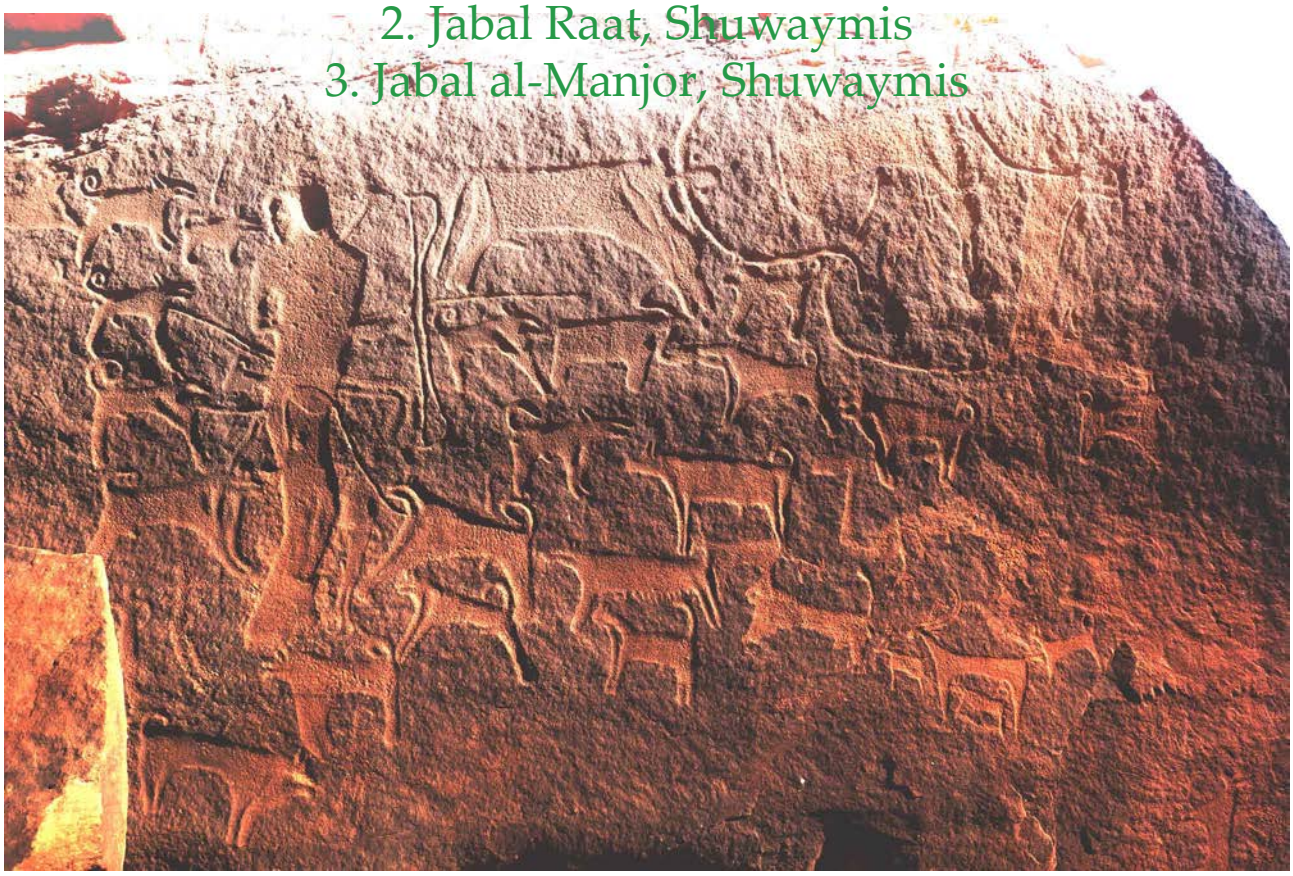
Rock Art in the Hail Region of Saudi Arabia

ANNEX 2

Photographs of Rock Art and Archaeological Sites

1. Jabal Umm Sinman, Jubbah
2. Jabal Raat, Shuwaymis
3. Jabal al-Manjor, Shuwaymis



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Rock Art in the Hail Region of Saudi Arabia

ANNEX 3

Maps and site numbers

Maps provided with WHS nomination:

1. Map of the Kingdom of Saudi Arabia.
2. Map of the Hail region.
3. Satellite map of Jubbah.
4. Topographical map of Jubbah.
5. Map showing coordinates of buffer zone, Jubbah.
6. Map showing core zone of Jabal Umm Sinman.
7. Map showing rock site numbers in core zone of Jubbah.
8. Satellite map of Shuwaymis.
9. Coordinates of the buffer zone of Jabal al-Manjor and Jabal Raat at Shuwaymis.
10. Coordinates of the core zone of Jabal al-Manjor and Jabal Raat.
11. Map showing the rock art locations at Jabal al-Manjor and Jabal Raat.
12. Map showing the rock art site numbers at Jabal al-Manjor and Jabal Raat.

Site Numbers of recorded rock art sites with their coordinates, Hail Region of the Kingdom of Saudi Arabia

Jubbah

#	District	Longitude	Latitude
1	Jubbah	40 55.097	28 01.905
2	Jubbah	40 55.089	28 01.912
3	Jubbah	40 55.089	28 01.914
4	Jubbah	40 55.093	28 01.916
5	Jubbah	40 55.095	28 01.918
6	Jubbah	40 55.100	28 01.926
7	Jubbah	40 55.091	28 01.920
8	Jubbah	40 55.139	28 01.951
9	Jubbah	40 55.151	28 01.945
10	Jubbah	40 55.140	28 01.926
11	Jubbah	40 55.137	28 01.910
12	Jubbah	40 55.122	28 01.922
13	Jubbah	40 55.114	28 01.909
14	Jubbah	40 55.137	28 01.792
15	Jubbah	40 55.157	28 01.794
16	Jubbah	40 55.160	28 01.796
17	Jubbah	40 55.189	28 01.473
18	Jubbah	40 55.182	28 01.475
19	Jubbah	40 55.155	28 01.476
20	Jubbah	40 55.154	28 01.458
21	Jubbah	40 55.185	28 01.437
22	Jubbah	40 55.180	28 01.449
23	Jubbah	40 55.375	28 01.436
24	Jubbah	40 55.378	28 01.436
25	Jubbah	40 55.378	28 01.420
26	Jubbah	40 55.366	28 01.408
27	Jubbah	40 55.185	28 01.437
28	Jubbah	40 55.359	28 01.406
29	Jubbah	40 55.357	28 01.416
30	Jubbah	40 55.388	28 01.432
31	Jubbah	40 55.417	28 01.421
32	Jubbah	40 55.408	28 01.401
33	Jubbah	40 55.419	28 01.405
34	Jubbah	40 55.404	28 01.407
35	Jubbah	40 55.440	28 01.422
36	Jubbah	40 55.438	28 01.413
37	Jubbah	40 55.493	28 01.174
38	Jubbah	40 55.499	28 01.177
39	Jubbah	40 55.501	28 01.180
40	Jubbah	40 55.503	28 01.188
41	Jubbah	40 55.506	28 01.181
42	Jubbah	40 55.506	28 01.188
43	Jubbah	40 55.532	28 01.214
44	Jubbah	40 55.525	28 01.217
45	Jubbah	40 55.517	28 01.211
46	Jubbah	40 55.852	28 00.749
47	Jubbah	40 55.846	28 00.753
48	Jubbah	40 55.837	28 00.720
49	Jubbah	40 55.827	28 00.704
50	Jubbah	40 55.804	28 00.686
51	Jubbah	40 55.805	28 00.688
52	Jubbah	40 55.799	28 00.688
53	Jubbah	40 55.49	27 50.998
54	Jubbah	40 55.394	27 59.010
55	Jubbah	40 54.813	27 59.049
56	Jubbah	40 54.802	27 59.057
57	Jubbah	40 54.805	27 59.084
58	Jubbah	40 54.798	27 59.085
59	Jubbah	40 54.812	27 59.102
60	Jubbah	40 54.813	27 59.105
61	Jubbah	40 54.811	27 59.095
62	Jubbah	40 54.486	27 59.275
63	Jubbah	40 54.467	27 59.289
64	Jubbah	40 54.444	27 59.293
65	Jubbah	40 54.448	27 59.301
66	Jubbah	40 54.438	27 59.305
67	Jubbah	40 54.451	27 59.310
68	Jubbah	40 54.426	27 59.310
69	Jubbah	40 54.370	27 59.308
70	Jubbah	40 54.371	27 59.321
71	Jubbah	40 54.355	27 59.342
72	Jubbah	40 54.450	27 01.586
73	Jubbah	40 55.377	28 01.440
74	Jubbah	40 55.373	28 01.435
75	Jubbah	40 55.377	28 01.419
76	Jubbah	40 55.381	28 01.413
77	Jubbah	40 55.367	28 01.410
78	Jubbah	40 55.359	28 01.417
79	Jubbah	40 55.357	28 01.416
80	Jubbah	40 55.354	28 01.420
81	Jubbah	40 54.810	27 59.049
82	Jubbah	40 54.801	27 59.059

83	Jubbah	40 54.805	27 59.082
84	Jubbah	40 54.794	27 59.085
85	Jubbah	40 54.812	27 59.103
86	Jubbah	40 54.809	27 59.109
87	Jubbah	40 54.827	27 59.096
88	Jubbah	40 54.488	27 59.278
89	Jubbah	40 54.468	27 59.288
90	Jubbah	40 54.443	27 59.292
91	Jubbah	40 54.449	27 59.302
92	Jubbah	40 54.439	27 59.304
93	Jubbah	40 54.453	27 59.309
94	Jubbah	40 54.423	27 59.313
95	Jubbah	40 54.370	27 59.310
96	Jubbah	40 54.374	27 59.321
97	Jubbah	40 54.356	27 59.343
98	Jubbah	40 54.234	28 00.263
99	Jubbah	40 54.249	28 00.272
100	Jubbah	40 53.796	28 00.663
101	Jubbah	40 53.912	28 00.618
102	Jubbah	40 53.922	28 00.614
103	Jubbah	40 53.935	28 00.614
104	Jubbah	40 53.966	28 00.634
105	Jubbah	40 54.109	28 00.580
106	Jubbah	40 54.445	28 01.583

Shuwaymis

#	District	Longitude	Latitude
1	Shuwaymis	39 53.040	26 08.976
2	Shuwaymis	39 53.053	26 08.969
3	Shuwaymis	39 53.040	26 08.953
4	Shuwaymis	39 53.035	26 08.935
5	Shuwaymis	39 53.028	26 08.900
6	Shuwaymis	39 53.019	26 08.860
7	Shuwaymis	39 53.026	26 08.841
8	Shuwaymis	39 53.109	26 08.853
9	Shuwaymis	39 53.108	26 08.860
10	Shuwaymis	39 53.086	26 08.858
11	Shuwaymis	39 53.087	26 08.870
12	Shuwaymis	39 53.092	26 08.872
13	Shuwaymis	39 53.091	26 08.875
14	Shuwaymis	39 53.123	26 08.866
15	Shuwaymis	39 53.118	26 08.857
16	Shuwaymis	39 53.124	26 08.856
17	Shuwaymis	39 53.107	26 08.851
18	Shuwaymis	39 53.111	26 08.841
19	Shuwaymis	39 53.121	26 08.844
20	Shuwaymis	39 53.125	26 08.851
21	Shuwaymis	39 53.130	26 08.854
22	Shuwaymis	39 53.127	26 08.844
23	Shuwaymis	39 53.128	26 08.838
24	Shuwaymis	39 53.134	26 08.832
25	Shuwaymis	39 53.143	26 08.859
26	Shuwaymis	39 53.749	26 09.032
27	Shuwaymis	39 53.757	26 09.035
28	Shuwaymis	39 53.765	26 09.038
29	Shuwaymis	39 53.757	26 09.039
30	Shuwaymis	39 53.757	26 09.052
31	Shuwaymis	39 53.766	26 09.046
32	Shuwaymis	39 53.772	26 09.063
33	Shuwaymis	39 53.770	26 09.073
34	Shuwaymis	39 53.781	26 09.071
35	Shuwaymis	39 53.783	26 09.078
36	Shuwaymis	39 53.786	26 09.081
37	Shuwaymis	39 53.784	26 09.082
38	Shuwaymis	39 53.793	26 09.094
39	Shuwaymis	39 53.782	26 09.129
40	Shuwaymis	39 53.795	26 09.126
41	Shuwaymis	39 53.795	26 09.138
42	Shuwaymis	39 53.788	26 09.155
43	Shuwaymis	39 53.790	26 09.167
44	Shuwaymis	39 53.786	26 09.191
45	Shuwaymis	39 53.784	26 09.196
46	Shuwaymis	39 53.800	26 09.215
47	Shuwaymis	39 53.854	26 09.251
48	Shuwaymis	39 53.862	26 09.269
49	Shuwaymis	39 53.868	26 09.288
50	Shuwaymis	39 53.870	26 09.306
51	Shuwaymis	39 53.876	26 09.317
52	Shuwaymis	39 53.873	26 09.325
53	Shuwaymis	39 53.878	26 09.350
54	Shuwaymis	39 53.892	26 09.390
55	Shuwaymis	39 53.898	26 09.385
56	Shuwaymis	39 53.087	26 08.797
57	Shuwaymis	39 53.074	26 08.808
58	Shuwaymis	39 53.075	26 08.802
59	Shuwaymis	39 53.074	26 08.810
60	Shuwaymis	39 53.065	26 08.804
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67	Shuwaymis	39 53.061	26 08.762
68	Shuwaymis	39 53.057	26 08.761
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79	Shuwaymis	39 53.104	26 08.660
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81	Shuwaymis	39 53.114	26 08.656
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84	Shuwaymis	39 53.054	26 08.626
85	Shuwaymis	39 53.039	26 08.601
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87	Shuwaymis	39 53.038	26 08.588
88	Shuwaymis	39 53.060	26 08.591
89	Shuwaymis	39 53.055	26 08.584
90	Shuwaymis	39 53.047	26 08.579
91	Shuwaymis	39 53.054	26 08.584
92	Shuwaymis	39 53.104	26 08.569
93	Shuwaymis	39 53.120	26 08.669
94	Shuwaymis	39 53.108	26 08.687
95	Shuwaymis	39 53.097	26 08.696
96	Shuwaymis	39 53.073	26 08.716
97	Shuwaymis	39 53.079	26 08.719
98	Shuwaymis	39 53.075	26 08.725
99	Shuwaymis	39 53.075	26 08.718
100	Shuwaymis	39 53.069	26 08.723
101	Shuwaymis	39 53.070	26 08.723
102	Shuwaymis	39 53.071	26 08.739
103	Shuwaymis	39 53.063	26 08.747
104	Shuwaymis	39 53.061	26 08.752
105	Shuwaymis	39 53.075	26 08.760
106	Shuwaymis	39 53.140	26 08.872
107	Shuwaymis	39 53.052	26 09.007
108	Shuwaymis	39 53.049	26 09.016
109	Shuwaymis	39 53.043	26 09.022
110	Shuwaymis	39 53.048	26 09.026
111	Shuwaymis	39 53.050	26 09.035
112	Shuwaymis	39 52.771	26 09.007
113	Shuwaymis	39 52.718	26 09.228
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115	Shuwaymis	39 52.807	26 09.553
116	Shuwaymis	39 52.844	26 09.564
117	Shuwaymis	39 52.856	26 09.574
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119	Shuwaymis	39 53.104	26 09.359
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123	Shuwaymis	39 53.181	26 09.338
124	Shuwaymis	39 53.192	26 09.347
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126	Shuwaymis	39 53.196	26 09.316
127	Shuwaymis	39 53.180	26 09.407
128	Shuwaymis	39 53.181	26 09.420
129	Shuwaymis	39 53.176	26 09.426
130	Shuwaymis	39 53.179	26 09.428
131	Shuwaymis	39 53.097	26 10.289
132	Shuwaymis	39 53.112	26 10.287
133	Shuwaymis	39 53.155	26 10.285
134	Shuwaymis	39 53.274	26 10.251
135	Shuwaymis	39 53.305	26 10.264
136	Shuwaymis	39 53.303	26 10.331
137	Shuwaymis	39 53.355	26 10.341
138	Shuwaymis	39 53.385	26 10.341
139	Shuwaymis	39 53.382	26 10.403
140	Shuwaymis	39 53.734	26 10.322
141	Shuwaymis	39 53.724	26 10.305
142	Shuwaymis	39 53.701	26 10.227
143	Shuwaymis	39 53.719	26 10.224
144	Shuwaymis	39 53.754	26 10.012
145	Shuwaymis	39 53.757	26 10.003
146	Shuwaymis	39 53.756	26 09.992
147	Shuwaymis	39 53.971	26 09.545
148	Shuwaymis	39 53.959	26 09.517
149	Shuwaymis	39 53.948	26 09.486
150	Shuwaymis	39 53.933	26 09.442
151	Shuwaymis	39 53.910	26 09.404
152	Shuwaymis	39 53.828	26 08.995
153	Shuwaymis	39 53.847	26 09.009
154	Shuwaymis	39 53.886	26 09.026

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تنمية مسؤولة

إدارة سجل الآثار

Kingdom Of Saudi Arabia
Hail Region

- Capital city
- Border Region
- International Border
- Neighboring Countries
- Sea
- Saudi Arabia

N

0 100 200 300
KM

1:6,000,000

Geographic Coordinate System
WGS 1984

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2014

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تنمية مسؤولة

إدارة سجل الآثار

Hail Region

- Candidate sites
- Governorate Of The Region
- Border Region
- Border Governorates

N

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KM

1:1,165,000

Geographic Coordinate System
WGS 1984

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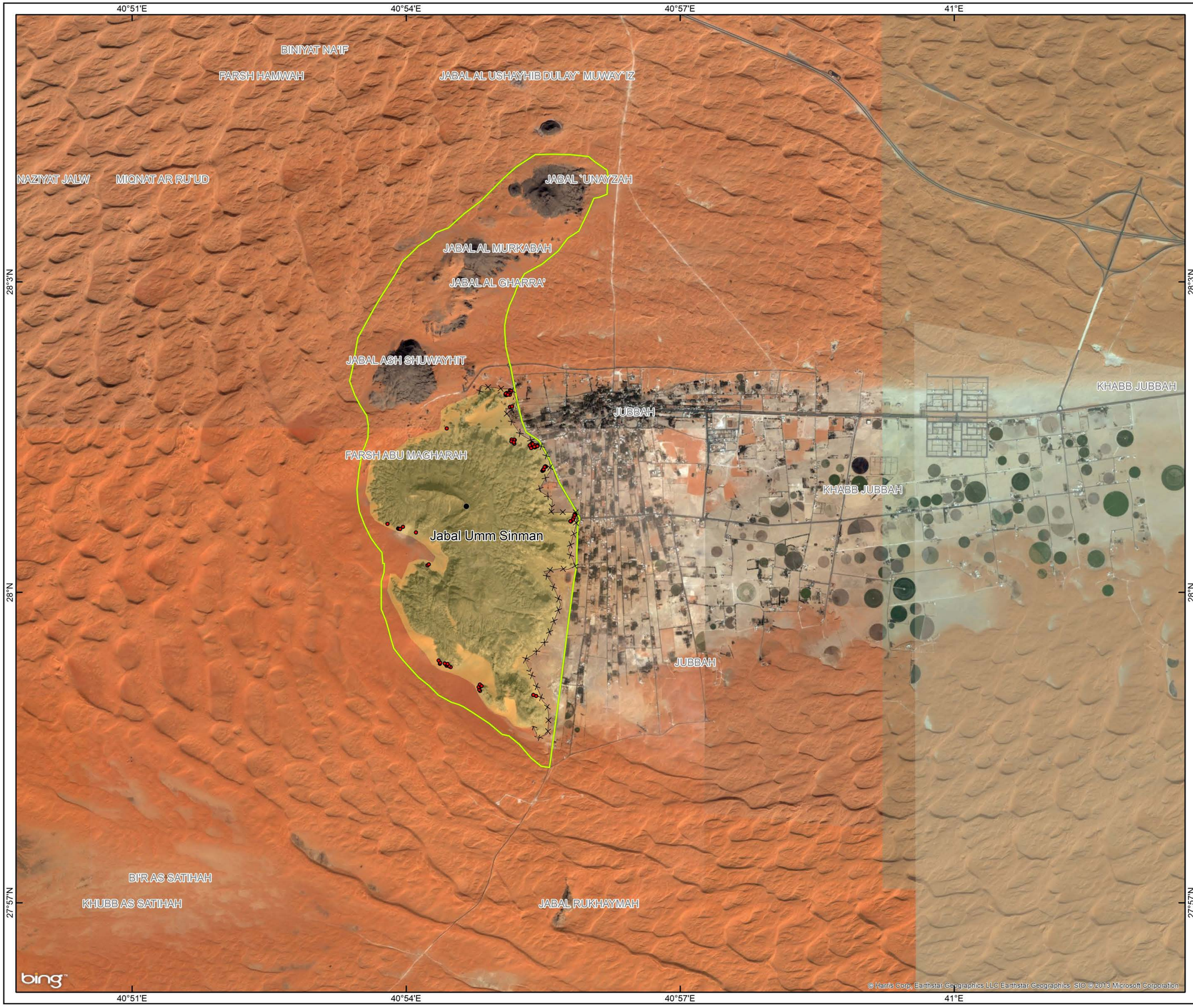

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تنمية مسؤولة

إدارة سجل الآثار

Jubbah (Umm Sinman)

- Rock Art Sites
- Fence
- Demarcation Poles
- Site Area

Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 1 2 3
KM

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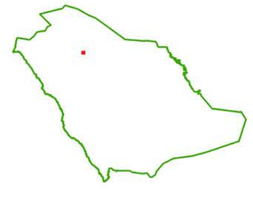

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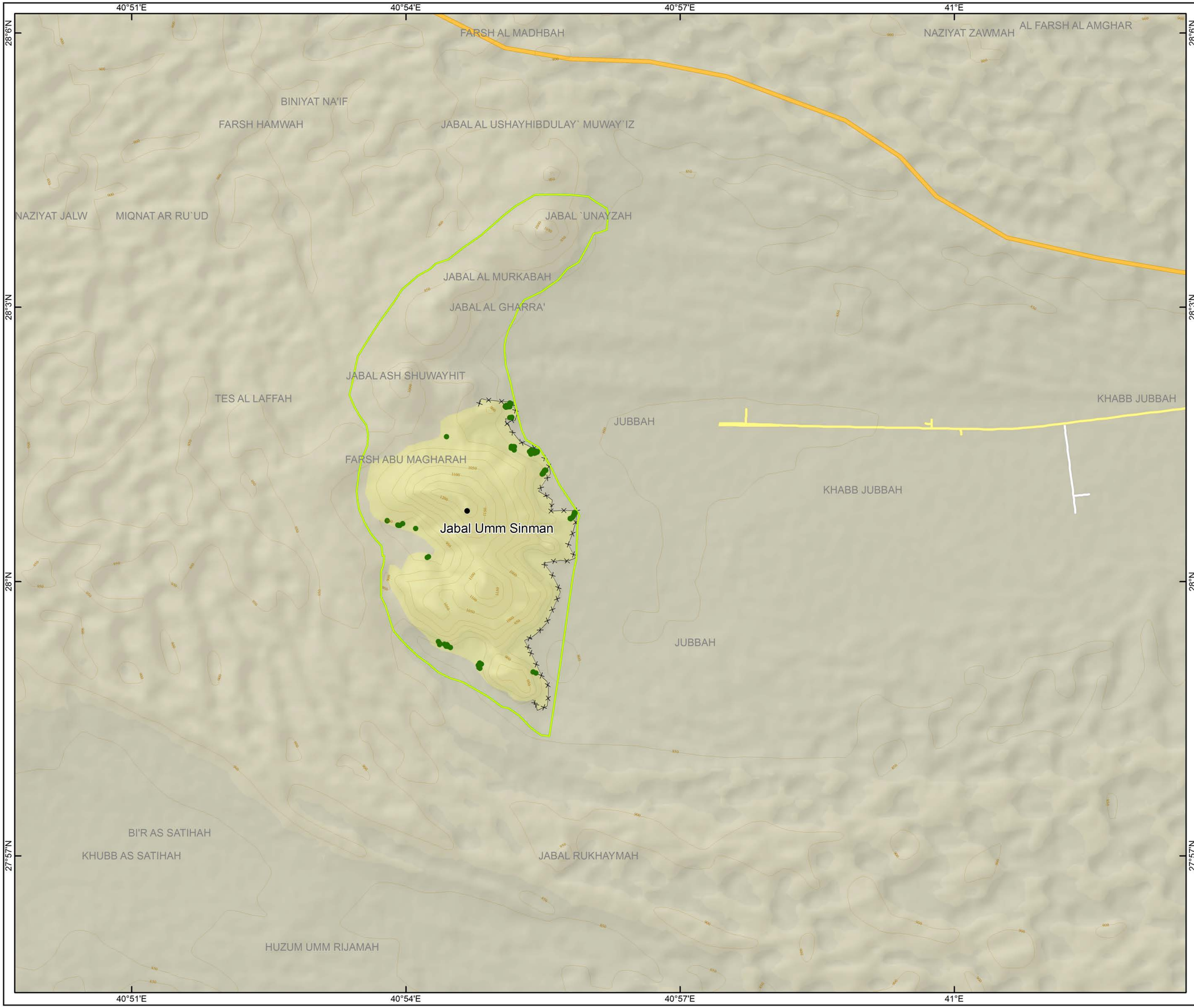

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تنمية مسؤولة

إدارة سجل الآثار

Jubbah (Umm Sinman)

- Rock Art Sites
- Contours
- Fence
- Road
- Demarcation Poles
- Site Area

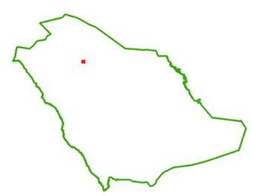
Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 1 2 3
KM

1:50,000



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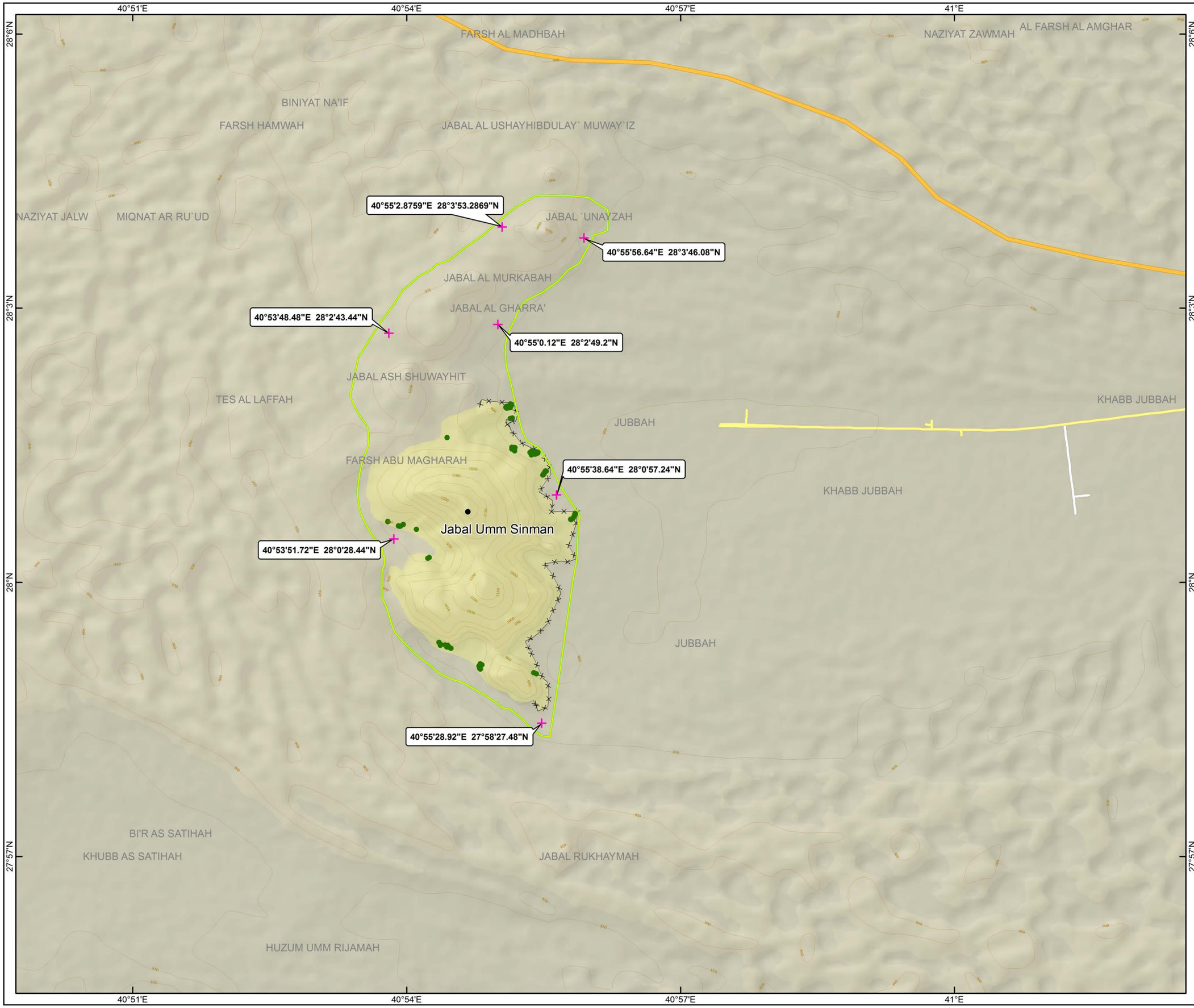

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Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Jubbah (Umm Sinman)

- Rock Art Sites
- Coordinate
- Contours
- Fence
- Road
- Demarcation Poles
- Site Area

Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 1 2 3
KM

1:50,000

Geographic Coordinate System
WGS 1984

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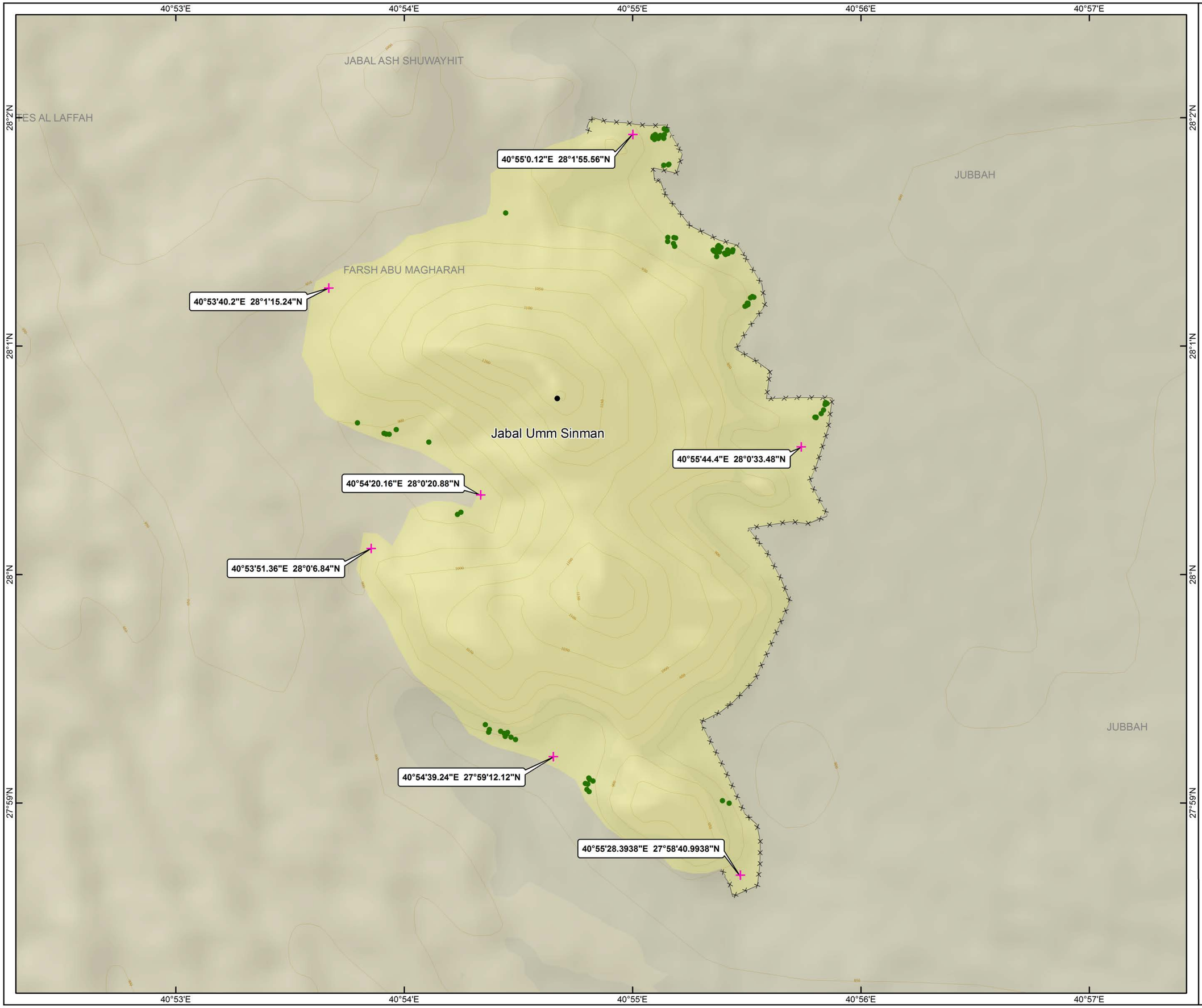
2014



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Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Jubbah (Umm Sinman)

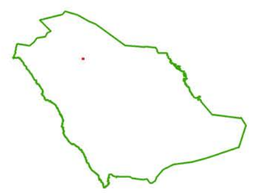
- Rock Art Sites
- Coordinate
- Fence
- Contours
- Site Area

Coordinates
40°54'40.23"E
28°00'46.23"N

N

0 500 1,000
Meters

1:20,000



Geographic Coordinate System
WGS 1984

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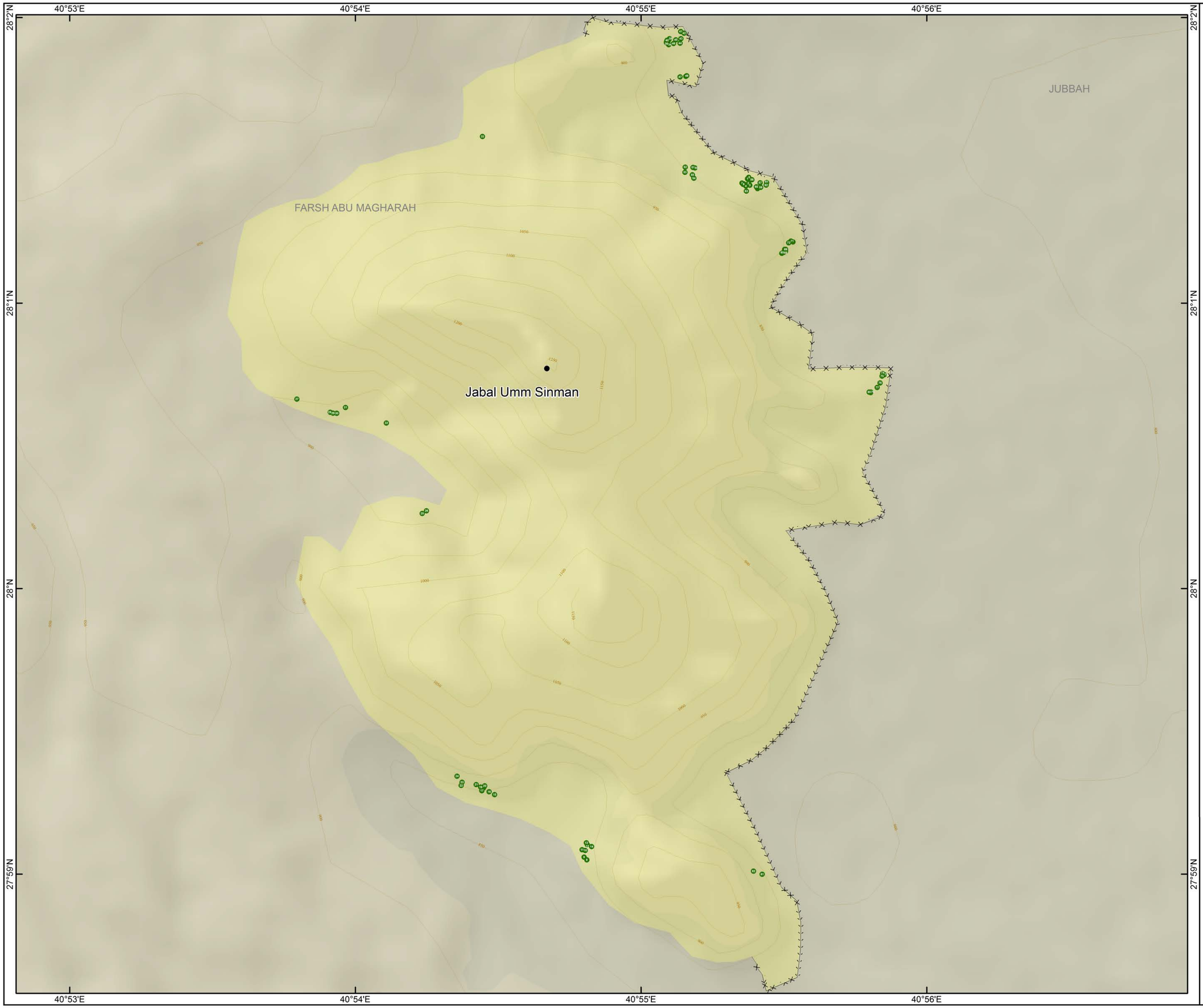
2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Jubbah (Umm Sinman)

- Rock Art Sites
- Fence
- Contours
- Site Area

Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 400 800
Meters

1:16,000

Geographic Coordinate System
WGS 1984

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تنمية مسؤولة

إدارة سجل الآثار

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Stone Structure
- BedouinTent
- Fence
- Demarcation Poles
- Core Zone
- Site Area

Coordinates

39°53'27.38"E
26°09'31.50"N

N

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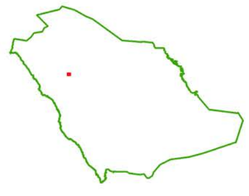
KM

1:50,000



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WGS 1984

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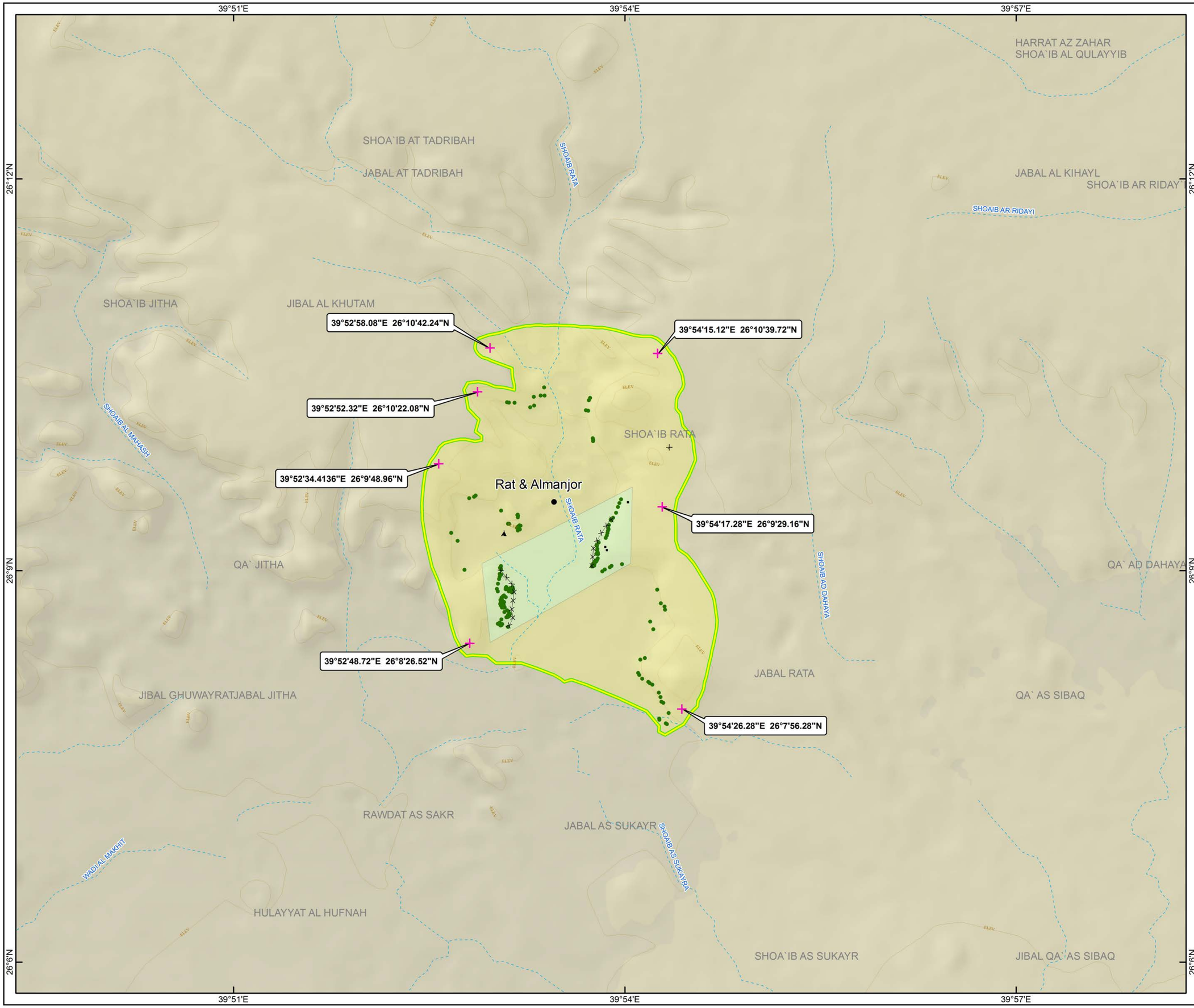
2014



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Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Coordinate
- Stone Structure
- BedouinTent
- Contours
- Fence
- Valley
- Demarcation Poles
- Core Zone
- Site Area

Coordinates

39°53'27.38"E
26°09'31.50"N

N

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KM

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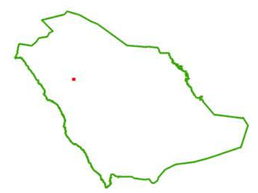
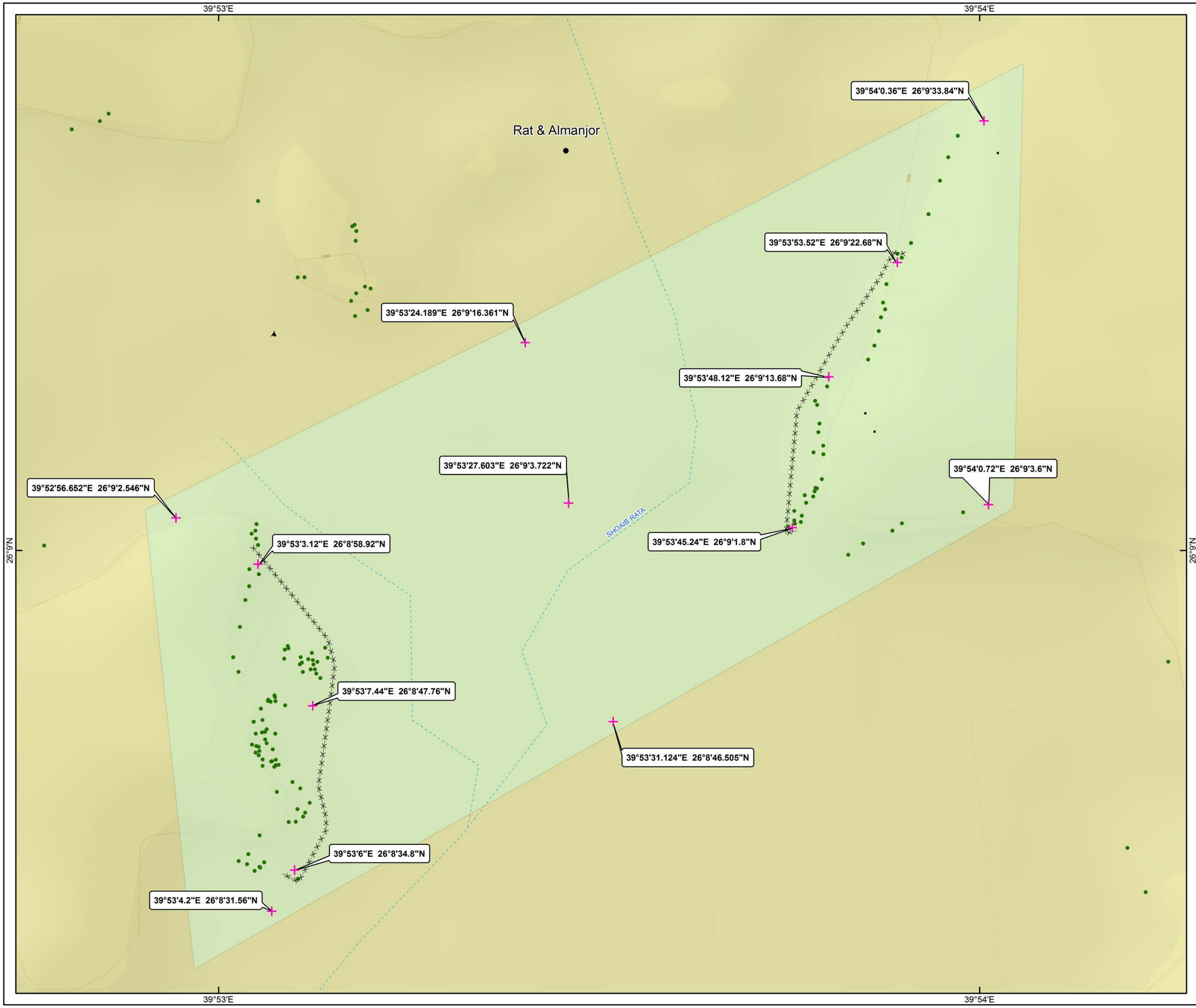


Geographic Coordinate System
WGS 1984

PREDARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Coordinate
- Stone Structure
- BedouinTent
- Contours
- Fence
- Valley
- Core Zone

Coordinates

39°53'27.38"E
26°09'31.50"N

N

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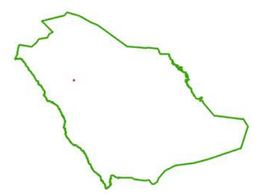
Meters

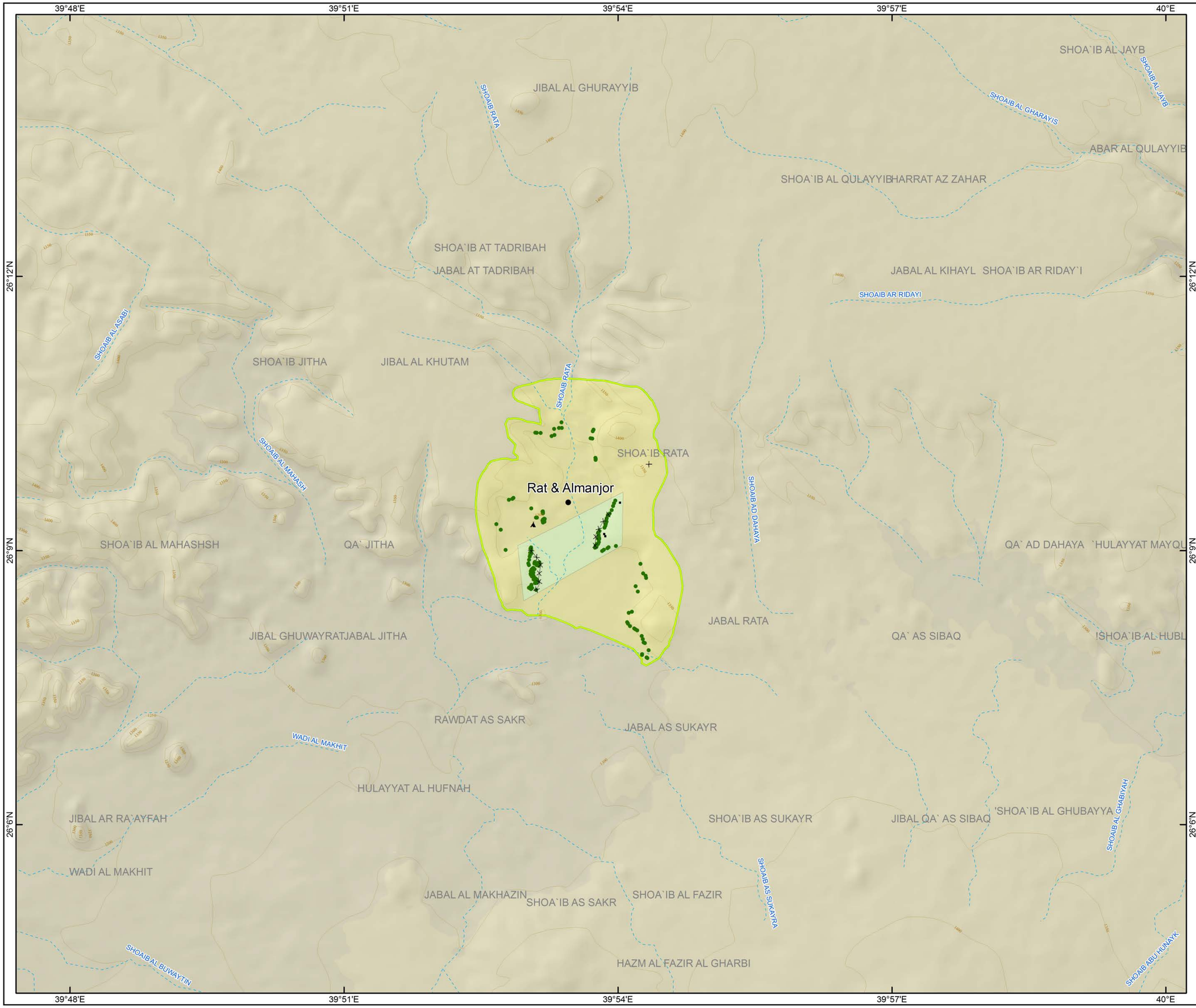
1:6,000



Geographic Coordinate System
WGS 1984

PREDARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Stone Structure
- BedouinTent
- Contours
- Fence
- Valley
- Demarcation Poles
- Core Zone
- Site Area

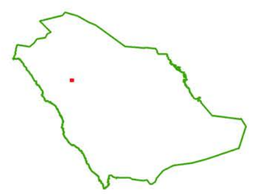
Coordinates

39°53'27.38"E
26°09'31.50"N

N

0 1 2 3
KM

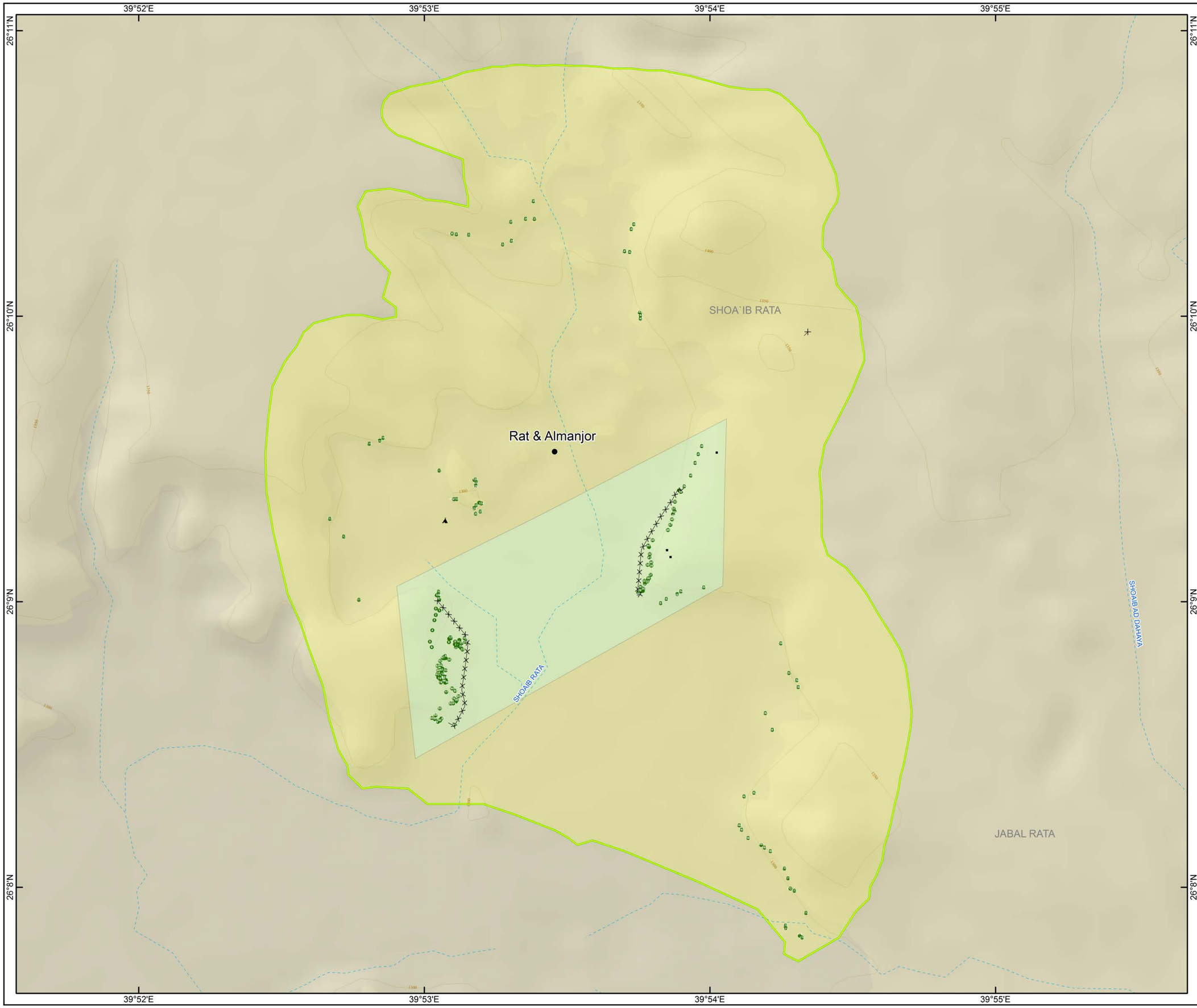
1:50,000



Geographic Coordinate System
WGS 1984

PREDARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

إدارة سجل الآثار

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Stone Structure
- BedouinTent
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- Fence
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- Demarcation Poles
- Core Zone
- Site Area

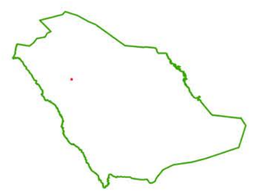
Coordinates

39°53'27.38"E
26°09'31.50"N

N

0 200 400
Meters

1:16,000



Geographic Coordinate System
WGS 1984

PREDARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

بسم الله الرحمن الرحيم

DÉLÉGATION PERMANENTE
DU ROYAUME D' ARABIE SAOUDITE
AUPRÈS DE L'UNESCO
PARIS

المملكة العربية السعودية
الوفد الدائم لدى اليونسكو
باريس

Ref:2/2/6- ٢١٦

Paris 23/10/2014

Dear madam,

Referring to your letter ref GB/MA 1472 dated the 8th of September 2014, concerning your request for additional information regarding the nomination of " Rock Art in the Hail Region of Saudi Arabia";

Please find attached the responses of the Saudi Commission for Tourism & Antiquities to the required information, in addition of the following documents:

1. Supplementary File 1
2. Supplementary File 2
3. Supplementary File 3
4. 7 books concerning the Tourism & Antiquities in the Kingdom of Saudi Arabia .

Please accept, dear madam, the assurances of my highest consideration.

Ambassador, Permanent Delegate
of Saudi Arabia

Ziad ALDRESS

Mrs Regina Durighello
Director World Heritage Unit
ICOMOS

1, RUE MIOLLIS - 75015 PARIS - TéL : 01 45 68 34 06 - FAX : 01 47 83 27 24

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
(٢٥٠)

رقم: 15870
التاريخ: 1435/12/27
المرفقات: 0
٧٠٠١٤٠٢٩٠٣
خطاب + كتب

الموضوع: الإجابة على استفسار الأيكوموس

سعادة سفير المملكة لدى اليونسكو   حفظه الله

السلام عليكم ورحمة الله وبركاته

إشارة إلى كتاب مديرة برنامج التراث العالمي في الأيكوموس (مرفق) حول طلبها لمعلومات ووثائق إضافية أرفق لسعادتكم ردنا على استفساراتها والمرفقات المطلوبة.

نأمل من سعادتكم توجيه من ترون بسرعة تسليمها قبل التاريخ المحدد في كتابها.

المرفقات:

نسختين من استراتيجية التنمية السياحية في حائل.

نسختين من استراتيجية الهيئة لتنمية حائل.

نسختين من ملحق ملف رقم ١

نسختين من ملحق ملف رقم ٢

نسختين من ملحق ملف رقم ٣

نسختين من أعداد أطلال ١، ٢، ٦، ٩، ١٠.

ولسعادتكم تحياتنا وتقديرنا.

نائب رئيس الهيئة والمشرف العام

على مشروع تطوير التراث

الدكتور علي بن إبراهيم الغبان

مكتب المندوب الدائم للمملكة العربية السعودية لدى اليونسكو بباريس
الرقم: ٣٨/٦/٢/٢
التاريخ: ٢٩/١٢/١٤٣٥ – ٢٣/١٠/٢٠١٤م
المرفقات:

ص ب ٦٦٦٨٠، الرياض ١١٥٨٦، المملكة العربية السعودية، هاتف ٨٨٠٨٨٥٥ ١١ ٩٦٦+ فاكس ٨٨٠٨٨٤٤ ١١ ٩٦٦+
P O Box 66680, Riyadh 11586, Kingdom of Saudi Arabia, T: +966 11 8808855 F: +966 11 880 8844
info@scta.gov.sa www.scta.gov.sa

Maps

1. In the *Operational Guidelines for the implementation of the World Heritage Convention* (Annex 5), it is stipulated that amongst maps that are submitted together with a nomination document, there should be one that indicates clearly the zones of special legal protection from which the nominated property will benefits. It is noticed that no such map was attached to the nomination dossier, and it would therefore be helpful if a map that outlines the nominated properties' zones of use or of special legal protection could be provided by the State Party. Especially, in light of the fact that on p. 42 of the nomination dossier, it is reported that further site facilities are still to be decided and established.

Authenticated maps of the zones of special legal protection are attached (supplementary file 1).
These maps are signed and stamped by:
Head of local Municipality of both sits.
Head of the Municipality of Hail Region.
Deputy Minister of the Ministry of Municipal and Rural Affairs for City planning.

2. It is noted that the maps attached to the nomination dossier by the State Party use terms not in the language of the 1972 Convention (i.e. core zone, site area and demarcation poles) to refer to the nominated property and its buffer zone. In order to avoid confusion, it would be helpful if the State Party could use the terms provided in the Convention, that is, nominated property and buffer zone on these maps as well.

Maps stating the two terms "nominated property" and "buffer zone" are attached (supplementary file 2).

Development

3. On page 39, it is reported that there is a construction underway (late 2013) for a less obstructive dam designed to drain storm waters.

Could the State Party identify the location of this dam and its distance from the nominated property on a map?

Added to maps in the supplementary file 2.

Integrity

4. On pages 21, there is mention of burial sites, and stone structures and stone implements scattered widely over the sites. It would be helpful if an indication of the location of these burial sites, stone structures and stone implements that are scattered widely over the sites could be identified on a map.

Added to maps in the supplementary file 2.

5. On pages 16 and 26, there is reference to a Comprehensive Archaeological Survey that was done for the Kingdom. Could the State Party provide a copy of this survey if available?

Attached copies of the Journal of Saudi Arabian Archaeology (Atlal) Vol. 1, 2, 6, 9 and 10.

Tourism

6. On page 38, there is mention of a 40 km long road that is under construction to join the village of Shuwaymis to the interpretation centre at the entrance to the buffer zone. It would be helpful if this interpretation centre could be indicated in one of the maps attached as part of the nomination document. Furthermore, copies of architectural drawings of the interpretation centre would be appreciated.

The interpretation centre is added to the pertained maps in the supplementary file 2.

The architectural drawings is supplemented in the supplementary file 3.

7. On page 40, there is reference to a Provincial Tourism Plan for the Kingdom of Saudi Arabia completed in 2002 and the Hail Tourism Plan completed in 2004. Could the State Party provide copies of these plans?

The Saudi Commission for Tourism and Antiquities Provincial Tourism Plan for the Kingdom of Saudi Arabia completed in 2002, Hail Region chapter is attached.

Hail Tourism Plan completed in 2004 is attached.

8. On page 41, reference is made to plans to build a new museum and a hotel of Bedouin-styletents in Jubbah as well as in Shuwaymis to service the nominated property. Though, it is understood that these planned developments would be located outside the nominated property, could the State Party provide the architectural drawings of these planned developments?

This museum and a hotel of Bedouin-tents style are still in the proposal and study stage at the local Municipalities for future developments. These projects are to be located outside the nominated property and the buffer zone.
Attached in the supplementary file 3 a preliminary sketch.

Protection and Management

9. On page 30, there is reference to a plan to put in place a program for monitoring the precise condition of petroglyphs. Could the State Party provide information on when this program will commence and also furnish more details on this program once they are known?

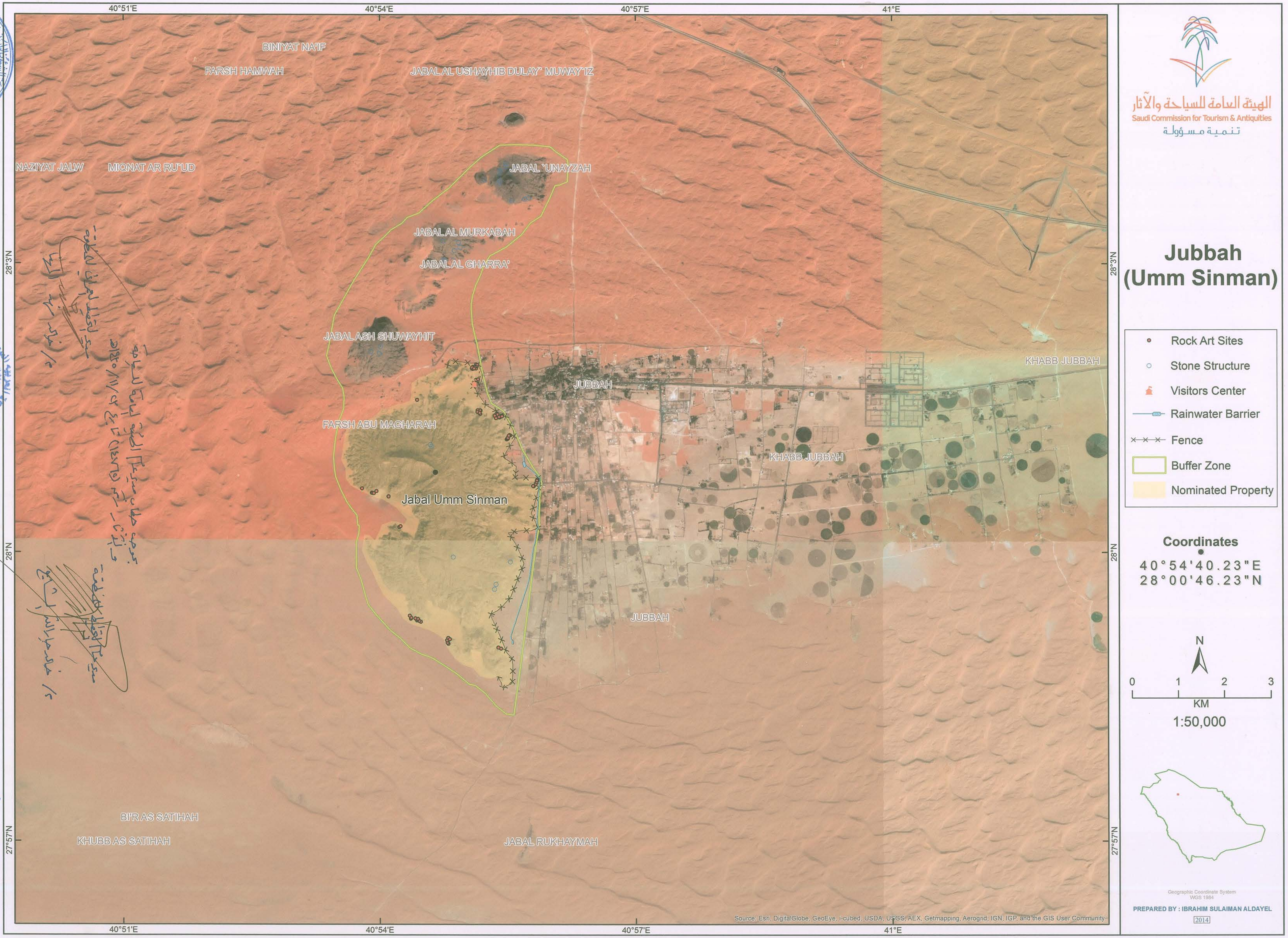
The program for monitoring the precise condition of petroglyphs will commence on 1/4/2015, more details on this program will be furnished by that specified date.

Rock Art in the Hail Region of Saudi Arabia

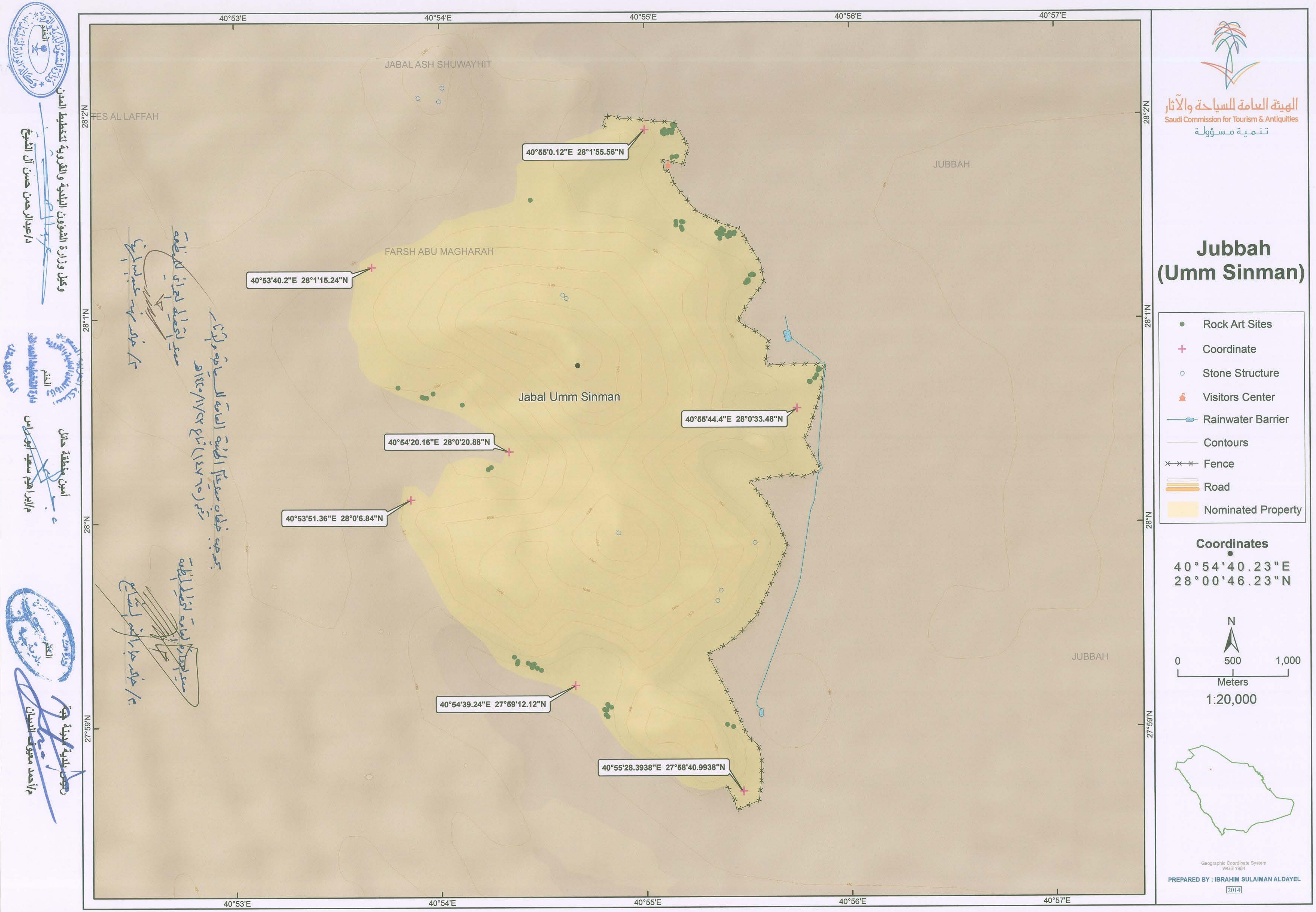
Supplementary File 1

Maps indicate the zones of special legal protection

1. Satellite map of Jabal Umm Sinman (Jubbah).
2. Topographical map of Jabal Umm Sinman (Jubbah).
3. Map showing coordinates of buffer zone of Jabal Umm Sinman (Jubbah).
4. Map showing nominated property of Jabal Umm Sinman (Jubbah).
5. Map showing rock art locations in nominated property of Jabal Umm Sinman (Jubbah).
6. Satellite map of Jabal al-Manjor and Jabal Raat (Shuwaymis).
7. Topographical map of Jabal al-Manjor and Jabal Raat (Shuwaymis).
8. Coordinates of the buffer zone of Jabal al-Manjor and Jabal Raat (Shuwaymis).
9. Coordinates of the nominated property of Jabal al-Manjor and Jabal Raat (Shuwaymis).
10. Map showing the rock art locations of Jabal al-Manjor and Jabal Raat (Shuwaymis).



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة
Jubbah (Umm Sinman)
Rock Art Sites
Stone Structure
Visitors Center
Rainwater Barrier
Fence
Buffer Zone
Nominated Property
Coordinates
40°54'40.23"E
28°00'46.23"N
N
0 1 2 3
KM
1:50,000
Geographic Coordinate System
WGS 1984
PREPARED BY : IBRAHIM SULAIMAN ALDAYEL
2014
40°51'E
40°54'E
40°57'E
41°E
28°3'N
28°N
27°57'N
BINIYAT NA'IF
FARSH HAMWAH
JABAL AL USHAYHIB DULAY' MUWAY'IZ
NAZIYAT JALW
MIQNAT AR RU'UD
JABAL 'UNAYZAH
JABAL AL MURKABAH
JABAL AL GHARRA'
JABAL ASH SHUWAYHIT
JUBBAH
KHABB JUBBAH
FARSH ABU MAGHARAH
Jabal Umm Sinman
BI'R AS SATIHAH
KHUBB AS SATIHAH
JABAL RUKHAYMAH
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



40°53'E
40°54'E
40°55'E
40°56'E
40°57'E
28°2'N
28°1'N
28°N
27°59'N
JABAL ASH SHUWAYHIT
TES AL LAFFAH
FARSH ABU MAGHARAH
JUBBAH
Jabal Umm Sinman
40°55'0.12"E 28°1'55.56"N
40°53'40.2"E 28°1'15.24"N
40°55'44.4"E 28°0'33.48"N
40°54'20.16"E 28°0'20.88"N
40°53'51.36"E 28°0'6.84"N
40°54'39.24"E 27°59'12.12"N
40°55'28.3938"E 27°58'40.9938"N
الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة
Jubbah
(Umm Sinman)
Rock Art Sites
Coordinate
Stone Structure
Visitors Center
Rainwater Barrier
Contours
Fence
Road
Nominated Property
Coordinates
40°54'40.23"E
28°00'46.23"N
N
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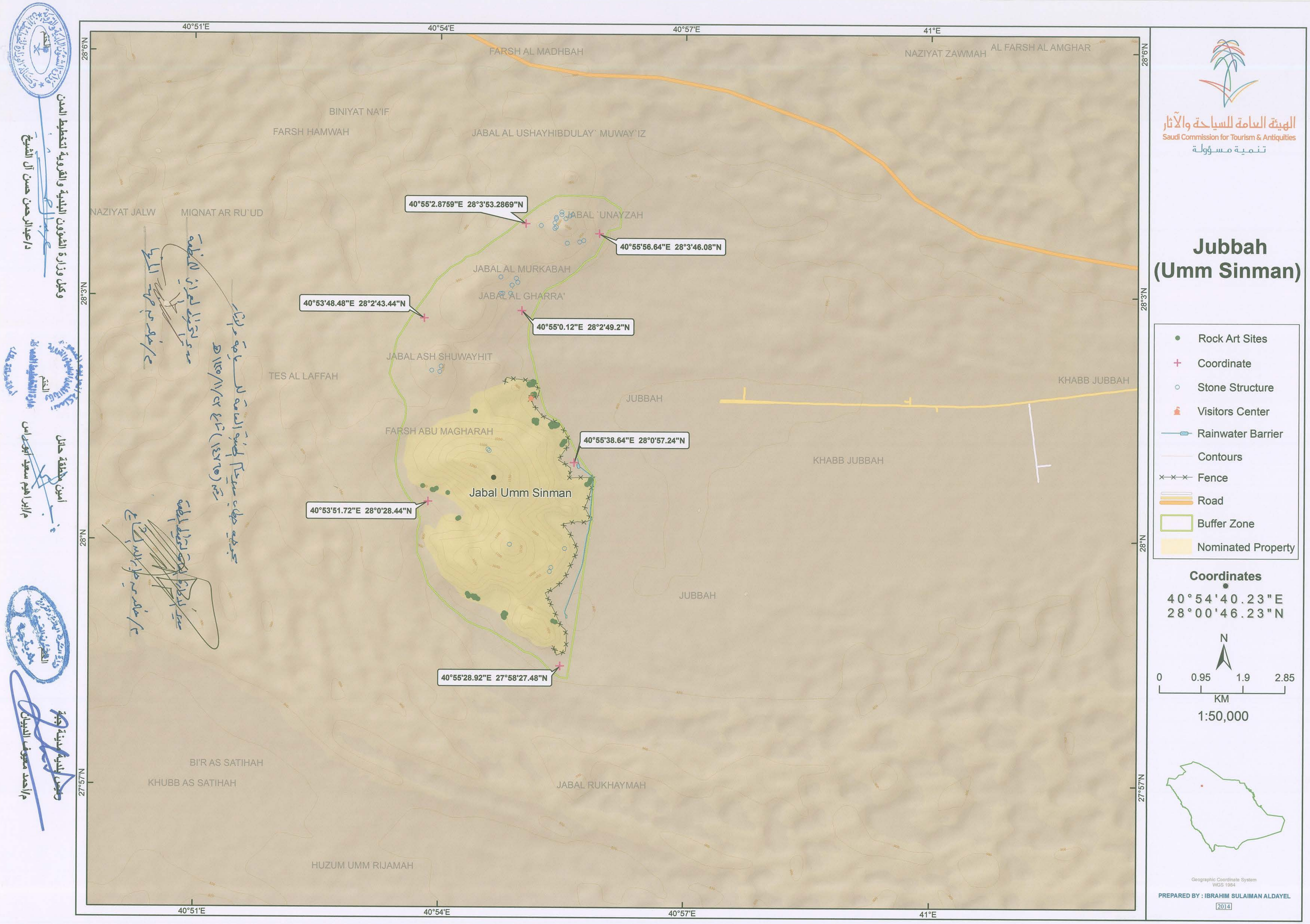
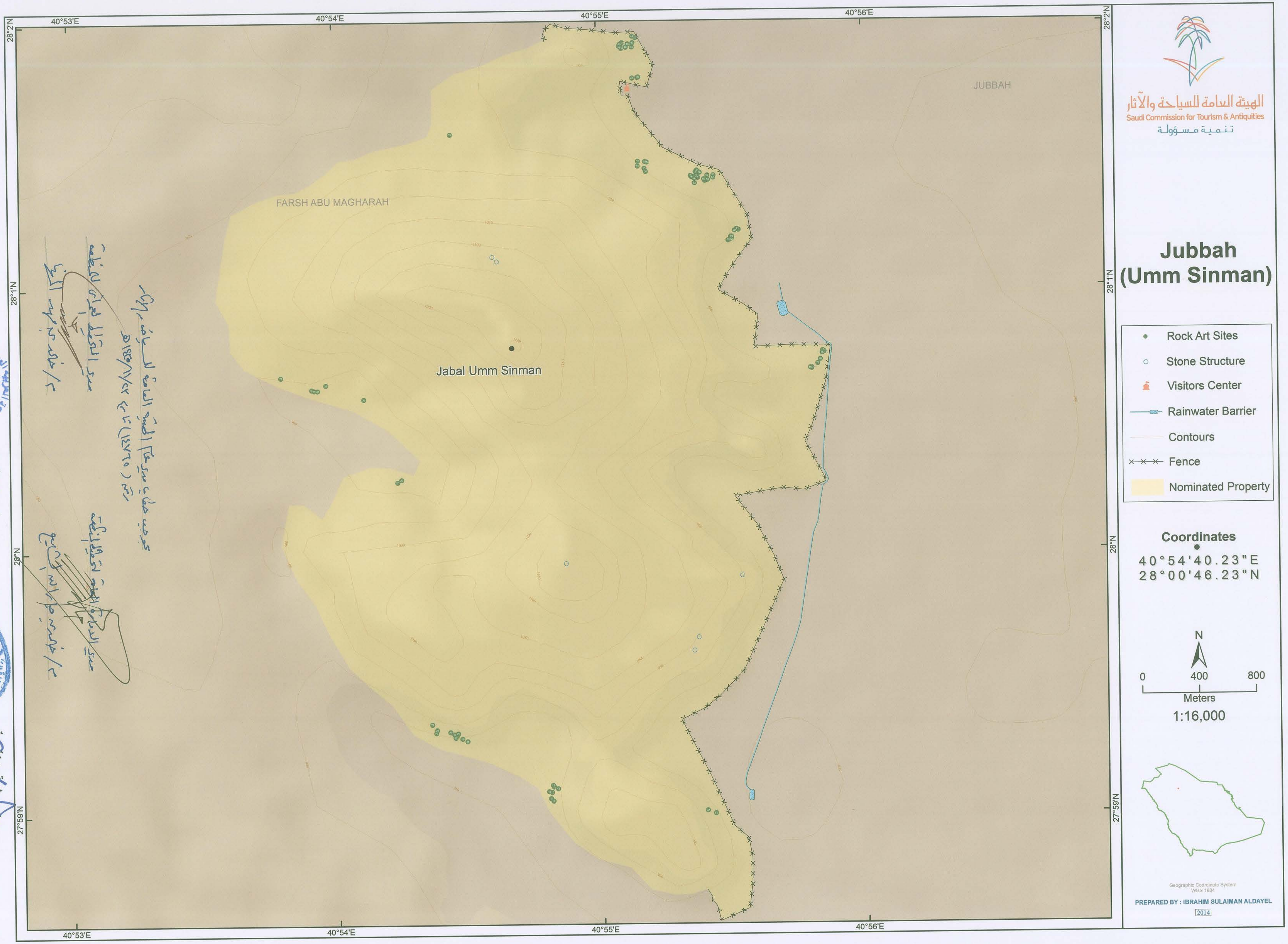
500
1,000
Meters
1:20,000
Geographic Coordinate System
WGS 1984
PREPARED BY : IBRAHIM SULAIMAN ALDAYEL
2014



Jubbah
(Umm Sinman)
الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة
40°51'E
40°54'E
40°57'E
41°E
28°6'N
28°3'N
28°N
27°57'N
FARSH AL MADHBAH
NAZIYAT ZAWMAH
AL FARSH AL AMGHAR
BINIYAT NA'IF
FARSH HAMWAH
JABAL AL USHAYHIBDULAY` MUWAY`IZ
NAZIYAT JALW
MIQNAT AR RU`UD
JABAL `UNAYZAH
JABAL AL MURKABAH
JABAL AL GHARRA'
JABAL ASH SHUWAYHIT
TES AL LAFFAH
FARSH ABU MAGHARAH
JUBBAH
KHABB JUBBAH
Jabal Umm Sinman
BI'R AS SATIHAH
KHUBB AS SATIHAH
JABAL RUKHAYMAH
HUZUM UMM RIJAMAH
40°55'2.8759"E 28°3'53.2869"N
40°55'56.64"E 28°3'46.08"N
40°53'48.48"E 28°2'43.44"N
40°55'0.12"E 28°2'49.2"N
40°55'38.64"E 28°0'57.24"N
40°53'51.72"E 28°0'28.44"N
40°55'28.92"E 27°58'27.48"N
Rock Art Sites
Coordinate
Stone Structure
Visitors Center
Rainwater Barrier
Contours
Fence
Road
Buffer Zone
Nominated Property
Coordinates
40°54'40.23"E
28°00'46.23"N
N
0 0.95 1.9 2.85
KM
1:50,000
Geographic Coordinate System
WGS 1984
PREPARED BY : IBRAHIM SULAIMAN ALDAYEL
2014


40°53'E
40°54'E
40°55'E
40°56'E
28°2'N
28°1'N
28°N
27°59'N
JUBBAH
FARSH ABU MAGHARAH
Jabal Umm Sinman
الهيئة العامة للسياحة والآثار
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40°54'40.23"E
28°00'46.23"N
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Meters
1:16,000
Geographic Coordinate System
WGS 1984
PREPARED BY : IBRAHIM SULAIMAN ALDAYEL
2014

40°51'E 40°54'E 40°57'E 41°E

28°6'N 28°3'N 28°N 27°57'N

FARSH AL MADHBAH
NAZIYAT ZAWMAH
AL FARSH AL AMGHAR
BINIYAT NA'IF
FARSH HAMWAH
JABAL AL USHAYHIBDULAY` MUWAY`IZ
NAZIYAT JALW
MIQNAT AR RU`UD
JABAL `UNAYZAH
JABAL AL MURKABAH
JABAL AL GHARRA'
JABAL ASH SHUWAYHIT
TES AL LAFFAH
KHABB JUBBAH
JUBBAH
FARSH ABU MAGHARAH
Jabal Umm Sinman
KHABB JUBBAH
JUBBAH
BI'R AS SATIHAH
KHUBB AS SATIHAH
JABAL RUKHAYMAH
HUZUM UMM RIJAMAH

Jubbah (Umm Sinman)

- Rock Art Sites
- Stone Structure
- Visitors Center
- Rainwater Barrier
- Contours
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- Buffer Zone
- Nominated Property

Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 1 2 3
KM

1:50,000

Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

وكيل وزارة الشؤون البلدية والقروية لتخطيط المدن
د/عبدالرحمن حسن آل الشيخ

أمين منطقة حائل
م/إبراهيم سعيد أبو راس

رئيس بلدية مدينة جبة
م/أحمد حميدي الدبيان

39°48'E 39°51'E 39°54'E 39°57'E 40°E

26°12'N 26°9'N 26°6'N

JIBAL AL GHURAYYIB
SHOA'IB AL GHARAYIS
ABAR AL QULAYYIB
HARRAT AZ ZAHAR
SHOA'IB AL QULAYYIB
SHOA'IB AT TADRIBAH
JABAL AT TADRIBAH
JABAL AL KIHAYL
SHOA'IB AR RIDAY'I
SHOA'IB JITHA
JIBAL AL KHUTAM
SHOA'IB RATA
Rat & Almanjor
SHOA'IB AL MAHASHISH
QA' JITHA
QA' AD DAHAYA
JABAL RATA
QA' AS SIBAQ
JIBAL GHUWAYRAT JABAL JITHA
RAWDAT AS SAKR
JABAL AS SUKAYR
HULAYYAT AL HUFNAH
SHOA'IB AS SUKAYR
JIBAL QA' AS SIBAQ
'SHOA'IB AL GHUBAYYA
JIBAL AR RA'AYFAH
WADI AL MAKHIT
JABAL AL MAKHAZIN
ISHOA'IB AS SAKR
SHOA'IB AL FAZIR

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
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Coordinates

39°53'27.38"E
26°09'31.50"N

N

0 1 2 3
KM

1:50,000

Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

وكيل وزارة الشؤون البلدية والقروية لتخطيط المدن
د/عبدالرحمن حسن آل الشيخ

أمين محافظة حائل
م/إياد إبراهيم سعيد أبو راس

رئيس بلدية محافظة الحائط
لطيف حبيب العنزي

39°52'E 39°53'E 39°54'E 39°55'E

26°11'N 26°10'N 26°9'N 26°8'N

SHOA`IB RATA

Rat & Almanjor

SHOAIB RATA

SHOAIB AD DAHAYA

JABAL RATA

Ashuwaymis Site (Rat & Almanjor)

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

- Rock Art Sites
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- Visitors Center
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39°53'27.38"E
26°09'31.50"N

N

0 200 400
Meters

1:16,000

Geographic Coordinate System
WGS 1984

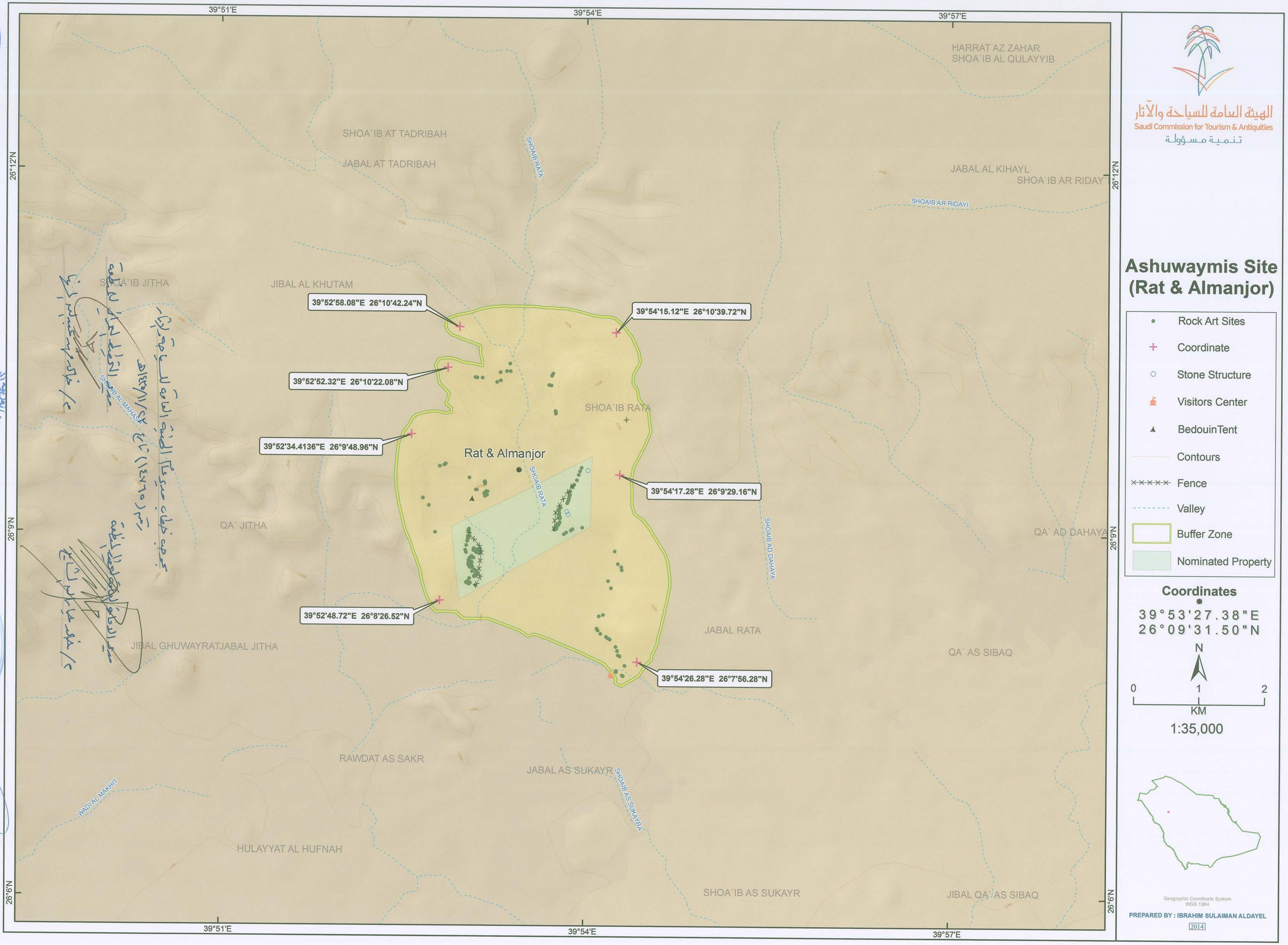
PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

وكيل وزارة الشؤون البلدية والقروية لتخطيط المدن
د/عبدالرحمن حسن آل الشيخ

أمين منطقة حائل
م/ابراهيم سعيد ابو راس

رئيس بلدية محافظة الحائط
لطيف حبيب الخنفري



Ashuwaymis Site (Rat & Almanjor)
الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة
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PREPARED BY : IBRAHIM SULAIMAN ALDAYEL
2014
39°51'E
39°54'E
39°57'E
26°12'N
26°9'N
26°6'N
Rat & Almanjor
39°52'58.08"E 26°10'42.24"N
39°54'15.12"E 26°10'39.72"N
39°52'52.32"E 26°10'22.08"N
39°52'34.4136"E 26°9'48.96"N
39°54'17.28"E 26°9'29.16"N
39°52'48.72"E 26°8'26.52"N
39°54'26.28"E 26°7'56.28"N
HARRAT AZ ZAHAR
SHOA`IB AL QULAYYIB
SHOA`IB AT TADRIBAH
JABAL AT TADRIBAH
SHOAIB RATA
JABAL AL KIHAYL
SHOA`IB AR RIDAY
SHOAIB AR RIDAYI
JIBAL AL KHUTAM
SHOA`IB JITHA
SHOA`IB RATA
SHOAIB AL MAHASH
QA` JITHA
SHOAIB AD DAHAYA
QA` AD DAHAYA
JABAL RATA
JIBAL GHUWAYRATJABAL JITHA
QA` AS SIBAQ
RAWDAT AS SAKR
JABAL AS SUKAYR
SHOAIB AS SUKAYRA
WADI AL MAKHIT
HULAYYAT AL HUFNAH
SHOA`IB AS SUKAYR
JIBAL QA` AS SIBAQ

39°53'E

39°54'E

N6°26'

Rat & Almanjor

39°54'0.36"E 26°9'33.84"N

39°53'53.52"E 26°9'22.68"N

39°53'24.189"E 26°9'16.361"N

39°53'48.12"E 26°9'13.68"N

39°53'27.603"E 26°9'3.722"N

39°54'0.72"E 26°9'3.6"N

39°52'56.652"E 26°9'2.546"N

SHOAIB RATA

39°53'45.24"E 26°9'1.8"N

39°53'3.12"E 26°8'58.92"N

39°53'7.44"E 26°8'47.76"N

39°53'31.124"E 26°8'46.505"N

39°53'6"E 26°8'34.8"N

39°53'4.2"E 26°8'31.56"N

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Coordinate
- Stone Structure
- BedouinTent
- Contours
- Fence
- Valley
- Nominated Property

Coordinates

39°53'27.38"E
26°09'31.50"N

N

0 100 200 300

Meters

1:6,000

Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

39°48'E 39°51'E 39°54'E 39°57'E 40°E

26°12'N 26°9'N 26°6'N

JIBAL AL GHURAYYIB
SHOAIB RATA
SHOA`IB AL JAYB
SHOAIB AL JAYB
SHOAIB AL GHARAYIS
ABAR AL QULAYYIB
SHOA`IB AL QULAYYIB
HARRAT AZ ZAHAR
SHOA`IB AT TADRIBAH
JABAL AT TADRIBAH
JABAL AL KIHAYL
SHOA`IB AR RIDAY`I
SHOAIB AR RIDAYI
SHOAIB AL ASABI
SHOA`IB JITHA
JIBAL AL KHUTAM
SHOAIB RATA
SHOAIB AL MAHASH
SHOA`IB RATA
Rat & Almanjor
SHOAIB AD DAHAYA
SHOA`IB AL MAHASHSH
QA` JITHA
QA` AD DAHAYA
`HULAYYAT MAYQU
JIBAL GHUWAYRATJABAL JITHA
JABAL RATA
QA` AS SIBAQ
ISHOA`IB AL HUBL
RAWDAT AS SAKR
JABAL AS SUKAYR
WADI AL MAKHIT
HULAYYAT AL HUFNAH
JIBAL AR RA`AYFAH
SHOA`IB AS SUKAYR
JIBAL QA` AS SIBAQ
'SHOA`IB AL GHUBAYYA
SHOAIB AL GHABIYAH
WADI AL MAKHIT
JABAL AL MAKHAZIN
SHOA`IB AS SAKR
SHOA`IB AL FAZIR
SHOAIB AS SUKAYRA
SHOAIB AL BUWAYTIN
HAZM AL`FAZIR AL GHARBI
SHOAIB ABU`HUNAYK

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Ashuwaymis Site (Rat & Almanjor)

- Rock Art Sites
- Stone Structure
- Visitors Center
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- Contours
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- Valley
- Buffer Zone
- Nominated Property

Coordinates
39°53'27.38"E
26°09'31.50"N

N

0 1 2 3
KM

1:50,000

Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

وكيل وزارة الشؤون البلدية للتخطيط العمراني
د/عبدالرحمن حسن آل الشيخ

الختم

أمين منطقة حائل
م/ابراهيم سعيد أبو راس

الختم

رئيس بلدية محافظة الحائط
لطيف حبيب الغنزي

الختم

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
scta.gov.sa

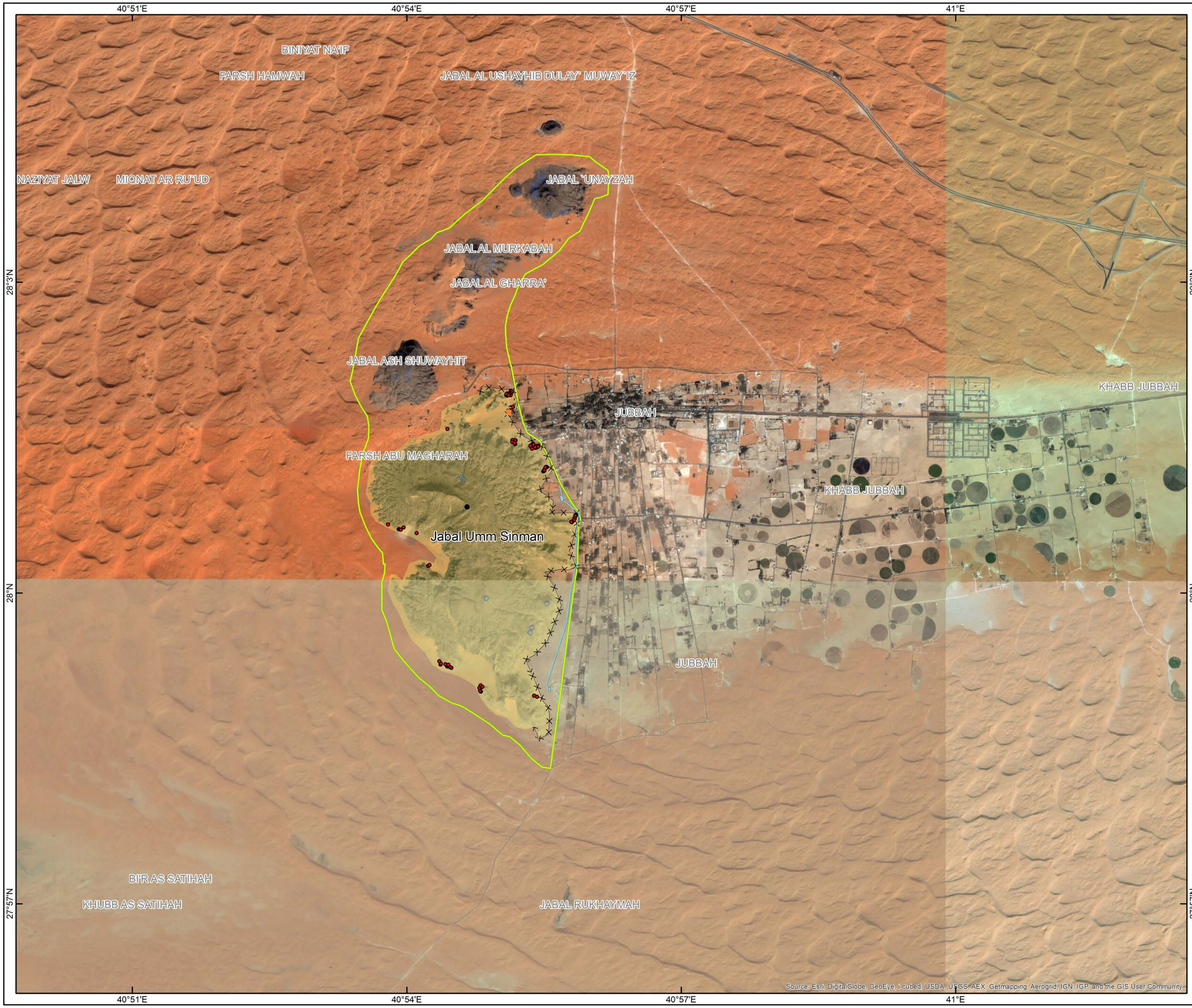
Rock Art in the Hail Region of Saudi Arabia

Supplementary File 2

Maps

stating the two terms "nominated property" and "buffer zone" and containing additional requested features

1. Satellite map of Jabal Umm Sinman (Jubbah).
2. Topographical map of Jabal Umm Sinman (Jubbah).
3. Map showing coordinates of buffer zone of Jabal Umm Sinman (Jubbah).
4. Map showing nominated property of Jabal Umm Sinman (Jubbah).
5. Map showing rock art locations in nominated property of Jabal Umm Sinman (Jubbah).
6. Satellite map of Jabal al-Manjor and Jabal Raat (Shuwaymis).
7. Topographical map of Jabal al-Manjor and Jabal Raat (Shuwaymis).
8. Coordinates of the buffer zone of Jabal al-Manjor and Jabal Raat (Shuwaymis).
9. Coordinates of the nominated property of Jabal al-Manjor and Jabal Raat (Shuwaymis).
10. Map showing the rock art locations of Jabal al-Manjor and Jabal Raat (Shuwaymis).



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Jubbah (Umm Sinman)

- Rock Art Sites
- Stone Structure
- Visitors Center
- Rainwater Barrier
- Fence
- Buffer Zone
- Nominated Property

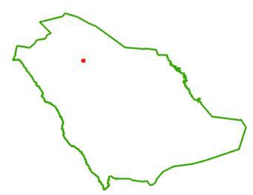
Coordinates

40°54'40.23"E
28°00'46.23"N

N

0 1 2 3
KM

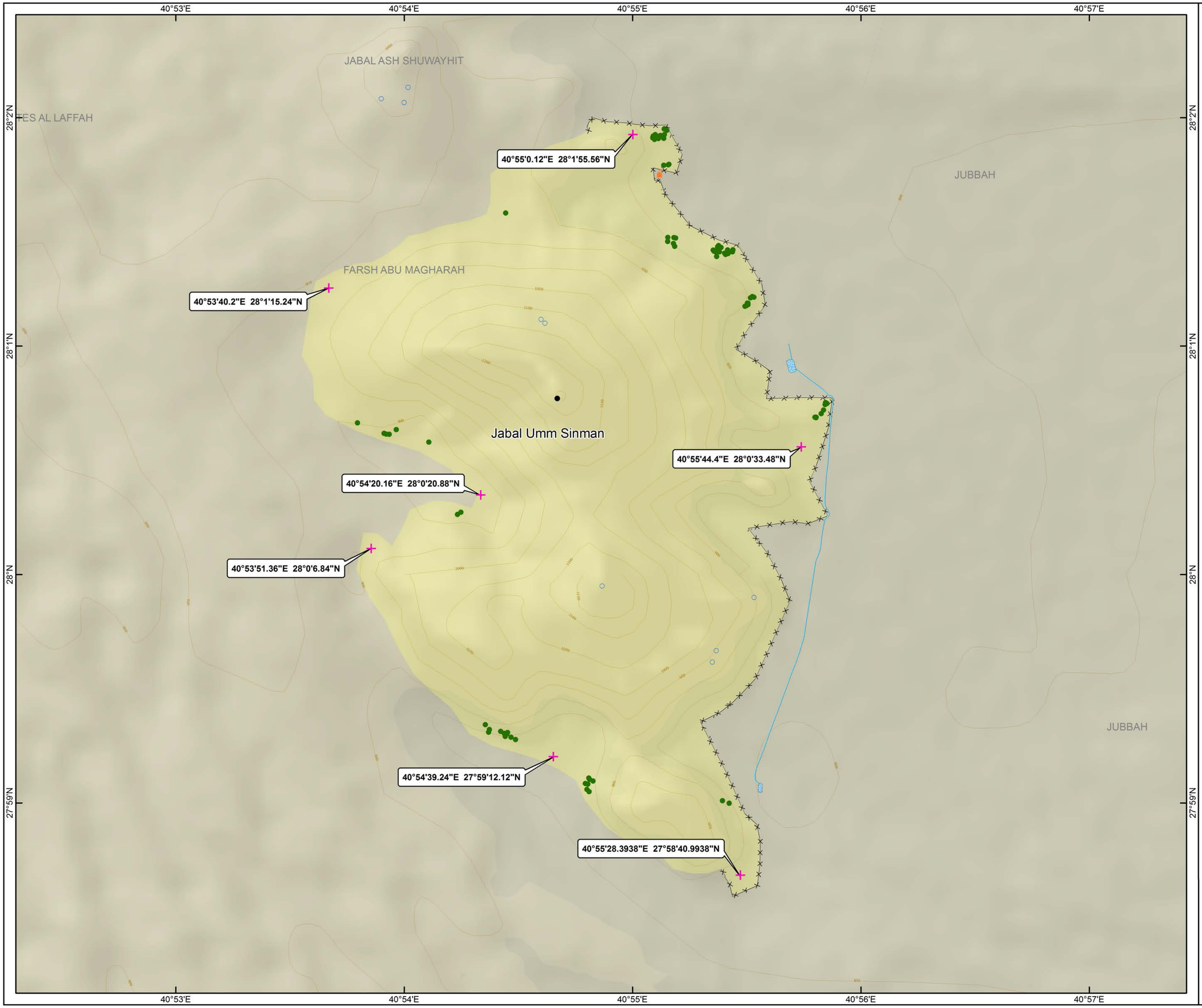
1:50,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Jubbah (Umm Sinman)

- Rock Art Sites
- Coordinate
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- Rainwater Barrier
- Contours
- Fence
- Road
- Nominated Property

Coordinates
40°54'40.23"E
28°00'46.23"N

N

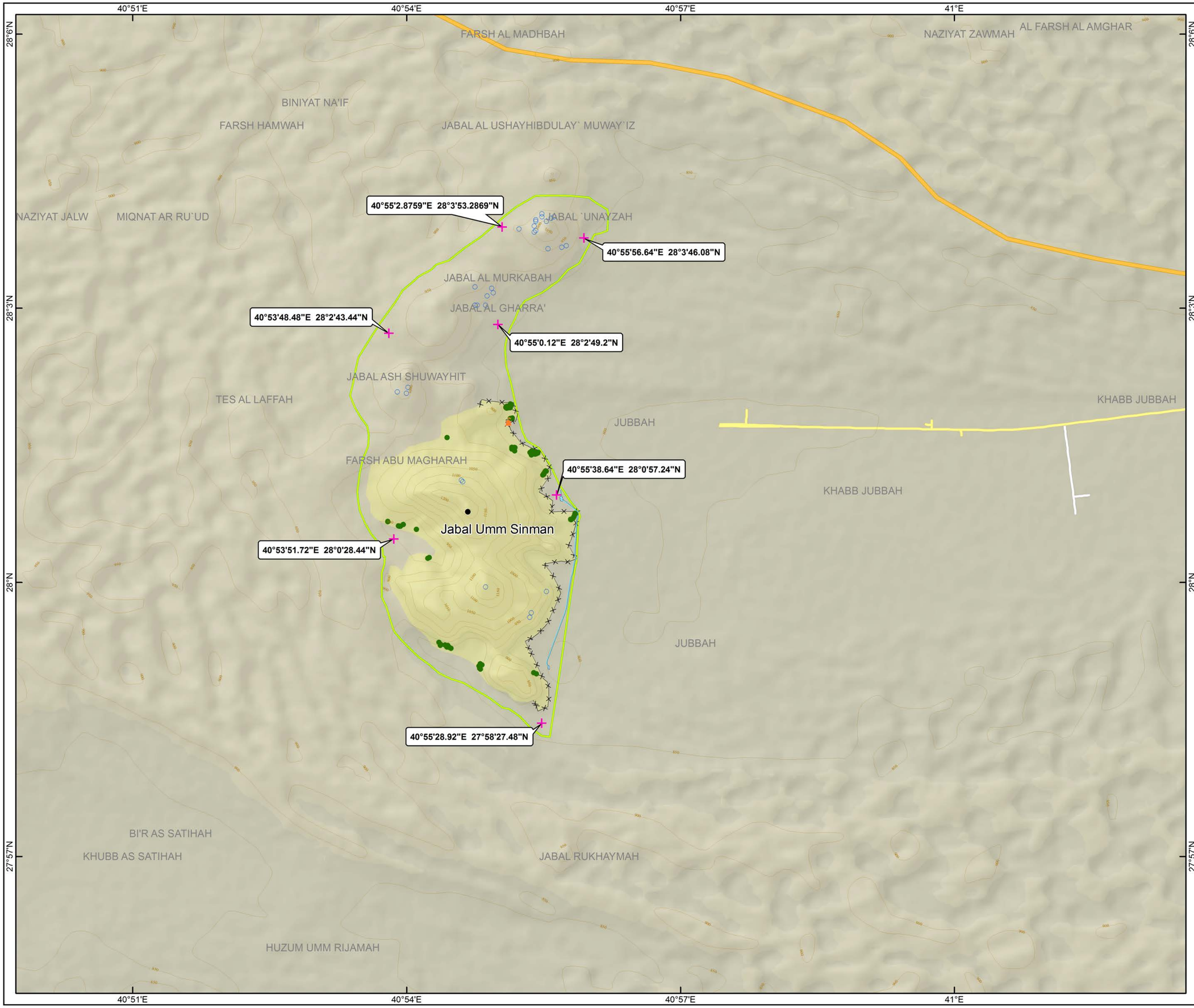
0 500 1,000
Meters

1:20,000

Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Jubbah (Umm Sinman)

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- Nominated Property

Coordinates

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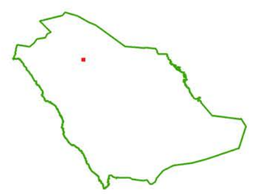
28°00'46.23"N

N

0 1 2 3
KM

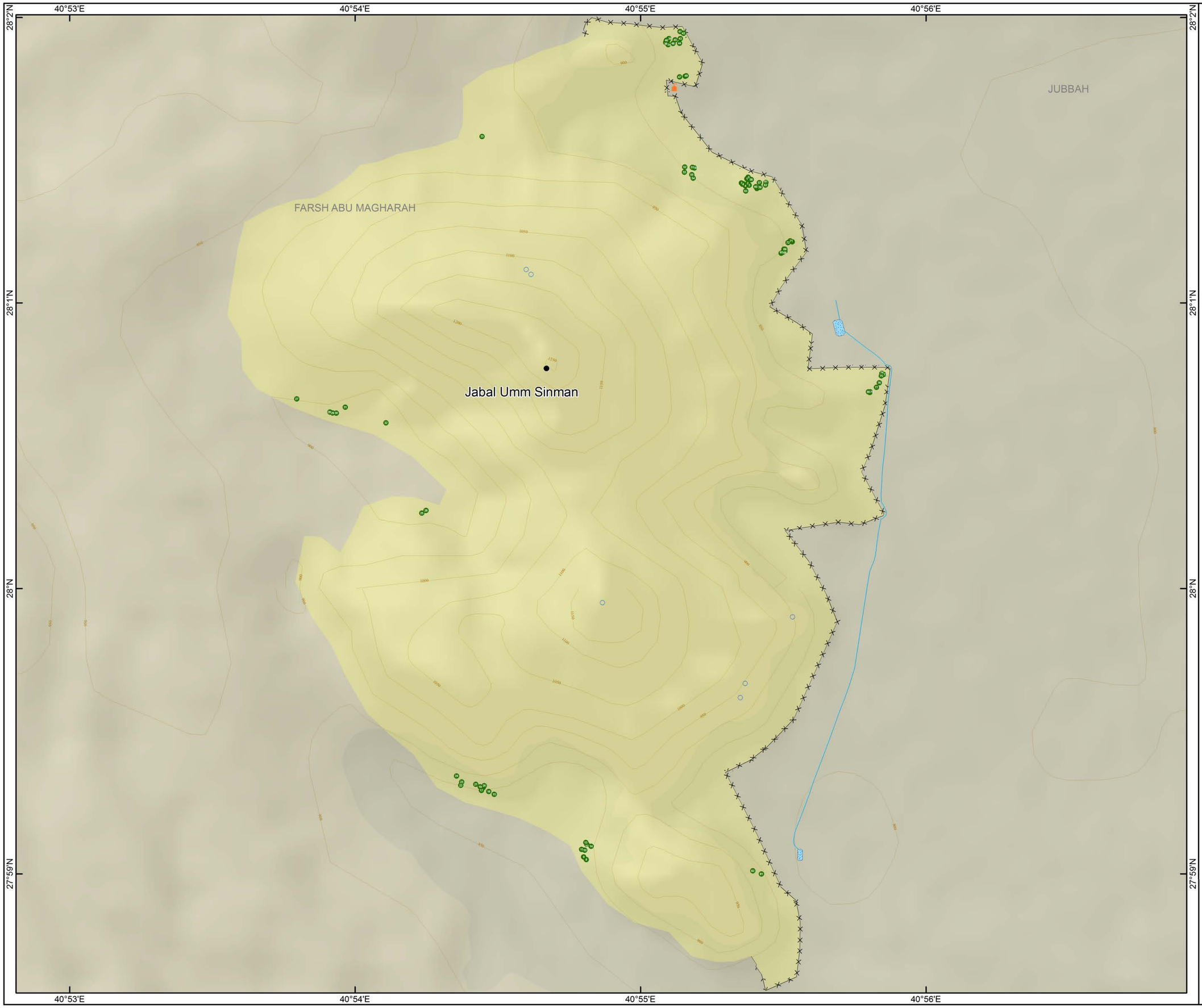
1:50,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Jubbah (Umm Sinman)

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Coordinates

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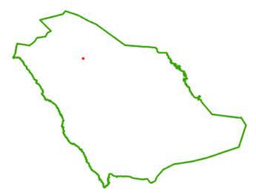
28°00'46.23"N

N

0 400 800
Meters

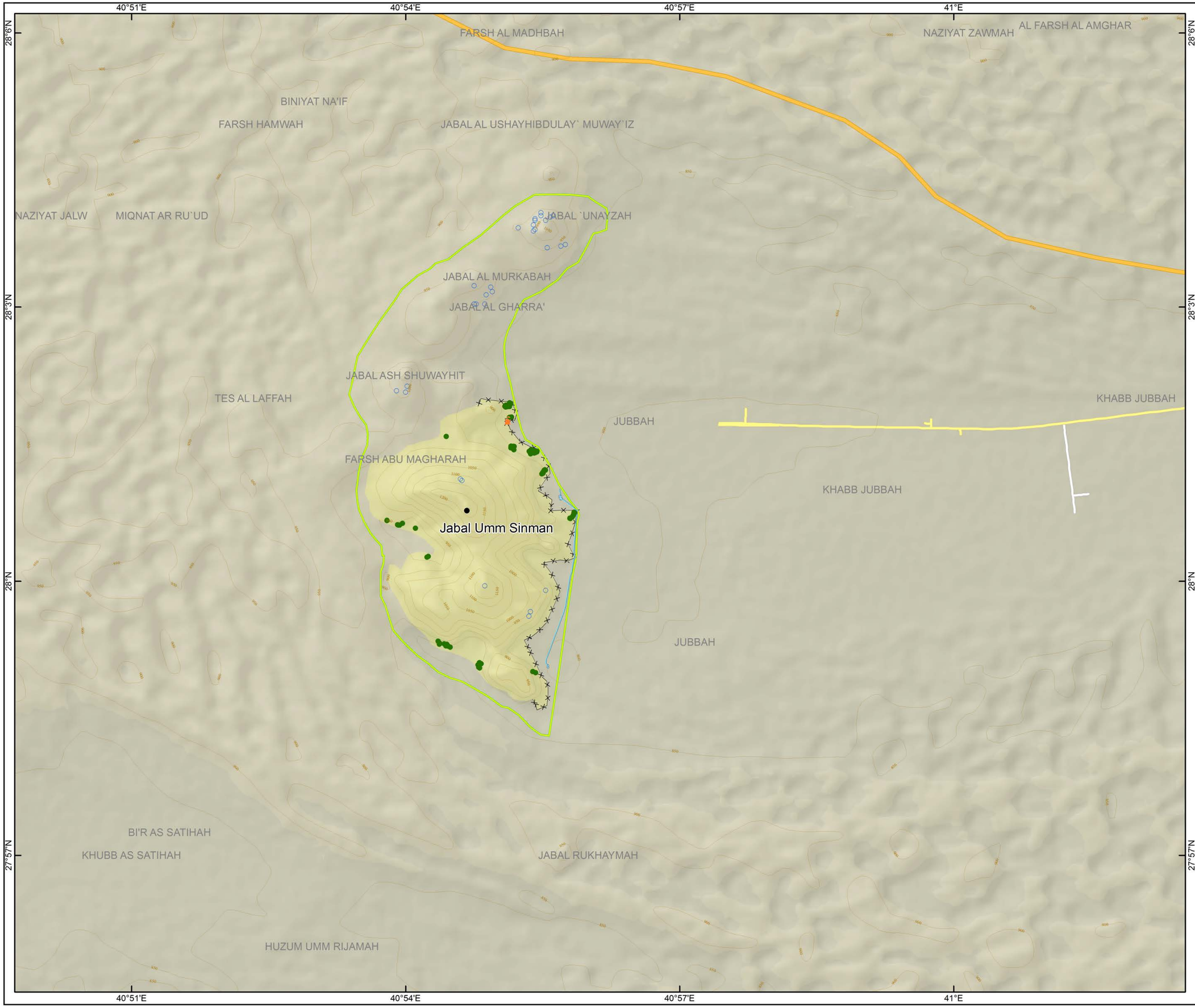
1:16,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Jubbah (Umm Sinman)

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N

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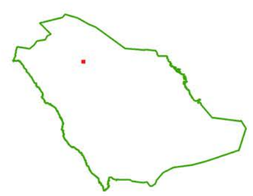
KM

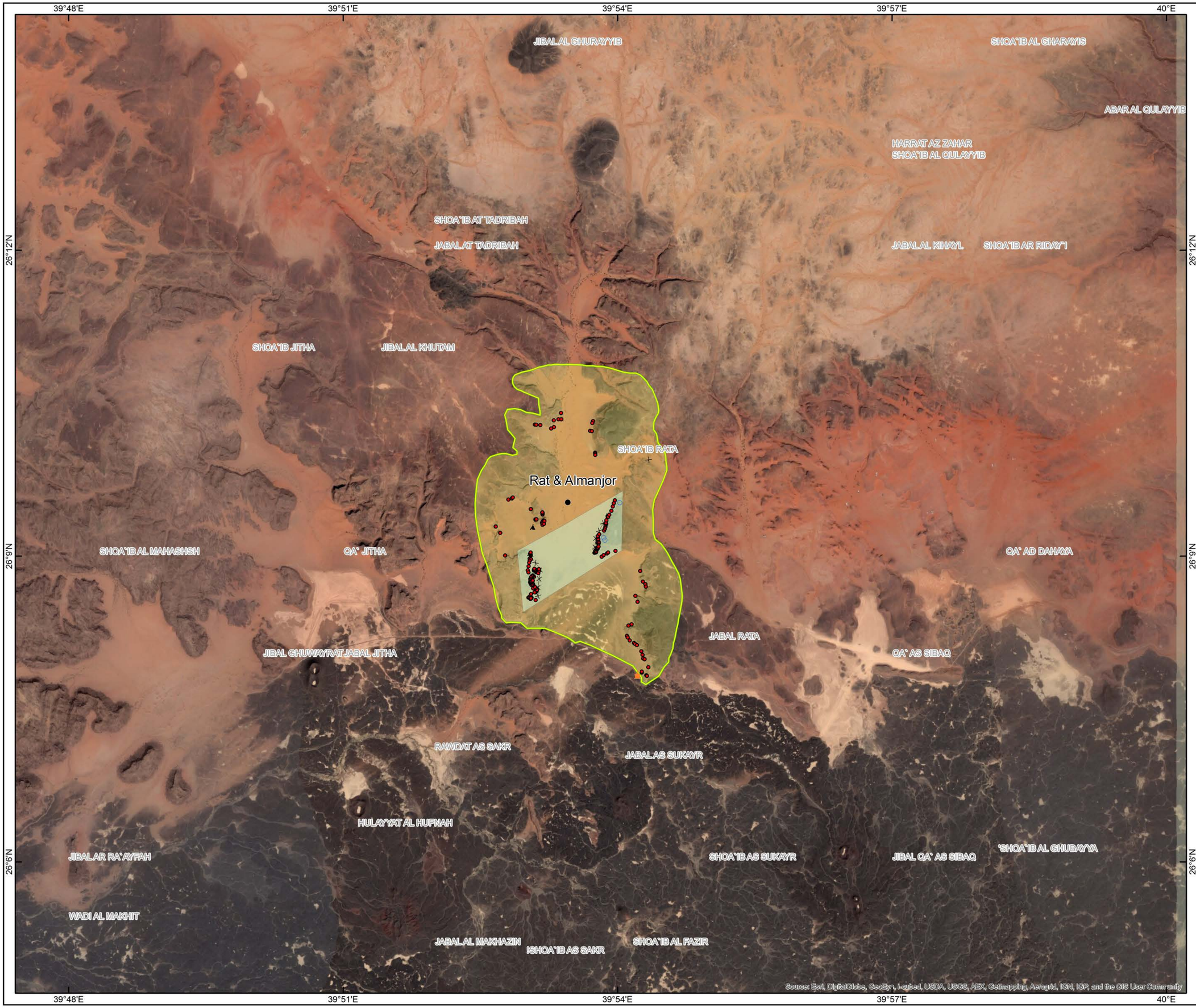
1:50,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Ashuwaymis Site (Rat & Almanjor)

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Coordinates

39°53'27.38"E
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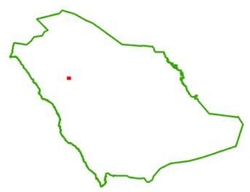
N

0 1 2 3
KM

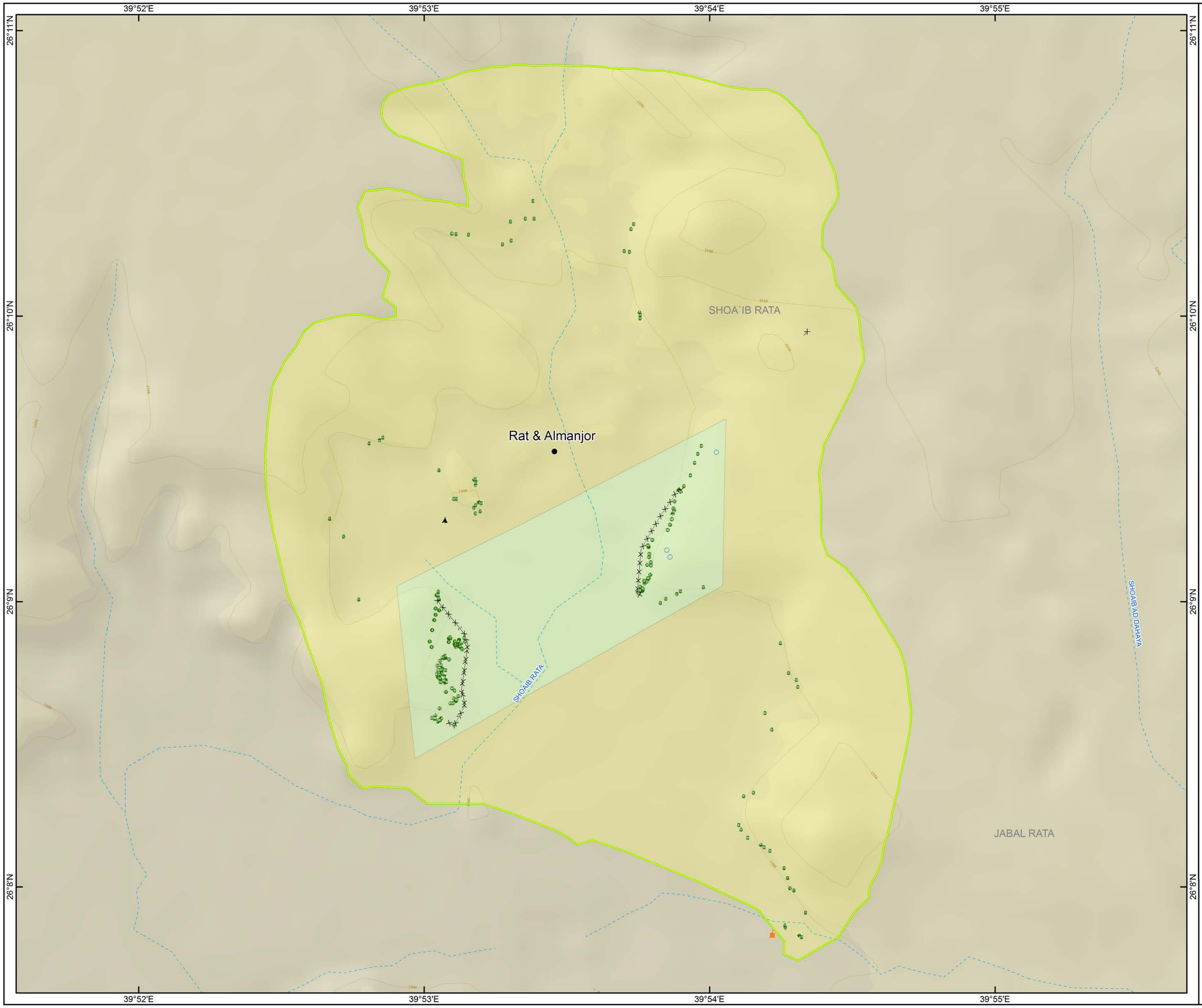
1:50,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Ashuwaymis Site (Rat & Almanjor)

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Coordinates

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26°09'31.50"N

N

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Meters

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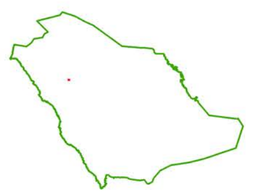
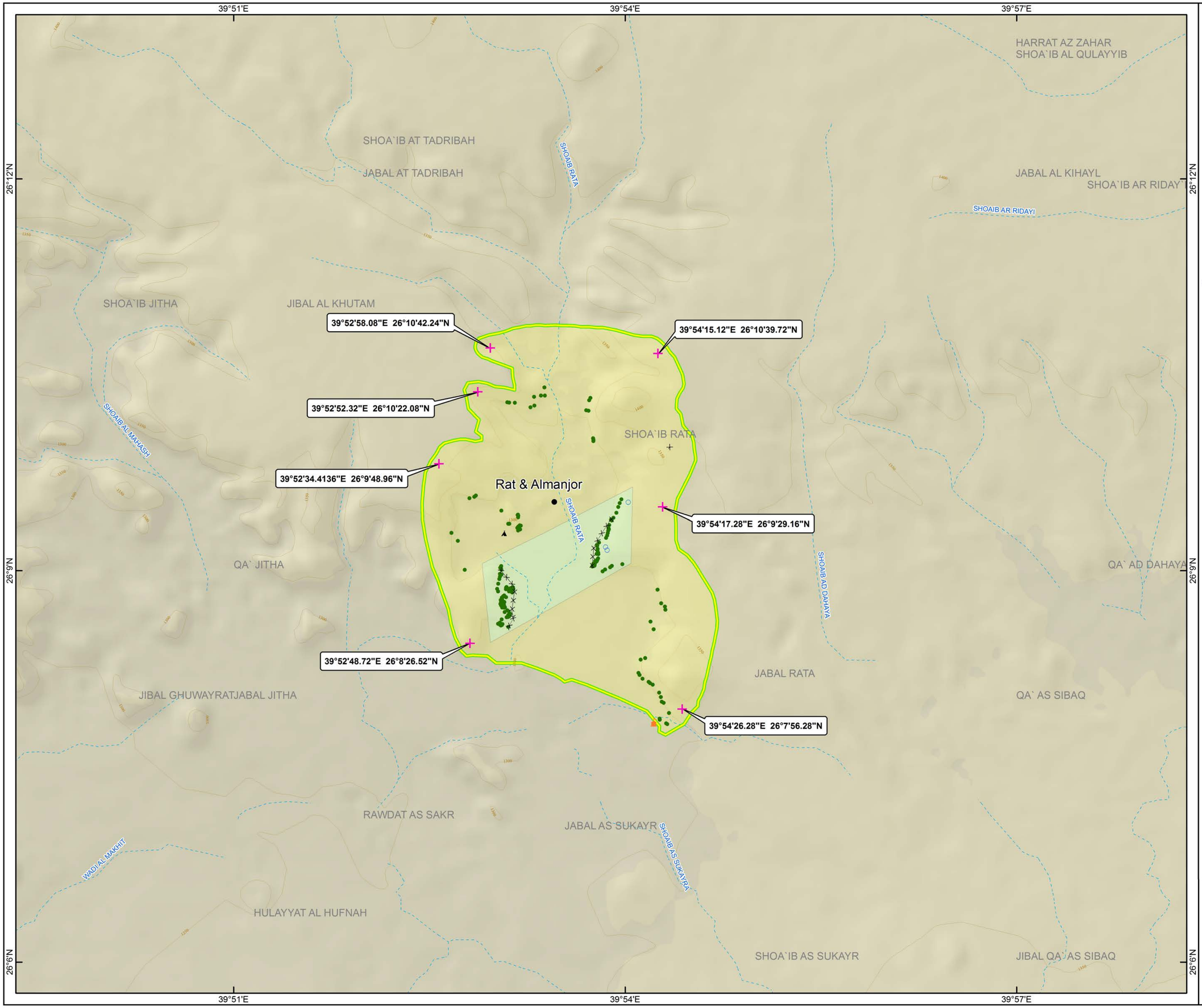


Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

Ashuwaymis Site (Rat & Almanjor)

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- Nominated Property

Coordinates

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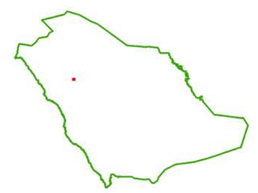
26°09'31.50"N

N

0 1 2
KM

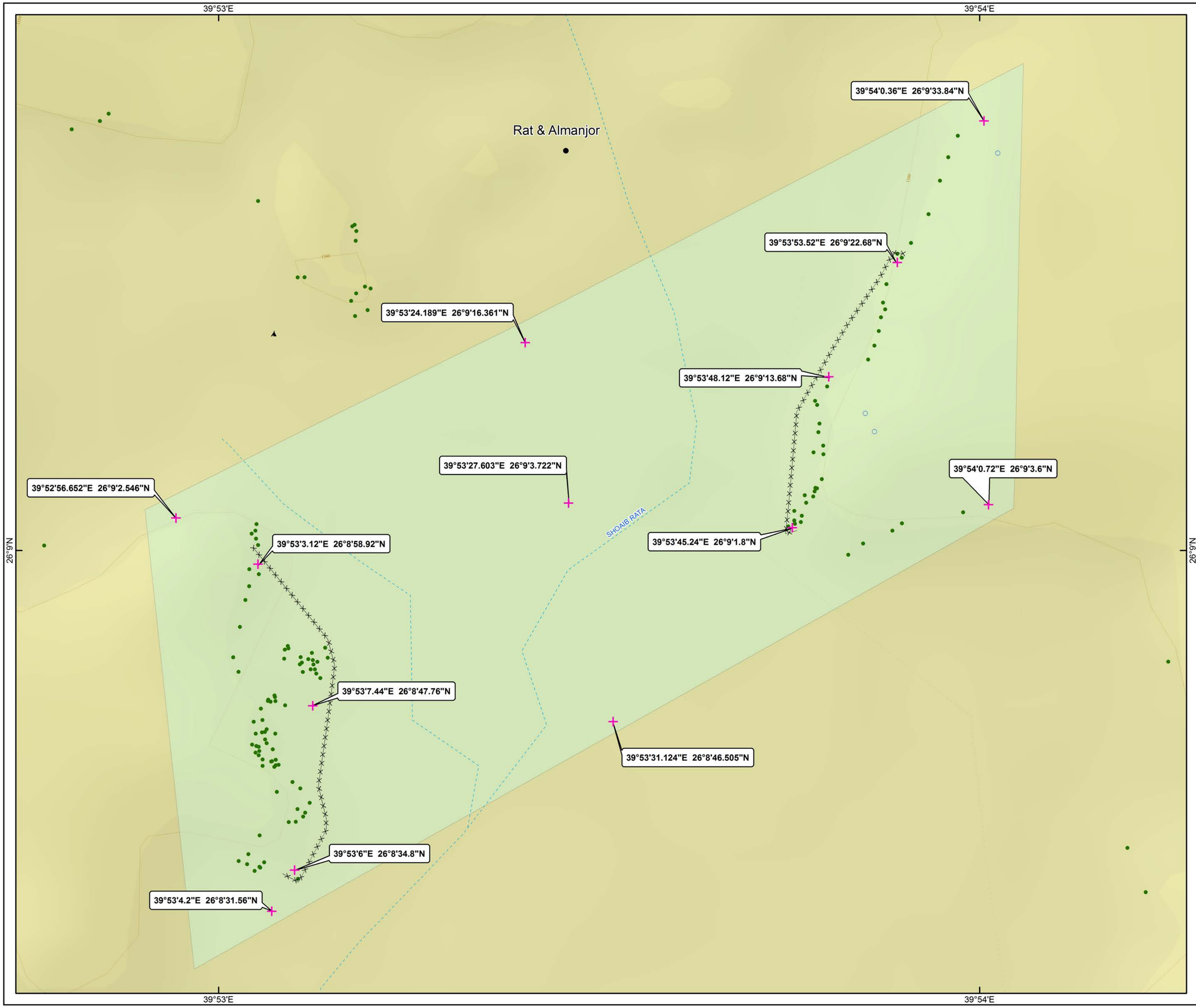
1:35,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
تنمية مسؤولة

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Coordinates

39°53'27.38"E
26°09'31.50"N

N

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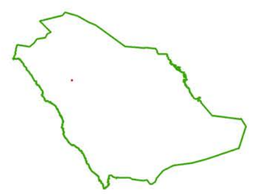
Meters

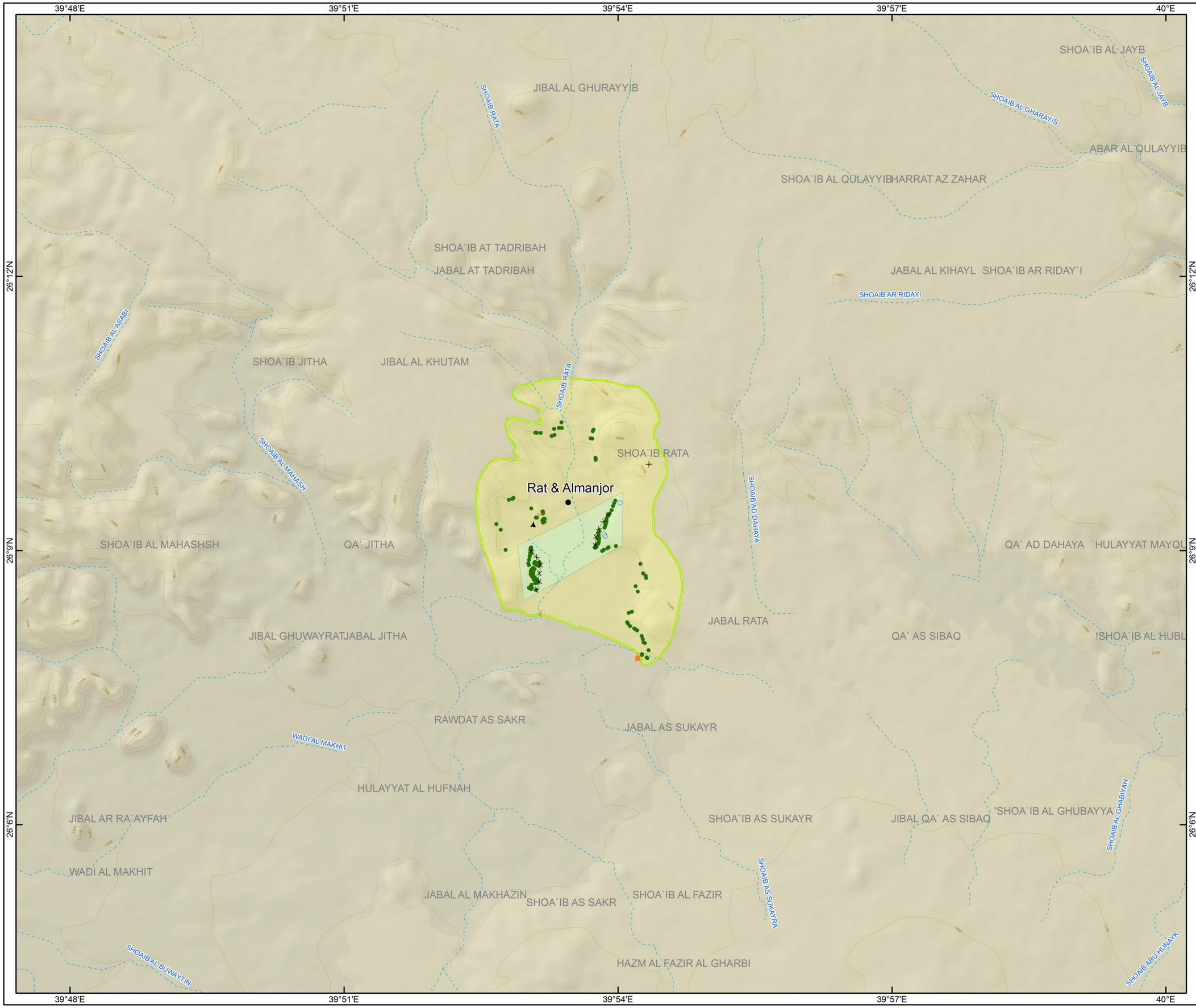
1:6,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014



الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
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26°09'31.50"N

N

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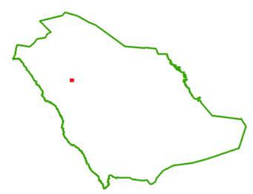
KM

1:50,000



Geographic Coordinate System
WGS 1984

PREPARED BY : IBRAHIM SULAIMAN ALDAYEL

2014

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities
scta.gov.sa

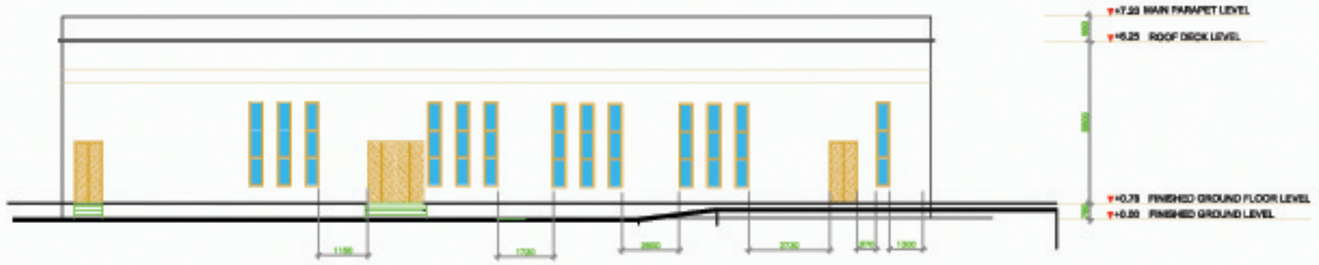
Rock Art in the Hail Region of Saudi Arabia

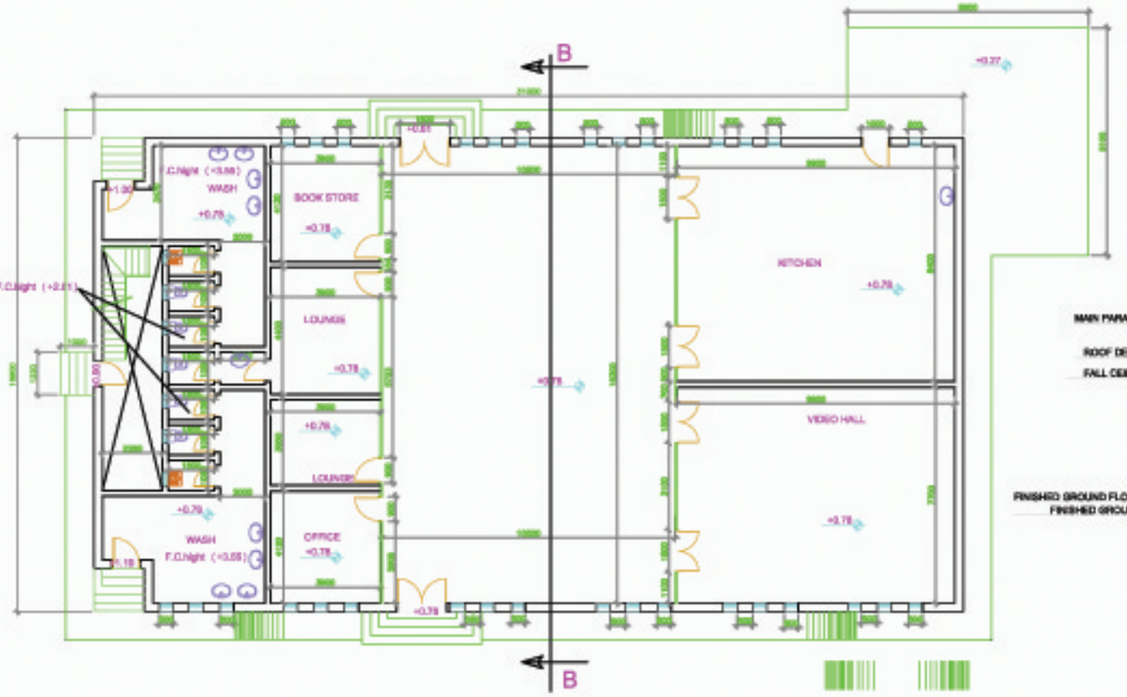
Supplementary File 3

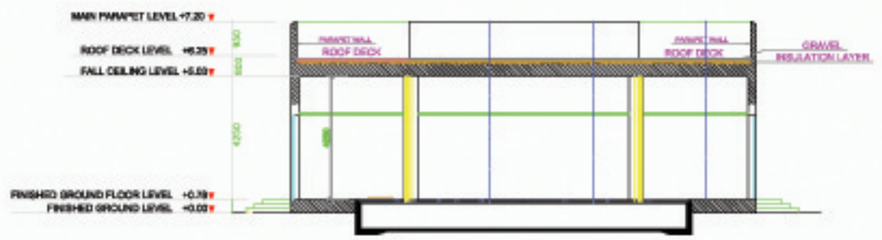
1. Architectural drawings of the interpretation centre at Jubbah.
2. Architectural drawings of the interpretation centre at Shuwaymis.
3. A preliminary sketch of a proposed new museum and a hotel of Bedouin- tents style.

NOTES

1) ALL DIMENSIONS ARE IN MM.

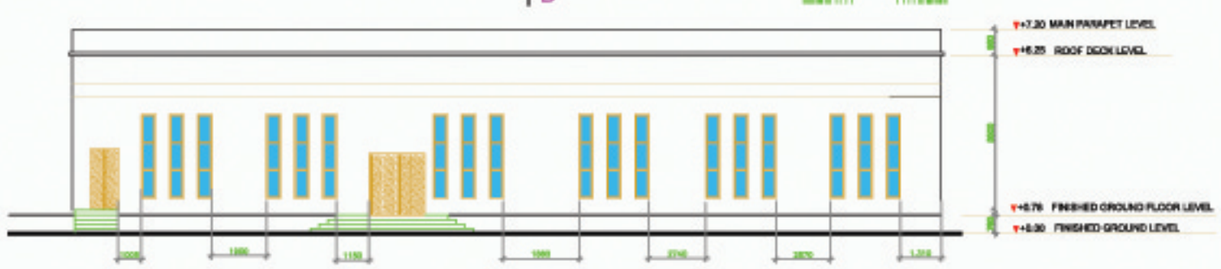






SECTION " B-B"

1:100 MTS. SCALE



OWNER:

الهيئة العامة للسياحة والآثار
Saudi Commission for Tourism & Antiquities

PROJECT TITLE:

مركز زوار قبة

JUBBA

SHEET NO.

DATE

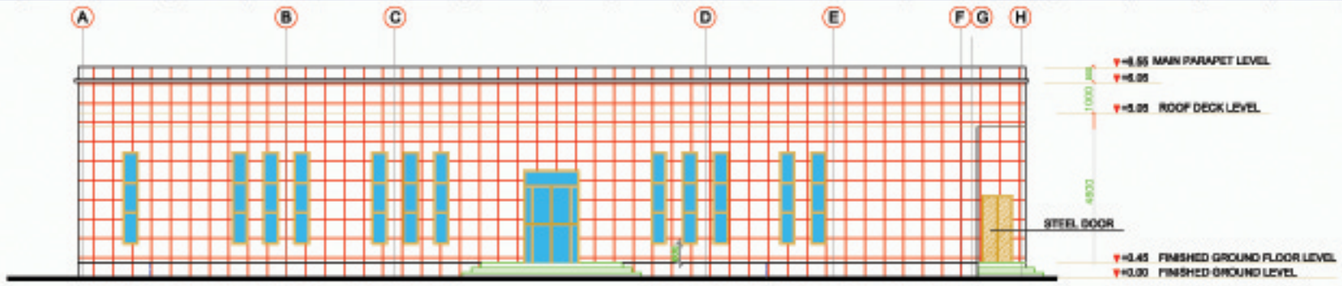
DRAWING TITLE:

المسقط الأفقي
واجهات + قطاع

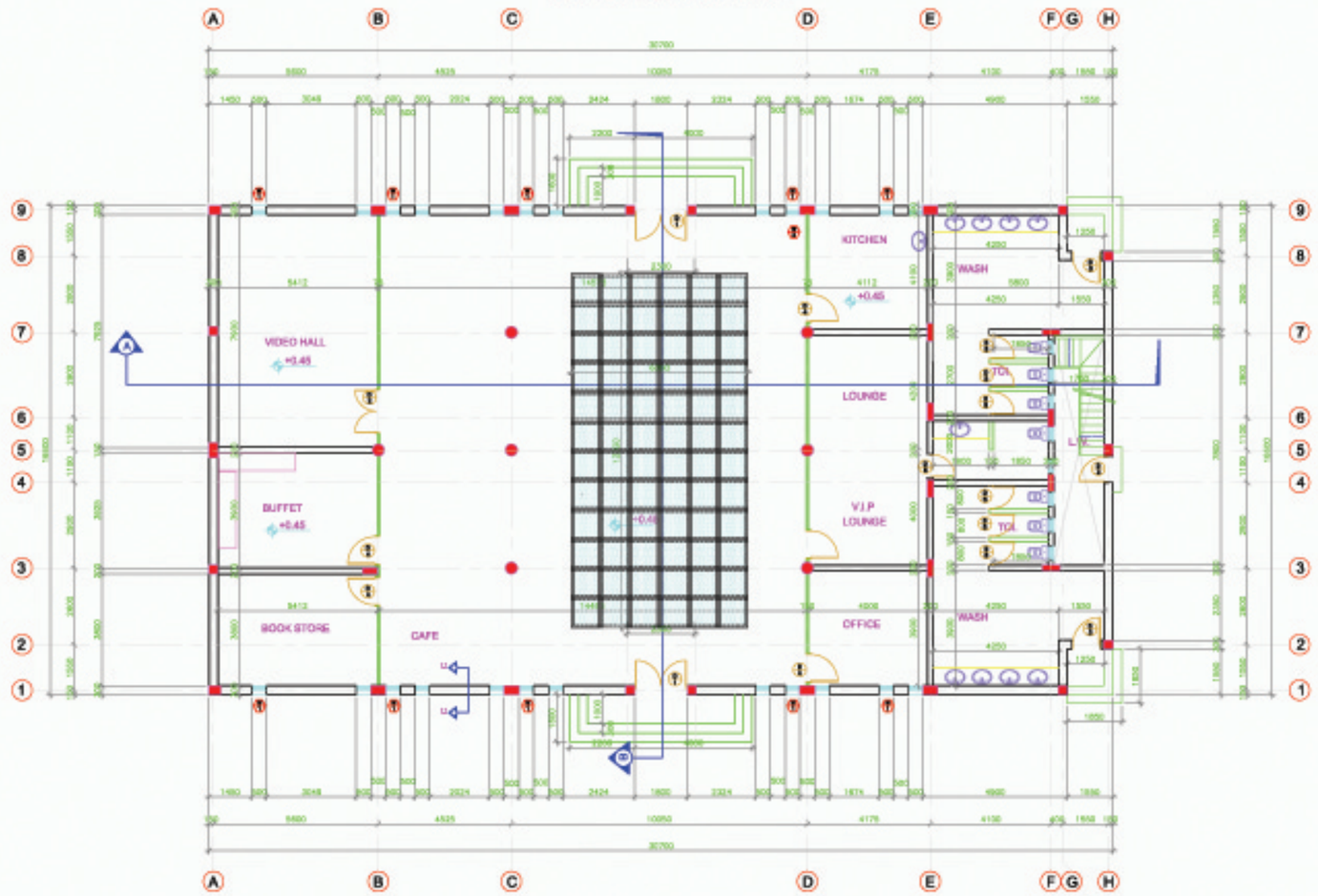
SCALE: 1:100

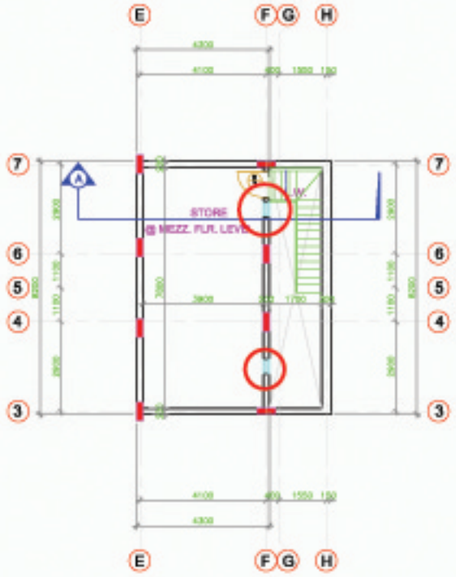
DRAWING BY: ENG \ Mahmoud Anwer

APPROVED BY | DATE: | Signature

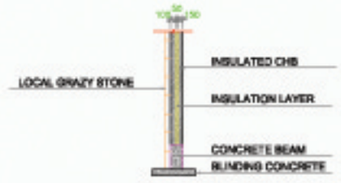


MAIN ELEVATION





MEZZANINE FLOOR PLAN
SCALE 1:100 MTS.



SECTION "C-C"
SCALE

مخطط المعمارى الدور الارضى

GROUND FLOOR PLAN
SCALE 1:100 MTS.

NOTES

OWNER:	الهيئة العامة للسياحة والآثار Saudi Commission for Tourism & Antiquities
PROJECT TITLE:	مركز زوار الشويمس
	SHWIMS
SHEET NO. A - 01	DATE 1/7/2014
مسقط افقي واجهة + قطاع	SCALE: 1:100
	CHECKED BY: ENG \ Mahmoud Anwer
APPROVED BY: ENG \ Mohamed Abedelaziz	DATE:
	Signature

WHC REGISTRATION
Date 09/02/15
Id N° 1472
Copy 2 Item 41

Regina Durighello
Director
World Heritage Programme

8 February 2015

Dear Sir,

In reference to your letter dated 23 December 2014, ref. GB/MA 1472.

I will address the needed information in sequential order as presented in your letter;

	Addressed points as stated in your letter	Actions to be taken	Start date	Date of completion	Comments
1	**Boundaries of the nominated property and buffer zone**				
1.1	ICOMOS is concerned that in the western part of the nominated property, where Rock Art clusters 8-14 are situated, there is no fence and apparently cluster 8 has been badly vandalized with graffiti. Here the property is clearly inadequately protected and it is advisable that the State Party improve protection on this area which is used as a picnic area.	The protection fence will be extended to protect the Rock Art clusters 8-14, furthermore it will extend to protect Rock Art clusters 15-24.	1 April 2015	30 April 2015	A map showing the extension of protection fence can be provided 30/4/2015.
1.2	Furthermore, in light of the fact that the views from the west and especially the south towards Jabal Umm Sinman are considered key views in the Management Plan and also contribute highly to the visual appeal of the property, it would be helpful if the State Party could extend the buffer zone of the Jabal Umm Sinman component towards the west and the south in order to conserve the long-term visual integrity of the property that encompasses clusters of petroglyphs on all sides.	The buffer zone in this particular area will be extended to an extra 50 to 100 meters; the variation in distance is dependent on the general topography.	1 April 2015	30 April 2015	An agreement with the Municipality is reached; demarcation poles will mark the newly designated buffer zone. A map showing the extended buffer zone can be provided 30/4/2015.
2	**Developments**				
2.1	ICOMOS noted the State Party's effort to contain rain water flow from the mountain slopes of Jabal Umm Sinman into the town through a diversionary dam or water barrier of several kilometres length that is constructed inside the buffer zone's eastern border. ICOMOS further noted that this dam is clearly visible from the westernmost north-south road	The dam barrier will be enframed and masked with typical low desert vegetation (shrubs and scattered tamarisk trees).	Started	30 April 2015	An agreement with the Municipality is reached.

	of Jubbah, which bounds the buffer zone on the east, and thus somehow spoils the visual integrity from there towards Jabal Umm Sinman. However, in view of the necessity of the structure and the substantial investment already made in its construction, it would be helpful if the State Party could enframe and mask this dam barrier with typical low desert vegetation (shrubs and scattered tamarisk trees).				
2.2	ICOMOS also noted the construction of a huge water tower near the existing fresh water reservoir which is visible from within the nominated property on the eastern side of Jabal Umm Sinman. ICOMOS would therefore appreciate if the State Party could consider ways of reducing the visual impact of these water tower as well.	The visual impact of the water tower will be reduced by repainting the tower with a matching color and texture to the surrounding environment.	Started	30 April 2015	An agreement with the water department is reached.
3	**Visitor Management**				
3.1	ICOMOS noted that the nominated property does not yet have visitor infrastructure and it would therefore be appreciated if the State Party could set up visitor infrastructure that will include marked routes, raised walkways and viewing platforms that will prevent visitors from making physical contact with the rock art panels.	Infrastructure that will include marked routes, raised walkways and viewing platforms will be set up.	1 June 2015	31 October 2015	Work on the infrastructure will commence as soon as the specifications are outlined by the tourism management strategy and the interpretation strategy (mentioned in the following point).
3.2	Furthermore, ICOMOS is of the view that the current construction of a 40 km long road joining the village of Shuwaymis to the interpretation centre at the entrance of the buffer zone, will facilitate the transportation of visitors to the property and thus likely increase the number of visitation. In light of this, it would be appreciated if a tourism management strategy that will address the increase in visitation and also include an interpretation strategy as part of the management plan could be developed and once this work is initiated keep ICOMOS abreast of progress.	The tourism management strategy that will address the increase in visitation and also include an interpretation strategy is being developed.	Started	30 June 2015	A first framework for a tourism management strategy can be submitted by the end of March; a draft report can be submitted by the end of May, while the final version will be submitted by the end of June 2015.
4	**Name of the Property**				
	ICOMOS noted that the inclusion of	The State Party			

	the name of the State Party in the current name of the nominated property does not appear appropriate and thus recommends that the State Party consider changing it to "Rock Art in the Hail Region".	accepts the suggested change to the name of the nominated property to be "Rock Art in the Hail Region".			

Yours sincerely,

Vice President and General Supervisor of
King Abdullah Cultural Heritage Care Project

Prof. Ali Ibrahim Al-Ghabban