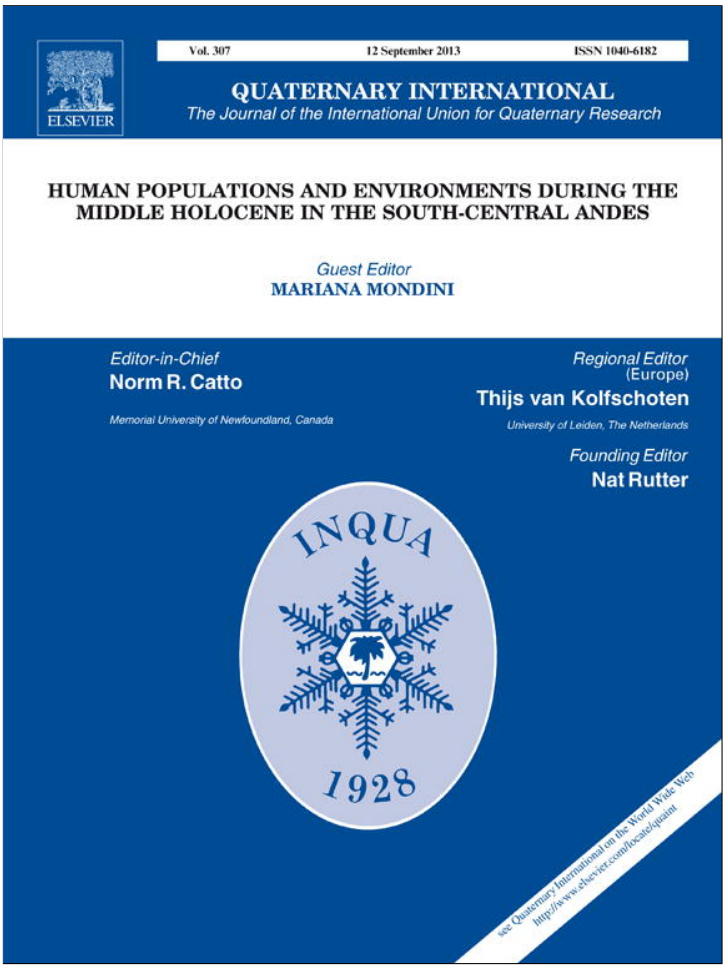

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Mid-Holocene human occupations in Tucumán (northwest Argentina)

Jorge G. Martínez [a,b,*], Eduardo P. Mauri [a], Cecilia Mercuri [c], Mario A. Caria [d], Nurit Oliszewski [e]

[a] Instituto de Arqueología y Museo (IAM-UNT), Argentina
[b] Instituto Superior de Estudios Sociales (ISES-CONICET), Argentina
[c] Instituto de Arqueología, FF y L. UBA/CONICET, Argentina
[d] INGEMA-UNT/CONICET, Argentina
[e] Instituto Superior de Estudios Sociales (ISES-CONICET), FCN e IML, UNT, Argentina

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ABSTRACT

This paper presents the results of recent archaeological research carried out in Quebrada de Los Corrales, a high altitude ravine in the west-central region of Tucumán province, in northwest of Argentina. Most of the information for this area is given for the period *ca.* 1750–1560 BP, within the frame of agro-pastoralist societies that produced their own food. Nevertheless, recent radiocarbon dating from Taller Puesto Viejo 1 site has confirmed the presence of human settlements from at least the middle Holocene in this ravine, extending the antiquity of the hunter–gatherers groups. This area is located over 3000 m asl in the Aconquija mountain system. This evidence opens an interesting view that will broaden knowledge about the early hunter–gatherers societies for valleys in northwest Argentina.

1. Introduction

For many reasons, knowledge of human occupation prior to 3000 BP in northwestern Argentina (NWA) has been generated almost exclusively from evidence discovered at archaeological sites in the area of the Puna. However, this eco-region located above 3200 m asl represents only about one third of the total area of NWA. The question then is: were there no early human occupations in the NWA beyond the scope of the Puna? This is the least likely possibility in terms of regional population dynamics. In archaeological sites of the Argentinian Puna for early and middle Holocene, various biotic elements including woods, fruits and fibers from eastern lowlands were recovered (Rodríguez and Martínez, 2001; Martínez, 2012). This suggests networks of interaction between human groups who occupied synchronously different eco-regions of NWA, from the early Holocene onwards. This paper presents the results of recent archaeological research carried out in Quebrada de Los Corrales, a geographical area outside the Puna where evidence corresponding to the middle Holocene was detected, thus extending the known chronology and opening up exciting new prospects for a better understanding of NWA pre-Hispanic past as a whole.

2. Study area and archaeological background

The Quebrada de Los Corrales is situated in the Abra de El Infiernillo (Tucumán, Argentina), in the northern sector of the Aconquija mountain system, and has an average elevation of 3100 m asl. Geographically, it makes up the northern boundary of Tafí Valley (located at 2000 m asl), but mainly it is the sector that naturally connects this valley with the Santa María Valley towards the northwest and is also located at 2000 m asl (Fig. 1). The study area has a total surface of approximately 28 km^2 and includes the lower, middle and higher basin of Los Corrales river, which runs from south to north through the ravine of the same name.

Since 2005, systematic and continuing research projects have been conducted in the Quebrada de Los Corrales, whose main objective was to broaden the archaeological knowledge of this area. These projects were led by one of us (N. Oliszewski) with the support of national institutions (CIUNT, ANPCyT and CONICET).

Most archaeological evidence that could be ascribed to the early and middle Holocene in the "valleys and ravines area" of NWA (*sensu* Albeck, 2000) comes from surface sites (Cigliano, 1968). In general, these are sites whose materials lack numerical dating and stratigraphic correlation, and in some instances are obliterated by re-occupations of later periods (Hocsman et al., 2003; Somonte, 2009). Therefore, the category "early" is given in relative terms based on techno-typological similarities of lithic artifacts, which due to their designs were associated to the materials found stratigraphically in other areas (Puna in this case). Other proceedings

* Corresponding author. National Research Council-Argentina (CONICET), National University of Tucuman, San Martin 1545, 4000 San Miguel de Tucuman, Tucuman, Argentina.
E-mail address: jormartin1969@yahoo.com.ar (J.G. Martínez).

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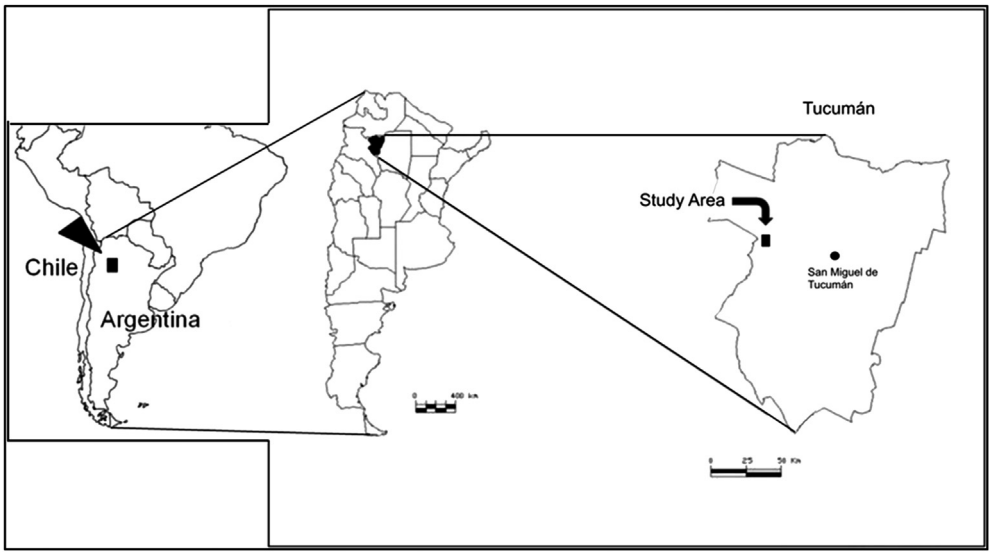

Fig. 1. Relative location of the study area.

that indirectly alluded to early human occupations in the valleys came from both geoarchaeological data (García Salemi and Durando, 1985) and, recently, from VML analysis (Varnish Microlamination) which yielded the minimum ages (correlated) of *ca.* 6500–5900 BP in Amaicha Valley (see Somonte, 2009).

Regarding the area of Quebrada de Los Corrales, the largest *corpus* of archaeological information focuses on the period *ca.* 1750–1560 BP, in the context of sedentary and food-producing societies (Oliszewski et al., 2010; Oliszewski, 2011). Three well-defined and synchronously articulated occupational areas were distinguished: a) the northern area: site of Cueva de los Corrales 1 (CC1); b) the middle area: dominated by numerous cultivation terraces (*ca.* 500 ha) and corrals ($N = 250$), as well as Cueva de los Corrales 2 (CC2), and c) the southern area, where 85 circular/subcircular residential structures were detected comprising the archaeological locality called Puesto Viejo (Di Lullo, 2009; Oliszewski, 2011). Within this residential sector, numerous ceramic fragments were recovered in surface assignable to different styles like Candelaria, Ciénaga, Condorhuasi and Vaquerías (Gramajo Bühler, 2009), all corresponding to the "Lower Formative Period" (*sensu* Núñez Regueiro, 1974), covering the span *ca.* 2500–1500 BP.

The first temporal correlations to the early and middle Holocene in this ravine were made based on techno-morphological analyses of lithic projectile points, which allowed definition of a chrono-typological sequence consisting of three time blocks, some of which exceed the radiocarbon dates registered for the first millennium AD (Mauri and Martínez, 2009). This sequence was based on material recovered on surface within this ravine ($N = 99$) (see Fig. 2). The earliest block (Block I: 9000–2500 BP) is represented by points whose designs refer to "archaic" occupations, which may have been used as throwing projectile points such as darts and spears. Notably, within the projectile points assigned to this block, there is a small triangular non-stemmed pattern (Fig. 2, bottom) corresponding to sites widely distributed in the Pleistocene–Holocene transition in the Argentinian Puna and northern Chile (Hocsman et al., 2012). The chronological and geographical location and it likely linkage to punean contexts, is supported by being made with a type of basalt with ventifaction, probably from the southern Argentinian Puna (O. González, pers. comm). Block II (2500–1000 BP) is represented by small to medium-small stemmed projectile points ascribable to bow and arrow systems and linked to agro-pastoral stages; and Block III (post-1000 BP) constituted by small notched projectile points, which also correspond with bow and arrow. In these blocks, the options in use vary in terms of design and raw materials, with the use of andesite dominating the entire Block I, quartz in Block II, and obsidian and basalt in Block III. Since the detection of the site called Taller Puesto Viejo 1 (TPV1) in 2009, this scheme was improved based on the stratigraphical contexts identified in the study site.

3. Taller Puesto Viejo 1

3.1. General features

Quebrada de Los Corrales is spatially dominated by the presence of different types of highly visible architectural structures, both for residential purposes and for agricultural and pastoralist production. In this context, the discovery of TPV1 site in 2009 resulted from a systematic exploration plan designed to detect evidence of "archaic" human occupations in the area of Puesto Viejo which, for the aim of the study, was divided in two sectors: Puesto Viejo 1 (PV1; westward), and Puesto Viejo 2 (PV2; eastward). TPV1 is located at 3154 m asl and was detected in the southern part of PV1. Spatially, this site is within an area bounded by residential subcircular structures ascribed to the first millennium AD (see Fig. 3).

On the surface, this site showed abundant stone tools (artifacts as well as debitage), grinding tools and ceramic fragments. The dispersion of archaeological materials takes place in an area which has a general downward slope of 2.3° SW–NE. The structures in the upper area of the site (towards the west) created a sort of wall and substantially reduced the natural erosion caused mainly by rainwater. The vegetation coverage on the site is high for this area (49.6%), and it was another factor that led to the minimizing of the water-laminar erosion processes over time.

Finding this site was important initially because of the differential concentration – in distributional terms – of a high number of lithic artifacts detected on the surface. Among those were preforms and projectile points, bifaces, scrapers, cores and thinning flakes. The designs of these stone artifacts are consistent with others chronologically ascribed to the period prior to 2500 BP.

3.2. Survey, transects, test pits and excavations

The fieldwork done in 2010 and 2011 on the TPV1 site was a plane-altimetric survey with optic-electronic theodolite to define

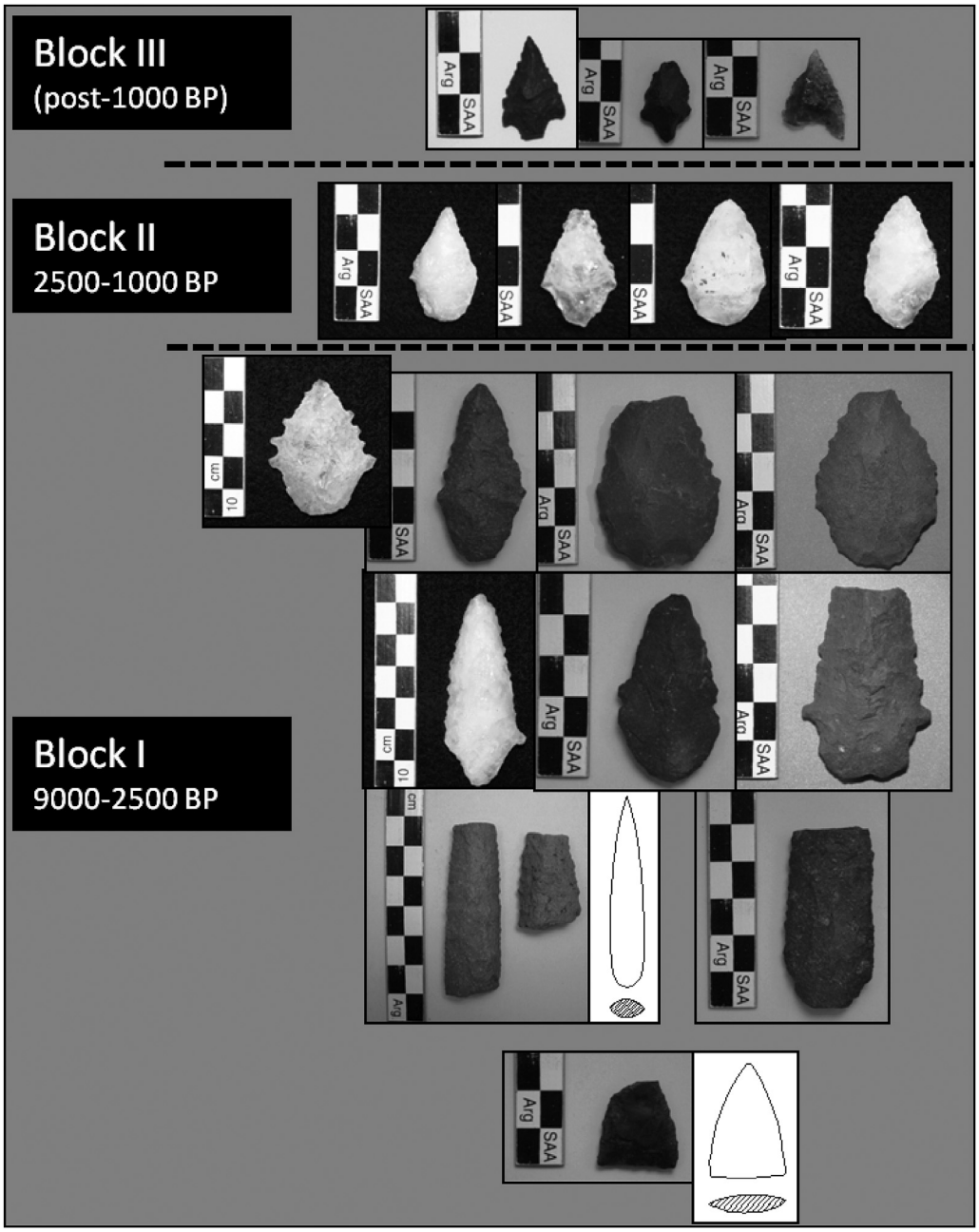

Fig. 2. Chrono-typological sequence based on projectile points recovered at the surface in different sectors of Quebrada de Los Corrales.

its extension and to characterize its relief by means of contour lines (Fig. 4). The range of dispersion of archaeological materials is restricted to an area of 34 m × 24 m. The residential structures that, as mentioned, surround and define the area where TPV1 is located were also surveyed. Subsequently, areas for sampling and systematic collection of surface archaeological remains were designed throughout the site. In order to have better control of the density and types of materials per unit area (1 m^2), there was a collection transect (Transect A: 28 m long by 3 m wide, see Fig. 4).

The first subsurface intervention done in 2010 was a test pit of 0.50 m × 0.50 m (Test pit 1) carried out the highest point of the area considering the general slope of the site. This sector was thought, *a priori*, to be less likely to involve an area with erosive changes because of the "protection" ensued by its proximity to the residential structures in TPV1's high sector. The area chosen for this test pit also had several bifacial artifacts on the surface and a slightly gray color in the sediment. The survey aimed at testing the presence of subsurface archaeological materials. It gave highly positive results, recording archaeological materials in stratigraphy of even 1.08 m depth, without reaching sterile material. Three natural layers of varying thickness were identified as well as sublayers: Layer 1 (sublayers 1°, 2° and 3°), Layer 2 (sublayers 1° and 2°) and Layer 3 (sublayers 1°, 2° and 3°). At 45.5 cm from surface, in the layer corresponding to 1 (3°), a carbonaceous sediment was detected with burnt bones, which were dated by AMS to 3330 ± 30 BP (UGAMS-07515) (3453–3556 cal BP with 1 sigma). Excellent preservation characterized the animal bones, with more datable samples coming from the lower layers.

Given the above situation, in 2011 three grids of 1 m^2 (A1, B1 and C1) were excavated adjacent to Test pit 1, defining a total stratigraphic

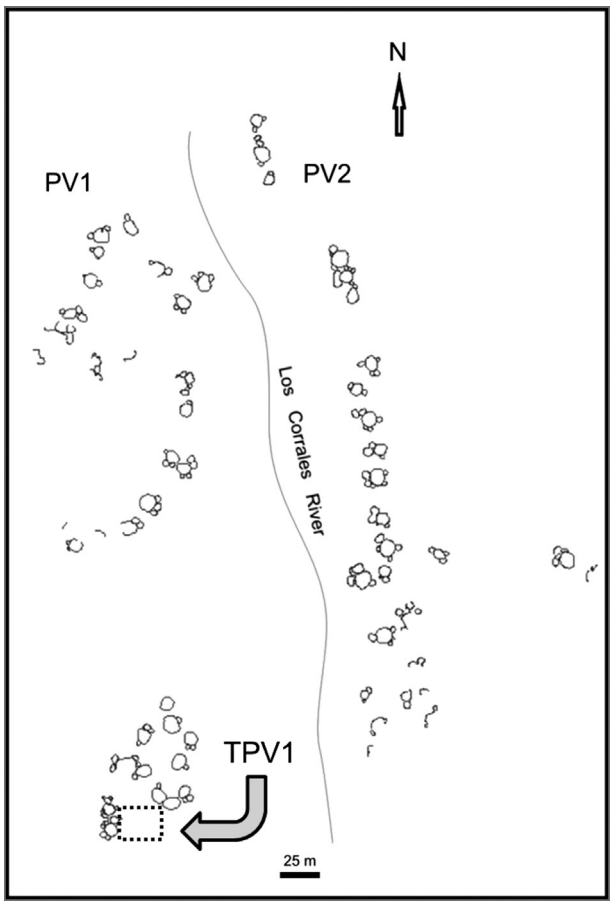

Fig. 3. Relative location of TPV1 at the southern end of PV1 (residential sector).

depth of 1.10 m on average. As in the case of the initial test pit, the presence of abundant archaeological material stratigraphically arranged was recorded: lithic artifacts and debitage, ceramics fragments, grinding tools, animal bones and charred seeds (*Geoffroea decorticans* and *Prosopis* sp. in Layer 1 (2°)). Observations and sedimentological analysis indicate primary depositional contexts.

To obtain a chronology regarding the starting time of this site's occupations, a sample of bone material from layer 3 (3°) – that is, the bottom layer of the entire stratigraphic sequence in the grid A – was sent for dating. The result obtained by AMS was 7420 ± 25 BP (UGAMS-9096) (8058–8293 cal BP with 1 sigma), which fully establishes these contexts in the middle Holocene. It is also the earliest radiocarbon dating for this sector of the valleys of NWA.

In order to define the chronology of the last occupations in the TPV1 sequence, a sample of faunal bone belonging to Layer 1 (2°) was also sent for dating and resulted in 1750 ± 20 BP (UGAMS-9095) (1552–1686 cal BP with 1 sigma) (see Fig. 5). This layer is entirely connected to the agro-pastoralist occupations in this site, and therefore is not considered in this paper because it is outside of the time range of interest (Mid-Holocene).

The following is a preliminary characterization of the archaeological material recovered from the excavations at TPV1 within the range *ca.* 7420–3330 BP. As the research is in its initial stage, only the lithic material has been analyzed in greater detail. For all other materials, including grinding tools, pottery fragments and faunal bones remains, only a brief description is given.

3.3. Lithic technology

Flaked lithic materials were the most frequent findings throughout the stratigraphic sequence of TPV1. Analysis followed the techno-morphological criteria proposed by Aschero (1975, 1983) and Aschero and Hocsman (2004), applying the theoretical–methodological guidelines of descriptive morphology (macroscopic). This paper will focus only on the ratio of artifact categories and the relative frequency of the different types of raw materials observed.

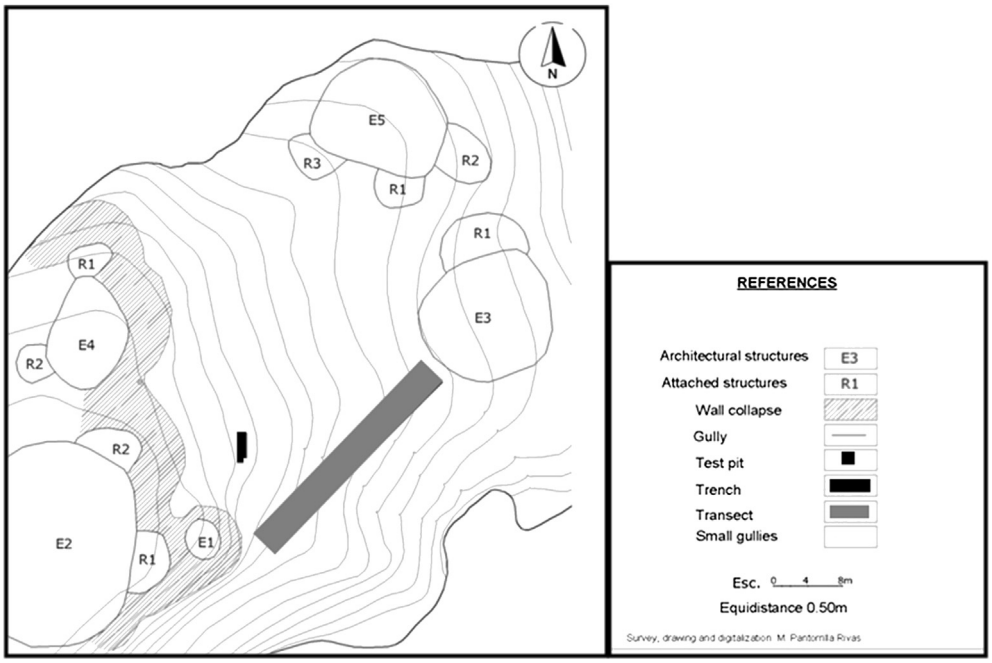

Fig. 4. TPV1 survey. Residential structures: E2, E3, E4 and E5.

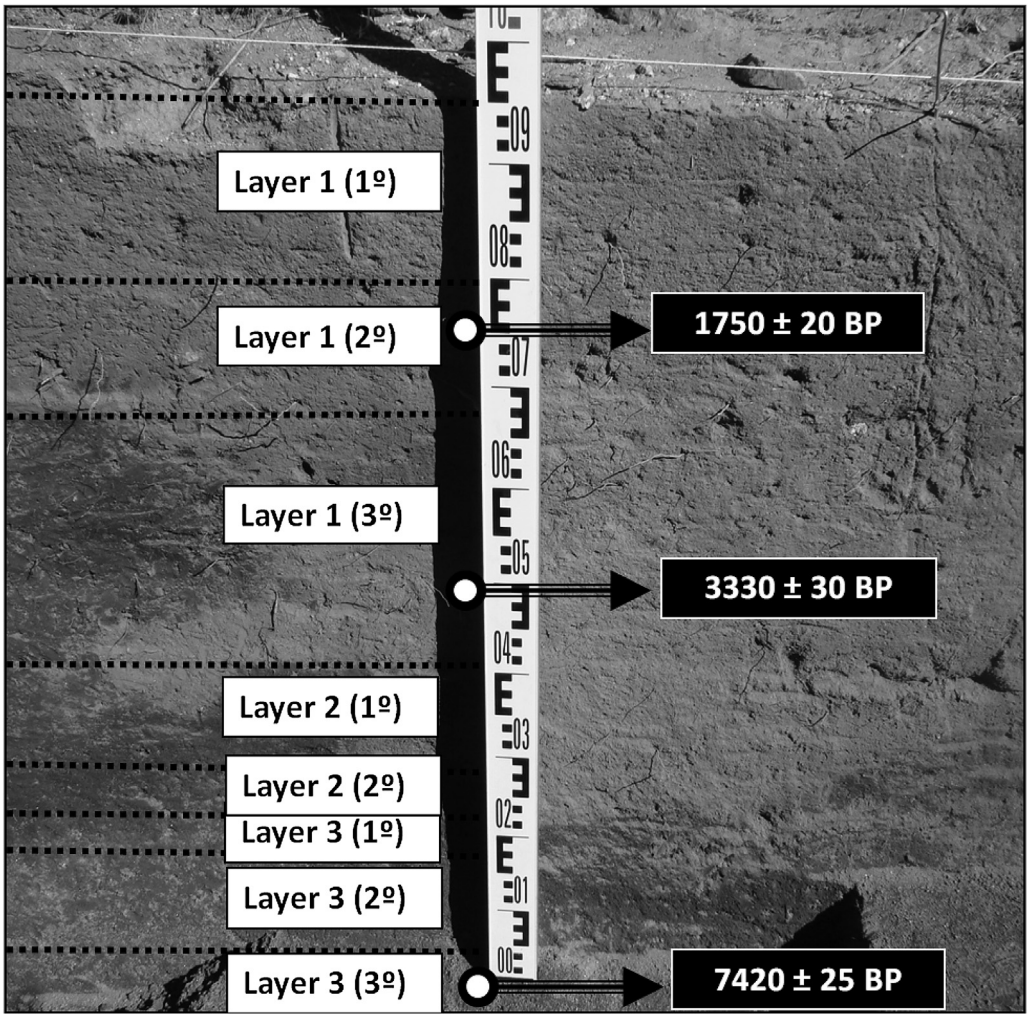

Fig. 5. Profile excavation of TPV1. Layers (and extractions) and radiocarbon datings.

Considering the range *ca.* 7420–3330 BP corresponding to layers 3 (3°) to 1 (3°) of the three excavated units (A1, B1 and C1 = 3 m^2), 61 pieces were recovered (both complete and fractured), belonging to different kinds of artifacts ($N = 51$) and cores ($N = 10$) (see Table 1). With some variations in the different excavated layers, andesite and quartz are the predominant raw materials in the lithic assemblage (Fig. 6). Both are local and are found in abundance. Debitage is also abundant, with records of MND = 2086 (Minimum number of debitage, corresponding to complete flakes and those fractured with platform, excluding those fractured without platform and undifferentiated debitage), counting all layers and extractions between 3 (3°) and 1 (3°) for the units. There is a clear dominance of local raw materials (andesite 72.29% and quartz 21.09%) over other foreign and/or unknown sources (6.27%). However, a trend was registered regarding the distinct use of local raw materials in the different stratigraphic layers, with a greater proportion of andesite use in layers associated with early dates (Layers 3 (1°, 2° and 3°) and 2 (1° and 2°)), and a gradual growth in the use of quartz in the later layers (Layer 1 (3°) (see Fig. 7).

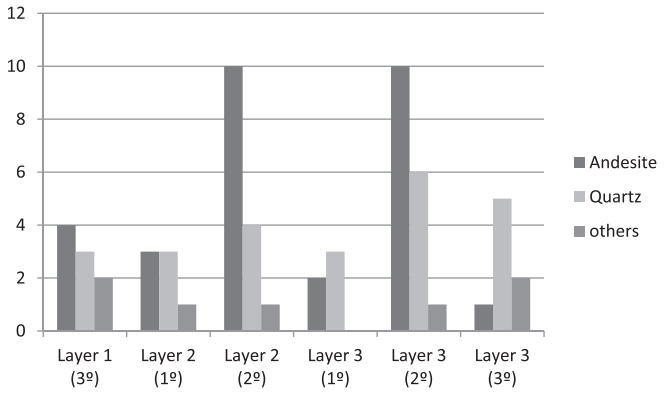

Fig. 6. Raw material of artifacts by layer (*ca.* 7420–3330 BP).

With respect to the origin of the extractions, more than 99% of the debitage in all layers belong to internal flakes, exceptionally showing preserved cortex. As far as the different types of flakes, 67.08% out of the entire group are angular, and 30.65% are thinning bifacial flakes. Taking into account the frequency for the different layers, thinning flakes are predominant in the early layers, while there seems to be a progressive decrease towards top/later layers proportional to the increase of angular flakes.

The set of artifacts ($N = 51$) highlights the dominance of pieces whose designs are geared to cutting and scraping functions throughout the sequence (82.35% in total). In turn, the cutting devices are more abundant than scraping (66.66% *vs* 33.33% respectively). Importantly, the frequency of these types of artifacts is constant throughout the sequence, as cores and projectile

Table 1
TPV1 flaked artifacts by layers. Ref.: And = andesite, Qz = quartz, Ba = basalt, Qzite = quartzite, Ob = obsidian. NECF: natural edge with complementary features.

Layer	Chronology (years BP)	Number of flaked artifacts	Raw materials	Artifactual categories	Edge or function
1 (3rd)	3330 ± 30	9	And: 4 Qz: 3 Ba: 1 Qzite: 0 Ob: 1 Other: 0	3 cores 1 cutter 3 projectile point 1 highlighted tip 1 composed artifact: NECF + NECF + side scraper + end scraper	3 extraction of flakes 3 cut 3 hit at distance 1 incision 2 scrape
2 (1st)	–	7	And: 3 Qz: 3 Ba: 1 Qzite: 0 Ob: 0 Other: 0	1 fragment of undifferentiated bifacial artifact 1 hammerstone 2 projectile point 1 NECF 1 denticulate 1 composed artifact: denticulate + bifacial cutter	5 cut 2 hit at distance 1 knap
2 (2nd)	–	15	And: 10 Qz: 4 Ba: 0 Qzite: 1 Ob: 0 Other: 0	2 cores 5 projectile point 3 composed artifacts: side scraper + reverse + bifacial edge on bifacial flake)/: notch + notch + NECF/end scraper + notch + raedera 1 biface 1 fragment of undifferentiated bifacial artifact 1 side scraper 1 end scraper 1 snout cutter	2 extraction of flakes 5 hit at distance 4 cut 1 reverse 8 scrape
3 (1st)	–	5	And: 2 Qz: 3 Ba: 0 Qzite: Ob: 0 Other: 0	3 cores 1 projectile point 1 denticulate	3 extraction of flakes 1 hit at distance 1 cut
3 (2nd)	–	17	And: 10 Qz: 6 Ba: 1 Qzite: 0 Ob: 0 Other: 0	1 core 4 projectile point 1 brush 3 fragments of undifferentiated bifacial artifact 3 bifaces 2 denticulates 1 simple flaking notch 2 NECF	1 extraction of flakes 4 hit at distance 10 cut 2 scrape
3 (3rd)	7420 ± 25	8	And: 1 Qz: 5 Ba: 1 Qzite: 0 Ob: 0 Other: 1	1 core 1 bifacial composed artifact: bifacial winding edge + side scraper 1 knife 1 hammerstone 1 biface 1denticulate 1 simple flaking notch 1 fragment of undifferentiated bifacial artifact	1 extraction of flakes 5 cut 2 scrape 1 knap
Total		61	61	61	61

points. Despite the gradual shift in the use of raw materials (andesite *vs* quartz), the categories of artifacts and their associated functions are quite uniform along the sequence. This alludes to some stability or persistence functionality TPV1 for the period between *ca.* 7420–3330 BP. However, Layer 2 (2°) shows slight differences in relation to the others, as it is the only one where the scraper edges ($N = 8$) exceed to cutting edges (see Table 1). Coincidentally, this layer is observed in the time to "break" in increasing the use of quartz and the consequent decrease in the frequency of andesite (see Fig. 7).

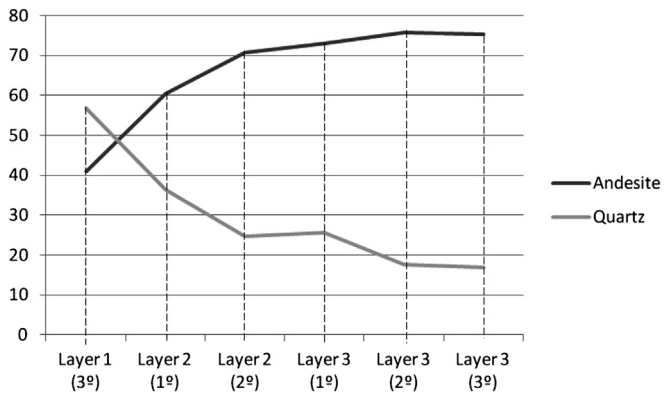

Fig. 7. Variation of raw material of debitage over time (*ca.* 7420–3330 BP).

The record of these flaked lithic materials analyzed of TPV1 because of their high density (debitage), their typological heterogeneity (artifacts), and their stratigraphic situation, suggests the hypothesis that this site was a residential base whose general context presents high resolution and integrity.

3.4. Other lines of evidence

In the TPV1 sequence, several grinding artifacts were identified (see Fig. 8). They were detected in Layer 1 (1° and 2°) and Layer 2 (1° and 2°). All are made of granite, locally sourced raw materials of easy access and procurement. Because Layer 1 corresponds to the late Holocene, this section will refer only to the grinding artifacts recorded in Layer 2 ($N = 3$). These are: a mill with one active surface modified by abrasion (Babot pers. comm. 2011) (Fig 8.5); a double hand mill (two

active faces *sensu* Babot, 2004) (Fig. 8.6); and a double flat mill (two active faces *sensu* Babot, 2004) (Fig. 8.7). Probably, these devices have been used for grinding wild plant resources such as algarrobo or chañar. Both algarrobo (*Prosopis* sp.) and chañar (*G. decorticans*) are resources that 30 km away from the site and recorded in stratigraphy in various structures of Quebrada de Los Corrales, to the 1st millennium AD. Ongoing analysis of microfossils allows specification of the kind of substances processed in these artifacts.

Grinding artifact assemblages are good indicators of mobility, risk and social and subsistence strategies (Carr, 1994; Babot, 2004). Binford (1979) sees grinding devices as part of a site's permanent equipment due to their weight and volume. This means that these sets are good indicators of regularity and anticipation in the use of a site, and of prolonged duration in occupation (Babot, 2004).

Although Layer 2 sample consisted of only few milling artifacts, it shows high variability, including artifacts that are both active/upper and passive/lower, the latter having different designs. Variability added to the high weight/size of one of the mills evokes fixed objects in space and would seem to confirm that they are milling artifacts that were used simultaneously and articulated, like a "set" (*sensu* Babot, 2004).

The faunal remains (still under analysis) indicate very good preservation throughout the stratigraphic sequence between *ca.* 7420–3330 BP (see Fig. 9). Except for skulls, almost all anatomical parts of large animals (ungulates) were recovered. Some cases showed cuts and evidence of temperature alteration as well as helical fractures typically related to bone marrow extraction.

Because the degree of weathering is almost zero, the bone record of TPV1 is exceptional for an open-air site. A large proportion of animal bone fragments have been manufactured by cutting and/or abrasion (Fig. 10).

There has also been regular detection of ceramic material in TPV1 stratigraphy. This type of material was registered at the upper layers of the sequence, even present in layer 1 (3°), which dates *ca.* 3330 BP (see Table 2). In most cases, the fragments found are in horizontal position without any type of decoration. The only exception is a thin paste fragment decorated with black paint detected in Layer 1 (3°) (Fig. 11).

Table 2
Presence/absence by layer of different materials items of TPV1 sequence.

Layers	Datings	Flaked artifacts	Bones	Ceramic	Grinding artifacts
1 (3°)	3330 ± 30 BP	X	X	X	–
2 (1°)	–	X	X	X	X
2 (2°)	–	X	X	X	X
3 (1°)	–	X	X	–	–
3 (2°)	–	X	X	–	–
3 (3°)	7420 ± 25 BP	X	X	–	–

3.5. Geomorphological and sedimentological analysis

Characterization and evaluation of the stratigraphic sequence of TPV1 took into account some geomorphological and sedimentological variables of this site and its surroundings. Geomorphic

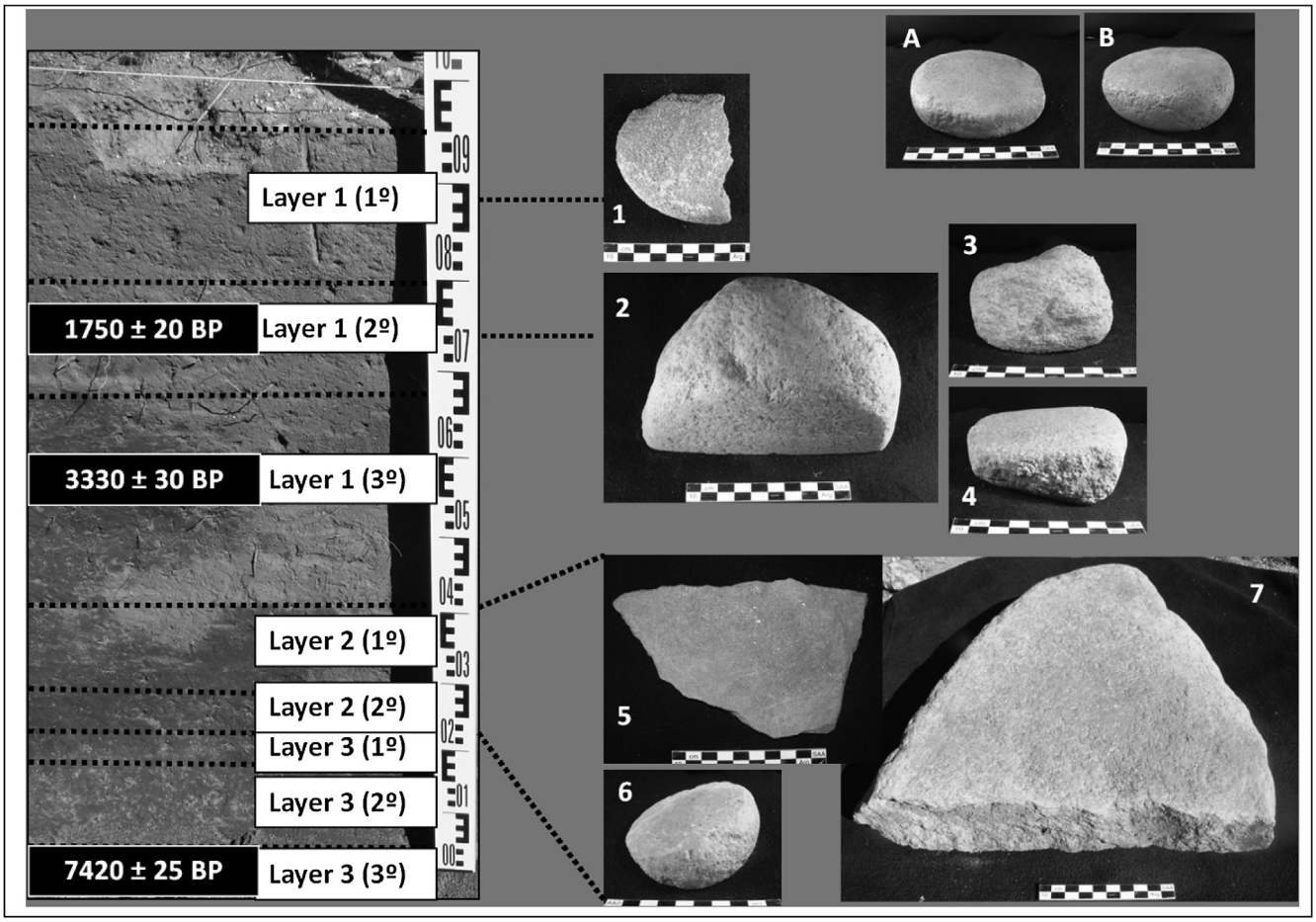

Fig. 8. Grinding artifacts of TPV1 (all sequence): 1: double hand mill; 2, 3 and 4: single hands mill; 5: mill with one active surface modified by abrasion; 6: double hand mill; 7: a double flat mill. A and B: double hands mill collected in surface.

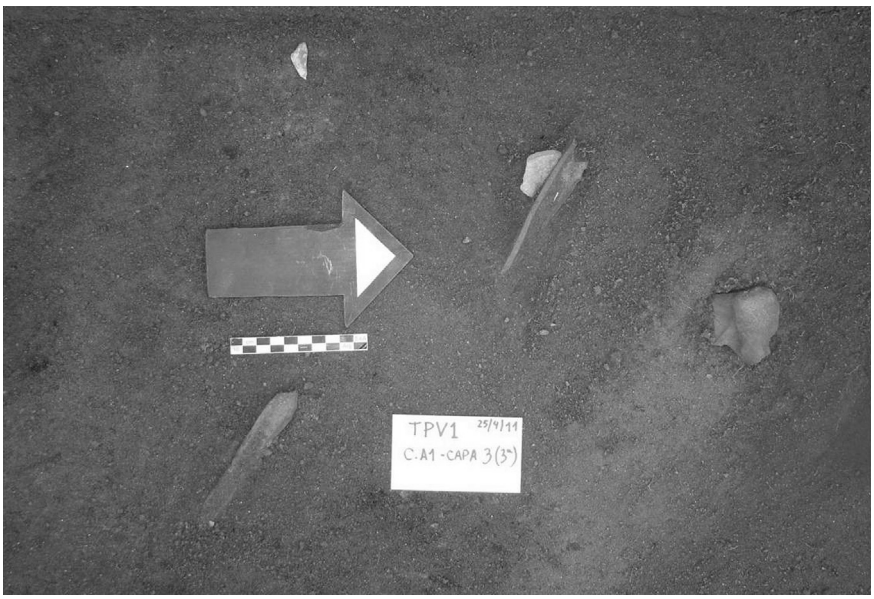

Fig. 9. Faunal bones *in situ* from Layer 3 (3°) (Unit A1) dated to *ca.* 7420 years BP.

factors included: degree of slope, coverage of vegetation and erosion factors. TPV1 site is in a sector that has a slope of 2.3°, which is very low. Vegetation covers 48.8% of the total site area, 39.6% shrubs and 9.2% cactus. This vegetation is homogeneously distributed in the area, considered high coverage for this environment. Erosion (sheet and raindrop impact) is very low, precisely because of the combination of very low slope and high vegetation cover, transforming the area in a geomorphological stable surface. From the sedimentological standpoint, samples taken from each layer (in the west profile of unit A1) were

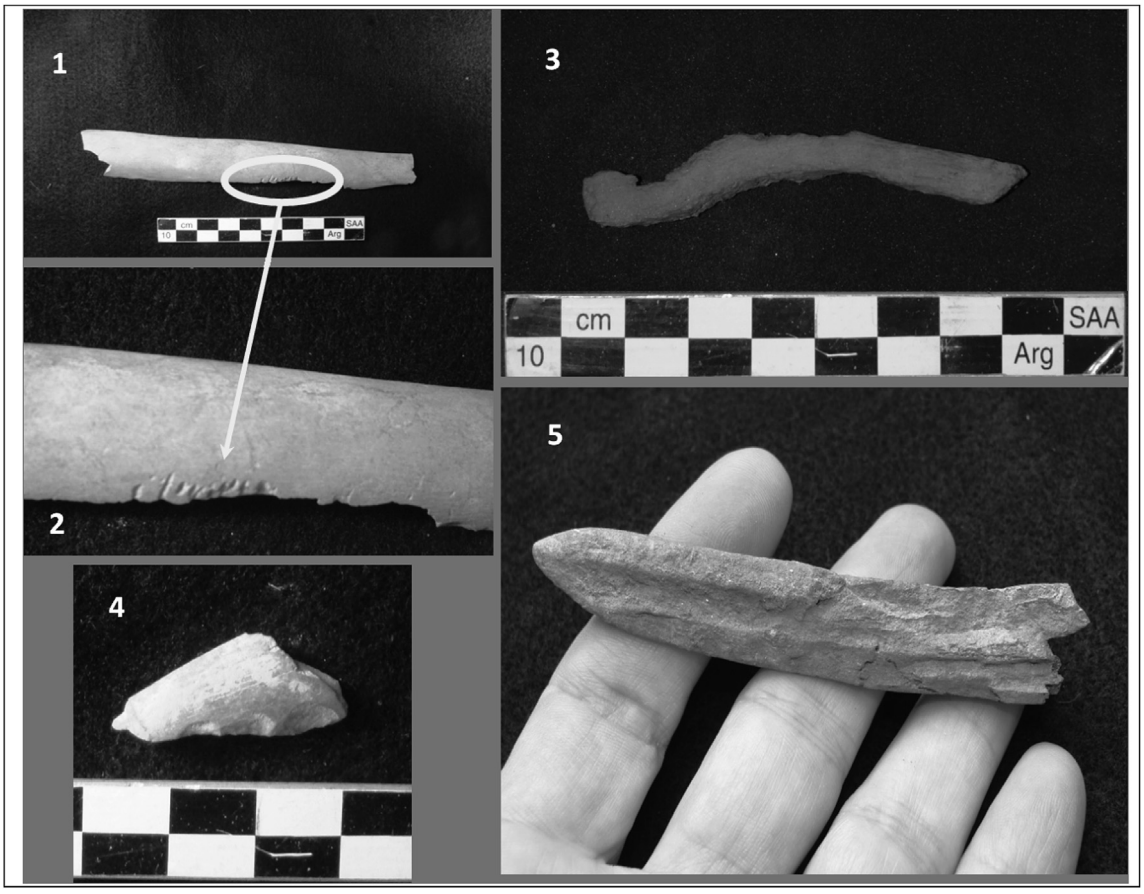

Fig. 10. Bone technology. Layer 3 (3°): 1. manufactured bone with cut marks; 2. detail; 3. manufactured bone (small sculpture?); 4. flaked sliver. Layer 1 (3°): 5. retoucher.

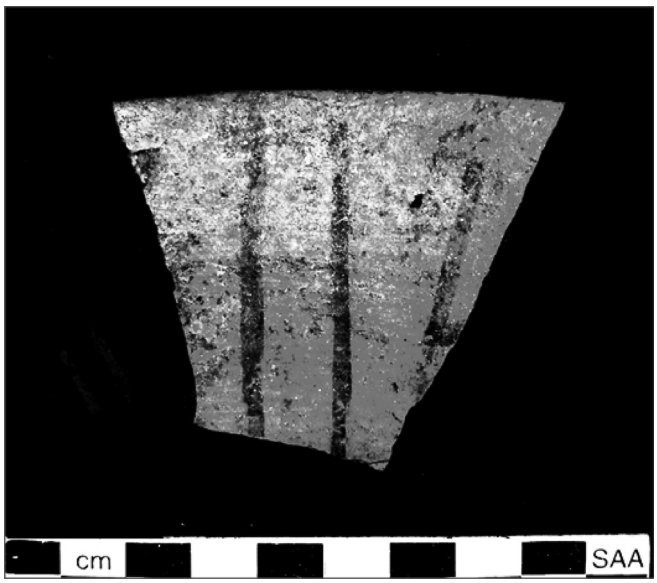

Fig. 11. Pottery fragment (edge) with painted decoration (black lines) from Layer 1 (3°). Processed image to highlight décor.

subjected to textural analysis, structure, pH, organic carbon, organic matter and color, which indicated marked stability and stratigraphic consistency from Layer 1 through 3. Following this order (top to bottom), the sequence is characterized by sandy clay loam to sandy loam. The pH ranges from neutral to slightly alkaline and poor in organic matter throughout the sequence. Boundaries between the three layers are smooth and clear, indicating that the processes of formation acted continuously and naturally. While small rootlets are present in the upper profile, they have not produced consistent alterations. Geomorphological and sedimentological information suggests that natural processes acting on the site favored the stability and integrity of the archaeological context over time. In this sense, the archaeological structures standing in the western side, with the highest slope, also helped to protect this site, reducing the erosive effect of surface runoff of rainwater (structures 1, 2 and 4; see Fig. 4).

4. Final considerations

In relation to the debitage analysis, the reverse correlation between the two prevailing raw materials throughout the time period being studied is remarkable. The increase in quartz frequency and the progressive decrease in the use of andesite in the late layers (*ca.* 3330 BP) could be related to the changes that took place in the designs of projectile points. Towards the earliest layers, there is a predominance of lanceolates projectile point designs, which require bifaces as blanks, and which are coherent with the large amount of bifacial thinning flakes registered in those layers. From the period after *ca.* 3330 BP, there are records of small stemmed projectile points in the ravine (see Fig. 12). These are likely associated to the use of bows and arrows, which are made with flakes like blank, predominantly made with quartz.

Considering all types of materials recovered and its contexts in TPV1, i.e. numerous ceramic fragments, lithic artifacts (mostly made on local raw materials), bone fragments of ungulates (likely food resources) and carbonaceous areas, the hypothesis of a daily used multi-task area that includes milling, is consistent. Precisely, it

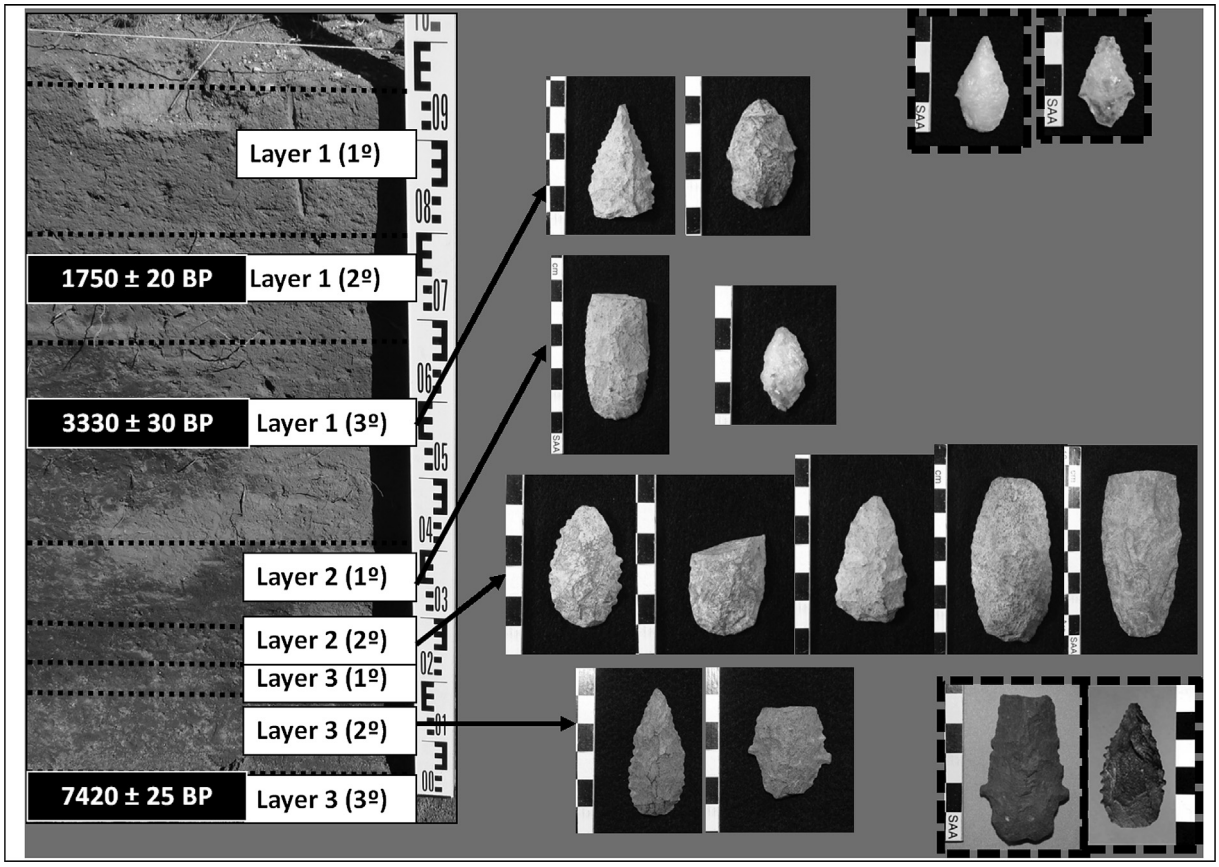

Fig. 12. Projectile points and bifaces from TPV1 (range *ca.* 7420–3330 BP). Dotted-line box: findings surface specimens.

is the grinding devices that give greater weight to this hypothesis as they are tools that are not moved other than for short distances. This indicates either a continuous use of the site or at least a seasonal use and periodic recurrence of a deliberate strategy of group organization around the mill.

An integrated analysis of the TPV1 stratigraphic sequence portrays a situation where there is a persistent use of space with primary and coherent contextual associations that would account for the different areas of activities in the time range *ca.* 7420–3330 BP. With minimal changes for this lapse, the evidence for animal consumption, manufacturing and maintenance of lithic artifacts and grinding tasks, indicate a clear correlation with a context of a residential-base (*sensu* Binford, 1980). This is the reason that TPV1 constitutes a unique case which could potentially contribute to the study of "archaic" occupations (at least form the middle Holocene onwards), as well as to the study of early "formative" ones in this area of NWA and its possible transition in paleo-economic and social terms.

As mentioned before, almost all of the archaeological signals for early and middle Holocene in the NWA are circumscribed to the Puna. However, in these punean contexts from early and middle Holocene, numerous elements from valleys and lowlands of the east were recorded. The area of Antofagasta de la Sierra (southern Argentinian Puna) includes the record of *Salix humboldtiana* (from layer 2b19 of Quebrada Seca 3 site: 9790 ± 50 BP; Aschero and Martínez, 2001) and *Chusquea lorentziana* (from layer 2b12 of Quebrada Seca 3 site: 7350 ± 80 BP; Rodríguez and Martínez, 2001) both wood used for mainshafts and/or foreshafts of projectiles for hunting. These kinds of wood and/or canes do not exist (or existed) in the area of the Puna. The natural areas of origin of these critical resources are at a great distance towards the sectors of valleys–ravines (110 km) and Yungas (180 km) located to the east. The Quebrada de Los Corrales is situated 165 km east of Antofagasta de la Sierra, closer even than the Yungas in a west–east transect (i.e. Puna-Valleys-Plains). Moreover, geographically the area of Quebrada de Los Corrales is a forced natural "step" to move and/or access to Yungas from the Puna and valleys. In this sense, new evidence of TPV1 situated to the initial middle Holocene, has high archaeological relevance because it will allow a deeper understanding about probable links between groups or early social networks of interaction of distant and differentiated eco-regions. The finding of this kind of sites outside the Puna region will help to improve our integral understanding in terms of social interaction and mobility at regional scale of pre-Hispanic societies of NWA during the entire Holocene. Finally, we firmly believe that in the future other sites like TPV1 will surely detected in the area of the valleys, considering – like hypothesis – that all ecological zones of NWA were effectively occupied since at least *ca.* 10,000 years BP.

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