

Charles W. Morgan Workbook Time Sight for February 20, 1897

Time sight analysis from Charles W. Morgan Workbook February 20th, 1897. See Figure 1, mid-page calculations.¹

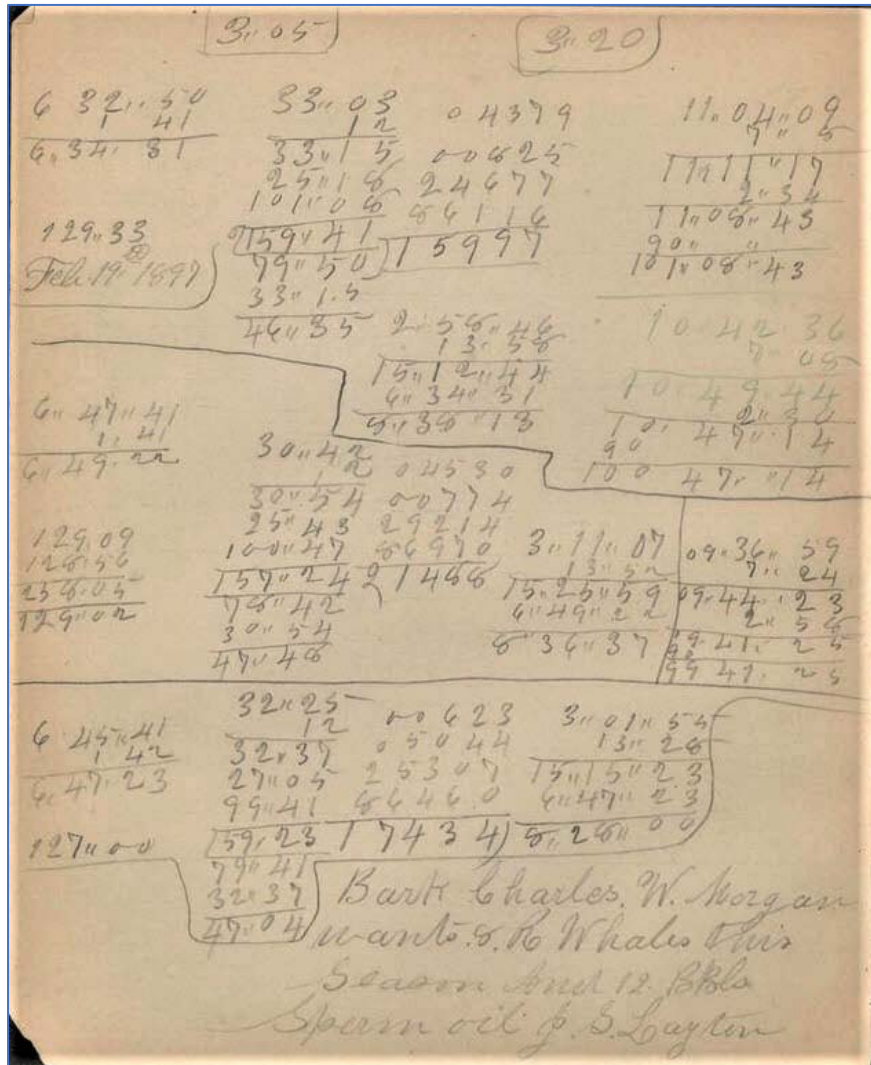
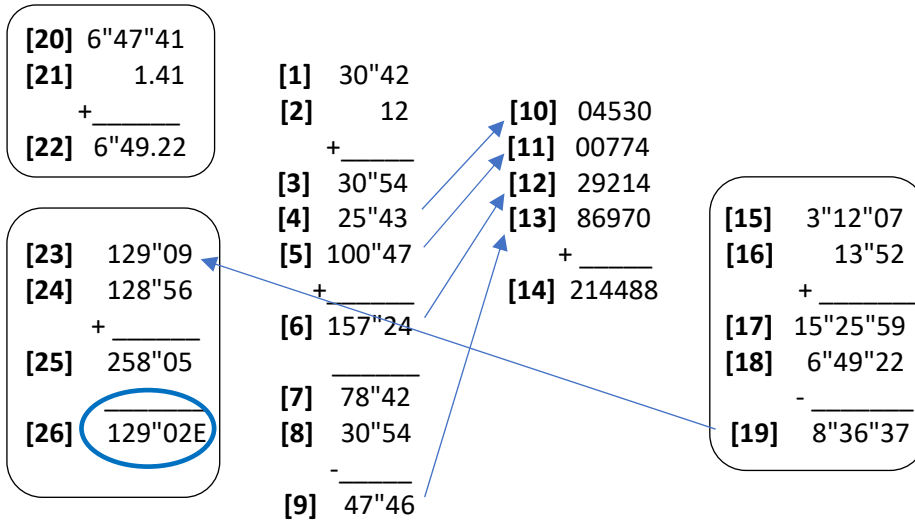


Figure 1 - Charles Morgan Workbook Time Sight Calculations February 20, 1897

¹ Image from Mystic Seaport Archives, Charles W. Morgan 1896-1897 Navigation Workbook. <https://research.mysticseaport.org/item/I038512/#30>, page 30

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- [1] Sun's Ho ° ' Sun is West of ship, setting
- [2] Sun's SD'
- [3] Hc to Sun's center, LL sight. No compensation for IE, EH or Refraction
- [4] Ship's latitude (from LAN DR perhaps)
- [5] Polar Distance (Elevated NP, sun is in southern hemi) thus Dec S 10° 47'
- [6] Sum of lines [3] [4] [5]
- [7] Half Sum of [6]
- [8] Hc, repeat of [3]
- [9] Remainder, t angle 47° 46'

- [10] log secant latitude N 25° 43'
- [11] log cosecant p distance
- [12] log secant half sum
- [13] log cosecant Remainder
- [14] Log sum [10]+[11]+[12]+[13], log half or $t/2=9.60744 = 23.53^\circ$ $t=47.78^\circ$
- [15] Local p.m. time
- [16] Equation of Time 13m52s slow
- [17] Local Mean Time LMT, 12 hrs added, 24 hr system
- [18] GMT [22]
- [19] GMT LMT difference in hr/min/sec, is 129° 09.2' East [23], the ship's longitude

- [20] Chronometer GMT
- [21] Chronometer's rate correction (running slow)
- [22] Greenwich Mean Time
- [23] Time sight longitude ° ' February 20th from time [19]
- [24] Time sight longitude ° ' February 19th
- [25] Sum [23]+[24]
- [26] Ship's longitude ° ', [25]/2 . Ship has traveled 11.7nm Eastward between [23] & [24]

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From Mystic Seaport Research

Charles W. Morgan (Ship : 1841), 1896-1897 Logbook of the whaleship Charles W. Morgan of New Bedford, Massachusetts, <https://research.mysticseaport.org/item/I030790/#14>

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<https://research.mysticseaport.org/item/I038512/#30>, page 30