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MICROSCHEMID7 TELESCOPE

TEST PLATE #1 10/16/58 (UT)

GUIDE STAR: 3 AURIGAE

EXP: 8:46 - 8:51 (UT) = 5 MIN.

PLATE: IIa-0 (514,282) BACKED, 1 1/2 X 5 X .030"
TBL. MOUNTED ON AURA 16" PORTABLE MOUNT
ON METNCL'S BACK YARD AT 6741 TIVANI RD,
TUCSON.

GUIDER OPERATING. PLATEHOLDER E-W.

DEV. 7 MIN IN METOL SULFITE AT 73°F.

RESULTS: OUT OF FOCUS - BY DIFFERENT
AMOUNTS AT TWO ENDS OF PLATE.

TEST PLATE #2 - FOCUS TEST 10/17/58

FOCUS SCANS	EXP.	GUIDER
1/4 REV. CCW	30 SEC.	1 SW
1/8 " "	"	0.5 SW
0 " "	"	0
1/8 " CW	"	0.5 NE
1/4 " "	"	1.5 "

FIELD: 7 CASS

TIME: 3:30 - 4:15

SKY: CLEAR, 3 DAY MOON IN W.

SEARCHLIGHT BEACONS.

PLATE: IIa-0 BACKED.

NO GUIDING.

REMARKS: TEL. DRIVE IS TOO SLOW, FOR ALL SETTINGS OF DRIVE RATE.

RESULTS: BEST FOCUS POSITIONS:

WESTWARD END: $3\frac{3}{4}$ ~ 35° CW
 CENTER: $3\frac{3}{4}$ ~ 35° CW
 EASTWARD END: $3\frac{1}{4}$ ~ 19° CW

TEST PLATE #3 FOCUS PLATE

AS ABOVE

FOCUS POSITION GUIDEN

NE	SE	W	GUIDEN
0	0	0	$1\frac{1}{2}$ NE
10° CW	35° CW	35° CW	$\frac{1}{2}$ NE
20	45	45	0

RESULTS:

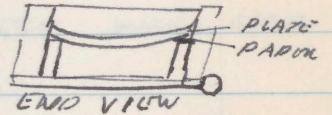
ETAL. UP		
1	1.5	2 3
2	3	3

TEST PLATE #4

FOCUS POSITION:

NE SE W
 0 35° CW 35° CW

STRIP OF PAPER BETWEEN ETCUSION AND SIDE STRIP IN PLATEHOLDEN, HELD ON BY WAX.



FIELD: d Per.

EXP: 30 SEC. TIME: 8:55 U.T.

PLATE: IIa-0

RESULTS: CLOSE TO FOCUS; STRIP OF PAPER

HELPED - LITTLE DIFFERENCE BETWEEN EDGES OF PLATE. IMAGES ~ $.001''$ ~ 25μ ~ $7''$

TEST PLATE #5 FOCUS PLATE 10/18/58

FIELD: Y CAS

NE	SE	SW	GUIDEN	EXP.
-20°	$+15^\circ$	$+15^\circ$	2 MM SW	10 SEC.
-10	25	25	$1\frac{1}{2}$	"
0	35	35	1	"
+10	45	45	$\frac{1}{2}$	"
20	55	55	$\frac{1}{2}$ NE	"

PLATE: IIa-0 WITH STRIP ON PAPER IN SIDE WITH SLIDG ENTORS.

DRIVE RATE: 80 - STILL TOO SLOW.

MOON ~ 4 DAYS, WIND ~ $\frac{8}{10}$ MPH.

TIME: 3:00 - 4:00 U.T.

DEV: 10 MIN OF METAL SULFITE AT 68°F

RESULTS: FOUND A PIECE OF PAPER (WHITE CARDBOARD) STUCK TO EMUL. NEAR EDGE. REPEAT TEST. BEST POSITION IS 1 OR LESS - CONSISTENT WITH PLATE PUSHED AWAY BY THE PAPER.

TEST PLATE #6

AS ABOVE

TIME: 5:20 - 5:45 ($\delta = +60^{\circ}29'$, HA = 0:38E)

FOCUS

NE	SE	SW	GULLER	EXP.
-30°	5°	5°	2 MM SW	10 SEC.
-20	15	15	1.5	"
-10	25	25	1	"
0	35	35	0.5	"
+10	45	45	0.5 NE	"

DRIVE RATE: 90 - STILL TOO SLOW.

MOON: SET WIND ~ 8 MPH

RESULTS:

	-1	1	2 ⁶	
DOWN NE				UP
	0	1	2	
				SLIDE SIDE

IMAGE SIZE ~ 15 μ

TRY SE, SW = 15°, NE = 40° CCW WITH PAPER ON OTHER SIDE

TEST PLATE #7

AS ABOVE EXCEPT A STRIP OF PAPER IN PLATE HOLDER ON OPPOSITE SIDE FROM SLIDING ENTRANCE AND $\frac{1}{3}$ LENGTH AT NE END.

FIELD: d Person ($\delta = 49^{\circ}45'$; HA = 0:10 E)

FOCUS

NE	SE	SW	GULLER	EXP.
-60°	-5°	-5°	2 MM SW	10 SEC.
-50	15	5	1.5	"
-40	15	15	1	"
-30	25	25	0.5	"
-20	35	35	0.5 NE	"

TIME: 8:10 - 8:45 U.T.

RESULTS:

	1-2	4-5	5-7	
DOWN				UP
	3:	4:	5	

I.C. SE, SW = 35°; NE ~ -50°

PLATE BLEACHED FROM TOO LONG IN HYPO

TEST PLATE 8

10/19/58

FOCUS: -45° (NW), $+25^\circ$ (SE, SW)

REALLY: NB = OK BY PHOTOGRAPHS

SE = " " DOOR

SW = " " HOODING

BRIDGE DESIGN IN E-W DIRECTION WITH THE DOOR ON THE E SIDE.

POSITION OF STAR IN GUIDON CAP POSITION

FIELD: 0.4° W OF CROSS HAIR, 0.4° S

OF N EDGE OF FIELD: WITH GUIDING

SCREWS SET AT ZERO: 0.05° W, 0.45°

S OF N EDGE.

FIELD: γ CAS ($S = +60^\circ$, $HA = 0:46 E$)

MOON: 1st QUANTAR AT $\sim 5''$ H.A., WIND ~ 8 MPH

PLATE: IIa-D

GUIDON ON.

EXP. 2 MIN - 5:20 - 5:22 UT

RESULTS: FOCUS

GOOD	GOOD	GOOD
POOR	POOR	FAIR

FOCUS SERIES -

MOON SET, NO WIND

FIELD: PLEIADES $S = 24^\circ$, ($HA = \sim 0:53 E$)

TIME - 7:38, 7:02, 8:20

PLATE			FOCUS	SW	SW
			NW	SE	
9	3 SEC.		-55	+15	+15
"	10	"	-45	25	25
"	11	"	-35	35	35

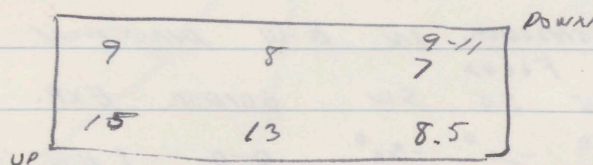
TEL. STILL NOT TRAILING FAST ENOUGH.

PHINEL SAYS DRIVE HAS A PULSING UTILITY OF ABOUT 20⁺ RANGES IN ABOUT 1 MIN.

RESULTS: PLATE 11 BROKEN IN PLATEHOLDEN

PITCH OF SCREW = $\frac{1}{16}'' = 1.5$ MM.

10° REV $\sim 4.3 \mu$



SUMMARY: POSITION OF FOCUS SCREWS COMPARED TO LAB (HORIZONTAL) RESULTS:

PLATE	S	HA.	UPPER END	LOWER END	Z
6	$+60^\circ$	$0:38 E$	15° CW 64μ	40° CCW	172 $25^\circ 18'$ $8^\circ 23'$
7	50	$0:40 E$	35° 150μ	50 215	$18^\circ 6'$
9-11	24	$0:53 E$	75° 301	75 301	$14^\circ 8'$
HOL			0	0	90°

I SUSPECT A SERIOUS FLEXURE EFFECT.

ZENITH FOCUS TEST 10/20/58

STAR AT $\delta = +31$ $\alpha = 22^h 30^m$

MOON AT 1ST QUARTER.

PLATE	NO	SE	SW	EXP.	TIME	H.A.
12	-30°	-30°	-30°	1 MIN.	3:39 UT	CLOUDY OUT

PLATES 13-18

10/22/58 UT.

COUNTERWEIGHTS (15^g) ADDED TO TUBES.

TEL. DRIVE: 40, 35

FIELD: $0^h 35^m$ $31^{\circ} 20'$ H.A. $0^{\circ} 25' E$

PLATEHOLDER IN E-W DIRECTION

PLATE	NO	SE	SW	GUIDER	EXP.	TIME	H.A.
13	-30°	-30°	-30°	0-0	1 MIN.	5:49 UT	0:15 E
14	0	0	0	"	"	6:01	0:00
15	+30	30	30	"	"	6:16	0:15 W

PLATE: T20-0

PLATEHOLDER: PAPER STRIP REMOVED

GUIDER: ON

MOON: ~ 10 DAYS

FIELD: $5^h 16^m$ $31^{\circ} 25'$

PLATE	NO	SE	SW	EXP.	TIME	H.A.
16	+30°	30	30	1 MIN.	7:03	3:40 E
17	0	0	0	"	7:22	3:23 E
18	-30	-30	-30	"	7:38	3:05 E

RESULTS

12.5	14.3	13-15 13
18	17.5	13.5

17.4	16.8	16-18 17
14.5	15	15.5

13.6	14.2	14
16.5	16	15.5

16-18 CONVERTED TO NUMBERING OF 13-15

EDGE DIFFERENCES:

5.5	3.2	0.5
2.9	1.8	1.5
4.2	2.5	1.0
542 μ	322 μ	129 μ

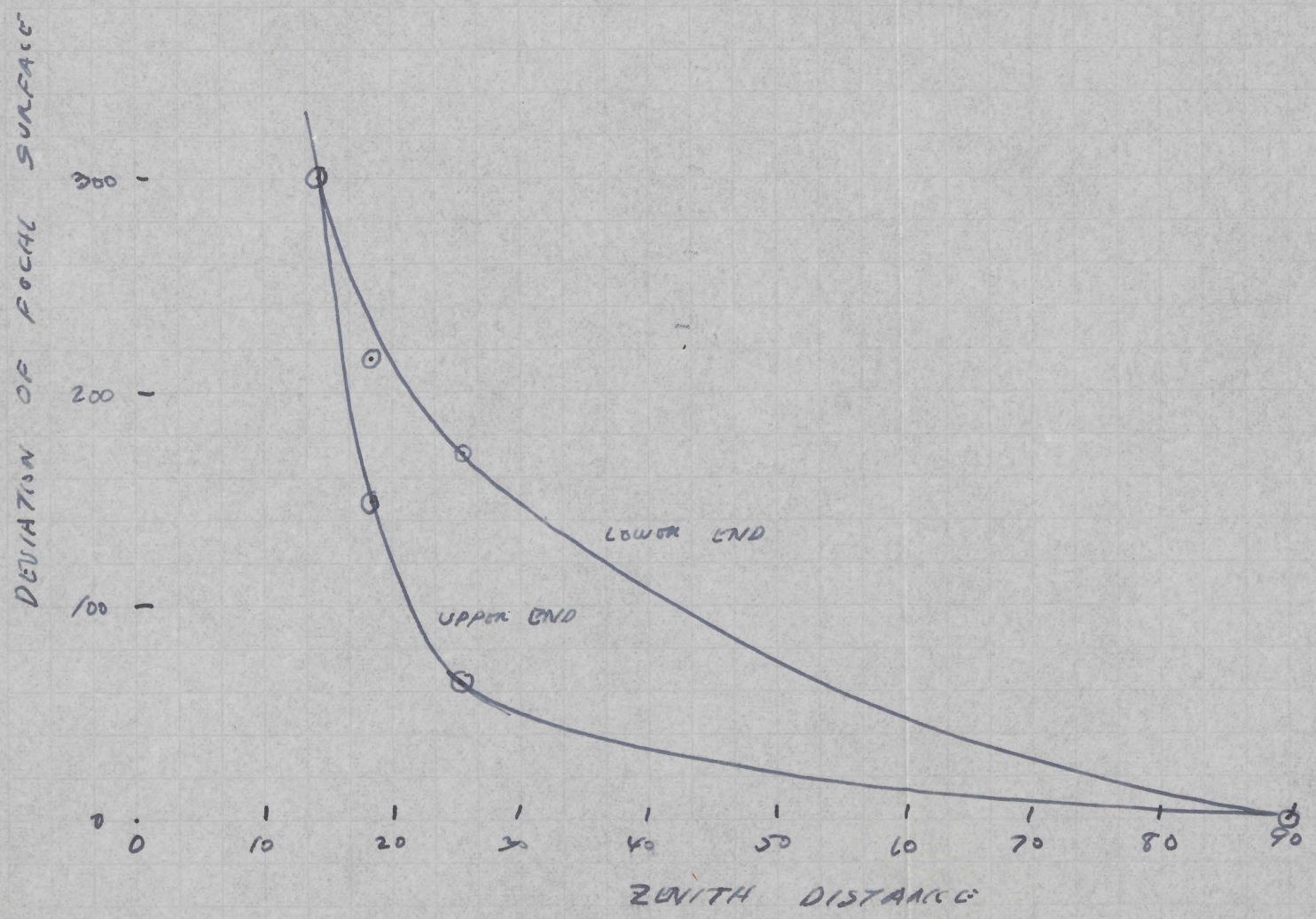
$\frac{1}{13\frac{1}{2}} \times$	40 μ	24 μ	9.5 μ
	.0017"	.0010"	.0007"

4X5 PAD PAPER THICKNESS = .003 $\frac{1}{4}$ "

BY
CHKD. BY
DATE

SUBJECT

SHEET NO. OF
JOB NO.



PLATES 19-

10/23/58 UT.

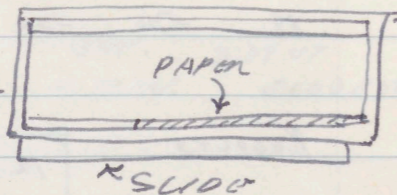
PLATEHOLDER: STRIP OF .003 1/4" THICK

PAPER ALONG 2/3 OF LENGTH OF SLIDE

WITH THE SLIDE ENTRIES

LOOKING DOWN OVER

THE OPEN PLATEHOLDER



PLATES: IIa-0

FIELD: $\lambda = 23^{\text{H}} 32^{\text{M}} \text{S} = 38^{\circ} 05'$

DRIVE RATE: 35

MOON: ~ 11 DAYS

Focus			PLATE	EXP	TIME	N.A.
NE	SE	SW				
-40	-40	-40	19	1 MIN.	3:45	1:10E
-20	-20	-20	20	"	4:21	0:33E CLOUDS
0	0	0	21	"	4:55	0:00 "
+20	+20	+20	22		CLOUDED OUT	

