Job Identification: TS30 20190501

EDM Calibration Certificate

This report has been generated by program Baseline Version 6.1.0.3, developed by the Western Australian Land Information Authority.

Use of this application elsewhere should rely on baseline distances certified by the relevant authority.

Observation Date:	1/05/2019	**Computation Date:**	1/05/2019
Instrument Operator:	T Castelli	**Computation Time:**	1:33:31 PM

Equipment Details

Instrument Owner:	Landgate		
Owner Address:	Midland	**Reflector Make:**	Leica
EDM Instrument Make:	Leica	**Reflector Model:**	GPH1P
EDM Instrument Model:	TS 30	**Serial Number:**	100
EDM Serial Number:	364182	**Reflector Constant:**	0 mm

Baseline Details

Name Curtin 2017 **Location:** Kent Street Bentley

Authority: Landgate **Last calibration Date:** 23/08/2017

Authority Address: Midland Square Midland WA

This baseline consists of known lengths, which are the certified distances between the pillars of the baseline. All certified distances are on the same horizontal plane and on the same vertical plane running through the first and last stations.

The baseline has been calibrated in accordance with the NATA requirements which include the requirements of ISO/IEC 17025 - Calibration and are traceable to the Australian National Standards of Measurement in accordance with Section 10 of the National Measurement Act.

Instrument Correction (IC) in mm (to be added to the instrument reading)

IC = -0.47 - 0.00065 L

Where L = distance in metres

The reflector constant has been entered into the instrument

CYCLIC ERRORS ARE INSIGNIFICANT

Calibration Parameters	Value	Uncertainty(95%)
Index	-0.47 mm	± 0.67 mm
Scale	(-0.65×10^{-3} L) mm	±(1.68×10^{-3} L) mm
	where L = length in metres	

The instrument correction has been determined from measurements in the range of 143 to 540 metres

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Uncertainty of the Instrument Correction

Minimum standard for the uncertainty of calibration of an EDM instrument is ±(4.00 + 20.00 x 10^{-3} L) mm as described in terms of Recommendation No.8 of the Working Party of the National Standards Commision on the calibration of EDM Equipment of 1 February, 1983. All uncertainties are specified at the 95 % confidence level. A coverage factor of 2 has been used for the uncertainty computations.

Uncertainty of instrument correction: ±(0.67 + 1.68 x 10^{-3} L) mm where L = length in metres

Distance (metres)	Instrument Uncertainty (mm)	Minimum Standard (mm)	Comparison Test
50	±0.76	±5.00	PASS
100	±0.84	±6.00	PASS
200	±1.01	±8.00	PASS
300	±1.18	±10.00	PASS
400	±1.34	±12.00	PASS
500	±1.51	±14.00	PASS

This instrument satisfies the National Measurement Institute standards.

First Velocity Correction (Atmospheric Correction)

The atmospheric correction dial of the EDM instrument was set for all observations. Therefore the observed distances have already been corrected for atmospheric effects.

The baseline has been calibrated in accordance with the NATA requirements which include the requirements of ISO/IEC 17025 - Calibration and are traceable to the Australian National Standards of Measurement in accordance with Section 10 of the National Measurement Act.

The calibration of the EDM Instrument has been carried out according to Work Instructions 'CAL-03', of the Quality Management System (ISO 9001 Certification) at the Western Australian Land Information Authority.

Data entry by: T. CASTELLI

Position: GEODESIST.

Signature: A. Castelli

Date: 1/5/2019.

Results checked by:

Position: LICENSED SURVEYOR

Approved Signatory: D. MARTIN

Date: 1 MAY 2019