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A ninth- to tenth-century pottery workshop at al-Yamāmah, Central Arabia

Fabien Lesguer and Jérémie Schiettecatte

Summary

No area of craft tradition has so far been documented in the Najd. In this respect, the fieldwork conducted by the Saudi-French archaeological mission in the oasis of al-Kharj (Central Arabia, 2011–2017) filled a gap with the discovery and excavation of a pottery workshop at al-Yamāmah — ancient Jaw al-Khaḍārim, capital city of the historical region of al-Yamāmah. To the southwest of the Islamic city, a sounding revealed several pottery kilns in a courtyard connected to a building and several dumps from the ninth—tenth century AD. The content of the dumps made it possible to distinguish between local and regional productions. The stratigraphic sequence, architectural analysis, material study, chemical analysis, and AMS radiocarbon dating all contribute to clarify the pottery production in the Najd during the Abbasid period. Our aim is to present the spatial organization of the pottery workshop and to characterize its production.

Keywords: Najd, early Islamic period, Islamic archaeology, pottery workshop, pottery production

Introduction

The Saudi-French archaeological mission in the oasis of al-Kharj has been studying the human presence and settlement process in a harsh environment, from the Pleistocene to the modern era (Crassard & Hilbert 2013; Crassard et al. 2019; Hilbert et al. 2016; Schiettecatte et al. 2012; 2013; Schiettecatte, Chabrol & Fouache 2016; Schiettecatte & al-Ghazzi 2016; in press).

Within this project, we conducted archaeological excavations on the largest site of the oasis, al-Yamāmah (see most recently Schiettecatte & al-Ghazzi 2016; in press; Schiettecatte, Darles & Siméon 2019). Based on the results obtained in deep Soundings 1 (area N6) and 4 (Area K17), as well as the excavation of the Friday Mosque and its surroundings (Buildings 1 and 3) (Fig. 1), the occupation of the site was characterized during its three periods of occupation as follows: fifth—third century BC, eighth—eleventh century AD, and fifteenth—eighteenth century AD (see below, Fig. 5).

In 2012, the presence of distinctive pottery types on the surface beyond the fence (Area G17) to the south-west, led us to open a 10×1 m trench (directed by Michel Mouton), Sounding 3, where kilns were unexpectedly unearthed. The excavation of this area was resumed, extended, and completed in January 2016, under the guidance of one of the authors (FL). Part of a pottery workshop was subsequently excavated and its evolution, spatial organization, and production were characterized and dated to the early Islamic period.

Previous attempts to characterize the early Islamic pottery material from Central Arabia were unsuccessful. In the Layla-Aflāj region, south of al-Kharj, only the late pre-Islamic material was considered (al-Saud 1997). In al-Yamāmah, a tentative pottery typology had previously been established (al-Ghazzi 2010), but the fact that the sample was poorly representative (eighty sherds found in five soundings plus a surface collection), the absence of absolute dating, and the bias in favour of an abandonment of the site in the twelfth century — while most of the upper occupation of the site clearly dates from the fifteenth to the eighteenth century — has forced us to make a reassessment. During our own previous excavations, most of the material was ascribed to the pre-Islamic and late Islamic occupations, therefore the discovery of an early Islamic pottery workshop offered a rare opportunity to identify the local productions of that period.

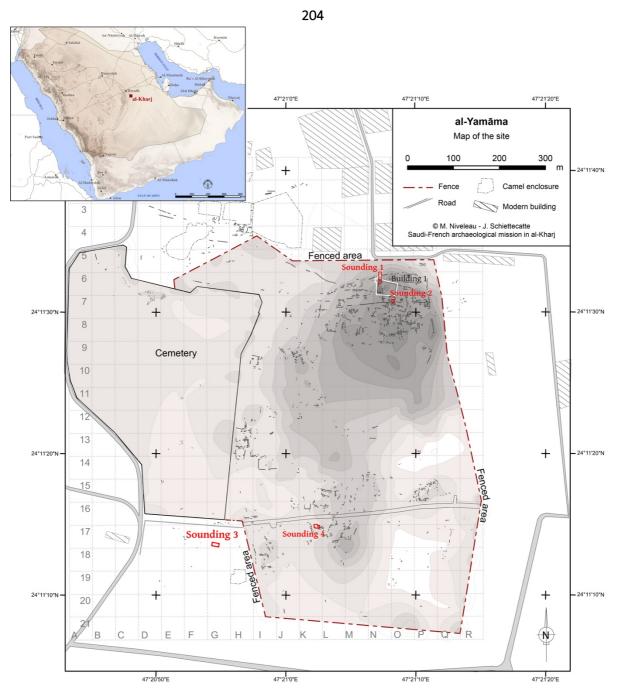


Figure 1. A topographic map of the site of al-Yamāmah (M. Niveleau and J. Schiettecatte, Saudi-French Archaeological Mission in al-Kharj).

Sounding 3 (Area G17): methodology and general description

Sounding 3 was located in an abandoned palm grove which had been levelled some years ago. The surface altitude was 422.65 m a.s.l. At the end of the excavation, the lowest point was at 420.22 m a.s.l. (bottom of kiln H. 068). Sounding 3, in its larger extent, measured 14×5.5 m, or 77 m². A complete photogrammetric record was made at the different stages of the excavation (Fig. 2). The 4685 sherds from the stratigraphic units (UF) were counted and recorded and the 1141 diagnostic sherds were individually registered.

The final plan of Sounding 3 (Fig. 2) comprises four rooms and a courtyard. Rooms R. 368, R. 367, R. 070, and R. 071 form a building. The building material is tempered mud. The courtyard (R. 316) is located to the west and continues beyond the northern and western limits of the trench. Another area (P 378), probably open-air, is located south of the courtyard.

Architecture and stratigraphy

Phase 1: setting up of a pottery workshop

In phase 1, the workshop already comprised a courtyard with kilns and an adjacent building with three rooms. Room R. 367 had not yet been built. Several structures were dedicated to craft activities in the courtyard: two kilns (H. 068 and H. 320), a $tann\bar{u}r$ (H. 317), and a bench (St. 369). Kiln H. 068 is the main structure (Fig. 3). It consists of a firing chamber built above a firebox. The kiln is almost oval in plan and measures 3.1×1.8 m. The firing chamber measures 2.1×1.36 m and is preserved up to 50 cm. Its floor is perforated with more than eighteen flues. The firebox measures 2.5×0.93 m and 1.5 m high (Fig. 3). It is vaulted with five arches of mud bricks fired when the kiln was in use, thus supporting the perforated floor. A 0.4 m-long and 1 m-wide tunnel gives access to the firebox. It is preceded by a wide funnel-shaped working pit (Pi. 318). At the bottom of the kiln, several layers of ashes and charcoals (UF 344, 346, and 347) are covered with a hard, orange silt (UF 345) corresponding to a repair of the firebox (Fig. 3).

West of the main kiln was a second, much smaller kiln (H. 320). It is 1.18 m long and 0.68 m wide. Only the firebox is preserved, at a height of 0.32 m. The inside of the walls is vitrified. The bottom of the firebox was filled in with a layer of compact ashes (UF 361) and sherds. A $tann\bar{u}r$ (H. 317) was located on the edge of the funnel-shaped working pit and against structure St. 369. Measuring $0.76 \times 0.6 \times 0.38$ m, the earthenware $tann\bar{u}r$ is cylindrical in shape, open at the top, set in a rectangular pit, and wedged with a mix of mud and ashes. There is an opening at the base. The bottom of the $tann\bar{u}r$ was filled with loose ashes (UF 357). To the north-east of the courtyard, a levelled, plaster-coated structure (St. 369) leaning against W. 370 was either a working platform or a bench. It measures 2.2×0.65 m.

Phase 2: continuation of the workshop activity, and refurbishments

Wall W. 376 was built to the east of the courtyard, cutting off the courtyard from the building (see Fig. 2). Between rooms R. 367 and R. 368, wall W. 339 was lowered to make circulation easier. In Room R. 070, the circulation level was raised from 421.97 to 422.35 m a.s.l., with a backfill of green indurated clayey silt (UF 348). Three features were set up for domestic use or craft activity: a shallow plastered basin (St. 305: $0.54 \times 0.5 \times 0.08$ m); a hearth (H. 352: $0.44 \times 0.34 \times 0.08$ m); and a water tank (St. 304) in the south-east corner, containing a complete jar buried in the ground, wedged with stones and sealed in plaster. The tank is 0.74 m in diameter and 0.5 m deep. In the courtyard (R. 316), kiln H. 068 remained active. The fill of the firebox shows a final restoration (UF 343: hard burnt orange silt) covered with several layers of ashes and charcoals (UF 338, 340, 341, 342) (Fig. 3).

As kiln H. 320 was abandoned and levelled, a new, rectangular kiln (H. 069) was built in the south-east corner of the courtyard. It is 1.26×0.83 m and preserved over 0.9 m. Although smaller than the main one (H. 068), it was built in the same manner, with a firing chamber separated from the firebox by a floor perforated with flues. The floor is supported by three arches. It is built of tempered mud and the inner sides of the walls are vitrified. The pear-shaped firebox is $0.9 \times 0.37 \times 0.59$ m. The rectangular firing chamber measures 0.7×0.6 m and is preserved over 0.17 m. A tunnel, measuring 0.24×0.64 m, gives access to the firebox. The bottom of the kiln was filled with a dense layer of ashes (UF 363). As the old $tann\bar{u}r$ (H. 317) was filled with sandy silt (UF 356), a new $tann\bar{u}r$ (H. 319) was installed next to it, built in the same manner as the previous one. It measures $0.58 \times 0.5 \times 0.32$ m.

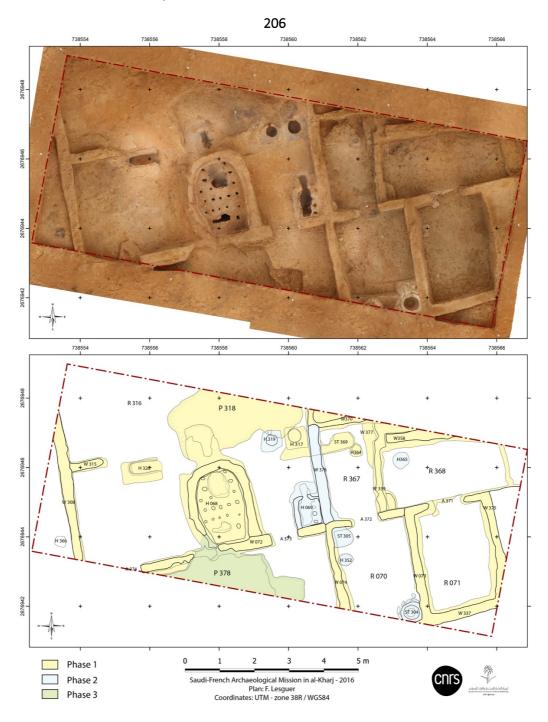


Figure 2. al-Yamāmah: Area G17 — (top) orthophotograph and (bottom) plan of Sounding 3 (F. Lesguer, Saudi French Archaeological Mission in al-Kharj).

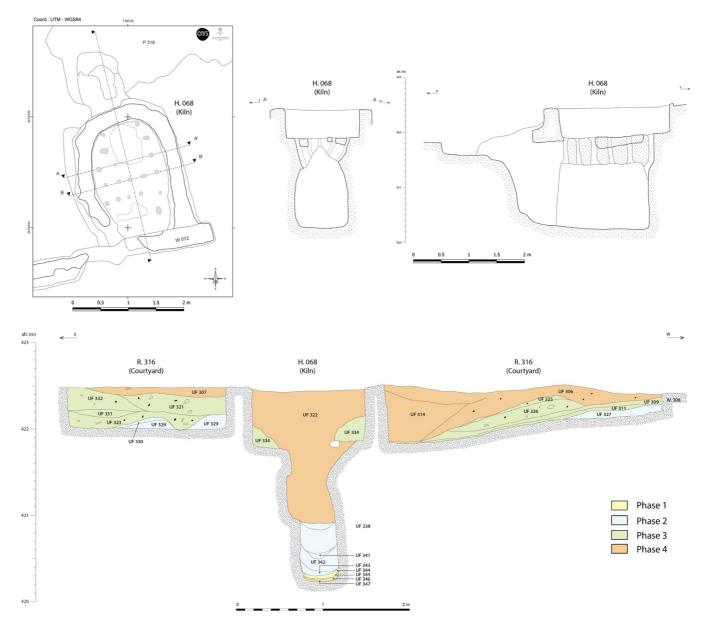


Figure 3. al-Yamāmah: Area G17 — Sounding 3: (top) plan and sections of kiln H. 068; (bottom) east—west stratigraphic section (F. Lesguer, Saudi French Archaeological Mission in al-Kharj).

Phase 3: area turned into a dump for an adjacent production after the shutdown of the kilns

On the floor of the firing chamber in kiln H. 068, numerous fragments of kiln walls and mud brick and 135 pottery sherds were retrieved (UF 334). In the firebox, fragments of earthenware and of a thick plaster disc (Fig. 4/1) show that the kiln was no longer active. The funnel-shaped area in front of the kiln (Pi. 318) was gradually filled in with sandy silt, ashes, charcoals, abundant faunal remains (2.5 kg of animal bones), and 386 pottery sherds (UF 312). Kiln H. 069 was also abandoned and filled with sandy silt, kiln walls, and sixty-nine pottery sherds (UF 206 and 362). *Tannūr* H. 319 was filled with compact ashes. Between kilns H. 069 and H. 068, a backfill of wasters and fragmentary kiln walls had accumulated (UF 321, 323, 331, and 332).

West of kiln H. 068, a succession of levels of destruction and refuse had accumulated (UF 309, 310, 311, 325, and 326). South of the courtyard, a pit (Pi. 378) was dug, in part within wall W. 072 and kiln H. 068. It was filled with hard sandy silt (UF 302, 335) and contained animal bones (1.7 kg) and 922 pottery sherds, including misfired sherds and broken wasters.

Phase 3 layers from the courtyard yielded 55.5% of the pottery sherds from Sounding 3. The fact that they belong to a local production and that they were found together with wasters clearly indicates that with the shutdown of the kilns the area was turned into a dump, while the pottery production continued in the neighbourhood. Rooms R. 070 and R. 071 were connected to this still productive activity: in R. 070, although the water tank was then abandoned and filled with silts and sherds, a small hearth shows that the room was still dedicated to domestic (?) activity; room R. 071 was filled with an 85 cm-thick, very hard layer of clayey marl and a few inclusions and was possibly used as a clay storage space.

Phase 4: dump area and abandonment

During this last phase, the whole courtyard and kilns were covered with clayey sand (UF 203, 204, 301, 306, 307, 313, 314, and 322). Kiln H. 068 continued to deteriorate (UF 203 and 314). Silt accumulated in rooms R. 070, R. 367, and R. 368 (UF 205, 303, 328, and 336). The presence of a small hearth (H. 366) in the south-west corner of Sounding 3 and of 1562 sherds in these upper layers (i.e. 33% of the total) could indicate that, while this area was abandoned, production continued nearby. However, the layers of this last phase are disturbed because of the proximity of the surface and ground levelling for agricultural purposes. The topmost layer is a hard and dense hydromorphic and crystallized soil (UF 201, 202, and 300) that includes abundant material (pottery sherds, animal bones), some of which is possibly intrusive.

Functional organization

Because of the presence of kilns in phases 1 and 2, the courtyard (R. 316) was obviously the firing area. During these phases, the presence of a small kiln (H. 320 and then H. 069) next to a large one (H. 068) indicates a process of firing that depended either on demand or on the different kinds of products (small vs. large shapes). The nature of the fuel used in the firebox has so far not been determined. The analysis of two charcoals sampled for radiocarbon dating showed the use of *Phoenix dactylifera* stem (kiln H. 068, phase 2) and *Tamarix sp.* wood ($tann\bar{u}r$ H. 319, phase 2). The preparation of the vessels could have taken place here: two stone grinders (Y.349.1) were discovered in phase 1 (Fig. 4/2) and another one (Y.359.1) in phase 2 (Fig. 4/3).

In phase 3, and possibly phase 4, the presence of unfired sherds, refuse, and wasters in the courtyard confirms the change of function; it had become a dump for other workshops in the neighbourhood. This is confirmed by the fact that 97% of the animal bone assemblage comes from phases 3 (39%) and 4 (58%). The fragments of a circular plaster object discarded in the main kiln (Fig. 4.1) in phase 3 have been interpreted as either the turntable of a potter's wheel or the plate supporting the vase on the turntable. In the dump level (UF 321), there are two flat earthenware slabs (Y.321.30 and Y.321.45), which have been interpreted as plates supporting the vase on the turntable or as kiln furniture (saggar). Room R. 071 could have been a clay storage space in phases 2 and/or 3: it was almost empty of artefacts and filled with clayey marl. The function of the other rooms cannot be determined precisely, although they are clearly connected with domestic/working activity.

Absolute chronology

Radiocarbon dating was undertaken on three charcoal samples (Fig. 5). Two samples come from Phase 2 layers: one from the firebox of the main kiln (H. 068), the second from an ash layer of $tann\bar{u}r$ H. 317. Calibrated dates are respectively AD 898–1023 and AD 778–994 (higher probability in AD 863–994). It points to a dominant activity in the tenth century.

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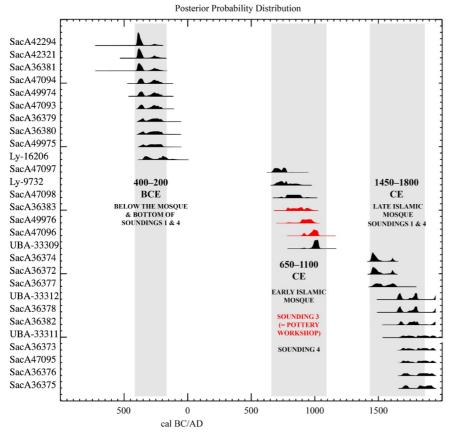
Figure 4. al-Yamāmah: Area G17 — Sounding 3: potter's tools, imported glazed ware, and local production: 1. turntable (?); 2–3. stone grinders; 4–5. imported turquoise-blue alkaline-glazed ware; 6–8. white opaque glazed ware; 9–14. sherds of COMM.BUFF (cat. 1) (F. Lesguer, Th. Sagory, and J. Schiettecatte, Saudi French Archaeological Mission in al-Kharj).

¹ The identification of wood species was undertaken at the Muséum National d'Histoire Naturelle, Paris by Ch. Bouchaud (CNRS, UMR 7209, Archéozoologie et archéobotanique, Paris); sample SacA36383 was prepared at the Centre de Datation par le Radiocarbone (UMR 5138 Archéométrie et Archéologie, Lyon). Others were prepared at the Muséum National d'Histoire Naturelle, Paris by A. Zazzo (CNRS, UMR 7209, Archéozoologie et archéobotanique, Paris). Measurements of ¹⁴C content were taken using the ARTEMIS accelerator (LMC14, UMS 2572, Saclay).

The third sample comes from a phase 3 level and was dated AD 774–967. This result is almost identical to the previous ones, either because the phases were short, because the charcoal sampled in an openair area might be older residual material, or because of an old wood effect. Be that as it may, these results point to a late ninth- to tenth-century date. Considering the high homogeneity of the pottery production from phase 1 to phase 4, it is unlikely that the workshop was active long before, or remained active long after.

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The very rare imported pottery sherds from Sounding 3 are consistent with this dating. These are five sherds of turquoise-blue alkaline-glazed ware, including one with appliqué decoration (Fig. 4/4–5) and seven sherds of white opaque glazed ware (Fig. 4/6–8), typical ninth- to tenth-century productions from southern Iraq and Siraf (Priestman 2011). These imports were found in layers of phases 1, 3, and 4, which confirms that the activity of the pottery workshop was confined to this period only.



AMS Lab#	Location	Nature	Radiocarbon age (14C yrs BP)	Calibrated date (2 sigma ranges) Start–end (relative area)
SacA49976	Sounding 3 – Phase 2 Tannūr H. 317 (UF 356)	Tamarix sp.	1120 ± 30 BP	AD 778-790 (0.016) AD 809-815 (0.004) AD 826-841 (0.014) AD 863-994 (0.966)
SacA47096	Sounding 3 – Phase 2 Kiln H. 068 (UF 340)	Phoenix dactylifera	1060 ± 30 BP	AD 898–924 (0,145) AD 944–1023 (0,855)
SacA36383	Sounding 3 – Phase 3 Between H. 068 and H. 069 (UF 205)	Indeterminate wood charcoal	1160 ± 30 BP	AD 774–905 (0.752) AD 915–967 (0.248)

Figure 5. AMS dating on charcoal from al-Yamāmah; samples from Sounding 3 in red, with details in the table below. Calibration programme: Stuiver M., Reimer P.J. & Reimer R.W. 2017 CALIB 7.1 (www program). Available at http://calib.org (accessed 19/09/2019). Calibrated with IntCal13 curve (Reimer et al. 2013).

The pottery assemblage

Distribution

A total of 4685 sherds including 1141 characterized shapes (base, handle, decoration, rim) were collected in Sounding 3. Twenty-five out of the fifty-six pottery categories from the site of al-Yamāmah are present in the layers of this trench.² The distribution of the Minimum Number of Individuals (MNI) of vessels per phase and category (Fig. 6) shows that several pottery categories are not statistically representative as they include fewer than eight individuals, often distributed in two or three different phases. Five pottery categories are significant and may have been produced in the workshop and its neighbourhood: the Common Buff Ware with medium to thick grits (cat. 1; COMM.BUFF);

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Category	Code	Description	Conservation	Phase 1	Phase 2	Phase 3	Phase 4	MNI	%
1	COMM.BUFF	Common buff ware with medium to thick grits	Indet. sherds + shapes	4	81	571	273	929	81.4%
2	COMM.RED	Common reddish ware with medium to thick grits	Indet. sherds + shapes		1	2	8	11	1.0%
3	MED.BUFF	Medium fine buff ware with cross-hatch paint in red	shapes				1	1	0.1%
4	MED.RED	Medium reddish ware with medium to thick grits	Indet. sherds + shapes			8	13	21	1.8%
5	FIN.BUFF.SL	Fine buff ware with white and red matt slip	shapes				1	1	0.1%
6	PINK.COOK	Pinkish cooking ware with white exploded grits	Indet. sherds + shapes			2	1	3	0.3%
7	RED.SAND	Medium red-orange sandy ware	Indet. sherds				2	2	0.2%
8	RED.SAND.SL	Coarse red-orange sandy ware with whitish surface	Indet. sherds		1			1	0.1%
9	LAYLA,GREY	Layla ware - well fired grey to deep reddish ware	Indet. sherds + shapes			2	4	6	0.5%
12	FIN.BUFF	Medium fine buff ware	Indet. sherds + shapes			2	6	8	0.7%
15	BLACK&RED	Red ware with grey-black core and abundant chaff temper	Indet. sherds				1	1	0.1%
16	GREY.GRIT	Handmade grey gritty ware	Shapes				1	1	0.1%
21	OPAQ.TURQ	Turquoise-blue alkaline-glazed ware [import]	Indet. sherds + shapes	1			4	5	0.4%
24	OTHER	Others	Indet. sherds + shapes		2	21	14	37	3.2%
26	YELLOW.SAND	Medium yellow sandy ware	Indet. sherds + shapes			3	3	6	0.5%
28	FIN.GREEN	Thin greenish ware	Indet. sherds + shapes			17	4	21	1.8%
29	ORANGE	Well fired reddish to buff orange ware	Indet. sherds + shapes			0	6	6	0.5%
33	FIN.CREAM.SLP	Fine reddish buff ware with cream slip	Indet. sherds + shapes			5	3	8	0.7%
35	MED.CREAM.SLP	Medium reddish buff ware with cream slip	Indet. sherds + shapes		2	24	31	57	5.0%
36	FIN.RED.SAND.SL	Fine red-orange sandy ware with reddish slip	Indet. sherds				2	2	0.2%
37	MED.BUFF.SL	Medium reddish buff ware with black / reddish slip	Shapes				1	1	0.1%
39	OPAQ.YEL	White to yellow glazed ware [import]	Indet. sherds				1	1	0.1%
41	OPAQ.WHIT	Abbasid white opaque glazed ware [import]	Indet. sherds + shapes	1		2	4	7	0.6%
50	LAYLA,RED	Pseudo Layla-ware	Indet. sherds + shapes			1	3	4	0.4%
52	MED.RED.SL2	Hand-made red buff ware with cream slip (variant of 35)	Indet. sherds		1			1	0.1%
		TOTAL		6 (0.5%)	88 (7.7%)	660 (57.8%)	387 (33.9%)	1141	100%

Figure 6. al-Yamāmah: Area G17 — Sounding 3: distribution of the pottery categories with the MNI for each category per phase (F. Lesguer and J. Schiettecatte, Saudi French Archaeological Mission in al-Kharj).

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three variants of this type, the Common Reddish Ware with medium to thick grits (cat. 2; COMM.RED), the Medium Reddish Ware with medium to thick grits (cat. 4; MED.RED), and the Medium Reddish Buff Ware with cream slip (cat. 35, MED.CREAM.SLP); and another type, the Thin Greenish Ware (cat. 28, FIN.GREEN). These five categories account for 91% of the MNI, COMM.BUFF being much more common than the others with 81.4% of the MNI. The latter clearly dominated production in the workshop. The production consisted of tableware (bowls, basins, plates, cups, jugs, open jars), a few cooking pots, and small storage jars. This daily life assemblage was probably intended for the local market.

The Common Buff Ware and its variants

COMM.BUFF is a well fired buff to greenish ware, with fine to medium black and red grits, sometimes yellow exploded grits, and rare chaff temper. Walls are medium to thick. There is often a decoration of horizontal and/or wavy lines or hatched patterns (Fig. 4/9–14).

² The pottery typology at al-Yamāmah is published in Mouton, Siméon & Schiettecatte 2016 (cat. 1 to 48) and Schiettecatte 2016: 78–83 (cat. 49–56).

The distribution of this pottery type is homogeneous in the workshop. The ratio of COMM.BUFF per stratigraphic unit varies from 0.65 to 0.89. The highest concentration is in kiln H. 068 (Phase 3 levels) and in pit Pi. 318 in front of the kiln, where the ratio varies between 0.89 and 1. The workshop clearly specialized on the production of COMM.BUFF. After the shutdown of the excavated kilns (phases 3 and 4), the neighbouring workshops continued its production.

This type mostly includes bowls (30%), basins (29%), jars (38%), and very occasionally jugs, hole-mouth jars, lids, and cups. In phase 2, when the kilns were active, bowls and basins account for 71% of the identified shapes, and 80% in one of the late firing phase of kiln H. 068 (UF 338). It constituted a major production of this kiln.

There are four kinds of bowls, basins, and cooking pots:

- bowls and basins with a triangular everted rim (Fig. 7/1-5);
- bowls and basins with a thin round/square rim and flat base (Fig. 7/8–15);
- cooking pots with a square rim and horizontal grooves (Fig. 7/16-18);
- bowls and basins with a thin inverted round/triangular rim, some incised with wavy/horizontal lines (Fig. 8/1-16);

There are four kinds of jars:

- jars with a vertical neck, a thickened rim and two vertical handles with a bean-shaped section (Fig. 9/1-4, 9/11-15, 9/21);
- jars with a large vertical neck, a rounded rim, and three rounded handles (Fig. 9/22–24);
- jars with a sloping neck, a rounded rim, and an elongated rounded handle (Fig. 9/16);
- jars with an everted rounded rim (Fig. 9/5-7).

A first variant of this pottery type is the COMM.RED, which is rather similar to COMM.BUFF, but well levigated, red in colour, and with thinner walls. These are mostly tableware (plates, bowls) (Fig. 10/1–3).

A second variant is the MED.RED, a well-fired orange-red to buff ware, with a few thin black and red grits and sandy temper. Walls are thin to medium and surfaces are plane. It mainly includes bowls with an inverted rounded rim (Fig. 10/8–12) and bowls with a thin rounded/square rim (Fig. 10/13–17).

A third variant, MED.CREAM.SLP, is identical to the MED.RED, with a cream slip on the outer side. It is more common, accounting for 5% of the MNI, although most of the sherds come from the phase 4 layers, close to the surface. It is not certain that it was produced in this specific workshop but its abundance in other excavated areas at al-Yamāmah (12% of the MNI in Trench D, Area 6; 20% in the mosque area, Area 6; 5% in Sounding 4, Area K17) and its chemical proximity with COMM.BUFF (see below) probably make it a local production. It mainly includes tableware (85% are bowls) and jugs. These are:

- small to large bowls with a triangular rim and horizontal incisions (Fig. 11/1-4);
- small to large bowls with a thin squared rim (Fig. 11/11-16);
- open bowls with a thin rounded rim and an annular base (Fig. 11/5–8);
- jugs with an everted rounded rim (Fig. 11/9–10).

The Thin Greenish Ware

FIN.GREEN is a thin to medium, light green ware with a fine mineral temper. The fabric is well levigated and well fired, with a smooth regular surface. It accounts for 1.8% of the MNI. It is absent in phases 1 and 2 and was therefore not produced in the excavated kilns.

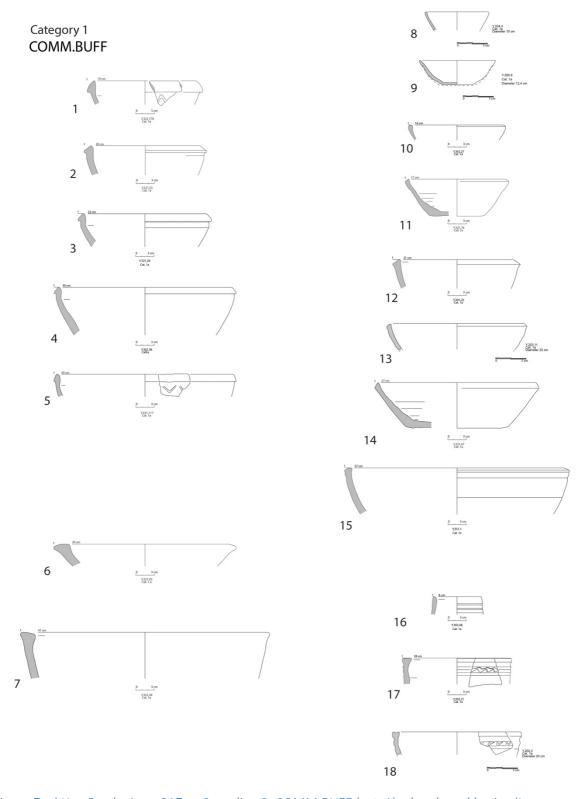


Figure 7. al-Yamāmah: Area G17 — Sounding 3: COMM.BUFF (cat. 1) — bowls and basins (L. Munduteguy, Saudi French Archaeological Mission in al-Kharj).

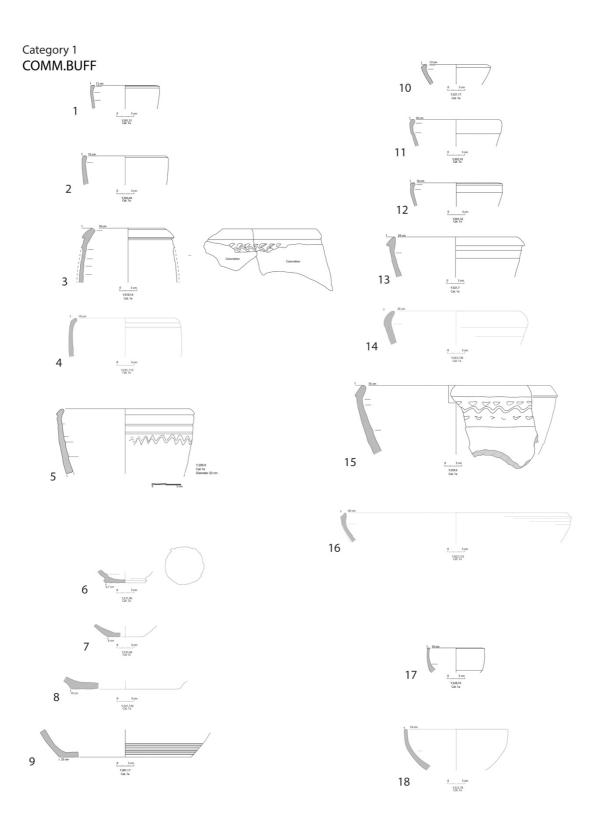


Figure 8. al-Yamāmah: Area G17 — Sounding 3: COMM.BUFF (cat. 1) — bowls and basins (L. Munduteguy, Saudi French Archaeological Mission in al-Kharj).

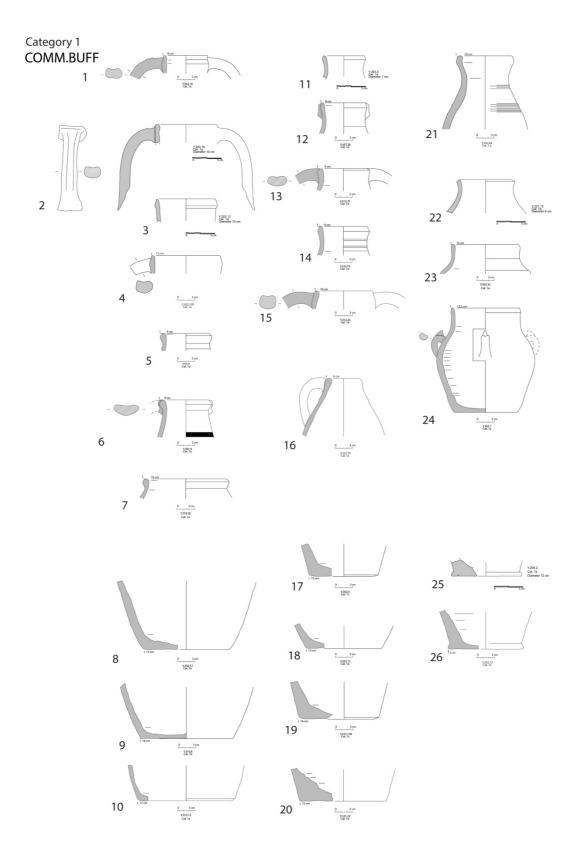


Figure 9. al-Yamāmah: Area G17 — Sounding 3: COMM.BUFF (cat. 1) — jars (L. Munduteguy, Saudi French Archaeological Mission in al-Kharj).

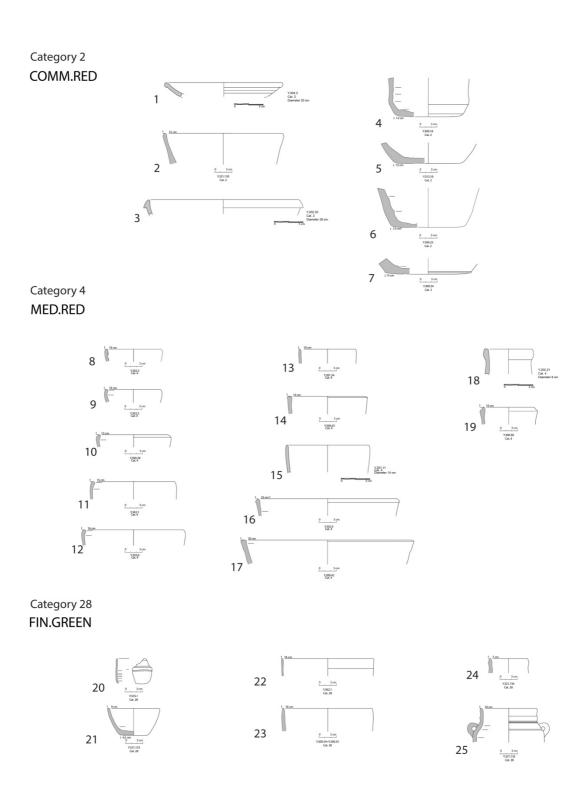


Figure 10. al-Yamāmah: Area G17 — Sounding 3: COMM.RED (cat. 2), MED.RED (cat. 4), and FIN.GREEN (cat. 28) (L. Munduteguy, Saudi French Archaeological Mission in al-Kharj).

Category 35 MED.CREAM.SLP Y201.5 Cat. 35 Diarneter 16 cm Y 201.6 Cat. 35 Diameter 18 cm Y 202 11 Cat. 35 Diameter 32 cm

Figure 11. al-Yamāmah: Area G17 — Sounding 3: MED.CREAM.SLP (cat. 35) (L. Munduteguy, Saudi French Archaeological Mission in al-Kharj).

Most of the sherds come from the refuse dumps within kiln H 069 and between kilns H. 068 and H. 069. It may have been produced in the neighbouring workshops.

The ware comprises bowls with a thin rounded rim (Fig. 10/22–23), a cup with a rounded rim and flat base (Fig. 10/21), and an open jar with a vertical neck, a thickened rounded rim, and two small rounded handles (Fig. 10/24–25).

Chemical characterization of the pottery assemblage Methodology

A first set of chemical characterizations of the fabrics from al-Yamāmah was established. The purpose was twofold: firstly, to characterize the chemical profile of the local production; secondly, to confirm the proximity of several categories considered as local variants of a similar pottery production.

Major and trace elements were measured on sixteen categories (1, 2, 4, 6, 9, 10, 15, 26, 28, 33, 35, 50, 51, 52, 55, and 56) with twenty-six samples from the whole site. The raw chemical data from the ICP-OES-MS analysis and the process are described in the appendix (see below: 'Supporting information'). Priority was given to the assumed local productions: COMM.BUFF (cat. 1, five samples); COMM.RED (cat. 2, one sample); MED.RED (cat. 4, one sample); MED.CREAM.SLP (cat. 35, three samples); and FIN.GREEN (cat. 28, one sample). For other categories, one or two samples were selected in different areas of the site and different chronological contexts. It allowed for a very preliminary characterization of these categories and the identification of proximity between some of them.

Ceramics is a mixture of one part clay, one part natural carbonated content, and one part sandy content (siliceous or carbonated), natural or added. Clay minerals consist mainly of alumina (Al_2O_3) and silica (SiO_2). The sandy phase is generally siliceous and therefore provides mainly silica (SiO_2) and also titania (TiO_2), zirconium (Zr), and sometimes calcium oxide (CaO). The carbonate phase provides calcium oxide (CaO), strontium (Sr), magnesium (Sr), cerium (Sr), cerium (Sr), cerium (Sr), nikel (Sr), rubidium (Sr), strontium (Sr), vanadium (Sr), zirconium (Sr

Results and discussion

The cluster analysis of geochemical data allowed for the distinction of two groups and an isolated sample (Fig. 12, top):

Group 1 includes four out of the five samples of cat. 1 (COMM.BUFF), the sample of cat. 2 (COMM.RED) and 4 (MED.RED), the three samples of cat. 33 (FIN.CREAM.SLP) and 35 (MED.CREAM.SLP), as well as the samples of pre-Islamic categories (52, 55, and 56 — absent in Sounding 3, one sherd excepted). The macroscopic similitude between COMM.BUFF and what we considered to be variants (COMM.RED, MED.RED, MED.CREAM.SLP) is confirmed. The presence in this group of categories well attested in the pre-Islamic layers of other soundings (Trench D, Area N6; Sounding 4, Area K17) indicates probable local pre-Islamic productions.

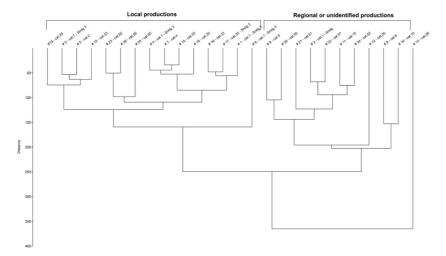
Group 2 includes sherds from various macroscopic categories: PINK.COOK (cat. 6), a cooking ware more commonly attested in late Islamic contexts; LAYLA (cat. 9, 10 and 50), different variants of the Layla

ware, probably imported from the area of Layla/al-Aflāj; BLACK&RED (cat. 15), a coarse chaff temper ware found in pre-Islamic contexts; and CRUMB.GREEN (cat. 51), also specific to the pre-Islamic occupation. This second group owes its specificity to other regional traditions (e.g. the Layla ware), or to a different provenance of clay and temper with, so far, no possibility of determining whether they were locally produced or not.

In group 2, the presence of a sample of COMM.BUFF (cat. 1) is unexpected. This sample comes from the late Islamic layers of Sounding 1 (Area N6). Although the macroscopic sorting compelled us to register it as COMM.BUFF, it might well be relevant to a different late Islamic pottery tradition, be it local or not.

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Cluster analysis after 9 major elements (CaO, Fe₂O_y, P₂O_y, TiO_y, K₂O, SiO_y, Al₂O_y, MgO, MnO) and 9 trace elements (Zr, Sr, Rb, Zn, Cr, Ni, Ba, V, Ce)



Ternary diagram according to the values of SiO₂, CaO and Al₂O₃

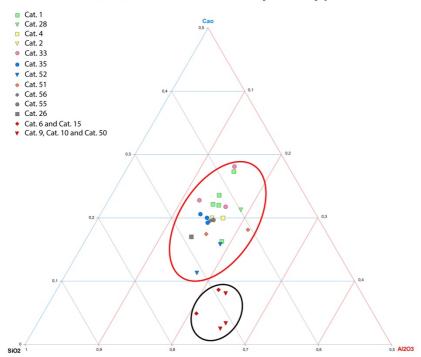


Figure 12. Top: cluster analysis of the pottery samples from al-Yamāmah based on eighteen chemical components: CaO, Fe2O3, P2O5, TiO2, K2O, SiO2, Al2O3, MgO, MnO, Zr, Sr, Rb, Zn, Cr, Ni, Ba, V, Ce. Bottom: ternary diagram with the distribution of the pottery samples from al-Yamāmah according to the values of SiO2, CaO, and Al2O3 (F. Lesguer).

Finally, the sample of FIN.GREEN (cat. 28) does not fit into any group. This may be due to a high barium concentration (516.36 ppm, i.e. 2.6 times higher than the sample average of 193.50 ppm). Since normal values are comprised between 250 and 1000 ppm (Anna et al. 2011: 70), it cannot be considered as an external pollution (Picon 1985: 29). With just a single sample analysed so far, it is not possible to discuss the geographical origin of this production.

Apart from the cluster analysis, we compared the concentration of the three major elements that show the highest standard deviations in our samples: silica (SiO_2), alumina (Al_2O_3), and calcium oxide (CaO). They indicate a greater variability between samples which is illustrated in a ternary diagram (Fig. 12, bottom).

The diagram shows two groups, which overlap with those of the cluster analysis. PINK.COOK, LAYLA, and BLACK&RED (cat. 6, 9, 10, 15 and 50) are dissociated. They have a lower concentration of CaO and a higher concentration of SiO₂, especially the LAYLA (cat. 9, 10, and 50). Other categories have a higher concentration of CaO. It includes all those significantly represented in the pottery workshop (cat. 1, 2, 4, 28, 35) as well as samples of categories mostly attested in pre-Islamic contexts on the site (cat. 33, 52, 55, 56). These are clearly a group of local productions characterized by a fabric rich in calcium.

Conclusion

To the south-west of al-Yamāmah, Sounding 3 offered a rare insight into the Central Arabian pottery production of the ninth—tenth century AD. The excavated pottery workshop was active during a limited period of time and specialized in the production of the same fabric and a limited range of shapes — a common buff ware characterized by open bowls and closed jars. Two different-sized kilns were used alternately, according to domestic demand. When the kilns were finally abandoned, pottery production continued in the neighbourhood and the excavated area was converted into a dump (phases 3 and 4).

A quantitative analysis of the pottery distribution and its chemical characterization enabled us to define the profile of the main production in the pottery workshop at al-Yamāmah, the Common Buff Ware (COMM.BUFF). It also showed that the macroscopic variants (COMM.RED, MED.RED, MED.CREAM.SLP), which were the most abundant after the COMM.BUFF, belonged to the same group of carbonate fabric that was produced in the immediate surroundings. The Thin Greenish Ware (FIN.GREEN), which looks unrelated but is well attested, also belongs to this group of carbonate fabrics and was probably produced locally. Together with the Common Buff Ware, the presence of related categories of tablewares, often finer, are probably explained by the existence of several active workshops having their own method of production.

Finally, the chemical characterization also showed that other pottery categories (cat. 33, 52, 55, 56) sampled in pre-Islamic contexts of another area of the site (N6, to the north-east) were very similar to the early Islamic productions and might be considered as pre-Islamic local productions. It also underlined the strong dissimilarity of distinctive wares which were the result of a different pottery-making tradition, possibly imported. This is illustrated by the Layla ware, highly likely brought from the Aflāj region, where the pottery-making tradition and technology were clearly different, the fabrics having a high silicate content and fired at very high temperature.

Supporting information

Analysis was performed at the Centre de Recherches Pétrographique et Géochimiques — Service d'Analyse des Roches et des Minéraux, Vandœuvre-Les-Nancy. The laboratory practices a LiBO₂ melting and acid dissolution of samples. Major elements were quantified with an emission spectrometer (ICP-

OES) Thermo Fischer ICap 6500; trace elements with a mass spectrometer (ICP-MS) Thermo Elemental X. Fifty-four chemical elements were determined; the results were expressed in oxide percentages for major components and in parts per million of metal for trace elements. Oxides of major elements are: calcium oxide (CaO), ferric oxide (Fe₂O₃), titanium oxide (TiO₂), potassium oxide (K₂O), silicon dioxide (SiO₂), aluminium oxide (Al₂O₃), magnesium oxide (MgO), manganese oxide (MnO), sodium oxide (Na₂O), and phosphorus pentoxide (P₂O₅). Trace elements are: arsenic (As), barium (Ba), beryllium (Be), bismuth (Bi), cadmium (Cd), cerium (Ce), cobalt (Co), chromium (Cr), caesium (Cs), copper (Cu), dysprosium (Dy), erbium (Er), europium (Eu), gallium (Ga), gadolinium (Gd), germanium (Ge), hafnium (Hf), holmium (Ho), indium (In), lanthanum (La),

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lutecium (Lu), molybdenum (Mo), niobium (Nb), neodymium (Nd), nickel (Ni), lead (Pb), praseodymium (Pr), rubidium (Rb), antimony (Sb), samarium (Sm), tin (Sn), strontium (Sr), tantalum (Ta), terbium (Tb), thorium (Th), thulium (Tm), uranium (U), vanadium (V), tungsten (W), yttrium (Y), ytterbium (Yb), zinc (Zn), zirconium (Zr). Raw data are shown in Figure 13.

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See below

Figure 13. Raw geochemical data from the ICP-OES analysis of major elements, given in percentage per oxide, and from the ICP-MS analysis of trace elements, given in ppm (CRPPM — SARM, Saudi French Archaeological Mission in al-Kharj).

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		OXIDES OF M	AJOR E	LEMEN	TS (%)								
Sample #	Pottery category	Provenance	SiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K20	TiO2	P2O5	PF
1710046	1 - COMM.BUFF	Area G17 - Sounding 3 - UF 302	49,37	11,78	4,47	0,06	5,21	18,85	1,77	1,02	0,65	0,20	6,93
1710047	1 - COMM.BUFF	Area G17 - Sounding 3 - UF 302	41,71	9,63	3,79	0,05	4,79	14,59	2,63	1,83	0,54	0,17	21,20
1710048	1 - COMM.BUFF	Area N6 - Sounding 1 - UF 057	55,54	15,99	4,64	0,04	2,70	13,90	0,76	1,67	0,90	0,20	3,16
1710049	1 - COMM.BUFF	Area G17 - Sounding 3 - UF 302	42,88	11,02	4,66	0,06	4,52	20,24	2,00	1,18	0,63	0,19	12,77
1710051	1 - COMM.BUFF	Area G17 - Sounding 3 - UF 302	49,44	12,22	4,69	0,06	4,82	17,37	1,27	1,38	0,74	0,22	6,83
1710050	2 - COMM.RED	Surface	44,83	10,80	4,06	0,06	4,89	13,90	0,95	2,09	0,63	0,22	16,35
1710052	4 - MED.RED	Surface	48,57	13,15	3,57	0,04	4,05	15,40	0,62	1,45	0,74	0,22	11,84
1710053	6 - PINK.COOK	Surface	65,52	18,51	4,28	0,02	1,33	4,32	1,32	2,00	1,22	0,21	1,48
1710054	9 - LAYLA	Surface	58,65	19,98	8,00	0,02	1,49	6,89	0,56	1,08	1,13	0,21	2,45
1710055	10 - LAYLA.GLOSS	Surface	64,54	22,75	4,95	< L.D.	0,86	2,22	0,44	1,02	1,36	0,13	1,89
1710056	15 - BLACK&RED	Area N6 - Sounding 1 - UF 060	56,24	17,95	5,09	0,03	2,30	7,01	0,87	2,18	0,96	0,25	7,60
1710057	26 - YEL.SANDY	Surface	57,16	11,81	5,11	0,06	2,98	14,12	1,29	1,67	0,73	0,20	4,69
1710058	28 - FIN.GREEN	Surface	51,10	16,07	4,30	0,05	3,44	18,14	0,62	1,25	0,84	0,17	5,19
1710059	33 - FIN.CREAM.SLP	Surface	46,40	12,41	4,27	0,05	4,25	16,34	0,96	2,44	0,71	0,27	12,58
1710060	33 - FIN.CREAM.SLP	Surface	51,17	9,80	3,99	0,06	3,19	17,98	0,64	1,91	0,58	0,19	11,20
1710061	33 - FIN.CREAM.SLP	Surface	39,87	10,11	3,91	0,06	4,16	19,54	1,07	2,04	0,62	0,34	18,35
1710062	35 - MED.CREAM.SLP	Area G17 - Sounding 3 - UF 302	51,53	11,74	4,70	0,06	5,26	15,81	0,93	1,92	0,71	0,19	8,02
1710063	35 - MED.CREAM.SLP	Surface	49,31	10,24	3,74	0,05	2,82	15,43	0,91	2,25	0,63	0,28	14,04
1710064	35 - MED.CREAM.SLP	Surface	53,56	12,53	3,27	0,04	2,25	15,73	0,62	1,51	0,70	0,30	9,08
1710065	50 - PSEUDO.LAYLA	Area G17 - Sounding 3 - UF 300	60,81	22,06	5,83	0,02	0,83	2,86	0,40	0,85	1,31	0,13	5,07
1710066	51 - CRUMB.GREEN	Area N6 - Trench D - UF 502	51,25	18,11	6,33	0,06	4,13	15,34	1,32	1,60	1,00	0,15	0,75
1710067	51 - CRUMB.GREEN	Area N6 - Trench D - UF 502	53,64	12,91	4,87	0,05	4,39	14,05	1,66	1,45	0,80	0,28	5,21
1710068	52 - HAND.CREAM.SLP	Area N6 - Trench D - UF 502	56,08	14,09	3,81	0,04	2,27	8,93	1,12	2,61	0,84	0,19	9,09
1710069	52 - HAND.CREAM.SLP	Area N6 - Trench D - UF 502	53,86	15,43	5,11	0,07	3,06	13,01	0,95	2,86	0,89	0,23	5,42
1710070	55 - GREEN.SCRATCHY	Area N6 - Trench D - UF 502	53,23	13,13	4,45	0,05	4,13	16,23	1,15	1,56	0,79	0,22	5,54
1710071	56 - FIN.SCRATCHY	Area N6 - Trench D - UF 502	53,14	12,69	4,22	0,05	3,93	15,98	0,69	1,80	0,75	0,19	6,97

Figure 13. Raw geochemical data from the ICP-OES analysis of major elements, given in percentage per oxide, and from the ICP-MS analysis of trace elements, given in ppm (CRPPM — SARM, Saudi French Archaeological Mission in al-Kharj).

	7. 7							TRAC	E ELEME	NTS (pp	m)										1		
Sample #	As	As	Ba	Be	Bi	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Ge	Hf	Но	ln	La	Lu	Мо
1710046	2,2052	2,205	164,887	1,221	< L.D.	0,177	50,661	12,519	116,792	1,243	31,716	3,080	1,701	0,994	14,758	3,547	0,832	5,112	0,634	< L.D.	21,288	0,273	0,809
1710047	6,6904	6,690	155,937	0,957	0,121	0,300	41,705	10,951	89,714	1,266	22,729	2,439	1,365	0,746	12,159	2,653	0,842	3,940	0,494	0,036	17,683	0,218	1,355
1710048	5,9461	5,946	206,047	1,589	0,111	0,094	61,997	11,066	130,113	2,352	32,863	4,476	2,411	1,363	20,541	4,792	1,102	6,197	0,905	0,057	26,794	0,373	0,561
1710049	7,6208	7,621	194,310	1,097	0,113	0,142	39,947	12,403	111,504	0,525	20,340	2,755	1,590	0,768	13,922	2,902	0,993	4,765	0,584	0,040	18,063	0,255	0,675
1710051	8,8156	8,816	203,582	1,255	0,132	0,252	66,697	12,946	123,912	1,878	22,793	3,321	1,864	1,062	15,831	3,635	1,078	7,461	0,691	0,047	28,387	0,304	0,999
1710050	14,3784	14,378	197,919	1,155	0,133	0,229	41,138	12,023	91,235	1,945	18,107	3,034	1,748	0,849	13,555	3,080	0,884	4,581	0,635	0,042	18,239	0,281	1,067
1710052	7,3533	7,353	183,325	1,334	0,151	0,166	50,009	9,058	98,398	2,179	20,174	3,644	2,018	1,092	16,302	3,820	0,914	4,355	0,753	0,050	21,342	0,320	1,594
1710053	12,8816	12,882	124,176	1,288	0,079	0,076	49,283	7,757	111,527	2,683	15,622	4,064	2,433	1,158	23,388	3,998	1,022	8,972	0,867	0,048	22,345	0,425	1,093
1710054	5,8816	5,882	170,558	1,773	0,125	0,099	100,016	7,582	131,926	3,013	18,498	5,777	3,249	1,837	26,889	6,224	1,464	8,735	1,190	0,061	43,605	0,523	1,179
1710055	4.078	4,078	148,407	1,956	0,110	0,101	142,909	7,752	132,128	3,045	22,554	11,067	5.618	3,616	29.629	12,382	1,611	7,546	2,183	0.073	61,562	0.776	0,767
1710056	16,7724	16,772	133,508	1,602	0,129	0,144	68,281	9,926	121,364	2,278	19,424	5,355	3,030	1.356	22,431	5,095	1,210	6,114	1,138	0,052	28,539	0,478	1,082
1710057	3,0321	3,032	300,985	1,378	< L.D.	0,043	51,400	12,768	117,641	2,310	22,811	4,242	2,420	1,094	15,986	4,377	1,052	6,602	0,886	< L.D.	23,088	0,379	1,160
1710058	3,0759	3,076	516,362	1,401	< L.D.	0,075	58,243	11,362	131,489	1,652	15,597	3,788	2,127	1,188	20,370	4,250	1,166	5,170	0,777	0.036	25,581	0,341	0,789
1710059	13,5235	13,524	183,231	1,270	0.148	0.295	55,991	11,438	99,474	2,352	24,654	4,274	2,438	1.032	15,443	3,974	0,963	4,646	0.906	0.044	24,029	0,374	0,908
1710060	7.0438	7,044	197,874	1,062	0,120	0,247	36,976	11,671	86,644	1,624	21,650	2,655	1,568	0.722	12,539	2,782	0,872	4,235	0,571	0.037	16,716	0,256	0,737
1710061	12,8582	12,858	187,790	1,031	0,126	0,209	43,317	10,141	100,501	1,002	22,986	3,347	1,891	0,931	13,108	3,522	0,914	4,100	0,696	0,039	18,962	0,289	0,849
1710062	7,4714	7,471	205,432	1,237	0,120	0,186	55,076	12,561	109,378	1,878	23,755	3,084	1,730	0,949	14,130	3,349	1,010	4,949	0,639	0,043	23,207	0,280	1,273
	301,1435	301,144	182,496	1,090	0,105	0,100	43,337	9,741	90,164	1,238	18,465	2,905	1,665	0,872	12,447	3,186	0,926	5,198	0,613	0,036	18,812	0,269	0,852
1710063	8,3524	8,352	244,039	1,337	0,096	0,170	49,585	8,854	90,445	1,933	22,422	3,620	2,027	1,087	15,379	3,937	0,908	4,763	0,742	0,044	21,617	0,323	1,312
1710065	2,9747	2.975	125,149	1,970	0,030	0,146	135,295	9,541	133,071	2,746	31,241	11,384	5,938	3,504	28.641	12,612	1,736	7,718	2,305	0.075	58,151	0,813	0,545
1710066	1,5383	1,538	144,302	2,251	< L.D.	0,122	65,900	14,906	136,841	3,889	15,480	4,559	2,619	1,214	23,681	4,616	1,157	5,147	0,946	< L.D.	30,357	0,425	0,685
1710067	3,7978	3,798	156,184	1,364	< L.D.	0,122	55,251	12,528	114,563	2,463	25,347	4,314	2,310	1,233	16,827	4,483	0,953	5,782	0,864	0,051	23,761	0,335	0,739
1710067	11,3423	11,342	151,478	1,331	0,170	0,110	120,113	8,707	98,003	1,858	21,210	3,380	1,905	1,407	17,860	4,231	1,097	5,762	0,679	0,054	39,194	0,333	1,144
1710069	10,0058	10,006	171,174	1,714	0,170	0,132	56.864	13.936	120.050	3,238	19,152	4.035	2.231	1,127	19,739	4,231	1,097	5,516	0,879	0.056	24.858	0,312	1,345
1710009	3,644	3,644	214,476	1,353	< L.D.	0,199	57,802	11,937	116,956	1,885		3,035	1,754	0.858	16,657	3,084	0,949	6,402	0,623	< L.D.	25,356	0,302	0,719
											24,737												
1710071	11,3461	11,346	167,580	1,284	0,131	0,142	81,433	10,456	98,853	1,802	21,124	2,710	1,526	0,882	15,564	3,065	1,012	4,792	0,552	0,039	31,754	0,260	0,795
Sample #	Nb	Nb	Nd	Ni	Pb	Pr	Rb	Sc	Sb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V	w	Y	Yb	Zn	Zr
1710046		IND	INU				IVD												**		10		
	9 9348	9 935	21 582	61 120	3 145	5 667	16 348	13 110	0 162	4 308	0 914	603 322	0.828		5 842	0.261	2 486	97 442	<i d<="" td=""><td>16 236</td><td>1 790</td><td>60 807</td><td></td></i>	16 236	1 790	60 807	
	9,9348	9,935	21,582	61,120	3,145	5,667	16,348	13,110	0,162	4,308	0,914	603,322	0,828	0,524	5,842	0,261	2,486	97,442	< L.D.	16,236	1,790	60,807 56 313	198,954
1710047	8,1055	8,106	17,452	56,792	8,852	4,646	31,766	10,870	0,308	3,417	1,683	472,889	0,669	0,413	4,782	0,207	2,027	80,193	0,811	13,093	1,413	56,313	152,297
1710047 1710048	8,1055 14,1661	8,106 14,166	17,452 27,221	56,792 61,228	8,852 28,357	4,646 6,980	31,766 40,413	10,870 18,530	0,308 0,434	3,417 5,790	1,683 2,677	472,889 385,319	0,669 1,159	0,413 0,755	4,782 7,374	0,207 0,359	2,027 2,289	80,193 91,332	0,811 0,826	13,093 22,572	1,413 2,474	56,313 62,693	152,297 239,106
1710047 1710048 1710049	8,1055 14,1661 9,4505	8,106 14,166 9,451	17,452 27,221 16,459	56,792 61,228 62,248	8,852 28,357 4,593	4,646 6,980 4,303	31,766 40,413 16,048	10,870 18,530 12,400	0,308 0,434 0,371	3,417 5,790 3,406	1,683 2,677 1,949	472,889 385,319 527,520	0,669 1,159 0,790	0,413 0,755 0,458	4,782 7,374 6,316	0,207 0,359 0,234	2,027 2,289 2,289	80,193 91,332 80,526	0,811 0,826 < L.D.	13,093 22,572 15,359	1,413 2,474 1,649	56,313 62,693 70,509	152,297 239,106 183,891
1710047 1710048 1710049 1710051	8,1055 14,1661 9,4505 10,8027	8,106 14,166 9,451 10,803	17,452 27,221 16,459 28,217	56,792 61,228 62,248 65,278	8,852 28,357 4,593 5,700	4,646 6,980 4,303 7,452	31,766 40,413 16,048 26,715	10,870 18,530 12,400 13,880	0,308 0,434 0,371 0,430	3,417 5,790 3,406 4,923	1,683 2,677 1,949 2,341	472,889 385,319 527,520 601,667	0,669 1,159 0,790 0,889	0,413 0,755 0,458 0,548	4,782 7,374 6,316 6,660	0,207 0,359 0,234 0,288	2,027 2,289 2,289 2,642	80,193 91,332 80,526 98,048	0,811 0,826 < L.D. < L.D.	13,093 22,572 15,359 18,068	1,413 2,474 1,649 1,991	56,313 62,693 70,509 66,628	152,297 239,106 183,891 300,658
1710047 1710048 1710049 1710051 1710050	8,1055 14,1661 9,4505 10,8027 9,2119	8,106 14,166 9,451 10,803 9,212	17,452 27,221 16,459 28,217 17,356	56,792 61,228 62,248 65,278 51,505	8,852 28,357 4,593 5,700 19,238	4,646 6,980 4,303 7,452 4,525	31,766 40,413 16,048 26,715 43,365	10,870 18,530 12,400 13,880 11,830	0,308 0,434 0,371 0,430 0,336	3,417 5,790 3,406 4,923 3,629	1,683 2,677 1,949 2,341 1,923	472,889 385,319 527,520 601,667 460,147	0,669 1,159 0,790 0,889 0,795	0,413 0,755 0,458 0,548 0,499	4,782 7,374 6,316 6,660 5,733	0,207 0,359 0,234 0,288 0,267	2,027 2,289 2,289 2,642 1,774	80,193 91,332 80,526 98,048 97,119	0,811 0,826 < L.D. < L.D. 0,821	13,093 22,572 15,359 18,068 16,865	1,413 2,474 1,649 1,991 1,820	56,313 62,693 70,509 66,628 61,998	152,297 239,106 183,891 300,658 172,944
1710047 1710048 1710049 1710051 1710050 1710052	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646	8,106 14,166 9,451 10,803 9,212 11,465	17,452 27,221 16,459 28,217 17,356 21,698	56,792 61,228 62,248 65,278 51,505 46,244	8,852 28,357 4,593 5,700 19,238 22,342	4,646 6,980 4,303 7,452 4,525 5,526	31,766 40,413 16,048 26,715 43,365 35,817	10,870 18,530 12,400 13,880 11,830 15,200	0,308 0,434 0,371 0,430 0,336 0,316	3,417 5,790 3,406 4,923 3,629 4,485	1,683 2,677 1,949 2,341 1,923 2,187	472,889 385,319 527,520 601,667 460,147 531,457	0,669 1,159 0,790 0,889 0,795 0,951	0,413 0,755 0,458 0,548 0,499 0,599	4,782 7,374 6,316 6,660 5,733 5,938	0,207 0,359 0,234 0,288 0,267 0,302	2,027 2,289 2,289 2,642 1,774 2,066	80,193 91,332 80,526 98,048 97,119 83,139	0,811 0,826 < L.D. < L.D. 0,821 0,881	13,093 22,572 15,359 18,068 16,865 18,920	1,413 2,474 1,649 1,991 1,820 2,057	56,313 62,693 70,509 66,628 61,998 56,422	152,297 239,106 183,891 300,658 172,944 163,664
1710047 1710048 1710049 1710051 1710050 1710052 1710053	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281	8,106 14,166 9,451 10,803 9,212 11,465 15,128	17,452 27,221 16,459 28,217 17,356 21,698 21,959	56,792 61,228 62,248 65,278 51,505 46,244 23,408	8,852 28,357 4,593 5,700 19,238 22,342 12,226	4,646 6,980 4,303 7,452 4,525 5,526 5,466	31,766 40,413 16,048 26,715 43,365 35,817 41,918	10,870 18,530 12,400 13,880 11,830 15,200 19,040	0,308 0,434 0,371 0,430 0,336 0,316 0,361	3,417 5,790 3,406 4,923 3,629 4,485 4,894	1,683 2,677 1,949 2,341 1,923 2,187 3,241	472,889 385,319 527,520 601,667 460,147 531,457 253,286	0,669 1,159 0,790 0,889 0,795 0,951 1,270	0,413 0,755 0,458 0,548 0,499 0,599 0,655	4,782 7,374 6,316 6,660 5,733 5,938 7,981	0,207 0,359 0,234 0,288 0,267 0,302 0,385	2,027 2,289 2,289 2,642 1,774 2,066 2,987	80,193 91,332 80,526 98,048 97,119 83,139 172,079	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327	13,093 22,572 15,359 18,068 16,865 18,920 21,488	1,413 2,474 1,649 1,991 1,820 2,057 2,722	56,313 62,693 70,509 66,628 61,998 56,422 45,874	152,297 239,106 183,891 300,658 172,944 163,664 350,471
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055 1710056	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207 1,091	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055 1710056 1710057	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355	2,027 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710058	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397 0,271	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087 6,146	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,348	2,027 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710059 1710059	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700 58,250	8,852 28,357 4,593 5,700 19,238 22,342 10,171 15,349 11,107 28,814 5,004 16,824 9,636	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,361 0,386 0,477 0,336 0,397 0,271 0,393	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 1,793 1,976 2,273 1,823	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,947 7,417 7,412 7,087 6,146 5,126	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,348 0,231	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,686 176,004 104,423 112,655 107,163 70,708	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D. 0,944 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710058 1710060 1710060	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625	17,452 27,221 16,459 28,217 17,356 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700 58,250 59,899	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 111,107 28,814 5,004 16,824 9,636 21,492	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 6,056 3,992 4,916	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790 11,510	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,393	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679 0,438	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,447 7,417 7,412 7,087 6,146 5,126 5,608	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,348 0,231	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222	0,811 0,826 < L.D. < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. 0,944 < L.D. < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710069 1710060 1710061 1710061	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 10,6068	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 59,899 61,803	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673	4,646 6,980 4,303 7,452 4,525 5,526 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790 11,510	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,361 0,388 0,477 0,271 0,393 0,392 0,393 0,393	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,882	0,413 0,755 0,458 0,548 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679 0,438 0,560 0,515	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087 6,146 5,126 5,608 6,039	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,348 0,231 0,275	2,027 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009 2,476	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D. 0,944 < L.D. 0,945	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893 1,809	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 67,093 61,667 72,331 66,584	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653 190,892
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710055 1710056 1710056 1710057 1710059 1710060 1710061 1710062 1710062	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 58,250 59,899 61,803 46,382	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,857	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 30,876	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790 11,510 13,020 11,590	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,332 0,388 0,390 4,990	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209 3,791	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 6115,408 558,516	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,802 0,882	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,685 0,679 0,438 0,560 0,515 0,493	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087 6,146 5,126 5,608 6,039 5,357	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,348 0,231 0,275 0,256	2,027 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009 2,476 2,125	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. 0,944 < L.D. 0,905 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,461 1,615 1,893 1,809 1,711	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710059 1710060 1710060 1710061 1710062 1710063 1710063	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,123	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700 58,250 59,899 61,803 46,382 39,800	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 6,056 3,992 4,916 5,899 4,857 5,585	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079 30,876 34,868	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 10,790 11,510 13,020 11,510 13,020 14,190	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,393 0,388 0,390 4,990	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209 4,209 4,209	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,802 0,728	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087 6,146 5,126 5,608 6,039 5,357 5,732	0,207 0,359 0,234 0,286 0,267 0,302 0,385 0,495 0,804 0,355 0,311 0,348 0,231 0,275 0,243	2,027 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009 2,476 2,125 1,996	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746	0,811 0,826 < L.D. < L.D. 0,821 1,327 1,142 1,207 1,091 < L.D. < L.D. 0,944 < L.D. < L.D. 0,944 < L.D. < L.D. 0,944 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362 18,797	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893 1,809 1,711 2,058	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 56,324	152,297 239,106 183,891 300,658 172,944 163,664 350,471 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764 182,849
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710054 1710055 1710056 1710057 1710058 1710060 1710060 1710061 1710062 1710064 1710064 1710064	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 10,6068 8,6087 11,0065 17,1728	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 12,172 9,307 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 65,844	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700 58,250 61,803 46,382 39,800 35,020	8,852 28,357 4,593 5,700 19,238 22,342 10,171 15,349 11,107 28,814 5,004 16,836 21,492 10,673 14,089 16,835 10,930	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,857 5,585 16,193	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 40,117 40,629 33,002 44,864 35,628 27,187 42,079 30,876 34,868 30,605	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,570 10,790 11,510 13,020 11,590 14,190 25,210	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,361 0,386 0,397 0,271 0,393 0,393 0,393 0,393 0,390 4,990 0,320 0,404	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209 1,791 4,603 14,178	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 3,396	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615 333,909	0,669 1,159 0,790 0,889 0,795 0,951 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,822 0,728 0,920 1,421	0,413 0,755 0,458 0,548 0,499 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 1,946	4,782 7,374 6,316 6,660 5,733 7,981 8,945 8,477 7,412 7,087 6,146 5,126 5,608 6,039 5,357 5,732	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,804 0,444 0,355 0,311 0,275 0,223 0,225 0,243 0,249 0,243	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 1,941 1,650 2,009 2,476 2,125 1,996 3,152	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,47 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399	0,811 0,826 < L.D. 0,821 0,821 1,327 1,142 1,207 1,091 < L.D. < L.D. 0,944 < L.D. < L.D. 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,940 0,94	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362 18,797 60,245	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893 1,809 1,711 2,058 5,471	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 75,324 66,324	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 190,527 190,892 204,764 182,849 294,553
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710055 1710056 1710057 1710058 1710058 1710060 1710060 1710061 1710062 1710063 1710063 1710064 1710065 1710063 1710065 1710065 1710065	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087 11,0065 17,1728	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173 14,707	17,452 27,221 16,459 28,217 17,356 21,958 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,123 65,844 27,012	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 58,250 59,899 61,803 46,382 39,800 35,020 60,264	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835 10,930 2,005	4,646 6,980 4,303 7,452 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,857 5,585 16,193 7,142	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079 30,876 34,868 30,605 36,416	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790 11,510 13,020 11,590 14,190 25,210 18,960	0,308 0,434 0,371 0,430 0,336 0,316 0,361 0,388 0,477 0,336 0,271 0,393 0,392 0,393 0,388 0,390 4,990 0,320 0,404 0,404	3,417 5,790 3,406 4,923 3,629 4,485 4,894 8,344 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209 3,791 4,603 14,178 5,467	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 3,396 0,898	472,889 385,319 527,520 601,667 460,147 531,457 253,286 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615 333,909 289,127	0,669 1,159 0,790 0,889 0,795 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,882 0,728 0,920 0,920	0,413 0,755 0,458 0,548 0,499 0,599 0,655 1,904 0,858 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 1,946	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,412 7,087 6,146 5,126 5,608 6,039 5,357 5,733	0,207 0,359 0,234 0,286 0,267 0,302 0,385 0,495 0,304 0,444 0,355 0,311 0,248 0,231 0,275 0,243 0,243 0,292	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 1,650 2,009 2,476 2,125 1,996 3,152 2,333	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399 171,754	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,091 < L.D. < L.D. 0,944 < L.D. < L.D. 0,905 < L.D. 0,905 < L.D. 0,905 < D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362 18,797 60,245 24,512	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,465 1,615 1,893 1,809 1,711 2,058 5,471 2,668	56,313 62,693 70,509 66,628 66,628 65,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 56,324 66,324 66,324 66,324	152,297 239,106 183,891 300,658 172,944 163,664 350,471 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764 182,849 294,553 188,177
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710054 1710056 1710056 1710057 1710058 1710060 1710060 1710061 1710062 1710063 1710063 1710064 1710066 1710066 1710066 1710066 1710066 1710066 1710066 1710066	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 10,6068 8,6087 11,1028 11,1028 11,0065 17,1728 14,7071	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173 14,707	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,1123 65,844 27,012 24,431	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 58,250 61,803 46,382 39,800 35,020 60,264 54,472	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835 10,930 2,005 7,799	4,646 6,980 4,303 7,452 4,525 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,857 5,585 16,193 7,142 6,183	31,766 40,413 16,048 26,715 43,365 35,817 40,117 34,786 40,629 33,002 44,864 35,628 27,187 42,079 30,876 34,868 30,605 36,416 18,476	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 13,970 10,790 11,510 13,020 11,590 14,190 25,210 18,960 14,990	0,308 0,434 0,371 0,371 0,336 0,336 0,361 0,361 0,388 0,477 0,271 0,332 0,332 0,388 0,390 4,990 0,320 0,404 0,173 0,368	3,417 5,790 3,406 4,923 3,629 4,485 4,894 14,982 5,569 4,941 5,189 4,465 3,127 4,129 4,209 3,791 4,603 14,178 5,467 5,198	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 3,398 0,898 2,551	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615 333,009 289,127 353,543	0,669 1,159 0,790 0,889 0,795 1,270 1,499 1,375 1,016 0,809 1,055 0,878 0,764 0,802 0,882 0,728 0,920 1,421 1,252 1,205	0,413 0,755 0,458 0,548 0,599 0,655 0,957 1,904 0,858 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 1,946 0,732	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,087 6,146 5,126 6,039 5,357 5,732 8,573 11,361 6,611	0,207 0,359 0,234 0,288 0,288 0,267 0,302 0,895 0,804 0,444 0,355 0,311 0,275 0,256 0,243 0,291 0,829 0,291 0,829 0,291	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 1,941 2,292 2,113 1,650 2,009 2,476 2,125 1,996 3,152 2,333 2,462	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399 171,754 88,090	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D. < L.D. < L.D. < L.D. < L.D. < L.D. < L.D. 0,944 < L.D. < L.D. 0,920 0,999 0,896 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 23,700 20,262 23,956 15,049 18,500 16,504 16,504 16,362 18,797 60,245 24,512 22,890	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 1,615 1,809 1,711 2,058 5,471 2,668 2,218	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 56,324 66,324 61,449 72,938	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 190,892 204,764 182,849 294,553 188,177
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710056 1710056 1710057 1710059 1710060 1710061 1710062 1710063 1710064 1710065 1710066 1710066 1710066 1710066 1710066 1710066	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087 11,0065 17,1728 14,7071 14,9772	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173 14,707 14,977 11,713	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,123 65,844 27,012 24,431 53,401	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 58,250 61,803 46,382 39,800 35,020 60,264 54,472 39,965	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835 10,930 2,005 7,799 18,992	4,646 6,980 4,303 7,452 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,916 5,895 16,193 7,142 6,183 13,738	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079 30,876 36,456 36,416 18,476 36,452	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 10,790 11,510 13,020 11,590 14,190 25,210 18,960 14,990 15,780	0,308 0,434 0,371 0,430 0,336 0,336 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,392 0,388 0,390 4,990 0,320 0,404 0,173 0,368 0,409	3,417 5,790 3,406 4,923 3,629 4,485 4,894 14,982 5,569 4,941 5,189 3,127 4,129 4,209 4,603 14,178 5,467 5,198 7,638	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 3,396 0,898 2,551 2,968	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615 333,909 289,127 353,543 488,673	0,669 1,159 0,790 0,899 0,795 1,270 1,499 1,375 0,809 1,055 0,878 0,764 0,802 0,802 0,822 0,728 0,920 1,421 1,255 0,974	0,413 0,755 0,458 0,548 0,599 0,655 0,957 1,904 0,685 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 1,946 0,732 0,697	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,412 6,146 5,126 5,608 6,039 5,357 5,732 8,573 11,361 6,611 7,637	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,311 0,348 0,231 0,275 0,225 0,243 0,243 0,291 0,827 0,327	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009 2,476 2,125 1,996 3,152 2,333 2,462 2,333 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399 171,754 88,090 124,147	0,811 0,826 < L.D. 0,821 0,881 1,327 1,091 < L.D. 0,944 < L.D. < L.D. 0,905 < L.D. 0,909 0,896 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362 18,797 60,245 24,512 22,890 17,804	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893 1,809 1,711 2,058 5,471 2,668 2,218	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 56,324 66,324 61,449 72,938 59,231	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764 182,849 294,553 188,177 224,932 201,663
1710047 1710048 1710049 1710050 1710050 1710052 1710053 1710055 1710056 1710057 1710058 1710058 1710060 1710060 1710061 1710062 1710063 1710063 1710066 1710066 1710066 1710067 1710067 1710068 1710068 1710068	8,1055 14,1661 9,4505 10,8027 9,2112 9,2112 11,4646 15,1281 18,4767 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087 11,1085 17,1728 14,7071 14,9772 11,7128	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173 14,707 14,977 11,713	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,123 65,844 27,012 24,431 53,401 23,501	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 36,377 47,167 61,076 59,700 58,250 59,899 61,803 46,382 39,800 35,020 60,264 54,472 39,965 56,320	8,852 28,357 4,593 5,700 19,238 22,342 11,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835 10,930 2,005 7,799 18,992 13,563	4,646 6,980 4,303 7,452 4,525 5,526 5,526 11,331 17,229 7,542 6,056 3,992 4,916 5,899 4,857 5,585 16,193 7,142 6,183 13,738 6,081	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079 30,876 34,868 30,605 36,416 18,476 36,452 68,014	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 17,920 10,790 11,510 13,020 11,590 14,190 25,210 18,960 14,990 15,780 16,780	0,308 0,434 0,371 0,371 0,336 0,336 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,392 0,392 0,392 0,392 0,393 0,396	3,417 5,790 3,406 4,923 3,629 4,485 4,894 14,982 5,569 4,465 3,127 4,129 4,209 3,791 4,603 14,178 5,467 5,189	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 0,898 2,551 2,968 2,551 2,968 2,705	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 416,880 614,522 615,408 558,516 459,615 333,909 289,127 353,543 488,673 369,233	0,669 1,159 0,790 0,889 0,795 1,270 1,499 1,375 0,869 1,055 0,878 0,764 0,802 0,728 0,920 1,421 1,252 0,974 1,065	0,413 0,755 0,458 0,548 0,699 0,695 0,957 1,904 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 0,732 0,697 0,506 0,515 0,936 0,636 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 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0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515 0,515	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,412 7,087 6,146 5,126 5,608 6,039 5,357 5,732 11,361 6,611 7,637 8,316	0,207 0,359 0,238 0,288 0,267 0,302 0,385 0,495 0,355 0,311 0,348 0,231 0,275 0,243 0,243 0,292 0,327 0,235 0,243	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 2,119 1,941 2,292 2,113 1,650 2,009 2,476 2,125 1,996 3,152 2,333 2,462 2,142 2,149	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399 171,754 88,090 124,147 138,755	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D. < L.D. 0,944 < L.D. < L.D. 0,905 < L.D. 0,999 0,896 < L.D. 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 16,504 16,504 16,504 16,504 24,512 22,890 17,804 20,851	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,466 1,615 1,893 1,899 1,711 2,058 2,268 2,218 1,983 2,284	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 56,324 61,449 72,938 59,231 61,040	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764 182,849 294,553 188,177 224,932 201,663 201,693
1710047 1710048 1710049 1710051 1710050 1710052 1710053 1710054 1710056 1710056 1710057 1710059 1710060 1710061 1710062 1710063 1710064 1710065 1710066 1710066 1710066 1710066 1710066 1710066	8,1055 14,1661 9,4505 10,8027 9,2119 11,4646 15,1281 18,4767 16,7929 12,1718 9,307 12,3943 10,5228 9,0936 9,6246 10,6068 8,6087 11,0065 17,1728 14,7071 14,9772	8,106 14,166 9,451 10,803 9,212 11,465 15,128 18,477 16,793 12,172 9,307 12,394 10,523 9,094 9,625 10,607 8,609 11,007 17,173 14,707 14,977 11,713	17,452 27,221 16,459 28,217 17,356 21,698 21,959 44,125 69,237 27,846 23,508 25,428 23,090 15,422 19,229 22,550 18,824 22,123 65,844 27,012 24,431 53,401	56,792 61,228 62,248 65,278 51,505 46,244 23,408 39,738 30,947 47,167 61,076 59,700 58,250 61,803 46,382 39,800 35,020 60,264 54,472 39,965	8,852 28,357 4,593 5,700 19,238 22,342 12,226 10,171 15,349 11,107 28,814 5,004 16,824 9,636 21,492 10,673 14,089 16,835 10,930 2,005 7,799 18,992	4,646 6,980 4,303 7,452 5,526 5,466 11,331 17,229 7,542 5,934 6,472 6,056 3,992 4,916 5,899 4,916 5,895 16,193 7,142 6,183 13,738	31,766 40,413 16,048 26,715 43,365 35,817 41,918 40,117 34,786 43,175 40,629 33,002 44,864 35,628 27,187 42,079 30,876 36,456 36,416 18,476 36,452	10,870 18,530 12,400 13,880 11,830 15,200 19,040 23,120 26,090 18,920 13,540 10,790 11,510 13,020 11,590 14,190 25,210 18,960 14,990 15,780	0,308 0,434 0,371 0,430 0,336 0,336 0,361 0,388 0,477 0,336 0,397 0,271 0,393 0,392 0,388 0,390 4,990 0,320 0,404 0,173 0,368 0,409	3,417 5,790 3,406 4,923 3,629 4,485 4,894 14,982 5,569 4,941 5,189 3,127 4,129 4,209 4,603 14,178 5,467 5,198 7,638	1,683 2,677 1,949 2,341 1,923 2,187 3,241 2,960 3,498 3,849 1,793 1,976 2,273 1,823 1,999 2,109 1,824 2,067 3,396 0,898 2,551 2,968	472,889 385,319 527,520 601,667 460,147 531,457 253,286 403,466 171,390 400,945 261,217 470,547 533,769 416,880 614,522 615,408 558,516 459,615 333,909 289,127 353,543 488,673	0,669 1,159 0,790 0,899 0,795 1,270 1,499 1,375 0,809 1,055 0,878 0,764 0,802 0,802 0,822 0,728 0,920 1,421 1,255 0,974	0,413 0,755 0,458 0,548 0,599 0,655 0,957 1,904 0,685 0,685 0,639 0,679 0,438 0,560 0,515 0,493 0,606 1,946 0,732 0,697	4,782 7,374 6,316 6,660 5,733 5,938 7,981 8,945 8,477 7,417 7,412 7,412 6,146 5,126 5,608 6,039 5,357 5,732 8,573 11,361 6,611 7,637	0,207 0,359 0,234 0,288 0,267 0,302 0,385 0,495 0,311 0,348 0,231 0,275 0,225 0,243 0,243 0,291 0,827 0,327	2,027 2,289 2,289 2,642 1,774 2,066 2,987 3,447 3,099 2,119 1,941 2,292 2,113 1,650 2,009 2,476 2,125 1,996 3,152 2,333 2,462 2,333 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462 2,462	80,193 91,332 80,526 98,048 97,119 83,139 172,079 125,477 136,686 176,004 104,423 112,655 107,163 70,708 82,222 88,987 82,150 75,746 121,399 171,754 88,090 124,147	0,811 0,826 < L.D. 0,821 0,881 1,327 1,142 1,207 1,091 < L.D. < L.D. 0,944 < L.D. 0,905 < L.D. 0,896 < L.D. 0,996 < L.D.	13,093 22,572 15,359 18,068 16,865 18,920 21,488 30,315 55,984 28,498 23,700 20,262 23,956 15,049 18,500 16,504 16,362 18,797 60,245 24,512 22,890 17,804	1,413 2,474 1,649 1,991 1,820 2,057 2,722 3,391 5,242 3,098 2,461 2,203 2,446 1,615 1,893 1,809 1,711 2,058 5,471 2,668 2,218	56,313 62,693 70,509 66,628 61,998 56,422 45,874 54,316 57,706 61,435 59,126 54,603 67,093 61,667 72,331 66,584 54,197 56,324 66,324 61,449 72,938 59,231	152,297 239,106 183,891 300,658 172,944 163,664 350,471 344,429 277,237 233,858 253,424 196,071 175,635 160,527 154,653 190,892 204,764 182,849 294,553 188,177 224,932 201,663