THE VIJAYANAGARA METROPOLITAN SURVEY: OVERVIEW OF THE 1992 SEASON

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This paper presents preliminary results of the 1992 season of the Vijayanagara Metropolitan Survey (VMS). The VMS is a programme of systematic intensive surface documentation of archaeological remains in the region immediately surrounding the Urban Core of Vijayanagara. In this work, initiated in 1987, we seek to examine the nature and organization of regional settlement, economic activities (agricultural and craft production), transport and defense in the Vijayanagara Metropolitan Region. This is broadly defined to include the *c.* 350-sq km area delineated by the city's outermost fortifications (see Morrison 1991, Morrison and Sinopoli 1992 and in press, and Sinopoli and Morrison 1991 and 1992). Our research indicates that during the Vijayanagara period, use of this landscape was complex. This was a zone of spatially segregated towns, villages, temples, massive reservoirs and lush agricultural fields, linked by networks of roads and defended by a range of natural and constructed features.

The first phase of survey focuses on documenting archaeological remains of a 50 per cent sample of the eight blocks immediately surrounding the Vijayanagara Urban Core (Block N). Each 4.5-km square block is divided into north-south transects, 250 m wide and 4.5 km long. Nine transects per block are randomly selected for survey. Members of the survey team walk along each transect, spaced 20 m apart, and all archaeological sites identified are recorded. Large or significant sites that lie outside of the sample transects are also recorded (see also Sinopoli and Morrison 1991).

The definition of archaeological sites and their boundaries in such a densely utilized area as the Metropolitan Region is not without difficulty, and we largely employ the site concept as a useful heuristic tool to describe archaeological remains, rather than viewing sites as objective, bounded empirical entities. Thus, we define a site as discrete and identifiable remains of past human activities (though isolated artifacts are not recorded as sites). In some cases, the definition of site boundaries is not straightforward and takes into account a variety of practical and distributional factors. Site function is also taken into account in site designations. For example, a temple and nearby step well, or terrace system and associated reservoir embankment, are typically assigned unique site numbers for analytical purposes, rather than being initially grouped together. Further, although we divide the sites into a number of discrete functions, such as settlement, defense, agricultural, sacred sites and so on, it must be kept in mind that many sites had multiple functions. In the discussion that follows, we will talk of primary and secondary site functions. The primary function of a reservoir embankment, for example, is to store water used in agricultural production. Secondary functions of such sites can include their role as defensive barriers, roadbeds, or foci of religious activities.

To date, survey has been completed in three blocks (Figure 1): Block O (1988), Block S (1990, 1992) and Block T (1992), and 370 archaeological sites have been documented. In this report, we present a preliminary summary of the 1992 field season.

Archaeological Survey: Block S

The bulk of Block S was surveyed in the 1990 field season and has been previously reported on (Morrison and Sinopoli 1996). This area was densely settled during Vijayanagara times, and contains the early (through late) settlement of Kamalapura, as well as a sixteenth-century Vijayanagara settlement (Varadadevi-ammana-pattana) in the northeastern quadrant of the block. Dense settlement within the block is restricted to the area within the outer city wall (VMS-123). The large canal-fed reservoir (*kere*) west of Kamalapura allowed year round cultivation in much of Block S. Site density in Block S is extremely high, due, no doubt, to a combination of defensive, agricultural and sociopolitical considerations.

Research in Block S in 1992 was limited to completing the coverage of transects not fully surveyed in 1990. Work focused on the gently sloping region in the central portion of the block. Roughly 1.5 sq km were surveyed and eighteen sites were identified (VMS-274 through VMS-291; Figure 2), resulting in a total of 181 sites recorded in the block.

The sites recorded in 1992 support previously documented and reported evidence for intensive land use in this zone during Vijayanagara times and, particularly, intensive agricultural production. Agricultural sites included four extensive terraced field systems (VMS-276, VMS-280, VMS-283, VMS-287, Figure 3), two wells (VMS-281, VMS-291) and a cistern (VMS-277), along with three isolated wall segments (VMS-274, VMS-282, VMS-288) that may have functioned to limit soil erosion. All of these sites are located beyond the area fed by perennial water sources and would have been associated with seasonal rain-fed fields.

Other sites identified in Block S include a shrine situated on a large natural granite boulder amid agricultural fields (VMS-275, possibly modern), an extensive scatter of Vijayanagara ceramics, perhaps the remains of a small settlement (VMS-278). and a small ceramic scatter (VMS-285). Also recorded were two long walls (more than 180 m long), each spanning areas of outcropping boulders that may have served defensive functions (VMS-279, VMS-284), two isolated standing perforated columns (VMS-289), boulders inscribed with snake and other motifs (probably recent, VMS-290) and isolated walls of unknown function (VMS-286). Detailed analysis of Block S sites and artefacts is presently underway.

Archaeological Survey: Block T

The major emphasis of our research in 1992 was the survey of a 50 per cent sample of Block T. Unlike Blocks O and S, Block T lacked perennial water sources during the Vijayanagara period and agricultural production was limited to seasonal reservoir-fed fields and dry farming. Block T is predominantly characterized by sloping land surfaces. The terrain rises up to the north and south, with small outcropping hillocks throughout, and large granitic hills in the north, centre and southern portions of the block. A band of relatively flat, low-lying terrain extends east-west across a roughly 1 km-wide strip in the northern half of the block. The modern paved road runs across this zone, as did a large Vijayanagara period road (see below).

Survey in Block T focused on nine randomly selected transects: 5, 6, 7, 9, 11, 12, 14, 15 and 17 (Figure 4). In addition, a number of sites lying outside of those transects were recorded. Some 77 archaeological sites were recorded in Block T, a significantly lower density than recorded in either Block O or Block S samples (Figure 5). This is most likely a function of the absence of perennial water sources, as well as increasing distances from the Urban Core. Unlike Blocks O and S, no portion of Block T lies within the second ring of defensive walls enclosing the Urban Core. Nonetheless, it is evident that Block T was intensively utilized for agriculture, transport and settlement during Vijayanagara times.

Settlements

Residential sites in the Metropolitan Region include isolated structures and inhabited rock-shelters and small and large residential clusters: hamlets, villages and towns. In Block T, the remains of isolated structures or tent footings

occur in isolated areas or in association with terrace systems (e.g. VMS-344) and are difficult to date with any precision. Six sites recorded in Block T were designated as being primarily settlement sites (though may have had other functions as well): VMS-329, VMS-336, VMS-340, VMS-343, VMS-361 and VMS-365 (Sinopoli this volume). In addition, three sites were defined as having had residential components in addition to their primary function: VMS-330 (reservoir with one structure), VMS-344 (terrace system, with three structures) and VMS-317 (temple complex with dense ceramic and slag scatter).

The six primary residential sites vary in size, complexity and length of occupation. As noted, several categories of residential sites can be distinguished in the Metropolitan Region, including short-term encampments, such as field houses or rock-shelters, used by agricultural labourers, herders, hunters and the like; hamlets, or clusters of two or more structures with greater architectural investment and complexity; and permanent nucleated settlements, containing residential and non-residential structures. Examples of each of these settlement types were recorded in Block T (see Table 1).

Short-term Encampments

Site VMS-336 is a short-term encampment in a small rock-shelter. Large quantities of post-Vijayanagara pottery were found in the shelter's four chambers. Site VMS-343 is a small rectangular structure located near terrace system VMS-344. It probably served as a residence for agricultural labourers working in the nearby fields.

Hamlets

Site VMS-340 belongs to the second category of residential sites, and consists of one circular platform and four rectangular structures (Figure 6). The site is situated in a flat area on relatively high ground, with excellent visibility to the north, west and east. The rubble-filled circular platform is *c.* 7 m in diametre and is built on top of a natural outcropping boulder. It is possible that this structure served as a lookout point or watchtower. Four small residential structures and one isolated wall fragment are found to the west and southwest of the platform. Also found at this site was a small surface scatter of shards and a broken groundstone mortar.

Nucleated Settlements

Sites VMS-329, VMS-361 and VMS-365 consist of the remains of more substantial and durable village settlements. The dense cluster of ceramic and iron slag around the temple complex VMS-317 may also be the remains of a substantial settlement near that feature. VMS-329 and VMS-369 are best considered as portions of a single large settlement that has been disturbed by recent agricultural activities. These sites cluster around a stone outcrop on which sites a circular platform (VMS-327) similar to that described above from VMS-340. A step-well (VMS-328) is also associated with this site cluster. The foundation of a number of structures are best preserved at VMS-361, which is located on an area of relatively flat sheet-rock, and thus has not been subject to damage from farming. This site extends over an area of *c.* 85 x 70 m; at least four rectangular rooms and numerous wall fragments are visible. High densities of ceramics occur in the fields to the south and east of the structures. Local farmers informed us that several standing temples had existed in those fields until quite recently, but these were destroyed when the Tungabhadra reservoir and canal construction transformed the area into productive agricultural lands over the last few decades.

Site VMS-365 is a much better preserved and more extensive walled settlement, approximately 600 x 300 m in extent, located in the south-east quadrant of Block T (see Sinopoli in this volume).

Although isolated structures do occur in the Metropolitan Region, settlement in Block T provides evidence for a concern with defense, manifest by the preference for nucleation and through construction of watchtowers and enclosure walls. Nucleated settlement VMS329/VMS-361 is located *c.* 5 km from

Vijayanagara's Urban Core along a substantial east-west road (VMS-326, VMS-360). This settlement appears to be less heavily defended than the more distant and inaccessible VMS-365, which may have been somewhat more cut-off from the benefits afforded by proximity to the Urban Core.

Fortifications/Defensive Sites

The massive fortifications enclosing Vijayanagara's Urban Core provide ample evidence of its occupants concern with defending the heart of the city. This focus on defense is found throughout the Metropolitan Region and is evident in its many watchtowers or lookouts, defensive walls and fortified gates. However, contrary to the reports of several contemporary travellers to Vijayanagara, the Metropolitan Region was not enclosed within continuous circuits of walls. Instead, access to the city was limited and carefully controlled by large walls spanning potential access routes, often with narrow and easily monitored gates. In addition, the many large reservoir embankments and the pools of water behind them no doubt made most of the low-lying areas of the Metropolitan Region virtually impassible for much of the year. Transport into and out of the city was thus channelled along a number of major and minor routes that could be easily monitored and defended.

Among the defensive features recorded in Block T are the two circular platforms or watchtowers described above (VMS-328, VMS-340) and the square platform or tower associated with the hilltop shrine (VMS-309; see below). At site VMS-359, the very fragmentary remains of a structure on a low outcrop may also have been a lookout point or watchtower of some sort.

The other defensive features documented in Block T are walls (VMS-306, VMS-325, VMS-339, VMS-348, VMS-353). These include the walls that enclose settlement VMS-365 (including, perhaps, VMS-348 and VMS-353). Site VMS-325 is a massive double-faced wall that was traced for *c.* 250 m. It is located near a reservoir embankment (VMS-324) and a Vijayanagara period columned hall (VMS-303), which may have been part of a gate complex. A broad earthen embankment, VMS-305, in the northwest quadrant of the block may also have had a defensive function.

The most striking of the large defensive walls in Block T is VMS-339 (Plate 1). This is a broad, double-faced rubble wall ranging in width from 2 to 6 m. It was traced for approximately 2 km. The wall is breached at several points by modern cart tracks and footpaths, and thus does not appear to be a recent construction. Site VMS-306, a similarly constructed wall, lies to the north of the modern canal that defines the northern end of VMS-339 and is likely an extension of that site.

Transport Sites

Concomitant with the concern for defending the city, Vijayanagara's occupants were also concerned with controlling movement into and within the Metropolitan Region. Numerous road segments have been identified in our survey, ranging from narrow foot and cart paths to broad streets along which several carts (or many foot soldiers) could pass abreast. Roads may be identified directly through the presence of stone pavements, raised causeways or parallel boundary walls, or can be identified indirectly through the alignment of structures and other features along their path.

Transport routes identified in Block T include: the broad top of reservoir embankment VMS-364 (see below) and the wall and pathway in the outcrops to its north; a route around the base of the outcrop leading toward settlement VMS-365 that is defined by a low terrace or wall (VMS-345, VMS-348, VMS-353); and a wide east-west avenue that runs across the broad valley in the northern portion of the block (VMS-326, VMS-360). Two low, double-faced walls, spaced between 20 and 30 m apart, define this latter route. Segment VMS-326 was traced for approximately 1,200 m, and segment VMS-360 for approximately 800 m. The large unrecorded embankment in the western part of the block (not in a sample transect) was probably also part of this road, which may well have passed through the Penukonda gate complex in Block S (VMS-217) and into the city core.

Sacred Sites

Twelve of the 77 sites recorded in Block T (15.6%) were religious in nature, including temples, shrines and isolated sculptures. In addition, shrines and sculptures were found in settlement VMS-365 and near settlement site VMS-361. As in Blocks O and S, these sites exhibit a range of variation in scale and architectural complexity. They occur in several spatial contexts: within settlements, along roadsides, on hilltops and in association with agricultural sites, such as reservoir embankments.

Site VMS-309 is a shrine dramatically situated on a high boulder that provides a panoramic view to the north. The site is reached by scaling a *c.* 8-m high, almost vertical outcrop. No traces of footholds or stairways to ease access to this shrine are discernible. A small rectangular platform (watchtower) is located on the flat stone surface below this outcropping boulder. The shrine is defined by the natural configuration of the boulders, with only a small retaining wall constructed around the edges of the horizontal ledge on which the site is located. Images of Shiva and Parvati seated cross-legged beneath an arch are sculpted on the sloping face of a boulder, below a large overhang. An inscription is carved above the arch and three human skulls are inscribed below it. A pair of feet encircled by a *naga* are inscribed into the flat bedrock in front of the images. A worshipper at this site would have had an excellent view to the broad low valley to the north containing the large Vijayanagara road (VMS-326, VMS-360). It is not unlikely that lookouts were posted at or near this site to monitor for potential intruders. Indeed, the gods themselves may have been seen as defenders of this route into the city core.

Several more accessible shrines and temples were also recorded in Block T. Many of these cluster along the above-mentioned road. These include: VMS-317, VMS-293 and VMS-292 (Plate 2); inscribed slabs VMS-295 and VMS-296; and a Muslim tomb, VMS-297.

VMS-293 is located to the east of the modern settlement of Sitaram Tanda and consists of a multi-chambered Shaivite temple with a lamp column and carved stone basin in front of it (Figure 7). The structure is oriented to the east of north and consists of an open, 4 by 2 column roofed porch, and a 2 by 2 column ante-chamber in front of a sanctuary of the same size. The columns are unsculpted. A small image of Ganapati is sculpted on the lintel above the antechamber and a *naga* is carved on the inner wall of the sanctuary. A *lingam* is presently in worship in the sanctuary, though this is clearly not the original image; in fact, it appears to be a damaged Vijayanagara period Nandi that has been remodelled to a *lingam* form and placed on a modern image base. The *shikhara* is plastered brick with poorly preserved floral and other motifs. In front of this temple is a stone casket set on a low informal stone platform. This casket, constructed from a single block of stone, is *c.* 2 m long x 1.5 m wide x 1.5 m high, and has a stone slab lid. Sculpted on one long face, from right to left, are a *lingam* within a frame, a Nandi and three devotees with folded hands. Two pairs of small circular perforations are found on this face, above and below the sculpted figures. A crescent moon and sun occur in the upper left and right, respectively. Finally, a tall lamp-column on a modern pedestal is located on line with the sanctuary, 13 m in front of the temple. The Vijayanagara period column is *c.* 4 m tall, with six square panels separated by octagonal insets. A small Nandi image is sculpted on the lowermost panel facing the temple.

Not all of the religious sites in the Metropolitan Region are associated with Hinduism. VMS-297 is an Islamic tomb located amid modern agricultural fields (Figure 8, Plate 3). A rubble mound of stone, brick and plaster architectural fragments that lies to its south may be the remains of a second tomb or other associated architectural feature. The tomb is square, *c.* 4 m on a side, and is symmetrical in plan, with each side containing an arched entrance. A small hemispherical plastered dome roofs the structure. Niche-shaped motifs occur on the dome exterior and interior. Although smaller and somewhat simpler in plan than most of the tombs in Vijayanagara's Islamic quarter or the suburb of Kadirampura, this structure generally conforms to the plan

of tombs that Michell has tentatively dated to the fifteenth century (Michell 1985: 108).

The large numbers and broad range of religious sites found throughout the Metropolitan Region provide graphic evidence that, like the Urban Core, this was a sacred landscape. Protector deities are found at points of entry into the city, and hilltop shrines abound across the landscape. Vijaya-nagara shrines and temples vary widely in architectural complexity and productive investment, from small rural goddess shrines to massive temple centres. No doubt their makers and users were similarly diverse, from individual sponsors to royal institutions.

Agricultural Features

Agricultural activities and investment in Block T during Vijayanagara times were intensive. Thirty-three (42.8%) of the sites recorded in Block T are in some way related to agricultural activities (Table 2).

Terrace Systems

Six terrace systems were recorded and mapped in Block T. However, it must be noted that much of the gently sloping upland areas in the block are currently being farmed, and chronologically ambiguous terrace systems are found elsewhere in the block. Terrace systems were recorded by us if they were: (1) clearly associated with Vijayanagara period reservoirs or other dated features; (2) if there were significant soil accumulations in or behind the terrace walls indicating that they had been in use for some time; or (3) if they occurred in areas with no evidence of recent farming. Terrace systems that did not meet these criteria were recorded in field notes, but were not given site designations.

The extent of recorded terrace systems varied considerably from *c.* 560 sq m (VMS-362) to 90,000 sq m (VMS-344) (Table 3). Each consisted of a number of low walls, constructed of unmodified cobbles and boulders, typically no more than two courses high. These walls served to slow the rate of erosion and runoff in the sloping terrain where fields were located, and may also have served to define field boundaries.

Reservoir Embankments

Only one of the fifteen runoff-fed reservoir embankments recorded in Block T still functions to retain water. This is VMS-315, a stone-faced earthen embankment approximately 5 m long x 20 m wide x 7 m high (Figure 9). A single sluice gate, no longer in use, is located near the centre of the embankment. A small shrine containing a lingam (VMS-316) is located near the northern end of the embankment, and a modern goddess shrine is found in the roots of the massive *banyan* tree that grows at its base. This reservoir is associated with an upslope terrace system (VMS-344) that most likely helped to retard silt accumulation in the reservoir bed. Even today, standing water is present in this reservoir for much of the year; however, the original sluice channel is no longer in use and there appears to be little effort to funnel this water into nearby agricultural fields.

No other reservoir recorded in Block T still successfully retains water. In fact, roads, canals or other features have breached many of the embankments. Among the most dramatic of the embankments recorded is VMS-364, located in the southeastern quadrant of the block. This embankment, now breached by a cart track, is *c.* 190 m long by 45 m wide and stands 11 m high (Figure 10). It spans a narrow valley that slopes down to the north and incorporates natural outcropping boulders on either end. Up to 21 courses of large, unmodified and shaped angular boulders are visible, and flat stone steps project out into the tank bed at irregular intervals. The stones used in the construction of this reservoir are massive, especially near the base, with many well over 1 m across. Several have characteristic Vijayanagara period quarry marks. The top of the embankment is quite broad, nearly 15 m across, and likely served as a transport route across the valley when the reservoir was in use. Low stone walls define the base of the earthen face of the embankment, as well as the northern boundary of the embankment, defining a path through the outcrop hill. The sluice channel can still be traced on both faces of the embankment, but no sluice gate is present.

Other agricultural sites recorded in Block T include step-wells (n = 4), (Figure 11) and isolated soil or run-off control walls (n = 8). In addition, a number of sites whose function could not easily be determined may also have been related to agricultural activities.

The distribution of agricultural sites in Block T expands and confirms patterns identified during the 1988 and 1990 field seasons. Agricultural activity in the Metropolitan Region was both intensive and diverse. With the exception of settled areas and transport routes, virtually all arable land with the region appears to have been farmed through a variety of wet and dry farming regimes. Runoff-fed farming, in terraced areas or through reservoirs, predominated in Block T. These sites were often linked in a complex network that required considerable skill and labour investment to construct and maintain.

Pollen Analysis

An additional avenue to understanding Vijayanagara agricultural production and organization is the study of micro- and macrobotanical remains from the Vijayanagara period. During 1992, Morrison spent a month at the French Institute in Pondicherry analysing pollen samples collected in 1990 from the large, canal-fed Kamalapura reservoir. The pollen curves reveal a complex cycle of change in vegetation patterns in the region from Vijayanagara times to the present (see Morrison this volume).

Craft Production Sites

Little evidence of non-agricultural productive activities was found in Block T. Site VMS-341 is a stone quarrying locale with evidence for cutting and shaping of granite blocks. Large quantities of iron slag were found amidst the structures in temple complex, VMS-317. Feature 7 at that site is a low mound (6 x 3 m in dimension), which may have been associated with metalworking. In general, though, craft production evidence in Block T, as in Blocks O and S, is surprisingly scarce.

Artefacts

A systematic walkover of each archaeological site identified in the Metropolitan Region is conducted in order to identify and collect for analysis artefacts visible on the ground surface. Most of the artefacts recovered are earthenware ceramics, though ground and flaked stone artefacts, steatite "pencils" and imported porcelain and stoneware shards are sometimes found. Non-diagnostic artefacts are sorted, counted and left at their site of recovery, while diagnostic artefacts are removed for more detailed analysis. All diagnostic materials are deposited with the Karnataka Department of Archaeology and Museums.

During the 1992 season, 676 diagnostic ceramics were measured and drawn, and several hundred non-measurable rim sherds were sorted and counted. Non-ceramic diagnostics were drawn, measured and photographed. Quantitative analysis of ceramics are currently underway and will provide information on activities carried out at different sites and, perhaps, on chronological and economic associations between sites and site types.

Discussion

The systematic archaeological survey we are conducting in the Metropolitan Region reveals a complex and densely utilized urban landscape. Settlement, religious features and agricultural sites are distributed in a complex mosaic, belying simplistic models for urban land use and organization.

Agricultural production was extremely important in the Metropolitan Region and irrigation and land-use systems were extremely sophisticated. Vijayanagara's rulers, temples and non-elite inhabitants invested large amounts of labour and resources into assuring a secure food supply for the capital, and produced a wide range of foodstuffs within the fortified Metropolitan Region.

With the exception of short-term occupations in isolated structures or rock-shelters, settlement in the Metropolitan Region tended to be clustered within heavily fortified communities. Block S settlements lay within the massive outer ring of city walls, while in Blocks O and T, settlements were found along roads with easy access to the city core. These and more distant settlements, such as VMS-365, were enclosed within walls, often with

associated watchtowers. Roads and transport routes were also defended. Large numbers of religious sites are found throughout the Metropolitan Region in a broad range of spatial contexts. These vary considerably in size and architectural complexity, and were no doubt sponsored by a range of patrons, ranging from small groups of villagers to royal donors.

The excellent state of preservation of a range of archaeological sites from the Vijayanagara period makes the area an important laboratory for examining ancient urban organization, with significance for expanding understandings of pre-modern South Asian cities and urban centres in general. As analysis and survey of the Metropolitan Region continues, we will continue to examine the complex interrelations and accommodations between the various political, economic, religious and military factors that structured the urban form of the great imperial city of Vijayanagara.

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Table 1. Residential Sites in Block T

Function/site type	Primary site use	Secondary site use
1. Short-term encampment	VMS-336, VMS-343	VMS-344
2. Hamlet	VMS-340	
3. Nucleated settlement	VMS-329, VMS-361, VMS-365	VMS-317

Table 2. Agricultural Sites

Site type	# of sites
Terrace systems	6
Reservoir embankments	15
Soil control walls	8
Step wells	4

Table 3. Dimensions of Terrace Systems and Reservoirs in Block T

Site	Description	Dimensions
VMS-299	Terrace system	210 x 75 m
VMS-300	Terrace system	150 x 30 m
VMS-310	Terrace system	120 x 35 m
VMS-320	Terrace system	60 x 40 m
VMS-344	Terrace system	280 x 320 m
VMS-362	Terrace system	40 x 14 m
VMS-301	Reservoir embankment	125 x 10 m
VMS-302	Reservoir embankment	75 x 26 m
VMS-315	Reservoir embankment	500 x 20 m
VMS-318	Reservoir embankment	240 x 35 m
VMS-322	Reservoir embankment	170 x 15 m
VMS-324	Reservoir embankment	65 x 15 m
VMS-330	Reservoir embankment	650 x 60 m
VMS-335	Reservoir embankment	135 x 23 m
VMS-342	Reservoir embankment	62 x 13 m
VMS-346	Reservoir embankment	72 x 20 m
VMS-349	Reservoir embankment	300 x 20 m
VMS-355	Reservoir embankment	120 x 8 m
VMS-364	Reservoir embankment	190 x 45 m
VMS-369	Reservoir embankment	260 x 30 m

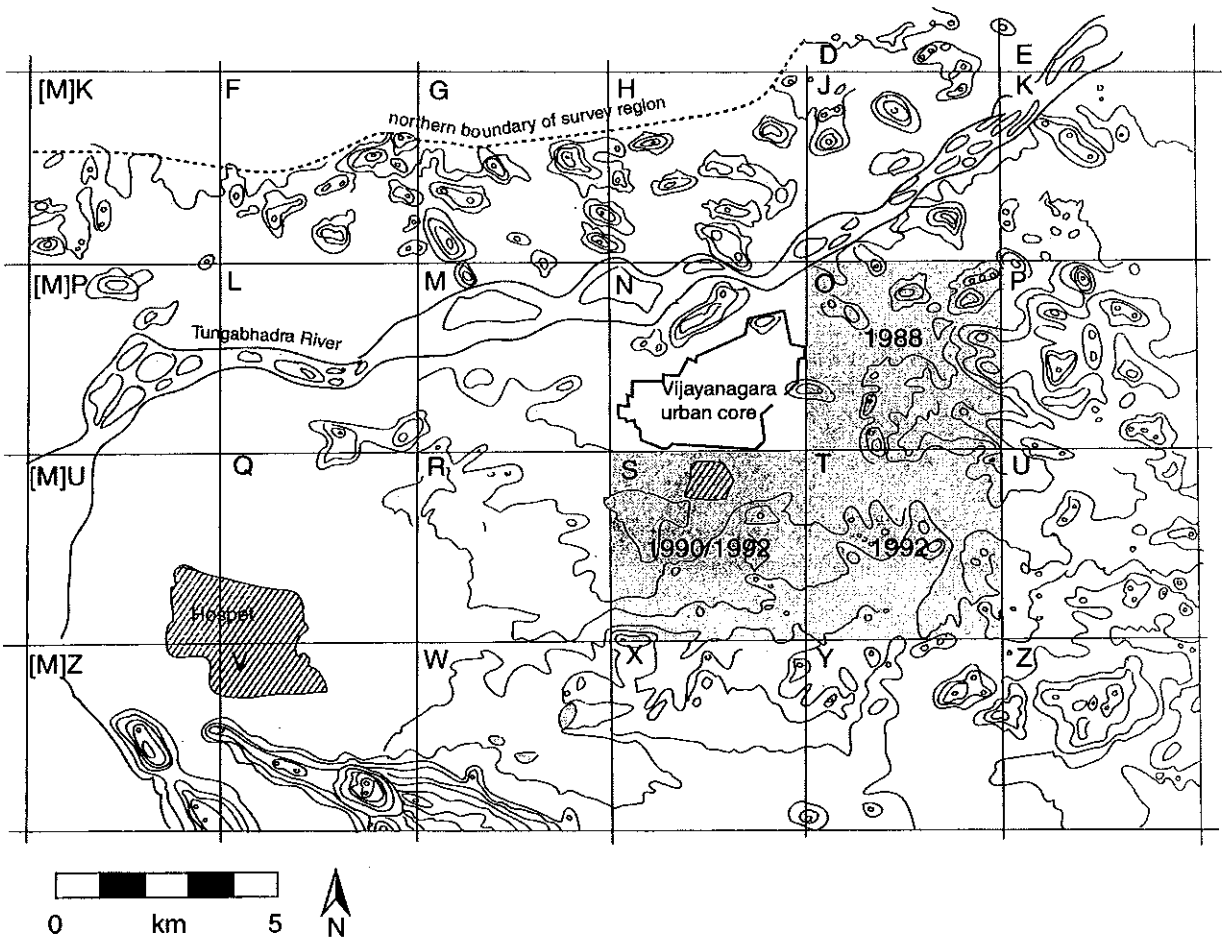

Figure 1. Surveyed blocks O, S and T.

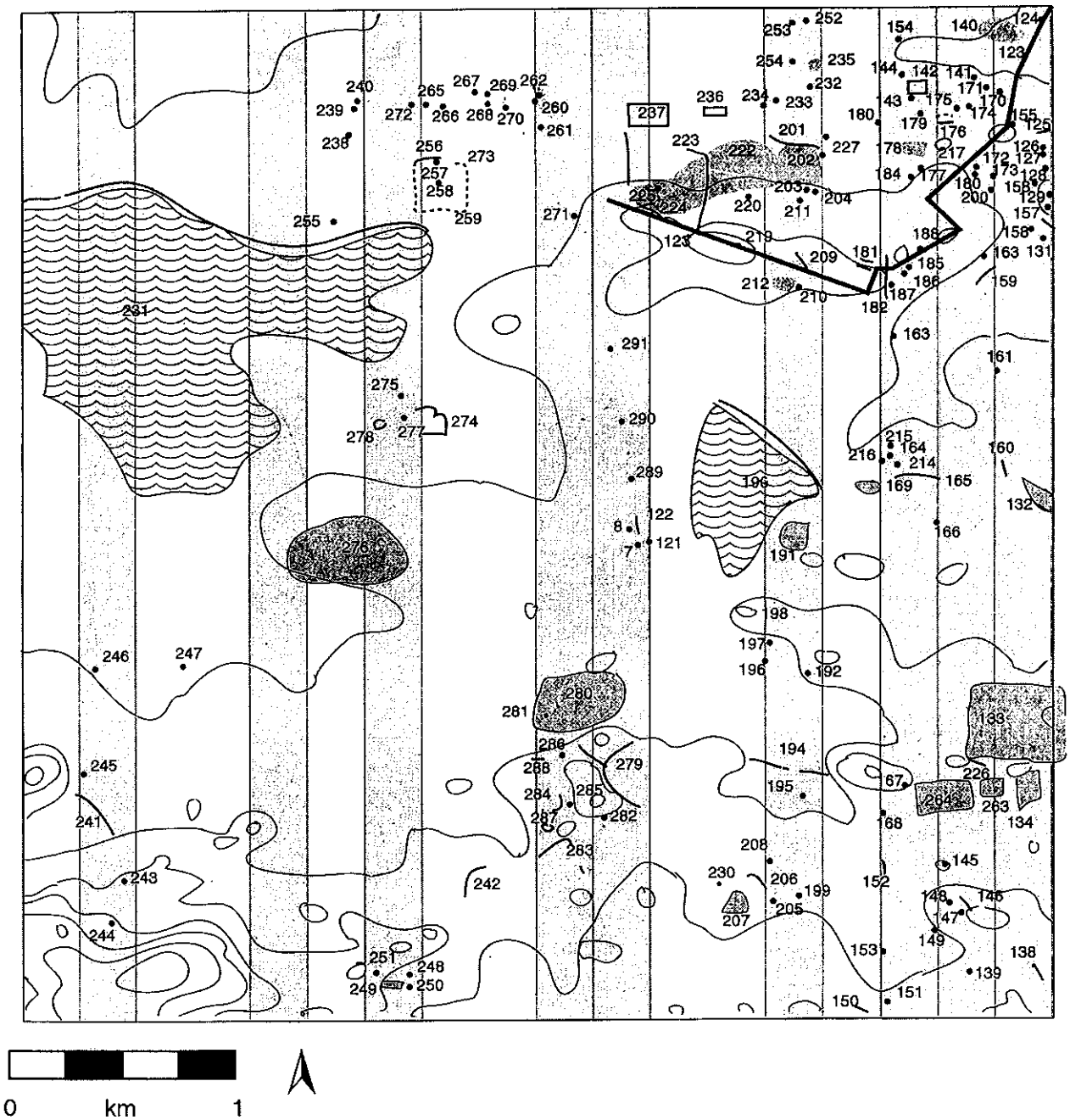

Figure 2. Block S, site distribution.

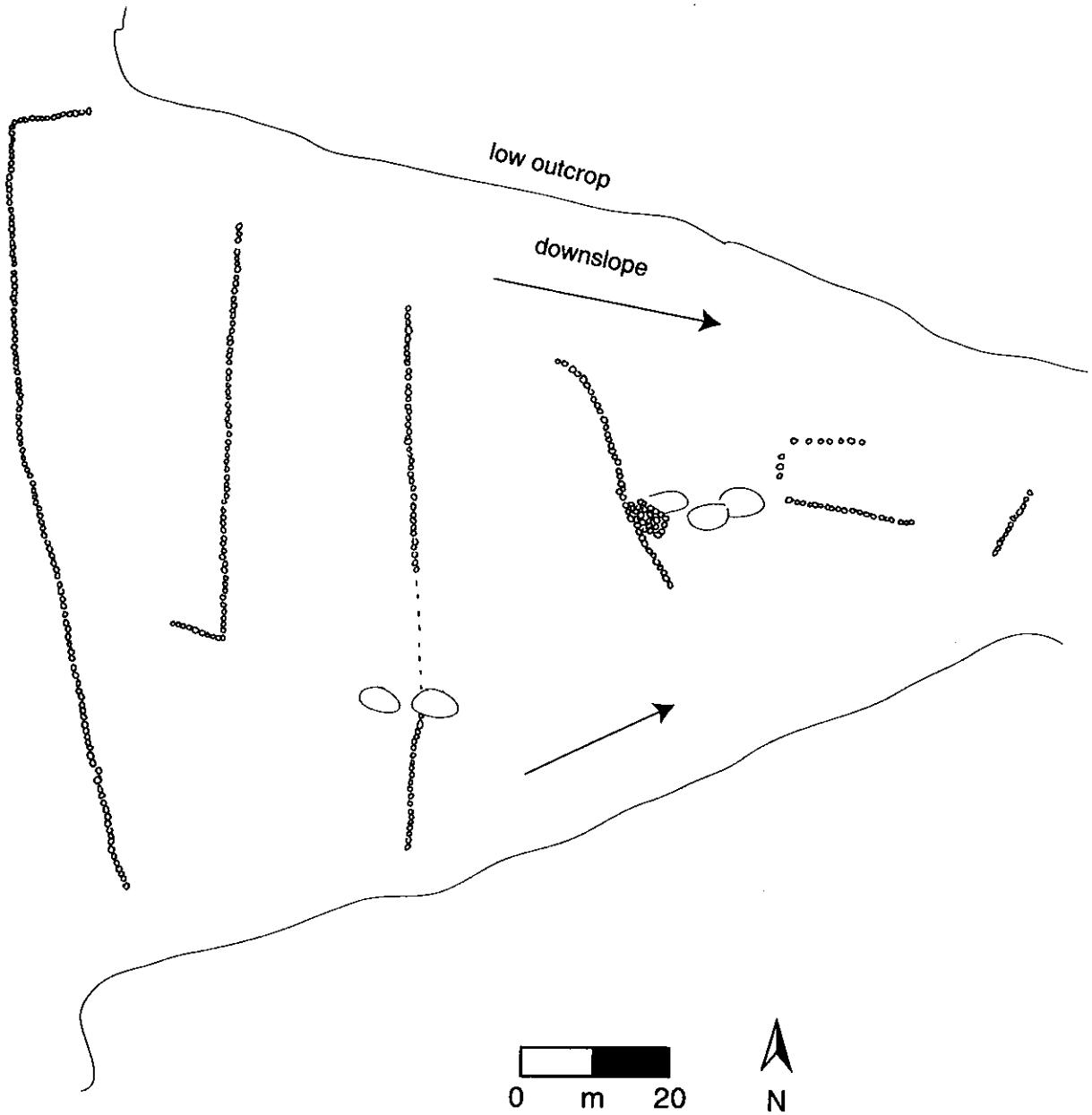

Figure 3. VMS-283, terrace system.

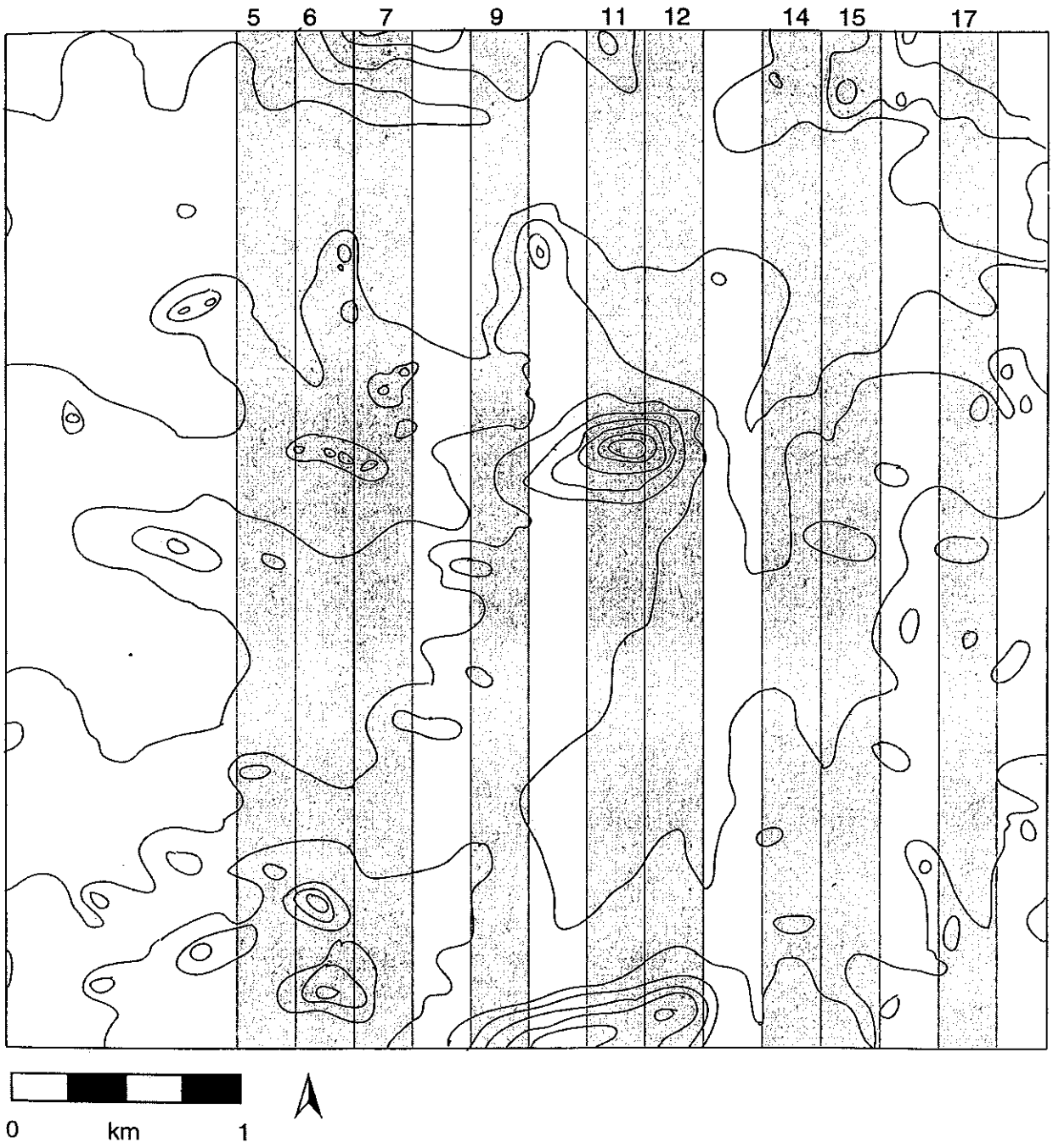

Figure 4. Block T, sample transects.

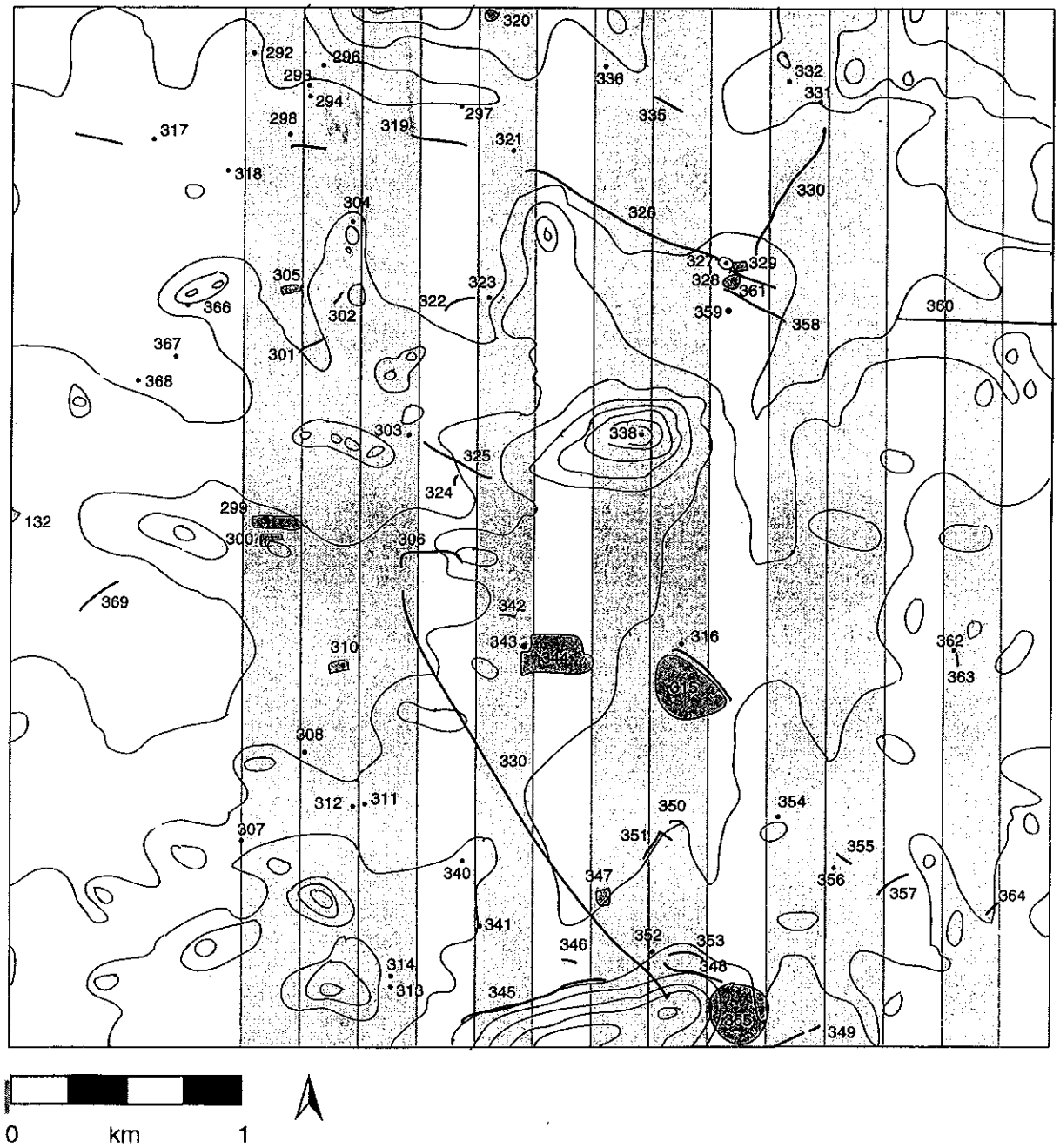

Figure 5. Block T, site distribution.

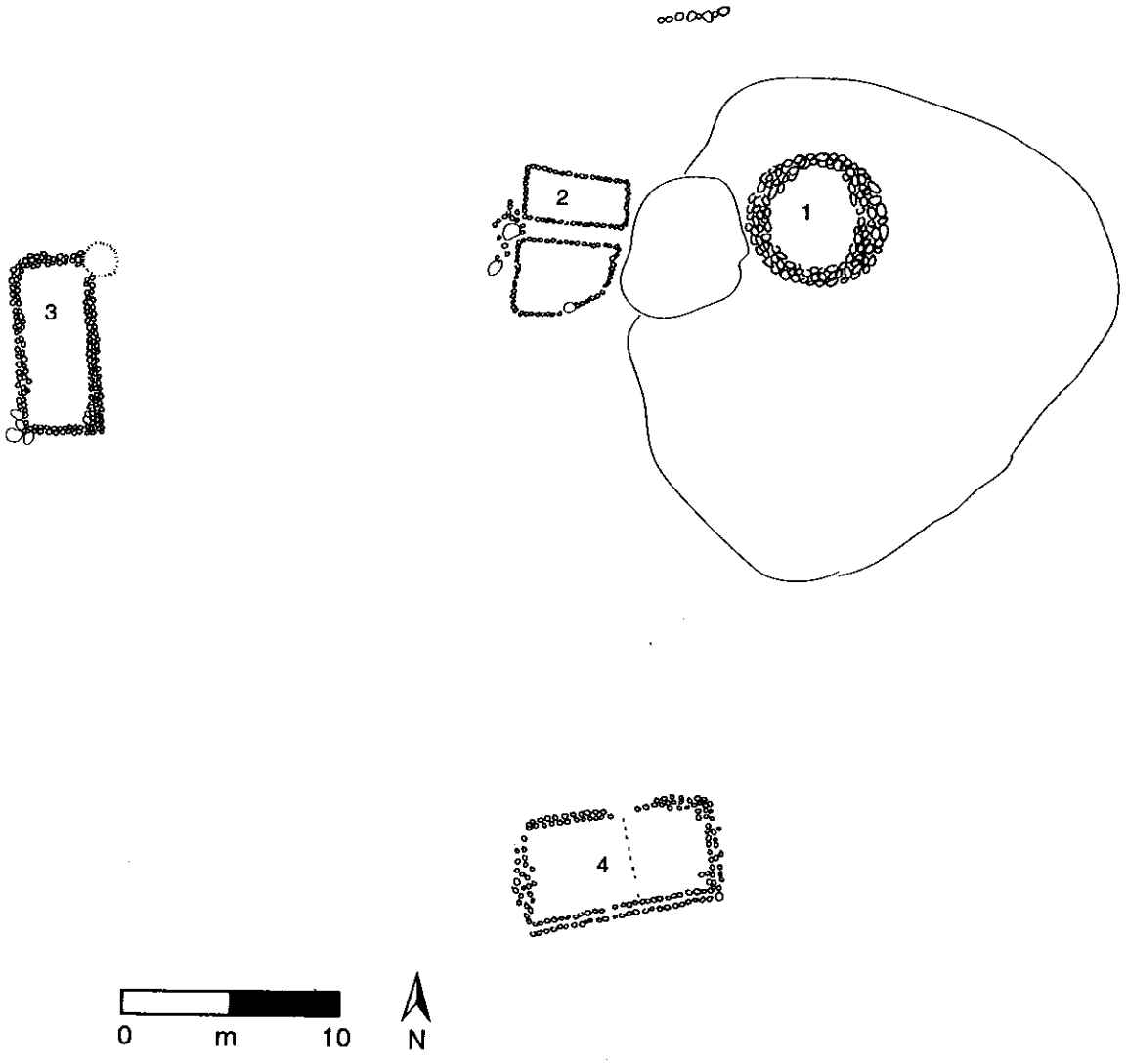

Figure 6. VMS-340, residential site.

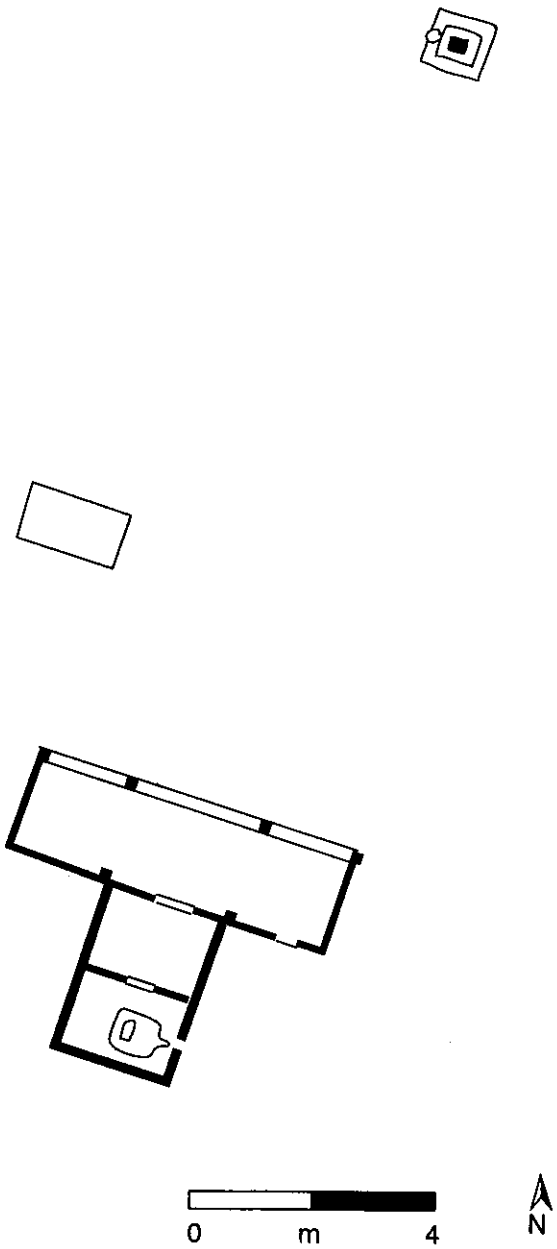

Figure 7. VMS-293, Shaivite temple complex.

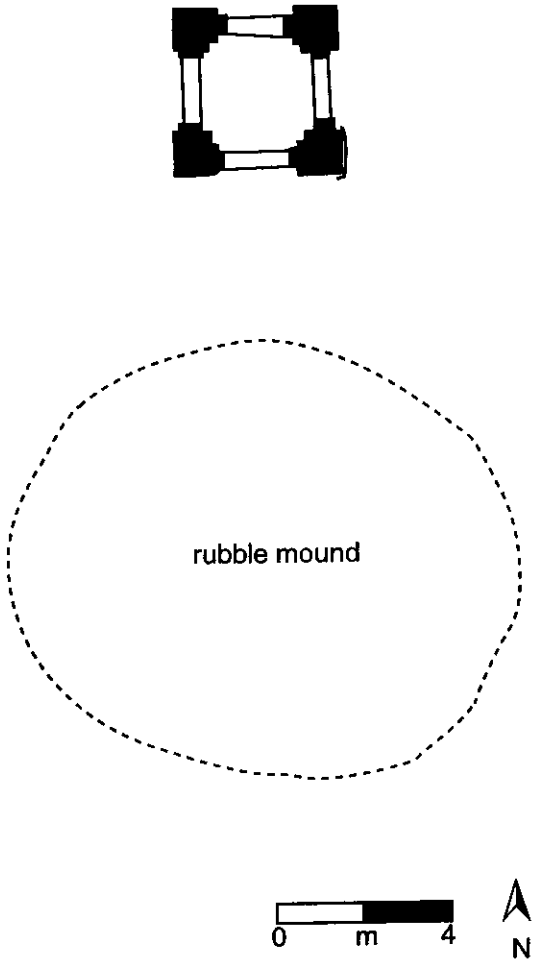

Figure 8. VMS-296, Islamic tomb.

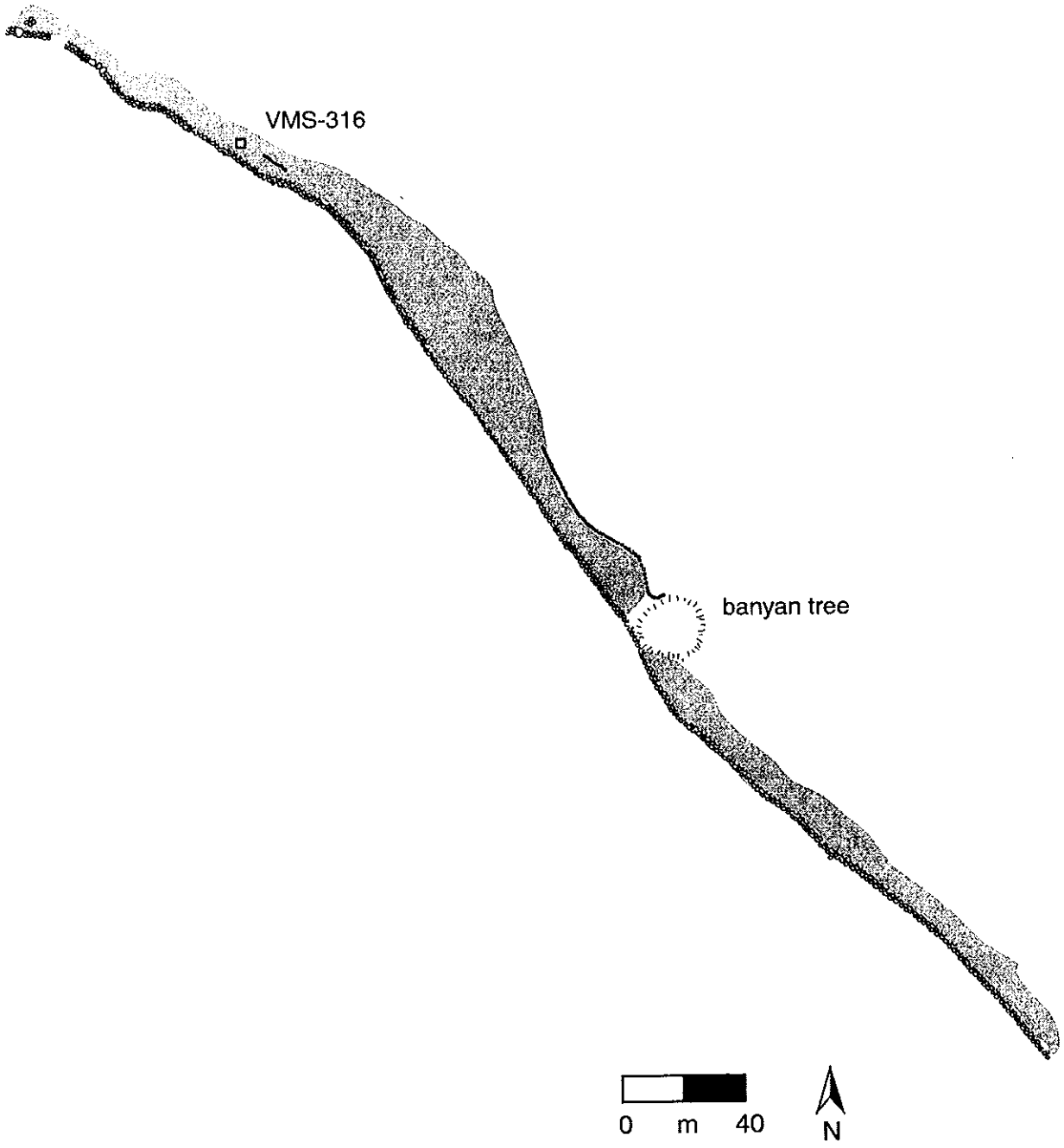

Figure 9. VMS-315, reservoir embankment.

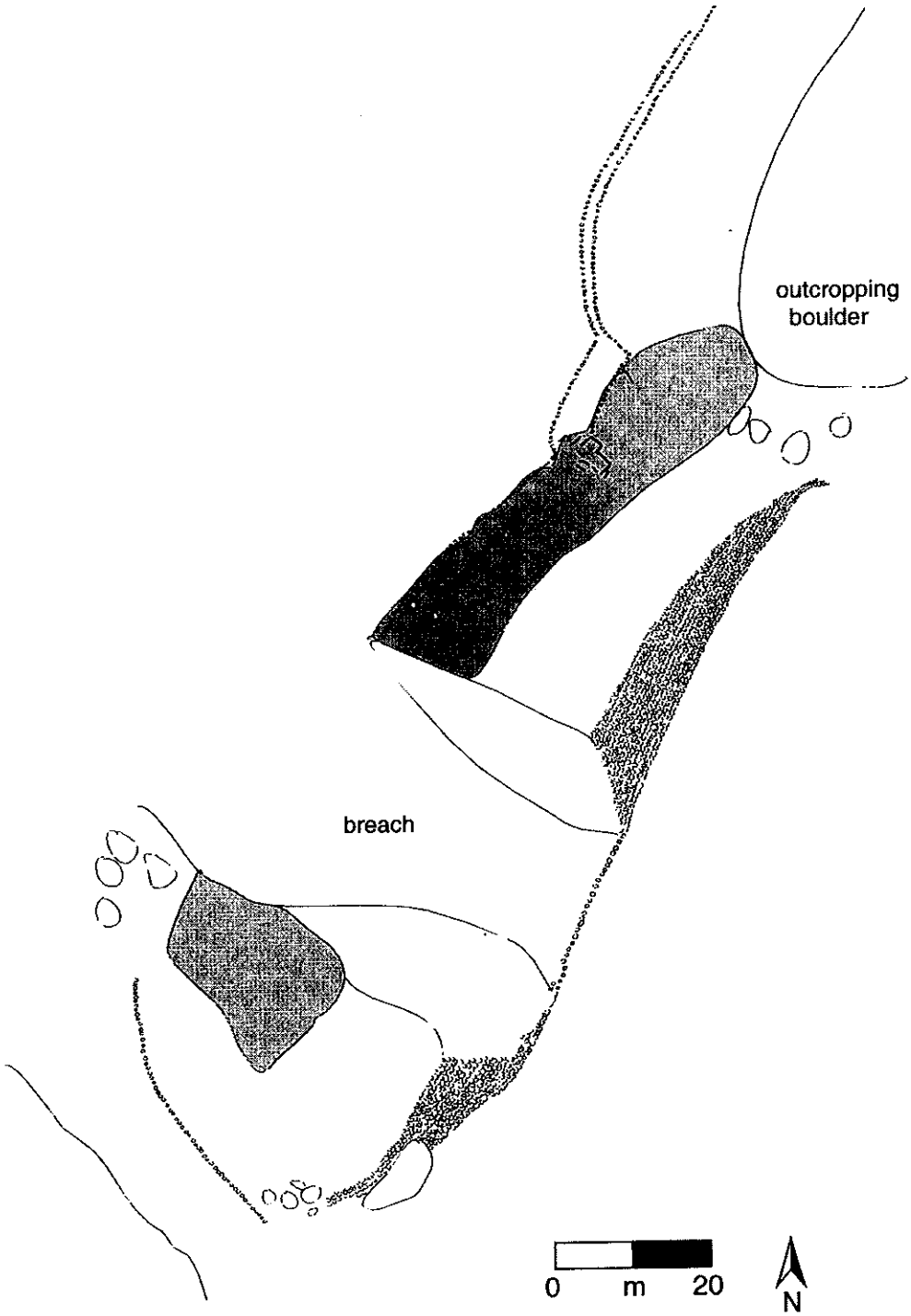

Figure 10. VMS-364, reservoir embankment.

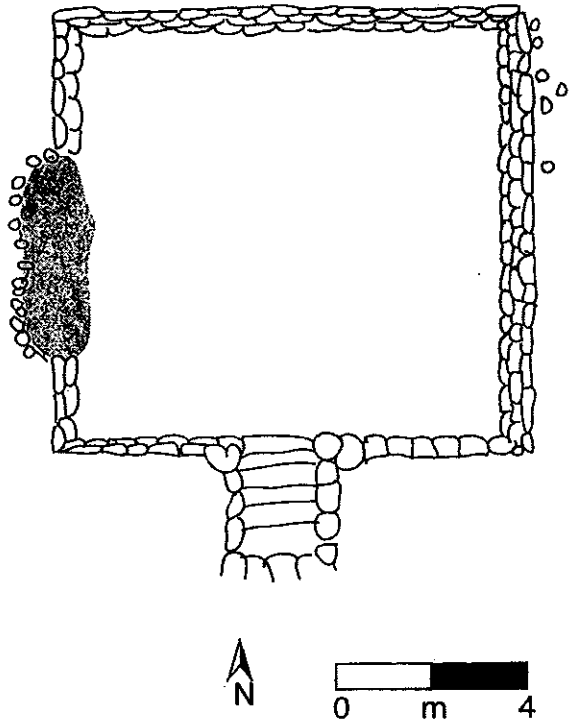

Figure 11. VMS-298, step-well.

Plate 1. VMS-339, fortification wall, looking north from southern end.

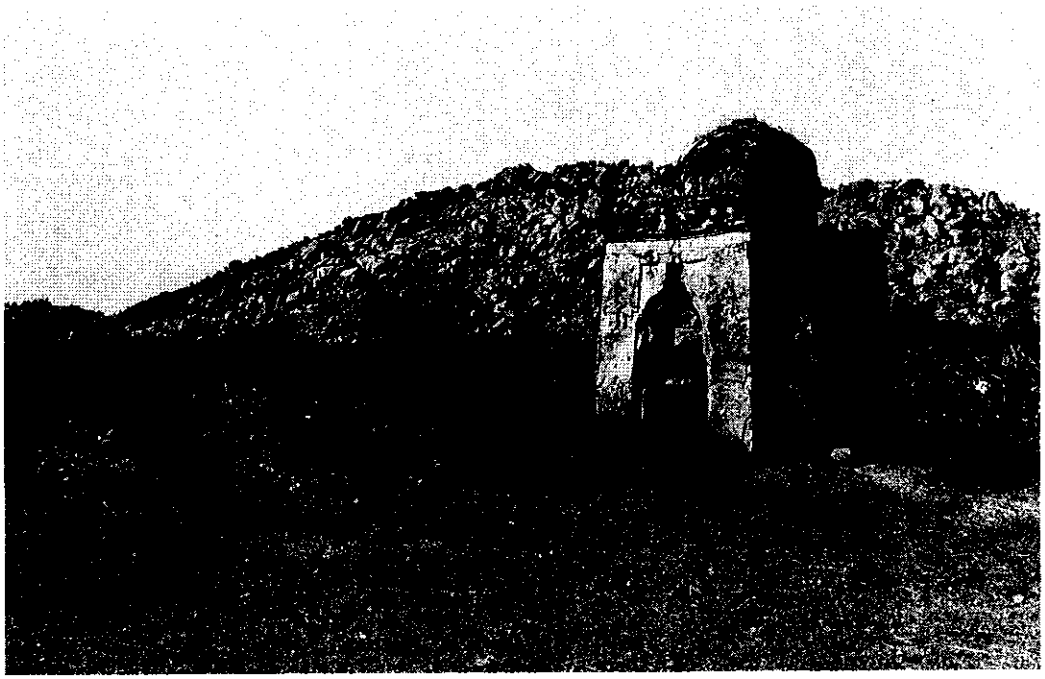

Plate 2. VMS-297 Islamic tomb with mounded rubble to the south.

Plate 3. VMS-292, roadside shrine.