

Excavations at Barnoli ki Dhai, District Mathura

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Introduction

Location

Barnoli ki Dhai (27.6050130 N, 77.7422510 E), also spelt Barnauli-ki-Dhai (BKD), a site lying atop an old sand dune of the River Yamuna is situated in Mant tehsil of District Mathura, about 4 km south of Mant town. Mathura lies about 15 km to the south-west-south and Vrindavan 5 km to the south-west of Barnoli ki Dhai. An old lake of Yamuna is situated just a kilometer distant from this site and that lake is famous as Mansarovar *jheel* where a highly revered and popular temple of Radharani exists.

Objective

The primary objective of selecting this site for excavation was to study the cultural period associated with Painted Grey Ware ceramics. Not much information is available archaeologically about the period from about 2000 BCE or even earlier and 600 BCE which is considered as Dark Age in the doab region. Mathura is by far the biggest or one of the biggest archaeological settlements of India, particularly of the pre-Mahajanapada and the Maurya, Sunga and Kushan periods. Unfortunately, there is not much scope at Mathura to excavate due to dense habitation. But to understand the archaeology of the entire region, of which Mathura city is a part, other sites in the area needed to be explored. The ancient sites which lie at significant distance from Mathura city are also important but the nearby archaeological sites of Mathura can be considered more important as these can provide clues for the development and growth of Mathura as one of the largest pre-Common Era settlements and help in understanding the role of Mathura region in the evolution and spread of art, iconography, religious doctrines and culture as a whole. During explorations it was realised that almost all the sites in the interiors of Mathura were multi-cultural and to derive early results with limited excavations such a site was to be selected which had minimal deposits of later cultures other than the Painted Grey Ware or the grey ware. Keeping all this in mind, the site of Barnoli ki Dhai was selected as it showed on surface the abundance of the Painted Grey Ware and associated potteries. The site was first discovered by the excavator when in his childhood he along with a cousin was coming from Karahari village to Mathura on a motorcycle and by mistake a *kaccha* road was taken instead of another road that ended in front of this mound. Later on, in July 2003, the excavator showed this site to Prof. Dilip K. Chakrabarti and explored it in a systematic way. The site was explored quite a number of times by the excavator after

that and every time it appeared to be quite promising for excavations. Since the site is situated on Yamuna sand dunes, it was difficult to understand the exact nature of site and the depth of deposit on the basis of surface explorations. In fact in the section which faces old channel of Yamuna River, no archaeological deposit was visible, somehow challenging the selection of this site for excavations. The Excavation Branch II had proposed for excavations at Shahpur Gosna mound in Mathura which is a proper archaeological site with proven evidence and a trial excavation at Barnoli ki Dhai to ascertain the nature of deposit at this site. The competent authority provided permission to first excavate the Barnoli ki Dhai mound as it is an unprotected site in danger of extinction whereas Shahpur Gosna mound is an ASI protected site, so excavations there could be taken up subsequently upon preparation of contour plan and surface studies.

Geographical Features of Mathura (Braj)

Mathura district is the center of Braj and it lies between Lat. 27°14' and 27°58'N and Long. 77°17' and 78°12'E and covered an area of about 3625 square km. The area of the modern Mathura district is 3340 square km with a population of over 2 million people. The whole district of Mathura is a part of Yamuna plains, so the land is more or less plain in appearance. The average height of Mathura district is about 600 feet from M.S.L. The area in the north is slightly higher than 600 feet while in the south and southeast is less than 600 feet. Hence the slope of the land is from north to south and southeast direction. In between this area, the River Yamuna flows from north to south.

From geo-morphological point of view, the region of Mathura can be divided into three categories: 1. the plains; 2. the hilly area; 3. the *khadar* area. The plain area is much larger and is spread on both sides of River Yamuna in the east and in the west. During ancient times, there were many *vanas* (forests) and sacred groves in this area which are more or less non-existent now-a-days. The area to the east of Yamuna (the trans-Yamuna tract) is more fertile in comparison to the area to the west of Yamuna (the cis-Yamuna tract) as trans-Yamuna area comprises of *domat* soil (fertile clay). In the cis-Yamuna area, there are many fertile pockets like near Tarauli, Bathain-Jab, Mora-Sakna etc. Generally the soil of cis-Yamuna tract is sandy. Vegetation in the district is of a dry-deciduous type and the original scanty tree species include *Faras*, *Pilu*, *Chheokar*, *Reonj*, *Babul*, *Kharjal*, *Kadamb*, *Karil*, *Hins* and *Bansi*. Other trees and shrubs do not differ from those in the Gangetic doab, though, hilly outcrops at Barsana and elsewhere produce some *Dhau*, *Kadamb*, *Paserid* and *Pilukhan* (Joshi 1968: 14).

The hilly area is limited to the west and northwest of Braj. These low hills (height less than 100 feet) are the off shoots of Aravalli and have more religious significance than anything else. This area would have definitely been used during the heavy floods in the area of Braj as these were quite safe from floods. The important hills in the region are: Govardhan, Barsana, Nandgaon, Kaman, Sikri, Adibadri, Kedarnath and Charan Pahari. *Khadar* area is situated on both sides of River Yamuna in the form of thin strips and is made of soil brought in by river floods. This area is quite fertile for agriculture.

Location of Mathura district is the most important factor which makes it archaeologically and culturally so important. It is situated at the entry-pot of Ganga-Yamuna doab. The trans-Yamuna region is climatically a part of the Ganga-Yamuna doab, while the western part of Mathura district with Aravalli off shoots is more associated with the geographical and climatic conditions of Rajasthan. Moving from north to south, it changes from the climatic conditions of fertile Haryana land to a mixed climatic situation. Because of its geographical location as a nodal point various ancient routes passed from here which have now taken the shape of highways and railway tracks, though, some have lost their importance because of modernisation. One route coming from Indraprastha and going to Malwa-Gujarat region passed from here, following almost the present day routes. One route went to Vidisha via Pawaya; one went to Kaushambi following the course of Yamuna in the east while one very important but less studied route went from here to west and northwest Rajasthan via Kaman, Alwar; other routes went towards Ahichchhatra crossing the Yamuna and Ganga and met with the Mauryan royal highway in between. Thus Mathura district served as meeting place for the desert with doab, hills with plains, north with south and east with west. All these routes were so important that Mathura became an important center for international trade, position of which, during the Islamic period was acquired by Agra and later on by Delhi, sharing almost similar geographical and nodal importance. Location of ancient routes passing via Mathura is also clear from the study of Indian Railways as Mathura is still the biggest junction point of Indian Railways and possibly the only place in the country from where trains could be taken to reach any place in the entire Indian sub-continent.

Rivers and streams in Braj-

Yamuna

It is one of the most important and sacred rivers of India after the Ganga. The important towns along the Yamuna or near to it in the Braj region are: Jewar, Tappal, Shergarh, Nohjhil, Mant, Vrindavan, Mathura, Gokul, Mahaban, Baldev, Runkata, Agra and Bateshwar. In the ancient

times Yamuna would have been a navigable river and used as a means of transportation for trade and normal contacts. It was only after the excavations of various canals from Yamuna and dams at higher reaches that it ceased to be such a potent river. This river would have played the most important role in the development of civilisation in this region and possibly would not have served as a barrier for the movement of the people. The number of ancient sites on both the banks of the river is quite high.

Karban or Jhirna

It is more of a monsoonal river which dries down during the summer months but takes a huge shape during monsoons. It originates in the Khurja tehsil of Bulandshahr District and then flows in the tehsils of Khair, Iglas, Hathras and Sadabad of the old Aligarh district and Etmadpur tehsil of Agra District. It meets the Yamuna some distance past Agra city. The important ancient towns along this river are: Chandaus, Khair, Mursan and Sadabad. The ancient towns are quite important and some of them might date back to Copper Hoard-OCP cultural period.

Patwaha

It is a small seasonal stream which originates in District Meerut and passes via Khair tehsil of Aligarh District and Mant tehsil of Mathura before merging with the Yamuna near Mirpur. An important ancient town situated along this stream is Bajna and Mirpur is also an important archaeological site.

Sengar and Arind

These are small tributaries of the Yamuna which flow in the tehsils of Aligarh, Jalesar, Firozabad and Shikohabad before merging in it. Important ancient towns along Sengar River are Harduaganj, Barhad, Band Abdullapur, Jalesar and Shikohabad.

Gambhiri and its tributary Khari Nadi

Gambhiri River flows in the southern part of Braj region in the Bharatpur district and Khairagarh tehsil of Agra. The important ancient site on the bank of this river is Khanua. Many other ancient sites are located along this river but exact details of their antiquity are not known. Khari Nadi flows mainly in the Kiraoli tehsil of Agra and the important town on its bank is Akola besides many other important archaeological sites on its bank.

Agra Canal, Govardhan Drain and Mant Branch of Ganga Canal

These are the canals which came into existence during recent past (possibly during the colonial rule). These three important sources of irrigation in District Mathura are possibly running on the natural alignment of some dried up streams or monsoonal streams. On the banks of Agra canal, the important sites are: Kosi, Sahar, Bharna Kalan, Aring, Sonsa and Kosikhurd. On the banks of Govardhan drain the important sites are: Kaman, Akata, Unchagaon, Barsana, Hathiya, Janu, Mundsaras, Bahaj, Gantholi, Paintha, Sonkh, Gunsara, Rarah, Santruk, Ol, Beri, Parkham and Pingri. The important sites near the Mant branch of Ganga canal are: Khera, Ahrola, Khayra, Karahari, Harnaul, Nasiti, Jabra, Arua, Barnauli ki Dhai. It is quite possible that during ancient times this stream would have fallen into River Yamuna at Barnauli ki Dhai. Govardhan drain was definitely an old channel with so many important sites.

Besides these channels, there are many other local drains and canal distributaries which have come up in past few centuries and even after independence. Many of these channels appear to be ancient water channels which would have definitely helped the ancient people especially during PGW period in agricultural purpose as well as in other subsistence needs. From the distribution of ancient sites it appears that during the ancient times, people might have formed *bandhas* (blockades) at these drains or small rivulets during monsoons to collect and distribute rain water for agricultural fields and large ponds.

History of archaeological expeditions in Mathura

Mathura came to prominence as an important place for art and archaeological studies after Col. Stacy found some antiquarian remains especially the Silenus sculpture from here in the year 1836 (Stacy 1836: 567). After this, Sir Alexander Cunningham paid several visits to Mathura between 1853 and 1882 of which several accounts are available in the *Archaeological Survey Reports (A.S.R.)* written by him and his associates. The *A.S.R.* nos. I (pp. 231-44), III (pp. 13-46), XVII (p. 111), XX (pp. 30-54) deal specifically with the city of Mathura and its nearby area. During his first visit to Mathura (*A.S.R.*, I, pp. 231-244) his main aim was to identify the spots at Mathura which matched with the description of Chinese travellers' (Xuanzang and Faxian's) accounts. He had explored the area around Katra and found some Buddhist art relics there and in the vicinity. Some of the important sculptures were: one mentioning the site of Yasa Vihara during the reign of Huvishka and a Mayadevi relief (possibly a *Salabhanjika*). He also identified various sites near River Yamuna as ancient mounds with probable Buddhist connection. Some of these mounds were: Naga, Dhruva, Narada, Saptarshi, Bali, Ananda, Vinayaka Tilas and Kans Qila. Between the year 1861 and 1882 many new sites came to light because of the work of F.S. Growse (then District Collector of Mathura). Most of these sites as

well as the then newly found sculptures kept at Mathura Museum were visited by Cunningham (1882-83: 31-49). Some of the conclusions drawn by them were:

1. The oldest city of the aboriginal King Madhu was at Madhupura, now Maholi.
2. The Aryan city, after the defeat of Madhu, was built on the site of present Katra, with the Bhuteshwar Temple as its center.
3. The Jumna Fort was the last city.
4. The Buddhist establishment came into existence at Mathura during 3rd century BCE.
5. The possible site of Upagupta Monastery was either at Kankali (according to Growse) or Jail mound.
6. The Buddhism was on decline in the region from seventh century CE and had completely disappeared by the time of Mahmud of Ghazni's invasion in 1017 CE.

He described the latest discoveries made at Mathura, including the find of a statue of Herakles strangling the Nemean lion, which according to him, was evidently copied from some Grecian model. He described a number of inscriptions found from Kankali and Jail mounds as well as a number of coins of Punch-marked tradition, Indo-Scythians, Kushans, Guptas and later periods. Cunningham tried to identify the site of Katra Keshavdev as Cleisobora of Greek writers. On this basis he identified present day Mathura city with Methora and postulated that River Yamuna or an important branch of it flowed between Katra and Mathura. According to him this river stream would have been called as Iobres by Greek writers. He talked about the two large bacchanalian groups and various Jaina sculptures and Naigmesha figures found from Mathura. He talked about the Buddhist and Jaina finds from the mounds of Manoharpura, Arjunpura, Jaisinghpura and other places. Cunningham went on to describe the much earlier antiquity of Keshavdev Temple and the destruction of the temple by the bigoted Muslim ruler Aurangzeb. Cunningham talked about his important discovery at Parkham of the earliest stone image of Yaksha in northern India. At village Mahwan (near Mathura Oil Refinery), Cunningham found a broken lower part of a Buddhist relief which he related with some Buddhist legend of Buddha's descent from Tushita heaven being observed by a lady in the form of a *chakravartin*. Cunningham talked about the famous Assi Khamba Temple at Mahaban, the popular image of Lohasura at Lohban, the Buddhist convent at Pali-Khera, the inscription found by him at Mora mentioning Vrishni viras and the famous inscription from Anyor mentioning Uttaraharusha Vihara. Cunningham described the location and the Buddhist findings from the site of Kota situated on the Mathura-Delhi road. Cunningham also described the finding of a possible Buddhist image from Chaumuha and Tumola villages lying on the road to Delhi.

During the same time in the year 1880, the then District Collector of Mathura, Mr. Frederick Solomon Growse published his major work in the book entitled “*Mathura: A District Memoir*” which still remains a must read work for any Indological research in general and research on Braj region in particular. Growse presented a comprehensive data of the district of Mathura which was available till then. He found a number of ancient sites cleared especially Jail and Jamalpur mound and the nearby areas. He also did some important work of exploration at the sites of Katra, Kankali, Chaubara etc. His chapter on the “Etymology of Local Names” is an invaluable addition to the scholarly knowledge. He was the first person to establish the association of Buddhism with Mathura on a sound basis. Besides, he also established the first archaeological museum of country in the old museum building near the Collectorate in the year 1874.

Other significant contribution to the archaeology of Mathura region came from A. Fuhrer in the years 1888-91 when he excavated the site of Kankali Tila (although a kind of destruction) which unearthed the earliest Jaina settlement in India at that site along with the finding of a large number of Jaina, Buddhist and Brahmanical art and architectural pieces. Two very important sites excavated in the beginning of twentieth century by Pt. Radha Krishna are Tokri Tila at Mant and the Mora temple. All these excavations were undertaken by Pandit in the years 1910-11 and 1911-12 (*ASI AR*: 120-133). The most striking find of the Tokri site was its identification as a *devakula* with a number of royal portraits, broken sculptures and a number of important Kushan inscriptions. At the site of Mora the first clearance work was undertaken by Vogel himself when he recovered a number of stone sculptures, one having a slightly legible inscription. After the excavations of Pandit at the site, some important bricks with inscription of the period of Brihsvatimitra and possibly some broken stone sculptural pieces were found. At the site of Ganeshra, Pt. Radha Krishna recovered a number of Buddhist sculptures and brickbats, some of them having inscriptions. At the site of Jaisinghpura (possibly Kankor Tila), Pt. Radha Krishna obtained some Buddhist sculptures and some broken inscriptions. Some new sculptures and architectural remains were also found by Pandit at the site of Katra and most of these belonged to the Buddhist faith.

Pt. Radha Krishna was one of the most important persons who worked very hard to enrich the collections of Mathura Museum. His zealous approach to collect ancient sculptures and other artefacts for the collection of Mathura Museum remains unparalleled. Pandit Bhagwan Lal Indraji also contributed to study of Mathura sculptures as he recovered the Lion Capital from Saptarshi Tila which is now housed at the British Museum, London.

Archaeological Survey of India Excavations at Katra Keshavdev

In 1953, Shri M. Venkataramaiyya and Shri Ballabh Saran of the ASI conducted the first systematic excavation at the Katra site (*IAR* 1954-55: 15-16). This excavation was done in a very limited area. The site for the excavation was selected for its rich tradition in terms of literature, culture, inscriptions, coins, terracottas, sculptures and the surface find of PGW sherds. The excavators were inclined to excavate the site also because of two rings of mud-ramparts, one elliptically shaped and the other quadrangular suggesting citadel. The detailed report of this excavation would possibly never come out.

The excavators laid a small trench at a distance of about 500 feet to the north of the superimposed Idgah. The natural soil was touched at a depth of 42 feet and their last point was the portion of earth composed of hard clay and *kankar* bands. The most striking finding of the excavation was the presence of handmade potsherds besides the natural soil. No fragment of PGW was found from the layers although some pieces were collected as surface finds. It was possibly because of very limited area of excavation. The six feet deposit above the natural soil revealed plain grey ware and black slipped ware pottery types along with normal red ware pottery. This phase would have dated to pre-600 BCE period. No NBPW sherds were found in this deposit. The other antiquities from this layer included terracotta discs, balls, beads, a boat-shaped bird and perforated pottery.

The next period was distinguished by the occurrence of NBPW and in the chronological sequence it can be divided into three periods. The earliest remains include bamboo and reed huts with slightly baked or unbaked bricks, bone styli or needles, carnelian amulets and beads. The terracotta objects included grey mother goddess figurines and animal figurines including a dog in red colour. The ring-wells also came into existence at the site for the first time in this level. The second phase of finds was characterized by square copper coins, cylindrical terracotta beads, ear ornaments, etched carnelian beads, copper antimony rods, terracotta mother goddess figurines in grey colour with appliqué treated girdle, elephant figurines with lozenge shaped eyes and bodies decorated with punched, stamped or notched circlets, monkeys with three legs (mostly in red colour). No complete plan of a house had come to light but well laid out walls, drains and ring-wells suggest a high degree of planning. This period can be assigned a date ranging between sixth century BCE and third century BCE.

The site was deserted for a very short period of few years after late second century BCE as the sealed ring-wells indicated. The third period is typified by a large variety of beads of semi-precious stones like agate, carnelian, lapis lazuli, jasper, amethyst as well as beads of shell, faience and copper coins, some of which belonged to the Kushan period. Stone caskets

and a turquoise blue glazed finial were also found in this period. The fourth period assignable from 100 ACE to 300 ACE is to be identified by the terracotta figurines of dwarfs prepared by using double mould technique. The fifth and the last period belonged to the Gupta period as evidenced by coins, terracotta, sealings, Naigmesha, elephant and horse riders.

Mathura Excavations of 1973-77

Under the supervision of Shri M.C. Joshi, ASI conducted excavations in Mathura from 1973-74 to 1976-77 at nearly fourteen sites in different parts of the city (*IAR* 1973-74: 31-32; 1974-75: 48-50; 1975-76: 53-55; 1976-77:54-56; Joshi 1989 and Joshi and Sinha 1981). These excavations unfolded a cultural sequence divisible in following five periods:

Period I: from *circa* sixth century BCE to closing decades of fourth century BCE

Period II: from closing decades of fourth century BCE to *circa* second century BCE

Period III: from *circa* second century BCE to about the end of first century BCE

Period IV: from the beginning of the first century CE to about third century CE

Period V: from *circa* fourth century CE to the close of sixth century CE

Some later remains and antiquities were also found in a very limited area but the excavators could not find regular sequence of post-Gupta cultures.

Period I

The excavated data suggested the beginning of the settlement at Mathura right on the natural soil in the form of a small habitation during Period IA around Ambarish Tila (MTR-8), close to Yamuna, towards the northern end of present city; the community used the PGW and associated pottery including BSW, though in small quantity. The early settlers of Mathura lived in small huts and in some cases built them on mud platforms. Evidence from the later levels of Period I (Period IB) indicated slight, although insignificant, growth of settlement. A notable feature of the sub-period was the emergence of nearly 17 sherds of NBPW along with PGW with some new designs suggesting an overlap of the two classes of pottery.

During sub-period IB, the availability of antiquities like terracotta discs decorated with painted parallel strokes or incision along the edges, gamesmen suggesting some kind of indoor game, terracotta *ghata*-shaped and semi-precious stone beads, and a pestle, antimony rods of copper, a few iron implements, bone arrowheads and a circular object (ear-ornament) of a greenish glass were indicative of some general improvement in the living conditions of the community.

Period II

It has been associated by Joshi with the process of urbanisation as the mud fortification wall with a moat running by the side of it came into existence during this period. The most significant pottery of the period was plain grey ware and NBPW. A number of terracotta mother goddess figurines and animal figurines were found in this period's deposit. Other antiquities of note other than semi-precious stone beads were: square punch-marked copper coins, terracotta discs, beads, gamesmen, skin-rubbers, bone arrowheads, a legged quern carved with *triratna* motif, stone pestles and a variety of copper and iron objects especially arrowheads. The size of the settlement was as extensive as 3.9 square km during this period. Use of mud bricks was quite popular in this period while the burnt bricks were used for few selected structures.

Period III

Joshi termed the Period III as the period of urban refinement. The archaeological material of this period shows certain signs of urban prosperity like the people used lime plaster for floors and tiles were used for roofing. This period witnessed the last phase of ring-wells, NBPW and grey ware. Red ware was used as the main ceramic industry, some with stamped marks. Most of the items of household use continued with addition of some sculptures, inscriptions etc.

Period IV

Joshi termed this period as the period of cosmopolitanism. This period saw the all-round development in terms of material culture as is suggested by a number of Kushan coins, sculptures, inscriptions etc. Sprinkler as a new pottery type came into use.

Excavations at Sonkh

German excavation team under the leadership of Dr. Herbert Hartel excavated the site of Sonkh about 24 km southwest of Mathura. It was one of the better preserved mounds with fewer disturbances in District Mathura. The excavation work at the site started in the year 1966 and ended in the year 1973. The site provided a continuous sequence from PGW period to late medieval (Jat) periods without any significant break. The report of Sonkh excavation is one of the best compiled excavation reports in India. The concise framework of various periods at Sonkh is as follows (Hartel 1993):

Period I

It was observed in the levels 37-40. The excavator termed it as PGW and BRW period. The main pottery type of the period was PGW and to a lesser extent BRW. Other important pottery types were BSW, ordinary red and red slipped ware. Vessels were partly decorated with incised, impressed or applied patterns. At the end of the period coarse grey ware was observed.

Period II

It was observed in the levels 29-36. The excavator divided it in sub-periods of Pre and Early Maurya, Maurya and Sunga cultural phase. The exclusive pottery of the period was NBPW along with coarse grey ware, BSW and ordinary red ware.

Period III

This period belongs to Mitras and was observed in the levels 25-28. The pottery included red ware continuing from the previous tradition. Some new shapes, especially ovoid shaped storage jars with appliqué cordons and symbols (*svastika*, *nandyavarta*) came into use. Some handles in shape of monkeys were also found. Ring-wells and structures of baked brick came into existence.

Period IV

This period belonging to the Kshatrapas and Ramadatta was observed in the levels 23 and 24. The typical pottery of this period was red ware, characterised by definite differences in the shapes like globular water jar, small goblet, and beaker. In the end of this period the fashion of stamping the vessels with symbols begin.

Period V

This period belonged to the Kushans and was observed in the levels 16-22. The pottery include red ware with the characteristic Kushan stamping of storage vessels, jars etc. with symbolic, floral and geometric ornaments. Moulded small bowl and spouted water jars were also observed in good number.

Period VI

Levels 12-15 of this period were ascribed to Gupta and early medieval period. Red, mostly red slipped ware was the main pottery of the period which was delicately thrown and had smooth surface with distinct black horizontal stripes. Later on black painted swans and floral motifs were observed. Other important pottery types of this period included moulded bowls with relief ornaments, goblet with moulded bowl and stem, bottles with sprinkler necks and spouts.

Period VII

The medieval period was observed in the levels 8-11. In this period the quantity of pottery finds reduced considerably. Decoration was mainly of black painted stripes, swans and peacocks. Cone lid with knob replaces bell-shaped lid as well as bowl lid. Besides appearance of thin grey ware with white slip, incised and painted variety were observed.

Period VIII

This period found in levels 1-7 belonged to Late Fortress levels of Mughals and Jats. The main pottery was black on red painted pottery. In levels 6, 7 and 8 moulded grey and red jars and

bottles with relief decoration were found. Appearance of hookah was a new significant feature of this period.

Explorations in last twenty years:

During the last twenty years, the author (Gupta 2013) has carried out extensive archaeological surveys of the entire Braj region. More than 205 Painted Grey Ware sites have been reported in District Mathura and a much higher number of historical sites and a good number of sculptures and terracottas. A much clear picture has emerged about the settlement pattern and the network routes of the region.

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About the Site

Barnoli ki Dhai (27.6050130 N, 77.7422510 E), is strategically positioned atop an old sand dune of the River Yamuna, approximately 4 km south of Mant town. Barnoli ki Dhai is a prominent archaeological site located in the Mant tehsil of Mathura, Uttar Pradesh. The site is situated 15 km north-east-north of Mathura, a city renowned for its rich cultural and historical heritage, and 5 km north-east of Vrindavan, a significant cultural and religious landmark. The proximity to these key locations underscores the site's importance in the broader historical context of the region.

This lofty mound covers an area of approximately 1.42 hectares and is situated 120 meters west of the Yamuna expressway. Key landmarks near Barnoli ki Dhai include the Radha Rani Mandir, a renowned medieval period temple built alongside a dried up lake of River Yamuna known as the Mansarovar *jheel* which is 1.30 km south-west. The village of Bheemgaon, situated 2 km to the north, serves as a useful point of reference for locating the mound. Bheemgaon is also an important archaeological site under habitation.

Barnoli ki Dhai is encircled by a feeding channel emptying into the Yamuna and is surrounded by cultivated lands. These lands are interspersed with several medieval structures and other sites belonging to the early historic and historical periods which can be easily located near the mound. The site's rich archaeological deposits offer invaluable insights into the historical narratives of Mathura and its surroundings. Barnoli ki Dhai is a vital archaeological site that provides a window into the historical and cultural milieu of Mathura.



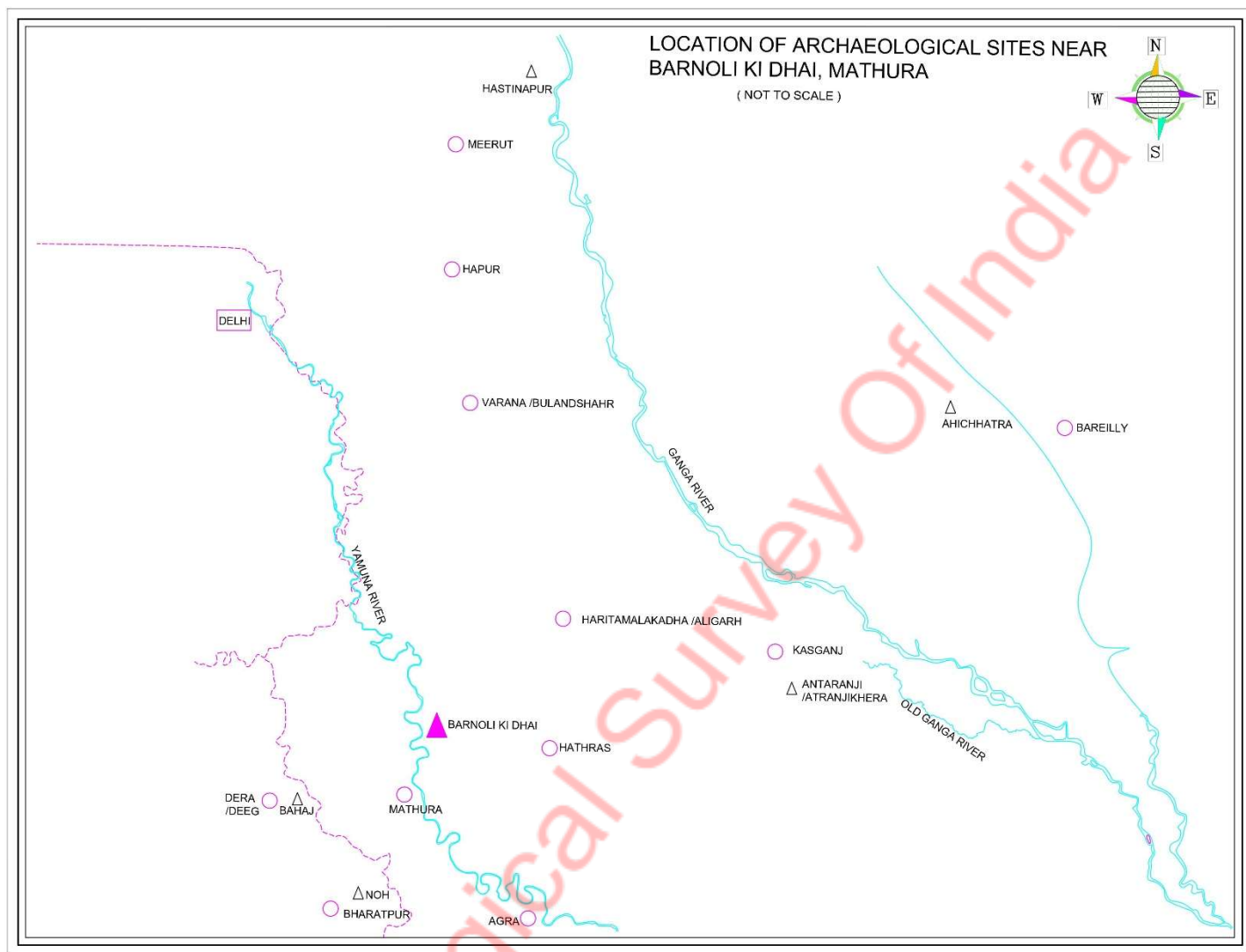
General view of Barnoli ki Dhai mound



General view of Barnoli ki Dhai mound with dried up stream visible on two sides



An aerial view of Radharani Mansarovar with River Yamuna visible at far distance



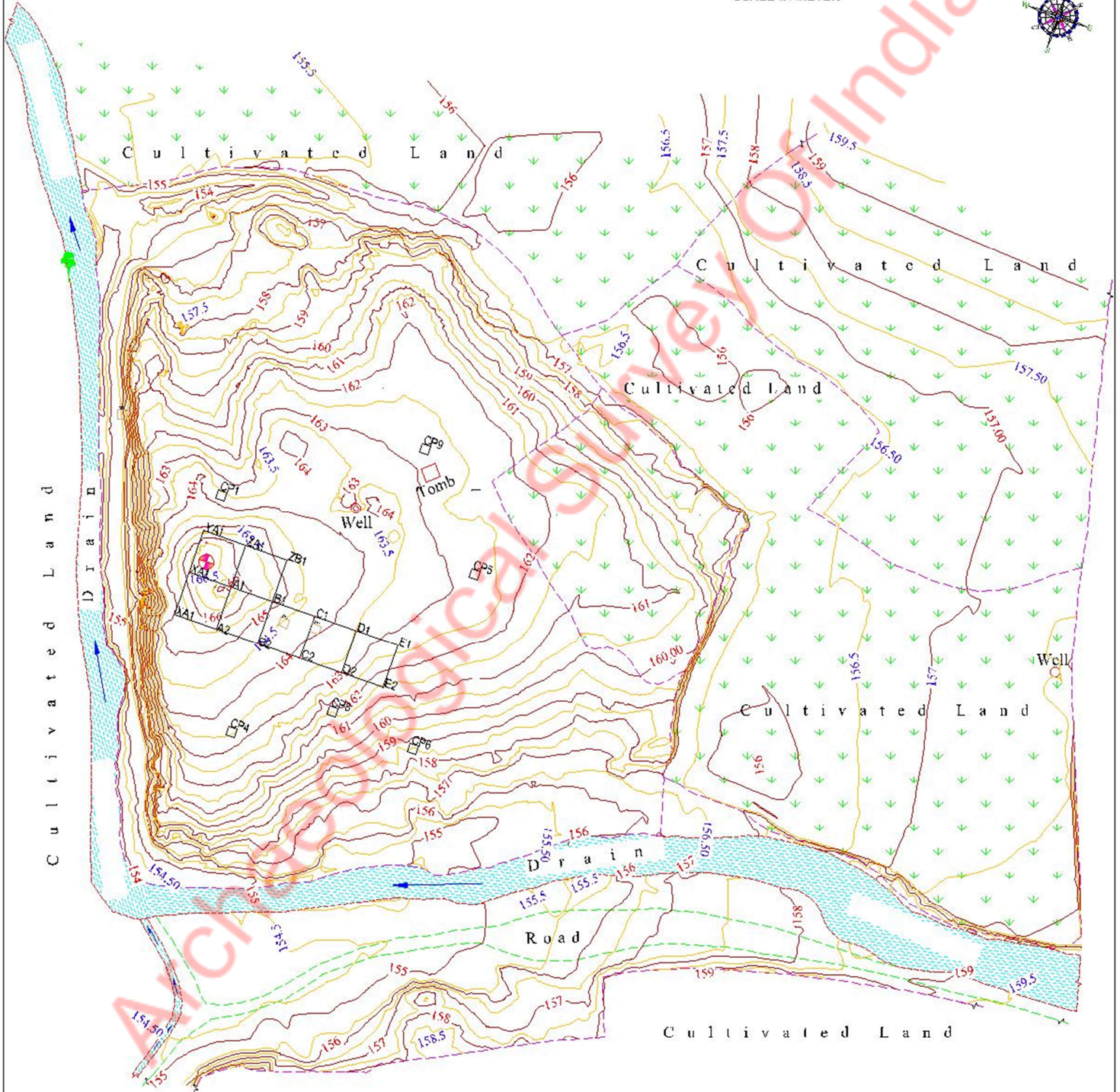
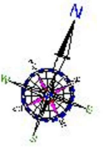
Location of archaeological sites near Barnoli ki Dhai, Mathura



ARCHAEOLOGICAL SURVEY OF INDIA

**SITE CUM CONTOUR PLAN OF ANCIENT MOUND BARNAULI-KI-DHAI, VILLAGE
ARUA BANGAR, TEHSIL MAT, DISTRICT MATHURA, UTTAR PRADESH**

0 10 20 30 40
SCALE IN METER



Site cum contour plan of ancient mound Barnauli-ki-Dhai, Mathura

Stratigraphy

During the excavation, specific trenches (D1/Q4, A1/Q1, A1/Q2, A1/Q3, ZA1/Q1, ZA1/Q2, ZA1/Q4 and YA1/Q2) were meticulously excavated. In the central habitation area, all four trenches (D1, A1, ZA1, and YA1) were dug up to the natural soil. The excavation process at the site also involved opening 9 control pits, strategically placed at different locations. It became evident during the excavation that the layers were of merging nature, providing a complex stratigraphy. Excavation of each trench provided information extending to the Painted Grey Ware (PGW) period.

Trench/ Quadrant wise description of the stratigraphy of Barnoli ki Dhai is as follows:

Trench ZA1/Q4

Layer 1

This layer is disturbed due to human activity. The nature of the soil is semi compact and the color according to the Munsell colour chart is pale brown (2.5Y- 7/3). The average thickness of the layer is 45 cm. The contents include potsherds, hopscotch, discs, wheel, sling balls, mud brick, burnt brick, bones, brickbats, glass bangles and iron objects etc.

Layer 2

This layer is in whitish colour (7.5YR/8/1). The nature of the soil is semi compact and uneven top to bottom. It begins at 45 cm depth and terminates at 79 cm depth from datum point. The average thickness of this layer is 34 cm. The contents include potsherds, hopscotch, mud brick, burnt brick, brickbats, bones, glass bangles and iron objects etc.

Layer 3

This layer is in whitish colour (7.5YR-8/1). The nature of the soil is compact and uneven top to bottom. It begins at 45 cm and ends at 105 cm from datum point. The average thickness of this layer is 60 cm. There is an ashy sub-layer in layer 3. The contents include potsherds, hopscotch, brickbats, bones, glass bangles, bead and iron objects etc.

Layer 4

This layer is in grey colour (7.5YR-6/1). The nature of the soil is semi compact and it is uneven from top to bottom. It begins at 79 cm and ends at 184 cm from datum point. The average thickness of this layer is 105 cm. A large pit is visible in the section. The diameter of the pit is 1.50 m and it is 1 m deep. The pit is in light grey colour (2.5Y-7/1). It has cut part of layer 5 in the middle of the

section. The contents include potsherds, hopscotch, glass bangles, bones, terracotta bangles, bead and iron objects etc.

Layer 5

This layer is in light grey colour (7.5YR-6/1). The nature of the soil is semi compact. It begins at 184 cm and ends at 210 cm from datum point. The average thickness of this layer is 26 cm. The contents include potsherds, hopscotch, terracotta bangles, bones, beads and iron objects etc.

Layer 6

This layer is in whitish colour (7.5YR-8/1). The nature of the soil is semi compact. It begins at 210 cm and ends at 230 cm from datum point. The average thickness of this layer is 20 cm. The contents include potsherds, hopscotch, terracotta bangles, bones and beads etc.

Layer 7

This layer is in light grey colour (7.5YR-7/1). The nature of the soil is semi compact. It begins at 230 cm and ends at 290 cm from datum point. The average thickness of this layer is 60 cm. The contents include potsherds, hopscotch, terracotta bangles, bones and beads etc.

Layer 8

This layer is in grey colour (7.5YR-6/1). The nature of the soil is compact. It begins at 290 cm and ends at 337 cm from datum point. The average thickness of this layer is 60 cm. The deposit belongs to the earliest phase (pre-PGW) at the site. The contents include pot sherds, hopscotch, burnt brick, terracotta bangles, bones and beads etc.



Pl. 1. Trench ZA1/Q4

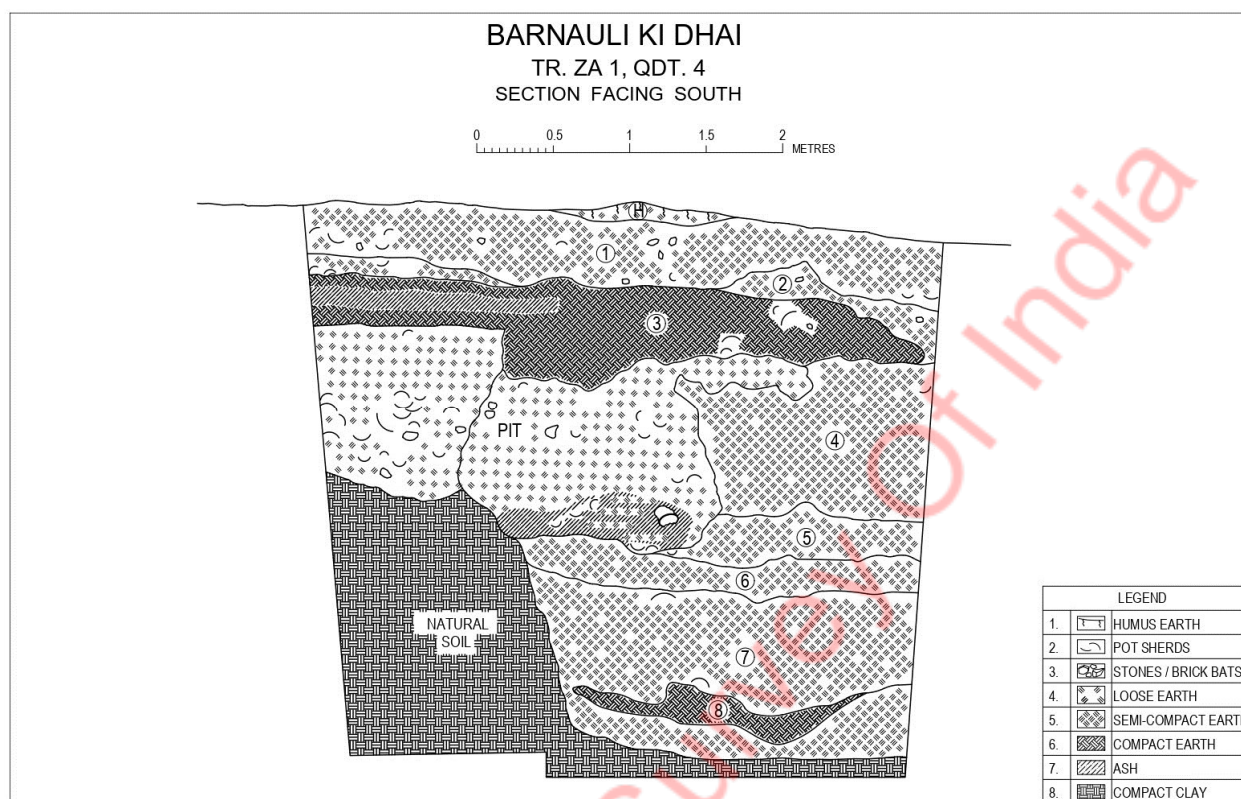


Fig. 1. Trench ZA1/Q4

Trench A1/Q1

There are four layers and a pit visible in the south-facing section. The total deposit of layers is 2.11 m.

Layer 1

This layer is disturbed due to human activity. The nature of the soil is semi compact and the colour according to the Munsell colour chart is pale brown (2.5Y- 7/3). The average thickness of the layer is 45 cm. The contents include potsherds, hopscotch, discs, bones, glass bangles and iron objects etc.

Layer 2

This layer is in whitish colour (7.5YR-8/1). The nature of the soil is semi compact and uneven from top to bottom. It begins at 45 cm and ends at 151 cm from datum point. The average thickness of this layer is 106 cm. The contents include potsherds, hopscotch, mud brick, brickbats, bones, animal figurine, glass bangles, terracotta bangles, household items, beads and iron objects etc.

Layer 3

This layer is in whitish colour (7.5YR-8/1). The nature of the soil is compact and uneven from top to bottom. It begins at 151 cm and ends at 211 cm from datum point. The average thickness of this layer is 60 cm. The contents include potsherds and bangles etc.

Layer 4

This layer is in grey colour (7.5YR-6/1). The nature of the soil is semi compact and uneven from top to bottom. It begins at 211 cm and ends at 231 cm from datum point. The average thickness of this layer is 20 cm. The contents include potsherds, hopscotch, bones, terracotta bangles, household items, beads and iron objects etc.

Pit

This pit is in grey colour (7.5YR-6/1). The nature of the soil is loose and uneven from top to bottom. The average thickness of this pit is 80 cm. The contents include potsherds, hopscotch, bones, terracotta bangles and beads etc.



Pl. 2. Trench A1/Q1

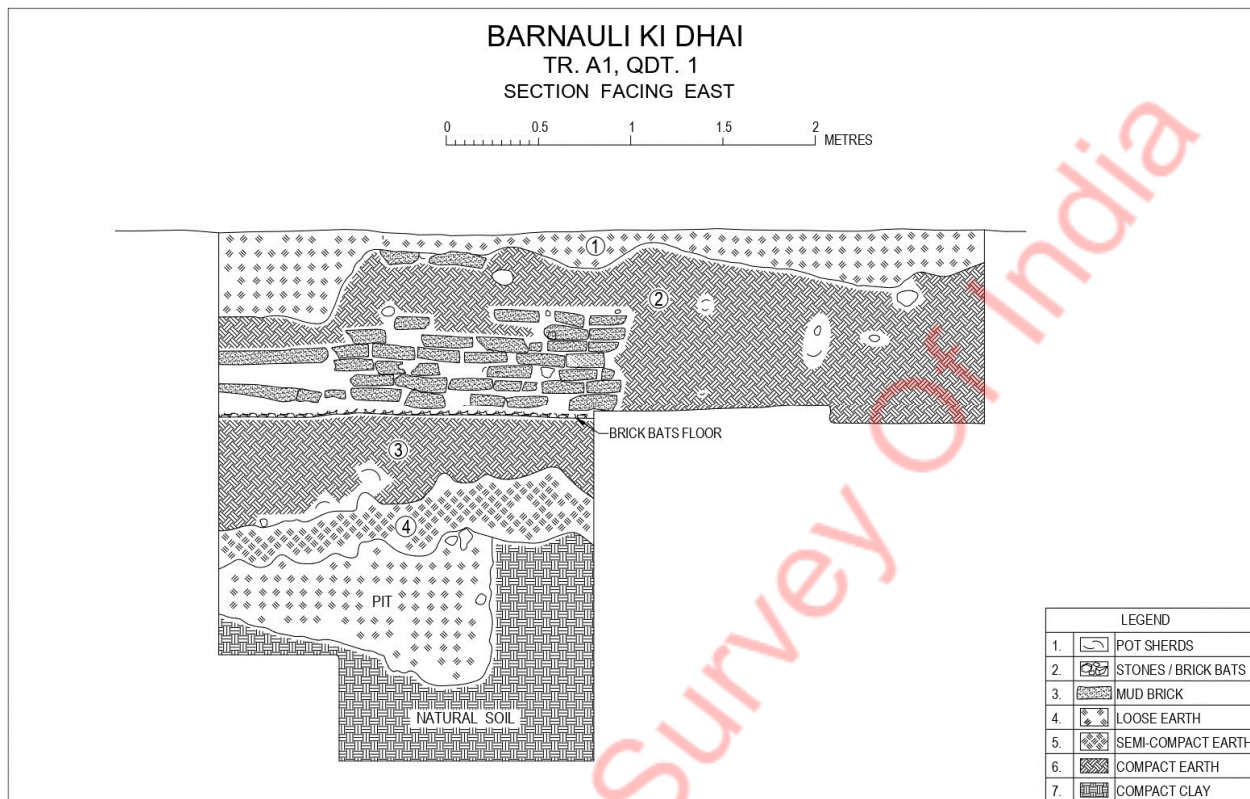


Fig. 2. Trench A1/Q1

Trench YA1/Q2

North facing section

The trench has a slope from south-east towards north-west. There are three layers visible in the north side section. The total deposit of layers is 1.85 m. The layers are undisturbed and have regular deposits. There is a wall visible in the middle of the section.

Layer 1

The nature of the soil is semi-compact. The average thickness of the layer is 90 cm. A mud wall is visible in the middle of the section. It has cut layers 2 and 3. The contents include potsherds, animal bones, hopscotches, sling balls etc.

Layer 2

The nature of the soil is compact. The average thickness of the layer is 25 cm. The contents include potsherds, animal bones, hopscotches, sling balls etc.

Layer 3

The nature of the soil is compact. The average thickness of the layer is 33 cm. The contents include potsherds, animal bones, hopscotches, sling balls etc.



Pl. 3. Trench YA1/Q2

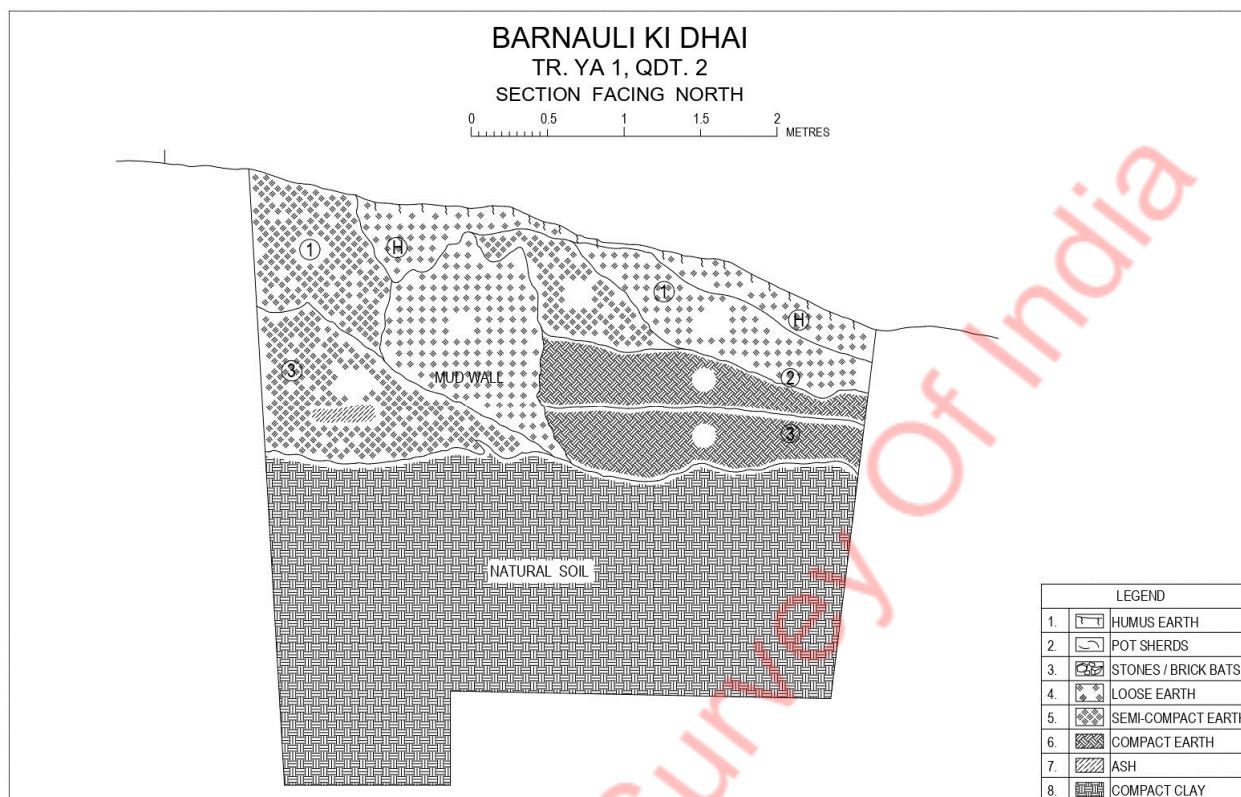


Fig. 3. Trench YA1/Q2

West facing section

There are two layers and three pits are visible in the west facing section. The layers are visible falling steeply downwards. A mud wall is visible in the middle of the section. Layer 1 and 2 have regular deposits. Three pits were exposed below the layer 2. All three pits are visible falling from upside towards downside in the section. Mixed cultural material has been found in the pits. Some sherds of handmade red ware from pre-PGW culture have been found in the pit 3. The total deposit is 4.77 m. The natural soil is visible on the southern part of the section at a depth of 1.65 m.

Layer 1

The nature of the soil is semi-compact. The average thickness of the layer is 58 cm. The contents include potsherds, bones, hopscotches, sling ball objects etc.

Layer 2

The nature of the soil is semi-compact. The average thickness of the layer is 35 cm. The contents include potsherds, bones, hopscotches, sling ball objects etc.

Pit 1

The nature of the soil is semi-compact. The average thickness of the pit is 95 cm. Mixed up cultural material has been found in this pit.

Pit 2

The nature of the soil is semi-compact. The average thickness of the pit is 84 cm. Mixed up cultural material has been found in this pit.

Pit 3

The nature of the soil is semi-compact. The average thickness of the pit is 110 cm. Mixed up cultural material has been found in this pit.



Pl. 4. Trench YA1/Q2

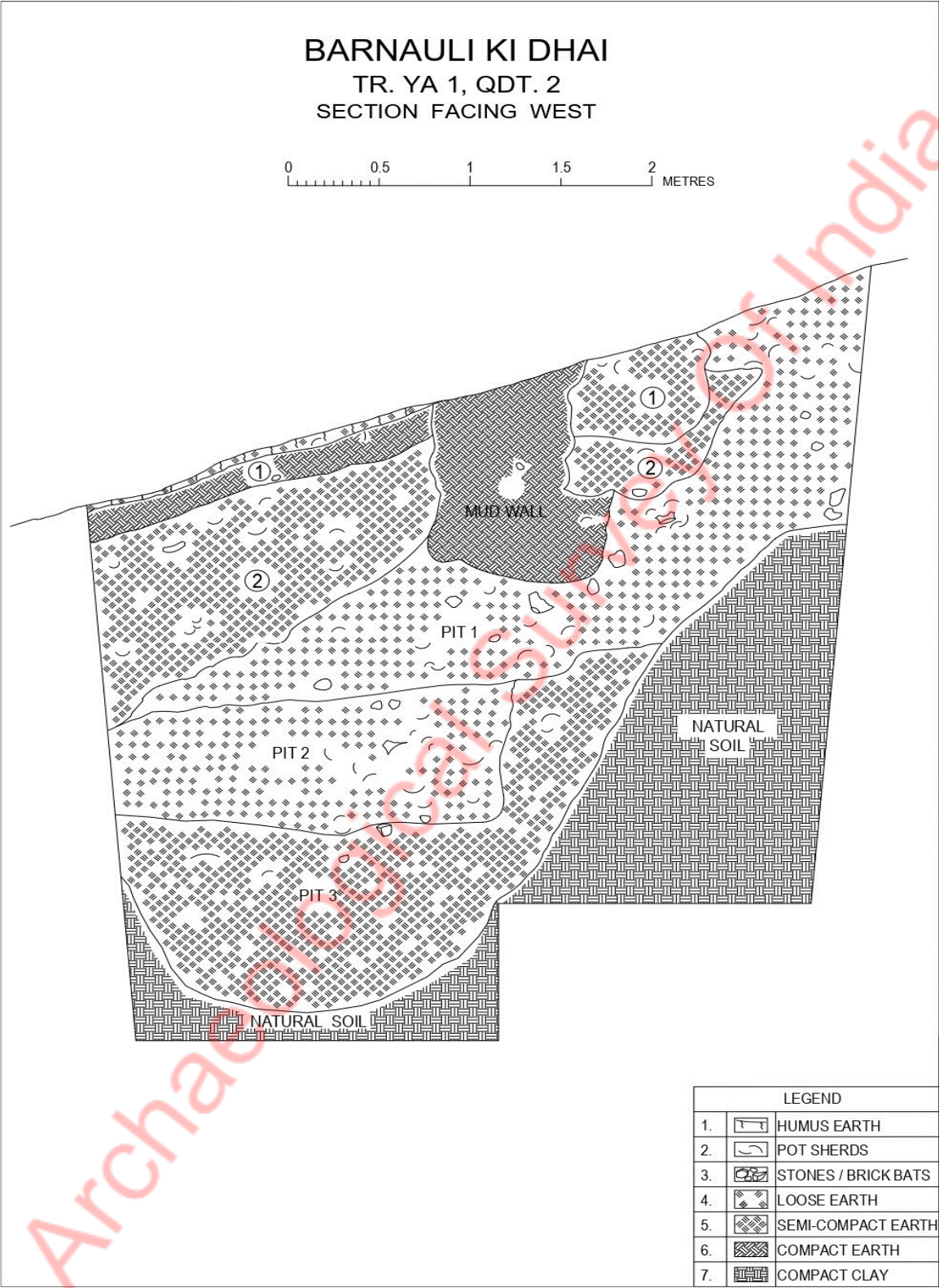


Fig. 4. Trench YA1/Q2

Trench ZA1/Q1

There are five layers visible in the north-facing section. The deposit is falling from up to down from the south towards the north side of the mound. Mixed cultural material has been found in these layers. The natural soil is visible on the eastern part of the section at a depth of 1.80 m.

Layer 1

This layer is disturbed due to human activity. The nature of the soil is semi-compact. The depth of the layer is from 03 to 48 cm and it is uneven from top to bottom. The average thickness of the layer is 45 cm. The contents include potsherds, big animal bones, hopscotch, sling ball etc.

Layer 2

The nature of the soil is loose. The depth of the layer is from 25 to 70 cm and it is uneven from top to bottom. There is an ashy layer visible on the western side of the section. The average thickness of the layer is 45 cm. The contents include potsherds, big animal bones, hopscotch, sling ball etc.

Layer 3

The nature of the soil is loose. The thickness of the layer is from 56 to 176 cm and it is uneven from top to bottom. There is an ashy deposit visible on the eastern side of the section. The average thickness of the layer is 120 cm. The contents include potsherds, big animal bones, hopscotch, beads, sling ball etc.

Layer 4

The nature of the soil is compact. The depth of the layer is from 176 to 206 cm and it is uneven from top to bottom. The average thickness of the layer is 30 cm. The contents include potsherds, big animal bones, hopscotch, sling ball etc.

Layer 5

The nature of the soil is loose and ashy. The thickness of the layer is from 206 to 251 cm and it is uneven from top to bottom. The average thickness of the layer is 45 cm. The contents include potsherds, big animal bones, hopscotch, sling ball etc.



Pl. 5. Trench ZA1/Q1

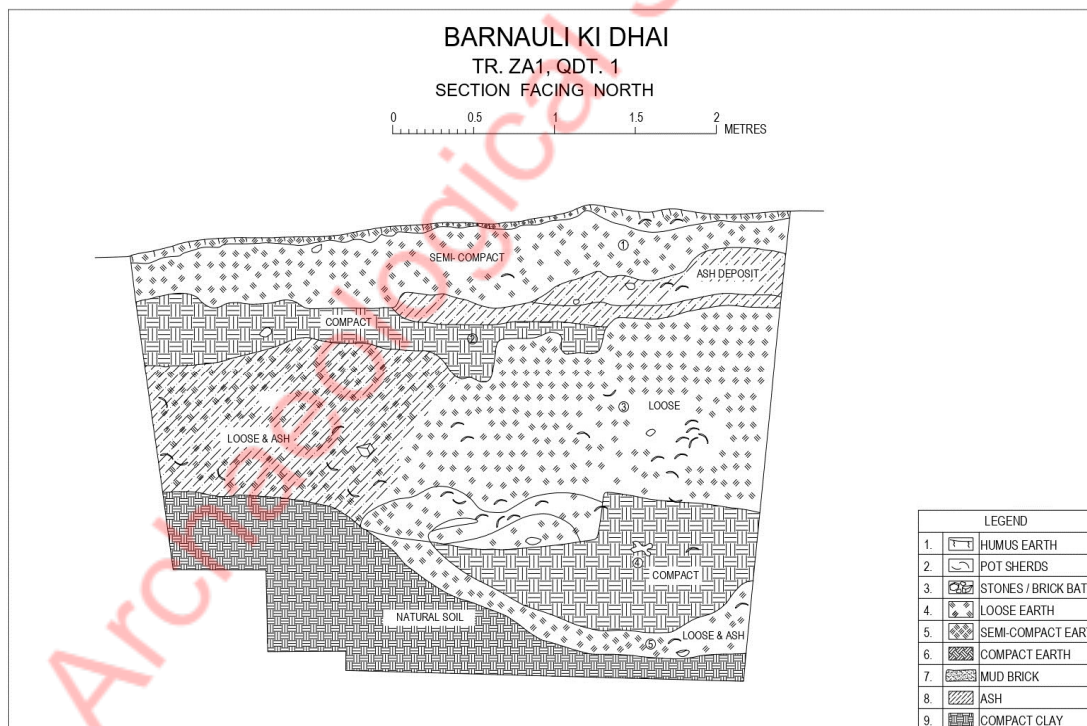


Fig. 5. Trench ZA1/Q1

Trench A1/Q2

There are five layers visible in the west-facing section. The total deposit is 1.85 m.

Layer 1

The nature of the soil is semi-compact. The average thickness of the layer is 41 cm and it is uneven from top to bottom. The contents include potsherds, bone and iron objects etc.

Layer 2

The nature of the soil is semi-compact. The average thickness of the layer is 17 cm and it is uneven from top to bottom. The contents include potsherds, bone, beads, hopscotch, sling ball etc.

Layer 3

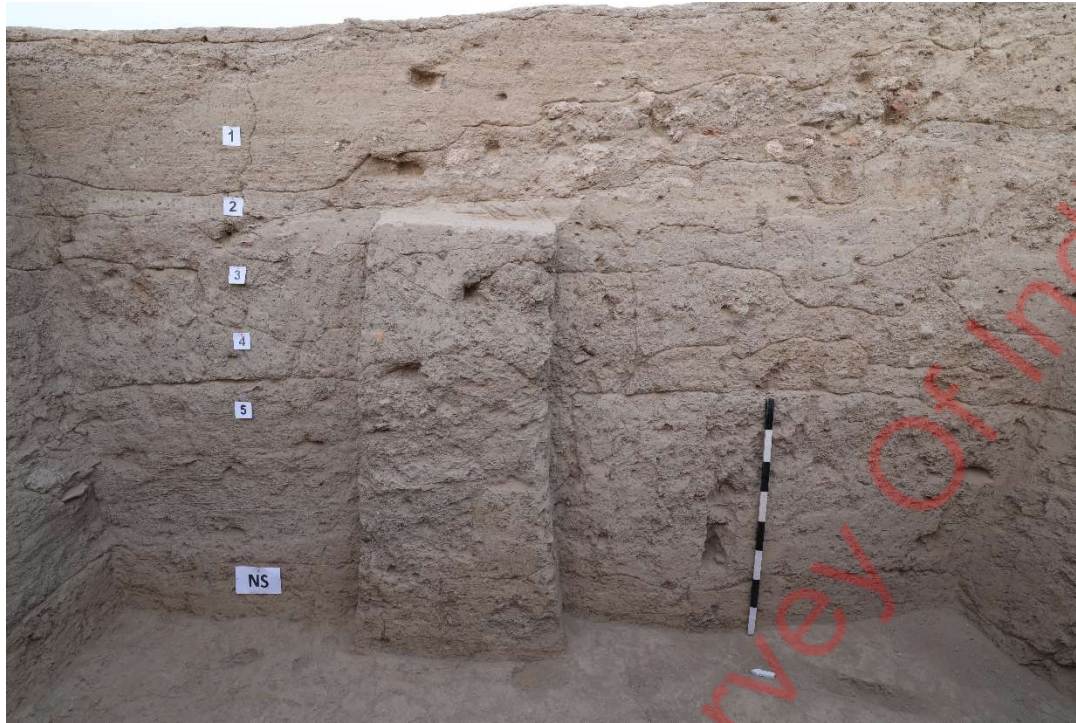
The nature of the soil is compact. The average thickness of the layer is 30 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch, sling ball etc.

Layer 4

The nature of the soil is semi-compact. The average thickness of the layer is 34 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch, sling ball objects etc.

Layer 5

The nature of the soil is semi-compact. The average thickness of the layer is 50 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch, sling balls etc.



Pl. 6. Trench A1/Q2

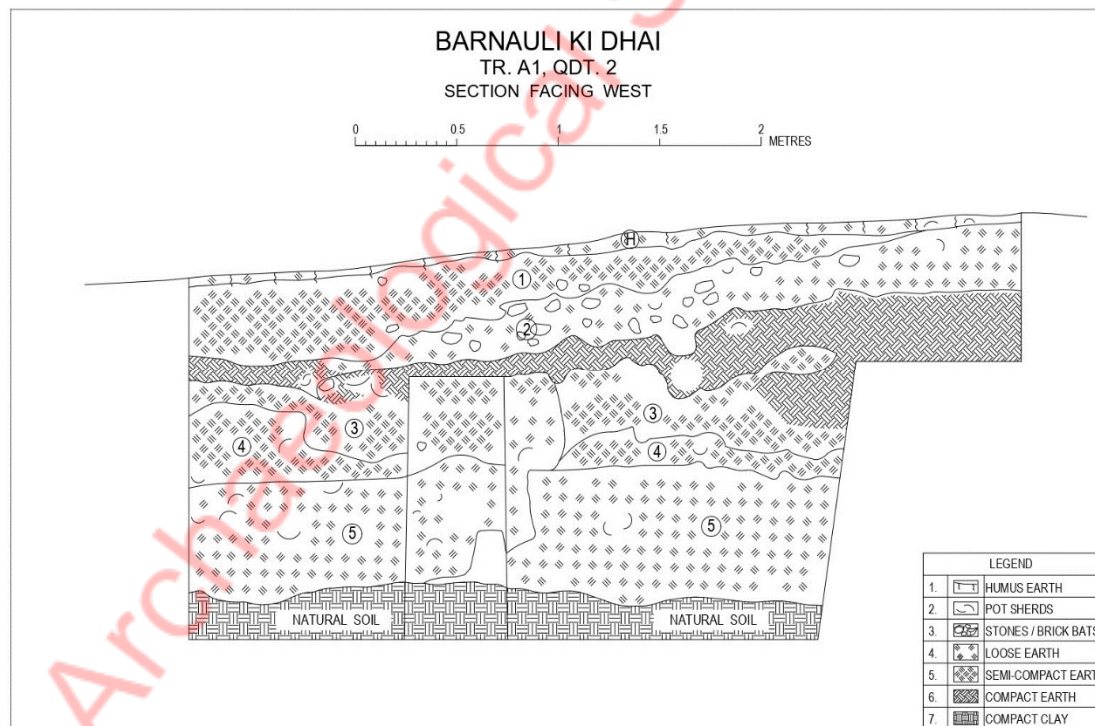


Fig. 6. Trench A1/Q2

Trench A1/Q3

There are three layers and a pit visible in the east-facing section. A mud wall is visible on the south side of the section. The total deposit is 1.90 m.

Pit 1

The nature of the soil is loose. Mixed cultural materials have been found. A mud brick wall is visible in the southern side of the section. The thickness of the pit is 76 cm.

Layer 1

The nature of the soil is semi-compact. The average thickness of the layer is 105 cm and it is uneven from top to bottom. The contents include potsherds, bone, human figurines, bangles, sling ball etc.

Layer 2

The nature of the soil is semi-compact. The average thickness of the layer is 28 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch, sling ball etc.

Layer 3

The nature of the soil is semi-compact. The average thickness of the layer is 80 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch, wheel objects etc. A small Siva-linga made of sandstone was found in the lowest level just lying on the natural soil.



Pl. 7. Trench A1/Q3

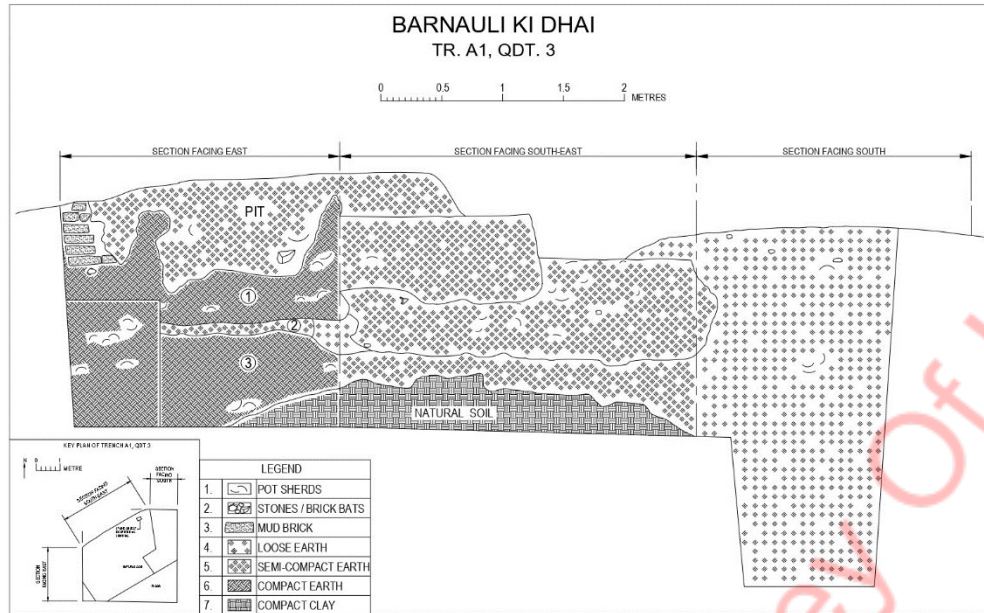


Fig. 7. Trench A1/Q3

Trench D1/Q4

There are three layers visible in the south-facing section. The total deposit is 1.74 m.

Layer 1

The nature of the soil is compact. The average thickness of the layer is 90 cm. The contents include potsherds, bones, wheel, bangle, bead and hopscotch etc.

Layer 2

The nature of the soil is semi-compact. The average thickness of the layer is 38 cm and it is uneven from top to bottom. The contents include potsherds, bone, hopscotch etc.

Layer 3

The nature of the soil is semi-compact. The average thickness of the layer is 46 cm and it is uneven from top to bottom. The contents include potsherds, bone and animal figurine etc.



Pl. 8. Trench D1/Q4

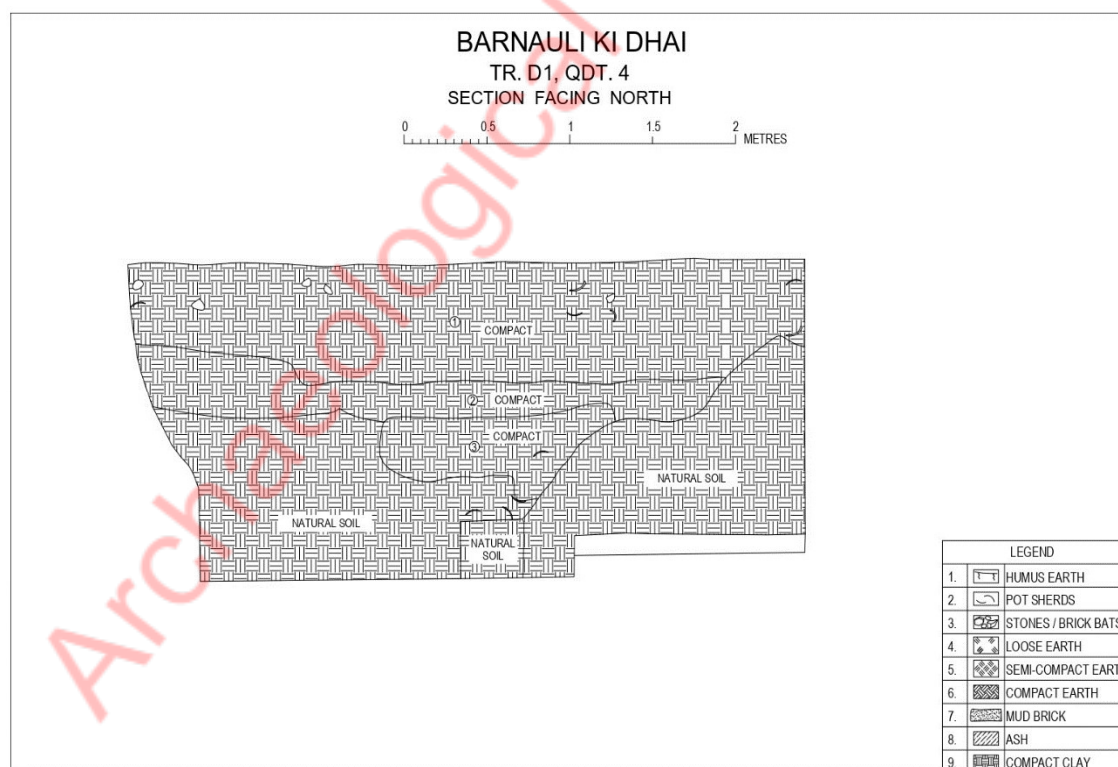


Fig. 8. Trench D1/Q4

Control Pits

Apart from the regular trenches some control pits were excavated to understand the cultural sequence of the entire mound. The control pits have a depth varying from 20 to 177 cm. Pottery of historical and medieval period has been found in control pits. PGW potsherds were visible on the surface but could not be found in the proper context in control pits. No antiquity belonging to the PGW period was found in any of the control pits. In none of the control pits the deposit seemed to be of regular habitation.

Control pit 1

This control pit is located on the northern side of the mound. There are six layers visible in the north-facing section. The nature of the soil is loose. The total depth of the control pit is 104 cm.



Pl. 9. CP 1

Control pit 2

This control pit is located on the northwestern side of the mound. The nature of the soil is loose. The total depth of the control pit is 60 cm.

Control pit 3

This control pit is located on the eastern side of the mound. There are five layers visible in the east-facing section. The nature of the soil is loose. The total depth of the control pit is 144 cm.



Pl. 10. CP 3

Control pit 4

This control pit is located on the southern side of the mound. The nature of the soil is loose. The total depth of the control pit is 51cm.

Control pit 5

This control pit is located on the eastern side of the mound. The nature of the soil is loose. The total depth of the control pit is 88 cm.

Control pit 6

This control pit is located on the southeastern side of the mound. There are two layers and a pit visible in the south-facing section. The nature of the soil is loose. The total depth of the control pit is 177 cm.

Control pit 7

This control pit is located on the eastern side of the mound. There are five layers visible in the east-facing section. The nature of the soil is loose. The total depth of the control pit is 124 cm.



Pl. 11. CP 7

Control pit 8

This control pit is located on the southeastern side of the mound. There are four layers visible in the east-facing section. The nature of the soil is loose. The total depth of the control pit is 55 cm.

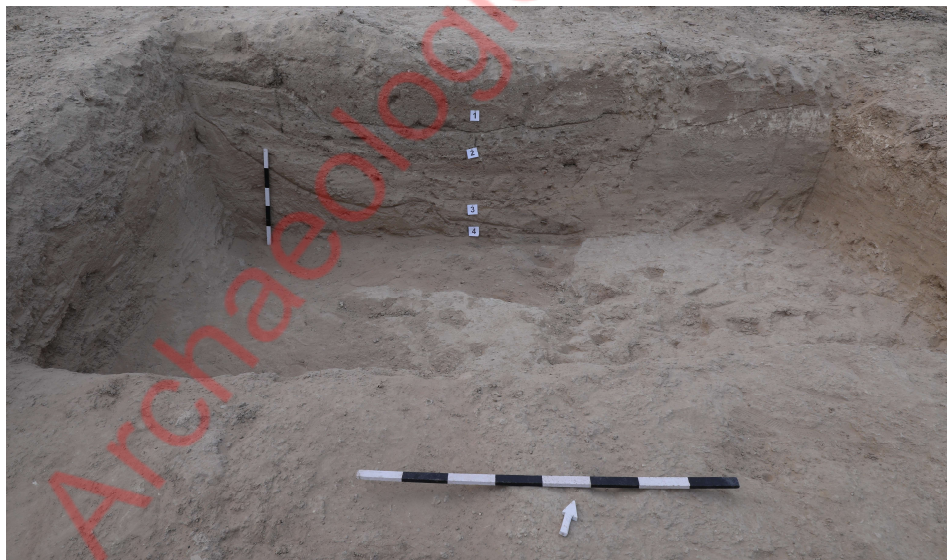


Fig. 12. CP 8

Control pit 9

This control pit is located on the northeastern side of the mound. The nature of the soil is loose. The total depth of the control pit is 20 cm.

Archaeological Survey Of India

Structures

During the excavation, specific trenches (D1/Q4, A1/Q1, A1/Q2, A1/Q3, ZA1/Q1, ZA1/Q2, ZA1/Q4 and YA1/Q2) were meticulously excavated. In the central habitation area, all four trenches (D1, A1, ZA1, and YA1) reached up to the natural soil. The excavation process at the site also involved opening 9 control pits situated in different parts of the mound.

Structures belonging to two different periods have been identified, i.e., late phase of PGW and medieval period (possibly Sultanate). From the deposit of the PGW period, an important structural complex with walls of mud bricks, plastered with clay mixed with cow dung, was unearthed. The plaster coat was noticed on the inner as well as outer sides of the walls. Contemporary to the walls, a floor with post-holes was also exposed. This whole complex seems to be rectangular in plan with three parallel running walls. The longer walls have north-west to south-east orientation whereas the perpendicular running smaller walls are north-east to south-west oriented. The approximate size of this entire complex is 13.80 x 5.80 m. In the deposit of medieval period, walls of burnt bricks (*lakhori*) with lime mortar were noticed.

Material used in structure

The materials included brickbats, mud bricks, mud and cow dung plaster during the PGW period whereas burnt bricks (*lakhori*) and lime mortar form the building material of the medieval period. During the PGW period, the exposed floor was found to be made of clay and cow dung, which had post holes indicating a thatched roof supported by wooden beams.

The soil used for construction was probably acquired from the Yamuna River. The average size of mud brick is 27 x 20 x 6 cm and burnt brick is 16 x 10 x 4 cm. The bricks have been found in rectangular shape, probably made of mould in both cases.



Pl. 1. An aerial view of the excavated trenches and the structures.

Trench ZA1/Q1

The trench ZA1/Q1 has a slope from south-west towards north-east. The exposed structure possibly belongs to the late phase of PGW period. Five layers were exposed in this quadrant. The structure is associated with layer no. 3. The height of the structure's wall is about 0.45 m. The length of the wall from north-east to south-west is 3.90 m and width 1.46 m, whereas the wall that continues from north-west to south-east measures 2.32 m in length and 0.80 m in width. It is made of mud bricks using mud mortar as the binding material. A coating of thick mud plaster has also been applied over the wall surface. These opposing walls meet each other at an angle of about 90°. The wall running in Trench ZA1/Q1 continues in Trench YA1 in Quadrants 2 and 3.



Pl. 2. Trench ZA1/Q1

Trench YA1/Q3

The Trench YA1/Q3 has a slope from the east towards west. The structure possibly belongs to the late phase of PGW period. One wall continuing from ZA1/Q1 is oriented from north-east towards south-west and the opposing wall that runs from north-west to south-east meets in the middle with the former one. The construction and treatment of plaster to the wall is similar to the wall in Trench ZA1/Q1. The wall running from north-east to south-west is 4 m in length with a width of 1.4 m, whereas the length of second wall running from north-west to south-east is 2.20 m with a width of 1 m. The north-west to south-east oriented wall continues towards the southeastern side in Trenches XA1/Q2, A1/Q1, A1/Q4, A1/Q3 and A1/Q3. There is another wall that originates from the north-west to south-east oriented wall. The orientation of this wall is from west to east and it has been exposed in the southeastern part of the quadrant. This wall is also continuing in Trench ZA1/Q4. The length of this wall is 1.25 m and the width is 0.45 m.

Two floors made of mud mortar and cow dung have been exposed in this quadrant. One floor is in the northeastern part of the quadrant adjacent to the baulk and the other one is in the south-west. The floor in the northeastern part is in a semicircular shape and has three post holes. The post holes were used to fix the bamboo to hold the thatched roof. The diameter of the floor is 2.10 m and that of the post holes is 0.16 m. The other floor is possibly in rectangular shape and a pit was exposed on the same floor. This pit must have been used for storage purposes. The length of the floor is 2.45 m and width 2.20 m whereas the pit is 0.70 x 0.73 m in size.



Pl. 3. Trench YA1/Q3

Trench XA1/Q2

The Trench XA1/Q2 has a slope from the eastern side towards the west. Two parallel walls were exposed in this quadrant. One wall continuing from Trench YA1/Q3 and oriented north-west to south-east has come to light in this quadrant and it further continues in Trench A1/Q1, A1/Q4 and A1/Q3. The length of this wall in this quadrant is 1.50 m. The other wall is in the same orientation as it is parallel to the earlier one. It is 4.60 m in length with a width of 1 m. This wall continues towards the southeastern side in Trenches XA1/Q3 and A1/Q4.

The presence of two floors made of clay mixed with cow dung is evident from the unearthed deposit. One floor is in the north-east and the other floor is in the south-west of the quadrant. The floor in the north-east is in a rectangular shape. The length of the floor is 4.30 m and the width is 3.20 m. On this floor, a rectangular shaped structure of much later phase (medieval period) has been exposed, which possibly is a fire altar. It is made of brickbats of varying sizes and lime mortar as the binding material. The other floor is in the south-west corner of the quadrant adjacent to the baulk. It is in rectangular shape. The length of the floor is 2.50 m and the width is 1.80 m.



Pl. 4. Trench XA1/Q2

Trench XA1/Q3

The Trench XA1/Q3 has a slope from the north-east towards south-west. The wall continuing from Trench XA1/Q2 is oriented north-west to south-east. This north-west to south-east oriented wall continues towards the southeastern side in Trench A1/Q4. The length of the wall is 3 m and the width is 1m. It is made of mud bricks using mud mortar mixed with cow dung as the binding material.

A pillar of much later period (medieval period) is visible on the south of the quadrant. The pillar is made of burnt bricks and lime mortar. The length of the pillar is 0.50 m and width 0.25 m.



Pl. 5. Trench XA1/Q3

Trench ZA1/Q4

The Trench ZA1/Q4 has a slope from south-west towards north-east. The wall oriented north-west to south-east continues in Trench A1/Q1. There was a wall in this quadrant, which actually continued in the same orientation as it was in Trench YA1/Q3 and turned towards the south-east direction. This wall is not visible on the plan as it was accidentally removed during the initial few days of excavation. The length of this wall was 2 m and width 1m.

A much later medieval structure is visible on the eastern side of the quadrant. The structure is made of burnt bricks using lime mortar for binding. Its length is 0.90 m and width 0.50 m. A huge kiln of medieval period associated with this medieval structure was also exposed during excavations and the same is also visible on plan.



Pl. 6. Trench ZA1/Q4

Trench A1/Q1

The Trench A1/Q1 has a slope from north-west towards south-east. The structure, the most prominent one unearthed at the site, apparently belongs to the late phase of PGW period. Two parallel walls were found in this quadrant and a wall connects them in between. The first wall that continues from Trench XA1/Q2 is oriented north-west to south-east and continues towards the south-east side in Trench A1/Q4 and A1/Q3. The length of the wall is 2.30 m, width 0.85 m and height 1.10 m. Part of the wall was accidentally removed during the initial days of excavation. It is made of mud bricks using mud mortar as the binding material. Fourteen courses of the mud bricks are visible in the section. Irregular shaped brick bats have been used for the foundation of the wall. The average size of brick bat is 10 x 6 cm. The second wall is oriented north-west to south-east. It is made of mud bricks using mud mortar as the binding material. The average size of

mud brick is 27 x 20 x 6 cm. The length of the wall is 4.25 m and width 1.18 m. There is a third wall that connects the two walls. That wall is oriented from west to east. The length of the wall is 1.70 m and width 1m.

The presence of three floors made of clay and cow dung is evident. The first floor is in the northwestern part of the quadrant adjacent to the baulk. Probably, it is in rectangular shape. The length of the wall is 1.35 and width 0.70 m. The second floor is in the middle of the quadrant. The floor is between the two walls, both the walls are orientated from north-west to south-east. It is in a rectangular shape. The length of the wall is 2.30 m and width is 1.70 m. The third floor is in the northeastern part of the quadrant adjacent to the baulk. It is in a rectangular shape. The length of the wall is 2.40 m and width 1.60 m.



Pl. 7. Trench A1/Q1

Trench A1/Q2

The Trench A1/Q2 has a slope from north-west towards south-east. The structure apparently belongs to the mediaeval period. Three layers were exposed in this quadrant. The structure is associated with layer 2. The wall is running south-east to north-west. It is made of burnt bricks (*lakhori*) using lime mortar as the binding material. Eight courses of burnt brick are visible in the wall. Some burnt bricks have fallen near the wall. The length of the wall is 2.50 m and width 0.60 m.



Pl. 8. Trench A1/Q2

Trench A1/Q3

The Trench A1/Q2 has a slope from north-west towards south-east. Two walls were found in the quadrant. The first wall continuing from Trench A1/Q4 is oriented north-west to south-east. Small portion of the wall attached to the south-west section corner of the quadrant was partially removed in an attempt to clear the wall. Eight courses of mud brick are visible in the section. The length of the wall is 3.20 m and width 0.70 m. The second wall continuing from Trench A1/Q4 is oriented south-west to north-east. It is made of mud bricks using mud mortar as the binding material. The length of the wall is 1m.

Presence of the floor made of clay mixed with cow dung is evident in the exposed deposit. The floor is in the southeastern portion of the quadrant adjacent to the baulk. Probably, it is in a rectangular shape. The length of the floor is 2.90 m and the width is 1.80m.



Pl. 9. Trench A1/Q3

Trench A1/Q4

The Trench A1/Q4 has a slope from north towards south. Two parallel walls have been exposed in this quadrant. The first wall continuing from Trench XA1/Q3 is oriented north-west to south-east. The wall is in the southwestern part of the quadrant. The length of the wall is 2.50 m and width 1 m. The second wall continuing from Trench A1/Q1 is oriented north-west to south-east. This north-west to south-east oriented wall continues towards the southeastern side in Trench A1/Q3. The length of the wall is 5.30 m and width 0.85 m. Another wall starts from the south-west of the quadrant and crosses the second wall at 90° and continues further in Trench A1/Q3. Ten courses of mud bricks are visible in the wall. The length of the wall is 2.20 m and width 0.60 m.

The presence of a floor made of clay mixed with cow dung is evident in the exposed deposit. The exposed floor lies in the northwestern part of the quadrant adjacent to the baulk. It is in a rectangular shape. The length of the floor is 1.30 m and width is 0.85 m.



Pl. 10. Trench A1/Q4

Brick in pre-PGW level:

A solitary example of a burnt brick (though seemingly half broken) was found at the lowest level in Trench ZA1/Q4 at a depth of -336.88 cm. A mud brick of same size was placed just over the burnt brick but no structural alignment could be traced. The burnt brick had a lot of rice husk impressions inside its core. The size of the extant brick was 20.5 x 17 x 7.5 cm. Bricks of this thickness are apparently associated with OCP and early PGW levels.

Antiquities

The archaeological excavation at the site unearthed a rich collection of terracotta, metal, stone, and bone objects, spanning across various archaeological periods. These findings offer a window into the cultural and technological advancements and mainly belong to the household type of artefacts.

Among the terracotta objects, some human figurines and plaques were discovered, primarily belonging to the Sunga period. These artefacts provide insights into the artistic and cultural expressions of their time. Additionally, few fragmented human figurines from different eras, including the Mauryan and early historical periods, were found, illustrating the evolution of human representation in ancient art. Animal figurines, ranging from the Painted Grey Ware (PGW) to the medieval period, highlight the significance of animals in ancient societies. The collection also includes various miscellaneous terracotta objects of unidentified purpose, predominantly from the early historical period. The site yielded 42 fragments of bangles, ranging from the PGW to the medieval period. These bangles, primarily made of glass, vary in color and cross-section. Two terracotta pendants of unknown periods and a crudely made ear stud from the historical period were also discovered, reflecting the personal adornments used in the early historical period. Eleven terracotta sling balls from the PGW and early historical periods were found. Additionally, 35 terracotta circular discs, or hopscotches, were excavated, predominantly from the PGW and early historical periods. The excavation unearthed 26 beads of various natures, periods, materials, and shapes, revealing a comprehensive view of bead-making techniques and styles across different periods. From the Painted Grey Ware (PGW) period, distinct beads included areca nut-shaped and *ghata*-shaped terracotta beads, carnelian, and agate beads.

In the early historical period, a variety of beads were discovered, including crystal, carnelian, jasper, and terracotta in various shapes such as hexagonal, long barrel and truncated oval. This period showed an expansion in bead materials and styles.

During the historical period, four terracotta beads were found, mainly areca nut-shaped, indicating the longevity of certain styles. The medieval period yielded beads made of terracotta and glass in areca nut and circular disc shapes. Additionally, a shell bead of unknown period was

discovered, further adding to the variety of materials and styles. Overall, the beads from the excavation provide valuable insights into the evolution of bead-making techniques and aesthetic preferences over time.

Sixteen iron objects were discovered, with the majority from the PGW period, including a sickle, nails, an arrowhead, and several unidentified items. These objects exhibited signs of rust and fragility, reflecting the challenges of preservation over millennia. A copper *ghungru* from the medieval period and a copper coin with no identifiable marks highlight the use of copper in personal adornments and currency. Eleven stone objects, predominantly made of sandstone and spanning periods from the PGW to the medieval era, were found. These artefacts included pestles, weights, quern, and mortars, with a notable quartz object from the medieval period and a sandstone object believed to be a Sivalinga from the PGW level. The excavation yielded two bone objects, primarily bone points, underscoring their use in tools and weaponry.

S. No: 01

Acc. No: 173/65

Title: Broken piece of a terracotta figurine

Period: Sunga

Locus: A1/Q3

Depth: -108 cm

Material: Terracotta

Measurement: Width - 2.2 cm, Length - 5.3 cm

Description: An irregular fragment of an unidentified red colour terracotta figurine with depiction of three segmented parts in the lower side of the object.



S. No: 02

Acc. No: 173/76

Title: Plaque

Period: Sunga

Locus: YA1/Q2

Depth: -210 cm

Material: Terracotta

Measurement: Length - 3.02 cm, Width - 2.41 cm

Description: A broken terracotta plaque red in colour representing a female, possibly a deity. It survives with a face having obliterated features. Traces of the headdress are evident on the either side of the head. The condition of the plaque indicates its use for a very long time before abandonment due to breakage.



S. No: 03

Acc. No: 173/77

Title: Plaque

Period: Sunga

Locus: YA1/Q2

Depth: -74 cm

Material: Terracotta

Measurement: 6.4 x 5.5 cm

Description: A mould made broken terracotta plaque of a female deity possibly seated in *padmasana*. Her left hand is placed on her lap whereas her right hand is placed over something, now missing. Overall features of the figurine are quite obliterated. She wears an elaborate headdress and large ear-rings, a torque and a necklace having series of dotted designs crossing her breast and extending to her abdomen. The obliterated features and overall condition indicates that the figurine was continuously used as a ritualistic object for a long time and possibly when the object was damaged, it was discarded.



S. No: 04

Acc. No: 173/78

Title: Plaque

Material: Terracotta

Period: Unknown

Locus: ZA1/Q1

Depth: -295 cm

Measurement: Length - 2.9 cm, Width - 2.7 cm

Description: An irregular fragment of a plaque. The fragment is highly abraded hence no features are identifiable.



S. No: 05

Acc. No: 173/79

Title: Animal figurine

Period: PGW

Locus: A1/Q1

Depth: -151 cm

Material: Terracotta

Measurement: Length - 4.5 cm, Width - 2.2 cm, Height - 5 cm

Description: A quadruped animal figurine probably a dog with pinched out snout and ears; it has two opposite holes for eyes.



S. No: 06

Acc. No: 173/80

Title: Animal figurine

Period: PGW

Locus: A1/Q1

Depth: -151 cm

Material: Terracotta

Measurement: Length - 11.1 cm, Width - 3.2 cm, Height - 5 cm

Description: An animal figurine slightly grey in colour with obliterated face, broken limbs and ears.



S. No: 07

Acc. No: 173/81

Title: Elephant figurine

Period: Mauryan

Locus: ZA1/Q1

Depth: -217 cm

Material: Terracotta

Measurement: Length - 8 cm, Width - 5 cm, Height - 6.5 cm

Description: An elephant figurine red in colour with obliterated face with broken ears and limbs. Eyes are crudely completed but appear lozenge shaped. Its tusk having stamped marks is much broken.



S. No: 08

Acc. No: 173/82

Title: Animal figurine

Period: Historical

Locus: D1/Q4

Depth: -128 cm

Material: Terracotta

Measurement: Length - 10 cm, Width - 5 cm, Height - 9 cm

Description: An animal figurine with broken head and limbs



S. No: 09

Acc. No: 173/83

Title: Plaque

Period: Sunga

Locus: Trial Trench

Depth: -80 cm

Material: Terracotta

Measurement: Length - 3.2 cm, Width - 3.5 cm

Description: A broken terracotta plaque of a female deity, slightly grey in colour. It portrays a face which is roughened but the eyes, arms and bust are partially visible. She wears a torque. Traces of the special headdress are evident on the either side of the face.



S. No: 10

Acc. No: 173/84

Title: Human figurine

Period: Early Historical

Locus: A1/Q3

Depth: -52 cm

Material: Terracotta

Measurement: Length - 3.6 cm, Width - 1.7 cm

Description: Broken male head, red in colour. The head portrays closed eyes with a broken nose and thin lips. Behind the head is an elongated part which seems to be a headdress. The figurine possibly represents Siva as observed on Ekamukhalingas of the Kushan period.



Archaeological Survey of India

S. No: 11

Acc. No: 173/85

Title: Human figurine

Period: Mauryan

Locus: YA1/Q2

Depth: -229 cm

Material: Terracotta

Measurement: Length - 3.6 cm, Width - 1.7 cm

Description: A broken male head red in colour with a round face and prominent lips and nose, the nose is partly broken and eyes appear to be closed. The ears are quite protruding and below the neck it is broken. The terracotta figurine may belong to the Mauryan period.



S. No: 12

Acc. No: 173/137

Title: Unidentified object

Period: Historical

Locus: ZA1/Q1

Depth: -165.57 cm

Material: Terracotta

Measurement: Length - 5.9 cm, Width - 1.9 cm

Description: A fragment of an unidentified object narrow from both ends, probably leg part of a human figurine.



S. No: 13

Acc. No: 173/136

Title: Unidentified object

Period: Unknown

Locus: Surface finding

Depth: NA

Material: Terracotta

Measurement: Length - 6.2 cm, Width - 4.7 cm

Description: A fragment of an unidentified red colour object with one transverse hole, probably representing nose part of a figurine.



S. No: 14

Acc. No: 173/122

Title: Unidentified object

Period: Unknown

Locus: Surface

Depth: -NA

Material: Terracotta

Measurement: Diameter - 3.9 cm, Length - 1.9 cm

Description: A long roughly conical terracotta object in red colour, probably broken horn of an animal figurine.



S. No: 15

Acc. No: 173/123

Title: Part of an animal figurine

Period: Medieval

Locus: D1/Q4

Depth: -24 cm

Material: Terracotta

Measurement: Length - 6.8 cm, Width - 2.1 cm

Description: A long roughly conical terracotta object in red colour, probably broken leg of an animal figurine.



S. No: 16

Acc. No: 173/125

Title: Part of a figurine

Period: Mauryan

Locus: A1/Q1

Depth: -192 cm

Material: Terracotta

Measurement: Length - 5.2 cm, Width - 2.3 cm

Description: A roughly cylindrical fragment of a human figurine that appears to be pinched in the lower portion. She is wearing an ornament, possibly an anklet or a wristlet in the form of a broad thick band with incised circlet designs.



S. No: 17

Acc. No: 173/03

Title: Bangle

Period: PGW

Locus: A1/Q2

Depth: -64 cm

Material: Terracotta

Measurement: Diameter: 4.9 cm

Description: A fragment of a bangle with circular section.



S. No: 18

Acc. No: 173/05

Title: Bangle

Period: Medieval

Locus: D1/Q4

Depth: -24 cm

Material: Glass

Measurement: Diameter: 5 cm

Description: A fragment of a bangle with irregular cross section. It has long abrasion on one side and it is black in colour. The original colour seems to have changed with passage of time and the buried conditions.



S. No: 19

Acc. No: 173/06

Title: Bangle

Period: Not known

Locus: NA

Depth: NA

Material: Terracotta

Measurement: Diameter: 4.9 cm

Description: A fragment of a red colour bangle with circular cross section.



S. No: 20

Acc. No: 173/07

Title: Bangle pieces

Period: Medieval

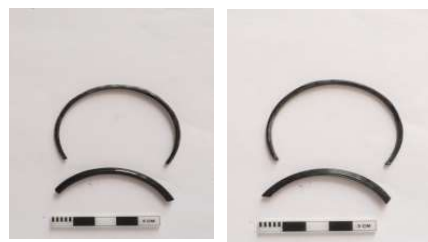
Locus: A1/Q3

Depth: -85 cm

Material: Glass

Measurement: i. Diameter: 6.5 cm, ii. Diameter: 5.5 cm

Description: Fragments of black colour glass bangles with circular cross section. The original colour seems to have changed with passage of time and the buried conditions.



S. No: 21

Acc. No: 173/08

Title: Bangle

Period: Medieval

Locus: A1/Q2

Depth: -165.60 cm

Material: Glass

Measurement: Diameter: 6 cm

Description: Fragment of a black colour glass bangle.



S. No: 22

Acc. No: 173/09

Title: Bangle pieces

Period: Medieval

Locus: ZA1/Q4

Depth: -165 cm

Material: Glass

Measurement: Diameter: 4 cm

Description: Fragments of glass bangles bearing circular decorations in yellow and convex cross sections.

The bangle fragments are black in colour.



S. No: 23

Acc. No: 173/10

Title: Bangle pieces

Period: Medieval

Locus: ZA1/Q4

Depth: -162 cm

Material: Glass

Measurement: Diameter: 4 cm

Description: 2 Fragments of glass bangles with circular decorations in yellow and brown and convex cross sections. The bangle fragments are black in colour.



S. No: 24

Acc. No: 173/11

Title: Bangle

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.46 cm

Material: Terracotta

Measurement: Diameter: 4 cm

Description: Fragment of terracotta bangle with smooth surface and circular cross section.



S. No: 25

Acc. No: 173/12

Title: Bangle

Period: Early Historical

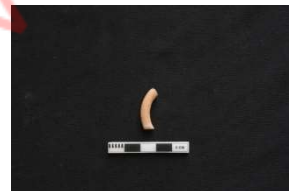
Locus: ZA1/Q1

Depth: -164.90 cm

Material: Terracotta

Measurement: Diameter: 4 cm

Description: Fragment of terracotta bangle with smooth surface and circular cross section.



S. No: 26

Acc. No: 173/13

Title: Bangle

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.07 cm

Material: Terracotta

Measurement: Diameter: 5 cm

Description: Fragment of terracotta bangle with smooth surface and circular cross section. The thickness of the piece is uneven.



S. No: 27

Acc. No: 173/14

Title: Bangle pieces

Period: Early Historical

Locus: ZA1/Q1

Depth: -164 cm

Material: Terracotta

Measurement: Diameter: 5 cm

Description: Fragments of terracotta bangles with smooth surface and circular cross sections.



S. No: 28

Acc. No: 173/15

Title: Bangle

Period: Medieval

Locus: A1/Q1

Depth: NA

Material: Glass

Measurement: Length: 2.3 cm

Description: Fragment of glass bangle with ridged surface from one end, and irregular cross section. The bangle fragment is black in colour.



S. No: 29

Acc. No: 173/16

Title: Bangle

Period: Early Historical

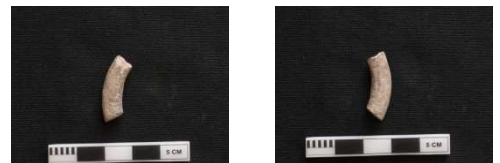
Locus: A1/Q2

Depth: -82 cm

Material: Terracotta

Measurement: Diameter: 4.5 cm

Description: Fragment of red terracotta bangle with circular cross section.



S. No: 30

Acc. No: 173/17

Title: Bangle

Period: Early Historical

Locus: A1/Q3

Depth: -112 cm

Material: Terracotta

Measurement: Length: 2.4 cm

Description: Fragment of red terracotta bangle with circular cross section.



S. No: 31

Acc. No: 173/18

Title: Bangle pieces

Period: Medieval

Locus: D1/Q3

Depth: -48 cm

Material: Terracotta

Measurement: Diameter: 5 cm

Description: Fragments of glass bangles with smooth surface and irregular cross sections. One bangle piece is black and the other is green in colour.



S. No: 32

Acc. No: 173/19

Title: Bangle

Period: Early Historical

Locus: YA1/Q3

Depth: -165.96 cm

Material: Terracotta

Measurement: Diameter: 5 cm

Description: A fragment of terracotta bangle with circular cross section.



S. No: 33

Acc. No: 173/20

Title: Bangle pieces

Period: Medieval

Locus: A1/Q3

Depth: -52 cm

Material: Glass

Measurement: Diameter: 5 cm

Description: Fragments of glass bangles with smooth surface and irregular cross sections. One bangle is black and the other is green in colour.



S. No: 34

Acc. No: 173/22

Title: Bangle pieces

Period: Early Historical

Locus: YA1/Q2

Depth: -165.31 cm

Material: Glass

Measurement: Diameter: 5 cm

Description: Fragments of glass bangles, five fragments are in black colour, one is in blue colour and the last one is bichrome in colour. All bangles are having almost the same diameter.



S. No: 35

Acc. No: 173/23

Period: Historical

Locus: ZA1/Q1

Depth: -165.20 cm

Title: Bangle

Material: Terracotta

Measurement: Length - 3 cm

Description: Fragment of a bangle with circular cross section.



S. No: 36

Acc. No: 173/25

Title: Bangle

Period: Historical

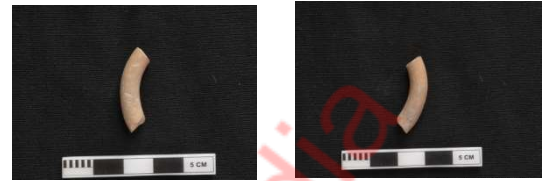
Locus: ZA1/Q4

Depth: -210 cm

Material: Terracotta

Measurement: Diameter: 5 cm

Description: A fragment of a bangle with circular cross section.



S. No: 37

Acc. No: 173/28

Title: Bangle fragments

Period: Early Historical

Locus: YA1/Q2

Depth: -164.62 cm

Material: Glass

Description: 9 fragments of glass bangles with ridged surface and irregular shape. The bangle fragments are green, blue and black in colour.



S. No: 38

Acc. No: 73/114

Title: Bangle

Period: Medieval

Locus: YA1/Q2

Depth: NA

Material: Glass

Measurement: Diameter: 5 cm

Description: Fragment of a bangle.



S. No: 39

Acc. No: 173/63

Title: Coin

Period: Unknown

Locus: Surface finding

Depth: NA

Material: Copper

Measurement: Diameter: 1.4 cm, Thickness: 0.93 cm

Description: A roughly circular coin with no identifiable marks on the obverse and reverse.



S. No: 40

Acc. No: 173/30

Title: Bead

Period: PGW

Locus: A1/Q1

Depth: -151 cm

Material: Terracotta

Measurement: Height: 1.8 cm, Diameter: 2.3 cm

Description: An arecanut shaped bead with circular incised line on the base.



S. No: 41

Acc. No: 173/31

Title: Bead

Period: Historical

Locus: A1/Q2

Depth: -52 cm

Material: Terracotta

Measurement: Height: 2.3 cm, Diameter: 1.5 cm

Description: Fragment of a spherical bead.



S. No: 42

Acc. No: 173/32

Title: Bead

Period: PGW

Locus: A1/Q2

Depth: -100 cm

Material: Carnelian

Measurement: Height: 1.1 cm, Width: 0.9 cm

Description: A short truncated convex biconical bead with square cross section.



S. No: 43

Acc. No: 173/33

Title: Bead

Period: PGW

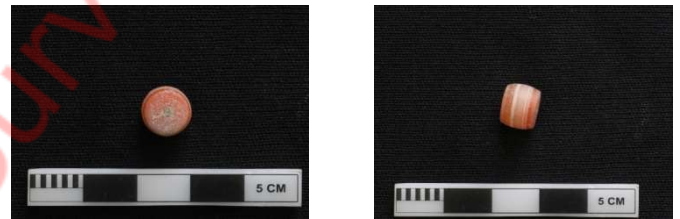
Locus: A1/Q1

Depth: -138 cm

Material: Agate

Measurement: Height: 1.1 cm, Width: 0.9 cm

Description: A short drum shaped bead, it has natural white colour band on the surface.



S. No: 44

Acc. No: 173/34

Title: Bead

Period: Medieval

Locus: A1/Q4

Depth: Humus

Material: Glass

Measurement: Diameter: 1.2 cm, Thickness: 0.3 cm

Description: A circular disc shaped bead, blue in colour.



S. No: 45

Acc. No: 173/35

Title: Bead

Period: Medieval

Locus: D1/Q4

Depth: -32 cm

Material: Stone?

Measurement: Diameter: 1.2 cm, Length: 1.4 cm

Description: A roughly long barrel shaped bead with two circular incised lines.



S. No: 46

Acc. No: 173/36

Title: Bead

Period: PGW

Locus: YA1/Q2

Depth: -274 cm

Material: Terracotta

Measurement: Diameter: 1.3 cm, Length: 2.1 cm

Description: An arecanut shaped bead with a concave depression in the center of the bead.



S. No: 47

Acc. No: 173/37

Title: Bead

Period: PGW

Locus: YA1/Q2

Depth: -264.40 cm

Material: Terracotta

Measurement: Diameter: 1.1 cm, Length: 2.2 cm

Description: An arecanut shaped bead.



S. No: 48

Acc. No: 173/38

Title: Bead

Period: Early Historical

Locus: ZA1/Q3

Depth: -8 cm

Material: Crystal

Measurement: Diameter: 1.1 cm, Length: 1.5 cm

Description: A hexagonal long barrel shaped bead.



S. No: 49

Acc. No: 173/39

Title: Bead

Period: Early Historical

Locus: YA1/Q2

Depth: NA

Material: Carnelian

Measurement: Diameter: 0.3 cm, Length: 0.4 cm

Description: A truncated oval shaped bead.



S. No: 50

Acc. No: 173/41

Title: Bead

Period: Early Historical

Locus: ZA1/Q4

Depth: - 210 cm

Material: Jasper

Measurement: Length: 0.8 cm, Width: 0.7 cm

Description: A hexagonal barrel shaped bead, black in colour.



S. No: 51

Acc. No: 173/42

Title: Bead

Period: Early Historical

Locus: ZA1/Q4

Depth: - 210 cm

Material: Carnelian

Measurement: Diameter: 0.6 cm

Description: A roughly spherical shaped bead, dark red in colour.



S. No: 52

Acc. No: 173/43

Title: Bead

Period: Unknown

Locus: ZA1/Q4

Depth: From section scrapping

Material: Shell

Measurement: Diameter: 0.4 cm, Height: 0.3 cm

Description: A roughly drum shaped bead.



S. No: 53

Acc. No: 173/44

Title: Bead

Period: Early Historical

Locus: ZA1/Q4

Depth: -205 cm

Material: Terracotta

Measurement: Diameter: 0.4 cm, Height: 0.3 cm

Description: An arecanut shaped bead or a spindle whorl that is decorated with three lined incisions at regular intervals.



S. No: 54

Acc. No: 173/45

Title: Bead

Period: Unknown

Locus: NA

Depth: NA

Material: Terracotta

Measurement: Diameter: 1.8 cm, Height: 3.04 cm

Description: A roughly spherical shaped bead, blackish brown in colour.



S. No: 55

Acc. No: 173/46

Title: Bead

Period: Historical

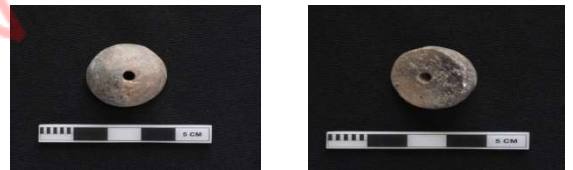
Locus: ZA1/Q1

Depth: -108 cm

Material: Terracotta

Measurement: Diameter: 2.8 cm, Height: 1.8 cm

Description: An arecanut shaped bead, flattened at the base.



S. No: 56

Acc. No: 173/47

Title: Bead

Period: Medieval

Locus: YA1/Q2

Depth: -264.59 cm

Material: Terracotta

Measurement: Diameter: 1.7 cm, Height: 2.5 cm

Description: An arecanut shaped bead with a concave depression in the central part, brownish in colour.



S. No: 57

Acc. No: 173/48

Title: Bead

Period: PGW

Locus: YA1/Q2

Depth: -286 cm

Material: Terracotta

Measurement: Diameter: 1.8 cm, Height: 2.05 cm

Description: A roughly conical shaped bead, light red in colour.



S. No: 58

Acc. No: 173/50

Title: Bead

Period: PGW

Locus: A1/Q2

Depth: -101 cm

Material: Terracotta

Measurement: Diameter: 2.6 cm, Height: 2.3 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 59

Acc. No: 173/51

Title: Bead

Period: PGW

Locus: D1/Q4

Depth: -18 cm

Material: Terracotta

Measurement: Diameter: 2.3 cm, Height: 2.1 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 60

Acc. No: 173/52

Title: Bead

Period: PGW

Locus: XA1/Q3

Depth: -60 cm

Material: Terracotta

Measurement: Diameter: 1.7 cm, Height: 1.3 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 61

Acc. No: 173/53

Title: Bead

Period: PGW

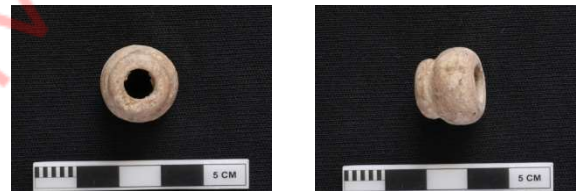
Locus: ZA1/Q1

Depth: -163 cm

Material: Terracotta

Measurement: Diameter: 1.7 cm, Height: 1.3 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 62

Acc. No: 173/54

Title: Bead

Period: Historical

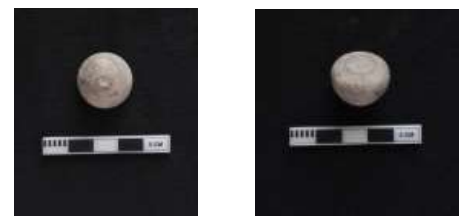
Locus: ZA1/Q1

Depth: -235 cm

Material: Terracotta

Measurement: Diameter: 1.8 cm, Height: 2.2 cm

Description: An arecanut shaped bead with striation marks on the surface.



S. No: 63

Acc. No: 173/55

Title: Bead

Period: Historical

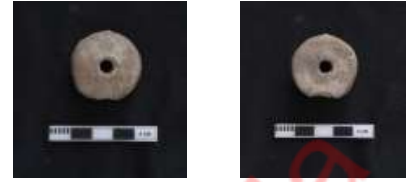
Locus: ZA1/Q1

Depth: -164.90 cm

Material: Terracotta

Measurement: Diameter: 2.8 cm

Description: An arecanut shaped terracotta bead.



S. No: 64

Acc. No: 173/57

Title: Bead

Period: PGW

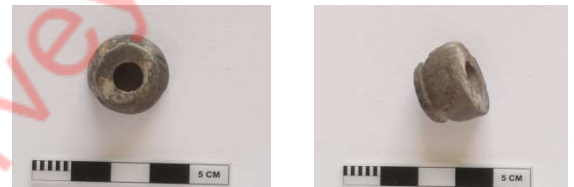
Locus: XA1/Q3

Depth: -90 cm

Material: Terracotta

Measurement: Diameter: 2.4 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 65

Acc. No: 173/58

Title: Bead

Period: PGW

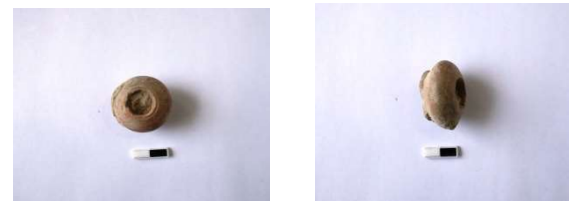
Locus: Surface

Depth: NA

Material: Terracotta

Measurement: Diameter: 2.5 cm, Length: 3.5 cm

Description: A *ghata* shaped bead with a big hole in the center.



S. No: 66

Acc. No: 173/101

Title: Bead?

Period: Early Historical

Locus: YA1/Q3

Depth: -165.90 cm

Material: Iron?

Measurement: Diameter: 1.3 cm, Weight: 0.71 gm

Description: A roughly spherical bead (?).



S. No: 67

Acc. No: 173/129

Title: Pendant

Period: Unknown

Locus: Trial Trench

Depth: -10 cm

Material: Terracotta

Measurement: Length - 4.02 cm, Width - 3.4 cm

Description: An umbrella shaped object in grey colour with a perforation in the middle. Probably a pendant.



S. No: 68

Acc. No: 173/138

Title: Unidentified object

Period: Historical

Locus: D1/Q3

Depth: -46 cm

Material: Terracotta

Measurement: I. Length - 1.5 cm, Width - 1.4 cm

II. Length - 1.3 cm, Width - 1.2 cm

Description: Roughly oval shaped objects, each having a perforation.



S. No: 69

Acc. No: 173/139

Title: Pendant

Period: Unknown

Locus: Surface finding

Depth: NA

Material: Terracotta

Measurement: Length - 2.6 cm, Width - 1.3 cm

Description: A roughly foot shaped pendant, red in colour.



S. No: 70

Acc. No: 173/56

Title: *Ghungru*

Period: Medieval

Locus: ZA1/Q3

Depth: -15 cm

Material: Copper

Measurement: Weight - 2.92 gm

Description: A copper *ghungru* with six leaves joining each other at the top; it also has a handle or a boss on lower side.



S. No: 71

Acc. No: 173/161

Title: Ear stud

Period: Early Historical

Locus: ZA1/Q1

Depth: -164.96 cm

Material: Terracotta

Measurement: Diameter: 2.54 cm

Description: A crudely made ear stud.



S. No: 72

Acc. No: 173/40

Title: Half broken circular disc

Period: PGW

Locus: A1/Q4

Depth: -30 cm

Material: Terracotta

Measurement: Diameter: 4 cm

Description: A half-broken circular disc having nail like incision marks on its edge.



S. No: 73

Acc. No: 173/49

Title: Circular disc

Period: PGW

Locus: ZA1/Q4

Depth: -274 cm

Material: Terracotta

Measurement: Diameter: 4 cm

Description: A roughly circular disc with nail like incision marks on the edge.



S. No: 74

Acc. No: 173/64

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -315 cm

Material: Terracotta

Measurement: Diameter: 1.4 cm, Thickness: 0.93 cm

Description: Broken half of a circular disc with incision marks on the edge.



S. No: 75

Acc. No: 173/67

Title: Circular disc

Period: PGW

Locus: ZA1/Q1

Depth: -165.04 cm

Material: Terracotta

Measurement: Diameter: 4.5 cm

Description: A roughly circular disc with nail like incision marks on its edge on both sides.



S. No: 76

Acc. No: 173/69

Title: Circular disc

Period: PGW

Locus: ZA1/Q4

Depth: -205 cm

Material: Terracotta

Measurement: Diameter: 3.98 cm, Thickness: 2.04 cm

Description: A roughly circular disc with nail like incision marks on the edge.



S. No: 77

Acc. No: 173/74

Title: Circular disc

Period: PGW

Locus: ZA1/Q4

Depth: NA

Material: Terracotta

Measurement: Diameter: 5.6 cm, Thickness: 1.7 cm

Description: A roughly circular disc with nail like incision marks on the edge.



S. No: 78

Acc. No: 173/87

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -164.40 cm

Material: Terracotta

Measurement: Diameter: 3.7, Thickness: 1.5 cm

Description: A roughly circular disc with nail like incision marks on the edge.



S. No: 79

Acc. No: 173/88

Title: Hopscotch

Period: PGW

Locus: A1/Q1

Depth: -61 cm

Material: Terracotta

Measurement: Diameter: 5.4, Thickness: 1.2 cm

Description: A roughly circular hopscotch.



S. No: 80

Acc. No: 173/89

Title: Circular disc

Period: PGW

Locus: A1/Q2

Depth: -70 cm

Material: Terracotta

Measurement: Diameter: 3.5, Thickness: 1.2 cm

Description: A roughly circular disc with nail like incision marks on the edge.



S. No: 81

Acc. No: 173/90

Title: Circular disc

Period: PGW

Locus: A1/Q2

Depth: -85 cm

Material: Terracotta

Measurement: Diameter: 3.9, Thickness: 1.2 cm

Description: A roughly circular disc.



S. No: 82

Acc. No: 173/91

Title: Circular disc

Period: PGW

Locus: A1/Q3

Depth: -125 cm

Material: Terracotta

Measurement: Diameter: 4.1, Thickness: 1.2 cm

Description: A roughly circular disc with incision marks on its edge.



S. No: 83

Acc. No: 173/92

Title: Hopscotch

Period: PGW

Locus: A1/Q4

Depth: -50 cm

Material: Terracotta

Measurement: Diameter: 5.3, Thickness: 1.5 cm

Description: A roughly circular hopscotch.



S. No: 84

Acc. No: 173/93

Title: Circular disc

Period: PGW

Locus: D1/Q4

Depth: -53 cm

Material: Terracotta

Measurement: Diameter: 4.5, Thickness: 1.5 cm

Description: A roughly circular disc with incision marks on its edge.



S. No: 85

Acc. No: 173/94

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -165.32 cm

Material: Terracotta

Measurement: Diameter: 3.8 cm, Thickness: 1.5 cm

Description: A roughly circular disc with incision marks on its edge.



S. No: 86

Acc. No: 173/95

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -286 cm

Material: Terracotta

Measurement: Diameter: 4.7 cm, Thickness: 1.2 cm

Description: A roughly circular disc with incision marks on its edge.



S. No: 87

Acc. No: 173/96

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -315 cm

Material: Terracotta

Measurement: Diameter: 4.7, Thickness: 1.2 cm

Description: A roughly circular disc.



S. No: 88

Acc. No: 173/97

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -372 cm

Material: Terracotta

Measurement: Diameter: 3.03, Thickness: 1.2 cm

Description: A roughly circular disc with incised lines, probably graffiti marks on the surface.



S. No: 89

Acc. No: 173/98

Title: Circular disc

Period: PGW

Locus: YA1/Q2

Depth: -358 cm

Material: Terracotta

Measurement: Diameter: 4.6, Thickness: 1.2 cm

Description: A roughly circular disc.



S. No: 90

Acc. No: 173/99

Title: Terracotta disc

Period: PGW

Locus: Trial Trench

Depth: NA

Material: Terracotta

Measurement: Diameter: 3.7 cm, Thickness: 1.3 cm

Description: A roughly circular disc with incisions on the edge.



S. No: 91

Acc. No: 173/100

Title: Circular disc

Period: Early Historical

Locus: ZA1/Q4

Depth: -251 cm

Material: Terracotta

Measurement: Diameter: 4.7 cm, Thickness: 1.1 cm

Description: A roughly circular terracotta disc.



S. No: 92

Acc. No: 173/102

Title: Circular disc

Period: Early Historical

Locus: ZA1/Q4

Depth: -251 cm

Material: Terracotta

Measurement: Diameter: 3.7 cm, Thickness: 0.9 cm

Description: A roughly circular terracotta disc.



S. No: 93

Acc. No: 173/103

Title: Hopscotch

Period: Early Historical

Locus: ZA1/Q4

Depth: -214 cm

Material: Terracotta

Measurement: Diameter: 4.2 cm, Thickness: 1.5 cm

Description: A roughly circular hopscotch.



S. No: 94

Acc. No: 173/104

Title: Circular disc

Period: PGW

Locus: ZA1/Q4

Depth: -285 cm

Material: Terracotta

Measurement: Diameter: 3.9 cm, Thickness: 1.5 cm

Description: A roughly circular disc with nail like incisions on one side of edge.



S. No: 95

Acc. No: 173/105

Title: Hopscotch/ circular disc

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.63 cm

Material: Terracotta

Measurement: Diameter: 4.3 cm, Thickness: 0.6 cm

Description: A roughly circular hopscotch, almost similar to a disc.



S. No: 96

Acc. No: 173/106

Title: Hopscotch

Period: Unknown

Locus: ZA1/Q1

Depth: -105.07 cm

Material: Terracotta

Measurement: Diameter: 4.3 cm, Thickness: 1.1 cm

Description: A roughly circular hopscotch made out of a potsherd.



S. No: 97

Acc. No: 173/108

Title: Hopscotch/ circular disc

Period: PGW

Locus: YA1/Q2

Depth: -264.58 cm

Material: Terracotta

Measurement: Diameter: 2.6 cm, Thickness: 0.7 cm

Description: A roughly circular hopscotch or a circular disc made from a thick grey ware potsherd.



S. No: 98

Acc. No: 173/109

Title: Circular disc

Period: Early Historical

Locus: ZA1/Q1

Depth: -164.90 cm

Material: Terracotta

Measurement: Diameter: 5.2 cm, Thickness: 1.1 cm

Description: A roughly circular disc.



S. No: 99

Acc. No: 173/110

Title: Circular disc

Period: Early Historical

Locus: ZA1/Q1

Depth: -164.90 cm

Material: Terracotta

Measurement: Diameter: 5 cm, Thickness: 1 cm

Description: A roughly circular disc.



S. No: 100

Acc. No: 173/111

Title: Circular disc and a hopscotch

Period: Early Historical

Locus: ZA1/Q2

Depth: -152 cm

Material: Terracotta

Measurement: i. Diameter: 4.8 cm, Thickness: 0.8 cm

ii. Diameter: 3 cm, Thickness: 1 cm

Description: The first one is a circular disc whereas the second one is a hopscotch slightly circular in shape made from a potsherd.



S. No: 101

Acc. No: 173/112

Title: Circular disc

Period: PGW

Locus: ZA1/Q4

Depth: -274 cm

Material: Terracotta

Measurement: Diameter: 4 cm, Thickness: 1 cm

Description: A roughly circular grey colour disc with nail like impressions on both the edges.



S. No: 102

Acc. No: 173/113

Title: Circular disc

Period: PGW

Locus: Surface

Depth: NA

Material: Terracotta

Measurement: Diameter: 3.8 cm, Thickness: 1 cm

Description: A roughly circular disc in red colour with nail like impressions on the edges.



S. No: 103

Acc. No: 173/115

Title: Circular discs

Period: PGW

Locus: ZA1/Q1

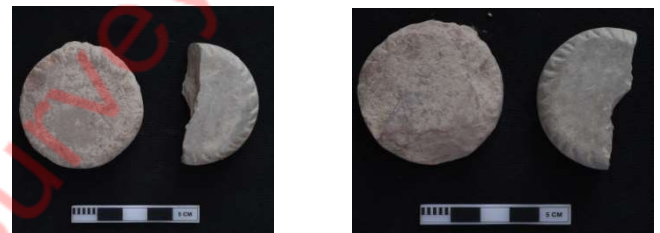
Depth: -220 cm

Material: Terracotta

Measurement: i. Diameter: 4.7 cm, Thickness: 1.4 cm

ii. Diameter: 4.5 cm, Thickness: 1 cm

Description: Roughly circular discs with nail like impression on the edges.



S. No: 104

Acc. No: 173/116

Title: Disc

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.46 cm

Material: Terracotta

Measurement: Diameter: 3.8 cm, Thickness: 1.2 cm

Description: A crudely made disc.



S. No: 105

Acc. No: 173/117

Title: Circular disc

Period: PGW

Locus: ZA1/Q1

Depth: -235 cm

Material: Terracotta

Measurement: Diameter: 5.6 cm, Thickness: 1.5 cm

Description: Roughly circular disc with nail like impressions on the edges.



S. No: 106

Acc. No: 173/118

Title: Circular disc

Period: PGW

Locus: A1/Q4

Depth: -16 cm

Material: Terracotta

Measurement: Diameter: 3.6 cm, Thickness: 1.4 cm

Description: Roughly circular disc with V shaped incisions on the edges.



S. No: 107

Acc. No: 173/119

Title: Circular disc

Period: PGW

Locus: A1/Q4

Depth: -63 cm

Material: Terracotta

Measurement: Diameter: 3.7 cm, Thickness: 1.2 cm

Description: Roughly circular disc with nail like impressions on the edges.



S. No: 108

Acc. No: 173/121

Title: Disc

Period: Unknown

Locus: ZA1/Q4

Depth: NA

Material: Terracotta

Measurement: Diameter: 1.8 cm, Thickness: 0.4 cm

Description: A crudely made terracotta disc.



S. No: 109

Acc. No: 173/150

Title: Sling ball

Period: Early Historical

Locus: A1/Q3

Depth: -108 cm

Material: Terracotta

Measurement: Diameter: 1.55 cm

Description: A roughly spherical sling ball.



S. No: 110

Acc. No: 173/151

Title: Sling ball

Period: Early Historical

Locus: A1/Q4

Depth: -18 cm

Material: Terracotta

Measurement: Diameter: 1.52 cm

Description: A roughly spherical sling ball.



S. No: 111

Acc. No: 173/152

Title: Sling ball

Period: Early Historical

Locus: YA1/Q2

Depth: -164.40 cm

Material: Terracotta

Measurement: Diameter: 1.9 cm

Description: A roughly spherical sling ball.



S. No: 112

Acc. No: 173/153

Title: Sling ball

Period: Early Historical

Locus: YA1/Q2

Depth: -242 cm

Material: Terracotta

Measurement: Diameter: 1.74 cm

Description: A roughly spherical sling ball



S. No: 113

Acc. No: 173/154

Title: Sling ball

Period: Early Historical

Locus: XA1/Q3

Depth: -85 cm

Material: Terracotta

Measurement: Diameter: 3.7 cm

Description: A roughly spherical sling ball.



S. No: 114

Acc. No: 173/155

Title: Sling ball

Period: Early Historical

Locus: XA1/Q2

Depth: -20 cm

Material: Terracotta

Measurement: Diameter: 2.8 cm

Description: A roughly spherical sling ball.



S. No: 115

Acc. No: 173/156

Title: Sling ball

Period: PGW

Locus: ZA1/Q4

Depth: -229 cm

Material: Terracotta

Measurement: Diameter: 2.5 cm

Description: A roughly spherical sling ball.



S. No: 116

Acc. No: 173/157

Title: Sling ball

Period: Early Historical

Locus: ZA1/Q1

Depth: -166 cm

Material: Terracotta

Measurement: Diameter: 3.1 cm

Description: A roughly spherical sling ball.



S. No: 117

Acc. No: 173/158

Title: Sling ball

Period: PGW

Locus: ZA1/Q1

Depth: -230 cm

Material: Terracotta

Measurement: Diameter: 2.5 cm

Description: A roughly spherical sling ball.



S. No: 118

Acc. No: 173/159

Title: Sling ball

Period: Early Historical

Locus: ZA1/Q2

Depth: -165 cm

Material: Terracotta

Measurement: Diameter: 2.2 cm

Description: A roughly spherical sling ball.



S. No: 119

Acc. No: 173/160

Title: Sling ball

Period: Early Historical

Locus: ZA1/Q3

Depth: -123 cm

Material: Terracotta

Measurement: Diameter: 3.2 cm

Description: A roughly spherical sling ball with notched designs on the surface.



S. No: 120

Acc. No: 173/163

Title: Wheel

Period: Early Historical

Locus: A1/Q3

Depth: -155 cm

Material: Terracotta

Measurement: Diameter: 4.8 cm, Thickness: 0.9 cm

Description: A roughly circular wheel with a hole in the center.



S. No: 121

Acc. No: 173/164

Title: Wheel

Period: Historical

Locus: D1/Q4

Depth: -17 cm

Material: Terracotta

Measurement: Diameter: 3.3 cm, Thickness: 1.8 cm

Description: A roughly circular wheel with a hole in the center.



S. No: 122

Acc. No: 173/165

Title: Wheel

Period: Early Historical

Locus: YA1/Q2

Depth: -255 cm

Material: Terracotta

Measurement: Diameter: 3 cm, Thickness: 1 cm

Description: A roughly circular wheel with a hole in the center.



S. No: 123

Acc. No: 173/21

Title: Unidentified

Period: Medieval

Locus: ZA1/Q4

Depth: -162 cm

Material: Terracotta

Measurement: Diameter: 4.8 cm

Description: A fragment of a roughly conical unidentified object, probably a lid or a base part.



S. No: 124

Acc. No: 173/24

Title: Broken figurine

Period: Unknown

Locus: CP-2

Depth: -20 cm

Material: Terracotta

Measurement: Length - 5 cm, width - 3.5 cm

Description: A fragment of an unidentified figurine having an elongated body with bulbous bottom.



S. No: 125

Acc. No: 173/75

Title: Unidentified object

Period: Unknown

Locus: NA

Depth: NA

Material: Terracotta

Measurement: Length - 14 cm, Width - 20 cm

Description: An irregular fragment of an unidentified object.



S. No: 126

Acc. No: 173/107

Title: Unidentified Object

Period: Historical

Locus: YA1/Q2

Depth: -225 cm

Material: Terracotta

Measurement: Diameter - 4.5, Thickness - 1.1 cm

Description: A roughly circular unidentified object, probably a sealing.



S. No: 127

Acc. No: 173/120

Title: Unidentified object

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.46 cm

Material: Terracotta

Measurement: Diameter - 4.9 cm, Thickness - 2.1 cm

Description: A crudely executed terracotta object with small perforations at regular intervals on one side.



S. No: 128

Acc. No: 173/128

Title: Unidentified object

Period: Unknown

Locus: A1/Q2

Depth: -25 cm

Material: Terracotta

Measurement: Length - 2.8 cm, Width - 1.1 cm,

Description: An irregular fragment of an unidentified object with zig-zag and triangular designs, segmented by two parallel lines.



S. No: 129

Acc. No: 173/130

Title: Unidentified object

Material: Terracotta

Period: Historical

Locus: ZA1/Q1

Depth: -166 cm

Measurement: Diameter - 2.8 cm, Length - 1.8 cm,

Description: A handmade terracotta object, possibly an unused crucible. It appears that it was attached to a handle probably as it is partially broken.



S. No: 130

Acc. No: 173/68

Title: Unidentified Object

Period: Historical

Locus: A1/Q1

Depth: -33 cm

Material: Terracotta

Measurement: Width - 2.9 cm, Length - 6.7 cm

Description: Fragment of a crudely made terracotta object, probably a votive tank.



S. No: 131

Acc. No: 173/71

Title: Decorative item

Period: Early Historical

Locus: ZA1/Q1

Depth: -166.05 cm

Material: Terracotta

Measurement: Length - 2.9 cm, Breadth - 2.7 cm

Description: A square shaped object with decorative bands with zigzag pattern segmented by a series of dots and a line. The object has dotted design in circular pattern in the lower half.



S. No: 132

Acc. No: 173/72

Title: Muller

Period: Early Historical

Locus: ZA1/Q4

Depth: -275 cm

Material: Terracotta

Measurement: Length - 4.8 cm, Breadth - 1.4 cm

Description: A truncated conical fragment of a pestle.



S. No: 133

Acc. No: 173/73

Title: Dabber

Period: Early Historical

Locus: ZA1/Q1

Depth: -270 cm

Material: Terracotta

Measurement: Diameter: 5 cm, Thickness: 2 cm

Description: A fragment of a dabber with a broken round base.



S. No: 134

Acc. No: 173/86

Title: Gamesman/ ritualistic object

Period: Early Historical

Locus: CP 2

Depth: -20 cm

Material: Terracotta

Measurement: Length - 3.6 cm, Width - 1.7 cm

Description: A roughly long conical shaped gamesman or a ritualistic object.



S. No: 135

Acc. No: 173/147

Title: Skin Scrubber

Period: Early Historical

Locus: A1/Q3

Depth: -115 cm

Material: Terracotta

Measurement: Length - 9 cm, Width - 7 cm

Description: A roughly rectangular skin scrubber.



S. No: 136

Acc. No: 173/149

Title: Skin scrubber

Period: Early Historical

Locus: YA1/Q2

Depth: -165 cm

Material: Terracotta

Measurement: Length - 6.08 cm, Width - 6.3 cm

Description: Fragment of a skin scrubber.



S. No: 137

Acc. No: 173/01

Title: Unidentified

Period: Early Historical

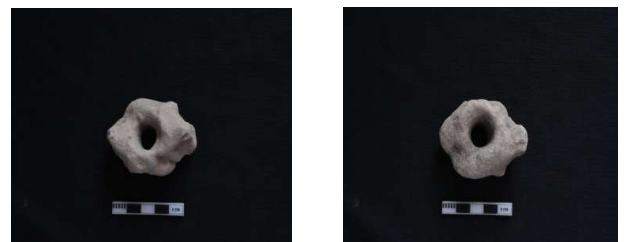
Locus: Trial Trench 2

Depth: -75 cm

Material: Stone

Measurement: 6.1 x 3.1 cm

Description: An irregular shaped unidentified object, it has a perforation in the center. Probably used either as a net sinker or for some ritualistic purpose.



S. No: 138

Acc. No: 173/04

Title: Pestle

Period: PGW

Locus: XA1/Q2

Depth: -18 cm

Material: Stone

Measurement: 6.1 x 04 cm

Description: An irregular shaped pestle.



S. No: 139

Acc. No: 173/29

Title: Weight?

Period: Early Historical

Locus: YA1/Q2

Depth: -315 cm

Material: Stone

Measurement: Diameter - 4 cm, Weight - 87.84 gm

Description: A roughly spherical object probably used as the weight.



S. No: 140

Acc. No: 173/62

Title: Unidentified

Period: Medieval

Locus: A1/Q4

Depth: NA

Material: Quartz

Measurement: Diameter - 2.08 cm, Thickness - 0.92 cm

Description: A roughly circular shaped unidentified stone object.



S. No: 141

Acc. No: 173/66

Title: Unidentified object

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.04 cm

Material: Stone

Measurement: Width - 1.5 cm, Length - 3.25 cm

Description: A roughly cylindrical unidentified stone object, probably used as a pestle.



S. No: 142

Acc. No: 173/140

Title: Pestle

Period: Unknown

Locus: ZA1/Q4

Depth: NA

Material: Sandstone

Measurement: Length - 8 cm, Width - 4.5 cm

Description: An irregular shaped pestle.



S. No: 143

Acc. No: 173/141

Title: Pestle

Period: Early Historical

Locus: ZA1/Q4

Depth: NA

Material: Sandstone

Measurement: Length - 6 cm, Width - 5.5 cm

Description: A roughly rectangular shaped pestle.



S. No: 144

Acc. No: 173/143

Title: Quern

Period: Early Historical

Locus: ZA1/Q4

Depth: -100 cm

Material: Sandstone

Measurement: Diameter - 12 cm, Thickness - 1.7 cm

Description: A roughly circular quern.



S. No: 145

Acc. No: 173/70

Title: Mortar

Period: PGW

Locus: NA

Depth: NA

Material: Sandstone

Measurement: Length - 25 cm, Breadth - 15 cm

Description: A broken sandstone mortar with a semi-spherical depression in the middle.



S. No: 146

Acc. No: 173/144

Title: Quern

Period: Early Historical

Locus: ZA1/Q4

Depth: -100 cm

Material: Sandstone

Measurement: Diameter - 17.9 cm, Thickness - 2.4 cm

Description: A roughly circular quern.



S. No: 147

Acc. No: 173/162

Title: Unidentified object

Period: PGW

Locus: XA1/Q3

Depth: -50 cm

Material: Stone

Measurement: Length - 7.9 cm, Width - 5.8 cm

Description: A *pipal* leaf shaped unidentified object.



S. No: 148

Acc. No: 173/02

Title: Arrowhead

Period: PGW

Locus: A1/Q2

Depth: -20 cm

Material: Iron

Measurement: 3.4 gm

Description: Fragments of two arrow heads with pointed tip and broken edges and base.



S. No: 149

Acc. No: 173/26

Title: Unidentified object

Period: PGW

Locus: YA1/Q2

Depth: -280 cm

Material: Iron

Measurement: Length - 3 cm, Width - 1.5 cm

Description: An irregular fragment of an unidentified object, probably a nail.



S. No: 150

Acc. No: 173/27

Title: Nail

Period: Early Historical

Locus: ZA1/Q1

Depth: -165.22 cm

Material: Iron

Measurement: Length - 6 cm, Width - 2.9 cm

Description: Irregular shaped fragments of a nail having round head.



S. No: 151

Acc. No: 173/60

Title: Unidentified

Material: Iron

Period: Unknown

Locus: A1/Q4

Depth: -52 cm

Measurement: Width - 1.2 cm, Length - 5.2 cm, Weight – 6.5 gm

Description: An irregular fragment of an unidentified object.



S. No: 152

Acc. No: 173/61

Title: Unidentified

Period: PGW

Locus: ZA1/Q1

Depth: -165.18 cm

Material: Iron

Measurement: Width - 6 cm, Length - 7.5 cm

Description: An irregular shaped fragment of an unidentified object, possibly a celt.



S. No: 153

Acc. No: 173/124

Title: Nail

Period: PGW

Locus: A1/Q4

Depth: -55 cm

Material: Iron

Measurement: Length - 4.5cm, Width - 1.5 cm, Weight - 109 gm

Description: A slightly curved unidentified object, probably a nail.



S. No: 154

Acc. No: 173/126

Title: Unidentified object

Period: PGW

Locus: A1/Q2

Depth: NA

Material: Iron

Measurement: Length - 10.9 cm, Width - 0.4 cm, Weight - 16.99 gm

Description: A long fragment of an unidentified object, probably a nail.



S. No: 155

Acc. No: 173/127

Title: Unidentified object

Period: Early Historical

Locus: YA1/Q3

Depth: -165.90 cm

Material: Iron

Measurement: Length - 4.45 cm, Width - 0.4 cm, Weight- 4.55 gm

Description: A long fragment of an unidentified object, probably a nail.



S. No: 156

Acc. No: 173/131

Title: Nail

Period: PGW

Locus: A1/Q4

Depth: -28 cm

Material: Iron

Measurement: Diameter: 1 cm, Length - 5.1 cm, Weight - 29.11 gm

Description: A fragment of an iron nail.



S. No: 157

Acc. No: 173/132

Title: Nail

Period: PGW

Locus: A1/Q4

Depth: -63 cm

Material: Iron

Measurement: Diameter: 2 cm, Length - 10 cm, Weight - 19.52 gm

Description: Fragments of an iron nail.



S. No: 158

Acc. No: 173/133

Title: Nail

Period: PGW

Locus: A1/Q4

Depth: -57 cm

Material: Iron

Measurement: Length - 11.3 cm, Weight - 33.74 gm

Description: A fragment of an iron nail.



S. No: 159

Acc. No: 173/134

Title: Nail

Period: Unknown

Locus: YA1/Q3

Depth: -29 cm

Material: Iron

Measurement: Length - 6 cm, Width - 0.6 cm, Weight - 10.5 gm

Description: A fragment of an iron nail, it is curved from one end.



S. No: 160

Acc. No: 173/135

Title: Nail

Period: Unknown

Locus: Surface

Depth: NA

Material: Iron

Measurement: Length - 6.2 cm, Width - 4.7 cm

Description: A fragment of an iron nail, it is slightly curved at one end.



S. No: 161

Acc. No: 173/145

Title: Iron fragments

Period: Early Historical

Locus: YA1/Q3

Depth: -165.90 cm

Material: Iron

Measurement: Weight - 4.38 gm

Description: Fragments of an unidentified iron object.



S. No: 162

Acc. No: 173/146

Title: Nail

Period: Medieval

Locus: D1/Q3

Depth: -45 cm

Material: Iron

Measurement: Weight - 7.67 gm

Description: A slightly curved fragment of a nail.



S. No: 163

Acc. No: 173/148

Title: Sickle?

Period: PGW

Locus: A1/Q4

Depth: -29 cm

Material: Iron

Measurement: Length - 8.7 cm, Width - 0.9 cm

Description: A broken and rusted iron sickle.



S. No: 164

Acc. No: 173/59

Title: Bone point

Period: PGW

Locus: YA1/Q2

Depth: -315 cm

Material: Bone

Measurement: Diameter: 0.6 cm, Length - 3.6cm

Description: A broken bone point.



S. No: 165

Acc. No: 173/142

Title: Bone point

Period: PGW

Locus: A1/Q2

Depth: -102 cm

Material: Bone

Measurement: Length - 4.1 cm, Width - 0.6 cm

Description: Fragment of a bone point or an engraver.



S. No: 166

Acc. No:

Title: Sivalinga

Period: PGW

Locus: A1/Q3

Depth: -102 cm

Material: Sandstone

Measurement: Length - 10.265 cm; Diameter (base): 7 cm; Diameter (top): 6.55 cm

Description: Truly speaking, this seems to be the most important finding of the entire excavation at Barnoli-ki-Dhai. The object was unearthed on the last day of the excavation when the natural soil in Trench A1/Q3 was being further probed for any deposit underneath. The object must belong to the earliest period of the site and hence should be datable to the pre-PGW or the early PGW phase. The object looks like a pestle but is not having any smoothening marks negating continuous rubbing against a surface. Ironically, the almost cylinder shaped object has slight tapering towards the top and has a regular base to be kept easily. At the base the stone surface is slightly withered as generally happens with household Sivalingas with regular *snana*. There is every possibility that the object in sandstone is a Sivalinga for household worship but no such comparable example is known so far. In case, this identification of the object as a Sivalinga is correct, it should be the earliest known example of Saivite worship in entire proto-historic context except the Harappan civilisation and confirms that the PGW culture people were practicing the same religion as the Indian society practiced afterwards, i.e., the Brahmanical religion.



Archaeological Survey Of India

Pottery

During the excavation, specific trenches (D1/Q4, A1/Q1, A1/Q2, A1/Q3, ZA1/Q1, ZA1/Q2, ZA1/Q4 and YA1/Q2) were meticulously excavated. In the central habitation area, all four trenches (D1, A1, ZA1, and YA1) reached up to the natural soil. The excavation process at the site also involved opening 9 control pits situated in different parts of the mound. Excavation of each trench provided information of pottery from historical to the Pre Painted Grey Ware (PGW) period.

Period wise description of the pottery of Barnoli ki Dhari is as follows:

Plate 1

1. Dish fragment, bulging wall, in-curved, direct rim. Grey, medium fine fabric.
2. Dish fragment, hemispherical, slightly in-curved, direct tapering rim. Grey, fine fabric.
3. Bowl fragment, in-leaning wall, direct tapering rim. Grey, fine fabric.
4. Cylindrical bowl fragment, grooved on trunk, short flaring rim. Grey, fine fabric.
5. Cylindrical bowl fragment, vertical wall, direct rim. Grey, very fine fabric.
6. Bowl fragment, shallow, convex wall, direct tapering rim. Painted on the outer side with brush strokes. Grey, fine fabric.
7. Bowl fragment, convex wall, direct rim. Grey, medium fine fabric.
8. Bowl fragment, shallow, thick direct rim. Dark-grey, fine fabric.
9. Bowl fragment, hemispherical, convex wall, in-beaded rim. Grey, very fine fabric.
10. Dish fragment, hemispherical, convex wall, slightly in-curved, direct tapering rim. Painted on the outer side with horizontal brush strokes, Grey, fine fabric.
11. Bowl fragment, near hemispherical, upper part of wall straight, direct rim. Painted in black on the inner side with brush strokes running downwards from the rim. Grey, very fine fabric.
12. Dish fragment, hemispherical, convex wall, direct rim. Grey, fine fabric.
13. Bowl fragment, convex wall, direct rim. Rim painted with broad band strokes from both sides. Grey, very fine fabric.
14. Dish fragment, hemispherical, convex wall, direct rim. Rim painted from both sides and two thick band strokes running downwards from the rim. Grey, very fine fabric.



Pl. 1

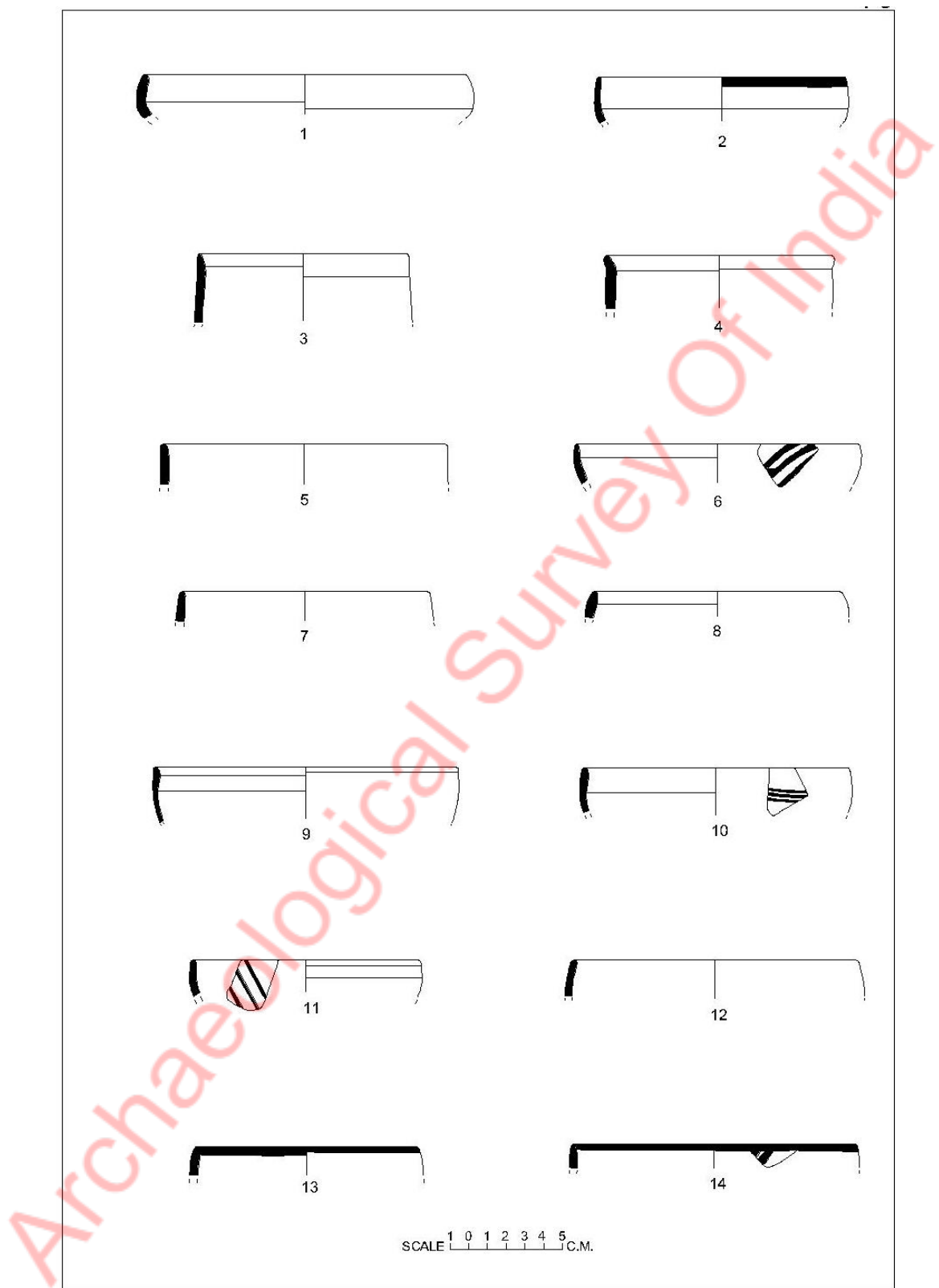


Fig. 1

Plate 2

1. Bowl fragment, near hemispherical, slightly in-curved, direct tapering rim. Painted on the outer side with flame like curve strokes. Grey, fine fabric.
2. Bowl fragment, convex wall, in-curved, direct rim. Grey, fine fabric.
3. Bowl fragment, hemispherical, in-curved, round edge rim. Grey, fine fabric.
4. Bowl fragment, hemispherical, slightly in-leaning, upper part of wall straight, direct rim. Grey, fine fabric.
5. Bowl fragment, hemispherical, in-leaning, upper part of wall straight, direct rim with tapering edge. Grey, painted rim and outer portion painted with black, fine fabric.
6. Bowl fragment, convex wall, beaded rim. Grey, painted rim, fine fabric.
7. Bowl fragment, hemispherical, direct rim with slightly tapering edge. Faded-red, medium fine fabric.
8. Bowl fragment, near cylindrical, straight wall, direct rim. Grey, fine fabric.
9. Bowl fragment, conical wall, direct rim. Grey, fine fabric.
10. Bowl fragment, bulging wall, in-curved, in-beaded rim. Grey, fine fabric.
11. Bowl fragment, near hemispherical, slightly in-curved, in-beaded rim. Grey, medium fine fabric.
12. Bowl fragment, funnel wall, slightly in-curved, direct rim with tapering edge. Grey, fine fabric.
13. Bowl fragment, in-curved wall, direct rim. Grey, fine fabric.



Pl. 2

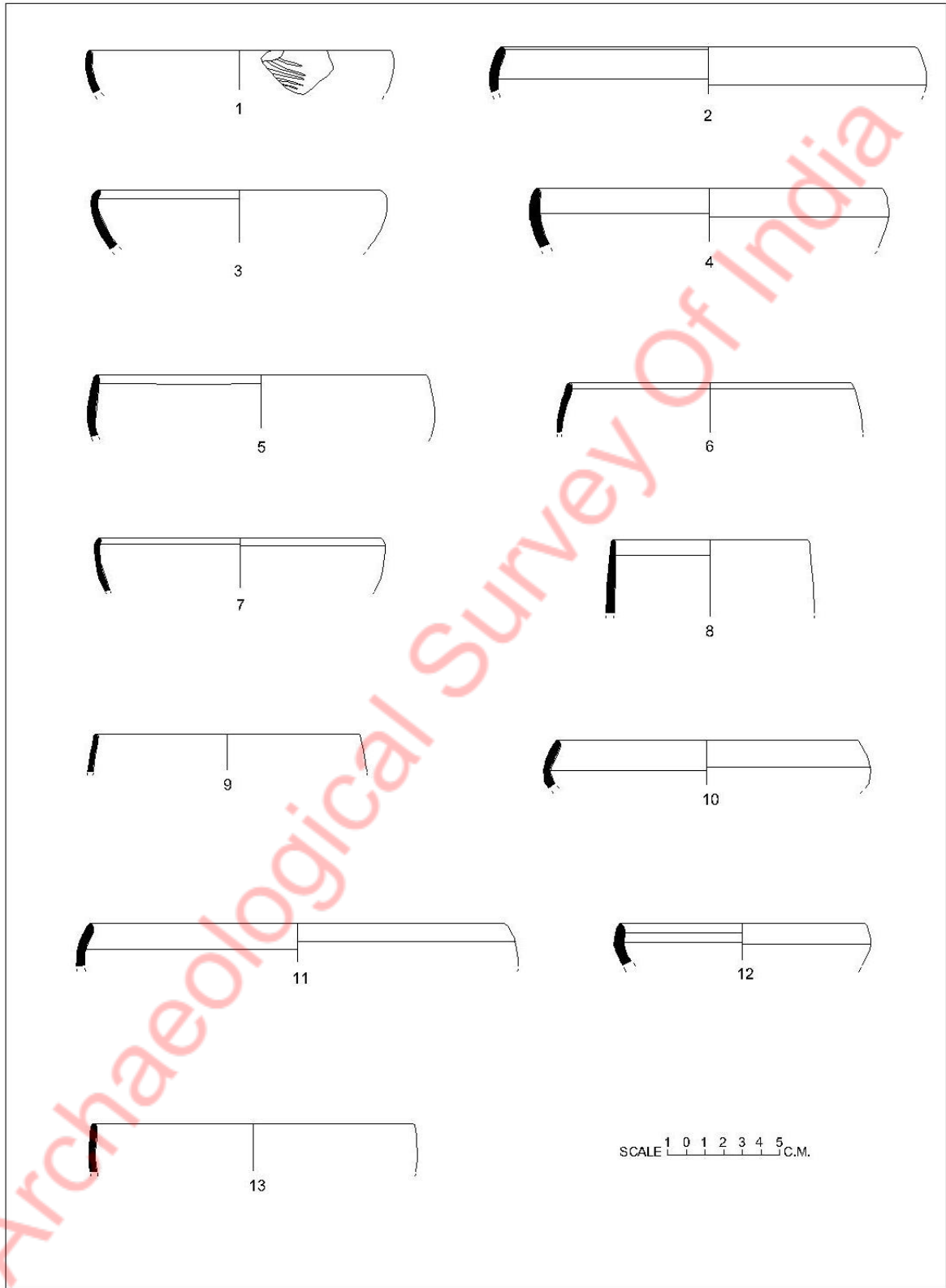


Fig. 2

Plate 3

1. Bowl fragment, near hemispherical, flat base, direct rim with rounded topped edge. Grey, stamp on the centre of base with concentric circle with pop-up dot in centre. Medium fabric.
2. Bowl fragment, cylindrical wall, flat base with carinated edge, steep wall, direct tapering rim. Grey, fine fabric.
3. Bowl fragment, lenticular bottom with carinated edge, out-leaning wall, direct rim with tapering edge. Grey, externally dark grey, fine fabric.
4. Cylindrical bowl, slightly bulging wall, saggar base. Direct rim with tapering edge. Painted on the outer side with three vertical strokes and carelessly placed dots in between, and painted on the inner side with rows of short strokes. Light grey, very fine fabric.
5. Bowl fragment, near hemispherical, lenticular base, direct tapering rim. Painted on the inner side with wavy lines of varying thickness, and outside with flame-like curved strokes running downwards from rim. Light grey, fine fabric.
6. Bowl fragment, near hemispherical, in-leaning wall, upper part of wall straight, direct rim. Grey, fine fabric.
7. Bowl fragment, lenticular base, in-curved wall, thick rounded direct rim. Light grey, fine fabric.
8. Bowl fragment, hemispherical, slightly in-curved wall, direct rim. Dark grey, fine fabric.



Pl. 3.1



Pl. 3.2

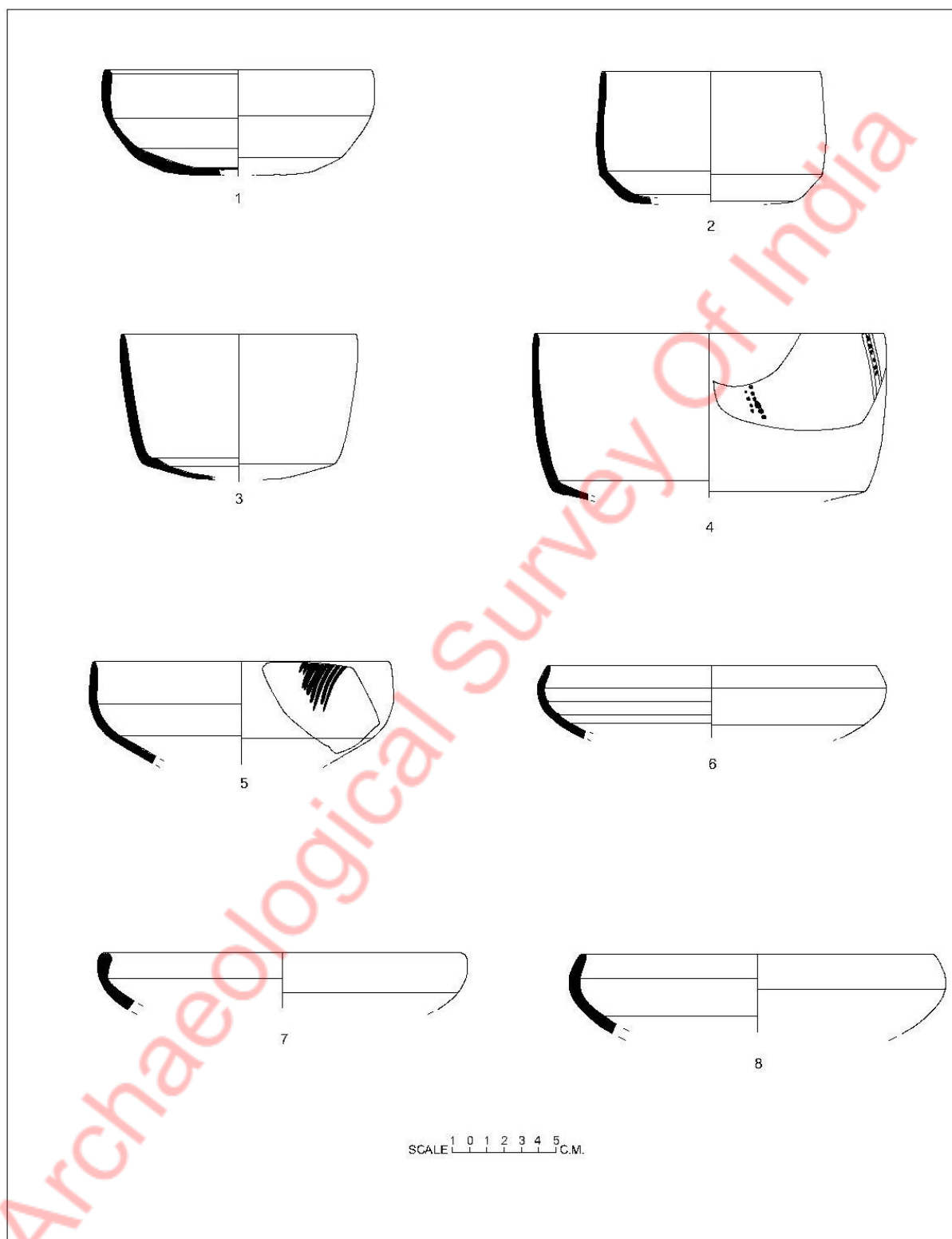


Fig. 3

Plate 4

1. Bowl fragment, globular, in-curved, grooved direct rim. Grey, fine fabric.
2. Bowl fragment, in-curved, direct rim. Grey, fine fabric.
3. Bowl fragment, shallow, bulging wall, in-curved, direct rim. Grey, fine fabric.
4. Bowl fragment, hemispherical, convex wall, direct rim. Grey, very fine fabric.
5. Bowl fragment, slightly bulging wall, in-curved, direct tapering rim. Grey, very fine fabric.
6. Bowl fragment, up-curved, in-leaning, direct rim. Grey, fine fabric.
7. Bowl fragment, hemispherical, convex wall, direct tapering rim. Painted on both side with brush strokes running downwards from the rim and one thick band from rim crossing all the strokes, even two horizontal strokes also crossing all the vertical strokes. Grey fine fabric.
8. Bowl fragment, in-curved, tapering rim. Grey, very fine fabric.
9. Bowl fragment, near hemispherical, slightly in-curved, direct rim. Painted on both side with brush strokes running downwards from the rim. Grey, fine fabric.
10. Bowl fragment, hemispherical, convex wall, slightly re-curved tapering rim. Black, fine fabric.
11. Bowl fragment, up-curved, flat topped, slightly in-leaning wall, plain rim. Externally dark grey and internally light grey, fine fabric.
12. Bowl fragment, bulging sides, in-curved, direct rim. Grey, Fine fabric.
13. Bowl fragment, bulging wall, in-curved, direct rim. Grey, fine fabric.
14. Bowl fragment, up-curved, direct tapering rim. Grey, fine fabric.
15. Bowl fragment, funnel lower side, slightly in-curved, direct rim. Grey, fine fabric.



Pl. 4

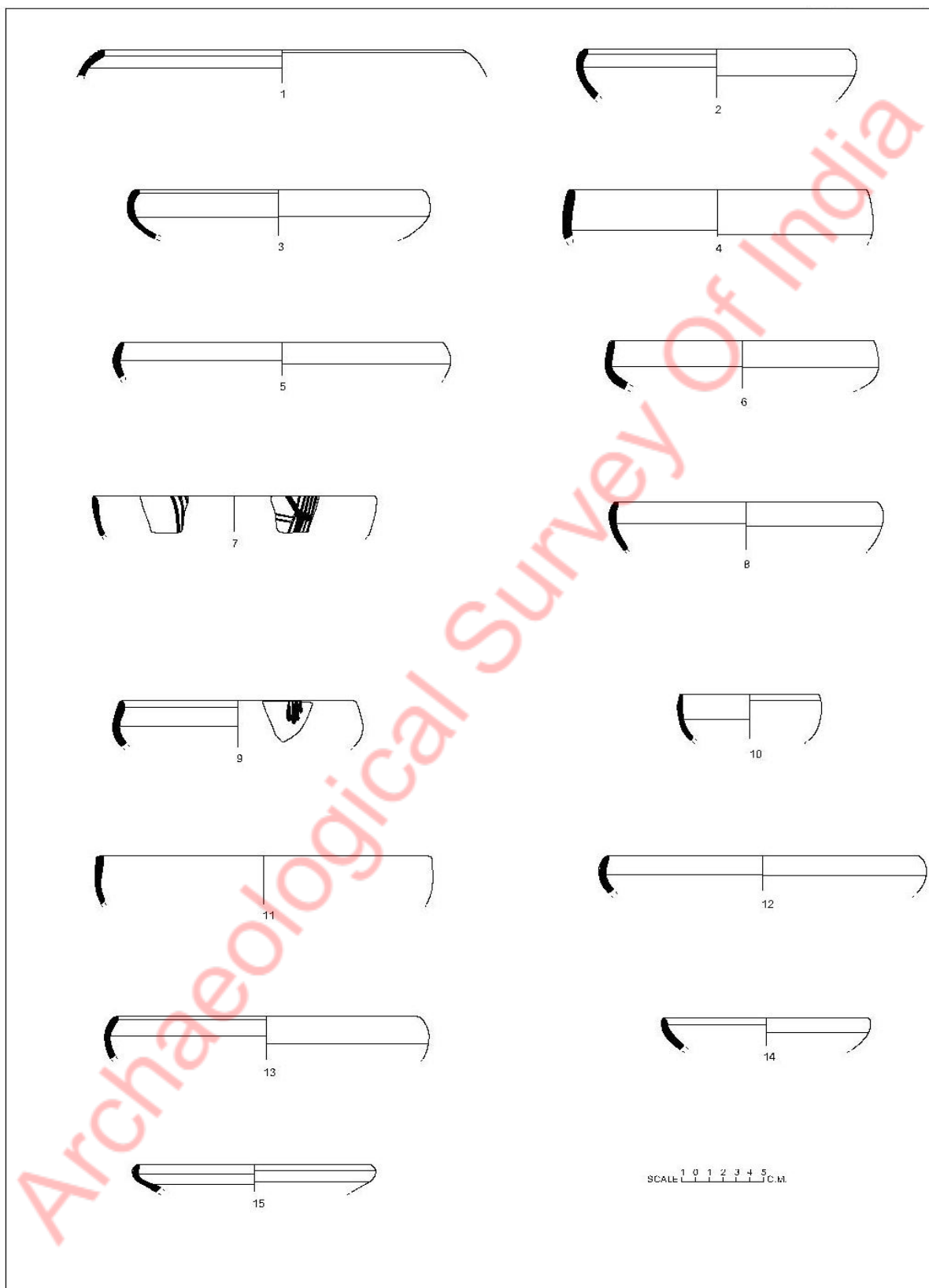


Fig. 4

Plate 5

1. Bowl fragment, hemispherical, in-bevelled rim. Grey body, black rim, painted on the inner side with a set of black wavy lines of varying thickness running downwards from the rim. Painted in black on the outer side with flame-like curved strokes running downwards from the rim. Very fine fabric.
2. Cylindrical bowl fragment, slightly bulging wall, in-bevelled rim. Grey, very fine fabric.
3. Cylindrical bowl fragment, slightly bulging wall, direct tapering rim. Grey, very fine fabric.
4. Cylindrical bowl fragment, direct tapering rim. Grey, very fine fabric.
5. Bowl fragment, hemispherical, direct tapering rim. Grey, fine fabric.
6. Cylindrical bowl fragment, direct tapering rim. Grey, fine fabric.
7. Cylindrical bowl fragment, direct rim. Grey, very fine fabric.
8. Bowl fragment, in-leaning wall, direct rim. Grey, fine fabric.
9. Cylindrical bowl fragment, internally corrugated, direct rim. Grey, very fine fabric.
10. Cylindrical bowl fragment, direct rim. Grey, very fine fabric.
11. Cylindrical bowl fragment, direct tapering rim. Grey, very fine fabric.
12. Cylindrical bowl fragment, direct tapering rim. Grey, very fine fabric.



Pl. 5

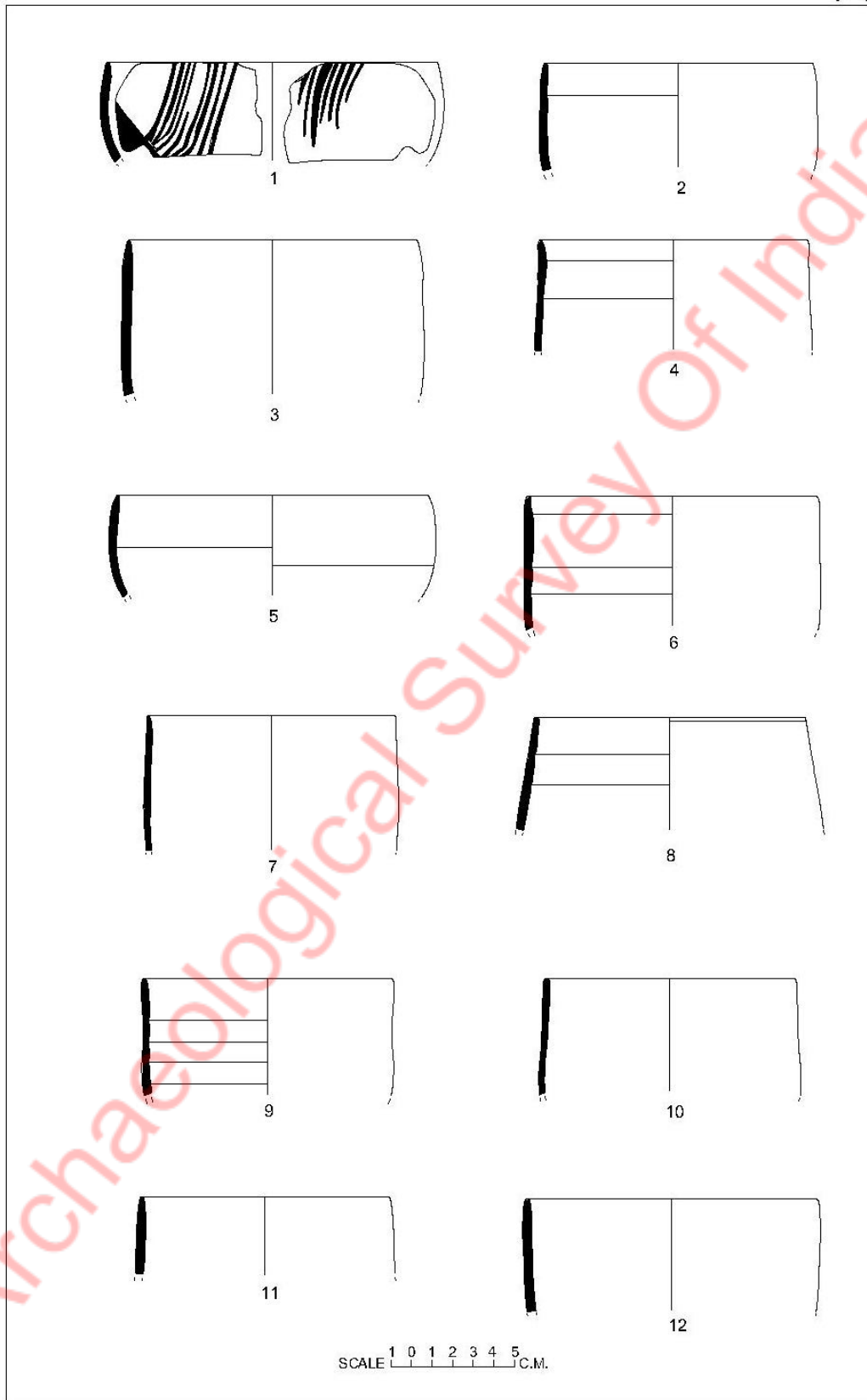


Fig. 5

Plate 6

1. Cylindrical bowl fragment, slightly in-leaning, direct tapering rim. Painted on the outer side with a criss-cross design and inner side rim with black. Fine fabric.
2. Bowl fragment, hemispherical, convex or bulging sides, in-curved direct rim. Painted rim and sets of 6 vertical brush-strokes on the inside and sets of 7 horizontal brush-strokes on the outer side. Very fine fabric.
3. Bowl fragment, hemispherical, slightly bulging and in-curved direct rim. Painted rim and Curve strokes running downwards from rim on the outer side. Fine fabric.
4. Cylindrical bowl fragment, straight wall, direct tapering rim. Painted rim and groups of curved strokes. Fine fabric.
5. Bowl fragment, in-curved and bulging wall, direct rim. Red painted rim and set of 7 vertical brush-strokes running downwards from rim on the outer side. Fine fabric.
6. Bowl fragment, in-curved and bulging wall, direct rim. Painted rim and triangular (?), band and brush strokes running downwards from the rim on the outer side, and vertical brush-strokes running downwards from the rim on the inner side. Very fine fabric.
7. Fragment of small bowl, near hemispherical, in-bevelled rim, internally painted rim. Grey, fine fabric.
8. Bowl fragment, in-curved and bulging wall, direct rim. Grey, Painted rim and set of 8 brush-strokes running downwards from rim on the outer side. Fine fabric.
9. Fragment of small bowl, near hemispherical, slightly in-leaning, direct rim. Grey, painted rim and double brush strokes on the inside. Grey, fine fabric.
10. Bowl fragment, hemispherical, direct rim. Grey, painted rim and vertical brush-strokes on the inside and thick horizontal strokes on the outer side. Fine fabric.
11. Bowl fragment of grey ware, hemispherical, direct rim. Fine fabric.
12. Bowl fragment, out-leaning wall, in-bevelled rim. Painted rim and vertical brush-strokes on the inner side. Fine fabric.
13. Bowl fragment, hemispherical, direct tapering rim. Grey, painted rim with thick vertical strokes on the outer side and thick horizontal strokes on the inner side. Fine fabric.



Pl. 6

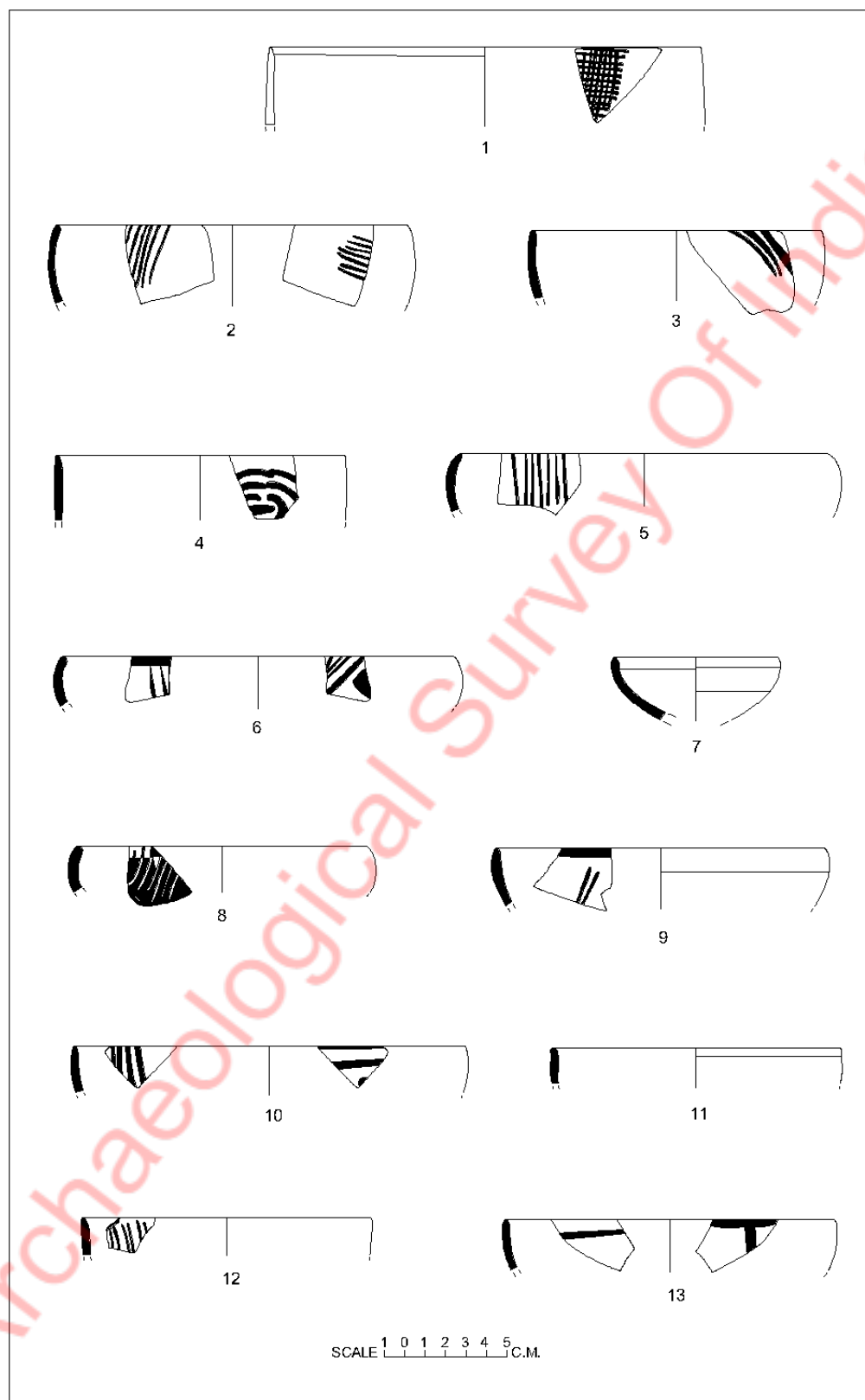
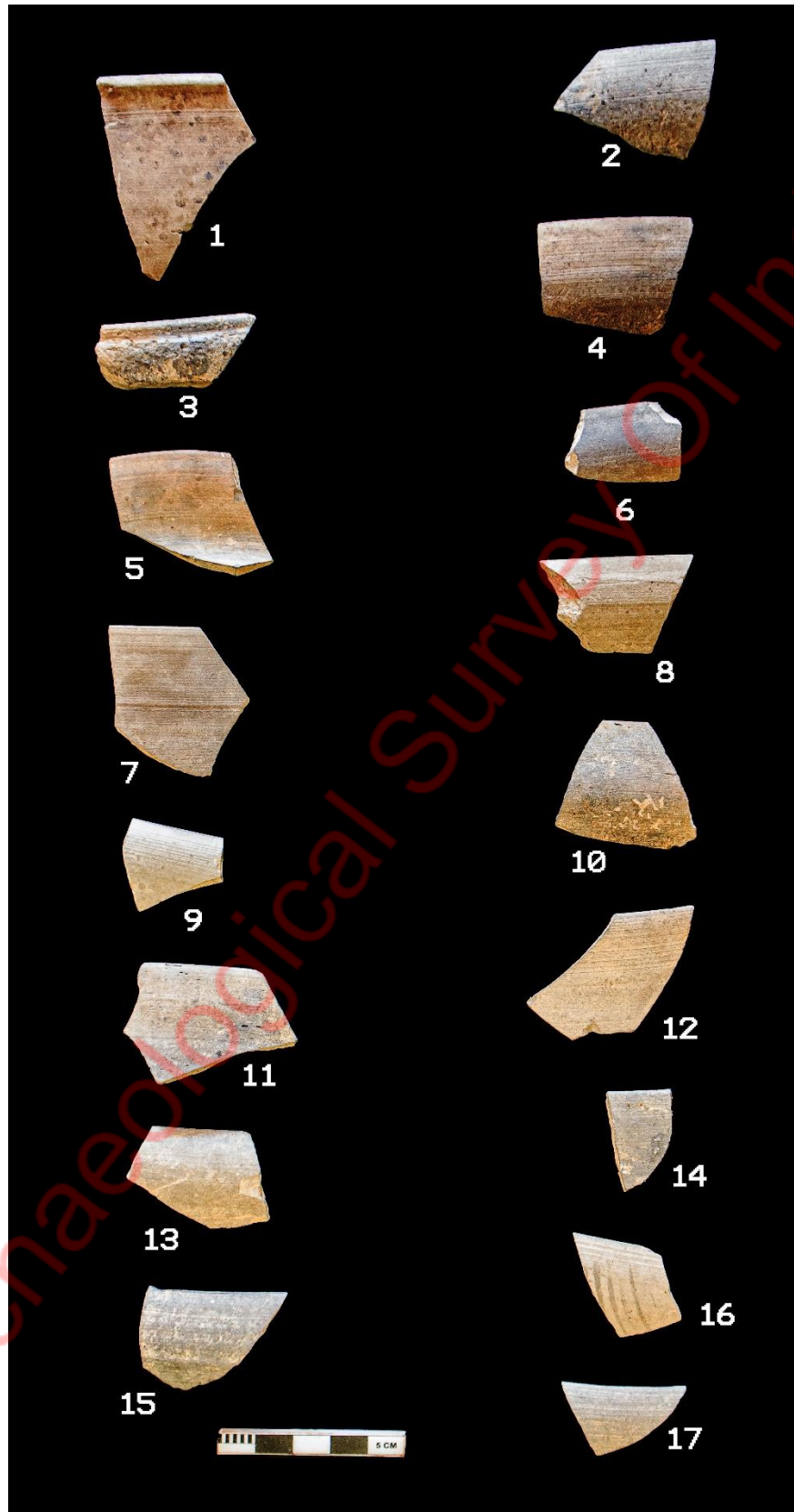


Fig. 6

Plate 7

1. Bowl fragment, near cylindrical, bevelled rim. Grey, fine fabric.
2. Bowl fragment, hemispherical, convex, or bulging wall, direct rim. Light grey, fine fabric.
3. Bowl fragment, direct grooved rim. Dark grey, ill fired, fine fabric.
4. Bowl fragment, hemispherical, convex wall, direct rim. Reddish grey, fine fabric.
5. Jar fragment, pyriform, angular neck, bow-rim. Ashy brown or greyish brown, fine fabric.
6. Bowl fragment, near hemispherical, up-curved, direct tapering rim. Light grey, fine fabric.
7. Bowl fragment, near conical or in-leaning, direct tapering rim. Externally grey and internally light grey, fine fabric.
8. Bowl fragment, hemispherical, in-curved, direct rim. Grey, fine fabric.
9. Small bowl fragment, lenticular bottom, up-curved, slightly in-leaning wall, direct rim with slightly tapering. Light grey, very fine fabric.
10. Bowl fragment, lenticular bottom with slightly carinated, up-curved, slightly in-leaning wall, direct rim. Externally grey and internally light grey. Fine fabric.
11. Fragment bowl or cup, straight wall, slightly in-leaning, direct rim. Grey, fine fabric.
12. Bowl fragment, steep wall or near cylindrical, out-leaning wall, direct rim. Grey, fine fabric.
13. Bowl fragment, lenticular bottom, slightly bulging wall, in-curved, direct thick rim. Grey, very fine fabric.
14. Bowl fragment, steep wall or near cylindrical, out-leaning, direct rim with slightly tapering rim. Grey, fine fabric.
15. Bowl fragment, convex wall or bulging wall, direct rim. Externally grey and internally light grey, fine fabric.
16. Bowl fragment, near hemispherical, up-curved, slightly in-leaning, direct rim. Painted on the outer side with vertical curved strokes. Grey, very fine fabric.
17. Bowl fragment, hemispherical, convex wall, slightly in-curved, direct rim. Grey, very fine fabric.



Pl. 7

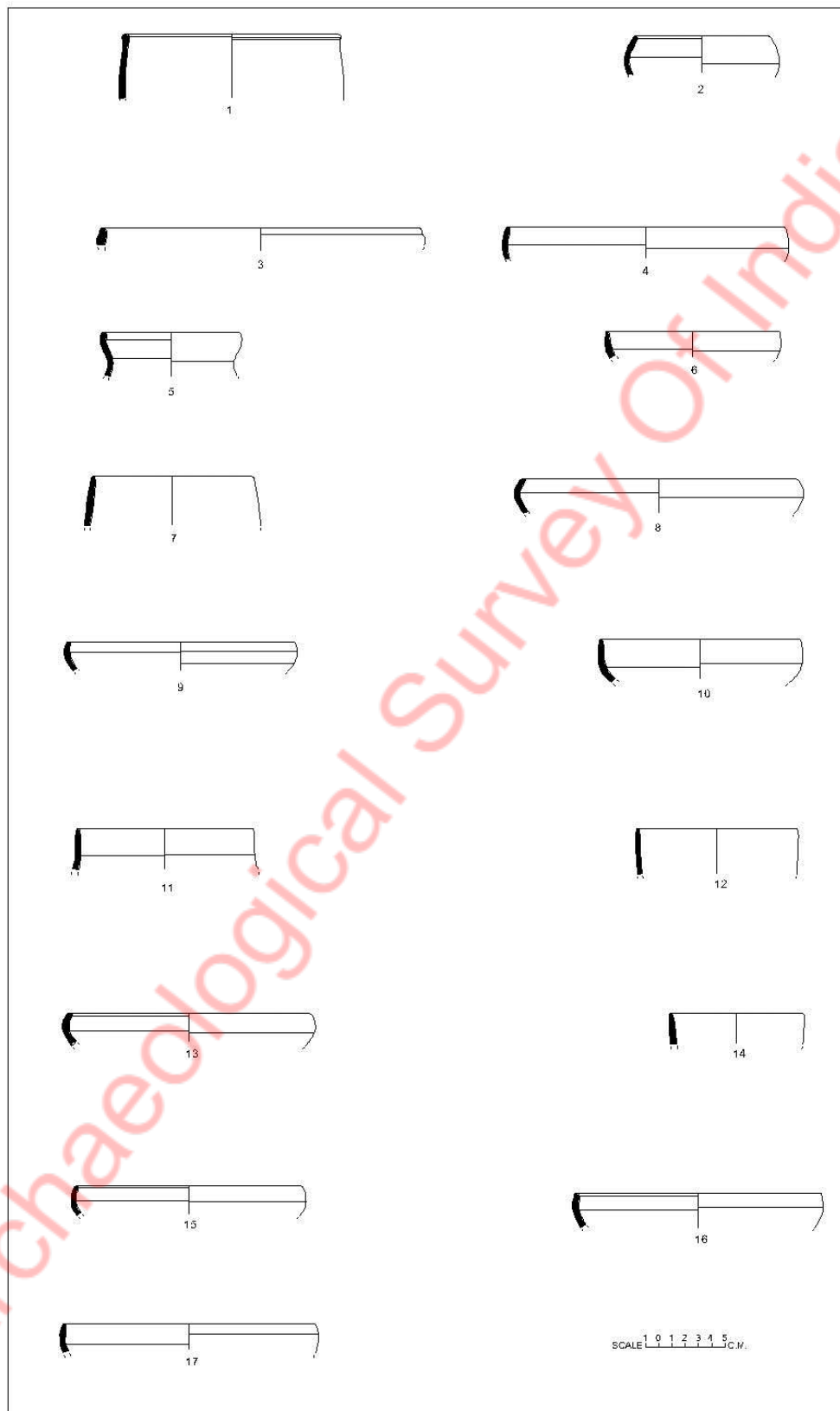
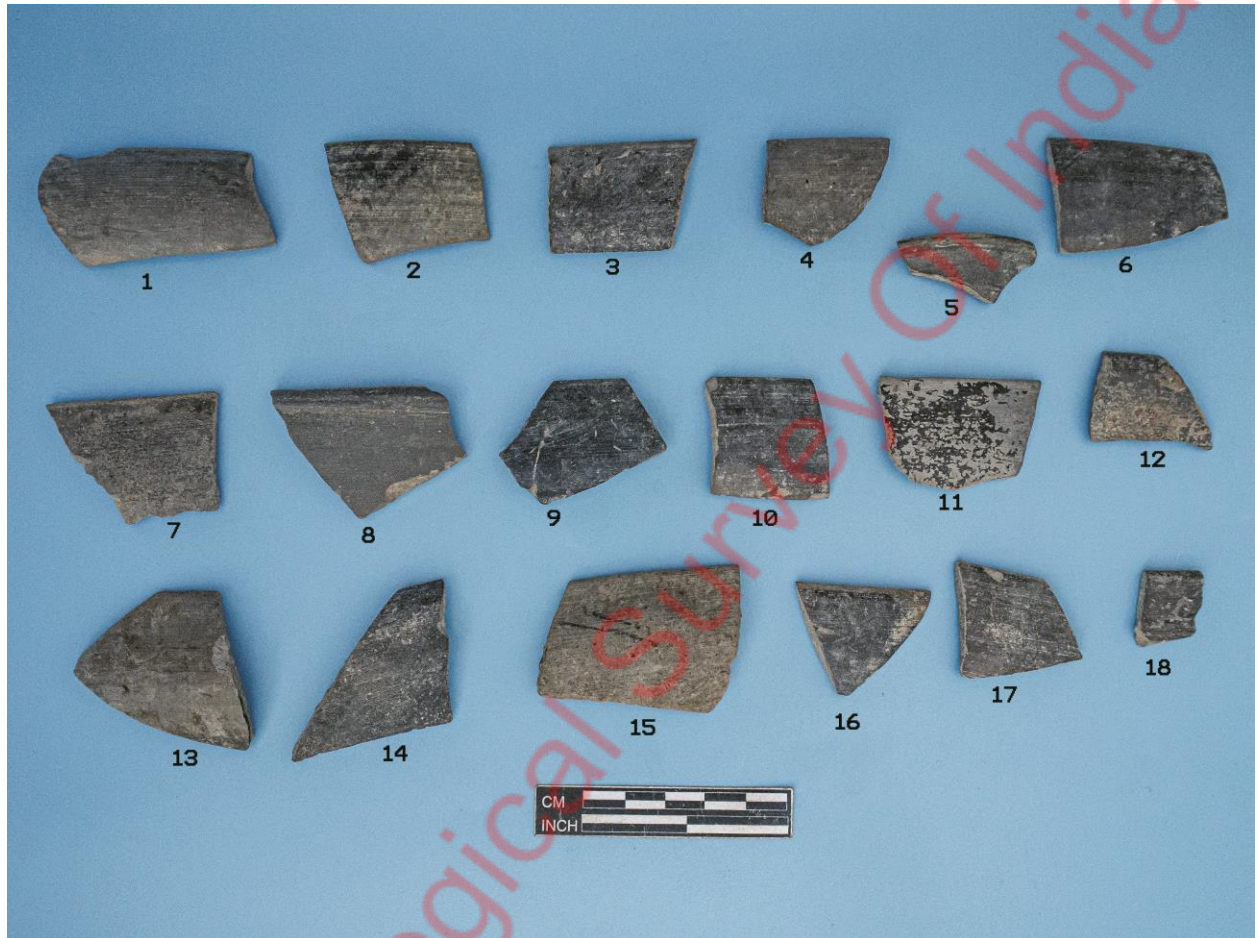


Fig. 7

Plate 8

1. Bowl fragment, bulging wall, in-curved, direct tapering rim. Grey, very fine fabric.
2. Bowl fragment, hemispherical, convex, direct tapering rim. Painted rim and brush strokes running downwards from rim on the outer side. Grey, fine fabric.
3. Bowl fragment, near hemispherical, slightly carinated trunk, in-leaning, upper part of wall straight, direct tapering rim. Externally dark grey and internally light grey, fine fabric.
4. Bowl fragment, bulging wall, in-curved, direct rim. Grey, fine fabric.
5. Bowl fragment, funnel wall, angular horizontal flaring rim. Grey, fine fabric.
6. Bowl fragment, near hemispherical, convex wall, direct rim. Externally dark grey and internally light grey, very fine fabric.
7. Bowl fragment, near hemispherical, convex wall, slightly re-curved thin rim. Grey, fine fabric.
8. Bowl fragment, hemispherical, convex wall, in-beaded chamfered rim. Grey, very fine fabric.
9. Bowl fragment, hemispherical, slightly in-curved wall, direct rim. Externally dark grey and internally light grey, fine fabric.
10. Bowl fragment, hemispherical, slightly in-curved wall, direct rim. Externally dark grey and internally light grey, fine fabric.
11. Bowl fragment, hemispherical, in-curved wall, slightly re-curved direct rim. Externally dark grey and internally light grey, fine fabric.
12. Bowl, hemispherical, in-curved, direct tapering rim. Grey, fine fabric.
13. Bowl fragment, up-curved vertical wall, direct rim. Grey, fine fabric.
14. Bowl fragment, slightly in-curved, direct rim. Externally dark grey and internally light grey, fine fabric.
15. Bowl fragment, bulging wall, direct tapering rim. Faded grey, medium fine fabric.
16. Bowl fragment, hemispherical, slightly re-curved, vertical thin rim. Dark-grey, fine fabric.
17. Bowl fragment, hemispherical, slightly in-curved, direct rim. Grey, fine fabric.
18. Bowl fragment, vertical wall, direct rim. Externally dark-grey and internally light grey. Very fine fabric.



Pl. 8

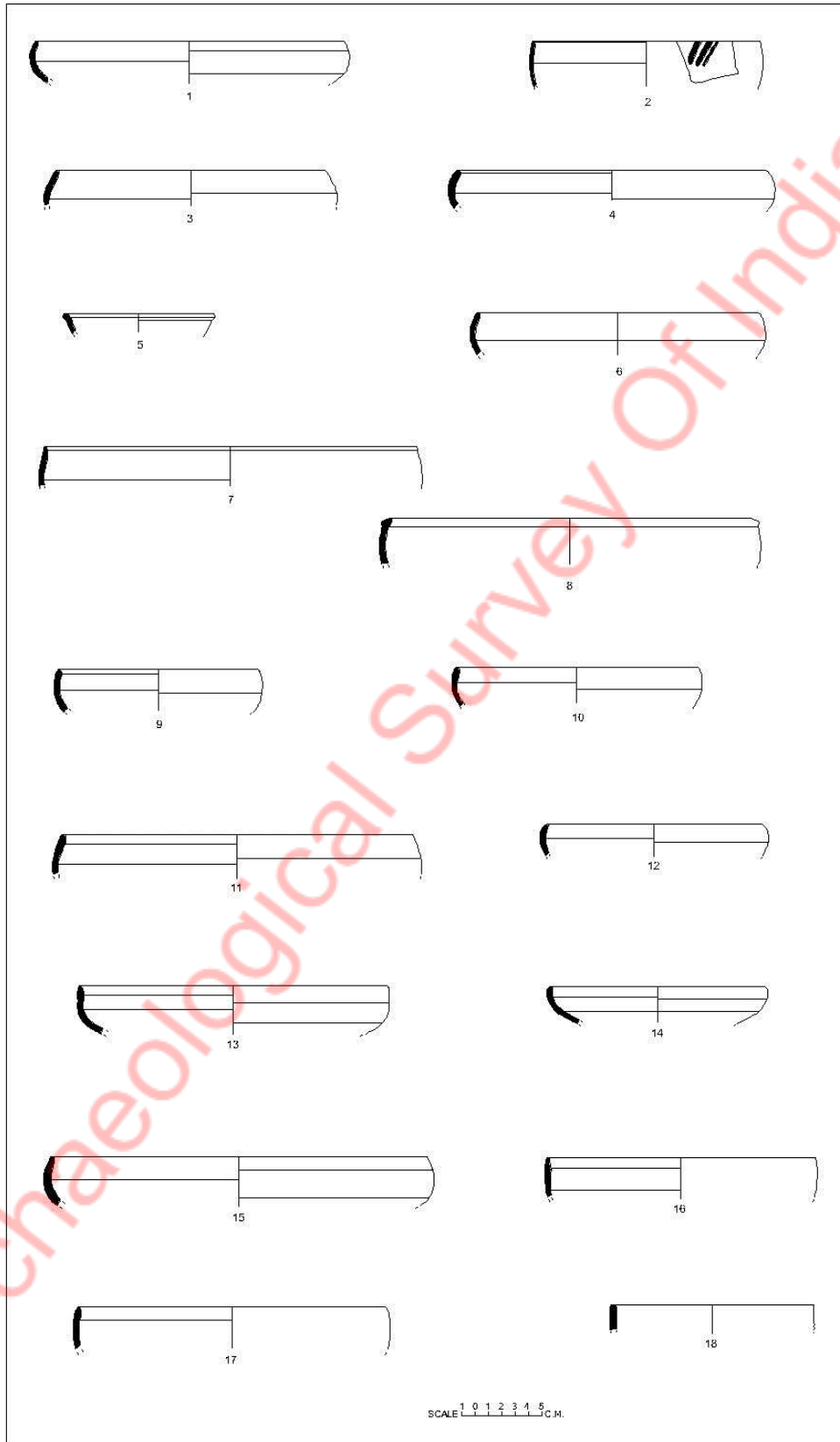


Fig. 8

Plate 9

1. Bowl fragment, flat bottom, funnel wall, in-curved, direct rim. Grey, fine fabric.
2. Bowl fragment, conical wall, in-leaning, slightly carinated from bottom, direct rim. Grey, corrugated on the inner wall, fine fabric.
3. Bowl fragment, slightly bulging at lower trunk and slightly in-leaning at upper trunk, direct rim. Grey, corrugated on the inner wall, fine fabric.
4. Bowl fragment, slightly bulging at lower trunk and slightly in-leaning at upper trunk, direct rim. Grey, corrugated on the inner wall, fine fabric.
5. Bowl fragment, near hemispherical, slightly in-curved, direct rim. Painted on the inner side with vertical strokes. Grey, fine fabric.
6. Bowl fragment, near cylindrical, slightly bulging sides, direct rim. Faded light grey, fine fabric.
7. Bowl fragment, hemispherical, slightly in-curved wall, direct rim. Painted on the inner side with vertical strokes running downwards from rim. Brick-red from outside and grey from inside. Very fine fabric.
8. Bowl fragment, slightly conical, in-leaning, direct rim with tapering edge. Externally dark grey and internally light grey, medium fine fabric.
9. Bowl fragment, hemispherical, in-curved, direct rim. Grey, half of the exterior portion painted with black. Fine fabric.



Pl. 9

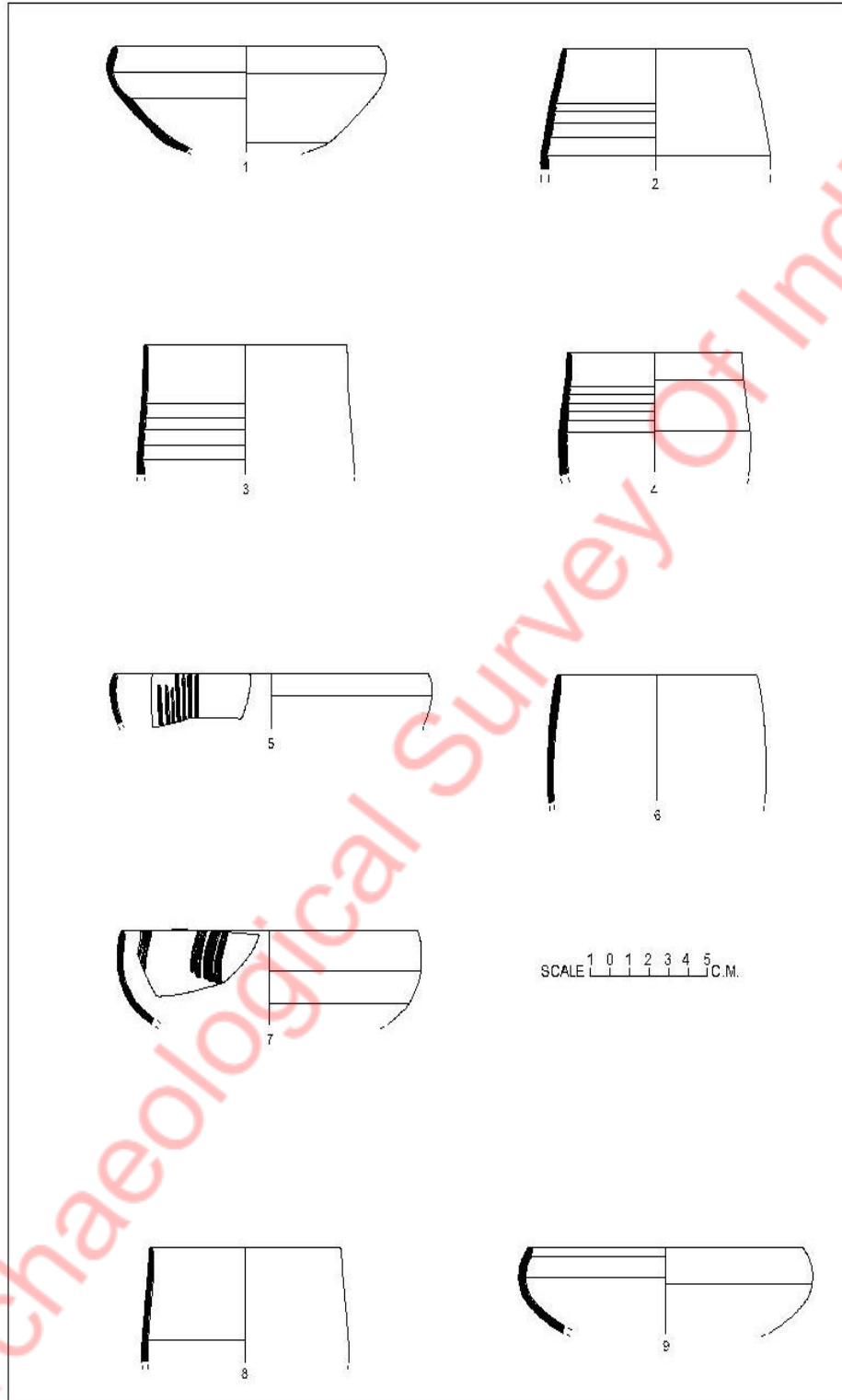


Fig. 9

Plate 10

1. Bowl fragment, nearly flat bottom, carinated trunk, in-leaning wall, direct rim. Light grey, fine fabric.
2. Bowl fragment, shallow paraboloidal bottom, carinated edge, in-curved, direct rim. Light grey, fine fabric.
3. Bowl fragment, saggar base, bulging wall, slightly in-curved, direct rim with tapering edge. Light grey, fine fabric.
4. Bowl fragment, shallow paraboloidal bottom, carinated edge, in-curved, direct rim. Faded grey, fine fabric.
5. Bowl fragment, bulging wall, in-curved, direct rim. Light Grey, fine fabric.
6. Bowl fragment, shallow paraboloidal bottom, slightly carinated, in-curved, in-beaded rim. Grey, Fine fabric.
7. Bowl fragment, lenticular bottom with carinated edge, conical wall (in-leaning), direct rim. Light grey, fine fabric.
8. Bowl fragment, paraboloidal bottom, in-leaning, upper part of wall straight, rim sharp edge. Externally dark grey and internally grey. Fine fabric.



Pl. 10

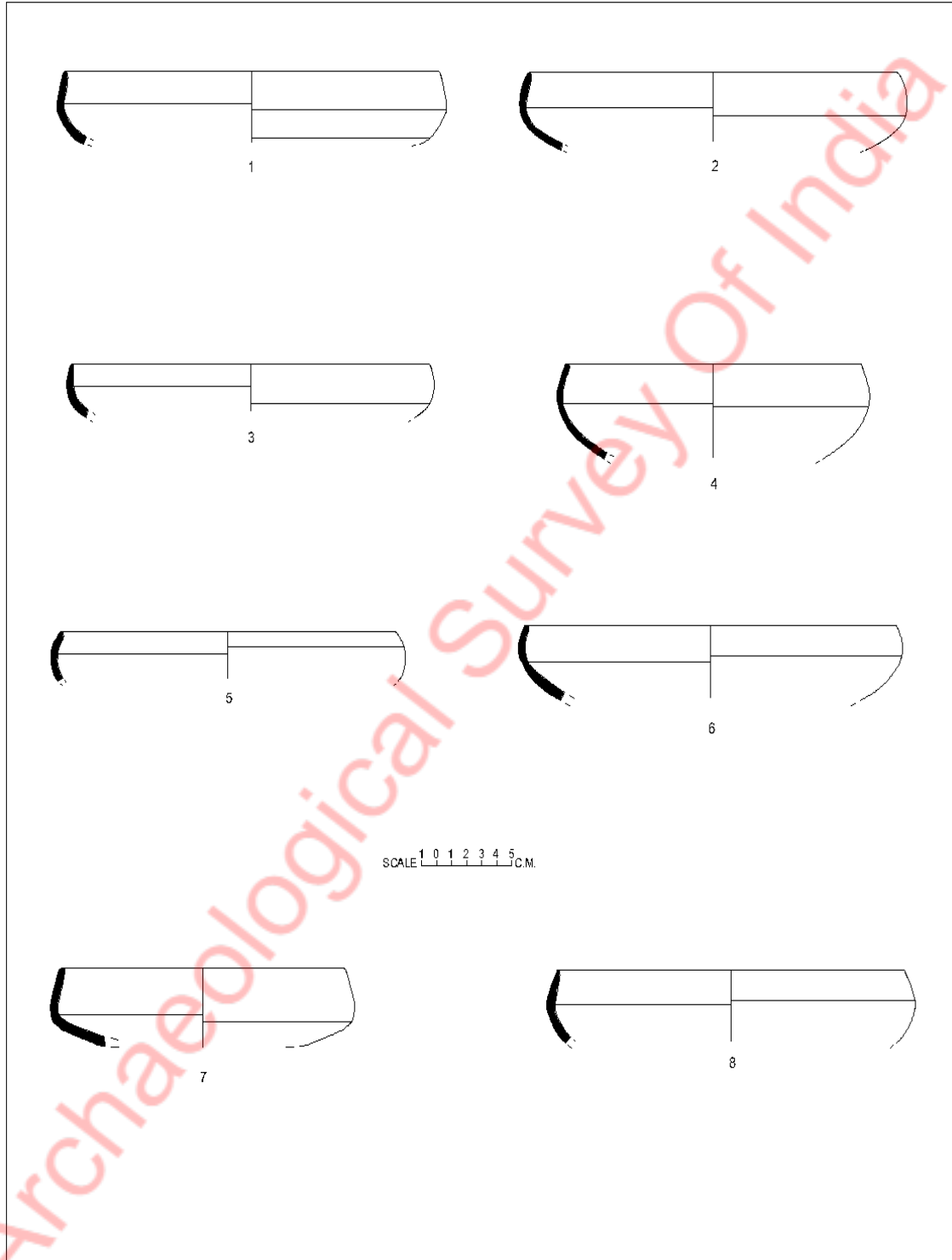


Fig. 10

Plate 11

1. Bowl fragment, bulging wall, in-curved, direct rim. Grey, fine fabric.
2. Bowl fragment, saggar base, up-curved, upper part of wall straight, direct rim. Painted in black, Grey, fine fabric.
3. Bowl fragment, near funnel wall, in-curved, direct rim. Grey, fine fabric.
4. Bowl fragment, saggar base, near straight wall, grey, fine fabric.
5. Bowl fragment, flat base, up-curved, direct rim. Grey, fine fabric.
6. Bowl fragment, lenticular bottom, in-curved wall, round edge direct rim. Grey, fine fabric.
7. Fragmentary bowl, saggar base, up-curved wall, externally dark grey except base part and internally grey. Fine fabric.



Pl. 11

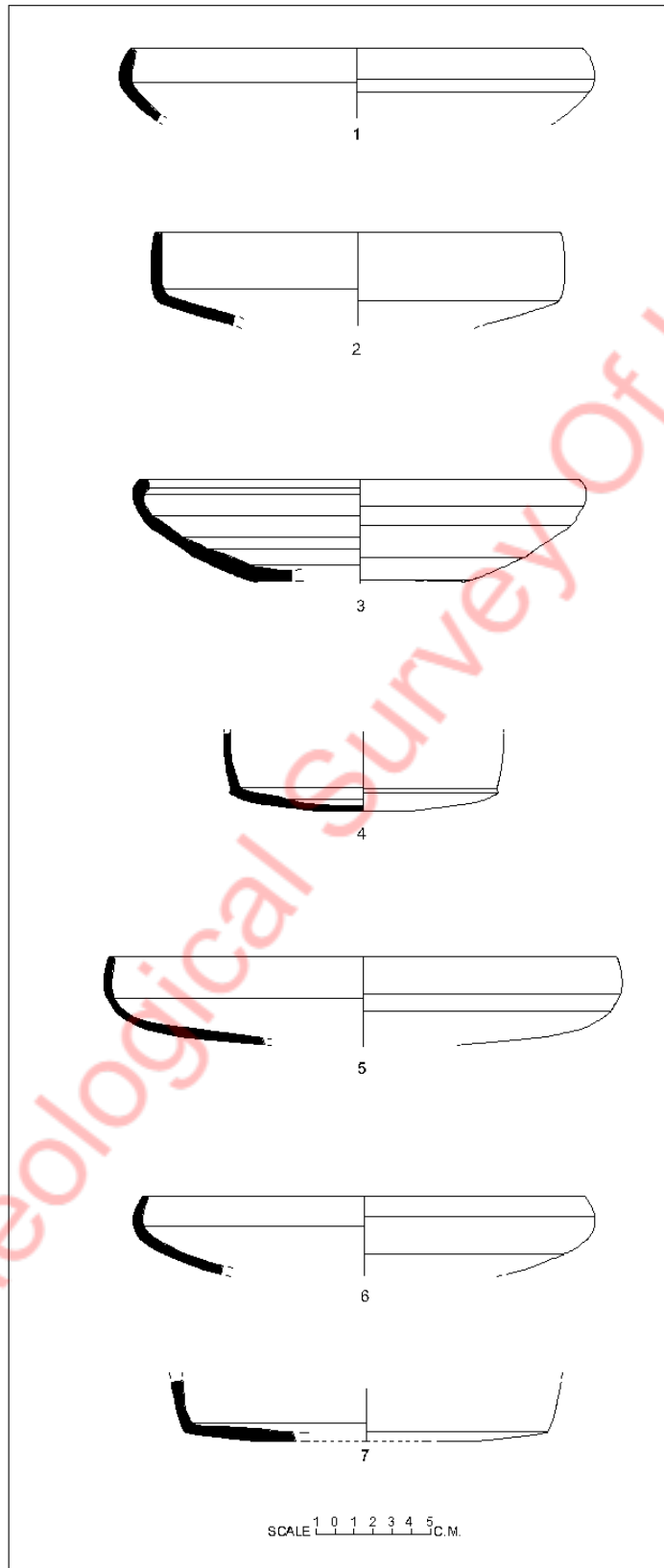


Fig. 11

Plate 12

1. Fragment of bowl, up-curved, slightly in-leaning, in-beaded rim. Grey, very fine fabric.
2. Bowl fragment, near hemispherical, in-curved wall, direct blunt rim. Grey, fine fabric.
3. Jar fragment, direct flaring rim. Black and red, coarse fabric.
4. Jar fragment, globular, funnel neck, plain rim. Black and red, coarse fabric.
5. Bowl fragment, in-curved wall, black rim, in-bevelled rim. Grey, very fine fabric.
6. Jar fragment, re-curved neck, short beaked round edged rim. Faded brick-red, medium coarse fabric.
7. Jar fragment, bevelled rim. Black, fine fabric.
8. Funnel bowl fragment, up-curved direct tapering rim. Black, coarse fabric.
9. Bowl fragment, in-curved wall, black rim, ridges on trunk, direct tapering rim. Grey, very fine fabric. An arrow head shaped painting in black on the exterior.
10. Jar fragment, re-curved neck, rectangle club in-beaked rim. Black, medium coarse fabric.
11. Bowl fragment, slightly bulging corrugated trunk, grooved internally, conical neck, steep direct rim. Black, slip, very fine fabric.
12. Fragment of jar, corrugated rim. Brown, fine fabric.
13. Bowl fragment, convex wall or in-leaning wall, in-beaded rim. Grey, very fine fabric.
14. Fragment of bowl, up-curved, slightly in-leaning, direct rim. Grey, fine fabric.
15. Bowl fragment, slightly in-curved wall, direct rim. Black, very fine fabric.
16. Bowl fragment, lenticular bottom with carinated edge, conical wall slightly in-leaning wall, direct rim. Internally dark grey and externally light grey, fast wheel, fine fabric.



Pl. 12

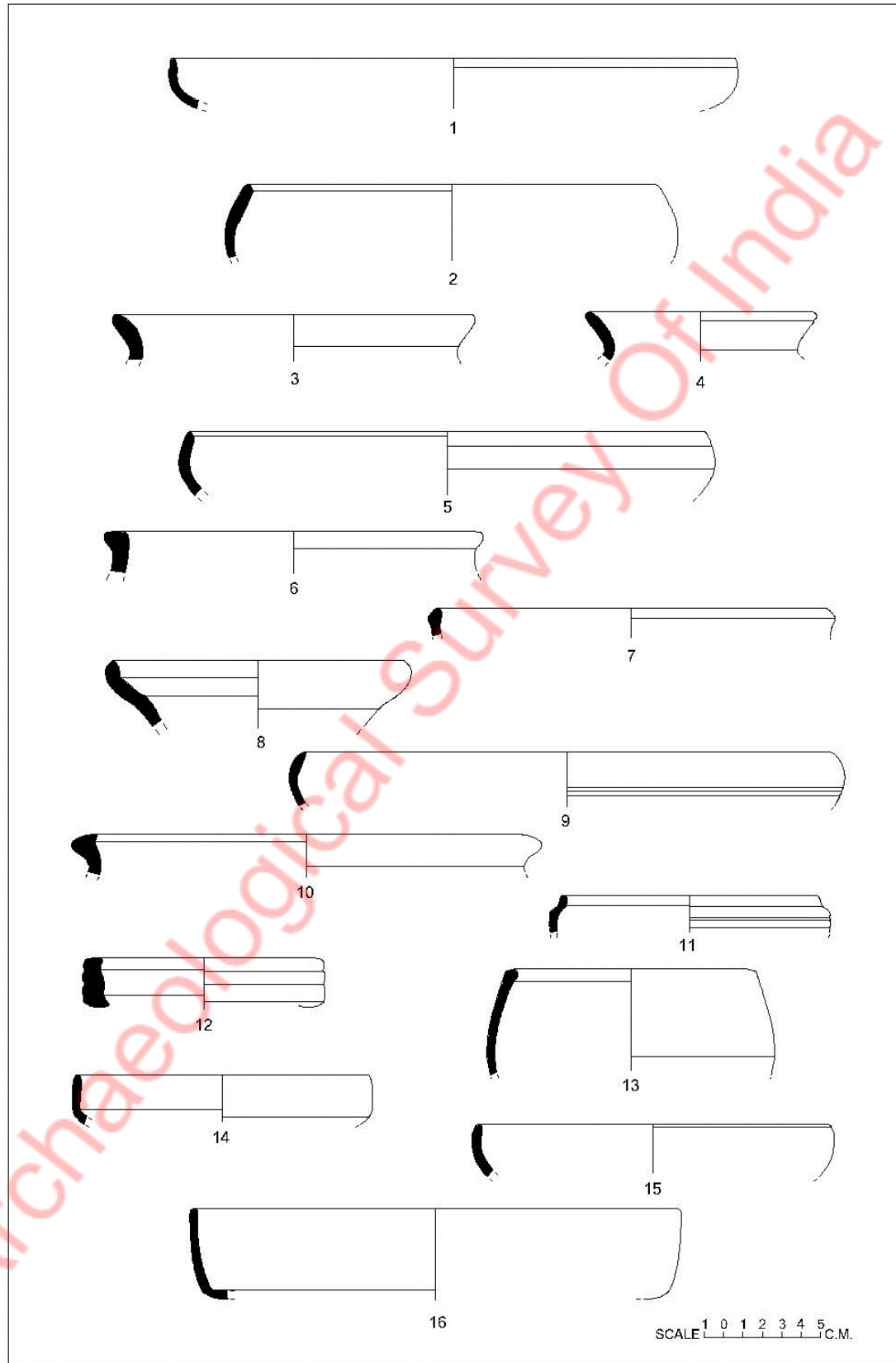
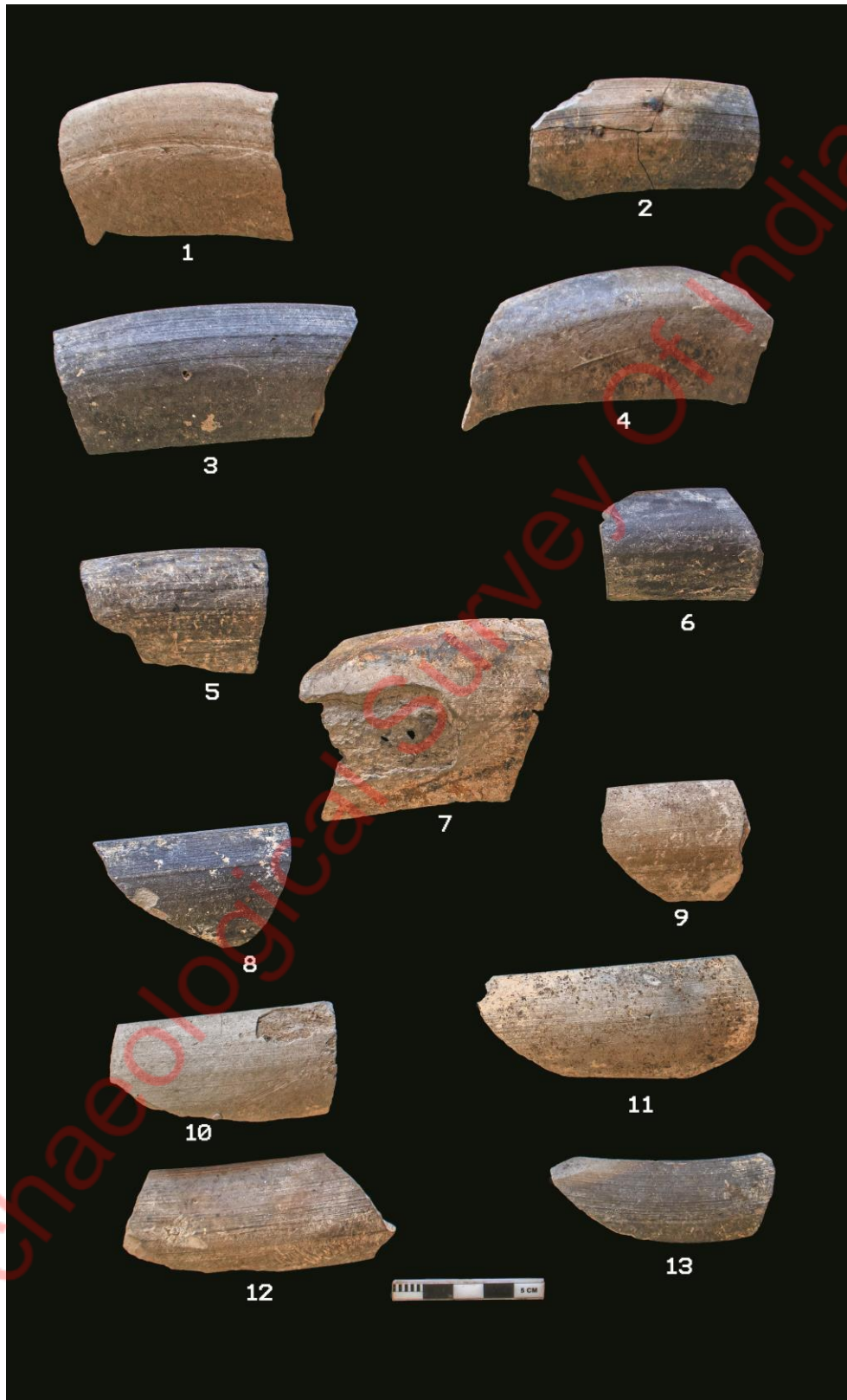


Fig. 13

Plate 13

1. Bowl fragment, near hemispherical, in-curved wall, slightly grooved on trunk, direct rim. Grey, fine fabric.
2. Bowl fragment, bulging wall, slightly re-curved tapering rim. Grey, ill firing, fine fabric.
3. Bowl fragment, convex wall, slightly in-leaning direct rim. Externally dark-grey and internally light grey. Very fine fabric.
4. Bowl fragment, bulging wall, slightly carinated trunk, slightly in-curved, direct rim. Grey, fine fabric.
5. Bowl fragment, bulging wall, thick round edge direct rim. Grey, fine fabric.
6. Bowl fragment, bulging wall, in-leaning, direct tapering rim. Externally grey and internally light grey, fine fabric.
7. Bowl fragment, bulging trunk, in-curved, direct rim. Grey, fine fabric.
8. Bowl fragment, bulging wall, in-leaning, direct rim. Externally grey and internally light grey, fine fabric.
9. Bowl fragment, bulging wall, in-curved, direct tapering rim. Externally grey and internally light grey, fine fabric.
10. Bowl fragment, bulging wall, in-curved, direct tapering rim. Grey, fine fabric.
11. Bowl fragment, bulging wall, slightly in-curved, direct rim. Grey, fine fabric.
12. Bowl fragment, bulging wall, in-curved, direct rim. Grey, fine fabric.
13. Bowl fragment, near hemispherical, in-curved, direct rim, externally grey and internally light grey, fine fabric.



Pl. 13

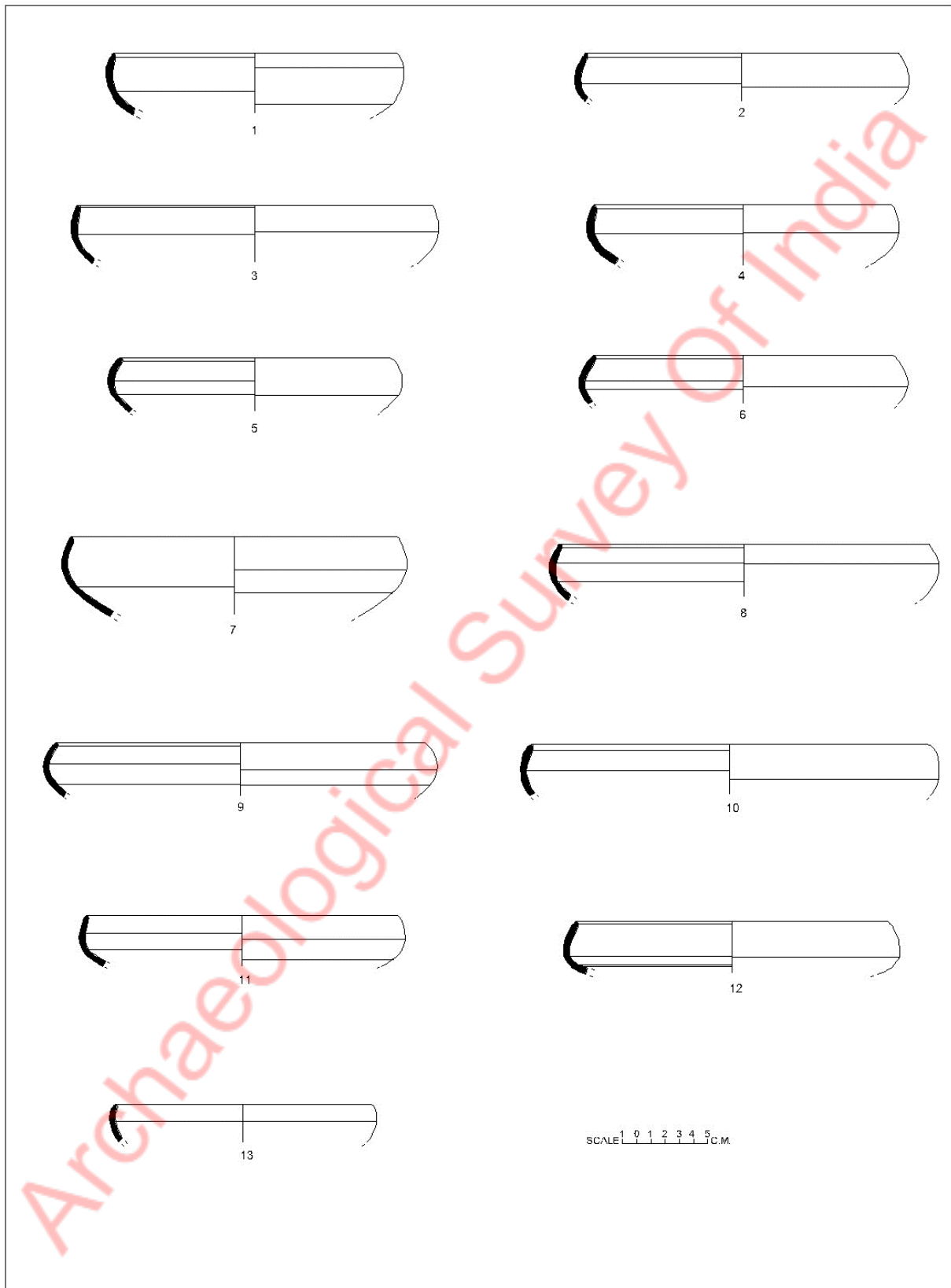


Fig. 13

Plate 14

1. Bowl fragment, bulging wall, lenticular bottom, in-curved wall, in-beaded rim. Dark grey, medium fine fabric.
2. Bowl fragment, bulging wall, lenticular bottom, in-curved wall, direct rim. Dark grey, fine fabric.
3. Bowl fragment, flat base with carinated edge, out-leaning wall, bevelled rim. Light grey, fine fabric.
4. Bowl fragment, lenticular bottom with slightly carinated, bulging wall, direct tapering rim. Grey, fine fabric.
5. Bowl-fragment, nearly flat bottom, bulging sides, nearly straight slightly in-curved wall, tapering direct rim. Grey, fine fabric.
6. Bowl fragment, near hemispherical, convex wall, direct tapering rim. Grey, fine fabric.
7. Bowl fragment, lenticular bottom with slightly carinated, in-curved, direct tapering rim. Grey, fine fabric.
8. Bowl fragment, lenticular bottom with slightly carinated, in-curved, direct rim. Grey, fine fabric.
9. Bowl fragment, lenticular bottom with slightly carinated, in-curved, direct rim. Light grey, fine fabric.
10. Bowl fragment, hemispherical, convex wall, direct rim. Light grey, very fine fabric.
11. Bowl fragment, lenticular bottom with slightly carinated, in-curved, direct rim. Grey, fine fabric.
12. Bowl fragment, hemispherical, convex wall, direct rim. Light grey, very fine fabric.



Pl. 14

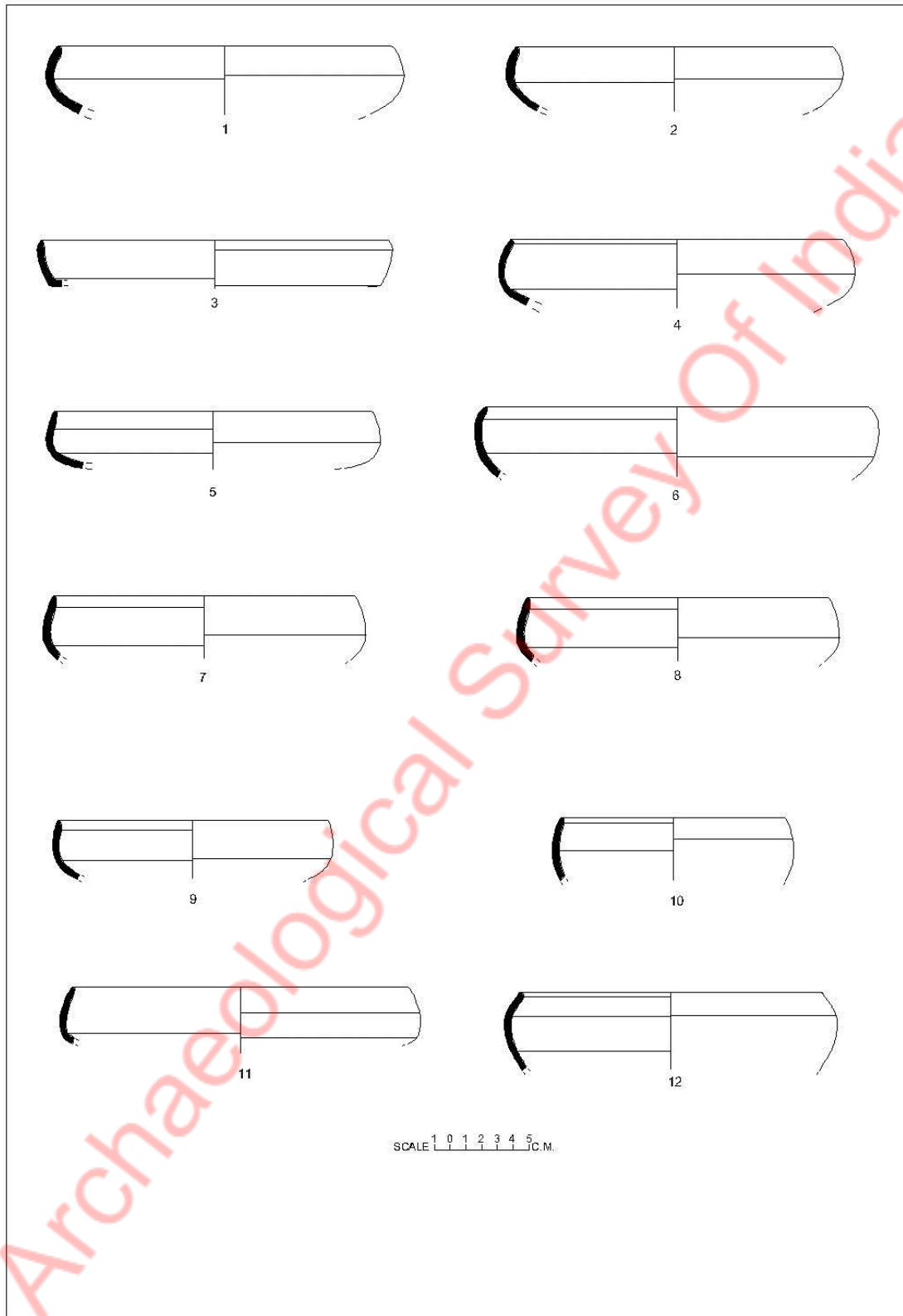
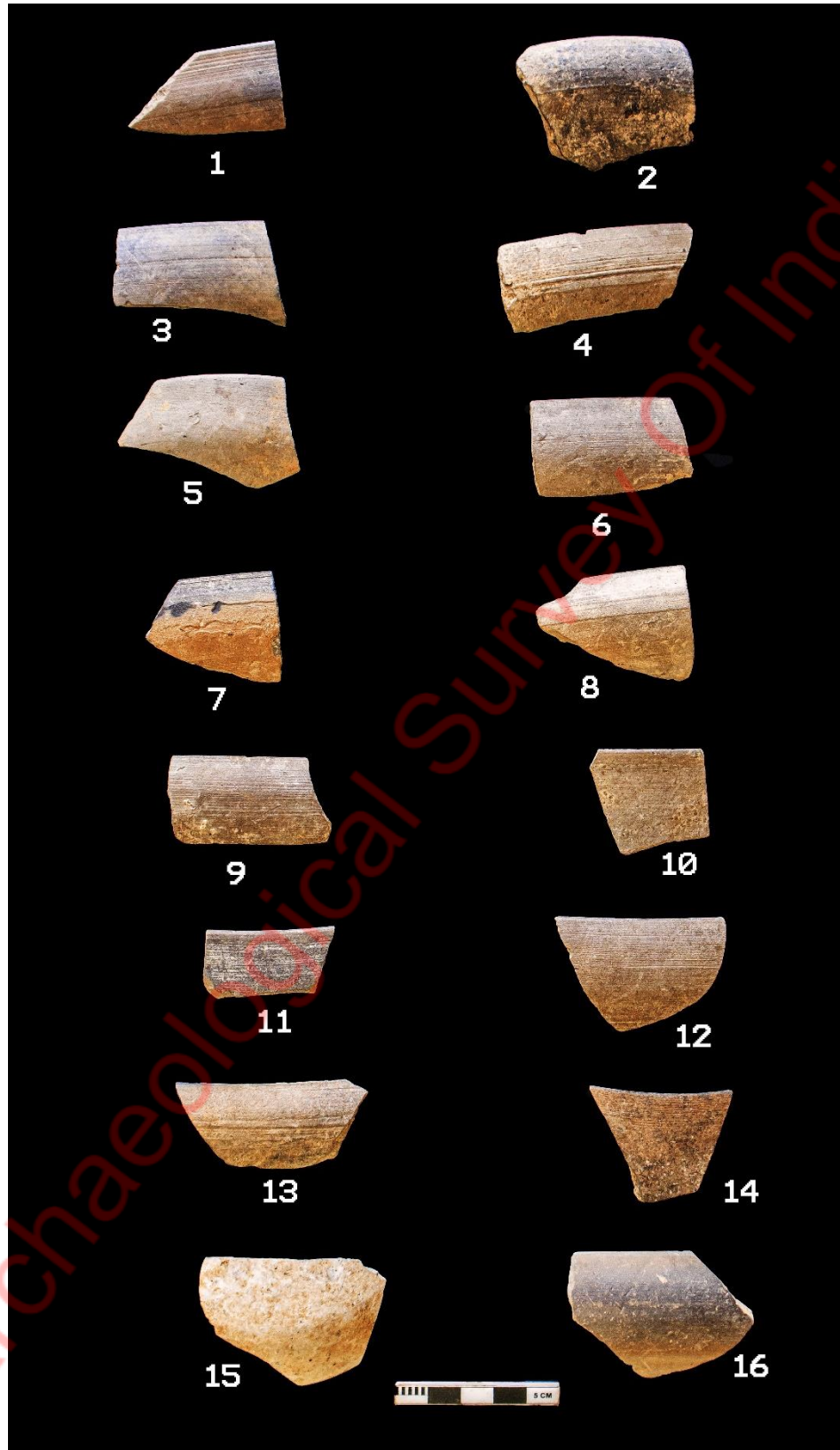


Fig. 14

Plate 15

1. Bowl Fragment, hemispherical, in-beaded rim. Externally dark grey and internally light grey. Fine fabric.
2. Bowl fragment, lenticular bottom, bulging, in-curved wall, direct rim. Externally dark grey and internally light grey. Fine fabric.
3. Bowl fragment, hemispherical, convex wall, direct rim. Dark grey from outside and light grey from inside. Fine fabric.
4. Bowl fragment, convex wall, direct tapering rim. Light grey, medium fine fabric.
5. Bowl fragment, lenticular bottom, up-curved in-leaning wall, direct rim. Light grey, fine fabric.
6. Bowl fragment, near hemispherical, slightly in-curved, direct tapering rim. Light grey, fine fabric.
7. Bowl fragment, bulging wall, in-curved, direct rim. Grey, medium fine fabric.
8. Bowl fragment, bulging wall, in-curved, direct rim with slightly tapering edge. Light grey, fine fabric.
9. Bowl fragment, bulging wall, in-curved, direct rim. Light Grey, fine fabric.
10. Bowl fragment, conical or in-leaning wall, in-bevelled rim. Grey, fine fabric.
11. Bowl fragment, conical wall, in-leaning, direct rim. Grey, fine fabric.
12. Bowl fragment, hemispherical, convex wall, slightly in-curved wall, round edge direct rim. Grey, fine fabric.
13. Bowl fragment, bulging wall, in-curved, direct tapering rim. Grey, fine fabric.
14. Bowl fragment, conical or in-leaning wall, direct rim. Grey, medium fine fabric.
15. Bowl fragment, lenticular bottom, up-curved vertical wall, direct tapering rim. Light grey, very fine fabric.
16. Bowl fragment, lenticular base, in-curved wall, direct rim. Light grey, very fine fabric.



Pl. 15

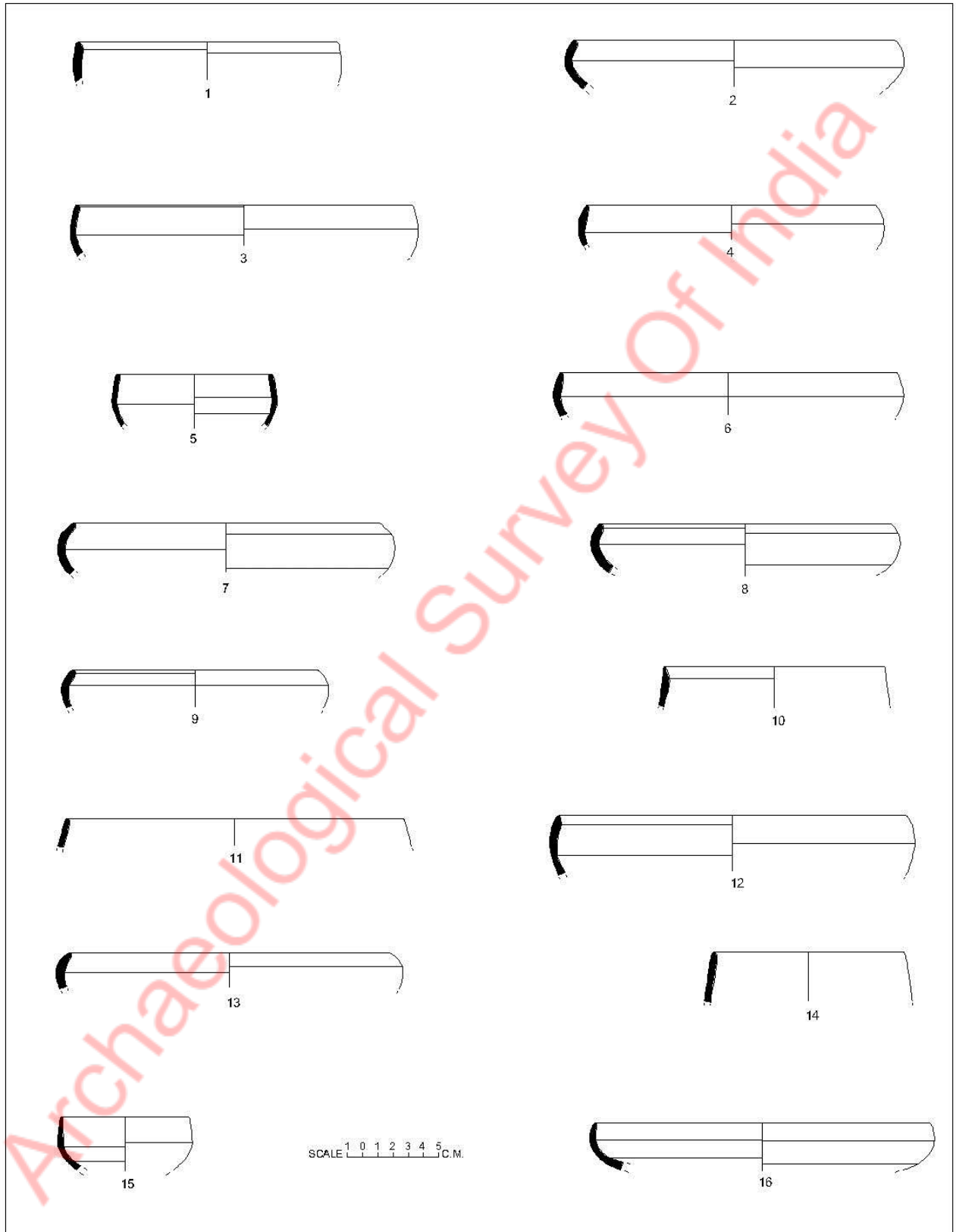


Fig. 15

Plate 16

1. Sherd of black slip ware, fine fabric.
2. Bowl fragment, out-leaning wall, saggar base, direct tapering rim. Black slipped, medium fine fabric.
3. Bowl fragment, hemispherical, in-bevelled rim. Black slipped, medium fine fabric.
4. Sherd of black slip ware, round carinated wall or up-cured trunk. Fine fabric.
5. Shoulder portion of black slip ware jar, step channeled and decorated with oblique geometrical incised or grooved. Medium fine fabric.
6. Bowl fragment, lenticular bottom, bulging wall, in-curved direct rim. Black slipped, very fine fabric.
7. Bowl fragment, bulging wall, in-curved wall, direct rim. Black slipped, very fine fabric.
8. Bowl fragment, convex wall, slightly in-curved, direct tapering rim. Black slipped, fine fabric.
9. Sherd of black slipped ware, fine fabric.
10. Bowl fragment, hemispherical, convex wall, direct rim. Black slipped, fine fabric.
11. Base fragment of black slipped ware, emerging dot in center inside grooved concentric circles, very fine fabric.
12. Sherd of black slipped ware, fine fabric.
13. Sherd of black slipped ware, fine fabric.
14. Bowl fragment, hemispherical, convex wall, in-bevelled rim. Black slipped except rim portion, fine fabric.
15. Sherd of black slipped ware, grooved from inside, fine fabric.
16. Sherd of black and red ware, fine fabric.
17. Bowl fragment, near hemispherical, slightly in-curved direct rim. Black and red, fine fabric.
18. Bowl fragment, convex wall, slightly in-curved, direct tapering rim. Black slipped, fine fabric.
19. Bowl fragment, up-curved, slightly in-leaning wall, direct rim. Black slipped, fine fabric.



Pl. 16

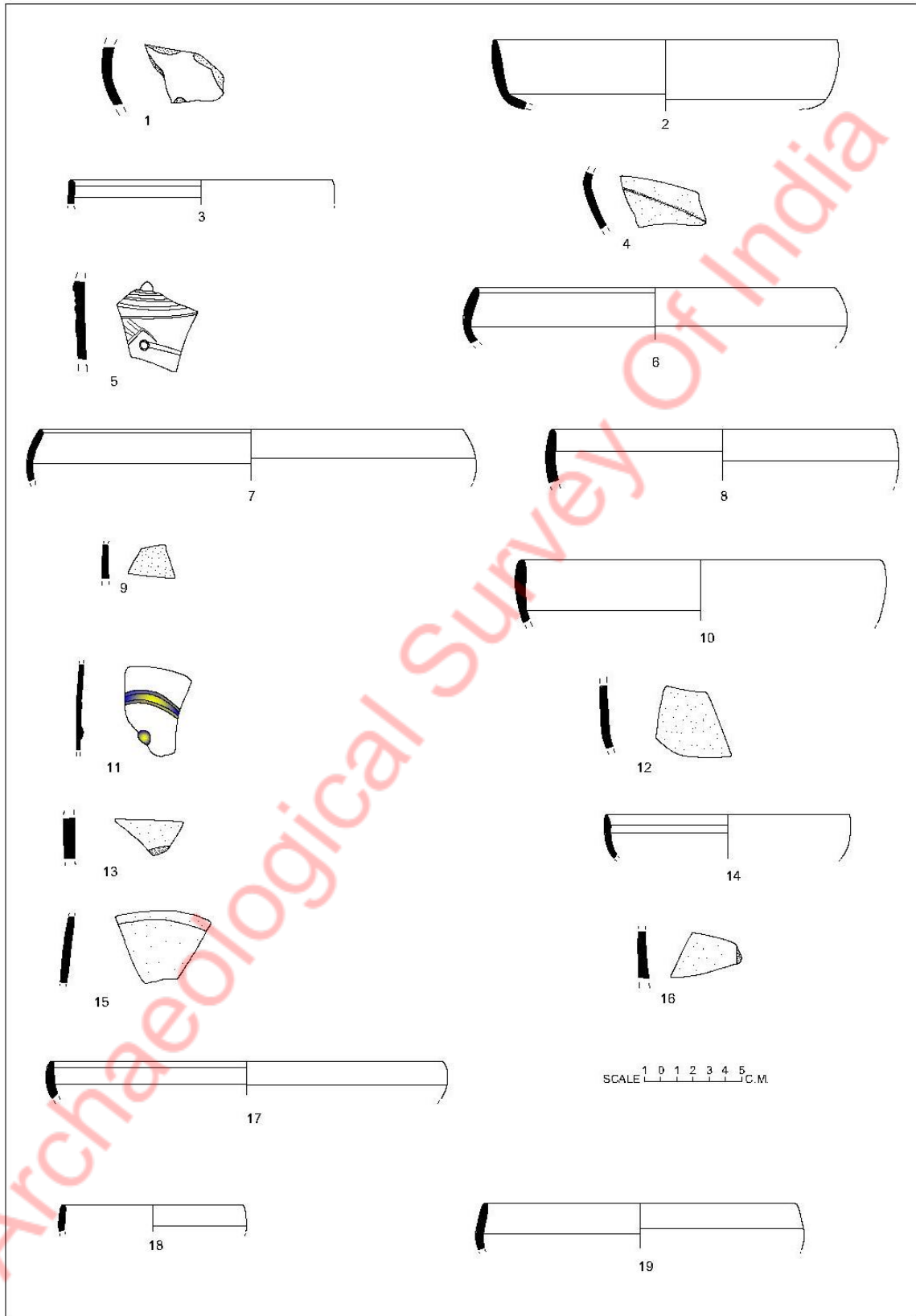


Fig.16

Plate 17

1. Cylindrical bowl fragment, direct tapering rim. Grey, very fine fabric.
2. Cylindrical bowl fragment, slightly bulging wall, direct tapering rim. Light grey, very fine fabric.
3. Cylindrical bowl fragment, direct rim. Light grey, very fine fabric.
4. Cylindrical bowl fragment, direct rim. Grey, fine fabric.
5. Cylindrical bowl fragment, direct tapering rim. Light grey internally and dark grey externally, very fine fabric.
6. Bowl fragment, ridges internally, direct rim. Dark grey, very fine fabric.
7. Bowl fragment, near hemispherical, direct rim. Grey, fine fabric.
8. Deep bowl fragment, hemispherical lower wall, cylindrical upper wall, direct tapering rim. Grey, fine fabric.
9. Fragment of bowl, up-curved, slightly in-leaning, direct rim. Grey, fine fabric.
10. Cylindrical bowl fragment, slightly bulging wall, direct rim. Light grey externally and grey internally, fine fabric.
11. Jar fragment, globular, re-curved neck, grooved flaring rim. Grey, hole on neck portion, ridges on the shoulder internally, very fine fabric.
12. Jar fragment, capstan neck, grooved and impressed cuneiform dots below neck, corrugated rim. Black and red, slipped, very fine fabric.



Pl. 17

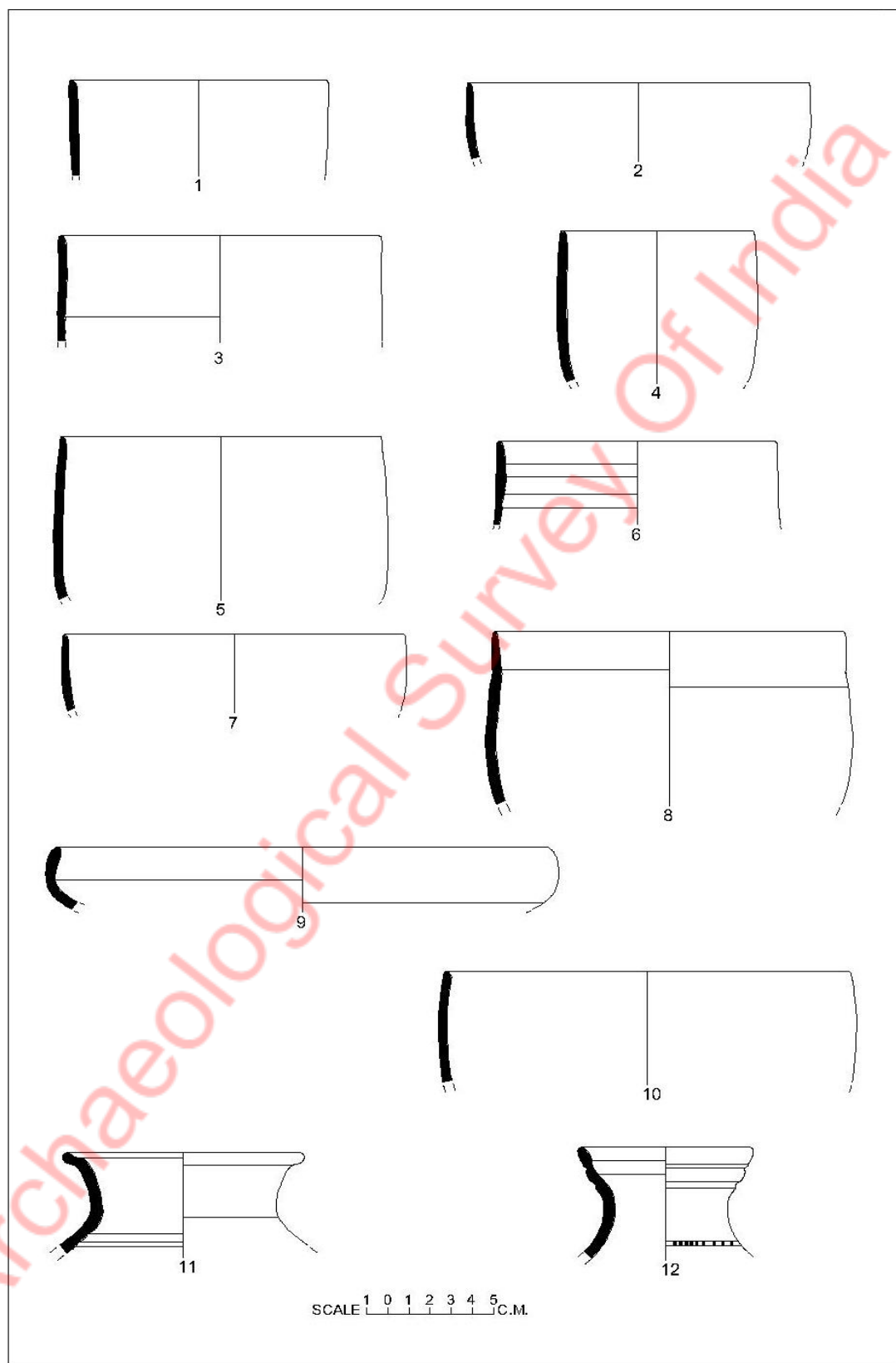


Fig. 17

Plate 18

1. Jar fragment, corrugated below rim, thick tapering rim. Faded red, rough surface, coarse fabric.
2. Jar fragment, re-curved neck, corrugated or double grooved beaded rim. Dark brick-red, fine fabric.
3. Bowl fragment, conical wall, in-beaded rim. Brick-red, ill firing, coarse fabric.
4. Funnel bowl fragment, grooved on lower and upper wall, double beaded rim.
5. Rim fragment, funnel neck, slightly grooved bevelled rim. Brown, medium coarse fabric.
6. Rim fragment, funnel neck? Beaded rim. Dark-brown, ill firing, medium fine fabric.
7. Small jar, concave neck, direct flaring rim. Faded brown, fine fabric.
8. Bowl fragment, bulging wall, in-curved, direct rim. Faded brown, medium fine fabric.
9. Bowl fragment, near hemispherical, convex wall, short beaked rim. Black, medium coarse fabric.
10. Bowl fragment, near hemispherical, convex wall, in-leaning, in-beaded rim. Faded black, fine fabric.



Pl. 18

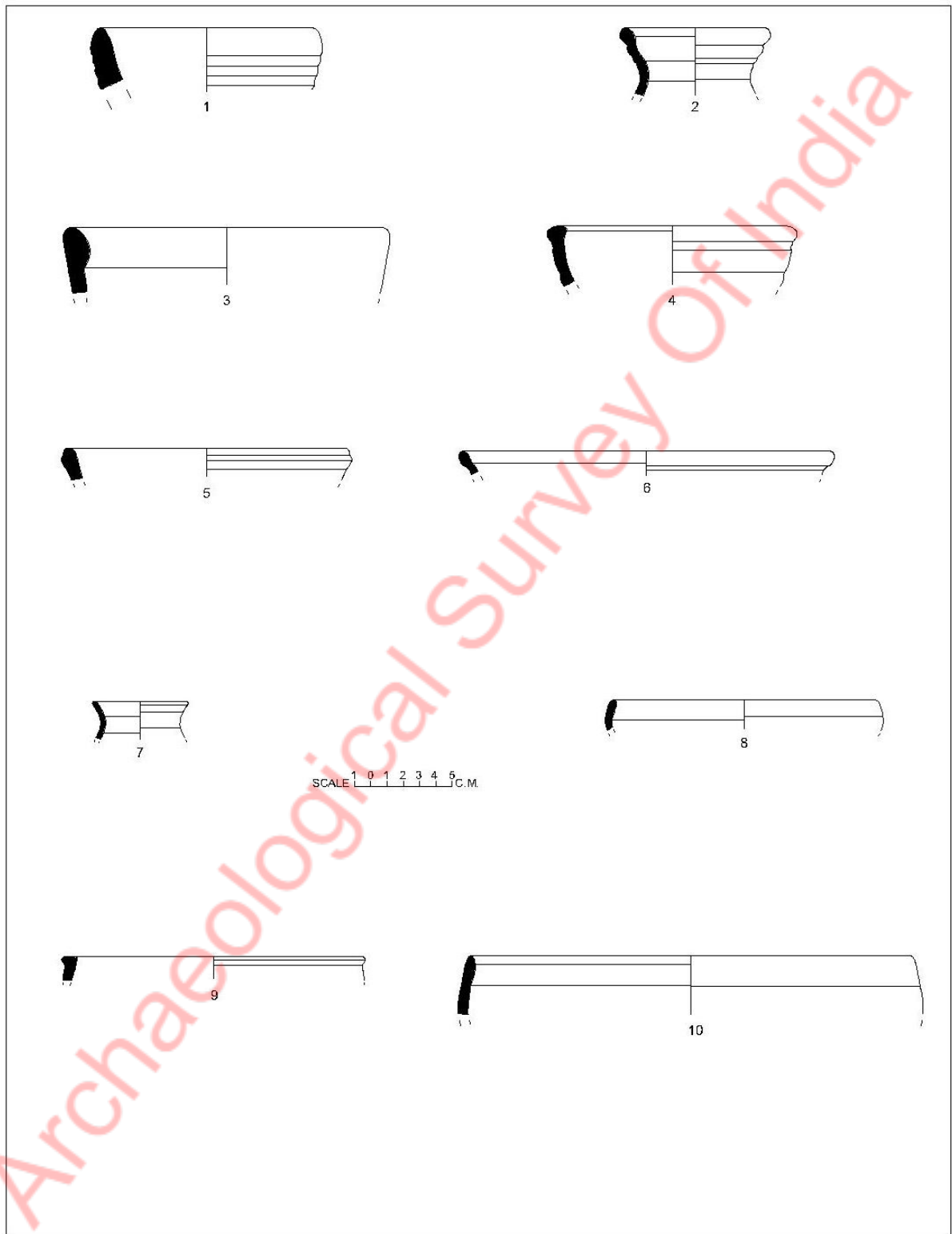


Fig. 18

Plate 19

1. Bowl fragment of black slipped ware, flat bottom, up-curved wall, out-leaning direct rim. Fine fabric.
2. Bowl fragment, bulging sides, slightly in-curved, direct tapering rim. Black, inside brown, fine fabric.
3. Bowl fragment, saggar base, up-curved wall, direct rim. Brown, fine fabric.
4. Bowl fragment, saggar base? Up-curve, slightly in-leaning wall, direct rim. Black, medium fine fabric.
5. Bowl fragment, hemispherical, thick round edge rim. Black, fine fabric.
6. Bowl fragment, bulging wall, slightly in-curved, beaded rim. Black, medium fine fabric.
7. Bowl fragment, saggar base, slightly in-leaning, up-curved, direct rim. Fine fabric.
8. Bowl fragment, slightly convex vertical wall, direct rim. Medium fine fabric.
9. Bowl fragment, hemispherical, in-beaded rim. Black, medium fine fabric.
10. Bowl fragment, slightly carinated, up-curved, everted rim. Black slipped, fine fabric.
11. Bowl fragment, slightly carinated, up-curved, everted rim. Black slipped, fine fabric.
12. Bowl fragment, bulging wall, direct rim. Black, fine fabric.
13. Small bowl fragment, convex wall, direct rim. Fine fabric.
14. Bowl fragment, near hemispherical, convex wall, direct rim. Black, medium fine fabric.



Pl. 19

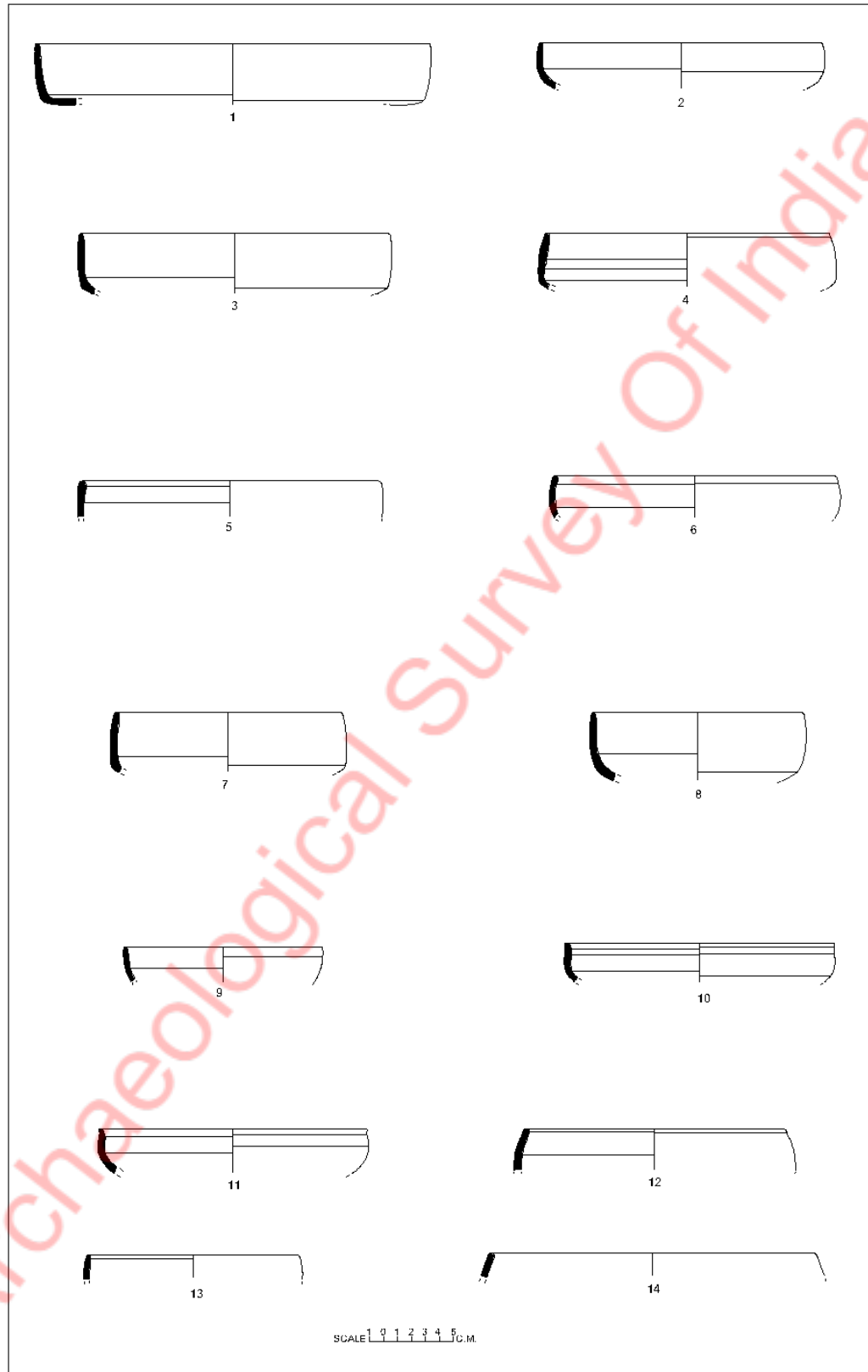


Fig. 19

Plate 20

1. Large bowl fragment of red ware (almost an variation of PGW), near hemispherical, in-curved, direct tapering rim. Painted rim from both side and set of 6 brush-strokes running downwards from rim on the outer side. Brick-brown, fine fabric.
2. Large cylindrical bowl, direct rim. Light brick-red, fine fabric.
3. Bowl fragment, hemispherical, chamfered rim. Brick-red, fine fabric.
4. Jar fragment, globular, funnel neck, direct tapering rim. Faded brown, micaceous, medium coarse fabric.
5. Bowl fragment, double channeled neck, beaded rim. Brown, medium fine fabric.
6. Fragment of Jar, conical wall, slightly concave from top, direct rim. Faded brown, fine fabric.
7. Fragment of Jar, pyriform, angular funnel neck, direct rim. Light brick-brown, black from inside, small amount of mica present, coarse fabric.
8. Bowl fragment, hemispherical, convex side, direct tapering rim. Dark-brown, fine fabric.
9. Bowl fragment, hemispherical, slightly carinated trunk, in-leaning, upper part of wall straight, direct rim. Faded brown, medium fine fabric.



Pl. 20

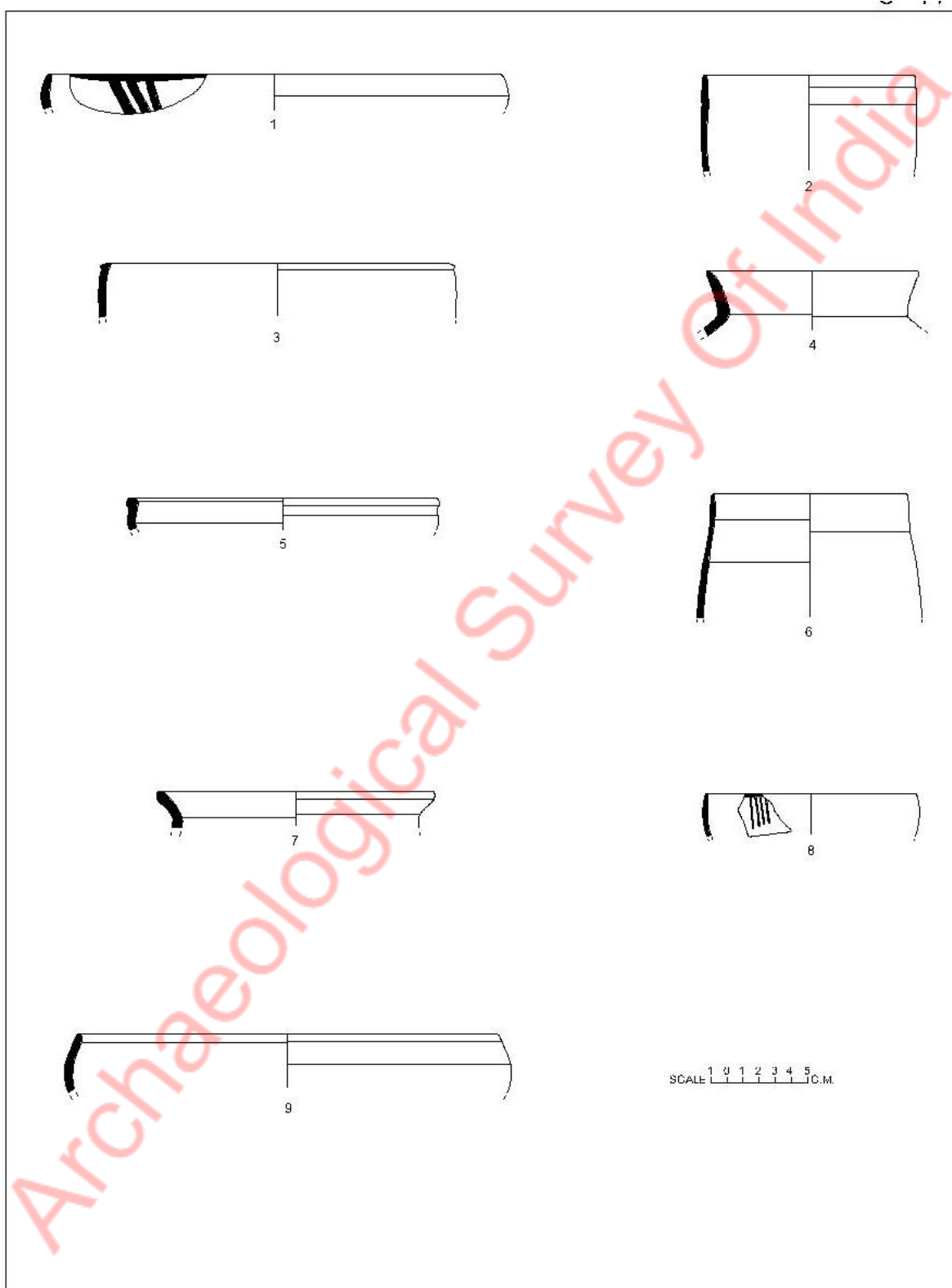


Fig. 20

Plate 21

1. Sherd of grey ware, painted on the inner side with comb pattern, fine fabric
2. Sherd of grey ware, having rough surface. medium fine fabric
3. Sherd of grey ware, painted on the inner side with floral pattern, medium fine fabric.
4. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
5. Sherd of grey ware, painted on the inner side with comb pattern, oxidized red on the outer surface, medium fine fabric.
6. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
7. Sherd of grey ware, painted on the outer surface with comb pattern, brick red on both sides, medium fine fabric.
8. Sherd of grey ware, painted on the inner side with wave pattern, brick red – outer surface, medium fine fabric.
9. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
10. Sherd of grey ware, painted on the inside with wavy pattern strokes, medium fine fabric.
11. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
12. Sherd of grey ware, painted on the inner side with triple parallel strokes, treated with black slip on outer surface, fine fabric.
13. Sherd of grey ware, painted on the outside with triple incomplete concentric circles, fine fabric.
14. Sherd of grey ware, painted on the inner side with comb pattern, fine fabric.
15. Sherd of grey ware, painted on the outer side with comb pattern, medium fine fabric.
16. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
17. Sherd of grey ware, painted on the inner side with comb pattern, fine fabric.
18. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
19. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
20. Sherd of grey ware, painted on the inside with triple incomplete concentric circles, medium fine fabric.
21. Sherd of grey ware, painted on the outside with incomplete concentric circle, medium fine fabric.
22. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
23. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
24. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
25. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
26. Sherd of grey ware, painted on the inside with wavy pattern strokes, medium fine fabric.
27. Sherd of grey ware, painted with black on outer surface, comb pattern, treated with red slip, medium fine fabric.
28. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
29. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
30. Sherd of grey ware, painted on the inner side with dotted pattern, fine fabric.
31. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.
32. Sherd of grey ware, painted on the inner side with comb pattern, medium fine fabric.



Pl. 21

Plate 22

1. Sherd of grey ware, treated with black slip on the outer surface, medium fine fabric.
2. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
3. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
4. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
5. Sherd of grey ware, medium fine fabric.
6. Sherd of grey ware, treated with black slip on the outer surface, coarse fabric.
7. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
8. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
9. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
10. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
11. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
12. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
13. Sherd of grey ware, treated with black slip on the both sides, coarse fabric.
14. Sherd of NBPW, fine fabric.
15. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
16. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
17. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
18. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
19. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.
20. Sherd of grey ware, treated with black slip on the both sides, medium fine fabric.



Pl. 22

Plate 23

1. Bowl fragment, flaring wall, horizontal flaring banded rim. Brick-red, medium fine fabric.
2. Funnel bowl fragment, beaded rim. Brick-red, medium coarse fabric.
3. Bowl fragment, out-leaning wall, flaring rim with dropping edge from inside. Brick-red, medium coarse fabric.
4. Shallow funnel bowl, flaring side, in-curved rim. Brick-red, medium fine fabric.
5. Fragment of a bowl with a flaring side and up-turned, bevelled rim. Brick-red, medium fine fabric.
6. Bowl fragment, thick rounded edge rim. Brick-red, medium coarse fabric.
7. Jar fragment, re-curved neck, channeled flaring rim. Brick-red, medium coarse fabric.
8. Fragment of a bowl with flaring side, and beaded rim. Brick-red, medium coarse fabric.
9. Fragment of a bowl with a flaring side and up-turned, beaded rim. Brick-red, medium fine fabric.
10. Funnel bowl fragment, flaring sides, up-curved rim with tapering top edge. Brick-red, medium coarse fabric.
11. Funnel bowl fragment, up-curved, bevelled rim with tapering top edge. Brick-red, medium fine fabric.



Pl. 23

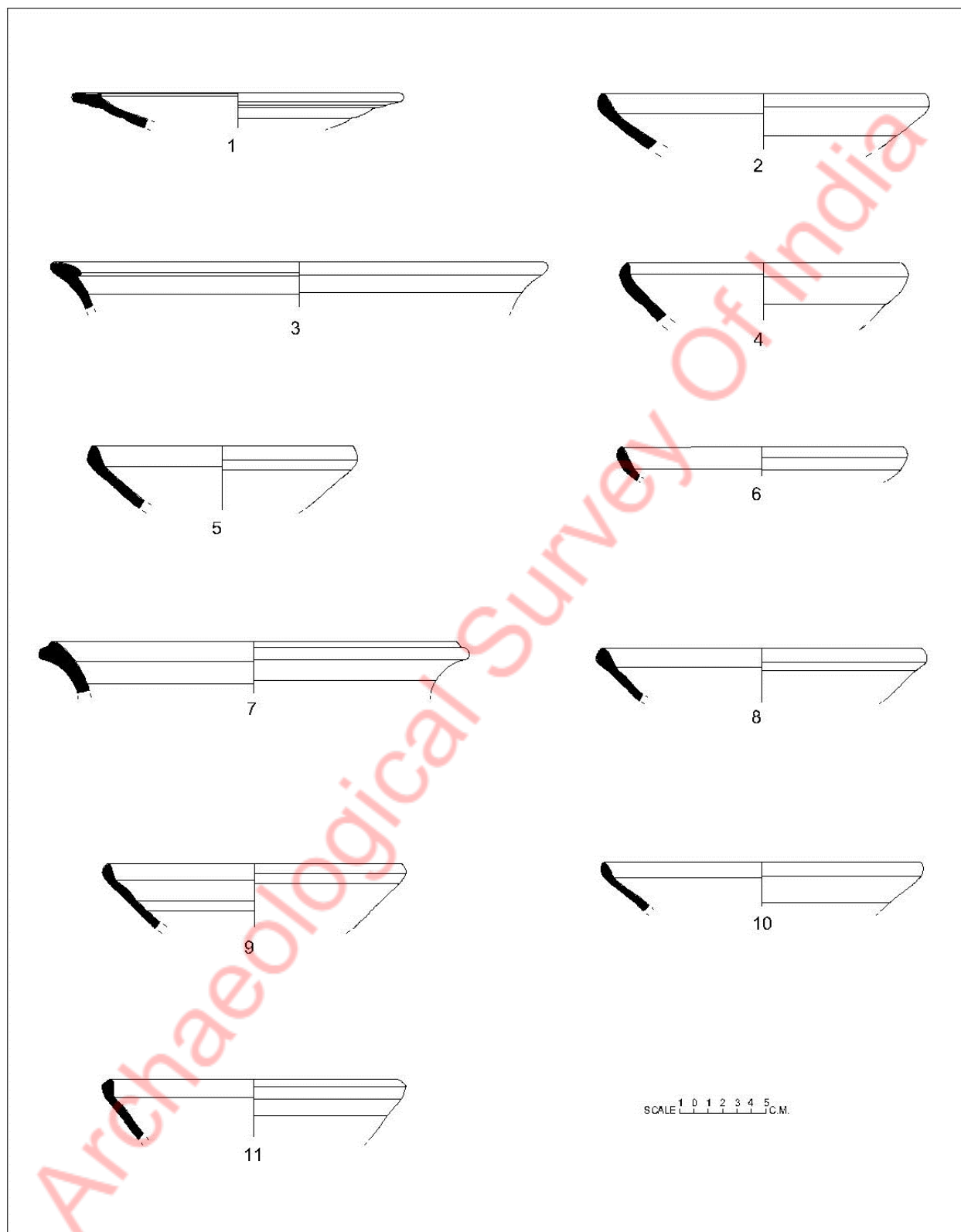


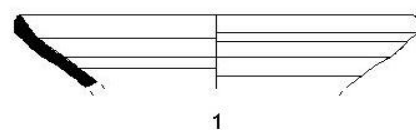
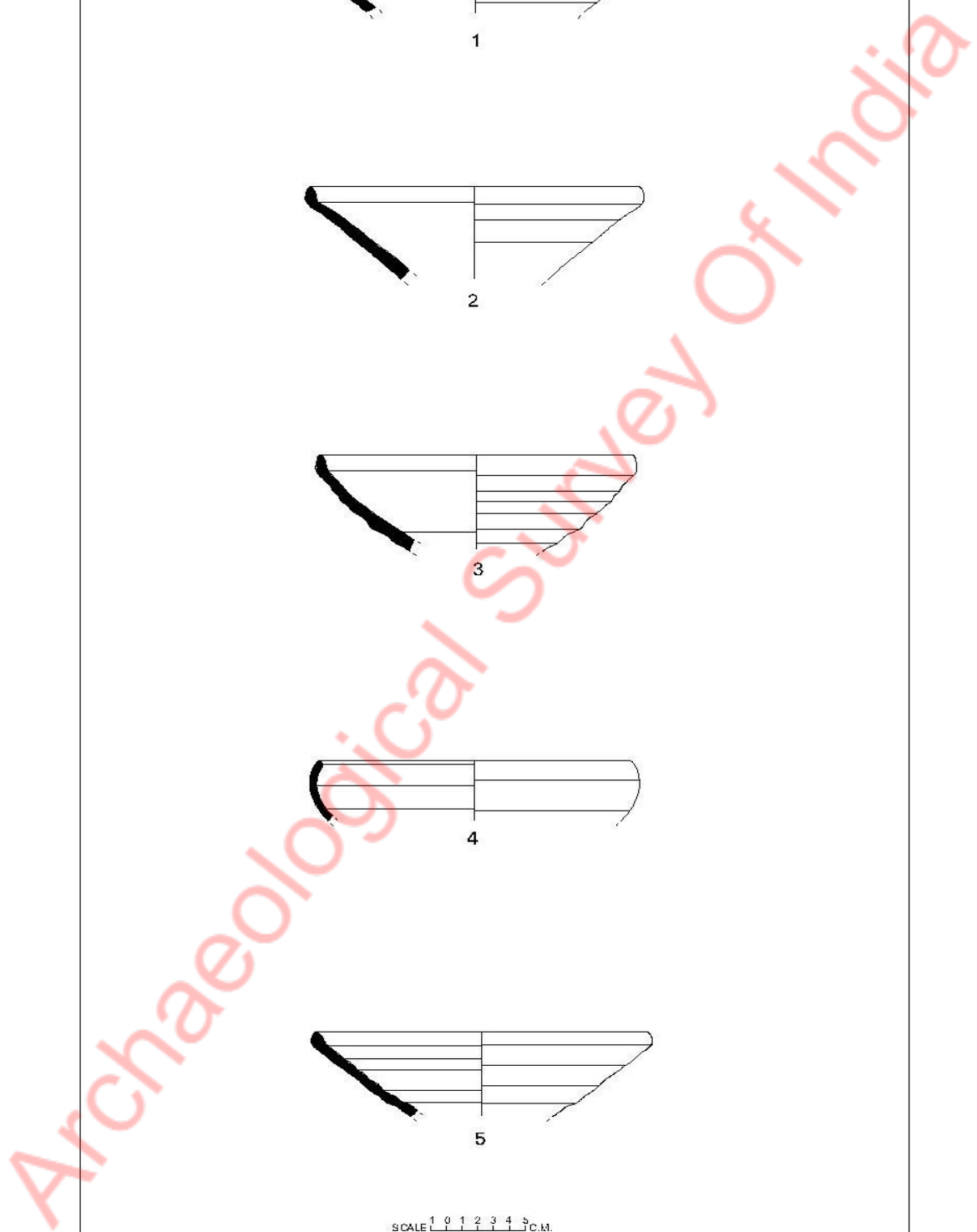
Fig. 23

Plate 24

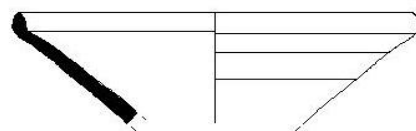
1. Funnel bowl fragment, flaring sides, and up-turned, bevelled rim. Brick-red, medium coarse fabric.
2. Fragment of a bowl with a flaring side and up-turned, bevelled rim. Brick-red, medium coarse fabric.
3. Fragment of a bowl with a flaring side and up-turned, bevelled rim. Brick-red, corrugated from top to bottom, medium coarse fabric.
4. Bowl fragment, near hemispherical, in-curved, direct rim. Brick-red, medium coarse fabric.
5. Fragment of a bowl with a flaring side and up-turned, bevelled rim. Brick-red, corrugated from top to bottom, medium coarse fabric.



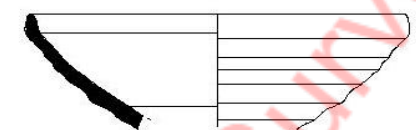
Pl. 24



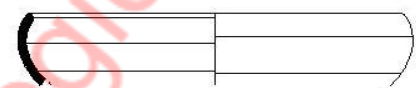
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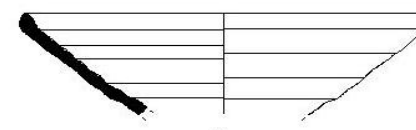
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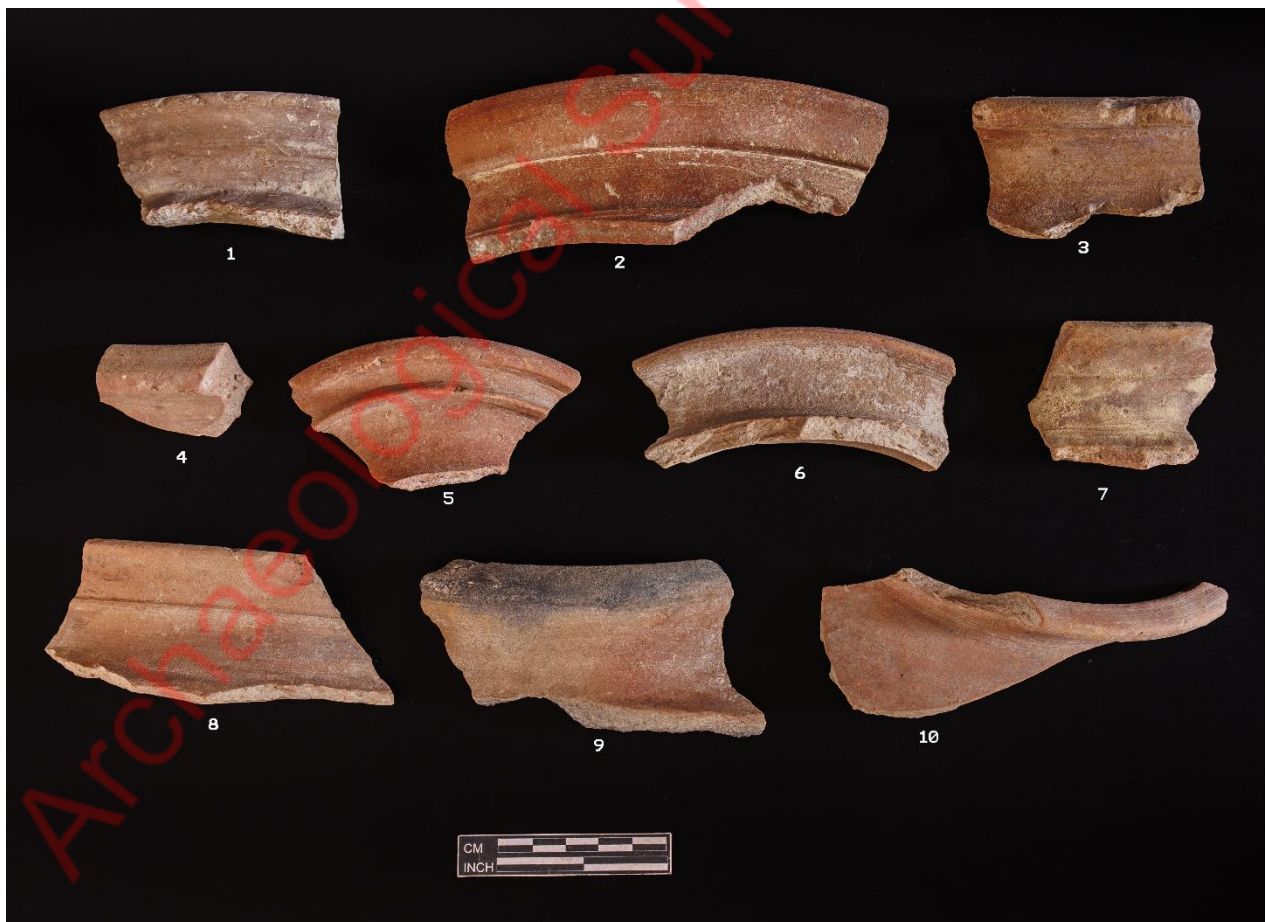
5

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Fig. 24

Plate 25

1. Jar fragment, globular, slightly carinated funnel neck, ringed rim. Brick-red, medium fine fabric.
2. Jar fragment, recurved neck, ridge below neck, club rim. Brick-red, medium fine fabric.
3. Jar fragment, near conical neck, round edge flaring rim with grooved on top. Faded brick-red, medium fine fabric.
4. Jar fragment, conical shoulder, short beaked rim. Brick-red, fine fabric.
5. Jar fragment, funnel neck with ridge, beaded rim. Brick-red, fine fabric.
6. Jar fragment, conical shoulder, funnel neck, round edge flaring rim. Faded brick-red, fine fabric.
7. Jar fragment, conical shoulder, vertical ridge on neck, funnel in-beaded rim. Brick-red, fine fabric.
8. Jar fragment, globular, re-curved neck, rounded ridge on neck, funnel in-beaded rim. Brick-red fine fabric.
9. Jar fragment, steep neck, beaded rim. Brick-red, ill firing, medium fine fabric.
10. Jar fragment, conical shoulder, angular funnel neck, horizontal round edge everted rim. Brick-red, fine fabric.



Pl. 25

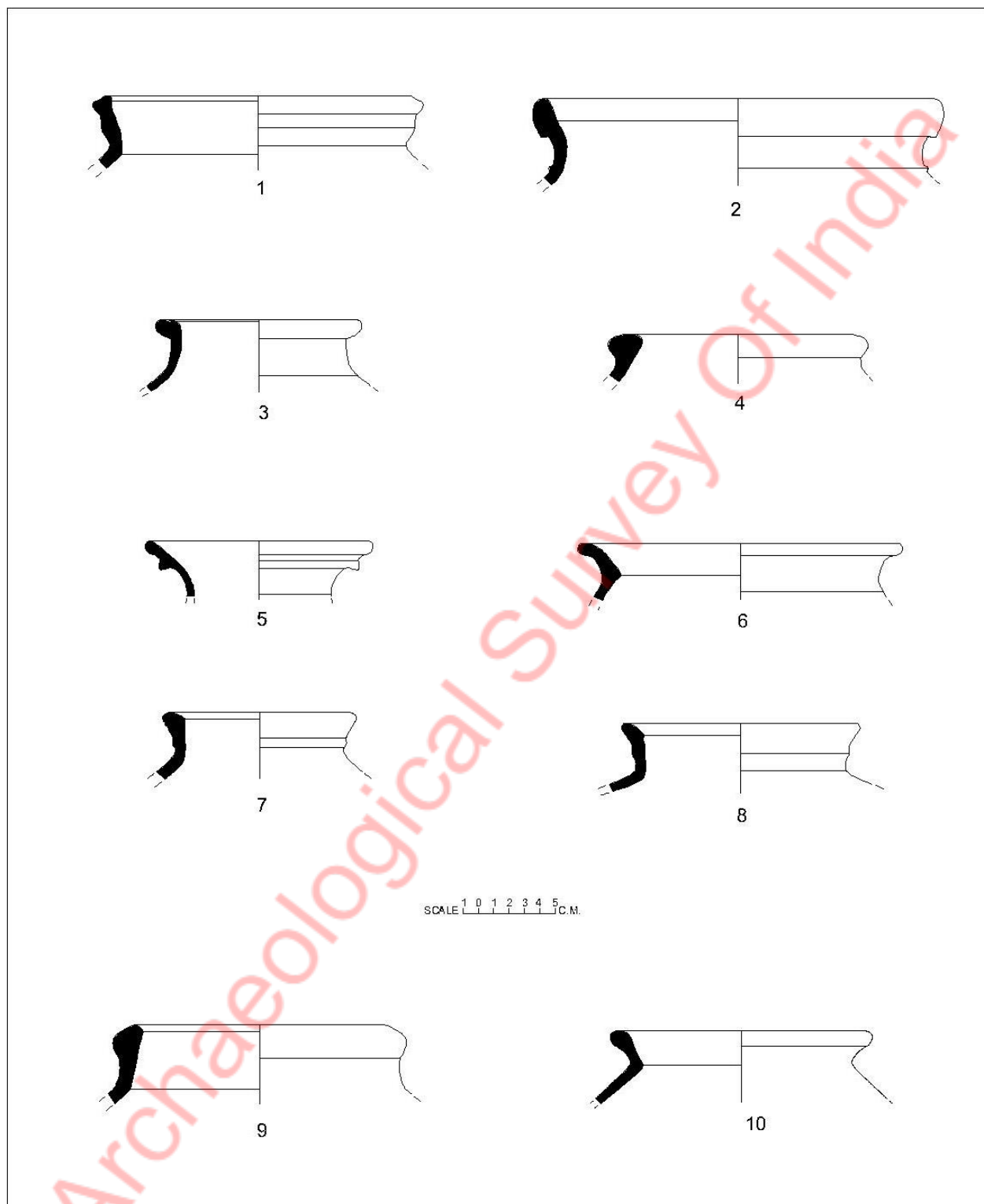


Fig. 25

Plate 26

1. Jar fragment, carinated lower trunk, conical shoulder, angular funnel neck, direct rim with channelled on top. Brick-brown, fine fabric.
2. Jar fragment, concave neck, short beaked rim. Brick-orange, fine fabric.
3. Jar fragment, globular, concave neck, double grooved on shoulder, round edge everted rim. Brick-brown, fine fabric.
4. Jar fragment, pyriform, carinated trunk, conical shoulder, narrow neck, round edge flaring rim. Light brown, fine fabric.
5. Jar fragment, pyriform, ridge on trunk portion, conical shoulder, narrow neck, round edge funnel rim with grooved on top. Brown, medium fine fabric.
6. Jar fragment, pyriform, conical shoulder, double grooved on shoulder, constricted neck, thick round edge funnel rim with grooved on top. Brick-red, fine fabric.
7. Jar fragment, globular, re-curved neck, round edge flaring rim with grooved on top, ridges below rim. Faded brown, fine fabric.
8. Jar fragment, angular funnel neck, nail headed rim. Faded brown, medium coarse fabric.
9. Jar fragment, funnel neck, double grooved square everted rim. Faded brown, internally black, ill firing, coarse fabric.
10. Jar fragment, pyriform, conical, beaded rim. Faded brown and internally black, ill firing, coarse fabric.



Pl. 26

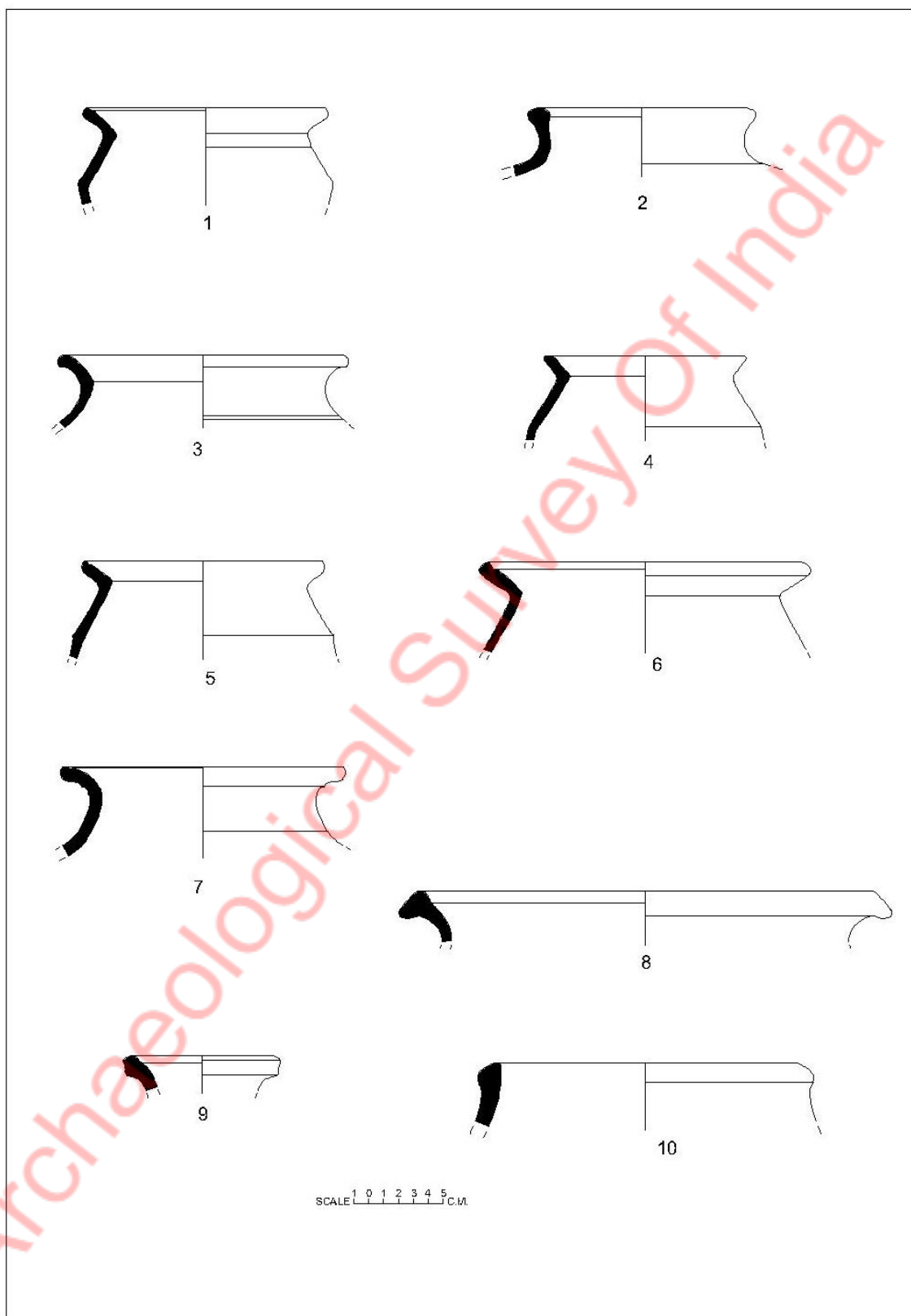
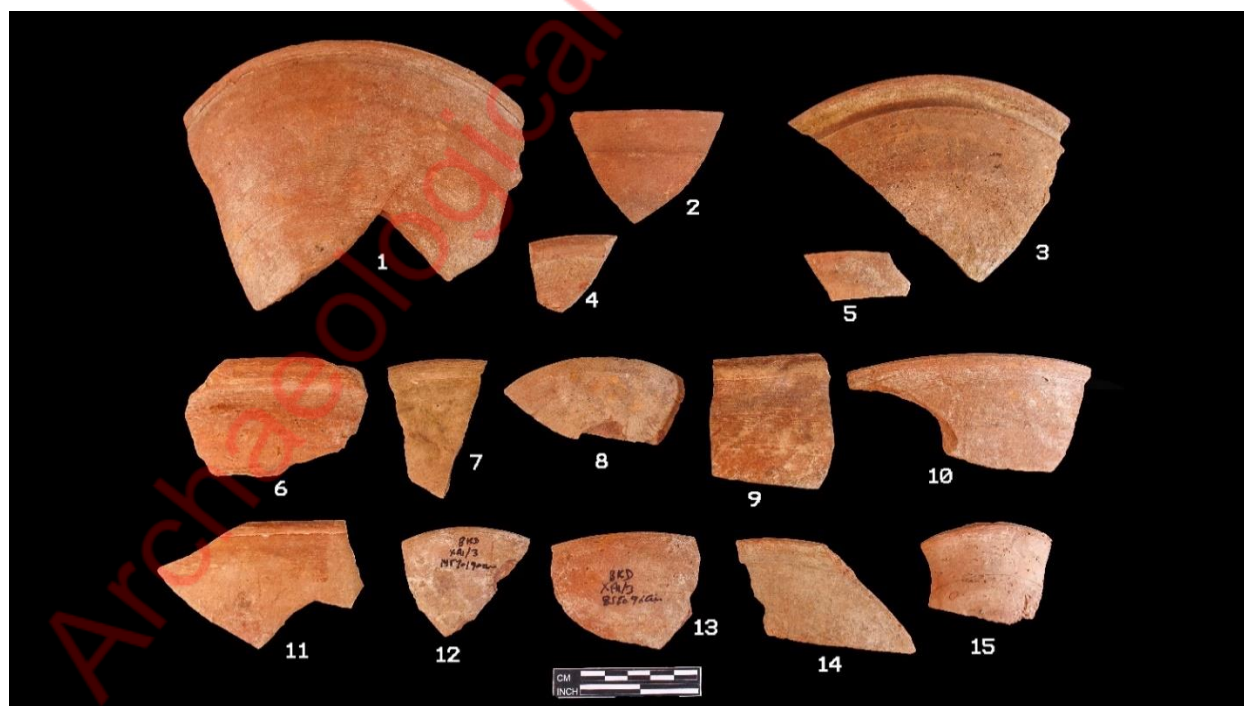


Fig. 26

Plate 27

1. Basin fragment or large bowl, convex wall, slightly carinated on upper and lower trunk, bevelled rim. Brick-red, medium fine fabric.
2. Beaker fragment, lenticular trunk, up-curved cylindrical neck, in-beaded rim. Brick-red, fine fabric.
3. Large pan, rounded saggar base, short wall, flaring rim. Brick-red, fine fabric.
4. Funnel Bowl fragment, everted thickened round-edged rim. Brick-red, medium coarse fabric.
5. Funnel bowl fragment, slightly out curved bevelled rim. Brick-red, medium fine fabric.
6. Rim fragment of red ware vessel, out-leaning wall, bulging funnel neck, flaring grooved rim. Brick-red, medium coarse fabric.
7. Funnel bowl fragment, beaded rim, Brick-red, medium coarse fabric.
8. Shallow funnel bowl fragment, thick rounded rim. Brick-red, medium coarse fabric.
9. Cooking vessel fragment, bulging wall, slightly carinated, thick bevelled rim. Brick-red, smooth surface, fine fabric.
10. Large bowl fragment, convex wall, beaded rim. Brick-red, medium coarse fabric.
11. Large bowl fragment, near hemispherical, slightly grooved beaded rim. Brick-red, medium fine fabric.
12. Bowl fragment, shallow, convex wall, direct rim. Brick-red, fine fabric.
13. Bowl fragment, hemispherical, flat-topped rim. Brick-red, medium coarse fabric.
14. Funnel bowl fragment, flaring beaked or tapered flaring rim. Brick-red, medium coarse fabric.
15. fragment, up-curved funnel wall, bevelled rim. Brick-red, medium coarse fabric.



Pl. 27

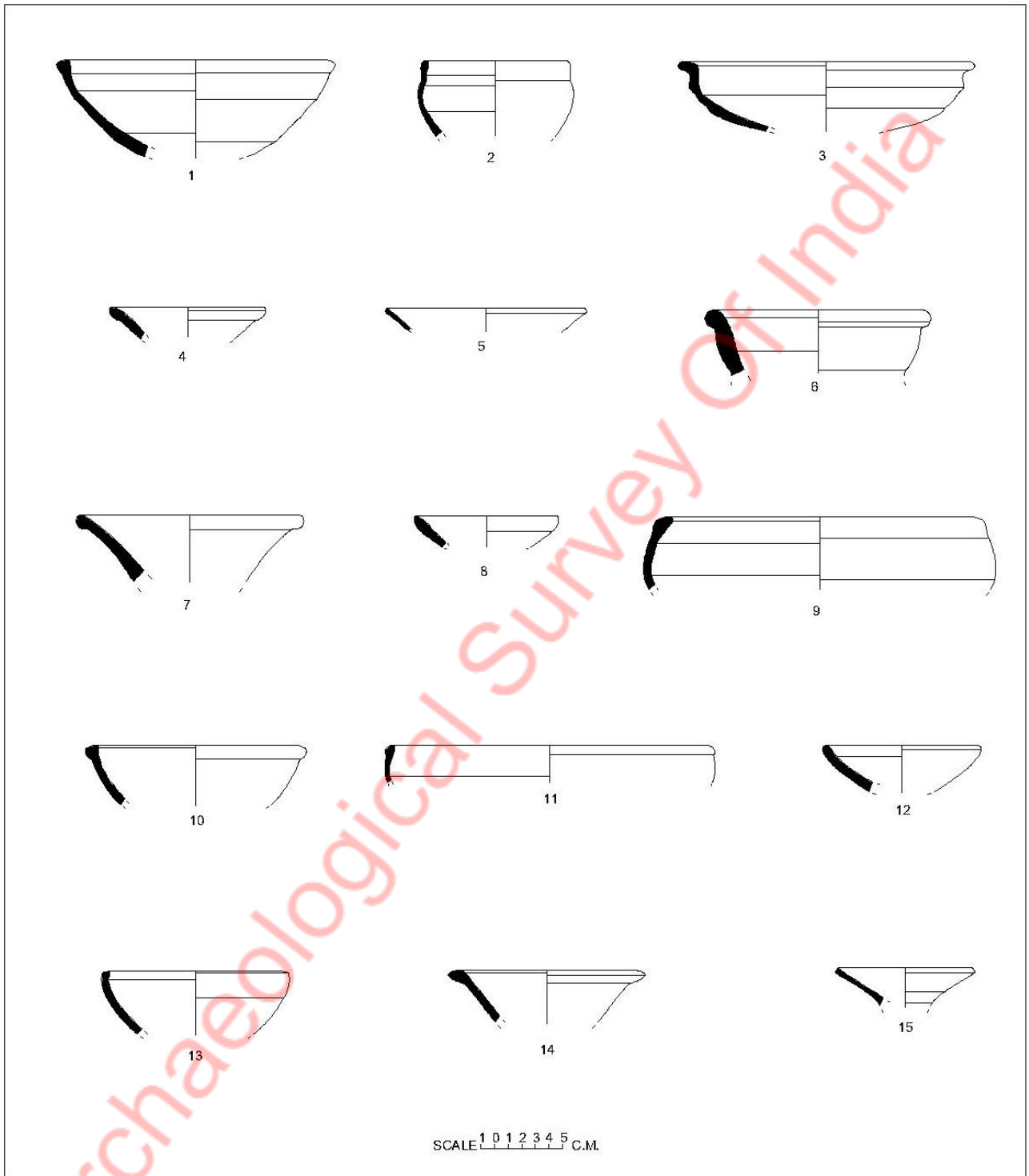


Fig. 27

Plate 28

1. Jar fragment, globular, recurved neck, ringed rim (ring flange). Brick-red, two wise parallel grooved below the neck and one on the upper trunk, medium fine fabric.
2. Jar fragment, pyriform, conical shoulder, funnel direct rim, brick-red, medium fine fabric.
3. Jar fragment, globular, shoulder ledge, capstan-neck, direct flaring rim. Brick-red, medium fine fabric.
4. Jar fragment, globular, capstan neck with ridge, horizontal flaring band rim with internally grooved. Brick-red, medium fine fabric.
5. Jar fragment, globular, slightly ledge on the shoulder, capstan-neck, direct flaring rim. Brick-red, medium fine fabric.
6. Jar fragment, globular, re-curved neck, in-beaded rim. Brick-red, medium fine fabric.
7. Jar fragment, conical shoulder, near cylindrical neck, ringed rim. Brick-red, medium coarse fabric.
8. Jar fragment, oblate globular, re-curved neck, bevelled rim. Brick-red, fine fabric.
9. Funnel bowl fragment, in-beveled banded rim. Brick-red, fine fabric.



Pl. 28

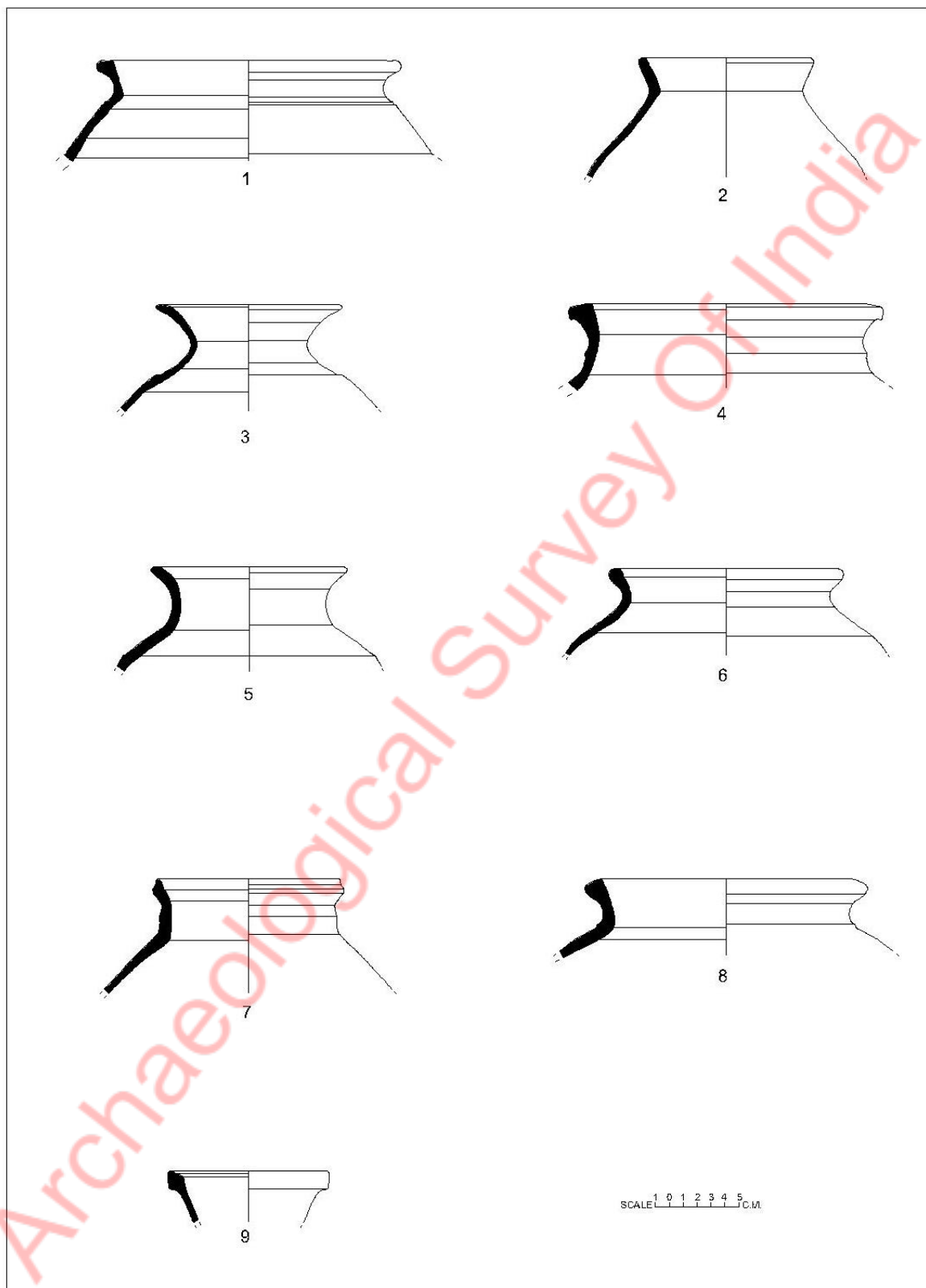


Fig. 28

Plate 29

1. Bowl fragment, slightly in-curved tapering rim. Brick-red, fine fabric.
2. Funnel bowl fragment, carinated up-curved rim. Brick-red, ill-fired, core unoxidized, medium fine fabric.
3. Funnel bowl fragment, saggar, paraboloidal, up-curved direct rim. Brick-red, medium coarse fabric.
4. Funnel bowl fragment, carinated up-curved rim. Brick-red, medium coarse fabric.
5. Bowl fragment, slightly in-curved direct rim. Brick-red, ill-fired, medium fine fabric.
6. Funnel bowl fragment, in-curved rim. Brick-red, ill-fired, medium coarse fabric.
7. Funnel bowl fragment, strongly inflected tapering or inflected short-beaked rim. Brick-red, medium coarse fabric.
8. Large pan, saggar base, flaring wall, broad flange, lug handle. Brick-red, internally, and externally micaceous, unevenly fired, medium coarse fabric.
9. Funnel bowl fragment, carinated up-curved rim. Brick-orange, medium coarse fabric.
10. Bowl fragment, thick rounded rim. Brick-orange, internally ill-fired, medium coarse fabric.
11. Fragment of a bowl with flaring side and up-turned bevelled rim. Brick-orange, medium coarse fabric.
12. Funnel bowl fragment, carinated up-curved rim. Brick-red, medium coarse fabric.
13. Bowl fragment, out-leaning wall, out-curved thick rim. Brick-red, medium fine fabric.
14. Large dish or pan fragment, lenticular bottom, out-leaning carinated wall, nail-headed rim. Brick-red, unevenly fired, medium coarse fabric.



Pl. 29

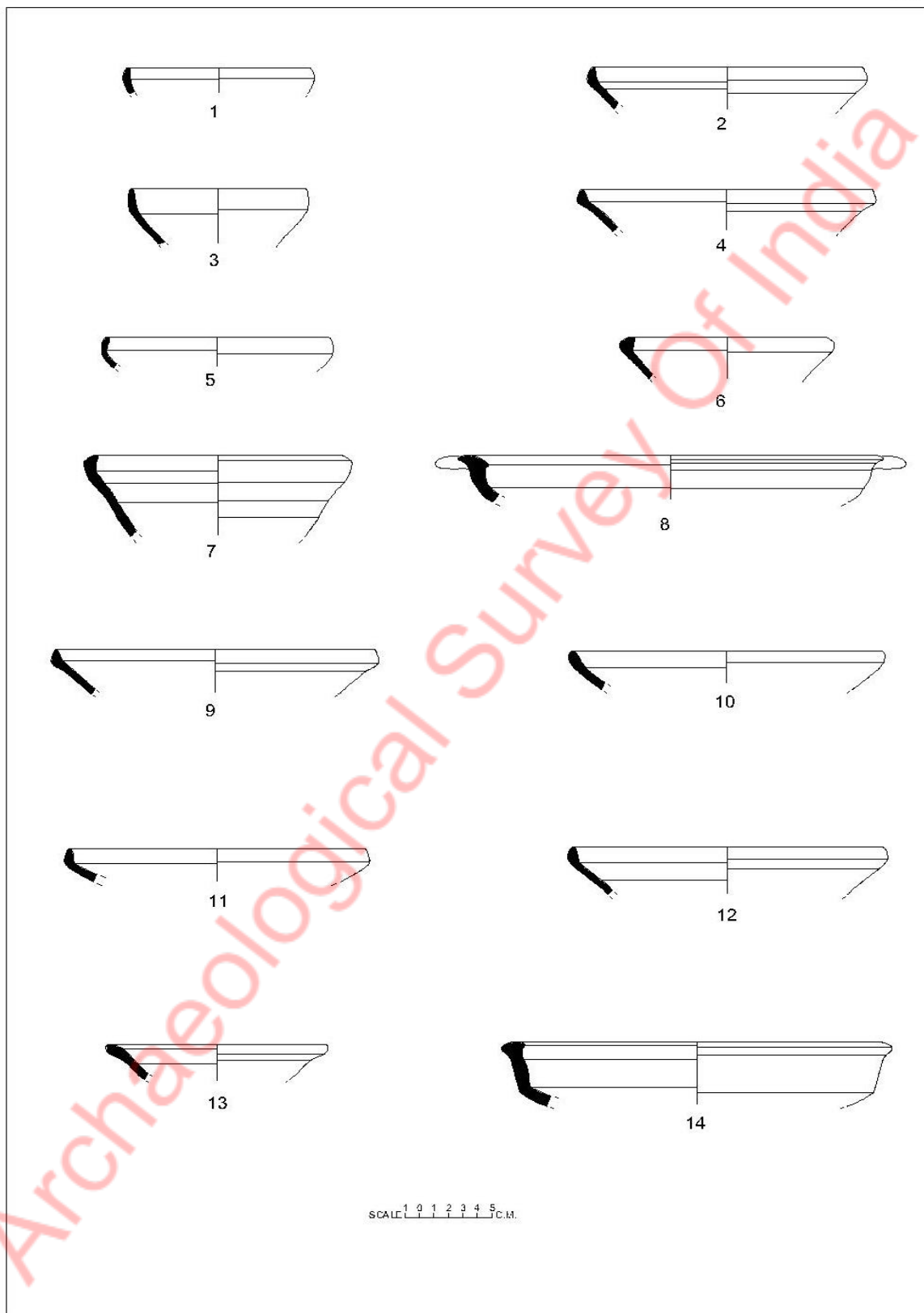
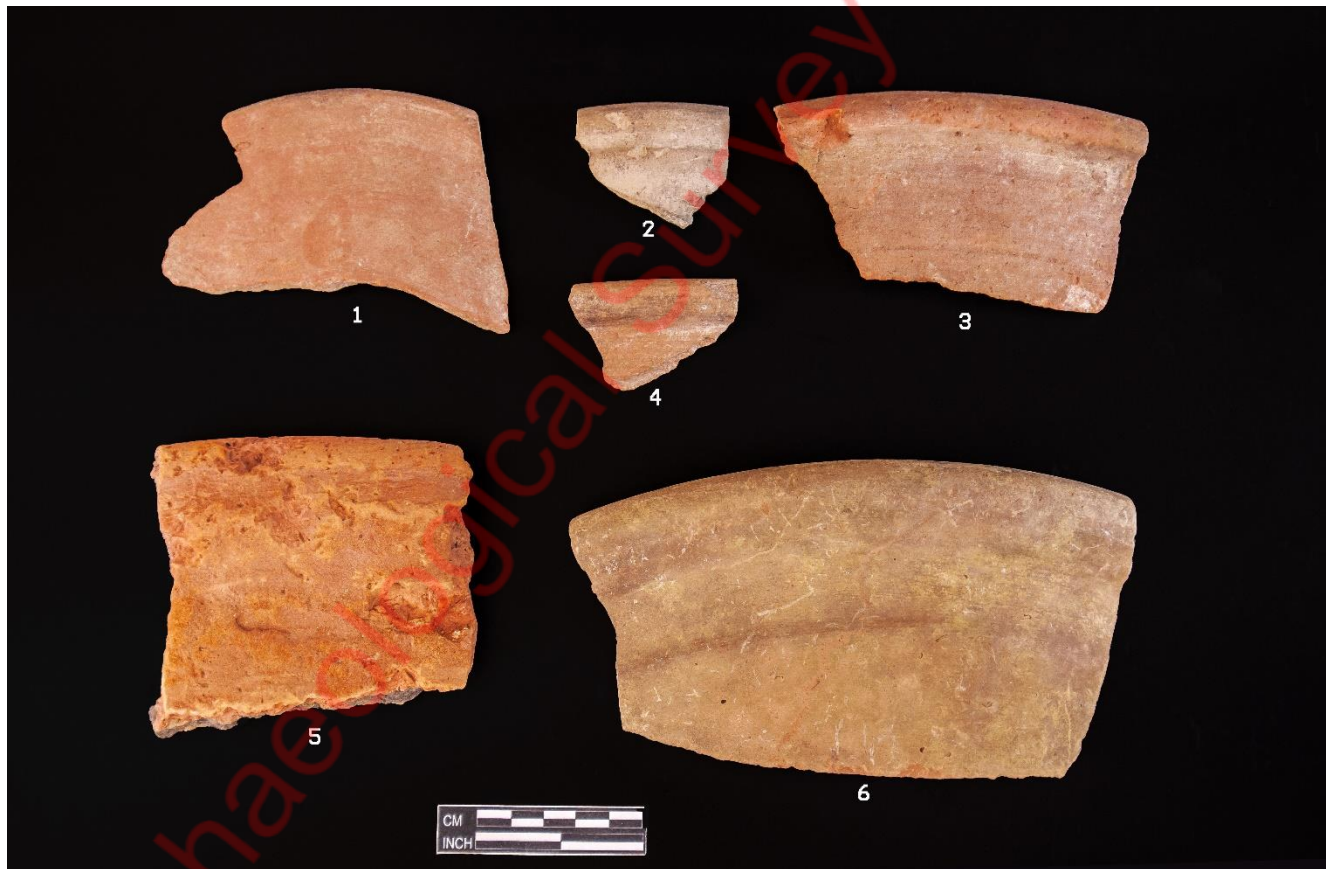


Fig. 29

Plate 30

1. Dish fragment, flaring sides, direct rim. Brick-red, medium fine fabric.
2. Rim fragment of red ware, funnel grooved in-bevelled rim with ridge. Medium fine fabric.
3. Large bowl fragment, shallow funnel shape, broad bevelled in beaded rim. Brick-red, medium fine fabric.
4. Jar fragment, angular ringed flanged rim. Brick-red, medium coarse fabric.
5. Storage jar, step funnel neck, in-beaded rim. Brick-red, core unoxidized, coarse fabric, handmade.
6. Fragment of large heavy bowl, shallow funnel-shaped, wide channeled below the rim, double beaded rim. Brick-red, coarse fabric.



Pl. 30

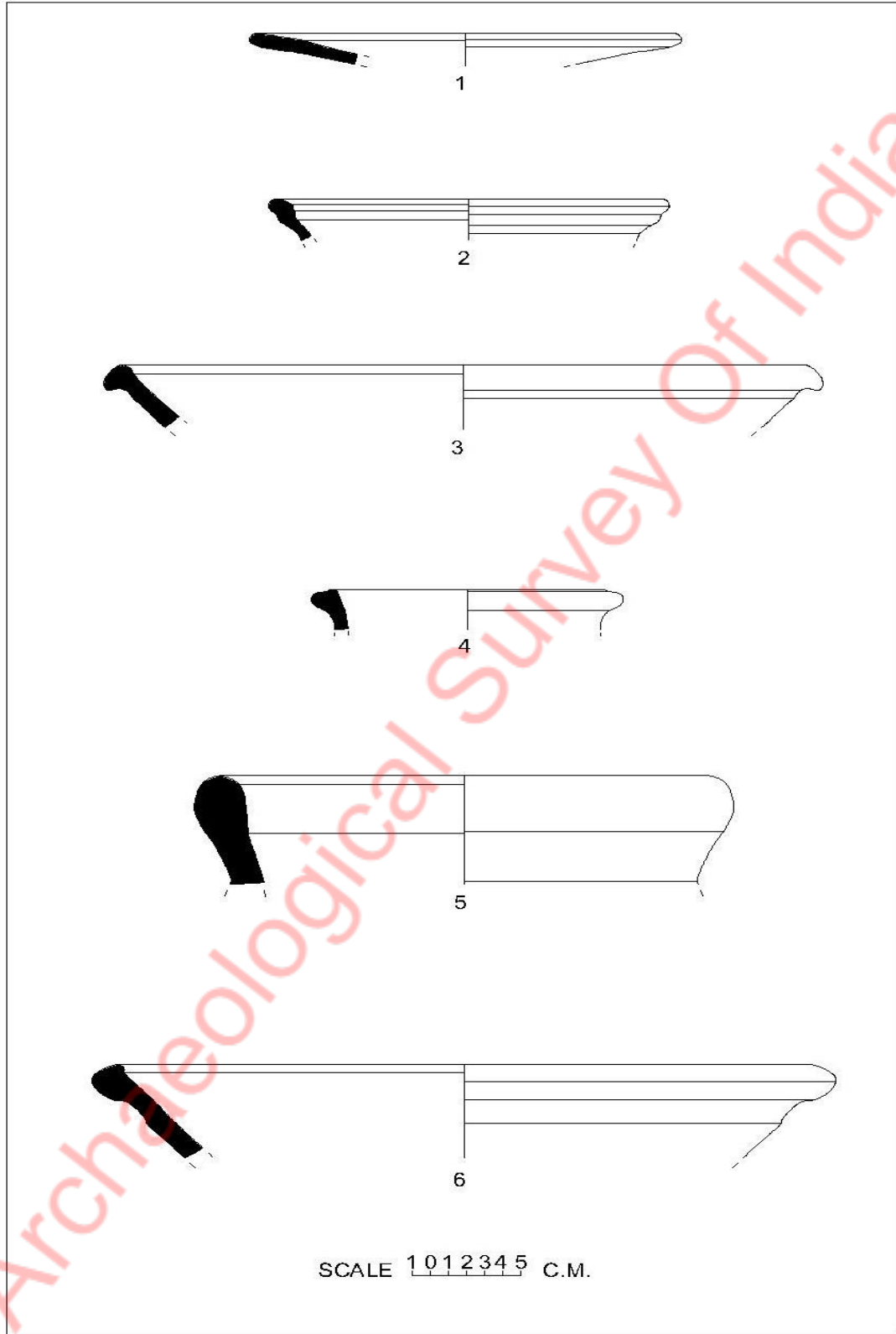


Fig. 30

Plate 31

1. Cooking vessel fragment, globular, wide-mouthed, carinated, conical shoulder, bands of grooves on the shoulder, angular flaring rim with wide grooved. Brick-red, medium fine fabric.
2. Jar fragment, corrugated cylindrical neck, everted tapering rim with grooved on top. Brick-red, medium fine fabric.
3. Jar fragment, capstan neck or slightly out-curved neck, everted tapering rim. Brick-red, coarse fabric.
4. Cooking vessel, capstan neck with grooved, angular flaring rim, carinated from the inside, brick-red, unoxidized, medium coarse fabric.
5. Jar fragment, capstan neck, beaded rim. Brick-red, medium fine fabric.
6. Jar fragment, concave neck, horizontally everted groove banded rim. Brick-red, medium fine fabric.
7. Jar fragment, capstan neck, short-beaked rim. Brick-red, medium coarse fabric.
8. Jar fragment, near the vertical neck, two parallel ridges on the neck, funnel in-bevelled banded rim. Brick-red, medium fine fabric.
9. Jar fragment, conical shoulder, angular carinated funnel neck, bevelled rim. Brick-red, medium coarse fabric.
10. Jar fragment, globular, angular funnel neck, beaded rim. Vertical paddle grooves on the shoulder, brick-red, medium coarse fabric.



Pl. 31

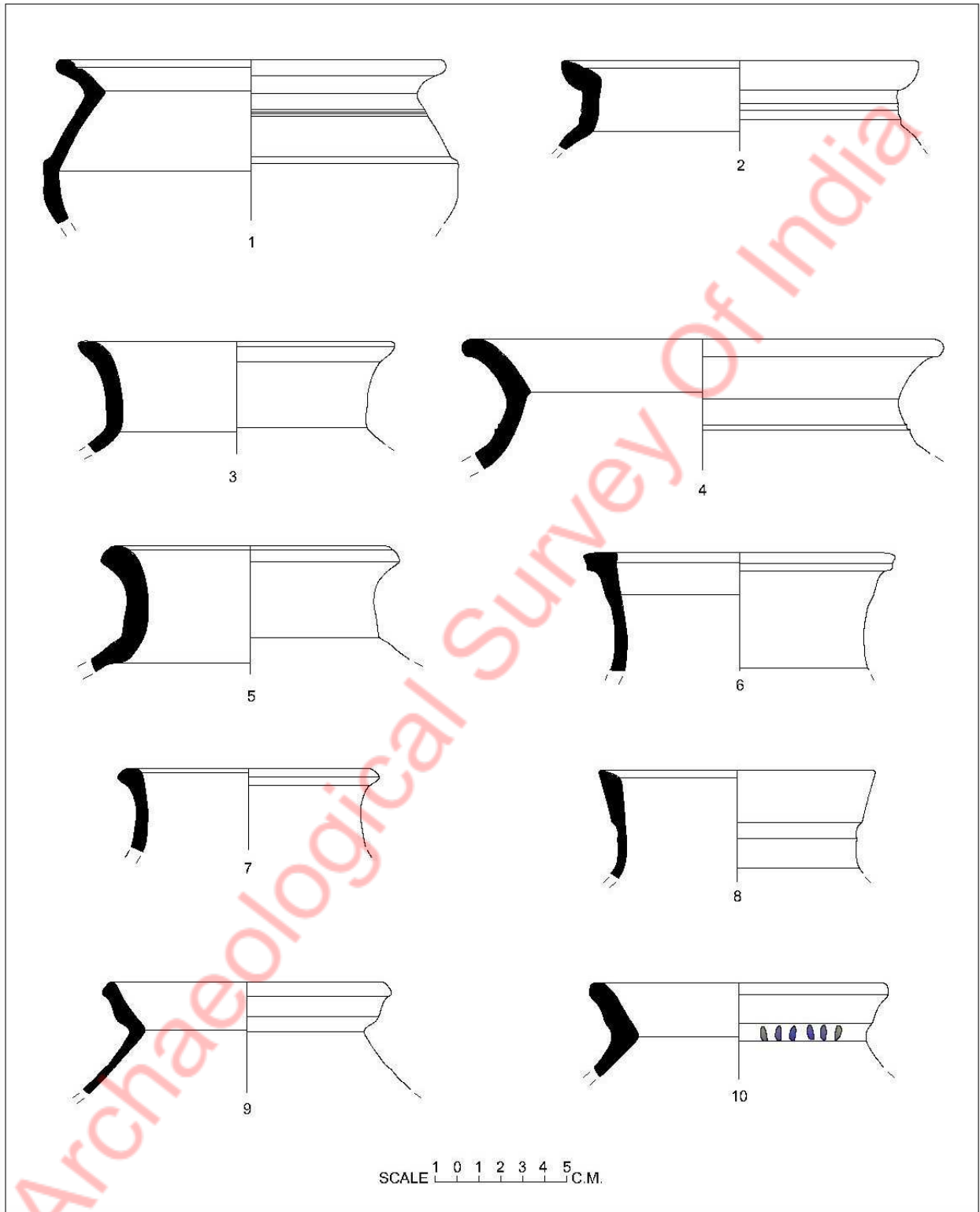


Fig. 31

Plate 32

1. Jar fragment, concave flaring band rim. Brick-red, medium fine fabric.
2. Jar fragment, funnel neck with externally and internally grooved band rim. Brick-red, medium fine fabric.
3. Rim fragment of a red ware vessel, near vertical neck, short-beaked thick rim. Brick-red, medium fine fabric.
4. Jar fragment, cylindrical neck, beaded rim with inner round edge. Brick-red, medium fine fabric.
5. Shoulder fragment of a red ware vessel with applique horizontal rib looking like a twisted cord. Very coarse fabric.
6. Fragment of a red ware vessel, very rough surface with husk impression on the outer side, coarse fabric.
7. Fragment of a red ware vessel, very rough surface with husk impression on the outer side, coarse fabric.
8. Fragment of a red ware vessel, very rough surface with husk impression on the outer side, coarse fabric.
9. Jar fragment, step angular neck, deeply channeled rim. Brick-red, medium fine fabric.
10. Sherd of red ware vessel with paddled parallel grooves. Medium fine fabric.
11. Jar fragment, conical shoulder, funnel slightly corrugated rim. Brick-red, medium coarse fabric.
12. Small jar fragment, globular, angular flaring grooved rim. Brick-red, medium coarse fabric.
13. Jar fragment, near cylindrical neck, everted in-bevelled rim. Brick-red, medium fine fabric.
14. Jar fragment, an angular flaring rim with a groove on the inside. Brick-red, medium fine fabric.
15. Jar fragment, an angular flaring rim with a groove on the inside. Brick-red, medium fine fabric.
16. Jar fragment, an angular neck, channeled rim. Brick-red, medium fine fabric.



Pl. 32

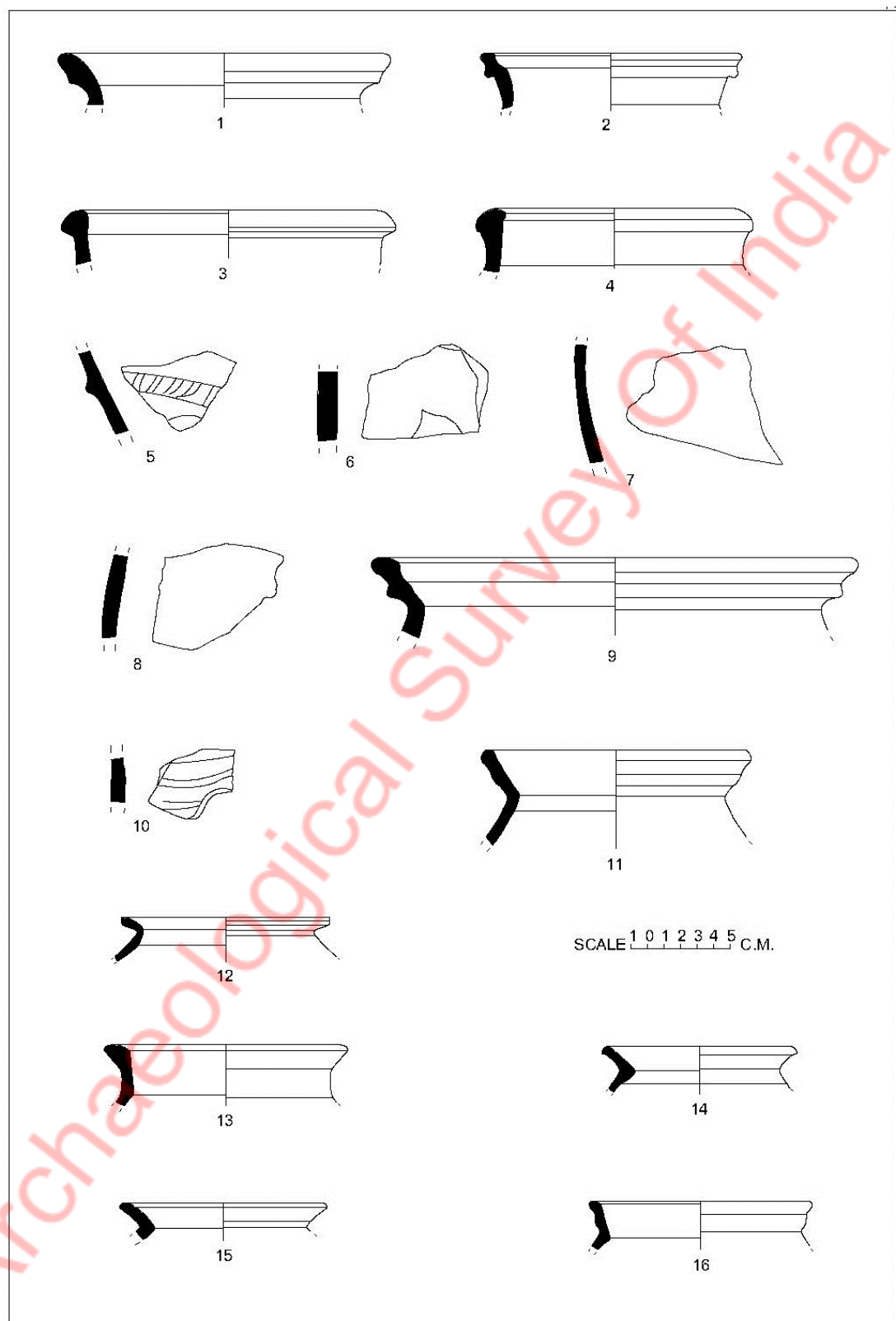


Fig. 32

Plate 33

1. Funnel bowl, flat foot, strongly inflected tapering rim. Brick-red, very fine fabric.



Pl. 33.1



Pl. 33.2

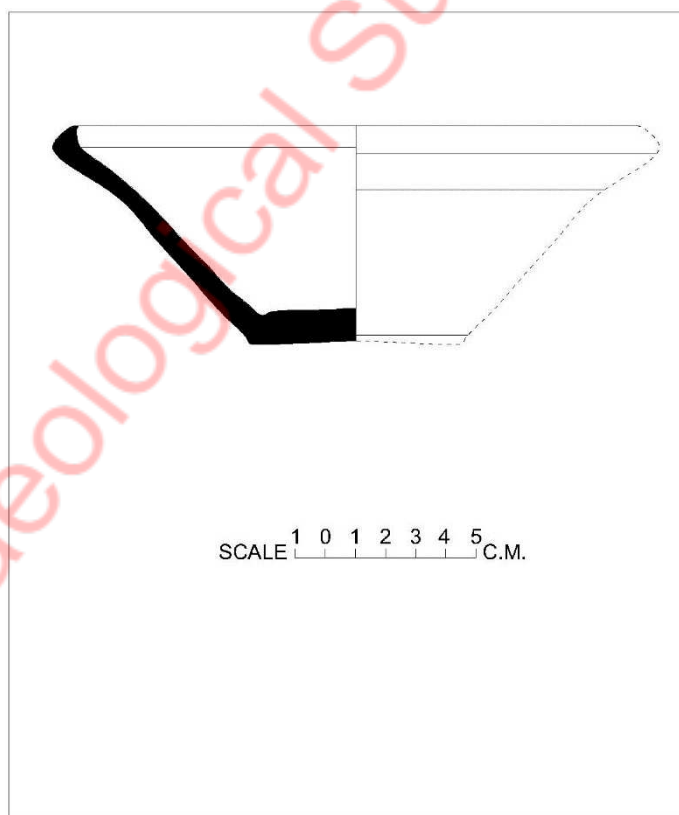


Fig. 33

Plate 34

1. Jar fragment, re-curved neck, angular flaring rim with a bullnose edge. Brick-red, core unoxidized, medium coarse fabric.
2. Jar fragment, globular, capstan neck, angular everted round-edged and undercut rim. Brick-red, handmade, used of dabber, rough surface, unoxidized core from inside, medium coarse fabric.
3. Jar fragment, re-curved neck, angular funnel beaded rim. Brick-red, fine fabric.
4. Jar fragment, globular, conical shoulder, cylindrical neck, everted round-edged rim with carinated from inside. Brick-red, fine fabric.



Pl. 34

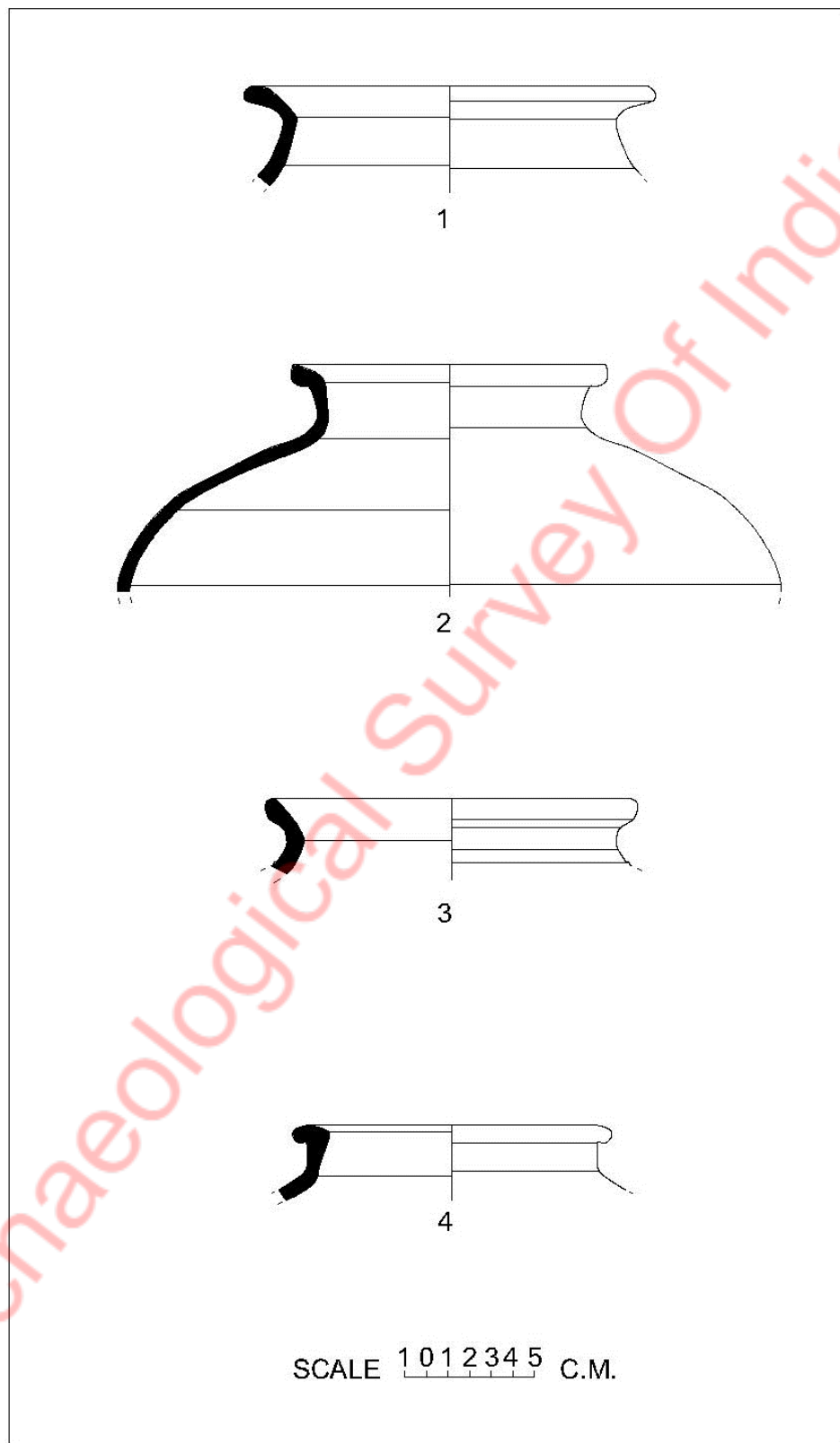


Fig. 34

Plate 35

1. Funnel bowl fragment, slightly carinated on the upper trunk, flaring rim. Brick-red, medium coarse fabric.
2. Bowl fragment, saggar base, vertical wall, out-curved, direct flaring rim. Brick-red, micaceous, medium coarse fabric.
3. Bowl fragment, lenticular, in-curved tapering rim. Brick-red, medium coarse fabric.
4. Large bowl fragment, convex wall, In-curved carinated tapering rim. Red ware, medium coarse fabric.
5. Bowl fragment, near hemispherical, direct rim. Brick-orange, medium fine fabric.
6. Bowl fragment, slightly in-curved wall, direct tapering rim. Brick-red, medium coarse fabric.
7. Funnel bowl fragment, carinated rim. Brick-red, corrugated from top to bottom, medium fine fabric.
8. Small funnel bowl, in-curved tapering rim. Brick-red, fine fabric.
9. Bowl fragment, convex wall, slightly in-curved direct rim. Brick-red, medium fine fabric.
10. Funnel bowl fragment, carinated up-curved rim. Brick-red, medium coarse fabric.
11. Funnel bowl fragment, up-curved round edge rim. Brick-red, medium fine fabric.
12. Funnel bowl fragment, carinated, up-curved rim. Brick-red, slightly corrugated from top to bottom. Medium fine fabric.
13. Sherd of red ware, decorated internally with grooved and channeled, medium coarse fabric.
14. Bowl fragment, funnel body, up-curved direct rim. Brick-red, medium fine fabric.



Pl. 35

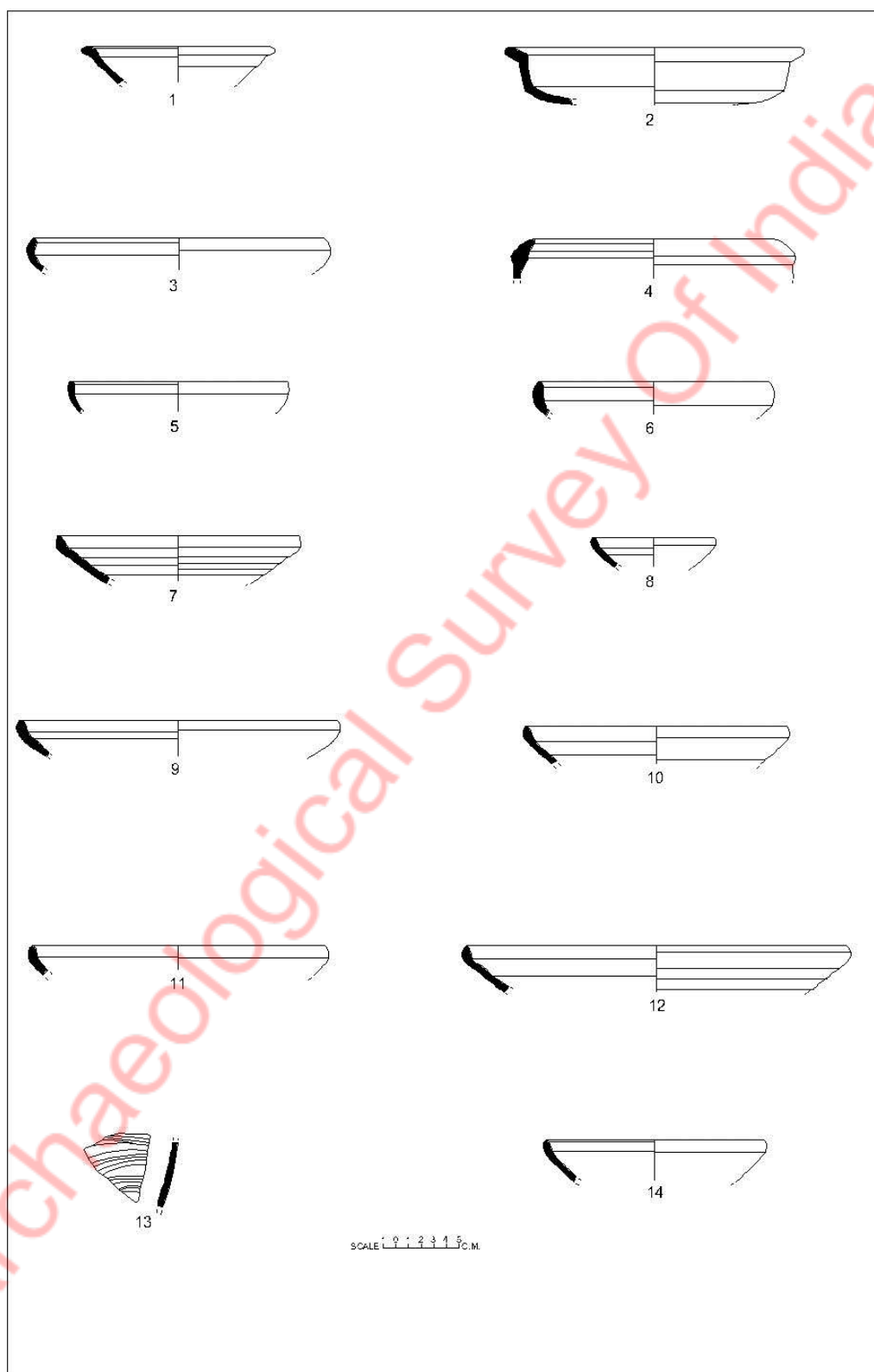
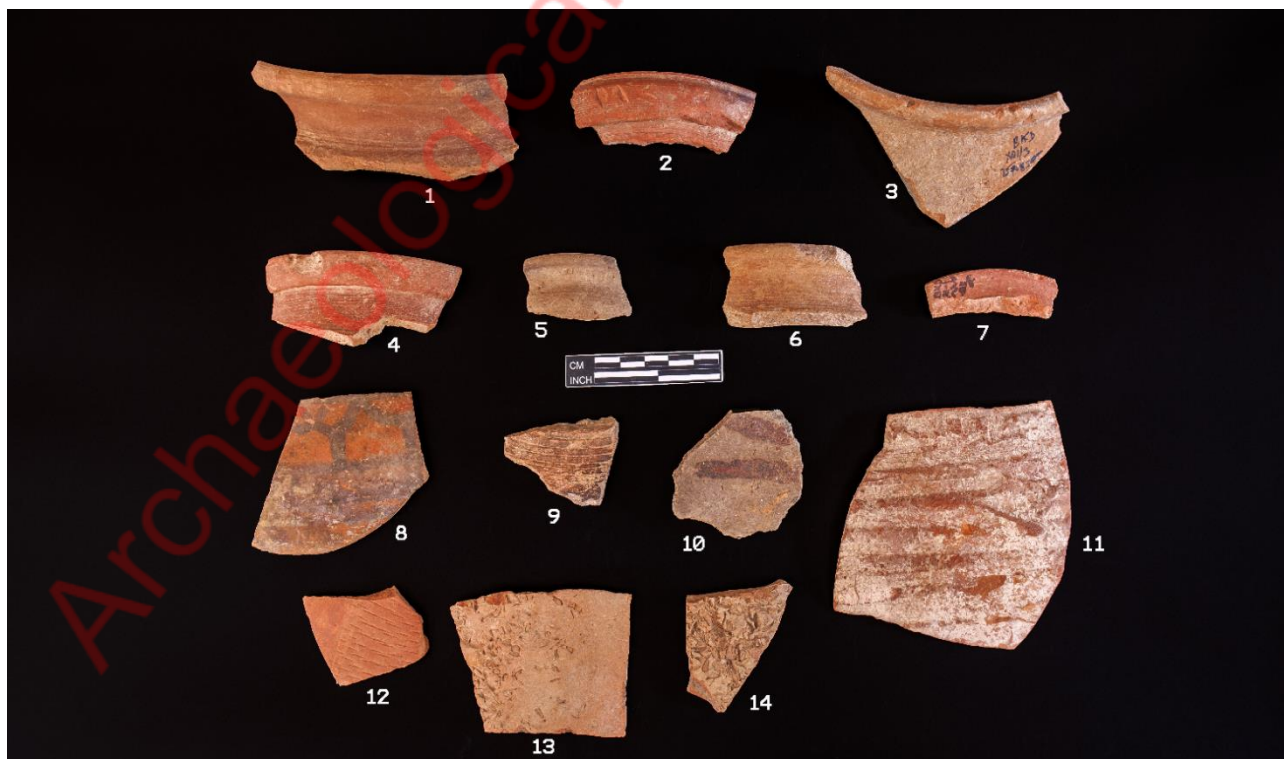


Fig.35

Plate 36

1. Fragment of a jar, globular, band of grooves below the neck, recurved neck, flaring round-edged rim. Brick-red, medium fine fabric.
2. Fragment of a jar, funnel neck, angular banded rim with grooved. Brick-red, medium fine fabric.
3. Fragment of a jar, conical shoulder, angular neck, club rim. Brick-orange, medium fine fabric.
4. Fragment of a jar, up curved neck, thick banded rim with internal edge. Brick-red, medium fine fabric.
5. Small carinated bowl, restricted neck, beaded funnel rim with internally grooved. Brick-orange, medium coarse fabric.
6. Fragment of a jar, near cylindrical neck, beaked rim. Brick-red, medium fine fabric.
7. Rim fragment of red ware, rectangular banded rim. Brick-red, fine fabric.
8. Sherd of red ware, painted in black on the outer side with a Y-shape in between horizontal band stripes. Coarse fabric.
9. Sherd of red ware, decorated on the outer side with corrugated pattern. Coarse fabric.
10. Sherd of red ware, painted on the inner side with oblique band strips, dark brick-red, very coarse fabric.
11. Sherd of red ware vessel with paddled parallel grooves. Medium coarse fabric.
12. Sherd of red ware vessel decorated with wavy notches with two grooved parallel lines, smooth surface, fine fabric.
13. Sherd of a red ware vessel, husk present in huge quantity on the outer surface, coarse fabric.
14. Sherd of red ware vessel, husk present in huge quantity on the outer surface, coarse fabric.



Pl. 36

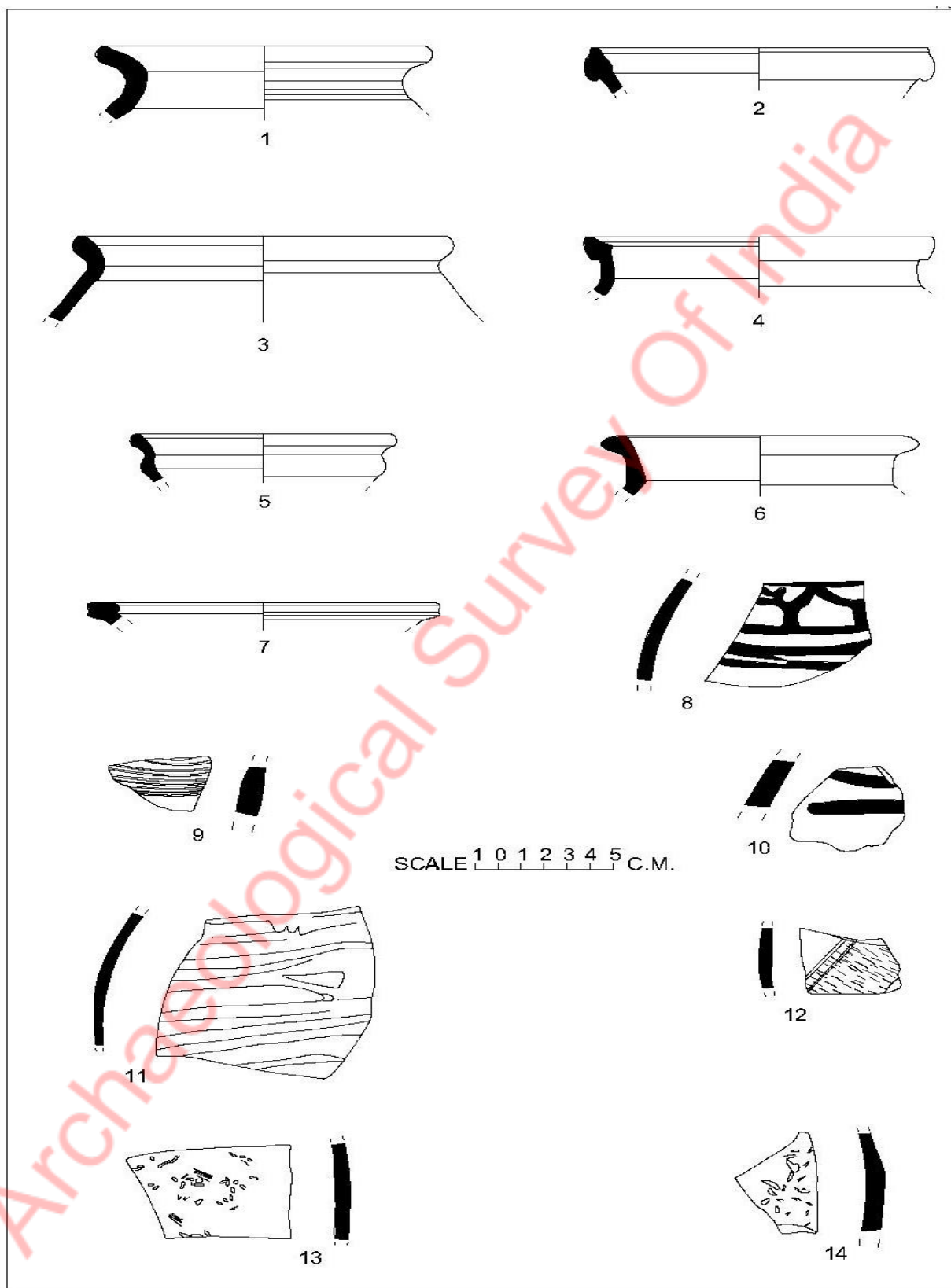


Fig. 36

Plate 37

1. Fragment of small cup, lenticular bottom, bulging wall, short tapering rim. Brick-red, ill-fired, medium coarse fabric.
2. Fragment of small cup, globular, short tapering rim. Brick-red, medium coarse fabric.
3. Jar fragment, conical shoulder, near vertical neck, bevelled rim. Brick-red very coarse fabric.
4. Cooking vessel (bowl), carinated, lenticular bottom, narrow neck, flaring beaked rim with grooved on top. Brick-red, medium coarse fabric.
5. Jar fragment, globular, re-curved neck, horizontally flaring banded rim grooved on top. Brick-red, medium fine fabric.
6. Jar fragment, concave neck, round-edged everted rim. Brick-red, medium coarse fabric.
7. Rim fragment of a jar, sharply angular flaring, and dropping rim. Slightly grooved from the inside, brick-red, medium fine fabric.
8. Jar fragment, conical shoulder, funnel bullnose edge rim. Brick-red, medium fine fabric.
9. Jar fragment, conical shoulder, angular funnel neck, beaded rim. Brick-red, oblique paddle mark on the shoulder, coarse fabric.
10. Jar fragment, near vertical neck, banded rim. Brick-red, medium fine fabric.
11. Jar fragment, concave neck, square grooved banded rim. Brick-red, medium fine fabric.
12. Base fragment of cylindrical cup, saggar base, brick-red, medium coarse fabric.



Pl. 37

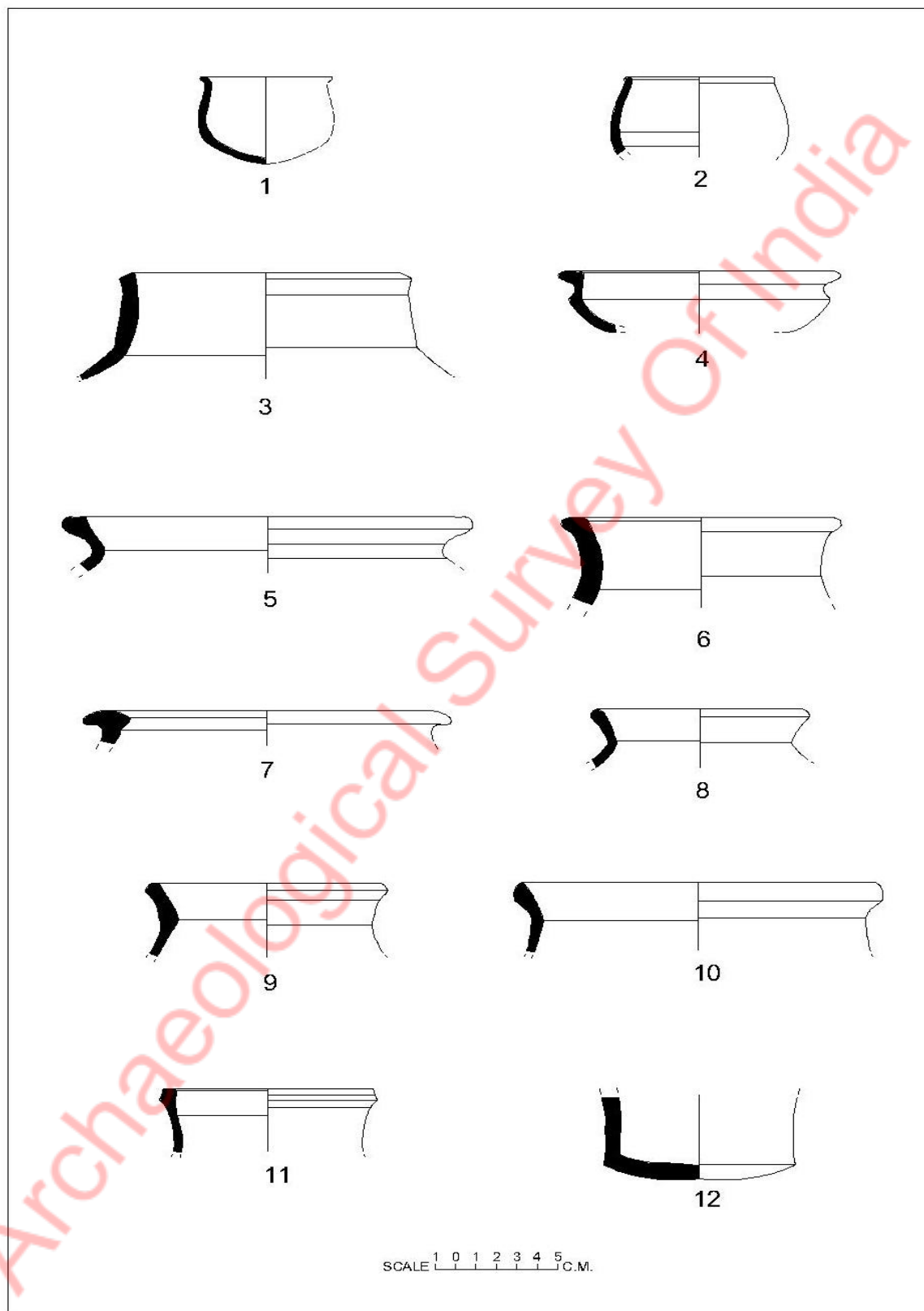


Fig. 37

Plate 38

1. Fragment of jar, carinated neck, out-curved rim. Brick-red, medium coarse fabric.
2. Fragment of jar, capstan neck or concave neck, externally and internally grooved neck, channeled flaring rim. Brick-red, medium fine fabric.
3. Jar fragment, re-curved neck, ringed rim. Brick-red, fine fabric.
4. Fragment of a jar, capstan neck, channeled square club rim. Brick-red, medium fine fabric.
5. Jar fragment, cylindrical neck, square club rim. Brick-orange, uneven surface, coarse fabric.
6. Fragment of cooking jar, conical shoulder, out-curved short beaked rim. Brown, micaceous, medium coarse fabric.
7. Jar fragment, conical shoulder, cylindrical neck, bevelled rim. Brick-orange, paddle marks on shoulder, medium coarse fabric.
8. Jar fragment, pyriform, short neck, club rim. Brick-orange, uneven firing, unoxidized, medium fine fabric.
9. Jar fragment, globular, angular funnel neck, beaded rim. Brick-red, fine fabric.
10. Jar fragment, re-curved neck, flaring rim. Brick-red, unoxidized core, medium fine fabric.
11. Jar fragment, re-curved neck, out-curved beaded rim. Brown, paddle mark on shoulder, coarse fabric.
12. Jar fragment, re-curved neck, short beaked rim. Brick-red, fine fabric.



Pl. 38

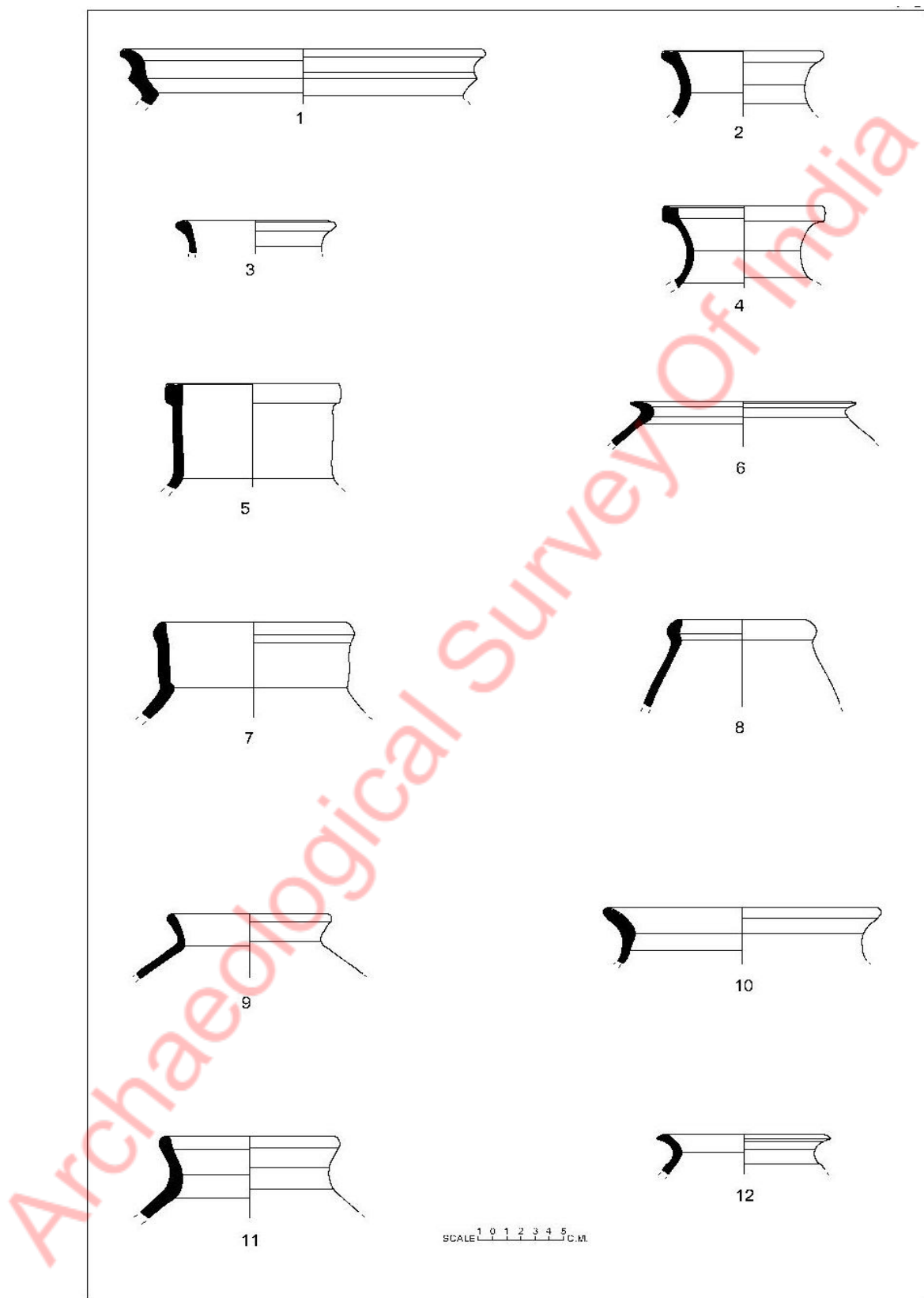


Fig. 38

Plate 39

1. Cooking vessel, pyriform or globular, short funnel beaded rim. Light brown, medium fine fabric.
2. Sherd of red ware, ridge on trunk, two spots in unusual shape, brick-red, fine fabric.
3. Jar fragment, capstan neck, horizontal angular flange with banded edge and in-beaded rim. Painted in black with horizontal band stripe. Brick-red, fine fabric.
4. Sherd of red ware, brick-red, fine fabric.
5. Sherd of red ware, ridge on trunk, micaceous, brick-red, medium fine fabric.
6. Fragment of beaker, re-curved neck, short funnel rim. Brick-red, grooved below neck, fine fabric.
- 7,8. Sherds of red ware vessel with paddled parallel grooves. Brick-red, un-oxidized core, medium fine fabric.
9. Sherd of red ware, brick-red, craggy surface with husk, medium fine fabric.
10. Sherd of red ware vessel, horizontal flange with grooved on top. Brick-red, medium fine fabric.
11. Sherd of red ware vessel, ridge on middle part, brick-red, medium fine fabric.
12. Sherd of red ware vessel, grooved, medium fine fabric.
13. Sherd of red ware vessel, grooved, coarse fabric.



Pl. 39

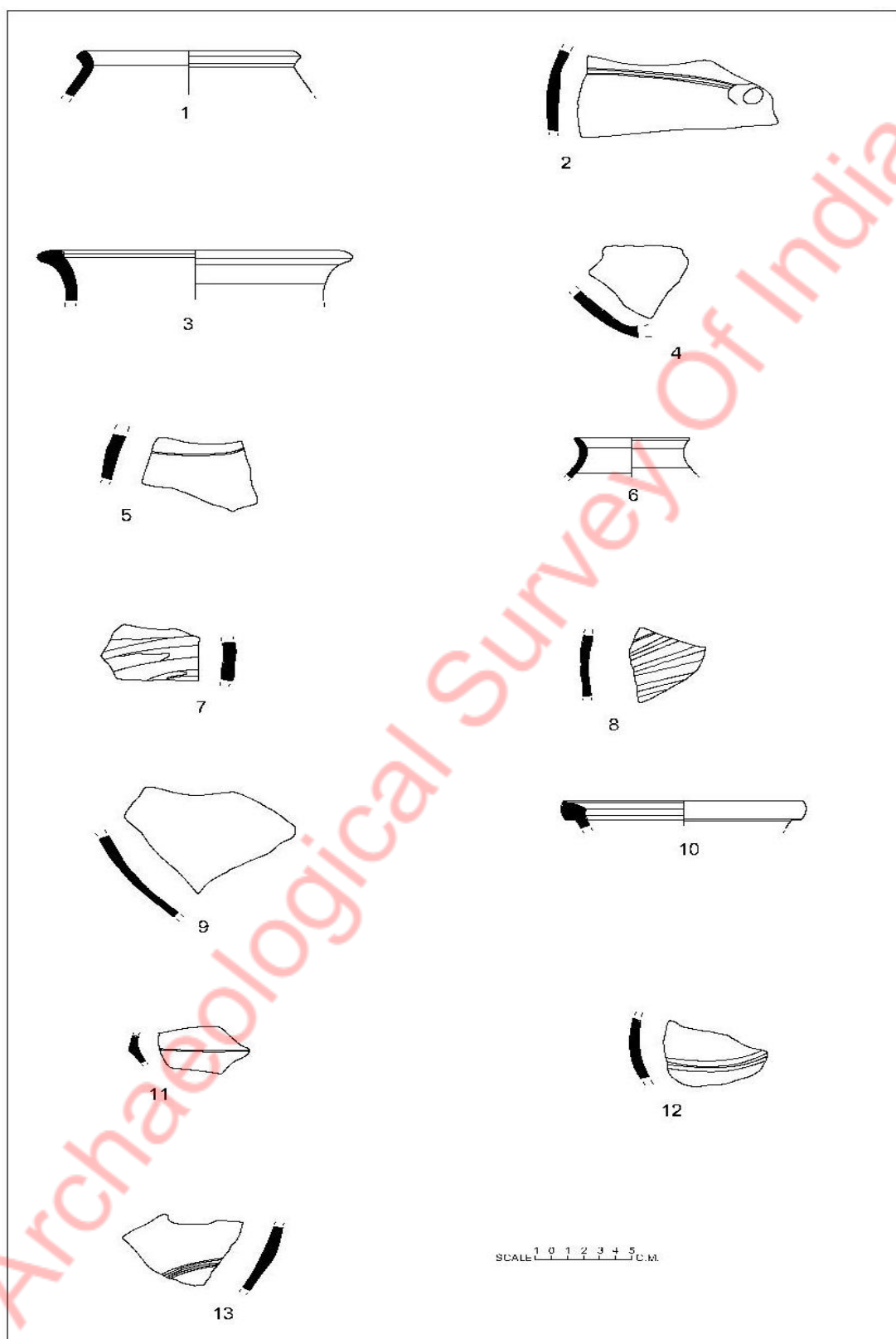


Fig. 39

Plate 40

1. Base fragment of funnel bowl lid with central small knob, distinct foot, brick-red, stepped internally from bottom to top. Fine fabric.



Pl. 40.1



Pl. 40.2

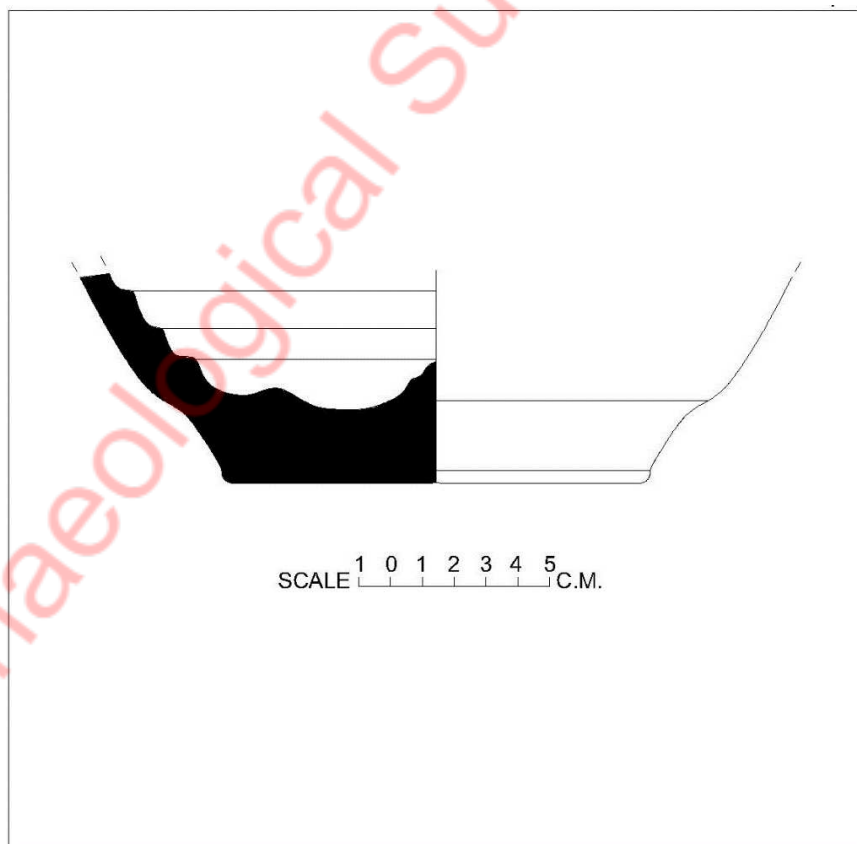


Fig. 40

Plate 41

1. Small jar, cylindrical-shaped pitcher, conical shoulder, slender neck, beaded rim, ridge, and band of grooves on middle and upper trunk. Saggar base. Brick-brown, fine fabric.



Pl. 41

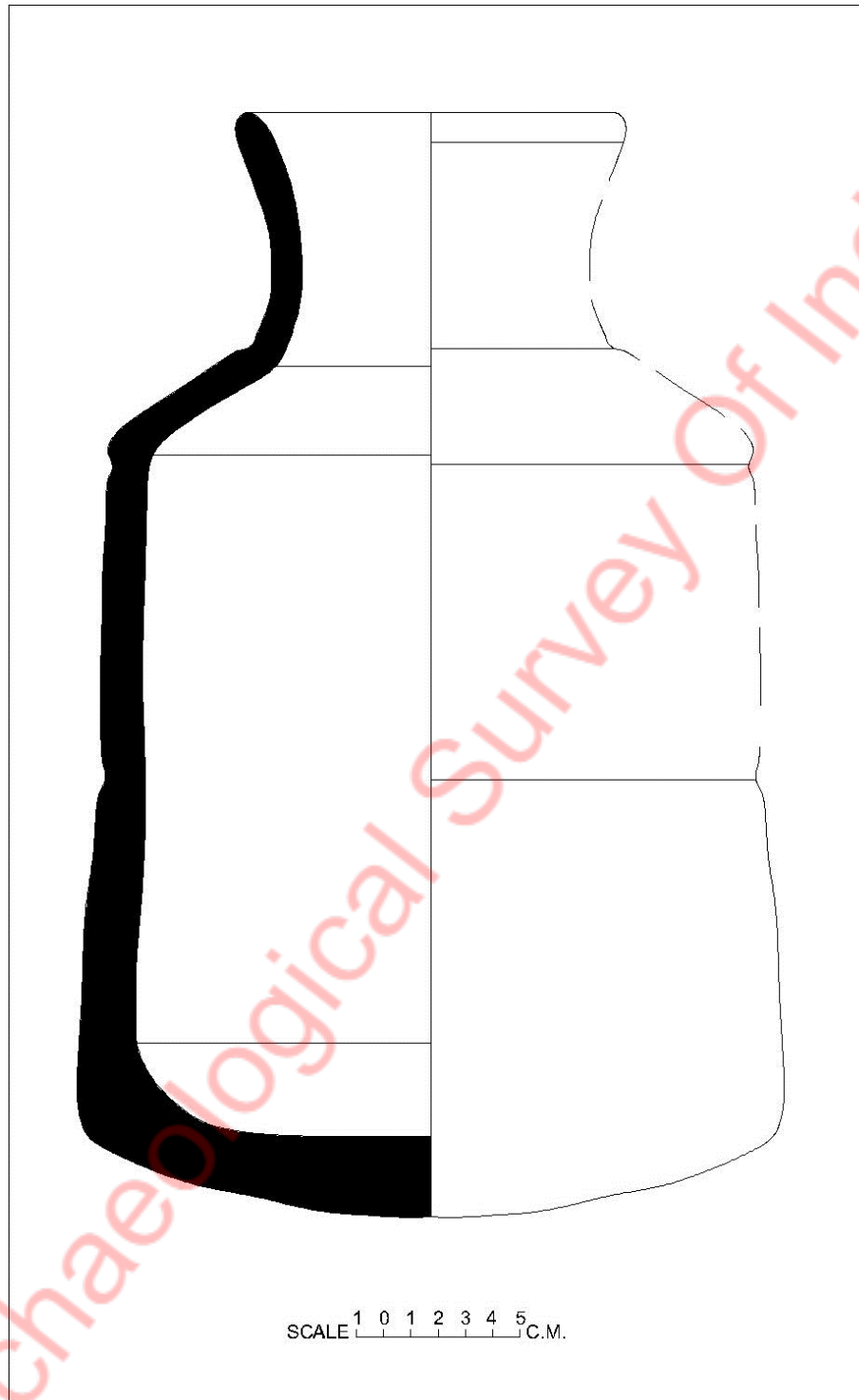
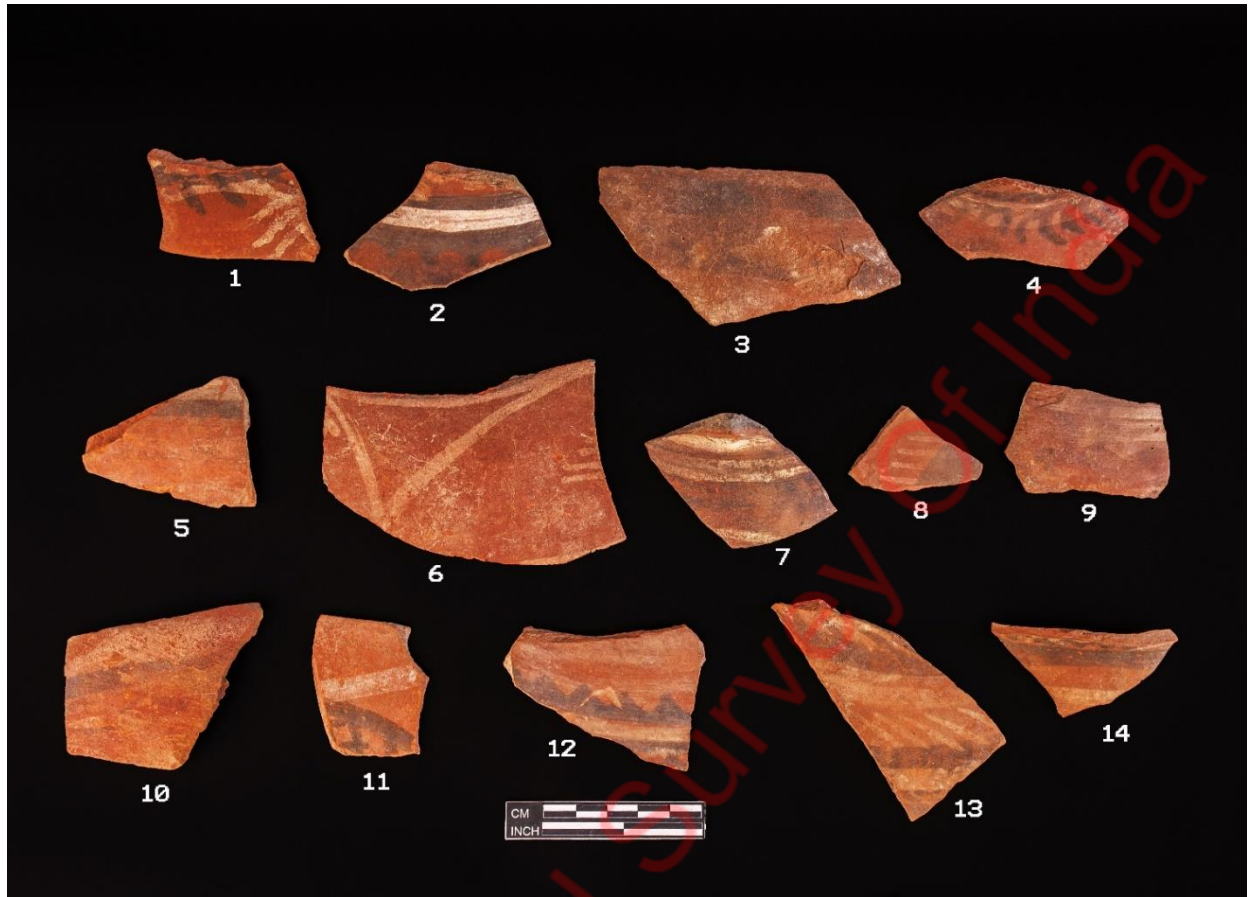


Fig. 41

Plate 42

1. Sherd of a red ware vessel, brick-red, black and white painted ornaments, fine fabric.
2. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes and painted lobed necklace. Medium fine fabric.
3. Sherd of a red ware vessel, brick-red, decorated with double horizontal black stripes. Medium fine fabric.
4. Sherd of a red ware vessel, brick-red, decorated with horizontal black stripes and painted lobed necklace. Medium fine fabric.
5. Sherd of a red ware vessel, brick-red, decorated with horizontal black stripes. Fine fabric.
6. Sherd of a red ware vessel, brick-red, decorated with triangular white stripes and parallel strokes. Medium fine fabric.
7. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes. Medium fine fabric.
8. Sherd of a red ware vessel, brick-red, decorated with parallel horizontal white stripes and black ornaments. Fine fabric.
9. Sherd of a red ware vessel, brick-red, decorated with horizontal faded black stripes. Fine fabric.
10. Sherd of a red ware vessel, brick-red, decorated with horizontal and oblique black stripes. Fine fabric.
11. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes with cross-hatched. Medium fine fabric.
12. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes and painted lobed. Fine fabric.
13. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes with lobed and strokes. Medium fine fabric.
14. Sherd of a red ware vessel, brick-red, decorated with horizontal black and white stripes, wave-line. Medium fine fabric.



Pl. 42

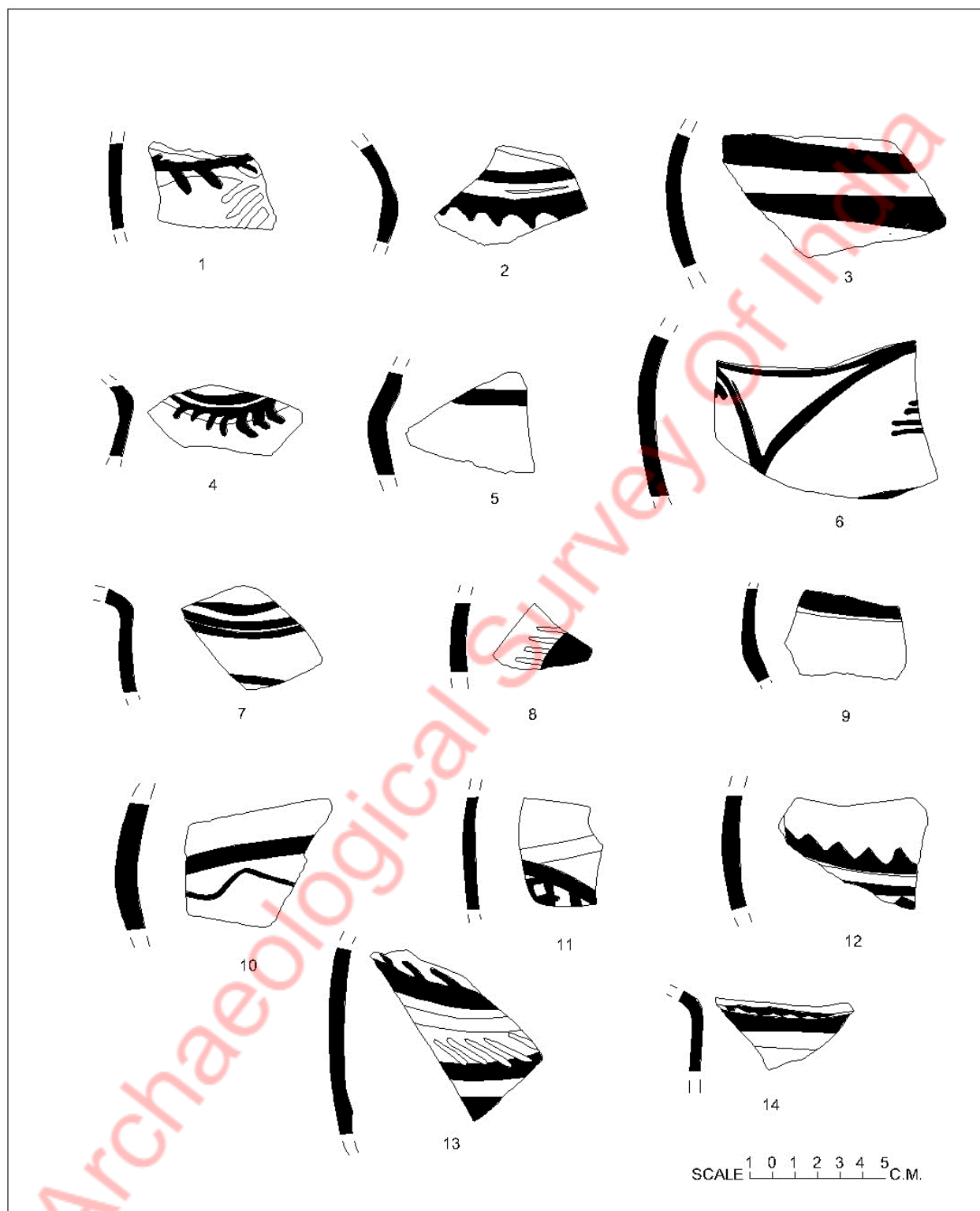


Fig. 42

Plate 43

1. Sherd of a red ware vessel, brick-red, black painted ornaments, fine fabric.
2. Sherd of a red ware vessel, brick-red, black painted swan, fine fabric.
3. Sherd of a red ware vessel, brick-red, black painted ornaments, fine fabric.
4. Sherd of a red ware vessel, brick-red, painted in black with horizontal band strips, fine fabric.
5. Sherd of red ware vessel, brick-orange, black painted stripes, cross-hatched band, fine fabric.
6. Sherd of red ware vessel, brick-red, black painted on the neck, horizontal band stripes, and painted lobed, oblique cross-hatched band, medium fine fabric.
7. Sherd of a red ware vessel, brick-red, painted in black with horizontal band strips, fine fabric.
8. Sherd of red ware vessel, brick-red, black painted horizontal grooved band, medium fine fabric.
9. Sherd of red ware vessel, brick-red, black painted ornaments, fine fabric.
10. Sherd of red ware vessel, brick-red, black painted with horizontal band stripes, double curve ladder attached with each other, medium fine fabric.
11. Sherd of a red ware vessel, brick-red, black painted ornaments, fine fabric.
12. Sherd of red ware vessel, grooved on the neck, brick-red, black painted ornaments, medium fine fabric.
13. Sherd of a red ware vessel, brick-red, black painted with flame-like curved strokes, fine fabric.



Pl. 43

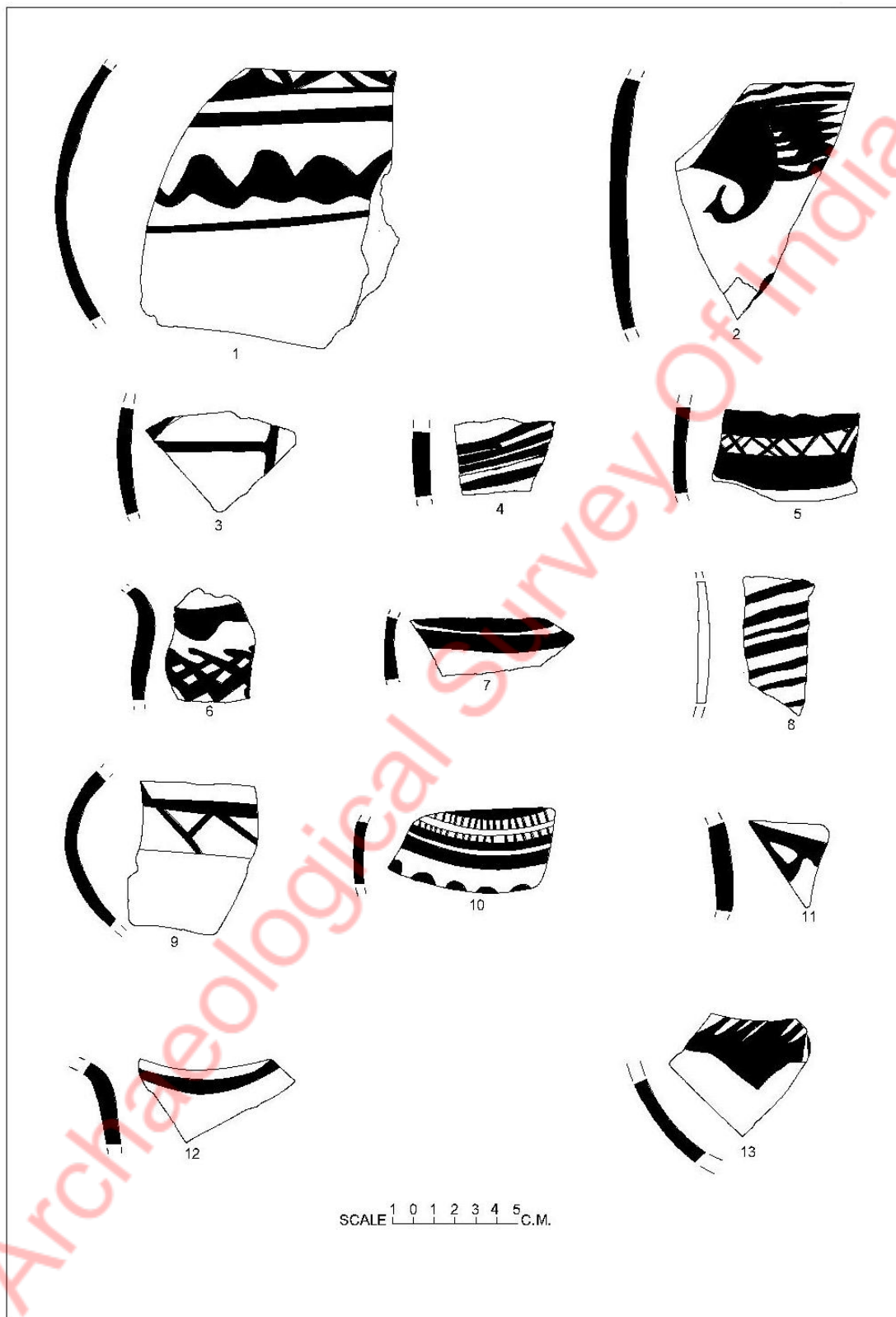


Fig. 43

Plate 44

1. Fragment of a Jar, globular, ridge on the neck, recurved neck, channeled beaded rim. Grooved from the inside, painted in black on the outer side of the shoulder and neck with a horizontal band strip and on top of the rim with vertical thick strokes. Light Brick-orange, medium coarse fabric.
2. Bowl fragment, rounded saggar base, shot wall, flaring, and in-beaded rim. Painted on top of the rim with a concentric curve band stroke. Brick-red, medium-fine fabric.
3. Sherd of red ware, painted in black on the outer side with a bird feather design and stroke, medium fine fabric.
4. Fragment of a jar, painted on the outer side on the neck, shoulder, upper and lower trunk with horizontal curve band strips. Brick-red, made on fast wheel, fine fabric.
5. Sherd of red ware, painted on the outer side with a design of lobed and horizontal band strips. Medium fine fabric.



Pl. 44

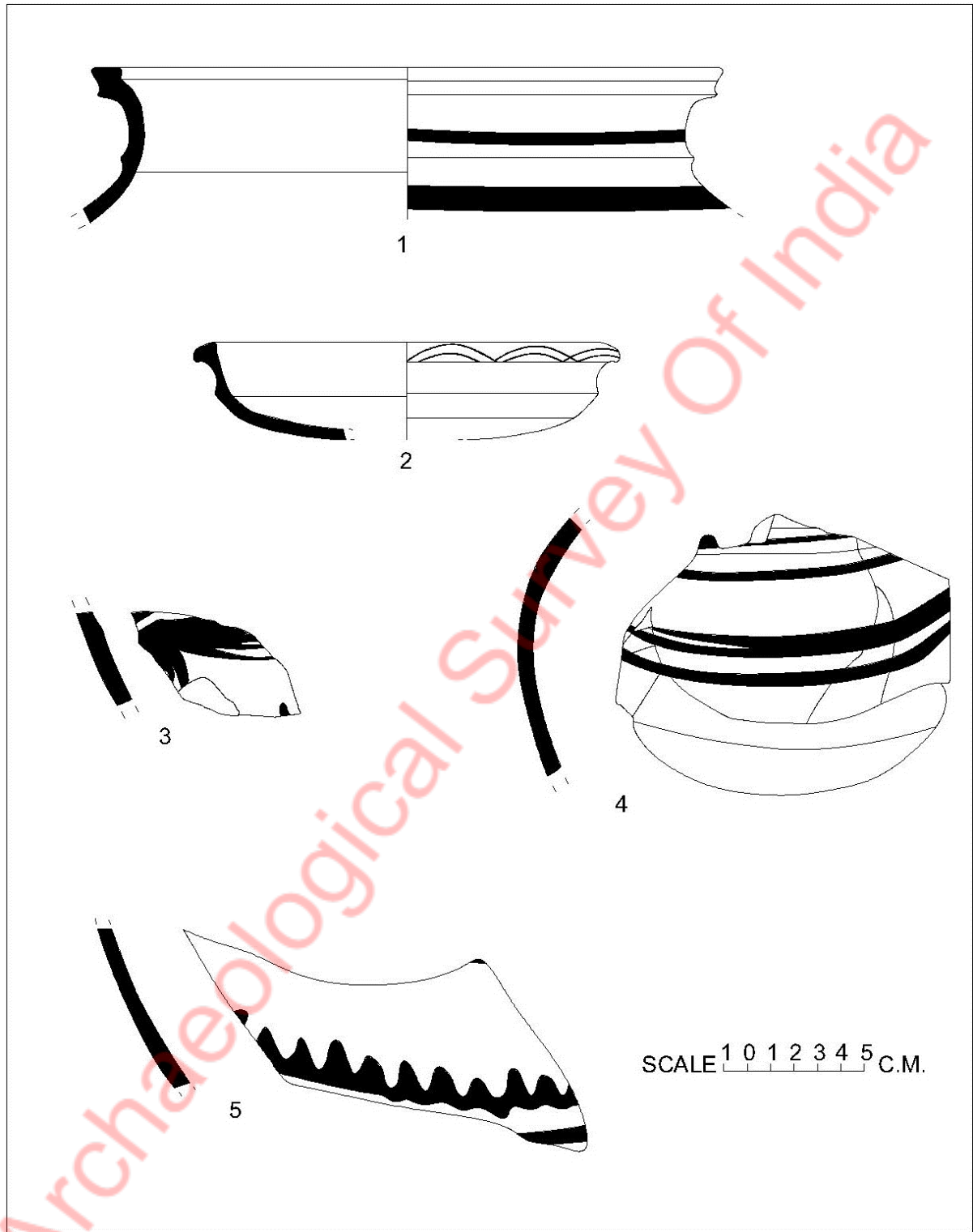


Fig. 44

Plate 45

1. Small jar, globular, flat foot. Micaceous Brick-red, medium coarse fabric.
2. Large dish, out-leaning wall, flat bottom. Brick-red, husk impression, medium fine fabric.
3. Sherd of red ware, unoxidized, rough surface, medium coarse fabric.
4. Sherd of micaceous red ware, rough surface, medium coarse fabric.
5. Sherd of light reddish yellow ware, slip from both sides, very fine fabric.
6. Sherd of red ware, unoxidized, smooth surface, medium fine fabric.
7. Sherd of a red ware vessel, ridge on the body, medium coarse fabric.
8. Sherd of a red ware vessel with paddled parallel grooves. Rough surface, medium fine fabric.
9. Sherd of red ware, rough surface, medium fine fabric.
10. Sherd of red ware, unoxidized, medium fine fabric.
11. Sherd of red ware, decorated on the outer side with two horizontal grooves parallel to each other. Red slip, fine fabric.
12. Sherd of red ware, red slip, fine fabric.
13. Sherd of a micaceous red ware vessel, medium coarse fabric.



Pl. 45

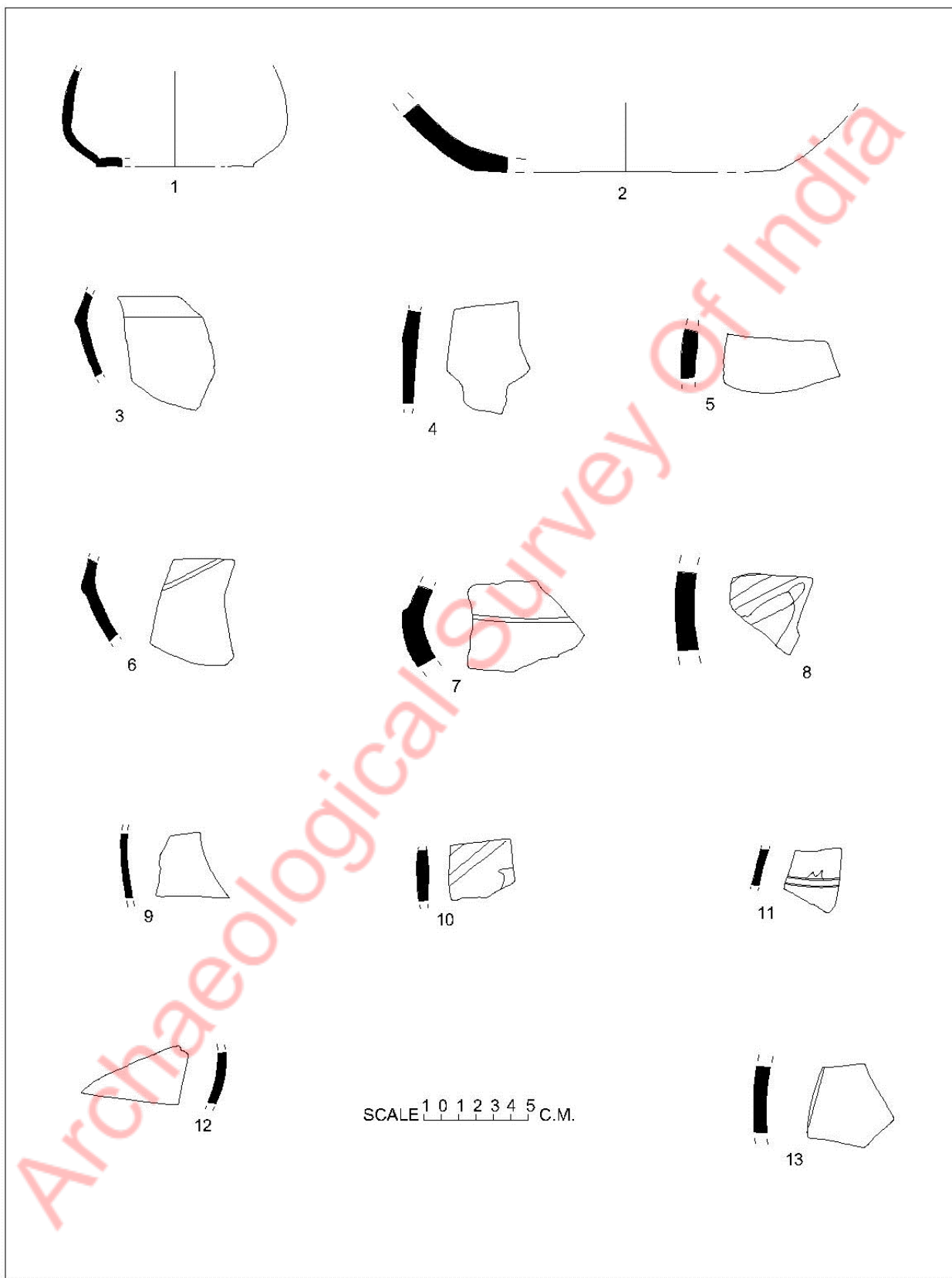


Fig. 45

Plate 46

1. Base-fragment of a bowl, out-leaning wall, flat foot. Brick-red, medium fine fabric.
2. Base-fragment of a bowl, out-leaning wall, flat foot. Brick-orange or reddish yellow, medium fine fabric.
3. Base-fragment of a bowl, out-leaning wall, flat foot. Brick-orange or reddish yellow, medium fine fabric.
4. Base-fragment of a bowl, out-leaning wall, slightly corrugated flat foot. Brick-red, medium fine fabric.
5. Base-fragment of a bowl, out-leaning wall, flat foot. Brick-red, medium fine fabric.
6. Base-fragment of a bowl, out-leaning wall, protruding flat foot. Brick-red, medium coarse fabric.
7. Fragment of a flask, red ware, banded flaring rim with a flat top. Small opening mouth, brick-red, fine fabric.
8. Fragment of hookah bottle, concave neck with ledge, corrugated rim. Brick-orange or reddish yellow, medium fine fabric.
9. Base-fragment of a bowl, out-leaning wall, ridges from inside, flat foot. Brick-red, medium fine fabric.



Pl. 46

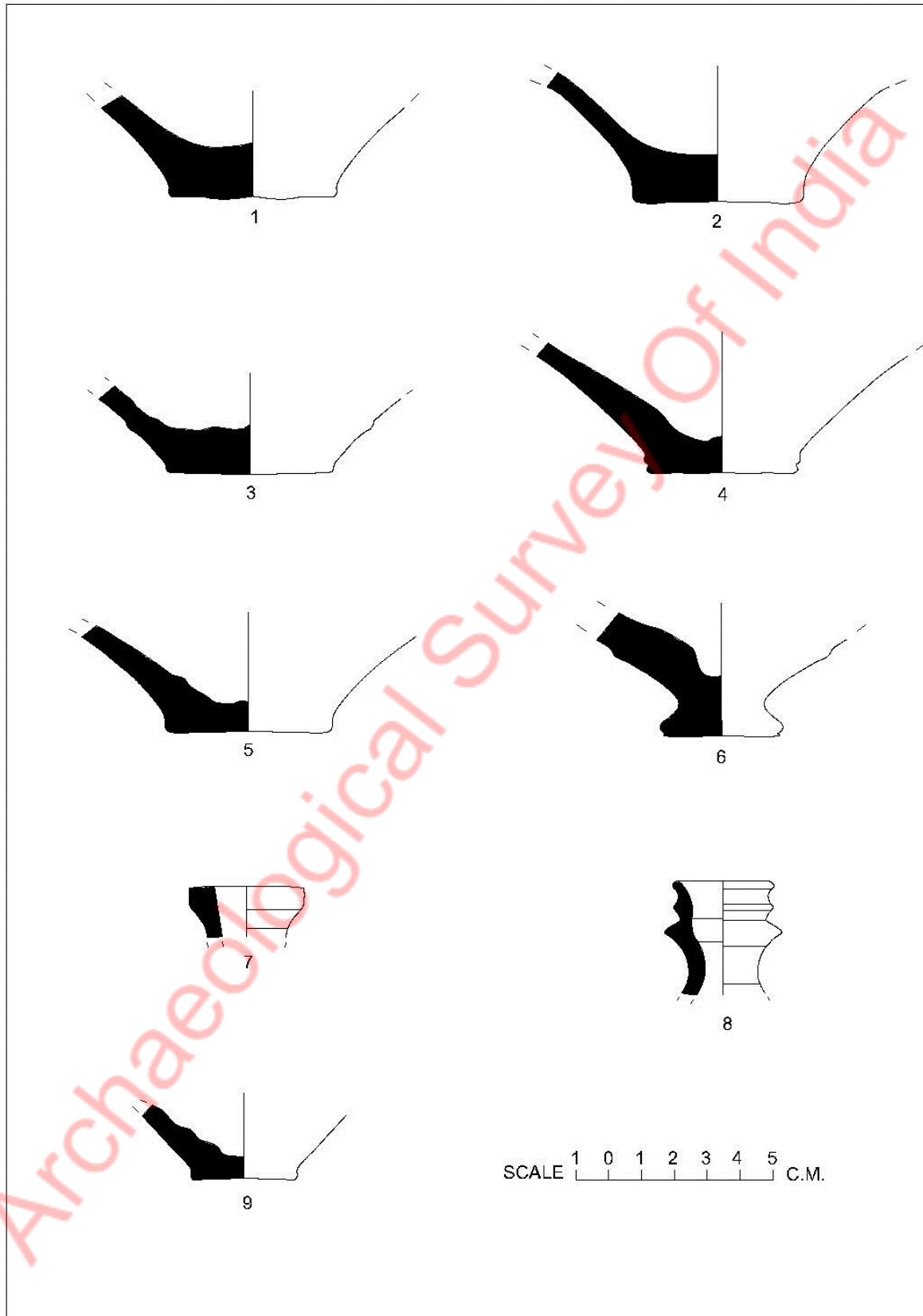


Fig. 46

Plate 47

1. Base fragment of red ware funnel bowl, flat base, medium coarse fabric.
2. Base fragment of red ware funnel bowl, flat base, medium coarse fabric.
3. Base fragment of red ware funnel bowl, flat base, medium coarse fabric.
4. Base fragment of red ware funnel bowl, pronounced flat base, medium coarse fabric.
5. Base fragment of red ware funnel bowl, pronounced flat base, medium coarse fabric.
6. Base fragment of red ware funnel bowl, pronounced flat base, ridges on body portion, medium coarse fabric.



Pl. 47

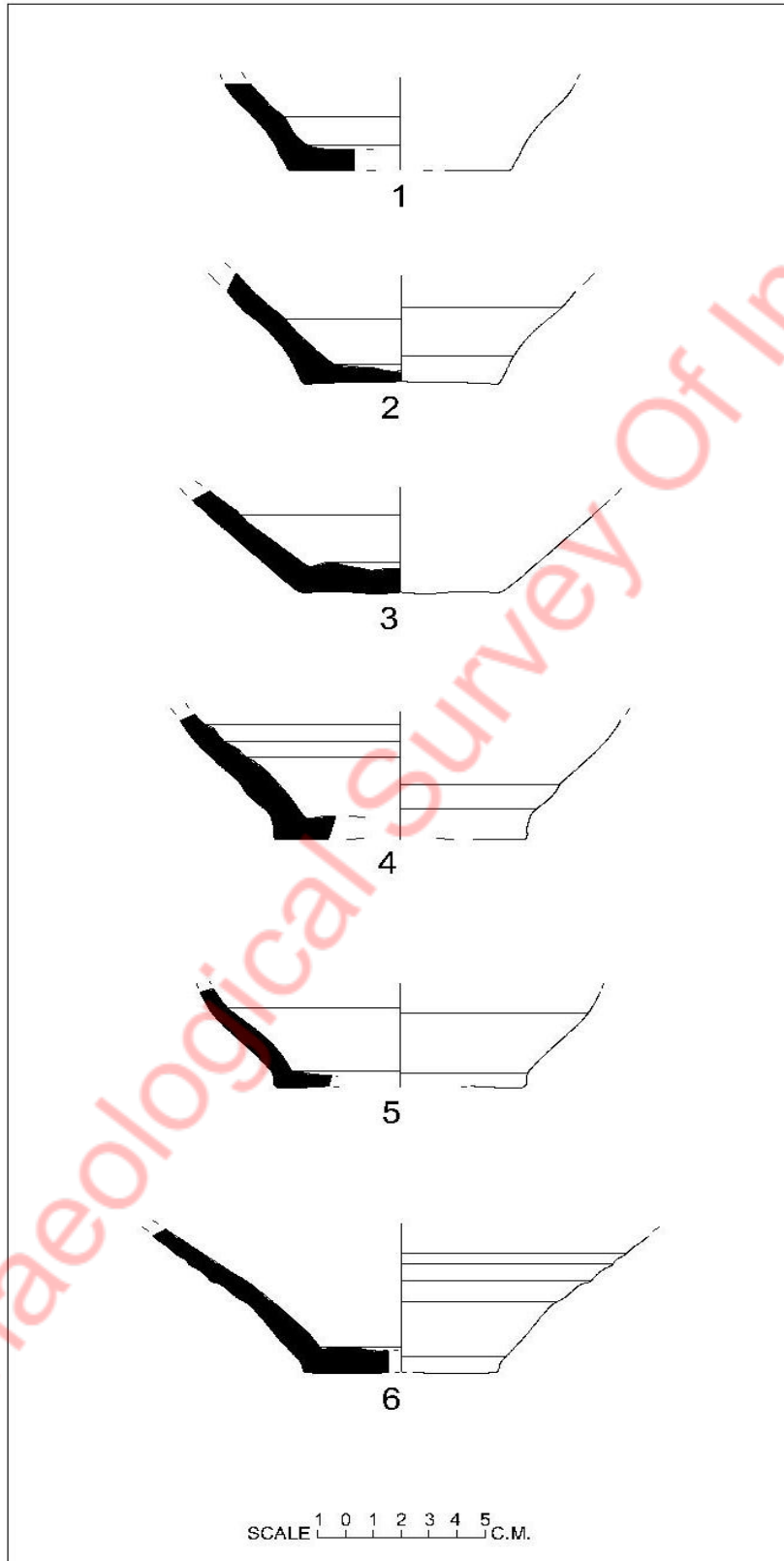
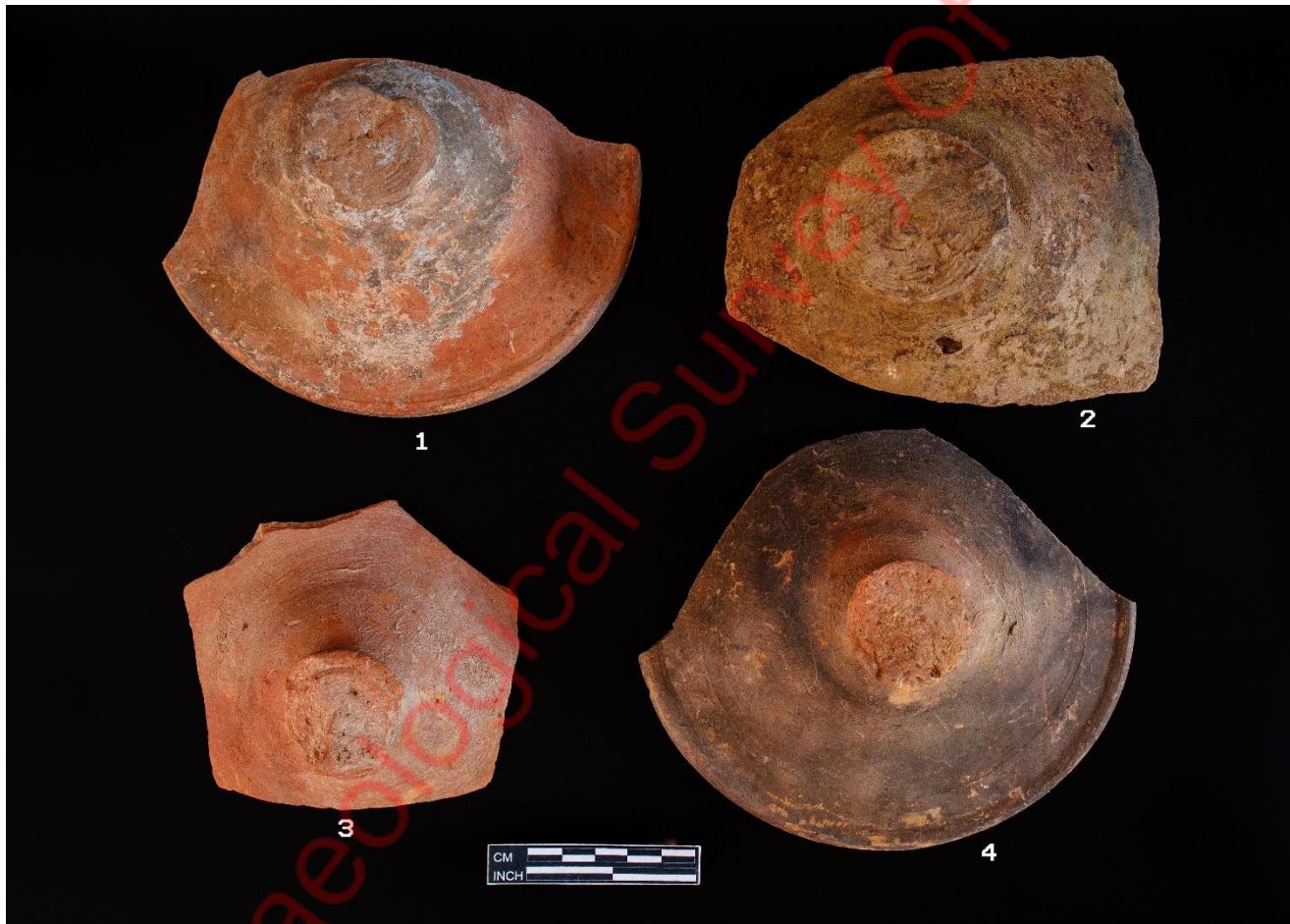


Fig. 47

Plate 48

1. Conical lid with flat-topped knob, out-curved plain rim. Brick-red, medium coarse fabric.
2. A large base fragment of funnel bowl with central hole, protruding flat foot, brick-red, uneven firing, unoxidized core, burnt internally, coarse fabric.
3. Shallow bell-shaped lid with distinct flat knob, brick-red, fine fabric.
4. Conical lid with protruding flat-topped knob, horizontally flaring banded rim. Brick-red, ill-firing, medium fine fabric.



Pl. 48

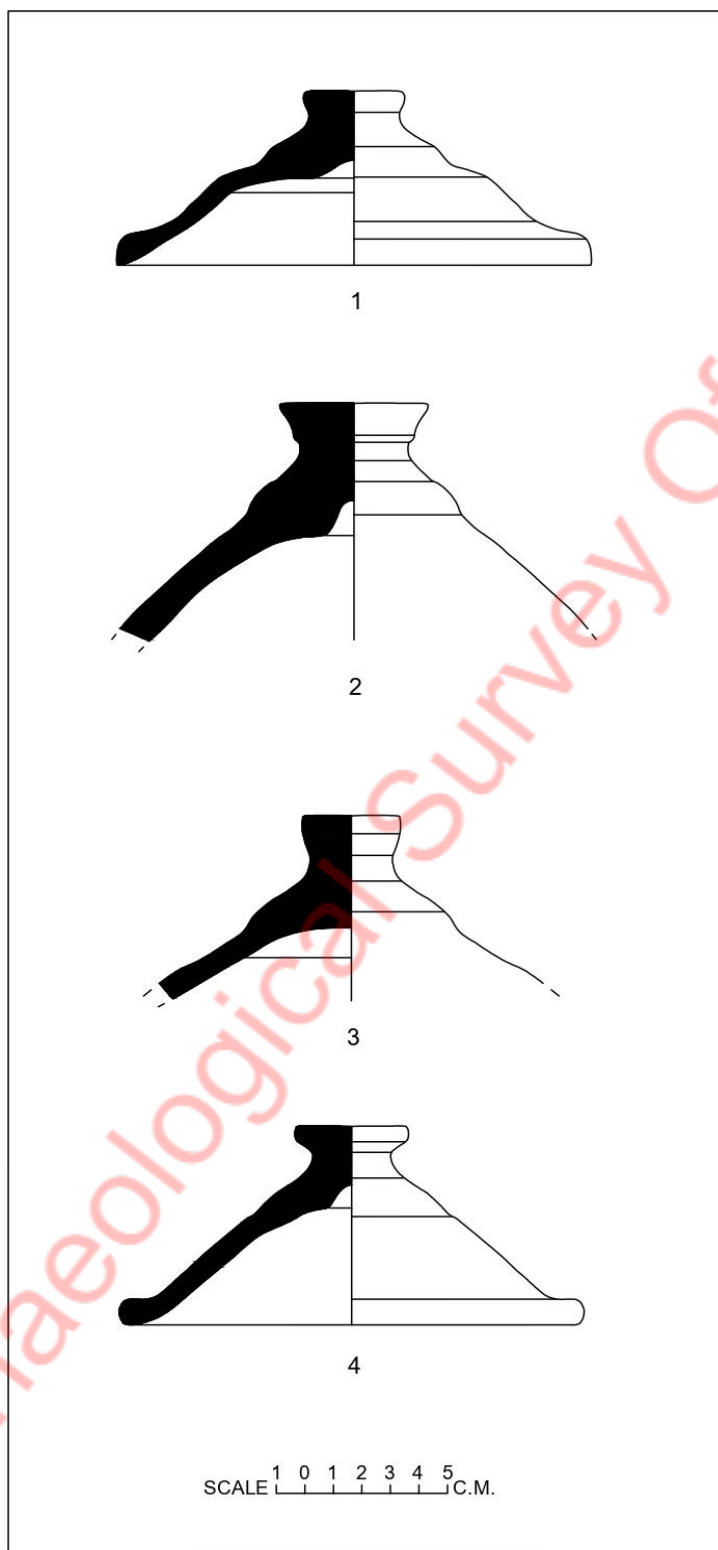


Fig. 48

Plate 49

1. Shallow bell-shaped lid with flat knob. Brick-red, uneven firing, medium fine fabric.
2. Bowl lid with central knob, pronounced flat foot, up-turned edge of flange. Brick-red, medium fine fabric.
3. Bowl lid with central knob, pronounced flat foot, up-turned, Brick-red, medium fine fabric.
4. Bowl with central hole, protruding flat foot, up-turned flaring side, Brick-red, medium coarse fabric.
5. 6, 7, 8, 9, 10, 11 and 12. Shallow bell-shaped lids with flat knob. Brick-red, uneven firing, medium fine fabric (6 and 7 have only knobs).



Pl. 49

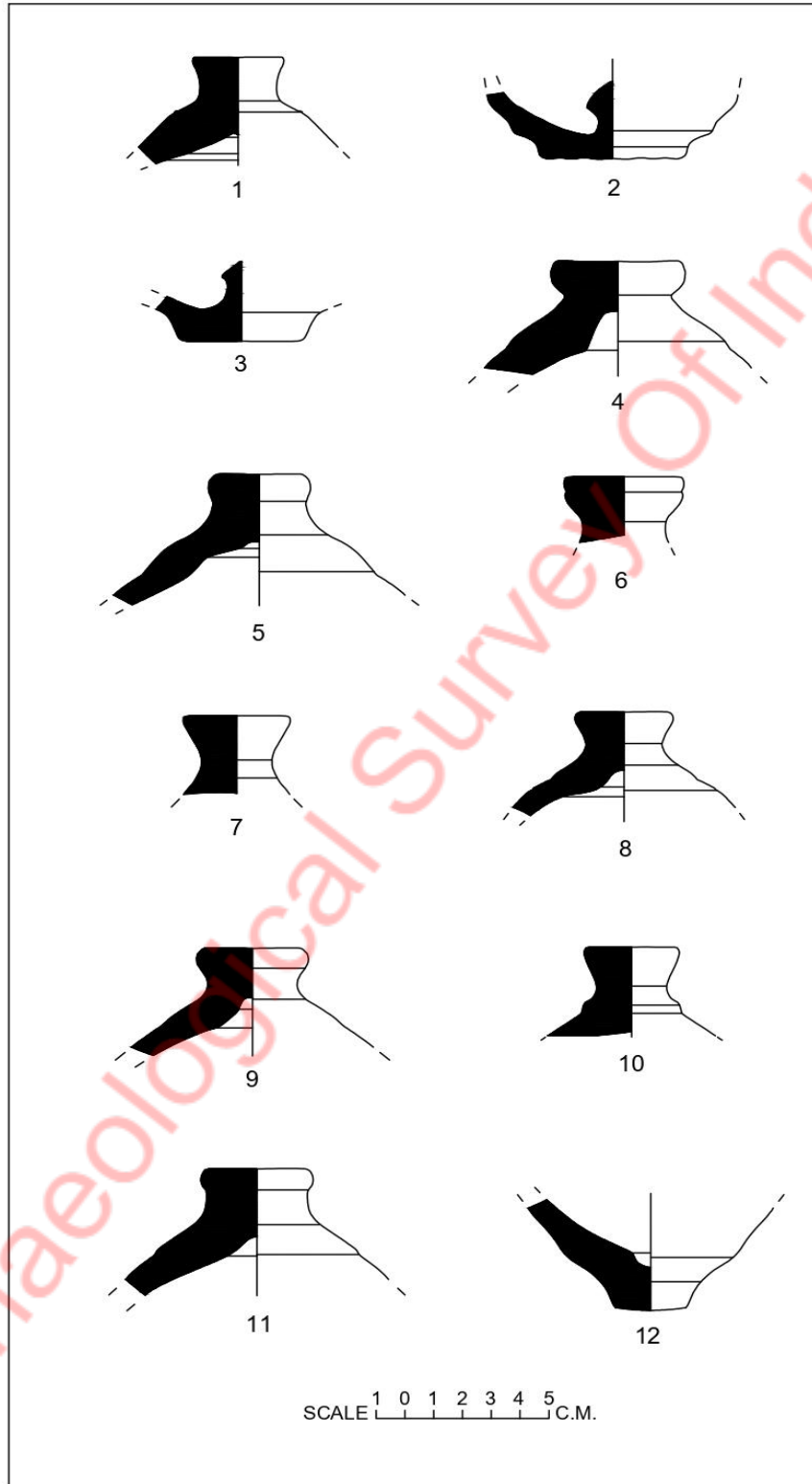


Fig. 49

Plate 50

1 to 6. Shallow bell-shaped lids with distinct flat knob. Brick-red, uneven firing, medium fine fabric.



Pl. 50

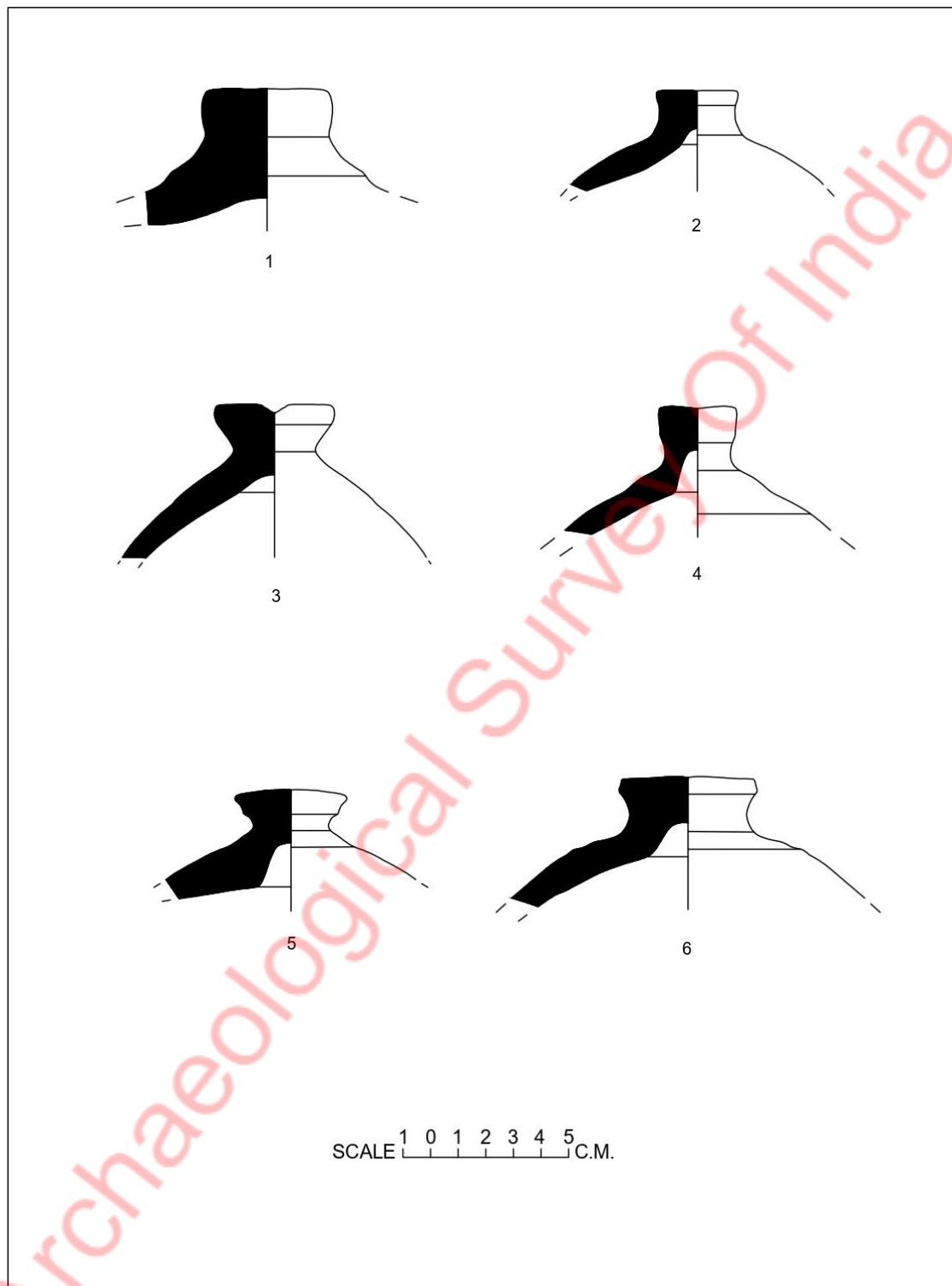


Fig. 50

Plate 51

- 1, 7, 8, 9, 10. Tube-spout of a jar, brick-red, coarse fabric.
- 2, 5. Fragment of spout conical with dented base. Brick-red, fine fabric.
3. Jar fragment, globular, carinated spout with beaded rim and dented base, brick-red (layer of mud light greenish colour on the body surface.) core unoxidized, medium coarse fabric.
- 4, 11. Fragment of Steep conical spout, out-curved rim. Brick-red, medium fine fabric.
6. Hookah-bowl, up-curved perpendicular wall with tapering stem, conical flat-topped rim. Brick-red, medium fine fabric.



Pl. 51

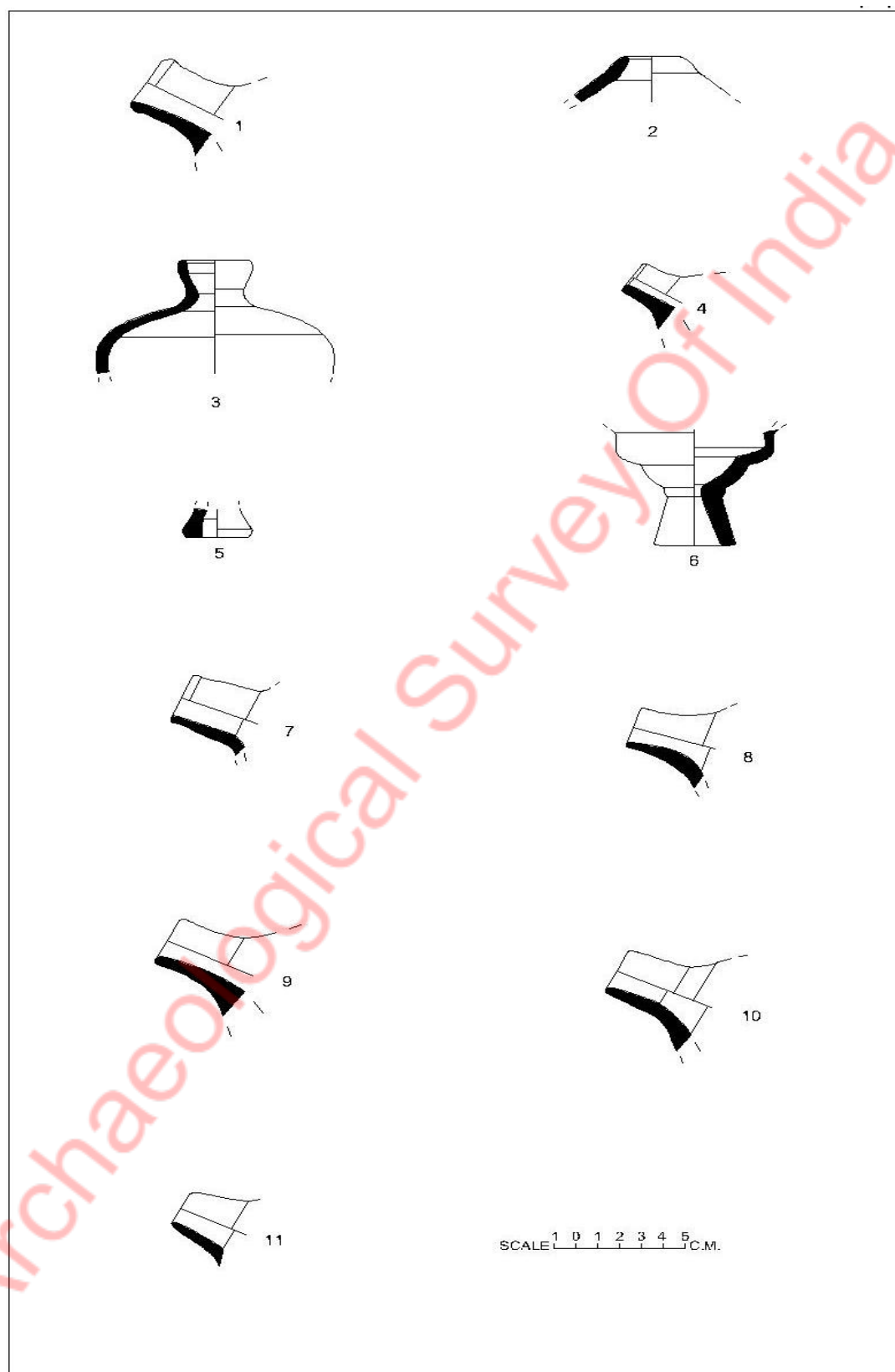


Fig. 51

Plate 52

- 1 to 5. Tube-spout of a jar, red, medium fine fabric and 2 and 4 have medium coarse fabric.
6. Fragment of hookah-bowl, tapering base, horizontal flaring bottom. Grey, uneven firing, unoxidized core, medium fine fabric.
7. Fragment of hookah-bowl, tapering stem, flat bottom. Light brown, medium fine fabric.
8. Fragment of hookah-bowl, cylindrical stem, grooved beaded bottom. Brick-red, fine fabric.
9. Fragment of hookah-bowl, conical stem, grooved flat bottom. Brick-red, fine fabric.



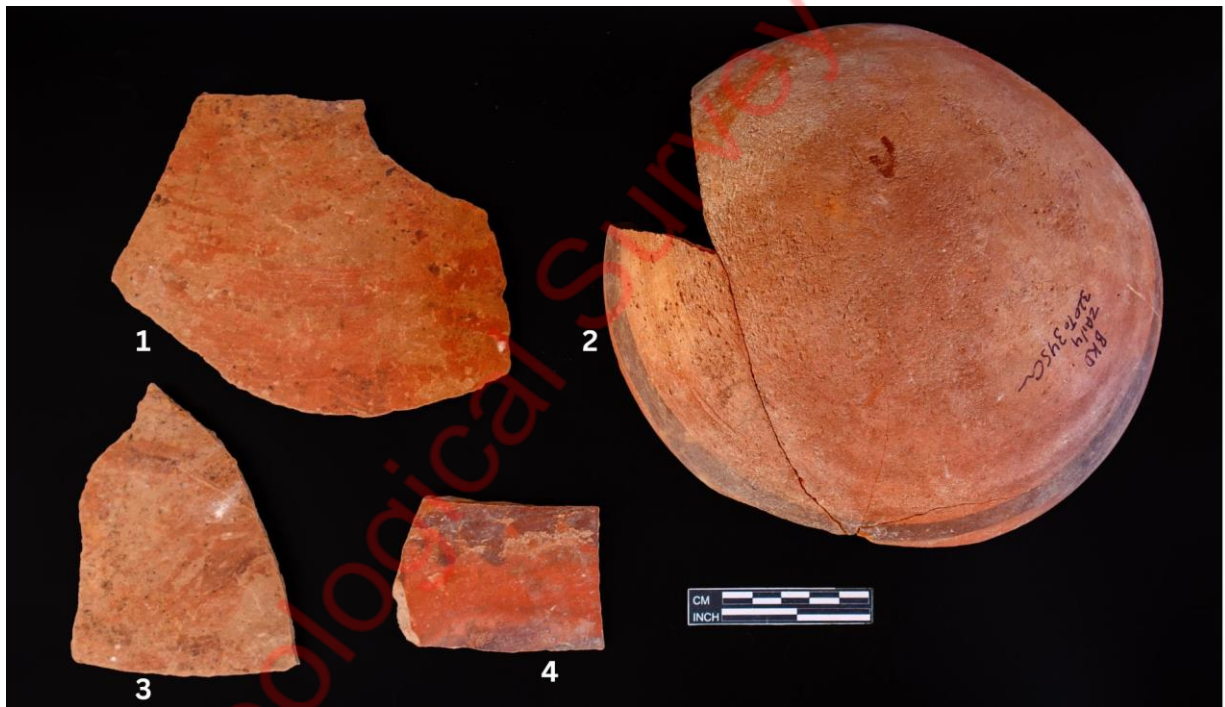
Pl. 52



Fig. 52

Plate 53

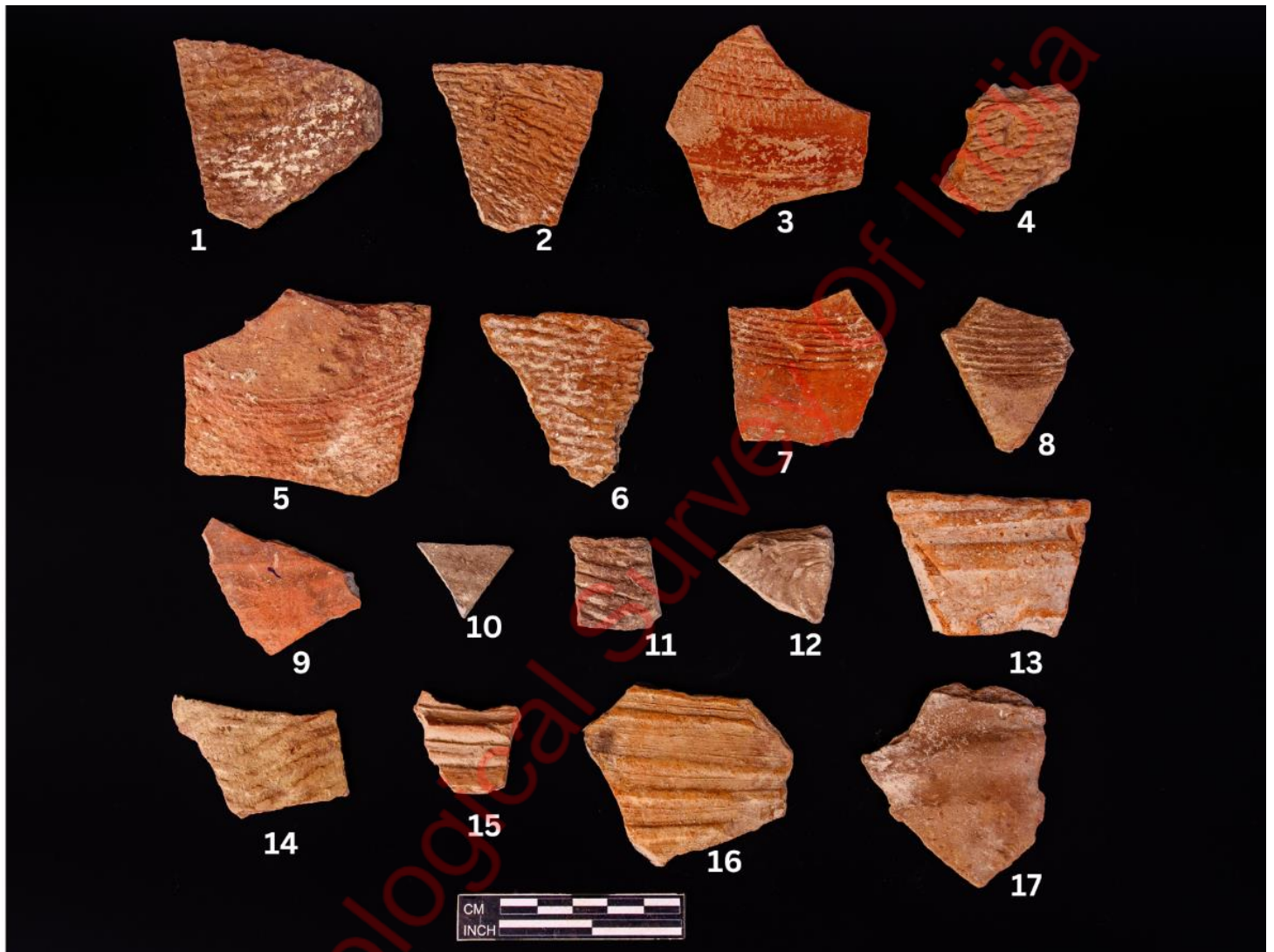
1. Fragment of redware, black painted stripes and comb-pattern strokes, brick red, coarse fabric.
2. Fragment of a globular jar, outside parallel black painted stripes at lower turn, brick red and medium fine fabric.
3. Fragment of redware, outside parallel black painted stripes at upper and lower portions, brick red, coarse fabric.
4. Fragment of redware, outside parallel black painted stripes and lobed bands, brick red, medium fine fabric.



Pl. 53

Plate 54

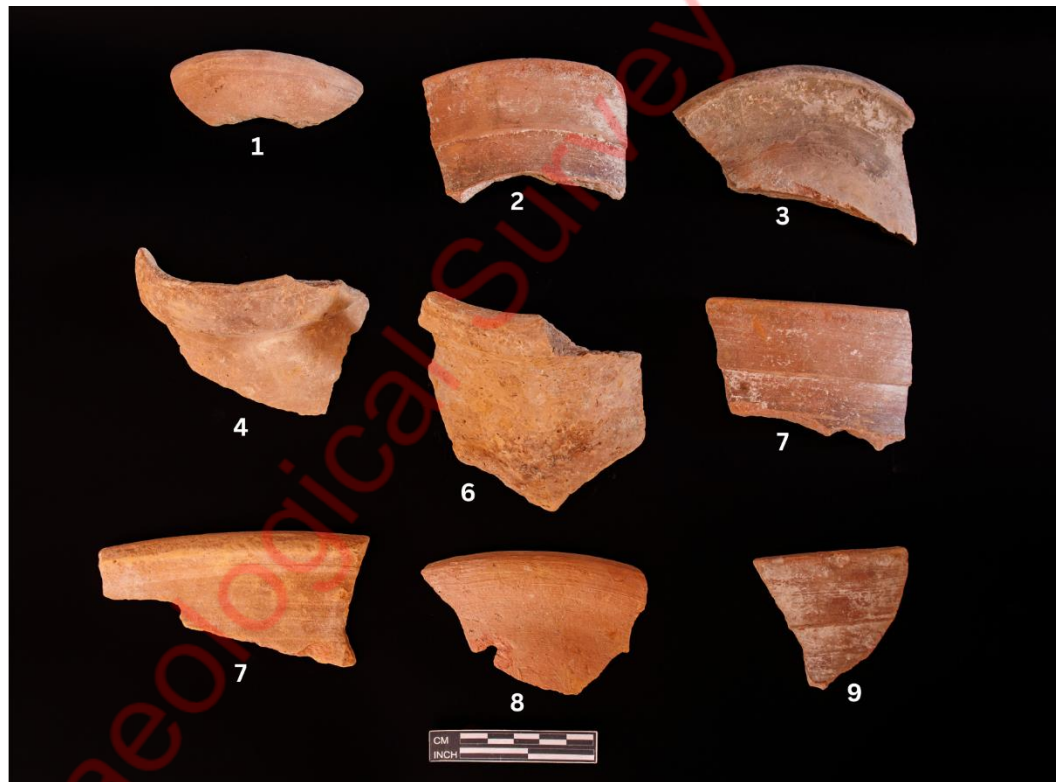
1. Sherd of red ware vessel with paddled parallel grooves. Medium fine fabric.
2. Sherd of red ware vessel with paddled parallel grooves. Medium fine fabric.
3. Sherd of red ware, steep neck. Medium fine fabric
4. Sherd of red ware vessel paddled with sets of deep parallel grooves. Medium fine fabric.
5. Sherd of red ware decorated with horizontal strokes on red. Medium fine fabric.
6. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
7. Sherd of red ware decorated with short parallel lines notches in the centre surrounded with band of red line stokes. Medium fine fabric
8. Shoulder fragment of jar in red ware decorated with horizontal grooves. Coarse fabric.
9. Shoulder fragment of jar in red ware decorated with horizontal grooves. Coarse fabric.
10. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
11. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
12. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
13. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
14. Sherd of red ware decorated with horizontal groove and ridges. Medium coarse fabric.
15. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
16. Sherd of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.
17. Sherd
18. of red ware vessel strongly paddled with sets of parallel grooves. Medium coarse fabric.



Pl. 54

Plate 55

1. Fragment of bowl, convex wall, up curved direct rim. Brick red, fine fabric.
2. Fragment of jar, recurved neck, and long banded rim. Brick red, medium fine fabric.
3. Bowl fragment, lenticular bottom, convex wall, band rim, brick red, fine fabric.
4. Jar fragment, re curved neck, thick round rim. Light ochre, medium coarse fabric.
6. Jar fragment, re curved neck, long banded funnel rim, ochre, medium fine fabric.
7. Heavy bowl, shallow funnel shaped, beaded rim. Ochre, brick red, medium fine fabric.
8. Funnel bowl fragment, strongly inflected tapering rim, brick red. Medium fine fabric.
9. Jar fragment, re curved neck, long banded funnel rim, ochre, medium fine fabric.



Pl. 55

Plate 56

1. Disc fragment, lenticular bottom, convex wall, slightly in curved, direct rim. Grey, fine fabric.
2. Sherd of grey ware handmade, husk impression, very coarse fabric.
3. Sherd of red ware, most handmade, husk impression and micaceous, decorate with Geometrical stamp on outer side, coarse fabric.
4. Base fragment of Grey ware, lenticular, fine fabric.



Pl. 56

Plate 57

1. Sherd of black slip ware, geometrical engrave design on the outer side. Fine fabric.
2. Sherd of a grey ware painted with black and white, decorated with horizontal incised lines, having yellow stains. Coarse fabric.



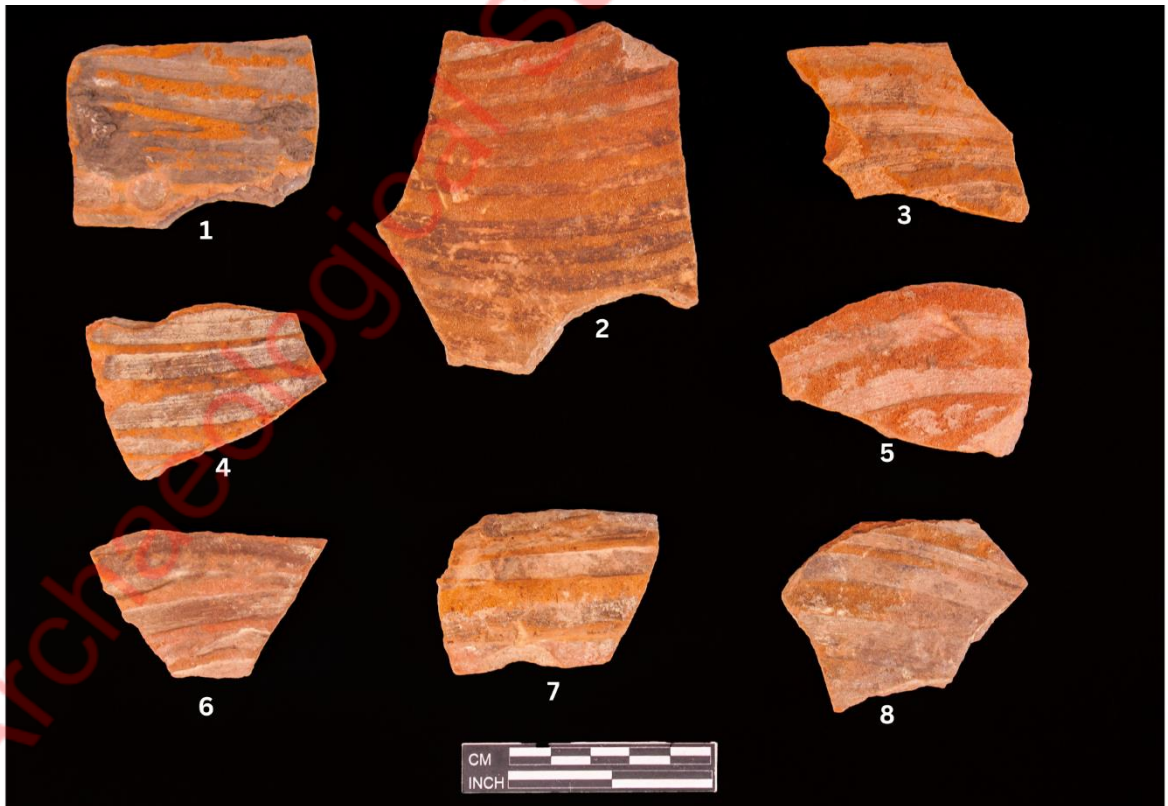
Pl. 57.1



Pl. 57.2

Plate 58

1. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
2. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
3. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
4. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
5. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
6. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
7. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.
8. Sherd of red ware vessel with paddled, parallel grooves, black painted in grooved portion. Medium fine fabric.



Pl. 58

Plate 59

1. Shallow bell shaped lid with flat knob. Brick red. Medium fine fabric.
2. Dome lid with flat topped knobbed, incurved below neck, extremely rough surface. Medium fine fabric.
3. Broken dome- lid with knobbed, brick red. Fine fabric.
4. Shallow bell shaped dome lid with flat topped knobbed, ochre. Medium fine fabric.
5. Shallow bell shaped dome lid with flat topped knobbed, ochre, brick red. Medium fine fabric.
6. Shallow bell shaped dome lid with flat topped knobbed, ochre. Medium fine fabric.
7. Shallow bell shaped dome lid with flat topped knobbed, ochre. Medium fine fabric.



Pl. 59

FAUNAL REMAINS

Methodology

All animal skeletal elements discovered during the course of excavation were carefully collected. Subsequently, this material was transported to the Archaeozoology Laboratory of Deccan College, Pune, where it underwent a comprehensive examination process. In the initial phase of examination, the material from each archaeological context was systematically divided into two primary categories: Identifiable Fragments (IF) and Unidentifiable Fragments (UF). Furthermore, the unidentified skeletal elements were meticulously documented through a systematic classification process that considered their sizes as defining criterion. This categorization led to the identification of three distinct groups of unidentified fragments based on their respective sizes. These groups were designated as follows:

1. Small-sized Unidentified Fragments (UF_S): Comprising fragments smaller than 1 cm in size.
2. Medium-sized Unidentified Fragments (UF_M): Encompassing fragments falling within the size range of 1 to 4 cm.
3. Large-sized Unidentified Fragments (UF_L): Reserved for fragments exceeding 4 cm in size.

This classification strategy based on size differentiation was a fundamental step in systematically organising and assessing the unidentified skeletal fragments. It allowed for a structured approach to the subsequent examination, with the potential to reveal significant insights into the site's faunal composition and the behaviour of its ancient inhabitants in relation to animals.

The process of identifying identifiable fragments commenced with their initial classification into broader anatomical groupings, facilitating a structured approach to their examination. These groupings served as the foundation upon which subsequent identification efforts were built. To achieve species level identification, a comprehensive collection of reference skeletons housed at the Archaeozoology Laboratory of Deccan College, Pune were consulted. In addition, a wealth of unpublished differentiating markers, prepared within the laboratory over time, also used. Furthermore, various published sources such as, Higham (1968), (Boessneck 1969), Joglekar *et al.* (1994), Pawankar and Thomas (2001), and Haraniya *et al.* (2016), also played a crucial role in enhancing the accuracy of identifications. Nonetheless, it is essential to

underscore that the determination of the specific species or genus was a meticulous process. It involved a thorough examination of each bone. Only after exhausting all other possible species of genera based on these morphological characteristics were bones confidently allocated to a specific species or genus.

One of the most intricate methodological challenges in the field of archaeozoology pertains to the differentiation of skeletal remains originating from closely related species. This challenge is exemplified when distinguishing between the remains of species such as cow (*Bos indicus*) and buffalo (*Bubalus bubalis*), as well as goat (*Capra hircus*) and sheep (*Ovis aries*). These closely related species frequently coexist within the archaeozoological assemblages found in India. Therefore, to address these challenges and provide a pragmatic approach to taxonomy, broad taxonomic categories were made. For instance, the overarching classifications of cattle/buffalo (*Bos/Bubalus*) and goat/sheep (*Capra/Ovis*) have been employed in instances where species-level identifications proved elusive. Additionally, a considerable portion of the faunal assemblage, encompassing vertebrae, sternum fragments, long bone shaft fragments and rib fragments, was not identified to the species level. Instead, these fragments were categorised into broader groups based on their relative sizes, leading to use of classifications such as large-sized mammals, medium-sized mammals, and small-sized mammals.

The Faunal Material

A total of 2235 skeletal fragments of animals excavated from the site ofwere analysed. From this sizable assemblage, it was possible to identify 1007 skeletal elements through rigorous examination. Thus, an identification level of 45.06% could be achieved.

The skeletal remains analysed for the present study were excavated from five different trenches: A1, D1, XA1, YA1 and ZA1. It is important to note that quite a few of these recovered skeletal elements appeared to exhibit signs of recent damage, which may have occurred during their subsequent transportation to the Archaeozoology Laboratory at Deccan College, Pune. Despite this, the material under investigation proved to be sufficiently informative, providing valuable insights into the past animal-based subsistence activities at the site. The details of the faunal material studied for the present work has been given in Table 1 (also see Figure 1).

Table 1: Details of faunal material analysed from the site

Unidentified Fragments (UF)			Identified Fragments (IF)	Total Fragments (TF)	NISP%
UF_L	UF_M	UF_S			
204	422	602	1007	2235	45.06

Taxonomical Composition of the Assemblage

The faunal assemblages analysed from different trenches at revealed a total of 14 different species of animals. These included nine different species of mammals, three species of reptiles, and two different species of molluscan shells. These have been listed below.

1. Cattle (*Bos indicus*)
2. Buffalo (*Bubalus bubalis*)
3. Goat (*Capra hircus*)
4. Sheep (*Ovis aries*)
5. Ass (*Equus asinus*)
6. Nilgai/Blue bull (*Boselaphus tragocamelus*)
7. Blackbuck (*Antilope cervicapra*)
8. Indian gazelle (*Gazella bennettii*)
9. Wild boar (*Sus scrofa*)
10. Indian narrow-headed softshell turtle (*Chitra indica*)
11. Indian flapshell turtle (*Lissemys punctata*)
12. Indian softshell turtle (*Trionyx gangeticus*)
13. Freshwater bivalve (*Parreysia* sp.)
14. Cowrie (*Cypraea ocellata*)

In addition, one skeletal element of an unidentified equid has also been recorded. At the time that this report was being written, it was not possible to determine with absolute certainty which species this skeletal element belonged to. In a similar vein, there were a number of skeletal elements of birds, for which it was not possible to identify the species; hence, these elements were only documented up to a general level, such as bird bones. There were also a couple of fresh water bivalves, where it was difficult to determine the exact species.

Anatomical Composition of the Assemblage

Cattle (*Bos indicus*) were represented in the form of 122 skeletal elements, accounting for 12.12% of the total NISP (Table 2). Almost all elements were represented. These include cranial fragments, mandibular fragments, isolated maxillary and mandibular teeth, fragments of scapulae and pelvis, proximal and distal portions of long bones (humerus, radius, ulna, femur, tibia and metapodials), tarsals and phalanges (Figure 2-8). Compared to cattle, skeletal elements of buffaloes (*Bubalus bubalis*) were represented in less number. A total of 17 skeletal elements of this animal were identified, which accounted for 1.69% of the NISP. These skeletal elements include one horn core, one premaxilla, three mandibular fragments, three astragalus, one centrotarsal, three first phalanges and five second phalanges (Figures 9-10). In addition to the skeletal elements mentioned so far, a total of 300 skeletal elements have been recorded as those belonging to the category of cattle/buffalo (*Bos/Bubalus*) (Figure 11). These fragments accounted for 29.79% of the total NISP and included both axial and appendicular skeletal fragments. Most commonly represented ones were mandibular fragments, isolated teeth, long bones, and phalanges.

The assemblage also revealed the presence of goat and sheep remains. A total of eight skeletal elements of goat (*Capra hircus*) were recorded. These accounted for 0.79% of the NISP and included one distal portion of a scapula, two distal portions of humerus, one proximal portion of radius, one proximal portion of ulna, one proximal portion of a metacarpal, one distal portion of a metatarsal, and one complete astragalus (Figure 12). It was possible to identify only one skeletal fragment of sheep (*Ovis aries*). This skeletal element was one complete first phalanx and this accounted for 0.10% of the NISP (Figure 13). In addition to these, a total of 118 elements were recorded as those belonging to the category of goat/sheep (*Capra/Ovis*) (Figure 14). As was the case with *Bos/Bubalus*, this category was also represented by almost all the skeletal elements. These constituted 11.72% of the NISP.

Table 2: Number of Identified Specimens (NISP) from

Species/Taxa	NISP	NISP%
<i>Bos indicus</i>	122	12.12
<i>Bubalus bubalis</i>	17	1.69
<i>Bos/Bubalus</i>	300	29.79
<i>Capra hircus</i>	8	0.79
<i>Ovis aries</i>	1	0.10
<i>Capra/Ovis</i>	118	11.72

<i>Equus asinus</i>	2	0.20
<i>Boselaphus tragocamelus</i>	1	0.10
<i>Antilope cervicapra</i>	2	0.20
<i>Gazella bennetti</i>	1	0.10
<i>Sus scrofa</i>	4	0.40
Equid	1	0.10
Large-sized mammals	317	31.48
Medium-sized mammals	50	4.97
Small-sized mammals	3	0.30
Bird	5	0.50
<i>Chitra indica</i>	20	1.99
<i>Lissemys punctata</i>	7	0.70
<i>Trionyx gangeticus</i>	21	2.09
<i>Parreysia</i> sp.	4	0.40
<i>Cypraea ocellata</i>	1	0.10
Fresh water bivalve	2	0.20
Total	1007	100.00

Another domesticated mammal identified within the assemblage was the donkey (*Equus asinus*), represented by two distinct skeletal elements. These included one distal portion of a tibia and a complete upper cheek tooth, collectively comprising 0.20% of the total NISP (Figure 15). Additionally, a fragmented astragalus, which is also attributed to the equid, was recovered, possibly belonging to the donkey as well.

A total of four species of wild mammals were represented in the assemblage: nilgai (*Boselaphus tragocamelus*), blackbuck (*Antilope cervicapra*), chinkara (*Gazella bennettii*), and wild boar (*Sus scrofa*). Nilgai was present in the form of one complete second phalanx (BKD48) only (Figure 16). This accounted for 0.10% of the NISP. There were two skeletal elements of blackbuck: one mandibular fragment with third molar (BKD122) and one complete isolated mandibular molar (BKD78) (Figure 17). These two fragments form 0.20% of the NISP. Chinkara was represented in the form of a broken fragment of a horn core (BKD129),

and it accounted for 0.10% of the identified bones (Figure 18). There were two complete first phalanges of wild boar (*Sus scrofa*), and these accounted for 0.40% of the total NISP (Figure 19).

This archaeological site yielded a noteworthy distribution of skeletal elements, classified into three main categories based on size. These categories comprised a total of 317 skeletal elements categorised as large-sized mammals, 50 as medium-sized mammals, and three as small-sized mammals. These accounted for 31.48%, 4.97% and 0.30% of the total NISP, respectively. The representation of these categories primarily was in the form of fragmentary remains, with a predominant presence of shaft fragments from long bones, rib fragments, vertebral fragments, and broken teeth.

Among the non-mammalian remains, there were five skeletal elements belonging to the birds. All of these were portions of long bones. However, it was difficult to identify any of these to the species level. Hence, all of these were recorded as bird bones and these accounted for 0.50% of the NISP. Reptiles were also represented in the assemblage in the form of three species: *Chitra indica* (N=20), *Lissemys punctata* (N=7) and *Trionyx gangeticus* (N=21) (Figures 20-22). These accounted for 1.99%, 0.70% and 2.09% of the total NISP, respectively. In addition, there were two molluscan species present in the faunal assemblage. These were *Parreysia* sp. (N=4) and *Cypraea ocellata* (N=1), and these contributed 0.40% and 0.10%, respectively (Figure 23). There were also two fresh water bivalves (0.20%), which could not be identified up to the species level. There was one skeletal element of a bird which could not be identified up to the species level.

Taphonomic Observations

Each individual animal skeletal element unearthed from the site was also closely observed to identify and document any discernible modifications or alterations. Within the assemblage, several noteworthy modifications were observed and recorded, shedding light on the diverse array of interactions that occurred between humans and animals in the past (see Table 3).

Partially Charred Bones: A total of 10 skeletal elements exhibited the evidence of partial charring. These include one astragalus of cattle (BKD88), one second phalanx of buffalo (BKD14), two skeletal elements (tibia and mandible) of goat/sheep, four skeletal elements of

large-sized mammals and two skeletal elements of medium-sized mammals. These elements indicated that certain portions of these bones were exposed to fire.

Completely Charred Bones: A total of 21 skeletal elements exhibited this type of charring pattern, in which the whole bone was exposed to fire. Such extensive charring suggests more intense and sustained exposure to fire. The skeletal elements which showed this type of charring include one proximal portion of a cattle ulna (Figure 24), eight skeletal elements of cattle/buffalo category (one pelvic fragment, one mandibular fragment, one mandibular symphysis, two isolated teeth, one metacarpal, one humerus and one ulna), one complete first phalanx of sheep (BKD110, also see Figure 13), three skeletal elements of goat/sheep category (one tibia and two humerus), and eight skeletal elements of large-sized mammals.

Cut Marks: Cut marks have also been noted in case of four skeletal elements. These were one distal portion of cattle (BKD1), one second phalanx of nilgai (BKD48), one calcaneum of cattle/buffalo, and one thoracic vertebra of large-sized mammals.

Porous Bones: A couple of cases of porous bones have been recorded in the assemblage. These were one proximal portion of a femur of cattle/buffalo and one distal portion of a humerus of cattle. This porosity might be due to stagnation of these bones in water for a longer period of time.

Late Intrusion: A total of seven cases of late intrusion have also been noted in the studied assemblage. One such element was a pelvic fragment of goat/sheep and six fragments were those of large-sized mammals. These intrusions could be attributed to various factors, including disturbances or activities that occurred long after the initial deposition of the skeletal remains.

In addition to the modifications mentioned above, there were also a few skeletal elements where flaking on the outer surface of the bones was noted. Some elements also exhibited the evidence of root etching and rootlets were noted in case of few bones.

Table 3: Details of various bone modifications observed within the assemblage

Species/Taxa	Partially Charred Bones	Completely Charred Bones	Cut Marks	Porous Bones	Late intrusion
<i>Bos indicus</i>	1	1	1	1	
<i>Bubalus bubalis</i>	1				
<i>Bos/Bubalus</i>		8	1	1	
<i>Ovis aries</i>	1	3			
<i>Capra/Ovis</i>	2				1
<i>Boselaphus tragocamelus</i>			1		
Large-sized mammals	4	8	1		6
Medium-sized mammals	2				
Total	11	20	4		7

Bone Measurements

Metrical analysis stands as an indispensable tool within the realm of archaeozoological research, parallel in importance to the quantitative approaches employed in the field (von den Driesch and Boessneck 1974). The roots of metrical analysis trace back to earlier pioneers such as Hue (1907) and Duerst (1926), exemplifying the historical evolution of measuring techniques of archaeozoological studies. This analytical approach unlocks a diverse array of crucial information pertinent to the study of faunal remains. It can play a pivotal role in discerning between domesticated and wild animals, offering insights into the process of animal domestication. It can also facilitate the identification of sex and sexual dimorphism in skeletal remains. Furthermore, metrical analysis allows for both intra- and inter- comparisons of faunal assemblages, helping in broader archaeological investigations into regional variations and cultural practices related to faunal exploitation.

In 1976, von den Driesch introduced a standardized approach for measuring animal bones from archaeological sites. This uniform methodology has since been embraced and utilized extensively across the globe, including in the current research. A digital calliper was employed to take measurement of bones whenever feasible to ensure precision in the measurement taken.

Reg. No.	Trench/Quadrant	Depth	Species	Condyle Width	dP4/P4	M1	M2	M3
BKD5	A1/1	170-205	<i>Capra/Ovis</i>	19.89				
BKD6	A1/1	170-205	<i>Capra/Ovis</i>		Length: 21.81 Width: 8.05			
BKD16	ZA1/1	255-171	<i>Bubalus bubalis</i>	40.33				
BKD27	A1/1	205-275	<i>Bos indicus</i>				Length: 27.94 Width: 12.34	
BKD28	ZA1/1	220-230	<i>Bos indicus</i>			Length: 25.94 Width: 13.69		
BKD32	XA1/3	145-150	<i>Bos indicus</i>	39.34				
BKD35	ZA1/1	190-200	<i>Bos indicus</i>			Length: 25.90 Width: 13.72		
BKD36	ZA1/1	190-200	<i>Bos indicus</i>	37.67				
BKD49	ZA1/1	235	<i>Bos indicus</i>				Length: 28.82 Width: 13.21	Length: 37.77 Width: 11.66
BKD90	ZA1/4	246-251	<i>Capra/Ovis</i>	19.09				
BKD91	YA1/2		<i>Bos indicus</i>		Length: 16.60 Width: 9.59	Length: 21.36 Width: 14.90	Length: 22.84 Width: 13.98	Length: 32.68 Width: 14.11

BKD109	A1/2	82-92	<i>Capra/Ovis</i>			Length: 13.01 Width: 6.27	Length: 14.85 Width: 7.01	
BKD111	XA1/2		<i>Bos indicus</i>		Length: 23.15 Width: 12.14	Length: 24.50 Width: 12.95	Length: 29.82 Width: 13.10	
BKD115	ZA1/1		<i>Capra/Ovis</i>		Length: 8.37 Width: 6.11	Length: 14.46 Width: 6.52	Length: 17.17 Width: 6.61	Length: 19.13 Width: 6.13
BKD122	ZA1/1	200-205	<i>Antelope cervicapra</i>					Length: 23.76 Width: 8.14

The measurements obtained in this manner were comprehensively documented and are presented in Tables 4-.

Table 4: Measurements of isolated teeth (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	Tooth	Length	Width
BKD2	A1/1	170-205	<i>Bos indicus</i>	Maxillary first/second molar	27.33	16.42
BKD3	A1/1	170-205	<i>Bos indicus</i>	Maxillary first/second molar	29.44	16.79
BKD4	A1/1	170-205	<i>Bos indicus</i>	Mandibular first/second molar	28.24	14.12
BKD25	ZA1/1	295-334	<i>Bos indicus</i>	Mandibular first/second molar	24.83	15.35
BKD46	ZA1/1	205-220	<i>Bos indicus</i>	Mandibular first/second molar	31.46	11.21
BKD79	YA1/3	140-145	<i>Bos indicus</i>	Maxillary first/second molar	31.77	20.39
BKD123	ZA1/1	200-205	<i>Bos indicus</i>	Maxillary first/second molar	29.41	18.62
BKD124	ZA1/1	200-205	<i>Bos indicus</i>	Mandibular first/second molar	29.17	12.43

BKD125	ZA1/1	200-205	<i>Bos indicus</i>	Maxillary first/second molar	30.15	17.26
BKD67	A1/1	130-150	<i>Capra/Ovis</i>	Mandibular first/second molar	17.18	7.68
BKD68	A1/1	130-150	<i>Capra/Ovis</i>	Mandibular dP4	16.01	7.4
BKD76	A1/2	70-82	<i>Capra/Ovis</i>	Maxillary first/second molar	15.55	10.33
BKD101	ZA1/4	176-185	<i>Capra/Ovis</i>	Maxillary first/second molar	17.46	10.85
BKD71	TT/1	145-170	<i>Equus asinus</i>	Upper cheek tooth	26.93	26.01
BKD78	A1/3	21-43	<i>Antilope cervicapra</i>	Mandibular first/second molar	17.62	7.03

Table 5: Measurements of Mandibular fragments (in mm)

Table 6: Measurements of scapula (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	CL	GL	GW
BKD21	ZA1/1	295-334	<i>Bos indicus</i>	64.08	53.93	41.41
BKD98	ZA1/4	274-278	<i>Capra/Ovis</i>	31.24	22.8	19.82

CL= Complete Length, GL= Glenoid Length, GW=Glenoid Width

Table 7: Measurements of long bones (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	Skeletal Element	Bp	Tp	Bd	Td
BKD18	ZA1/1	255-271	<i>Bos indicus</i>	Tibia			59.16	46.57
BKD20	ZA1/1	295-334	<i>Bos indicus</i>	Humerus			76.01	72.9
BKD37	ZA1/1	190-200	<i>Capra hircus</i>	Humerus			32.84	

BKD38	ZA1/1	190- 200	<i>Capra hircus</i>	Radius	28.34	13.95		
BKD104	ZA1/4	278- 300	<i>Bos indicus</i>	Tibia			63.7	47.74
BKD116	ZA1/4	189	<i>Bos indicus</i>	Radius	86.22	42.25		

Bp=Breadth of proximal end, Tp=Thickness of proximal end, Bd=Breadth of distal end,
Td=Thickness of distal end

Table 8: Measurements of metapodials (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	Bone	Bp	Tp	Bd	Td
BKD1	A1/1	170- 205	<i>Bos indicus</i>	Metatarsal			48.91	27.78
BKD41	A1/2	120- 135	<i>Bos indicus</i>	Metacarpal	51.75	30.43		
BKD42	A1/2	120- 135	<i>Bos indicus</i>	Metatarsal	45.61	42.95		
BKD43	A1/2	135- 150	<i>Bos indicus</i>	Metatarsal			51.85	28.8
BKD69	ZA1/4	241- 251	<i>Bos indicus</i>	Metatarsal	42.89	42.91		
BKD92	ZA1/4	189- 190	<i>Bos indicus</i>	Metatarsal	44.58	43.7		
BKD70	ZA1/4	242- 276	<i>Capra hircus</i>	Metacarpal			12.93	12.02
BKD83	ZA1/1	164.4- 164.7	<i>Capra hircus</i>	Metacarpal	24.23	18.18		

Bp=Breadth of proximal end, Tp=Thickness of proximal end, Bd=Breadth of distal end,
Td=Thickness of distal end

Table 9: Measurement of centrotarsal (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	GB
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BKD86	A1/1	151- 170	<i>Bos indicus</i>	51.48
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GB=General Breadth

Table 10: Measurement of astragalus (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	GLI	GLm	DI	Dm	Bd
BKD9	ZA1/1	163- 190	<i>Bos indicus</i>	69.34	65.94	38.62	39.57	42.61
BKD17	ZA1/1	255- 271	<i>Bos indicus</i>	66.98	62.26	34.87	38.91	40.33
BKD94	ZA1/4	220- 225	<i>Bos indicus</i>	65.71		33.03		
BKD103	ZA1/4	278- 300	<i>Bos indicus</i>	65.73	61.77	32.2	36.8	39.58
BKD10	ZA1/1	163- 190	<i>Bubalus bubalis</i>	72.61	67.81	39.22	42.04	47.51
BKD128	ZA1/4	155- 176	<i>Capra hircus</i>	28.39	27.03	15.07	16.11	16.73

GLI: Length of lateral side, GLm: Length of medial side, DI: Depth of lateral side, Dm: Depth of medial side, Bd: Breadth of distal end

Table 11: Measurement of first phalanges (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	GL	Bp	Tp	Bd
BKD19	ZA1/1	271-295	<i>Bos indicus</i>	60.98	26.36	31.67	28.86
BKD33	XA1/3	145-150	<i>Bos indicus</i>	56.19	27.85	32.08	

BKD84	ZA1/1	164.4- 164.7	<i>Bos indicus</i>	56.99	26.73	29.78	25.6
BKD89	D1/4	0-28	<i>Bos indicus</i>	54.18	25.25	28.83	24.4
BKD99	ZA1/4	176-185	<i>Bos indicus</i>	57.57			24.98
BKD117	ZA1/1	200-205	<i>Bos indicus</i>	54.53	26.61	19.19	23.61
BKD118	ZA1/1	200-205	<i>Bos indicus</i>	54.87	27.52	28.03	27.59
BKD119	ZA1/1	200-205	<i>Bos indicus</i>	58.54	23.63	26.09	24.43
BKD11	ZA1/1	163-190	<i>Bubalus bubalis</i>	54.4	30.88	31.52	30.54
BKD93	ZA1/4	220-225	<i>Bubalus bubalis</i>				30.01
BKD96	ZA1/4	274-278	<i>Bubalus bubalis</i>	61.79	29.85	34.93	28.77
BKD110	ZA1/4	185-189	<i>Ovis aries</i>	35.14	11.29	13.21	9.77
BKD87	XA1/3	76-106	<i>Sus scrofa</i>	35.03	18.45	17.57	17.26
BKD107	XA1/3	85-96	<i>Sus scrofa</i>	38.15	17.24	16.61	16.77

GL=General length, Bp=Breadth of proximal end, Tp=Thickness of proximal end, Bd=Breadth of distal end

Table 11: Measurement of second phalanges (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	GL	Bp	Tp	Bd
BKD13	ZA1/1	163-190	<i>Bos indicus</i>		27.97	28.06	
BKD105	ZA1/4	278-300	<i>Bos indicus</i>	30.58	24.09	26.04	19.2
BKD132	ZA1/4	274	<i>Bos indicus</i>	34.4	27.31	27.8	23.08
BKD121	ZA1/1	200-205	<i>Bos indicus</i>	32.99			
BKD14	ZA1/1	165.2- 165.4	<i>Bubalus bubalis</i>	40.98	32.37	35.72	29.77
BKD112	YA1/2		<i>Bubalus bubalis</i>	38.7	29.66	34.06	28.66
BKD120	ZA1/1	200-205	<i>Bubalus bubalis</i>	36.71	31.17	33.23	28.25

BKD48	ZA1/1	205-220	<i>Boselaphus tragocamelus</i>	35.22	24.81	27.15	19.84
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GL=General length, Bp=Breadth of proximal end, Tp=Thickness of proximal end, Bd=Breadth of distal end

Table 12: Measurement of third phalanges (in mm)

Reg. No.	Trench/Quadrant	Depth	Species	DLS	Ld	Bp
BKD77	ZA1/1	165.2-165.4	<i>Bos indicus</i>	70.77	52.28	24.23
BKD108	A1/2	82-92	<i>Bos indicus</i>	56.89	45.37	

DLS: Greatest diagonal length of the sole, Ld: Length of the dorsal surface, Bp: Greatest breadth of the proximal end

Discussion

The archaeological investigation conducted for this report unveiled a fascinating picture of the crucial role played by certain domesticated mammals within the settlement under examination. Notably, cattle, buffalo, sheep and goats emerged as the four predominant domesticated mammalian species. Their presence and significance within this settlement were underscored by the wealth of skeletal remains attributed to them. Intriguingly, the domestic ass was another noteworthy domestic mammal recorded at the site.

Conversely, other domestic mammals that are often encountered in archaeological contexts of same cultural period, such as the domestic pig and dog were conspicuously absent from this assemblage. This perhaps reflects the specialized roles and utility of predominant domestic mammals. The data gleaned from tooth wear and epiphyseal fusion stages provided further insights into the multifaceted economy of this settlement. It indicated that animal power and other by-products derived from cattle and buffalo played pivotal roles. This highlighted not only the significance of these animals as sources of food but also their integral contributions to agriculture and labour-based activities, further enriching the economic landscape of these communities.

Furthermore, while the inhabitants at the site primarily relied on the domesticated mammals, the inhabitants also engaged with the surrounding natural environment by exploiting four species of wild mammals: nilgai, blackbuck, chinkara and wild pig. However, by looking at

the number of bones of these animals, it seems that their economic impact was comparatively minor, suggesting that they served as supplementary sources of resources rather than primary ones.

It is also important to note that the significance of the subsistence economy extended beyond mammals alone. The data presented above also illuminated the crucial role played by non-mammalian species, including birds, reptiles and molluscan shells. Although their presence was observed, the numerical representation of their skeletal elements was also notably limited. This underscores their relatively minor contribution to the overall subsistence strategy.

In summary, the intricate interplay between domesticated and wild mammals, coupled with supplementary utilization of non-mammalian species, painted a vivid portrait of the subsistence economy at the site. The emphasis on certain domesticated mammals, the absence of others, and the role of by-products and animal power showcased the diverse ways in which these ancient communities harnessed their environment for sustenance and productivity.

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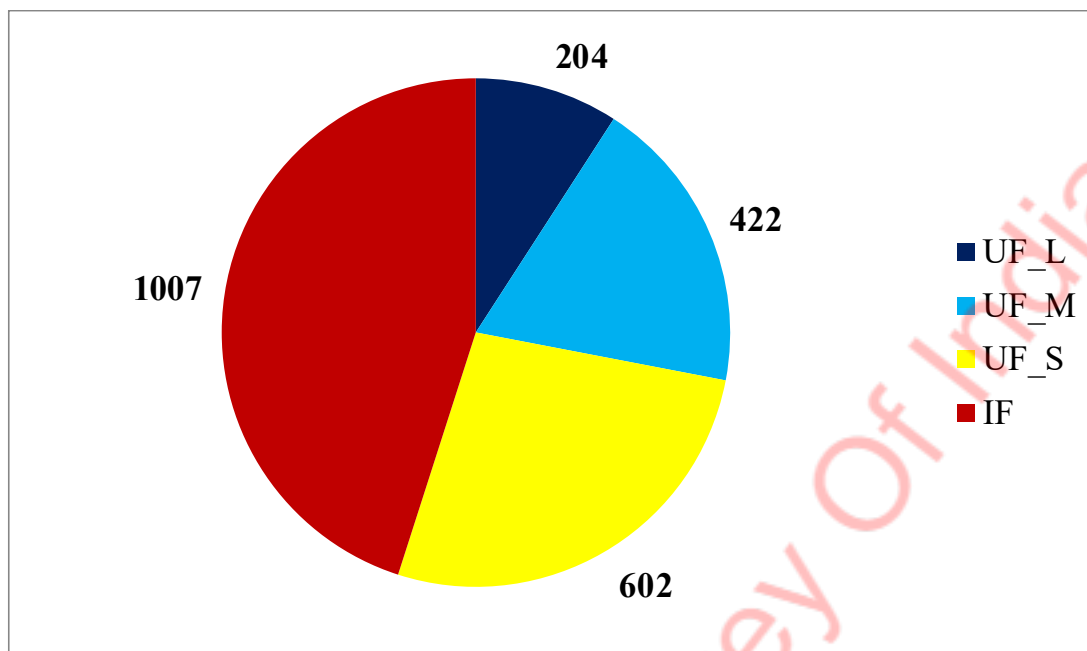


Figure 1: Details of faunal material studied at the site



Figure 2: Mandibular fragments of cattle



Figure 3: Mandibular fragments of cattle



Figure 4: Metapodials of cattle



Figure 5: Metatarsals of cattle



Figure 6: Radius of cattle



Figure 7: Distal portions of tibia of cattle



Figure8: Distal portions of scapulae of cattle



Figure 9: First and second phalanges of buffalo



Figure 10: Astragalus of buffalo

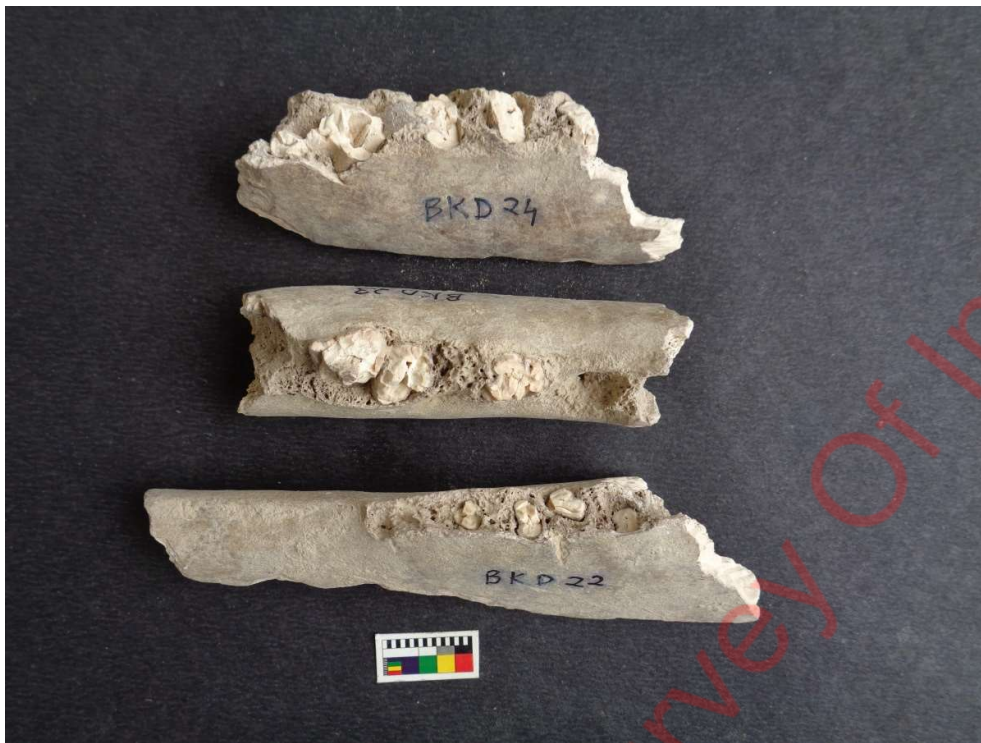


Figure 11: Mandibular fragments of *Bos/Bubalus*



Figure 12: Skeletal elements of goat and *Capra/Ovis*



Figure 13: First phalanx of sheep



Figure 14: Mandibular fragments of *Capra/Ovis*

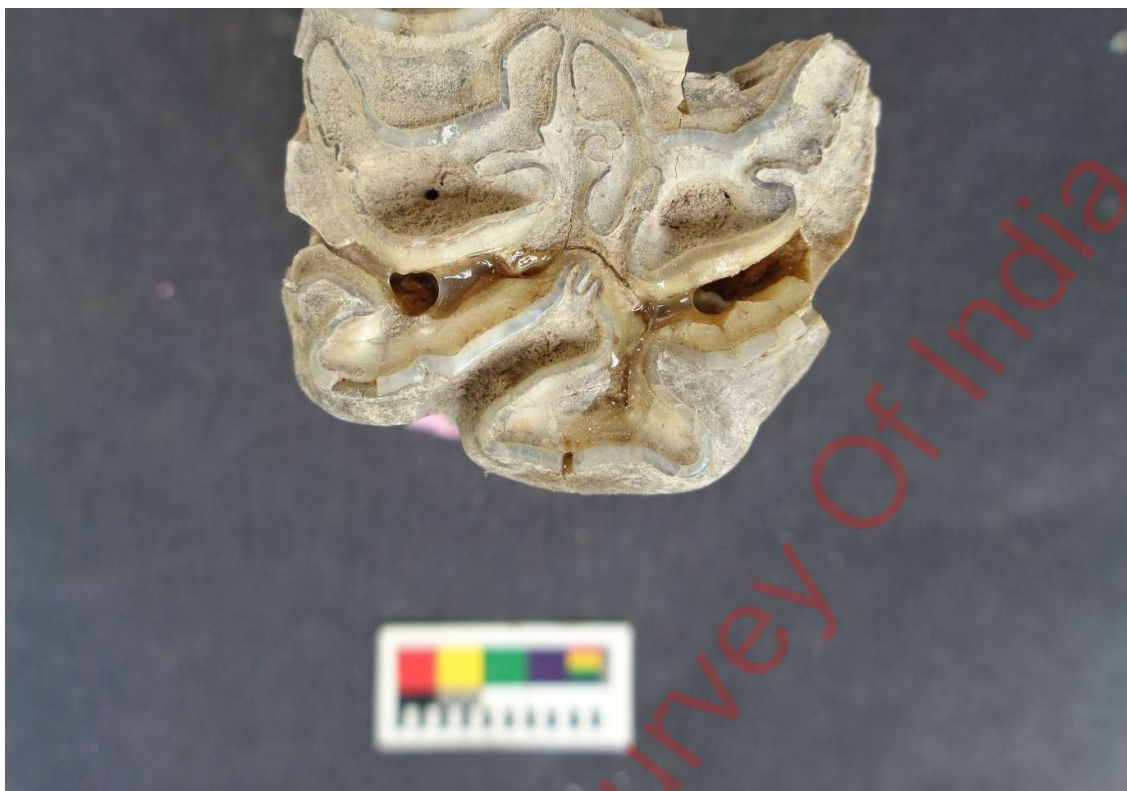


Figure 15: Upper cheek tooth of domestic ass

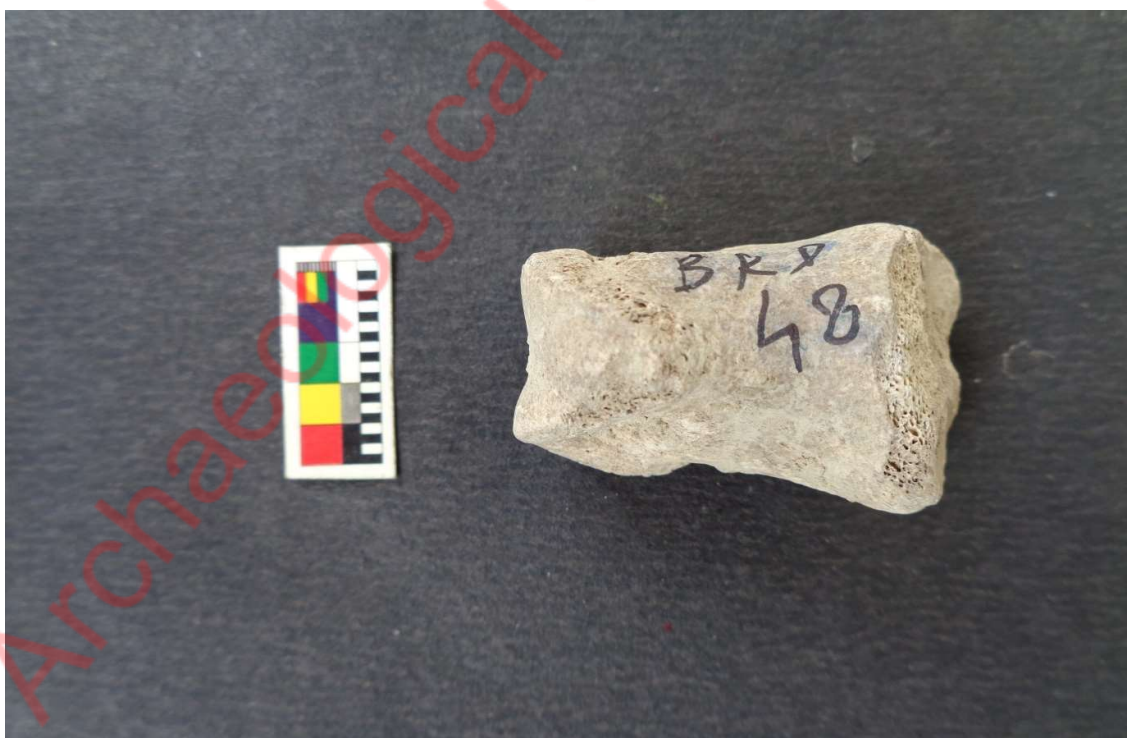


Figure 16: Second phalanx of nilgai



Figure 17: Mandibular teeth of blackbuck



Figure 18: Horn core of chinkara



Figure 19: First phalanges of wild boar



Figure 20: Skeletal elements of *Trionyx gangeticus*



Figure 21: Skeletal elements of *Chitra indica*



Figure 22: Skeletal elements of *Lissemys punctate*



Figure 23: Molluscan shells



Figure 24: Charred fragment of cattle ulna

Conclusion

Each and every excavation is important for archaeological studies irrespective of the fact whether the desired results are achieved or not. The site at Barnoli ki Dhai had seemed to be the most promising one as the top surface of the mound was full of varieties of PGW pottery and it appeared that the site majorly belonged to the PGW culture in spite of the occasional occurrence of pottery belonging to the historical period. Out of hundreds of sites in the Mathura region datable to PGW period, this site was selected because it did not have multicultural deposit in the proportion as other sites had and the exploratory visits at this site again and again indicated that good information about the PGW culture could be obtained without much deeper digging with limited resources and time. Moreover, the site was situated on a sand dune near old course of the Yamuna slightly opposite Vrindavan. It was expected that excavation at this site would help in understanding the nature of many such sites situated along the Yamuna on sand dunes.

The excavation provided such results, many of which were not expected. On top of the mound, at the most elevated part, there appeared mud brick structures whereas slightly towards its east, wall made of *lakhori* bricks was visible before the start of excavation. During excavations, it turned out that the entire mud brick complex belonged to the late phase of PGW culture as the pottery find and antiquities indicate but the area of this mud brick complex was limited, still larger than any other period's occupation at the site. But, during the medieval (possibly Sultanate) period, some alignments of *lakhori* bricks were drawn following the vestiges of the PGW period structures. No structural remains of any other period except the PGW and medieval period were encountered at the site but it remains a riddle how the pottery and some antiquities of historical period got intermixed with the entire deposit of the site. Since the stratigraphy of the site is highly disturbed, it is difficult to understand the actual formation of archaeological deposit at the site.

The overall excavation suggests that the topmost portion of the Yamuna sand dune was selected to build a mud brick complex during the PGW period. This mud brick complex possibly was sacred in nature. To its west was the deep riverine bay but the portion to its east and north was situated at few meters lower level. Only a limited portion of Trench ZA1/IV had pre-PGW deposit which was overlaid by scattered deposits of later periods difficult to be identified. At some point of time during the medieval period the entire area was reused after making certain modifications. No proper deposit of any other period including Sunga, Kushan,

Gupta and post-Gupta could be identified, though, potsherds and antiquities of these periods were encountered in the excavated deposits. In the Trench YA1/II, the deposit was found in such a way that it seemed some strong erosion had taken place at the mound cutting the natural soil of the mound as deep as 3.5 meters. In the lowest layers, the cultural milieu found indicated PGW and grey ware period and the overlying deposit belonged to the historical times. A huge quantity of animal bones was encountered in the lowest strata of this deposit, the size of bones being comparatively larger than other faunal remains found in other trenches of the site. The pottery of historical period had comparatively larger sherds but the potsherds of PGW and pre-PGW periods were quite small in size and indicated some kind of accretion over their surface. At a nearby site of Khera Bhadravan along the Yamuna, some fine variety of PGW with a number of shapes and colour variations and significantly larger size was encountered in the lowest section but here the important difference was the nature of deposit which was loose and ashy whereas the entire deposit at Barnoli ki Dhai was quite compact and devoid of any large loose ashy patch except the one of a large kiln belonging to the medieval period. Some kind of pressure from the overlying layers might have been responsible for the compact nature of soil and the smaller size of early pottery.

A number of small trial pits were excavated at various spots of the mound other than the main excavation area to ascertain the nature of deposit there. Significantly, nowhere in the entire site, any significant deposit of more than 1.25 meter depth was found. In all such control pits, the layers ran haphazardly with pits. The pits had loose soil with burnt patches. Even the lowest layers in such control pits had small burnt layer of black colour ashy soil with uneven pit activity. PGW was present on top surface everywhere but during excavations of control pits all over the mound, no proper PGW deposit was found. Historical pottery was clearly recognisable in the underlying layers. There is no easy answer for the presence of only flimsy archaeological deposit all along the mound except for the topmost part which was properly excavated. Even the topmost part of the mound, our properly excavated area did not have much deeper deposit, the average depth can be said to be between 1 – 1.5 meters. But how could this depth of deposit go to 3 – 3.5 meters in 3 quadrants is still unclear because in each section of these quadrants the depth of deposit was very much uneven.

As far as the earliest culture of Barnoli ki Dhai is concerned, it can be claimed with certainty that PGW had many phases at the site, and the earliest one was pre-PGW. In this lowest deposit in Trench ZA1/IV, some handmade pottery, crudely made red ware, cord impressed pottery occurred along with few sherds of crude variety of black-and-red ware, black slipped ware and grey ware. Painted Grey Ware was not totally absent but the paintings were

majorly restricted to rim portion only. In the succeeding phase, the quantity of handmade pottery and cord impressed pottery declined drastically with significant increase in the quantity of varieties of PGW pottery. The black-and-red ware, black slipped ware, grey ware and red ware continued as in the previous phase. The percentage of PGW potsherds might be ranging somewhere around 15% of the total pottery assemblage whereas the percentage of associated grey ware was around 25-30% of total pottery assemblage. This percentage of PGW and associated grey ware is much higher in comparison to any other excavated PGW site. Here, particular mention must be made of the limited report available of Mathura excavations of 1973-77. During that time, Shri M.C. Joshi reported the finding of only 6 PGW sherds from the lowest levels of Ambarish Tila and on that basis he tried to recreate the entire archaeological scenario of ancient Mathura. As far as my explorations in the entire Braj region including the city of Mathura are concerned, I have categorically stated that the city of Mathura was the largest PGW settlement spread in about 2800 x 2200 m area and PGW was abundantly available in the heart of city. But, it is quite important to observe that Shri Joshi could not find PGW at all the 18 spots he selected for excavations except the Ambarish Tila. It is highly likely that either these spots developed much later or were highly disturbed to present a proper picture. Barnoli ki Dhai stands no chance of comparison with ancient Mathura of PGW period but still the high percentage of PGW at Barnoli ki Dhai can be taken as indicative of the PGW level of ancient Mathura city which cannot be excavated due to dense habitation. It is highly likely that the PGW percentage as well as PGW varieties at Mathura city would be greater than Barnoli ki Dhai.

Another important observation is regarding the presence of NBPW in Mathura region. Generally, it is mentioned in excavation reports that PGW at all the sites in the area is succeeded by NBPW. During my explorations in the Braj region, I had observed that presence of NBPW in the archaeological deposits is quite minimal. It is difficult to understand why the excavators and explorers assigned a particular period to NBPW culture on the basis of finding of a few NBPW sherds. In the entire excavations at Barnoli ki Dhai, the total number of NBPW sherds found is just five. Even if we accept that the period is succeeded by later cultures, particularly the Mauryan period, the majority of pottery belonging to the so called NBPW period is an assemble of plain grey ware, black slipped ware, red ware and black-and-red ware. Even at the site of Bewan in District Neem ka Thana where during excavations, we have encountered continuous sequence from the OCP-Ganeshwar period to medieval period, only 4 small sherds of NBPW have been found. This is an important issue which needs to be pondered upon and settled. It is quite obvious that NBPW is not a popular deluxe ceramic of Braj region as well as

areas to the west of it. Even the quality of these few NBPW sherds is not at all at par with the NBPW found in mid and lower Gangetic plain sites. There is need to study afresh this period in the Braj region and few dates need to be obtained for this phase. PGW is the deluxe ceramic tradition of this entire region and not NBPW. It is quite possible that not only the antiquity of PGW period goes much earlier in this area but also its terminal dates may last beyond our present day accepted chronology. Even at the site of Hastinapur, during recent excavations by the Meerut Circle of ASI, only 20-25 sherds of NBPW were found below the Mauryan deposit (personal communication with the excavator Dr D. B. Garnayak) and the area of excavation was quite exhaustive. According to Dr Garnayak, the percentage of NBPW was almost negligible in comparison to the total pottery assemblage which included the plain grey ware in high percentage. At the site of Kaserua Khera which lies between Hodal and Palwal, no NBPW sherds were unearthed in spite of the fact that the percentage of PGW and other associated ceramics was quite high at the site in the preceding period and only grey ware and associated Black Slipped Ware ceramics were present in the succeeding level of PGW (personal communication with Dr G.K. Srivastav, the excavator). The overall study of NBPW from recent excavations confirm that in Kuru, Surasena and Matsya mahajanapadas NBPW is not the dominant or representative pottery whereas the status of Panchala mahajanapada at present remains dubious. When one considers that NBPW has been found as far distant as Taxila and has been considered as a marker pottery of a cultural period, there arises a need for a relook.

The excavations also helped in understanding the nature of such sites situated on the banks of the Yamuna in this region. In fact, there are two types of sites, one those which are quite exhaustive and have regular habitation deposit. Nohjhil, Khera Bhadravan, Mant, Surir, Mirpur, Sehi Garh, Ohawa and Bhidauni can be considered such sites whereas various sites lying between Sehi Garh and Shergarh on the right bank of the Yamuna and between Mahavan and Asawari Tila on the left bank of the Yamuna are those which are devoid of much deeper archaeological deposit. The site of Barnoli ki Dhari may fall somewhere in between as it also has significant cultural deposit in a limited area as well as flimsy deposit on major parts of site. The PGW site of Gulistanpur on the bank of the Hindon River in Greater Noida situated on a sand dune and destroyed beyond repair also appeared to be such a site which had archaeological deposit like Barnoli ki Dhari. Generally, the extensive archaeological sites are situated on the banks of rivers on a slightly elevated level but the high mound of the site is formed by the huge cultural deposit. The sites like Barnoli ki Dhari which come up on the top of high sand dunes with comparatively much lesser archaeological deposit are also an occurrence. One should be careful in calculating area and the cultural deposit's depth at such sites.

The nature of deposit found in the excavations somehow indicates the fact why this site is named as Barnoli ki Dhai and not Barnoli ka Khera. In Braj area, the sites with regular and continuing archaeological deposit are either called as Khera or Tila but this site in spite of such a great height is not popularly called as a Khera, rather a Dhai. The word 'Dhai' is only indicative of a sand dune. The excavations in major parts of the mound indicated the presence of only the sand dune and not much archaeological deposits. This is the possible reason for naming the site as a Dhai. One intriguing feature at the site was the presence of a well on top of the site but away from the part where cultural deposit was present. The well had use of burnt bricks of the medieval Islamic period but its antiquity might have gone as early as PGW period or any intervening period and may be that it was only renovated during the medieval period. But this well could not be probed due to limited time and resources. The intriguing aspect is its presence at such a height on the mound which seems a completely dry land with not a single tree or large shrub available on the entire mound. The presence of water might have been there by the western side bay (an old channel meeting the Yamuna) but the presence of a well on such a high altitude cannot be answered easily. The same is the case with the archaeological deposit in two quadrants (YA1/II, ZA1/I) which have sharp falling layers in their eastern and northern sections respectively indicating some kind of deluge but their western sections show *kankar* mixed soil indicating a very dry drought type weather. Two bones in the faunal assemblage of the site are highly porous indicating long time immersion in water. There is something very significant in the past environment of this site which should be further studied by geologists dealing with sediments and geochronology so as to draw an updated picture of this entire Yamuna basin.

As far as chronology of the site is concerned, it is for sure that the site is one of the earliest PGW sites as far as PGW deposit is concerned. The finding of small pre-PGW deposit in one quadrant indicates an even earlier antiquity. We would need to wait to assign specific dates to this site until proper radiometric dates are obtained. Few samples were sent to IUAC, New Delhi but all of them turned out to be contaminated. Once the PGW dates are clear, an observation can be drawn regarding the initial chronology of the succeeding period. The chronology from the Mauryan onwards periods is well established in Indian archaeology and this site is not a good case to study these periods due to its disturbed or unclear stratigraphy.

Appendix-A

Antiquities depth chart

Archaeological Survey Of India

Depth wise distribution of antiquities

Trench: - A1

Quadrant: - Q1

 -33 cm	0 to -50 cm
 -61 cm	-51 to -100 cm
 -138 cm	-101 to -150 cm
 -151 cm  -151 cm  -151 cm  -192 cm	-151 to -200 cm

Depthwise antiquities distribution

Trench: - A1

Quadrant: - Q2



Depthwise antiquities distribution

Trench: - A1

Quadrant: - Q3

				0 to -50 cm
				-51 to -100 cm
-52 cm	-85 cm	-52 cm		
				-101 to -150 cm
-108 cm	-112 cm	-110 cm	-108cm	
				-151 to -200 cm
-155 cm	-115 cm			

Depthwise antiquities distribution

Trench: - A1

Quadrant: - Q4

						0 to -50 cm
-30 cm	-50 cm	-16 cm	-18 cm	-28 cm	-29 cm	
				-51 to -100 cm		
-63 cm	-55 cm	-63 cm	-57 cm			
						-101 to -150 cm
						-151 to -200 cm

Depthwise antiquities distribution

Trench: - D1

Quadrant: - Q3



-48 cm



-46 cm



-45 cm

0 to -50 cm

-51 to -100
cm

-101 to -150
cm

-151 to -200
cm

Depthwise antiquities distribution

Trench: - D1

Quadrant: - Q4

					0 to -50 cm
-24 cm	-24 cm	-32 cm	-18 cm	- 17 cm	
					-51 to -100 cm
-128 cm	-53 cm				
					-101 to -150 cm
					-151 to -200 cm

Depthwise antiquities distribution

Trench: - XA1

Quadrant: - Q2

		0 to -50 cm
-18 cm	-20 cm	
		-51 to -100 cm
		-101 to -150 cm
		-151 to -200 cm

Depthwise antiquities distribution

Trench: - XA1

Quadrant: - Q3



-50 cm

0 to -50 cm



-60 cm



-90 cm



-85 cm

-51 to -100
cm

-101 to -150
cm

-151 to -200
cm

Depthwise antiquities distribution

Trench: - YA1

Quadrant: - Q2



Depthwise antiquities distribution

Trench: - YA1

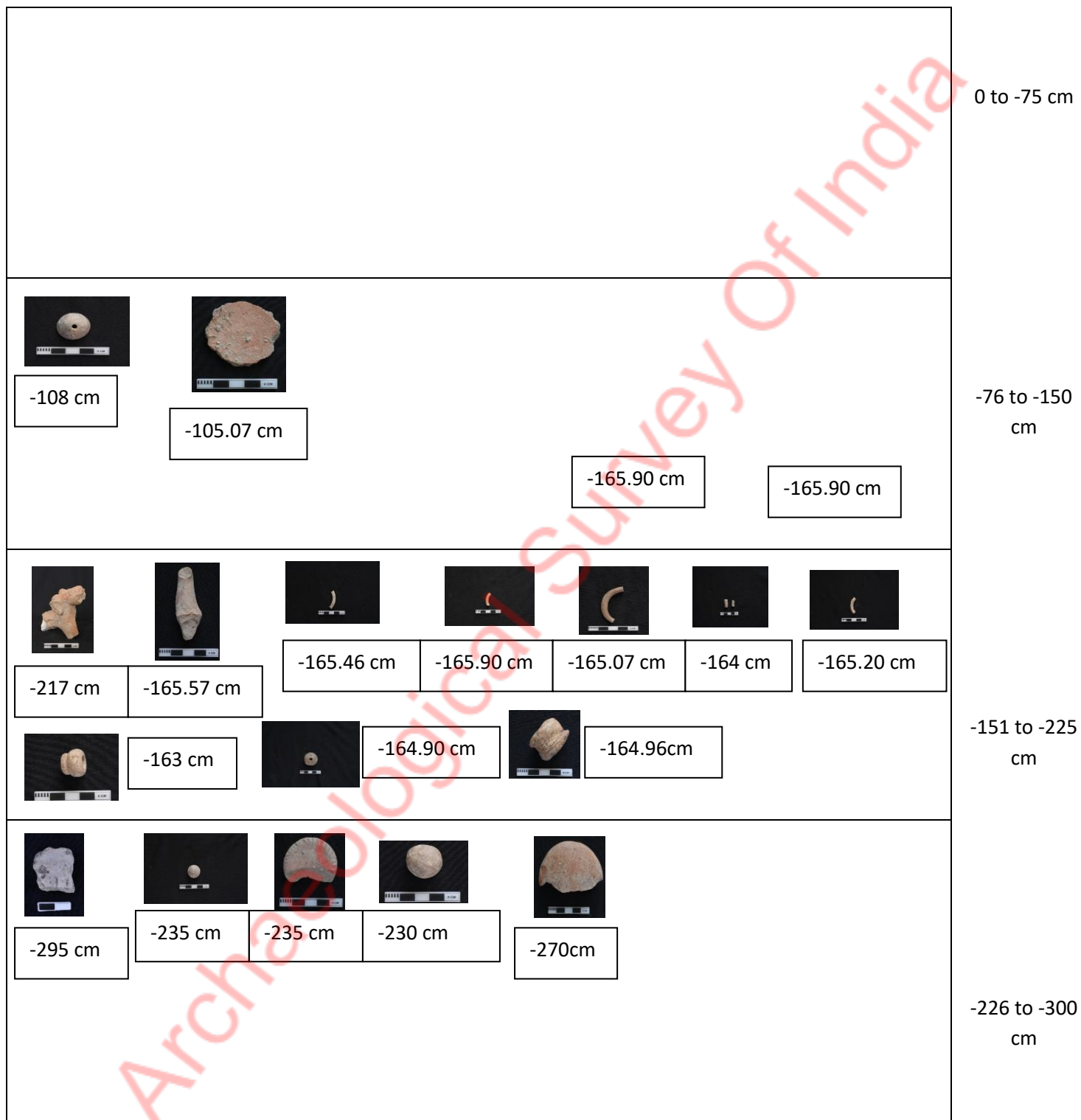
Quadrant: - Q3

 -29 cm	0 to -50 cm
 -165.90 cm  -165.90 cm  -165.90 cm  -165.90 cm	-51 to -100 cm
	-101 to -150 cm
	-151 to -200 cm

Depthwise antiquities distribution

Trench: - ZA1

Quadrant: - Q1



Depthwise antiquities distribution

Trench: - ZA1

Quadrant: - Q4

