

# Preliminary proposal to encode Proto-Elamite in Unicode

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# 1 Introduction

The term ‘Proto-Elamite’ refers to a writing system that was used at the beginning of the 3rd millennium BCE in the region to the east and southeast of Mesopotamia, known as Elam, which corresponds to the eastern portion of present-day Iran. The name was assigned by the French epigraphist Jean-Vincent Scheil in the early 20th century, who believed it to be the predecessor of a ‘proper’ Elamite script, which would have been used for recording the Elamite language, simply on account of the location of the tablets at Susa, which was the capital city of Elam. While no ‘proper’ descendent of the script has been identified, scholars continue to use the name ‘Proto-Elamite’ as a matter of convention (Dahl 2012: 2).

Proto-Elamite is believed to have been developed from an accounting system used in Mesopotamia, in a manner similar to the development of ‘Proto-Cuneiform’. The two systems likely emerged in parallel from the source, a hypothesis that is supported by the similarity of numerical signs and some signs that likely represent animals. But, both writing systems developed independently and uniquely. For instance, Proto-Elamite has signs for decimal notation that do not exist in Proto-Cuneiform. The two also differ in the glyphic nature of their ideographic signs: Proto-Cuneiform is highly pictographic, while Proto-Elamite is highly abstract. It is noteworthy that Proto-Cuneiform has an abundance of signs depicting human body parts, but such signs are absent from Proto-Elamite.

It is attested on approximately 1,600 records. The bulk of these are 1,400 well-preserved clay tablets that were unearthed at Susa in the early 20th century. These are supplemented by nearly 500 fragmentary tablets. Other Proto-Elamite records have been found across Iran, as far west as Baluchistan. The majority of the records are held by the Musée du Louvre (Paris) and the National Iranian Museum (Tehran). Based upon the structure of the contents and the appearance of numerical notation on the vast majority of tablets, scholars believe that the texts seem “without exception to be administrative documents”, recording “receipts and transfers of grain, livestock, and laborers” and other accounting details (Englund 2011).

Proto-Elamite has not been fully deciphered and the underlying language is unknown. The character repertoire contains numerical and ideographic signs, totaling 1,636 distinct signs according to the list maintained by Jacob Dahl. Numerical signs have been distinguished and their values have been understood based upon comparisons with Proto-Cuneiform signs. The value of several ideographic signs have been postulated using similar analogues in Proto-Cuneiform. It is believed that some signs may have been assigned syllabic values and used for representing proper names. This development is “unparalleled in the history of early writing systems” (Dahl 2012: 2).

During the French excavation at Susa, an object bearing an inscription in another script was found with Proto-Elamite tablets. Scheil considered the records to be contemporary and to be part of the same writing system (Vallat 1986). It was eventually discovered that these records were inscribed in another writing system, which was used at the end of the 3rd millennium BCE. Modern scholars refer to this script as ‘Linear Elamite’ and consider the two scripts to be unrelated. Linear Elamite signs are believed to have syllabic values, while a few are logographic (Salvini 2011); however, it has also not yet been fully deciphered.

Scholarship on Proto-Elamite is quite active and substantial efforts have been made to advance preservation of records, decipherment of the script, and to make materials available for study:

- The Cuneiform Digital Library Initiative (CDLI) is a collaboration by the University of California, Los Angeles, the University of Oxford, and the Max Planck Institute for the History of Science, Berlin focused on the study of ancient Near Eastern writing systems. It provides access to high-resolution images and transliterations of all extant Proto-Elamite records: <https://cdli.ucla.edu>

- A joint effort by the University of Oxford and the University of Southampton in 2012 used Reflectance Transformation Imaging (RTI) to produce high-resolution images of more than one thousand Proto-Elamite tablets in the collections of the Louvre (see fig. 1; also Ronan 2013).
- In 2019, a team from the University of British Columbia began using natural language processing and machine learning techniques to perform graphotactical analysis in an effort to reveal previously-unobserved relationships between signs (Born, et al. 2019).

Proto-Elamite signs are depicted extensively in charts, but are generally referred to in running text using Latin alpha-numeric designations. This is a consequence both of the scholarly conventions used in the early 20th century and typographical limitations. The designations reference serial numbers used in sign lists. These are not descriptive and do not provide any meaningful context linked to the graphical aspects of a sign. This alpha-numeric identifier was likely used instead of the actual glyph for a sign due to the technical convenience of typesetting Latin characters and the lack of Proto-Elamite fonts. However, as digital typography tools became more prevalent, scholars developed digital glyphs for Proto-Elamite signs and used them in running text in publications (see fig. 3–5). Current scholars of Proto-Elamite have expressed an interest in advancing such representations of the script in both publications and reproductions of textual records. Laura Hawkins, one of the foremost experts of Proto-Elamite today, states that the “form of the signs is very relevant to our understanding of the semantics of the sign, so it would be extremely useful to refer to individual signs and strings of signs in-line in texts” (personal correspondence, August 2020).

An encoding for Proto-Elamite in Unicode would provide for plain-text representation of the script and allow for signs to be treated and processed as actual characters instead of as alpha-numeric catalogue identifiers. For example, CDLI offers transliterations of Proto-Elamite records using sign names (see fig. 2), but there is no way to represent the underlying content in plain text. A Unicode encoding would provide scholars of Proto-Elamite with a digital foundation for advancing the study and decipherment of the script, and preservation and exchange of the corpus, using data-driven approaches.

## 2 Overview of the Sign Repertoire

Several lists of Proto-Elamite texts have been offered since the first publication of tablets by Scheil in 1905, shortly after they were excavated by the French project at Susa. The lists provided by Scheil, de Mecquenem (1949), Meriggi (1971) are problematic for various reasons (Englund 2011). Attempts to decipher Proto-Elamite using comparisons to later cuneiform instead of Proto-Cuneiform led to inaccuracies in sign inventories, as did the grouping of Linear Elamite signs with Proto-Elamite, and the lack of careful classification of graphical and semantic variants. As a result, these sign lists enumerate a wide range of signs, from 5,529 signs by de Mecquenem to 393 by Meriggi.

In the past few decades, knowledge about Proto-Elamite has improved through graphemic and graphotactical analysis, and advanced comparative studies of cuneiform tablet structures. These efforts have led to the creation of a modern sign, which is maintained by by Jacob Dahl and CDLI.

The CDLI repertoire contains 1636 signs, of which 58 are used specifically for numerical notation and 1578 are general ideographic signs. The general signs may be categorized into 1374 individual and 204 compound signs. Compound signs are combinations of individual signs, generally oriented in vertical stacks. Of these, 182 are composed of 2 signs and 22 are composed of 3 signs. Compounds may be classified as ‘complex capacity signs’ and general ‘complex graphemes’, as per Dahl (2005). The following summary of sign typologies is based upon an analysis of sign names:

class	type	composition	total signs
numeric	individual sign	1 sign	58
general	individual sign	1 sign	1374
	complex capacity sign (CCS)	2 signs	24
		3 signs	4
	complex grapheme (CG)	2 signs	158
		3 signs	18
			1636

To the above may be added some signs referred to as ‘scribal designs’, which were used on late Proto-Elamite tablets in place of seals (see § 2.8).

## 2.1 Sign names



















Signs are referred to using the convention developed by Meriggi (1972) Numeric signs are denoted using ‘N’. The number preceding ‘N’ indicates the value of the sign, and the number following ‘N’ refers to a decipherment sequence, not any inherent value of the sign. Ideographic sign names begin with ‘M’ and are numbered serially. Names for both numeric and ideographic signs may contain a ‘@’, ‘#’, or alphabetic or numeric suffixes, which indicate graphic attributes, such as an alternate form.

Compound signs are indicated in sign lists using ‘+’ between the constituent signs. This system does not fully convey the structure of the compound. A ‘+’ may refer to signs that are stacked vertically or that are horizontally adjacent. In the analysis presented below, ‘x’ is used for indicating the inscription of one sign within another; ‘(’ and ‘)’ are used for indicating a sequence of signs to be treated as a group.

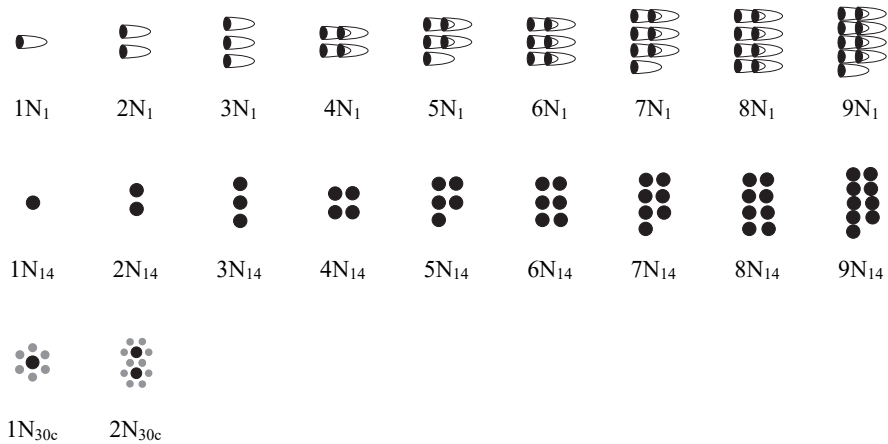
Scholarly sign names as they appear in the CDLI sign list have been normalized to produce Unicode character names. At present, the ‘+’ in compound names have been interpreted as ‘AND’. It may be useful to replace ‘AND’ with more descriptive operators, such as ‘OVER’ and ‘INSCRIBED WITH’, in order to convey the structures of complex graphemes more precisely. Feedback is sought from from experts regarding the naming convention.

## 2.2 Numeric signs

The numeric signs are used for recording decimal and sexagesimal notations. There is no distinctive sign for zero. Signs used for expressing singular values are shown below:


























	1N <sub>1</sub>		1N <sub>23</sub>		1N <sub>39a</sub>		1N <sub>51</sub>
	1N <sub>2</sub>		1N <sub>24</sub>		1N <sub>39b</sub>		1N <sub>51g</sub>
	1N <sub>8a</sub>		1N <sub>30c</sub>		1N <sub>39c</sub>		1N <sub>54</sub>
	1N <sub>8b</sub>		1N <sub>30d</sub>		1N <sub>45</sub>		
	1N <sub>14</sub>		1N <sub>34</sub>		1N <sub>48</sub>		

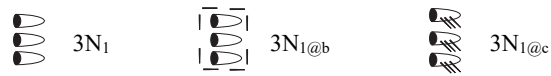
The signs 1N<sub>1</sub> and 1N<sub>14</sub> have attested representations of the primary units of the decimal system. It appears that 1N<sub>1</sub> could have been used for decimal notation, but only two units are attested.



### 2.3 Numeric signs with extended representations




Some numeric signs have ‘enclosed’ and ‘hatched’ forms:

base sign	enclosed	hatched
 1N <sub>1</sub>	 1N <sub>1@b</sub>	 1N <sub>1@c</sub>
 1N <sub>14</sub>	 1N <sub>14@b</sub>	 1N <sub>14@c</sub>
 1N <sub>24</sub>	 1N <sub>24@b</sub>	 1N <sub>24@c</sub>
 1N <sub>30c</sub>	 1N <sub>30c@b</sub>	 1N <sub>30c@c</sub>
 1N <sub>30d</sub>	 1N <sub>30d@b</sub>	 1N <sub>30d@c</sub>
 1N <sub>34</sub>	 1N <sub>34@b</sub>	unattested
 1N <sub>39b</sub>	 1N <sub>39b@b</sub>	 1N <sub>39b@c</sub>
 1N <sub>45</sub>	 1N <sub>45@b</sub>	unattested
 1N <sub>51</sub>	 1N <sub>51@b</sub>	 1N <sub>51@c</sub>



## 2.4 Complex capacity signs

A ‘complex capacity sign’ (CCS) is used for counted objects, such as jars, pots, etc. Such a sign is formed by inscribing a numerical sign (N) within the frame of a non-numeric (G) sign. The numerical sign may be accompanied by another numeric sign or a non-numeric (G) sign. The pattern for CCS may be expressed as  $G \times (G|N(+G|N)^*)$ . According to Dahl, when a CCS base (G) is inscribed with a numerical sign, it likely indicates a quantity of the product being expressed, and when inscribed with a non-numeric sign it likely indicates a quantity of the product. When inscribed with both types of signs, the compound represents both the quantity and the quality of the product. Common bases for CCS compounds are:

-  M36, believed to represent a quantity of grain (Dahl 2015: 2)
-  M39, believed to be an alternate representation of the container M36 (Dahl 2015: 4)
-  M260, believed to represent a vessel for storing beer (Dahl 2015: 4)

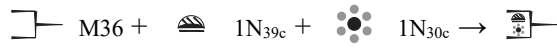
Some attested CCS compounds are shown below, analyzed into subtypes based upon the the structures of the signs and patterns of compound formation. Generally, the inscribed signs are reduced in size in order to fit within the frame of the base.

- Container with a numerical sign, of the pattern  $G \times N$ :

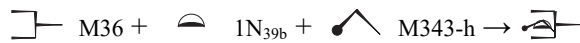
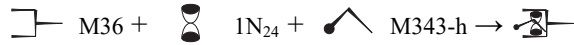




- Container with two numerical signs, of the pattern  $G \times (N+N)$ :



- Container with a numerical and non-numerical sign, of the pattern  $G \times (N+G)$ :



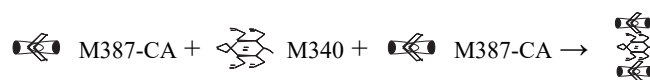
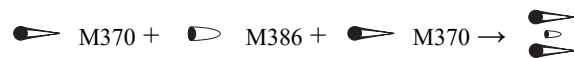
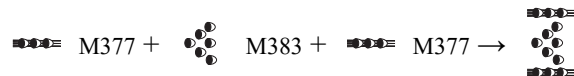
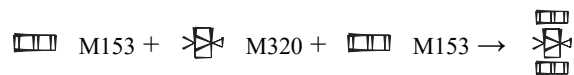
- Container with a non-numerical sign, of the pattern  $G \times G$



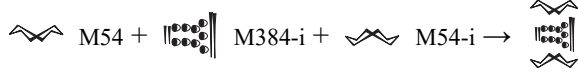
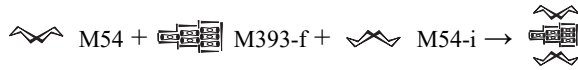
## 2.5 Complex graphemes

A ‘complex grapheme’ (CG) is used for inanimate objects, as well as persons, households, and other quantities. Dahl describes three types of CG, but I have analyzed CGs into additional subtypes based upon sign structures and patterns of compound formation:

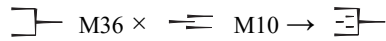
- Type 1<sub>a</sub>: Two instances of one sign vertically framing another sign, following the pattern  $G_1 + G_2 + G_1$ . Scaling or re-sizing of signs occurs with some compounds.



- Type 1<sub>b</sub>: A regular and inverse form of one sign vertically framing another sign, following the pattern  $G_1 + G_2 + G_{1i}$



- Type 2<sub>a</sub>: One sign inscribed within the main body of another sign, which typically has a frame or container structure, following the pattern  $G_1 \times G_{2r}$ . In such compounds,  $G_2$  may be reduced in size.



- Type 2<sub>b</sub>: One sign inscribed within a specific field in of another sign, whose structure appears to be specifically formed to function as a complex grapheme; following the pattern  $G_1 \times G_{2r}$ . In such compounds,  $G_2$  may be reduced in size.



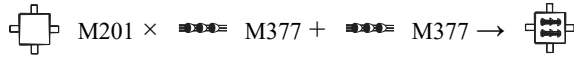
- Type 2<sub>c</sub>: One sign inscribed a particular segment of another container-like sign, following the pattern  $G_1 \times G_{2r}$ . In such compounds,  $G_2$  may be reduced in size.



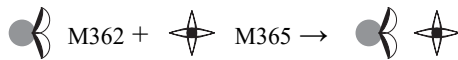
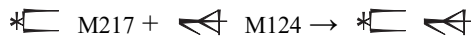




- Type 2<sub>d</sub>: Two size-reduced forms of one sign vertically inscribed within another sign of Type 2<sub>a</sub>, following the pattern  $G_1 \times (G_{2r} + G_{2r})$



- Type 3: linear adjacent, following the pattern  $G_1 + G_2$  or  $G_2 + G_1$ . This type may be an alternate method for representing the Type 2 compounds shown above.



Apart from the above CGs described by Dahl (2015), the repertoire contains compound signs formed using the following methods:

- Vertical stacks of two signs, following the pattern  $G_1 + G_2$ :



- Vertical stacks of the same sign, following the pattern  $G_1 + G_1$ :




















- A single sign with mirrored graphical components bifurcated vertically to frame another sign, with possible size adjustments of the latter, following the pattern  $G_{1t} + G_2 + G_{1b}$



## 2.6 Signs in compounds without independent attestation

There are 17 signs that appear in compounds, but which do not occur independently in the extant records:

Unattested independently	Compound	Name
M9-d		M9-d + M346 + M9-d
1N <sub>30d-1</sub>		M36 + 1N <sub>30d-1</sub>
M39-ca		M39-ca + 1N <sub>30d</sub>
M288-1		M106 + M288-1
M127		M127 + M127
M6-a		M153 + M6-a
M106-a		M153 + M106-a
M38		M195 + M38
M218-d		M218-d + M288
M260-2		M260-2 + 1N <sub>24</sub>
M237		M260-a + M237
M332~d		M305 + M332~d
M265-b		M317 + M265-b
M24-c		M362 + M24-c
M317#		M362 + M317#
M111-j		M386 + M111-j
Mxxx		M136 + Mxxx

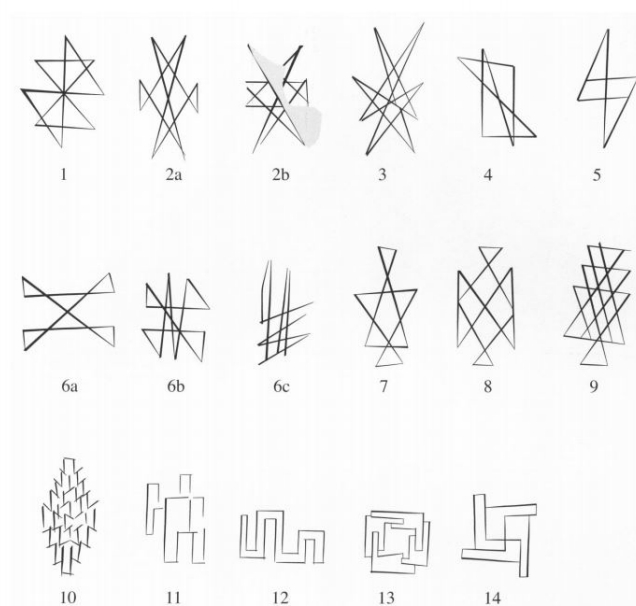
Feedback from experts regarding these signs has been requested. It may be necessary to define these components as individual signs.

## 2.7 Alternate or variant forms

There are 143 general signs that may be alternate or variant representations.

## 2.8 Scribal designs

Signs referred to as ‘scribal designs’ are used in place of seals on some late Proto-Elamite tablets. There are 20 such scribal designs with 60 attestations (Dahl 2012: 4; see also the figure below). These scribal designs may be suitable for encoding on account of their semantics, but they are not included in the tentative repertoire at present.



### 3 Proposed Encoding Model

The proposed encoding model for Proto-Elamite is based upon the principles used for encoding Sumero-Akkadian cuneiform. It adopts the following definitions from § 11.1 of *The Unicode Standard*), in which references to ‘Cuneiform’ should be interpreted as meaning ‘Proto-Elamite’:

*Simple Signs* Most Cuneiform signs are simple units; each sign of this type is represented by a single character in the standard

*Complex and Compound Signs* Some Cuneiform signs are categorized as either complex or compound signs. Complex signs are made up of a primary sign with one or more secondary signs written within it or conjoined to it, such that the whole is generally treated by scholars as a unit; this includes linear sequences of two or more signs or wedge-clusters where one or more of those clusters have not been clearly identified as characters in their own right. Complex signs, which present a relative visual unity, are assigned single individual code points irrespective of their components. Compound signs are linear sequences of two or more signs or wedge-clusters generally treated by scholars as a single unit, when each and every such wedge-cluster exists as a clearly identified character in its own right. Compound signs are encoded as sequences of their component characters. Signs that shift from compound to complex, or vice versa, generally have been treated according to their Ur III manifestation.

*Mergers and Splits* Over the long history of Cuneiform, a number of signs have simplified and merged; in other cases, a single sign has diverged and developed into more than one distinct sign. The choice of signs for encoding as characters was made at the point of maximum differentiation in the case of either mergers or splits to enable the most comprehensive set for the representation of text in any period.

Following this approach, all attested, distinctive individual and compound signs of Proto-Elamite would be encoded as atomic characters. An alternate approach would be to encode only individual signs as atomic characters, and define compound signs as sequences of individual signs. This would require determining the proper decomposition for compound signs and defining rules for combinations of various signs. Additionally, this would require a set of format control characters for delimiting the boundaries of the compound and for specifying the ordering and positioning of the signs, as has been done for the Egyptian Hieroglyphs encoding. Such an approach is not recommended for Proto-Elamite signs.

## 4 Proposed Characters










The proposed encoded repertoire for Proto-Elamite consists of 1634 characters. There are 58 numeric and 1576 generic ideographic signs. There are 2 characters excluded from repertoire (see § 5).

The tables below provide a generic serial number for reference purposes, a digitized glyph, conventional name, and a proposed Unicode character name for each sign.















### 4.1 Numeric signs

The 58 numeric characters proposed for encoding are:

#	Sign	Name	Description	Character Name
1		1N <sub>1</sub>		PROTO-ELAMITE NUMBER ONE-N1
2		1N <sub>1@a</sub>	1N <sub>1</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N1 WITH ENCLOSURE
3		1N <sub>1@c</sub>	1N <sub>1</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N1 WITH HATCHING
4		1N <sub>2</sub>		PROTO-ELAMITE NUMBER ONE-N2
5		1N <sub>8a</sub>		PROTO-ELAMITE NUMBER ONE-N8A
6		1N <sub>8b</sub>		PROTO-ELAMITE NUMBER ONE-N8B
7		1N <sub>14</sub>		PROTO-ELAMITE NUMBER ONE-N14
8		1N <sub>14@b</sub>	1N <sub>14</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N14 WITH ENCLOSURE
9		1N <sub>14@c</sub>	1N <sub>14</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N14 WITH HATCHING
10		1N <sub>23</sub>		PROTO-ELAMITE NUMBER ONE-N23
11		1N <sub>24</sub>		PROTO-ELAMITE NUMBER ONE-N24
12		1N <sub>24@b</sub>	1N <sub>24</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N24 WITH ENCLOSURE

#	Sign	Name	Description	Character Name
13		1N <sub>24@c</sub>	1N <sub>24</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N24 WITH HATCHING
14		1N <sub>30c</sub>		PROTO-ELAMITE NUMBER ONE-N30C
15		1N <sub>30c@b</sub>	1N <sub>30c</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N30C WITH ENCLOSURE
16		1N <sub>30c@c</sub>	1N <sub>30c</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N30C WITH HATCHING
17		1N <sub>30d</sub>		PROTO-ELAMITE NUMBER ONE-N30D
18		1N <sub>30d@b</sub>	1N <sub>30d</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N30D WITH ENCLOSURE
19		1N <sub>30d@c</sub>	1N <sub>30d</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N30D WITH HATCHING
20		1N <sub>34</sub>		PROTO-ELAMITE NUMBER ONE-N34
21		1N <sub>34@b</sub>	1N <sub>34</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N34 WITH ENCLOSURE
22		1N <sub>39a</sub>		PROTO-ELAMITE NUMBER ONE-N39A
23		1N <sub>39b</sub>		PROTO-ELAMITE NUMBER ONE-N39B
24		1N <sub>39b@b</sub>	1N <sub>39b</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N39B WITH ENCLOSURE
25		1N <sub>39b@c</sub>	1N <sub>39b</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N39B WITH HATCHING
26		1N <sub>39c</sub>		PROTO-ELAMITE NUMBER ONE-N39C
27		1N <sub>45</sub>		PROTO-ELAMITE NUMBER ONE-N45
28		1N <sub>45@b</sub>	1N <sub>45</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N45 WITH ENCLOSURE

#	Sign	Name	Description	Character Name
29		1N <sub>46</sub>		PROTO-ELAMITE NUMBER ONE-N46
30		1N <sub>48</sub>		PROTO-ELAMITE NUMBER ONE-N48
31		1N <sub>51</sub>		PROTO-ELAMITE NUMBER ONE-N51
32		1N <sub>51@b</sub>	1N <sub>51</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N51 WITH ENCLOSURE
33		1N <sub>51@c</sub>	1N <sub>51</sub> with hatching	PROTO-ELAMITE NUMBER ONE-N51 WITH HATCHING
34		1N <sub>51g</sub>		PROTO-ELAMITE NUMBER ONE-N51G
35		1N <sub>54</sub>		PROTO-ELAMITE NUMBER ONE-N54
36		1N <sub>54@b</sub>	1N <sub>54</sub> with enclosure	PROTO-ELAMITE NUMBER ONE-N54 WITH ENCLOSURE
37		1N <sub>54g</sub>		PROTO-ELAMITE NUMBER ONE-N54G
38		2N <sub>1</sub>	2 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER TWO-N1
39		2N <sub>1@b</sub>	2 instances of 1N <sub>1</sub> with enclosure	PROTO-ELAMITE NUMBER TWO-N1 WITH ENCLOSURE
40		2N <sub>14</sub>	2 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER TWO-N14
41		2N <sub>30c</sub>	2 instances of 1N <sub>30c</sub>	PROTO-ELAMITE NUMBER TWO-N30C
42		2N <sub>30c@b</sub>	2 instances of 1N <sub>30c</sub> with enclosure	PROTO-ELAMITE NUMBER TWO-N30C WITH ENCLOSURE
43		3N <sub>1</sub>	3 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER THREE-N1
44		3N <sub>1@b</sub>	3 instances of 1N <sub>1</sub> with enclosure	PROTO-ELAMITE NUMBER THREE-N1 WITH ENCLOSURE

#	Sign	Name	Description	Character Name
45		3N <sub>1@c</sub>	3 instances of 1N <sub>1</sub> with hatching	PROTO-ELAMITE NUMBER THREE-N1 WITH HATCHING
46		3N <sub>14</sub>	3 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER THREE-N14
47		4N <sub>1</sub>	4 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER FOUR-N1
48		4N <sub>14</sub>	4 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER FOUR-N14
49		5N <sub>1</sub>	5 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER FIVE-N1
50		5N <sub>14</sub>	5 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER FIVE-N14
51		6N <sub>1</sub>	6 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER SIX-N1
52		6N <sub>14</sub>	6 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER SIX-N14
53		7N <sub>1</sub>	7 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER SEVEN-N1
54		7N <sub>14</sub>	7 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER SEVEN-N14
55		8N <sub>1</sub>	8 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER EIGHT-N1
56		8N <sub>14</sub>	8 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER EIGHT-N14
57		9N <sub>1</sub>	9 instances of 1N <sub>1</sub>	PROTO-ELAMITE NUMBER NINE-N1
58		9N <sub>14</sub>	9 instances of 1N <sub>14</sub>	PROTO-ELAMITE NUMBER NINE-N14



## 4.2 General ideographic signs

















The table below shows the 1576 ideographic signs proposed for encoding. In the ‘Type’ column, ‘S’ denotes a ‘simple’ or individual sign; ‘CG’ denotes a ‘complex grapheme’ or general compound sign; ‘CCS’ denotes a ‘complex capacity sign’ or a compound sign with a numerical component.

#	Sign	Name	Type	Character Name
59	—	M1	S	PROTO-ELAMITE SIGN M1
60	—●	M1-b	S	PROTO-ELAMITE SIGN M1-B
61	—●●●●	M1 + M379-c	CG	PROTO-ELAMITE SIGN M1 AND M379-C
62	—●●●●●	M1 + M379-d	CG	PROTO-ELAMITE SIGN M1 AND M379-D
63	—	M2	S	PROTO-ELAMITE SIGN M2
64	—	M2-b	S	PROTO-ELAMITE SIGN M2-B
65	—●●●	M2 + M379	CG	PROTO-ELAMITE SIGN M2 AND M379
66	↗	M3	S	PROTO-ELAMITE SIGN M3
67	↗	M3-b	S	PROTO-ELAMITE SIGN M3-B
68	↗●●●●	M3-b + M379-c	CG	PROTO-ELAMITE SIGN M3-B AND M379-C
69	↗	M3-c	S	PROTO-ELAMITE SIGN M3-C
70	—●	M4	S	PROTO-ELAMITE SIGN M4
71	┌	M5	S	PROTO-ELAMITE SIGN M5
72	┌	M5-a	S	PROTO-ELAMITE SIGN M5-A
73	┌	M6	S	PROTO-ELAMITE SIGN M6




#	Sign	Name	Type	Character Name
74		M6@g	S	PROTO-ELAMITE SIGN M6 ALTERNATE G
75		M6@g-1	S	PROTO-ELAMITE SIGN M6 ALTERNATE G-1
76		M6@g-2	S	PROTO-ELAMITE SIGN M6 ALTERNATE G-2
77		M6-b	S	PROTO-ELAMITE SIGN M6-B
78		M6-b@g	S	PROTO-ELAMITE SIGN M6-B ALTERNATE G
79		M7-a	S	PROTO-ELAMITE SIGN M7-A
80		M7-b	S	PROTO-ELAMITE SIGN M7-B
81		M7-c	S	PROTO-ELAMITE SIGN M7-C
82		M7-d	S	PROTO-ELAMITE SIGN M7-D
83		M9	S	PROTO-ELAMITE SIGN M9
84		M9-a	S	PROTO-ELAMITE SIGN M9-A
85		M9-c	S	PROTO-ELAMITE SIGN M9-C
86		M9-d + M346 + M9-d	CG	PROTO-ELAMITE SIGN M9-D AND M346 AND M9-D
87		M9-e	S	PROTO-ELAMITE SIGN M9-E
88		M9-f	S	PROTO-ELAMITE SIGN M9-F
89		M9-g	S	PROTO-ELAMITE SIGN M9-G
90		M9-h	S	PROTO-ELAMITE SIGN M9-H

#	Sign	Name	Type	Character Name
91		M9-i	S	PROTO-ELAMITE SIGN M9-I
92		M10	S	PROTO-ELAMITE SIGN M10
93		M10-1	S	PROTO-ELAMITE SIGN M10-1
94		M10-2	S	PROTO-ELAMITE SIGN M10-2
95		M10-3	S	PROTO-ELAMITE SIGN M10-3
96		M10-4	S	PROTO-ELAMITE SIGN M10-4
97		M10-5	S	PROTO-ELAMITE SIGN M10-5
98		M10-6	S	PROTO-ELAMITE SIGN M10-6
99		M10-7	S	PROTO-ELAMITE SIGN M10-7
100		M11	S	PROTO-ELAMITE SIGN M11
101		M12	S	PROTO-ELAMITE SIGN M12
102		M13	S	PROTO-ELAMITE SIGN M13
103		M14-a	S	PROTO-ELAMITE SIGN M14-A
104		M14-b	S	PROTO-ELAMITE SIGN M14-B
105		M15	S	PROTO-ELAMITE SIGN M15
106		M16	S	PROTO-ELAMITE SIGN M16
107		M17	S	PROTO-ELAMITE SIGN M17

#	Sign	Name	Type	Character Name
108		M18	S	PROTO-ELAMITE SIGN M18
109		M21	S	PROTO-ELAMITE SIGN M21
110		M24	S	PROTO-ELAMITE SIGN M24
111		M24-1	S	PROTO-ELAMITE SIGN M24-1
112		M24-a	S	PROTO-ELAMITE SIGN M24-A
113		M25	S	PROTO-ELAMITE SIGN M25
114		M25-a	S	PROTO-ELAMITE SIGN M25-A
115		M26-a	S	PROTO-ELAMITE SIGN M26-A
116		M26-b	S	PROTO-ELAMITE SIGN M26-B
117		M26-d	S	PROTO-ELAMITE SIGN M26-D
118		M26-h	S	PROTO-ELAMITE SIGN M26-H
119		M29	S	PROTO-ELAMITE SIGN M29
120		M29-a	S	PROTO-ELAMITE SIGN M29-A
121		M29-b	S	PROTO-ELAMITE SIGN M29-B
122		M29-c	S	PROTO-ELAMITE SIGN M29-C
123		M29-d	S	PROTO-ELAMITE SIGN M29-D
124		M29-e	S	PROTO-ELAMITE SIGN M29-E


















#	Sign	Name	Type	Character Name
125		M29-k	S	PROTO-ELAMITE SIGN M29-K
126		M29-l	S	PROTO-ELAMITE SIGN M29-L
127		M29-l + 1N <sub>8a</sub>	CCS	PROTO-ELAMITE SIGN M29-L AND ONE-N8A
128		M30-a	S	PROTO-ELAMITE SIGN M30-A
129		M30-c	S	PROTO-ELAMITE SIGN M30-C
130		M30-g	S	PROTO-ELAMITE SIGN M30-G
131		M32	S	PROTO-ELAMITE SIGN M32
132		M32-a	S	PROTO-ELAMITE SIGN M32-A
133		M32-b	S	PROTO-ELAMITE SIGN M32-B
134		M32-d	S	PROTO-ELAMITE SIGN M32-D
135		M32-e	S	PROTO-ELAMITE SIGN M32-E
136		M33	S	PROTO-ELAMITE SIGN M33
137		M33-a	S	PROTO-ELAMITE SIGN M33-A
138		M33-c	S	PROTO-ELAMITE SIGN M33-C
139		M34	S	PROTO-ELAMITE SIGN M34
140		M34-a	S	PROTO-ELAMITE SIGN M34-A
141		M35	S	PROTO-ELAMITE SIGN M35














#	Sign	Name	Type	Character Name
142		M36	S	PROTO-ELAMITE SIGN M36
143		M36 + 1N <sub>14</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N14
144		M36 + 1N <sub>24</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N24
145		M36 + 1N <sub>24</sub> + M343-h	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N24 AND M343-H
146		M36 + 1N <sub>30c</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N30C
147		M36 + 1N <sub>30c</sub> + 1N <sub>39c</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N30C AND ONE-N39C
148		M36 + 1N <sub>30d</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N30D
149		M36 + 1N <sub>30d-1</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N30D-1
150		M36 + 1N <sub>30d</sub> + M343-h	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N30D AND M343-H
151		M36 + 1N <sub>39b</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N39B
152		M36 + 1N <sub>39b</sub> + M343-h	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N39B AND M343-H
153		M36 + 1N <sub>39c</sub>	CCS	PROTO-ELAMITE SIGN M36 AND ONE-N39C
154		M36-a	S	PROTO-ELAMITE SIGN M36-A
155		M36 + M10	CG	PROTO-ELAMITE SIGN M36 AND M10
156		M36 + M35	CG	PROTO-ELAMITE SIGN M36 AND M35
157		M36 + M343-e	CG	PROTO-ELAMITE SIGN M36 AND M343-E
158		M36 + M343-h	CG	PROTO-ELAMITE SIGN M36 AND M343-H



#	Sign	Name	Type	Character Name
159		M37	S	PROTO-ELAMITE SIGN M37
160		M37-a	S	PROTO-ELAMITE SIGN M37-A
161		M38-a	S	PROTO-ELAMITE SIGN M38-A
162		M38-a1	S	PROTO-ELAMITE SIGN M38-A1
163		M38-a2	S	PROTO-ELAMITE SIGN M38-A2
164		M38-b	S	PROTO-ELAMITE SIGN M38-B
165		M38-b1	S	PROTO-ELAMITE SIGN M38-B1
166		M38-b2	S	PROTO-ELAMITE SIGN M38-B2
167		M38-c	S	PROTO-ELAMITE SIGN M38-C
168		M38-e	S	PROTO-ELAMITE SIGN M38-E
169		M38-e1	S	PROTO-ELAMITE SIGN M38-E1
170		M38-f	S	PROTO-ELAMITE SIGN M38-F
171		M38-h	S	PROTO-ELAMITE SIGN M38-H
172		M38-i	S	PROTO-ELAMITE SIGN M38-I
173		M39	S	PROTO-ELAMITE SIGN M39
174		M39 + 1N <sub>30d</sub>	CCS	PROTO-ELAMITE SIGN M39 AND ONE-N30D
175		M39-a	S	PROTO-ELAMITE SIGN M39-A


















#	Sign	Name	Type	Character Name
176		M39-b	S	PROTO-ELAMITE SIGN M39-B
177		M39-c	S	PROTO-ELAMITE SIGN M39-C
178		M39-c1	S	PROTO-ELAMITE SIGN M39-C1
179		M39-c + 1N <sub>30d</sub>	CCS	PROTO-ELAMITE SIGN M39-C AND ONE-N30D
180		M39-ca + 1N <sub>30d</sub>	CCS	PROTO-ELAMITE SIGN M39-CA AND ONE-N30D
181		M39-d	S	PROTO-ELAMITE SIGN M39-D
182		M39-e	S	PROTO-ELAMITE SIGN M39-E
183		M39-f	S	PROTO-ELAMITE SIGN M39-F
184		M39-g	S	PROTO-ELAMITE SIGN M39-G
185		M41	S	PROTO-ELAMITE SIGN M41
186		M41-c	S	PROTO-ELAMITE SIGN M41-C
187		M41-d	S	PROTO-ELAMITE SIGN M41-D
188		M41-e	S	PROTO-ELAMITE SIGN M41-E
189		M41-f	S	PROTO-ELAMITE SIGN M41-F
190		M41-g	S	PROTO-ELAMITE SIGN M41-G
191		M41-j	S	PROTO-ELAMITE SIGN M41-J
192		M43	S	PROTO-ELAMITE SIGN M43





































#	Sign	Name	Type	Character Name
193		M43-a	S	PROTO-ELAMITE SIGN M43-A
194		M44	S	PROTO-ELAMITE SIGN M44
195		M44-a	S	PROTO-ELAMITE SIGN M44-A
196		M44-b	S	PROTO-ELAMITE SIGN M44-B
197		M44-m	S	PROTO-ELAMITE SIGN M44-M
198		M45-b	S	PROTO-ELAMITE SIGN M45-B
199		M46	S	PROTO-ELAMITE SIGN M46
200		M46-1	S	PROTO-ELAMITE SIGN M46-1
201		M46-a	S	PROTO-ELAMITE SIGN M46-A
202		M47	S	PROTO-ELAMITE SIGN M47
203		M48-c	S	PROTO-ELAMITE SIGN M48-C
204		M48-d	S	PROTO-ELAMITE SIGN M48-D
205		M48-e	S	PROTO-ELAMITE SIGN M48-E
206		M48-g	S	PROTO-ELAMITE SIGN M48-G
207		M48-i	S	PROTO-ELAMITE SIGN M48-I
208		M48-k	S	PROTO-ELAMITE SIGN M48-K
209		M49-b	S	PROTO-ELAMITE SIGN M49-B


















#	Sign	Name	Type	Character Name
210		M49-c	S	PROTO-ELAMITE SIGN M49-C
211		M49-c1	S	PROTO-ELAMITE SIGN M49-C1
212		M49-d	S	PROTO-ELAMITE SIGN M49-D
213		M49-da	S	PROTO-ELAMITE SIGN M49-DA
214		M49-e	S	PROTO-ELAMITE SIGN M49-E
215		M49-m	S	PROTO-ELAMITE SIGN M49-M
216		M49-n	S	PROTO-ELAMITE SIGN M49-N
217		M50-f	S	PROTO-ELAMITE SIGN M50-F
218		M50-k	S	PROTO-ELAMITE SIGN M50-K
219		M50-k1	S	PROTO-ELAMITE SIGN M50-K1
220		M50-k2	S	PROTO-ELAMITE SIGN M50-K2
221		M50-k3	S	PROTO-ELAMITE SIGN M50-K3
222		M50-k4	S	PROTO-ELAMITE SIGN M50-K4
223		M50-m	S	PROTO-ELAMITE SIGN M50-M
224		M50-n	S	PROTO-ELAMITE SIGN M50-N
225		M50-p	S	PROTO-ELAMITE SIGN M50-P
226		M50-q	S	PROTO-ELAMITE SIGN M50-Q


















#	Sign	Name	Type	Character Name
227		M51-a	S	PROTO-ELAMITE SIGN M51-A
228		M51-b	S	PROTO-ELAMITE SIGN M51-B
229		M51-c	S	PROTO-ELAMITE SIGN M51-C
230		M52-a	S	PROTO-ELAMITE SIGN M52-A
231		M52-b	S	PROTO-ELAMITE SIGN M52-B
232		M53-a	S	PROTO-ELAMITE SIGN M53-A
233		M53-b	S	PROTO-ELAMITE SIGN M53-B
234		M54	S	PROTO-ELAMITE SIGN M54
235		M54-b	S	PROTO-ELAMITE SIGN M54-B
236		M54-c	S	PROTO-ELAMITE SIGN M54-C
237		M54-i	S	PROTO-ELAMITE SIGN M54-I
238		M54 + M365 + M54-i	CG	PROTO-ELAMITE SIGN M54 AND M365 AND M54-I
239		M54 + M384-i + M54-i	CG	PROTO-ELAMITE SIGN M54 AND M384-I AND M54-I
240		M54 + M393-f + M54-i	CG	PROTO-ELAMITE SIGN M54 AND M393-F AND M54-I
241		M56	S	PROTO-ELAMITE SIGN M56
242		M56-e	S	PROTO-ELAMITE SIGN M56-E
243		M56-f	S	PROTO-ELAMITE SIGN M56-F

#	Sign	Name	Type	Character Name
244		M56-g	S	PROTO-ELAMITE SIGN M56-G
245		M56-n	S	PROTO-ELAMITE SIGN M56-N
246		M57	S	PROTO-ELAMITE SIGN M57
247		M57-a	S	PROTO-ELAMITE SIGN M57-A
248		M57-a1	S	PROTO-ELAMITE SIGN M57-A1
249		M57-a2	S	PROTO-ELAMITE SIGN M57-A2
250		M57-a4	S	PROTO-ELAMITE SIGN M57-A4
251		M57-b	S	PROTO-ELAMITE SIGN M57-B
252		M57-b1	S	PROTO-ELAMITE SIGN M57-B1
253		M57-d	S	PROTO-ELAMITE SIGN M57-D
254		M57-e	S	PROTO-ELAMITE SIGN M57-E
255		M57-f	S	PROTO-ELAMITE SIGN M57-F
256		M57-i	S	PROTO-ELAMITE SIGN M57-I
257		M57 + M291	CG	PROTO-ELAMITE SIGN M57 AND M291
258		M57-n	S	PROTO-ELAMITE SIGN M57-N
259		M58	S	PROTO-ELAMITE SIGN M58
260		M58-b	S	PROTO-ELAMITE SIGN M58-B

#	Sign	Name	Type	Character Name
261		M59	S	PROTO-ELAMITE SIGN M59
262		M59-a	S	PROTO-ELAMITE SIGN M59-A
263		M59-b	S	PROTO-ELAMITE SIGN M59-B
264		M59-d	S	PROTO-ELAMITE SIGN M59-D
265		M59-f	S	PROTO-ELAMITE SIGN M59-F
266		M59-f1	S	PROTO-ELAMITE SIGN M59-F1
267		M59-g	S	PROTO-ELAMITE SIGN M59-G
268		M59 + M38-a	CG	PROTO-ELAMITE SIGN M59 AND M38-A
269		M61	S	PROTO-ELAMITE SIGN M61
270		M61-a	S	PROTO-ELAMITE SIGN M61-A
271		M61-b	S	PROTO-ELAMITE SIGN M61-B
272		M62	S	PROTO-ELAMITE SIGN M62
273		M62-b	S	PROTO-ELAMITE SIGN M62-B
274		M63	S	PROTO-ELAMITE SIGN M63
275		M63-a	S	PROTO-ELAMITE SIGN M63-A
276		M64	S	PROTO-ELAMITE SIGN M64
277		M64-a	S	PROTO-ELAMITE SIGN M64-A


















#	Sign	Name	Type	Character Name
278		M64-d	S	PROTO-ELAMITE SIGN M64-D
279		M66	S	PROTO-ELAMITE SIGN M66
280		M66-a	S	PROTO-ELAMITE SIGN M66-A
281		M66-a1	S	PROTO-ELAMITE SIGN M66-A1
282		M66-a2	S	PROTO-ELAMITE SIGN M66-A2
283		M66-g	S	PROTO-ELAMITE SIGN M66-G
284		M66-h	S	PROTO-ELAMITE SIGN M66-H
285		M68-a	S	PROTO-ELAMITE SIGN M68-A
286		M68-b	S	PROTO-ELAMITE SIGN M68-B
287		M68-c	S	PROTO-ELAMITE SIGN M68-C
288		M69-a	S	PROTO-ELAMITE SIGN M69-A
289		M69-ab	S	PROTO-ELAMITE SIGN M69-AB
290		M69-ad	S	PROTO-ELAMITE SIGN M69-AD
291		M69-b	S	PROTO-ELAMITE SIGN M69-B
292		M69-g	S	PROTO-ELAMITE SIGN M69-G
293		M71-a	S	PROTO-ELAMITE SIGN M71-A
294		M71-d	S	PROTO-ELAMITE SIGN M71-D

#	Sign	Name	Type	Character Name
295		M72	S	PROTO-ELAMITE SIGN M72
296		M72-a	S	PROTO-ELAMITE SIGN M72-A
297		M73-a	S	PROTO-ELAMITE SIGN M73-A
298		M73-b	S	PROTO-ELAMITE SIGN M73-B
299		M73-b1	S	PROTO-ELAMITE SIGN M73-B1
300		M73-c	S	PROTO-ELAMITE SIGN M73-C
301		M73-d	S	PROTO-ELAMITE SIGN M73-D
302		M74-a	S	PROTO-ELAMITE SIGN M74-A
303		M74-b	S	PROTO-ELAMITE SIGN M74-B
304		M74-d	S	PROTO-ELAMITE SIGN M74-D
305		M74-f	S	PROTO-ELAMITE SIGN M74-F
306		M74-g	S	PROTO-ELAMITE SIGN M74-G
307		M75-a	S	PROTO-ELAMITE SIGN M75-A
308		M75-ab	S	PROTO-ELAMITE SIGN M75-AB
309		M75-e	S	PROTO-ELAMITE SIGN M75-E
310		M75-ff	S	PROTO-ELAMITE SIGN M75-FF
311		M75-g	S	PROTO-ELAMITE SIGN M75-G


















#	Sign	Name	Type	Character Name
312		M75-ga	S	PROTO-ELAMITE SIGN M75-GA
313		M75-h	S	PROTO-ELAMITE SIGN M75-H
314		M75-k	S	PROTO-ELAMITE SIGN M75-K
315		M75-m	S	PROTO-ELAMITE SIGN M75-M
316		M75-o	S	PROTO-ELAMITE SIGN M75-O
317		M75-o1	S	PROTO-ELAMITE SIGN M75-O1
318		M75-o2	S	PROTO-ELAMITE SIGN M75-O2
319		M75-r	S	PROTO-ELAMITE SIGN M75-R
320		M75-s	S	PROTO-ELAMITE SIGN M75-S
321		M76-a	S	PROTO-ELAMITE SIGN M76-A
322		M76-c	S	PROTO-ELAMITE SIGN M76-C
323		M76-d	S	PROTO-ELAMITE SIGN M76-D
324		M76-e	S	PROTO-ELAMITE SIGN M76-E
325		M77	S	PROTO-ELAMITE SIGN M77
326		M80-a	S	PROTO-ELAMITE SIGN M80-A
327		M80-b	S	PROTO-ELAMITE SIGN M80-B
328		M80-c	S	PROTO-ELAMITE SIGN M80-C




















#	Sign	Name	Type	Character Name
329		M80-ca	S	PROTO-ELAMITE SIGN M80-CA
330		M80-d	S	PROTO-ELAMITE SIGN M80-D
331		M80-f	S	PROTO-ELAMITE SIGN M80-F
332		M81	S	PROTO-ELAMITE SIGN M81
333		M81-1	S	PROTO-ELAMITE SIGN M81-1
334		M84	S	PROTO-ELAMITE SIGN M84
335		M85	S	PROTO-ELAMITE SIGN M85
336		M86	S	PROTO-ELAMITE SIGN M86
337		M87	S	PROTO-ELAMITE SIGN M87
338		M87-b	S	PROTO-ELAMITE SIGN M87-B
339		M88	S	PROTO-ELAMITE SIGN M88
340		M89	S	PROTO-ELAMITE SIGN M89
341		M90	S	PROTO-ELAMITE SIGN M90
342		M91-a	S	PROTO-ELAMITE SIGN M91-A
343		M92	S	PROTO-ELAMITE SIGN M92
344		M93	S	PROTO-ELAMITE SIGN M93
345		M93-a	S	PROTO-ELAMITE SIGN M93-A


















#	Sign	Name	Type	Character Name
346		M94-e	S	PROTO-ELAMITE SIGN M94-E
347		M94-i	S	PROTO-ELAMITE SIGN M94-I
348		M96	S	PROTO-ELAMITE SIGN M96
349		M96-1	S	PROTO-ELAMITE SIGN M96-1
350		M96-2	S	PROTO-ELAMITE SIGN M96-2
351		M96-3	S	PROTO-ELAMITE SIGN M96-3
352		M96-c	S	PROTO-ELAMITE SIGN M96-C
353		M96-d	S	PROTO-ELAMITE SIGN M96-D
354		M96 + M29	CG	PROTO-ELAMITE SIGN M96 AND M29
355		M96 + M139	CG	PROTO-ELAMITE SIGN M96 AND M139
356		M97-f	S	PROTO-ELAMITE SIGN M97-F
357		M97-h	S	PROTO-ELAMITE SIGN M97-H
358		M98	S	PROTO-ELAMITE SIGN M98
359		M99	S	PROTO-ELAMITE SIGN M99
360		M99-a	S	PROTO-ELAMITE SIGN M99-A
361		M99-b	S	PROTO-ELAMITE SIGN M99-B
362		M101	S	PROTO-ELAMITE SIGN M101

















#	Sign	Name	Type	Character Name
363		M101-b	S	PROTO-ELAMITE SIGN M101-B
364		M102-a	S	PROTO-ELAMITE SIGN M102-A
365		M102-c	S	PROTO-ELAMITE SIGN M102-C
366		M102-d	S	PROTO-ELAMITE SIGN M102-D
367		M102-d1	S	PROTO-ELAMITE SIGN M102-D1
368		M102-da	S	PROTO-ELAMITE SIGN M102-DA
369		M102-e	S	PROTO-ELAMITE SIGN M102-E
370		M102-e2	S	PROTO-ELAMITE SIGN M102-E(2)
371		M102-k	S	PROTO-ELAMITE SIGN M102-K
372		M102-k1	S	PROTO-ELAMITE SIGN M102-K1
373		M102-k2	S	PROTO-ELAMITE SIGN M102-K2
374		M102-l	S	PROTO-ELAMITE SIGN M102-L
375		M102-m	S	PROTO-ELAMITE SIGN M102-M
376		M103	S	PROTO-ELAMITE SIGN M103
377		M103-1	S	PROTO-ELAMITE SIGN M103-1
378		M103-2	S	PROTO-ELAMITE SIGN M103-2
379		M103-3	S	PROTO-ELAMITE SIGN M103-3

#	Sign	Name	Type	Character Name
380		M103-d	S	PROTO-ELAMITE SIGN M103-D
381		M104	S	PROTO-ELAMITE SIGN M104
382		M105	S	PROTO-ELAMITE SIGN M105
383		M105-a	S	PROTO-ELAMITE SIGN M105-A
384		M105-ab	S	PROTO-ELAMITE SIGN M105-AB
385		M105-b	S	PROTO-ELAMITE SIGN M105-B
386		M105-e	S	PROTO-ELAMITE SIGN M105-E
387		M105-g	S	PROTO-ELAMITE SIGN M105-G
388		M106	S	PROTO-ELAMITE SIGN M106
389		M106-1	S	PROTO-ELAMITE SIGN M106-1
390		M106-a	S	PROTO-ELAMITE SIGN M106-A
391		M106-b	S	PROTO-ELAMITE SIGN M106-B
392		M106 + M96-c	CG	PROTO-ELAMITE SIGN M106 AND M96-C
393		M106 + M288	CG	PROTO-ELAMITE SIGN M106 AND M288
394		M106 + M288-1	CG	PROTO-ELAMITE SIGN M106 AND M288-1
395		M107-a	S	PROTO-ELAMITE SIGN M107-A
396		M109	S	PROTO-ELAMITE SIGN M109

#	Sign	Name	Type	Character Name
397		M110	S	PROTO-ELAMITE SIGN M110
398		M110-a	S	PROTO-ELAMITE SIGN M110-A
399		M110-b	S	PROTO-ELAMITE SIGN M110-B
400		M110-c	S	PROTO-ELAMITE SIGN M110-C
401		M111	S	PROTO-ELAMITE SIGN M111
402		M111-a	S	PROTO-ELAMITE SIGN M111-A
403		M111-b	S	PROTO-ELAMITE SIGN M111-B
404		M111-c	S	PROTO-ELAMITE SIGN M111-C
405		M111-d	S	PROTO-ELAMITE SIGN M111-D
406		M111-e	S	PROTO-ELAMITE SIGN M111-E
407		M111-f	S	PROTO-ELAMITE SIGN M111-F
408		M111-j1	S	PROTO-ELAMITE SIGN M111-J1
409		M111-j2	S	PROTO-ELAMITE SIGN M111-J2
410		M111-m	S	PROTO-ELAMITE SIGN M111-M
411		M111-n	S	PROTO-ELAMITE SIGN M111-N
412		M111-o	S	PROTO-ELAMITE SIGN M111-O
413		M111-o1	S	PROTO-ELAMITE SIGN M111-O1












#	Sign	Name	Type	Character Name
414		M111-g	S	PROTO-ELAMITE SIGN M111-G
415		M111-h	S	PROTO-ELAMITE SIGN M111-H
416		M111-i	S	PROTO-ELAMITE SIGN M111-I
417		M111-l	S	PROTO-ELAMITE SIGN M111-L
418		M111-p	S	PROTO-ELAMITE SIGN M111-P
419		M112	S	PROTO-ELAMITE SIGN M112
420		M112-1	S	PROTO-ELAMITE SIGN M112-1
421		M112-a	S	PROTO-ELAMITE SIGN M112-A
422		M112-aa	S	PROTO-ELAMITE SIGN M112-AA
423		M112-b	S	PROTO-ELAMITE SIGN M112-B
424		M112-c	S	PROTO-ELAMITE SIGN M112-C
425		M112-d	S	PROTO-ELAMITE SIGN M112-D
426		M112-e	S	PROTO-ELAMITE SIGN M112-E
427		M112-e1	S	PROTO-ELAMITE SIGN M112-E1
428		M112-f	S	PROTO-ELAMITE SIGN M112-F
429		M112-i	S	PROTO-ELAMITE SIGN M112-I
430		M112-n	S	PROTO-ELAMITE SIGN M112-N















#	Sign	Name	Type	Character Name
431		M112-o	S	PROTO-ELAMITE SIGN M112-O
432		M112-p	S	PROTO-ELAMITE SIGN M112-P
433		M112-q	S	PROTO-ELAMITE SIGN M112-Q
434		M112-r	S	PROTO-ELAMITE SIGN M112-R
435		M114	S	PROTO-ELAMITE SIGN M114
436		M115	S	PROTO-ELAMITE SIGN M115
437		M115-a	S	PROTO-ELAMITE SIGN M115-A
438		M115-b	S	PROTO-ELAMITE SIGN M115-B
439		M117	S	PROTO-ELAMITE SIGN M117
440		M120	S	PROTO-ELAMITE SIGN M120
441		M122	S	PROTO-ELAMITE SIGN M122
442		M122-1	S	PROTO-ELAMITE SIGN M122-1
443		M122-2	S	PROTO-ELAMITE SIGN M122-2
444		M122-3	S	PROTO-ELAMITE SIGN M122-3
445		M122-4	S	PROTO-ELAMITE SIGN M122-4
446		M122-5	S	PROTO-ELAMITE SIGN M122-5
447		M122-6	S	PROTO-ELAMITE SIGN M122-6


















#	Sign	Name	Type	Character Name
448		M123-b	S	PROTO-ELAMITE SIGN M123-B
449		M123-ca	S	PROTO-ELAMITE SIGN M123-CA
450		M123-d	S	PROTO-ELAMITE SIGN M123-D
451		M124	S	PROTO-ELAMITE SIGN M124
452		M124-a	S	PROTO-ELAMITE SIGN M124-A
453		M124-b	S	PROTO-ELAMITE SIGN M124-B
454		M124-c	S	PROTO-ELAMITE SIGN M124-C
455		M125	S	PROTO-ELAMITE SIGN M125
456		M125-a	S	PROTO-ELAMITE SIGN M125-A
457		M125-b	S	PROTO-ELAMITE SIGN M125-B
458		M126	S	PROTO-ELAMITE SIGN M126
459		M127 + M127	CG	PROTO-ELAMITE SIGN M127 AND M127
460		M128	S	PROTO-ELAMITE SIGN M128
461		M128-1	S	PROTO-ELAMITE SIGN M128-1
462		M128-ca	S	PROTO-ELAMITE SIGN M128-CA
463		M128-d	S	PROTO-ELAMITE SIGN M128-D
464		M128-da	S	PROTO-ELAMITE SIGN M128-DA




















#	Sign	Name	Type	Character Name
465		M128-da1	S	PROTO-ELAMITE SIGN M128-DA1
466		M128-db	S	PROTO-ELAMITE SIGN M128-DB
467		M128-dc	S	PROTO-ELAMITE SIGN M128-DC
468		M128-dd	S	PROTO-ELAMITE SIGN M128-DD
469		M128-de	S	PROTO-ELAMITE SIGN M128-DE
470		M128-e	S	PROTO-ELAMITE SIGN M128-E
471		M128-ef	S	PROTO-ELAMITE SIGN M128-EF
472		M129	S	PROTO-ELAMITE SIGN M129
473		M129-b	S	PROTO-ELAMITE SIGN M129-B
474		M130-b	S	PROTO-ELAMITE SIGN M130-B
475		M131	S	PROTO-ELAMITE SIGN M131
476		M131-a	S	PROTO-ELAMITE SIGN M131-A
477		M131-d	S	PROTO-ELAMITE SIGN M131-D
478		M131-e	S	PROTO-ELAMITE SIGN M131-E
479		M131-f	S	PROTO-ELAMITE SIGN M131-F
480		M131-g	S	PROTO-ELAMITE SIGN M131-G
481		M131-h	S	PROTO-ELAMITE SIGN M131-H

#	Sign	Name	Type	Character Name
482		M131-ia	S	PROTO-ELAMITE SIGN M131-IA
483		M131-k	S	PROTO-ELAMITE SIGN M131-K
484		M131-k1	S	PROTO-ELAMITE SIGN M131-K1
485		M131 + M388	CG	PROTO-ELAMITE SIGN M131 AND M388
486		M134	S	PROTO-ELAMITE SIGN M134
487		M134-a	S	PROTO-ELAMITE SIGN M134-A
488		M134-b	S	PROTO-ELAMITE SIGN M134-B
489		M134-ba	S	PROTO-ELAMITE SIGN M134-BA
490		M134-c	S	PROTO-ELAMITE SIGN M134-C
491		M134-d	S	PROTO-ELAMITE SIGN M134-D
492		M134-e	S	PROTO-ELAMITE SIGN M134-E
493		M134-f	S	PROTO-ELAMITE SIGN M134-F
494		M134-g	S	PROTO-ELAMITE SIGN M134-G
495		M135	S	PROTO-ELAMITE SIGN M135
496		M136	S	PROTO-ELAMITE SIGN M136
497		M136-a	S	PROTO-ELAMITE SIGN M136-A
498		M136-b	S	PROTO-ELAMITE SIGN M136-B





#	Sign	Name	Type	Character Name
499		M136-c	S	PROTO-ELAMITE SIGN M136-C
500		M136-d	S	PROTO-ELAMITE SIGN M136-D
501		M136-e	S	PROTO-ELAMITE SIGN M136-E
502		M136-f	S	PROTO-ELAMITE SIGN M136-F
503		M136-g	S	PROTO-ELAMITE SIGN M136-G
504		M136-h	S	PROTO-ELAMITE SIGN M136-H
505		M136-i	S	PROTO-ELAMITE SIGN M136-I
506		M136-j	S	PROTO-ELAMITE SIGN M136-J
507		M136-k	S	PROTO-ELAMITE SIGN M136-K
508		M136-l	S	PROTO-ELAMITE SIGN M136-L
509		M136-m	S	PROTO-ELAMITE SIGN M136-M
510		M136 + M71-a	CG	PROTO-ELAMITE SIGN M136 AND M71-A
511		M136 + M353	CG	PROTO-ELAMITE SIGN M136 AND M353
512		M136 + M365	CG	PROTO-ELAMITE SIGN M136 AND M365
513		M136 + M387	CG	PROTO-ELAMITE SIGN M136 AND M387
514		M136-n	S	PROTO-ELAMITE SIGN M136-N
515		M136-o	S	PROTO-ELAMITE SIGN M136-O

#	Sign	Name	Type	Character Name
516		M136-p	S	PROTO-ELAMITE SIGN M136-P
517		M136-q	S	PROTO-ELAMITE SIGN M136-Q
518		M136-r	S	PROTO-ELAMITE SIGN M136-R
519		M136-s	S	PROTO-ELAMITE SIGN M136-S
520		M136-t	S	PROTO-ELAMITE SIGN M136-T
521		M136-u	S	PROTO-ELAMITE SIGN M136-U
522		M136-w	S	PROTO-ELAMITE SIGN M136-W
523		M139	S	PROTO-ELAMITE SIGN M139
524		M139-a1	S	PROTO-ELAMITE SIGN M139-A1
525		M139-a2	S	PROTO-ELAMITE SIGN M139-A2
526		M140-a	S	PROTO-ELAMITE SIGN M140-A
527		M141	S	PROTO-ELAMITE SIGN M141
528		M141-a	S	PROTO-ELAMITE SIGN M141-A
529		M141-b	S	PROTO-ELAMITE SIGN M141-B
530		M142	S	PROTO-ELAMITE SIGN M142
531		M143	S	PROTO-ELAMITE SIGN M143
532		M143-a	S	PROTO-ELAMITE SIGN M143-A










#	Sign	Name	Type	Character Name
533		M143-d	S	PROTO-ELAMITE SIGN M143-D
534		M144	S	PROTO-ELAMITE SIGN M144
535		M144-a	S	PROTO-ELAMITE SIGN M144-A
536		M145	S	PROTO-ELAMITE SIGN M145
537		M145-a	S	PROTO-ELAMITE SIGN M145-A
538		M145-b	S	PROTO-ELAMITE SIGN M145-B
539		M145-bb	S	PROTO-ELAMITE SIGN M145-BB
540		M145-c	S	PROTO-ELAMITE SIGN M145-C
541		M145-d	S	PROTO-ELAMITE SIGN M145-D
542		M145-e	S	PROTO-ELAMITE SIGN M145-E
543		M145-f	S	PROTO-ELAMITE SIGN M145-F
544		M145-n	S	PROTO-ELAMITE SIGN M145-N
545		M146	S	PROTO-ELAMITE SIGN M146
546		M146-0	S	PROTO-ELAMITE SIGN M146-0
547		M146-1	S	PROTO-ELAMITE SIGN M146-1
548		M146-2	S	PROTO-ELAMITE SIGN M146-2
549		M146-3	S	PROTO-ELAMITE SIGN M146-3








#	Sign	Name	Type	Character Name
550		M146-4	S	PROTO-ELAMITE SIGN M146-4
551		M146-d	S	PROTO-ELAMITE SIGN M146-D
552		M146-e	S	PROTO-ELAMITE SIGN M146-E
553		M146-f	S	PROTO-ELAMITE SIGN M146-F
554		M147	S	PROTO-ELAMITE SIGN M147
555		M147-a	S	PROTO-ELAMITE SIGN M147-A
556		M147-b	S	PROTO-ELAMITE SIGN M147-B
557		M147-d	S	PROTO-ELAMITE SIGN M147-D
558		M147-e	S	PROTO-ELAMITE SIGN M147-E
559		M149-a	S	PROTO-ELAMITE SIGN M149-A
560		M149-a1	S	PROTO-ELAMITE SIGN M149-A1
561		M149-a2	S	PROTO-ELAMITE SIGN M149-A2
562		M149-a3	S	PROTO-ELAMITE SIGN M149-A3
563		M149-c	S	PROTO-ELAMITE SIGN M149-C
564		M149-d	S	PROTO-ELAMITE SIGN M149-D
565		M149-g	S	PROTO-ELAMITE SIGN M149-G
566		M149-h	S	PROTO-ELAMITE SIGN M149-H









#	Sign	Name	Type	Character Name
567		M150	S	PROTO-ELAMITE SIGN M150
568		M150-a	S	PROTO-ELAMITE SIGN M150-A
569		M151	S	PROTO-ELAMITE SIGN M151
570		M151-a	S	PROTO-ELAMITE SIGN M151-A
571		M151-b	S	PROTO-ELAMITE SIGN M151-B
572		M151-c	S	PROTO-ELAMITE SIGN M151-C
573		M151-d	S	PROTO-ELAMITE SIGN M151-D
574		M151-e	S	PROTO-ELAMITE SIGN M151-E
575		M151-f	S	PROTO-ELAMITE SIGN M151-F
576		M152	S	PROTO-ELAMITE SIGN M152
577		M152-d	S	PROTO-ELAMITE SIGN M152-D
578		M152-e	S	PROTO-ELAMITE SIGN M152-E
579		M152-f	S	PROTO-ELAMITE SIGN M152-F
580		M152-g	S	PROTO-ELAMITE SIGN M152-G
581		M153	S	PROTO-ELAMITE SIGN M153
582		M153 + M6-a	CG	PROTO-ELAMITE SIGN M153 AND M6-A
583		M153 + M29	CG	PROTO-ELAMITE SIGN M153 AND M29

#	Sign	Name	Type	Character Name
584		M153 + M106	CG	PROTO-ELAMITE SIGN M153 AND M106
585		M153 + M106-a	CG	PROTO-ELAMITE SIGN M153 AND M106-A
586		M153 + M205-c	CG	PROTO-ELAMITE SIGN M153 AND M205-C
587		M153 + M320 + M153	CG	PROTO-ELAMITE SIGN M153 AND M320 AND M153
588		M153 + M342	CG	PROTO-ELAMITE SIGN M153 AND M342
589		M153 + M377-e + M153	CG	PROTO-ELAMITE SIGN M153 AND M377-E AND M153
590		M154-b	S	PROTO-ELAMITE SIGN M154-B
591		M154-s	S	PROTO-ELAMITE SIGN M154-S
592		M155	S	PROTO-ELAMITE SIGN M155
593		M155-f	S	PROTO-ELAMITE SIGN M155-F
594		M156	S	PROTO-ELAMITE SIGN M156
595		M157	S	PROTO-ELAMITE SIGN M157
596		M157-a	S	PROTO-ELAMITE SIGN M157-A
597		M157-a + M66	CG	PROTO-ELAMITE SIGN M157-A AND M66
598		M157-a + M80-c	CG	PROTO-ELAMITE SIGN M157-A AND M80-C
599		M157-a + M131	CG	PROTO-ELAMITE SIGN M157-A AND M131
600		M157-a + M131-a	CG	PROTO-ELAMITE SIGN M157-A AND M131-A




















#	Sign	Name	Type	Character Name
601		M157-a + M131-d	CG	PROTO-ELAMITE SIGN M157-A AND M131-D
602		M157-a + M342	CG	PROTO-ELAMITE SIGN M157-A AND M342
603		M157-a + M348	CG	PROTO-ELAMITE SIGN M157-A AND M348
604		M157-a + M367	CG	PROTO-ELAMITE SIGN M157-A AND M367
605		M157 + M29	CG	PROTO-ELAMITE SIGN M157 AND M29
606		M157 + M57	CG	PROTO-ELAMITE SIGN M157 AND M57
607		M157 + M59	CG	PROTO-ELAMITE SIGN M157 AND M59
608		M157 + M80-c	CG	PROTO-ELAMITE SIGN M157 AND M80-C
609		M157 + M111-f	CG	PROTO-ELAMITE SIGN M157 AND M111-F
610		M157 + M111-i	CG	PROTO-ELAMITE SIGN M157 AND M111-I
611		M157 + M131	CG	PROTO-ELAMITE SIGN M157 AND M131
612		M157 + M131-d	CG	PROTO-ELAMITE SIGN M157 AND M131-D
613		M157 + M136	CG	PROTO-ELAMITE SIGN M157 AND M136
614		M157 + M153	CG	PROTO-ELAMITE SIGN M157 AND M153
615		M157 + M288	CG	PROTO-ELAMITE SIGN M157 AND M288
616		M157 + M340	CG	PROTO-ELAMITE SIGN M157 AND M340
617		M157 + M348	CG	PROTO-ELAMITE SIGN M157 AND M348
















#	Sign	Name	Type	Character Name
618		M157 + M377-e + M377-e	CG	PROTO-ELAMITE SIGN M157 AND M377-E AND M377-E
619		M157 + M381	CG	PROTO-ELAMITE SIGN M157 AND M381
620		M158	S	PROTO-ELAMITE SIGN M158
621		M158-b	S	PROTO-ELAMITE SIGN M158-B
622		M158-c	S	PROTO-ELAMITE SIGN M158-C
623		M158-d	S	PROTO-ELAMITE SIGN M158-D
624		M158-e	S	PROTO-ELAMITE SIGN M158-E
625		M158-h	S	PROTO-ELAMITE SIGN M158-H
626		M159	S	PROTO-ELAMITE SIGN M159
627		M165	S	PROTO-ELAMITE SIGN M165
628		M167-a	S	PROTO-ELAMITE SIGN M167-A
629		M167-a + M131-k	CG	PROTO-ELAMITE SIGN M167-A AND M131-K
630		M172	S	PROTO-ELAMITE SIGN M172
631		M173	S	PROTO-ELAMITE SIGN M173
632		M175	S	PROTO-ELAMITE SIGN M175
633		M175-b	S	PROTO-ELAMITE SIGN M175-B
634		M175 + M38-a	CG	PROTO-ELAMITE SIGN M175 AND M38-A

#	Sign	Name	Type	Character Name
635		M175 + M131	CG	PROTO-ELAMITE SIGN M175 AND M131
636		M175 + M131-d	CG	PROTO-ELAMITE SIGN M175 AND M131-D
637		M175 + M136	CG	PROTO-ELAMITE SIGN M175 AND M136
638		M175 + M136-n	CCS	PROTO-ELAMITE SIGN M175 AND M136-N
639		M175 + M153	CG	PROTO-ELAMITE SIGN M175 AND M153
640		M175 + M157	CG	PROTO-ELAMITE SIGN M175 AND M157
641		M175 + M175	CG	PROTO-ELAMITE SIGN M175 AND M175
642		M175 + M203-a	CG	PROTO-ELAMITE SIGN M175 AND M203-A
643		M175 + M286	CG	PROTO-ELAMITE SIGN M175 AND M286
644		M175 + M288	CG	PROTO-ELAMITE SIGN M175 AND M288
645		M175 + M325-d	CG	PROTO-ELAMITE SIGN M175 AND M325-D
646		M175 + M376	CG	PROTO-ELAMITE SIGN M175 AND M376
647		M175 + M377 + M377	CG	PROTO-ELAMITE SIGN M175 AND M377 AND M377
648		M175 + M380	CG	PROTO-ELAMITE SIGN M175 AND M380
649		M175 + M381	CG	PROTO-ELAMITE SIGN M175 AND M381
650		M175 + M387-c	CG	PROTO-ELAMITE SIGN M175 AND M387-C
651		M175 + M388	CG	PROTO-ELAMITE SIGN M175 AND M388

#	Sign	Name	Type	Character Name
652		M176	S	PROTO-ELAMITE SIGN M176
653		M176-b	S	PROTO-ELAMITE SIGN M176-B
654		M177	S	PROTO-ELAMITE SIGN M177
655		M177-a	S	PROTO-ELAMITE SIGN M177-A
656		M180	S	PROTO-ELAMITE SIGN M180
657		M180-a	S	PROTO-ELAMITE SIGN M180-A
658		M180-b	S	PROTO-ELAMITE SIGN M180-B
659		M180-c	S	PROTO-ELAMITE SIGN M180-C
660		M184-b	S	PROTO-ELAMITE SIGN M184-B
661		M184-e	S	PROTO-ELAMITE SIGN M184-E
662		M188-e	S	PROTO-ELAMITE SIGN M188-E
663		M188-f	S	PROTO-ELAMITE SIGN M188-F
664		M188-g	S	PROTO-ELAMITE SIGN M188-G
665		M193	S	PROTO-ELAMITE SIGN M193
666		M193-a	S	PROTO-ELAMITE SIGN M193-A
667		M193-aa	S	PROTO-ELAMITE SIGN M193-AA
668		M193-ca	S	PROTO-ELAMITE SIGN M193-CA

#	Sign	Name	Type	Character Name
669		M193-e	S	PROTO-ELAMITE SIGN M193-E
670		M193-f	S	PROTO-ELAMITE SIGN M193-F
671		M193-g	S	PROTO-ELAMITE SIGN M193-G
672		M193-m	S	PROTO-ELAMITE SIGN M193-M
673		M195	S	PROTO-ELAMITE SIGN M195
674		M195-a	S	PROTO-ELAMITE SIGN M195-A
675		M195-b	S	PROTO-ELAMITE SIGN M195-B
676		M195-c	S	PROTO-ELAMITE SIGN M195-C
677		M195-c1	S	PROTO-ELAMITE SIGN M195-C1
678		M195-m	S	PROTO-ELAMITE SIGN M195-M
679		M195 + M38	CG	PROTO-ELAMITE SIGN M195 AND M38
680		M195 + M38-a	CG	PROTO-ELAMITE SIGN M195 AND M38-A
681		M195 + M57	CG	PROTO-ELAMITE SIGN M195 AND M57
682		M195 + M57-a4	CG	PROTO-ELAMITE SIGN M195 AND M57-A4
683		M197	S	PROTO-ELAMITE SIGN M197
684		M200	S	PROTO-ELAMITE SIGN M200
685		M200-1	S	PROTO-ELAMITE SIGN M200-1


#	Sign	Name	Type	Character Name
686		M200-a	S	PROTO-ELAMITE SIGN M200-A
687		M201	S	PROTO-ELAMITE SIGN M201
688		M201 + M377	CG	PROTO-ELAMITE SIGN M201 AND M377
689		M201 + M377 + M377	CG	PROTO-ELAMITE SIGN M201 AND M377 AND M377
690		M203-a	S	PROTO-ELAMITE SIGN M203-A
691		M203-c	S	PROTO-ELAMITE SIGN M203-C
692		M203-d	S	PROTO-ELAMITE SIGN M203-D
693		M203-e	S	PROTO-ELAMITE SIGN M203-E
694		M204-g	S	PROTO-ELAMITE SIGN M204-G
695		M205	S	PROTO-ELAMITE SIGN M205
696		M205-a	S	PROTO-ELAMITE SIGN M205-A
697		M205-b	S	PROTO-ELAMITE SIGN M205-B
698		M205-c	S	PROTO-ELAMITE SIGN M205-C
699		M205-d	S	PROTO-ELAMITE SIGN M205-D
700		M205-g	S	PROTO-ELAMITE SIGN M205-G
701		M206-b	S	PROTO-ELAMITE SIGN M206-B
702		M206-d	S	PROTO-ELAMITE SIGN M206-D


















#	Sign	Name	Type	Character Name
703		M206-d1	S	PROTO-ELAMITE SIGN M206-D1
704		M206-f	S	PROTO-ELAMITE SIGN M206-F
705		M206-fa	S	PROTO-ELAMITE SIGN M206-FA
706		M206-g	S	PROTO-ELAMITE SIGN M206-G
707		M206-g1	S	PROTO-ELAMITE SIGN M206-G1
708		M206-g2	S	PROTO-ELAMITE SIGN M206-G2
709		M206-i	S	PROTO-ELAMITE SIGN M206-I
710		M206-j	S	PROTO-ELAMITE SIGN M206-J
711		M207	S	PROTO-ELAMITE SIGN M207
712		M207-a	S	PROTO-ELAMITE SIGN M207-A
713		M207-b	S	PROTO-ELAMITE SIGN M207-B
714		M207-c	S	PROTO-ELAMITE SIGN M207-C
715		M207-d	S	PROTO-ELAMITE SIGN M207-D
716		M207-e	S	PROTO-ELAMITE SIGN M207-E
717		M207-f	S	PROTO-ELAMITE SIGN M207-F
718		M207-h	S	PROTO-ELAMITE SIGN M207-H
719		M207-m	S	PROTO-ELAMITE SIGN M207-M

#	Sign	Name	Type	Character Name
720		M207-ma	S	PROTO-ELAMITE SIGN M207-MA
721		M207-n	S	PROTO-ELAMITE SIGN M207-N
722		M208	S	PROTO-ELAMITE SIGN M208
723		M209-a	S	PROTO-ELAMITE SIGN M209-A
724		M209-b	S	PROTO-ELAMITE SIGN M209-B
725		M209-c	S	PROTO-ELAMITE SIGN M209-C
726		M209-d	S	PROTO-ELAMITE SIGN M209-D
727		M209-d1	S	PROTO-ELAMITE SIGN M209-D1
728		M210	S	PROTO-ELAMITE SIGN M210
729		M210-a	S	PROTO-ELAMITE SIGN M210-A
730		M210-b	S	PROTO-ELAMITE SIGN M210-B
731		M210-ba	S	PROTO-ELAMITE SIGN M210-BA
732		M210-c	S	PROTO-ELAMITE SIGN M210-C
733		M210-d	S	PROTO-ELAMITE SIGN M210-D
734		M210-e	S	PROTO-ELAMITE SIGN M210-E
735		M210-f	S	PROTO-ELAMITE SIGN M210-F
736		M210-g	S	PROTO-ELAMITE SIGN M210-G
























#	Sign	Name	Type	Character Name
737		M210-h	S	PROTO-ELAMITE SIGN M210-H
738		M210-m	S	PROTO-ELAMITE SIGN M210-M
739		M210-ma	S	PROTO-ELAMITE SIGN M210-MA
740		M213	S	PROTO-ELAMITE SIGN M213
741		M213-b	S	PROTO-ELAMITE SIGN M213-B
742		M214-a	S	PROTO-ELAMITE SIGN M214-A
743		M214-b	S	PROTO-ELAMITE SIGN M214-B
744		M214-c	S	PROTO-ELAMITE SIGN M214-C
745		M214-d	S	PROTO-ELAMITE SIGN M214-D
746		M214-e	S	PROTO-ELAMITE SIGN M214-E
747		M214-h	S	PROTO-ELAMITE SIGN M214-H
748		M214-i	S	PROTO-ELAMITE SIGN M214-I
749		M215	S	PROTO-ELAMITE SIGN M215
750		M217	S	PROTO-ELAMITE SIGN M217
751		M217-a	S	PROTO-ELAMITE SIGN M217-A
752		M217-e	S	PROTO-ELAMITE SIGN M217-E
753		M217-ea	S	PROTO-ELAMITE SIGN M217-EA


















#	Sign	Name	Type	Character Name
754		M217-f	S	PROTO-ELAMITE SIGN M217-F
755		M217-h	S	PROTO-ELAMITE SIGN M217-H
756		M217-j	S	PROTO-ELAMITE SIGN M217-J
757		M217-m	S	PROTO-ELAMITE SIGN M217-M
758		M217 + M124	CG	PROTO-ELAMITE SIGN M217 AND M124
759		M217 + M388	CG	PROTO-ELAMITE SIGN M217 AND M388
760		M217-n	S	PROTO-ELAMITE SIGN M217-N
761		M218	S	PROTO-ELAMITE SIGN M218
762		M218-1	S	PROTO-ELAMITE SIGN M218-1
763		M218-1 + M288	CG	PROTO-ELAMITE SIGN M218-1 AND M288
764		M218-b	S	PROTO-ELAMITE SIGN M218-B
765		M218-c	S	PROTO-ELAMITE SIGN M218-C
766		M218-d + M288	CG	PROTO-ELAMITE SIGN M218-D AND M288
767		M218-g	S	PROTO-ELAMITE SIGN M218-G
768		M218 + M99	CG	PROTO-ELAMITE SIGN M218 AND M99
769		M218 + M101	CG	PROTO-ELAMITE SIGN M218 AND M101
770		M218 + M218	CG	PROTO-ELAMITE SIGN M218 AND M218


















#	Sign	Name	Type	Character Name
771		M218 + M288	CG	PROTO-ELAMITE SIGN M218 AND M288
772		M218 + M288-f	CG	PROTO-ELAMITE SIGN M218 AND M288-F
773		M218 + M320	CG	PROTO-ELAMITE SIGN M218 AND M320
774		M218 + M388	CG	PROTO-ELAMITE SIGN M218 AND M388
775		M219	S	PROTO-ELAMITE SIGN M219
776		M219-1	S	PROTO-ELAMITE SIGN M219-1
777		M219-f	S	PROTO-ELAMITE SIGN M219-F
778		M219-s	S	PROTO-ELAMITE SIGN M219-S
779		M220	S	PROTO-ELAMITE SIGN M220
780		M220-m	S	PROTO-ELAMITE SIGN M220-M
781		M220-n	S	PROTO-ELAMITE SIGN M220-N
782		M221	S	PROTO-ELAMITE SIGN M221
783		M221-c	S	PROTO-ELAMITE SIGN M221-C
784		M221-e	S	PROTO-ELAMITE SIGN M221-E
785		M221-f	S	PROTO-ELAMITE SIGN M221-F
786		M222	S	PROTO-ELAMITE SIGN M222
787		M222-e	S	PROTO-ELAMITE SIGN M222-E

#	Sign	Name	Type	Character Name
788		M223	S	PROTO-ELAMITE SIGN M223
789		M223-a	S	PROTO-ELAMITE SIGN M223-A
790		M223-b	S	PROTO-ELAMITE SIGN M223-B
791		M223-c	S	PROTO-ELAMITE SIGN M223-C
792		M223-d	S	PROTO-ELAMITE SIGN M223-D
793		M224	S	PROTO-ELAMITE SIGN M224
794		M224-a	S	PROTO-ELAMITE SIGN M224-A
795		M224-b	S	PROTO-ELAMITE SIGN M224-B
796		M224-c	S	PROTO-ELAMITE SIGN M224-C
797		M226-c	S	PROTO-ELAMITE SIGN M226-C
798		M226-ca	S	PROTO-ELAMITE SIGN M226-CA
799		M226-e	S	PROTO-ELAMITE SIGN M226-E
800		M227	S	PROTO-ELAMITE SIGN M227
801		M228	S	PROTO-ELAMITE SIGN M228
802		M228-b	S	PROTO-ELAMITE SIGN M228-B
803		M228-b + M101	CG	PROTO-ELAMITE SIGN M228-B AND M101
804		M228-b + M320	CG	PROTO-ELAMITE SIGN M228-B AND M320


















#	Sign	Name	Type	Character Name
805		M228-d	S	PROTO-ELAMITE SIGN M228-D
806		M228-g	S	PROTO-ELAMITE SIGN M228-G
807		M228-ga	S	PROTO-ELAMITE SIGN M228-GA
808		M228-gb	S	PROTO-ELAMITE SIGN M228-GB
809		M228 + M101	CG	PROTO-ELAMITE SIGN M228 AND M101
810		M228 + M288	CG	PROTO-ELAMITE SIGN M228 AND M288
811		M228 + M320	CG	PROTO-ELAMITE SIGN M228 AND M320
812		M229-e	S	PROTO-ELAMITE SIGN M229-E
813		M230	S	PROTO-ELAMITE SIGN M230
814		M230-a	S	PROTO-ELAMITE SIGN M230-A
815		M240	S	PROTO-ELAMITE SIGN M240
816		M240-a	S	PROTO-ELAMITE SIGN M240-A
817		M240-b	S	PROTO-ELAMITE SIGN M240-B
818		M240-c	S	PROTO-ELAMITE SIGN M240-C
819		M240-d	S	PROTO-ELAMITE SIGN M240-D
820		M240-d1	S	PROTO-ELAMITE SIGN M240-D1
821		M240-e	S	PROTO-ELAMITE SIGN M240-E


















#	Sign	Name	Type	Character Name
822		M241	S	PROTO-ELAMITE SIGN M241
823		M241-a	S	PROTO-ELAMITE SIGN M241-A
824		M241-b	S	PROTO-ELAMITE SIGN M241-B
825		M242	S	PROTO-ELAMITE SIGN M242
826		M242-ab	S	PROTO-ELAMITE SIGN M242-AB
827		M242-b	S	PROTO-ELAMITE SIGN M242-B
828		M242-d	S	PROTO-ELAMITE SIGN M242-D
829		M242-da	S	PROTO-ELAMITE SIGN M242-DA
830		M242-e	S	PROTO-ELAMITE SIGN M242-E
831		M242-f	S	PROTO-ELAMITE SIGN M242-F
832		M242-k	S	PROTO-ELAMITE SIGN M242-K
833		M242-n	S	PROTO-ELAMITE SIGN M242-N
834		M243	S	PROTO-ELAMITE SIGN M243
835		M243-aa	S	PROTO-ELAMITE SIGN M243-AA
836		M243-ac	S	PROTO-ELAMITE SIGN M243-AC
837		M243-b	S	PROTO-ELAMITE SIGN M243-B
838		M243-c	S	PROTO-ELAMITE SIGN M243-C













#	Sign	Name	Type	Character Name
839		M243-e	S	PROTO-ELAMITE SIGN M243-E
840		M243-ee	S	PROTO-ELAMITE SIGN M243-EE
841		M243-ef	S	PROTO-ELAMITE SIGN M243-EF
842		M243-f	S	PROTO-ELAMITE SIGN M243-F
843		M243-g	S	PROTO-ELAMITE SIGN M243-G
844		M243-h	S	PROTO-ELAMITE SIGN M243-H
845		M243-i	S	PROTO-ELAMITE SIGN M243-I
846		M243-j	S	PROTO-ELAMITE SIGN M243-J
847		M243-n	S	PROTO-ELAMITE SIGN M243-N
848		M244	S	PROTO-ELAMITE SIGN M244
849		M246	S	PROTO-ELAMITE SIGN M246
850		M246-a	S	PROTO-ELAMITE SIGN M246-A
851		M246-b	S	PROTO-ELAMITE SIGN M246-B
852		M246-c	S	PROTO-ELAMITE SIGN M246-C
853		M246-ca	S	PROTO-ELAMITE SIGN M246-CA
854		M246-e	S	PROTO-ELAMITE SIGN M246-E
855		M246-f	S	PROTO-ELAMITE SIGN M246-F


















#	Sign	Name	Type	Character Name
856		M246-g	S	PROTO-ELAMITE SIGN M246-G
857		M246-h	S	PROTO-ELAMITE SIGN M246-H
858		M246-m	S	PROTO-ELAMITE SIGN M246-M
859		M246-o	S	PROTO-ELAMITE SIGN M246-O
860		M246-s	S	PROTO-ELAMITE SIGN M246-S
861		M247	S	PROTO-ELAMITE SIGN M247
862		M247-a	S	PROTO-ELAMITE SIGN M247-A
863		M247-b	S	PROTO-ELAMITE SIGN M247-B
864		M247-c	S	PROTO-ELAMITE SIGN M247-C
865		M247-d	S	PROTO-ELAMITE SIGN M247-D
866		M247-e	S	PROTO-ELAMITE SIGN M247-E
867		M247-f	S	PROTO-ELAMITE SIGN M247-F
868		M247-g	S	PROTO-ELAMITE SIGN M247-G
869		M247-m	S	PROTO-ELAMITE SIGN M247-M
870		M247-n	S	PROTO-ELAMITE SIGN M247-N
871		M248	S	PROTO-ELAMITE SIGN M248
872		M248-a	S	PROTO-ELAMITE SIGN M248-A





































#	Sign	Name	Type	Character Name
873		M248-b	S	PROTO-ELAMITE SIGN M248-B
874		M248-c	S	PROTO-ELAMITE SIGN M248-C
875		M248-ca	S	PROTO-ELAMITE SIGN M248-CA
876		M248-d	S	PROTO-ELAMITE SIGN M248-D
877		M248-e	S	PROTO-ELAMITE SIGN M248-E
878		M248-f	S	PROTO-ELAMITE SIGN M248-F
879		M248-g	S	PROTO-ELAMITE SIGN M248-G
880		M249	S	PROTO-ELAMITE SIGN M249
881		M249-c	S	PROTO-ELAMITE SIGN M249-C
882		M249-f	S	PROTO-ELAMITE SIGN M249-F
883		M249-g	S	PROTO-ELAMITE SIGN M249-G
884		M249-h	S	PROTO-ELAMITE SIGN M249-H
885		M249-m	S	PROTO-ELAMITE SIGN M249-M
886		M249-n	S	PROTO-ELAMITE SIGN M249-N
887		M249-n1	S	PROTO-ELAMITE SIGN M249-N1
888		M249-p	S	PROTO-ELAMITE SIGN M249-P
889		M250-a	S	PROTO-ELAMITE SIGN M250-A


















#	Sign	Name	Type	Character Name
890		M250-ba	S	PROTO-ELAMITE SIGN M250-BA
891		M250-m	S	PROTO-ELAMITE SIGN M250-M
892		M250-n	S	PROTO-ELAMITE SIGN M250-N
893		M250-na	S	PROTO-ELAMITE SIGN M250-NA
894		M250-p	S	PROTO-ELAMITE SIGN M250-P
895		M250-r	S	PROTO-ELAMITE SIGN M250-R
896		M251	S	PROTO-ELAMITE SIGN M251
897		M251-c	S	PROTO-ELAMITE SIGN M251-C
898		M251-c2	S	PROTO-ELAMITE SIGN M251-C2
899		M251-c3	S	PROTO-ELAMITE SIGN M251-C3
900		M251-e	S	PROTO-ELAMITE SIGN M251-E
901		M251-g	S	PROTO-ELAMITE SIGN M251-G
902		M251-h	S	PROTO-ELAMITE SIGN M251-H
903		M251-i	S	PROTO-ELAMITE SIGN M251-I
904		M251-m	S	PROTO-ELAMITE SIGN M251-M
905		M252	S	PROTO-ELAMITE SIGN M252
906		M252-a	S	PROTO-ELAMITE SIGN M252-A

#	Sign	Name	Type	Character Name
907		M252-h	S	PROTO-ELAMITE SIGN M252-H
908		M252-i	S	PROTO-ELAMITE SIGN M252-I
909		M252-l	S	PROTO-ELAMITE SIGN M252-L
910		M252-q	S	PROTO-ELAMITE SIGN M252-Q
911		M252-qa	S	PROTO-ELAMITE SIGN M252-QA
912		M252-r	S	PROTO-ELAMITE SIGN M252-R
913		M252-t	S	PROTO-ELAMITE SIGN M252-T
914		M253	S	PROTO-ELAMITE SIGN M253
915		M254	S	PROTO-ELAMITE SIGN M254
916		M254-a	S	PROTO-ELAMITE SIGN M254-A
917		M254-b	S	PROTO-ELAMITE SIGN M254-B
918		M254-c	S	PROTO-ELAMITE SIGN M254-C
919		M254-d	S	PROTO-ELAMITE SIGN M254-D
920		M254-e	S	PROTO-ELAMITE SIGN M254-E
921		M254-f	S	PROTO-ELAMITE SIGN M254-F
922		M254-g	S	PROTO-ELAMITE SIGN M254-G
923		M254-h	S	PROTO-ELAMITE SIGN M254-H

#	Sign	Name	Type	Character Name
924		M255	S	PROTO-ELAMITE SIGN M255
925		M255-b	S	PROTO-ELAMITE SIGN M255-B
926		M256-b	S	PROTO-ELAMITE SIGN M256-B
927		M256-c	S	PROTO-ELAMITE SIGN M256-C
928		M256-d	S	PROTO-ELAMITE SIGN M256-D
929		M257-d	S	PROTO-ELAMITE SIGN M257-D
930		M259	S	PROTO-ELAMITE SIGN M259
931		M259-1	S	PROTO-ELAMITE SIGN M259-1
932		M259-2	S	PROTO-ELAMITE SIGN M259-2
933		M259-3	S	PROTO-ELAMITE SIGN M259-3
934		M260	S	PROTO-ELAMITE SIGN M260
935		M260-1	S	PROTO-ELAMITE SIGN M260-1
936		M260 + 1N <sub>14</sub>	CCS	PROTO-ELAMITE SIGN M260 AND ONE-N14
937		M260 + 1N <sub>24</sub>	CCS	PROTO-ELAMITE SIGN M260 AND ONE-N24
938		M260 + 1N <sub>30c</sub>	CCS	PROTO-ELAMITE SIGN M260 AND ONE-N30C
939		M260-1 + 1N <sub>24</sub>	CCS	PROTO-ELAMITE SIGN M260-1 AND ONE-N24
940		M260-1 + M313-a	CG	PROTO-ELAMITE SIGN M260-1 AND M313-A










#	Sign	Name	Type	Character Name
941		M260-2 + 1N <sub>24</sub>	CCS	PROTO-ELAMITE SIGN M260-2 AND ONE-N24
942		M260-3	S	PROTO-ELAMITE SIGN M260-3
943		M260-a	S	PROTO-ELAMITE SIGN M260-A
944		M260-a + M237	CG	PROTO-ELAMITE SIGN M260-A AND M237
945		M260-b	S	PROTO-ELAMITE SIGN M260-B
946		M260 + M266-a	CG	PROTO-ELAMITE SIGN M260 AND M266-A
947		M260 + M312	CG	PROTO-ELAMITE SIGN M260 AND M312
948		M261-a	S	PROTO-ELAMITE SIGN M261-A
949		M261-a1	S	PROTO-ELAMITE SIGN M261-A1
950		M261-b	S	PROTO-ELAMITE SIGN M261-B
951		M261-b1	S	PROTO-ELAMITE SIGN M261-B1
952		M261-c	S	PROTO-ELAMITE SIGN M261-C
953		M261-d	S	PROTO-ELAMITE SIGN M261-D
954		M261-d1	S	PROTO-ELAMITE SIGN M261-D1
955		M262	S	PROTO-ELAMITE SIGN M262
956		M262-1	S	PROTO-ELAMITE SIGN M262-1
957		M262-a	S	PROTO-ELAMITE SIGN M262-A













#	Sign	Name	Type	Character Name
958		M262-b	S	PROTO-ELAMITE SIGN M262-B
959		M262-ba	S	PROTO-ELAMITE SIGN M262-BA
960		M263	S	PROTO-ELAMITE SIGN M263
961		M263-1	S	PROTO-ELAMITE SIGN M263-1
962		M263-a	S	PROTO-ELAMITE SIGN M263-A
963		M263-a1	S	PROTO-ELAMITE SIGN M263-A1
964		M263-b	S	PROTO-ELAMITE SIGN M263-B
965		M263-b1	S	PROTO-ELAMITE SIGN M263-B1
966		M263-e	S	PROTO-ELAMITE SIGN M263-E
967		M263-f	S	PROTO-ELAMITE SIGN M263-F
968		M263-g	S	PROTO-ELAMITE SIGN M263-G
969		M263-h	S	PROTO-ELAMITE SIGN M263-H
970		M264-a	S	PROTO-ELAMITE SIGN M264-A
971		M264-a1	S	PROTO-ELAMITE SIGN M264-A1
972		M264-a + 1N <sub>24</sub>	CCS	PROTO-ELAMITE SIGN M264-A AND ONE-N24
973		M264-b	S	PROTO-ELAMITE SIGN M264-B
974		M264-c	S	PROTO-ELAMITE SIGN M264-C

#	Sign	Name	Type	Character Name
975		M264-d	S	PROTO-ELAMITE SIGN M264-D
976		M264-d1	S	PROTO-ELAMITE SIGN M264-D1
977		M264-n	S	PROTO-ELAMITE SIGN M264-N
978		M265	S	PROTO-ELAMITE SIGN M265
979		M265-1	S	PROTO-ELAMITE SIGN M265-1
980		M265-2	S	PROTO-ELAMITE SIGN M265-2
981		M265-e	S	PROTO-ELAMITE SIGN M265-E
982		M265-f	S	PROTO-ELAMITE SIGN M265-F
983		M265-f1	S	PROTO-ELAMITE SIGN M265-F1
984		M265-f2	S	PROTO-ELAMITE SIGN M265-F2
985		M265-f3	S	PROTO-ELAMITE SIGN M265-F3
986		M265-i	S	PROTO-ELAMITE SIGN M265-I
987		M265-k	S	PROTO-ELAMITE SIGN M265-K
988		M265-l	S	PROTO-ELAMITE SIGN M265-L
989		M266-a	S	PROTO-ELAMITE SIGN M266-A
990		M266-b	S	PROTO-ELAMITE SIGN M266-B
991		M266-f	S	PROTO-ELAMITE SIGN M266-F


















#	Sign	Name	Type	Character Name
992		M267-f	S	PROTO-ELAMITE SIGN M267-F
993		M267-g	S	PROTO-ELAMITE SIGN M267-G
994		M267-h	S	PROTO-ELAMITE SIGN M267-H
995		M267-ha	S	PROTO-ELAMITE SIGN M267-HA
996		M267-hb	S	PROTO-ELAMITE SIGN M267-HB
997		M268-b	S	PROTO-ELAMITE SIGN M268-B
998		M268-c	S	PROTO-ELAMITE SIGN M268-C
999		M268-d	S	PROTO-ELAMITE SIGN M268-D
1000		M268-m	S	PROTO-ELAMITE SIGN M268-M
1001		M269	S	PROTO-ELAMITE SIGN M269
1002		M269-1	S	PROTO-ELAMITE SIGN M269-1
1003		M269-2	S	PROTO-ELAMITE SIGN M269-2
1004		M269-3	S	PROTO-ELAMITE SIGN M269-3
1005		M269-4	S	PROTO-ELAMITE SIGN M269-4
1006		M269-a	S	PROTO-ELAMITE SIGN M269-A
1007		M269-a1	S	PROTO-ELAMITE SIGN M269-A1
1008		M269-a2	S	PROTO-ELAMITE SIGN M269-A2








#	Sign	Name	Type	Character Name
1009		M269-a3	S	PROTO-ELAMITE SIGN M269-A3
1010		M269-b	S	PROTO-ELAMITE SIGN M269-B
1011		M269-c	S	PROTO-ELAMITE SIGN M269-C
1012		M269-j1	S	PROTO-ELAMITE SIGN M269-J1
1013		M269-j2	S	PROTO-ELAMITE SIGN M269-J2
1014		M270	S	PROTO-ELAMITE SIGN M270
1015		M270-c	S	PROTO-ELAMITE SIGN M270-C
1016		M270-d	S	PROTO-ELAMITE SIGN M270-D
1017		M270-e	S	PROTO-ELAMITE SIGN M270-E
1018		M270-m	S	PROTO-ELAMITE SIGN M270-M
1019		M270-n	S	PROTO-ELAMITE SIGN M270-N
1020		M271-ca	S	PROTO-ELAMITE SIGN M271-CA
1021		M271-g	S	PROTO-ELAMITE SIGN M271-G
1022		M271-m	S	PROTO-ELAMITE SIGN M271-M
1023		M272	S	PROTO-ELAMITE SIGN M272
1024		M276-a	S	PROTO-ELAMITE SIGN M276-A
1025		M276-d	S	PROTO-ELAMITE SIGN M276-D

#	Sign	Name	Type	Character Name
1026		M276-f	S	PROTO-ELAMITE SIGN M276-F
1027		M277	S	PROTO-ELAMITE SIGN M277
1028		M277-e	S	PROTO-ELAMITE SIGN M277-E
1029		M277-g	S	PROTO-ELAMITE SIGN M277-G
1030		M277-h	S	PROTO-ELAMITE SIGN M277-H
1031		M277-ha	S	PROTO-ELAMITE SIGN M277-HA
1032		M278	S	PROTO-ELAMITE SIGN M278
1033		M278-ab	S	PROTO-ELAMITE SIGN M278-AB
1034		M278-b	S	PROTO-ELAMITE SIGN M278-B
1035		M278-c	S	PROTO-ELAMITE SIGN M278-C
1036		M278-d	S	PROTO-ELAMITE SIGN M278-D
1037		M278-da	S	PROTO-ELAMITE SIGN M278-DA
1038		M278-e	S	PROTO-ELAMITE SIGN M278-E
1039		M278-f	S	PROTO-ELAMITE SIGN M278-F
1040		M278-g	S	PROTO-ELAMITE SIGN M278-G
1041		M278-h	S	PROTO-ELAMITE SIGN M278-H
1042		M278-j	S	PROTO-ELAMITE SIGN M278-J

#	Sign	Name	Type	Character Name
1043		M278 + M124	CG	PROTO-ELAMITE SIGN M278 AND M124
1044		M280-g	S	PROTO-ELAMITE SIGN M280-G
1045		M281-a	S	PROTO-ELAMITE SIGN M281-A
1046		M281-c	S	PROTO-ELAMITE SIGN M281-C
1047		M281-d	S	PROTO-ELAMITE SIGN M281-D
1048		M281-e	S	PROTO-ELAMITE SIGN M281-E
1049		M281-f	S	PROTO-ELAMITE SIGN M281-F
1050		M281-g	S	PROTO-ELAMITE SIGN M281-G
1051		M282	S	PROTO-ELAMITE SIGN M282
1052		M283	S	PROTO-ELAMITE SIGN M283
1053		M283-a	S	PROTO-ELAMITE SIGN M283-A
1054		M283-j	S	PROTO-ELAMITE SIGN M283-J
1055		M284	S	PROTO-ELAMITE SIGN M284
1056		M284-e	S	PROTO-ELAMITE SIGN M284-E
1057		M284-k	S	PROTO-ELAMITE SIGN M284-K
1058		M284-m	S	PROTO-ELAMITE SIGN M284-M
1059		M285	S	PROTO-ELAMITE SIGN M285

#	Sign	Name	Type	Character Name
1060		M285-b	S	PROTO-ELAMITE SIGN M285-B
1061		M285-ba	S	PROTO-ELAMITE SIGN M285-BA
1062		M285-c	S	PROTO-ELAMITE SIGN M285-C
1063		M285-ca	S	PROTO-ELAMITE SIGN M285-CA
1064		M285-d	S	PROTO-ELAMITE SIGN M285-D
1065		M285-k	S	PROTO-ELAMITE SIGN M285-K
1066		M285-m	S	PROTO-ELAMITE SIGN M285-M
1067		M285-s	S	PROTO-ELAMITE SIGN M285-S
1068		M286	S	PROTO-ELAMITE SIGN M286
1069		M286-a	S	PROTO-ELAMITE SIGN M286-A
1070		M286-b	S	PROTO-ELAMITE SIGN M286-B
1071		M287-c	S	PROTO-ELAMITE SIGN M287-C
1072		M288	S	PROTO-ELAMITE SIGN M288
1073		M288 + 1N <sub>1</sub>	CCS	PROTO-ELAMITE SIGN M288 AND ONE-N1
1074		M288 + 1N <sub>39b</sub>	CCS	PROTO-ELAMITE SIGN M288 AND ONE-N39B
1075		M288-a	S	PROTO-ELAMITE SIGN M288-A
1076		M288-b	S	PROTO-ELAMITE SIGN M288-B

#	Sign	Name	Type	Character Name
1077		M288-c	S	PROTO-ELAMITE SIGN M288-C
1078		M288-d	S	PROTO-ELAMITE SIGN M288-D
1079		M288-e	S	PROTO-ELAMITE SIGN M288-E
1080		M288-f	S	PROTO-ELAMITE SIGN M288-F
1081		M288-g	S	PROTO-ELAMITE SIGN M288-G
1082		M288-h	S	PROTO-ELAMITE SIGN M288-H
1083		M288-i	S	PROTO-ELAMITE SIGN M288-I
1084		M288 + M376	CG	PROTO-ELAMITE SIGN M288 AND M376
1085		M289	S	PROTO-ELAMITE SIGN M289
1086		M289-a	S	PROTO-ELAMITE SIGN M289-A
1087		M289-b	S	PROTO-ELAMITE SIGN M289-B
1088		M289-d	S	PROTO-ELAMITE SIGN M289-D
1089		M290	S	PROTO-ELAMITE SIGN M290
1090		M290-a	S	PROTO-ELAMITE SIGN M290-A
1091		M290-c	S	PROTO-ELAMITE SIGN M290-C
1092		M290-d	S	PROTO-ELAMITE SIGN M290-D
1093		M290-h	S	PROTO-ELAMITE SIGN M290-H




#	Sign	Name	Type	Character Name
1094		M291	S	PROTO-ELAMITE SIGN M291
1095		M291-a	S	PROTO-ELAMITE SIGN M291-A
1096		M291-f	S	PROTO-ELAMITE SIGN M291-F
1097		M292	S	PROTO-ELAMITE SIGN M292
1098		M292-a	S	PROTO-ELAMITE SIGN M292-A
1099		M292-c	S	PROTO-ELAMITE SIGN M292-C
1100		M292-d	S	PROTO-ELAMITE SIGN M292-D
1101		M292-e	S	PROTO-ELAMITE SIGN M292-E
1102		M292-f	S	PROTO-ELAMITE SIGN M292-F
1103		M292-h	S	PROTO-ELAMITE SIGN M292-H
1104		M292-i	S	PROTO-ELAMITE SIGN M292-I
1105		M293	S	PROTO-ELAMITE SIGN M293
1106		M293-a	S	PROTO-ELAMITE SIGN M293-A
1107		M293-b	S	PROTO-ELAMITE SIGN M293-B
1108		M293-c	S	PROTO-ELAMITE SIGN M293-C
1109		M293-d	S	PROTO-ELAMITE SIGN M293-D
1110		M294-a	S	PROTO-ELAMITE SIGN M294-A

#	Sign	Name	Type	Character Name
1111		M295	S	PROTO-ELAMITE SIGN M295
1112		M295-a	S	PROTO-ELAMITE SIGN M295-A
1113		M295-b	S	PROTO-ELAMITE SIGN M295-B
1114		M295-c	S	PROTO-ELAMITE SIGN M295-C
1115		M295-ca	S	PROTO-ELAMITE SIGN M295-CA
1116		M295-cb	S	PROTO-ELAMITE SIGN M295-CB
1117		M295-d	S	PROTO-ELAMITE SIGN M295-D
1118		M295-da	S	PROTO-ELAMITE SIGN M295-DA
1119		M295-e	S	PROTO-ELAMITE SIGN M295-E
1120		M295-ee	S	PROTO-ELAMITE SIGN M295-EE
1121		M295-ef	S	PROTO-ELAMITE SIGN M295-EF
1122		M295-f	S	PROTO-ELAMITE SIGN M295-F
1123		M295-h	S	PROTO-ELAMITE SIGN M295-H
1124		M295-i	S	PROTO-ELAMITE SIGN M295-I
1125		M295-k	S	PROTO-ELAMITE SIGN M295-K
1126		M295-k1	S	PROTO-ELAMITE SIGN M295-K1
1127		M295-ka	S	PROTO-ELAMITE SIGN M295-KA


#	Sign	Name	Type	Character Name
1128		M295-l	S	PROTO-ELAMITE SIGN M295-L
1129		M295-la	S	PROTO-ELAMITE SIGN M295-LA
1130		M295-o	S	PROTO-ELAMITE SIGN M295-O
1131		M295-p	S	PROTO-ELAMITE SIGN M295-P
1132		M295-q	S	PROTO-ELAMITE SIGN M295-Q
1133		M295-s	S	PROTO-ELAMITE SIGN M295-S
1134		M295-u	S	PROTO-ELAMITE SIGN M295-U
1135		M295-w	S	PROTO-ELAMITE SIGN M295-W
1136		M295-wa	S	PROTO-ELAMITE SIGN M295-WA
1137		M295-y	S	PROTO-ELAMITE SIGN M295-Y
1138		M295-z	S	PROTO-ELAMITE SIGN M295-Z
1139		M296	S	PROTO-ELAMITE SIGN M296
1140		M296-c	S	PROTO-ELAMITE SIGN M296-C
1141		M296-d	S	PROTO-ELAMITE SIGN M296-D
1142		M296 + M296	CG	PROTO-ELAMITE SIGN M296 AND M296
1143		M297	S	PROTO-ELAMITE SIGN M297
1144		M297-a	S	PROTO-ELAMITE SIGN M297-A























#	Sign	Name	Type	Character Name
1145		M297-b	S	PROTO-ELAMITE SIGN M297-B
1146		M297-bc	S	PROTO-ELAMITE SIGN M297-BC
1147		M297-b + M388	CG	PROTO-ELAMITE SIGN M297-B AND M388
1148		M297-c1	S	PROTO-ELAMITE SIGN M297-C1
1149		M297-c2	S	PROTO-ELAMITE SIGN M297-C2
1150		M297-d	S	PROTO-ELAMITE SIGN M297-D
1151		M297 + M296	CG	PROTO-ELAMITE SIGN M297 AND M296
1152		M298	S	PROTO-ELAMITE SIGN M298
1153		M298-a	S	PROTO-ELAMITE SIGN M298-A
1154		M299	S	PROTO-ELAMITE SIGN M299
1155		M301	S	PROTO-ELAMITE SIGN M301
1156		M301-a	S	PROTO-ELAMITE SIGN M301-A
1157		M301-aa	S	PROTO-ELAMITE SIGN M301-AA
1158		M301-b	S	PROTO-ELAMITE SIGN M301-B
1159		M301-e	S	PROTO-ELAMITE SIGN M301-E
1160		M301-ea	S	PROTO-ELAMITE SIGN M301-EA
1161		M301-eb	S	PROTO-ELAMITE SIGN M301-EB

#	Sign	Name	Type	Character Name
1162		M301-g	S	PROTO-ELAMITE SIGN M301-G
1163		M302	S	PROTO-ELAMITE SIGN M302
1164		M302-a	S	PROTO-ELAMITE SIGN M302-A
1165		M302-b	S	PROTO-ELAMITE SIGN M302-B
1166		M302-ba	S	PROTO-ELAMITE SIGN M302-BA
1167		M302-c	S	PROTO-ELAMITE SIGN M302-C
1168		M302-ca	S	PROTO-ELAMITE SIGN M302-CA
1169		M302-e	S	PROTO-ELAMITE SIGN M302-E
1170		M302-f	S	PROTO-ELAMITE SIGN M302-F
1171		M302-i	S	PROTO-ELAMITE SIGN M302-I
1172		M302-j	S	PROTO-ELAMITE SIGN M302-J
1173		M302-k	S	PROTO-ELAMITE SIGN M302-K
1174		M302-o	S	PROTO-ELAMITE SIGN M302-O
1175		M302-p	S	PROTO-ELAMITE SIGN M302-P
1176		M302-s	S	PROTO-ELAMITE SIGN M302-S
1177		M302-t	S	PROTO-ELAMITE SIGN M302-T
1178		M304	S	PROTO-ELAMITE SIGN M304















#	Sign	Name	Type	Character Name
1179		M304-a	S	PROTO-ELAMITE SIGN M304-A
1180		M304-b	S	PROTO-ELAMITE SIGN M304-B
1181		M304 + M41-g	CG	PROTO-ELAMITE SIGN M304 AND M41-G
1182		M304 + M304	CG	PROTO-ELAMITE SIGN M304 AND M304
1183		M304 + M342	CG	PROTO-ELAMITE SIGN M304 AND M342
1184		M305	S	PROTO-ELAMITE SIGN M305
1185		M305-b	S	PROTO-ELAMITE SIGN M305-B
1186		M305-c	S	PROTO-ELAMITE SIGN M305-C
1187		M305-f	S	PROTO-ELAMITE SIGN M305-F
1188		M305-g	S	PROTO-ELAMITE SIGN M305-G
1189		M305-h	S	PROTO-ELAMITE SIGN M305-H
1190		M305-i	S	PROTO-ELAMITE SIGN M305-I
1191		M305 + M9	CG	PROTO-ELAMITE SIGN M305 AND M9
1192		M305 + M29-a	CG	PROTO-ELAMITE SIGN M305 AND M29-A
1193		M305 + M38-a	CG	PROTO-ELAMITE SIGN M305 AND M38-A
1194		M305 + M41-e	CG	PROTO-ELAMITE SIGN M305 AND M41-E
1195		M305 + M75-a	CG	PROTO-ELAMITE SIGN M305 AND M75-A

#	Sign	Name	Type	Character Name
1196		M305 + M111-c	CG	PROTO-ELAMITE SIGN M305 AND M111-C
1197		M305 + M136	CG	PROTO-ELAMITE SIGN M305 AND M136
1198		M305 + M153	CG	PROTO-ELAMITE SIGN M305 AND M153
1199		M305 + M157	CG	PROTO-ELAMITE SIGN M305 AND M157
1200		M305 + M180	CG	PROTO-ELAMITE SIGN M305 AND M180
1201		M305 + M209-a	CG	PROTO-ELAMITE SIGN M305 AND M209-A
1202		M305 + M214-a	CG	PROTO-ELAMITE SIGN M305 AND M214-A
1203		M305 + M288	CG	PROTO-ELAMITE SIGN M305 AND M288
1204		M305 + M320	CG	PROTO-ELAMITE SIGN M305 AND M320
1205		M305 + M324-c	CG	PROTO-ELAMITE SIGN M305 AND M324-C
1206		M305 + M332~d	CG	PROTO-ELAMITE SIGN M305 AND M332-D
1207		M305 + M342	CG	PROTO-ELAMITE SIGN M305 AND M342
1208		M305 + M365	CG	PROTO-ELAMITE SIGN M305 AND M365
1209		M305 + M387-c	CG	PROTO-ELAMITE SIGN M305 AND M387-C
1210		M308-e	S	PROTO-ELAMITE SIGN M308-E
1211		M308-f	S	PROTO-ELAMITE SIGN M308-F
1212		M309	S	PROTO-ELAMITE SIGN M309
















#	Sign	Name	Type	Character Name
1213		M309-a	S	PROTO-ELAMITE SIGN M309-A
1214		M309-a1	S	PROTO-ELAMITE SIGN M309-A1
1215		M309-b	S	PROTO-ELAMITE SIGN M309-B
1216		M309-d	S	PROTO-ELAMITE SIGN M309-D
1217		M310	S	PROTO-ELAMITE SIGN M310
1218		M310-1	S	PROTO-ELAMITE SIGN M310-1
1219		M311	S	PROTO-ELAMITE SIGN M311
1220		M311-b	S	PROTO-ELAMITE SIGN M311-B
1221		M311-g	S	PROTO-ELAMITE SIGN M311-G
1222		M312	S	PROTO-ELAMITE SIGN M312
1223		M312-a	S	PROTO-ELAMITE SIGN M312-A
1224		M312-c	S	PROTO-ELAMITE SIGN M312-C
1225		M312-f	S	PROTO-ELAMITE SIGN M312-F
1226		M313-a	S	PROTO-ELAMITE SIGN M313-A
1227		M313-b	S	PROTO-ELAMITE SIGN M313-B
1228		M313-b1	S	PROTO-ELAMITE SIGN M313-B1
1229		M313-f	S	PROTO-ELAMITE SIGN M313-F















#	Sign	Name	Type	Character Name
1230		M314	S	PROTO-ELAMITE SIGN M314
1231		M314-c	S	PROTO-ELAMITE SIGN M314-C
1232		M314-e	S	PROTO-ELAMITE SIGN M314-E
1233		M314-f	S	PROTO-ELAMITE SIGN M314-F
1234		M314-g	S	PROTO-ELAMITE SIGN M314-G
1235		M315	S	PROTO-ELAMITE SIGN M315
1236		M315-a	S	PROTO-ELAMITE SIGN M315-A
1237		M316	S	PROTO-ELAMITE SIGN M316
1238		M316-1	S	PROTO-ELAMITE SIGN M316-1
1239		M316-2	S	PROTO-ELAMITE SIGN M316-2
1240		M316-3	S	PROTO-ELAMITE SIGN M316-3
1241		M316-4	S	PROTO-ELAMITE SIGN M316-4
1242		M316-a	S	PROTO-ELAMITE SIGN M316-A
1243		M316-e	S	PROTO-ELAMITE SIGN M316-E
1244		M316-k	S	PROTO-ELAMITE SIGN M316-K
1245		M316-l	S	PROTO-ELAMITE SIGN M316-L
1246		M317	S	PROTO-ELAMITE SIGN M317

#	Sign	Name	Type	Character Name
1247		M317-1	S	PROTO-ELAMITE SIGN M317-1
1248		M317-a	S	PROTO-ELAMITE SIGN M317-A
1249		M317-b	S	PROTO-ELAMITE SIGN M317-B
1250		M317-b2	S	PROTO-ELAMITE SIGN M317-B2
1251		M317-d	S	PROTO-ELAMITE SIGN M317-D
1252		M317-e	S	PROTO-ELAMITE SIGN M317-E
1253		M317-g	S	PROTO-ELAMITE SIGN M317-G
1254		M317-m	S	PROTO-ELAMITE SIGN M317-M
1255		M317 + M265-b	CG	PROTO-ELAMITE SIGN M317 AND M265-B
1256		M318	S	PROTO-ELAMITE SIGN M318
1257		M318-a	S	PROTO-ELAMITE SIGN M318-A
1258		M318-a1	S	PROTO-ELAMITE SIGN M318-A1
1259		M318-a2	S	PROTO-ELAMITE SIGN M318-A2
1260		M318-a3	S	PROTO-ELAMITE SIGN M318-A3
1261		M318-c	S	PROTO-ELAMITE SIGN M318-C
1262		M318-e	S	PROTO-ELAMITE SIGN M318-E
1263		M318-g	S	PROTO-ELAMITE SIGN M318-G






#	Sign	Name	Type	Character Name
1264		M318-h	S	PROTO-ELAMITE SIGN M318-H
1265		M318-n	S	PROTO-ELAMITE SIGN M318-N
1266		M319	S	PROTO-ELAMITE SIGN M319
1267		M319-a	S	PROTO-ELAMITE SIGN M319-A
1268		M319-c	S	PROTO-ELAMITE SIGN M319-C
1269		M320	S	PROTO-ELAMITE SIGN M320
1270		M320-b	S	PROTO-ELAMITE SIGN M320-B
1271		M320-c	S	PROTO-ELAMITE SIGN M320-C
1272		M320-f	S	PROTO-ELAMITE SIGN M320-F
1273		M320-m	S	PROTO-ELAMITE SIGN M320-M
1274		M320-n	S	PROTO-ELAMITE SIGN M320-N
1275		M321	S	PROTO-ELAMITE SIGN M321
1276		M321-b	S	PROTO-ELAMITE SIGN M321-B
1277		M321-c	S	PROTO-ELAMITE SIGN M321-C
1278		M321-d	S	PROTO-ELAMITE SIGN M321-D
1279		M321-f	S	PROTO-ELAMITE SIGN M321-F
1280		M321-fa	S	PROTO-ELAMITE SIGN M321-FA















#	Sign	Name	Type	Character Name
1281		M321-h	S	PROTO-ELAMITE SIGN M321-H
1282		M321-ha	S	PROTO-ELAMITE SIGN M321-HA
1283		M321-hb	S	PROTO-ELAMITE SIGN M321-HB
1284		M321-j	S	PROTO-ELAMITE SIGN M321-J
1285		M323	S	PROTO-ELAMITE SIGN M323
1286		M323-1	S	PROTO-ELAMITE SIGN M323-1
1287		M323-a	S	PROTO-ELAMITE SIGN M323-A
1288		M323-c	S	PROTO-ELAMITE SIGN M323-C
1289		M323-g	S	PROTO-ELAMITE SIGN M323-G
1290		M323-i	S	PROTO-ELAMITE SIGN M323-I
1291		M324	S	PROTO-ELAMITE SIGN M324
1292		M324-a	S	PROTO-ELAMITE SIGN M324-A
1293		M324-c	S	PROTO-ELAMITE SIGN M324-C
1294		M324-d	S	PROTO-ELAMITE SIGN M324-D
1295		M324-e	S	PROTO-ELAMITE SIGN M324-E
1296		M324-f	S	PROTO-ELAMITE SIGN M324-F
1297		M325	S	PROTO-ELAMITE SIGN M325

#	Sign	Name	Type	Character Name
1298		M325-a	S	PROTO-ELAMITE SIGN M325-A
1299		M325-d	S	PROTO-ELAMITE SIGN M325-D
1300		M325-e	S	PROTO-ELAMITE SIGN M325-E
1301		M325-g	S	PROTO-ELAMITE SIGN M325-G
1302		M325-h	S	PROTO-ELAMITE SIGN M325-H
1303		M326-a	S	PROTO-ELAMITE SIGN M326-A
1304		M327	S	PROTO-ELAMITE SIGN M327
1305		M327-ag	S	PROTO-ELAMITE SIGN M327-AG
1306		M327-d	S	PROTO-ELAMITE SIGN M327-D
1307		M327 + M44	CG	PROTO-ELAMITE SIGN M327 AND M44
1308		M327 + M57	CG	PROTO-ELAMITE SIGN M327 AND M57
1309		M327 + M59	CG	PROTO-ELAMITE SIGN M327 AND M59
1310		M327 + M74-a	CG	PROTO-ELAMITE SIGN M327 AND M74-A
1311		M327 + M320	CG	PROTO-ELAMITE SIGN M327 AND M320
1312		M327 + M342	CG	PROTO-ELAMITE SIGN M327 AND M342
1313		M327 + M348	CG	PROTO-ELAMITE SIGN M327 AND M348
1314		M327 + M365	CG	PROTO-ELAMITE SIGN M327 AND M365


















#	Sign	Name	Type	Character Name
1315		M327 + M367	CG	PROTO-ELAMITE SIGN M327 AND M367
1316		M327-n	S	PROTO-ELAMITE SIGN M327-N
1317		M327-p	S	PROTO-ELAMITE SIGN M327-P
1318		M328-b	S	PROTO-ELAMITE SIGN M328-B
1319		M328-c	S	PROTO-ELAMITE SIGN M328-C
1320		M329	S	PROTO-ELAMITE SIGN M329
1321		M330-d	S	PROTO-ELAMITE SIGN M330-D
1322		M332-a	S	PROTO-ELAMITE SIGN M332-A
1323		M332-c	S	PROTO-ELAMITE SIGN M332-C
1324		M332-d	S	PROTO-ELAMITE SIGN M332-D
1325		M332-e	S	PROTO-ELAMITE SIGN M332-E
1326		M332-f	S	PROTO-ELAMITE SIGN M332-F
1327		M332-g	S	PROTO-ELAMITE SIGN M332-G
1328		M340	S	PROTO-ELAMITE SIGN M340
1329		M341-q	S	PROTO-ELAMITE SIGN M341-Q
1330		M342	S	PROTO-ELAMITE SIGN M342
1331		M342-1	S	PROTO-ELAMITE SIGN M342-1

#	Sign	Name	Type	Character Name
1332		M343	S	PROTO-ELAMITE SIGN M343
1333		M343-d	S	PROTO-ELAMITE SIGN M343-D
1334		M343-e	S	PROTO-ELAMITE SIGN M343-E
1335		M343-h	S	PROTO-ELAMITE SIGN M343-H
1336		M343-h + M353	CG	PROTO-ELAMITE SIGN M343-H AND M353
1337		M343-h + M354	CG	PROTO-ELAMITE SIGN M343-H AND M354
1338		M344	S	PROTO-ELAMITE SIGN M344
1339		M344-d	S	PROTO-ELAMITE SIGN M344-D
1340		M346	S	PROTO-ELAMITE SIGN M346
1341		M346-1	S	PROTO-ELAMITE SIGN M346-1
1342		M346-a	S	PROTO-ELAMITE SIGN M346-A
1343		M346-a1	S	PROTO-ELAMITE SIGN M346-A1
1344		M346-a2	S	PROTO-ELAMITE SIGN M346-A2
1345		M346-a3	S	PROTO-ELAMITE SIGN M346-A3
1346		M346-a4	S	PROTO-ELAMITE SIGN M346-A4
1347		M346-b	S	PROTO-ELAMITE SIGN M346-B
1348		M346-c	S	PROTO-ELAMITE SIGN M346-C

#	Sign	Name	Type	Character Name
1349		M346-d	S	PROTO-ELAMITE SIGN M346-D
1350		M347	S	PROTO-ELAMITE SIGN M347
1351		M348	S	PROTO-ELAMITE SIGN M348
1352		M348-b	S	PROTO-ELAMITE SIGN M348-B
1353		M348 + M4	CG	PROTO-ELAMITE SIGN M348 AND M4
1354		M348 + M346	CG	PROTO-ELAMITE SIGN M348 AND M346
1355		M349	S	PROTO-ELAMITE SIGN M349
1356		M351	S	PROTO-ELAMITE SIGN M351
1357		M351 + 1N <sub>14</sub>	CCS	PROTO-ELAMITE SIGN M351 AND ONE-N14
1358		M351 + 3N <sub>1</sub>	CCS	PROTO-ELAMITE SIGN M351 AND THREE-N1
1359		M351-c	S	PROTO-ELAMITE SIGN M351-C
1360		M351-d	S	PROTO-ELAMITE SIGN M351-D
1361		M351-m	S	PROTO-ELAMITE SIGN M351-M
1362		M351 + M342	CG	PROTO-ELAMITE SIGN M351 AND M342
1363		M351 + M380-b	CG	PROTO-ELAMITE SIGN M351 AND M380-B
1364		M352-a	S	PROTO-ELAMITE SIGN M352-A
1365		M352-b	S	PROTO-ELAMITE SIGN M352-B

#	Sign	Name	Type	Character Name
1366		M352-c	S	PROTO-ELAMITE SIGN M352-C
1367		M352-e	S	PROTO-ELAMITE SIGN M352-E
1368		M352-h	S	PROTO-ELAMITE SIGN M352-H
1369		M352-n	S	PROTO-ELAMITE SIGN M352-N
1370		M352-n2	S	PROTO-ELAMITE SIGN M352-N2
1371		M352-o	S	PROTO-ELAMITE SIGN M352-O
1372		M352-r	S	PROTO-ELAMITE SIGN M352-R
1373		M352-s	S	PROTO-ELAMITE SIGN M352-S
1374		M353	S	PROTO-ELAMITE SIGN M353
1375		M354	S	PROTO-ELAMITE SIGN M354
1376		M356	S	PROTO-ELAMITE SIGN M356
1377		M356-b	S	PROTO-ELAMITE SIGN M356-B
1378		M357	S	PROTO-ELAMITE SIGN M357
1379		M358	S	PROTO-ELAMITE SIGN M358
1380		M358-a	S	PROTO-ELAMITE SIGN M358-A
1381		M358-b	S	PROTO-ELAMITE SIGN M358-B
1382		M358-f	S	PROTO-ELAMITE SIGN M358-F

#	Sign	Name	Type	Character Name
1383		M359	S	PROTO-ELAMITE SIGN M359
1384		M360-b	S	PROTO-ELAMITE SIGN M360-B
1385		M361-a	S	PROTO-ELAMITE SIGN M361-A
1386		M361-b	S	PROTO-ELAMITE SIGN M361-B
1387		M361-c	S	PROTO-ELAMITE SIGN M361-C
1388		M361-d	S	PROTO-ELAMITE SIGN M361-D
1389		M362	S	PROTO-ELAMITE SIGN M362
1390		M362-a	S	PROTO-ELAMITE SIGN M362-A
1391		M362-b	S	PROTO-ELAMITE SIGN M362-B
1392		M362-gc	S	PROTO-ELAMITE SIGN M362-GC
1393		M362 + M5	CG	PROTO-ELAMITE SIGN M362 AND M5
1394		M362 + M24-c	CG	PROTO-ELAMITE SIGN M362 AND M24-C
1395		M362 + M26-h	CG	PROTO-ELAMITE SIGN M362 AND M26-H
1396		M362 + M41-e	CG	PROTO-ELAMITE SIGN M362 AND M41-E
1397		M362 + M59	CG	PROTO-ELAMITE SIGN M362 AND M59
1398		M362 + M59-d	CG	PROTO-ELAMITE SIGN M362 AND M59-D
1399		M362 + M99-b	CG	PROTO-ELAMITE SIGN M362 AND M99-B

#	Sign	Name	Type	Character Name
1400		M362 + M123-b	CG	PROTO-ELAMITE SIGN M362 AND M123-B
1401		M362 + M158	CG	PROTO-ELAMITE SIGN M362 AND M158
1402		M362 + M207-n	CCS	PROTO-ELAMITE SIGN M362 AND M207-N
1403		M362 + M244	CG	PROTO-ELAMITE SIGN M362 AND M244
1404		M362 + M247-g	CG	PROTO-ELAMITE SIGN M362 AND M247-G
1405		M362 + M312-a	CG	PROTO-ELAMITE SIGN M362 AND M312-A
1406		M362 + M317#	CG	PROTO-ELAMITE SIGN M362 AND M317#
1407		M362 + M365	CG	PROTO-ELAMITE SIGN M362 AND M365
1408		M362 + M367	CG	PROTO-ELAMITE SIGN M362 AND M367
1409		M362 + M383-c	CG	PROTO-ELAMITE SIGN M362 AND M383-C
1410		M362 + M384-a	CG	PROTO-ELAMITE SIGN M362 AND M384-A
1411		M363-b	S	PROTO-ELAMITE SIGN M363-B
1412		M365	S	PROTO-ELAMITE SIGN M365
1413		M365-a	S	PROTO-ELAMITE SIGN M365-A
1414		M365-c	S	PROTO-ELAMITE SIGN M365-C
1415		M365-d	S	PROTO-ELAMITE SIGN M365-D
1416		M365-g	S	PROTO-ELAMITE SIGN M365-G



#	Sign	Name	Type	Character Name
1417		M367	S	PROTO-ELAMITE SIGN M367
1418		M367-a	S	PROTO-ELAMITE SIGN M367-A
1419		M367-a1	S	PROTO-ELAMITE SIGN M367-A1
1420		M367-a2	S	PROTO-ELAMITE SIGN M367-A2
1421		M367-b	S	PROTO-ELAMITE SIGN M367-B
1422		M367-c	S	PROTO-ELAMITE SIGN M367-C
1423		M367-d	S	PROTO-ELAMITE SIGN M367-D
1424		M367-e	S	PROTO-ELAMITE SIGN M367-E
1425		M367-f	S	PROTO-ELAMITE SIGN M367-F
1426		M367-g	S	PROTO-ELAMITE SIGN M367-G
1427		M367-i	S	PROTO-ELAMITE SIGN M367-I
1428		M368-a	S	PROTO-ELAMITE SIGN M368-A
1429		M368-b	S	PROTO-ELAMITE SIGN M368-B
1430		M368-c	S	PROTO-ELAMITE SIGN M368-C
1431		M369	S	PROTO-ELAMITE SIGN M369
1432		M369-a	S	PROTO-ELAMITE SIGN M369-A
1433		M369-b	S	PROTO-ELAMITE SIGN M369-B







#	Sign	Name	Type	Character Name
1434		M370	S	PROTO-ELAMITE SIGN M370
1435		M370-b	S	PROTO-ELAMITE SIGN M370-B
1436		M370-b + M46	CG	PROTO-ELAMITE SIGN M370-B AND M46
1437		M370-b + M72	CG	PROTO-ELAMITE SIGN M370-B AND M72
1438		M370-b + M388	CG	PROTO-ELAMITE SIGN M370-B AND M388
1439		M370-c	S	PROTO-ELAMITE SIGN M370-C
1440		M370-d	S	PROTO-ELAMITE SIGN M370-D
1441		M370-da	S	PROTO-ELAMITE SIGN M370-DA
1442		M370-k	S	PROTO-ELAMITE SIGN M370-K
1443		M370-m	S	PROTO-ELAMITE SIGN M370-M
1444		M370 + M46 + M370	CG	PROTO-ELAMITE SIGN M370 AND M46 AND M370
1445		M370 + M72 + M370	CG	PROTO-ELAMITE SIGN M370 AND M72 AND M370
1446		M370 + M386 + M370	CG	PROTO-ELAMITE SIGN M370 AND M386 AND M370
1447		M370 + M388 + M370	CG	PROTO-ELAMITE SIGN M370 AND M388 AND M370
1448		M371	S	PROTO-ELAMITE SIGN M371
1449		M371-a	S	PROTO-ELAMITE SIGN M371-A
1450		M371-b	S	PROTO-ELAMITE SIGN M371-B


















#	Sign	Name	Type	Character Name
1451		M371-c	S	PROTO-ELAMITE SIGN M371-C
1452		M371-d	S	PROTO-ELAMITE SIGN M371-D
1453		M371-e	S	PROTO-ELAMITE SIGN M371-E
1454		M372	S	PROTO-ELAMITE SIGN M372
1455		M372-a	S	PROTO-ELAMITE SIGN M372-A
1456		M372-m	S	PROTO-ELAMITE SIGN M372-M
1457		M373	S	PROTO-ELAMITE SIGN M373
1458		M373-a	S	PROTO-ELAMITE SIGN M373-A
1459		M374-a	S	PROTO-ELAMITE SIGN M374-A
1460		M374-c	S	PROTO-ELAMITE SIGN M374-C
1461		M375	S	PROTO-ELAMITE SIGN M375
1462		M375-a	S	PROTO-ELAMITE SIGN M375-A
1463		M375-b	S	PROTO-ELAMITE SIGN M375-B
1464		M375-d	S	PROTO-ELAMITE SIGN M375-D
1465		M375-e	S	PROTO-ELAMITE SIGN M375-E
1466		M375-i	S	PROTO-ELAMITE SIGN M375-I
1467		M375-n	S	PROTO-ELAMITE SIGN M375-N

#	Sign	Name	Type	Character Name
1468		M376	S	PROTO-ELAMITE SIGN M376
1469		M376-a	S	PROTO-ELAMITE SIGN M376-A
1470		M376-b	S	PROTO-ELAMITE SIGN M376-B
1471		M377	S	PROTO-ELAMITE SIGN M377
1472		M377-e	S	PROTO-ELAMITE SIGN M377-E
1473		M377-e + M320 + M377-e	CG	PROTO-ELAMITE SIGN M377-E AND M320 AND M377-E
1474		M377-e + M377-e	CG	PROTO-ELAMITE SIGN M377-E AND M377-E
1475		M377-g	S	PROTO-ELAMITE SIGN M377-G
1476		M377 + M320 + M377	CG	PROTO-ELAMITE SIGN M377 AND M320 AND M377
1477		M377 + M377	CG	PROTO-ELAMITE SIGN M377 AND M377
1478		M377 + M377-g + M377	CG	PROTO-ELAMITE SIGN M377 AND M377-G AND M377
1479		M377 + M383 + M377	CG	PROTO-ELAMITE SIGN M377 AND M383 AND M377
1480		M378	S	PROTO-ELAMITE SIGN M378
1481		M379	S	PROTO-ELAMITE SIGN M379
1482		M379-c	S	PROTO-ELAMITE SIGN M379-C
1483		M379-d	S	PROTO-ELAMITE SIGN M379-D
1484		M379-e	S	PROTO-ELAMITE SIGN M379-E

#	Sign	Name	Type	Character Name
1485		M379-g	S	PROTO-ELAMITE SIGN M379-G
1486		M380	S	PROTO-ELAMITE SIGN M380
1487		M380-b	S	PROTO-ELAMITE SIGN M380-B
1488		M380-c	S	PROTO-ELAMITE SIGN M380-C
1489		M381	S	PROTO-ELAMITE SIGN M381
1490		M381-e	S	PROTO-ELAMITE SIGN M381-E
1491		M382	S	PROTO-ELAMITE SIGN M382
1492		M382-a	S	PROTO-ELAMITE SIGN M382-A
1493		M382-b	S	PROTO-ELAMITE SIGN M382-B
1494		M382-c	S	PROTO-ELAMITE SIGN M382-C
1495		M382-d	S	PROTO-ELAMITE SIGN M382-D
1496		M382-e	S	PROTO-ELAMITE SIGN M382-E
1497		M382-f	S	PROTO-ELAMITE SIGN M382-F
1498		M382-g	S	PROTO-ELAMITE SIGN M382-G
1499		M383	S	PROTO-ELAMITE SIGN M383
1500		M383-a	S	PROTO-ELAMITE SIGN M383-A
1501		M383-b	S	PROTO-ELAMITE SIGN M383-B

#	Sign	Name	Type	Character Name
1502		M383-c	S	PROTO-ELAMITE SIGN M383-C
1503		M383-d	S	PROTO-ELAMITE SIGN M383-D
1504		M383-e	S	PROTO-ELAMITE SIGN M383-E
1505		M383-e1	S	PROTO-ELAMITE SIGN M383-E1
1506		M383-h	S	PROTO-ELAMITE SIGN M383-H
1507		M383-j	S	PROTO-ELAMITE SIGN M383-J
1508		M383-k	S	PROTO-ELAMITE SIGN M383-K
1509		M383-m	S	PROTO-ELAMITE SIGN M383-M
1510		M383-n	S	PROTO-ELAMITE SIGN M383-N
1511		M384	S	PROTO-ELAMITE SIGN M384
1512		M384-a	S	PROTO-ELAMITE SIGN M384-A
1513		M384-ab	S	PROTO-ELAMITE SIGN M384-AB
1514		M384-b	S	PROTO-ELAMITE SIGN M384-B
1515		M384-c	S	PROTO-ELAMITE SIGN M384-C
1516		M384-d	S	PROTO-ELAMITE SIGN M384-D
1517		M384-d1	S	PROTO-ELAMITE SIGN M384-D1
1518		M384-d2	S	PROTO-ELAMITE SIGN M384-D2


















#	Sign	Name	Type	Character Name
1519		M384-e	S	PROTO-ELAMITE SIGN M384-E
1520		M384-f	S	PROTO-ELAMITE SIGN M384-F
1521		M384-h	S	PROTO-ELAMITE SIGN M384-H
1522		M384-i	S	PROTO-ELAMITE SIGN M384-I
1523		M385	S	PROTO-ELAMITE SIGN M385
1524		M385-a	S	PROTO-ELAMITE SIGN M385-A
1525		M385-c	S	PROTO-ELAMITE SIGN M385-C
1526		M385-f	S	PROTO-ELAMITE SIGN M385-F
1527		M386	S	PROTO-ELAMITE SIGN M386
1528		M386-a	S	PROTO-ELAMITE SIGN M386-A
1529		M386-d	S	PROTO-ELAMITE SIGN M386-D
1530		M386-da	S	PROTO-ELAMITE SIGN M386-DA
1531		M386 + M111-j	CG	PROTO-ELAMITE SIGN M386 AND M111-J
1532		M386-q	S	PROTO-ELAMITE SIGN M386-Q
1533		M387	S	PROTO-ELAMITE SIGN M387
1534		M387-a	S	PROTO-ELAMITE SIGN M387-A
1535		M387-b	S	PROTO-ELAMITE SIGN M387-B


















#	Sign	Name	Type	Character Name
1536		M387-c	S	PROTO-ELAMITE SIGN M387-C
1537		M387-ca	S	PROTO-ELAMITE SIGN M387-CA
1538		M387-ca + M340 + M387-ca	CG	PROTO-ELAMITE SIGN M387-CA AND M340 AND M387-CA
1539		M387-ee	S	PROTO-ELAMITE SIGN M387-EE
1540		M387-ee1	S	PROTO-ELAMITE SIGN M387-EE1
1541		M387-ef	S	PROTO-ELAMITE SIGN M387-EF
1542		M387-ef1	S	PROTO-ELAMITE SIGN M387-EF1
1543		M387-eg	S	PROTO-ELAMITE SIGN M387-EG
1544		M387-eh	S	PROTO-ELAMITE SIGN M387-EH
1545		M387-fa	S	PROTO-ELAMITE SIGN M387-FA
1546		M387-h	S	PROTO-ELAMITE SIGN M387-H
1547		M387-ha	S	PROTO-ELAMITE SIGN M387-HA
1548		M387-hb	S	PROTO-ELAMITE SIGN M387-HB
1549		M387-i	S	PROTO-ELAMITE SIGN M387-I
1550		M387-j	S	PROTO-ELAMITE SIGN M387-J
1551		M387-l	S	PROTO-ELAMITE SIGN M387-L
1552		M387-l1	S	PROTO-ELAMITE SIGN M387-L1











#	Sign	Name	Type	Character Name
1553		M387-o	S	PROTO-ELAMITE SIGN M387-O
1554		M388	S	PROTO-ELAMITE SIGN M388
1555		M388-c	S	PROTO-ELAMITE SIGN M388-C
1556		M390	S	PROTO-ELAMITE SIGN M390
1557		M390 + 1N <sub>14</sub>	CCS	PROTO-ELAMITE SIGN M390 AND ONE-N14
1558		M391	S	PROTO-ELAMITE SIGN M391
1559		M393-a	S	PROTO-ELAMITE SIGN M393-A
1560		M393-b	S	PROTO-ELAMITE SIGN M393-B
1561		M393-e	S	PROTO-ELAMITE SIGN M393-E
1562		M393-f	S	PROTO-ELAMITE SIGN M393-F
1563		M393-fa	S	PROTO-ELAMITE SIGN M393-FA
1564		M401	S	PROTO-ELAMITE SIGN M401
1565		M402	S	PROTO-ELAMITE SIGN M402
1566		M410	S	PROTO-ELAMITE SIGN M410
1567		M411	S	PROTO-ELAMITE SIGN M411
1568		M412	S	PROTO-ELAMITE SIGN M412
1569		M417-d	S	PROTO-ELAMITE SIGN M417-D

#	Sign	Name	Type	Character Name
1570		M417-e	S	PROTO-ELAMITE SIGN M417-E
1571		M417-f	S	PROTO-ELAMITE SIGN M417-F
1572		M417-g	S	PROTO-ELAMITE SIGN M417-G
1573		M417-h	S	PROTO-ELAMITE SIGN M417-H
1574		M418-a	S	PROTO-ELAMITE SIGN M418-A
1575		M418-b	S	PROTO-ELAMITE SIGN M418-B
1576		M418-c	S	PROTO-ELAMITE SIGN M418-C
1577		M419	S	PROTO-ELAMITE SIGN M419
1578		M419-a	S	PROTO-ELAMITE SIGN M419-A
1579		M419-b	S	PROTO-ELAMITE SIGN M419-B
1580		M420	S	PROTO-ELAMITE SIGN M420
1581		M421	S	PROTO-ELAMITE SIGN M421
1582		M424	S	PROTO-ELAMITE SIGN M424
1583		M431	S	PROTO-ELAMITE SIGN M431
1584		M432	S	PROTO-ELAMITE SIGN M432
1585		M433	S	PROTO-ELAMITE SIGN M433
1586		M438	S	PROTO-ELAMITE SIGN M438

#	Sign	Name	Type	Character Name
1587		M441	S	PROTO-ELAMITE SIGN M441
1588		M444	S	PROTO-ELAMITE SIGN M444
1589		M445	S	PROTO-ELAMITE SIGN M445
1590		M446	S	PROTO-ELAMITE SIGN M446
1591		M447	S	PROTO-ELAMITE SIGN M447
1592		M447-b	S	PROTO-ELAMITE SIGN M447-B
1593		M447-c	S	PROTO-ELAMITE SIGN M447-C
1594		M447-d	S	PROTO-ELAMITE SIGN M447-D
1595		M448	S	PROTO-ELAMITE SIGN M448
1596		M449	S	PROTO-ELAMITE SIGN M449
1597		M450	S	PROTO-ELAMITE SIGN M450
1598		M452	S	PROTO-ELAMITE SIGN M452
1599		M453	S	PROTO-ELAMITE SIGN M453
1600		M454	S	PROTO-ELAMITE SIGN M454
1601		M455	S	PROTO-ELAMITE SIGN M455
1602		M458	S	PROTO-ELAMITE SIGN M458
1603		M461	S	PROTO-ELAMITE SIGN M461

#	Sign	Name	Type	Character Name
1604		M461-b	S	PROTO-ELAMITE SIGN M461-B
1605		M461-q	S	PROTO-ELAMITE SIGN M461-Q
1606		M462	S	PROTO-ELAMITE SIGN M462
1607		M465	S	PROTO-ELAMITE SIGN M465
1608		M466	S	PROTO-ELAMITE SIGN M466
1609		M467	S	PROTO-ELAMITE SIGN M467
1610		M468	S	PROTO-ELAMITE SIGN M468
1611		M469	S	PROTO-ELAMITE SIGN M469
1612		M470	S	PROTO-ELAMITE SIGN M470
1613		M471	S	PROTO-ELAMITE SIGN M471
1614		M471-b	S	PROTO-ELAMITE SIGN M471-B
1615		M479	S	PROTO-ELAMITE SIGN M479
1616		M480	S	PROTO-ELAMITE SIGN M480
1617		M482	S	PROTO-ELAMITE SIGN M482
1618		M483	S	PROTO-ELAMITE SIGN M483
1619		M483-b	S	PROTO-ELAMITE SIGN M483-B
1620		M483-c	S	PROTO-ELAMITE SIGN M483-C

#	Sign	Name	Type	Character Name
1621		M486	S	PROTO-ELAMITE SIGN M486
1622		M489	S	PROTO-ELAMITE SIGN M489
1623		M490	S	PROTO-ELAMITE SIGN M490
1624		M491	S	PROTO-ELAMITE SIGN M491
1625		M492	S	PROTO-ELAMITE SIGN M492
1626		M495	S	PROTO-ELAMITE SIGN M495
1627		M496	S	PROTO-ELAMITE SIGN M496
1628		M497	S	PROTO-ELAMITE SIGN M497
1629		M500	S	PROTO-ELAMITE SIGN M500
1630		M501	S	PROTO-ELAMITE SIGN M501
1631		M503	S	PROTO-ELAMITE SIGN M503
1632		M504	S	PROTO-ELAMITE SIGN M504
1633		M505	S	PROTO-ELAMITE SIGN M505
1634		M506	S	PROTO-ELAMITE SIGN M506

## 5 Characters Not Suitable for Encoding

There are 2 signs that are unsuitable for encoding because they are unclear. They may be added to the repertoire if additional information regarding their semantics is made available.

#	Sign	Name	Type
1635		M4-x	S
1636		M136 + Mxxx	CG

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## 7 Acknowledgments

I express my gratitude to Dr. Laura Hawkins (Near Eastern Languages and Civilizations, Harvard University) for providing information about Proto-Elamite sign names and typologies.

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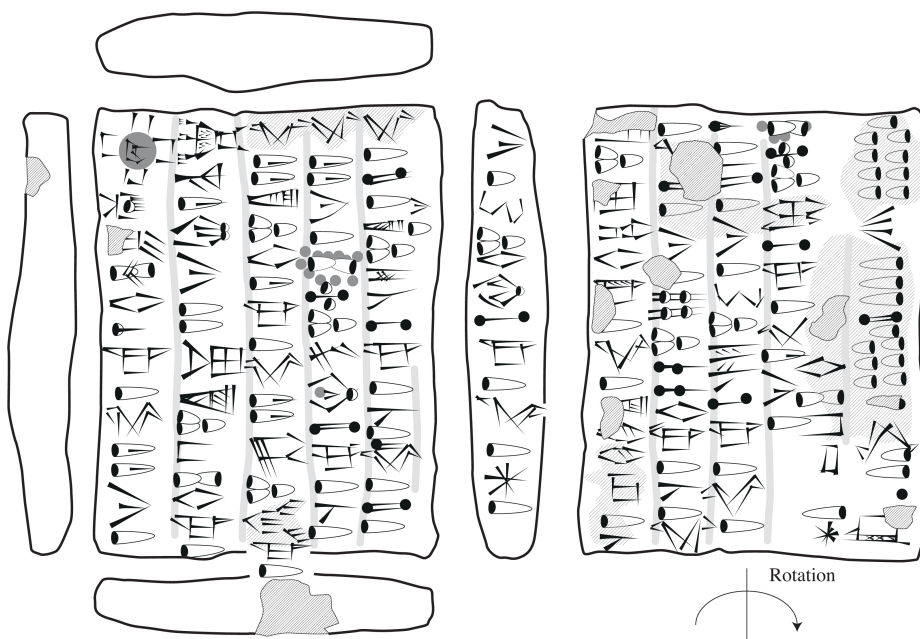


Figure 1: Photograph and drawing of tablet Musée du Louvre (MDP) 17, 112 (from Hawkins 2015).



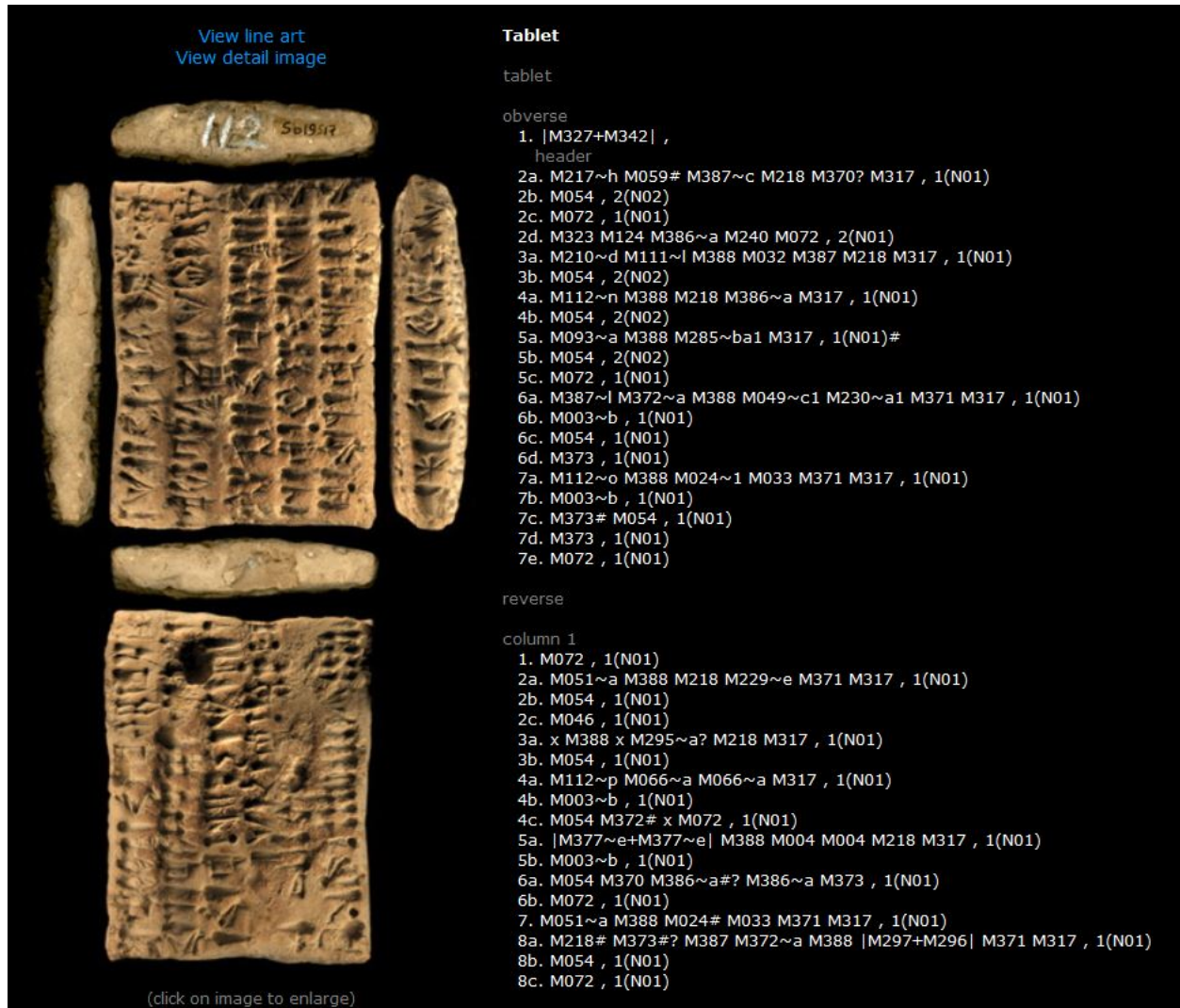










Figure 2: CDLI record for tablet Musée du Louvre (MDP) 17, 112, showing high-resolution image and transliteration ([https://cdli.ucla.edu/search/search\\_results.php?SearchMode=Text&ObjectID=P008310](https://cdli.ucla.edu/search/search_results.php?SearchMode=Text&ObjectID=P008310)).

The *decimal system* (Figs. 5.6a–b) was used to count discrete objects in proto-Elamite texts; it has no proto-cuneiform counterpart. A handful of texts offer fully reconstructable calculations of counted objects with summations on reverse tablet surfaces and thus a clear interpretation of the absolute values represented by the individual signs of the system. For example, Scheil (1923:no. 45), contains individual entries on the obverse surface representing  $94 + 69 + 147 + 44 + 50 + 112 + 75$  subsumed in a notation on the reverse surface equaling 591 ( $5N_{23} 9N_{14} N_1$ ) of counted M388 ()<sup>20</sup>. For individual groups of small cattle (M346, ) , Scheil (1905:no. 212; also Nissen *et al.* 1993:93–95) in like manner records notations representing

Excerpt from Englund (2004: 110) showing the signs  M388 and  M346.

- the same numerical signs and sign systems, but including the derivative use of bisexagesimal signs for the 1,000 and 10,000 steps of the decimal system found only in Elam (the sign for “100,” , itself follows the productive method of placing two signs in opposition to form the next bundling step in the system); and of

Excerpt from Englund (2004: 124) showing the sign  1N<sub>23</sub>

not agreed upon one or the other of two possible forms, N<sub>39a</sub> () and N<sub>39b</sub> () ; this latter sign form might derive from the use of thumbnails to represent units smaller than the basic unit in grain metrology notations during the period of numerical tablets). By the beginning of the following period Uruk III, standardization had dictated the use of only N<sub>39a</sub>. Persian accountants chose the equally plausible variant N<sub>39b</sub> from the Uruk IV pool of signs.



Excerpt from Englund (2004: 140) showing the signs  1N<sub>39a</sub> and  1N<sub>39b</sub>

Figure 3: Examples of Proto-Elamite signs used in running text.

column on its reverse. The following correlation demonstrates that the entries on the final balancing tablet correspond exactly to the entries of both texts from which it was drawn, albeit in a different sequence: the scribe here differentiated by recording on the obverse all the individuals qualified with the numerical sign  $\text{E}$ , on the reverse all those qualified with the numerical sign  $\text{E}$ .

Text no.	col.	case	=	Text no.	col.	case
62b obv.	I	1-5	=	62a obv.	I	1-5
	II	1	=		I	6
	II	2	=	rev.	I	3
	II	3	=		I	5
	II	4	=		I	4
	II	5	=	obv.	I	7
rev.	I	1-2	=		I	8-9
	I	3-6	=		II	1-4
	II	1-6	=		II	5-8
	II	7-8	=	rev.	I	1-2
62c obv.	I	1-4	=		I	6-9

After having booked the entries, the scribe proceeded by turning the tablet upside down, recording two subtotals within the central column of the reverse. In a last step he entered the grand total of the recorded laborers in the left column of the reverse. The first subtotal records exactly those 17 individuals who were noted on the obverse and qualified with the numerical sign  $\text{E}$ . These people are qualified as male and female laborers ( $\text{D}^{\text{a}}$ ) of the category  $\text{SAG}^{\text{+MA}}$ . The remaining ten laborers recorded with the numerical sign  $\text{E}$  on the reverse of the tablet are noted separately in the second subtotal, where they are characterized through the addition of the sign  $\text{ERIM}$ .

We do not understand the exact purpose of this differentiation. In administrative texts relating to domestic animals, the same numerical sign  $\text{E}$  was generally used to book an animal that had died during the accounting period. Consequently, one might be tempted to suggest that the ten laborers referred to in the present context were indeed dead. On the other hand, we cannot rule out the possibility that the sign was merely used to stress an as yet unspecified functional difference between the two groups of laborers. As a matter of fact, such use of explicitly different numerical signs is well documented in later accounting tradition.

Dating to approximately the same time as the Uruk III period texts from Mesopotamia are a number of administrative texts of similar contents which come from Susa and are written in the so-called proto-Elamite script. Although this script remains for the

most part undeciphered, we are able to make often far-reaching conclusions about the contents of the proto-Elamite texts, based on their formal similarity to proto-cuneiform tablets, that is, to the archaic texts from Mesopotamia, in particular insofar as the structure of documented accounts and the similar use of certain signs for objects in bookkeeping are concerned.

The proto-Elamite texts exhibit two features that clearly distinguish them from the proto-cuneiform documents, relating to sign form and text layout, respectively. One essential difference to the archaic texts from Mesopotamia is that the proto-Elamite documents were written in a linearized script, which on a superficial level tends to blur the formal and structural similarities between the two text corpora. The first signs on a proto-Elamite tablet have by and large the same function as the proto-cuneiform “subscription” (that is, signature), usually inscribed together with the final total on the reverse side of an archaic account tablet from Mesopotamia. As already demonstrated, such signatures supplied information relating to the type of transaction recorded as well as the responsibilities of the individuals involved in that particular transaction. Following the introductory sign combinations, which generally express the purpose of a proto-Elamite tablet, are individual entries, one after the other, without regard to the formal arrangement of the tablet into columns. Each entry normally includes an ideographic notation followed by a numerical one, thus diverging again from the strict sequence used in the proto-cuneiform texts. The principle of recording the total on the reverse side of the tablet, however, is adhered to by the proto-Elamite scribes.

The obverse of the proto-Elamite tablet in figure 63 lists in several columns altogether seven labor troops. The list itself is remarkably similar to the compilation on the proto-cuneiform text shown in figure 61; the proto-Elamite sign  $\text{E}^{\text{a}}$ , moreover, corresponds in all probability to the graphically similar sign  $\text{a}^{\text{a}}$ , meaning “male laborer,” from the proto-cuneiform script. The number of laborers belonging to each group listed in our proto-Elamite account varies between 44 and 147. In front of each number relating to the size of a group either one or two other signs were written which, according to our findings, refer to the foreman of the gang.

In proto-Elamite texts, the numbers relating to registered individuals formed part of a numerical system which was restricted in use to the distributional area of the script itself, a region approximately identical with later Persia. Hence, that system is not to be found in the contemporary archaic texts of Mesopotamia. Apparently it was only applied in conjunction with the registration of labor gangs and herds of domestic animals. It actually constitutes the only known decimal system of this region

Figure 4: Examples of Proto-Elamite signs used in running text, with comparison to an analogous Proto-Cuneiform signs (from Nissen, Damerow, Englund 1993: 75).

from the archaic period. The following signs of this system have been identified:

▷	=	1
•	=	10
◻	=	100
◻◻	=	1,000
◻◻◻	=	10,000

The signs of this system for the numbers 1,000 and 10,000 seem to have been borrowed from the proto-cuneiform bisexagesimal system and ascribed here new numerical values. This suggests that the system originally only consisted of the numbers 1, 10, and 100 and was only expanded at a time when centralization of the economic administration led to the necessity of recording increasingly larger numbers of laborers and domestic animals.

The structure of a second proto-Elamite example is illustrated in figures 64–65. In this account, laborers and grain rations are treated simultaneously. It reveals with a certain degree of clarity the hierarchical structure of the labor gangs known from texts dating to the later Old Sumerian period.

Two individuals stood at the top of the hierarchy attested by this text. Both probably functioned as chief supervisors of the registered laborers. Of special interest are the people under the control of the first supervisor, since it seems that they actually formed together a full force of laborers, whereas the second supervisor only administered the remainder of the listed workmen. The first labor force can be qualified as a century, since it consisted of ten gangs, of ten laborers each plus one foreman, thus forming together 11 individuals per gang. That number was recorded after the name of every foreman. The reverse side of the tablet with the totals accordingly records a sum of 111 laborers for the first chief supervisor, that is, the total of all gangs together with their respective foremen and the chief supervisor himself.

The fact that all the members of the three hierarchical groups were preceded by the sign ◻▷ is in agreement with the summary of the laborers, foremen, and chief supervisor in a grand total. Such comprehensive qualifications of laborers from different hierarchical levels are well known from later Mesopotamian sources. Such is, for instance, the case for the Sumerian term *guruš* during the period of the Third Dynasty of Ur. In the summations on the reverse side of the proto-Elamite tablet, the two chief supervisors are additionally qualified by the sign ◻◻. This sign most likely served to underscore the special status of the two individuals, corresponding semantically and graphically to the Sumerian sign *ugula* for the foremen of laborers (both signs likely representations of sticks).

The cereal rations are always specified for two labor gangs together, that is, for 22 individuals. Following the two entries, each consisting of the sign ◻▷, the name of the foreman and the numerical notation •▷ corresponding to the eleven persons of each gang, the sign ◻◻, probably the proto-Elamite sign for “grain ration,” was inscribed, and finally the amount of barley distributed to the 22 individuals. The barley quantity is expressed in the proto-Elamite capacity system for grain which corresponds to the ŠE system of the archaic texts from Mesopotamia. For two complete gangs, an amount of 1 • and 5 ▷ was required. Since in the capacity system 1 unit of • replaces 6 units of ▷, every laborer received an amount represented by 1/2 ▷. This amount probably corresponded to the monthly ration of a laborer. Assuming that the capacity units in Susa were of the same size as those in archaic Mesopotamia, this amount would correspond to half of what a laborer was given in Mesopotamia as attested by the archaic text in figure 60 and others. The laborer in proto-Elamite Susa would thus have received only about 12 liters per month. There are, however, a number of indications that the capacity systems in the two regions were based on different unit sizes despite their identical numerical structure.

We are ill informed about the type of tasks assigned to the labor gangs whom we find documented in the proto-Elamite texts. In particular, we do not know whether their work was carried out in the immediate neighborhood of the city or on an interregional basis. From the Fara period, the period following the archaic age, however, there is enough evidence to confirm the existence of regionally organized and directed work projects. This is, for example, attested by the tablets represented in figure 66, both of which were found in the ruins of Fara, the ancient city of Šuruppak. Both texts are compilations of “conscripted work forces” (*corvée* workers? Sumerian *lú dab<sub>3</sub>*) from nearly all the politically important cities of the Fara period: Uruk, Adab, Nippur, Lagash, Umma, and Šuruppak itself. For example, the first of these two tablets may be transliterated and translated in the following manner (text 66a; the sexagesimal number notations of the original appear in the translation converted into decimal numbers; see chap. 6):

Obverse:		
I	2.20 <i>guruš</i>	140 laborers,
	<i>lú dab<sub>3</sub> Unug<sup>ki</sup></i>	<i>corvée</i> workers from Uruk,
	3.35 <i>Adab<sup>ki</sup></i>	215 (from) Adab,
	1.14	74
II	<i>Nibru<sup>ki</sup></i>	(from) Nippur,
	1.50 <i>Lagaš<sup>ki</sup></i>	110 (from) Lagash,
	1.06 <i>Šuruppak<sup>ki</sup></i>	66 (from) Šuruppak,

77

Figure 5: Examples of Proto-Elamite signs used in running text (from Nissen, Damerow, Englund 1993: 77).