

ALBERTA TRANSPORTATION AND
ECONOMIC CORRIDORS GRMP
NORTH CENTRAL (ATHABASCA AND FORT
McMURRAY DISTRICTS)
INSTRUMENTATION MONITORING- SPRING 2024



Site Number	Location	Name	Hwy	km
NC017B	HWY 63:12 L1 14.902	Poplar Creek Cut Slope (Supertest Hill)	63:12	Km 14.9
Legal Description: 2-25-91-10 W4		UTM Co-ordinates		
		12U E 471521.39	N	6308392.60

Current Monitoring:	9-June-2024	Previous Monitoring	28-May-2023
Instruments Read By:	Mr. Niraj Regmi, G.I.T and Mr. Nixon Mationg of Thurber		

Instruments Read During This Site Visit			
Slope Inclinometers (SIs): SI1 through SI4	Pneumatic Piezometers (PN): N/A	Vibration Wire Piezometers (VW): N/A	Standpipe Piezometers (SP): N/A
Load Cell (LC): N/A	Strain Gauges: N/A	SAAs: N/A	Others:

Readout Equipment Used			
Slope Inclinometers: Two RST probes with 2-ft. wheelbases and RST handheld readouts	Pneumatic Piezometers:	Vibration Wire Piezometers:	Standpipe Piezometers:
Load Cell:	Strain Gauges:	SAAs:	Others:
Notes: - A site plan showing instrument locations is included in Appendix A. - SIs plots with A and B directions are presented in Appendix A and summarized in Table NC017B-1, attached. Where movement was recorded, the resultant (plot X) and the rate of movement plot are also included.			

Discussion	
Zones of New Movement:	None
Interpretation of Monitoring Results:	Slope inclinometers SI-1 and SI-2 continued to show no discernible movement. SI-3 showed no discernible movement over 42.5 m to 46.2 m depth since the spring of 2023 readings. SI-4 showed no discernible movement over 37.6 m to 41.3 depth since the spring of 2023 readings.
Future Work:	The instruments should be read again in the spring of 2025.
Instrumentation Repairs:	No instrument repairs are required at this time.
Additional Comments:	

Attachments:	• Table NC017B-1 Spring 2024 – HWY 63:12 Supertest Hill, Slope Inclinometer Instrumentation Reading Summary • Statement of Limitations and Conditions • APPENDIX A - NC017B-1 SPRING 2024 ○ Field Inspector's report ○ Site Plan Showing Approximate Instrument Locations (Drawing No. 32122-NC017B) ○ SI Reading Plots
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We trust this report meets your requirements at present. If you have any questions, please contact the undersigned at your convenience.

Yours very truly,
Thurber Engineering Ltd.
Tarek Abdelaziz, Ph.D., P. Eng.
Partner | Senior Geotechnical Engineer

Lucas Green, P.Eng.
Geotechnical Engineer

Table NC017B-1: Spring 2024 – Hwy 63:12 Supertest Hill Slope Inclinator Instrumentation Reading Summary

Date Monitored: June 8, 2024

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AND DEPTH OF MOVEMENT TO DATE (mm)	MAXIMUM RATE OF MOVEMENT (mm/yr)	CURRENT STATUS OF SI	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	CURRENT RATE OF MOVEMENT (mm/yr)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/yr)
SI-1	Jun. 5, 2001	No discernible movement	N/A	Operational	May 28, 2023	N/A	N/A	N/A
SI-2	Jun. 7, 2001	No discernible movement	N/A	Operational	May 28, 2023	N/A	N/A	N/A
SI-3	Jun. 7, 2001	18.1 over 42.5 m to 46.2 m depth in 108° direction	81.7 mm/yr in April 2000	Operational	May 28, 2023	No Discernible Movement	No Discernible Movement	-1.1
SI-4	Jun. 7, 2001	10.8 over 37.6 m to 41.3 m depth in 110° direction	219.2 mm/yr in April 2000	Operational	May 28, 2023	No Discernible Movement	No Discernible Movement	-0.3
SI-5	Jun. 7, 2001	41.4 over 9.9 m to 13.0 m depth in 97° direction (elev. 290 m)	28.4 mm/yr in May 2000	Sheared off at 12.8 m depth	May 21, 2004	N/A	N/A	N/A
SI-5R (Replacement for SI5)	Sept. 14, 2006	21.6 over 11.3 m to 13 m depth in 146° direction	13.7 mm/yr in Oct 2009	Sheared off at 12.0 m depth	Sept. 20, 2011	N/A	N/A	N/A
SI-6	Jun. 7, 2001	24.7 over 21.5 m to 22.7 m depth in 45° direction	19.1 mm/yr in Apr. 2000	Broken, needs to be repaired	October 7, 2008	N/A	N/A	N/A

Drawing 32122-NC017B in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

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All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

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3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

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5. INTERPRETATION OF THE REPORT

- a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.
- c) Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to Thurber immediately so that Thurber can address potential conflicts.
- d) Construction Services: During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions in order to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RELEASE OF POLLUTANTS OR HAZARDOUS SUBSTANCES

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**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS GRMP (CON0022163)
NORTH CENTRAL (ATHABASCA AND FORT McMURRAY DISTRICTS)
INSTRUMENTATION MONITORING RESULTS**

SPRING 2024

**APPENDIX A
DATA PRESENTATION AND SITE PLANS**

SITE NC017B: HWY 63:12 SUPERTEST HILL

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
NORTH CENTRAL REGION - ATHABASCA AND FORT McMURRAY DISTRICTS
INSTRUMENTATION MONITORING FIELD SUMMARY (NC017B)
SPRING 2024**

Location: Poplar Creek Cut Slope (HWY 63:12 L1 14.902) File Number: 32122 Probe: RST SET 5R and 8R Cable: RST SET 5R and 8R
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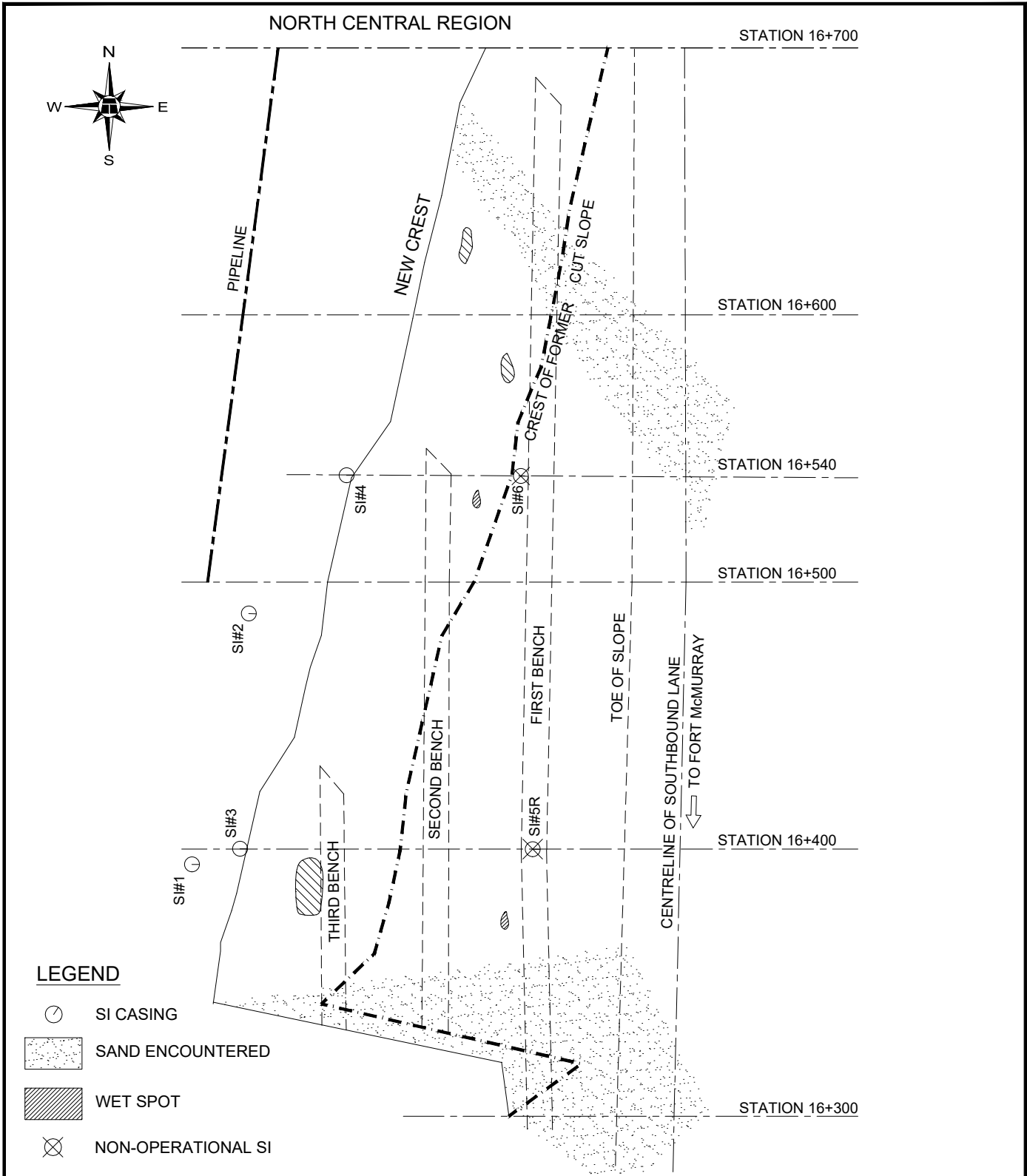
Readout: Casing Diameter: 2.75" Temp: 12 Read by: NRM/NKR
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SLOPE INCLINOMETER (SI) READINGS

SI#	GPS Location (UTM 12)		Date	Stickup (m)	Depth from top of casing (ft)	Azimuth of A+ Groove degree	Current Bottom Depth Readings				Probe/ Reel #	Size (")	Remarks
	Easting (m)	Northing (m)					A+	A-	B+	B-			
SI-1	471521.39	6308392.60	09-Jun-24	0.57	77 to 3	15	1086	-1077	-1003	1003	5R/5R	2.75	Read with 1 ft extension
SI-2	471539.16	6308516.15	09-Jun-24	0.77	77 to 3	95	303	-289	-554	552	8R/8R	2.75	Read with 1 ft extension
SI-3	471538.53	6308423.43	09-Jun-24	0.44	196 to 2	45	975	-962	-501	497	8R/8R	2.75	
SI-4	471573.43	6308577.81	09-Jun-24	0.47	184 to 2	61	380	-359	670	-672	5R/5R	2.75	

INSPECTOR REPORT

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ALL INFORMATION BASED ON EBA DRAWING

**NORTH CENTRAL
(ATHABASCA AND FORT McMURRAY DISTRICTS)
NC017B - HWY 63:12 SUPERTEST HILL
SITE PLAN SHOWING APPROXIMATE
INSTRUMENT LOCATIONS**

DWG No. 32122-NC17B

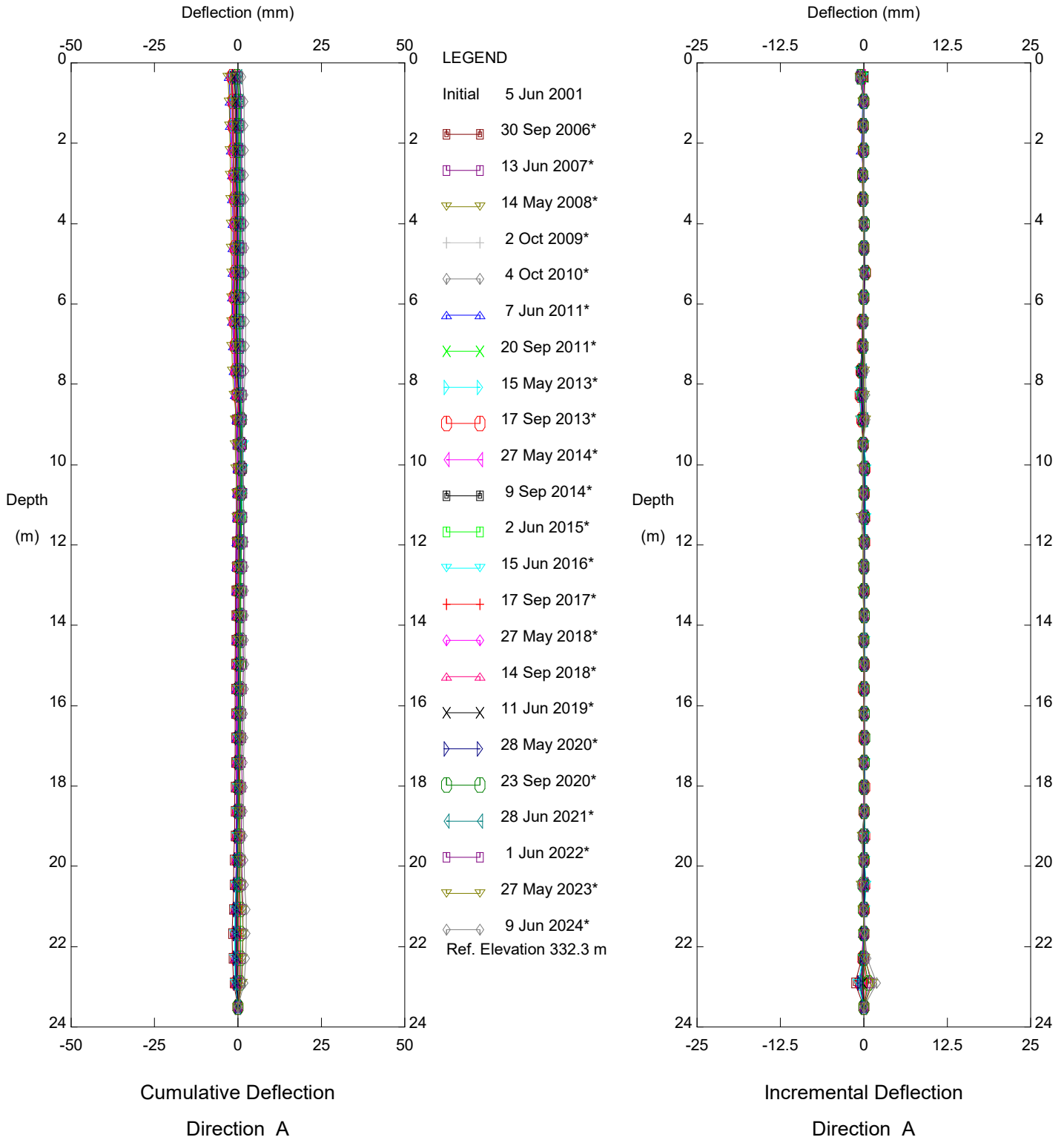
Alberta

DRAWN BY	ML
DESIGNED BY	BWN
APPROVED BY	TSA
SCALE	N.T.S.
DATE	JULY 2018
FILE No.	32122



THURBER ENGINEERING LTD.

Thurber Engineering Ltd.

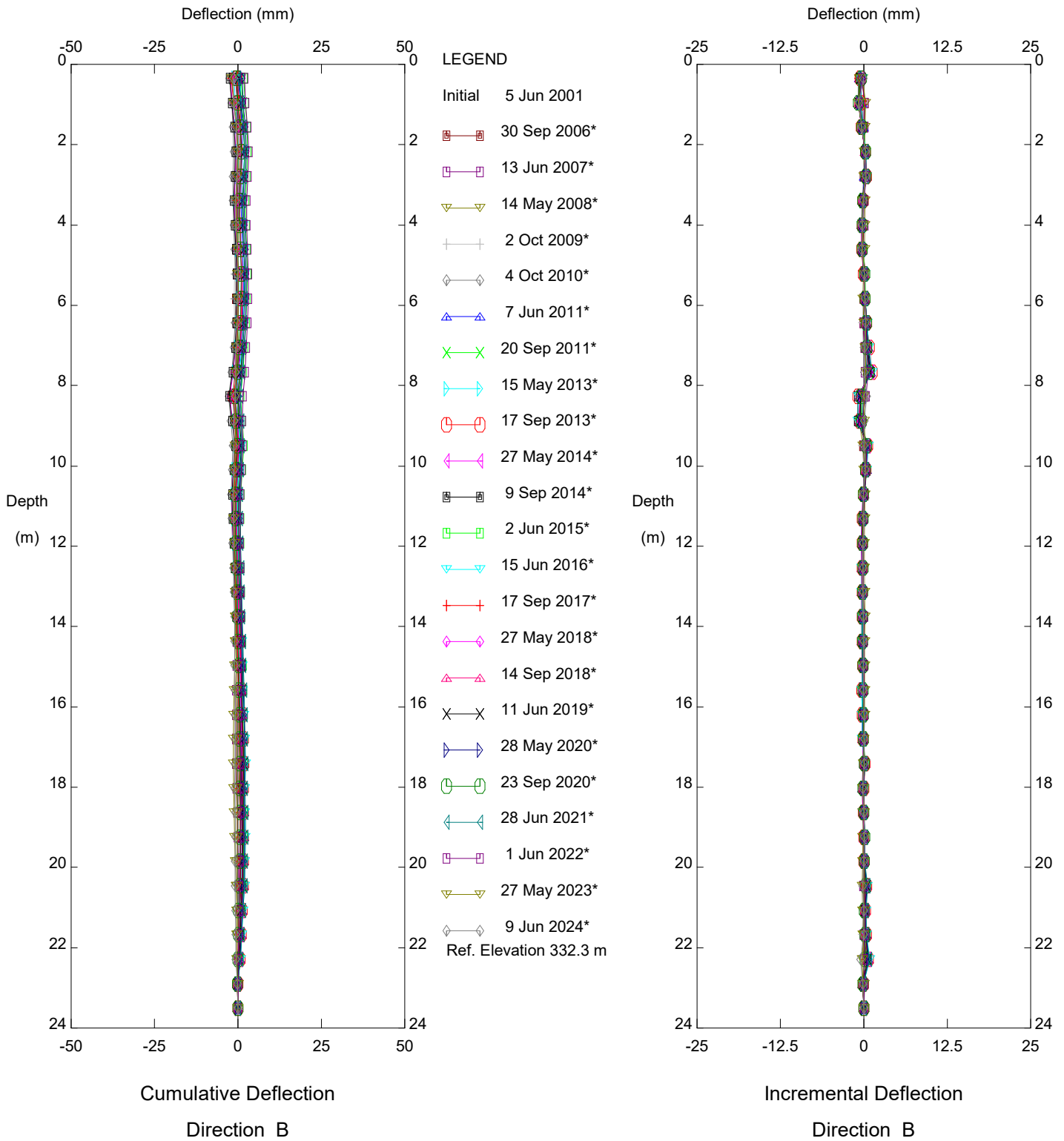


Hwy 63:12 Supertest Hill (NC017B), Inclinometer SI-1

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Sets marked * include zero shift and/or rotation corrections.

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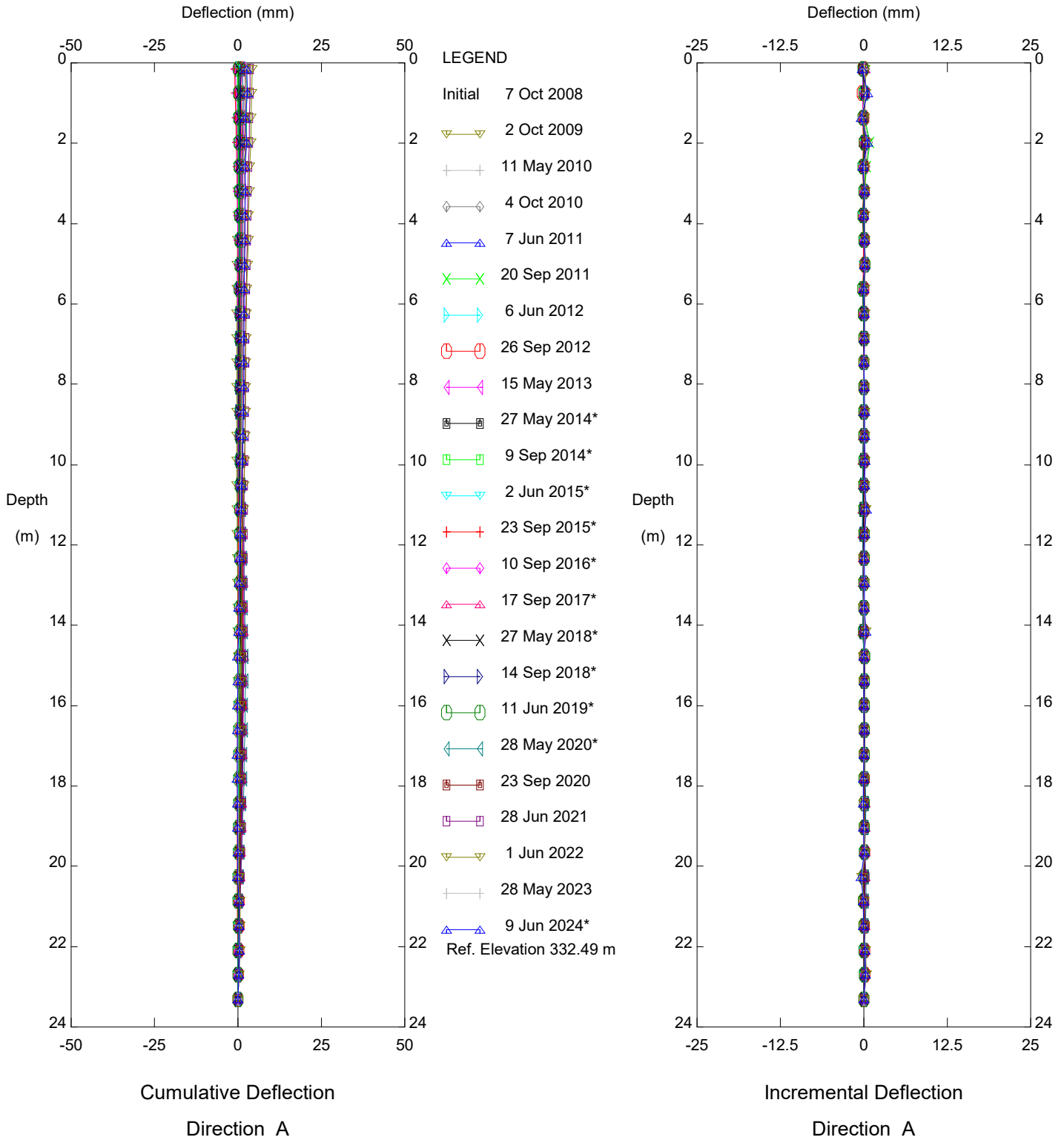


Hwy 63:12 Supertest Hill (NC017B), Inclinometer SI-1

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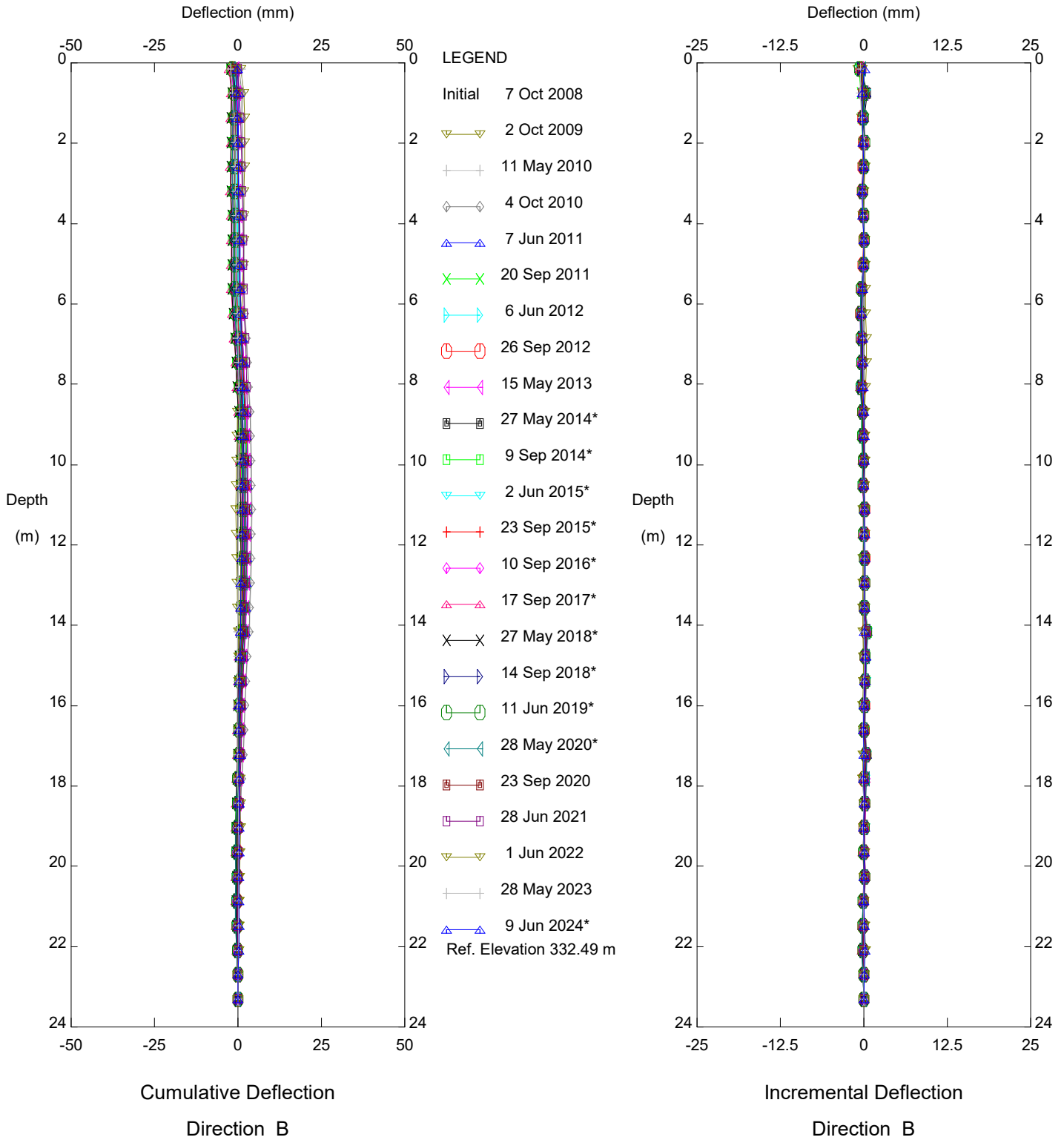


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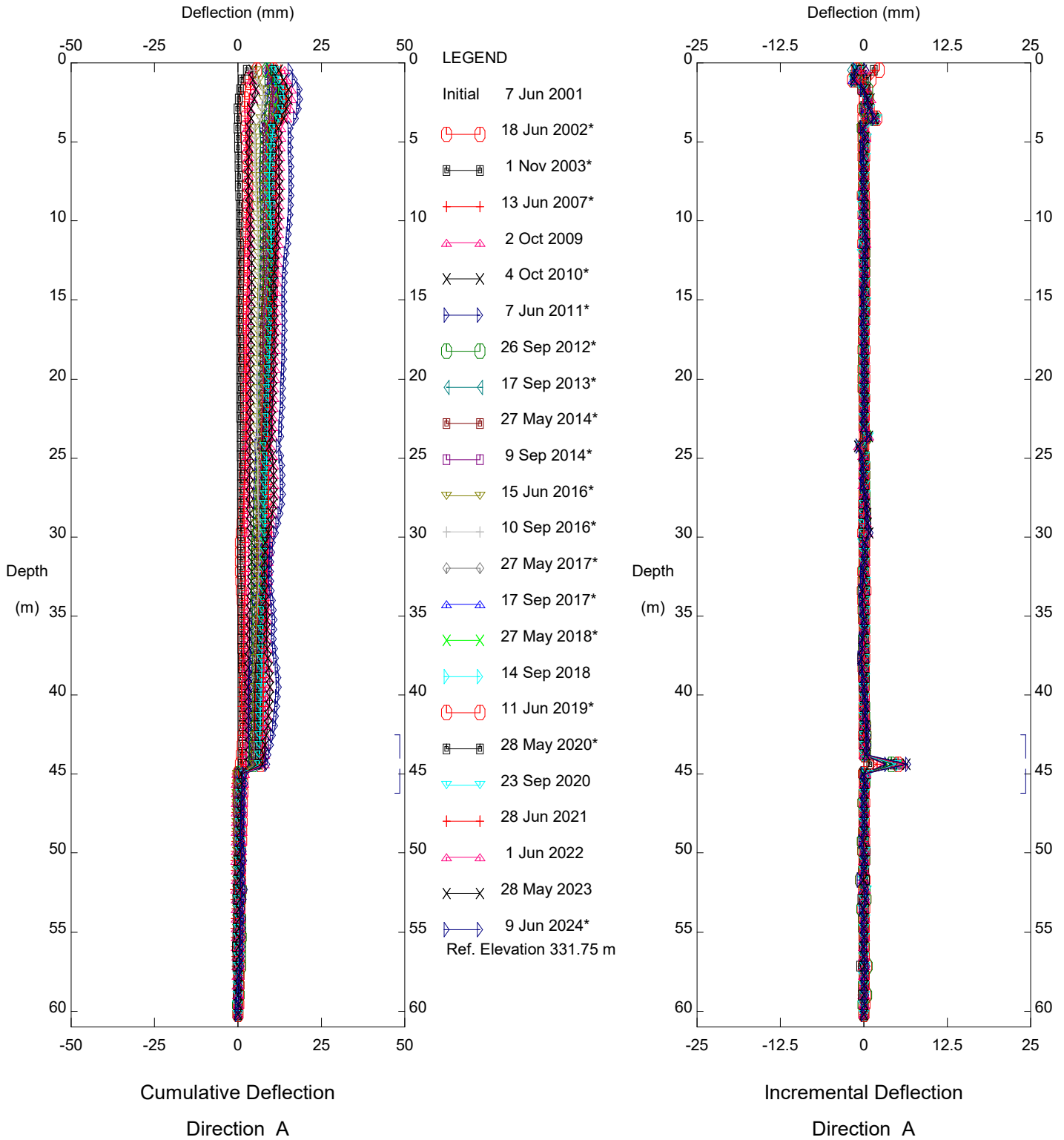


Hwy 63:12 Supertest Hill (NC017B), Inclinometer SI-2

Alberta Transportation

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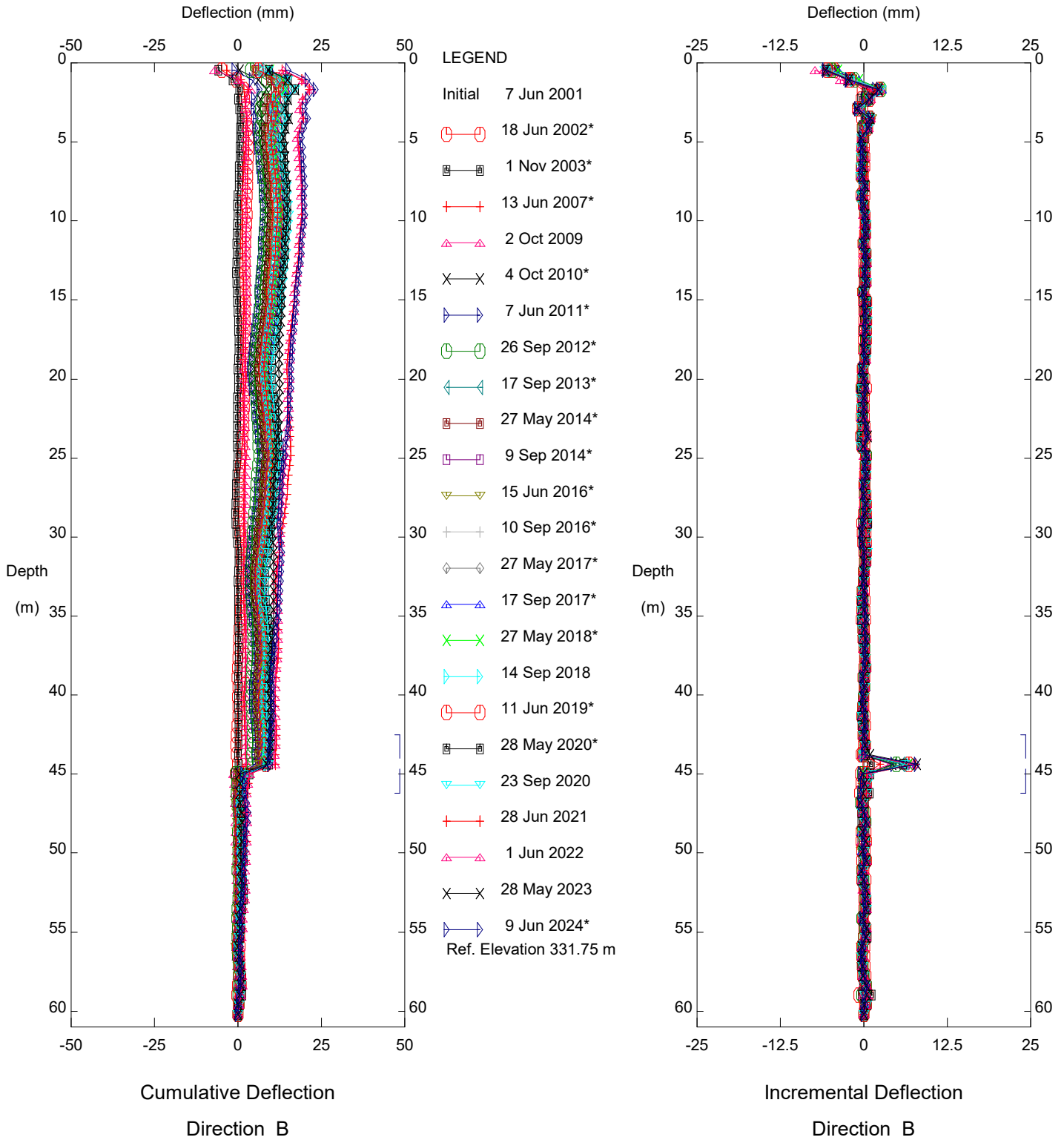


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Alberta Transportation

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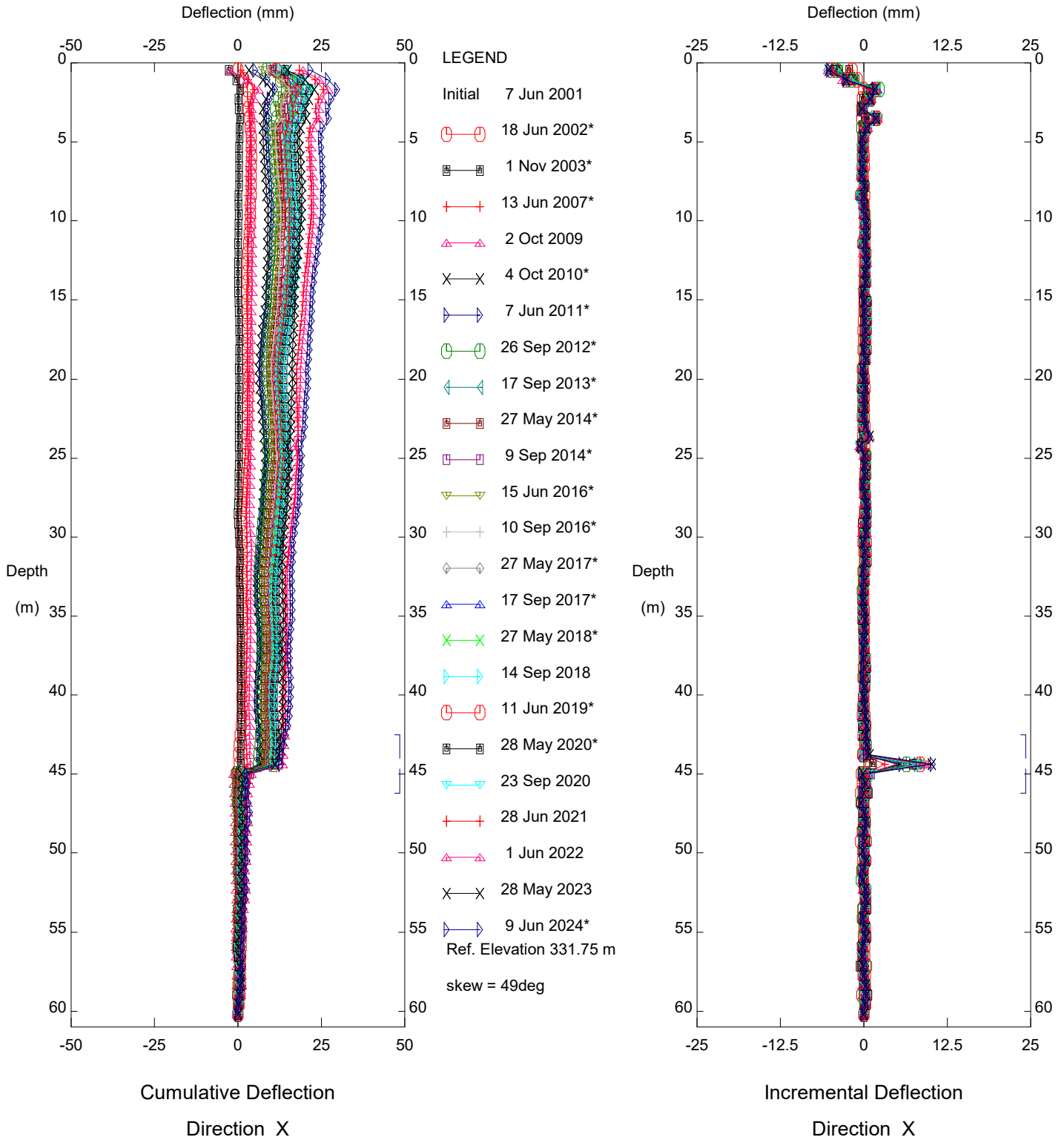


Hwy 63:12 Supertest Hill (NC017B), Inclinometer SI-3

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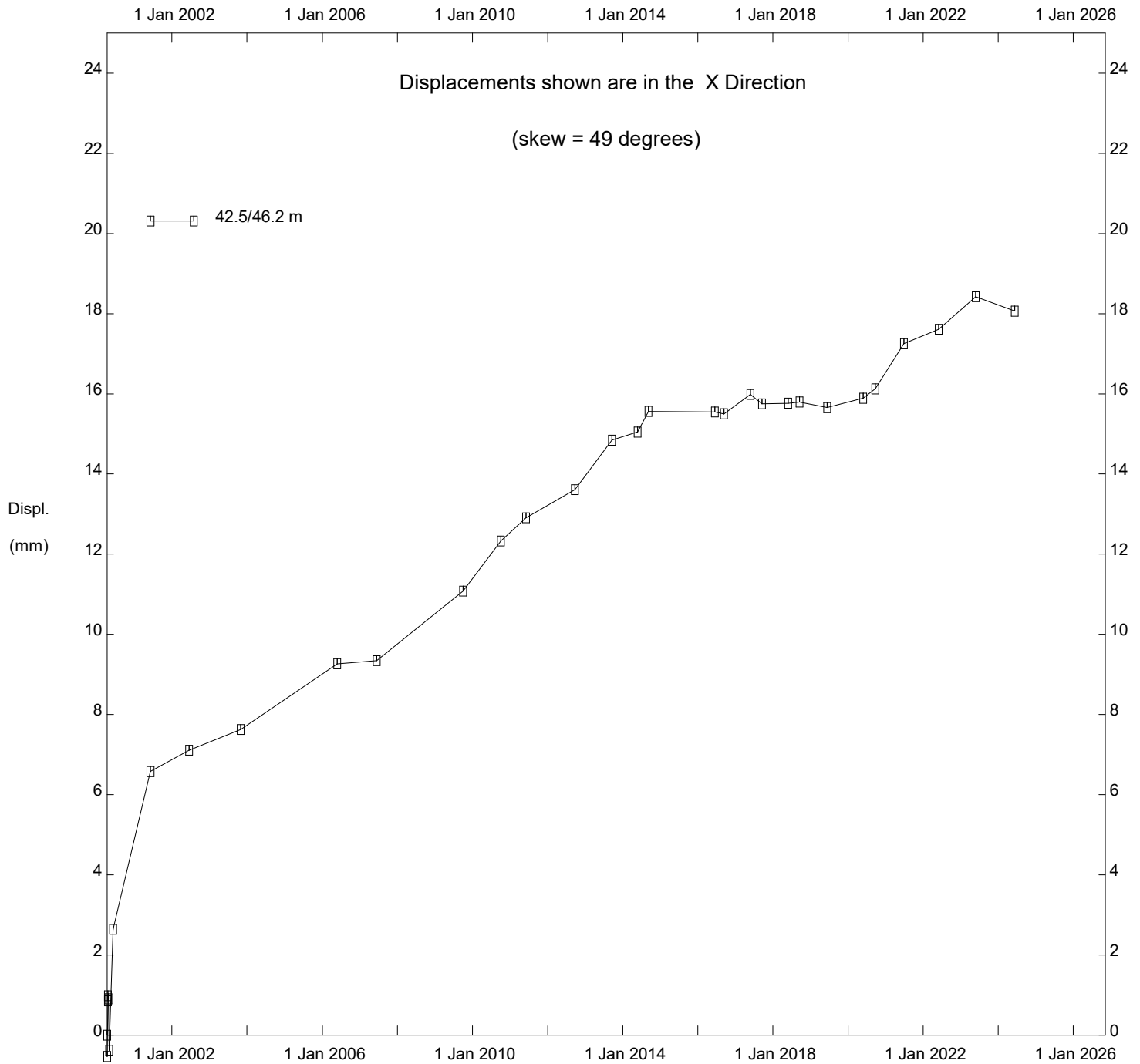


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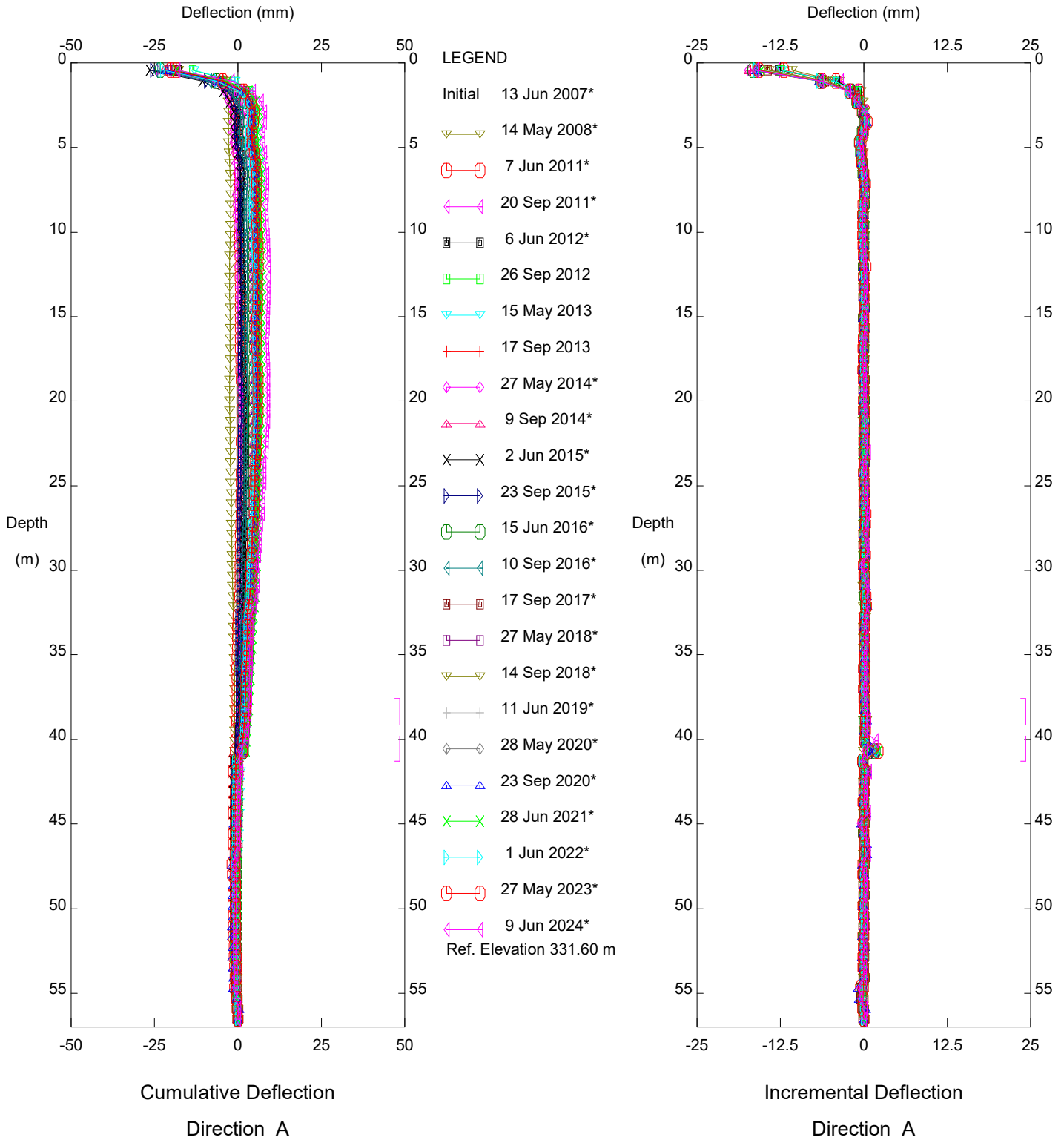
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Hwy 63:12 Supertest Hill (NC017B), Inclinator SI-3

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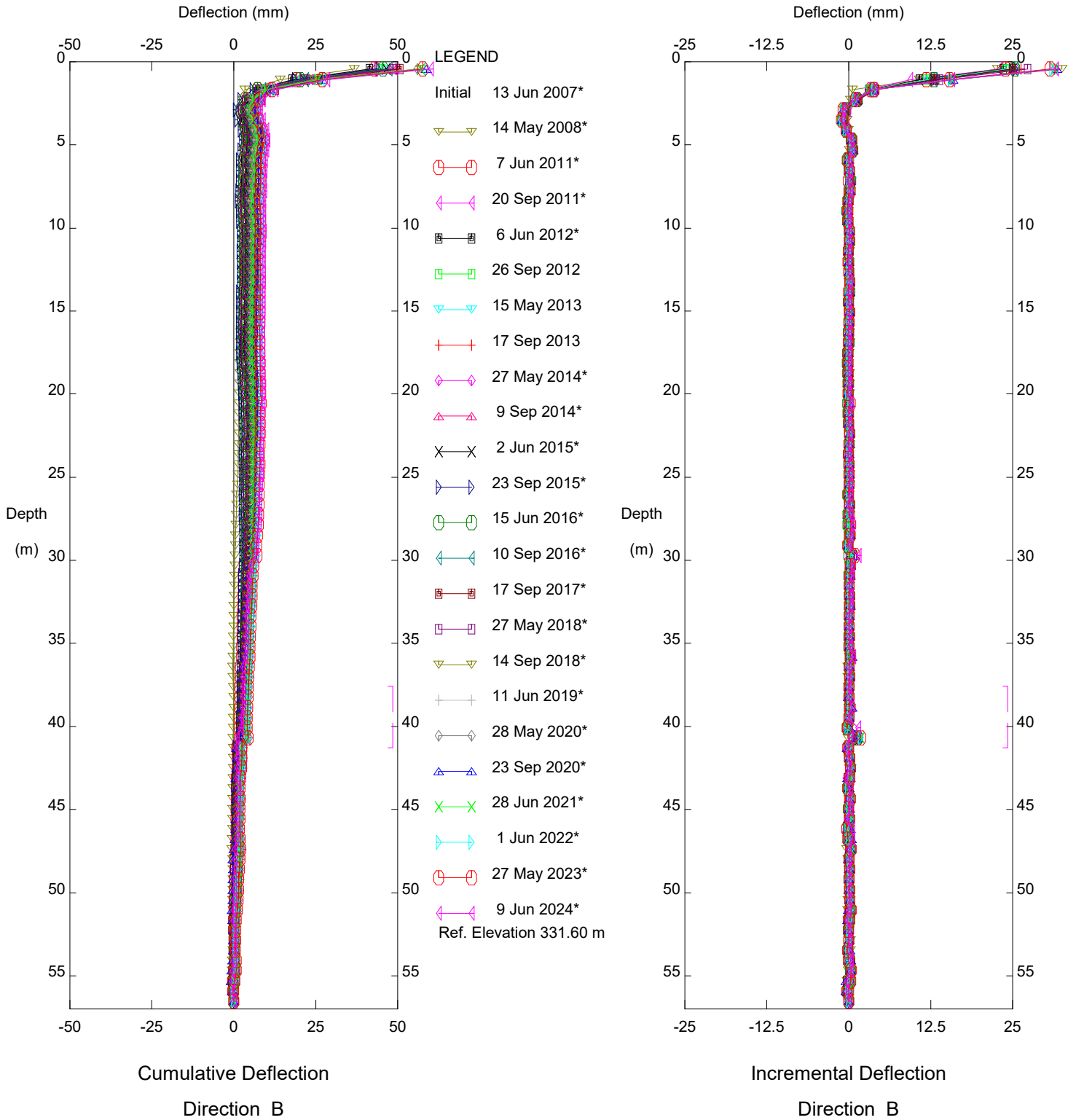


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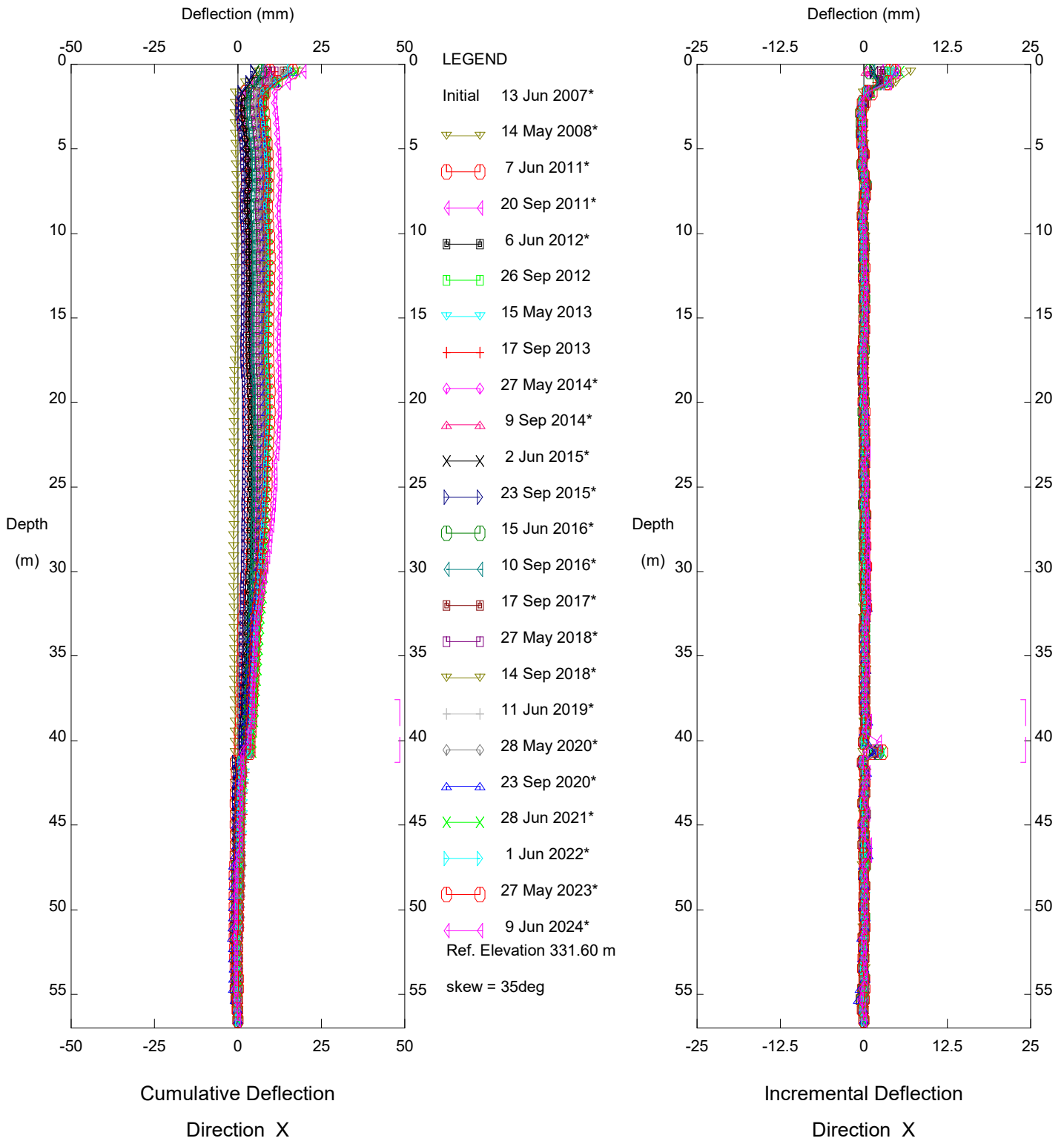


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Alberta Transportation

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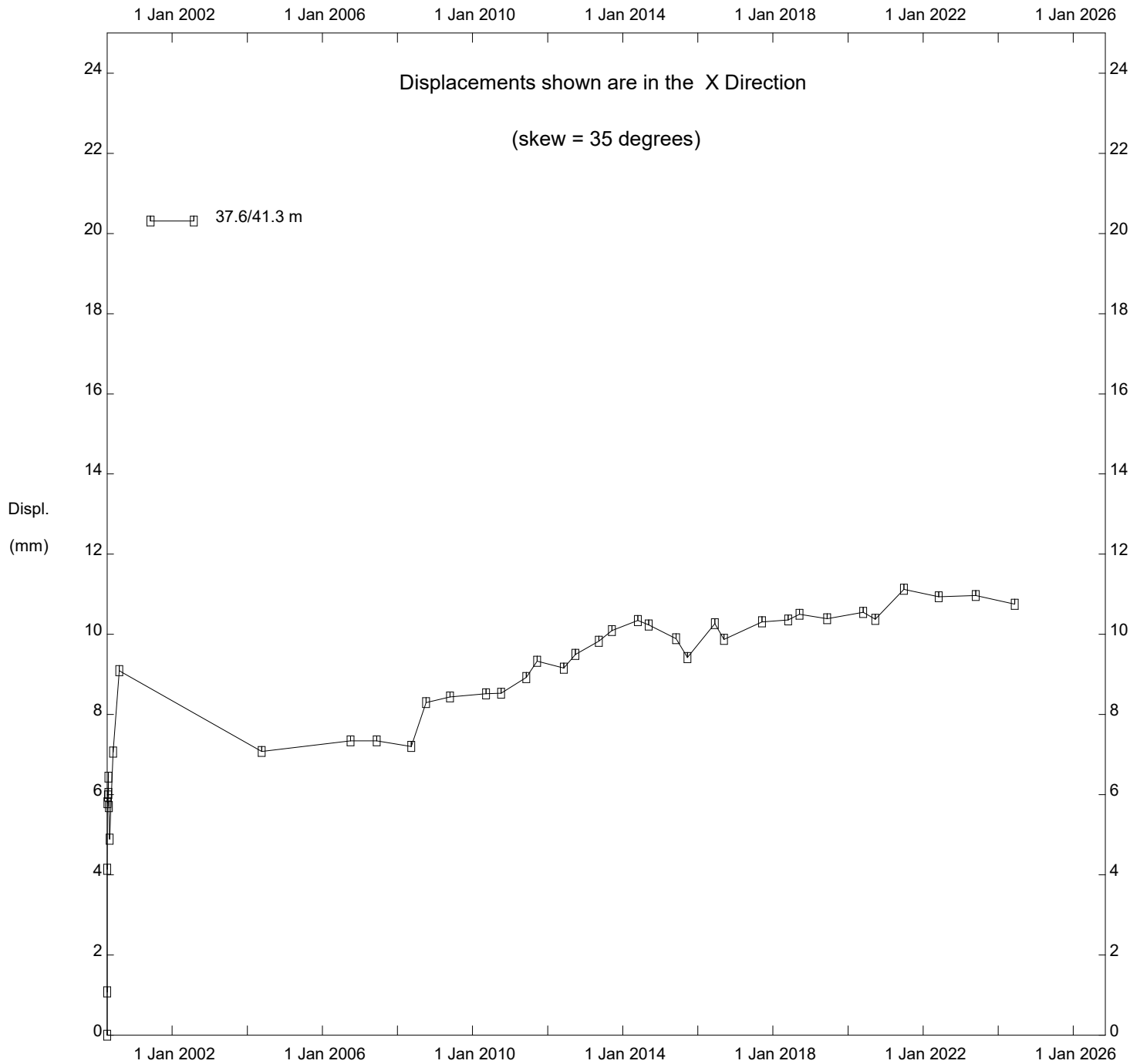


Hwy 63:12 Supertest Hill (NC017B), Inclinometer SI-4

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Hwy 63:12 Supertest Hill (NC017B), Inclinator SI-4

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