

KG
11365
440

Roger's Absolute Work
Note-book
J. A. Dunne

KG 11365.440

1904phae.proj..441b

Roger's Absolute Work

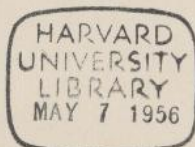
Note-book of J. Dunne.

Notes started March 1904.



1904phae.proj..4410

KA 11365.440



Notes on ^{Roger's} Absolute Work... by J. D. Dunne 1

1904

March 16

Miss A. Winlock died Jan 4, 1904.

During February J.D.D. examined such material as was found in room occupied by A.W. and arranged systematically in envelopes all material pertaining to absolute work of Rogers.

Miss Bond is the only computer engaged at present on the work and I have prepared and written directions for determining the hourly rate of the clock by comparing the T derived from each star observation with subsequent observations. See letter book for details. This rate computation appears to be one of the necessary pieces of work for the immediate future.

May 11

Miss Bond came to Cambridge. Told Prof. Seale that she had plenty of app. d m place work for the present. As a consequence she did not take the instructions for determination of rate.

Sept 19

During August Miss Bond was given the means to apparend place books by ~~her~~ request. ^{her} (E.C.P.)

1905

about
March 22

and cross containing app. pl. interpolations, etc, etc.

Books Nos 1, 2, 3, Red. to app. pl. taken by Miss Bond last August were received at the Observatory. A letter then received stated she would be at the Observatory Fri. Mar 24th.

Mar. 24

Miss Bond, A. Seale and I met to discuss the work at present being done, viz. app. & m pl. reduction.

1905

Mar 24 (contin.)

Some of this work is yet unfinished. Miss Bond is to await my investigation of the amount of work to be done, this will necessitate a detailed search in mss. and books.

Miss Bond's
Address

Miss Bond's present address is
101 Pinckney St. Boston, Mass.

April 5, 1905

Miss Bond at Observatory. Since remaining portion of the apparent place work by A. Searle, after examination and arrangement in detail by ^{and also part of the "ledger" of dates of observations} J. D. Sumner. There is very little work of this kind to do so that in a short time the app. place work (interpolation from single dates) will be completed, ready for the next contemplated step, the computation of rate from stars at about $+20^\circ$ & -20° in δ .

April 21, 1905

Miss Bond at Observatory. Had completed computing the very few cases of app. & m. place corrections.

Prof. S. saw that she had given her the 10 day 1st and 2nd differences (ephemerides). She is now engaged on the daily ephemeris and subsequent interpolation for the particular fraction of day corresponding to each observation.

This work should be finished very soon.

April 22, 1905

Miss Bond writes to Prof. Searle that she has finished the computations, excepting four stars which she returned to the Observatory. She is going into the country and will work on the interpolations mentioned above.

1905
May 5th
about
See next page

Miss Bond at Observatory. Left a few app. pl. sheets (interf.)
and took some ledger sheets. (See ~~next~~ *pages* 4, 5 & 6.)
May 20 Miss Bond is now settled at Curls Head, Rockland, Knox Co, Me.

1906

Jan 20 A short time ago A. Seale received from Miss Bond
some missing ledger sheets, ~~almost~~ ~~completed~~ in
~~some cases and wholly so in others~~

As follows:

Sheet no 1	Jan 1880, Apr 26 - Dec 16	2 β Cass	$0^{\circ} 3' + 58' 29''$
" " 2	" 1880 Dec 18 - Dec 23	"	
" " 2 and "	1881 May 2 - May 26	"	
" " 2	" 1881 Dec 17 - Dec 18	"	
" " 3	1879 May 7 - June 22	13 γ Cass	$0^{\circ} 49' + 60''$
" " 4	1879 Aug 19 - Aug 19	"	
" " 4	1880 Apr 24 - June 12	"	
" " 5	1880 June 13 - June 16	"	
also 5	1880 Nov 2 - Nov 22	"	
" 5	1880 Dec 16 - Dec 30	"	
" 5	1881 Jan 1 - Jan 12	"	
" 5	1881 Feb 11 - Feb 13	"	
6	1881 Feb 15 - May 3	"	
7	1881 May 4 - July 10	"	
8	1881 July 14 - Dec 20 (8 lines small)	"	
8	1882 Note "Observing books required for fraction of day 1882"	"	<i>See pages 5, 6 Cass</i>

1906
Jan 20(Note for
May 5, 1905)
p. 3

See previous page 3:-

Additional Note for May 5¹⁹⁰⁵ (about)

Returned by Miss Bond

about May 5, 1905

Ledger sheets

Single sheet 67 Leto: 2^h 10^m - 6^h 58^m 1879, Dec 14-29 only

Single sheet { 32 γ Androm. 1^h 56^m + 41^m 45^s 1880 ~~Feb 4~~ Dec 30
" " 1881 Jan 29 - Feb 3

Single sheet { " " 1881 Feb 4 - June 29
" " 1881 Dec 15 - Dec 17

Single sheet " 1881 Dec 19 only

Jan 20 1906

(Note for
May 5, 1905)
p. 3

See previous page 3, May 5, 1905-

The following left by Miss Bond, about May 5, 1905
and is to be completed by JWD at A. Seculi's suggestion:

Half sheet as follows:

"List of Reductions to Σ (omitted for want of date)
to be completed.

γ Cas	* 13 ^h 0 ^m 49 ^s	1880 Nov 22	1881 Dec 7	1882 Jan
ϵ UMa	* 173 12 ^m 49 ^s	1880 Jul 8	1882 Jan 25	
γ Cygni	* 275 19 ^m 26 ^s	1879 Mar 30	(change to March 29)	
γ Bootis	* 193 14 ^m 27 ^s	1880 Dec 11		

The above are not in Miss Woods list

For further
final list
of material
left here at
Observatory
Miss Bond about
May 5, 1905-

See
page 6

According to book
on surface of date
final list of dates
of obs. three stars
omitted in reduction
in 7 books
and so are not wanted
Jan 22 1906
JWD.

Jan 20, 1906 See previous page 3, May 5, 1905
 (Note for) Gave Miss Bond
~~XXXX~~ ~~XXXX~~ For B. Erdani
 Sheets nos. 31, 32, 33, April 17, 1879 to Oct 20, 1881
 Daily Ephemeris

Also: S. Cass. 1st 18
 pages (10a leaf sheet) and pp. 10, 11, 12, 13, 14a, + 14.
 May 7, 9 1879 to Jan 1 1882 see right hand note page 4 bottom of page

also Y. Cass p. 9, Oct 13, 1881 to Dec 31, 1881 See page 3
 Jan 7, 22 1882 to be computed See 7 books + book "7 and last of dates of B." prepared: star obs. not to be returned

Miss B. also wished Brille ink + box talcum powder.

Jan 20, 1906 Miss Bonds Address:

From letter to Prof. Seale, Jan 16, 1906 (dated)
 her address is 17 Middle St., Rockland, Me.

Jan 20, 1906 See Page 3. May 5, 1905

(Note for
May 5, 1905, page 3)

Ledger sheets returned to the Observatory
by Miss Bond May 4, 1905

Sheet paged, No 10, 13 (Case 0° 49' + 60° 3', 1879, May 7 to June 21

"	11 }	"	1879 June 22, + Aug 19
	11 }	"	1880 Apr 24 to June 15
	12	"	1880 June 16 only
	12	"	1880 Nov 2 - 1881 Feb 16
	13	"	1881 Feb 17 - May 10
	14 }	"	1881 May 11 - July 17
	14 }	"	1881 Oct 4 only

~~16~~

16 20 δ (Case 1° 17' + 59° 36'

		1879 May 7 - June 19
19	"	1881 Feb 15 - May 23
20	"	1881 May 24 July 14
21 }	"	1881 July 17 Oct 4
21 }	"	1881 Dec 18 - Dec 31

26

26 }	32 } Androm	1879 June 7 - Sep 29
26 }		1879 Dec 4 - Dec 16
27	"	1880 May 25 - June 26

Jan 22, 1906

All material sent to Observatory by Miss Bond apparently ~~correct~~ completed; some observations referred to (see p. 4) as in need of reduction found to be not needed reduced in 7 books, and according to instructions in preface of "Final List of data of obs." are not wanted

I judge that Miss Bond has remaining only 3 sheets of ledger nos 31, 32, 33, April 17, 1879 & Oct 20, 1881 for star β Eudamiae but as I did not record in detail the material given her on April 5, 1905 Prof. Seare will write to her asking her for information on that point. When this work is finished the next step will be "rate of work"

Feb 1, 1906

Received from A. Seare, sent by Miss Bond recently sheets Ledger numbered 40, 43, 47, 48 & 49

no ^{sheet} 40	47 β Cephei	1879, Sept 8 & Dec 1
43	48 γ Persei	1870 June 24 - July 5; 1880 June 15 - Dec 16; 1881 Jan 9 - 16, Feb 24 & Dec 17
47	ϵ Eudamiae	1879 Feb 21, March 11; Aug 20 - Dec 29; 1880 Jan 1; 1880 Aug 17 - Sep 21
48	ϵ Eudamiae	1881 Jan 8 - Feb 22
49	γ 716	Feb 16 & 22, 1879

Feb 7, 1906

Eight ledger sheets, completed, mailed Feb 5, from
Rockland Me, received by A.S.

1st no. 67 Ceti, 1879 Dec 18-29, two dates only
2nd p 52 δ Eridani 1879 Feb 21 & Dec 29 : 1880 Jan 1 - Sep 2
3rd p 53 δ Eridani 1880 Sep 5 & 21 : 1881 Jan 8... Aug 21
4th p 58 9 H Camel. 1879 Feb 27 (date only)
5th p 69 10 Camel. 1879 Feb 22 - Mar 11
6th p 70 β Eridani 1879 1879 Mar 2 - Sep 17 : 1880 Mar 1 - Apr 22
7th p 71 β Eridani 1880 Aug 15 - Sep 29 : 1881 Feb 13 - Aug 22
8th p 72 β Eridani 1881 Sep 7 - Oct 16

Feb. 24, 1906

Received fourteen sheets of ledger from Miss Bond

Numbered ~~84~~ 79, 80, ⁸⁴ 91, 92, 95, 96, 97, 100, 101, 102, 103, 108, 109

79, γ Orionis Feb 15, 1879 to April 8, 1879 : 1880 Mar 2 & Apr 12, 1880
80 " Sep 11, 1880 & Sep 25, 1880 : Feb 13, 1881 & Sep 28, 1880
84 17 Camel p. Mar 11, 1879 - Mar 12
91 ϵ Orionis April 2, 1879 - Sept. 29, 1880
92 ϵ Orionis Mar 15, 1881 - Oct 16, 1881
95 δ Orionis Apr. 6, 1879 - Apr 12, 1880
96 δ Orionis Apr 18, 1880 - Sep 12, 1880
97 δ Orionis Sep 13, 1881 - Sep 28, 1881
100 κ Orionis Feb 15, 1879 - Apr. 24, 1879
101 κ Orionis Sep 10, 1879 Sep 23, 1880
102 κ Orionis Sep 25, 1880 - Sep 19, 1881
103 κ Orionis Sep 28, 1881 - Oct 5, 1881
108 β Aurigae June 30, 1879 only
109 36 Camel. Mar 19th 25, 1879
10th

Mar 8, 1906

~~about 90~~

A.S. received from Miss Bond, sheet of ledger of dates (app. p.l. red.) numbered pp. 130, 131, 132, 146, 147, 148, 153, 154, 157, 161.

130, B. Am. Min.	1879, Mar 8 to 1879 Oct 7
131 "	1879 Oct 14 to ^{20th} ~~1879~~ 1880 March 4, & Oct 14
132 "	1881 Mar. 14 to 1881 Oct 20
146 o. No. Maj.	1879 Apr 21 & 24 : Nov 5 & 10
147 p. No. Maj.	1879 Nov 5 & 10
148 o. 2 No. Maj.	1879 Nov 5 & 10
153 h. No. Maj.	1879 Nov 10
154 d. No. Maj.	1879 Nov 16
157 Gr. 1564	1879 Nov 10-25
161 Gr. 1586	1879 Nov 10-30

April 9, 1906

about April 3, 1906

A.S. received from Miss Bond, as usual, by mail, sheet of ledger of dates (app. p.l. & red.) numbered as follows:
pp. 166, 167, 168, 169, 174, 175, 176, 177, 179, 181, 182, 183, 184, 189, 190, 191, 195, 198, 206, 207, 208, 209.

166, J. Lewis	1879, Mar 26 & May 8, : Sep 24 - Oct 20.
167 "	1879, Oct 26 - Nov 15 : 1880 Mar 10 - April 18 : Sep 22 - Nov 7
168 "	1880 Nov 11-18 : 1881 April 29-28 : Oct 3 - Nov 9
169 "	1881 Nov 10-15
174 4 No. Maj.	1879 May 1-14 : 1880 May 25 June 22 : 1880 Sep 22 - Nov 18 ~~1879 May 1-14 : Sep 22 - Nov 18~~
175 "	1881 April 9, April 28 : Sep 25 - Nov 9
176 30 H. No. Maj.	1879 : Nov 24 - 30
177 "	1880 Nov 15
179 35 H. No. Maj.	1879 Nov 15-16
181 B. No. Maj.	1879 April 30 - May 14 : 1880 : May 24 - June 22 : Oct 6-17.
182 "	1880 Oct 18 - Dec 18
183 "	1880 Dec 22-23 : 1881 April 18, May 9 : Oct 9 - Nov 14.
184 "	1881 Nov 15 - Nov 22

Continued (MS of April 9, 1906)

189. ♀ *Urs. Maj.* 1879 April 30-May 14; 1880 May 20-June 27; Oct 9-13
 190 " 1880 Oct 17-Nov 1; 1881 April 18-May 4; Oct 9-Nov 9
 191 " 1881 Nov 16-22
 195 *Gr. m.* Dec 7 1879
 198 ♂ *Drac.* Dec 7, 1879
 206 ♂ *Corvi* 1879 April 1-May 8; Nov 25-Dec 31; 1880 Mar 10-Apr 5
 207 " 1880 April 7-31; Nov 29-Dec 22; 1881 May 26-Dec 8
 208 ♂ *Corvi* 1879 - Mar 5 - April 19; Nov 16-Dec 31; 1880 Mar 10-Apr 5
 209 ♂ " 1880 April 7-May 31; Nov 29-Dec 22; 1881 May 23-26; Dec 9

April 9, 1906 Miss Bond wrote to A.S. that she intended
 to be at the Observatory soon.

April 27, 1906 about a week ago Miss Bond wrote A.S. that
 she had changed her mind about coming to the
 Observatory

Ledger sheets returned to the Observatory

1220 ♂ *Verginis* 1879 Feb 24 - Dec 1879
 221 " " Dec 2 Dec 20 1880
 222 ♂ *Verginis* 1879 Feb 24 - May 8, 1879
 223 " 1879 May 12 - Dec 25, 1879
 224 " 1879 Dec 31 - May 23, 1880
 225 " 1880 May 24 - June 15, 1881
 226 " 1881 June 17 - Dec 20 1881
 347 ♂ *Aquilae* 1881 Oct 3, Nov 16, Nov 20, 3 dates.
 344 " 1879 Mar 4 - Oct 19 1879
 345 " 1880 Mar 22 - Oct 9, 1879
 346 " 1880 Oct 11; 1881 Mar 23 - Oct 1, 1881
 360 ♂ *Cygni* 1880 Nov 3; 1881 Mar 20 - Nov 20, 1881
 359 " 1879 May 1-8; 1880 Mar 24 - Oct 13

May 2, 1906

Ledger sheets of dates and observations containing as usual the red. to app. pl. received by A.S. from Mrs Bond, May 1, 1906 as follows.

- γ Virginis, page 212, 1879 May 5 to May 14, 1879
 " 213, 1879 May 31 to Dec 31, 1879; Mar 10, 1880 to Apr 16, 1880
 " 214 1880 April 12 - June 10; and Nov 29 - Dec 18, 1880
 " 215 1880 Dec 19 - 22; and May 23-26, '81; and Dec 15, 1881
 ε Urs. Maj. { 216 1879 May 1 ~~Nov 2 1879~~ to May 8, 1879
 " { ~~217 1880~~
 " { 216 1880 May 9 - Nov 22 1880
 " 217 1880 Nov 25 - Dec 30, 1880
 " 218 1881 Jan 1 - Nov 14, 1881
 " 219 1881 Nov 15 - Dec 24, 1881; also Jan 2-10, 1882
 τ Virginis 237 1879, Feb 15, Nov 25, 1879; 1880 May 22 - June 9 1880.
 " 238 1880 June 10 - Aug 18; 1881 Jan 3 - Feb 21
 γ Bootis 243 1879 May 31 - June 30 1879
 " " 1880 May 22 - June 30, 1880
 " 244 1880 Aug 18 - Dec 30; also 1881 Jan 15 - Aug 30

June 16, 1906

Garet ~~A~~ A. Sauls for Miss Bond for
purpose of computing daily rate, the
following:

- 12 envelopes "Journal"
1 thick envelope " " } for copying "T"
a. Total 13 envelopes " " }
- b. Thick envelope "Ledger of dates of observations & app. h. con.
for computing rate for stars 20° to -20° "
- c. Envelope containing explanation of computation of rate
- d. Envelope containing sheets: the folios
1. List of missing sheets from ledger
of dates of obs. & app. h. con.,
 2. List of missing sheets from above
mass, needed, for rate determinations, stars
 20° to -20° in S

June 25, 1906

The above was sent by W.P.G. about
June 20, 1906 to Miss Bond, at Cobscook Head
Rockland, Knox Co. Me.

Oct 18, 1906 Received during the summer (probably during July)
 ledger sheets of dates from Mrs Bond

β Cygni	page 326,	April 7, 1879 to Sep 11, 1880
"	page 327	Sept 18, 1880 to Sep 20, 1881
"	page 328	Sep 26, 1881 - Nov 11, 1881
χ 2900	page 329	Date Oct 14, 1879
θ Aquilae	page 344	March 4, 1879 to Oct 19, 1879
"	page 345	March 22, 1880 to Oct 9, 1880
"	page 346	Oct 11, 1880 to Oct 1, 1880
"	page 347	Oct 3, 1880 to Nov 20, 1880

Oct 18, 1906 Letter received about Sept 1, 1906 from Mrs Bond
 states the reduction for app. pl. for the stars not in
 the Nautical Almanac, excepting it alone Polaris, the main
 S Ursae, 2 Ursae and 51 δ Cephei are finished.
 Ledger sheets received with letter.

γ Cygni	page 353	May 5, 1879 - March 31, 1881
γ Cygni	page 354	April 3, 1881 - Nov 20, 1881
θ Cephei	page 355	April 7, 1879 - Nov 10, 1879
γ 3 Drac.	page 356	Nov 10, 1879
η Cephei	page 361	Nov 5 - 10, 1879
γ 7 Drac.	page 365	Nov 10
20 Cephei	page 382	Nov 15, 1879 - Nov 30, 1879
24 Cephei	page 383	Nov 15, 1879 - Nov 30, 1879
31 Cephei	page 384	Nov 24, 1879 - Dec 7, 1879
η Pegasi	page 385	Mar. 11, 1879 - Oct 13, 1880
η Pegasi	page 386	Oct 14, 1880 - Nov 24, 1881
π Cephei	page 393	Dec 7, 1879
4 Cass.	page 394	Dec 7, 1879

14

1906
Nov 21,

A package of books and envelopes & mss. received
at the Observatory from Miss Bond sent from
Miss Bond's Address: (Her letter dated Nov 14, 1906)
10 Laurel St.
Rockland, Me.

As follows:

American Almanac for years 1879-80 & 81.

Lecroy - Table of Products & Newcomb's logs. 12d copy (Given by J.D. to Mr. W. H. Loomis)

Reduction book: "M 25 - List of fund. stars for 1879 etc"

Reduction book: "Reduction to app. pl. 1879-80-81, Bk I

Reduction book: " " " " " II

Reduction book: " " " " " III

Envelope: Journal for prints 1879-81. Twelve envelopes.

Envelope: Ledger & dates of observation & app. pl. com. for stars
intended for rate of clock 1879-81

Envelope: Explanation of determination of rate of clock by
J.D. to Miss Bond & some of her determination of same.

Envelope: List of missing sheets from ledger of dates of obs.

Envelope: Red. to app. pl. for Non-fund. mss. to be used. ... 4 clock stars
2 NA Stars B. W. Min
C. B. Boster

Envelope: Part of the journal

Envelope: Interpolation Bk II... red. to app. pl.

Box: - Small sheets: Bk I 5; Interpolated App. pl. for dates of obs.
" " Bk II 5 " "
" " 2 + 5 " "
" " 2 + 5 " "

Envelope: Red. to app. pl. 1st & 2nd diff. for each
10 days for 2 + 5 for certain stars - Bk I
Same ... Bk II & Bk III

Remarks continued:

Extract from:

Miss Bond's letter, to Prof. E.C. Pickering, address
(as given p. 14), dated Nov 14, 1906

"The interpolation work for the stars in
Bks I, II, III, is also sent with the exception of
the large sheets for BI and the few small ones
which I find incomplete You will find
the work finished on the small sheets on which
the reductions is made with 2nd differences"

Miss Bond has still the note book
according to her letter.

1910
Nov. 4

1st "Miss Bond is to complete if she has not
already done so, computing the app. pl. of
each star for date of observation, from the
almanac.

Dec. 16, 1910.

M.S.S. returned by Miss Bond & not recorded:
 Ledger sheets, pp. 259, 260, 275, 281, 282.
 Ledger sheets, pp. 289, 290, 302, 310, 311, 315, 319, 320, 321
 1st five, enclosed in letter dated July 10, 1906.
 pp 289-321 enclosing a note by Mr. Dunne July 30,
 (no year), stating that it was not known when
 they were received at the Observatory.

B. I. Interpolations (large & small sheets.)
 Note book (S.C.B.) & a package of letters ^{& papers} relating
 to the work received by her from Miss Whitlock
 (ten day intervals, etc.) during the years 1900 - 1903
 also one dated Apr 14, 1906 from Prof. Pickering.
 This material was labeled "Returned by Miss Bond
 April 14th 1907. Subsequently, in the fall of 1910,
 Miss Bond looked over this MSS. and ^{after} adding
 a few notes, returned the parcel to the Observatory.

April 5, 1911

Professor Pickering has decided that the
 Absolute work is not to be carried on
 for the present, unless Miss Bond should
 make a second request for it. In that case
 the work prepared is the transferring
 from ledger to journal of the apparent places
 of the Nautical Almanac Stars ^{between 42° - 20°}; to be followed
 later by the computation of $\alpha - T$, the values
 of which are to be entered in the next column
 of the journal.

321

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rating

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Runs

The Runs "Corrections for i " (the data for the curve) from 1879 to 1881 make a continuous series with Prof Rogers values which immediately precede and follow this period and which are given in Vol XVI, after the constant $-.05$ has been applied to the "Corrections for i " for Zenith-distances; indicating that the same division has been used.

Apply $-.05$ to the Runs Corrections for i for Zenith-distances from 1879 to 1881.

1899 Jan. 3

All the preceding remarks appear correct.
A. Leake.

Decisions made
Note on Absolute Work

to be examined & entered in
new notebook for
approval

[2]
Dec 28 Apply to the Runs "Correction for i" for zenith
distances" the constant $-.05$ (in order to reduce
the division upon which measured for Runs
to an average division)?

17

Vol xvi pxxvii from p 75 3
Obs. Note Book

Corr to i for av. dis.

1872	.05	K ₂₄ has been abolished
73	.04	
74	.05	
75	.05	
76	.02	
77	.03	
78	.03	

→ .05 = Error in
Vol xvi

Not in Vol xvi, applied in K₂₄
before curves
were drawn.

1879	-.05
1883	.05
84	.05
85	.05
86	-.05

Runs

The Runs "Corrections for i" (the data for the curve) from 1879 to 1881 make a continuous series with Prof Rogers values which immediately precede and follow this period and which are given in Vol XVI, after the constant $-.05$ has been applied to the "Corrections for i" for Zenith-distances; indicating that the same division has been used.

Apply $-.05$ to the Runs Corrections for i for Zenith-distances from 1879 to 1881.

1899 Jan. 3

All the preceding remarks appear correct.
A. Searle.

Decisions made
Note on Absolute Work

to be examined & entered in
new notebook for
approval

[2]
Dec 28 Apply to the Runs "Correction for i' for zenith
distances" The constant -.05 (in order to reduce
the division upon which measured for Runs
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17

Vol xvi pxxvii from p 75 3
Abs. Note Book

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1879	.05
1883	.05
84	.05
85	.05
86	.05

4

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