

**ALBERTA TRANSPORTATION AND
ECONOMIC CORRIDORS GRMP
PEACE REGION – (PEACE RIVER DISTRICT)
INSTRUMENTATION MONITORING - FALL 2024**



Site Number	Location	Name	Hwy	km
PH060	Station 35+680 to 36+180	Peace River East Hill Site #3	2:60	36.0
Legal Description:		UTM Co-ordinates		
9-29-83-21 W5		11U E 483348	N	6231305

Current Monitoring:	21-Sep-2024	Previous Monitoring:	19-May-2024
Instruments Read By:	Mr. Niraj Regmi, G.I.T and Mr. Nixon Mationg, of Thurber		

Instruments Read During This Site Visit			
Slope Inclinometers (SIs): SI-12 SI-13 SI-88	Pneumatic Piezometers (PN):	Vibration Wire Piezometers (VW):	Standpipe Piezometers (SP):
Load Cell (LC):	Strain Gauges:	SAA's:	Others:

Readout Equipment Used			
Slope Inclinometers: RST Digital Inclinometer probe with 2 ft wheelbases and RST pocket readout.	Pneumatic Piezometers:	Vibration Wire Piezometers:	Standpipe Piezometers:
Load Cell:	Strain Gauges:	SAA's:	Others:
Note:			

Discussion	
Zones of New Movement:	None
Interpretation of Monitoring Results:	Slope indicators SI-12 and SI-88 are located about 20 m apart and continued to show no discernible movement. SI-13 showed a rate of movement of 1.3 mm/yr over 2.2 m to 4.7 m depth, corresponding to an increase in rate of movement of 1.1 mm/yr since the spring of 2024 readings. Over the long-term a movement rate of about 0.3 mm/yr has been observed since about 2007.
Future Work:	The instruments should be read again during the spring of 2024 reading program.
Instrumentation Repairs:	No instrument repairs are required at this time. All three SIs do not have protective casings. In order to reduce the likelihood of damage to the SIs it is recommended that casing protectors be installed.
Additional Comments:	Consideration could be given to reducing the reading frequency for SI-12 as it is in close vicinity to SI-88 and is a much shallower installation. Reduction to biennial spring readings for SI-12 is suggested..

Attachments:	<ul style="list-style-type: none">▪ Table PH060-1 Fall 2024 – Peace River East Hill Site #3 Slope Incliner Reading Summary▪ APPENDIX A - PH060-1 FALL 2024<ul style="list-style-type: none">□ Field Inspector's Report□ Site Plan Showing Approximate Instrument Locations (Drawing No. 32121-PH060)□ 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.
Roger Skirrow, M.Sc., P. Eng.
Senior Geotechnical Engineer

Lucas Green, P.Eng.
Geotechnical Engineer

Table PH060-1: Fall 2024 – Peace River East Hill Site # 3 Slope Inclinometer Instrumentation Reading Summary

Date Monitored: September 21, 2024

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/yr)	CURRENT STATUS	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-12	Aug. 14, 1995	No discernible movement	No discernible movement	Operational	May 19, 2024	N/A	N/A	N/A
SI-13	Aug. 2, 1995	20.4 mm over 2.2 m to 4.7 m depth in 223° direction	17.9 mm/yr in July 1996	Operational	May 19, 2024	0.4	1.3	1.1
SI-88	Sept. 17, 1996	No discernible movement	No discernible Movement	Operational	May 19, 2024	N/A	N/A	N/A
SI-89	Sept. 17, 1996	115.1 mm over 11.8 m to 13.6 m depth in 205° direction	67.2 mm/yr in September 1996	Sheared at 12.8 m below top of casing	October 14, 2020	N/A	N/A	N/A
SI-91	Sept. 17, 1996	99.5 mm over 8.8 m to 13.7 m depth in 233° direction	69.2 mm/yr. in Oct. 1996	Sheared at 13.1 m below top of casing	September 29, 2018	N/A	N/A	N/A

Drawing 32121-PH060 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.



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THURBER ENGINEERING LTD.

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS GRMP (CON0022164)
PEACE REGION (PEACE RIVER DISTRICT)
INSTRUMENTATION MONITORING RESULTS**

FALL 2024

**APPENDIX A
DATA PRESENTATION**

**SITE PH060: HWY 2:60, PEACE RIVER EAST HILL
(SITE # 3, STATION 35+680 to 36+180)**

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
PEACE REGION (PEACE RIVER DISTRICT)
INSTRUMENTATION MONITORING FIELD SUMMARY (PH060)
FALL 2024**

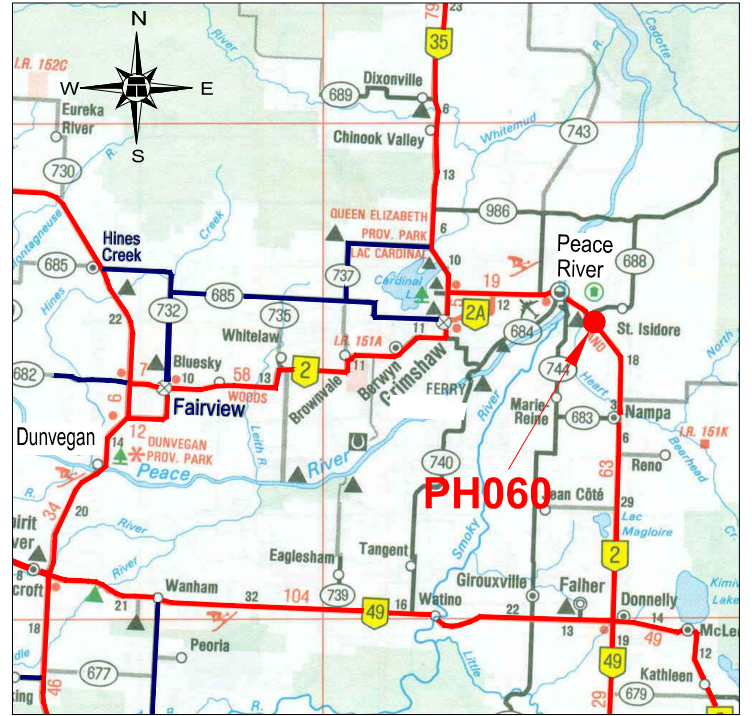
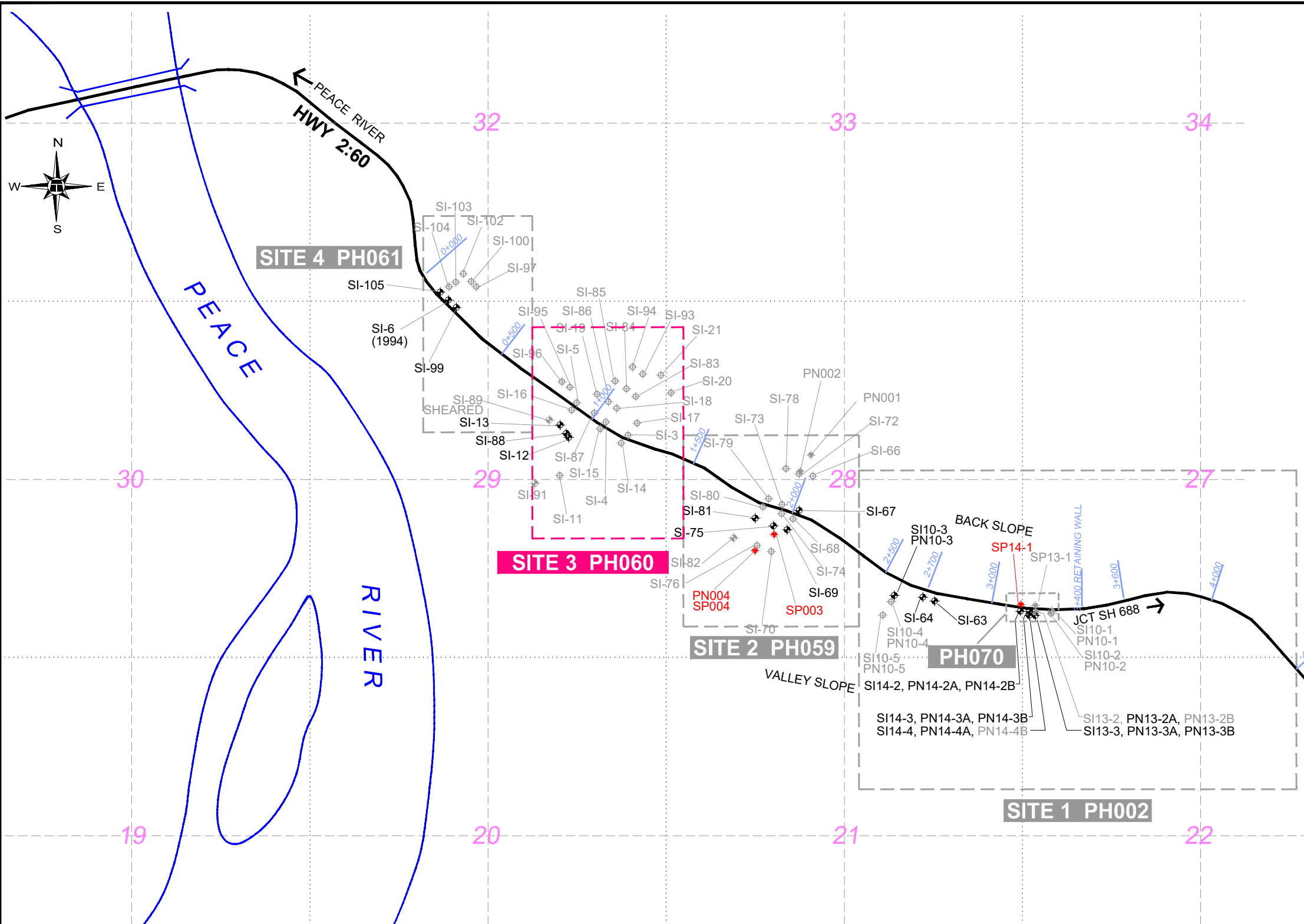
Location: Peace River East Hill (HWY 2:60 C1 36.013) File Number: 32121 Probe: RST Set 5R & 8R Cable: RST Set 5R & 8R	Readout: Casing: 3.34" Temp: 5 Read by: NKR/NRM
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SLOPE INCLINOMETER (SI) READINGS

Site#	SI#	GPS Location (UTM 11)		Date	Stickup (m)	Depth from top of casing (ft)	Magn. North A+ Groove	Current Bottom Depth Readings				Probe/ Reel #	Size (")	Remarks
		Easting (m)	Northing (m)					A+	A-	B+	B-			
3	SI-12	483348.12	6231304.64	21-Sep-24	0.78	58 to 2	5	-456	466	-258	240	5R/5R	3.34	
	SI-13	483338.97	6231343.63	21-Sep-24	0.83	58 to 2	2	-436	452	-562	539	5R/5R	3.34	
	SI-88	483339.94	6231323.26	21-Sep-24	0.88	148 to 2	181	154	-141	1057	-1058	8R/8R	3.34	

DAILY INSPECTOR REPORT

No protector on all three SI's



SITE MAP
NOT TO SCALE

LEGEND :

- SLOPE INCLINOMETER
(currently using)
- SP STANDPIPE PIEZOMETER
- PN PNEUMATIC PIEZOMETER
- SLOPE INCLINOMETER
(not in use)
- PNEUMATIC PIEZOMETER
(not in use)

SITE PLAN
1:20,000 (APPROX.)

PEACE REGION (PEACE RIVER DISTRICT)

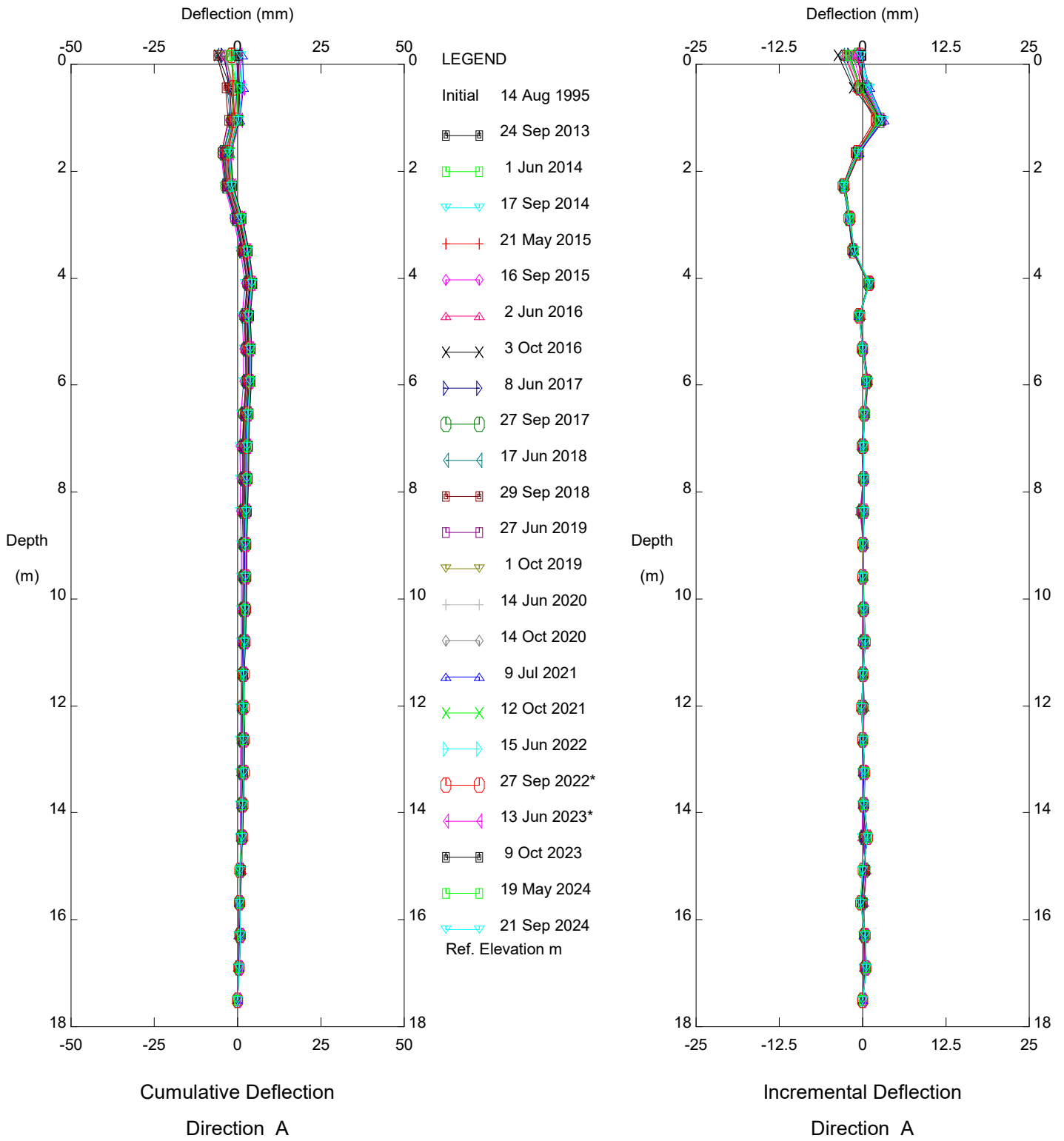
PH060: PEACE RIVER EAST HILL SITE #3
(STATION 0+950 TO STATION 1+450)
INSTRUMENTATION READINGS

DWG No. 32121-PH060

DRAWN BY	ML
DESIGNED BY	BWN
APPROVED BY	DWP
SCALE	AS SHOWN
DATE	NOVEMBER 2024
FILE No.	32121



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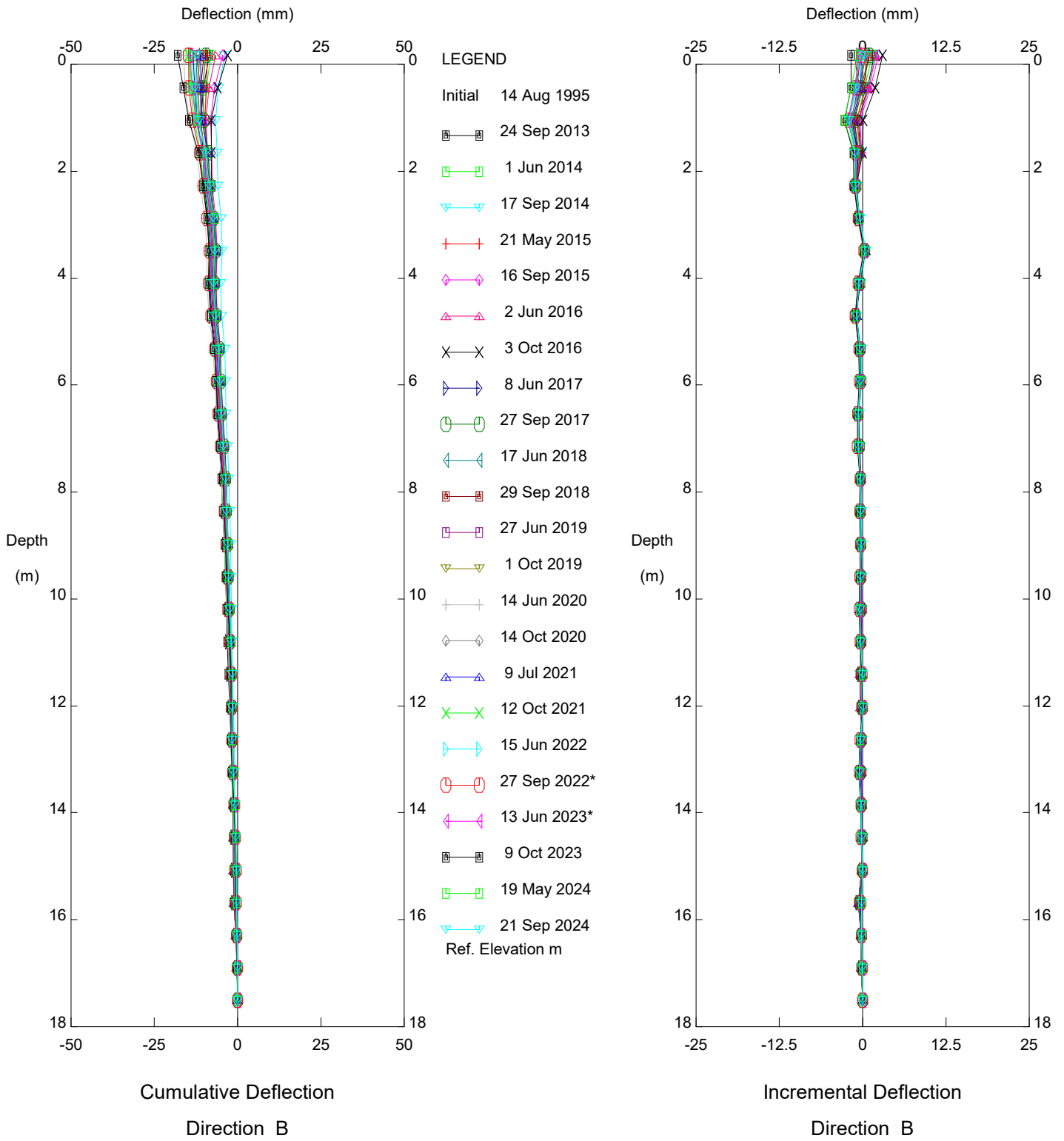


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-12

Alberta Transportation

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

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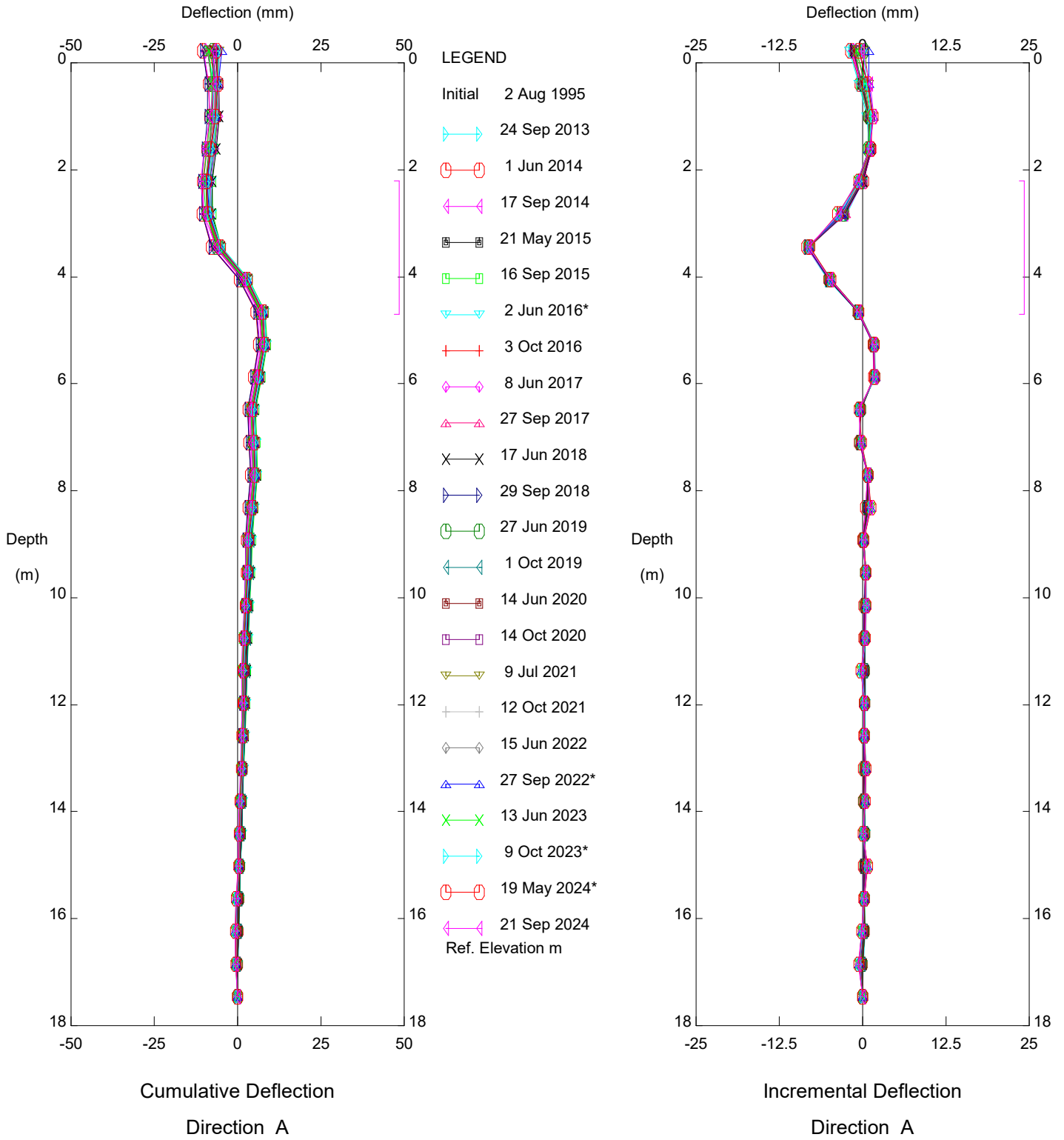


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-12

Alberta Transportation

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

Thurber Engineering Ltd.

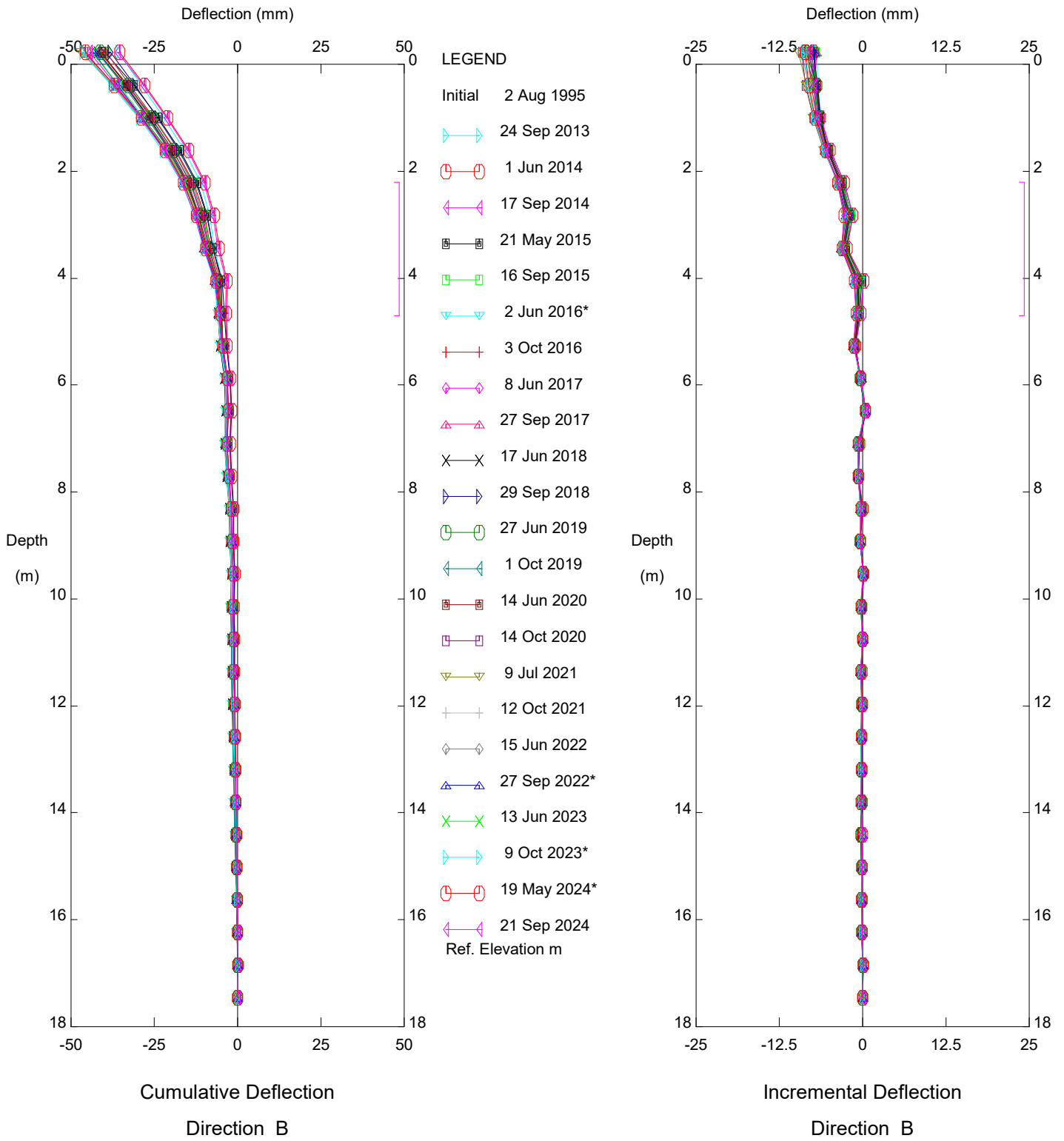


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

Alberta Transportation

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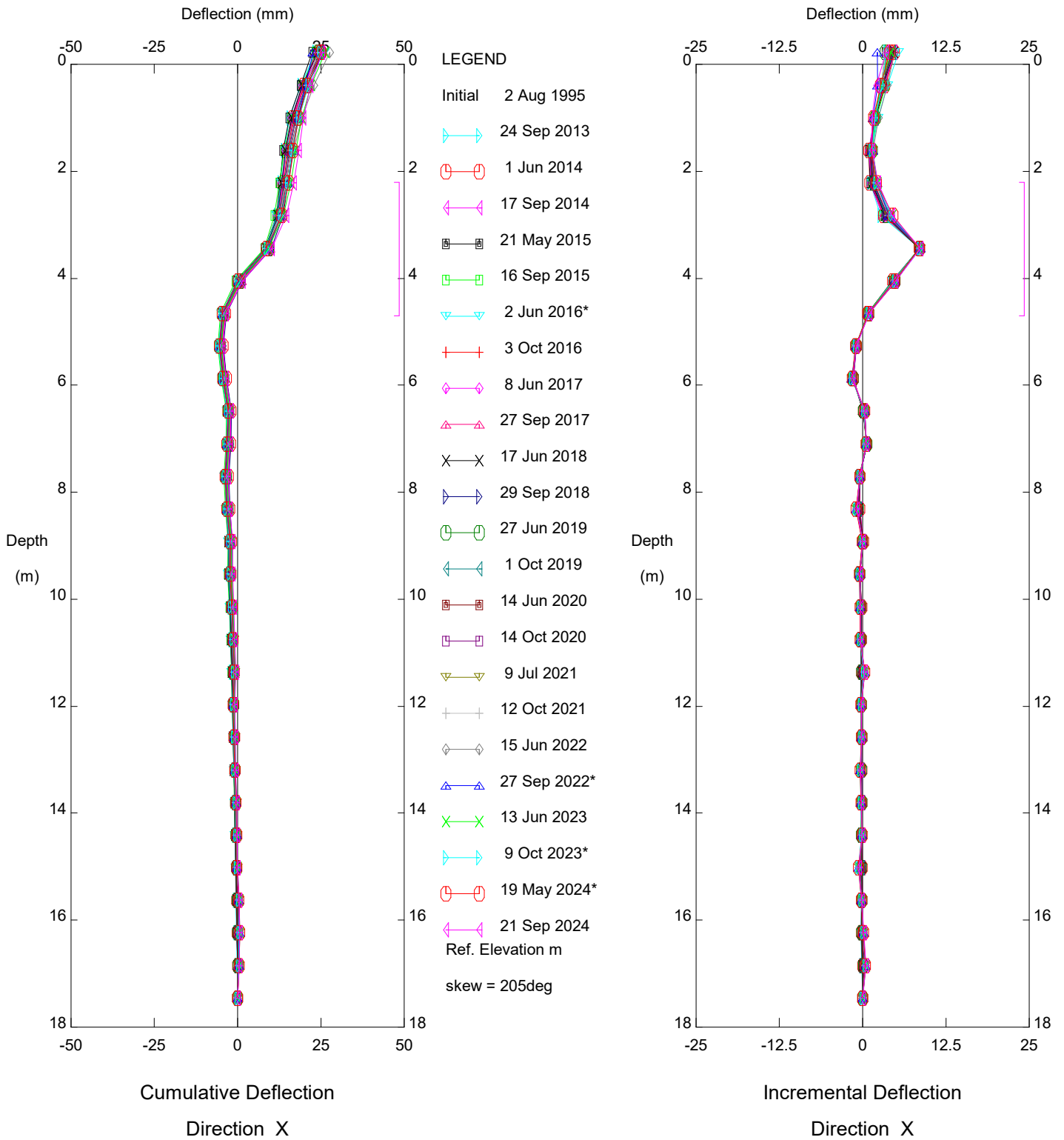
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(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

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

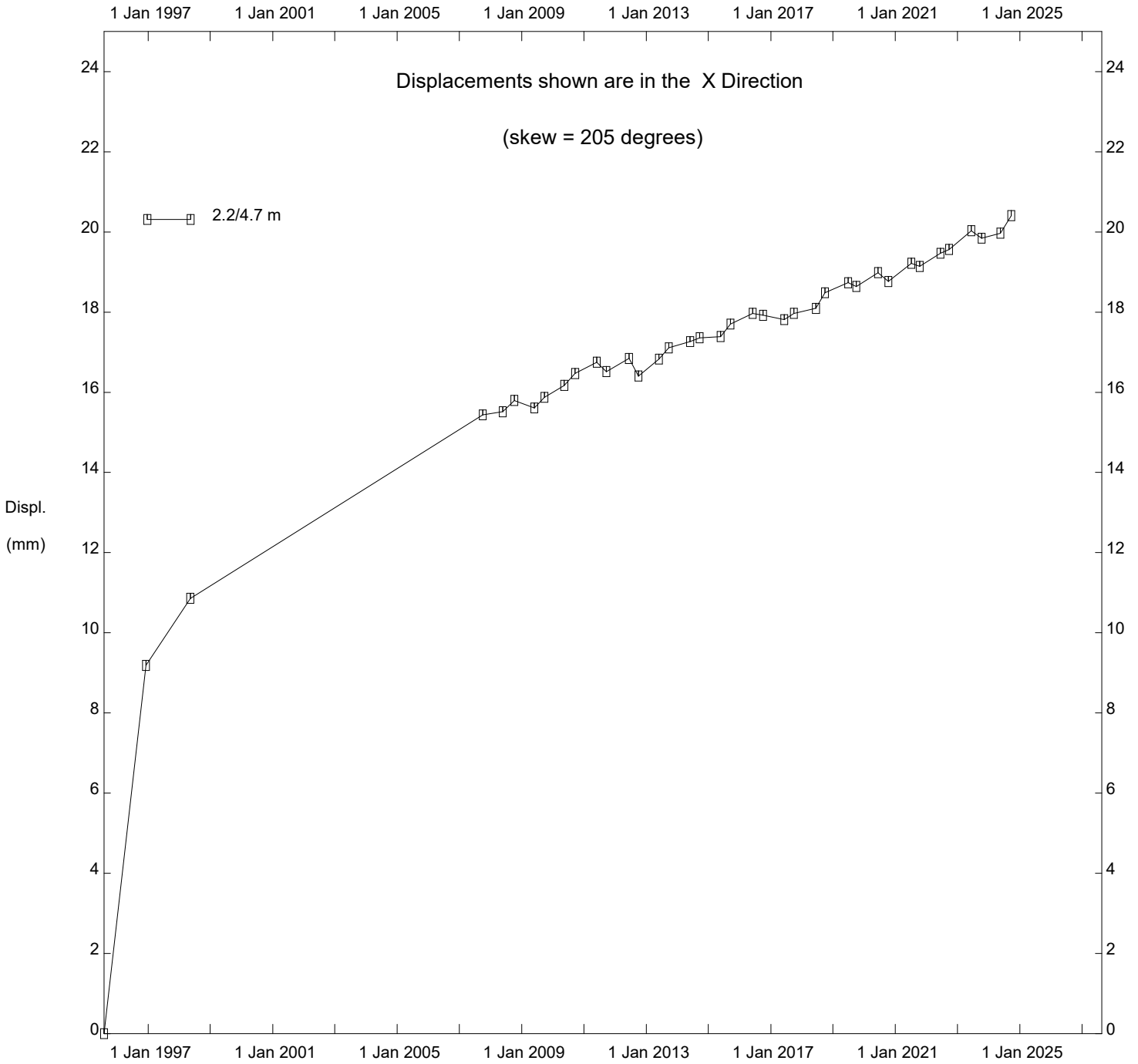


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

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

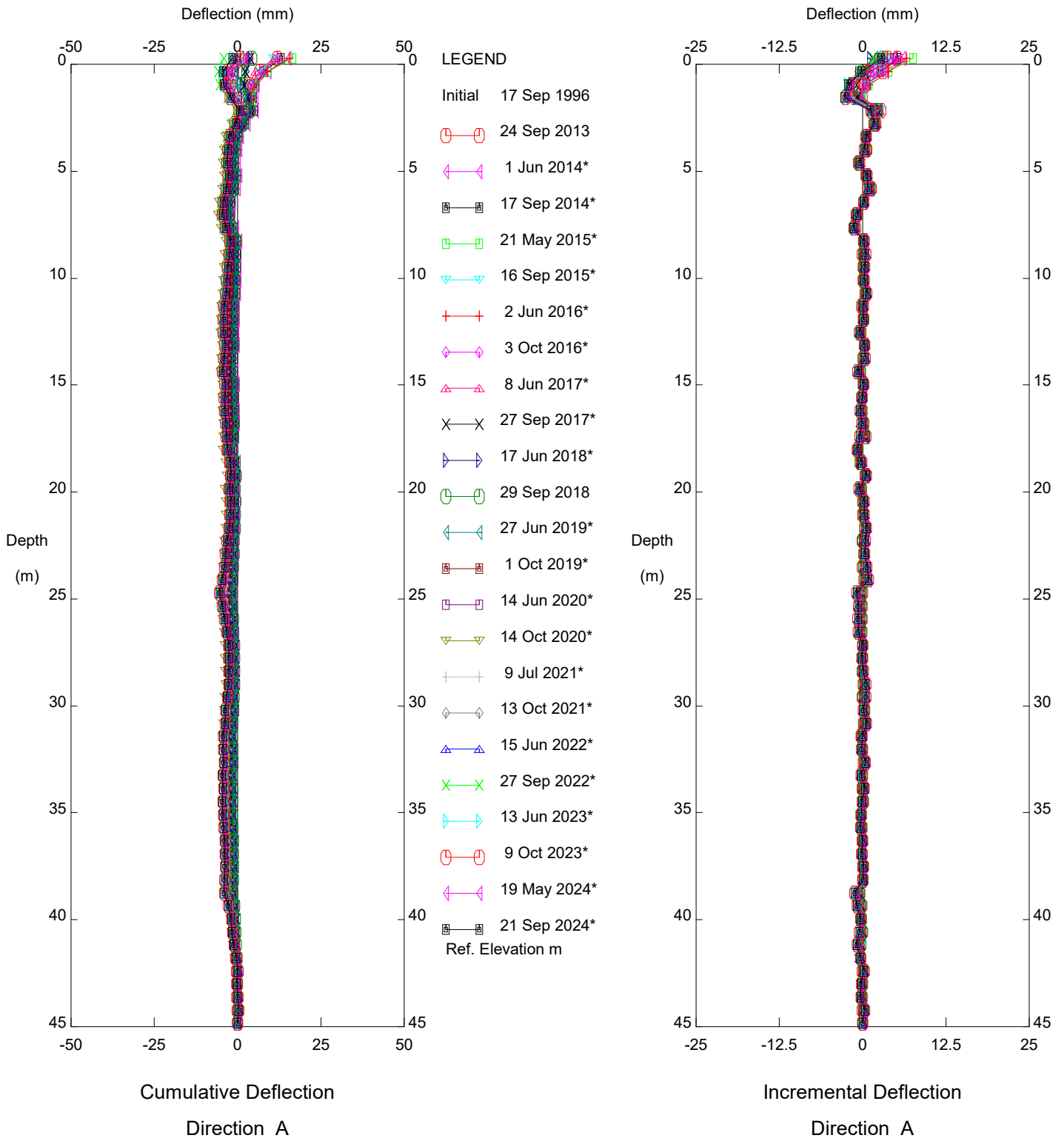
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(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinator SI-13

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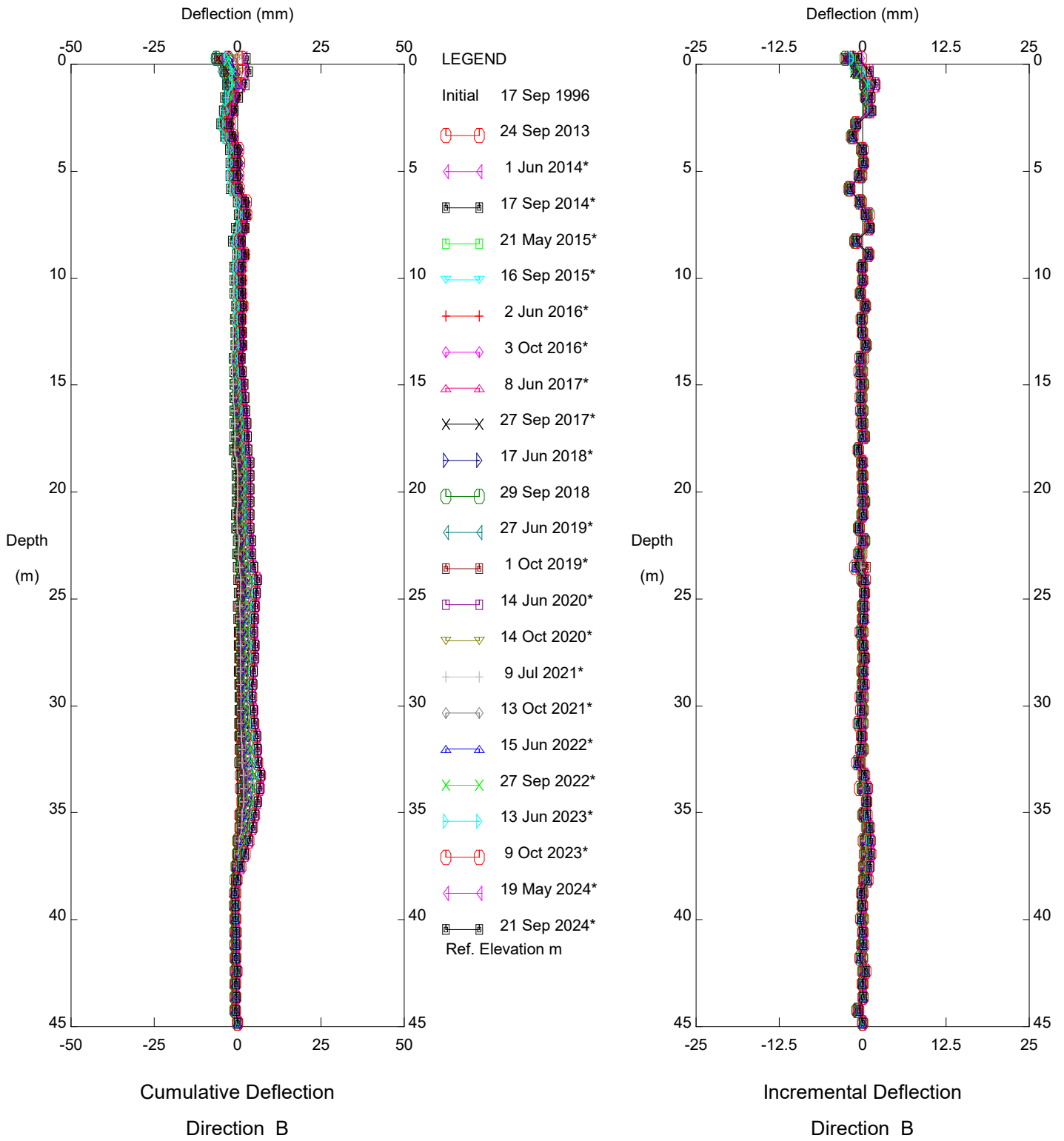


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-88

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(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-88

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