Ancient *Lumminigame*: A Preliminary Report on Recent Archaeological Investigations at Lumbini's Village Mound

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1. Introduction

Most previous archaeological activities at Lumbini have tended to focus attention on the Maya Devi Temple, Shakya Tank, Asokan Pillar and the structures in their immediate vicinity, paying little attention to the potential presence of archaeological remains beyond. Indeed, P.C. Mukherji only exposed and planned monuments adjacent to the pillar, tank and shrine in the 1890s (1901) and the levelling and construction directed by General Kesher Shumsher J.B. Rana in the 1930s was similarly tightly focused. This continued through to the Indian Co-operation Mission led by Debala Mitra, when she partially exposed the Asokan pillar in 1962 (Mitra 1972). This state of affairs has meant that little consideration has been given to the location of ancient *Lumminigame*, the village named on the Emperor Asoka's famous pillar of chunar sandstone. Representing the oldest named village in South Asia, in 249 BCE Asoka had famously reduced its tax on account of its association with the birthplace of the Buddha (Allen 2008: 142; Falk 1998: 16). Despite its historic importance, it was not until 1970 that the first research surveys and excavations were undertaken to locate and date its sequence. These endeavours were directed by N.R. Banerjee and B.K. Rijal and focused on a site referred to as the 'Southern Mound' on top of which General Kesher Shumsher J.B. Rana had built a rest house in the 1930s (Rijal 1977: 30). Unfortunately, Rijal only published

a short summary of his findings in a later paper but stressed that he had found evidence of a sequence running from the sixth century BC until the Gupta period (ibid.). With finds of Northern Black Polished Ware (NBPW) in the lowest levels, he also recorded encountering a mud wall and a terracotta ring well of at least 16 courses as well as a Gupta terracotta "plaque mould of Lord Buddha in the Earth Touching posture" (ibid.: 31). Later summarising Rijal's findings, T.N. Mishra confirmed that the site had been occupied between 400 BCE to the eighth century CE and covered an area of 600 metres east to west by 300 metres north to south (Mishra 2004: 13).

When the Japanese architect Kenzo Tange initially developed his Lumbini Master Plan, it is of note that his early reports showed little concern for the Southern Mound. Indeed, the UN Lumbini Brochure of 1970 marked the old Rest House and adjacent Malaria Post on the plan of the site and noted that these modern buildings "could be safely removed to the advantage of the site" (UN 1970: 6). Recommending that the area around the Sacred Garden be planted and landscaped, however, the brochure was clear to state that "it would be essential to make a careful inventory of everything which is presently on the site and conduct a thorough archaeological survey" (ibid.: 16). Following Rijal's exploratory excavation, Kenzo Tange's detailed report and topographical map of the area was updated and the mound was then identified as Zone 2 and designated a site of archaeological interest (1976: Figure 2). Tange's next report considered the mound more fully and stated that "To the south-west of the complex, about 300 metres away from it, is a mound which is believed to be the remains of the village that existed contemporaneously with the religious complex and accommodated facilities for the complex. The complex and the mound is connected by an ancient road" (Tange 1977: 71). Tange further recommended that the archaeological remains were thoroughly excavated to understand the "total picture of ancient urban composition" and for decisions to be made as to which phases to expose and present to visitors and pilgrims (ibid.). As significantly, Tange warned that the construction of roads and the levee might damage archaeological remains and recommended that when such archaeology was encountered "the present layout can be modified without altering the basic system" (ibid.: 71). In parallel, the UN's 1979 brochure was updated and the mound was named the 'Old Lumbini Village', defined on its southern and western edges by the levee surrounding the Sacred Area (UN 1979: 15). As in the earlier brochure, the need to

protect the archaeological remains was recognised and it was suggested that walkways could be raised and that there would be no new constructions within the Sacred Area (ibid.: 12). In 1978, Tange reported that the "old Lumbini village is being investigated, but for the present, the top priority has been given to the sites found around the Ashoka Pillar and the Maya-devi Temple" (1978: 7). Therefore, after this date, no additional archaeological activities were undertaken at the site and additional buildings, services and activities affected the site as the Police Station, now resident within the Old Rest House, expanded. In addition to this continued occupation and damage to the subsurface archaeology, and despite Kenzo Tange's own warnings about avoiding damage to archaeological remains, the completion of the digging of the levee destroyed a significant portion of the ancient settlement between 2002 and 2009. Currently, the ancient settlement lies outside the UNESCO World Heritage property and is thus not afforded the same level of recognition or protection. As a result, one of the first activities of the first phase of the UNESCO/JFiT sponsored *Strengthening the Conservation and Management of Lumbini, the Birthplace of Lord Buddha* project was to better characterise and date *Lumminigame*'s archaeological remains.

2. Topography

The Southern or Village Mound represents a distinct raised area some 200 metres south-west of the Asokan Pillar and Maya Devi Temple complex (Figure 1). The western part of this three metre high area of ground is covered by the Rana Period rest house built by General Kesher Shumsher J.B. Rana in the 1930s which, although recommended for removal by the Kenzo Tange Master Plan, is still in use today as a police station. Originally unfenced, unrest between 1996 and 2006 led to the construction of barbed wire fences and a large defensive earthen rampart around the entire mound, complete with block houses. This construction involved the introduction of soil from outside the site onto the mound, potentially contaminating the in situ archaeological deposits. As also noted above, the southern edges of the mound were also destroyed during the digging of the Master Plan's central levee and, as a result, an international team of archaeologists carried out geophysical survey, auger coring, excavations and geoarchaeological investigations in order

to better understand both the extent and chronological sequence of the ancient site. Our investigations focused on two areas of the Village Mound, the portions of the mound exposed and damaged in the banks of the new levee and the parade ground to the south of the Police Station (Figure 2). Whilst an earlier auger-core transect across the Sacred Garden had already identified a clear cluster of cultural material in the vicinity of the mound in 2001 (Coningham *et al*. 2011), two additional transects were taken across the Village Mound in 2011 in order to confirm its profile and depth of cultural material. These profiles were laid east to west and north to south across the mound and demonstrate a greater depth of cultural material in and around the compound. In total, five major episodes were identified within the auger profile: two cultural deposits, Layers A and B; one modern layer, Layer C; and two natural deposits, Layers D and E. As a result, we were able to confirm that in places across the Village Mound there were at least 3.5 metres of human occupation (Figure 3). As significantly, we also confirmed that the settlement had been established on a natural mound, presumably to lift the habitation above the surrounding flood plain.

3. The Levee Bank

This area, east of the Police Station, was first surveyed in 2001 utilising both earth resistance and fluxgate gradiometer, in addition to being sampled by auger core transect (Coningham et al. 2011). The auger core survey, which consisted of two transects crossing the Sacred Garden at the Asokan Pillar and running north to south and east to west, revealed a clear concentration of buried cultural material in the area of the Village Mound on the southern end of the north to south transect, one of just three such concentrations within the immediate environs of the Sacred Garden (ibid.: 12). This preliminary identification of a significant concentration of cultural material was strengthened during initial observations in the 2011 field season, when significant quantities of ceramic sherds were seen eroding out of the east-facing bank of the recently cut levee. This cut, part of the landscaping associated with the Master Plan, had truncated and destroyed several cultural deposits, exposing dense concentrations of ceramics in the process. Meanwhile, the 2001 geophysical survey of this area had revealed a grouping of four distinct curvilinear magnetic anomalies, which were interpreted as forming semi-circular enclosures associated with ephemeral structures

(ibid.: 13-14) (Figure 4). In order to better evaluate and interpret this potential settlement that the geophysics, auger coring, and levee bank suggested lay within this area, we opened two trenches, A and B in 2011. Trench A was a small sondage, measuring 1.5 x 2.5 metres, cut into the levee bank in order to gain a better understanding of the cultural and depositional sequence of the mound while Trench B started as a larger 12 x 1 metre slot that targeted the group of curvilinear geophysical anomalies in order to investigate these possible structures.

3.1 Trench A: Levee Sondage

Trench A was located on the east-facing bank of the recently cut levee bank in the vicinity of dense concentrations of ceramic sherds eroding out of the bank and measured 1.5 metres north to south and 1m east to west at surface level, although the length of the sondage increased as excavations went on due to the angle of the levee bank, reaching 2.5 metres (east to west) at the base of the sondage (Figure 5). The in situ natural of Trench A was a vibrant yellow clay, which bore close resemblance to the natural identified in the 2001 auger cores across the Village Mound. Overlying this natural, we identified a largely sterile transitional deposit of greyish-yellow silty-clay, measuring 0.2 metres in thickness, which was interpreted as a palaeosurface representing some of the earliest human activity within this area. An Optically Stimulated Luminescence (OSL) sample from this palaeosurface produced an age estimate of 1280 ±200 BCE. This second millennium BCE land-surface was cut by a large sub circular pit (Figure 6), which was nearly 0.5 metres deep and cut through into the natural clay below. This pit measured just over one metre wide (north to south) and over 1.40 metre in length (east to west) - running into the trench sections to the west, and truncated by the levee cut to the east. The pit was filled by a dark greyish brown silty clay that was extremely rich in cultural material. Close to a thousand ceramic sherds were recovered from this pit fill and it appeared that several complete vessels were broken in situ on the base of the pit, including one large Red Ware (RW) vessel in 46 sherds that almost lined the base of the pit. While the great majority of the ceramics recovered from pit fill were undiagnostic RW and Black Slipped Ware (BSW) sherds, a number of sherds of Proto Northern Black Polished Ware (Proto-NBP) were also recovered, as well as a single sherd of Painted Grey Ware (PGW). In addition to the heavy concentration of ceramics, the fill also contained frequent charcoal inclusions, often large in size, along with a fully articulated hoof

(tentatively identified as cattle). An OSL sample from this pit-fill produced an age estimate of 670 ±160 BCE, however, a radiocarbon date from a bone fragment within this pit-fill produced a calibrated age estimate (at 68.2% confidence) of 125-215 CE. There is a clear disagreement between these two dates and one possibility is that the pit-fill was insufficiently bleached during deposition.

Above, and sealing both the pit fill and its surrounding palaeosurface, was a greyish brown silt measuring some 0.30 metres in thickness. This layer contained a large volume of ceramics, including two decorated body sherds, a few sherds of BSW, one sherd of Fine Grey Ware, one small body-sherd of Proto-NBP, and one decorated rim-sherd of a small collared vessel. An OSL sample from this cultural silt produced an age estimate of 255 ±170 CE, which may suggest a significant hiatus between deposition of this cultural silt and the filling of the pit below, if we accept the OSL date for the pit fill. However, if we instead accept the radiocarbon date of 125-215 CE from the pit-fill, then the chronological sequence is far more constrained. Overlying this greyish silt was a 0.30 metre thick, culturally rich deposit that was similar in nature to the greyish brown silt below, but far richer in cultural material, containing over a thousand ceramic sherds – the vast majority of which were RW, although a handful of sherds of BSW were recovered too. An OSL sample from this cultural silt produced an age estimate of 635 ±105 CE, placing it well within the first millennium CE. Finally, sealing these cultural layers were shallow topsoil and subsoil layers comprised of mixed deposits of greyish brown silt, measuring just 0.1 metre to 0.2 metre in thickness respectively.

3.2 Trench B: Geophysical Anomalies

Trench B measured 12 by 1 metre (north to south) and was located over the densest cluster of geophysical anomalies identified by the 2001 survey (Coningham *et al*. 2011) in the hope of identifying the features associated with the two curvilinear and one linear anomalies (*ibid*.) (Figure 4). We began by clearing a 25 x 50 metre (oriented north to south) area of vegetation to allow a walkover survey and surface collection. However, despite exposing the topsoil, no visible artefacts or cultural material were exposed – in striking contrast to the levee banks. Excavation began by removing a shallow 0.1 metre thick topsoil from the length of the trench, producing a significant quantity of heavily abraded ceramic sherds,

along with two modern iron nails, a small fragment of copper ore, five fragments of ferrous slag, a terracotta spout, and a plastic bottle lid. Removal of the topsoil exposed a 0.2 metre thick greyish brown sandy-silt subsoil across the length of the trench. This subsoil was extremely similar in appearance and consistency to the topsoil above. However, unlike the topsoil, the subsoil was free of modern artefacts, contained fragments of brickbat, and the ceramic sherds were both larger in size and less abraded. In addition to the significant quantity of undiagnostic ceramics (over seventeen thousand sherds were recovered), a small number of sherds of Cord Impressed Ware (CIW) and BSW were recovered, as well as a number of special finds, including two ceramic discs, an iron arrow head, five fragments of glass bangles, a fragment of terracotta mould, two fragments of terracotta figurine legs, five terracotta spouts, a large quantity of slag (30 fragments/0.5 kilograms), and a large number of decorated ceramic sherds including Cord Impressed Ware, one stamped ceramic sherd with a sun or flower design, and a sherd of RW with an incised Swastika graffito. At this point, due to time constraints and the excessive quantities of non-diagnostic ceramics produced by the removal of topsoil, Trench B was subdivided into three smaller sondages - B1, B2 and B3 (Figure 7).

3.3 Trench B1

Trench B1 measured 1.5 x one metres and was located at the centre of the 12 metre long trench, deliberately located to avoid any of the geophysical anomalies with the intention of reaching natural. Trench B1 successfully uncovered two early structural phases, the earliest represented by two postholes and one stakehole, and the later by a series of bell-shaped pits cut into natural and redeposited clay (Figure 8). This earliest sequence of occupation is represented by a shallow 0.25 metre deep pit, two postholes and a stakehole cut into the natural yellow clay at the base of the sequence. These features represent the earliest phase of human settlement activity in the Trench, although they are partially truncated by the cutting of a later large bell-shaped pit in the second structural phase. The two postholes, both located in the south-east corner of Trench B1, were both shallow and measured only around 0.1 metre deep and 0.2 metres in diameter. The stakehole, also located in the south-east corner, was also around 0.1 metre deep but only 0.05 metre in diameter. Due to their location against the section, it is difficult to interpret the function of these postholes. The pit, postholes and stakehole were filled by a culturally modified natural that was devoid

of artefacts. The second phase is comprised of two bell-shaped pits into the natural yellow clay and the 0.3 metre thick redeposited natural that lay above. These pits run into the west, south and east-facing sections of trench B1. This redeposited natural consisted of a compacted light grey silty clay with charcoal flecking and small ceramic inclusions. It is possible that a wattle and daub wall or superstructure may have sat above these pits as fragments of daub were recovered from the tertiary fill of the southern pit. Due to the partial exposure of the northern pit within the trench, it was not excavated. The southern pit measured around one metre deep and contained three fills. The primary fill was a 0.3 metre thick levelling deposit of firm olive grey silty clay, containing a few hundred sherds of RW along with one sherd of Proto-NBP and one sherd of CIW. This primary fill lay below a 0.3 metre thick secondary fill of culturally modified natural that contained further ceramic sherds (again predominantly RW with a few sherds of BSW) and fragments of bone, although in a smaller quantity and sherd size than in the deposits above. Sealing this was a 0.35 metre thick tertiary fill of soft dark greyish brown silt, that not only contained a very large number of ceramic sherds but interestingly contained a large number of extremely large sherds of ceramic vessels, including one complete v-shaped open bowl in four sherds, a complete rim of a large storage vessel, two large mica flecked RW sherds with spouts and two other near complete bowls. The size, condition and distribution of these broken vessels strongly suggests that many of these vessels were broken in situ. In addition to these large ceramics sherds and broken vessels, several fragments of bone, a fragment of slag, two further terracotta spouts and fragments of daub (sun-dried clay with cereal impressions) were recovered from the primary fill. A charcoal sample from this tertiary fill was produced a radiocarbon age estimate of 660-830 CE (at 93.1% confidence).

Sealing this episode was a thin layer of greyish brown compacted silty clay representing a deliberate levelling of this early structural phase, sealing and levelling as it does the rich cultural fills of these pits. This layer was only around 0.05 metres thick but was rich in ceramic sherds (almost entirely RW), charcoal inclusions and brickbat. Indeed, from a limited area (around 1.0 by 1.5 by 0.05 metres) a terracotta spout and 422 ceramic sherds were recovered. A charcoal sample from this levelling episode produced a radiocarbon date of 760-890 CE (at 69.9% confidence). Cut into this floor surface was a shallow gully – possibly a wall slot, measuring approximately 0.20 metre long, just 0.03 metre wide and

between 0.02 and 0.05 metre in depth, and oriented southwest-northeast. Above this was a 0.25 metre thick dark greyish brown cultural silt that yielded a number of sherds of BSW (in addition to the ubiquitous RW) as well as a terracotta disc and two fragments of bone. Overlying this was a further brick structural phase, represented by a partially collapsed brick wall, extant to a maximum of four courses, and constructed from fired orange clay bricks with no visible surviving mortar (Figure 9). The "wall" appears to have run from north-northwest to south-southeast and had slumped westwards, distorting the orientation and form of the wall's original form. One sherd of NBP was recovered from within the brick wall collapse. This was sealed by culturally rich, greyish brown silty clay, which produced a large quantity of ceramics, including sherds of BSW, CIW, and one sherd of Proto-NBP as well as nearly 6,000 sherds of undiagnostic RW.

Additionally, we recovered a fragment of coloured glass bangle with a rope pattern, six terracotta spouts, two fragments of worked stone, two fragments of vitrified brick, and two fragments of animal bone. The final layer of Trench B1, lying below the subsoil that covered the length of Trench B, was a 0.25 metre thick dark greyish brown cultural silty clay. From this mixed cultural deposit twenty fragments of animal bone were recovered, in addition to six terracotta spouts, a terracotta spiral cone or gaming piece, a small terracotta ball, four fragments of glass bangles and a clear drilled glass bead. It is also interesting that a significant quantity of metal-working residues were recovered from this deposit, with over 60 fragments of ferrous slag, weighing nearly 2.5 kilograms, which may have contributed to the geophysical survey results. This layer, like the topsoil and subsoil above, was incredibly rich in ceramics, producing almost ten-thousand undiagnostic sherds – in addition to sherds of BSW, CIW and a single sherd of Proto-NBP.

3.4 Trench B2

Trench B2 was situated at the southern end of Trench B and measured 3 metres in length. Natural was not reached within this trench and excavation within B2 ended above the level that saw the bell-shaped pits within B1. Instead, the earliest structural phase in B2 was a brick structural phase which corresponds to the collapsed wall in B1. In B2, this phase consisted of a shallow spread of bricks that showed clear evidence of deliberate placement in sections, with never more than two courses extant. However, it was unclear whether this

represented an area of brick paving or the lower foundations of a brick wall surrounded by areas of brick collapse. Further future excavation of this area would enable a better understanding of the form and function of this structural episode. This structural phase was sealed by culturally rich dark greyish brown silty clay, similar to that which sealed the wall collapse in B1. However, three features were identified cut into the upper surface of this material in Trench B2, a shallow possible wall slot and two shallow but regularly shaped stakeholes in direct alignment with the wall slot. The possible wall slot was filled by a light yellowish brown sandy silt and varied in depth and appeared to end upon or at a large brickbat. The stakeholes were both regular and circular in shape but with just two stakeholes the form or function of this feature is unclear. This final ephemeral structural phase was sealed by a 0.25 metre thick dark greyish brown cultural silty clay, identical to that seen in B1.

3.5 Trench B3

Very little was identified in B3, despite reaching a comparable depth to B2. No structural features of phases were identified within B3 and, instead, we exposed a series of three thick mixed cultural silts that produced a sherd of Cord Impressed Ware (CIW), two fragments of animal bone, and three terracotta spouts. Each of these silts appears to correspond to sealing episodes in B1 and B2 – but B3 lacked either the brick structural phase seen in B1 and B2, or the ephemeral late phase represented by the wall-slot and stakeholes in B2.

4. The Police Station

Although the 2011 excavations around the eastern levee bank area of the Village Mound identified a number of structural phases, due to the limited area excavated we were unable to map or describe the form of these early structural phases. Consequently, our 2012 investigations focused on the central part of the mound covered by the Rana Period structure which currently hosts the Police Station. During the 2011 auger-coring profile, we revealed a cultural sequence that exceeded three metres in depth in one area, the deepest cultural sequence identified anywhere during the auger-survey of Lumbini. Furthermore, geophysical survey in 2001 had identified a series of potential structures (Coningham *et al*.

2011). In order to investigate this extensive cultural sequence and identify the structural forms of early occupation and evaluate the risk posed to the archaeology by the ongoing use of the Police Station, we excavated a single two by two metre trench on the Police Station parade ground – designated Trench P (Figure 10). The earliest phase of human occupation or activity in this area was represented by three shallow pits cut into the natural yellow clay around 2.5 metres below the surface. Although all three pits were heavily disturbed through bioturbation or water activity, two of these pits were clearly bell-shaped of approximately 0.4 metres depth, while the third was concave in profile and only 0.2 metres deep. All three pits were filled by washed material, consisting of redeposited natural with cultural inclusions (charcoal flecking and occasional ceramic sherds), and two lenses of fine well-sorted sand suggesting rapidly moving water washing material into these pits – similar to that seen in an episode of flooding. The ceramic assemblage from these pit fills is directly comparable to the earliest levels at the nearby site of Gotihawa with 36% CIW, 30% RW, 16% BSW, 6% Proto-NBPW, and 2% Coarse Ware. All of these ceramics would suggest a date of late second millennium to early first millennium BCE, however, a single OSL sample from one of the pit-fills produced a date-estimate of 3620 ±310 BCE.

Sealing this earliest phase was a 0.5 metre thick episode of mound building in which a compact redeposited natural was built up, likely raising the area above the flood waters that had washed over the earlier pits. This material consisted of a mottled yellow clay with frequent cultural inclusions including ceramics sherds and charcoal flecking, as well as occasional kankar and manganese flecking. An OSL sample from the redeposited natural produced a date estimate of 1310 ±240 BCE. This built up mound was sealed by a 0.1 metre thick surface consisting of a light yellowish brown silty clay that was rich in sherds of BSW, CIW and Proto-NBP. Interestingly, the only identifiable form (some BSW and some Proto-NBP) was that of the thali. A number of these sherds displayed crisp edges with very good surface definition, suggesting that the sherds were deposited rapidly, rather than on an exposed surface for any period of time. This surface was subsequently cut by a shallow posthole and a 0.7 metre deep bell-shaped pit, which cut through the surface and mound, and into the natural below. This pit, located in the south-east corner of the trench had an estimated diameter of between 1.6 and two metres with concave vertical sides. The primary fill was 0.2 metre thick soft grey silt that was interpreted as a deliberate, and

possibly ritual, deposit. This distinctive loose grey silt of the fill was very rich in charcoal and ash, along with several fragments of burnt animal bone and ceramics which, like the mound building below, were dominated by CIW, Proto-NBP and BSW wares, while the only forms identifiable were thali. Additionally, three near-intact small globular ceramic vessels were recovered. It is worth noting that Verardi identified identical vessels during his excavations at Gotihawa (Verardi 2007). The secondary fill of this pit appears to represent melt or wash-in from later structural platform as it was rich in small compacted flecks of fired clay. This suggests that the pit remained open for some time. Again, the secondary fill was dominated by CIW, Proto-NBP and BSW wares in addition to a single sherd of NBPW and a small number of undiagnostic RW sherds. There was then what appeared to be a thin clay lining around the top of pit. Immediately north-west of the pit, we found a circular posthole cut into the mound surface, measuring 0.15 metres in depth.

Above the mound's surface, and to the west of the pit, we identified a 0.2 metre thick structural foundation consisting of a sub-rectangular platform of highly compacted silty-clay with occasional fine inclusions of fired clay. Running broadly north to south, this deposit formed a clay core for a compacted deposit which was again rich in crisp sherds of BSW, CIW and Proto-NBP, as well as a number of sherds of undiagnostic red ware and a single sherd of NBPW. An OSL sample from this core material produced a date estimate of 930 $\pm$160 BCE, a date that corresponds well with the ceramic assemblage. This deposit was also cut by two stakeholes, suggesting that at some point it was the outer surface of a structural platform itself. This was then sealed by an outer skin of an extremely compacted brown silty clay with a very high concentration of fine fired angular clay fragments. This formed a structural platform produced by ramming a mixed clay, silt and fired clay deposit. This platform ran into the sections of the trench on three sides (west, north and south) but sloped sharply at approximately 135° on its eastern flank, while the upper surface of the structural platform was level and smooth. This surface was then cut by a posthole and a stakehole along its eastern flank, likely forming part of an organic eastern wall – likely wattle and daub. An OSL sample from the external skin of the platform produced an age estimate of 460 $\pm$130 BCE. This date, contrasted to the early first millennium BCE date from the platform layer below, suggests a significant period (at least two centuries) between these two deposits – suggesting in turn that this platform had multiple phases of use, and that the

outer skin in fact represents a repair or modification to an earlier structure. Once again, the ceramics from this deposit were dominated by BSW and Proto-NBP, with a significant quantity of CIW sherds, a handful of RW sherds and a further single sherd of NBPW.

Following this second structural phase, a dark greyish brown silty deposit built up against the eastern flank of structural platform. It appears certain that this deposit was external to the structure, though it is uncertain whether its deposition is contemporary with, or post-dates, the occupation of the structure. This material was approximately 0.3 metres thick and was rich in ceramic sherds, including a large intact water vessel which was positioned upright with the mouth of the vessel proud above the surface (Figure 11). This vessel was clearly intact when deposited and only fragmented after its burial as evidenced by the existence of several partial fractures. Along with this single vessel were a number of ceramics sherds, again dominated by sherds of BSW, along with a smaller number of CIW and Proto-NBP sherds. As can be seen in the south-facing section (Figure 12), cut into the surface of this material in the north-east corner of the trench was a shallow sub-circular fire pit initially filled by a vibrant red heat affected clay lining, below a charcoal and ash rich secondary fill. This fire pit, and associated structural platform, were all sealed by 0.2 metre thick greyish brown cultural silt that extended across the trench and likely represent structural melt of a wattle-and-daub superstructure. This collapse deposit was in turn cut by shallow bell-shaped pit in the south-west corner of the trench, which was filled in turn by a soft dark grey silt. Both this structural 'melt' and pit fill, again contained sherds of CIW, BSW and Proto-NBP, along with a handful of sherds of RW. Following this initial phase of collapse and abandonment, we identified 0.6 metre thick mixed cultural silt which was rich in brickbat, charcoal, and ceramics – but devoid of any structural features. Once again, this deposit contained sherds of BSW, CIW and Proto-NBP, along with a handful of sherds of RW. Finally, the archaeological sequence was completed by a 0.20 metre thick loose grey mixed cultural silt – again this deposit was rich in charcoal, along with a handful of ceramic sherds (BSW and Proto-NBP) and brickbat. However, it is important to note that this deposit was also disturbed by a plastic water-pipe running through the north-eastern corner of the trench. This pipe, although not large, both cut through in situ archaeological material and was leaking heavily, thus changing the taphonomic conditions of the archaeological

deposits. Above this subsoil, the sequence was sealed by a shallow modern subsoil, containing modern detritus such as battery cores, broken glass and plastic and a turf topsoil.

5. Conclusion

Our investigations at the Village Mound have demonstrated the presence of a substantial depth of archaeological habitation at the site. This occupation stretches back at least as far the second millennium BCE, with one of the shallow pit fills at the base of the Trench P sequence producing a radiocarbon date of 1413-1261 BCE (95.4% confidence). These shallow pits were cut into an in situ natural dating to around the same period, with the surface of the natural at the Police Station dating to 1260 ±190 BCE, while at the nearby Levee Bank Trench A, the palaeosurface immediately above the natural dated to 1280 ±200 BCE. At this time, it appears likely that the fourth millennium BCE date from one of the Police Station shallow pit fills is a result of insufficient bleaching rather than evidence of very early occupation. This initial occupation appears to have ended around the time of an episode of flooding, with a coarse grained sand bearing testimony to fast moving water washing over these early pits and this was immediately followed by a deliberate raising of the area through mound building. The Village 'Mound' is thus an amalgamation of a natural clay rise followed by the deliberate deposition of sediments to further increase the 'mound' and, finally, culturally accumulated sediments comprised of building remains, debris and occupation surfaces. The first phase of occupation on this artificial mound was characterised by the digging of large bell-shaped pits and these were identified in all the Village Mound trenches, both the Police Station and the Levee Bank. These pits appear to date to the first half of the first millennium BCE and were almost certainly not structural, although their precise function(s) remains unclear at this point. All were rich in cultural material, including large quantities of charcoal, ash and ceramics. Similar pits have been identified at Gotihawa, dating to the first phase of occupation at the site between the twelfth and ninth to eighth centuries BCE (Verardi 2007: 69), contemporary with the pits identified at the Village Mound of Lumbini. Furthermore, many of the pits from Gotihawa, like those at the Lumbini Village Mound, contain animal bone, charcoal and ceramics, with

exceptionally similar assemblages of ceramics, with the early phase of occupation at both sites characterised by a CIW and BSW – in addition to the ubiquitous Red Wares.

In terms of function, Verardi suggested that the pits at Gotihawa probably related to the uprooting of trees (Verardi 2007: 69), however, the clearly defined edges, sides and bases of the pits at the Lumbini Village Mound and similar assemblages between both sites suggests that they were a more intentional human intervention during the late Chalcolithic period of the Terai. Such pits are not a unique phenomenon and have also been documented throughout the northern belt of South Asia, particularly across the Kashmir and Swat Valleys where, from the fourth millennium BCE, settlements were characterised by the presence of bell-shaped pits at sites such as Burzahom, Gufkral, Kalako-deray and Loebanr III (Coningham and Young 2015: 119-127). Again, the functions of these pits are widely debated and while it has been suggested that the pits may represent underground dwellings by some scholars, providing shelter during cold winters (Stacul 1987, Sharif and Thapar 1992), other interpretations suggest that such pits may actually represent subsurface grain storage pits (Coningham and Sutherland 1998). However, at Gotihawa and the Village Mound, further analysis is required to ascertain the function of the pits, whether ritual, domestic or both. Furthermore, due to the presence of these pits in the northern valleys of Pakistan and India, as well as the Terai, it is also suggested that such pits may have also been a feature of prehistoric communities of the Kathmandu Valley and lower mountain regions, but further archaeological investigation and survey is required to assert such hypotheses.

At Lumbini, further similarities with Gotihawa include the presence of Proto-Northern Black Polished Ware at the Village Mound. Proto-NBP is a particularly interesting ware, as it was first recognised by Verardi at Gotihawa (2007: 248) and is thought to mark the transitional phase from Black Slipped Ware to Northern Black Polished Ware and can be identified through the lustrous black surface with red spots (ibid.). Other characteristics include a black section, a thin slip, fairly thick walls, and the thali form – which represents the most common forms identified at the Village Mound. The highly polished appearance is achieved by firing at very high temperatures and the unique red spots are evidence of a problem in the firing process (ibid.). Verardi's Proto-Northern Black Polished Ware periodisation is

between the twelfth and eighth centuries CE with a lingering presence through the Mauryan period but disappearing altogether in Sunga and Kushan periods. The Proto-NBP found at Lumbini is therefore also used as a pre-Mauryan indicator. At Lumbini, this phase is followed by two episodes of domestic structures, consisting of rammed-earth platforms with organic superstructures, dating to the latter half of the first millennium BCE. These structures, which appear to date broadly to around the Mauryan period, arguably represent the *Lumminigame* that was present during the Emperor Asoka's visit to the site in the third century BCE. Finally, we see scattered brick structures across this area in the early mediaeval period although these were only clipped during the excavations at the Levee Bank.

Our archaeological investigations have demonstrated the substantial nature and deep chronology of the archaeological remains to the south of Lumbini's Sacred Garden with settlement and activity dating back to at least the second millennium BCE, continuing through into the Early Mediaeval period. We have also demonstrated that the occupants at the site were involved in manufacturing, on account of the presence of metal-working smithing slag as well as involved in the slaughter of animals, on account of the presence of numerous fragments of animal bones with cut marks. These activities are notably absent from within the monastic and shrine complexes of the Sacred Garden to the north-east. In this way, it is apparent that ancient Lumbini was subdivided into shrine, monastic and secular zones in parallel with the modern Master Plan of Lumbini with the Tange's New Lumbini Village perhaps playing a similar role to the ancient village. Clearly there is still a great deal to be learned about the ancient *Lumminigame*, in terms of activities that took place here, the overall size of the settlement, and the relationship between the ancient village and the ancient monasteries, shrines and temples of Lumbini. However, without proper protection and management, this important site is at very real risk from the harmful activities associated with the modern Police Station. Our UNESCO mission report recommended that the Police Station is relocated elsewhere but this is still to be formally approved by the Government of Nepal. Furthermore, we strongly recommend that the boundary of the World Heritage Site is expanded to ensure the protection of not just the sacred core of Lumbini but its secular character as well.

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8. Figures

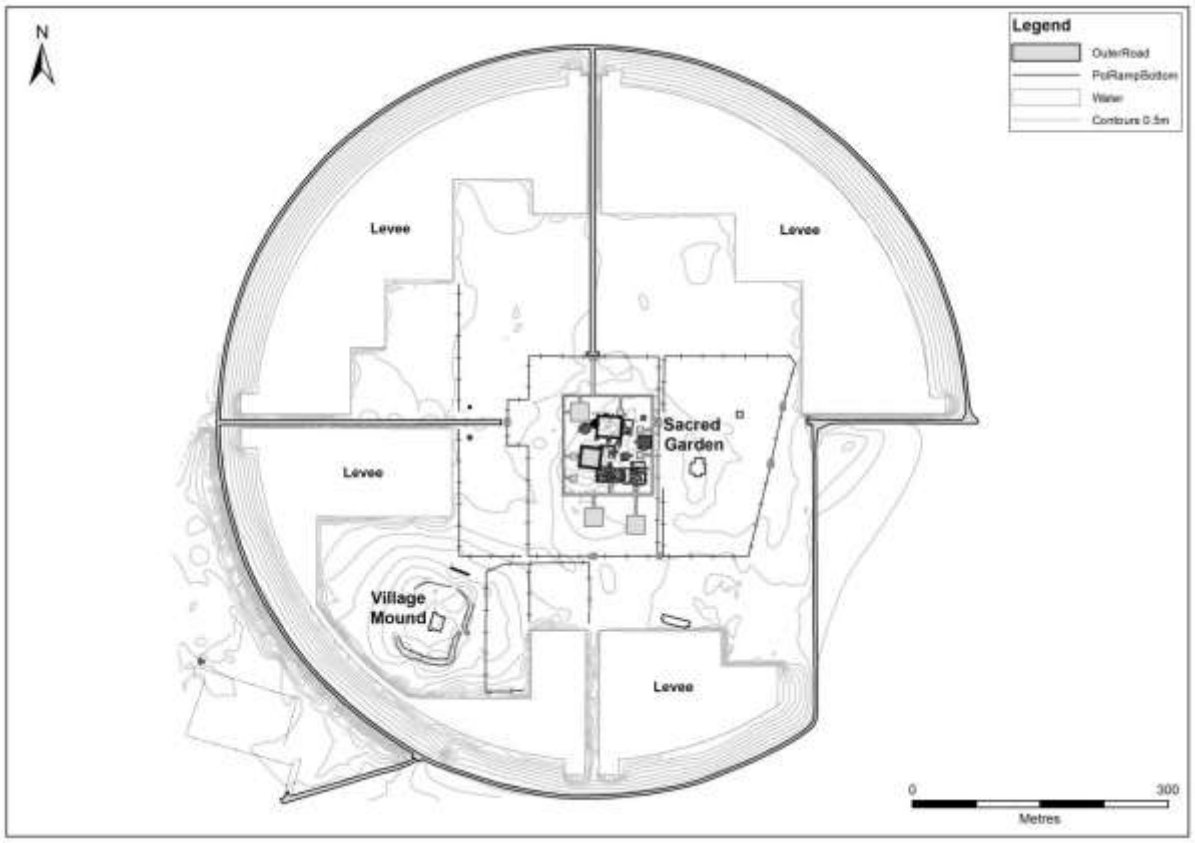

Figure 1: Topographic Map of Lumbini showing the location of the Sacred Garden and Village Mound

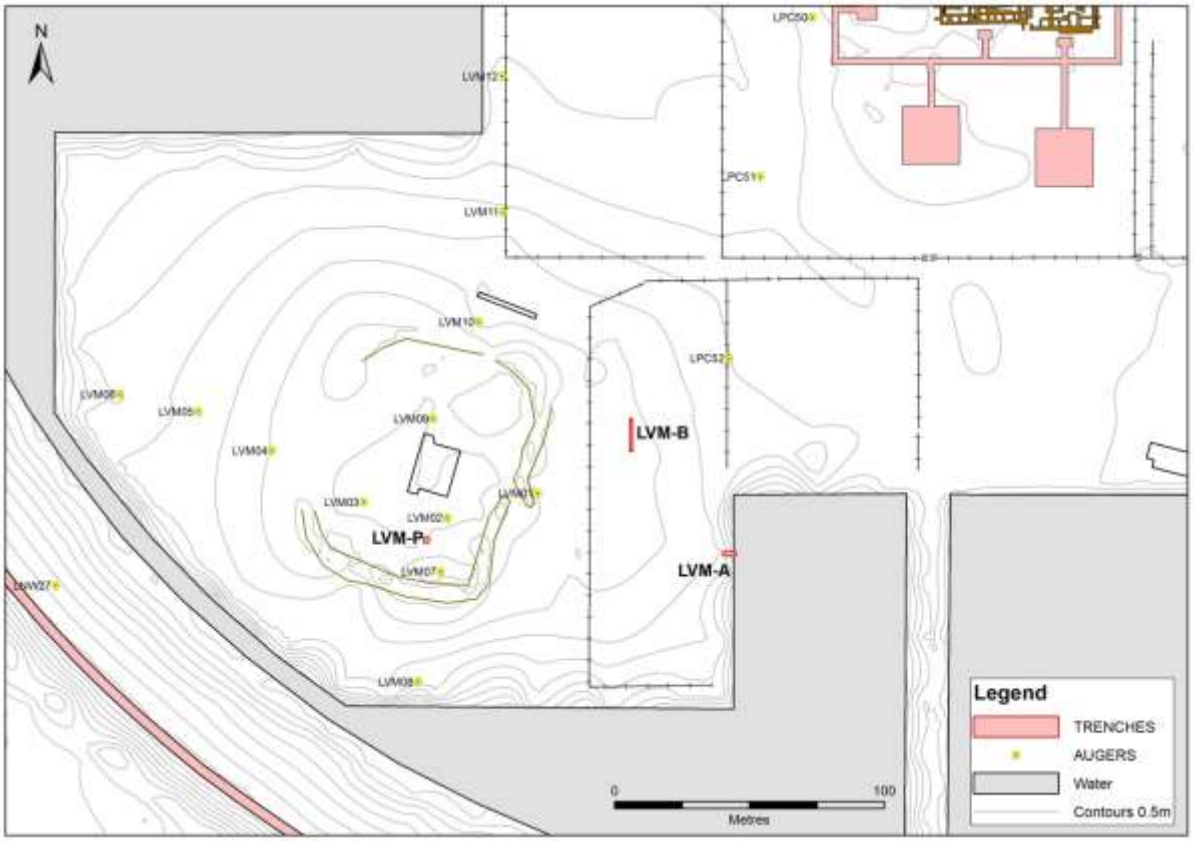

Figure 2: Topographic map of Lumbini's Village Mound showing areas of investigation

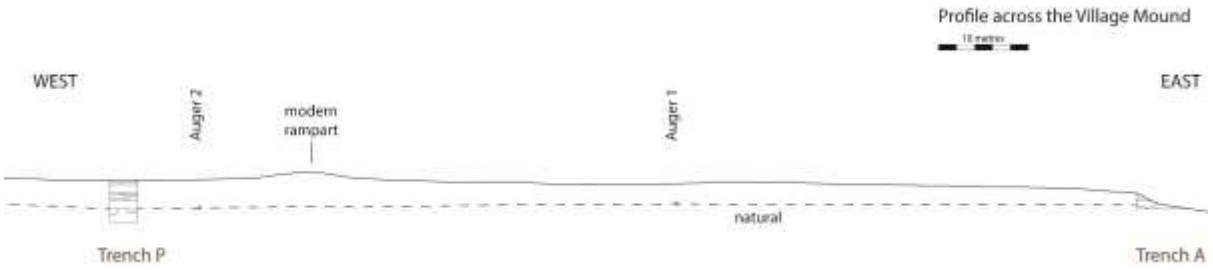

Figure 3: Projected auger profile across Lumbini's Village Mound, including stratigraphies in Trenches A and P

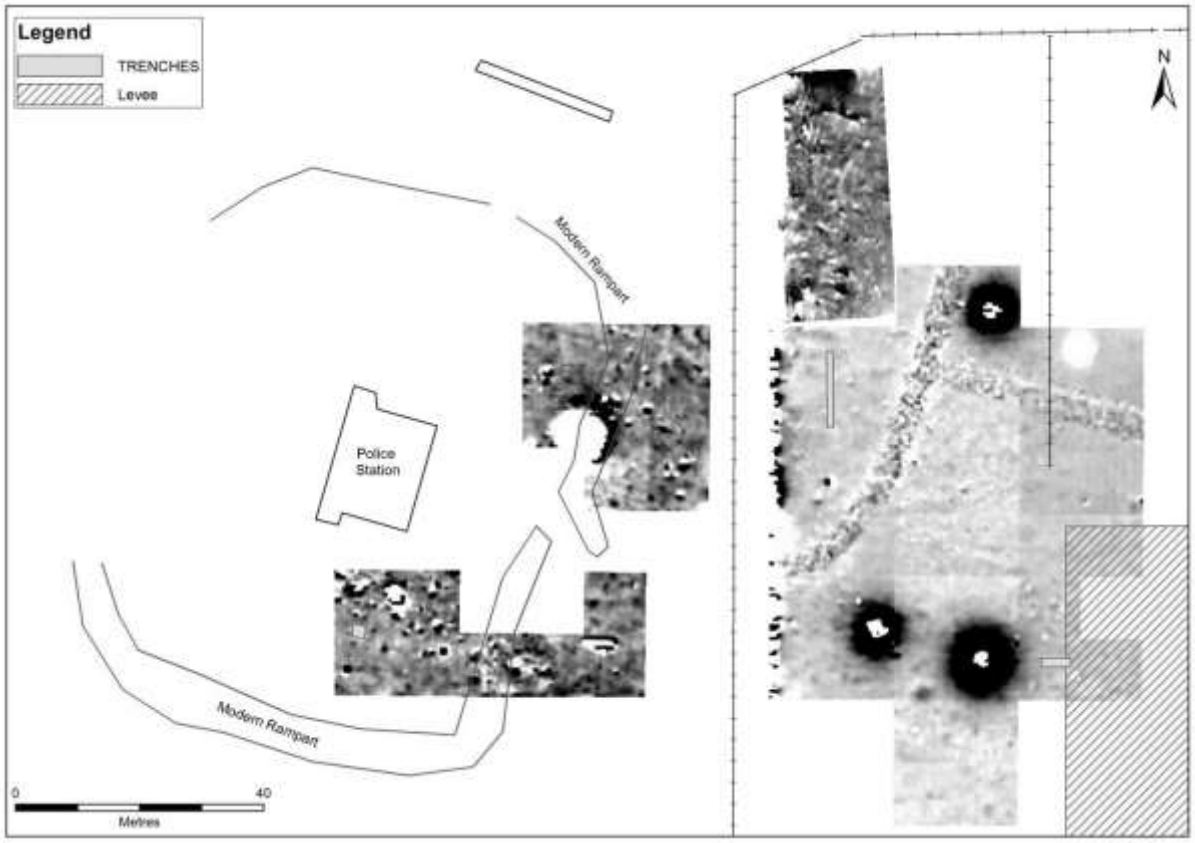

Figure 4: Map showing the anomalies identified during the geophysical survey at Lumbini's Village Mound

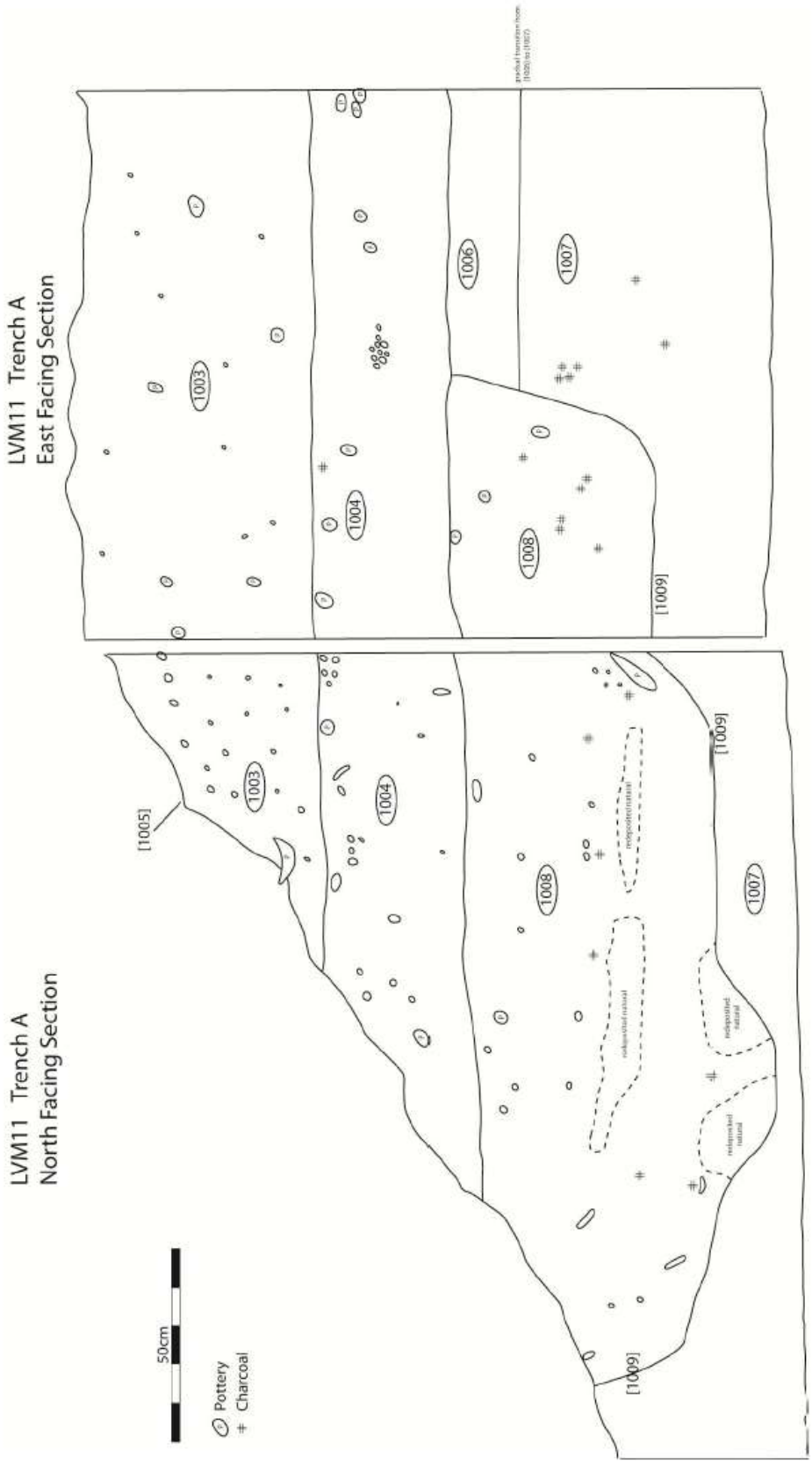

Figure 5: North and east-facing sections of Trench A, showing pit [1009] and fill (1008).

Figure 6: Photograph of sub-circular pit cut into natural soil in Trench A.

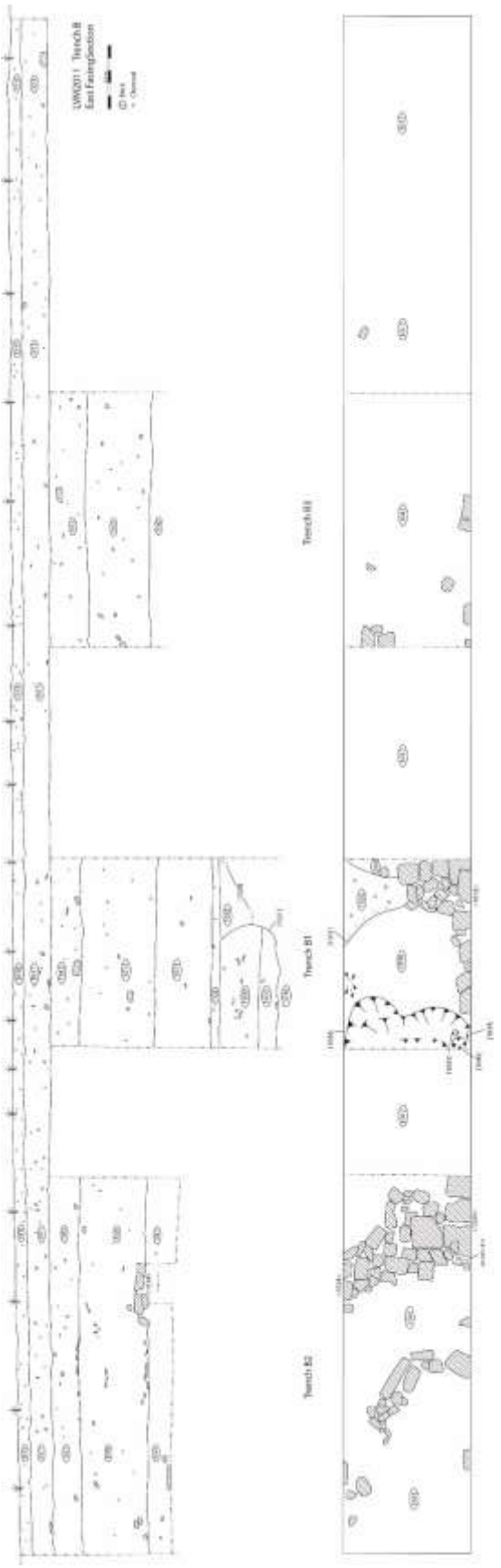

Figure 7: Plan and east-facing section of Trench B (B1, B2 and B3).

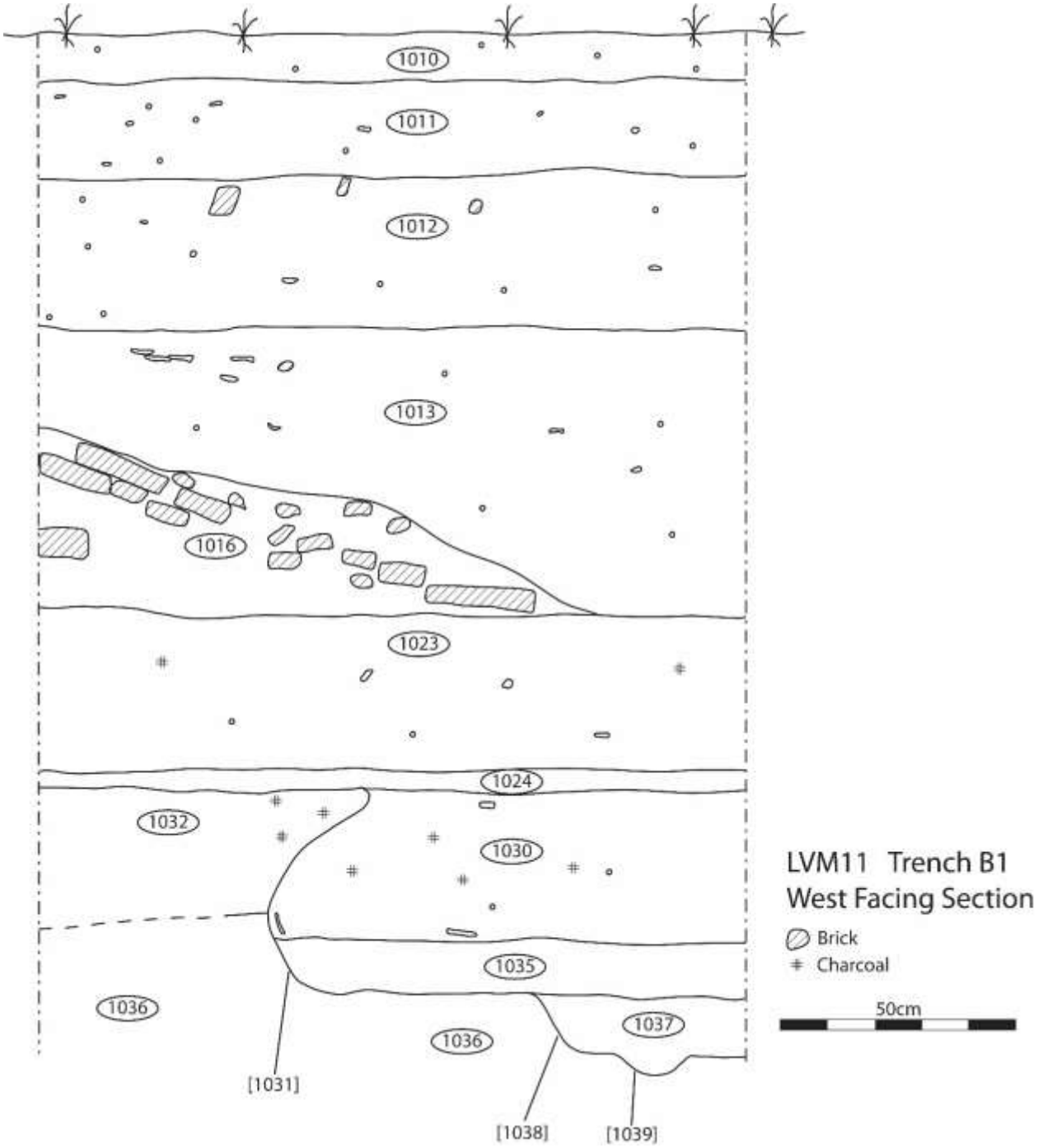

Figure 8: West-facing section of trench B1.

Figure 9: North-facing post-excavation photograph of Trench B1 showing different structural phases

Figure 10: Working photograph of Trench P during excavation.

Figure 11: Photograph of complete ceramic vessel set into floor in Trench P (image courtesy of Ira Block).

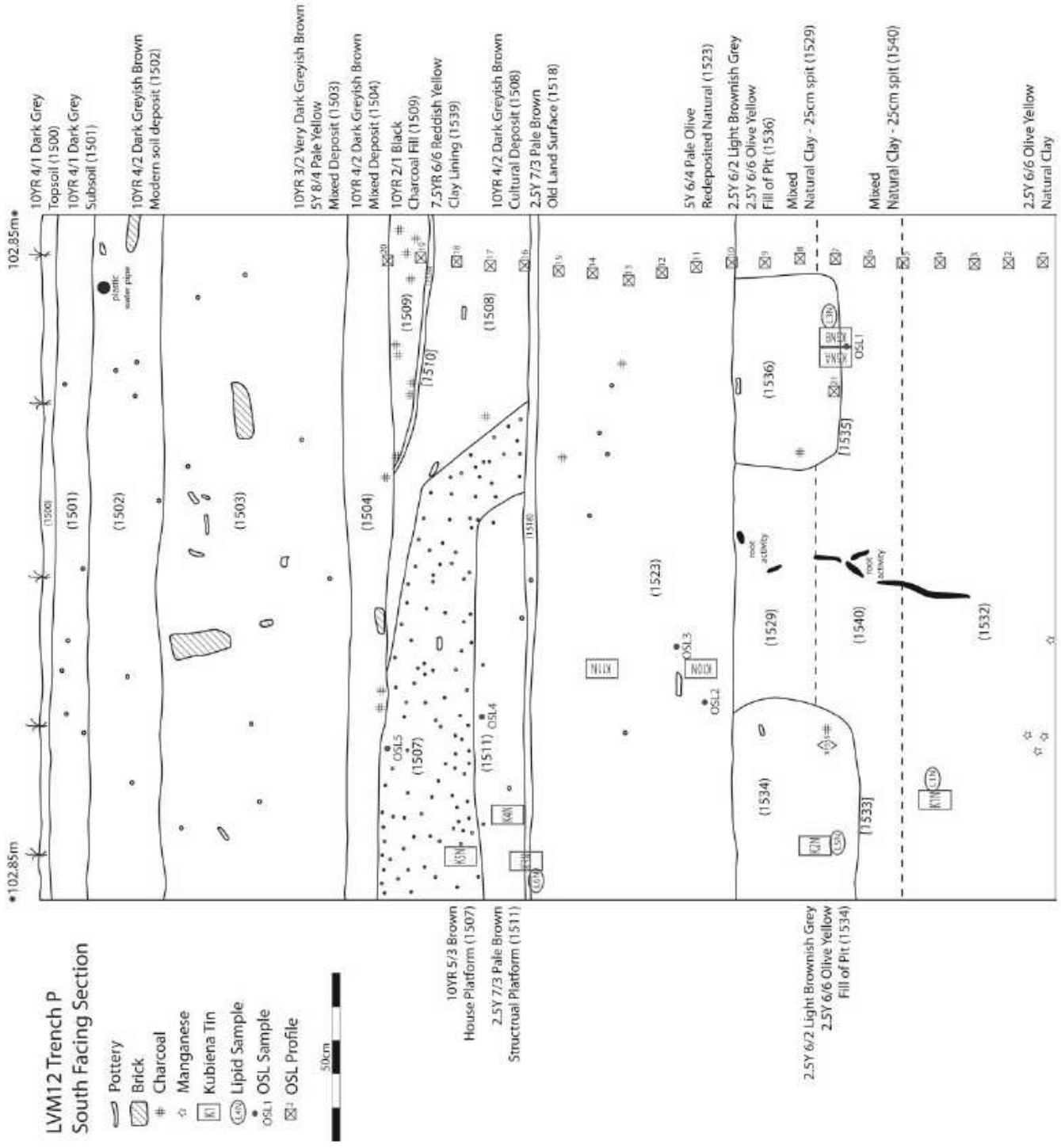

Figure 12: Trench P south-facing section.