

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

<b>Current Monitoring:</b>	19-May-2024	<b>Previous Monitoring</b>	9-Oct-2023
<b>Instruments Read By:</b>	Mr. Niraj Regmi, G.I.T and Mr. Nixon Mationg, of Thurber		

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

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

Discussion	
<b>Zones of New Movement:</b>	None
<b>Interpretation of Monitoring Results:</b>	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 0.1 mm/yr over 2.2 m to 4.7 m depth, corresponding to an increase in rate of movement of 0.8 mm/yr since the fall of 2023 readings. Over the long-term a movement rate of about 0.3 mm/yr has been observed since about 2007.
<b>Future Work:</b>	The instruments should be read again during the fall of 2024 reading program.
<b>Instrumentation Repairs:</b>	No instrument repairs are required at this time.
<b>Additional Comments:</b>	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 could be sufficient.

<b>Attachments:</b>	<ul style="list-style-type: none"><li>▪ Table PH060-1 Spring 2024 – Peace River East Hill Site #3 Slope Inclinerometer Reading Summary</li><li>▪ APPENDIX A - PH060-1 SPRING 2024<ul style="list-style-type: none"><li>□ Field Inspector's Report</li><li>□ Site Plan Showing Approximate Instrument Locations (Drawing No. 32121-PH060)</li><li>□ SI Reading Plots</li></ul></li></ul>
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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: Spring 2024 – Peace River East Hill Site # 3 Slope Inclinometer Instrumentation Reading Summary**

Date Monitored: May 19, 2024

<b>INSTRUMENT #</b>	<b>DATE INITIALIZED</b>	<b>TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)</b>	<b>MAXIMUM RATE OF MOVEMENT (mm/yr)</b>	<b>CURRENT STATUS</b>	<b>DATE OF PREVIOUS READING</b>	<b>INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)</b>	<b>CURRENT RATE OF MOVEMENT (mm/yr)</b>	<b>CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/yr)</b>
SI-12	Aug. 14, 1995	No discernible movement	No discernible movement	Operational	October 9, 2023	N/A	N/A	N/A
SI-13	Aug. 2, 1995	20.0 mm over 2.2 m to 4.7 m depth in 223° direction	17.9 mm/yr in July 1996	Operational	October 9, 2023	0.1	0.2	0.8
SI-88	Sept. 17, 1996	No discernible movement	No discernible Movement	Operational	October 9, 2023	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**

**SPRING 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)  
SPRING 2024**

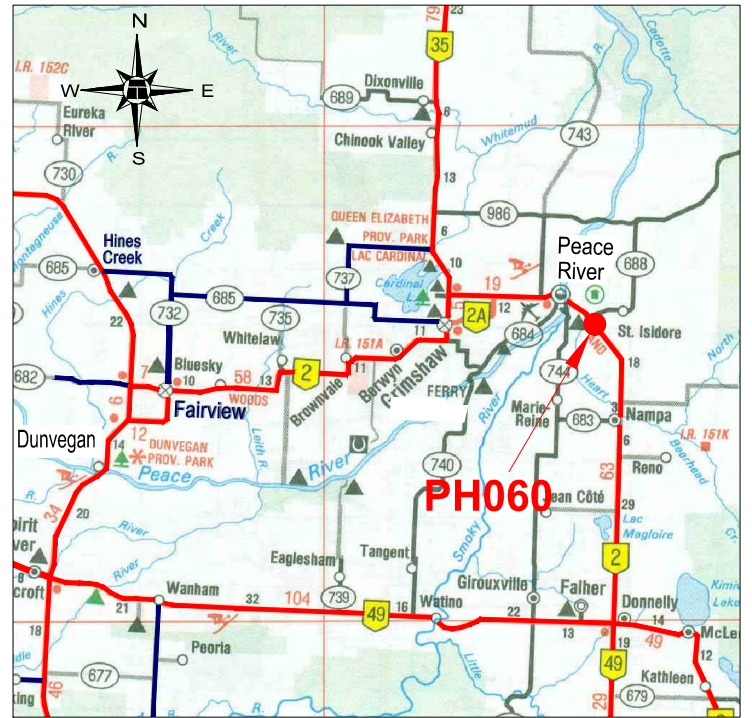
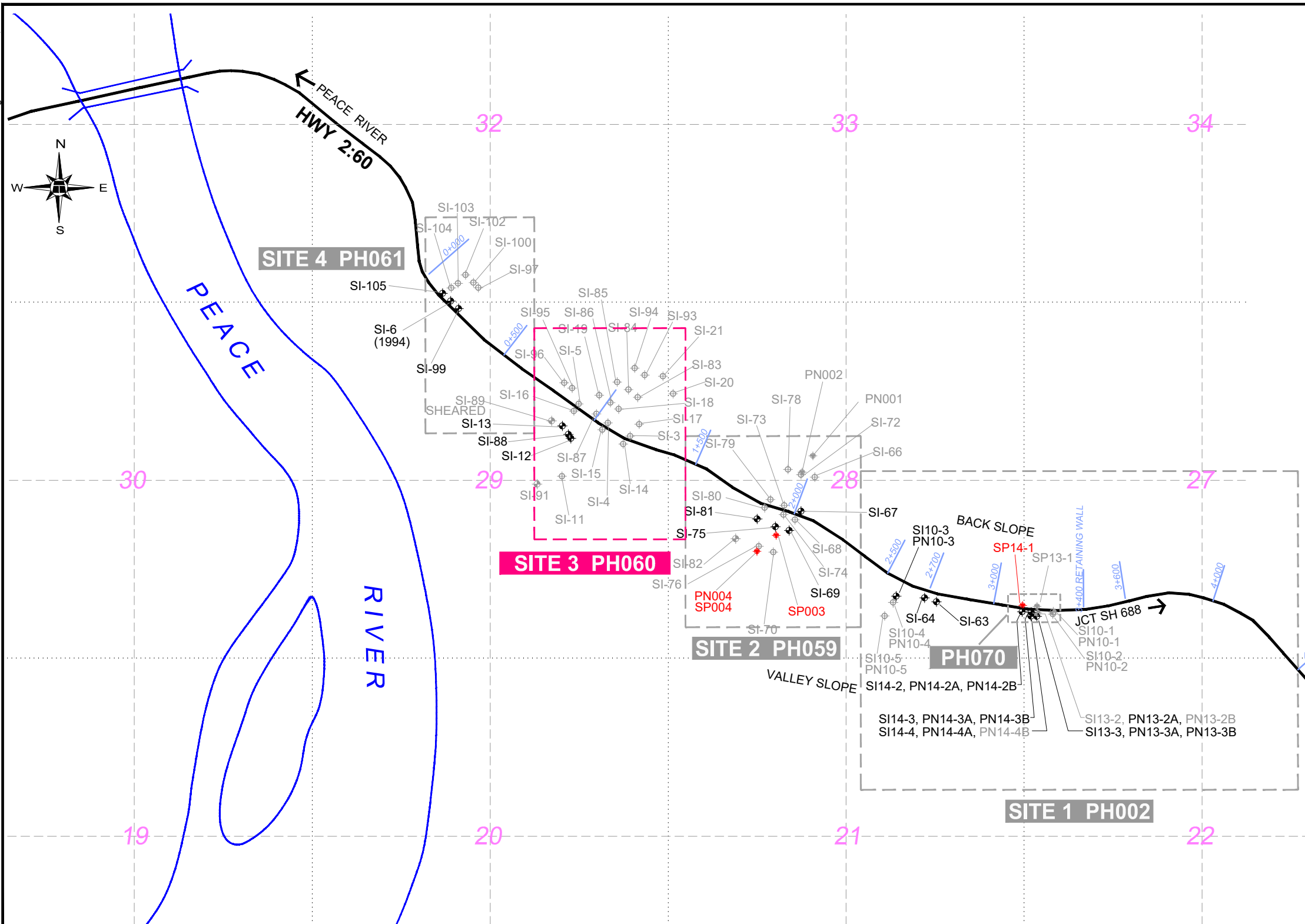
<b>Location:</b> Peace River East Hill (HWY 2:60 C1 36.013) <b>File Number:</b> 32121 <b>Probe:</b> RST Set 5R & 8R <b>Cable:</b> RST Set 5R & 8R	<b>Readout:</b> <b>Casing:</b> 3.34" <b>Temp:</b> 9 <b>Read by:</b> NKR/NRM
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**SLOPE INCLINOMETER (SI) 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	19-May-24	0.78	58 to 2	5	-455	468	-242	257	5R/5R	3.34	
	SI-13	483338.97	6231343.63	19-May-24	0.83	58 to 2	2	-433	454	-544	555	5R/5R	3.34	
	SI-88	483339.94	6231323.26	19-May-24	0.88	148 to 2	181	149	-133	1051	-1062	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)

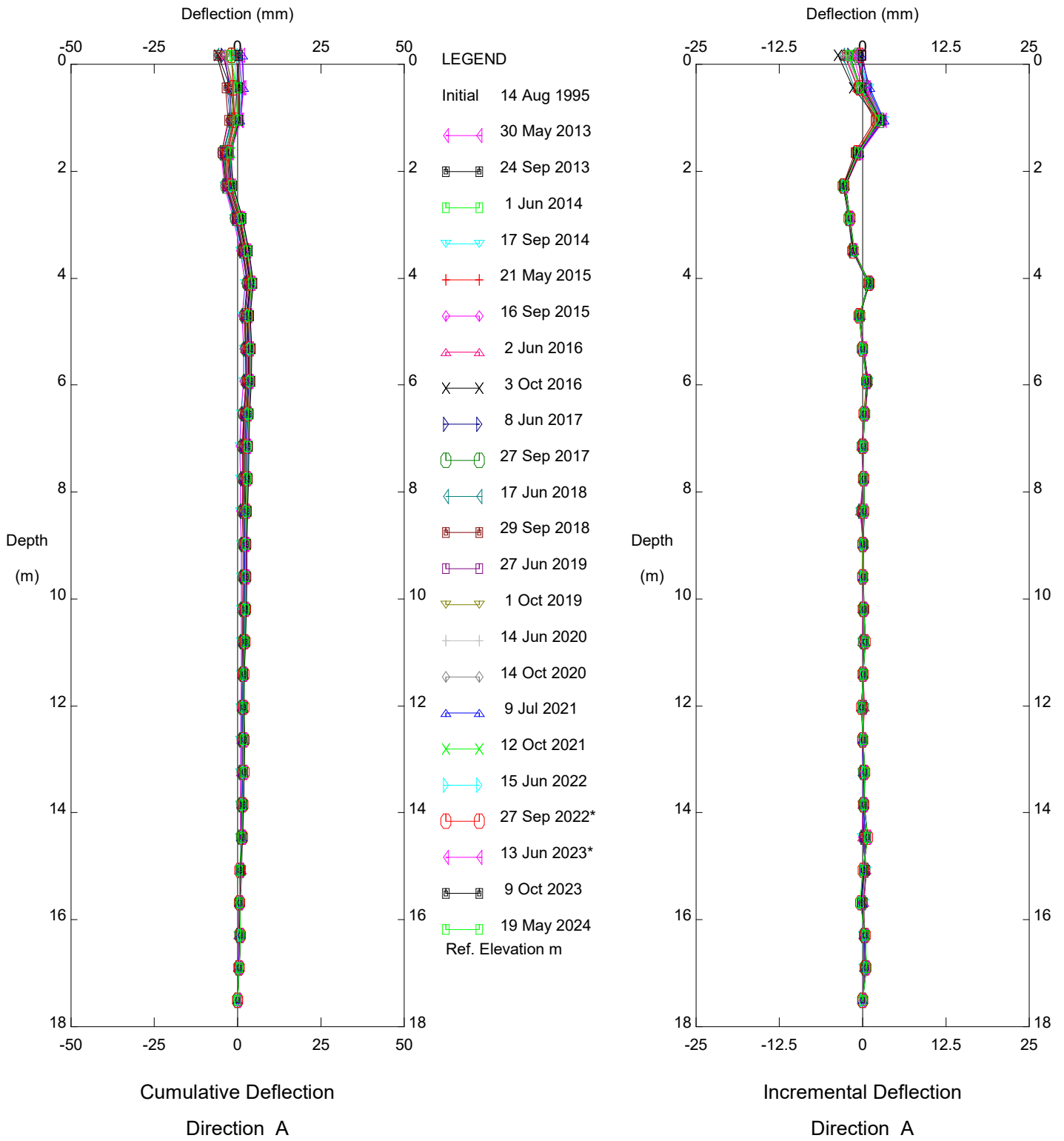
PH060: PEACE RIVER EAST HILL SITE #3  
(STATION 0+950 TO STATION 1+450)  
INSTRUMENTATION READINGS

DWG No. 32121-PH060

DRAWN BY	ML
DESIGNED BY	BWN
APPROVED BY	DWP
SCALE	AS SHOWN
DATE	JULY 2022
FILE No.	32121



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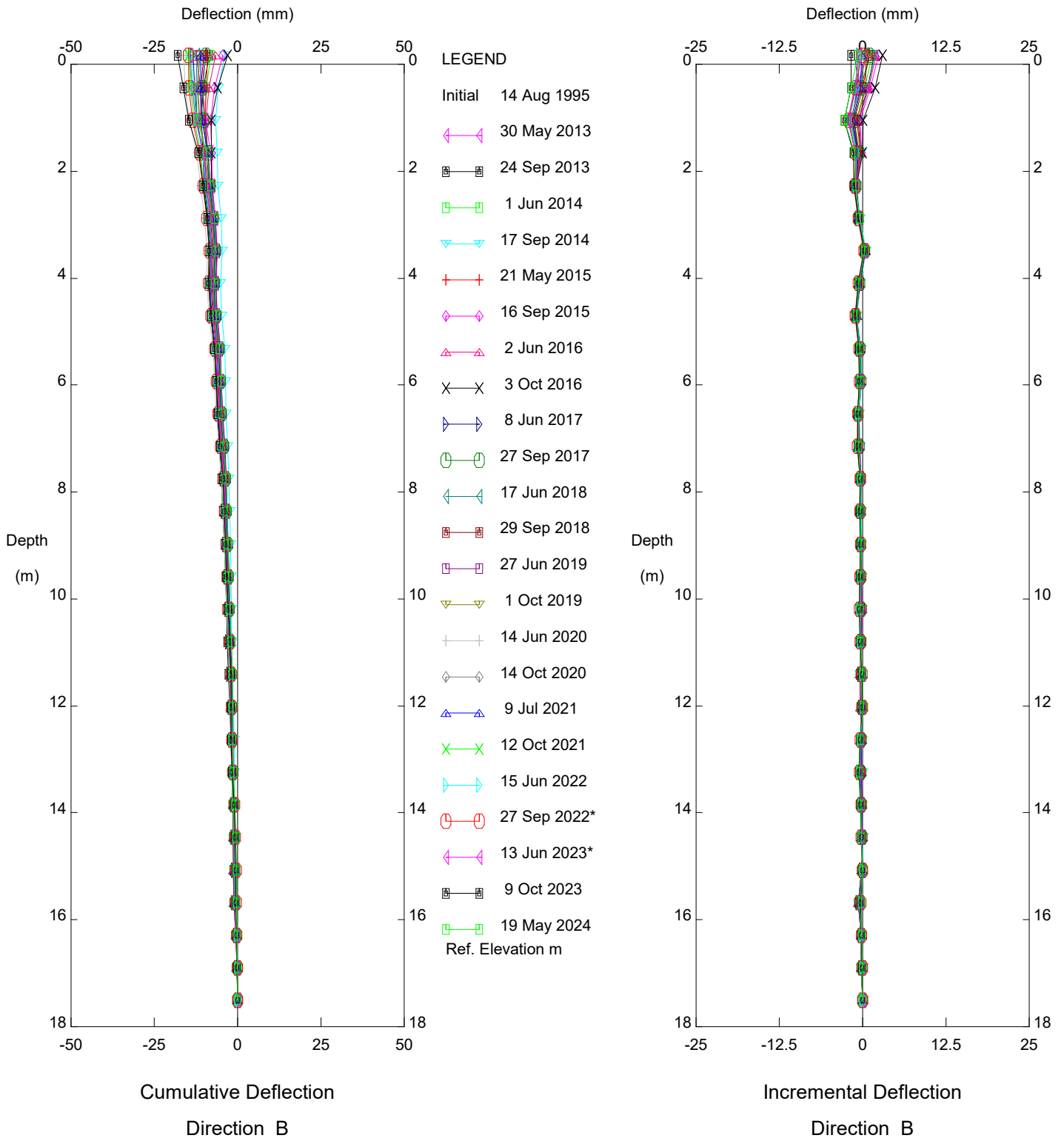
(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-12

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



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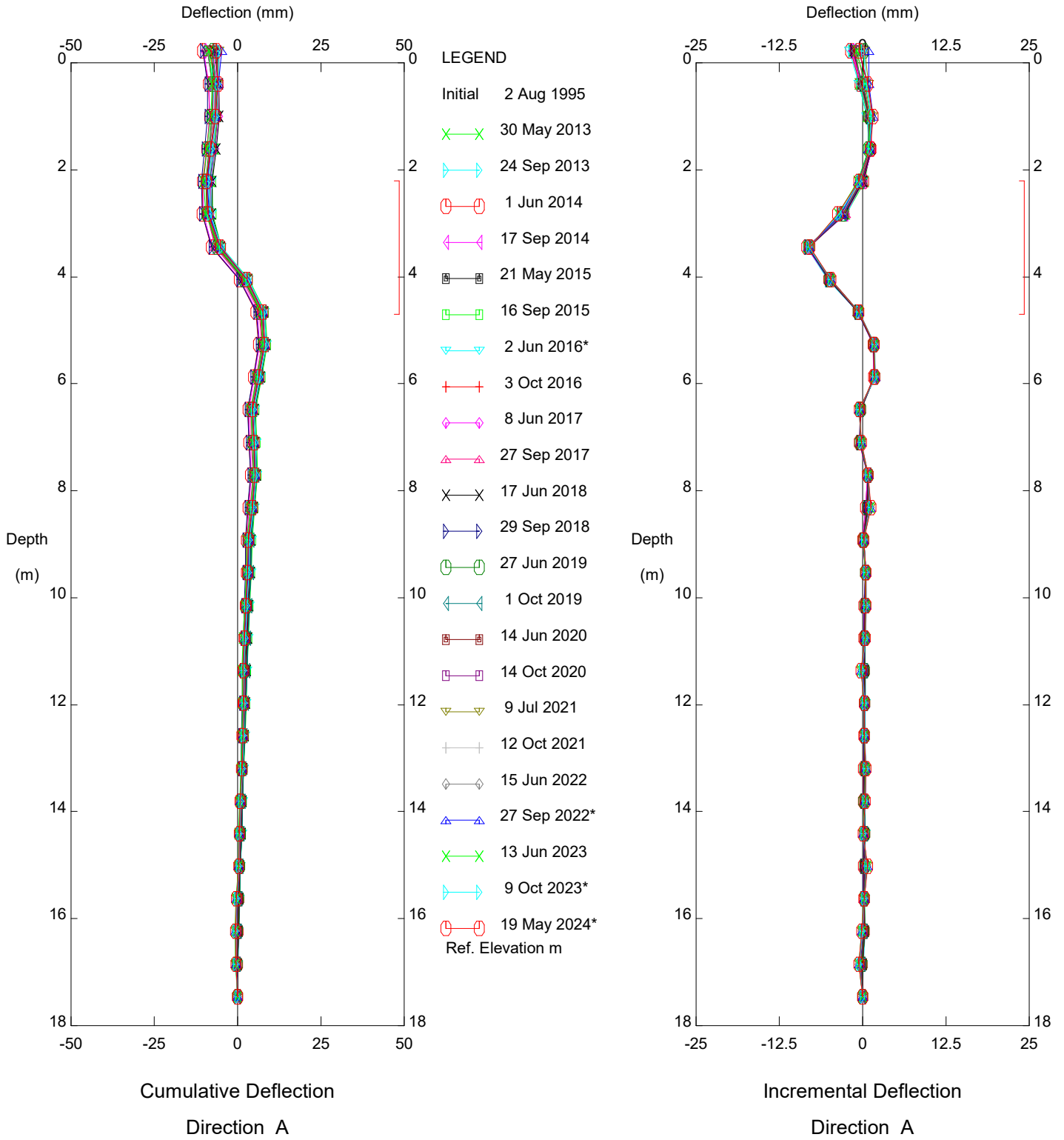


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-12

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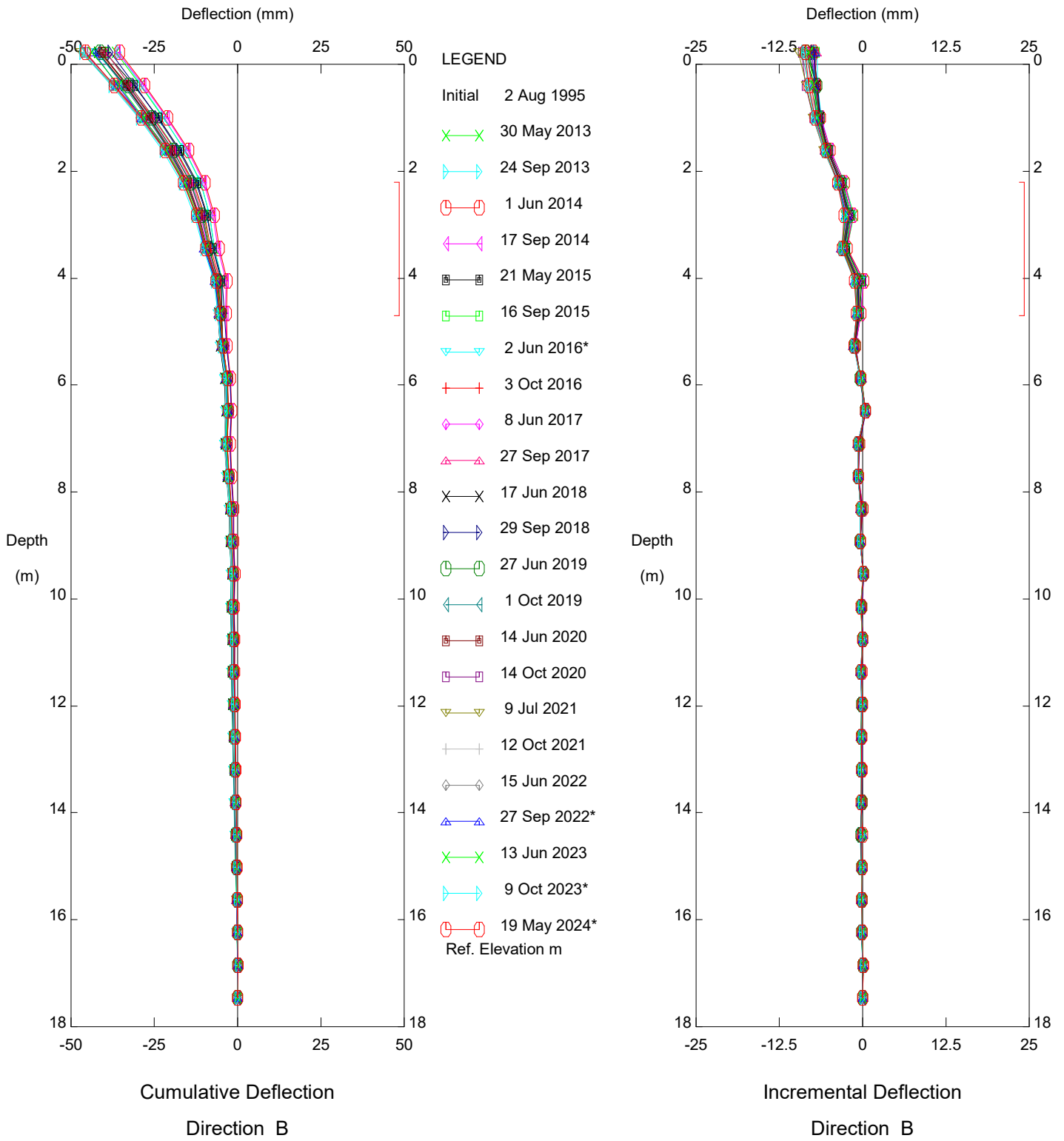
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(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

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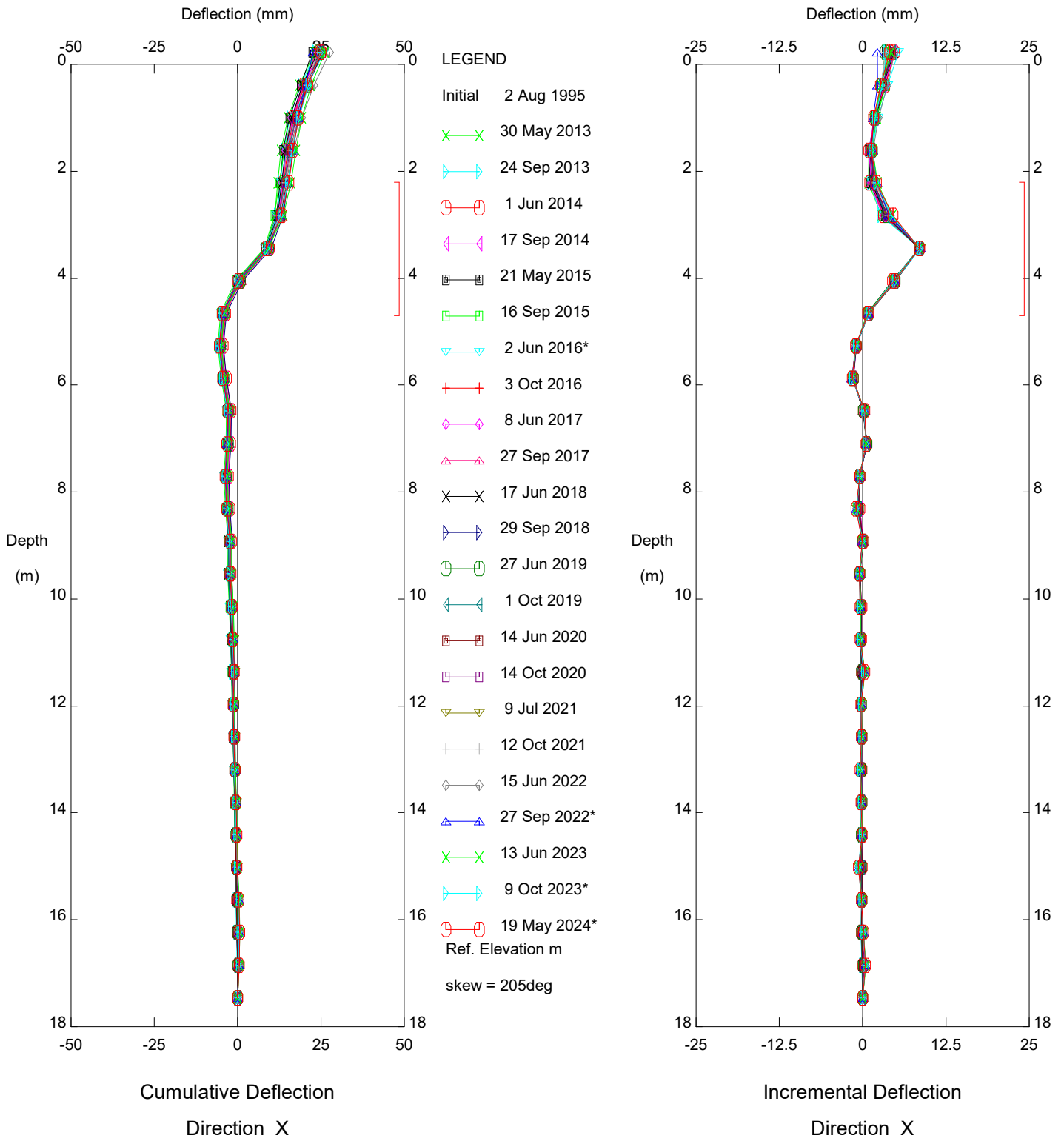


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

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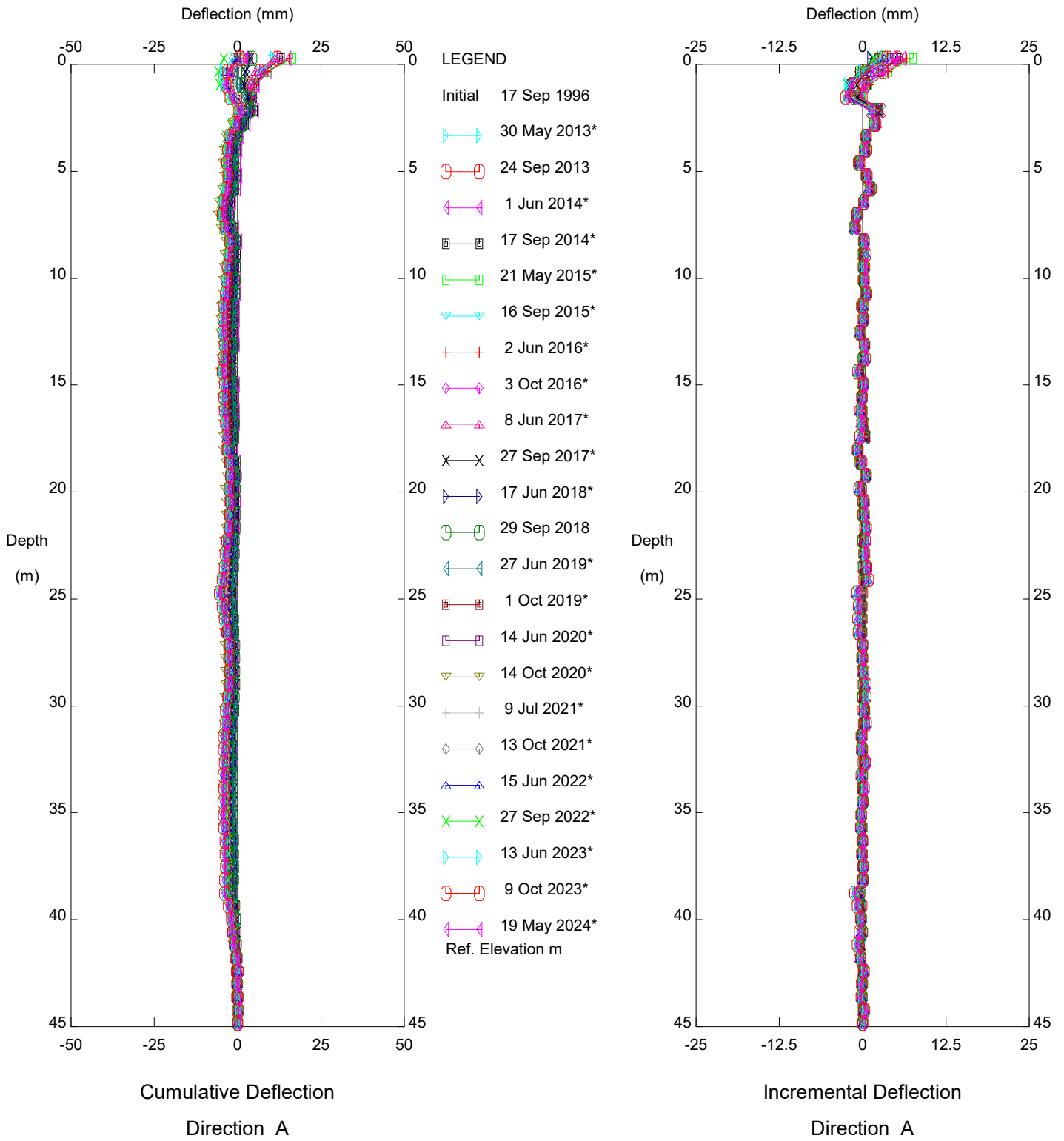


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-13

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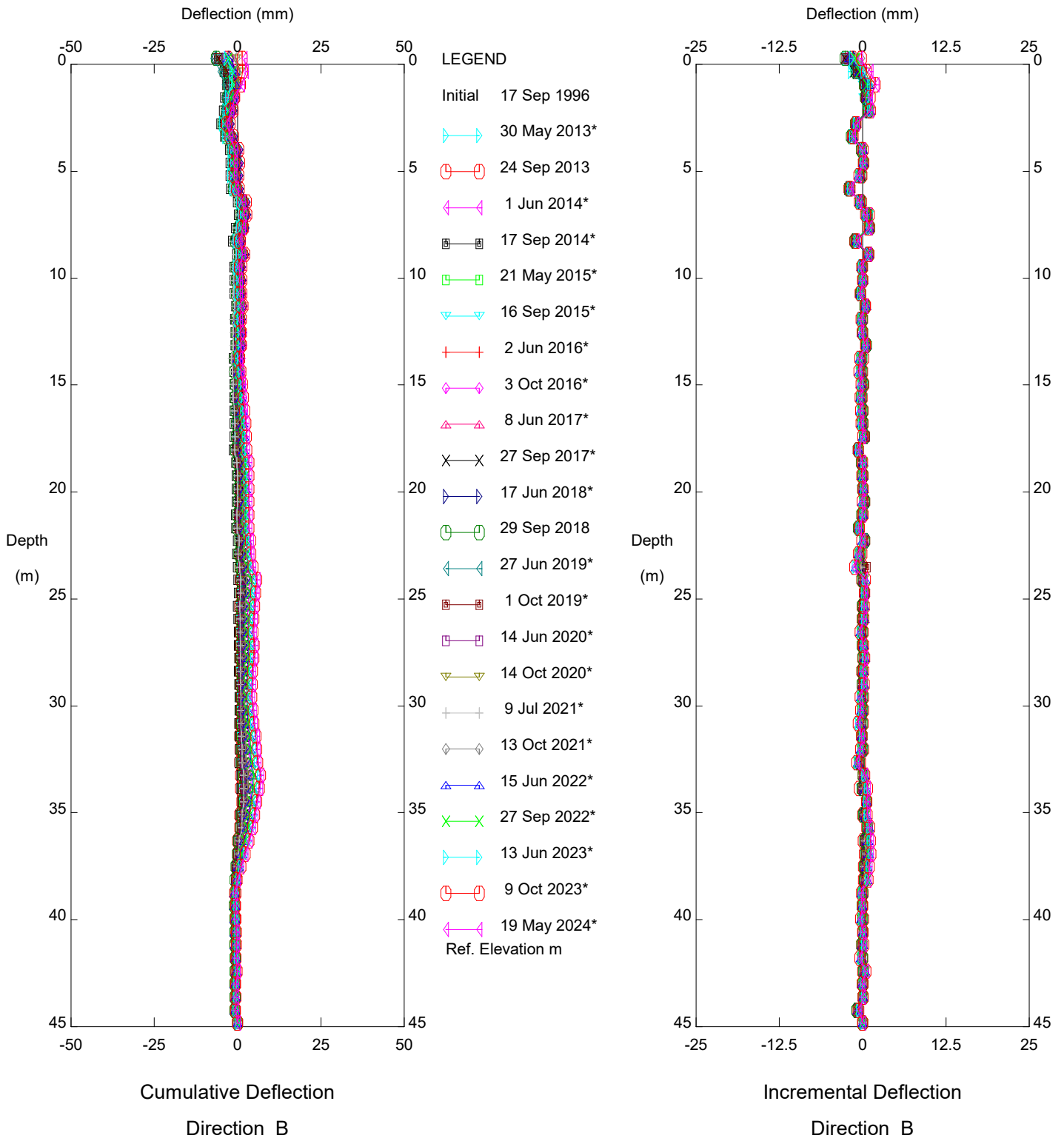


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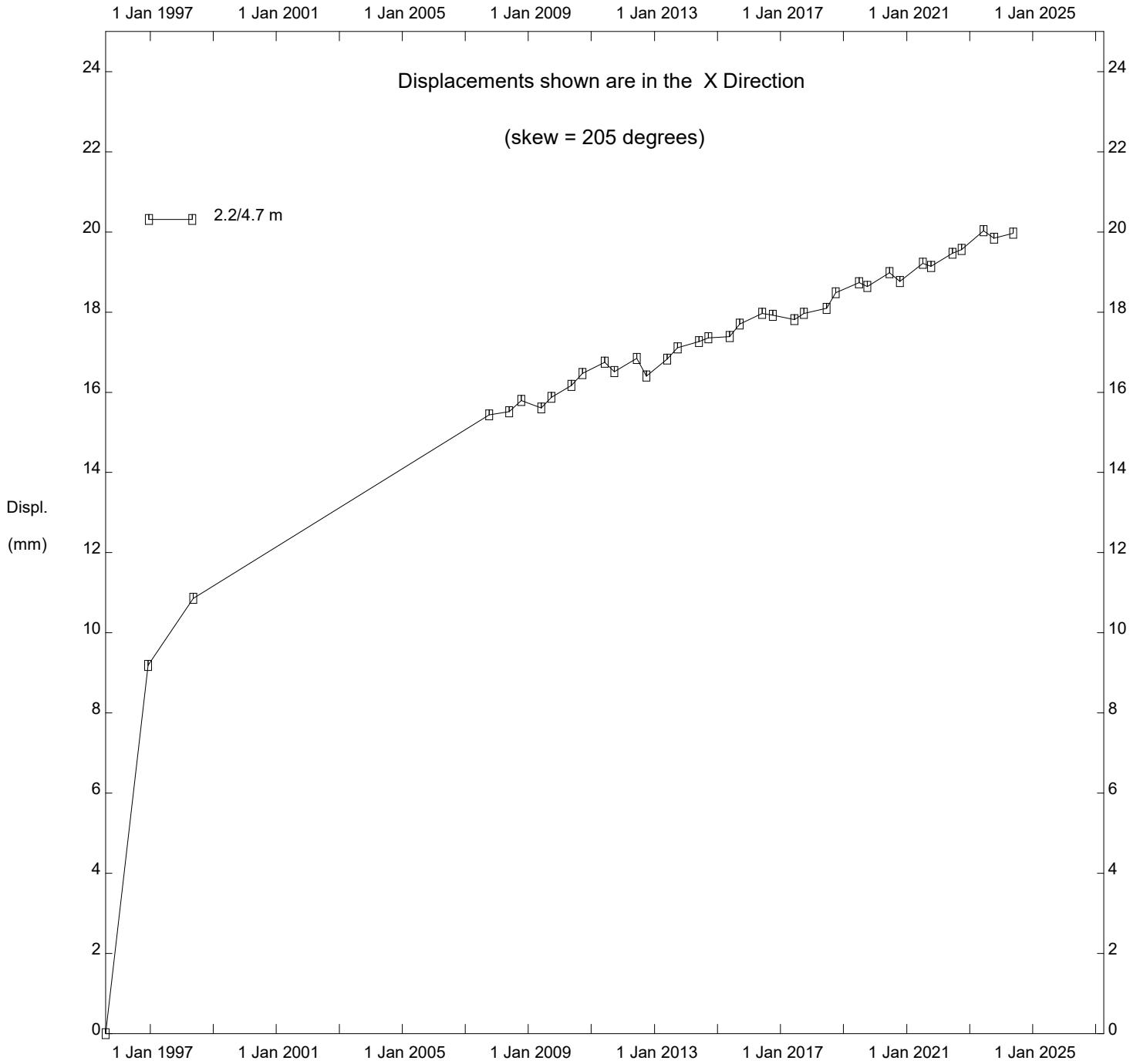


(PH060) PEACE RIVER EAST HILL -SITE 3, Inclinometer SI-88

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

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