

Universal Multiple-Octet Coded Character Set  
International Organization for Standardization  
Organisation internationale de normalisation  
Международная организация по стандартизации

**Doc Type:** Working Group Document

**Title:** Legacy cuneiform font implementations and the ICE project

**Source:** Michael Everson

**Status:** Expert Contribution

**Action:** For information to JTC1/SC2/WG2 and UTC

**Date:** 2000-11-20

The Initiative for Cuneiform Encoding (ICE) has been set up to prepare a proposal for encoding Sumero-Akkadian Cuneiform in the UCS. It is estimated that the project will take at least four years. I have been preparing the present document for about two years as input to UTC and WG2; it is now input to ICE, but it seemed a good idea to let the standardization committees know what kinds of work we are doing.

The basis of the present document was a font development project I undertook some two and a half years ago. I took as the basis for my font an existing coded character set, *MacAkkadian*<sup>TM</sup>, which was developed by Paul Li and Philip Barton Payne and released in 1987. This coded character set contained “all the basic Akkadian signs (the standard Neo-Assyrian signs) listed in René Labat’s *Manual d’épigraphie akkadienne* (5th edition, 1976) and Rykle Borger’s *Assyrisch-babylonische Zeichenliste* (AOAT 33, 1978).” I myself do not have a copy of either of these works, though I have Borger’s *Akkadische Zeichenliste* (AOAT 6, 1971).

**Typographic considerations.** From a typographical point of view, the particular style I chose differed from that used in the *MacAkkadian* bitmap fonts in that my wedge-heads are hollow as can be found in much literature, while the *MacAkkadian* wedge-heads are filled. Choices about x-height and horizontal and vertical spacing are not absolute – basically I had to reproduce the printed model. Some of the glyph shapes were rather unclear; and I have not yet compared the whole set to Labat’s or Borger’s handwritten models. It should be clear that I was simply following the implementation and so my faith was that the original font designer knew what he was doing. It should also be remembered that my development of this font took place sporadically over a period of two and a half years, and so I am sure that some of the earlier glyphs are designed more clumsily than the later ones; I learned a lot about cuneiform font design and design efficiency as time went on.

**Encoding considerations.** Obviously it is not the intention of ICE just to take whatever is present in Borger, von Soden & Röllig, Labatt, Friedrich, Forrer, or anyone else and just encode it; but it does have to be said that *MacAkkadian* is a legacy character set, and so, in principle, everything in it should have some kind of mapping to the UCS encoding because, well, legacy data should be respected. If people invested the time and effort to encode and publish texts or prepare databases using such a scheme, that effort has to be respected and the valuable data preserved and converted. One question which arises is “Are there other important legacy character sets that need to be studied and mapped?” I should be surprised if there were not.

One thing that I have done is to indicate all of the examples of characters which show stacking or inversion, as the ICE project has discussed with regard to the use of alternate format characters like HORIZONTAL JUXTAPOSITIONER (HJP) and VERTICAL SUBORDINATOR (VSB) and ROTATE DEGREES-180 (R180). It is interesting to note that in this coded character set a number of stacked glyphs occur which in this set do not have the unstacked primitives also encoded (these are represented by \_\_\_\_\_ in the list below). The mappings here are intended to provoke discussion.

$1x068 = 1x067 + \text{VSB} + 1x067$   
 $1x06F = 1x06E + \text{VSB} + 1x06E$   
 $1x075 = 1x074 + \text{HJP } 1x35A + \text{VSB } 1x074 + \text{HJP } 1x35A$   
 $1x07C = 1x07B + \text{VSB} + 1x07B$   
 $1x082 = 1x081 + \text{HJP} + 1x35A + \text{HJP} + \text{_____} + 1x081 + \text{HJP} + 1x35A + \text{HJP} + \text{_____}$   
 $1x08D = 1x08C + \text{VSB} + 1x08C$   
 $1x0C4 = 1x0C4 + \text{HJP} + 1x34D + \text{VSB} + 1x0C4 + \text{HJP} + 1x34D$   
 $1x0CE = 1x0CD + \text{R180} + 1x0CD$   
 $1x17B = 1x17A + \text{HJP} + \text{_____} + \text{VSB} + 1x17A + \text{HJP} + \text{_____}$   
 $1x198 = 1x197 + \text{R180} + 1x197$   
 $1x1C9 = 1x1C8 + \text{HJP} + 1x074 + \text{HJP} + 1x35A + \text{VSB} + 1x1C8 + \text{HJP} + 1x074 + \text{HJP} + 1x35A$   
 $1x1CA = 1x1C8 + \text{HJP} + \text{_____} + \text{VSB} + 1x1C8 + \text{HJP} + \text{_____}$   
 $1x1D2 = 1x1D1 + \text{VSB} + 1x1D1$   
 $1x1D6 = 1x1D5 + \text{VSB} + 1x1D5$   
 $1x1D7 = 1x1D5 + \text{HJP} + 1x074 + \text{HJP} + 1x35A + \text{VSB} + 1x1D5 + \text{HJP} + 1x074 + \text{HJP} + 1x35A$   
 $1x2A8 = 1x2A7 + \text{VSB} + 1x2A7$   
 $1x2C9 = 1x288 + \text{VSB} + 1x35A$   
 $1x2CA = 1x288 + \text{VSB} + 1x35B$   
 $1x32F = 1x32E + \text{VSB} + 1x132E + \text{HJP} + \text{_____}$   
 $1x330 = 1x32E + \text{HJP} + 1x35A + \text{VSB} + 1x32E + \text{HJP} + 1x35A$   
 $1x332 = 1x331 + \text{VSB} + 1x331 + \text{HJP} + 1x317$

**ICE considerations.** While I certainly hope that this endeavour will be considered valuable to ICE, the question does arise “Is this kind of contribution valuable given the goals of ICE cuneiform objectives?”. I do have access to some Hittite fonts and believe that investigating their repertoire and coding will be as beneficial as what I have done here.

One thing that can be said is that I am prepared to continue this work to prepare fonts for the publication of the standard. Rick McGowan said to me that he had told Simo Parpola that I might be interested in doing so, but that he did not wish to volunteer me himself. Steve Tinney told me that he has made a Metafont containing “several hundreds” of glyphs and that he had volunteered to help produce fonts as well. To answer his specific question, the format required by UTC and WG2 to publish the standard is TrueType, and we have found that conversion of Metafonts to TrueType is not necessarily simple or very problem-free. It was done for Yi, for instance, but I had to do a fair bit of cleanup on those fonts to make them useful, and at very large point sizes the result is still far from being typographically excellent. Another question is, “Is my font design appealing and do we want it to be the basis for the glyphs we use for the standard?” There are 738 characters in the tables below. How many do we expect? 900? 2000? The Roadmap’s current estimate is 1120 characters.

**Bibliography.** These are works which happen to be in my collection.

- Borger, Rykle, 1971. *Akkadische Zeichenliste*. (Alter Orient und Altes Testament - Sonderreihe; 6) Neukirchen-Vluyn: Neukirchener Verlag des Erziehungsvereins Neukirchen-Vluyn (ISBN 3 7887 0318 0); [s.l.]: Verlag Butzon & Bercker Kevelaer (ISBN 3 7666 8538 4).
- Forrer, Emil. 1969 (1922). *Die Keilschrift von Boghazköi*. Osnabrück: Otto Zeller.
- von Soden, Wolfram, & Wolfgang Röllig. 1967. *Das akkadische Syllabar*. 2., völlig neubearbeitete Auflage. (Analecta Orientalia; 42) Roma: Pontificium Institutum Biblicum.

Row 1x0: SUMERO-AKKADIAN CUNEIFORM

|   | x00 | x01 | x02 | x03 | x04 | x05 | x06 | x07 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
P = 01

[illegible]

Row 1x0: SUMERO-AKKADIAN CUNEIFORM

|   | x08 | x09 | x0A | x0B | x0C | x0D | x0E | x0F |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
P = 01

Row 1x0: SUMERO-AKKADIAN CUNEIFORM

| hex   | Name                                 | hex   | Name                                 |
|-------|--------------------------------------|-------|--------------------------------------|
| 1x080 | SUMERO-AKKADIAN CUNEIFORM SIGN C099  | 1x0D9 | SUMERO-AKKADIAN CUNEIFORM SIGN C165  |
| 1x081 | SUMERO-AKKADIAN CUNEIFORM SIGN C099A | 1x0DA | SUMERO-AKKADIAN CUNEIFORM SIGN C166  |
| 1x082 | SUMERO-AKKADIAN CUNEIFORM SIGN C099B | 1x0DB | SUMERO-AKKADIAN CUNEIFORM SIGN C166A |
| 1x083 | SUMERO-AKKADIAN CUNEIFORM SIGN C100  | 1x0DC | SUMERO-AKKADIAN CUNEIFORM SIGN C166B |
| 1x084 | SUMERO-AKKADIAN CUNEIFORM SIGN C101  | 1x0DD | SUMERO-AKKADIAN CUNEIFORM SIGN C167  |
| 1x085 | SUMERO-AKKADIAN CUNEIFORM SIGN C102  | 1x0DE | SUMERO-AKKADIAN CUNEIFORM SIGN C167A |
| 1x086 | SUMERO-AKKADIAN CUNEIFORM SIGN C103  | 1x0DF | SUMERO-AKKADIAN CUNEIFORM SIGN C167B |
| 1x087 | SUMERO-AKKADIAN CUNEIFORM SIGN C103A | 1x0E0 | SUMERO-AKKADIAN CUNEIFORM SIGN C168  |
| 1x088 | SUMERO-AKKADIAN CUNEIFORM SIGN C103B | 1x0E1 | SUMERO-AKKADIAN CUNEIFORM SIGN C169  |
| 1x089 | SUMERO-AKKADIAN CUNEIFORM SIGN C103C | 1x0E2 | SUMERO-AKKADIAN CUNEIFORM SIGN C170  |
| 1x08A | SUMERO-AKKADIAN CUNEIFORM SIGN C104  | 1x0E3 | SUMERO-AKKADIAN CUNEIFORM SIGN C171  |
| 1x08B | SUMERO-AKKADIAN CUNEIFORM SIGN C104A | 1x0E4 | SUMERO-AKKADIAN CUNEIFORM SIGN C172  |
| 1x08C | SUMERO-AKKADIAN CUNEIFORM SIGN C105  | 1x0E5 | SUMERO-AKKADIAN CUNEIFORM SIGN C173  |
| 1x08D | SUMERO-AKKADIAN CUNEIFORM SIGN C105A | 1x0E6 | SUMERO-AKKADIAN CUNEIFORM SIGN C174  |
| 1x08E | SUMERO-AKKADIAN CUNEIFORM SIGN C106  | 1x0E7 | SUMERO-AKKADIAN CUNEIFORM SIGN C175  |
| 1x08F | SUMERO-AKKADIAN CUNEIFORM SIGN C107  | 1x0E8 | SUMERO-AKKADIAN CUNEIFORM SIGN C176  |
| 1x090 | SUMERO-AKKADIAN CUNEIFORM SIGN C108  | 1x0E9 | SUMERO-AKKADIAN CUNEIFORM SIGN C176A |
| 1x091 | SUMERO-AKKADIAN CUNEIFORM SIGN C108A | 1x0EA | SUMERO-AKKADIAN CUNEIFORM SIGN C181  |
| 1x092 | SUMERO-AKKADIAN CUNEIFORM SIGN C109  | 1x0EB | SUMERO-AKKADIAN CUNEIFORM SIGN C181A |
| 1x093 | SUMERO-AKKADIAN CUNEIFORM SIGN C110  | 1x0EC | SUMERO-AKKADIAN CUNEIFORM SIGN C182  |
| 1x094 | SUMERO-AKKADIAN CUNEIFORM SIGN C111  | 1x0ED | SUMERO-AKKADIAN CUNEIFORM SIGN C183  |
| 1x095 | SUMERO-AKKADIAN CUNEIFORM SIGN C112  | 1x0EE | SUMERO-AKKADIAN CUNEIFORM SIGN C184  |
| 1x096 | SUMERO-AKKADIAN CUNEIFORM SIGN C113  | 1x0EF | SUMERO-AKKADIAN CUNEIFORM SIGN C185  |
| 1x097 | SUMERO-AKKADIAN CUNEIFORM SIGN C114  | 1x0F0 | SUMERO-AKKADIAN CUNEIFORM SIGN C185A |
| 1x098 | SUMERO-AKKADIAN CUNEIFORM SIGN C115  | 1x0F1 | SUMERO-AKKADIAN CUNEIFORM SIGN C186  |
| 1x099 | SUMERO-AKKADIAN CUNEIFORM SIGN C116  | 1x0F2 | SUMERO-AKKADIAN CUNEIFORM SIGN C187  |
| 1x09A | SUMERO-AKKADIAN CUNEIFORM SIGN C116A | 1x0F3 | SUMERO-AKKADIAN CUNEIFORM SIGN C187A |
| 1x09B | SUMERO-AKKADIAN CUNEIFORM SIGN C117  | 1x0F4 | SUMERO-AKKADIAN CUNEIFORM SIGN C187B |
| 1x09C | SUMERO-AKKADIAN CUNEIFORM SIGN C118  | 1x0F5 | SUMERO-AKKADIAN CUNEIFORM SIGN C190  |
| 1x09D | SUMERO-AKKADIAN CUNEIFORM SIGN C119  | 1x0F6 | SUMERO-AKKADIAN CUNEIFORM SIGN C190A |
| 1x09E | SUMERO-AKKADIAN CUNEIFORM SIGN C121  | 1x0F7 | SUMERO-AKKADIAN CUNEIFORM SIGN C190B |
| 1x09F | SUMERO-AKKADIAN CUNEIFORM SIGN C122  | 1x0F8 | SUMERO-AKKADIAN CUNEIFORM SIGN C191  |
| 1x0A0 | SUMERO-AKKADIAN CUNEIFORM SIGN C122A | 1x0F9 | SUMERO-AKKADIAN CUNEIFORM SIGN C191A |
| 1x0A1 | SUMERO-AKKADIAN CUNEIFORM SIGN C122B | 1x0FA | SUMERO-AKKADIAN CUNEIFORM SIGN C192  |
| 1x0A2 | SUMERO-AKKADIAN CUNEIFORM SIGN C123  | 1x0FB | SUMERO-AKKADIAN CUNEIFORM SIGN C194  |
| 1x0A3 | SUMERO-AKKADIAN CUNEIFORM SIGN C123A | 1x0FC | SUMERO-AKKADIAN CUNEIFORM SIGN C195  |
| 1x0A4 | SUMERO-AKKADIAN CUNEIFORM SIGN C124  | 1x0FD | SUMERO-AKKADIAN CUNEIFORM SIGN C195A |
| 1x0A5 | SUMERO-AKKADIAN CUNEIFORM SIGN C124A | 1x0FE | SUMERO-AKKADIAN CUNEIFORM SIGN C196  |
| 1x0A6 | SUMERO-AKKADIAN CUNEIFORM SIGN C124B | 1x0FF | SUMERO-AKKADIAN CUNEIFORM SIGN C198  |
| 1x0A7 | SUMERO-AKKADIAN CUNEIFORM SIGN C125  |       |                                      |
| 1x0A8 | SUMERO-AKKADIAN CUNEIFORM SIGN C125A |       |                                      |
| 1x0A9 | SUMERO-AKKADIAN CUNEIFORM SIGN C125B |       |                                      |
| 1x0AA | SUMERO-AKKADIAN CUNEIFORM SIGN C125C |       |                                      |
| 1x0AB | SUMERO-AKKADIAN CUNEIFORM SIGN C125D |       |                                      |
| 1x0AC | SUMERO-AKKADIAN CUNEIFORM SIGN C125E |       |                                      |
| 1x0AD | SUMERO-AKKADIAN CUNEIFORM SIGN C126  |       |                                      |
| 1x0AE | SUMERO-AKKADIAN CUNEIFORM SIGN C128  |       |                                      |
| 1x0AF | SUMERO-AKKADIAN CUNEIFORM SIGN C128A |       |                                      |
| 1x0B0 | SUMERO-AKKADIAN CUNEIFORM SIGN C129  |       |                                      |
| 1x0B1 | SUMERO-AKKADIAN CUNEIFORM SIGN C129A |       |                                      |
| 1x0B2 | SUMERO-AKKADIAN CUNEIFORM SIGN C130  |       |                                      |
| 1x0B3 | SUMERO-AKKADIAN CUNEIFORM SIGN C131  |       |                                      |
| 1x0B4 | SUMERO-AKKADIAN CUNEIFORM SIGN C131A |       |                                      |
| 1x0B5 | SUMERO-AKKADIAN CUNEIFORM SIGN C132  |       |                                      |
| 1x0B6 | SUMERO-AKKADIAN CUNEIFORM SIGN C133  |       |                                      |
| 1x0B7 | SUMERO-AKKADIAN CUNEIFORM SIGN C133A |       |                                      |
| 1x0B8 | SUMERO-AKKADIAN CUNEIFORM SIGN C134  |       |                                      |
| 1x0B9 | SUMERO-AKKADIAN CUNEIFORM SIGN C138  |       |                                      |
| 1x0BA | SUMERO-AKKADIAN CUNEIFORM SIGN C138A |       |                                      |
| 1x0BB | SUMERO-AKKADIAN CUNEIFORM SIGN C138B |       |                                      |
| 1x0BC | SUMERO-AKKADIAN CUNEIFORM SIGN C139  |       |                                      |
| 1x0BD | SUMERO-AKKADIAN CUNEIFORM SIGN C140  |       |                                      |
| 1x0BE | SUMERO-AKKADIAN CUNEIFORM SIGN C141  |       |                                      |
| 1x0BF | SUMERO-AKKADIAN CUNEIFORM SIGN C141A |       |                                      |
| 1x0C0 | SUMERO-AKKADIAN CUNEIFORM SIGN C142  |       |                                      |
| 1x0C1 | SUMERO-AKKADIAN CUNEIFORM SIGN C142A |       |                                      |
| 1x0C2 | SUMERO-AKKADIAN CUNEIFORM SIGN C143  |       |                                      |
| 1x0C3 | SUMERO-AKKADIAN CUNEIFORM SIGN C144  |       |                                      |
| 1x0C4 | SUMERO-AKKADIAN CUNEIFORM SIGN C144A |       |                                      |
| 1x0C5 | SUMERO-AKKADIAN CUNEIFORM SIGN C144B |       |                                      |
| 1x0C6 | SUMERO-AKKADIAN CUNEIFORM SIGN C145  |       |                                      |
| 1x0C7 | SUMERO-AKKADIAN CUNEIFORM SIGN C146  |       |                                      |
| 1x0C8 | SUMERO-AKKADIAN CUNEIFORM SIGN C147  |       |                                      |
| 1x0C9 | SUMERO-AKKADIAN CUNEIFORM SIGN C148  |       |                                      |
| 1x0CA | SUMERO-AKKADIAN CUNEIFORM SIGN C149  |       |                                      |
| 1x0CB | SUMERO-AKKADIAN CUNEIFORM SIGN C150  |       |                                      |
| 1x0CC | SUMERO-AKKADIAN CUNEIFORM SIGN C150A |       |                                      |
| 1x0CD | SUMERO-AKKADIAN CUNEIFORM SIGN C151  |       |                                      |
| 1x0CE | SUMERO-AKKADIAN CUNEIFORM SIGN C151A |       |                                      |
| 1x0CF | SUMERO-AKKADIAN CUNEIFORM SIGN C152  |       |                                      |
| 1x0D0 | SUMERO-AKKADIAN CUNEIFORM SIGN C152A |       |                                      |
| 1x0D1 | SUMERO-AKKADIAN CUNEIFORM SIGN C152B |       |                                      |
| 1x0D2 | SUMERO-AKKADIAN CUNEIFORM SIGN C154  |       |                                      |
| 1x0D3 | SUMERO-AKKADIAN CUNEIFORM SIGN C155  |       |                                      |
| 1x0D4 | SUMERO-AKKADIAN CUNEIFORM SIGN C156  |       |                                      |
| 1x0D5 | SUMERO-AKKADIAN CUNEIFORM SIGN C157  |       |                                      |
| 1x0D6 | SUMERO-AKKADIAN CUNEIFORM SIGN C158  |       |                                      |
| 1x0D7 | SUMERO-AKKADIAN CUNEIFORM SIGN C159  |       |                                      |
| 1x0D8 | SUMERO-AKKADIAN CUNEIFORM SIGN C164  |       |                                      |

Row 1x1: SUMERO-AKKADIAN CUNEIFORM

|   | x10 | x11 | x12 | x13 | x14 | x15 | x16 | x17 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
1x0P =  
02

Row 1x1: SUMERO-AKKADIAN CUNEIFORM

| hex   | Name                                 | hex   | Name                                 |
|-------|--------------------------------------|-------|--------------------------------------|
| 1x100 | SUMERO-AKKADIAN CUNEIFORM SIGN C199  | 1x159 | SUMERO-AKKADIAN CUNEIFORM SIGN C288  |
| 1x101 | SUMERO-AKKADIAN CUNEIFORM SIGN C200  | 1x15A | SUMERO-AKKADIAN CUNEIFORM SIGN C289  |
| 1x102 | SUMERO-AKKADIAN CUNEIFORM SIGN C200A | 1x15B | SUMERO-AKKADIAN CUNEIFORM SIGN C290  |
| 1x103 | SUMERO-AKKADIAN CUNEIFORM SIGN C201  | 1x15C | SUMERO-AKKADIAN CUNEIFORM SIGN C291  |
| 1x104 | SUMERO-AKKADIAN CUNEIFORM SIGN C202  | 1x15D | SUMERO-AKKADIAN CUNEIFORM SIGN C292  |
| 1x105 | SUMERO-AKKADIAN CUNEIFORM SIGN C203  | 1x15E | SUMERO-AKKADIAN CUNEIFORM SIGN C292A |
| 1x106 | SUMERO-AKKADIAN CUNEIFORM SIGN C205  | 1x15F | SUMERO-AKKADIAN CUNEIFORM SIGN C293  |
| 1x107 | SUMERO-AKKADIAN CUNEIFORM SIGN C206  | 1x160 | SUMERO-AKKADIAN CUNEIFORM SIGN C294  |
| 1x108 | SUMERO-AKKADIAN CUNEIFORM SIGN C206A | 1x161 | SUMERO-AKKADIAN CUNEIFORM SIGN C294A |
| 1x109 | SUMERO-AKKADIAN CUNEIFORM SIGN C207  | 1x162 | SUMERO-AKKADIAN CUNEIFORM SIGN C295  |
| 1x10A | SUMERO-AKKADIAN CUNEIFORM SIGN C208  | 1x163 | SUMERO-AKKADIAN CUNEIFORM SIGN C295A |
| 1x10B | SUMERO-AKKADIAN CUNEIFORM SIGN C209  | 1x164 | SUMERO-AKKADIAN CUNEIFORM SIGN C295B |
| 1x10C | SUMERO-AKKADIAN CUNEIFORM SIGN C210  | 1x165 | SUMERO-AKKADIAN CUNEIFORM SIGN C295C |
| 1x10D | SUMERO-AKKADIAN CUNEIFORM SIGN C210A | 1x166 | SUMERO-AKKADIAN CUNEIFORM SIGN C295D |
| 1x10E | SUMERO-AKKADIAN CUNEIFORM SIGN C211  | 1x167 | SUMERO-AKKADIAN CUNEIFORM SIGN C295E |
| 1x10F | SUMERO-AKKADIAN CUNEIFORM SIGN C211A | 1x168 | SUMERO-AKKADIAN CUNEIFORM SIGN C295F |
| 1x110 | SUMERO-AKKADIAN CUNEIFORM SIGN C212  | 1x169 | SUMERO-AKKADIAN CUNEIFORM SIGN C295G |
| 1x111 | SUMERO-AKKADIAN CUNEIFORM SIGN C214  | 1x16A | SUMERO-AKKADIAN CUNEIFORM SIGN C295H |
| 1x112 | SUMERO-AKKADIAN CUNEIFORM SIGN C215  | 1x16B | SUMERO-AKKADIAN CUNEIFORM SIGN C295I |
| 1x113 | SUMERO-AKKADIAN CUNEIFORM SIGN C216  | 1x16C | SUMERO-AKKADIAN CUNEIFORM SIGN C295J |
| 1x114 | SUMERO-AKKADIAN CUNEIFORM SIGN C217  | 1x16D | SUMERO-AKKADIAN CUNEIFORM SIGN C295K |
| 1x115 | SUMERO-AKKADIAN CUNEIFORM SIGN C218  | 1x16E | SUMERO-AKKADIAN CUNEIFORM SIGN C295L |
| 1x116 | SUMERO-AKKADIAN CUNEIFORM SIGN C219  | 1x16F | SUMERO-AKKADIAN CUNEIFORM SIGN C296  |
| 1x117 | SUMERO-AKKADIAN CUNEIFORM SIGN C219A | 1x170 | SUMERO-AKKADIAN CUNEIFORM SIGN C296A |
| 1x118 | SUMERO-AKKADIAN CUNEIFORM SIGN C220  | 1x171 | SUMERO-AKKADIAN CUNEIFORM SIGN C296B |
| 1x119 | SUMERO-AKKADIAN CUNEIFORM SIGN C221  | 1x172 | SUMERO-AKKADIAN CUNEIFORM SIGN C297  |
| 1x11A | SUMERO-AKKADIAN CUNEIFORM SIGN C222  | 1x173 | SUMERO-AKKADIAN CUNEIFORM SIGN C298  |
| 1x11B | SUMERO-AKKADIAN CUNEIFORM SIGN C224  | 1x174 | SUMERO-AKKADIAN CUNEIFORM SIGN C300  |
| 1x11C | SUMERO-AKKADIAN CUNEIFORM SIGN C225  | 1x175 | SUMERO-AKKADIAN CUNEIFORM SIGN C301  |
| 1x11D | SUMERO-AKKADIAN CUNEIFORM SIGN C226  | 1x176 | SUMERO-AKKADIAN CUNEIFORM SIGN C302  |
| 1x11E | SUMERO-AKKADIAN CUNEIFORM SIGN C227  | 1x177 | SUMERO-AKKADIAN CUNEIFORM SIGN C305  |
| 1x11F | SUMERO-AKKADIAN CUNEIFORM SIGN C228  | 1x178 | SUMERO-AKKADIAN CUNEIFORM SIGN C306  |
| 1x120 | SUMERO-AKKADIAN CUNEIFORM SIGN C229  | 1x179 | SUMERO-AKKADIAN CUNEIFORM SIGN C307  |
| 1x121 | SUMERO-AKKADIAN CUNEIFORM SIGN C229A | 1x17A | SUMERO-AKKADIAN CUNEIFORM SIGN C308  |
| 1x122 | SUMERO-AKKADIAN CUNEIFORM SIGN C230  | 1x17B | SUMERO-AKKADIAN CUNEIFORM SIGN C308A |
| 1x123 | SUMERO-AKKADIAN CUNEIFORM SIGN C230A | 1x17C | SUMERO-AKKADIAN CUNEIFORM SIGN C309  |
| 1x124 | SUMERO-AKKADIAN CUNEIFORM SIGN C231  | 1x17D | SUMERO-AKKADIAN CUNEIFORM SIGN C310  |
| 1x125 | SUMERO-AKKADIAN CUNEIFORM SIGN C232  | 1x17E | SUMERO-AKKADIAN CUNEIFORM SIGN C311  |
| 1x126 | SUMERO-AKKADIAN CUNEIFORM SIGN C233  | 1x17F | SUMERO-AKKADIAN CUNEIFORM SIGN C312  |
| 1x127 | SUMERO-AKKADIAN CUNEIFORM SIGN C233A |       |                                      |
| 1x128 | SUMERO-AKKADIAN CUNEIFORM SIGN C234  |       |                                      |
| 1x129 | SUMERO-AKKADIAN CUNEIFORM SIGN C235  |       |                                      |
| 1x12A | SUMERO-AKKADIAN CUNEIFORM SIGN C236  |       |                                      |
| 1x12B | SUMERO-AKKADIAN CUNEIFORM SIGN C237  |       |                                      |
| 1x12C | SUMERO-AKKADIAN CUNEIFORM SIGN C239  |       |                                      |
| 1x12D | SUMERO-AKKADIAN CUNEIFORM SIGN C242  |       |                                      |
| 1x12E | SUMERO-AKKADIAN CUNEIFORM SIGN C244  |       |                                      |
| 1x12F | SUMERO-AKKADIAN CUNEIFORM SIGN C244A |       |                                      |
| 1x130 | SUMERO-AKKADIAN CUNEIFORM SIGN C246  |       |                                      |
| 1x131 | SUMERO-AKKADIAN CUNEIFORM SIGN C247  |       |                                      |
| 1x132 | SUMERO-AKKADIAN CUNEIFORM SIGN C248  |       |                                      |
| 1x133 | SUMERO-AKKADIAN CUNEIFORM SIGN C249  |       |                                      |
| 1x134 | SUMERO-AKKADIAN CUNEIFORM SIGN C249A |       |                                      |
| 1x135 | SUMERO-AKKADIAN CUNEIFORM SIGN C250  |       |                                      |
| 1x136 | SUMERO-AKKADIAN CUNEIFORM SIGN C250A |       |                                      |
| 1x137 | SUMERO-AKKADIAN CUNEIFORM SIGN C251  |       |                                      |
| 1x138 | SUMERO-AKKADIAN CUNEIFORM SIGN C251A |       |                                      |
| 1x139 | SUMERO-AKKADIAN CUNEIFORM SIGN C252  |       |                                      |
| 1x13A | SUMERO-AKKADIAN CUNEIFORM SIGN C252A |       |                                      |
| 1x13B | SUMERO-AKKADIAN CUNEIFORM SIGN C252B |       |                                      |
| 1x13C | SUMERO-AKKADIAN CUNEIFORM SIGN C255  |       |                                      |
| 1x13D | SUMERO-AKKADIAN CUNEIFORM SIGN C256  |       |                                      |
| 1x13E | SUMERO-AKKADIAN CUNEIFORM SIGN C257  |       |                                      |
| 1x13F | SUMERO-AKKADIAN CUNEIFORM SIGN C259  |       |                                      |
| 1x140 | SUMERO-AKKADIAN CUNEIFORM SIGN C260  |       |                                      |
| 1x141 | SUMERO-AKKADIAN CUNEIFORM SIGN C261  |       |                                      |
| 1x142 | SUMERO-AKKADIAN CUNEIFORM SIGN C262  |       |                                      |
| 1x143 | SUMERO-AKKADIAN CUNEIFORM SIGN C263  |       |                                      |
| 1x144 | SUMERO-AKKADIAN CUNEIFORM SIGN C264  |       |                                      |
| 1x145 | SUMERO-AKKADIAN CUNEIFORM SIGN C265  |       |                                      |
| 1x146 | SUMERO-AKKADIAN CUNEIFORM SIGN C269  |       |                                      |
| 1x147 | SUMERO-AKKADIAN CUNEIFORM SIGN C270  |       |                                      |
| 1x148 | SUMERO-AKKADIAN CUNEIFORM SIGN C271  |       |                                      |
| 1x149 | SUMERO-AKKADIAN CUNEIFORM SIGN C272  |       |                                      |
| 1x14A | SUMERO-AKKADIAN CUNEIFORM SIGN C273  |       |                                      |
| 1x14B | SUMERO-AKKADIAN CUNEIFORM SIGN C274  |       |                                      |
| 1x14C | SUMERO-AKKADIAN CUNEIFORM SIGN C277  |       |                                      |
| 1x14D | SUMERO-AKKADIAN CUNEIFORM SIGN C278  |       |                                      |
| 1x14E | SUMERO-AKKADIAN CUNEIFORM SIGN C280  |       |                                      |
| 1x14F | SUMERO-AKKADIAN CUNEIFORM SIGN C280A |       |                                      |
| 1x150 | SUMERO-AKKADIAN CUNEIFORM SIGN C281  |       |                                      |
| 1x151 | SUMERO-AKKADIAN CUNEIFORM SIGN C281A |       |                                      |
| 1x152 | SUMERO-AKKADIAN CUNEIFORM SIGN C282  |       |                                      |
| 1x153 | SUMERO-AKKADIAN CUNEIFORM SIGN C282A |       |                                      |
| 1x154 | SUMERO-AKKADIAN CUNEIFORM SIGN C283  |       |                                      |
| 1x155 | SUMERO-AKKADIAN CUNEIFORM SIGN C284  |       |                                      |
| 1x156 | SUMERO-AKKADIAN CUNEIFORM SIGN C285  |       |                                      |
| 1x157 | SUMERO-AKKADIAN CUNEIFORM SIGN C286  |       |                                      |
| 1x158 | SUMERO-AKKADIAN CUNEIFORM SIGN C287  |       |                                      |

Row 1x1: SUMERO-AKKADIAN CUNEIFORM

|   | x18 | x19 | x1A | x1B | x1C | x1D | x1E | x1F |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
P = 01

Row 1x1: SUMERO-AKKADIAN CUNEIFORM

| hex   | Name                                 | hex   | Name                                 |
|-------|--------------------------------------|-------|--------------------------------------|
| 1x180 | SUMERO-AKKADIAN CUNEIFORM SIGN C313  | 1x1D9 | SUMERO-AKKADIAN CUNEIFORM SIGN C376A |
| 1x181 | SUMERO-AKKADIAN CUNEIFORM SIGN C313A | 1x1DA | SUMERO-AKKADIAN CUNEIFORM SIGN C377  |
| 1x182 | SUMERO-AKKADIAN CUNEIFORM SIGN C314  | 1x1DB | SUMERO-AKKADIAN CUNEIFORM SIGN C377A |
| 1x183 | SUMERO-AKKADIAN CUNEIFORM SIGN C315  | 1x1DC | SUMERO-AKKADIAN CUNEIFORM SIGN C378  |
| 1x184 | SUMERO-AKKADIAN CUNEIFORM SIGN C316  | 1x1DD | SUMERO-AKKADIAN CUNEIFORM SIGN C379  |
| 1x185 | SUMERO-AKKADIAN CUNEIFORM SIGN C317  | 1x1DE | SUMERO-AKKADIAN CUNEIFORM SIGN C379A |
| 1x186 | SUMERO-AKKADIAN CUNEIFORM SIGN C318  | 1x1DF | SUMERO-AKKADIAN CUNEIFORM SIGN C380  |
| 1x187 | SUMERO-AKKADIAN CUNEIFORM SIGN C319  | 1x1E0 | SUMERO-AKKADIAN CUNEIFORM SIGN C381  |
| 1x188 | SUMERO-AKKADIAN CUNEIFORM SIGN C319A | 1x1E1 | SUMERO-AKKADIAN CUNEIFORM SIGN C381A |
| 1x189 | SUMERO-AKKADIAN CUNEIFORM SIGN C320  | 1x1E2 | SUMERO-AKKADIAN CUNEIFORM SIGN C382  |
| 1x18A | SUMERO-AKKADIAN CUNEIFORM SIGN C321  | 1x1E3 | SUMERO-AKKADIAN CUNEIFORM SIGN C383  |
| 1x18B | SUMERO-AKKADIAN CUNEIFORM SIGN C322  | 1x1E4 | SUMERO-AKKADIAN CUNEIFORM SIGN C384  |
| 1x18C | SUMERO-AKKADIAN CUNEIFORM SIGN C323  | 1x1E5 | SUMERO-AKKADIAN CUNEIFORM SIGN C385  |
| 1x18D | SUMERO-AKKADIAN CUNEIFORM SIGN C324  | 1x1E6 | SUMERO-AKKADIAN CUNEIFORM SIGN C388  |
| 1x18E | SUMERO-AKKADIAN CUNEIFORM SIGN C325  | 1x1E7 | SUMERO-AKKADIAN CUNEIFORM SIGN C389  |
| 1x18F | SUMERO-AKKADIAN CUNEIFORM SIGN C325A | 1x1E8 | SUMERO-AKKADIAN CUNEIFORM SIGN C390  |
| 1x190 | SUMERO-AKKADIAN CUNEIFORM SIGN C325B | 1x1E9 | SUMERO-AKKADIAN CUNEIFORM SIGN C391  |
| 1x191 | SUMERO-AKKADIAN CUNEIFORM SIGN C326  | 1x1EA | SUMERO-AKKADIAN CUNEIFORM SIGN C392  |
| 1x192 | SUMERO-AKKADIAN CUNEIFORM SIGN C326A | 1x1EB | SUMERO-AKKADIAN CUNEIFORM SIGN C393  |
| 1x193 | SUMERO-AKKADIAN CUNEIFORM SIGN C327  | 1x1EC | SUMERO-AKKADIAN CUNEIFORM SIGN C394  |
| 1x194 | SUMERO-AKKADIAN CUNEIFORM SIGN C328  | 1x1ED | SUMERO-AKKADIAN CUNEIFORM SIGN C394A |
| 1x195 | SUMERO-AKKADIAN CUNEIFORM SIGN C329  | 1x1EE | SUMERO-AKKADIAN CUNEIFORM SIGN C394B |
| 1x196 | SUMERO-AKKADIAN CUNEIFORM SIGN C329A | 1x1EF | SUMERO-AKKADIAN CUNEIFORM SIGN C394C |
| 1x197 | SUMERO-AKKADIAN CUNEIFORM SIGN C330  | 1x1F0 | SUMERO-AKKADIAN CUNEIFORM SIGN C395  |
| 1x198 | SUMERO-AKKADIAN CUNEIFORM SIGN C330A | 1x1F1 | SUMERO-AKKADIAN CUNEIFORM SIGN C395A |
| 1x199 | SUMERO-AKKADIAN CUNEIFORM SIGN C330B | 1x1F2 | SUMERO-AKKADIAN CUNEIFORM SIGN C396  |
| 1x19A | SUMERO-AKKADIAN CUNEIFORM SIGN C331  | 1x1F3 | SUMERO-AKKADIAN CUNEIFORM SIGN C396A |
| 1x19B | SUMERO-AKKADIAN CUNEIFORM SIGN C331A | 1x1F4 | SUMERO-AKKADIAN CUNEIFORM SIGN C397  |
| 1x19C | SUMERO-AKKADIAN CUNEIFORM SIGN C331B | 1x1F5 | SUMERO-AKKADIAN CUNEIFORM SIGN C398  |
| 1x19D | SUMERO-AKKADIAN CUNEIFORM SIGN C331C | 1x1F6 | SUMERO-AKKADIAN CUNEIFORM SIGN C398A |
| 1x19E | SUMERO-AKKADIAN CUNEIFORM SIGN C331D | 1x1F7 | SUMERO-AKKADIAN CUNEIFORM SIGN C398B |
| 1x19F | SUMERO-AKKADIAN CUNEIFORM SIGN C331E | 1x1F8 | SUMERO-AKKADIAN CUNEIFORM SIGN C399  |
| 1x1A0 | SUMERO-AKKADIAN CUNEIFORM SIGN C332  | 1x1F9 | SUMERO-AKKADIAN CUNEIFORM SIGN C399A |
| 1x1A1 | SUMERO-AKKADIAN CUNEIFORM SIGN C333  | 1x1FA | SUMERO-AKKADIAN CUNEIFORM SIGN C400  |
| 1x1A2 | SUMERO-AKKADIAN CUNEIFORM SIGN C334  | 1x1FB | SUMERO-AKKADIAN CUNEIFORM SIGN C401  |
| 1x1A3 | SUMERO-AKKADIAN CUNEIFORM SIGN C335  | 1x1FC | SUMERO-AKKADIAN CUNEIFORM SIGN C402  |
| 1x1A4 | SUMERO-AKKADIAN CUNEIFORM SIGN C336  | 1x1FD | SUMERO-AKKADIAN CUNEIFORM SIGN C403  |
| 1x1A5 | SUMERO-AKKADIAN CUNEIFORM SIGN C337  | 1x1FE | SUMERO-AKKADIAN CUNEIFORM SIGN C403A |
| 1x1A6 | SUMERO-AKKADIAN CUNEIFORM SIGN C338  | 1x1FF | SUMERO-AKKADIAN CUNEIFORM SIGN C403B |
| 1x1A7 | SUMERO-AKKADIAN CUNEIFORM SIGN C339  |       |                                      |
| 1x1A8 | SUMERO-AKKADIAN CUNEIFORM SIGN C340  |       |                                      |
| 1x1A9 | SUMERO-AKKADIAN CUNEIFORM SIGN C341  |       |                                      |
| 1x1AA | SUMERO-AKKADIAN CUNEIFORM SIGN C342  |       |                                      |
| 1x1AB | SUMERO-AKKADIAN CUNEIFORM SIGN C343  |       |                                      |
| 1x1AC | SUMERO-AKKADIAN CUNEIFORM SIGN C344  |       |                                      |
| 1x1AD | SUMERO-AKKADIAN CUNEIFORM SIGN C345  |       |                                      |
| 1x1AE | SUMERO-AKKADIAN CUNEIFORM SIGN C346  |       |                                      |
| 1x1AF | SUMERO-AKKADIAN CUNEIFORM SIGN C347  |       |                                      |
| 1x1B0 | SUMERO-AKKADIAN CUNEIFORM SIGN C348  |       |                                      |
| 1x1B1 | SUMERO-AKKADIAN CUNEIFORM SIGN C349  |       |                                      |
| 1x1B2 | SUMERO-AKKADIAN CUNEIFORM SIGN C350  |       |                                      |
| 1x1B3 | SUMERO-AKKADIAN CUNEIFORM SIGN C351  |       |                                      |
| 1x1B4 | SUMERO-AKKADIAN CUNEIFORM SIGN C352  |       |                                      |
| 1x1B5 | SUMERO-AKKADIAN CUNEIFORM SIGN C353  |       |                                      |
| 1x1B6 | SUMERO-AKKADIAN CUNEIFORM SIGN C354  |       |                                      |
| 1x1B7 | SUMERO-AKKADIAN CUNEIFORM SIGN C354A |       |                                      |
| 1x1B8 | SUMERO-AKKADIAN CUNEIFORM SIGN C354B |       |                                      |
| 1x1B9 | SUMERO-AKKADIAN CUNEIFORM SIGN C354C |       |                                      |
| 1x1BA | SUMERO-AKKADIAN CUNEIFORM SIGN C354D |       |                                      |
| 1x1BB | SUMERO-AKKADIAN CUNEIFORM SIGN C355  |       |                                      |
| 1x1BC | SUMERO-AKKADIAN CUNEIFORM SIGN C356  |       |                                      |
| 1x1BD | SUMERO-AKKADIAN CUNEIFORM SIGN C358  |       |                                      |
| 1x1BE | SUMERO-AKKADIAN CUNEIFORM SIGN C359  |       |                                      |
| 1x1BF | SUMERO-AKKADIAN CUNEIFORM SIGN C360  |       |                                      |
| 1x1C0 | SUMERO-AKKADIAN CUNEIFORM SIGN C361  |       |                                      |
| 1x1C1 | SUMERO-AKKADIAN CUNEIFORM SIGN C362  |       |                                      |
| 1x1C2 | SUMERO-AKKADIAN CUNEIFORM SIGN C363  |       |                                      |
| 1x1C3 | SUMERO-AKKADIAN CUNEIFORM SIGN C363A |       |                                      |
| 1x1C4 | SUMERO-AKKADIAN CUNEIFORM SIGN C363B |       |                                      |
| 1x1C5 | SUMERO-AKKADIAN CUNEIFORM SIGN C364  |       |                                      |
| 1x1C6 | SUMERO-AKKADIAN CUNEIFORM SIGN C365  |       |                                      |
| 1x1C7 | SUMERO-AKKADIAN CUNEIFORM SIGN C366  |       |                                      |
| 1x1C8 | SUMERO-AKKADIAN CUNEIFORM SIGN C367  |       |                                      |
| 1x1C9 | SUMERO-AKKADIAN CUNEIFORM SIGN C369  |       |                                      |
| 1x1CA | SUMERO-AKKADIAN CUNEIFORM SIGN C370  |       |                                      |
| 1x1CB | SUMERO-AKKADIAN CUNEIFORM SIGN C371  |       |                                      |
| 1x1CC | SUMERO-AKKADIAN CUNEIFORM SIGN C371A |       |                                      |
| 1x1CD | SUMERO-AKKADIAN CUNEIFORM SIGN C371B |       |                                      |
| 1x1CE | SUMERO-AKKADIAN CUNEIFORM SIGN C371C |       |                                      |
| 1x1CF | SUMERO-AKKADIAN CUNEIFORM SIGN C372  |       |                                      |
| 1x1D0 | SUMERO-AKKADIAN CUNEIFORM SIGN C373  |       |                                      |
| 1x1D1 | SUMERO-AKKADIAN CUNEIFORM SIGN C374  |       |                                      |
| 1x1D2 | SUMERO-AKKADIAN CUNEIFORM SIGN C374A |       |                                      |
| 1x1D3 | SUMERO-AKKADIAN CUNEIFORM SIGN C374B |       |                                      |
| 1x1D4 | SUMERO-AKKADIAN CUNEIFORM SIGN C374C |       |                                      |
| 1x1D5 | SUMERO-AKKADIAN CUNEIFORM SIGN C375  |       |                                      |
| 1x1D6 | SUMERO-AKKADIAN CUNEIFORM SIGN C375A |       |                                      |
| 1x1D7 | SUMERO-AKKADIAN CUNEIFORM SIGN C375B |       |                                      |
| 1x1D8 | SUMERO-AKKADIAN CUNEIFORM SIGN C376  |       |                                      |

Row 1x2: SUMERO-AKKADIAN CUNEIFORM

|   | x20 | x21 | x22 | x23 | x24 | x25 | x26 | x27 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
P = 01

[illegible]

Row 1x2: SUMERO-AKKADIAN CUNEIFORM

|   | x28 | x29 | x2A | x2B | x2C | x2D | x2E | x2F |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 |     |     |     |     |     |     |     |     |
| 1 |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |     |     |     |     |
| 3 |     |     |     |     |     |     |     |     |
| 4 |     |     |     |     |     |     |     |     |
| 5 |     |     |     |     |     |     |     |     |
| 6 |     |     |     |     |     |     |     |     |
| 7 |     |     |     |     |     |     |     |     |
| 8 |     |     |     |     |     |     |     |     |
| 9 |     |     |     |     |     |     |     |     |
| A |     |     |     |     |     |     |     |     |
| B |     |     |     |     |     |     |     |     |
| C |     |     |     |     |     |     |     |     |
| D |     |     |     |     |     |     |     |     |
| E |     |     |     |     |     |     |     |     |
| F |     |     |     |     |     |     |     |     |

G = 00  
P = 01

Row 1x2: SUMERO-AKKADIAN CUNEIFORM

| hex   | Name                                 | hex   | Name                                          |
|-------|--------------------------------------|-------|-----------------------------------------------|
| 1x280 | SUMERO-AKKADIAN CUNEIFORM SIGN C525  | 1x2D9 | SUMERO-AKKADIAN CUNEIFORM SIGN C596           |
| 1x281 | SUMERO-AKKADIAN CUNEIFORM SIGN C526  | 1x2DA | SUMERO-AKKADIAN CUNEIFORM SIGN C597           |
| 1x282 | SUMERO-AKKADIAN CUNEIFORM SIGN C527  | 1x2DB | SUMERO-AKKADIAN CUNEIFORM SIGN C598           |
| 1x283 | SUMERO-AKKADIAN CUNEIFORM SIGN C528  | 1x2DC | SUMERO-AKKADIAN CUNEIFORM SIGN C598A          |
| 1x284 | SUMERO-AKKADIAN CUNEIFORM SIGN C529  | 1x2DD | SUMERO-AKKADIAN CUNEIFORM SIGN C598B          |
| 1x285 | SUMERO-AKKADIAN CUNEIFORM SIGN C530  | 1x2DE | SUMERO-AKKADIAN CUNEIFORM SIGN C598C          |
| 1x286 | SUMERO-AKKADIAN CUNEIFORM SIGN C532  | 1x2DF | SUMERO-AKKADIAN CUNEIFORM SIGN C598D          |
| 1x287 | SUMERO-AKKADIAN CUNEIFORM SIGN C533  | 1x2E0 | SUMERO-AKKADIAN CUNEIFORM SIGN C598E          |
| 1x288 | SUMERO-AKKADIAN CUNEIFORM SIGN C533A | 1x2E1 | SUMERO-AKKADIAN CUNEIFORM SIGN C598F          |
| 1x289 | SUMERO-AKKADIAN CUNEIFORM SIGN C535  | 1x2E2 | (This position shall not be used)             |
| 1x28A | SUMERO-AKKADIAN CUNEIFORM SIGN C536  | 1x2E3 | (This position shall not be used)             |
| 1x28B | SUMERO-AKKADIAN CUNEIFORM SIGN C537  | 1x2E4 | (This position shall not be used)             |
| 1x28C | SUMERO-AKKADIAN CUNEIFORM SIGN C537A | 1x2E5 | (This position shall not be used)             |
| 1x28D | SUMERO-AKKADIAN CUNEIFORM SIGN C537B | 1x2E6 | (This position shall not be used)             |
| 1x28E | SUMERO-AKKADIAN CUNEIFORM SIGN C537C | 1x2E7 | (This position shall not be used)             |
| 1x28F | SUMERO-AKKADIAN CUNEIFORM SIGN C538  | 1x2E8 | (This position shall not be used)             |
| 1x290 | SUMERO-AKKADIAN CUNEIFORM SIGN C539  | 1x2E9 | (This position shall not be used)             |
| 1x291 | SUMERO-AKKADIAN CUNEIFORM SIGN C540  | 1x2EA | (This position shall not be used)             |
| 1x292 | SUMERO-AKKADIAN CUNEIFORM SIGN C541  | 1x2EB | (This position shall not be used)             |
| 1x293 | SUMERO-AKKADIAN CUNEIFORM SIGN C542  | 1x2EC | (This position shall not be used)             |
| 1x294 | SUMERO-AKKADIAN CUNEIFORM SIGN C543  | 1x2ED | (This position shall not be used)             |
| 1x295 | SUMERO-AKKADIAN CUNEIFORM SIGN C543A | 1x2EE | (This position shall not be used)             |
| 1x296 | SUMERO-AKKADIAN CUNEIFORM SIGN C544  | 1x2EF | (This position shall not be used)             |
| 1x297 | SUMERO-AKKADIAN CUNEIFORM SIGN C545  | 1x2F0 | (This position shall not be used)             |
| 1x298 | SUMERO-AKKADIAN CUNEIFORM SIGN C546  | 1x2F1 | (This position shall not be used)             |
| 1x299 | SUMERO-AKKADIAN CUNEIFORM SIGN C546A | 1x2F2 | (This position shall not be used)             |
| 1x29A | SUMERO-AKKADIAN CUNEIFORM SIGN C546B | 1x2F3 | (This position shall not be used)             |
| 1x29B | SUMERO-AKKADIAN CUNEIFORM SIGN C547  | 1x2F4 | (This position shall not be used)             |
| 1x29C | SUMERO-AKKADIAN CUNEIFORM SIGN C548  | 1x2F5 | (This position shall not be used)             |
| 1x29D | SUMERO-AKKADIAN CUNEIFORM SIGN C549  | 1x2F6 | (This position shall not be used)             |
| 1x29E | SUMERO-AKKADIAN CUNEIFORM SIGN C550  | 1x2F7 | (This position shall not be used)             |
| 1x29F | SUMERO-AKKADIAN CUNEIFORM SIGN C551  | 1x2F8 | (This position shall not be used)             |
| 1x2A0 | SUMERO-AKKADIAN CUNEIFORM SIGN C552  | 1x2F9 | SUMERO-AKKADIAN FULL ERASURE                  |
| 1x2A1 | SUMERO-AKKADIAN CUNEIFORM SIGN C553  | 1x2FA | SUMERO-AKKADIAN COMBINING FRONT ERASURE       |
| 1x2A2 | SUMERO-AKKADIAN CUNEIFORM SIGN C554  | 1x2FB | SUMERO-AKKADIAN COMBINING UPPER FRONT ERASURE |
| 1x2A3 | SUMERO-AKKADIAN CUNEIFORM SIGN C555  | 1x2FC | SUMERO-AKKADIAN COMBINING LOWER FRONT ERASURE |
| 1x2A4 | SUMERO-AKKADIAN CUNEIFORM SIGN C556  | 1x2FD | SUMERO-AKKADIAN COMBINING REAR ERASURE        |
| 1x2A5 | SUMERO-AKKADIAN CUNEIFORM SIGN C557  | 1x2FE | SUMERO-AKKADIAN COMBINING UPPER REAR ERASURE  |
| 1x2A6 | SUMERO-AKKADIAN CUNEIFORM SIGN C558  | 1x2FF | SUMERO-AKKADIAN COMBINING LOWER REAR ERASURE  |
| 1x2A7 | SUMERO-AKKADIAN CUNEIFORM SIGN C559  |       |                                               |
| 1x2A8 | SUMERO-AKKADIAN CUNEIFORM SIGN C560  |       |                                               |
| 1x2A9 | SUMERO-AKKADIAN CUNEIFORM SIGN C561  |       |                                               |
| 1x2AA | SUMERO-AKKADIAN CUNEIFORM SIGN C562  |       |                                               |
| 1x2AB | SUMERO-AKKADIAN CUNEIFORM SIGN C562A |       |                                               |
| 1x2AC | SUMERO-AKKADIAN CUNEIFORM SIGN C563  |       |                                               |
| 1x2AD | SUMERO-AKKADIAN CUNEIFORM SIGN C564  |       |                                               |
| 1x2AE | SUMERO-AKKADIAN CUNEIFORM SIGN C565  |       |                                               |
| 1x2AF | SUMERO-AKKADIAN CUNEIFORM SIGN C566  |       |                                               |
| 1x2B0 | SUMERO-AKKADIAN CUNEIFORM SIGN C566A |       |                                               |
| 1x2B1 | SUMERO-AKKADIAN CUNEIFORM SIGN C567  |       |                                               |
| 1x2B2 | SUMERO-AKKADIAN CUNEIFORM SIGN C568  |       |                                               |
| 1x2B3 | SUMERO-AKKADIAN CUNEIFORM SIGN C569  |       |                                               |
| 1x2B4 | SUMERO-AKKADIAN CUNEIFORM SIGN C570  |       |                                               |
| 1x2B5 | SUMERO-AKKADIAN CUNEIFORM SIGN C571  |       |                                               |
| 1x2B6 | SUMERO-AKKADIAN CUNEIFORM SIGN C572  |       |                                               |
| 1x2B7 | SUMERO-AKKADIAN CUNEIFORM SIGN C573  |       |                                               |
| 1x2B8 | SUMERO-AKKADIAN CUNEIFORM SIGN C574  |       |                                               |
| 1x2B9 | SUMERO-AKKADIAN CUNEIFORM SIGN C575  |       |                                               |
| 1x2BA | SUMERO-AKKADIAN CUNEIFORM SIGN C576  |       |                                               |
| 1x2BB | SUMERO-AKKADIAN CUNEIFORM SIGN C577  |       |                                               |
| 1x2BC | SUMERO-AKKADIAN CUNEIFORM SIGN C577A |       |                                               |
| 1x2BD | SUMERO-AKKADIAN CUNEIFORM SIGN C579  |       |                                               |
| 1x2BE | SUMERO-AKKADIAN CUNEIFORM SIGN C579A |       |                                               |
| 1x2BF | SUMERO-AKKADIAN CUNEIFORM SIGN C579B |       |                                               |
| 1x2C0 | SUMERO-AKKADIAN CUNEIFORM SIGN C579C |       |                                               |
| 1x2C1 | SUMERO-AKKADIAN CUNEIFORM SIGN C579D |       |                                               |
| 1x2C2 | SUMERO-AKKADIAN CUNEIFORM SIGN C579E |       |                                               |
| 1x2C3 | SUMERO-AKKADIAN CUNEIFORM SIGN C579F |       |                                               |
| 1x2C4 | SUMERO-AKKADIAN CUNEIFORM SIGN C579G |       |                                               |
| 1x2C5 | SUMERO-AKKADIAN CUNEIFORM SIGN C580  |       |                                               |
| 1x2C6 | SUMERO-AKKADIAN CUNEIFORM SIGN C581  |       |                                               |
| 1x2C7 | SUMERO-AKKADIAN CUNEIFORM SIGN C582  |       |                                               |
| 1x2C8 | SUMERO-AKKADIAN CUNEIFORM SIGN C583  |       |                                               |
| 1x2C9 | SUMERO-AKKADIAN CUNEIFORM SIGN C584  |       |                                               |
| 1x2CA | SUMERO-AKKADIAN CUNEIFORM SIGN C585  |       |                                               |
| 1x2CB | SUMERO-AKKADIAN CUNEIFORM SIGN C585A |       |                                               |
| 1x2CC | SUMERO-AKKADIAN CUNEIFORM SIGN C585B |       |                                               |
| 1x2CD | SUMERO-AKKADIAN CUNEIFORM SIGN C586  |       |                                               |
| 1x2CE | SUMERO-AKKADIAN CUNEIFORM SIGN C589  |       |                                               |
| 1x2CF | SUMERO-AKKADIAN CUNEIFORM SIGN C590  |       |                                               |
| 1x2D0 | SUMERO-AKKADIAN CUNEIFORM SIGN C590A |       |                                               |
| 1x2D1 | SUMERO-AKKADIAN CUNEIFORM SIGN C591  |       |                                               |
| 1x2D2 | SUMERO-AKKADIAN CUNEIFORM SIGN C591A |       |                                               |
| 1x2D3 | SUMERO-AKKADIAN CUNEIFORM SIGN C592  |       |                                               |
| 1x2D4 | SUMERO-AKKADIAN CUNEIFORM SIGN C593  |       |                                               |
| 1x2D5 | SUMERO-AKKADIAN CUNEIFORM SIGN C593A |       |                                               |
| 1x2D6 | SUMERO-AKKADIAN CUNEIFORM SIGN C593B |       |                                               |
| 1x2D7 | SUMERO-AKKADIAN CUNEIFORM SIGN C594  |       |                                               |
| 1x2D8 | SUMERO-AKKADIAN CUNEIFORM SIGN C595  |       |                                               |