Introduction
§1. At the urging of the collaborators of the research project “Archaic Texts from Uruk”, the Berlin Senate purchased in 1988 a large portion of the former Erlenmeyer collection, consisting primarily of the then largest privately held group of proto-cuneiform tablets,1 but also including a number of attractive Ur III tablets. Six documents of that group of texts have been dealt with in two earlier publications.2 The text treated here was sold during the 1988 Christie’s of London auction as lot no. 92 at a price of £ 14,000 (see figure 1).3 This large Umma account of guruš workmen belongs to a select published group of at most two dozen large texts from the Ur III period, with a particular affinity to MVN 15, 94, MVN 21, 199, and TCL 5, 5674.

General observations
§2. The text Erlenmeyer 152 dates from the second regnal year of Šu-Sin (ca. 2036 B.C. following the now less reliable middle chronology). It contains a year account of a 33-man workforce under a foreman named Lu-Sara. As with any planned economy, the production numbers posted in this account represent a mix of the artificial production norms that were attached to the workmen assigned the foreman by the agents of the household for which he worked, and the real production of the same workmen as confirmed in a large number of receipts. In both cases, the production was converted into “worker days” (guruš u₄₁-še₂₃) by multiplying the number of workmen by the number of days they either worked, or were expected to work to complete a set task. The document has the characteristic structure (figure 2) of yearly accounts of the Ur III period, consisting of sections conveniently designated

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3 The tablet measures 161×166×36mm. It was a part of a Charlottenburg Palace exhibit organized by H. and M. Nissen, P. Damerow and myself in 1990, and appeared in the catalogue Frühe Schrift in chap. 11, figures 92-93, 11a. The entire Erlenmeyer holdings of the Land of Berlin were put on permanent loan to the Vorderasiatisches Museum, Berlin, on 1 July 1999. We have been unable to ascertain whether the tablet was fired in antiquity, or in the course of its conservation by the Erlenmeyers. The text is well preserved; however, a previous owner repaired a damaged lower left corner, and in so doing filled several small gaps with clay and, apparently following optical criteria, impressed a number of cuneiform-similar, but meaningless signs on the fresh surface. These fabrications are noted in the transliteration and translation. Thanks are due to Director B. Salje and Curator J. Marzahn of the VAM for their continued support in keeping the entire Erlenmeyer collection accessible for further inspection and imaging by CDLI staff.
Figure 1: Hans Nissen and Peter Damerow arrive in Berlin with the Christie’s tablets of the Erlenmeyer Collection (above); the exhibition Frühe Schrift in the Charlottenburg Palace, Berlin, in the summer of 1990 (below; photos courtesy of Margret Nissen).
“debts”, “credits”, and “balance”.

§3. We may imagine the composition of this account in the following way. At the end of Šu-Sin 2 or the beginning of Šu-Sin 3, a bookkeeper from the accounting bureau within the temple household of Šara gathers in his office

a) the full account of Lu-Šara from the previous year (year one of the reign of Šu-Sin);

b) the accounting record of the number and categories of workmen assigned to the foreman for the now completed year;

c) records of any further laborers assigned for some period to the work crew of the foreman;

d) and all records of the work done by this crew over the twelve months of the completed year.

The accountant must proceed to order these perhaps dozens of tablets, presumably in the same sequence as that found in the account Erlenmeyer 152, with those primary records and the previous account of a-c) strictly distinguished from those primary records of d), for the most part sealed receipts probably gathered by the foreman in the course of the year, that represent the real and documented production of his workmen.

§4. With the access to larger numbers of Ur III documents made possible by the continuing publication of administrative text collections and by the networked distribution of the text content within these publications, specialists have been able to identify more and more of the primary documents on which Babylonian scribes based their mid- and long-term accounts. In the present case, twelve such primary texts have been located in collections that range from Istanbul to Barcelona, from New Haven to Ft. Myers, representing the most substantial coverage of a large Ur III account.

The catalogue of the Cuneiform Digital Library Initiative counts currently over 60,000 tablets, of which ca. 49,000 are published. When Struve proclaimed in the 1948 that he had at his “disposal the primary documentation which served as immediate sources in the compilation of the two reports of Lugalgude...” (I. Diakonoff, ed., Ancient Mesopotamia, 156), he had access to ca. 12,000 published Ur III texts. In 1960, that total had climbed to 14,000, in 1980 to 23,000 and in 2000 to 41,000. Specialists, and through the internet increasingly non-specialists can today search electronic files of nearly twice as many texts, with text annotations and standardized transliterations that allow targeted searches across the full data set. It is therefore not surprising that we are seeing greater numbers of fits between secondary accounts and the primary records from which they were written, including in the present case a primary coverage of more than half of the entries within the credit section of the account.

§5. All these records in hand, our scribe must have performed some preliminary calculations to judge the size of tablet he would need for this account, and he then proceeded to enter all the information before him, following a strict bookkeeping template that dictated the means by which data was standardized and “compressed” to form a meaningful yearly record. We expect to soon have the tools to fairly reconstruct the involved instruction that complex Ur III accounting presupposes. Certainly the concrete texts themselves are our primary sources for this reconstruction, but the growing numbers of exercise accounts, and of account duplicates, triplicates and so on, can be brought to bear on the question of how large running accounts were kept. The most involved examples of such documents from the Ur III period seem to derive not from Urba, but rather from the agricultural bureaus of Girsu, of which numerous examples have been offered in the work of K. Maekawa.

§6. Once entered in running accounts, the primary documents were, as is clear from the archaeological and textual record, stored in baskets from which stringed identifying bullae were hung. These bullae, so-called pisan-dub-ba, or “tablet-basker” texts, were of a standardized format that described in concise fashion the

4 The catalogue of the Cuneiform Digital Library Initiative counts currently over 60,000 tablets, of which ca. 49,000 are published. When Struve proclaimed in the 1948 that he had at his “disposal the primary documentation which served as immediate sources in the compilation of the two reports of Lugalgude...” (I. Diakonoff, ed., Ancient Mesopotamia, 156), he had access to ca. 12,000 published Ur III texts. In 1960, that total had climbed to 14,000, in 1980 to 23,000 and in 2000 to 41,000. Specialists, and through the internet increasingly non-specialists can today search electronic files of nearly twice as many texts, with text annotations and standardized transliterations that allow targeted searches across the full data set. It is therefore not surprising that we are seeing greater numbers of fits between secondary accounts and the primary records from which they were written, including in the present case a primary coverage of more than half of the entries within the credit section of the account.

5 M. van de Mieroop, “An Accountant’s Nightmare: the Drafting of a Year’s Summary,” AFO 46-47 (1999-2000) 111-129, has diagrammed the unparalleled case of UET 3, 1498. Such an account is not likely to ever be rivaled in the number of primary document hits it contains, yet the highly monotonous accounting structure of the Ibbi-Sin text from Ur makes it of limited interest beyond the confirmation it gives us of the concrete way that Ur III accounts were compiled. Somewhat more complex in their bookkeeping structure are the accounts from Drehem; M. Hilgert in OIP 121 (forthcoming), pp. 57-60, presents the compelling case of a text (no. 248) linked to 41 receipts, documenting just over a third of the total of the animals mentioned in the account.

nature of the tablets thus archived.\textsuperscript{7}

\textsection{7. TRU} \textsuperscript{11}

\textbf{Account structure (see figure 2)}

\textsection{8.} The first section of the account, the debits (obv. i 1 to iii 4, described by the Sumerian term sag-ni\textsubscript{2}-gur\textsubscript{1}-ak-am, “it is the head of the goods”), consists of three subsections. In the first place, the scribe posted a record of arrears accruing to the foreman Lu-\textsuperscript{\textast}}\textsuperscript{4}ara from his previous running account. The notation obv. i 1 corresponding to 456 \(\frac{1}{6}\) workdays is not substantial relative to deficits posted in the accounts of comparably sized troops of workmen, and it will in the course of this account balloon to a total of over 1700 workdays recorded in rev. v 3. It is difficult to overstate the seriousness of these deficit workdays for the foremen involved, since a capricious central administration at the level of the province governors, or the crown in Ur, views them as effective loan debts that can be called in at will. In practice, their threatening nature is most obvious when the involved foremen go missing, either as a result of flight from service, or of death. In such cases, the households of the individuals are claimed by the state, including, dependent on the level of arrears, property, moveable goods, chattel slaves and family members.\textsuperscript{9}

\textsection{9.} The second subsection of the account debits lists the workmen in the charge of Lu-\textsuperscript{\textast}}\textsuperscript{4}ara, in this case individually named, but in like accounts often simply recorded as a number. Such long-standing “crew workers” are qualified in Sumerian as gir\textsubscript{3}-\textsubscript{2}e\textsubscript{3}-ga, literally “laid to the foot”. Twenty-four of these workers were qualified with the Sumerian designation “dumu-gi\textsubscript{7}”, and the numerical notation meaning “one half”, that is, they were qualified as workers from whom only one half of a norm production was anticipated.\textsuperscript{10} The remaining workmen were qualified as “porters” (ug\textsubscript{3}-ga\textsubscript{4}, often abbreviated to u\textsubscript{g3}, in the literature usually transliterated un-il\textsubscript{2}) from whom the foreman expected full production. One of the porters was included in the workforce for just 4 of the twelve-month period of this account. Since the debits sections of Ur III labor accounts list ideal and therefore artificial work performance of a planned household, the calculations of the workdays assigned to foremen is straightforward, in this case (obv. ii 23-24):

\begin{align*}
24 \text{ dumugi} \times \frac{1}{2} \times 12 \text{ months} \times \\
30 \text{ days (per month)} \times 11) = 4320 \text{ workdays}
\end{align*}

\textsuperscript{7} The number of tablets within a tagged basket were never recorded, probably because accounting in the Ur III period was fluid, with old or incorrect tablets removed, and missing tablets added to the group. Unfortunately, early regular excavations of Ur III settlements were conducted with a level of attention paid to find locus that makes it fairly impossible to reconstruct the position of groups of tablets within the presumed archive rooms of central households. Obviously, irregular excavations have eliminated all hope of such archaeologically justified reconstructions.

\textsuperscript{8} M. Fitzgerald has remarked upon the technique of tagging such baskets in CDLB 2003:2.

\textsuperscript{9} See JNES 50, 267-268 + n. 15.

\textsuperscript{10} Based on the attestations of these qualifications in administrative texts, it is simply not possible to judge the social status of these workers (since F. Kraus, Sumerer und Akkader, 58, and C. Wilcke, Le palais, 230, most have considered this is a privileged class of “native” workers [“freie Bürger”, etc.] distinguished from foreign slaves). While one might imagine that the complex system of work-norm categories mirrored in some way methods of compensation for dependent labors of varying levels, for instance requiring of some dependents less real labor than of others, still it is important to remember that they did remain charges of central households assigned the most difficult of unskilled labor tasks.

### Debits

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferred deficit</td>
<td>456(\frac{1}{6})</td>
</tr>
<tr>
<td>Porters: “dumugi”</td>
<td>3,000</td>
</tr>
<tr>
<td>Retroactive retention of free days of the sick porter: “hala” service imposition</td>
<td>4,320</td>
</tr>
</tbody>
</table>

Totaling of production expectation, expressed in “worker days”

Together:

\(8,220\frac{1}{6}\) workdays “are the debits”.

### Credits

<table>
<thead>
<tr>
<th>Columns</th>
<th>obv. iii</th>
<th>iv</th>
<th>v</th>
<th>rev. i</th>
<th>ii</th>
<th>iii</th>
<th>iv</th>
</tr>
</thead>
<tbody>
<tr>
<td>345</td>
<td>195</td>
<td>210</td>
<td>15</td>
<td>121</td>
<td>48</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>195</td>
<td>130</td>
<td>285</td>
<td>15</td>
<td>128</td>
<td>289(\frac{1}{6})</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>351(\frac{1}{2})</td>
<td>30</td>
<td>120</td>
<td>45</td>
<td>198</td>
<td></td>
<td></td>
</tr>
<tr>
<td>295</td>
<td>165</td>
<td>315</td>
<td>30</td>
<td>50</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>108</td>
<td>195</td>
<td>18</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>195</td>
<td>42</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>177</td>
<td>24</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>29</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>240</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>138</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Partial sum:

\(1,070\quad 1,323\frac{1}{2}\quad 1,886\quad 336\quad 497\quad 835\frac{3}{6}\quad 370\)

Totaling of real production, expressed in “worker days”

Total of real production:

\(1,070 + 1,323\frac{1}{2} + 1,886 + 336 + 497 + 835\frac{3}{6} + 370 = 6,518\frac{2}{6}\) workdays

### Balance

<table>
<thead>
<tr>
<th>Debits</th>
<th>8,220(\frac{1}{6})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
<td>6,518(\frac{5}{6})</td>
</tr>
<tr>
<td>= deficit</td>
<td>1,702(\frac{2}{6})</td>
</tr>
</tbody>
</table>

### Colophon

“Account concerning ...”, Date

---

Figure 2: The structure and accounting flow of the document Erlenmeyer 152

8 \(\frac{1}{3}\) uggua\(12 \times 12 \times 30 = 3000\) workdays

§10. The three workmen listed in obv. ii 10-14 of this subsection were received by the foreman Lu-Šara from two named individuals. The first of these two entries was copied from a primary text now in the private collection of C. Hand in Ft. Myers, Florida (see figure 3).\(^{12}\) Although the name of the foreman Lu-dingira, from whose crew the dumugi workman was transferred to Lu-Šara, is not preserved, there can be little doubt that this text was the source for the Erlenmeyer entry. The name and work-norm qualification of the laborer is the same; it is dated to the precise moment (begin-

\(^{12}\) The fraction \(\frac{1}{3}\) represents the porter assigned to the crew for just four of the twelve months.

\(^{13}\) Mr. Hand first contacted me by email in August 1999 with information about this text, that he reported to have been in his family more than sixty years (and thus
ning of the first month of Šu-Sin 2) of the beginning of this man’s work under Lu-Šara; the laborer was booked as having been received from another ugula, consistent with the format and seal of Lu-Šara on Hand 1. Indeed, this latter consistency in format and sealing was a central search criteria in identifying all other primary documents used by the scribe of Erlenmeyer 152, but, as sources for the credits section of the account, flipped to name another official as receiving and therefore also sealing agent, and Lu-Šara as agent of delivery (usually noted as “Foreman: Lu-Šara”, so that Hand 1 rev. 1 might be reconstructed with [ugula] 𒈗𒈗-[vingir]-ra(?)

Seal legend
lu₂-Šara
dub-sar
dumu lugal-inim-gi-na

Erlenmeyer 152 obv. ii 10-11:

1/2 un-da-ga dumu u-bar
ki lu₂-dingir-ra ugula-ta

1/2 (work norm): Undaga, son of Ubar, from Lu-dingira, the foreman.

Figure 3: A comparison of a section from Erlenmeyer 152 with its corresponding source text Hand 1 (75% of original)

Possibly one of the “Banks” tablets; see my contribution to the Pettinato Festschrift, forthcoming).

14 The only other mention of the bala service in this account occurs immediately before the summation in 24 workdays is qualified as a₂ u₄ du₈-a ug₃-ga₆ sag-ba zi-ga, “the production of free days of the Porter already booked out of the debits15”. 24 days correspond to 1/10 of the work period of 8 months recorded in the debits section of the account as sick-leave time of the Porter Ea-lubi (obv. i 21 and obv. v 27-31). The period in which this worker was missing due to illness, that is, the final eight months of the fiscal year covered by this account, were qualified as work performance and this labor time was “received” by the official Ur-E’e. This accounting procedure presumes a certain social quality within the organization of the household that ultimately acted as slave master to such laborers, for their rations were distributed entirely independent of their specific production. Nonetheless the Ur III social state remained punctilious; those 24 days which had, for accounting technical purposes, been deducted from the debits in rev. iv 2-3, were here retrieved for the state, in exact parallel to other cases in Ur III accounts of the

rev. iv 4-6. Cp. MVN 21, 199, with rev. v 3-6: 10 guruš ug₃-ga₆ 6 guruš dumu-gi₇ a₂ šeš-tab-ba bala-a gub-ba ib₂-ta-zi / u₁₈-še₃₁ / bala-a gub-ba bala-še₃ gen-na u₁ bala-ta gur-ra / a₂₆ bi u₄ 9.20 (and thus with 35 days the same period of service as noted rev. iv 3).

15 sag = sag-nig₂-gur₁₁-ra-kam.
retrieval of free time accorded, again for technical reasons, sick or dead workers.16

§12. We thus have the following entries subsumed in the debits total obv. iii 2:

<table>
<thead>
<tr>
<th>Entry</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>obv. i 1 (si-i3-tum)</td>
<td>7.36 1/6 (10 gin)</td>
</tr>
<tr>
<td>obv. ii 23 (ug4-ga4)</td>
<td>50.00</td>
</tr>
<tr>
<td>obv. ii 24 (dumu-gi-)</td>
<td>1.12.00</td>
</tr>
<tr>
<td>obv. ii 25 (uz4-du4-a)</td>
<td>24</td>
</tr>
<tr>
<td>obv. ii 27 (bala-a gub-ba)</td>
<td>7.00</td>
</tr>
<tr>
<td></td>
<td>2.17.00 1/6</td>
</tr>
</tbody>
</table>

§13. The following “credits” section of the account (obv. iii 5 to rev. v 2, Sumerian ša3-bi-ta—zi-ga-am3, “therefrom (viz., from the debits) deducted”) demonstrates that the crew under Lu-Šara performed above all agricultural jobs, including, however, the transportation of products and the maintenance of the irrigation system.17 We must again imagine that the Sumerian bookkeeper drawing up this account had before him all sealed receipts gathered in the course of the year by the foreman Lu-Šara, and that these primary documents were ordered roughly according to the type of work they confirmed. Thus the first documents entered in the account dealt with what was likely the primary assignment of this work crew, namely, the field tasks of harvesting grain and maintaining the system of canals upon which Babylonian agriculture depended, including the labor-intensive dredging of established, and the excavation of new canals. A second set of tasks consisted of the assistance of his crews in the transportation of various commodities by barge along the canals of lower Mesopotamia: reeds, leather bags, processed and unprocessed cereals, fish, dairy products and even oxen.18

§14. A wide variety of officials from within the household economy of the province of Umma act as receiving agents of the labor performed by the workmen of Lu-Šara. Upon the completion of tasks assigned the work crews, a sealed tablet confirming the work was issued, of which twelve have been located in the published record of Ur III texts (those reference texts below in parentheses are merely close parallels to the account passage cited; see figure 4):

<table>
<thead>
<tr>
<th>Entry</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>obv. iii 6-16</td>
<td>SACT 2, 31</td>
</tr>
<tr>
<td>obv. iv 6-v 1</td>
<td>MVN 18, 397</td>
</tr>
<tr>
<td>obv. v 2-5</td>
<td>MVN 16, 1359</td>
</tr>
<tr>
<td>obv. v 6-9</td>
<td>NBC 2689</td>
</tr>
<tr>
<td>obv. v 10-12</td>
<td>UTT 3, 1966</td>
</tr>
<tr>
<td>obv. v 13-17</td>
<td>MVN 16, 1567</td>
</tr>
<tr>
<td>obv. v 21-23</td>
<td>UTT 3, 1630</td>
</tr>
<tr>
<td>obv. v 24-26</td>
<td>UTT 3, 1692, (MVN 16, 1390)</td>
</tr>
<tr>
<td>obv. v 32-35</td>
<td>(UTT 4, 2862, UTT 5, 3147, MVN 14, 310)</td>
</tr>
<tr>
<td>rev. i 1-3</td>
<td>MVN 16, 865</td>
</tr>
<tr>
<td>rev. i 7-16</td>
<td>MVN 15, 20 [ll. 9-11], UTT 4, 2608 [ll. 12-15]**</td>
</tr>
<tr>
<td>rev. ii 3-5</td>
<td>Princeton 1, 380119</td>
</tr>
<tr>
<td>rev. ii 6-8, 17, iii 11</td>
<td>MVN 16, 1071, (UTT 5, 3521)</td>
</tr>
<tr>
<td>rev. iii 8-11</td>
<td>UTT 4, 2919</td>
</tr>
</tbody>
</table>

* = one of two sealed tablets  ** = two of three sealed tablets

§15. These primary documents follow a strictly standardized format: so-and-so many work days; description of the task completed; foreman of the crew involved; notice of the seal of the receiving agent (kišib PN); the physical impression of the cylinder seal; date formula.20

16 R. Englund, JESHO 31 (1988) 172-173 n. 46 and JNES 50 (1991) 277 n. 34. To Ea-lubi (variant -lu3-bi) as agricultural hand, cp. for instance Princeton 1, 440, SÂNTAG 6, 380 (‘; both texts date to the reign of Amar-Suen and describe this person as ugula, “foreman”), MVN 2, 178, UTT 5, 3271, etc.

17 Compare the translation below, and the more detailed treatment of the production entries of this text in N. Vanderroost’s dissertation on the administrative organization of Umma agriculture, forthcoming.

18 The location of many of the toponyms in this text, above all those describing field names and irrigation installations, is unknown. In an article treating the likely course of the ancient Tigris, P. Steinkeller, “New Light on the Hydrology and Topography of Southern Babylonia in the Third Millennium,” ZA 91 (2001) 22-84, presents a comprehensive review of waterways and their settlements in the province of Umma based on these sorts of texts that record water transportation between two settlements, qualifying the trip according to the number of days required and the direction the barges took (upstream or downstream, assuming a general waterflow in southern Mesopotamia of northwest to southeast).

19 Although this receipt is otherwise a perfect fit for this passage of Erlenmeyer 152 (received from Lu-Šara by Lu-Šara [Erl. 152 rev. iii 11] via Lu-Suen the fattener), its numerical notation is 3 guru û4-6-sé and thus well off the 128 workdays recorded in our text. It is therefore likely that the scribe of Erl. 152 had one or more additional receipts from Lu-Šara that had moved through the office of Lu-Suen, multiple receipts that he had forgotten, or for some reason chosen not to register in rev. iii 11 (altogether at least nine receipts).

20 As a rule, the date will consist of only the year name; there is an occasional inclusion of the month during
Figure 4: All found primary documents of the account Erlenmeyer 152
MVN 16, 1567

Erl. 152 obv. v 13-1721:

obv.
1) 3.15 guruš u4 1-še3
2) kabš-kus[d]ul-pa-e3-ta
sahar zi-ga
3) a-da gub-ba a-laš3
[d]ul-pa-e3
4) kabš-kus[d]a-śu2-da-tur
kušra2
tu
reva
1) uš šu2-luḫ-ak
2) ugula luš-dšara2
3) kiššu luš-šara2
(seal)
4) mu maš3 śen-ki ba-ab-duš8
Seal legend
1) luš-šara2
2) dubšar
3) dumu ur-nigarš(NIGIN3)šar

Both of the pieces of information corresponding to MVN 16, 1567, rev. 2 and 4, are supplied in the colophon of the account Erlenmeyer 152: the year formula, and the general qualification rev. v 5-6: nigš-kasš-ak a2 erinš2-na-ka / luš-dšara2 ugula dumu luš-ilim-gi-na, “account of the production of the erin workers. Lušara is the foreman, son of Lugal-ilim-gina”.

§16. The very common practice in neo-Sumerian account-writing of combining the associated information of two or more receipts into one entry is evident also in our text with its two explicit and several implied references to multiple sealed tablets (kiššu 2+ PN), and the nature of this combination made clear in the two passages obv. v 21-23 and rev. i 9-11. In the former case, we have the correspondence (one of two sealed tablets):

UTI 3, 1630

Erl. 152 obv. v 21-23

obv.
1) 2.15 guruš u4 1-še3
2) a-laš3 ge a diš11-ga
3) a-laš3 dšara2-guš2-gal
4) ugula luš-dšara2
reva
5) kiššu a-guš-gu22
kiššu 2 a-guš-gu

which the work was done, for instance in the case of Erlenmeyer 152 the primary documents MVN 16, 865 (=rev. i 1-3; iti šu-numun), and MVN 16, 1071 (=rev. ii 6-8, 16, iii 11; iti dšum-zi).

Translation: “195 workdays, from the water installation at the Sulpa field earth excavated, irrigation work in the Sulpa field, water installation of the Audatur (field) cut off (?) and cleaned. Sealed tablet of Lugal-ēgal.”

The administrative role of this person is unclear to me. Although an important Umma šabra official (explicitly in Princeton 2, 421 [M. Sigrist, forthcoming]), Agugu seems never to have used a personal seal, but rather seals of other officials, including that of Ur-emaš (UTI 3, 1630, and for instance MCS 3, 87 BM 105514, MVN 14, 351, and UTI 3, 2299) and of Ur-emaš’s brother Lugal-ēzim (passim, but note the pisan-dub-ba text SAT 3, 2167, that records sealed tablets of Agugu and Lugal-ēzim together in rev. 4).

§17. Similarly, in the latter case:

MVN 15, 20

Erlenmeyer 152 rev. i 9-11

obv.
1) 15 guruš uš 1-še3
2) gaš-nun duš-kusš-ge-ta
3) guruš a-piš-salš-šiš3-še3
4) gi maš2-a gar maš2 ba-al-la
5) ugula luš-dšara2
6) kiššu luš-duš10-ga
7) mu maš3 śen-ki ba-ab-duš8
Seal legend
1) luš-duš10-ga
2) dubšar
3) dumu ur-dišu

§18. The accountant responsible for Erlenmeyer 152 employed a standard method of calculation of the credits section of the text, consisting as it did of a large list of numerical notations (see the transliteration, and figure 2 above). Partial sums inscribed at the bottom of each column were evident tools to simplify the final summations, and to serve as a second control of the accuracy of entries. Despite the difficulties introduced into the calculation flow by the various modern “improvements” in

21 Translation: “195 workdays, from the water installation at the Sulpa field earth excavated, irrigation work in the Sulpa field, water installation of the Audatur (field) cut off (?) and cleaned. Sealed tablet of Lugal-ēgal.”

22 Note the variant additional information in Erlenmeyer 152 that must result from either the existence of a fuller duplicate text of MVN 15, 20, or the lively memory of a young scribe. MVN 15, 20, records the reality of a group of 15 workmen occupied over two days, simplified in Erlenmeyer 152 to 30 guruš uš-1-še3, “30 workdays”. The second of the two tablets mentioned contained a receipt corresponding to the preceding entry in Erlenmeyer 152: 2.00 guruš uš-1-še3 / ki-suš nin10-nu-duš3-a-ta a-piš-salš-šiš3-še3 in-u im-laš2.
Erlenmeyer 152 obverse

Figure 5a-b: Copy of the text Erlenmeyer 152 (75% of original size)
§19. The last section of Erlenmeyer 152 (rev. v 3-10) includes global qualifications of the account (i.e., that it involved the work crew of Lu-Šara and covered the twelve months of Šu-Sin 2) and the balance of the total of the debits section minus the total of the credits section. This balance is negative (debit greater than credit) and therefore qualified with the technical term la₂-ia₃, “deficit” (not preserved, but certain in rev. v 3). This means that insofar as we have a full accounting of the work performed by the foreman’s crew for the year, the total of their real production fell well below the production expected in the debits section of the account, so that the deficit compared to that of the preceding year increased nearly four-fold. We can hope that, with renewed Iraqi excavations of Umma/Djokha and its surroundings, more accounts will surface that inform us of the ultimate fate of this foreman.

§20. Transliteration of Erlenmeyer 152

obv. i
1) 7.36 10 gin₂ guruš u₄ 1-še₃
2) si-i₃-tum mu ⁴šu-šuen lugal
3) 1/₂ ša₃-ku₃-ge
4) gab₂-us₂ ⁶apin-du₁₀
5) 1/₂ lu₂-šara₂
6) 1 u₉₃-nin-subur-an-du₁₃
7) ša₃-gu₄ ur-š-gigir lugal-ku₃-ga-ni ɪ₃-dab₅
8) 1/₂ ur-šul-pa-e₁₃
9) 1/₂ lu₂-šara₂
10) 1/₂ lugal-ur₂-ra-ni
11) gab₂-ra ⁶apin-du₁ₐ₁₀ mu ku₃-ga-ni-še₃
12) 1/₂ ur-p₄-u₇-e
13) 1/₂ ur-š₈-ma-mi
14) 1/₂ ur-šul-pa-e₁₃ simug
15) 1/₂ X X-gi²₆
16) 1/₂ ur-š₈-bil₁₃-ga-mes
17) 1 u₉₃ ur-ki-mah

§21. Translation

obv. i
7.36 10 shekels (456 1/₆) workdays,
deficit of year “Šu-Sin is king” (šu₄-Sin 1).
1/₂ (workman): Ša-ku₂ge,
herding apprentice₂⁷ of Apin-du.
1/₂ (workman): Lu-Šara.
1 (workman) porter: Ninšubur-andul,
oxen driver of Ur-gigir, Lugal-kugani took
responsibility for him.
1/₂ (workman): Ur-Šulpa‘e.
1/₂ (workman): Lu-Šara.
1/₂ (workman): Lugal-urani,
gabra(herder) of Apin-du, instead of Kugani.
1/₂ (workman): Ur-Papu‘e.
1/₂ (workman): Ur-Mami.
1/₂ (workman): Ur-Šulpa‘e, smith.
1/₂ (workman): X (falsified by repair of tablet).
1/₂ (workman): Ur-Gilgamesh.
1 (workman) porter: Ur-kimah.

25 An asterisk (*) indicates sign disturbed by recent repair work.
26 The remains of some of the original signs are visible. When the tablet was repaired in recent times, the break along this case was filled with clay, and some cuneiform impressions were made on the fresh surface. See the text copy in figure 1 and its CDLI page for an overview of the damaged and repaired sections of the text.
27 G. Selz, RA 87 (1993) 29-45, has demonstrated the widespread and productive use of singular cohortatives in Sumerian nominalization; thus gab₂-us₂ (our “herding apprentice”) means literally “I will follow it”, gab₂-ra literally “I will drive it along”.

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18) 1 ug₃ ur-dütu
19) 1/2 šeš-ā-ni
20) 1 ug₃ lu₂-ga-mu
21) 1 ug₃ e₂-a-lu-bi
22) 1 ug₃ h₂-ḫi-nà
23) 1 'ug₃₁ lu₂-girē₂-zal
24) gab₂-ra a-kal-la
25) ama lugal₂-gu₄-e²⁸
26) 1/2 na-ba-sa₆
27) 1/2 šeš-kal-la
28) 1/2 mu-zu-da
29) 1/2 inim₃-dinanna
30) ša₃₄ gu₄ lugal-nesag₂-e
31) gab₂-uy₂₃ nig₂-du₄-pa-e₃
32) 1/2 ur-dul₂-pa-e₃

obv. ii
1) 1/2 lu₂-ma₂-gan-na
2) 1/2 ur-e₂-ma₃
3) 1/2 du₁₁-ga₃-shara₂
4) 1/2 IR₁₁-mu
5) libir-am₃
6) 1/2 lu₂-uš₃-gi-na
7) 1/2 IR₁₁-mu
dumu lugal-igi-huš-me
8) im₃-e tag₄-a-ta
9) 1/2 un-da-ga dumu u-bar
10) ki lu₂-dingir-ra ugula-ta
11) 1/2 ur-šen₁₁-ša₁₃ tir
12) 1 ug₃ ur-šdu₃-mu₃ dumu IR₁₁-x
13) ki IR₁₁ ugula₂-ta¹
15) (blank)
16) iti 12-*šé₃²⁹
17) iti ŠE.KIN-ku₅-*ta¹
18) iti 4-dumu-zi-šé₃
19) 1 ug₃ lu₂-du₃-sul₂-gi-ra dumu lugal-šu₄-bad₃₄, dumu-diri-ta

20) iti 4-šé₃ iti 4²² li₃-šu₄-si₄-ta²⁹
21) 'itti*₃ 3² dumu*₂-zi-šé₃
22) (blank, erasures)
23) a₂ ug₅-ga₆-bi u₄ 50.00
24) a₂ dumu-gi₇ -bi u₄ 1.12².00*²⁹
25) 24 guruš u₄ 1-šé₃¹
26) a₂ u₄ du₄⁻a 'ug₃₁-ga₆₃ sag-ba zi-ga

1 (workman) porter: Ur-Utu.
1/2 (workman): Šeš-ani.
1 (workman) porter: Lu-gamu.
1 (workman) porter: Ea-lubi.
1 (workman) porter: Hegina.
1 (workman) porter: Lu-girizal,
gabra (herder) of Akala,
“mother” of Lugal-gue (?).
1/2 (workman): Nabasa.
1/2 (workman): Šeškala.
1/2 (workman): Muzuda.
1/2 (workman): Inim-Inanna,
oxen driver of Lugal-nesage,
herding apprentice of Nigdu-pa’e.
1/2 (workman): Ur-Šulpa’e.
obv. ii
1/2 (workman): Lu-Maganá.
1/2 (workman): Ur-emah.
1/2 (workman): Duga-Šara.
1/2 (workman): IR-mu,
they are of the previous (workforce).
1/2 (workman): Lu-uš₃-gina.
1/2 (workman): IR-mu;
they are sons of Lugal-igi₃-huš,
remainder from the previous year (?).
1/2 (workman): Undaga, son of Ubar,
from the foreman Lu-dingira.
1/2 (workman): Ur-Enlila, forester.
1 (workman) porter: Ur-Dumuzi, son of IR-x,
from the foreman IR.
It is (a period of) twelve months:
from month “Harvest” (1st month, Umma calendar)
until the month “Dumuzi” (12th month).
1 (workman) porter: Lu-sul₃-gira, son of Lugal-bad, from
the “excess children”,
for 4 months, from month “Likṣa” (9th month)
until the month “Dumuzi” (12th month).
The corresponding production of the porters: 50.00
(3,000) days.
The corresponding production of “dumugi”⁴₀:
1.12.00 (4,320) days.
24 workdays,
the production of free days of (the sick) porter
already booked out of the debits.

²⁸ The initial horizontal wedges of lugal were erased by
the scribe, suggesting a correction to lu₂. The sign ama/
dagal is unclear.
²⁹ It appears that this and the sign immediately below it
in the following case were reconstructed over a filled-in
gap in the tablet. If so, then the substantially correct sign
forms would point to its reconstruction by a specialist,
although we would expect rather iti 12-kam in l. 16,
consistent with the majority of Ur III accounts, and
with rev. v 7 of this text. The reconstructive work done
on the lines obv. iii 11-13, however, is of a decidedly
amateurish quality.
⁴₀ That is, of the workmen qualified as “halftime”. 
27) 7.00 guru₅ u₄ 1-še₃
28) a₂ dumu-gi₇ šeš-tab-ba bala-a gub⁻¹ba¹
29) (blank)

obv. iii
1) (blank, erasures, traces of numerical notations³¹)
2) \( 'SU\cdot NIGIN₂ \) 2.17.00 10 gin₂ guru₅ u₄ 1-še₃
3) (blank)
4) sag-nig₂-gur₁₁-ra-kam
5) ša₃₂-bi-ta
6) 5.45 guru₅ u₄ 1-še₃
7) ŠE.KIN-a zar₃-tab-ba a-ša₃ a-u₂-da-gu-la a-ša₃ a-u₂-da-tur u₃ a-ša₃ ensi₂-ka
8) 3.15 guru₅ u₄ 1-še₃
9) ŠE.KIN-a zar₃-tab-ba a-ša₃ nun-na a-ša₃ nam-ḥa-ni u₃ a-ša₃ isib-e-ne
10) 2.30 guru₅ u₄ 1-še₃
11) ŠE.KIN-a zar₃-tab-ba a-ša₃ gu₄-suḥub₂ a-ša₃ bad₁₃-du₃₃-a [a]-ša₃ u₂-du⁻²nin-a-ra-li u₃ gaba a-ša₃ gibil

12) 4.55 guru₅ u₄ 1-še₃
13) a⁻²-da gub-ba a-ša₃ išara₂⁻³he₂⁷-gal₂ a-ša₃ APIN-ba-zu₁³⁻¹aša₃ a-u₂-da-gu-la
14) \( '1¹,²²5 \) guru₅ u₄ 1-še₃
15) \( 'kab₂⁻³-ku₄⁻³ a⁻¹ša₃ nun-na-ta saḥar zi⁻³₃ga a⁻³ša₃⁻³-ge a du₁⁻²ga a-ša₃ nun-na a u₃ a-ša₃ nam⁻¹ḥa⁻ni
16) kišib da-a-ga
17) 17.50

obv. iv
1) 3.15 guru₅ u₄ 1-še₃
2) ŠE.KIN-a zar₃-tab-ba a-ša₃ igi⁻²-maḥ⁻²še₃ u₃ a-ša₃ \( 4nin-ur₄-ra³² \)
3) 2.10 guru₅ u₄ 1-še₃
4) a-da gub-ba a-ša₃ igi⁻²-maḥ⁻²še₃ u₃ a-ša₃ \( 4nin-ur₄-ra \)
5) kišib a-kal-la
6) 5.51 \( 1¹/₂ \) guru₅ u₄ 1-še₃
7) ŠE.KIN-a zar₃-tab-ba a-ša₃ GAN₂⁻mah⁻²aša₃ \( nin₁₀⁻nu-du₃₃ u₃ a-ša₃ APIN-ba-zu \)
8) 2.45 guru₅ u₄ 1-še₃
9) kab₂⁻ku₄ GAN₂⁻mah⁻²aša₃ saḥar zi-ga u₃ u₂ na-ga-ab₃-tum-ma ga₂⁻ra
10) 1.48 guru₅ u₄ 1-še₃
11) kab₂⁻ku₄ gu₄-suḥub₂-ka ka e₂-DUN-da(?³³) si-ga

7.00 (420) workdays,
the production of “dumugi apprentices” in bala service.

obv. iii
( scratch pad calculations)
Together: 2.17.00 10 shekels (8,220 \( 1/₆ \) workdays) are the debits.
Therefrom:
5.45 (345) workdays,
harvested and sheaves piled up in the Audagula field, in the Audatur field and in the Governor field.
3.15 (195) workdays,
harvested and sheaves piled up in the Prince field, in the Namḫani field and in the Incantation priests field.
2.30 (150) workdays,
harvested and sheaves piled up in the Oxen boot field, in the field Constructed wall, in the field Cattle herder of Nin-Arali and (in the field) across from the new field.
4.55 (295) workdays,
irrigation work in the field Šara is abundance, in the field Plough of Bazi and in the Audagula field.
1.25 (85) workdays,
water installation in the Prince field, earth excavated, irrigation in the Prince field and in the Namḫani field.
Sealed tablet of Da’aga.
(partial sum:) 17.50 (1,070)

obv. iv
3.15 (195) workdays,
harvested and sheaves piled up in the field Before Emaḥ and in the field Ninura.
2.10 (130) workdays,
irrigation work in the field Before Emaḥ and in the field Ninura.
Sealed tablet of Akala.
5.51 (351) \( 1/₂ \) workdays,
harvested and sheaves piled up in the field GANmah, in the field Ninnuду and in the field Plough of Bazi.
2.45 (165) workdays,
from the water installation of GANmah earth excavated and green plants placed in the pen.
1.48 (108) workdays,
the water installation of the Oxen boot (field) at the

³¹ The case presumably served as a sexagesimal “scratch pad”. Top row 12,30, bottom row 7,17,30.
³² The two fields Igi-emaḥ⁻²ša₃ and Nin-ura (full name Nin-ura-an-ne₃-ga₂-ra, see Umma Ist. 4, 2962, obv. 2) were often attested together in our Ur III accounts, for instance in Umma Ist. 4, 2546 (SS 1), Umma Ist. 4, 2598 (SS 1), Umma Ist. 4, 2665 (SS 1), Umma Ist. 4, 2850 (AS 8), Umma Ist. 4, 2861 (AS 8), Umma Ist. 4, 2911 rev., Umma Ist. 5, 3019, MVN 21, 80 (SS 3).
³³ The final sign -da here and in other contexts suggests the sign DUN requires a reading of final /d/. Possibly /zehda/, "young pig (sty)", is meant. Cp. CTNMC 27, Princeton 1, 498 (=Princeton 2, 144; in en-du₈-du₉-du), etc.
12) 1.47 guruš u4 1-še₃
13) kab₂-ku₃ a-ša₃ nun-na-ta saḥar zi-ga
14) 2.45 guruš u4 1-še₃
15) a-da gub-ba a-ša₃ APIN-ba-zi
16) 1.32 guruš u4 1-še₃
17) u₂-lugal ki-sur-ra-ka gub-ba
18) (blank, erasures)
19) `10 guruš u4 1-še₃ ku₂a-ga₂-la₂ `-ke₂ -ra₂ ma₂-da-ga ma₂-a gar [a]-³p₁-sal₄-ta ka gir₁₃-giz-še₃ `ma₃ gid₂-da u₃ ma₂ gur-ra₃₄
20) 22.03 ½

obv. v
1) kišib lu₂-gi-na
2) 3.30 guruš u4 1-še₃
3) a-ša₃-ge a du₁₁₁-ga a-ša₃ ⁴nin-ur₁-ra-du₄-na
4) ka i₂-da puzur₄-ma-ma-še₃ =HARAN ga₂-ga₂
5) kišib ša₃-kus-ge
6) 4.45 guruš u4 1-še₃
7) kun-zi-da u₁-dag-ga⁻ka gub⁻ba
8) 30 guruš u₁-še₃ gi na- ga-ab-tum u₂-dag-ga⁻da tuš-a₃₆
9) kišib lu₂-ša-ra₃ dumu uru-bar-re
10) 5.15 guruš u4 1-še₃
11) kun-zid-a e₁₂-dlamma⁻ka gub⁻ba
12) kišib lugal⁻inim-gi-na
13) 3.15 guruš u4 1-še₃
14) kab₂-kus ⁴šul-pa⁻e₃-ta saḥar zi-ga
15) a-da gub⁻ba a-ša₃ ⁴šul-pa- e₃
16) kₐb₂₃-kus₃ a- u₂₂-da-tur k₃₂-ra₂ u₃ šu₂-luḥ-ak
17) kišib lugal⁻he₂-gal₂
18) 3.15 guruš u₄-ša₃
19) a-da gub⁻ba a-ša₃ bad₁₂-du₁₃-a a-ša₃ išib-e-ne u₅ a-ša₃ u₂-du-hu₂-saq₁₀
20) kišib na-ba-sa₆
21) 2.57 guruš u₄-ša₃
22) a-ša₃-ge a du₁₁₁-ga a-ša₃ ³šara₂-gu₂-gal
23) kišib ²a-gu-gu
24) 30 la₃₂-1 guruš u₁-še₃
25) mar-sa⁻a gub⁻ba ug₂ u₁₁₁-e ba⁻a-ga r
26) kišib ur⁻⁴nun-gal

intake of the EDUN (canal) filled in.
1.47 (107) workdays,
from the water installation of the Prince field earth
cut off (?) and cleaned.
2.45 (165) workdays,
irrigation work in the field Plough of Bazi.
1.32 (92) workdays,
stationed at the King’s bridge (?) of Kisurra.
10 workdays, agala leather bags bound, in Madaga
loaded into a barge, from Apisal to the fork from
Girgiz punted and the barge returned.
(partial sum:) 22.03 (1,323) ½.

obv. v
Sealed tablet of Lu-gina.
3.30 (210) workdays,
field irrigation work performed in the field Ninuraduna,
to the fork of the canal Puzur-Mama
HARAN plants carried.
Sealed tablet of Ša-kuge.
4.45 (285) workdays,
stationed at the reservoir of the Daga bridge.
30 workdays, staying at the "reed nagabtum-pen" with
the Daga bridge.
Sealed tablet of Lu-Šara, son of Uru-bare.
5.15 (315) workdays,
at the reservoir of the Lamma temple in service.
Sealed tablet of Lugal⁻inim⁻gina.
3.15 (195) workdays,
from the water installation at the Sulpa’e( field) earth
cut off (?), irrigation work in the Sulpa’e field,
water installation of the Audatur (field) cut off (?)
cleaned.
Sealed tablet of Lugal⁻hegal.
3.15 (195) workdays,
irrigation work in the field Constructed wall, in the
Incantation priests field and in the field Herders of
Lusag.
Sealed tablet of Nabasa.
2.57 (177) workdays,
field irrigation work performed in the field Šara-
gulu.
Two sealed tablets of Agugu.
30 less 1 (29) workdays,
stationed in the boathouse, booked into the debits
section of Ur-e’e’s account.

34 It is not evident where the scribe might have found this
line; it is not included in the receipt MVN 18, 397, from
which this subsection was copied.
35 The seal impression of the receipt which formed the
basis of this entry found on MVN 18, 397, suggests that
this is the son of the following sealing official Šakuge.
36 sic, cp. MVN 14, 312, obv. 5-6.
37 Is this the father of Lu-Šara, and the son of Lugal⁻nesage
(s. Princeton 1, 518)?
38 The field is described with sketch in the text Or 47-49,
509 (there called a-ša₃ u₂-du-lu₂-sa₆-ga). Compare UTI
4, 2400, rev. 1.
Sealed tablet of Ur-Nungal.
Sick: Ea-lubi,
from the month “Flight” (5th month)
until the month “Dumuzi” (12th month),
the corresponding production: 4.00 (240) days.
Sealed tablet of Ur-e’e.
3 workers, 1.10 (70) workdays each,
the corresponding production: 3.30 (210) days,
having gone to Madga.
Sealed tablet of Lugal-itida.
(partial sum:) 31.26 (1,886)

rev. i
15 workdays,
stationed in the pottery factory.
Sealed tablet of Inim-Šara.
15 workdays,
silo of GANmaÌim ur3-ra
Sealed tablet of Gududu.
2.00 (120) workdays,
from the threshing floor of the (field) Ninnudu to Apisal straw hung out.
30 workdays,
reed loaded into the barge, barge from the Dukuge storage house to the silo of Apisal punted and barge unloaded.
Two sealed tablets of Lu-duga.
18 workdays,
transport of the bala load to the reservoir of the Lamma temple.
42 workdays,
from Apisal to Nippur barge with rough ground flour and muša grain punted.
Sealed tablet of Šeš-sag.
24 workdays,
from the threshing floor of Šara-gugal barley transferred.
24 workdays,
in E-amara flour transferred, barley loaded in the barge.
24 workdays,
barge with barley to Apisal punted, barge unloaded and barley transferred.
2.18 (138) workdays,
from the threshing floor of Ninnudu for the Abu village barley winnowed.
26 workdays,
stationed at the reservoir of Agizea.
1.00 (60) workdays,
to the Lamma temple reservoir flour carried.

39 The receipt MVN 16, 865, implies that this is the son of the preceding, sealing official Lugal-iti-da, and is therefore together with the remarks above to obv. v 1 to be added to the list of possible organizing principles of posting receipts

40 Full name of the field is Šara-gugal-an-ne2-ga2-ra, see Nik 2, 142 obv. 3, SAT 3, 1546, rev. 1, and above, n. 32.
rev. ii
1) 2.01 guru₂ u₄ 1-še₃
2) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ zi₅-da gid₂-da [zi₅] bala-a u₃ ma₃ su₃ a-pi₄-sal₅-še₃ gur-ra
3) 2.08 guru₂ u₄ 1-še₃
4) umma₅-še₃ gu₄ niga-da gen-na
5) gir₁ _₂-su₂-suen gurusid₄¹
6) 45 guru₂ u₁₁-še₃
7) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ i₃ ga ku₆ gid-da
8) a-ra₂ 1-kam
9) (blank, erasures)
10) 50' guru₂ u₁₁-še₃
11) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ i₃ ga gid-da i₃ ga e₂-gal-la ku₄-ra u₃ ma₂ gur-ra
12) a-ra₂ 2-kam
13) 1.00 guru₂ u₁₁-še₃
14) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ i₃ ga gid-da i₃ ga e₂-gal-la ku₄-ra u₃ ma₂ gur-ra
15) a-ra₂ 3-kam
16) gir₁ a-kal-la ra-gaba
17) 45 guru₂ u₁₁-še₃
18) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ i₃ ga ku₆ šar gid-da u₃ ma₂ gur-ra
19) gir₁ _₂-su₂-suen-ta ma₂ gid₂-da min
20) 48 guru₂ u₁₁-še₃
21) a-pi₄-sal₅-₃-ta nibru₅-še₃ ma₂ ku₆ gid₂-da u₃ ma₂ gur-ra
22) gir₁ nigu₅-lagar-e
23) 8.17

rev. iii
1) 48 guru₂ u₁₁-še₃
2) e₂-duru₅ ᵃvolatile-dṣuen-ta ma₂ gid₂-da min
3) ki-su₇ a-u₂-da še bala-a še zi-ga u₃ guru₇ a-pi₄-sal₅-šim₃ im ur₃-ra
4) 48 sar₁₅ ½₂ gin₂,kin₂ u₂ saḥar-ba
5) guruš-e 10 gin₂-ta
6) a₂-bi u₄ 4.49 ½₂ 2 gin₂
7) ugu₂ ur-e₁₁-e-ka ba-a-gar
8) 3.18 guru₂ u₁₁-še₃
9) gi z₃ š₃-gal udu niga sa₂-du₁₁ ᵃvolatile-sa₂-ka ze₂-a a-š₃ ᵃvolatile-am-dṣuen e₂ udu a-pi₄-sal₅-ši₃ ga₆-ga₂
ta
10) (blank)
11) kišib lu₂-dḥa-ia₃,⁴²
12) (partial sum:) 8.56 (536).

rev. ii
2.01 (121) workdays,
from the Apisal to Nippur barge with flour punted,
flour transferred and empty barge returned to
Apisal.
2.08 (128) workdays,
walked with fattening oxen to Umma.
Responsible: Lu-Suen, the fattener.
45 workdays,
from Apisal to Nippur barge with oil, cheese and fish
punted;
first time.
50 workdays,
from the Apisal to Nippur barge with oil and cheese
punted, oil and cheese brought into the royal
estate and barge returned;
second time.
1.00 (60) workdays,
from Apisal to Nippur barge with oil and cheese
punted, oil and cheese brought into the royal
estate and barge returned;
third time.
Responsible: Akala, the “ragaba”.
45 workdays,
from Apisal to Nippur barge with oil, cheese, fish
and vegetables punted and barge returned.
Responsible: Ṭūnam-illī.
48 workdays,
from Apisal to Nippur barge with fish punted and
barge returned.
Responsible: Nig-lagare.
(partial sum:) 8.17 (497).

rev. iii
48 workdays,
from the Amar-Suen village barge punted, ditto⁴³,
at the threshing floor of Auda (field) barley
transferred, barley winnowed, and silo of Apisal
plastered with clay.
48 (volume) sar, 15 ½₁/₃ (volume) shekels, grass and
earth worked;
per workday 10 (volume) shekels,
the corresponding production: 4.49 ½₂ 2 shekels
(289 32/₆₀) days;
booked into the debit account of Ur-e’e.
3.18 (198) workdays,
good reed, fodder for the fattening sheep, the regular
offerings of Šara, torn out in the field of Naram-
Sin, to the sheep fold in Apisal carried.
Sealed tablet of Lu-Ḥaja.

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⁴¹ This passage probably partially corresponds to the receipt Princeton 1, 380.
⁴² The entire passage rev. i 17 - iii 11 is evidently sealed by Lu-Haya.
⁴³ This assumes that the min sign in text is not another "repair". “Ditto” would refer to the returning of the barge.
12) 5.00 guruš u₄ 1-šē₃
13) ki-su₇ nin₁₀-nu-du₃-a-ta e₂-amar-ra-šē₃ in-u ga₆-ga₂
14) kišib a-tu šuṣ₃
15) (blank)
16) 13.55 1/2 2 gin₂
rev. iv
1) (blank)
2) [5.00 guruš u₄ 1-šē₃]⁴⁴
3) a₂ u₄ du₈-a ‘ug₃-ga₆
4) 2 guruš u₄ 3₅-šē₃
5) a₂-bi u₄ 1.1₉
6) bala-a gub-ba ‘bala-šē₃’ gen-na u₃ bala-[ta] gur-ra
7) (blank)
8) 6.10
rev. v
1) [ŠU₄-NIGIN₃] ‘1.4₈.3₈ 2¹ gin₂ guruš [u₄ 1-šē₃]
2) [zi-ga]²-am₃
3) [la₃-ia₃] ‘2₈.2₂ 8¹ [gin₂ u₄ 1-šē₃]
4) (blank space)
5) nig₂-k₃₉-ak a₂ erin₂-na-ka
6) lu₂-ša₃-r₃ uga₃ dumu₃ lugal-inim-gi-na
7) iti 1₂-kam
8) iti ŠE.KIN-ku₅-ta
9) iti ₄-dumu-zi-šē₃
10) mu ma₂ ₄-en-ki ba-ab-du₈

5.00 (300) workdays,
from the threshing floor of Ninnudu to E-amara
straw carried.
Sealed tablet of Atu, chief cattle administrator.

(partial sum:) 13.5₅ 1/2 2 shekels (8₃₅ ³²/₆₀).
rev. iv

[5.00 (300) workdays],
production of free days of the porters.
2 workers, each 35 days;
the corresponding production is 1.1₀ (7₀) days.
stationed in the bala, gone to bala, returned from the bala.

(partial sum:) 6.1₀ (37₀).
rev. v

[Together] 1.₄₈.3₈ 2 shekels (6₅₁₈ ²/₆₀) workdays booked out.
[deficit:] 2₈.2₂ 8 shekels (1₇₀₂ ⁸/₆₀) [workdays].

Account of the production of the erin workers.
Lu-Ša₃ is the foreman, son of Lugal-inim-gina.
It is (a period of) 1₂ months:
from the month “Harvest” (1st month)
until the month “Dumuzi” (12th month);
Year: “the boat of Enki was caulked”.

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⁴⁴ There are some possibly recent traces of signs at the beginning of this case. The reconstruction derives both from the partial total at the bottom of this column (6.1₀ - 1.1₀ = 5.00) and from the calculated work norm of the porters from the debits section of the text above, obv. ii 2₁, based on a “free time” allowance of ¹/₁₀. The work of the dumugi is not similarly rewarded in this account.