

REV 4 Ref. *TonyOz* 10 Apr 2020 (*HoE = 4.5 m*) , T = +5°C , P = 1,000 hPa ,

Ha (Tony): Sextant heights corrected for instrument Error and for Dip ⇒ process with *HoE=0.0 m*

Ho (Tony): Geocentric heights from sextant observations only. Do not depend from assumed Fix and directly comparable to **Hg (AMC)**'s determinations. "Scratched" values inconsistent with Ha's.

Hg (AMC): Geocentric heights from [Tony's] sextant observations only. Do not depend from assumed Fix and directly comparable to **Ho (Tony)**'s determinations.

Hdr (AMC): Geocentric heights from assumed **Venus LAN Fix① N60°10.5' E029°46.9'**. **ALL Observations : 8 Averaged weighted LOP's from Fix① to get Fix② N60°10.6' E029°47.7' + Red color for Venus only : 15 single LOP's from Fix② to get Fix③ N60°10.5' E029°47.0'**

Body	UT;	Ha (Tony)	Intercept +: T / -: A	Azimuth	Weight	Ho(Tony) not used	AMC values
①Sun	11:58:38 12:00:23	33°24,4' 33°16,9'				33°38,9' 33°31,4'	Hg=33°39.01' Hg=33°31.51' Hg :33°35.26' Hdr:33°34.81'
Mean values	11:59:30.5	33°20.65'	+0.5'	215.6°	2		
②Venus	12:09:40	54°19,3'	+0.2'	161.6°	1	54°19,0'	Hg=54°18.75' Hg :54°18.75' Hdr:54°18.58'
Mean value	12:09:40.0	54°19.30'	+0.2'	161.6°	1		
③Sun	12:12:02	32°23,7'				32°28,2'	Hg=32°38.26' Hg :32°38.26' Hdr:32°38.24'
Mean value	12:12:02.0	32°23.70'	-0.0'	219.1°	1		
④Venus	12:14:12 12:16:56 12:18:58 12:20:35	54°29,9' 54°34,8' 54°38,4' 54°41,7'	+0.5' -0.2' -0.6' -0.4'	163.3° 164.4° 165.2° 165.8°	1 1 1 1	54°29,6' 54°34,5' 54°38,1' 54°41,4'	Hg=54°29.35' Hg=54°34.25' Hg=54°37.85' Hg=54°41.16' Hg :54°35.65' Hdr:54°35.99'
Mean values	12:17:40.25	54°36.20'	-0.3'	164.7°	4		
⑤Sun	12:22:30 12:23:36 12:24:46	31°33,0' 31°27,5' 31°21,7'				31°47,4' 31°38,0' 31°32,2'	Hg=31°47.51' Hg=31°42.00' Hg=31°36.19' Hg :31°41.90' Hdr:31°41.97'
Mean values	12:23:37.33	31°27.40'	-0.1'	222.4°	3		
⑥Venus	12:40:30 12:42:05 12:43:05 12:44:12 12:45:37 12:46:33	55°08,8' 55°10,7' 55°10,7' 55°11,8' 55°13,6' 55°13,6'	+0.0' +0.6' -0.1' +0.2' +1.1' +0.6'	173.6° 174.2° 174.6° 175.1° 175.6° 176.0°	1 1 1 1 1 1	55°08,5' 55°10,4' 55°10,7 55°11,5' 55°13,3' 55°13,3'	Hg=55°08.27' Hg=55°10.17' Hg=55°10.17' Hg=55°11.27' Hg=55°13.07' Hg=55°13.07' Hg :55°11.00' Hdr:55°10.80'
Mean values	12:43:40.33	55°11.53'	+0.2'	174.8°	6		
⑦Sun	12:50:23 12:51:46 12:53:01 12:54:05	29°04,0' 28°55,6' 28°48,4' 28°42,3'	<i>previous uncorrected value :</i> ←28°38,6'			29°14,4' 29°05,9' 28°58,7' 28°49,0'	Hg=29°18.34' Hg=29°09.94' Hg=29°02.73' Hg=28°56.62' Hg :29°06.91' Hdr:29°07.92'
Mean values	12:52:18.75	28°52.58'	-1.0'	230.0°	4		
⑧Venus	12:55:55 12:57:01 13:00:15 13:02:35	55°15,4' 55°15,4' 55°15,4' 55°14,9'	-0.3' -0.3' +0.0' +0.0'	179.7° 180.1° 181.4° 182.3°	1 1 1 1	55°15,1' 55°15,1' 55°15,1' 55°14,6'	Hg=55°14.87' Hg=55°14.87' Hg=55°14.87' Hg=55°14.37' Hg :55°14.74' Hdr:55°15.21'
Mean values	12:58:56.50	55°15.275	-0.5'	180.9°	4		

① - Venus LAN method: Transit Time at 12h56m45.0s, yielding **Fix① N60°10.5' E029°46.9'**.

② - From **Fix①**, with 8 averaged + weighted classical LOP's, get **Fix② N60°10.6' E029°47.7'**.

③ - From **Fix②** with 15 classical LOP Venus observations, get **Fix③ N60°10.5' E029°47.0'**, within 0.05 NM from **Fix①**. **GPS position at N60°10.3' E029°48.5' i.e. 0.5 NM from Fix②**.

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