

## Archaeological Excavations at Gandi Umar Khan 2003: The First Season

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### i. Introduction

This preliminary report is a summary of the archaeological excavations carried out at the proto-historic site of Gandi Umar Khan in southwestern Dera Ismail Khan District in northwest Pakistan. The authors conducted this fieldwork in the year 2003 under the banner of the Directorate of Archaeology and Museums (hereafter Directorate), Government of the Khyber Pakhtunkhwa (formerly called as NWFP) in collaboration with the Department of Archaeology, University of Peshawar in order to investigate the protohistoric cultures in this significant part of South Asia (Ali and Jan 2009). A second (and in fact the last) season of field investigation at the same site was also conducted in the following year i.e. 2004, which, however, would be described separately later on.

### ii. Geography, Climate and Ecology of the Gomal plain

The Gomal plain is strategically located in the southern part of the Khyber Pakhtunkhwa in northwestern Pakistan that connects South Asia with Central and Western Asia, and Iran. It is a semi arid plain now, which is bounded by the Khaisor and Marwat-Kundi hills on the northeast and north respectively; the Waziri and Bhattani hill on the northwest; the Suleiman hills on the west and southwest and the Indus River on the east. To the south, it is open to the plain of Punjab (Fig. 1). The Gomal plain is relatively broader at the north side (76 miles), which narrows down to approximately 20 miles at the south. The Gomal plain (comprising of Dera Ismail Khan and Tank districts) is surrounded by the Districts of Bannu and Lakki Marwat on the north; Mianwali and Bhakkar on the East; South-Waziristan Agency on the west; and Zhob and Dera Ghazi Khan on the south. The region is presently barren, which does not have any perennial sources of water, except several hill torrents such as Takwara, Rod Suhaili, Luri (Gomal River), Gud, Gajistan and Ramak Nallahs that irrigate certain parts of the region only in an affluent rainy season. Due to the low rainfall and scarcity of water, a large part of the plain remains dry and infertile, where Lana, Kikar, Khagal, Karita, Tamarisk and Acacia plants grow wild. This has in fact greatly affected the ecology of the region. However, various crops e.g. wheat, barley, chickpeas, mustard, maize etc are cultivated along the streams and near the zams. Since the construction of the Chashma Right Bank Canal (hereafter CRBC) in 1998, only about 20 km wide strip of land along the Indus River is now suitable for cultivation, which is very productive in terms of crops yield.

During the colonial period, the region was called as *Derajat*, because of the three cities of Dera Ismail Khan, Dera Ghazi Khan and Dera Fateh Khan (Gazetteer 1883-84; Dani 1970-71). The last one has now been shrunk to a small town whereas the former two are still growing cities. The term '*derajat*' is a plural of the term '*dera*', which in local language stands for 'settlement' or 'encampment'. The plain is more often referred to as '*gomal*', which is said to have been derived from a Sanskrit term '*gomati*', meaning 'possessing cows' (Macdonnell and Keith 1967, 238). Another name, '*daman*', is also generally used for the entire plain. Originally, the term '*daman*', which means 'skirt', was used for the tract of land along the western foothills in relation to the term '*Makkalwad*', which was used for the eastern tract stretched along the Indus (Gazetteer 1883-84; Dani 1970-71). The latter term is not used anymore.

### iii. Location of Gandi Umar Khan

The archaeological mound of Gandi Umar Khan is situated in the village of the same name in southwestern Gomal plain (Ali and Jan 2009). According to the local people, the village\* is said to have been founded by a certain Nawab Umar Khan, a Pakhtun chief of the *Lohani* tribe, possibly in late 18<sup>th</sup> or early 19<sup>th</sup> centuries and

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\* The term 'Gandi', in local *Saraiki* language, also mean a village

called it after his name. The village is located approximately 35 km west of Dera Ismail Khan city whereas the mound further lay 3 km to the west in a relatively vegetated area of *Daman* at 31° 42' 31" N and 70° 32' 24" E, just across a hill torrent, locally called as *Thal*. This hill stream is in fact a branch of the *Gud nallah* that comes from the western hills and passes near the town of Darabin. Although, it is a dried-up stream at present but would have possibly had enough water during the protohistoric period to feed the site and its surrounding (Plate 1). The site is the property of the local Mian Khel clan, a sub-branch of the *Lohani*. It is also situated about 2 km north of Gara Isa Khan village, 10 km east of Musazai, 17 km northeast of Chaudhwan and 20 km east of Darabin.

#### iv. Approach

The archaeological mound as well as the village of Gandhi Umar Khan can be accessed from the district headquarters of Dera Ismail Khan via two roads, namely the Zhob (also Darabin road) and Gandhi Umar Khan. The former is indirect but more convenient than the latter. Following the former route, a link road to the south towards Gandhi Umar Khan, near the village of Gandhi Ashiq, leads straight to the village. The second route, the Gandhi Umar Khan road, is a direct one from Dera Ismail Khan, which is now broken and infrequently used. However, it was the main road to the village from the city, prior to the recent construction of the Zhob road. From the village of Gandhi Umar Khan, to the west, the mound is visible and can be approached via an un-metalled road towards Gara Isa Khan wherefrom a foot track, leading to Mochiwal village is branched off that passes nearby the site (Plate 1).

#### v. Previous Survey

GT Vigne (1840), a British traveller was in fact the first person who mentioned the archaeological mound at Gandhi Umar Khan in the first half of 19<sup>th</sup> century. While conducting survey for the Directorate, Abdur Rahman properly documented this site along with a cluster of other important sites in the Gomal in 1997 (Rahman 1997). Subsequently a team of the Bannu Archaeological Project also visited the mound in 2000 (Khan et al 2000) and collected artefacts. Fresh collection from the surface of the site was made by the authors in their archaeological explorations of the region in March 2003 (Ali and Jan 2005).

#### vi. Measurement and Description

The archaeological mound at Gandhi Umar Khan (Plate 2) is, so far, the largest Harappan settlement in the Gomal (Jan 2008), which currently measures 270 x 250 x 8.5m (about 7 ha). The cultural artefacts such as pottery and t/c cakes can be collected from a wider area in the surrounding fields beyond the fringes of the mound. It suggests that the mound is originally larger than what is visible today. Lying in east-west direction, the site can be divided into two mounds, namely, the northern and southern (Plate 3). The latter mound is relatively larger and higher than the former and therefore, it was selected for trial trenching. The separating narrow gap of about 10m in between the two mounds could possibly be the main street of the settlement, which is yet to be investigated.

Although a modern Muslim graveyard is situated near the north-eastern fringe of the site, it is intact and not disturbed by encroachments unlike other sites such as Rohri, Gulgai Kot I, Kot Musa and Maddi etc. Despite a few sporadic robbers' trenches that have been observed at some places on the mound where the treasure hunters, in search of antiquity, have exposed storage jars and structures, the rest of the mound is undisturbed and feasible for large-scale excavations. The edges of the site all around have a little bit been disturbed by the nearby field owners who have actually converted them into embankments of their cultivated fields, which could store floodwater. A loose greyish layer of soil mixed with fine ashes is scattered over certain parts of the site, especially along the slopes. Does this phenomenon suggest a general firing on the site or is it just a natural activity in which the ashy substance is mixed with soil due to rainwater erosion over the centuries? The site's surface is strewn with thousands of potsherds, t/c cakes, stone tools, human and animal t/c figurines, bangles, shell objects etc.

### vii. Site Survey and Excavations

After completing the first phase of archaeological explorations in the Gomal plain, the authors planned to conduct excavations at important and promising sites. In this regard, it was decided to undertake vertical excavations on trial basis at Gandi Umar Khan in order to understand the potentials of the site in development of urbanism in the region in specific and South Asia in general. Initially two small trenches, designated as 'A' and 'B', of 5 x 5m each, were opened on the highest point of the southern mound in order to get maximum data and a comprehensive sequence of cultures flourished at Gandi Umar Khan (Plates 4 & 5). After certain depth, these trenches were merged into a long one of 10 x 5m. Prior to marking the proposed trench for excavations, the entire site was surveyed and divided into grids of 30 m<sup>2</sup>, each one of which was further sub-divided into twenty-five smaller trenches of 6 m<sup>2</sup>. In this division of the site into grids, our trenches for proposed excavations are E II/16 and E II/17. The former trench, for sake of convenience, was designated as 'A' and the latter as 'B'. There is a flat-roofed single-chambered modern tomb of a certain local *faqir*, to the northeast part of the mound. The lower end of the southern window in this structure is selected as temporary datum point, wherefrom all the measurements of excavated structures and important antiquities have been calculated.

### viii. Aims and Objectives

This preliminary and vertical excavation at Gandi Umar Khan in the Gomal plain has been conducted with the aim to:

- a. know the depth of the cultural deposit, as it is the highest mound of the protohistoric period in the Gomal plain, so far.
- b. establish a sequence of different protohistoric cultures, which could help establishing a comprehensive profile for the whole region. The ceramics collected from the surface has suggested the existence of three cultural phases e.g. the Tochi-Gomal, Kot Diji and mature Harappan.
- c. find out the relationship of these cultural phases with one another, particularly of the Kot Diji with the Harappan. It is the only appropriate site in the Gomal where cultural material of these two periods has been discovered together.
- d. trace the existence of the mature Harappan phase in this significant part of South Asia.

### ix. Area Selection

As the main aim of this vertical excavation at Gandi Umar Khan was to obtain maximum information about the existence and development of various cultures over the years, so a highest portion of the site would need to be selected. In this regard, the eastern end of the southern mound was a good option. Moreover, this portion was also a little bit steep, which could give good stratigraphic information in relatively short time span with minimum labour. However, it did not contain any washed deposit.

### x. Result of the Excavation

As a result of the excavations, a total number of 19 layers have been identified (Fig. II), which were broadly divided into four periods i.e. the Tochi-Gomal Phase (GUK I), Transitional (Tochi-Gomal-Kot Diji - GUK II), Kot Diji (GUK III) and mature Harappan (GUK IV). The last two periods have also been divided into sub-periods, on the basis of ceramics. The first period, which is lying directly on the virgin soil, consists of layer 19 whereas the transitional phase includes layers 18 & 17. The subsequent Kot Diji period include layers 16, 15, 14 and 13. The final period (mature Harappan) on the top, comprised of layers 11, 10, 9, 8, 7, 6, 5, 4, 3, 2 and 1. The stratigraphic record shows continuity from period I – III whereas there is a cultural break between period III and IV, demarcated by a thick ashy sterile layer 12.

### xi. The Deep Trench and its Stratigraphy

The two trenches marked for excavation in the beginning was merged into one at a depth of about 2m. Owing to limited resources and time constraint, the trench was narrowed twice, first to 10 x 3m size at 2m depth and secondly to 6 x 3m at 9m depth (Plate 5). The latter one continued to the virgin soil. The detail description of the layers is given below (see also Fig. II).

#### *Layer 1*

It is composed of loose soil mixed with ashes, and hence greyish in colour, lying just underneath the humus. This layer is found in the whole trench showing different volume at various places. It slopes down from west to east along the trench. There is a pit, measuring 20 cm in diameter, in the centre of the western half of the trench, which contains ashes, animal bones and t/c cakes. At the southwestern end of the trench, a single course of broken burnt bricks, lying in a line, is unearthed. It is just a single haphazard course and not a proper wall. The collected artefacts from this layer include thick coarse pottery, t/c cakes and animal bones etc, which belong to the Harappan period.

#### *Layer 2*

It is a hard and compact layer of yellowish colour, which is traced out in most part of the trench. It is in fact a floor level. Lying loose, here a single course of kiln-baked bricks is also exposed. The collected material includes pottery; t/c cakes; broken base of a large storage jar fixed in floor. A circular hearth and a pit are also discovered. In the western end of the trench, a skeleton is exposed, which is a later intrusion possibly by the *Powindahs*. It is north – south oriented and seems to be the skeleton of a child.

#### *Layer 3*

It is an ashy layer mixed with soil having greyish colour, which is also found in most part of the trench. In the eastern end of the trench a small layer of similar nature is exposed, which is designated as layer 3a. Both are loose in nature and yield mature Harappan material such as thick pottery, t/c cakes, perforated sherds etc.

#### *Layer 4*

It is a compact layer of dark brownish colour, which is actually a floor level, made of beaten earth. In the centre of the western half of the trench, this layer has been disturbed by another late human burial (Plate 13). Here Harappan material e.g. perforated jar fragments, thick red ware pottery, paste disc and long biconical t/c beads and cakes have been discovered.

#### *Layer 5*

It is a loose and ashy layer, which separates two compact yellowish colour layers 4 and 6 from each other. Due to ashy substance, its colour is grey. In the sections, all around, this layer is thin but is relatively thicker in the central part of the trench. Apart from thick ceramics, two hearths of circular shapes have also been exposed here (Plates 7 & 10).

#### *Layer 6*

It is a hard compact yellowish colour layer, which is exposed in the entire trench. It is another floor level, which is considerably thicker than the one mentioned above. It is about 50 cm thick in the northern section, which gradually decreases in thickness to 20 cm in the southern section. The artefacts are Harappan with slight change from the above-mentioned layers. Here a mud brick platform is exposed, which has a storage jar, fixed in the centre. Another jar of same size is also found close, fixed in a mud-brick structure. Two mud-brick walls, lying against each other and north-south oriented, are also discovered. Another small structure is also exposed in the western section, which consists of only two courses.



*Layer 7*

It is a semi compact layer of blackish colour soil mixed with ashes and charcoal. It is one of the thickest layers exposed in the trench, which goes underneath the two walls mentioned above (Wall 1 & 2). The artefacts include beads, bangles, t/c cakes and pottery (rusted).

*Layer 8*

It is loose in nature, and is composed of ashes and is therefore, reddish yellow in colour. It goes in the whole trench and increases in thickness from west to east. It is completely devoid of any cultural material and is therefore a sterile one. A thin ashy layer of black colour is observed underneath this layer, only in the western half of the trench, which has been designated as 8a that produces a few ceramics and t/c cakes.

*Layer 9*

It is a greenish colour layer having silt substance mixed with soil and is compact in nature as well. This layer is also visible in the whole trench. In the southern part due to the disturbance of layer 6 and 7, it is relatively thin. Here a mud brick wall (wall-6) in north-south direction is also noticed. Similarly, it also produced Harappan material. A thin layer is also traced beneath it, which is marked as 9a.

*Layer 10*

It is a hard and compact layer of dark brown colour, which is composed of beaten earth and could have been used as floor level. Typical Harappan cultural artefacts are collected that include pottery, t/c cakes, perforated sherds etc. The pottery is painted with intersecting circles and geometrical designs in black on red surface.

*Layer 11*

It is a semi compact layer composed of brown colour hard soil mixed with ashes and broken potsherds. Loose patches at various places in the layer are observed. Because of the ashes, its colour varies from brownish to blackish. This layer is relatively thicker in the northern section than the western and southern. At the southeastern end of the trench, a circular hearth, measuring 40 cm in diameter, is exposed, which contain loose powdery whitish colour ashes in large quantity. At the northeastern end of the trench, a posthole is exposed, partly visible in the section, which contains decomposed wooden fragments. Typical Harappan period artefacts in limited number have been collected.

*Layer 12*

It is composed of yellowish colour ashes, loose in nature, which is noticed uniformly in the entire trench with average thickness of 55cm. Black and grey colour streaks are found at certain patches. It is, however, completely devoid of cultural artefacts except one or two pieces of bones. This sterile layer is very important as it separates the mature Harappan phase from the Kot Diji.

*Layer 13*

It is a compact layer of dark brown colour and is the thickest layer in the trench, which is over 1.5 m in thickness. Here new cultural artefacts are found, which are different from the above one. Here at the northwestern corner of the trench, a thin mud-brick wall (wall-8) is found. The cultural artefacts are absolutely different from those discovered in the previous layers. These are typical Kot Diji material, which includes grooved and thin fabric ceramics, stone fragments etc.

*Layer 14*

It is a compact layer of greyish colour, which also contains ashes. It is extended in the whole trench

uniformly. The painted Kot Diji-type grooved pottery is unearthened along with plain red ware. The painted pottery is decorated in polychrome.

#### *Layer 15*

It is an ashy layer of greyish colour, which is loose in nature. There is a circular hearth, measuring 50 cm in diameter, uncovered in the western half of the trench. It is lying adjacent to a mud platform, measuring 250 x 100 cm. Here also, typical Kot Diji-type cultural material including grooved red ware and painted polychrome ware ceramics, is discovered.

#### *Layer 16*

It is a compact layer of dark brown colour, which is relatively thick in the eastern part of the trench. Interesting Kot Diji-type ceramics is found, including bowls and jars, akin to Rehman Dheri II.

#### *Layer 17*

It is also a compact layer of brown colour, which is uniformly noticed in the whole trench. The artefacts in this layer are slightly changed in form as well as decoration.

#### *Layer 18*

It is a semi compact layer of greyish colour. There is a pit near the northeastern corner of the trench, which contains ashes and charcoal. A mud-lump wall (wall-10) is discovered here, which is about 1.5 m thick. Pottery is only found in the pit.

#### *Layer 19*

It is a compact layer of light brown colour, which is almost 20 to 25 cm thick. It is lying directly on the virgin soil. Here pottery is discovered in a limited number, which is typical Tochi-Gomal.

#### *Virgin Soil*

The virgin soil, lying beneath layer 19, in this trench is reached at a depth of about 12.5 m (41 feet) from the highest point of the trench (Plate 6). It is a light brown colour compact soil, which is dug up to one-meter depth to confirm that there is no cultural material.

### **xii. Periodisation**

As stated above, this cultural sequence of 19 layers have been divided into four different occupational levels (periods), on the basis of ceramics, which is also supported by structural remains and other artefacts.

Two of these layers (12 & 8) are sterile and suggest breaks in the sequence of occupation. The first major break is observed between the Kot Diji and Harappan where as the second one is noticed within the Harappan. However, the cultural sequence is classified in to the following periods.

#### *a. Tochi-Gomal Phase*

Around the end of the 4<sup>th</sup> millennium BC a local cultural phase in the Gomal plain and the adjoining Bannu basin appeared that is labelled as the '*Tochi-Gomal Phase*' (Khan et al 2000). First identified at Gumla and Hathala, the remains of this phase are subsequently discovered from Karam Shah, Rehman Dheri I, Jhandi Babar I & II and Maru I in the Gomal (Dani 1970-71; Durrani 1988; Rahman 1997) and Lak Largai and Lewan in the Bannu (Allchin et al 1986; Khan et al 1991). It is widely represented by distinct t/c human figurines and ceramics including thin and well-baked bowls, carinated cups and platters decorated in polychrome style. The Tochi-Gomal Phase at Gandi Umar Khan is represented only by layer 19, which is undoubtedly the first occupation at the site in this excavation. The layer is less than a meter thick but due to limited area

of excavation, limited pottery is discovered. It is red ware and apparently seems to be wheel thrown. These are mainly bowls decorated with simple thick bands of white colour filling on red slipped surfaces (Plate 14). A motif of flower and branch of a tree is also represented. A grooved sherd, a grey ware fragment and short-necked jar's rim is also among the findings from this phase.

#### *b. Transitional Phase*

The evidences of a transition between the Tochi-Gomal and Kot Diji Phases have been identified for the first time here at Gandi Umar Khan, which is being represented by layers 18 and 17. There may be such evidences of a transition elsewhere but have never been recognized. In this phase, the ceramic traditions of the Tochi-Gomal phase continued with new ones that became the hallmark of the Kot Diji phase. The main form of pottery in this transitional phase is being influenced by the Kot Diji-types whereas the style of ornamentation remains the same as in the preceding Tochi-Gomal Phase (Plates 15 & 16). The Tochi-Gomal elements are the use of white/buff colour; bowls and carinated cups; polychrome style of decoration (red, brown, sepia, buff and cream); motives of vertical lines, double lines, fish, alternate T pattern ( $T \perp T \perp$ ), chevron, squares, lozenge and step whereas the Kot Diji features include filled dots, horned-deity, grooved pattern and flanged rims. All the pottery appears to be wheel made and well fired.

#### *c. Kot Diji Phase*

The third period at Gandi Umar Khan is characterised by typical Kot Diji type cultural assemblage (Plates 18, 19 & 20). It is represented by a thick cultural deposit of over 3m, which consists of layers 13, 14, 15 & 16. Based on ceramics types, the Kot Diji phase has been sub-divided into four sub-phases as A, B, C and D. There seems to be a gradual development of the Kot Diji phase at Gandi Umar Khan from early to late levels. The typical grooved ware appears in the beginning and decreases in frequency subsequently.

Similarly, the flanged jars do not appear in the early stages and become frequent in the later. Sub-phase 'C' seems to be the climax of the Kot Diji phase. The Kot Diji phase includes typical t/c human figurines of the so-called 'snake-goddess' (Dani 1970-71; Durrani et al 1991). The ceramics are grooved ware jars, flanged rim jars, Quetta-type wet ware, Faiz Muhammad-type grey ware, carinated and open-mouthed bowls, lids and platters. The pottery is decorated in polychrome styles with different designs such as lines, bands, semi-circles, wavy lines, sigma pattern, hatched lozenges, net-pattern, solid and hatched triangles and leaf-patterns identical to Rehman Dheri, Gumla and Lewan.

#### *d. Harappan Phase*

The main period that flourished at Gandi Umar Khan is the mature Harappan (Ali and Jan 2009), uncovered at the top of the cultural sequence. It is intriguing to mention here that the mature Harappan phase and the preceding Kot Diji phase do not have any continuity in the stratigraphy at Gandi Umar Khan, as already known at Gumla (Dani 1970-71) and Kot Diji (Khan 1965), but has rather a cultural break in between. From the stratigraphic record, it appears that the Kot Diji phase is ended here at the hands of new arrivals i.e. the Harappan. The mature Harappan cultural deposit here is over 5 m thick that consists of layers 1-11. This profile of archaeological strata is sub-divided further into three sub-phases (designated as A, B & C), on ceramic grounds, which is also supported by structural remains. There is also an occupational break between sub-phase A and B, being represented by layer 8. The mature Harappan cultural material from Gandi Umar Khan in general include thick pottery (Plates 22, 23, 24 & 25), large storage jars (Plates 11 & 12), perforated vessels (Plate 24), cylindrical vessels, S-shaped jars, t/c cakes, disc shape paste beads, precious and semi precious stone beads, t/c human and animal figurines, toy-cart frames and wheels, and bangles etc. The pottery is overwhelmingly, turned on wheel and has different floral and geometric decoration in black colour on red background akin to the characteristic Indus ceramics found elsewhere (Dales and Kenoyer 1986). The t/c human figurines are on the contrary noticed less in number here in relation to earlier periods.

### xiii. Structures

Except the first period i.e. the Tochi-Gomal Phase, structural remains in the form of walls have been discovered from all the period in the current excavations. The absence of structures in the Tochi-Gomal phase is due to our limited area of excavation. On the other hand, various structural activities of this phase are well known from other sites in the Gomal such as Jhandi Babar I (Ali and Khan 2001) and Rehman Dheri. In the subsequent transitional phase a north-south oriented wall (wall-10), is unearthened, which is 1.5 m thick and is composed of packed clay slabs. This practice of erecting a wall from compact clay is still in vogue in the plain and the making material is locally termed as '*paskha*'. In the third period i.e. Kot Diji, a couple of mud-brick walls of different units (rooms) have been uncovered. A relatively thin wall from the west joins a thicker one from the north, in the centre of the trench. The alignment of the structure is from northeast to southwest. More such structures have been uncovered in the last period i.e. mature Harappan, at the site under discussion, which are rather oriented according to the cardinal direction. Unlike the major urban centres such as Harappa, Moenjodaro, Charhodor etc, the constructional material at Gandhi Umar Khan is the standard type of mud-bricks (Plate 9). No burnt-brick structures have been uncovered, despite the discovery of kiln-baked bricks in the last phase of Harappan occupation as well as on the surface. These bricks are lying irregularly in a single course. Both the mud and kiln-baked bricks have maintained the Harappan standard ratio of 1:2:4. Two postholes have also been discovered in the Harappan level, which confirms the use of thatched structures side by side with mud-brick. The platforms, on which the Harappan usually erected their edifices as known from the major urban centres such as Harappa and Moenjodaro, are not discovered here. However, platforms for domestic use are known (Plates 7 & 8).

### xiv. Animal Remains

The animals' remains in the form of various bones have been found in good amount almost from all the layers and periods. They are unearthened from the pits, hearths and debris. The size and shape of the bones apparently suggest that they belong to all size of animals i.e. from small to medium and large. The study of these bones are yet to be carried out in order to understand the ancient fauna, diet, subsistence pattern and Palaeo-environment in addition to the overall importance of the animals in the socio-economic life of the people in the Gomal plain. These samples have been taken from all the exposed layers in the trench and will be published in later reports after identification and analysis.

### xv. Plant Remains

Similarly, different plants' remains have also been collected from the excavated remains, particularly in the pits. However, they too are yet to be analysed. It will undoubtedly unfold significant information about the cultivation of different plants in this agrarian based society. It is noteworthy to mention here that a number of wooden fragments have been collected from the loose layers belong to the mature Harappan period. Their presence in the fallen debris as well as the postholes suggests that they have been commonly used in the ceilings and its support as pillars.

### xvi. The Later Burials

As mentioned above, we come across two skeletal remains in the top layers of the trench, which are lying in proper rectangular graves. We consider them first to be the graves of the so-called 'Gandhara Grave Culture' but after analysing, they are certainly not. One of the skeletons is found lying on its back in extended position in a shallow grave of 1 and ½ feet deep. It was actually the grave of a child, which is usually not dug so deep. Moreover, the top soil has been eroded by the rain over the years, which also reduced the level of depth of the graves. The second burial, lying nearby, is also similar in style (Plate 13).

The absence of grave-goods, the orientation of the deceased body and the construction of the grave-pit suggest that these are the later Muslim period burials, possibly of the *Powindahs* (the central Asian nomads), who are very frequently coming in group along with their families to the Gomal plain from the hilly areas

on the west in search of pastures to graze animals, get food, do labour work and sell their products. Due to these graves, a small portion of the top trench is also disturbed.

### xvii. Antiquity

A good quantity of antiquity including ceramics, tiny pots, seals, beads, stone implements, querns, grinding stones, metal objects, human and animal t/c figurines, t/c cakes, bangles, toy cart frames etc have been discovered almost from all the periods. Being a long period of human occupation at the site, the frequency of cultural artefacts in the mature Harappan phase is comparatively larger than the Kot Diji and other phases. However, a short description of the small findings, along with a brief catalogue of some of the antiquities at the end, is given below whereas a detailed report would be published soon, after completing its study.

#### a. Seals

Only two seals have been discovered in this excavation and both of them came from the surface. One is a baked clay (terracotta) seal, which is round in shape, having 12 mm diameter and 15 mm height (Plate 33). It has a conical profile. The lower round base has a compartmented pattern that is made of simple crisscross incised lines. The pointed end has a small perforation, suggesting that the seal is held possibly at neck after passing a thread through the hole. The second seal has both a complex geometrical pattern and an animal. This seal/amulet measures 1.3x1.6x0.2 cm, and is depicted with an incised inverse S-pattern on one side and a running goat facing left with long horns and short tail, on the other (Plate 34). One end has a perforation.

#### b. Beads

As compared to other small findings from the site, beads are discovered in large number (Plates 17, 21, 26 & 27). These have been collected from all the periods except the Tochi-Gomal, and it is certainly due to the small size of the trench that no beads have been discovered. Beads, made of different material like terracotta, paste, precious and semi precious stone, appear from the transitional phase onwards and increase in quantity and quality in the following periods. During the mature Harappan phase, bone, ivory and metal (even gold in two instances only) is also exploited as a material for manufacturing jewellery, especially the beads. The carnelian beads are known since the transitional phase in the current excavation but etched carnelian appears in the mature Harappan. It is noteworthy to mention here that the typical long biconical shape carnelian beads of the Indus Civilisation elsewhere are imitated in terracotta at Gandi Umar Khan. Small beads made of etched carnelian and paste shows a developed micro-bead technology in the 3rd m. BC.

#### c. T/c Figurines

The human and animal t/c figurines have also been collected from both the surface and context. They belong mainly to the last two periods. The human figurines (Plate 29) are discovered from the Tochi-Gomal and Kot Diji phases, and rarely from the Harappan occupation. They are found in different varieties including the joint-legged figurines having a slight bend in the legs as known from the Tochi-Gomal phase in the region, and the usual flat-based seated figurines having thin waists and sharp-turned lower portion as known from the Kot Diji phase on the Gomal plain. The animals' figurines include mainly the cattle (Plate 30).

#### d. Bangles

Bangles of different material are also found in good number from different layers. The bangles in the first two phases are simply made of terracotta having either triangular or round section. In the subsequent Kot Diji phase, they became bi-lobate and trilobate in grey and black colours in addition to the usual red one. Shell bangles are also known from this phase. In the last phase, mature Harappan (Plate 28), shell and terracotta is extensively used occasionally with metal for making bangles of various shapes, sizes, and style, which shows the socio-cultural development of the society in 3rd millennium BC.

*e. Stone Objects*

The stone objects can be divided into two types, the grinding stones and the stone tools/implements. The grinding stones including querns, pestles and pounders are unearthed from all the levels. The querns are simply curved stones with smooth internal faces that have been utilized in grinding of grains. The stone tools (Plate 31) are also collected in sufficient number from all the contexts as well as the surface. They include blades, burins, bladlets, scrappers, points and overwhelming number of flakes. The debitage at different places show that they have been chipped from stone nodules at the site, after taking the raw material either from the beds of torrents or nearby hills. They are manufactured from a number of material including chert, agate, chalcedony and jasper.

*f. T/c Cakes*

The half-baked clay objects what is called as 't/c cakes' (Plate 32), have been found in large number from all the Harappan period layers. Not a single example is known from other periods. Moreover, along with potsherds, the surface of the site is also strewn with these cakes. They have been discovered in triangular, oval and round shapes. Although majority of them are broken, yet complete examples are collected in huge amount. These half-baked clay cakes are greyish in colour and are composed of rough clay mixed with organic material like husk, unlike the fine pottery. The oval and the round category have thumb impression on both the sides.

**Acknowledgments**

The authors would like to thank the Directorate of Archaeology and Museums, Government of the Khyber Pakhtunkhwa (formerly called North-West Frontier Province), Peshawar for providing funds to carrying out excavations at Gandi Umar Khan for the session 2003. We are also grateful to Prof. (Dr.) M. Farooq Swati and Prof. (Dr.) Taj Ali, the successive heads of the Department of Archaeology, University of Peshawar for their cooperation and support. We are greatly indebted to the Higher Education Commission (HEC) of Pakistan and the Ancient India and Iran Trust (and all its trustees), Cambridge, UK, for supporting the co-author, financially and academically, to carry out post-Doctoral research at the McDonald Institute for Archaeological Research, University of Cambridge that enabled us to write this preliminary report. Our gratitude is due to Dr. Cameron Petrie, Lecturer in South Asian and Iranian Archaeology for his academic support to the co-author. We are also indebted to Prof. Farid Khan, Mr. Muhammad Naeem (draughtsman), Mr. Fayyaz Ali, (surveyor) and Mr. Asad Ali (photographer) for their assistance in their fields of expertise. We are highly obliged from the core of our hearts to Mr. Khurshid Khan Miankhel, a local noble and owner of the site, who very generously extended logistic and moral support that enabled us to carry out excavation at the site, which otherwise would have not been possible.

Our thanks are also due to Mr. Usman Zakariya and Saeed Wazir successive District Police Officers; the local administration; Mr. Javed Iqbal and Mr. Naveed Iqbal, our friends in Dera Ismail Khan; Ibrahim Khan (driver) and M. Qasim (cook) for their sincere support. Last but not the least, the authors owe a great debt of gratitude to our team members, Messer Mir Muhammad, Asim Amin, Sohail Khan, Niaz Ali Shah and Abdul Samad (Archaeology graduates) who remained energetic and active in the field throughout and made this excavation a success.

### Catalogue of the Registered Objects

A brief account of some of the registered objects from the excavation season of 2003 at Gandi Umar Khan is given below. Being separated by a semi-colon, the order of description follows as serial number; name of the object; material; trench (locus in the site); layer; suggested period of a culture; size (measurement) and general description.

1. Tiny pot; t/c; A; 1; Harappan; 2.5 x 1.7 cm; a tiny pot, which is broader around the rim and slightly narrower near the base, wheel made having light t/c colour, with straight rim and slight concave base.
2. Bead; paste; A; 1; Harappan; 1.2 x 0.1 cm; a tiny disc shape bead with a central perforation, having white colour.
3. Bead; t/c; A; 1; Harappan; 2.9x0.8 cm; a biconical bead of light greyish colour with slightly rusted surface, and is damaged at the edges.
4. Bead; paste; A; 1; Harappan; 1 x 0.7 cm; a whitish colour flat barrel shape bead having slight reddish stains.
5. Bead; paste; A; 1; Harappan; 0.6 x 0.25 cm; a small disc shaped paste bead with reddish stains on the surface, thin and plain as well.
6. Bead; stone; A; 1; Harappan; 1.7 x 0.85 cm; a barrel shaped bead of semi precious stone, reddish brown in colour with slightly lustrous surface, having irregular white bands running all around its central portion with a couple of greenish bands, which are in the form of incomplete circles.
7. Bead; paste; A; 1; Harappan; 0.9 x 0.1 cm; a flat disc shaped bead similar to No 2 & 5 but only different in size with white colour. Except slightly damaged edges, it is complete.
8. Ball; t/c; A; 3; Harappan; 2.4 cm; a complete round shape ball of pinkish colour, handmade possibly rolled in hands before baking, which also shows sign of rusted stains on surface.
9. Bead; milky white stone; A; 3; Harappan; 1.2 x 1.2 cm; a conical bead with one end having the perforation while the other is sharply rounded, highly polished surface.
10. Bead; paste; A; 3; Harappan; 0.8 x 0.3 cm; a complete barrel shaped paste bead of white colour.
11. Bead; t/c; A; 4; Harappan; 2.2 x 1.5 x 1 cm; a rough flat barrel shaped bead, rounded in the middle with a wider central perforation. The fabric near the corners is thin while thick at the centre. It is having reddish t/c colour on one side and ashy grey on the other.
12. Bead; paste; A; 4; Harappan; 0.55 x 0.3 cm; a tiny cylindrical paste bead, which is fragmentary with one end missing, also having a stained surface.
13. Bead; t/c; A; 4; Harappan; 4.95 x 0.8 cm; a biconical t/c bead with narrow ends and thick centre, one end is broken, fading reddish slip is coated on the surface.
14. Bead; carnelian; A; 4; Harappan; 2.5 x 3.5 cm; a complete tiny cylindrical shape bead of reddish brown colour.
15. Bead; paste; A; 5; Harappan; 1.15 x 0.1 cm; a circular disc shaped paste bead with central perforation having fade scratches on its surface, the rest is smooth.
16. Bead; t/c; A; 5; Harappan; 2.3 x 0.55 cm; a rounded barrel shape complete bead, which is narrow at the ends and thick at the centre, originally chocolate colour slip was coated on the surface, which is faded

away now.

17. Bead; t/c; A; 5; Harappan; 2.6 x 0.75 cm; a biconical shape bead with broken sides, only the central portion is intact, having light grey colour.
18. Bead; stone; A; 5; Harappan; 4.7 x 1.65 cm; a large barrel shaped bead, which is thick at the centre and narrow at the ends, multi coloured having grey, reddish and at some places also has white stains, although complete but is fragile.
19. Bead; stone; A; 5; Harappan; 1.35 x 0.5 cm; a flat barrel shaped bead in light greenish colour, damaged.
20. Bead; paste; A; 5; Harappan; 0.5 x 0.7 x 0.2 cm; a rectangular shape whitish colour tiny bead, complete except small portion of one of its end is damaged, narrow at its ends while broader and thick at the centre, the surface is rather smooth and with no stains.
21. Bead; carnelian; A; 5; Harappan; 0.25 x 0.35 cm; a tiny cylindrical bead of orange colour, smooth and semi transparent and complete one.
22. Bead; stone; A; 5; Harappan; 1.5 x 1.3 x 0.4 cm; a rectangular bead with central perforation, 2/3<sup>rd</sup> of its portion is light brown while a band of milky white colour is provided at one end. The brownish portion is semi transparent, complete and has smooth stainless surface.
23. Bead; ivory; A; 5; Harappan; 0.9 x 0.9 x 0.2 cm; a square shape bead with chamfered sides, chocolate colour is provided at the central portion including the cut edges on both sides, complete.
24. Figurine; t/c; A; 5; Harappan; 4.6 x 2.6 x 2.9 cm; a human figurine in joint legged position with outstretched, incomplete, although the upper portion above the back is missing but from appearance it seems to be a female figurine, having narrow waist and heavy hips.
25. Bead; t/c; A; 6; Harappan; 3.6 x 0.9 cm; a long biconical bead with narrow ends and thick centre, light grey colour with surface showing sign of rust.
26. Bead; carnelian; A; 6; Harappan; 0.28 x 0.32 cm; a tiny bead of reddish colour with smooth and semi transparent surface, having tiny hole, complete.
27. Bead; paste; A; 6; Harappan; 0.5 x 0.22 cm; a small cylindrical bead of white colour, complete.
28. Bead; t/c; A; 6; Harappan; 2.9 x 0.6 cm; a cylindrical bead with smooth surface having stains of light t/c colour, with a wide central hole.
29. Bead; stone; A; 6; Harappan; 2 x 0.77 cm; a long barrel shape complete bead except a small portion is broken from its one end, surface is smooth with two bands running all around the bead.
30. Bead; carnelian; A; 6; Harappan; 0.5 x 1 cm; a rectangular shape bead with the width double than its length, orange colour and complete, a white band running all around the corners on both sides.
31. Bead; paste; A; 7; Harappan; 1.2 x 0.1 cm; a circular disc shape bead with a central hole, surface is smooth but light scratches are also visible, milky white colour and complete.
32. Bead; t/c; A; 7; Harappan; 0.8 x 0.3 cm; a small cylindrical shape bead having buffish colour, rough surface with stained scars, complete.
33. Bead; t/c; A; 7; Harappan; 2.4 x 0.8 cm; a spiral shape bead, broken and half portion is missing, completely rusted.



34. Bead; t/c; A; 7; Harappan; 3 x 4 cm; a tiny bead of cylindrical shape having milky white colour with a smooth surface, stainless and complete.
35. Bead; t/c; A; 7; Harappan; 3.1 x 1.1 cm; a long biconical bead, broken from both sides, rusted
36. Bead; t/c; A; 7; Harappan; 1.1 x 0.4 cm; a semi cylindrical small bead, slightly broken at one end, having a very smooth surface, light t/c colour.
37. Bead; t/c; A; 7; Harappan; 2.1 x 0.85 cm; a spiral shape bead with the central portion preserved only, having a delicate spiral design, surface is showing signs of rust and stains, light pinkish in colour.
38. Bead; lapis lazuli; A; 7; Harappan; 0.2 x 0.35 cm; a tiny bead of short cylindrical shape, complete with blue colour, surface is smooth and a small portion of it is having a cloudy shade.
39. Bead; t/c; A; 7; Harappan; 2.4 x 0.9 cm; a long biconical bead, broken at the centre, having a light pinkish colour with a very rough surface, irregular in shape.
40. Figurine; t/c; A; 5; Harappan; 5.5 x 2.2 cm; a large figurine of an unidentified animal, broken at several places, head and fore limbs are missing completely and back or hind limbs are broken with traces of the projection of the legs visible, bulky body with a flat short tail, light t/c colour and fading traces of red slip visible.
41. Bead; t/c; A; 5; Harappan; 4.1 x 0.8 cm; a long semi cylindrical shape bead, complete, slightly thick at the centre, irregular surface having rusted reddish colour, patches of light grey colour can be observed.
42. Bead; t/c; A; 8; Harappan; 2.4 x 0.75 cm; a bead, badly broken at sides with irregular surface having light pinkish colour and prominent hole.
43. Bead; t/c; A; 8; Harappan; 3.35 x 0.9 cm; a long biconical bead with narrow ends and thick centre, half missing, light pink in colour with narrow central perforation.
44. Bead; paste; A; 9; Harappan; 0.6 x 0.28 cm; a small cylindrical bead of greyish white colour, complete except one of its end, which is slightly broken.
45. Tiny pot; t/c; A; 7; Harappan; 2.1 x 0.9 cm; a tiny pot with flat base, having a slight thumb impression inside its borders, reddish t/c colour, slightly broken at its border.
46. Tiny pot; t/c; A; 7; Harappan; 2.05 x 1.05 cm; a miniature pot same as above but is slightly larger in size and shows a bit roundness, complete, reddish t/c colour or slight pinkish.
47. Bead; stone; A; 9; Harappan; 0.8 x 0.4 cm; a small bead of cylindrical shape, pink in colour, complete.
48. Tiny pot; t/c; A; 9; Harappan; 2.5 x 1.1 cm; a tiny pot having a round base, borders are thick, thumb impressed, broken with stained scars on its surface, light t/c colour.
49. Bead; t/c; A; 9; Harappan; 0.6 x 1.1 cm; a complete rounded barrel shape bead with irregular surface and shape, has a tiny perforation.
50. Bead; t/c; A; 9; Harappan; 0.5 x 0.8 cm; a rounded barrel shape bead similar as above but is smaller and having a stained surface, yellowish pink colour, complete with tiny hole.
51. Bead; stone; A; 9; Harappan; 2 x 0.9 x 0.7 cm; a pentagonal type bead with one end flat and rubbed, the rest is round, dull brown colour, slightly broken at its one end and has a prominent hole.
52. Bead; paste; B; 1; Harappan; 1.2 x 0.5 cm; a disc shape bead of milky white colour with one face smooth

and clear while the other end contains scratches and is black with black stains, complete.

53. Bead; paste; B; 1; Harappan; 1 x 0.6 cm; a cylindrical shape bead, complete and slightly yellowish in colour, having rough surface and a prominent and straight perforation.
54. Bead; t/c; B; 1; Harappan; 6.6 x 0.7 cm; a long biconical complete bead, thick at the centre and thin towards its ends and has a smooth surface, pinkish in colour but at some places sepia slip can be observed.
55. Bead; paste; B; 1; Harappan; 1.2 x 0.1 cm; a circular disc shape paste bead like above.
56. Bead; stone; B; 1; Harappan; 0.6 x 0.38 cm; a small cylindrical bead having sepia and light orange colour with smooth surface, complete.
57. Bead; paste; B; 1; Harappan; 0.8 x 0.33 cm; a cylindrical shape bead with rough surface having stains, complete.
58. Bead; t/c; B; 2; Harappan; 3.2 x 0.95 cm; a long biconical bead with missing end, light grey colour but reddish slip on its surface can be clearly seen.
59. Bead; paste; B; 2; Harappan; 1.02 x 0.1 cm; a disc shape bead of milky white colour, broken and its major part is missing.
60. Bead; stone; B; 2; Harappan; 0.8 x 0.6 cm; a barrel shape bead of greenish white colour, complete and has a couple of scratches on the surface.
61. Bead; t/c; B; 2; Harappan; 1.75 x 0.4 cm; a long barrel shape bead of light t/c colour having stains, complete.
62. Bead; t/c; B; 2; Harappan; 3.8 x 0.85 cm; a long biconical bead, broken at the centre, having a smooth surface, half is grey in colour and the rest is pinkish.
63. Bead; t/c; B; 2; Harappan; 2.8 x 0.9 cm; a spiral shaped bead, half is missing, grey colour, the central hole is broader at the ends and narrow in the centre.
64. Bead; lapis lazuli; B; 2; Harappan; 0.5 x 0.45 cm; a short cylindrical bead of blue colour with cloudy stains, having a smooth surface, complete.
65. Bead; paste; B; 2; Harappan; 1.2 x 0.1 cm; a circular disc shape bead, plain, smooth and complete.
66. Bead; paste; B; 2; Harappan; 2 x 0.4 cm; a long cylindrical bead of milky white colour, complete with rough surface.
67. Bead; t/c; B; 2; Harappan; 2.8 x 0.65 cm; a biconical bead, broken at the centre and half portion is missing, internal core is light t/c in colour while the surface is buff, having stains.
68. Bead; t/c; B; 2; Harappan; 0.65 x 0.4 cm; a small irregularly short biconical bead of buff colour with central portion prominent unlike its short ends, having a tiny hole, complete with sign of stains.
69. Bead; t/c; B; 2; Harappan; 0.7 x 0.8 cm; a small bead having short biconical shape, complete with rough surface having rubbed ends, no uniformity in its colour.
70. Bead; paste; B; 2; Harappan; 1.05 x 0.1 cm; a disc shape bead of round shape, complete with milky white colour, surface at sides is stained with scars of black colour with scratches on its surface.

71. Bead; carnelian; B; 2; Harappan; 1.1 x 0.8 cm; a short biconical bead bearing orange colour, having a transparent smooth surface, half portion is broken along with one end.
72. Bead; carnelian; B; 2; Harappan; 0.5 x 0.3 cm; a semi cylindrical bead of reddish colour with orange colour spots at its smooth surface, broken at one end, semi transparent.
73. Bead; t/c; B; 2; Harappan; 3.7 x 0.85 cm; a long biconical bead, broken in the middle, thick at its centre and thin at the ends, half of its surface is pinkish while the rest is grey.
74. Bead; paste; B; 2; Harappan; 1 x 0.1 cm; a circular small disc shape bead, complete and having milky white colour, both its faces contain spotted scars along with slight scratches.
75. Bead; lapis lazuli; B; 2; Harappan; 0.25 x 0.45 cm; a short cylindrical shape bead of blue colour with cloudy patches in between, complete, with a smooth surface, prominent hole, cutting and finishing is very fine.
76. Bead; t/c; B; 2; Harappan; 2.3 x 0.9 cm; a long biconical bead, broken, half portion is missing while the remaining portion is lacking its end, having an irregular surface, pinkish colour.
77. Bead; carnelian; B; 2; Harappan; 0.7 x 0.4 cm; a semi cylindrical shape bead of orange colour with whitish cloudy shades inside, semi transparent, smooth surface, complete.
78. Bead; stone; B; 2; Harappan; 1.15 x 0.6 cm; a cylindrical shape bead of light whitish green colour, complete, having a smooth surface, filled with thick white greenish coat but now white surface can be seen, having a narrow straight hole in the centre.
79. Bead; t/c; B; 2; Harappan; 0.6 x 0.85 cm; a small biconical bead having tiny central portion with short ends, complete, light t/c colour.
80. Bead; t/c; B; 2; Harappan; 2.5 x 0.9 cm; a long biconical broken bead, half portion is missing while the other half is also broken at its end, greyish pink and slightly yellowish in colour, damaged on its surface.
81. Bead; carnelian; B; 2; Harappan; 0.6 x 0.35 cm; a small barrel shape bead having reddish colour, inside contains spots of orange colour, complete with smooth surface, semi transparent.
82. Bead; t/c; B; 2; Harappan; 0.55 x 0.98 cm; a short biconical bead of light pinkish colour with short ends, a bit rough surface containing stains, complete with irregular shape.
83. Bead; stone; B; 2; Harappan; 1.6 x 0.8 cm; a barrel shape bead, broken, light pinkish and whitish in colour.
84. Bead; t/c; B; 2; Harappan; 1.8 x 0.47 cm; a long barrel shape complete bead having light pinkish colour, surface is spotted with black scars.
85. Bead; t/c; B; 2; Harappan; 1.3 x 0.3 cm; a broken part of long biconical bead.
86. Bead; t/c; B; 2; Harappan; 0.6 x 0.9 cm; a short biconical bead with projected centre, irregular in shape with light pinkish colour and narrow holes.
87. Bead; paste; B; 2; Harappan; 0.9 x 0.4 cm; a cylindrical bead of whitish colour, complete, surface is smooth and spotted with blackish scars.
88. Bead; stone; B; 2; Harappan; 0.87 x 0.6 cm; a barrel shape semi precious stone bead having black and white colour bands running all around, complete, having smooth surface with well cut ends.

89. Bead; t/c; B; 2; Harappan; 5 x 0.85 cm; a long biconical bead, slightly broken at one end, thick at the centre and thin at the ends, buff colour with irregular surface.
90. Bead; paste; B; 2; Harappan; 0.8 x 0.1 cm; a small circular disc shape bead of milky white colour, complete with a slightly damaged body, surface is spotted with blackish scars.
91. Bead; t/c; B; 2; Harappan; 5.02 x 5 cm; a tiny barrel shape bead of dull yellowish colour, complete, having a rough surface filled with scars and slightly irregular at certain places.
92. Bead; t/c; B; 2; Harappan; 1.7 x 0.7 cm; a broken part of a long biconical bead, thick at one side and narrow at the other, sepia colour slip.
93. Bead; lapis lazuli; B; 2; Harappan; 0.3 x 0.4 cm; a tiny cylindrical shape bead with blue colour surface.
94. Bead; t/c; B; 2; Harappan; 0.92 x 0.85 cm; a short biconical bead having a prominent projecting centre and short ends with a slight slope with a central hole, buff colour with irregular shape.
95. Bead; carnelian; B; 2; Harappan; 0.8 x 0.4 cm; a broken cylindrical bead of orange colour, transparent.
96. Bead; paste; B; 2; Harappan; 0.4 x 0.3 cm; a cylindrical shape broken bead, half is missing, smooth, white in colour and partly rusted.
97. Bead; t/c; B; 2; Harappan; 1.6 x 0.7 cm; a broken bead of biconical shape having light pinkish colour and a rough surface.
98. Bead; t/c; B; 2; Harappan; 1.9 x 0.35 cm; a long thin barrel shape complete bead with light pinkish colour and smooth surface. The ends are comparatively wide than the centre. Its holes are wide open.
99. Bead; paste; B; 2; Harappan; 0.3 x 0.3 cm; a short cylindrical bead of white colour having smooth surface and the holes are also wide open.
100. Bead; carnelian; B; 2; Harappan; 0.4 x 0.4 cm; a small biconical bead having centrally projected portion and smooth ends, orange colour with smooth surface, semi transparent with wide central perforation.
101. Bead; stone; B; 2; Harappan; 0.65 x 0.5 cm; a barrel shape bead of small size with one end thicker than the other, similar as No. 88, blackish colour with a thick shiny band of white colour is running at the centre, complete having a smooth stainless surface with fine perforation.
102. Ring stone; stone; B; 3; Harappan; 13.2 x 4.3 cm; a round shape ring stone having a wide perforation in the centre, the side are slightly damaged, complete in shape.
103. Grinding stone; stone; A; 3; Harappan; 24 x 20 x 8 cm; a broken grinding stone, irregular in shape, made of granite, in a poor condition, the used surface is concave, cracked, light pinkish or yellowish in colour.
104. Pestle; stone; A; 2; Harappan; 9.7 x 10.1 x 7.4 cm; a reddish colour pestle, broken, rough in section and is made with polishing or rubbing.
105. Grinding stone; stone; B; 3; Harappan; 32 x 22 x 7 cm; a grinding stone, broken, centrally rubbed, the unused surface is not fine but rather rough.
106. Grinding stone; stone; B; 2; Harappan; 47 x 25.6 x 10.1 cm; a large grinding stone, complete, the used surface is made with rubbing, one side is convex.
107. Ring stone; stone; B; 5; Harappan; 14 x 4.8 cm; a broken ring stone having triangular section, with a

- central hole (3.2cm dia.), one side is flat the other is half domical, reddish dark in colour, with rough exterior.
108. Grinding stone; stone; A; 2; Harappan; 28.1 x 22.8 x 10.4 cm; a grinding stone with light orange colour, broken, used surface is concave and deep, having small blind perforation, the unused surface is rough.
  109. Grinding stone; stone; A; 13; Kot Diji; 28 x 23 x 15 cm; a broken grinding stone having flat surface, whitish in colour, having more width than Reg. No. 108, also made with rubbing.
  110. Grinding stone; stone; B; 7; Harappan; 35 x 12.5 x 12.3 cm; a broken grinding stone having flat plain internal used surface while the unused is rough.
  111. Grinding stone; stone; A; 3; Harappan; 15.5 x 22.4 x 6 cm; a broken grinding stone with used surface is slightly concave, the unused surface is rough.
  112. Grinding stone; sandstone; B; 7; Harappan; 8.2 x 19.4 x 6.9 cm; a grinding stone with rough surface, broken, most of the portion of the stone is missing.
  113. Grinding stone; stone; B; 9; Harappan; 15.7 x 10.1 x 5.8 cm; a small broken piece of a grinding stone having one side flat and another is damaged and rough, rubbed and smooth.
  114. Grinding stone; stone; B; 4; Harappan; 27.5 x 13.4 x 5.6 cm; a broken grinding stone with one side bears pinkish and the central portion whitish colour, boat shape, one edge is projecting upwards having deeply rubbed surface and sign of utilisation is visible.
  115. Pot; t/c; B; 5; Harappan; 19 x 16.5 cm; an S-shape small vase like pot, rim's major part is incomplete, well levigated texture with some sandy specimens, light orange in colour, plain, rim is short beaked with a long neck, disc shaped base.
  116. Pot; t/c; A; 3; Harappan; 7 x 5 cm; a small size pot having a straight vertical neck, perpendicular rim, a low pedestal is attached to the bottom contiguously, above the stand half portion of the pot is missing, plain, having 0.4 cm thin fabric, texture is fine and well levigated, now slightly rusted.
  117. Pot; t/c; A; 3; Harappan; 14.5 cm dia; a small jar having 13.5 cm height, short neck with a low out curved rim, the middle part of body has narrow black bands on red surface, which are five in number, half portion of the rim is broken along with its neck area, fabric of the pot is thin (4 cm) and the interior surface is plain, the base is disc shape.
  118. Pot; t/c; B; 7; Harappan; 11.5 cm dia; a rimless pot, only the lower portion is complete, having 10.8 cm height, the fabric is 0.4 cm, on the outer surface reddish slip is provided having black bands, the rest of the painting is totally missing.
  119. Pot; t/c; A; 3; Harappan; 12 cm dia; a pot having 13.8 cm height with the rim dia. 9 cm, long everted rim with vertical neck, ball shape body, contiguously provided with disc shape base, texture is sandy, a small hole or perforation can be observed in the centre of the body, plain, wheel made.
  120. Pot; t/c; A; 4; Harappan; 11.5 cm dia; an S-shape jar having 13 cm height with rim dia is 8.8 cm, body is slightly oblong, has a high neck with contiguous long everted rim and below oblong shape rounded body, sandy texture having buff colour, complete.
  121. Pot; t/c; B; 7; Harappan; 8 cm dia; a pot with 8 cm height as well as 8 cm diameter, having damaged rim, S-shape profile with narrow sloping, reddish slip is provided on outer surface, deeply concave base, sandy clay and wheel made.

122. Pot; t/c; A; 2; Harappan; 8.6 cm dia; an S-shape pot having 9.2 cm height with body diameter of 8.6 cm, long everted rim, 0.5 cm thick fabric, central part of the body is a bit carinated, surfaces are smooth and plain.
123. Tiny pot; t/c; A; 4; Harappan; 6.8 cm dia; a tiny pot having 7.5 cm height, no painting on either surfaces, reddish t/c inclined to light orange colour material, short everted rim, damaged.
124. Tiny pot; t/c; A; 5; Harappan; 5.6 cm dia; a tiny T/c pot having 6.2 cm height is featureless, no surface treatment observed, ball shape body is provided having 0.4 cm thin fabric, has a rounded base with wide mouth and short everted rim, internally rusted, externally having orange colour with smooth surface.
125. Tiny pot; t/c; B; 13; Kot Diji; 5.5 cm dia; a small dish/plate with some part missing having dark reddish slip, plain, wheel made.
126. Tiny pot; t/c; A; 5; Harappan; 4.8 cm dia; a small pot having 4.5 cm height, short everted rim with short neck, pinkish slip on 0.3 cm thick fabric, complete, wheel made.
127. Tiny pot; t/c; surface; Harappan; 5 cm dia; a small complete pot having 5.5 cm height, like Reg. No. 126, but is long necked and small bodied, having 0.4 cm thick fabric, smooth and plain surface, has short everted rim and projected round disc base.
128. Tiny pot; t/c; B; 7; Harappan; 8.3 cm dia; a broken tiny pot with half portion missing, neck is short having short everted rim, with projected round body, a faded red slip is also provided, a low profile base in disc shape.
129. Tiny pot; t/c; B; 6; Harappan; 8.4 cm dia; a thin (0.3 cm) bodied pot with upper portion completely missing, carinated body, has a sharpened edged projected base, both the surfaces plain.
130. Tiny pot; t/c; A; 2; Harappan; 4.8 cm dia; a small broken tiny pot with upper portion completely missing, has a low profile or projected body with low disc base, no surface treatment, light reddish in colour, interior side of the base is deeply concave.
131. Tiny pot; t/c; B; 6; Harappan; 4.4 cm dia; a small pot with an elongated S-shape profile view, below the perpendicular rim a horizontal ledge is provided, black floral design on red surface at some places visible, has low projected body, ring base, deeply concave.
132. Tiny pot; t/c; B; 6; Harappan; 8.4 cm dia; a broken pot, damaged, with a simple project disc base, outer surface has dark reddish faded colour slip.
133. Tiny pot; t/c; surface; Harappan; 11.5 cm dia; a small broken pot having 5 cm height, painted with reddish brown or dark brown slip, designed with small circles in black, short everted rim, internally brownish in colour.
134. Tiny pot; t/c; A; 11; Harappan; 6.5 cm dia; a tiny pot having no painted feature, broken, with the fabric is 1.1 cm.
135. Tiny toy cart; t/c; surface; Harappan; 7 x 3.8 x 1.8 cm; a small size toy cart frame having smooth surface, with space for wheels observed in the lower part, a small hole in the front.
136. Tiny pot; t/c; B; 6; Harappan; 3.2 cm dia; a small pyramidal shape tiny pot having 4.2 cm height, with contiguous octagonal shape base, upper rim portion is narrow, short everted rim with a faded reddish slip.

137. Tiny pot; t/c; surface; Harappan; 6.2 cm dia; a small tiny low-pedestalled pot, which has its upper portion missing, only base is preserved.
138. Perforated jar; t/c; B; 7; Harappan; 22.5 cm dia; a broken and large sized perforated jar with S-shape body having 29.3 cm height, rim is damaged and missing partly, which is however short everted, perforations are provided on the entire body, completely plain and is made of well-levigated clay (Plate 24).
139. High pedestal dish-on-stand; t/c; B; 5; Harappan; 24.5 cm; a high pedestal dish-on-stand, with only the stand is preserved now, the upper dish is missing, the stem is 4.6 cm in diameter, the base is 25 cm in diameter, around the stem up to the lips of the base, painting in black – on – red slip is done depicting faded floral designs.
140. High pedestal of dish-on-stand; t/c; B; 7; Harappan; 19 cm height; a broken high pedestal of a dish-on-stand has presently 19 cm height and the base is 29.7 cm in diameter, the whole body is painted with floral designs in black colour by intersecting circles, started from the edges of the base. Above the circles, three consecutive bands around the stem are made, and above another group of 10 bands is executed around the stem, the lip of the base is short while inside the base is deeply concave and plain (Plate 25).
141. Grinding stone; stone; B; 6; Harappan; 16 x 20 x 7 cm; a broken grinding stone of stained sandstone, concave shaped, rubbed, unused surface is rough.
142. Grinding stone; stone; B; 11; Kot Diji; 7 x 6 x 4.5 cm; a broken piece of grinding stone of sandy material, white in colour with used surface has some blackish shade.
143. Axe; bronze; B; 11; Kot Diji; 7.8 x 5.5 x 0.7cm; a small bronze/copper axe having tapering shape, 5.5 cm wide near the edges and 3.9 cm at the top, rusted.
144. Rattle; t/c; surface; Harappan; 5.6 cm dia; a rattle having round shape with irregular surface, reddish wash on upper surface with black lines crossing each other, also has two small perforations on cardinal points, inside is a solid substances for making rattling sound.
145. Animal figurine; t/c; surface; —; 5.7 x 4.6 cm; a bulky bull figurine with fore portion missing, without slip, plain, with broken tail, internally grey cored due to ill firing.
146. Figurine; t/c; surface; —; 5.7 x 2.1 cm; a broken animal figurine, the hind portion is preserved but the hind legs are broken, reddish in colour having a bit rough surface, the middle part (back or belly part) is roundish.
147. Animal figurine; t/c; surface; —; 6.8 x 2.2 cm; a broken animal figurine with the fore-portion missing, only the hind-portion is observed, broken tail, smooth surface, blackish core.
148. Animal figurine; t/c; surface; —; 6.6 x 4.3 cm; a broken figurine with the fore-portion missing, while the right side surface in damaged, reddish in colour, grey core,
149. Animal figurine; t/c; surface; —; 6.4 x 2.1 cm; hind-portion of a broken animal figurine, damaged, above the neck the head is missing as well as the fore-legs are also in damaged form.
150. Human figurine; t/c; surface; —; 5.4 x 1.8 cm; a broken leg of human figurine, in seated form, light brown in colour, swinging legged, grey core due to ill firing visible, hip portion is thick.
151. Figurine; t/c; surface; —; 5 x 3.9 cm; an unidentified portion of a t/c figurine, not clear, plain and without any wash or slip.

152. Animal figurine; t/c; surface; ———; 3.4 x 2 cm; an animal figurine with missing legs, only the hind portion where a tail can be seen, surface has a yellowish colour wash.
153. Animal figurine; t/c; surface; ———; 5.5 x 2.3 cm; torso of an animal figurine with missing legs, damaged tail, has reddish t/c colour and is without any slip.
154. Animal figurine; t/c; surface; ———; 4 x 2 cm; a broken animal figurine's torso, which has only the hind portion, the legs and tail are broken as well, plain.
155. Human figurine; t/c; surface; ———; 4 x 1.5 cm; hip portion of a human figurine, which was probably in seated form, the rest of the portion is broken, plain and without any slip.
156. Human leg; t/c; surface; ———; 3.5 x 1.6 cm; a human leg in L- shape, broader at the joint or hip area where as thinner at the lower part, in seated form.
157. Animal figurine; t/c; surface; ———; 4.9 x 2.8 cm; torso of an unidentified animal figurine, which has its legs and tail missing, plain.
158. Animal leg; t/c; surface; ———; 3.9 x 1.9 cm; leg portion of an unidentified animal figurine having pinkish colour, thicker at top and thinner at bottom or lower portion.
159. Wheel; t/c; surface; ———; 5.8 cm diameter; wheel of a toy cart, which is round in shape and is without any spokes, the central portion is a bit projected containing a perforation or axial hole.
160. Pedestal; t/c; surface; ———; 3.5 x 3.0 cm; a broken pedestal of an unidentified object like human figurine or a pot, which has red slip on the outer surface, the top portion is missing with a round and slightly concave base.
161. Animal leg; t/c; surface; ———; 5.7 x 2.4 cm; a broken leg of an animal figurine probably the hind one, plain, having a grey inner core indicating poor firing.
162. Animal figurine; t/c; surface; ———; 7.7 x 2.8 cm; torso of an unidentified animal figurine with legs and head broken, the tail damaged, no slip.
163. Animal figurine; t/c; B; 11; Kot Diji; 6.8 x 2.6 cm; a large horn of an animal figurine with body missing body, plain and without any slip.
164. Human figurine's leg; t/c; B; 13; Kot Diji; 4 x 5.6 cm; a leg of a seated human figurine like Kot Diji style, which is broken from the torso, L – shape or bent at right angle, plain and devoid of any wash or slip.
165. Round stone; stone; A; 5; Harappan; 10.2 cm diameter; a round shape stone of light grey colour, with one side polished and other rough, smooth surface indicates its use in some important area.
166. Grinding stone; stone; A; 6; Harappan; 15.4 x 7.5 x 3.3 cm; a rectangular shape grinding stone, which has comparatively both sides plain, one edge is damaged a little.
167. Grinding stone; stone; A; 2; Harappan; 15.6 x 13 x 5 cm; a grinding stone of whitish colour, broken in the middle, the used concave surface is rubbed where as the lower base portion is rough.
168. Grinding stone; stone; A; 2; Harappan; 10.5 x 12.5 x 5.5 cm; a broken grinding stone of sandy or granular material with concave used surface is smooth and flattish a bit where as the other one is rough.



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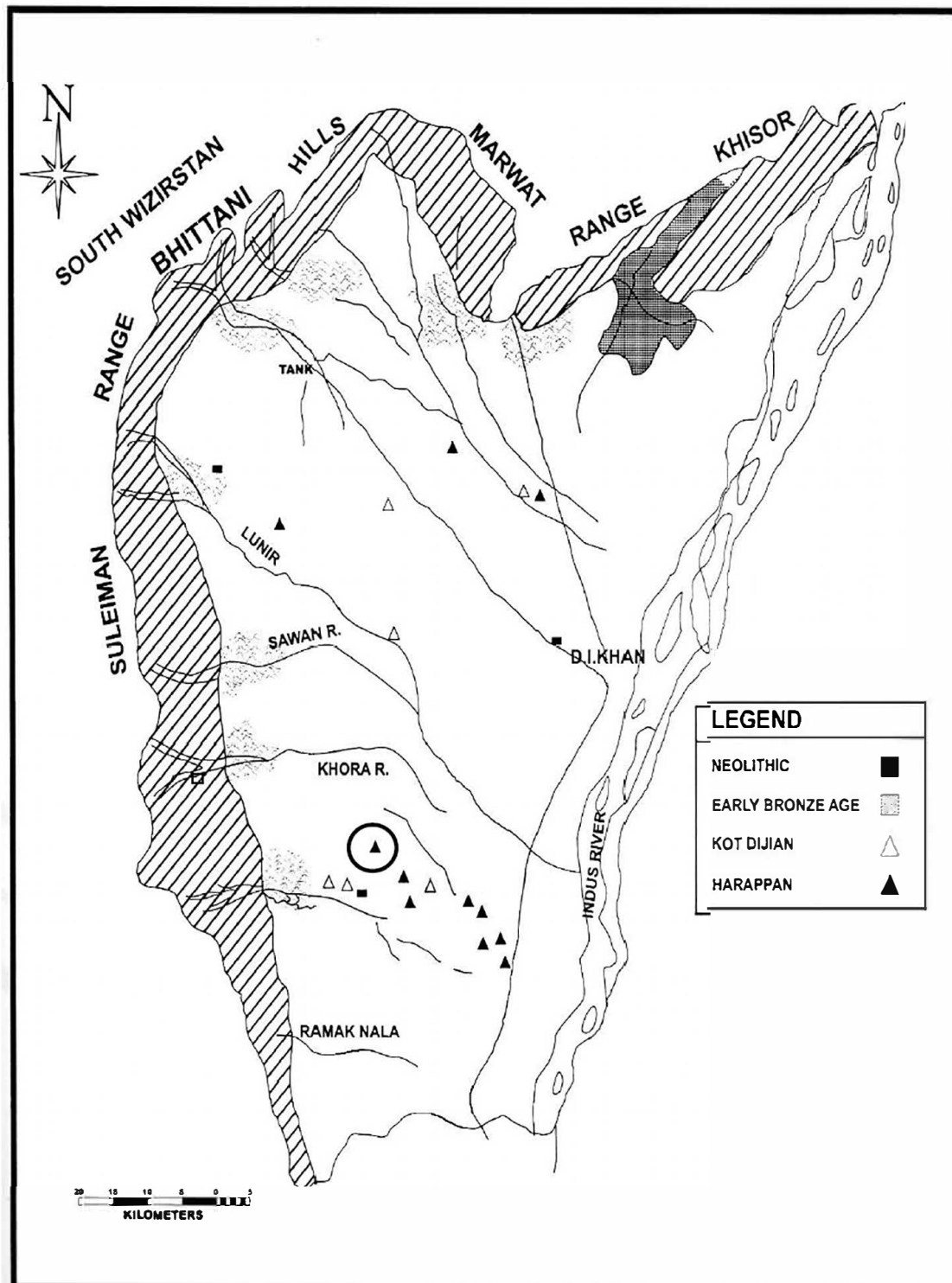


Figure I: Location map of the Gomal plain, showing Gandi Umar Khan and other proto-historic sites.

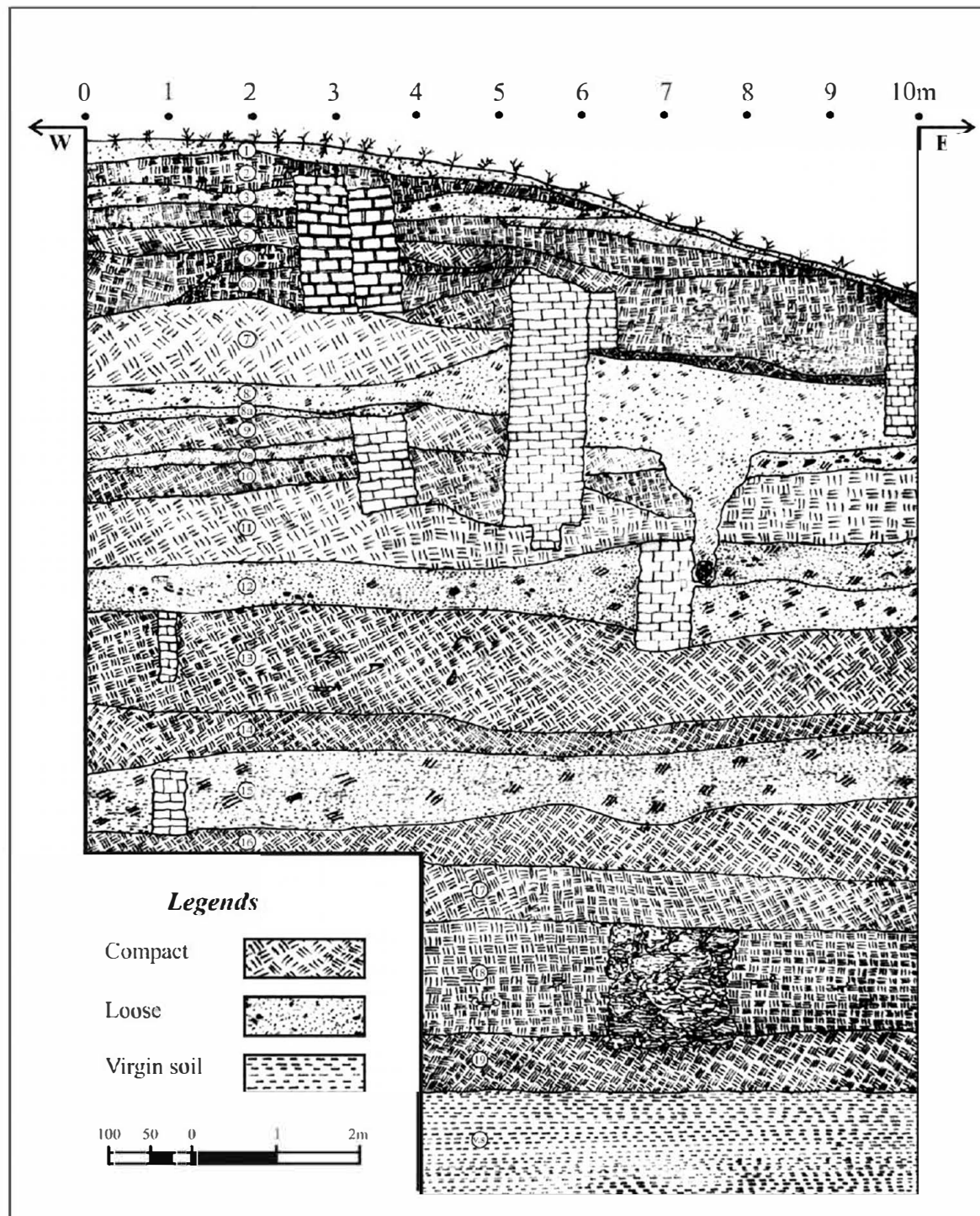


Figure II: Gandi Umar Khan: section drawing of the trench, facing south



**Plate 1:** Aerial view showing Gandi Umar Khan and its landscape



**Plate 2:** Gandi Umar Khan: general view of the site from southeast





**Plate 3:** Gandi Umar Khan: general view of the southern (foreground) and northern mounds (background)



**Plate 4:** Gandi Umar Khan: general view of the trench at the beginning of excavation



**Plate 5:** Gandi Umar Khan: general view of the trench, the Kot Diji level





**Plate 6:** Gandi Umar Khan: the virgin soil



**Plate 7:** Gandi Umar Khan: mature Harappan floor level showing hearths and jars





**Plate 8:** Gandi Umar Khan: mature Harappan period platform



**Plate 9:** Gandi Umar Khan: Harappan period mud-brick wall





**Plate 10: Gandi Umar Khan: Harappan period hearths**



**Plate 11: Gandi Umar Khan: Harappan period jars and a pit**



**Plate 12:** Gandi Umar Khar: Harappan period structures and a jar fixed in a platform



**Plate 13:** Gandi Umar Khar: later burial





**Plate 14:** Gandi Umar Khan: ceramics of the Tochi-Gomal phase



**Plate 15:** Gandi Umar Khan: painted ceramics of the Transitional phase



**Plate 16:** Gandi Umar Khan: painted ceramics of the Transitional phase



**Plate 17:** Gandi Umar Khan: beads of the Transitional phase





**Plate 18:** Gandi Umar Khan: ceramics of the Kot Diji phase



**Plate 19:** Gandi Umar Khan: ceramics (Quetta-type wet ware) of the Kot Diji phase



**Plate 20:** Gandi Umar Khan: painted flanged rim jars of the Kot Diji phase



**Plate 21:** Gandi Umar Khan: beads of the Kot Diji phase





**Plate 22:** Gandi Umar Khan: pottery of the Harappan phase



**Plate 23:** Gandi Umar Khan: painted sherd decorated with intersecting circles, the Harappan phase



**Plate 24:** Gandi Umar Khan: cylindrical perforated vessels, the Harappan phase



**Plate 25:** Gandi Umar Khan: pedestal of a dish-on-stand decorated in black-on-red, the Harappan phase





**Plate 26:** Gandi Umar Khan: micro-beads of the Harappan phase



**Plate 27:** Gandi Umar Khan: t/c beads of the Harappan phase



**Plate 28:** Gandi Umar Khan: shell (upper row) and t/c (lower row) bangles of the Harappan phase



**Plate 29:** Gandi Umar Khan: t/c human figurines





**Plate 30:** Gandi Umar Khan: t/c animal figurines



**Plate 31:** Gandi Umar Khan: stone tools



**Plate 32:** Gandi Umar Khan: t/c cakes



**Plate 33:** Gandi Umar Khan: t/c seal





**Plate 34:** Gandi Umar Khan: steatite seal/amulet

