



Sassanian pottery of Tesmijan, Kashan: A Study of Surface Materials

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(161-181)

Abstract

The historical site of Tesmijan, 300 hectares in area, is located northeast of Kashan city. According to archaeological data, this site was used during the Iron Age, Parthian, Sassanid, and early Islamic periods. According to the surface archaeological materials, the peak of settlement in Tesmijan was during the Sassanid period, during which the site has probably been a Sasanian city. The site is one of the few Sassanid sites in Kashan that has been expanded during the Parthian period. According to the quantity and quality of data, this site can help understand the Sassanid period in the Iranian Central Plateau. In the present study, we want to answer these questions: What are the basic characteristics of the Sassanid pottery typology and forms in the site; how does a comparative analysis of these forms with other Sassanid sites help to gain a better understanding of the archaeological processes in the region? What are the main arguments regarding the origin of stylistic forms and decorations of local types in this site? For this purpose, the ceramics were sampled through systematic survey and networking of the Tesmijan site to determine the typology and forms of Sassanid pottery in the site, and a comparative analysis of these forms with other Sasanian sites has been presented. We have attempted to investigate the local origin of the pottery in the site; Although the cultural material of the site is comparable to various Sassanid sites, especially in western Iran. Some local forms are also identified and introduced in this research using descriptive-analytical methods.

Keywords: Kashan, archaeology, systematic survey, Sassanid's, Historical Pottery, Ceramic Typology.

Received: 10 September, 2020; Accepted: 10 March, 2021

 10.22059/jarcs.2021.309750.142924
Print ISSN: 2676-4288- Online ISSN: 2251-9297
<https://jarcs.ut.ac.ir>

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1-Introduction

Kashan county is located in the central part of Iran in north of Isfahan province. The ancient region of Tesmijan is located approximately 16 km northeast of Kashan and 5 km south of Meshkāt (Mashkān) along the ancient Kashan-Rey road (Marquart, 1896: 31; and Ghirshman, 1379: 17) (map 1). Tesmijan Historical district has been registered with the number 3336 in the National Monuments of Iran in 2000. In the central part of the historical area of Tesmijan and southwest of Aminābād Plain with an area of 120 hectares, which was systematically surveyed concerning distribution of cultural materials; the distribution of Surface Pottery of Sialk III, Iron Age, Parthian (Figure 14), Sassanid, and different Islamic periods is observed, but the peak of settlement at the site is related to the Sassanid period (Asgarnejad, 2015). Here an attempt is made for conducting classification, typology, and relative chronology on the ceramics of the Sassanid period to assess the related pottery traditions in this part of Kashan Plain.

2-Research Methods

A survey was carried out in a methodical and surface sampling of 100 square meters meshes to conduct this research (Map 2). The Sampling methods for collecting and analyzing cultural materials in the present study are systematic surface sampling, documentation (including photography, drawing and extraction of data), classification, and analysis of data along comparative analysis. The method of study is descriptive-analytical.

3-Research Literature

The studies of the historical sites of Vigol and Harasgan are among the cited studies of Sassanid sites in the region (Javeri, 2009). The introduction of the Torshab Fortress and the remaining Pahlavi scripts on its different parts are also related to the Sassanid period (Solat, 2012). The site of Tesmijan with a brief description has been listed among several sites of the Sassanid period in the Kashan Plain (Sarokhani and Heidari, 2016). Despite its importance, until just before 2015, the site has been considered only for the archive preparation of national monuments record (Cultural Heritage Organization of Kashan, 2000). There are also brief references to its prehistoric ceramics in a general research (Sarokhani, 2001). In the meantime, the systematic survey of the site is the first purposeful scientific effort that has examined the pottery of different historical periods and architectural structures of the site (Asgarnejad, 2015). Subsequently, the sounding for delimitation was carried out. The most important finding of this sounding was to obtain an ostrakon of the Parthian period (2019).

4-Tesmijan Site:

This site is located at 34°17'56" N and 51°17'10" E and an elevation of 1443 mas level (Figure 1). The site is almost flat topographically and the only parts remaining are the historical ruins and mouth of the aqueducts that rise 1.5 to 2 meters. In the historical region of Tesmijan with an area of 300 hectares, archaeological finds and architectural remnants, including ceramics, clinker, pottery kilns, and architectural remains like traces of walls and spaces such as a castle called Ghale Sefid (Figure 2), remains of a mudbrick caravanserai of Islamic period called Aminabad Castle (Figure 3) and another ruined castle with only part of a tower can be identified. One-third of this site's area is agricultural land, and the site has been heavily damaged by the farmlands,

encroachment by ranchers, construction of dirt roads and the creation of two asphalt roads on both east and west sides of the site. The old road of Kashan to Qom has also crossed the east side to the north of the site and has split it. The Ghale Sefid, with an area of 1 hectare - which is the most important relic of the remains of the Tesmijan site - has two towers in the corners and arches and trace of adobe. The eastern side of the castle has been completely destroyed due to the land leveling for agriculture. There are various pottery shreds inside the castle that have been sampled, especially food containers scattered on the surface of the site. In addition to ceramic remains, which are one of the most important data on the site, one of the many data is the scattering of clinker and the remnants of several pottery kilns, indicating the activity of pottery workshops in the Sassanid period in this site.

5-Description of the Sassanid Pottery characteristics of the site

The basis of the classification of ceramics in the present study is the form of ceramic vessels (vessel shape, the shape of the vessel mouth) and their motifs. The typology of ceramics is based on the dominant types, and the rare samples have been ignored. The vessels' shape in order of abundance includes various types of vat, bin, bowl, jar, flat vessels, lids, cups and tubular vessels (Chart 1). The base shape can be seen in two types; disc base 42% and flat base 58% (Chart 2). Containers' mouth forms are divided into three forms: open-mouthed, vertical-mouthed and closed-mouthed. Most of them are wheel-made ware and rarely handmade. Containers paste is divided into two categories. Washed smooth clay and sand temper, including forms such as bowls, some lids, small vats, cups, tubular containers, and washed smooth clay with coarse sand temper, also include some bins, large and medium vats, and some lids.

5-Vessel form:

5-1- Bowls: All bowls, except for two samples, are cooked at the right temperature. The pottery surface was polished in two types (Figure4: 8) and was without burnishing in the other ceramics. The bowls can be divided into three groups in terms of shape: **the open-mouth bowl** (Figure4: 1 to 9), in which several samples have incised decoration on the edge of the vessel (Figure4. 1: 9). **The bowl with a closed mouth** has a spherical body (Figure5:10) and the third group is the **bowl with a vertical mouth** (Figure5: 9).

5-2- Bins: Among the samples studied, four containers were polished after making (Figure5: 5). These forms are also divided into three groups. **Deep open-mouthed bin** (Figure5: 4 to 7). **The bin with a closed mouth** has a spherical body and some of them have a compressive decoration (Figure5: 1) and a **vertical-mouth bin** with a thick and shallow rim (Figure5: 2).

5-3- Cups: Cups are rarely found in an open-mouthed form (Figure5: 8) among the studied ceramics.

5-4- Jugs: All the jugs have a uniform surface without any special burnishing. The jugs are divided into two groups of **short-necked jugs** (Figure6: 1 and 4) and **long-necked jugs** (Figure6: 2 and 3).

5-5- Vats: The vats are divided into different groups in terms of the structure and shape of the lip. From the technical point of view, the construction is wheel-made and hand-made, and the surface of some ceramics is burnished with the wet hand, and a piece of pottery has a thick clay coating. In some samples, medium and coarse sands have been used as temper in pottery paste. These vessels contain vertical, open and closed mouth.

The vats are divided into three types. The first type of earthenware is dedicated to **the vat without a neck**. The mouth angles of these vessels are in three forms: open-mouthed (Figure6: 6), closed mouth (Figure6: 7 and 9, Figure7: 4 and 7, Figure8: 7) and vertical mouth (Figure6: 8 and Figure8: 3). Some of them have a spherical body (Figure6: 7, Figure7: 4 and Figure8: 2), and the bodies of some are obliquely attached to the rim (Figure8: 7). The second group, **the short neck vat**, can be classified as the open mouth (Figure7: 1), the closed mouth (Figure7: 6), and the vertical mouth (Figure7: 2 and Figure9: 1, 2 and 4). Some vats of this group have ridged rim (Figure9: 3) and some have two rims (Figure7: 3); the third group can be separated to long neck vat with an open mouth (Figure9: 6) and long neck vat with a vertical mouth (Figure7: 5 and Figure9: 5).

5-6- Tubular vessels: The upper part of the obtained spouts is straight and flat, but the lower part is open and bent downwards. The above spouts are decorated in two simple and imprinted (additional decoration) types (Figure9: 7).

5-7- Lids: All lids baked in enough heat except one. The lids are separable in different sizes and shapes (long rim and short rim), (Figure10: 2, 3 and 6, 7).

5-8- Flat dishes: Flat dishes are divided into two groups: plate and tray. These vessels are not mud-coated and burnished. The plates have short edges (Figure10: 1, 8 and 10), and the tray can be with (Figure10: 9) or without edges (Figure10: 4 and 5).

5-9- Local forms: Among the types of vessels introduced in the Sasanian period, some ceramics forms cannot be cited or compared with other sites in the present study. This indicates the existence of a local pottery form and style that can be identified and introduced in the Tesmijan site. Among these forms are the double-rim closed mouth vat (Figure13: 1 and 4), the open-mouth vat (Figure13: 3), the closed mouth bin (Figure13: 2), and the open-mouth bowl (Figure13: 5). The creation of these forms may indicate the existence of a continuous settlement from the Parthian to the Sasanian Period while continuing, maintained the capacity to innovate in pottery production.

6-Base form:

Among the types of base forms that were prevalent in the Sassanid period, in the study of these ceramics, the vessels bases can be divided into three types: disk (Figure9: 8), concave disk (Figure9: 9), and flat (Figure5: 2, 4 and 5).

7-Decoration types:

The most common technique for decorating Sassanid pottery in the historical site of Tesmijan is to use a variety of incised decorations (Figure11: 5 to 7). There are decorations on the plate, tray, some bowls, the cups (Figure7: 1), inside the earthenware vessels and the outside of the vat and the jug, and some of them have decorations on the edge of the vessel (Figure3: 9). A bulging horizontal strip (bulging neck band) is made between the neck and the shoulder of the vat (Figure7: 6) and below the edge of the bowl and bins (Figure5: 6 and 7).

7-1- Simple decorations (single): Among the single motifs used in the ceramic vessels of the historical site of Tesmijan, there are seven groups. Additional decoration (Figure3: 1 and Figure9: 7), excised (Figure11: 1), engraved decoration (Figure3: 9, Figure6: 7, Figure9: 8, Figure10: 4 and 9, Figure11: 5 to 7), scratched (fingernail impression) decoration (Figure8: 4), the comb decoration, the mentioned motifs are created by means with two needles to nine needles (Figure11: 8 to 10), stamped decoration with circular, triangular and cross diagonal lines (Figure11: 2 to 4), impressed decoration (using finger or tool) (Figure10: 1, Figure8: 5, Figure7: 5 and Figure6: 9).

7-2- Combined decorations: These motifs include two to four different techniques used to imprinting the vessel. Among the combined decorations used in the ceramics of the historical site of Tesmijan, ten groups can be mentioned. Excised and incised (Figure9: 1), excised and impressed in different types of Rope Shapes (Figure12: 2, Figure5: 1), incised and impressed (Figure5: 8 and Figure10: 5 and 10), incised and additional (Figure12: 9), incised and stamped (Figure12: 4 and 8), stamped and comb decoration (Figure12: 5 and 7), impressed additional (rope), incised (Figure12: 1 and 6), excised impressed (rope) and additional (Figure12: 3 and Figure7: 3), excised impressed (rope) and incised (Figure3: 1 and Figure8: 2).

8-Discussion:

Everything that remained from a historical era in the central part of the Iranian plateau like chār Taqī (fire temples) of Niāsar, khorrandasht, recent sites like vigol and its fire temple, and also historical site of Tesmijan show that Kashan was an important location in the historical era in the region. Tesmijan is one of these sites which by studying its ceramics we can open a way for further studies. So by studying the forms and typology of ceramics of Tesmijan, the following results achieved:

According to classification, typology, and comparative comparing of Sassanid potteries of Temijan site, some pottery examples are comparable to Sassanid recognized sites, for example: the open-mouth bowls (table 1) with sites like Sirom Shah castle, Seymareh, Gorgān wall, Yazdgerd castle, Ras al Khaimah, Ardeshir Khwrrah, Mianāb of Shushtar, Fārsān plain, Sonqor and Koliai and Oltan Ghalasi.

The closed mouth bowls (table10: 2) can be compared with Yazdgerd castle. The bowls with a vertical mouth (table 9:2) also compared with Seymareh and Abu Nasr castle. The open mouth bin (table 2:4 to 7) has conformity with Kashan plain, Yazdgerd castle, Mianāb of Shushtar, Mahneshan of Zanjan, Ras al Khaimah, and Haji Abād. The closed-mouth bin (table 2:1) has conformity with Seymareh and Haji Abad, and also the vertical mouth bin (table2:2) has conformity with sites like Mianāb of Shushtar, Mahneshan of Zanjan, Kashan plain, Yazdgerd castle, Vigol and Atashkuh. The open mouth cup (table 2:8) can be seen in Tal-I Malyan. The jug with a short neck (table 3:1, 4, 5) is available in studies of Farsan plain, Bishapour, Haji Abad, Kharabe shattani. The jug with a long neck (table 3:2, 3) is available in Mahneshan of Zanjan. The open mouth vat without a neck (tables3:6, 4:2) has similarities with the Gorgan wall, Seymareh and Sonqor and Koliai. The vat without neck with closed mouth (tables3:7-9, 4:4-7, 5:2,4-7) has similarities with the Gorgan wall, Yazdgerd castle, Seymareh, Mianab of Shushtar, Mahneshan of Zanjan, Bishapour, and Koliai. The vertical mouth vat without a neck (Table 3:8, 5:3, 7) has similarities with Mahneshan of Zanjan, Mianab of Shushtar. The short neck vat with an open mouth (Table 4:1) was seen in Yazdgerd castle, Farsan plain. The closed mouth vat with a short neck (table4:6) was seen in Kashan plain, Ardeshir Khwrrah and Haji Abad. The vertical mouth vat with a short neck (tables 4:2, 6:1 to 4) was seen in Mahneshan of Zanjan and Haji Abad, Gorgan wall, Yazdgerd castle, Vigol, Sirom Shah, Seymareh, Qasr-e Abu Nasr, and Bishapour. The open mouth vat with a long neck (Table 6:6) is comparable with Ras al Khaimah and Yazdgerd castle sites. The vertical mouth vat with a long neck (table 4:1, 5:1, 6:5) is comparable with Farsan plain, Bishapour, Gorgan wall, Yazdgerd castle and Qasr-e Abu Nasr.

It's not possible to compare Sassanid ceramics of the Tesmijan site with samples of the central plateau and Kashan plain. Because of the lack of enough sources and finds from stratigraphy for a historical era in central plateau, but based on studies, it seems this site

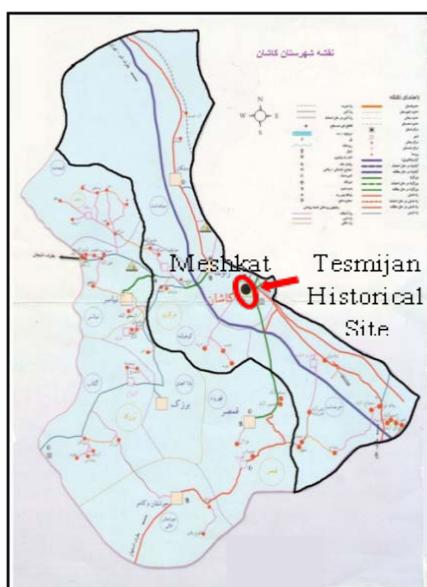
has more similarities with the western part of Iran and some parts of Fars plain. Of course, one of the reasons is that more studies have been done in these areas. It seems that some types that are different from known and characterized Sassanian types (table 10) show the local type at that site.

9-Conclusion:

According to studies on the typology and forms of Sassanid ceramics of Tesmijan site, the following results have been obtained that the mentioned forms include 8 groups and each of them is divided into smaller forms and some of the various designs used (single or compound) are on the body of the vessels and some are on the edge of the vessels. By comparative study, mentioned types with sites of west, south, north-west and north-east are comparable together and showing closer relation and more influences of Tesmijan on western Sasanian sites and Fars plain. To answer the third question, although there is a similarity between ceramics of other areas and Tesmijan, it can be seen that there is a similarity that there are innovations and evolution in ceramics of this site and perhaps the local style of pottery production in Tesmijan was expanded. The typology and comparative studies of ceramics and the dispersion of relics of Sassanid era in 120 hectares (which is classified for systematically studying) show that the peak of settlement in the mentioned site is related to the Sassanid era, and we're facing a vast city in Sassanid era. In this region and because of the location, the quality of the findings of one of important sites in Sassanid period in the central plateau of Iran that has been ignored. It is hoped that publishing the site information causes this important site to be considered in future research.



Figure 1: Aerial photograph of the historical site of Tasmijan and Aminabad plain in 1970



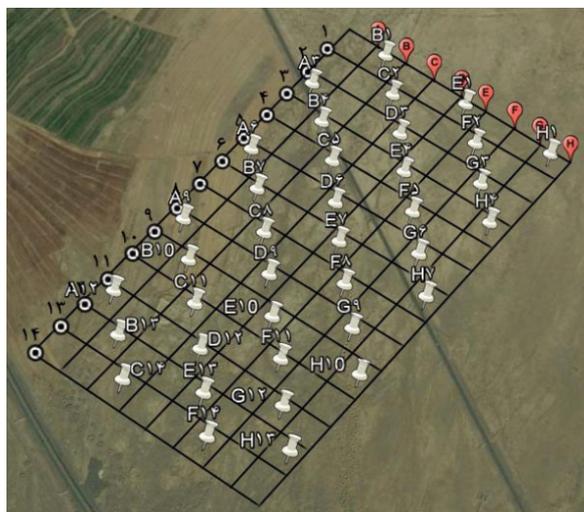
**Map 1: Central part of Kashan
(Archives of Cultural
Heritage Organization, 2012)**



Figure 2: Ghale Sefid



Figure 3 :Aminabad Castle



Map 2: Selected squares of grids, Asgarnejad,2015

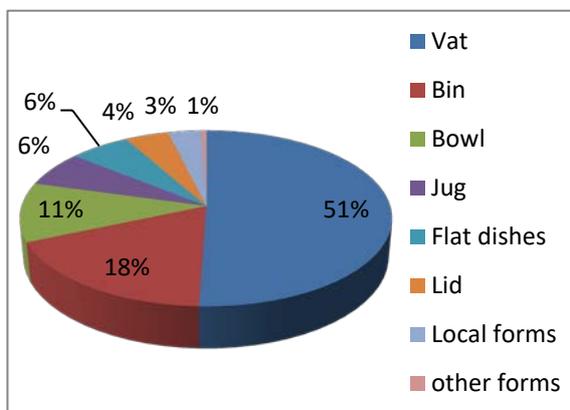


Chart 1: Frequency of vessels form

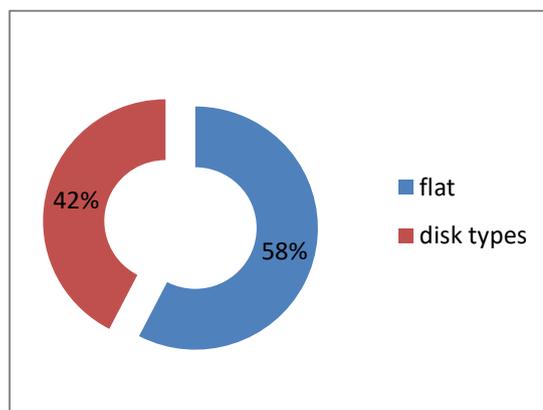


Chart 2: Frequency of base shape

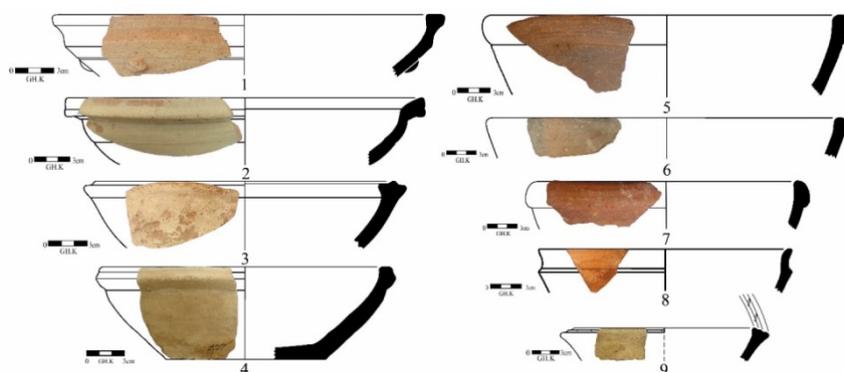


Figure 4. open mouth bowls

Table 1. open mouth bowls

Reference	-1-shape 2- wheel made 3- temper 4- slip color 5- baking	number
Keall and Keall. 1981: fig.17.3	1-bowl 2- wheel made 3- mineral 4-pink 7/4. 5YR5. 5- sufficient	1
Keall and Keal.1981: fig.20.15 Kennet. D. 2004: fig.10. Type 101 Karimian et all:2015. Type4-1.Shape L9-1	1-bowl 2- wheel made 3- mineral 4-white 8/1. 2.5YR. 5- sufficient	2
Mohamadifar.2014:fig. 7. S.S.98s & Zivdar et all.2015: fig.2. shape40 Heydari & Sarookhani.2015:fig.296. Shape17	1-bowl 2- wheel made 3- mineral 4-very pale brown 8/2. 10R. 5- sufficient	3
Keall and Keall.1981: fig.20.25	1-bowl 2- wheel made 3- mineral 4-pale yellow 8/2. 5Y. 5- sufficient	4
Aali &Khosrozadeh.2005: shape6. Row1 Habibi & Heydari.2013:shape10.fig.7	1-bowl 2- wheel made 3- mineral 4-reddish brown 8/4. 5YR. 5- sufficient	5
Alizade K. 2007b: fig.12. no. T1.L21.1 Zivdar et all. 2015: fig.2. No24	1-bowl 2- wheel made 3- mineral 4-reddish rownb 4/4. 5YR. 5- sufficient	5
Aali &Khosrozadeh.2005: shape.58.Row15 Sarikhani et all.2015. shape.2. Row27 Zivdar et all.2015: fig.2. No30 Habibi & Heydari.2013:shape.11.fig.3	1-bowl 2- wheel made 3- mineral 4-red 4/6. 10R. 5- sufficient	7
Mohamadifar.2014:fig.7. S.S.92 Sarikhani et all.2015. shape.2. Row7 Zivdar et all.2015: fig.6. shape.1	1-bowl 2- wheel made 3- mineral 4-light yellowish brown 6/4. 10YR. 5- sufficient	8
Priestman. 2013: fig.18:10.g Heydari & Sarookhani.2015:fig.316. Shape3	1-bowl 2- wheel made 3- mineral 4-red 4/6. 10R. 5- sufficient	9

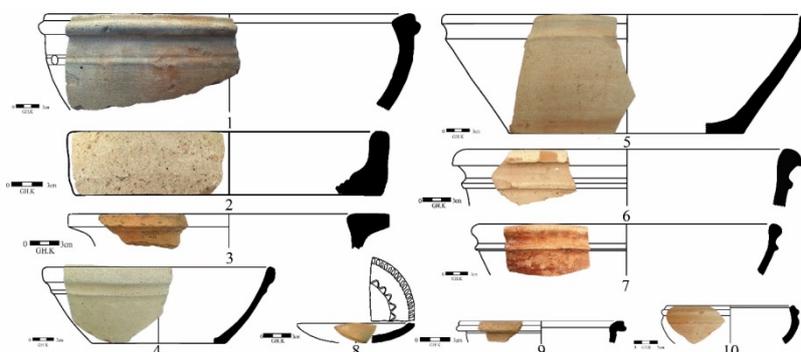


Figure 5. bowls and bins

Table 2 . bowls and bins

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking	number
Azarnoush. 1994: fig.184.e Zivdar et all.2015: fig2. shape10	1-bin 2- wheel made 3- mineral 4-reddish brown 5/4. 5Y. 5- sufficient	1
Aali &Khosrozadeh.2005: shape59.Row2 Khosrozadeh & Aali 2005: sktch13.No5	1-bowl 2- wheel made 3- mineral 4- pinkish white 8/2. 5YR. 5- sufficient	2
Karimian & Javeri:2009. on right. Shape1 Rahbar.2000: Shape1. sketch1 Heydari & Sarookhani.2015: fig.296.Shape1 Keall and Keall. 1981: fig.19.22	1-bin 2- wheel made 3- mineral 4- pale red 6/4 10R. 5- sufficient	3
Aali &Khosrozadeh.2005: Shape68.Row7	1-bin 2- wheel made 3- mineral 4- pale yellow 8/2.5Y. 5- sufficient	4
Kennet. D. 2004: fig.10. Type 112	1-bin 2- wheel made 3- mineral 4- pink 7/4. 5YR. 5- sufficient	5
Heydari & Sarookhani.2015:fig.296.Shape1 Karimian et all.2014: Sketch4-1. Shape S:I10-26 Keall and Keall. 1981: fig.17.15	1-bin 2- wheel made 3- mineral 4- pinkish white 8/2. 10R. 5- sufficient	6
Khosrozadeh & Aali. 2005: Sketch13. No9 Heydari & Sarookhani. 2015:fig.300.Shape2	1-bin 2- wheel made 3- mineral 4- pale yellow 8/2. 5Y. 5- sufficient	7
Alden and Balsler. 1978: fig.5.4	1-bowl 2- wheel made 3- mineral 4- pale red 6/4. 10R. 5- sufficient	8
Whitcomb.Fig.53. no.r Zivdar et all.2015: fig.2. shape2	1-bowl 2- wheel made 3- mineral 4- reddish yellow 6/6. 5YR. 5- sufficient	9
Keall and Keall. 1981: fig.19.20 Heydari & Sarookhani.2015:fig.297.Shape11	1-bin 2- wheel made 3- mineral 4- pink 7/4. 5YR. 5- sufficient	10

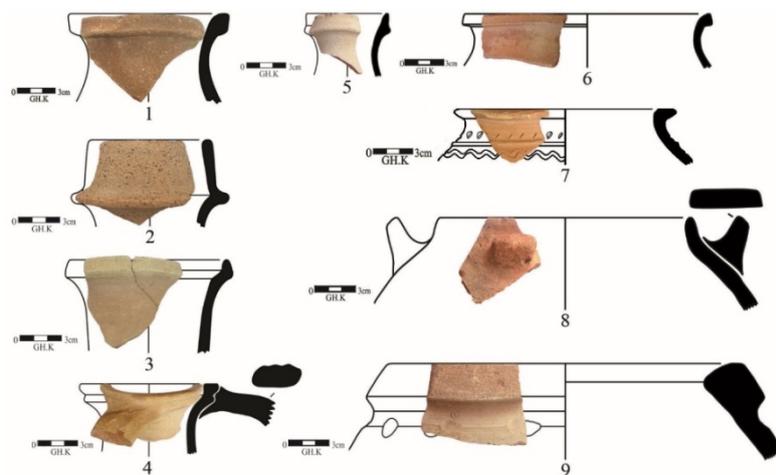


Figure 6. jugs and vats

Table 3. jugs and vats

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking	number
Amiri et all.2012:fig 5 & Habibi & Heydari.2013:shape1.fig2	1-jug 2- wheel made 3- mineral 4- pale yellow 5/2. 5YR. 5- sufficient	1
Aali &Khosrozadeh.2005: Sketch14. No6	1-jug 2- wheel made 3- mineral 4- pale yellow 7/4. 7.5YR. 5- sufficient	2
Khosrozadeh & Aali.2005: Sketch14. No13	1-jug 2- wheel made 3- mineral 4- pale yellow 8/3. 5Y. 5- sufficient	3
Azarnoush, 1994: fig.174.d,fig.185.n	1-jug 2- wheel made 3- mineral 4- pale yellow 7/3. 5Y. 5- sufficient	4
Simpson and Watkins. fig.62.2	1-jug 2- wheel made 3- mineral 4- pinkish white 8/2. 10R. 5- sufficient	5
Zivdar et all.2015: fig2. No 3 Priestman. 2013: fig.18:11.f	1-vat 2- wheel made 3- mineral 4- light red 6/6. 10R. 5- sufficient	6
Kennet. 2002: fig.3. type.81 Amiri et all.2012:fig 14. Shape 1 Zivdar et all.2015: fig2.Shape 1	1-vat 2- wheel made 3- mineral 4- very pale 7/3. 10YR. 5- sufficient	7
	1-vat 2- wheel made 3- mineral 4light red 6/6. 10YR. 5- sufficient	8
Aali &Khosrozadeh.2005: Shape 65. Row5 Keall and Keall. 1981: fig.9.30 Zivdar et all.2015: fig8.Shape 1	1-vat 2- wheel made 3- mineral 4- light reddish brown 6/4. 5YR. 5- sufficient	9

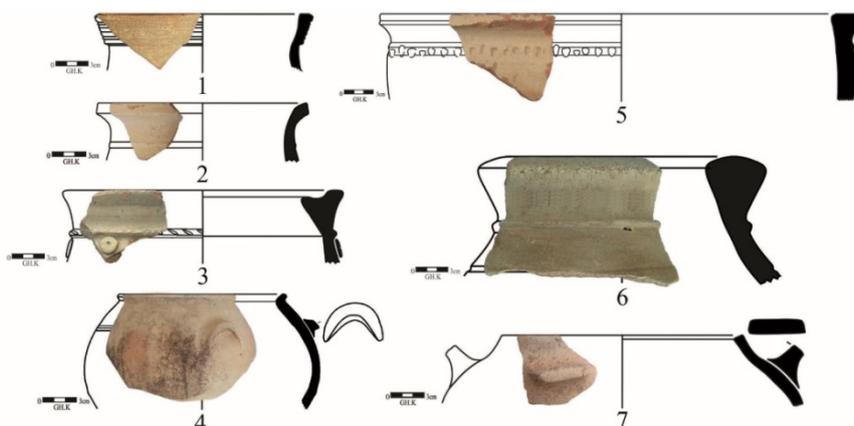


Figure7. vats with and without neck

Table 4. vats with and without neck

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking 6- type/motif place	number
Khosrowzadeh. 2010: Fig.8. no.13 Keall and Keall. 1981: fig.9.38	1-vat 2- wheel made 3- mineral 4- pale yellow 8/2. 5Y. 5- sufficient	1
Sarikhani et al.2015. shape2. Row7 Khosrozadeh & Aali.2005: Sketch15. No 9	1-vat 2- wheel made 3- mineral 4- pale yellow 7/4. 5Y. 5- sufficient	2
	1-vat 2- wheel made 3- mineral 4- pale yellow 7/3. 5Y.2.5. 5- sufficient	3
Keall and Keall. 1981: fig.16.26 Priestman. 2013: fig.18:17.k	1-vat 2- wheel made 3- mineral 4- pale yellow 8/24. 5Y.2.5. 5- sufficient	4
Amiri et al.2012:fig 14. Shape 18 Karimian et al.2014: Sketch4-1. Shape S:I ₁₁ -17	1-vat 2- wheel made 3- mineral 4- very pale 8/4. 10YR.2.5. 5- sufficient	5
Azarnoush. 1994: fig.190.e Heydari & Sarookhani.2015:fig288.Shape17 Karimian et al.2014: Sketch4-1. Shape S:I ₁₀ -44	1-vat 2- wheel made 3- mineral 4- pale yellow 7/3. 5Y. 5- sufficient	6
Priestman. 2013: fig.18:7.f	1-vat 2- wheel made 3- mineral 4- pale yellow 8/4. 10YR. 5- sufficient	7

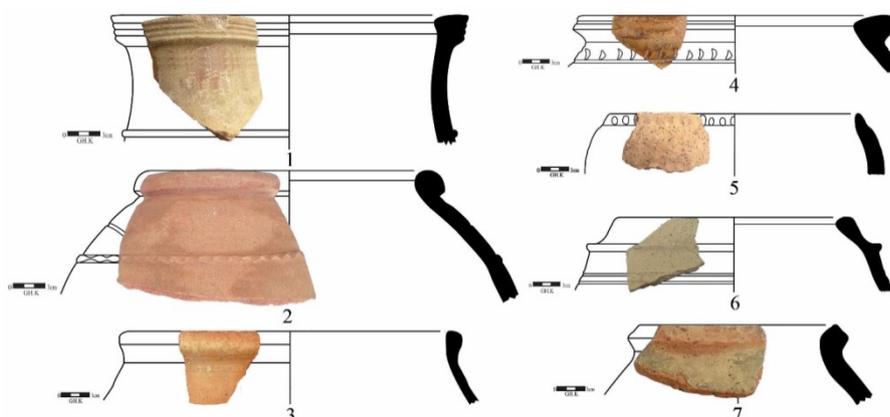


Figure 8. Vats with short and long neck

Table 5. Vats with short and long neck

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- ʼ baking 6- type/motif place	number
Whitcomb. Fig.23, no.f	1-vat 2- wheel made 3- mineral 4- pale yellow 7/4. 5Y.2.5. 5- sufficient	1
Aali &Khosrozadeh.2005: Shape63, Row17 Aali &Khosrozadeh.2005: Sketch18. No 2 Keall and Keall. 1981: fig.10.25	1-vat 2- wheel made 3- mineral 4- red 5/6. 10R. 5- sufficient	2
	1-vat 2- wheel made 3- mineral 4- light red 6/62. 10R. 5- sufficient	3
Keall and Keall. 1981: fig.9.24 Hozhabri.2001. Shape 45. Sketches 1&2	1-vat 2- wheel made 3- mineral 4- light brown 6/4. 7.5YR. 5- sufficient	4
Kennet. D. 2004: fig.21. CP1.1	1-vat 2- wheel made 3- mineral 4- very pale brown 7/4. 10YR. 5- sufficient	5
Khosrowzadeh. 2010: Fig.8. no.18 Zivdar et all.2015: fig9 Sarikhani et all.2015. shape2. Row5	1-vat 2- wheel made 3- mineral 4- pale yellow 8/3. 2.5Y. 5- sufficient	6
Aali & Khosrozade.2005. Shape 65. Row8 Khosorzade & Aali. 2005: Sketch15.No8	1-vat 2- wheel made 3- mineral 4- reddish yellow 6/6. 5YR. 5- sufficient	7

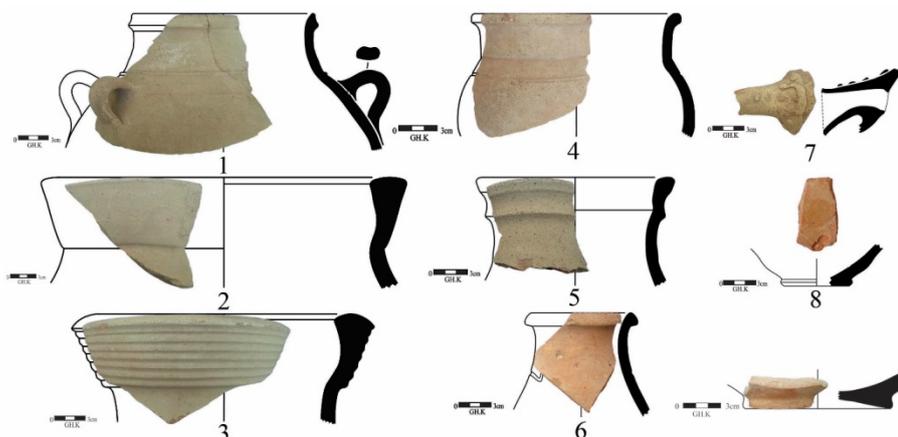


Figure 9. long neck vat with a vertical mouth and disk and concave bases

Table 6. long neck vat with a vertical mouth and disk and concave bases

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking 6- type/motif place	number
Azarnoush, 1994: fig.184.b Keall and Keall. 1981: fig.12.10 Priestman. 2013: fig.18:5.a	1-vat 2- wheel made 3- mineral 4- light gray 7/2. 5Y. 5- sufficient	1
Keall and Keall. 1981: fig.9.17 Heydari & Sarookhani.2015:fig284.Shape19	1-vat 2- wheel made 3- mineral 4- pale yellow 7/3. 5Y. 5- sufficient	2
Amiri et all.2012:fig.14. Shape 6 Zivdar et al.,2015: fig2,Shape.16 Heydari & Sarookhani.2015:fig.300.Shape.1	1-vat 2-wheel made 3- mineral 4-light gray 7/2 5Y. 5- sufficient	3
Whitcomb. Fig.19, no.d Karimian & Javeri.2009. Sketch1.on right. shape15 Mohamadifar.2014. fig.5. S.S.55 Keall and Keall.1981: fig.13-21	1-vat 2-wheel made 3- mineral 4- pinkish white 8/2. 10YR. 5- sufficient	4
Keall and Keall. 1981: fig.13.4	1-vat 2-wheel made 3- mineral 4- very pale brown 8/4. 10YR. 5- sufficient	5
Kennet. 2002: fig.4. 81 Keall and Keall. 1981: fig.10.33	1-vat 2-wheel made 3- mineral 4- pink 7/3 5Y. 5- sufficient	6
	1-tubular 2-wheel made 3- mineral 4- very pale brwon 8/4. 10YR. 5- sufficient	7
Priestman. 2013: fig.18:11.q	1-base 2-wheel made 3- mineral 4- redish 5/4 5YR. 5- sufficient	8
	1-base 2-wheel made 3- mineral 4- light red 6/6. 10R. 5- sufficient	9

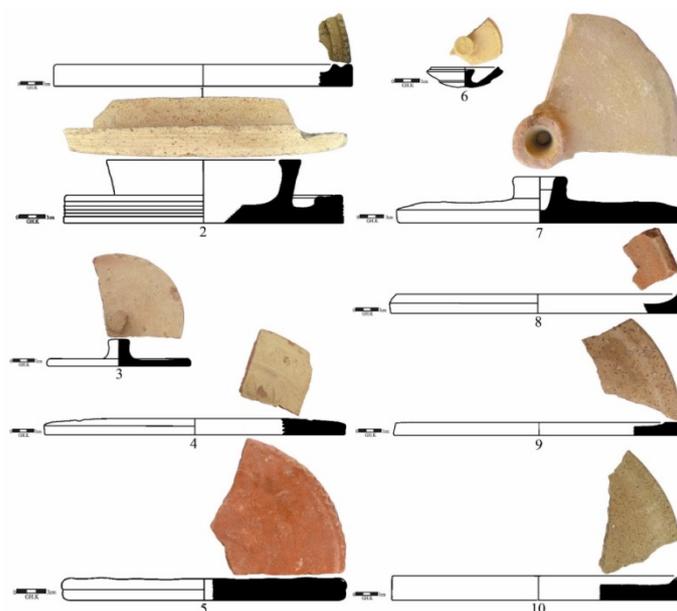


Figure 10. lids and flat dishes

Table 7. lids and flat dishes

Reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking	number
	1-dish 2-wheel made 3- mineral 4- pale olive 5/6 5Y. 5- sufficient	1
	1-lid 2-wheel made 3- mineral 4- pale yellow 8/3. 5Y. 5- sufficient	2
	1-lid 2-wheel made 3- mineral 4- pink 8/3 5YR. 5- sufficient	3
	1-tray 2-wheel made 3- mineral 4- pale yellow 8/3. 5Y. 5- sufficient	4
	1-tray 2- wheel made 3- mineral 4- red 4/6. 10R 5- sufficient	5
	1- lid 2- wheel made 3- mineral 4- pale yellow 7/3. Y2.5. 5- sufficient	6
	1-lid 2- wheel made 3- mineral 4- pale yellow 7/4. 10R. 5- sufficient	7
	1-dish 2- wheel made 3- mineral 4- red 4/6. 10R. 5- sufficient	8
	1-tray 2- wheel made 3-mineral 4- reddish brown 5/3. 5YR 5- sufficient	9
	1-dish 2- wheel made 3- mineral 4- pale olive 6/3. 5Y. 5- sufficient	10

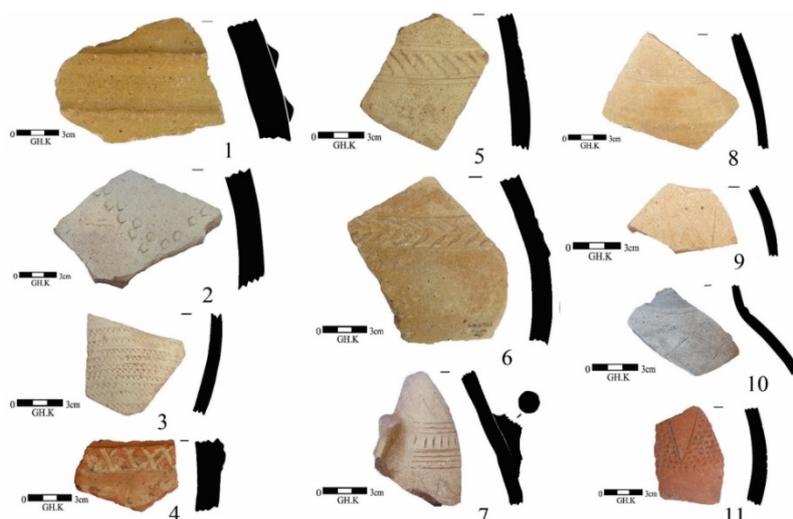


Figure 11. simple decorations: excised, engraved and needles

Table 8. simple decorations: excised, engraved and needles

reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking 6- type/motif place	number
Heydari & Sarookhani,2015:fig291.Shape5	1-shred 2-wheel made 3- mineral 4- olive 5YR 5/6. 5- sufficient 6- excised/outside	1
	1-shred 2-wheel made 3- mineral 4- very pale brown 10YR. 8/3. 5- sufficient 6- stamped/outside	2
Simpson and Watkins, fig.14	1-shred 2-wheel made 3- mineral 4- white 2.5YR. 8/1. 5- sufficient 6- stamped/outside	3
	1-shred 2-wheel made 3- mineral 4- reddish yellow 5YR. 6/8. 5- sufficient 6- stamped/outside	4
	1-shred 2-wheel made 3- mineral 4- pale yellow 5Y. 7/4. 5- sufficient 6- incised/outside	5
Keall and Keall. 1981: fig.25.19 Heydari & Sarookhani.2015:fig284.Shape18 Karimian et all.2014: Sketch4-1. Shape K ₁₃ -44	1-shred 2-wheel made 3- mineral 4- yellow 5Y. 7/6. 5- sufficient 6- incised/outside	6
	1-shred 2-wheel made 3- mineral 4- pink 5YR 7/4 5. 5- sufficient 6- incised/outside	7
Simpson and Watkins. fig.11	1-shred 2-wheel made 3- mineral 4- pale yellow 2.5Y. 8/4. 5- sufficient 6- comb decoration /outside	8
	1-shred 2-wheel made 3- mineral 4- pale yellow 2.5Y. 8/3. 5- sufficient 6- comb decoration /outside	9
Keall and Keall. 1981: fig.21.11	1-shred 2-wheel made 3- mineral 4- pale yellow 5Y. 8/2. 5- sufficient 6- comb decoration /outside	10
	1-shred 2-wheel made 3- mineral 4- red 10R. 4/6. 5- sufficient 6- incised and impressed/outside	11



Figure 12. Combined decorations

Table 9. Combined decorations

reference	1-shape 2- wheel made 3- temper 4- slip color 5- baking 6- type/motif place	number
	1-shred 2-wheel made 3- mineral 4- pink 5YR 7/3 5- sufficient 6- excised	1
Keall and Keall, 1981: fig.27.12	1-shred 2-wheel made 3- mineral 4- pink 5YR 7/4 5- sufficient 6- impressed and excised/outside	2
	Shred 2-wheel made 3- mineral 4- light gray 2.5Y 7/2 5- sufficient 6- impressed and additional/outside	3
Keall and Keall, 1981: fig.22.9	1-shred 2-wheel made 3- mineral 4- very pale brwon 10YR 8/4 5- sufficient 6- stamped and incised/outside	4
Keall and Keall, 1981: fig.22.6	1-shred 2-wheel made 3- mineral 4- white 2.5YR 8/1 5- sufficient 6- impressed and incised/outside	5
	1-shred 2-wheel made 3- mineral 4- light brownish gray 2.5YR 8/2 5- sufficient 6-addistional and impressed/outside	6
	1- shred 2-wheel made 3- mineral 4- white 2.5YR 8/2 5- sufficient 6- stamped and comb decoration/outside	7
	1- shred 2-wheel made 3- mineral 4- white 2.5YR 8/2 5- sufficient 6- stamped and incised/outside	8
	1- shred 2-wheel made 3- mineral 4- pink 5YR 8/3 5- sufficient 6- additional and incised/outside	9

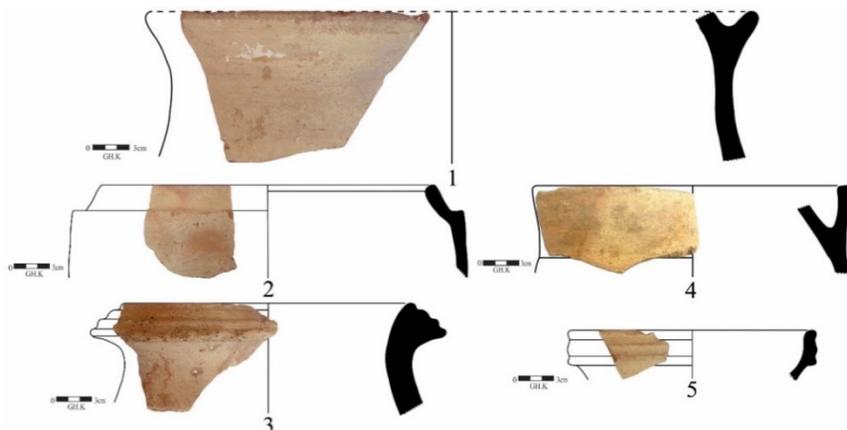


Figure 13. local forms

Table 10. local forms

reference	1-shape 2- technique 3- temper 4- slip color 5- baking	number
	1-vat 2-wheel made 3- mineral 4- pinkish white 7.5 YR 8/2 5- sufficient	1
	Bin 1-vat 2-wheel made 3- mineral 4- pink 2.5 YR 8/3 5- sufficient	2
	Bin 1-vat 2-wheel made 3- mineral 4- pink 5 YR 7/4 5- vat - sufficient	3
	1-vat 2-wheel made 3- mineral 4- yellow 10YR8/6 5- sufficient	4
	1-bowl 2-wheel made 3- mineral 4- very pale brown 10 YR 8/3- sufficient	5

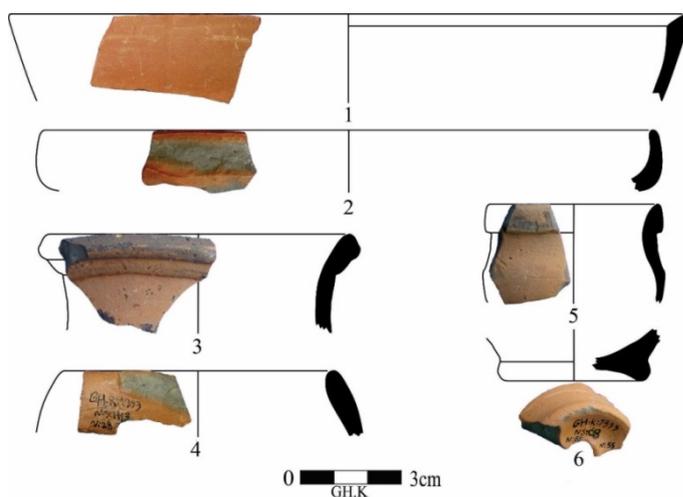


Figure 14. Parthian Clinky pottery of the historical site of Tesmijan

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مطالعه و بررسی سفال‌های ساسانی محوطه طسمی جان-کاشان

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تاریخ دریافت: ۱۳۹۹/۰۶/۲۰؛ تاریخ پذیرش: ۱۳۹۹/۱۲/۲۰

چکیده

محوطه‌ی تاریخی طسمی‌جان با وسعت ۳۰۰ هکتار در شمال‌شرق شهرستان کاشان قرار دارد. محوطه‌ی مذکور بر اساس داده‌های باستان‌شناسی آن، در دوره‌های عصر آهن، اشکانی، ساسانی و اوایل اسلامی مورد استفاده بوده است. بنابر آثار و بقایای سطحی، اوج استقرار در طسمی‌جان در دوره ساسانی بوده که محوطه‌ای با این ابعاد احتمالاً بیانگر یک شهر بزرگ ساسانی است. این محدوده یکی از معدود محوطه‌های دوره ساسانی در شهرستان کاشان است که در ادامه‌ی دوره اشکانی خود گسترش یافته و با توجه به وسعت و کیفیت داده‌ها می‌تواند در شناخت هرچه بهتر دوره ساسانی در بخش مرکزی ایران کمک شایانی نماید. در پژوهش حاضر سفال‌ها از طریق بررسی سیستماتیک و شبکه‌بندی محوطه‌ی طسمی‌جان مورد نمونه‌برداری قرار گرفته؛ تا مشخص گردد گونه‌شناسی و فرم‌های سفال ساسانی محوطه‌ی مذکور در چه وضعیتی قرار دارد و مقایسه تطبیقی فرم‌های مزبور با سایر محوطه‌های ساسانی چگونه است؟ و آیا فرم‌های بومی و محلی سفال نیز در این محوطه رواج داشته است؟ با توجه به مطالعات صورت گرفته، طبقه‌بندی، گونه‌شناسی و مقایسه تطبیقی مشخص شد سفال‌های ساسانی محوطه طسمی‌جان شامل انواع خمره، تگار، کاسه، سبو، ظروف مسطح، درپوش، پیاله و ظروف لوله‌دار؛ با محوطه‌های مختلف ساسانی به‌ویژه محوطه‌های غرب ایران قابل مقایسه است و برخی فرم‌های محلی نیز قابل شناسایی و معرفی است. روش مطالعه در پژوهش حاضر از نوع مطالعات توصیفی-تحلیلی است.

کلیدواژگان: کاشان، باستان‌شناسی، بررسی سیستماتیک، ساسانی، سفال، گونه‌شناسی