

## BOOKING SHEET FOR BOYA RANGE BARCODE STAFF CALIBRATION

- 1) LEVEL BUBBLE CHECKED? (Circle one) YES / NO ADJUSTED? YES / NO  
2) STAFF BUBBLE CHECKED? (Circle one) YES / NO ADJUSTED? YES / NO  
3) COLLIMATION TEST OF DIGITAL LEVEL

See Boya Range plan for location of collimation test spikes 1-4  
Use the adjusted instrument collimation constant derived from collimation test done below.

### 4) RANGE OBSERVATION DETAILS

See Boya Range plan for location of Pillar MV 83 and Pins 1-21

Set digital level to record most precise readings with multiple observations, means and standard deviations if possible. Shade instrument.

Book field information in these tables to complete documentation for calibration.

Observe a BS on Pin 1, IS on Pins 2-20 and a FS on Pin 21 for 1 complete set for a 4 m staff.  
Observe a BS on Pin 1, IS on Pins 2-14 and a FS on Pin 15 for 1 complete set for a 3 m staff.

If instrument can't mean multiple observations, do at least 3 complete sets for redundancy.

DATE & TIME	22/09/2021 8:35AM.		
<b>INSTRUMENT DETAILS</b>			
MAKE/MODEL	LEICA LS 15		
SERIAL #	SN 702272.		
<b>STAFF DETAILS</b>			
MAKE/MODEL	LEICA GPCL 3.		
SERIAL#	SN 26296.		
MATERIAL	FIBREGLASS / WOOD / <u>INVAR</u> / .....	FIBREGLASS / WOOD / INVAR / .....	FIBREGLASS / WOOD / INVAR / .....
LENGTH OF STAFF	<u>3 m</u> / 4 m / 5 m / .....	3 m / 4 m / 5 m / .....	3 m / 4 m / 5 m / .....
COEFFICIENT OF EXPANSION OF STAFF (If known)			
<b>COLLIMATION TEST</b>			
COLLIMATION DIFFERENCE	-2.6" OLD: -9.0" NEW: -11.7" RETICLE 1.62968.		
ACCEPT/STORE?	<u>YES</u> / NO	YES / NO	YES / NO
<b>RANGE OBSERVATION DETAILS</b>			
# OBSERVATIONS FOR MEAN (Min. of 5 observations)	10		
NUMBER OF SETS	1		
START TIME & TEMPERATURE	9:10 AM 23.0°C	9:34 AM 24.1°C	
END TIME & TEMPERATURE	9:30 AM 25.0°C	9:55 AM 26.3°C	

PIN# 1

pin# 1-15

pin # 7-21.

I certify that the above observations were made by me at the Boya barcode staff calibration range.

SURVEYOR..... V.UNG  
(Name & Signature)

DATE..... 22/9/2021.

## BOOKING SHEET FOR BOYA RANGE BARCODE STAFF CALIBRATION

- 1) LEVEL BUBBLE CHECKED? (Circle one) YES / NO      ADJUSTED? YES / NO
- 2) STAFF BUBBLE CHECKED? (Circle one) YES / NO      ADJUSTED? YES / NO
- 3) COLLIMATION TEST OF DIGITAL LEVEL

See Boya Range plan for location of collimation test spikes 1- 4

Use the adjusted instrument collimation constant derived from collimation test done below.

### 4) RANGE OBSERVATION DETAILS

See Boya Range plan for location of Pillar MV 83 and Pins 1- 21

Set digital level to record most precise readings with multiple observations, means and standard deviations if possible. Shade instrument.

Book field information in these tables to complete documentation for calibration.

Observe a BS on Pin 1, IS on Pins 2-20 and a FS on Pin 21 for 1 complete set for a 4 m staff.

Observe a BS on Pin 1, IS on Pins 2-14 and a FS on Pin 15 for 1 complete set for a 3 m staff.

If instrument can't mean multiple observations, do at least 3 complete sets for redundancy.

DATE & TIME	22/09/2021	10.26AM.	
<b>INSTRUMENT DETAILS</b>			
MAKE/MODEL	LEICA LS 15		
SERIAL #	SN 702272.		
<b>STAFF DETAILS</b>			
MAKE/MODEL	<del>INVAR</del> GPCL3 (LEICA)		
SERIAL#	SN 79918.		
MATERIAL	FIBREGLASS / WOOD / <u>INVAR</u> / .....	FIBREGLASS / WOOD / INVAR / .....	FIBREGLASS / WOOD / INVAR / .....
LENGTH OF STAFF	<u>3 m</u> / 4 m / 5 m / .....	3 m / 4 m / 5 m / .....	3 m / 4 m / 5 m / .....
COEFFICIENT OF EXPANSION OF STAFF (If known)			
<b>COLLIMATION TEST</b>			
COLLIMATION DIFFERENCE	- 2.9" OLD -11.7" NEW -14.6. RETICLE 1.65/68		
ACCEPT/STORE?	<u>YES</u> / NO	YES / NO	YES / NO
<b>RANGE OBSERVATION DETAILS</b>			
# OBSERVATIONS FOR MEAN (Min. of 5 observations)	10		10
NUMBER OF SETS	1		1
START TIME & TEMPERATURE	10:39AM 28.0°C.	11:05AM 29.5°C	
END TIME & TEMPERATURE	11:01AM 27.8°C.	11:31AM 29.2°C	

pin#1-15

pin#7-21

I certify that the above observations were made by me at the Boya barcode staff calibration range.

V.UNG.  
SURVEYOR.....  
(Name & Signature)

22/9/2021.  
DATE.....