

BOOKING SHEET & CHECKLIST

BOYA RANGE & BARCODED STAFF CALIBRATION

Job No - 20252223A

Date - 24/3/25

Time -

Instruments Required

- Digital Level, Tripod, Weather Station (for Temperature and Pressure)
- Level Staves, Change Plate (*to be used in Step 4a only*)
- Booking Sheets & Boya Plan
- Boya Entry (*to be used in Step 4a only*)

Procedures & Checklist

Step 1	ACCLIMATISATION <ul style="list-style-type: none"> Allow the instrument to acclimatise to the ambient temperature (This also applies to the two-peg-test). Wait approximately 2-5 minutes after setting up the instruments. When working under strong sunlight, use an umbrella to shield the Digital Level and the tripod, esp. for Step 4a-b. 	Acclimatised Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Step 2	VERTICALITY TEST Perform a verticality test on the Barcoded Staff to ensure that the levelling staff is perfectly vertical and the level bubble is centered. <ul style="list-style-type: none"> This can be done using a Total Station Adjust the level bubble if the staff does not align with the level bubble. 	Staff verticality test Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Level bubble adjusted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Step 3	COLLIMATION TEST Check the Collimation Error (or line-of-sight) using the two-peg test <ul style="list-style-type: none"> See Boya Range plan for location of collimation test spikes 1- 4 Use the adjusted instrument collimation constant derived from collimation test. 	Collimation test Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Accept Error Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Step 4a	RANGE CALIBRATION See Boya Range plan for location of Pillar MV 83 and Pins 1- 21 Use a 3-metre Invar Staff Set 1 - Observe a BS on Pin 1, IS on Pins 2-14 and a FS on Pin 15. Record temperatures at the beginning and end of Set 1. Set 2 - Observe a BS on Pin 7, IS on Pins 8-20 and a FS on Pin 21. Record temperatures at the beginning and end of Set 2.	<i>Note – This step is applicable to Landgate only.</i> Minimum no. of obs. set to 10 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Step 4b	BARCODED STAFF CALIBRATION See Boya Range plan for location of Pillar MV 83 and Pins 1- 21 For a 3-metre Invar Staff Set 1 - Observe a BS on Pin 1, IS on Pins 2-14 and a FS on Pin 15. Record temperatures at the beginning and end of Set 1. Set 2 - Observe a BS on Pin 7, IS on Pins 8-20 and a FS on Pin 21. Record temperatures at the beginning and end of Set 1. For a 4-metre Invar Staff Set 1 - Observe a BS on Pin 1, IS on Pins 2-20 and a FS on Pin 21. Record temperatures at the beginning and end of Set 1.	Minimum no. of obs. set Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>Note - If the instrument cannot mean multiple observations, measure at least 3 complete sets for redundancy.</i>
Step 5	DOWNLOAD DATA Download the level data to process.	Data download Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

BOOKING SHEET & CHECKLIST

BOYA RANGE & BARCODED STAFF CALIBRATION

Job No - 20252231

Date - 24/3/25

Time -

INSTRUMENT DETAILS			
MAKE/MODEL (Digital Level)		MAKE/MODEL (e.g., Total Station)	
SERIAL #	702212	SERIAL #	702212
STAFF DETAILS			
MAKE/MODEL	259 Leica		
SERIAL#	26909	79918	209
STAFF MATERIAL (Tick one)	Fibreglass <input type="checkbox"/> Wood <input type="checkbox"/> Invar <input checked="" type="checkbox"/>	Fibreglass <input type="checkbox"/> Wood <input type="checkbox"/> Invar <input checked="" type="checkbox"/>	Fibreglass <input checked="" type="checkbox"/> Wood <input type="checkbox"/> Invar <input type="checkbox"/>
STAFF LENGTH (Tick one)	3m <input checked="" type="checkbox"/> 4m <input type="checkbox"/> 5m <input type="checkbox"/>	3m <input checked="" type="checkbox"/> 4m <input type="checkbox"/> 5m <input type="checkbox"/>	3m <input type="checkbox"/> 4m <input checked="" type="checkbox"/> 5m <input type="checkbox"/>
COEFFICIENT OF EXPANSION OF STAFF (If known)			
COLLIMATION TEST			
COLLIMATION DIFFERENCE	-15.9" (-1.2")	17.3" (33.1")	
RANGE OBSERVATION DETAILS			
# OF OBSERVATIONS PER MEASUREMENT (Min. of 5)			
NUMBER OF SETS	26909		
SET 1 - START & END TIME & TEMPERATURES	Start time/°C - 9:32 AM 31.5°C End time/°C - 10:07 AM 35.2°C	Start time/°C - 10:13 AM 34.6°C End time/°C - 10:37 AM 36.1°C	Start time/°C - 12:34 PM 38.5°C End time/°C - 12:46 PM 39.5°C
SET 2 - START & END TIME & TEMPERATURES	Start time/°C - 11:12 AM 36.2°C End time/°C - 11:49 AM 38.2°C	Start time/°C - 11:53 AM 38.4°C End time/°C - 12:23 PM 40.0°C	Start time/°C - End time/°C -

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

SURVEYOR.....
(Name & Signature)

DATE.....