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The Custodian of the Two Holy Mosques Cultural Heritage Program



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Foreword

Atlal, the Saudi Arabian Journal consists of scientific research, results of ongoing survey and investigations and documentation of sites and excavation results. First issue of *Atlal* published in 1397 H (1977 AD) after that it became one of the specialized bilingual English/Arabic archaeological journal of Saudi Arabia. It is not only local but gained regional and international fame.

This issue of *Atlal* contains reports 44 ongoing survey and excavation projects of Saudi Commission for Tourism and National Heritage conducted in cooperation with several international experts and institutions highlighting the cultural heritage of the Kingdom under the auspices of the program of the Custodian of the Two Holy Mosques for the protection and preservation of Saudi cultural heritage.

This is 27th issue of *Atlal* in the hands of our readers that contains results of recent archaeological investigations and new discoveries and we hope this will serve as new addition to the knowledge of our readers and researchers. It is a proud part of our efforts to highlight the continued archaeological and cultural investigations in the Kingdom.

Vice President Saudi Commission
for Tourism and National Heritage
Rustam bin Maqbool Kbeisi

Introduction

Saudi Commission for Tourism and National Heritage issues annually *Atlal*, the bilingual journal of archaeology and cultural heritage of the Kingdom of Saudi Arabia. It included detailed scientific and archaeological reports on ongoing projects of SCTH.

This present issue of *Atlal* 27 indicated that Saudi Commission for Tourism and National Heritage has greatly expanded its archaeological survey and excavations activities in cooperation with local and international universities and institutions.

This 27th issue of *Atlal* consisted of two sections: Special section covers excavation results of “al-Khuraybah” at al-Ula in al-Madinah region 8th season and was the continuation and completion of previous 7th season. Excavation concentrated in 10 squares where complete architectural components of two phases of Lihyanite and late Nabataean periods discovered in addition to large number pottery shreds, glass pieces and Lihyanite inscriptions. The site is dated in relation local Dedanite shreds roots roots of which goes back to 1st and 2nd millennium BC. Other artifacts pieces of stones metal objects. Excavation shall continue under the auspices of College of Tourism and Archaeology of King Saud University in the 8th season at the site of al-Mabiyat conducted in its 8th season in 1432AH/ 2011 AD. It concentrated on two squares revealing some architectural elements, large number of pottery shreds, glass and iron pieces.

A report of excavations at Tayma by the Saudi-German team in cooperation with the Institute of German Archaeology revealed the continuation of old Tayma Wall inside the residential area was a great discovery. Excavations continued in the area of Sabkha (salt marshes), the site of wells in the settlement area date back to early Iron Age. Large quantities of variety pottery shreds, artifacts and inscriptions are located that helped the team in dating the site and its different phases of settlements.

This section also contains report on the salvage excavation of two Tel in the al-Naseem quarter of Tayma district in the year 1432H. The site was intensively surveyed, and surface material was collected. Several stone circles are found on the surface were excavated. Several pottery shreds, objects of women makeup and other artifacts date back to Bronze Age found.

For the sake of scientific studies excavations conducted at a-Ukhdoud, Najran in the 8th season. The site was renovated and developed for visitors.. Further excavation carried out at the main road to the fort extended from west to east. Large number of pottery shreds and architectural elements located.

Second section of this issue contains reports on the surveys conducted in various parts of the Kingdom. The first report highlighted survey of Nafud desert conducted by the team of SCTH and a number of international universities. . Survey of Tabuk area revealed several Middle Palaeolithic sites. The most prominent find of the survey of Nafud desert was the location of an ancient river not known before.

Second part of this issue contains a report on the studies of prehistory of southwest of the Kingdom concentrated on Farasan Islands. About 300 deposits of shells of various ages documented. These finds and excavations given us a new perspective of the shell mounds and changes occurred in the climate of the region.

Next report deals with under water archaeological survey of the red sea costal, area documented some under water archaeological sites to know the soil compositions and climatic change. Modern technology was used in under-water survey, samples of sediments were taken, and prepared maps of these sites.

This section ended with two report on the archaeological survey of al-Ghath

conducted in cooperation with Saudi-Belgium team (2013-2014 AD). The study concentrated on the documentation of rock art and inscriptions and study of early human activities in al-Ghath area.

The land of the Kingdom of Saudi Arabia contains hundreds of archaeological sites continued from prehistoric to the present age. These sites provide us information about human activities in different climatic conditions and environments. From the dawn of history are still hidden several aspects of ancient civilizations, human settlements and ancient trade routes and human migration. The remains of the human presence from pre-Islamic until late Islamic period are documented and studied by 44 scientific Saudi and foreign teams from international institutions and universities.

Chief Editor
General Director of Archaeological Researches and Studies
Dr. Abdullah A. Al-Zahrani

The Saudi-Belgian Research Project in the Al-Ghat Region Preliminary Results of the 2013 - 2014 Campaigns¹

Joachim Bretschneider, Mohammed Alsalouk, Jan Tavernier & Philip Van Peer
with contributions by Elynn Gorris, Greta Jans, Nicolas Kress & Anne-Sophie Van Vyve

A. Introduction²

The research in the Al-Ghat region - an area with a very rich history located in North Central Saudi Arabia - was inspired by the Abdulrahman Al-Sudairy Foundation and His Excellency Marc Vinck, the former Belgian ambassador in Saudi Arabia. The 2013 season was conducted between the 27th of December 2012 and the 12th of January 2013 and the 2014 campaign between the 1st and the 18th of March. Both campaigns followed a primary visit from Prof. Joachim Bretschneider and Dr. Michel Debruyne in the fall of 2011 and a preliminary survey in search of early human activity by Prof. Philip Van Peer in the spring of 2012.

The Al-Ghat project is four-fold:

1. The study of the iconographical material incised on rocks (G. Jans, A.-S. Van Vyve & J. Bretschneider),
2. The study of the textual material incised on rocks (J. Tavernier & E. Gorris),
3. A survey project looking for early human activity (Ph. Van Peer), and
4. The topographical documentation of several significant sites in the Al-Ghat

region (N. Kress).³

The first three research topics clarified by topographical maps are presented below, under the authorship of the persons responsible for each subject.

The Saudi-Belgian project is conducted under the auspices of the following institutions:

- The Saudi Commission for Tourism and Antiquities - Mr. Mohammed Ali Alsalouk
- The University of Leuven, Department of Near Eastern Studies - Prof. Joachim Bretschneider (since October 2014 affiliated to the UGhent)

And in cooperation with:

- The University of Leuven, Department of Archaeology - Prof. Philip Van Peer and
- The Université Catholique de Louvain, 'Institut des civilisations,

³ We are very grateful to Nicolas Kress (UCLouvain) for measuring and drawing all the topographical plans and we owe a special thank you to Prof. Jan Driessen (UCLouvain) for allowing us to benefit from the expertise of his team.

arts et lettres'- Prof. Jan Tavernier.⁴

The governorate of Al-Ghat is situated about 200 km northwest of Riyadh. The town of Al-Ghat is located between Al-Majmah in the south and Al-Zulfi in the north. The topography of the Al-Ghat area includes the mountain range of Al-Tuwaiq and several valleys (Al-Raseeni, 2002, 46). The region that was mainly investigated was the Wadi Markh area with the Jebel Markh, the Jebel Samar and surrounding hills and the Qurayy as Sumur. The different sites are located between 11.5 and 12.5 km east (Jebel Samar and the Qurayy as Sumur) and northeast (Jebel Markh) of the old city of Al-Ghat.

The team of epigraphists and archaeologists expanded the Al-Ghat survey of 1999, conducted by Dr. Ibrahim Al-Raseeni and his colleagues and the 2010 unpublished survey of the Al-Ghat Governorate (Al-Raseeni, 2002, 52-53; al-Meshari, 1).

B. The Stone Structures and Rock Drawings at the Jebel Markh by Greta Jans, Anne-Sophie Van Vyve

⁴ A total of nineteen people participated in the missions: five members from the Saudi Commission for Tourism and Antiquities (Mohammed Ali Al-salouk, Jaza Abdullah Al Harbi, Tariq Abdullah Al Julajel, Ammar Abdulkareem Al Sewan, Bader aba Hussin) while eleven came from the University of Leuven Belgium (Prof. Joachim Bretschneider, Prof. Philip Van Peer, Dr. Michel Debruyne, Greta Jans, Ellen Van Belle, Anne-Sophie Van Vyve, Wim Verhulst and the students Shanah De Boeck, Dave Geerts, Romy Heyrman and Marjolein Van der Waa) and three from the Université Catholique de Louvain Belgium (Prof. Jan Tavernier, Dr. Elynn Gorris and Nicolas Kress).

& Joachim Bretschneider (KU Leuven & UGhent)

Saudi Arabia comprises at least 1500 known rock art sites which makes the country one of the four largest and richest rock art regions in the world (Bednarik & Khan, 2002, 75-99; Bednarik & Khan, 2005, 49-81; Khan, 2010, 160). The site yielding the highest number of textual and iconographical material in the Al-Ghat region is Jebel Markh.⁵

The Jebel Markh occurs on a sandstone formation and rises ca. 11 m above the surrounding plain. The hill measures ca. 53 (east-west) x 63 (north-south) m at its widest and longest and has an approximate oval shape with a large southwestern outcrop (plate 9.1a).

No less than 71 quartzite stones with Old North Arabian and Modern Arabic inscriptions and/or figurative drawings were identified on this location (plate 9.1a).⁶ Interestingly, most of the engraved stones were found on the eastern half of the hill, more specifically on the eastern and south-eastern slope.

1. Stone structures

While surveying the hill, we noticed architecturally distinct elements in the layer of sandstone rocks covering the hill, namely three circular constructions built from

⁵ For a discussion on the textual petroglyphs, see the section of Jan Tavernier and Elynn Gorris.

⁶ They were labelled in a concentric manner, starting at the top, using the numbering system **J**(ebel **M**(arkh) - roman number, e.g. JM-VII.

natural-shaped stones: stone structure (SS) A, B and C (plate 9.1b).⁷

The three circles are constructed from irregular stones of different size deposited with intervals between each one. A number of slabs are placed upright, with a maximum height of 0.85 m for SS A, 0.92 m for SS B and 0.78 m for SS C. Only a few stones composing the circles contain petroglyphs, which are either displayed on the inner face of the circle, on the outer side, or on the horizontal surface of the slabs.

Stone structure A (plate 9.2a) forms a half-circle pattern on top of the hill, measuring ca. 9.6 m north-south and 4.9 m east-west with the opening facing towards the eastern slope. At the centre of this arc large abutting flat rocks – JM-II, III, IV, V, VI, VIII and IX – are engraved with figurative depictions and inscriptions. On one of the large horizontal slabs (JM-V) two cupules – small bowl-shaped shallow indentations – have been identified; the northern one with a perfect circular shape (11.2 cm diameter), the other with a more irregular outline and more shallow (7.5 cm diameter). Both cupules seem to be of a more recent date than the petroglyphs on this rock.

Stone structure B (plate 9.2b) is located 8 m to the north of SS A and forms a closed

circle of ca. 5 m in diameter. Only the slabs on the eastern part seem to be placed in an upright position with two of them bearing petroglyphs. One stone exhibits petroglyphs on both sides: JM-LXI facing the inside and JM-LXII facing the outside of the circle.

5.4 m to the southeast of SS A, the smallest stone circle – stone structure C (plate 9.1c) – is positioned, measuring ca. 2 m north-south by 3 m east-west. Two of the stones bear petroglyphs on the outer side of the circle.

An additional feature was recognized 10 m to the northwest of SS A: namely three large smooth even slabs covered with petroglyphs. While in the process of clearing the earth and loose stones around the already visible rock art in order to check for more petroglyphs (which was not the case), it became evident that this surface belonged to a ‘ramp-like’ structure – stone structure D (plate 9.1d,f) – sloping ca. 11 m down the hill. At the centre of the ‘ramp’ a straight channel-like indentation running north-south was observed. This ‘channel’ does not seem natural but rather seems to have been carved into the rock – more specifically, between 2.20 and 5.50 m from the highest or most southern point downward. More to the north the ‘channel’ seemingly continues using the intersection between the different adjoining stones. The ‘ramp’ is possibly more recent than the surrounding weathered surface owing to the unnatural lesser density of the large blocks

⁷ The stone structures on the Jebel Markh possibly relate to the prominent hill to the east, towering the surrounding plain. During a first survey several (circular) stone structures were also identified on this high hill.

and presence of the indentation.⁸

The three topmost slabs are engraved with petroglyphs – JM-LVI, LVII and LVIII (plate 9.3a). On the stones with depiction JM-LVI and JM-LVIII respectively one and two circular shallow cupules (5.7 and 3.7 cm diameter) were pecked into the rock. The cupules have a very dark patina – of the same colour as the rock varnish itself and darker than the designs – and are consequently older than any of the petroglyphs on these boulders. An additional deeper non-circular man-made hole was carved in slab LVI, on the junction of two perpendicular incised lines. Several of these straight – mostly parallel and perpendicular – streaks are cut into all three slabs. They seem to be man-made, as if to divide the surface into different registers, although most lines intersect with the petroglyphs themselves.

One additional cupule is etched into a slab on the northern downhill part of the ‘ramp’.

2. Patination

A thin black coating covers the surface of the sandstone rocks, the so-called desert varnish. In order to create motifs and inscriptions, the crust of the stone was removed through different engraving techniques – like incising or pecking – exposing the lighter interior of the rock. However, throughout the centuries the lighter depictions grew darker by constant patination. Thus, a relative chronology

of petroglyphs on the same rock surface can be deduced from the distinct shades of patination: the darker, the older (Anati, 1999, 23-24). The relative chronology of the figurative and inscribed petroglyphs for each stone will be discussed separately.

3. Figurative rock art

After systematic exclusion of all textual petroglyphs, the figurative rock art can be categorized in four distinct groups: anthropomorphic depictions, zoomorphic depictions, a combination of these two and an additional category of inscrutable motifs.⁹

3.1 Anthropomorphic motifs

Anthropomorphic depictions could be recognized in JM-XXXIX, LXV, LXIX, LVI, XXXIV and possibly also in XLIX.

1. JM-XXIX (plate 9.3b)

- Location of the stone: 2.1 m southeast of SS A
- Measurements petroglyph¹⁰: 26 x 20 cm¹¹
/ Measurements stone: 36 x 57 cm
- Amount of petroglyphs on the panel¹²: 1
- Position of the petroglyph on the rock: on the horizontal surface

⁹ JM-V, VII, XXII, XXXIX, LVIII, LXIII were previously documented in the survey of the Al-Ghat Governorate (Al-Meshari, 1, p. 47-49, 51, 53 & 60) and JM-VII in al-Raseeni, 2002, Pl. 5.16.

¹⁰ Only the measurements of the figurative petroglyphs are presented by each stone.

¹¹ Measurements of petroglyphs and stone: always height x width, with height and width of the stone according to the direction of the design.

¹² Figurative as well as textual petroglyphs.

⁸ We thank Prof. Philip Van Peer for helping us interpret this structure by means of photographic documentation.

- Engraving technique & patination: pecked / greyish brown
- Motif: a slender stick-figure-shaped individual with both arms slightly raised with indications of breasts and male genitals. Without indication of feet or hands. The head is only partly preserved.

2. JM-LXV (plate 9.3c)

- Location of the stone: 7.9 m southeast of SS C
- Measurements petroglyph: 28 x 28 cm / Measurements stone: 91 x 65 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the oblique-horizontal surface, facing southeast
- Engraving technique & patination: superficially abraded / whitish
- Motif: a slender stick-figure-shaped individual with short shoulder-high raised arms, spread legs and large feet.

3. JM-LXIX (plate 9.3d)

- Location of the stone: 7.3 m to the east of SS C
- Measurements petroglyph: 32 x 25 cm / Measurements stone: 48 x 87 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the horizontal surface
- Engraving technique & patination: faint

depiction, superficially abraded / whitish

- Motif: a slender stick-figure-shaped person with both arms raised shoulder-high, spread legs and large feet.

4. JM-LVI (plate 9.3e)

- Location of the stone: part of SS D
- Measurements petroglyphs: person: 14 x 8 cm – snake: 24.6 cm long / Measurements stone: 196 x 127 cm
- Amount of petroglyphs on the panel: between 5 and 1013
- Position of the petroglyphs on the rock: on the horizontal surface
- Engraving technique & patination: pecked / person: greyish brown – snake: brownish; the snake seems of older date than the person. The inscriptions on the same boulder seem to correspond with the relative date of both depictions.
- Motif 1: a slender stick-figure-shaped person with raised arms and with indication of feet. The motif between the legs could be interpreted as a new-born, in which case the depiction represents childbirth.¹⁴
- Motif 2: a snake, with a wavy-shaped body.

5. JM-XXXIV (plate 9.3f)

- Location of the stone: 2,3 m to the east of

¹³ For a discussion on the textual petroglyphs, see the section of Jan Tavernier and Elynn Gorris.

¹⁴ A similar depiction was observed in Har Karkoum in the Negev Desert, see: Anati, 1999, cover page.

SSA

- Measurements petroglyph: 19 x 19 cm /
Measurements stone: 97 x 95 cm
- Amount of petroglyphs on the panel:
between 5 and 10
- Position of the petroglyphs on the rock: on
the horizontal surface
- Engraving technique & patination: pecked
/ greyish brown – several inscriptions on
this boulder have the same patina as this
design, others seem younger.
- Motif: a slender stick-figure-shaped
person with horizontally spread arms and
legs. Or a lizard?¹⁵

6. JM-XLIX (plate 9.4a)

- Location of the stone: 0.80 m to the
southwest of SS A
- Measurements petroglyph: 16 x 10 cm /
Measurements stone: 45 x 111 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on
the horizontal surface
- Engraving technique & patination: pecked
/ greyish brown
- Motif: this motif could represent a rounder
person with both arms raised above the
head. The legs are bent, not straight like
the earlier discussed figures. Between the
legs there is a small rounded motif. The
upper and lower half of the figure seem
virtually symmetrical. Owing to the

atypical way of picturing a person, this
motif could also perhaps represent a kind
of reptile or amphibian.

3.2 Zoomorphic motifs

Zoomorphic depictions can be identified in
JM-II, VII, XXXVIII, LVII, XXI, V, LXIII
and LVIII. The snake on JM-LVI has been
discussed above.

7. JM-II (plate 9.4b)

- Location of the stone: On flat stone in the
centre of SS A
- Measurements petroglyph: 14 x 24 cm /
Measurements stone: 95 x 83 cm
- Amount of petroglyphs on the panel:
between 5 and 10
- Position of the petroglyphs on the rock: on
the horizontal surface
- Engraving technique & patination: incised
/ whitish beige: this depiction together
with some other inscriptions seems
younger than other vague petroglyphs on
this rock.
- Motif: a four-footed animal with an
elongated oval-shaped body, a small
head with ears and rather high legs, no
indication of a tail.

8. JM-VII (plate 9.4c)

- Location of the stone: Part of SS A
- Measurements petroglyphs: 16 x 31 cm /
Measurements stone: 71 x 72 cm
- Amount of petroglyphs on the panel: ca. 5

¹⁵ See Tavernier and Gorris in this article.

- Position of the petroglyphs on the rock: on the eastern side of the stone, facing into the circle
- Engraving technique & patination: pecked / greyish brown: this depiction is older than the other petroglyphs on this stone.
- Motif: two quadrupeds, with their heads facing right with long curved horns touching their backs. Alternatively the quadrupeds are facing each other; the animal on the right would then have no horns but a long tail turned upward.

9. JM-XXXVIII (plate 9.4d)

- Location of the stone: Part of SS C
- Measurements petroglyph: 6 x 11,5 cm / Measurements stone: 45 x 45 cm
- Amount of petroglyphs on the panel: between 5 and 10
- Position of the petroglyphs on the rock: on the northern side of the stone, facing the outside of the circle
- Engraving technique & patination: abraded / whitish: this depiction is younger than the other petroglyphs on the stone.
- Motif: possibly a stick-shaped quadruped, with the head facing right and a long tail. Probably an indication of horns above the neck. The interpretation of the vertical line on top of the back remains unclear.

10. JM-LVII (plate 9.4e)

- Location of the stone: Part of SS D
- Measurements petroglyphs: top animal:

16 x 14 cm; bottom animal: 11 x 9 cm / Measurements stone: 86 x 97 cm

- Amount of petroglyphs on the panel: less than 5
- Position of the petroglyphs on the stone: on the horizontal surface
- Engraving technique & patination: pecked / greyish brown – the other petroglyphs on this panel seem to have the same patination colour.
- Motif: two stick-shaped quadrupeds, both with the head facing right, on top of one another; the bottom one is less clearly recognizable but has a tail and seems to hold its neck/head upward; the top one has a tail as well and large horns.

11. JM-XXI (plate 9.5a)

- Location of the stone: Inside SS A
- Measurements petroglyphs: animal left: 13 x 22 cm, animal right: 18 x 12 cm / Measurements stone: 108 x 150 cm
- Amount of petroglyphs on the panel: less than 5
- Position of the petroglyphs on the rock: on the horizontal surface
- Engraving technique & patination: animal left: pecked / greyish brown, animal right: incised-pecked / whitish beige; lighter than the animal on the left, therefore younger. Some of the additional petroglyphs on this rock show a similar patination as the left animal, some as the right animal.

- Motif: animal left: a camel probably with the head facing right and a rather short neck; animal on the right: possibly a quadruped, facing right, no indications of tail or horns.

12. JM-V (plate 9.5b)

- Location of the stone: On flat stone in the centre of SS A
- Measurements petroglyph: 14 x 29 cm / Measurements stone: 83 x 116 cm
- Amount of petroglyphs on the panel: between 5 and 10
- Position of the petroglyphs on the rock: on the horizontal surface
- Engraving technique & patination: pecked / greyish brown: this depiction seems younger than the other petroglyphs on this stone.
- Motif: a camel facing right. Only the outline of the hump is drawn, in contrast with the body which is depicted as a solid shape.

13. JM-LXIII (plate 9.5c)

- Location of the stone: 7.3 m to the southwest of SS A
- Measurements petroglyphs: 30 x 36 cm / Measurements stone: 75 x 103 cm
- Amount of petroglyphs on the panel: between 1 and 5
- Position of the petroglyphs on the rock: on the horizontal surface
- Engraving technique & patination:

superficial abraded / whitish beige – one other petroglyph on this boulder seems to have the same patination as this drawing; one seems to be lighter.

- Motif: the outline of a dromedary facing left, a straight upward neck and a large hump.

14. JM-LVIII (plate 9.5d)

- Location of the stone: Part of SS D
- Measurements petroglyph: 29 x 31 cm / Measurements stone: 88 x 147 cm
- Amount of petroglyphs on the panel: more than 10
- Position of the petroglyphs on the rock: on the horizontal surface
- Engraving technique & patination: pecked / brownish; older than some of the other petroglyphs on the rock.
- Motif: probably a snake, with what appears to be a folded up tail; (other (also younger) petroglyphs were drawn in between the depiction of the snake), possibly the head of the snake is portrayed as well, at the top end.

3.3 *Anthropomorphic and zoomorphic motifs*

A combination of anthropomorphic and zoomorphic motifs can be recognized in two designs: XXII and XX.

15. JM-XXII (plate 9.5e)

- Location of the stone: Part of SS A
- Measurements petroglyph: 17 x 27 cm /

Measurements stone: 72 x 43 cm

- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the eastern side of the stone
- Engraving technique & patination: pecked / whitish beige
- Motif: ostrich hunt. A person on a quadruped with a long tail seems to follow an ostrich to the right. A long line – possibly a weapon – protrudes from the person to the back of the ostrich.

16. JM-XX (plate 9.5f)

- Location of the stone: 5.8 m to the west of SS A
- Measurements petroglyph: 17 x 27 cm / Measurements stone: 72 x 43 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the eastern side of the stone
- Engraving technique & patination: abraded / whitish
- Motif: a slender stick-figure-shaped individual with both arms raised. On the right side he seems to hold a quadruped by its head. The animal shows no indications of tail or horns. Underneath the person a concave line is depicted.

-

3.4 Undefined motifs

17. JM-IX (plate 9.6a)

- Location of the stone: On flat stone in the centre of SS A
- Measurements petroglyph: 16 x 15 cm / Measurements stone: 63 x 39 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the horizontal surface
- Engraving technique & patination: pecked / whitish beige
- Motif: possibly a quadruped.

18. JM-XLVIII (plate 9.6b)

- Location of the stone: 2.91 m to the south of SS A
- Measurements petroglyphs: 16 x 13 cm / Measurements stone: 72 x 94 cm
- Amount of petroglyphs on the panel: 1
- Position of the petroglyph on the rock: on the horizontal surface
- Engraving technique & patination: pecked / whitish beige
- Motif: ? Tavernier and Gorris¹⁶ suggest that it represents a magic face with three pair of eyes.

3.5 Conclusion

Rock art represents the documentation of the open-air activities of the people living in the region over various millennia. Khan states that the rock art of Saudi Arabia illustrates animals with which the local population

was acquainted, such as cattle, camels, deer, gazelles, dogs, snakes, lizards and goats. Depictions of flora are totally absent and no birds except for ostriches were portrayed (Khan, 2014, 539-556). The images seem to be symbolic and transmitted connotations which the artist as well as the ancient people could comprehend.

The majority of the Jebel Markh figurative rock art portrays animals (12 examples) – like camels (3), snakes (2) and quadrupeds (7). Because of their schematic style of engraving, these four-footed animals are hard to categorize; they could be sheep, goats, horses or other animals. Further designs are uncomplicated stick-shaped human figures (6), or human figures hunting an ostrich (1) or ‘holding’ an animal (1). The drawings may have been made by Bedouin and semi-nomadic pastoralist groups with a lifestyle of hunting, gathering and herding.

Although according to the patination it could be determined that the petroglyphs were applied at different points in time, a determination of the exact date of the particular images is currently unattainable. Most likely the drawings as well as the inscriptions¹⁷ were carved between the 8th century B.C. and the 3rd century A.D. At the very least we can conclude that the stone engravings offer a sporadic window into the minds of the people who made them.

C. Some Inscriptions from the Al-Ghat Region, by Jan Tavernier & Elynn Gorris (Université catholique de Louvain)

1. Ancient languages of the Arabian Peninsula

For many scholars who study the Ancient Near East, the Arabian Peninsula remains unexplored and unknown territory. Indeed, the greater part of scholarly attention within the field of Ancient Near Eastern Studies has been given to the ancient civilizations of Anatolia, Mesopotamia, Iran and the Levant (Syro-Palestine), mainly because of the abundance of archaeological, iconographical and textual sources as well as of the spectacular character of these sources documenting the history and culture of these regions.

Yet the immense Arabian Desert was home to an ancient civilization with a high degree of literacy (MacDonald 1993, 382-388; Id., 2010, 15-16; Id. 2015, 1). The Arabian Peninsula was inhabited by several tribal communities, having multiple linguistic and writing traditions. Most of these tribes were involved in the commerce along the frankincense and spice routes, running across the peninsula. Through their (semi-)nomadic lifestyle, they contributed to the dissemination of the Ancient Arabian languages and writing systems.

Presently, modern scholarship distinguishes two large groups of ancient Arabian languages, both belonging to the Semitic

¹⁷ See the part on the inscriptions by Jan Tavernier and Elynn Gorris.

languages (Ancient South Arabian and Ancient North Arabian)¹⁸. While the Ancient South Arabian languages (Sabaic, Minaic, Qatabanic and Hadramitic) and script (*musnad*; *zabūr*) were mainly used in actual Yemen and southwestern Saudi Arabia, the North Arabian languages and alphabetic writing systems were dispersed over the western two-thirds of the Arabian Peninsula, including the Transjordan region and the Syrian Desert.

The Ancient North Arabian language group is not just one language, but refers to various dialects, being Dumaitic, Taymanitic, Dadanitic, Safaitic, Hismaic, Thamudic B, Thamudic C, Thamudic D and “Southern Thamudic”. Inscriptions recorded in those dialects are dated from the 8th century BCE to the 4th century CE (Macdonald 2004, 490). The Thamudic inscriptions are dated until about 250 CE (Macdonald & King 2002, 467).

Apart from some monumental inscriptions (mostly in Dadanitic), the Ancient North Arabian texts are shorter inscriptions incised on rocks (petroglyphs). These rock inscriptions often contain no more than one personal name (with or without patronymic) or one short phrase¹⁹. This is also the reason

why sometimes it is impossible to identify with absolute certainty the precise script or language in which the graffiti is recorded (Macdonald 2004, 493-494; Id., 2010, 17). Some scripts (e.g. Safaitic and Thamudic B) are quite similar, with only minor differences (compare the chart of Ancient North Arabian alphabets in Macdonald 2000, 34). The fact that these texts are mainly graffiti also implies that they were incised by the individuals themselves for their own purposes and that, accordingly, they were not commissioned by for instance their overlords (Macdonald 2010, 8-9).

Difficulties in the correct reading and analysis of the Ancient North Arabic graffiti, and this is certainly valid for those found in the Jebel Markh Hill area, may be caused by the writing direction of the script. As a matter of fact, there is no fixed writing direction in the North Arabian languages, because, according to Macdonald (2010, 16), the graffiti were applied by their authors simply for their own pleasure. Whatever the correct explanation may be, the graffiti could run left to right (Thamudic B), right to left (Thamudic B), vertically (Thamudic C and D) or even in any direction (Hismaic, Safaitic and Taymanitic²⁰).

As a result of this, many graffiti can be read in different directions. For example, a sequence BKR can theoretically be read *Bkr* as well as *Rkb*, both being personal names attested in

¹⁸ See Macdonald (2000, 29-31) for a clear classification of the North and South Arabian languages.

¹⁹ Or, as Macdonald (2004, 490) puts it, “However, approximately 98 percent of these are graffiti, informal inscriptions the majority of which consist only of names”. On the role of graffiti in non-literate and literate societies, see most recently Macdonald 2015, 8-12.

²⁰ Although most Taymanitic inscriptions are written horizontally from left to right or from right to left (Macdonald 2010, 11).

Safaitic and Thamudic (Harding 1971, 114 and 497)

2. Belgian Epigraphic Missions in Saudi Arabia

In 1951, the Saudi Arabian king Abdul Aziz Ibn Sa'ud granted a Belgian academic team the permission to study the pre-Islamic cultural heritage of his country. The result of this permission was a three-month lasting expedition, generally known as the Philby-Ryckmans-Lippens expedition, which travelled to Saudi Arabia in 1951-1952. The scientific team undertook an exploration mission from Jeddah to Riyadh over a distance of 5400 km and recorded more than 12.000 pre-Islamic texts (Ryckmans 1952). Along their journey, the team documented Old North Arabian as well as Old South Arabian petroglyphs and inscriptions. The sketches and photographs of these texts, which are currently preserved in the Ryckmans archive (Université catholique de Louvain), contributed to a large extent to the decipherment of the Ancient South Arabian languages.

Inspired by this first Belgian expedition in Saudi Arabia, Belgian epigraphists of the Université catholique de Louvain (Prof. J. Tavernier and Dr. E. Gorris) expanded the already mentioned Al-Ghat surveys. The epigraphic team of the Université catholique de Louvain focused mainly on the Wadi Markh area, where a large number of stones bearing inscriptions and/or figurative drawings were discovered and documented.

Although petroglyphs were found on three sites (the Jebel Markh, the Jebel al-Samar with some surrounding hills, and the Wadi al-Samar), this article will concentrate on the Jebel Markh site.

3. Some Inscriptions of the Jebel Markh (plate 9.1b)

Of all three find spots, this hill has yielded the highest number of textual and iconographical material.

The stone groups JM-II-VI on the top and JM-LVI-LVIII on the path at the northwestern slope of the Jebel Markh originally belonged each to one large stone that has split into several pieces, probably due to the extreme temperature changes in the Saudi Arabian desert. However, it is not likely that inscriptions ran over various stone fragments. The direction of the texts and drawings suggests that the fragmentation of the stones pre-dates the inscriptions. Only in one case the suspicion can be raised that the inscription or figurative drawing covered two stone fragments (JM-LVII-LVIII; plate 9.3a), but absolute certainty cannot be obtained.

Most of the graffiti published here are written in the Thamudic B script²¹, a script used by nomads from Yemen to southern Syria

²¹ It should be noted that Thamudic (named after the tribe Thamūd, which is, however, not justified [Macdonald 2000, 33]) is not one language or script, but rather is a kind of “Restklassenbildung” in which the texts that do not belong to another category are put together (Macdonald 2000, 33; Macdonald & King 2002, 467). Further study may and hopefully will refine this classification.

(Macdonald 2000, 72 n.117; Macdonald & King 2002, 468). The inscriptions of the Jebel Markh can be added to the already large number (over 11,000) of Thamudic inscriptions (Macdonald 2000, 44). More than 9000 of these inscriptions were found by the Philby-Ryckmans-Lippens expedition in the southwestern part of Saudi Arabia. As a result, the inscriptions discussed here are relatively “northern”.

Some inscriptions are written in the Safaitic²² alphabet and this makes them the nearly most southern Safaitic inscriptions, together with the ones found at Madā’in Šāliḥ (Macdonald 1993, 304). Safaitic texts were inscribed by nomads on rocks and currently, about 33,000 Safaitic inscriptions are known (Macdonald 2000, 35; al-Jallad 2015, 1).

The nearest other Ancient North Arabian inscriptions can be found in the Ḥā’il region (cf. Winnett & Reed 1973).

It must be noted that not all graffiti attested on the Jebel Markh are actual ancient North Arabic inscriptions. Some stones are engraved with modern Arabic graffiti. This is the case for the nos. JM-XXVII, JM-XXVIII, JM-XLIX and JM-XLI. Other stones bear various modern tribal marks, called *wasm* (e.g. on nos. JM-IV, JM-XXXVI [plate 9.6e] and probably JM-LXVI (plate 9.7a)

4. Texts from the Jebel Markh Hill

4.1 JM-I (plate 9.7b)

Transliteration

Bhr (?)

Commentary

For this inscription, three possibilities can be envisaged.

- (1) It could be read as *Bhr*, a personal name attested in Safaitic inscriptions (Harding 1971, 123). The graffito is probably engraved in Thamudic B, although Safaitic can formally not be excluded. Possibly related names are Arabic *Bahr* (Wüstenfeld 1853, 104) and *Buhair* (Caskel 1966, 229). In this graffito, the letters are adjacent to each other and form a kind of monogram, which is not very frequent in Ancient North Arabian texts. Yet ligatures are attested in for instance Dadanitic inscriptions (Macdonald 2010, 14).
- (2) It might, on the other hand, also be a tribal mark (*wasm*), but, if this were true, its size would be a bit large to be such a mark.
- (3) Alternatively, it could be some kind of religious symbol (with perhaps a moon sickle or a sun disk). Another religious symbol (with two sun disks), if not a *wasm*, might be found on stone JM-XXX (plate 9.6a)

4.2 Group JM-II; JM-III; JM-IV (plate 9.7d)

The inscriptions JM-II-IV were found on three stone blocks which probably once belonged together, but in most likelihood the inscriptions were only engraved after the block fell apart in three large pieces. Therefore the texts can be treated separately. Unfortunately the inscriptions are damaged, so not much can be made out of them.

4.2.1 JM-II (plate 9.4b)

Only traces are visible above a rock art motive. One can discern the Thamudic letters 𐩦 (top left), 𐩨 (top right) and 𐩬 (a bit lower, in the centre of the stone). They probably do not belong to one inscription. To the right below the animal drawing²³, is a 𐩬.

4.2.2 JM-III (plate 9.7d)

Here at least four inscriptions can be seen, underneath which faint traces of various letters can be read, without, however, a clear reading. One can see the letters 𐩦 (top left), 𐩨 (very faint; below to the right of the 𐩦), 𐩬 or 𐩨 (bottom left), 𐩬 (bottom centre) and a 𐩦 (Thamudic B; bottom right). The graffiti/i is/ are written in Thamudic B or Safaitic.

The four clearer inscriptions can be read as follows: The first one (JM-III.1), *Lbk* in Safaitic characters, is situated at the bottom of the stone and runs from left to right. This is a personal name that is elsewhere attested in Safaitic inscriptions (Harding 1971, 509;

Ociana, consulted on 13/05/2016). Before this name, there are two more possible graffiti. The first one could be Safaitic *Nln*, also a name attested elsewhere (Harding 1971, 599; Ociana, consulted on 13/05/2016), but it could, and probably is a kind of magic face (two eyes and a nose) which can also be seen on the stones JM-XXXII (with two eyes on the left side, however), JM-XLVIII (plate 9.6b; three eyes) and JM-LXVII (plate 9.7e). Anyhow, if read *Nln*, the following word could be *bn*, so that an inscription “Nln, the son of Lbk” appears. In both cases, however, the different distance between the left “eye” and the “nose” is puzzling.

A little bit higher to the right is inscribed a name *Bny* (JM-III.2), in Thamudic B, which may be vocalized as “Bunaiy”, a name very frequently attested in Dadanitic, Safaitic and Thamudic inscriptions (cf. Harding 1971, 122, who links it with Arabic *banā* “to build”, and Winnett & Harding 1978, 561; Ociana, consulted on 13/05/2016). Theoretically it could also be a verbal form *bny* “he built”. It remains to be seen, however, what exactly this person may have built.

The two remaining inscriptions are both in Thamudic B or Safaitic script. Any distinction is not possible here. The third graffiti (JM-III.3) is situated to the left centre of the stone block. It contains two letters in ligature and can be read *Nl*. This is a personal name attested at least six times in Safaitic and Thamudic inscriptions (Harding 1971, 581; Ociana, consulted on 13/05/2016) and

is possibly related to Arabic *nt* “to divulge, anoint”.

Finally, the fourth inscription (JM-III.4) is situated to the right of the third one. Here three possibilities may be envisaged. First of all, it may be a *wasm*. Secondly, the author of the third inscription, *Nt*, has written his name twice, whereby one of the inscriptions turned out to be larger than the other one. Alternatively, but this is less probable it can also be another name, consisting of three letters, to be read as *Yz'*, name attested at least one time in Safaitic (Ociana, consulted on 13/05/2016).

4.2.3 JM-IV (plate 9.6d)

On this block there is a clearly visible modern *wasm*. Underneath this *wasm*, there are some unclear parts, which could be either inscriptional or natural marks. If this is, however, indeed an inscription, then only two or three signs are visible, one at the extreme left of the stone and one at the right of the stone. The letter to the left could be a Safaitic aleph. The other letters are too faint to be identified.

4.3 JM-V (plate 9.5b)

Here two inscriptions are situated above the camel.²⁴ Inscription 1 runs from left to right and can be read just above the camel. Inscription 2 is situated above inscription 1. Both inscriptions are Thamudic.

Transliteration inscription 1

Lktt “By Ktt”.

Commentary

This name has not yet been explained satisfactorily. According to Harding (1971, 494 and 495; Ociana, consulted on 13/05/2016) it is attested eleven times in Safaitic inscriptions and could be related to Arabic *katt* “thin, lean” or Arabic *katīt* “mean, stingy”. Winnett & Harding (1978, 605) do not propose an explanation of this name.

Transliteration inscription 2

Ks₂dy “Kas₂day” or “Kas₂dī”.

Commentary

This name is attested in Safaitic inscriptions at least 17 times (Harding 1971, 500; Harding & Winnett 1978, 605; Ociana, consulted on 13/05/2016). If *s₂* does indeed denote a voiceless dental lateral *ś* ([*ħ*]; Lipiński 2001, 135 [for Ancient South Arabian]; Nebes & Stein 2004, 458 [for Ancient South Arabian]; Macdonald 2004, 497 and 499 [for Ancient North Arabian]; al-Jallad 2015, 45 [for Safaitic]), then one may wonder whether the name could be connected with the ethnonym “Chaldean”, which is frequently attested in the Ancient Near Eastern textual material.

Of course, for this idea to be corroborated, the original name of Chaldea must have contained a lateral fricative as well.

The name “Chaldea” (or its derivative

²⁴ See Jans et al. in this article: 3.2, n° 12.

“Chaldean”) is attested in various languages, as shown below:

(1) Akkadian:

- Neo-Assyrian: Kal-da, Kal-di, Kal-du, Kal-da-a-a, Kal-da-a-nu and Kal-dà-a-a (Parpola 1970, 188-190; Fuchs & Parpola 2002, 258; Luukko & Van Buylaere 2002, 203; Reynolds 2003, 205).

- Neo-Babylonian: Ka-al-du, Kal-du (Zadok 1985, 191-192).

(2) Biblical Hebrew: *Kašdim* (Gesenius 1921, 366).

(3) Biblical Aramaic: *Kašdāy* (Rosenthal 2006, 92).

(4) Palmyrene: *Kldy*²⁵ (Hoftijzer & Jongeling 1995, 510).

(5) Ancient South Arabian: *Ks₂d* and *Ks₂dyyhn* (cf. *infra*).

(6) Ancient North Arabian: *Ks₂dy* (cf. *infra*).

(7) Syriac: *Kaldāyā* (Payne Smith 1903, 215).

(8) Greek: Χαλδαία and Χαλδαῖοι.

One can basically see two different spellings: Kaldu and Kašdu. In Neo-Babylonian and Neo-Assyrian the name is always written with *l*, but in Hebrew and Biblical Aramaic it appears with *š*, as indicated by the form *Kašd*-. The precise relation between both spellings (with *l* and *š*) is not clear. Either the original name had a lateral *š* or the Akkadian *l* is the

result of the genuine Babylonian phonetic shift /šd/ > /ld/ (Kogan 2011, 79).

If the latter case is correct, then a proto-form *Kašdu must have existed. This form must have developed into Babylonian Kaldu, which was on its turn adopted by the Assyrians (Köhler & Baumgartner 1958, 477; Artzi 1970, 365; Zadok 2015, 95)²⁵ and which survived in Palmyrene *Kldy* and Greek Χαλδαία. According to Grintz (1962, 190 n.10), the Hebrew and Biblical Aramaic arose directly from this proto-form *Kašdu. This would then imply that the name “Chaldea” is of Babylonian origin.

So, if the widely attested name Kaldu is really the result of a proto-form *Kašdu through the Babylonian shift /šd/ > /ld/, then it must be admitted that the theory of an original lateral fricative should be abandoned. Accordingly, the Thamudic name discussed here has nothing to do with Chaldeans.

Nonetheless, the alleged form *Kašdu is, contrary to what Gumpertz (1942, 114) believes, never attested (Edzard 1976-1980, 296; Kogan 2011, 79). In addition, despite the fact that at least one Aramaic loanword in Akkadian (*kinaštu* / *kinaltu*) was affected by

25 The Assyrian form is sometimes cited as an example of a Babylonian form in Assyrian that is a result of this shift, albeit that this shift was in general not operative in Assyrian and that, accordingly, the forms without /šd/ > /ld/ are more frequent than the other forms (Hämeen-Anttila 2000, 22-23 and n. 30; Luukko 2004, 80-81). If, however, the original form does contain a voiceless dental lateral fricative /š/, then the form has nothing to do with the phonetic shift /šd/ > /ld/.

the shift (Keetman 2006, 373), it is not sure if the shift was still active when the speakers of Akkadian came into contact with Chaldeans (Edzard 1976-80, 296; Kogan 2011, 79).

With these two objections in mind, one could wonder whether it is not the other way round: not the Babylonian reconstructed form *Kašdu, but the Hebrew and Aramaic forms *Kašd-* stand closest to the original name (Steiner 1977, 141). If this is true, then the presence of a voiceless lateral fricative /š/ in the original name of Chaldea has become very probable (Edzard 1976-80, 296). In any case, it is not implausible to think that, the Chaldeans being a West-Semitic tribe, the name as attested in the West-Semitic languages Hebrew and Biblical Aramaic stands closest to the original one.

Moreover, the lateral fricative in the name of the Chaldeans can also be noticed in its attestations in Ancient North Arabian and Ancient South Arabian inscriptions. The most intriguing fragment in this context is undoubtedly a South Arabian inscription from Al-Uqlah (Hadramawt, Yemen). The text (Jamme 1963, no. 931) mentions three diplomatic delegations that came to Il'add Yaliṭ, the king of Ḥaḍramawt (3rd century CE). One of the delegations was said to be that of the *Ks₂dyyhn*, the two others came from Palmyra and India.

Jamme (1963, 45) suggested that these people belonged to a local tribe, but unfortunately for him there is no evidence for such a tribe in

the region. The only similar personal names as well as a similar toponym have a North Arabian context (Steiner 1977, 138).

It is far more probable that the *Ks₂dyyhn* are in reality the Chaldeans (Müller 1964, 380; von Wissman 1964, 457; Steiner 1977, 138-139). As a result, the Sabaic and Safaitic names cited by Jamme (as Kšd) may as well be notations of “Chaldea” or “Chaldean”. According to Steiner (1977, 138-141), the Chaldeans mentioned in this inscription were merchants from the East Arabian trading post of Gerrha²⁶.

The form *Ks₂d(y)* is also attested as personal name in various ancient Arabian inscriptions:

(1) *Ks₂dy* (Dussaud & Macler 1903 no. 368; Safaitic): Here *Ks²dy* is the father of 'Ilham. While Dussaud & Macler (1903, 140) did not find any comparative material for Kachday (*sic*), Lidzbarski (1908, 353) was the first to see the link with “Chaldean”. Ryckmans (1934, 116) marks the name with a question mark.

26 See Steiner (1991, 1507-1508) on the discussion whether the Chaldeans migrated to Mesopotamia from East Arabia, as Albright (1952, 44-45) postulated. According to Moritz (1926, 205-206), there was even a special connection between the Chaldeans and the Arabs, but Brinkman (1968, 266 and n. 1715; also Zadok 2013, 265) has demonstrated that there is no proof for such a hypothesis. The names of Chaldean people are mostly Akkadian and the non-Akkadian names are all West-Semitic, rather than Arabic (Zadok 2013, 266-271). In any case, it is wise to assume that “It is not known how the Chaldeans arrived in Babylonia or where they came from” (Frame 2013, 97).

- (2) *Kš₂d* (CIS IV 150:2 and 716:2; South Arabian)²⁷: This name was borne by two individuals. Ryckmans (1934, 116) pleads for a link with Arabic *kšd* “gain, profit”, but even more likely is that the name means “Chaldean”.

Finally, there is another argument in favour of the presence of an original lateral-fricative in the name of the Chaldeans: the town of ^{uru}É-^m*Il-ta-ma-sa-ma-*’. This town figures in a list of 88 fortified cities of Chaldea, attested in an inscription of the Neo-Assyrian king Sennacherib (RINAP 3/2 213:45)²⁸. The name of the city should be transcribed Bît-Šamaš-šama’, the second part of which is a personal name meaning “The Sun god has heard”. The spelling with *-lt-* for the sibilant clearly indicates that this sibilant was /š/ and not /š/ (Steiner 1991, 1508-1509) and suggests that in all likelihood the voiceless lateral fricative could be written in Akkadian by means of *l*.

In conclusion, it may be accepted that the original name of the Chaldeans contains a voiceless dental lateral fricative /š/ and that the name is a derivation of the root *kšd*, probably meaning “to raid” (Lipiński 1993, 193; Id., 2000, 418-419). The name is West-Semitic, perhaps related to, but distinct from Aramaic and certainly not Arabian.

27 Cf. Arbache 2002, 263.

28 The place is also attested, with a slightly different spelling, in SAA 17 30 17’ (^{uru}É-^mT[a₅-miš]-šá-ma-’) and in SAA 17 59 rev. 8’ (É-^mTa₅-miš-šá-ma-’).

The presence of this name in this region is not at all surprising. As already mentioned, the Jebel Markh was situated along a trade route running amongst others from Gerrha to Palestine (cf. Van Beek 1958, 145).

4.4 JM-VI (Fig. 41)

Here the marks are unfortunately not coherent. One can clearly see a Thamudic D s² (or, less likely, a Thamudic B ɖ) and a ɾ, but the ɾ is of a more recent date than the s².

4.5 JM-VII (plate 9.4c)

Transliteration

’lh

Commentary

The form ’lh, to be vocalized ’Ālih, is a personal name, which is also attested in Safaitic inscriptions (Harding 1971, 432; Winnett & Harding 1978, 596).

4.6 JM-XII (plate 9.8a)

Fragment of a stone with three inscribed characters, of which the left one is engraved at some distance from the others. This implies that two words or names are involved here. Probably there was also a word or name to the right of the left word. Unfortunately this is no longer visible.

Transliteration

b zr

Commentary

The *b* could be the initial consonant of the

word *bn*, meaning “father”. *Zr* is a personal name, attested in Thamudic inscriptions (Harding 1971, 297; Ociana, consulted on 13/05/2016). The combination of the characters could therefore be translated as “father of *Zr*”.

4.7 *JM-XIV* (plate 9.8b)

This stone remains difficult to analyse, although the script is most likely Thamudic B. The letter combinations do not reveal well-known personal names. Most likely, this group of letters can be seen as a writing exercise, since the letters face in several directions (M.C.A. Macdonald, pers. comm., 28/01/2016):

Starting on top of the stone the letter *w* is inscribed with below a broken letter.

To the right of the *w* one can see (from top to bottom) a *L* (facing right), followed by a *T*, then either a *K* (facing right) or more likely a *R* (facing right, albeit that when one would expect it to face left) and a *N*. The last letter is either a *B* or a *s*¹. Possibly there is, below the *R*, a *‘* which has been hammered over.

This would result in the reading *ltrnb* or *ltrns*₁. The first option, which could be to read from right to left *bn Rtl* “the son of *Rtl*”, is most plausible. However, none of both combinations are attested in the inscriptions of nearby Ḥā’il (cf. Winnett & Reed 1973, 62-94), nor does the name *Rtl* appear elsewhere.

Below this graffito another one can be seen,

consisting of three or four letters. At the right side of the stone a *K* is engraved. It is uncertain whether this letter belongs to the name to the left or that it is an independent “game” of someone who wanted to show off his writing skills. To the left of this *K*, one can read the letters *N*, *F* and *R*. A personal name *Nfr* is quite frequently attested in Safaitic, as well as the name *Nfrk* (Harding 1971, 596; Ociana, consulted on 13/05/2016).

4.8 *JM-XVII* (plate 9.8c)

This stone is heavily weathered and not much can be seen. In the middle of the stone, a rayed circle (perhaps Thamudic *D s*²) can be observed and to the right there are traces of what might be a *Y*. To the left a name is still visible, consisting of a *w* and a badly written *‘*, *D* or *Y*. Possible names are *Dw* (Ociana, consulted on 11/05/2016), *‘w* (Harding 1971, 447) and *Wd* (Harding 1971, 636; Ociana, consulted on 11/05/2016). Of these three names *Wd* is most frequently attested (in Safaitic and Thamudic) and this reading is preferred here.

4.9 *JM-XXIII* (plate 9.8d)

Here only two letters are engraved, next to some rock art representations. The letters form an in Safaitic attested name *W‘* (Ociana, consulted on 11/05/2016).

4.10 *JM-XIV* (plate 9.8e)

Unfortunately, the traces are very faint and no coherent graffito can be made out of them. What can be seen, however, are the characters *‘*, *H* or *T*, *M* and *T*. The arrangement seems to

be rather chaotic.

4.10 JM-XXXII

To the right of the possibly religious symbol (cf. *supra*) one can read a name Ḥt, which is to be connected with Arabic *ḥat* “to abuse, to humble”. The name is also attested in Safaitic and Thamudic inscriptions, albeit not that frequently (Harding 1971, 215; Ociana, consulted on 12/05/2016).

4.10 JM-XXXIII (plate 9.8f)

The graffito on this small stone is made up of only one letter, most likely a Safaitic Ḥ. The stone probably once belonged to a larger stone. Alternatively, it might also be a *wasm*, as seen on JM-LXVI.

4.9 JM-XXXIV (plate 9.9b)

On the left bottom of this stone, an interesting phenomenon can be noticed. If the motif represents a lizard²⁹, its hind legs seem to form the letter w. This could very well be the indication of the first letter of the word for “lizard” in Safaitic and Thamudic. At least in Safaitic the word for lizard is *wrl* (Classical Arabic *waralun* “scincus” [Fig. 28]; cf. al-Jallad 2015, 353). To the right of the lizard one can see a *wasm* or a Safaitic Ḥ.

4.10 JM-XXXVIII (plate 9.4d)

Transliteration

Ḥt

Commentary

This is again an anthroponym, which could be related to Arabic *ḥatt* “fleet” and which is attested in Dadanitic and Safaitic inscriptions (Harding 1971, 175; Ociana, consulted on 13/05/2016). Nevertheless, we cannot exclude the possibility that two times the same *wasm* is engraved here. The same name (or *wasm*) is most likely inscribed on stone JM-XL (plate 9.9a).

4.11 JM-XLII (plate 9.9c)

This rock has two complete graffiti incised in it. In addition, there are traces of other graffiti. On the extreme left there is a T visible, probably part of a larger inscription.

The two complete graffiti are situated next to each other. The left one (JM-XLII.1) consists of three letters, a T and a R or B. The rude line in between is probably a natural mark. The script can be classified as Thamudic B. The name resulting from this reading is *Bṭ* or *Tb*, depending in what direction one reads. *Bṭ* is a well-known name in Dadanitic and Safaitic (Harding 1971, 93; Ociana, consulted on 11/05/2016) and may be connected to Arabic *batt* meaning “secret”. However, also a reading *Tb* yields an already attested name, connected to Arabic *tab* “to be completed” (Harding 1971, 142; Ociana, consulted on 11/05/2016).

²⁹ See Jans et al. in this article: 3.1, n° 5.

The other graffito (JM-XLII.2), to the left of JM-XLII.1 has four letters, of which the third one is not entirely clear. The first one is clearly an L (Thamudic B), followed by a rude κ. The third one is either ' or B, not well executed. The last one is B. So we have a text saying *Lkbb* or *Lk'b*. The reading of the name *K'b* (Harding 1971, 500; Safaitic; Ociana, consulted on 13/05/2016) preceded by the preposition *l-* "by" (Macdonald 2004, 519) is preferred here. The text can then be translated "By *K'b*".

4.13 *JM-XLIV* (plate 9.9d)

Traces of three letters are visible on this stone. The most plausible reading is T, B/R and '. If one reads 'rt, then a plausible name may be seen (cf. Harding 1971, 414). Yet, also a reading 'bt yields a nice name (cf. Harding 1971, 396). Both names are in any case attested in Safaitic.

4.14 *JM-XLV* (plate 9.9e)

On this stone the characters Z and B/R are visible. A name *Zr*, perhaps to be read *Zirr*, is at least four times attested in Thamudic inscriptions (Harding 1971, 297) and six times in Safaitic inscriptions (Ociana; consulted on 10/05/2016).

4.15 *JM-XLVI* (plate 9.9f)

This is a bizarre stone with some characters engraved on it in a chaotic arrangement. Probably we are dealing here with a scribal exercise or game. The visible letters (from left to right) are, Y, G/D/S, (and Q. Above them are a N and a '. A combination *N'* can be a

personal name (Harding 1971, 592; Ociana, consulted on 13/05/2016), but the second line currently remains unexplicable.

4.16 *JM-XLVII* (plate 9.10a)

Here a reading *ytr* yields a personal name *Ytr*, attested in both Safaitic and Thamudic inscriptions (Harding 1971, 657) and once in a Dadanitic text (Ociana; consulted on 10/05/2016).

4.17 *JM-L* (plate 9.10b)

This stone has clearly two *waw* engraved on it. Unfortunately this does not result in a clear name or lexeme.

4.1 *JM-LII* (plate 9.10c)

Here three letters are visible, two of which are not fully certain. The letter to the right is) or s. The middle one is certainly T, whereas the third one is w or D, the latter only being possible if the script is Thamudic B.

The only name, which is already attested, to be formed with this combination is *Wts*, a name attested in Dadanitic and Safaitic (Harding 1971, 634 ["root unknown"]; Ociana, consulted on 11/05/2016).

4.19 *JM-LIII* (plate 9.10d)

Perhaps a name *Nz* or *Zn* can be seen on this stone. The former is attested in Safaitic texts (Ociana, consulted on 11/05/2016). The latter, possibly related to Arabic *zan* "to judge", is also attested in Safaitic (Harding 1971, 302; Ociana, consulted on 11/05/2016).

Alternatively the presumed *N* could be a natural mark, while the other character is nothing more than a *was*m (similar to the one seen on JM-LXVI).

4.20 JM-LVI (plate 9.10e)

The signs are not all certain. Curiously the left side of the stone seems to have twice exactly the same graffito, of which the first three letters are *tlw*. The fourth one is either *B*, *R* or *ʿ*. The only attested name that can be formed with this combination is *Rwlt*, attested once in a Safaitic inscription (Ociana, consulted on 11/05/2016).

4.21 JM-LXI (plate 9.11a)

Transliteration

ʿln

Commentary

The form *ʿln* is a personal name for which two analyses are possible. Firstly, it may be related to Arabic *ʿln* “to tell, to reveal” and is as such at least four times attested in Safaitic inscriptions (Harding 1971, 432). Secondly, the alternative possibility is to consider the name as a variant of *ʿl* and to connect it with Arabic *ʿl* “to be ill” (Harding 1971, 429).

4.19 JM-LXIV (plate 9.11b)

Here only one letter can be identified, in casu a *Y*.

5. Conclusion

This section presents the publication of some of the engraved stones found on the Jebel Markh. It must be admitted that the number

of inscriptions is not very abundant, certainly if compared with other finds in the Syrian and Jordan desert. With regard to the content of the inscriptions, so far only personal names and scribal games are attested.

Nevertheless, the graffiti found on the Jebel Markh are very significant, since they most likely prove that the Jebel Markh was either an important stop on the trading route which ran from Gerrha on the East Arabian coast to the Mediterranean, or even on the Trans-Arabian axe, or that it was a major (religious?) centre for the local nomadic shepherds. As a matter of fact, the importance of the site is also demonstrated by the presence of the access path on the north-western slope of the hill (cf. the section on the stone structures).

D. A survey project looking for early human activity by Philip Van Peer (KU Leuven)

Geologically the surveyed region consists of marine deposits of varying age, which have developed into a series of *cuestas* through tectonic activity. The city of Al Ghat is located at the foot of the western *cuesta* cliff of a Jurassic limestone formation, extending to the northwest. To the west of this *cuesta*, there is a heavily eroded *periplain* with active dune formations in the west. A cursory visit has shown that there are no traces of prehistoric occupation whatsoever. The dunes are most likely of too recent age. In the eastern part of the plain, irrigation agriculture is practiced.

The 2012 survey was concerned with the area west of the watershed that runs from south to north, the cliff face in particular (plate 9.11c). The second campaign, in 2014, was concentrated on the eastern side of the limestone formation, in the area of Jebel Al-Samar. Here, a large depression of tectonic origin, filled with quaternary fluvial deposits occurs between Jurassic and Cretaceous limestones.

1. The 2012 survey

The limestone area to the east of the Zulfi road was the first focus of attention. Three days were spent at exploring two wadi valleys draining into the large plain to the west (plate 9.11c, north zone). In the southern wadi four findspots of lithic artefacts were registered on the northeastern pediment of the valley. At findspots 1-3, isolated artefacts from the Middle Palaeolithic occur. Interestingly, two of these are heavily retouched side scrapers of Yabrudian style (plate 9.12b;B) while the third is a Levallois point. At findspot 4, a dense cluster of artefacts was found; they are probably Neolithic. In the slopewash deposits on the pediment, one frequently observes the presence of good quality chert nodules eroding out of the limestone. This exposure of chert beds within reach of exploitation together with the presence of permanent water sources in the valley floor, as visible today, must have formed a point of attraction for prehistoric foragers.

On the limestone escarpments east of Al Ghat city (plate 9.11c, south zone) two

dense concentrations of lithics were found at the surface of the plateau desert pavement. At locality 2, the artefacts all show a very characteristic reddish oxidation and an intensive gloss development (plate 9.12a;A). The latter is reminiscent of water wear as formed in sandy spring deposits. The topographical position of the site, however, would seem to preclude the presence of paleo-springs. Technologically, these artefacts are somewhat similar to African late MSA or LSA industries although the presence of carinated scrapers is unexpected in this regard. They seem to suggest some Levantine Aurignacian affiliation. Locality 3 has a higher density per surface unit and has a more palimpsest-like character as evidenced in the occurrence of different patina groups.

In a tributary wadi to the north of the Al Qalta waterfall, we observed the presence of thick (~2 m) wadi deposits, grading from fine gravels to sands. A single convex side scraper was comprised within the upper part of these deposits. While clearly in secondary context, this is the only instance where archaeological materials were observed in stratigraphic context. This opens up the prospects that at least a minimal age might be established for a certain number of occupation events.

2. The 2014 survey

In 2014 our efforts were focused on the eastern part of the survey area. Our main aim was to further explore the potential of two areas which had been discovered in 2013. During that campaign, large surface concentrations

of Palaeolithic artefacts had been sampled at two localities at Jebel Al-Samar, labelled as 'Black Hill 1' and 'Black Hill 7'. Another dense concentration was encountered at Jebel Markh to the north (plate 9.11c).

2.1 *Jebel Al-Samar*

This site is located in a heavily dissected area of characteristic black hills consisting of sandstone which is capped by a thin layer of strongly silicified coarse-grained sandstone. The latter is undoubtedly the reason of Palaeolithic human presence here, as demonstrated by the quantities of lithic artefacts out of this raw material which are scattered across the hill surfaces. Several of these were sampled in 2013; during the 2014 campaign we concentrated our efforts in the area indicated on plate 9.12b. Unfortunately, these surfaces are being stripped of their desert pavements for road construction (plate 9.12b) and many scatter have been destroyed by now. A small test trench on the south pediment revealed the presence of a truncated red soil developed in fine slopewash deposits underneath the desert pavement. No artefacts, however, were observed in stratigraphic context. It is most likely that these scatters have never had a sediment cover and that they occur more or less in situ at the present surface, as in many other areas of the Saharan-Arabian belt (Olszewski et al. 2010).

Thus far, the entire collection from Jebel Samar has been subjected to a preliminary analysis only. However, some general technological features can be pointed out.

In the first place, it is obvious that the large bulk of the artefacts are of Middle Stone Age affiliation and that, in this sense, the collection displays a certain homogeneity. For the sake of this preliminary description, we consider it as one assemblage although it is most certainly a palimpsest composite.

The artefacts are almost always made of the local raw material. Imported raw materials such as flint are extremely rare. Typically, the artefacts show a rather strongly developed reddish patina and some degree of wearing of edges and ridges. It is clear that they have been exposed at the surface for a long period of time. The assemblage comprises cores in various reduction states and debitage while retouched tools are rare. This composition is quite characteristic of MSA workshops. As the use of the term MSA suggests, the technological systems represented in the Jebel Samar collection show distinct African connotations, the use of the Nubian 2 method in particular (Van Peer et al. 2010). This is a specific variant of the Levallois method of blank production, designed to produce pointed flakes from broad triangular cores on which a guiding ridge is achieved through lateral preparation of the core table (plate 9.13c). The narrow distal end of such cores has a characteristic carinated appearance. In northeast Africa such assemblages are comprised in a cultural facies known as *Early Nubian Complex* (dating to around 130,000 years ago) and associated with *Homo sapiens* populations. At Sodmein Cave in the Eastern Desert of Egypt, for instance, an Early

Nubian Complex level occurs in association with a large firepit that has been dated to 118 ± 8 ka (Mercier et al., 1999; Moeyersons et al., 2002; Schmidt et al., 2015).

2.2 *Jebel Markh*

Downstream from Jebel Samar, at the junction of the small tributary wadi to the main drainage system (plate 9.11c) is the site of Jebel Markh. Again this is an isolated hill capped by the same quartzitic sandstone formation as at Jebel Samar. The hill is immediately adjacent to the western wadi terrace and fine overbank deposits fan out on the lower part of the hill (plate 9.12c). We recorded a section in a small gully which has recently been eroded into the terrace, showing that these fluvial deposits reach a considerable amplitude (plate 9.12d). Thus, this site provides the stratigraphic conditions to recover archaeological material in buried conditions and, as a matter of fact, we have observed occasional artefacts in the exposed sections of the small gully.

The surface of the hill is densely covered with lithics which, however, have a much fresher appearance than the Jebel Samar material. Many of them have only a light yellowish patina or even none at all. At the base of the hill we have opened up a 25m² test area, of which a number of 1m² squares were carefully excavated (plate 9.13a). Artefacts were encountered but, thus far, we have not reached a true buried occupation level. It seems that many of the excavated lithics have moved downward into the sediments as

a consequence of taphonomic processes such as desiccation wedges.

Technologically as well, the Jebel Markh surface assemblage has a very different appearance as compared to Jebel Samar. First of all, there is a laminar aspect to the lithic production and retouched tools are quite well represented (Table 1). Often these are tool types which are characteristically associated with blade blanks, such as end scrapers and burins. Yet, raw blade blanks are quite rare and in the best of cases they are stocky flake-blades which makes them quite different from the laminar products present at Jebel Samar. A few cores are present with an apparent volumetric organisation and tables from which elongated forms have been produced. Discoidal cores, on the other hand, are well represented and most of the intentionally produced blanks are discoidal flakes.

Tool type	N
retouched flakes	12
side scrapers	9
denticulates	16
notches	9
becs	4
end scrapers	12
Burins	6
Truncations	1
core tranchets	2
flake tranchets	2
Nazlet Khater axes	2
asymmetrical axes	1
scaled pieces	1
tanged pieces	1
TOTAL	78

Table 1: Tool type frequencies in Jebel Markh surface collection

There are quite a few bifacially retouched tools present in the assemblage, mostly thick forms. There is one thin bifacial foliate out of grey flint which probably does not belong together with the rest of the assemblage. Noteworthy among the bifacial tools are two items which show a lot of morphological similarity to the Nazlet Khater axe type (plate 9.13b, see Vermeersch et al. 2002). This is a tranchet-like tool, with one or two opposed bifacially worked bits and with lateral concavities. They are elaborated on slabs or big flakes. Large *façonnage* production flakes are present in the assemblage.

At this preliminary stage, it is difficult to propose an attribution to a formal cultural unit, all the more so because we have no chronological evidence to go by, direct dates nor a regional chronostratigraphic framework to which we might attempt to correlate Jebel Markh. If Nazlet Khater axes are present indeed, this would suggest an early Upper Palaeolithic occurrence. Alternatively, this techno-typological spectrum also fits MSA or Middle Palaeolithic industries such as the Lupemban in northeast Africa or even the Pre-Aurignacian from the Levant (Rust 1950).

3. Conclusions

As far as the western part of the survey area is concerned, the limestone escarpment with its deeply incised wadi's draining to the

penepplain is the most promising in terms of documenting prehistoric human occupation. However, this landscape is heavily eroded and the chances of finding good stratigraphic contexts with Palaeolithic sites in primary context, are slim. Still, attention should be paid to the spring situations which might occasionally contain fine deposits (sands or even travertines). Additionally, some wadi terraces may have been preserved, containing remnants of occupation in near-primary context and perhaps even structures related to the exploitation of chert.

The evidence from the eastern survey region is much stronger. The multiple indications of Palaeolithic occupations at the fringes of this large drainage system (plate 9.11c) can undoubtedly explained by the presence of a quartzitic sandstone formation of which the weathered top lends the typical black aspect to these surfaces. Two major areas of dense surface scatters have been recorded and sampled at Jebel Samar and Jebel Markh but many more will be found with continued surveying. Beyond Jebel Markh, river terraces and fine floodplain deposits seem to be rather well preserved, opening the prospect of finding sites in primary context. In the light of the ongoing economic development of the area, intensified archaeological attention seems urgent.

Within the context of the wider question of early modern human demography, the discovery of the Jebel Samar site constitutes important new evidence. While the expansion

of groups into the Sahara during early MIS 5 is quite well established (Wendorf et al., 1993; Smith et al., 2007) such sites were non-existent for the east, let alone for the Arabian Peninsula across the Red Sea. With this evidence from Central Saudi Arabia coming to light, it increasingly seems that the regional distribution of the Nubian 2 technological system is recording an early, Last Interglacial migration out of Africa. Obviously, this emerging archaeological pattern begs for consideration from the perspective of the conventional, 'failed' Out of Africa 2a migration (Garcea, 2012). As a matter of fact, it provides a serious complication for that model since the technological system associated with the early modern humans of the Levant has nothing African about it. It does seem quite unlikely that human groups from the same technological background would, on the one hand, completely abandon their ancestral technology on the Levantine Coast while, on the other hand, they keep on using it in precisely the same form in areas only a footstep away to the south. At the very least, the evidence from the Arabian Peninsula urges us to put the question of the cultural homologies between the later African MSA and the Levantine Middle Palaeolithic high on the research agenda again.

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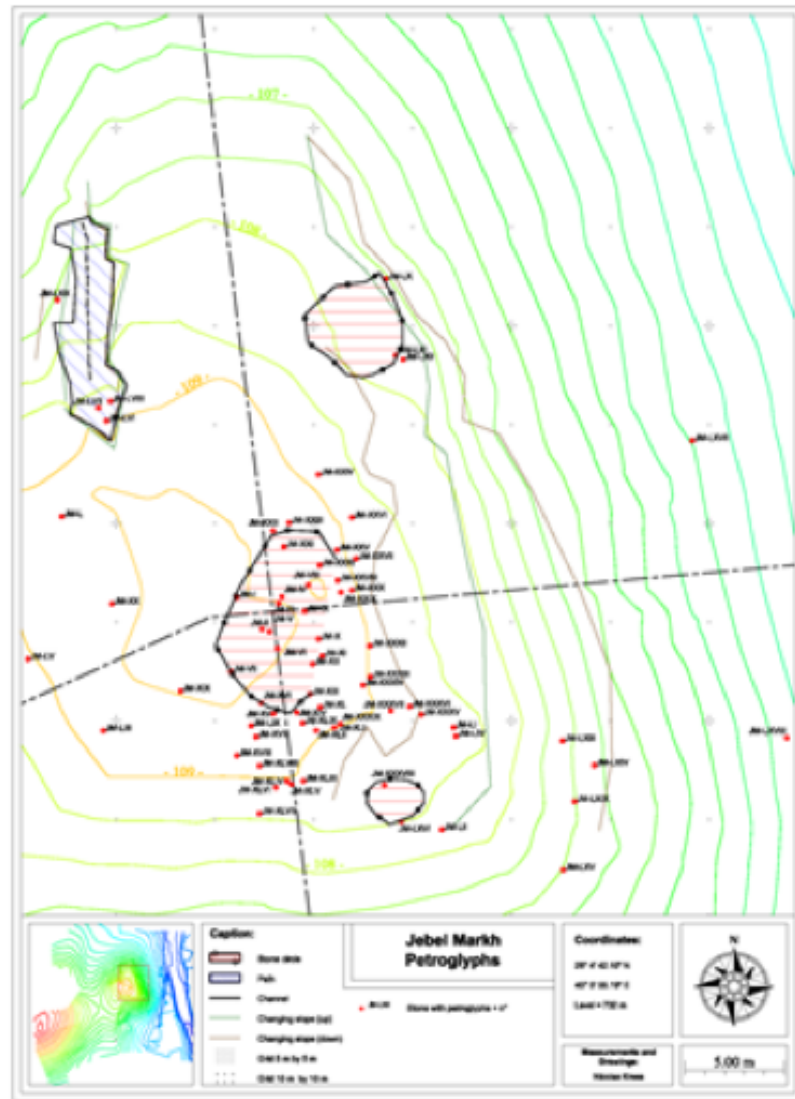
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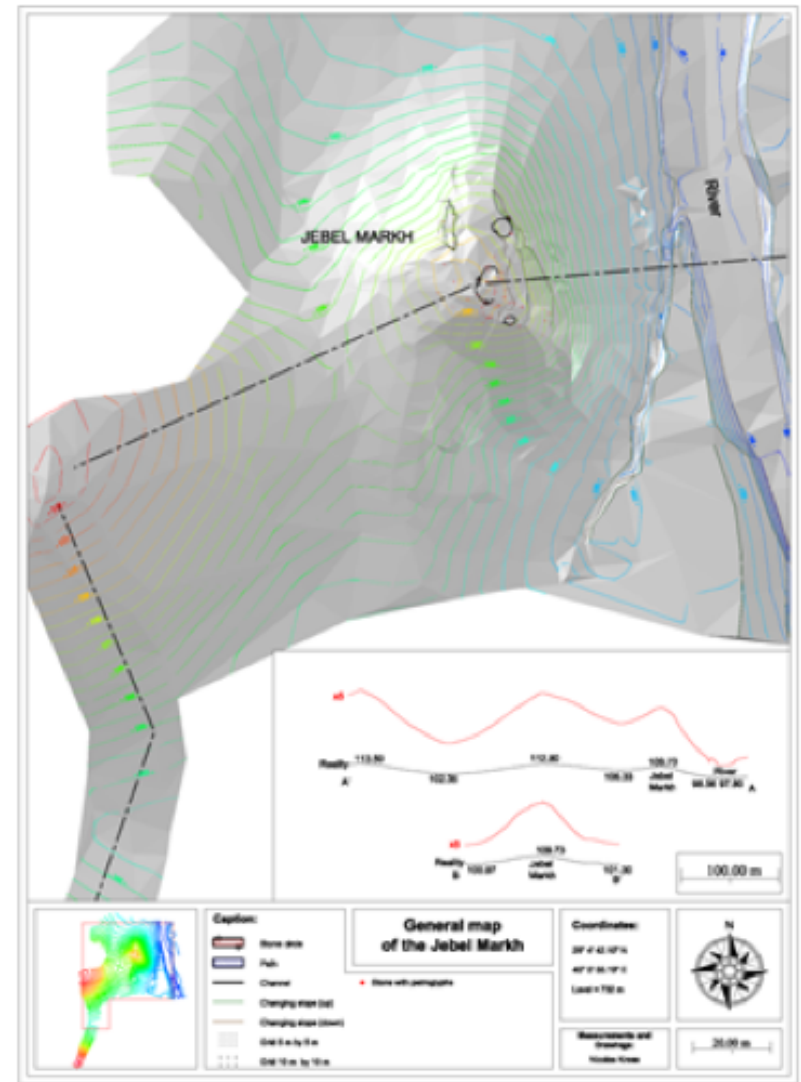
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ب. كتابات من موقع رأس المحشرة.
b. Map of Jebel Markh with indication of the petroglyphs



أ. خريطة جبل مرخ ومواقع النقوش.
a. General map of the Jebel Markh



ب. منشأة حجرية ب.
b. Stone structure B.



أ. منشأة حجرية أ.
a. Stone structure A.



د. منشأة حجرية د.
d. Stone structure D.



ج. منشأة حجرية ج.
c. Stone structure C.



و. المنشأة الحجرية من ناحية الجنوب).
f. Stone structure D, view to the south.



هـ. المنشأة الحجرية (من ناحية الشمال).
e. Stone structure D, view to the north.



ب. رسمة لأدمي بجبل مرخ.
b. JM-XXIX.



أ. جزء من المنشأة الحجرية د بجبل مرخ.
a. Part of stone structure D – JM-LVII-LVIII.



د. رسمة لأدمي بجبل مرخ.
d. JM-LXIX.



ج. رسمة لأدمي بجبل مرخ.
c. JM-LXX.



و. رسمة لأدمي أو حيوان زاحف.
f. JM-XXXIV.



هـ. رسمة لأدمي وثعبان.
e. JM-LVI.



أ. رسمة لأدمي أو حيوان زاحف أو برمائي.
a. JM-XLIX.



ج. رسمة وعلان.
c. JM-VII.



ب. رسمة لحيوان.
b. JM-II.



هـ. رسمة حيوانين.
e. JM-LVII.



د. رسمة حيوان.
d. JM-XXXVIII.



ب. رسمة حيوان.
b. JM-V.



أ. رسمة حيوانين.
a. JM-XXI.



د. رسمة ثعبان بجبل مرخ.
d. JM-LVIII.



ج. رسمة جمل بجبل مرخ.
c. JM-LXIII.



و. رسمة آدمي برأس حيوان بجبل مرخ.
f. JM-XX.



هـ. صيد نعام بجبل مرخ.
e. JM-XXII.



أ. رسمه تشبه الحيوان يجبل مرخ.
a. JM-IX.



ج. وسم قبيلة حديث.
c. JM-IV (wasm; to the right).



ب. رسمه وجه سحري بثلاثة أزواج من الأعين.
b. JM-XLVIII.



د. وسم بجبل مرخ.
d. JM-XXXVI (wasm).



ب. أحرف ثمودية (ب ح ر) في جبل مرخ.
b. JM-I.



أ. رسم بجبل مرخ.
a. JM-LXXVI (wasm).



د. كتابة نقشت على الحجر.
d. Group JM-II, JM-III, JM-IV.



ج. رسم آخر على صخرة.
c. JM-XXX.



و. نقش ثمودي قديم وحديث.
f. JM-VI.



هـ. كتابة حديثة اسم ورسم وتاريخ.
e. JM-LXVII.



ب. نقش ثمودي.
b. JM-XIV.



أ. نقش اسم غير واضح.
a. JM-XII.



د. اسم بالخط الصفوي.
d. JM-XXIII.



ج. نقش ثمودي.
c. JM-XVII.



و. حرف (ح) ربما بالقلم الصفوي.
f. JM-XXXIII.



هـ. أحرف غير واضحة.
e. b. JM-XXIV.



ب. حيوان الورل.

b. *Scincus scincus* (By Wilfried Berns - Wilfried Berns/

Tiermotive.de first upload in de wikipedia on 07:15, 25. Nov 2005 by Wilfried Berns, CC BY-SA 2.0 de, <https://commons.wikimedia.org/w/index.php?curid=467890>



أ. نقش عبارة عن وسم أو اسم.

a. JM-XL.



د. ثلاثة أحرف صفوية.

d. JM-XLIV.



ج. كتابة حديثة وأخرى قديمة.

c. JM-XLII.



و. لعبة أو لوحة لتعليم الكتابة.

f. JM-XLVI.



هـ. ثلاثة أحرف ربما ثمودية أو صفوية.

e. JM-XLV.



أ. اسم شخص «يتر» ورد في النقوش الثمودية والصفوية.
a. JM-XLVII.

ب. كتابة حرف (و) مرتين.
b. JM-L.



د. اسم «زن» أو «نز».
d. JM-LIII.



ج. ثلاثة أحرف متداخلة تعذر قراءتها عدا اسماً «وتس» ذكرمن ضمنها.
c. JM-LII.



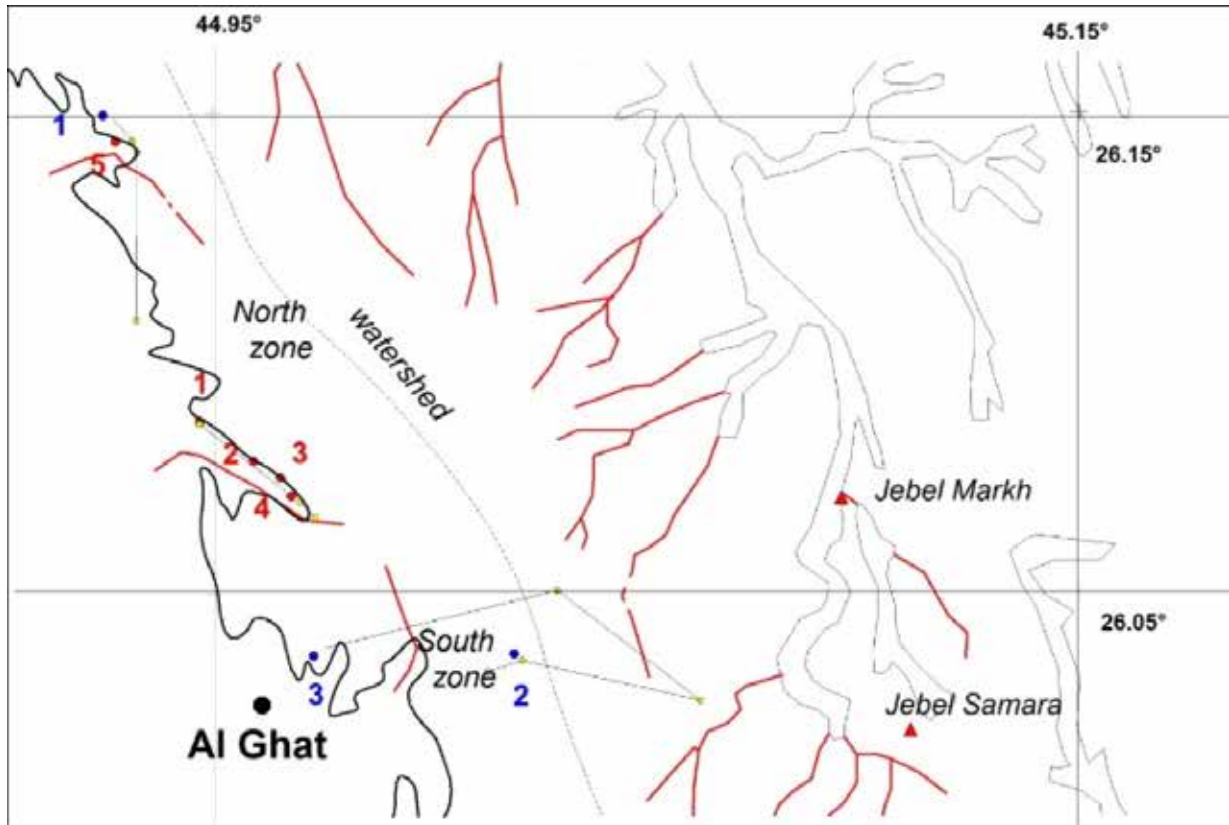
هـ. أحرف نقشت مكونة اسماً «رولت».
e. JM-LVI.



ب. شكل ربما أنه حرف «ي».
b. JM-LXIV.



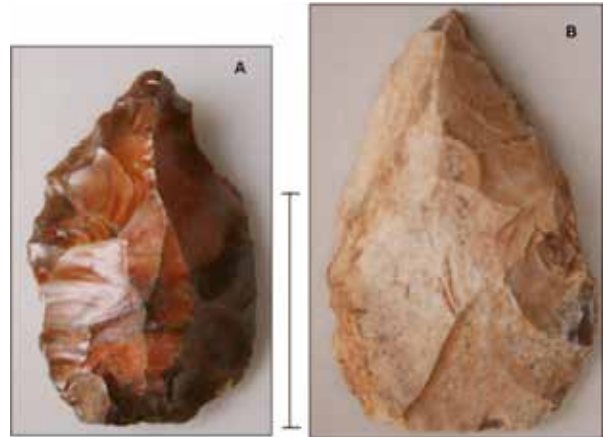
أ. صيغة اسم شخص ربما علي.
a. JM-LXI.



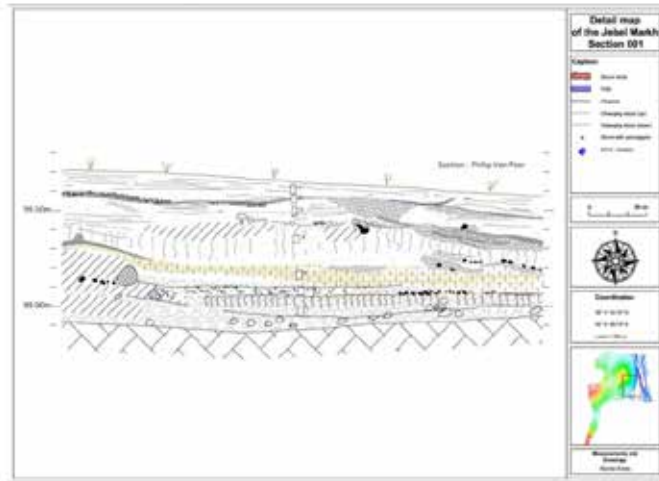
ج. خريطة طبيعة منطقة المسح حول الغاط ترمز الخطوط السوداء السميكة إلى جرف الحجر الجيري المطل على الغاط والتلال المجاورة لسهل الغاط فيما تشير العلامة الحمراء إلى سفوح في الجبال والملتقطات باللون الأزرق وتدل الخطوط الدقيقة السوداء على مسار المسح بغربي المنطقة المستهدفة بالمسح.
c. Simplified topographical map of the survey area around Al Ghat. Thick black line represents the limestone escarpment bordering the Al Ghat plain. Find spots indicated in red are situated on pediment slopes; surface scatter on the escarpment are marked in blue. Thin black polylines mark survey routes in the western survey zone.



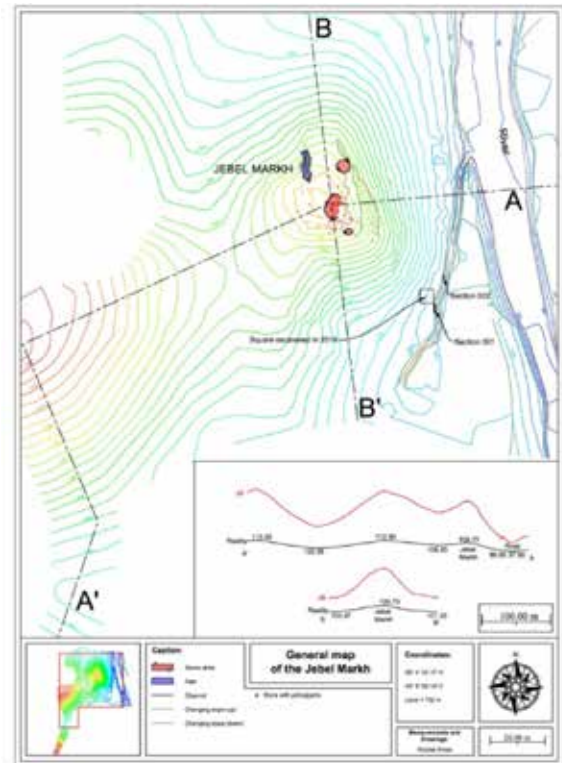
د. صورة بالأقمار الصناعية لمنطقة الجبل الأسود وجبل
سمر، ويدل اللون الأحمر على المناطق التي جرى جرفها
d. Satellite image (copyright Google Earth) of the
Black Hills area with Jebel Samar (JS) indicated. Red
polygons mark the areas that have been stripped for
gravel exploitation.



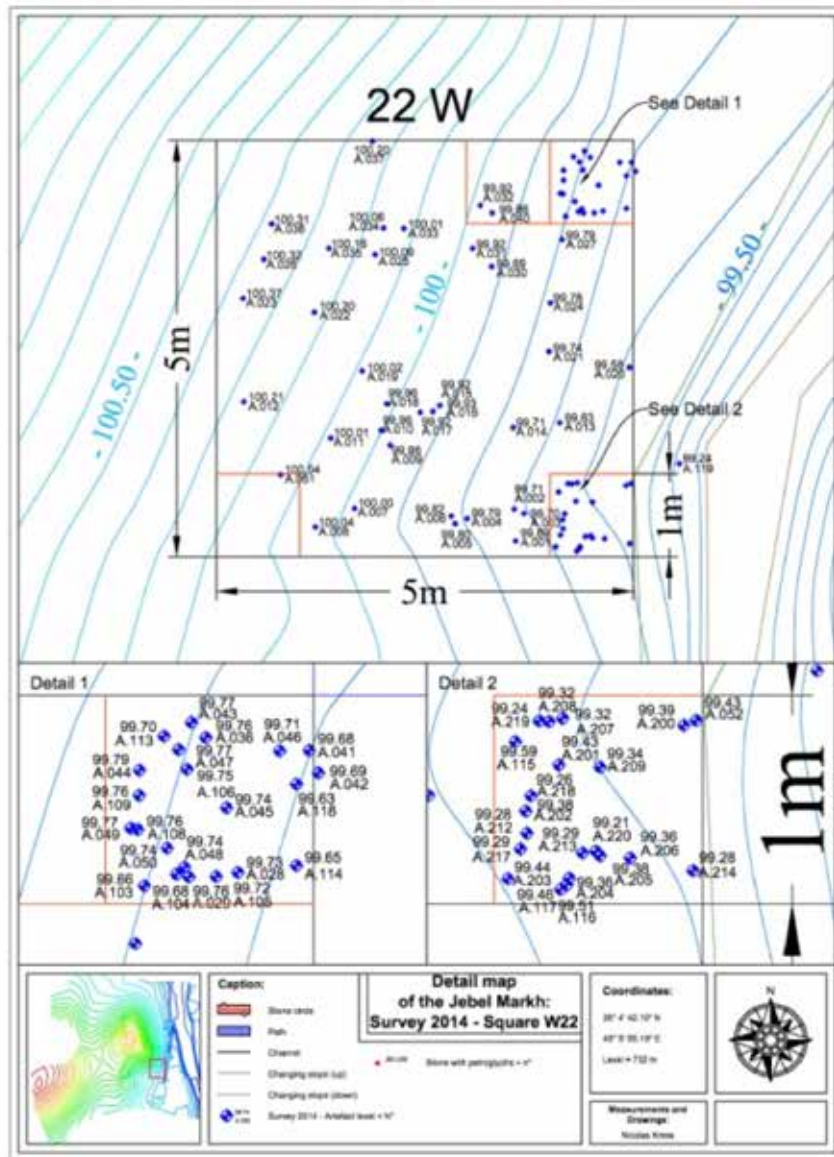
ج. أ: نوية من المنطقة الجنوبية بالمسح،
ب: مكشط يبرودي من منطقة شمال المسح (مقياس الرسم ٣٠ سم).
c. A: small core from the south zone (see map);
B; Yabrudian style side scraper from the north zone.
Scale bar is about 3 cm.



د. خريطة تفصيلية لجبل مرخ.
d. Detail map of the Jebel Markh.

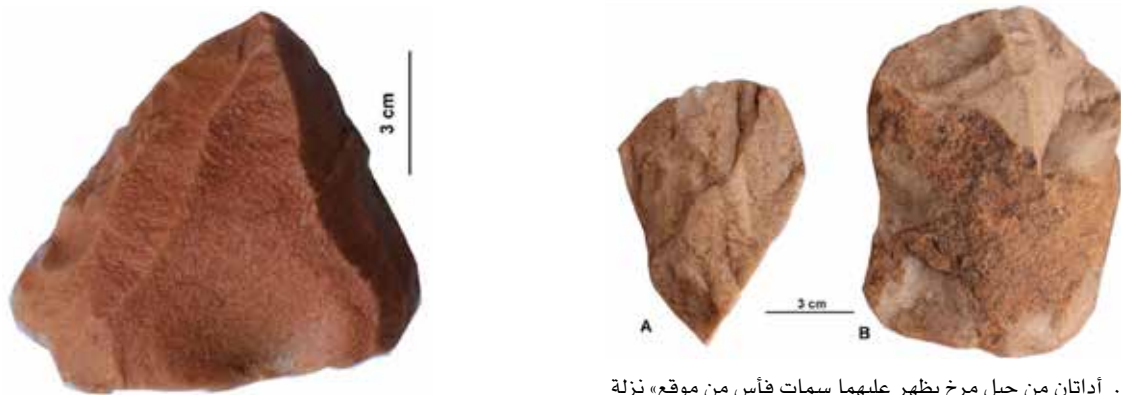


ج. خريطة عامة لجبل مرخ.
c. General map of the Jebel Markh.



أ. مخطط منطقة الاختبار بجبل مرخ ومربعات الحفر وتوزيع الأدوات الحجرية.

a. Plan of the test area at Jebel Markh, with indication of the excavated squares and the distribution of lithic artefacts.



ب. أداتان من جبل مرخ يظهر عليهما سمات فأس من موقع «نزلة الخاطر» بمصر.

b. Two items showing affinities to the Nazlet Khater axe-type from Jebel Markh.

ج. نواة نوبية من جبل سمر بمحافظة الغاط.

c. Nubian 2 core from Jebel Samar.