

Site Number	Location	Name	Hwy	km
PH071	Hwy 986:01 C1 28.474	Daishowa West Hill	986:01	Km 28.5
Legal Description:		UTM Co-ordinates		
8-9-85-21 W5		11U E 485023	N	6245526

Current Monitoring:	8-Jun-2025	Previous Monitoring	19-Sep-2024
Instruments Read By:	Mr. Niraj Regmi, G.I.T and Mr. Godfred Etiendem, of Thurber		

Instruments Read During This Site Visit			
Slope Inclinometers (SIs): SI16-3	Pneumatic Piezometers (PN):	Vibrating Wire Piezometers (VW): VW16-1A, VW16-1B, VW16-1C, VW16-2A, VW16-2B, VW16-2C, VW16-3A, VW16-3B, VW16-4A, VW16-5A	Standpipe Piezometers (SP):
Load Cell (LC): VC1917, VC1918, VC1919, VC1920, VC1921, VC1922, VC1923, VC1924 VC1925	Strain Gauges: Twenty-one vibrating wire strain gauges (seven not functioning)	SAA: SAA-P060, SAA-P097	Others:

Readout Equipment Used			
Slope Inclinometers: RST Digital Inclinator probe with a 2 ft wheelbase and a RST Pocket PC readout	Pneumatic Piezometers:	Vibrating Wire Piezometers: Campbell Scientific CR6 datalogger	Standpipe Piezometers:
Load Cell: Campbell Scientific CR6 datalogger	Strain Gauges: Campbell Scientific CR6 datalogger	SAA: Campbell Scientific CR6 datalogger	Others:
Note: Vibrating wire strain gauge 14 at 6.6 m depth on the front face of the pile stopped operating since the fall of 2024 readings. As of December 5, 2024, one channel in load cell VC1922 stopped operating. Additionally, since July 2024, one channel in the vibrating wire load cells, VC1923 and VC1924, has begun operating intermittently.			

Discussion	
Zones of New Movement:	None
Interpretation of Monitoring Results:	<p>Slope Indicators and SAAs</p> <p>SI16-3 is located 7 m downslope of the pile wall and has three movement zones. Rates of movement of 1.8 mm/yr over 0.1 m to 3.8 m depth, less than 0.1 mm/yr over 9.3 m to 11.1 m depth, and no discernible movement over 14.1 m to 16.0 m depth, were measured since the fall of 2024 readings. These movement rates are reduced from, or consistent with those observed over the past 3 years.</p> <p>SAA-P060 showed no discernible movement over 2.5 m to 29.5 m depth, nor over the full length of the pile and waler since the fall of 2024 readings. SAA-P060 has shown a cumulative pile head deflection of 18.2 mm to date in the downslope direction and a long-term rate of movement of 0.75 mm/yr. SAA-P060 has shown an overall relatively steady rate of movement since the end of construction with a total incremental movement of about 6.2 mm in the downslope direction since completion of construction. Transitory seasonal</p>

	<p>peaks in the movement of about 3 mm are representative of late winter conditions.</p> <p>SAA-P097 has a rate of movement of 4.8 mm/yr since the fall of 2024 readings. SAA-P097 has shown a total pile head deflection of 20.0 mm in the downslope direction to date. SAA-P097 had shown an overall trend of steady downslope movement since the end of construction, with peaks in the pattern of movement of about 3 mm which are representative of late winter conditions.</p> <p>Strain Gauges</p> <p>The strain gauge readings in Pile P066 are summarized in Table PH071-3 and shown in Figure PH071-3 and PH071-4. Overall, the strain gauges showed relatively small changes in microstrain value compared to the previous readings in the fall of 2024. The greatest change in microstrain was in strain gauge #17 at 2.6 m depth in the downslope face of the pile, which showed a decrease in positive (compressive) microstrain of 11.7 microstrain compared to the fall of 2024 readings.</p> <p>Load Cells</p> <p>The three load cells at each of pile P022, P060 and P097 show similar loading patterns. The middle anchor at each pile carries the greatest load, followed by the upper anchor. The lowest anchor carries the least load. Seasonal peaks in load are recorded during winter months, with loads decreasing to a seasonal trough during summer months. The seasonal peaks are greatest in the upper row of anchors and the least in the lowest anchor row.</p> <p>The load cells generally showed small increases in measured load compared to the fall of 2024 readings, ranging from an increase of 1.0 kN in VC1918 (anchor P097B) to an increase of 5.9 kN in VC1917(anchor P097A). Load Cells VC1919 (anchor P097C), VC1921 (anchor P060C), and VC1925 (anchor P022C) showed the highest loads measured in the respective instruments between February 26 and February 27, 2025.</p> <p>It should be noted that load cells VC1924 (anchor P022A), VC1923 (anchor P022B), VC1922 (anchor P060B), VC1918 (anchor P097B), and VC1919 (anchor P097C) have each lost the function of one vibrating wire channel. The loads that are now reported for these three load cells are based on the average of the two functioning channels and projected reading for the now malfunctioning channel based on the last reading taken for that channel and the changes observed in the other two channels since that time. The damaged channels cannot be repaired.</p> <p>Since the end of construction, the load cells have generally shown an overall trend of increasing load, with the highest seasonal loads measured towards the end of each winter. The current loads measured in the upper two anchor rows at all three piles, as well as the lower row at P022 and P060, are above the design loads. The highest load recorded is 303 kN in P097A, which is 126% of design load, well within the range of performance testing undertaken during construction.</p> <p>Piezometers</p> <p>Vibrating wire piezometers VW16-1A, VW16-1C, VW16-2B, and VW16-2C located upslope of the wall, showed decreases in groundwater level of 0.61 m, 0.16 m, 0.43 m, and 0.16 m respectively since the fall of 2024 readings. VW16-1B, also located upslope of the wall, showed an increase in groundwater level of 0.02 m, respectively since the fall of 2024 readings. The groundwater level of 482.14 m, measured in VW16-2C on September 21, 2024, was the highest measured in the instrument since it was initialized. However, the overall trend since end of construction had been a gradual increase in the groundwater table upslope of the wall to what now appears to be a relatively steady level with cyclical seasonal fluctuations.</p>
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	<p>VW16-2A continued to be dry (this piezometer has only shown a groundwater level above the tip during a period between August 9, 2022, and September 21, 2022).</p> <p>Of the piezometers located downslope of the wall, VW16-3A showed a decrease in groundwater level of 0.21 m, and VW16-3B showed an increase in groundwater level of 0.32 m since the fall of 2024 readings.</p> <p>VW16-4A and VW16-5A continued to be dry, and tend to remain dry, except for brief periods that correspond to either higher than normal rainfall or spring thaw.</p>
Future Work:	The instruments should be read again in the fall of 2025. It is recommended to continue monitoring the deflections in the pile wall and the load cell readings to see if there are further increases in deflection or loads compared to the warning threshold values. If the deflections and or load cell readings continue to increase, it may become necessary to add additional anchors to the pile wall.
Instrumentation Repairs:	No instrument repairs are required at this time.
Additional Comments:	Load cells VC1924 (anchor P022A) and VC1923 (anchor P022B) have not shown a clear trend of leveling off and projected loads are up to 50 kN above the design load level. With respect to these observations, a review of the current anchor load distribution could be undertaken to better assess the pile wall performance.

Attachments:	<ul style="list-style-type: none"> • Table PH071-1: Spring 2025 – HWY 986:01, Daishowa West Hill Slope Inclinator Instrumentation Reading Summary • Table PH071-2: Spring 2025 – HWY 986:01, Daishowa West Hill Shape Accelerometer Array Instrumentation Reading Summary • Table PH071-3 Spring 2025 – HWY 986:01, Daishowa West Hill Vibrating Wire Strain Gauge Instrumentation Reading Summary • Table PH071-4: Spring 2025 – HWY 986:01, Daishowa West Hill Vibrating Wire Piezometer Instrumentation Reading Summary • Table PH071-5: Spring 2025 – HWY 986:01, Daishowa West Hill Load Cell Instrumentation Reading Summary • Statement for Use and Interpretation of Report • APPENDIX A - PH071 SPRING 2025 <ul style="list-style-type: none"> ○ Field Inspector's report ○ Site Plan Showing Approximate Instrument Locations (Drawings No. 32121 PH071 1 and 32121-PH071-2) ○ SI Reading Plots ○ SAA Reading Plots ○ Figure PH071-1 (Upslope Piezometer Elevations) ○ Figure PH071-2 (Downslope Piezometer Elevations) ○ Figure PH071-3(Downslope Strain Gauges) ○ Figure PH071-4(Upslope Strain Gauges) ○ Figure PH071-5 (Load Cell Data Pile P22) ○ Figure PH071-6 (Load Cell Data Pile P60) ○ Figure PH071-7 (Load Cell Data Pile P97)
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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 PH071-1: Spring 2025 – HWY 986:01, Daishowa West Hill Slope Inclinator Instrumentation Reading Summary

Date Monitored: June 8, 2025

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)	RATE OF MOVEMENT (mm/yr.)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/yr.)
SI16-3	December 2, 2017 (Re-initialized)	33.8 over 0.1 m to 3.8 m depth in 101° direction	9.9 in October 2020	Operational	September 19, 2024	1.3	1.8	2.1
		4.0 over 9.3 m to 11.1 m depth in 136° direction	1.8 in October 2020			No Discernible Movement	N/A	-0.2
		2.8 over 14.1 m to 16.0 m depth in 101° direction	1.2 in October 2020			<0.1	<0.1	0.1
SI16-4	September 6, 2016	9.7 over 10.4 m to 12.4 m depth	171.6 on September 15, 2016	Sheared at 11.4 m depth	September 30, 2016	N/A	N/A	N/A
SI16-5	August 30, 2016	64.5 over 8.0 m to 9.5 m depth	2404.8 on September 9, 2016	Sheared at 8.5 m depth	September 9, 2017	N/A	N/A	N/A

Drawings 32121-PH071-1 and 32121-PH071-2 in Appendix A provide a sketch of the approximate location of the monitoring instrumentation for this site.

Table PH071-2: Spring 2025 – HWY 986:01, Daishowa West Hill Shape Accelerometer Array Instrumentation Reading Summary

Date Monitored: June 8, 2025

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	AVERAGE RATE OF MOVEMENT SINCE PREVIOUS READING ⁽¹⁾ (mm/yr.)	CHANGE IN AVERAGE RATE OF MOVEMENT SINCE PREVIOUS READING (mm/yr.)
SAA-P022	March 17, 2016	5.1 over 0 m to 29.5 m depth	Not functioning ⁽²⁾	September 9, 2016	N/A	N/A	N/A
		6.7 over 2.5 m to 29.5 m depth			N/A	N/A	N/A
SAA-P060	March 17, 2016	18.2 over 2.5 m to 29.5 m depth	Operational	September 19, 2024	No discernible movement	N/A	-1.9
		25.5 over 0.0 m to 29.5 m depth			No discernible movement	N/A	-1.8
SAA-P097	March 17, 2016	20.0 over 2.5 m to 29.5 m depth	Operational	September 19, 2024	3.5	4.8	7.7

Drawings: 32121-PH071-1 and 32121-PH071-2 in Appendix A provide a sketch of the approximate location of the monitoring instrumentation for this site.

Notes:

1. SAA readings are recorded once per day by the on-site datalogger. Average movement rates are compared to the previous reading event.
2. SAA-P022 stopped functioning on September 13, 2016

Table PH071-3: Spring 2025 – HWY 986:01, Daishowa West Hill Vibrating Wire Strain Gauge Instrumentation Reading Summary

Date Monitored: June 8, 2025

DEPTH FROM TOP OF PILE P066 (m)	GAUGE #	TOTAL MICROSTRAIN (June 8, 2025) (µε)	CHANGE IN MICROSTRAIN SINCE PREVIOUS READING (SEP 20, 2024) (µε)	MEASURED TEMPERATURE (°C)	GAUGE #	TOTAL MICROSTRAIN (June 8, 2025) (µε)	CHANGE IN MICROSTRAIN SINCE PREVIOUS READING (SEP 20, 2024) (µε)	MEASURED TEMPERATURE (°C)
	UPSLOPE PILE FACE					DOWNSLOPE PILE FACE		
0.575	11	-104.0	3.5	15.5	16	N/A	N/A	N/A
2.575	12	-44.1	3.8	14.7	17	124.4	-11.7	18.3
4.575	13	-51.3	1.0	10.0	18	434.3	-1.7	10.3
6.575	14	N/A	N/A	6.6	19	419.1	-1.8	6.6
8.575	15	-45.6	-2.5	-95.6	20	N/A	N/A	N/A
11.075	1	-13.0	-3.1	6.8	6	N/A	N/A	N/A
13.075	2	27.8	-1.2	7.1	7	-86.5	-2.2	-140.0
15.075	3	31.3	-0.8	7.2	8	149.2	-2.1	7.3
17.075	4	37.1	-0.6	4.5	9	150.8	-0.8	7.3
19.075	5	-4.6	-0.8	7.3	10	N/A	N/A	N/A
21.075	21	23.2	-1.1	-138.4	22	177.5	-0.9	7.2
23.075	23	-26.7	-1.1	7.0	24	102.6	-0.9	7.1
25.075	25	12.4	-1.0	7.1	26	N/A	N/A	7.1
27.075	27	N/A	N/A	N/A	28	569.2	-1.1	6.9

Drawings 32121-PH071-1 and 32121-PH071-2 in Appendix A provide a sketch of the approximate location of the monitoring instrumentation for this site.

Note: Strain gauges number 6, 10, 16, 20, 26 and 27 are not functioning

Table PH071-4: Spring 2025 – HWY 986:01, Daishowa West Hill Vibrating Wire Piezometer Instrumentation Reading Summary

Date Monitored: June 8, 2025

INSTRUMENT	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	HIGHEST RECORDED GROUNDWATER ELEVATION (m)	CURRENT GROUNDWATER ELEVATION (m)	PREVIOUS GROUNDWATER ELEVATION (m) (MAY 20, 2024)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
VW16-1A	July 27, 2016	487.04	491.04	Active	488.65 on November 10, 2023	487.46	488.07	-0.61
VW16-1B	July 27, 2016	482.04	491.04	Active	485.47 on November 10, 2023	485.22	485.20	0.02
VW16-1C	July 27, 2016	473.04	491.04	Active	482.61 on November 10, 2023	481.28	481.44	-0.16
VW16-2A	April 26, 2017	484.73	487.73	Active	484.82 on September 9, 2022	Below Tip Elevation (Dry)	Below Tip Elevation (Dry)	N/A
VW16-2B	April 26, 2017	478.73	487.73	Active	484.20 on September 9, 2022	483.42	483.85	-0.43
VW16-2C	April 26, 2017	469.73	487.73	Active	482.14 on September 21, 2024	481.93	482.09	-0.16
VW16-3A	September 7, 2016	477.49	482.99	Active	481.87 on July 4, 2024	481.16	481.11	0.05
VW16-3B	September 7, 2016	464.99	482.99	Active	470.25 on September 7, 2016	466.20	465.88	0.32
VW16-4A	August 30, 2016	470.99	481.43	Active	475.30 on June 18, 2020	Below Tip Elevation (Dry)	Below Tip Elevation (Dry)	N/A
VW16-4B	August 30, 2016	457.24	481.43	Not functioning	Below Tip Elevation (Dry)	N/A	N/A	N/A
VW16-5A	August 30, 2016	468.02	471.02	Active	470.09 on March 22, 2019	Below Tip Elevation (Dry)	Below Tip Elevation (Dry)	N/A
VW16-5B	August 30, 2016	452.52	471.02	Not functioning	452.60 on September 12, 2016	N/A	N/A	N/A

Drawings 32121-PH071-1 and 32121-PH071-2 in Appendix A provide a sketch of the approximate location of the monitoring instrumentation for this site.

Table PH071-5: Spring 2025 – HWY 986:01, Daishowa West Hill Load Cell Instrumentation Reading Summary

Date Monitored: June 8, 2025

LOAD CELL SERIAL #	ANCHOR NUMBER	DESIGN LOAD / LOCK-OFF LOAD (kN)	MAXIMUM RECORDED LOAD (kN)	RECORDED LOAD ⁽¹⁾ (kN)	PREVIOUS RECORDED LOAD ⁽¹⁾ (September 19, 2024) (kN)	CHANGE IN LOAD SINCE PREVIOUS READING (kN)
VC1924	P022A	230/184	281.69 ⁽²⁾ on March 14, 2023	264.24 ⁽²⁾	261.34 ⁽²⁾	2.90
VC1923	P022B	230/184	286.32 ⁽³⁾ on March 23, 2023	278.80 ⁽²⁾	278.12 ⁽²⁾	0.68
VC1925	P022C	230/184	245.80 on February 26, 2025	240.39	237.97	2.42
VC1920	P060A	230/184	288.90 on February 3, 2022	268.68	265.93	2.75
VC1922	P060B	230/184	301.83 on January 28, 2022	288.28 ⁽⁴⁾	288.01 ⁽⁴⁾	0.27
VC1921	P060C	230/184	239.77 on February 27, 2025	236.73	235.62	1.11
VC1917	P097A	230/184	303.66 on March 14, 2022	248.48	242.62	5.86
VC1918	P097B	230/184	293.16 on March 9, 2022	255.95 ⁽⁴⁾	254.97 ⁽⁴⁾	0.98
VC1919	P097C	230/184	231.51 on February 27, 2025	223.50 ⁽³⁾	221.15	2.35

Drawings 32121-PH071-1 and 32121-PH071-2 in Appendix A provide a sketch of the approximate location of the monitoring instrumentation for this site.

Notes:

- 1) Load cell data is recorded daily with the datalogger on site. Dataloggers are downloaded twice annually during instrumentation readings. See figures PH071-3, PH071-4, and PH071-5 in Appendix A for combined historical instrument readings.
- 2) As of September 16, 2021, only two wire channels are functional on load cell VC1924. The reported loads after this date are based on the average of the two functional channels and a projected reading for the now malfunctioning channel. As of October 4, 2021, only two wire channels are functional on load cell VC1923. After July 2024, an additional channel began operating intermittently on both load cells. The reported loads after this date are based on the average of the two functional channels, or the average of the functional channel and the last reading of the intermittent channel. and a projected reading for the now malfunctioning channels. The current reading for VC1932 is based on only one functional channel.
- 3) As of May 15, 2022, only two wire channels are functional on load cell VC1918. As of December 1, 2024, only two wire channels are functional on load cell VC1919. The reported loads after these dates are based on the average of the two functional channels and a projected reading for the now malfunctioning channel.
- 4) As of December 5, 2023, only two wire channels are functional on load cell VC1922. The reported loads after this date are based on the average of the two functional channels and a projected reading for the now malfunctioning channel.

STATEMENT FOR USE AND INTERPRETATION OF REPORT

1. STANDARD OF CARE

This Report has been prepared in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances at the same time and in the same or similar locality and in compliance with all applicable laws.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment, including this Statement For Use and Interpretation of Report, 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.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT, AS DESCRIBED ABOVE. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE OF THE REPORT.

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.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client for the development, design objectives, and/or purposes described to Thurber by the Client. **NO OTHER PARTY MAY USE OR RELY ON THE REPORT OR ANY PORTION THEREOF FOR OTHER THAN THE CLIENT'S BENEFIT IN CONNECTION WITH THE PURPOSES DESCRIBED IN THE REPORT.** Any use which a third party makes of the Report is the sole responsibility of such third party and is always subject to this Statement for Use and Interpretation of Report. Thurber accepts no liability or responsibility for damages suffered by any third party resulting from use of the Report for purposes outside the reasonable contemplation of Thurber at the time it was prepared or in any manner unintended by Thurber.

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 is inherently judgement-based. 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 parties making use of such documents or records with or without our express written consent need to 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 parties. Some conditions are subject to change over time and those making use of the Report need to be aware of this possibility and understand that the Report only presents the interpreted conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client must 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 based on conditions in evidence at the time of site inspections and based on 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 resulting from misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other parties 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 is recommended to 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 need to 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 to confirm and document that the site conditions do not materially differ from those 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. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or other parties who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes, but is not limited to, decisions made to develop, purchase, or sell land, unless such decisions expressly form part of the stated purpose of the Report as described in Paragraph 3.



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

SPRING 2025

**APPENDIX A
DATA PRESENTATION**

SITE PH071: HWY 986:01, DAISHOWA WEST HILL

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
PEACE REGION (PEACE RIVER DISTRICT)
INSTRUMENTATION MONITORING FIELD SUMMARY (PH071)
SPRING 2025**

Location: Daishowa West Hill (Hwy 986:01 C1 28.474)	Readout:
File Number: 32121	Casing: 3.34
Probe: RST SET 8R	Temp: 23
Cable: RST SET 8R	Read by: NKR/GE

SLOPE INCLINOMETER (SI) READINGS

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-			
SI16-3	485023	6245526	08-Jun-25	0.8	130 to 2	95	181	-174	27	-28	8R/8R	3.34	

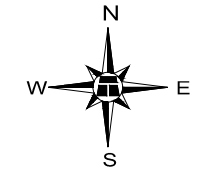
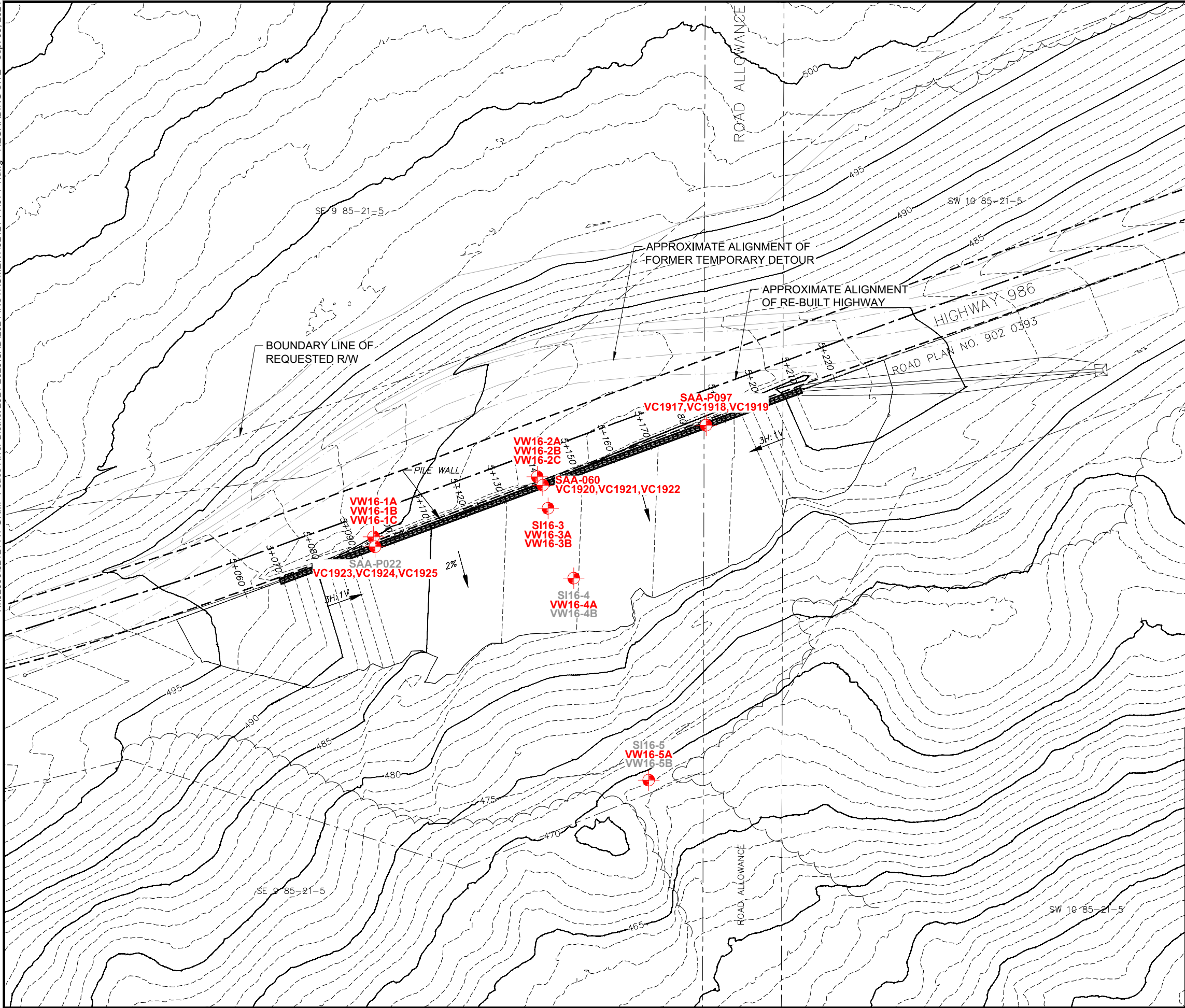
VIBRATING WIRE PIEZOMETER (VW) READINGS

VW #	Serial #	GPS Location (UTM 11)		Datalogger Serial #	Date	Comment
		Easting (m)	Northing (m)			
VW16-3A	VW36116	485022.21	6245527.86	RST 4885	08-Jun-25	Downloaded
VW16-3B	VW36119	485022.21	6245527.86			Downloaded
VW16-4A	VW36118	485028.75	6245510.02	RST 4915		Downloaded
<i>VW16-4B</i>	<i>VW36121</i>	<i>485028.75</i>	<i>6245510.02</i>			<i>Not Working</i>
VW16-5A	VW36117	485047.91	6245458.47	RST 4916		Downloaded
<i>VW16-5B</i>	<i>VW36120</i>	<i>485047.91</i>	<i>6245458.47</i>			<i>Not Working</i>

INSPECTOR REPORT

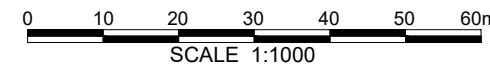
CR6 datalogger is connected to a modem and does not need to be downloaded. CR6 datalogger is used to read Shape Accelerometer Array SAA-P060, SAA-P097, Vibrating Wire Piezometers VW16-1A to VW16-2C, and Load Cells VC1917 to VC1925.
Note: Download data from RST loggers. Do not take manual readings from VW16-4A/B

H:\32000\32121 AT GRMP Peace River District 2021-2025\CAD\2021 INSTRUMENT\32121-PH071-1.dwg - REGRADING SITE - Sep. 08, 2021



- LEGEND**
- APPROXIMATE INSTRUMENT LOCATION
 - TREE LINE
 - GROUND CONTOURS
 - SI SLOPE INCLINOMETER
 - VW VIBRATING WIRE PIEZOMETER
 - VC VIBRATING WIRE LOAD CELL
 - SAA SHAPE ACCELEROMETER ARRAY

- NOTES:**
1. TOPOGRAPHIC SURVEY AND COORDINATE GEOMETRY INFORMATION AS OF DECEMBER 2015 AS SUPPLIED BY WSP.
 2. CONTOUR LINES ARE AT 1 m INTERVALS, MAJOR CONTOURS ARE LABELED AT FIVE METRE INTERVAL UNLESS NOTED OTHERWISE.
 3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.



BASE PLAN PROVIDED BY WSP

Alberta
Transportation

PEACE REGION (PEACE RIVER DISTRICT)

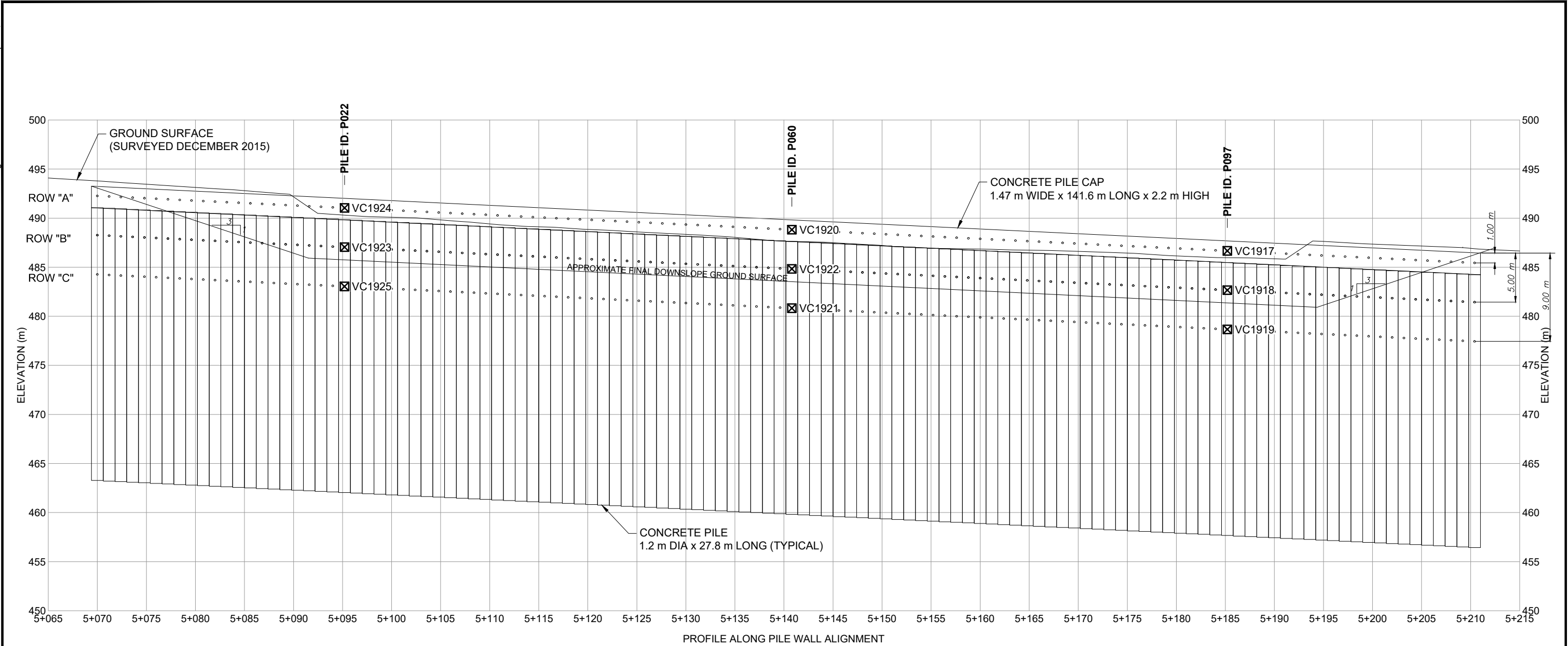
**PH071: PEACE RIVER DIASHOWA WEST HILL
INSTRUMENTATION READINGS**

DWG No. 32121-PH071-1


DRAWN BY	ML
DESIGNED BY	BWN
APPROVED BY	DWP
SCALE	1:1000
DATE	SEPTEMBER 2021
FILE No.	32121

THURBER

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LEGEND
X LOAD CELL LOCATION




PEACE REGION (PEACE RIVER DISTRICT)

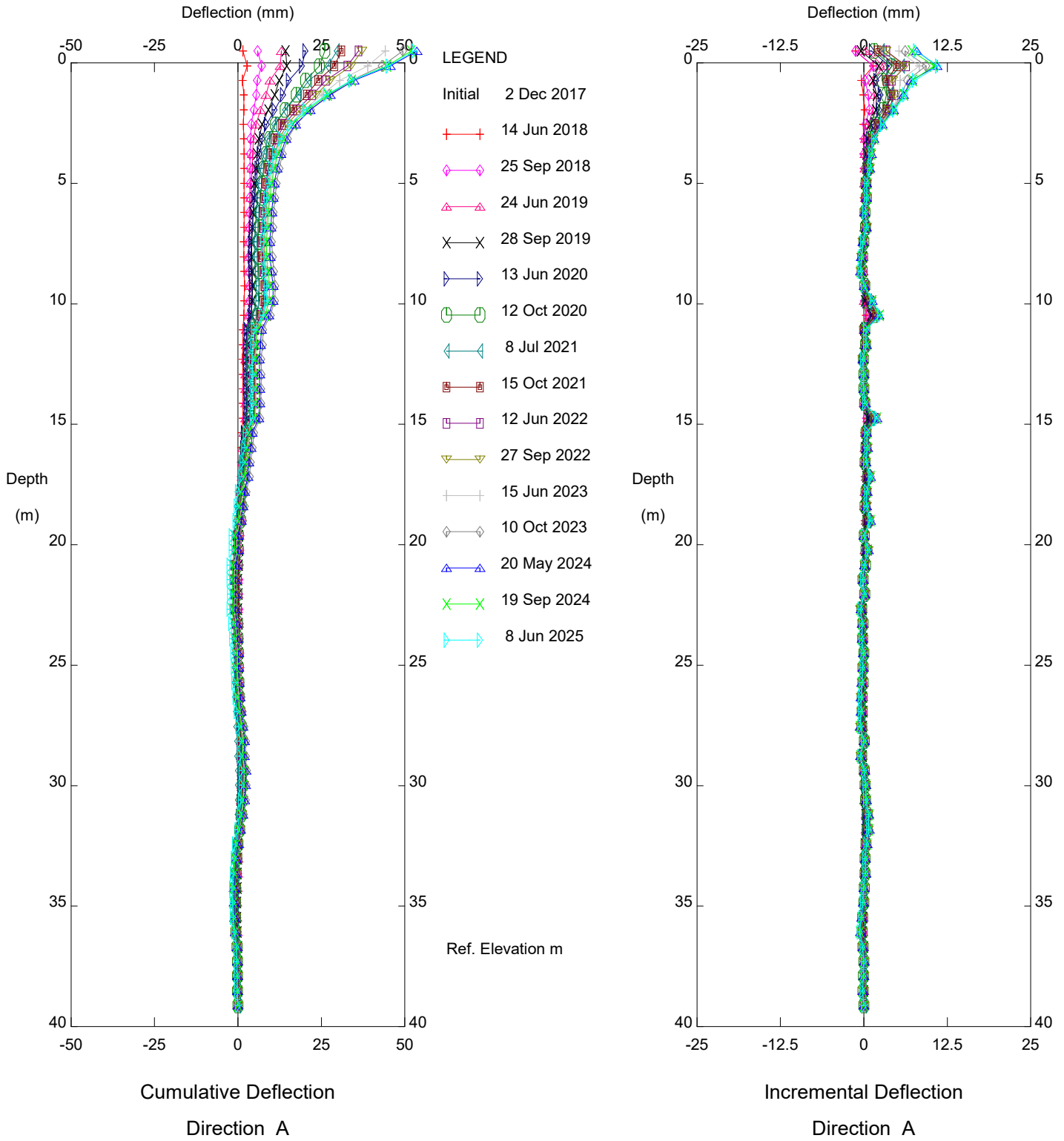
**PH071: PEACE RIVER DIASHOWA WEST HILL
INSTRUMENTATION READINGS**

DWG No. 32121-PH071-2

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FILE No.	32121



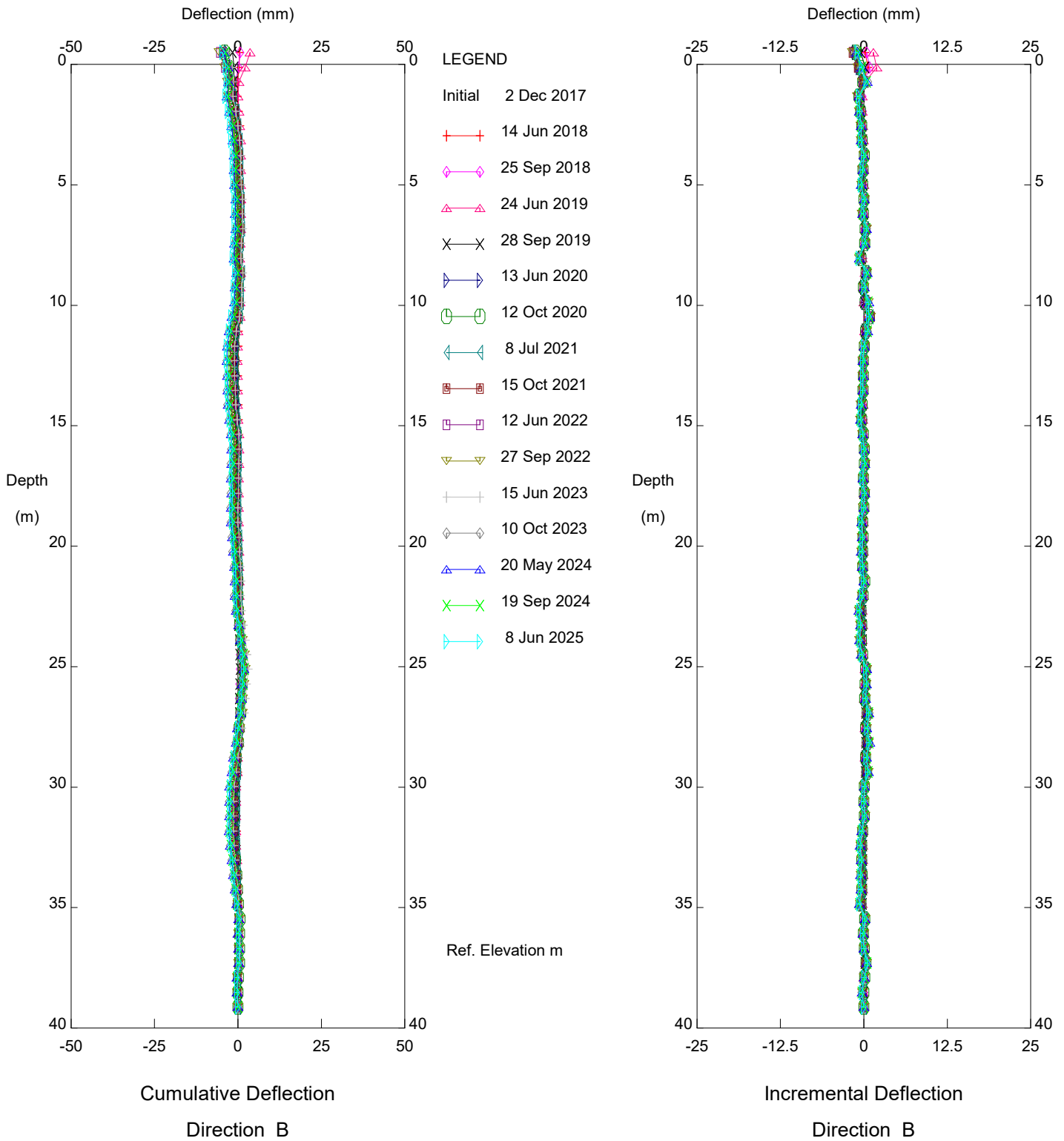
Thurber Engineering Ltd.



PH071 Daishowa West, Inclinometer SI16-3

Alberta Transportation

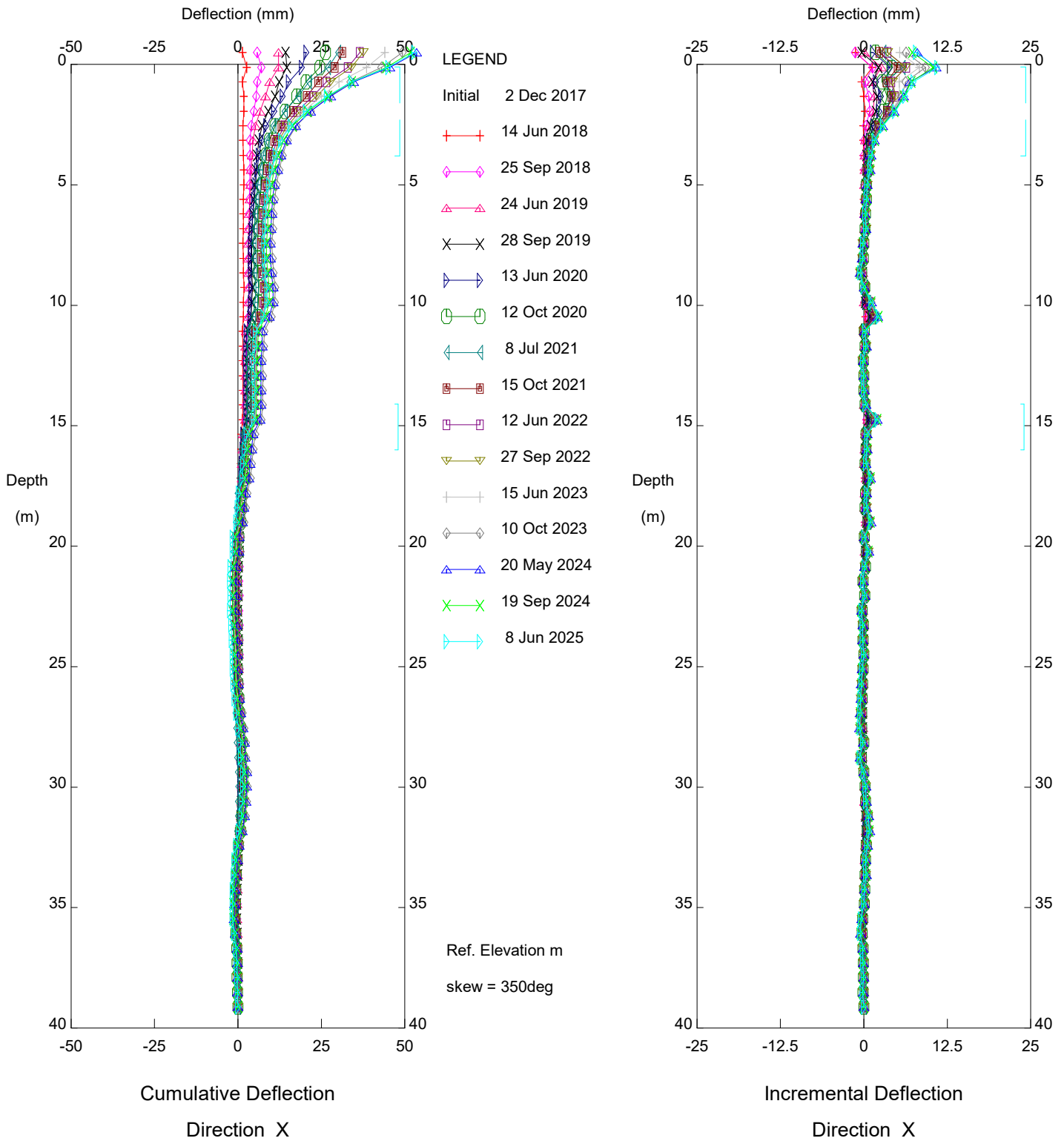
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PH071 Daishowa West, Inclinator SI16-3

Alberta Transportation

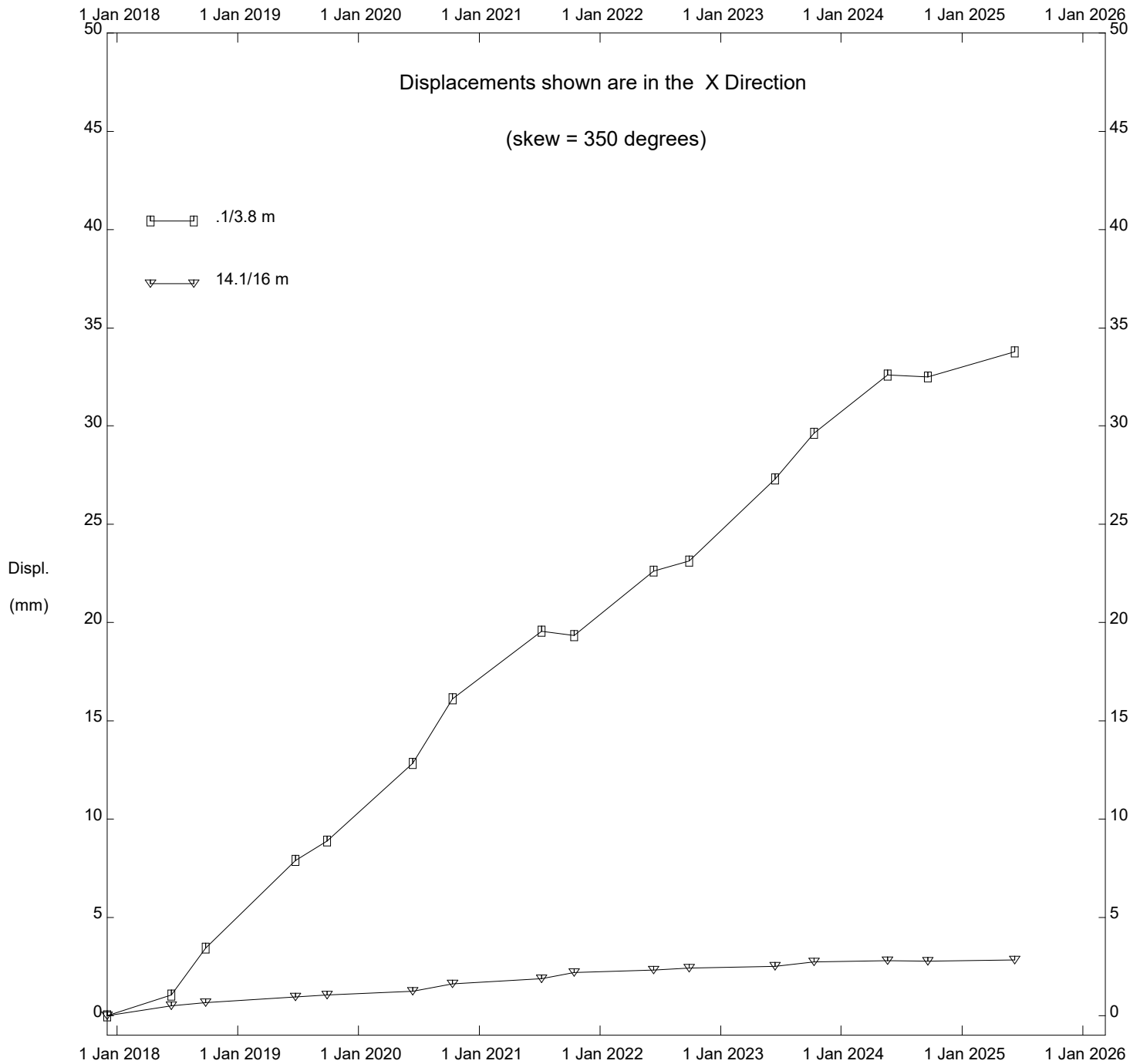
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Alberta Transportation

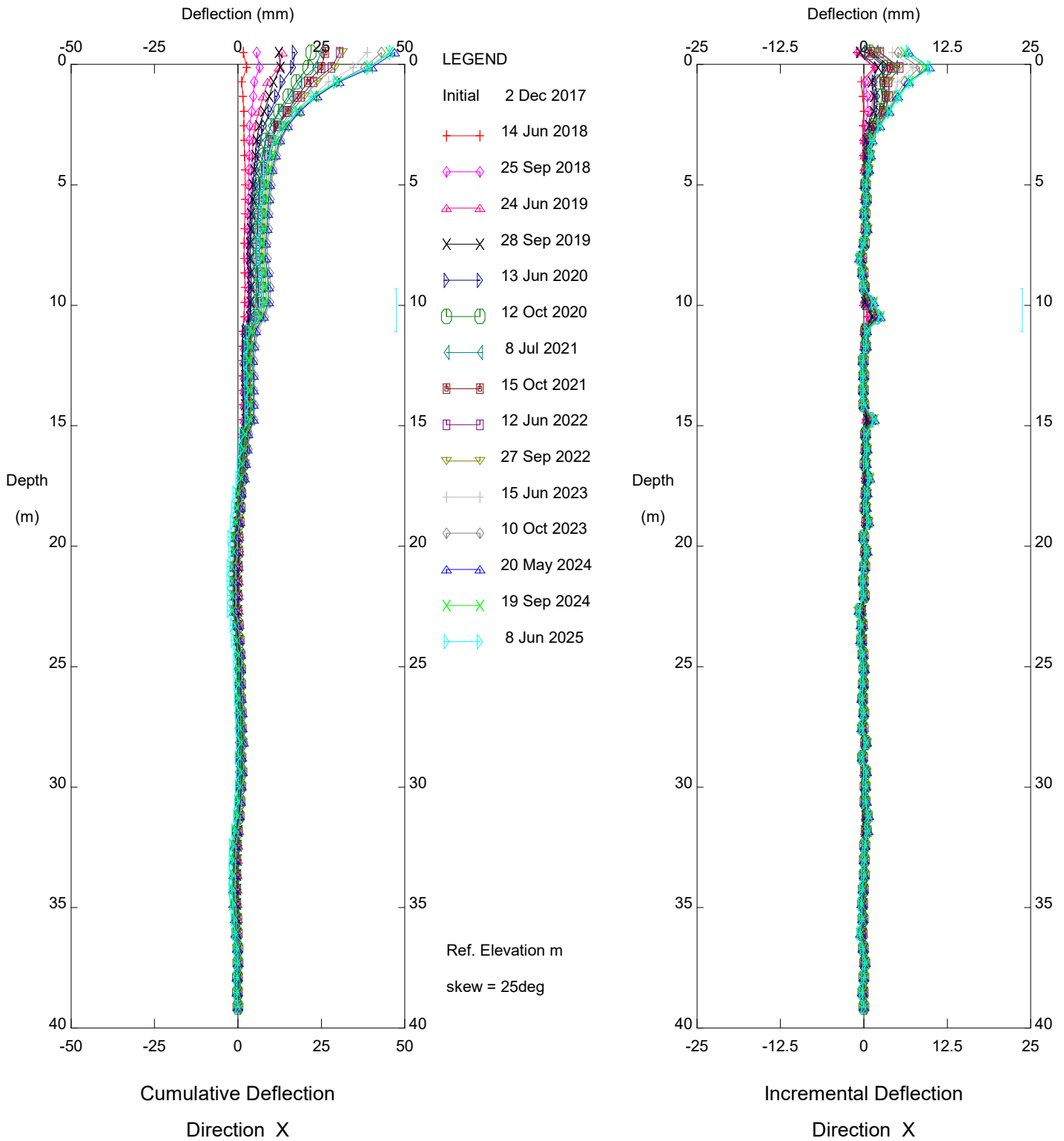
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Alberta Transportation

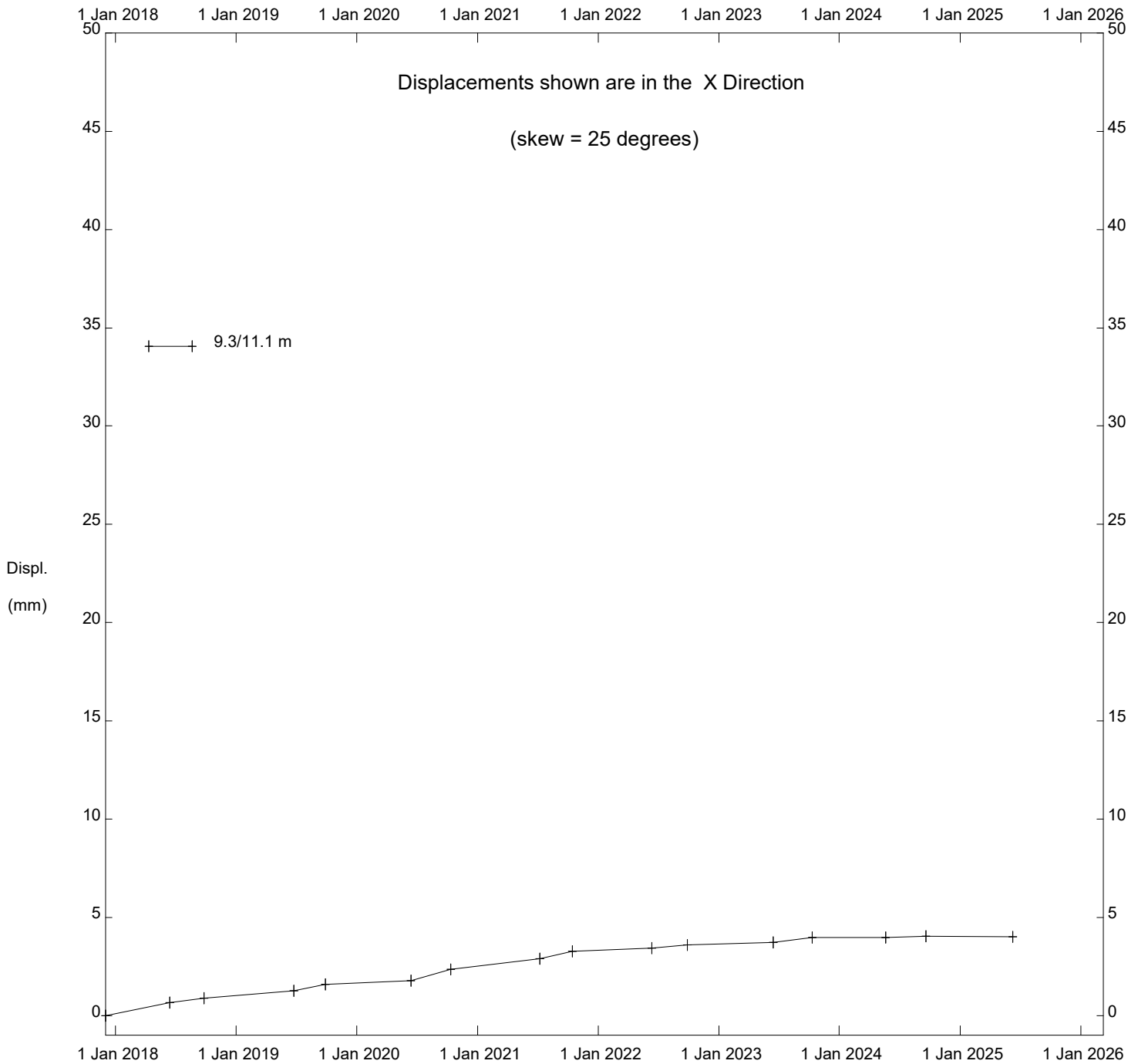
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PH071 Daishowa West, Inclinator SI16-3

Alberta Transportation

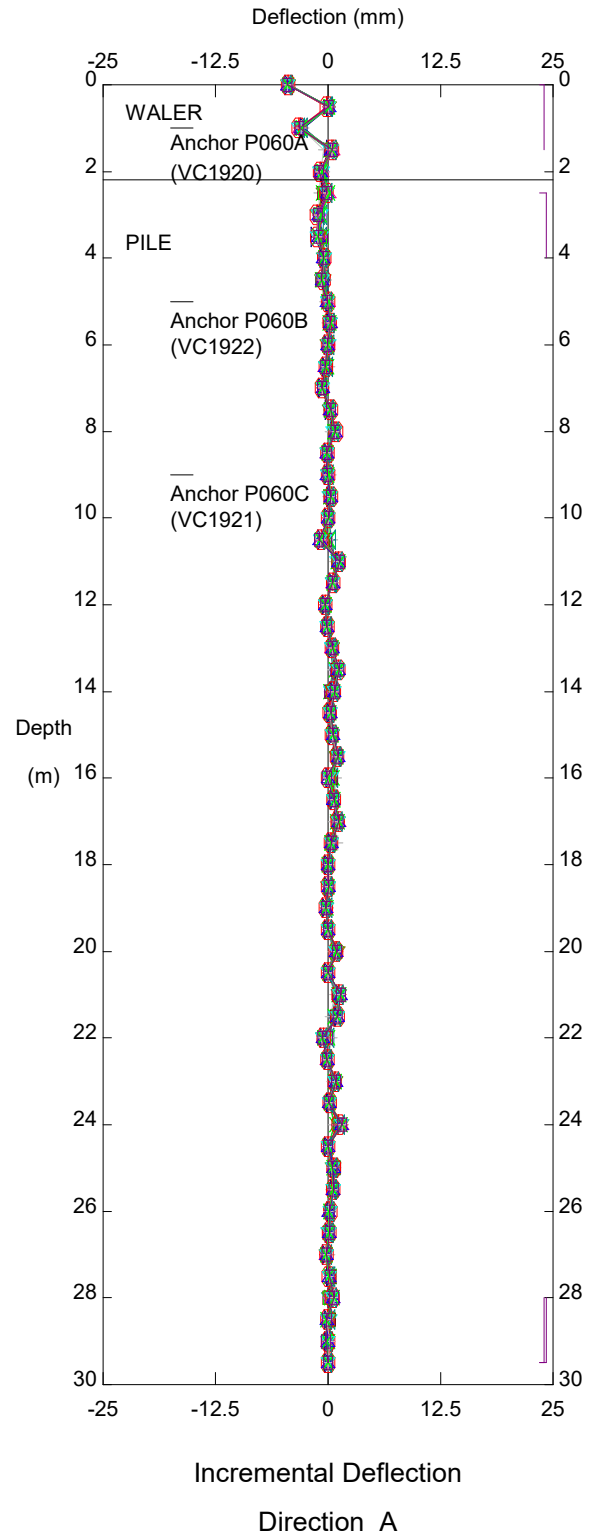
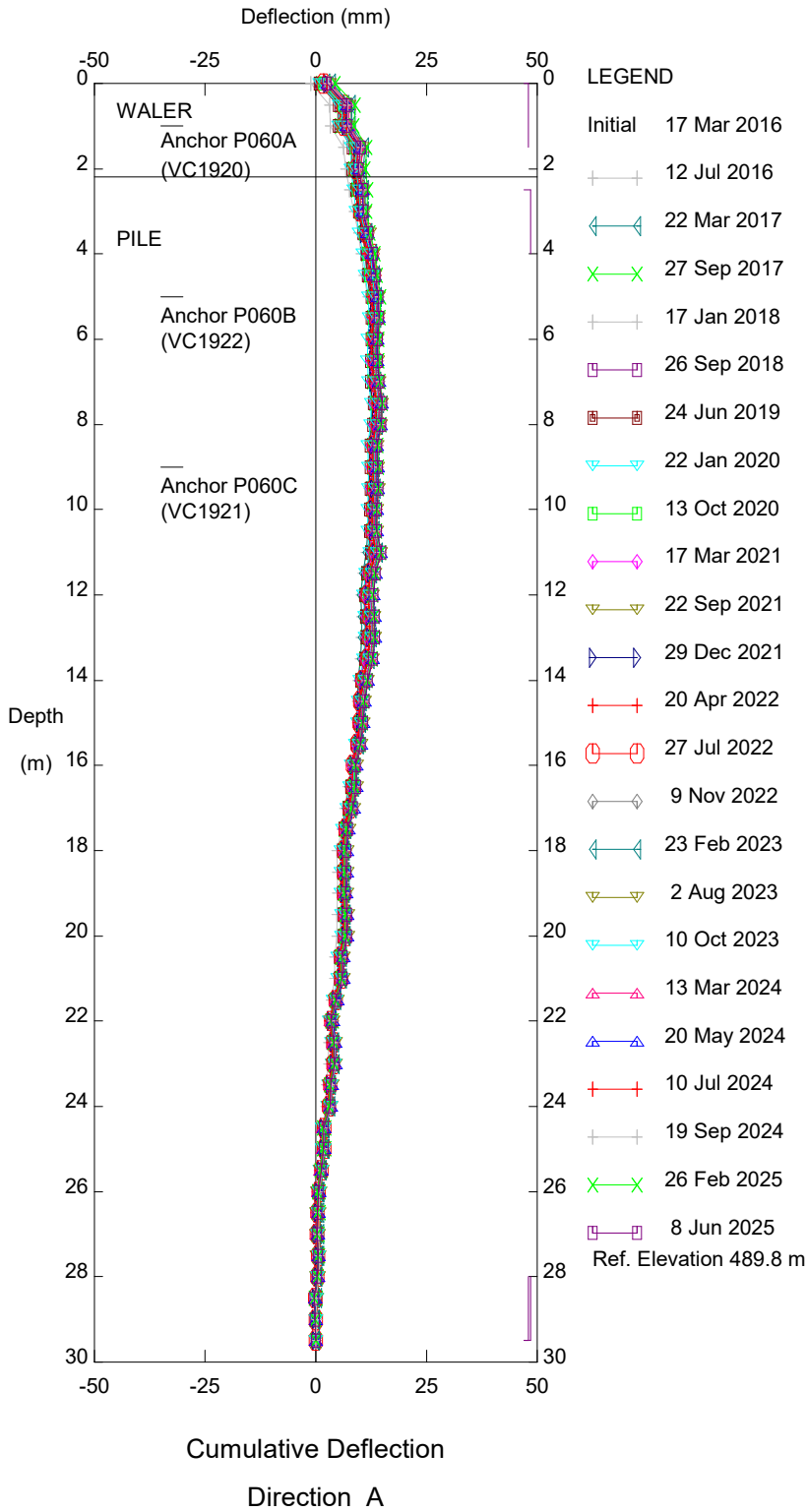
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PH071 Daishowa West, Inclinator SI16-3

Alberta Transportation

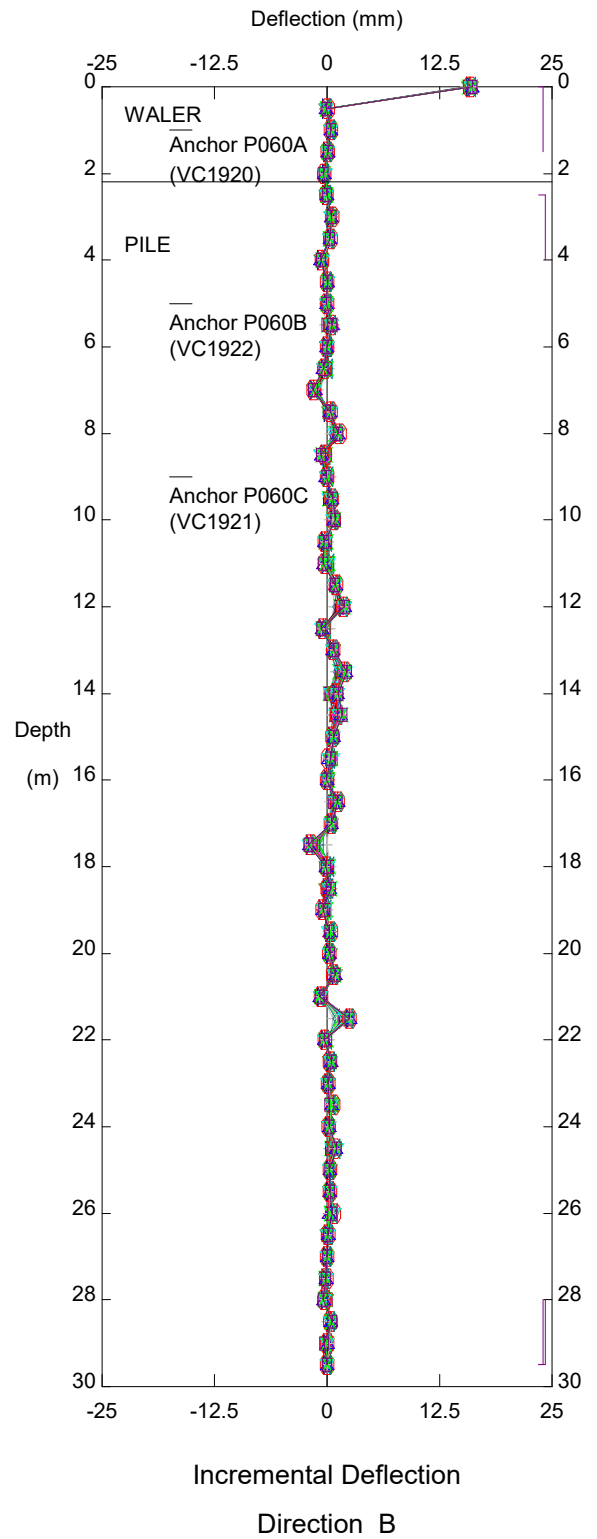
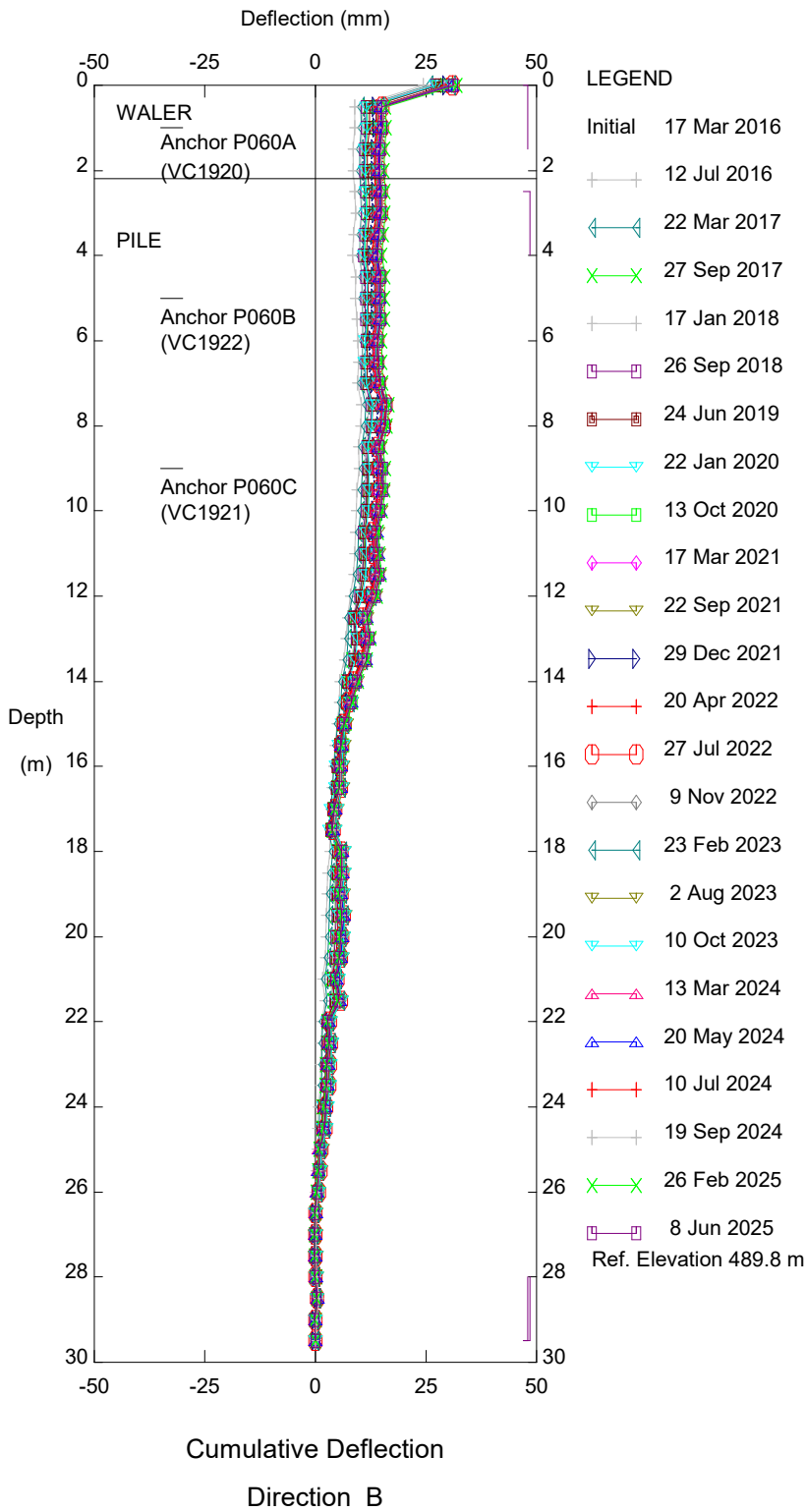
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Hwy 986:01 Daishowa West, Inclinator SAA-P060

Alberta Transportation

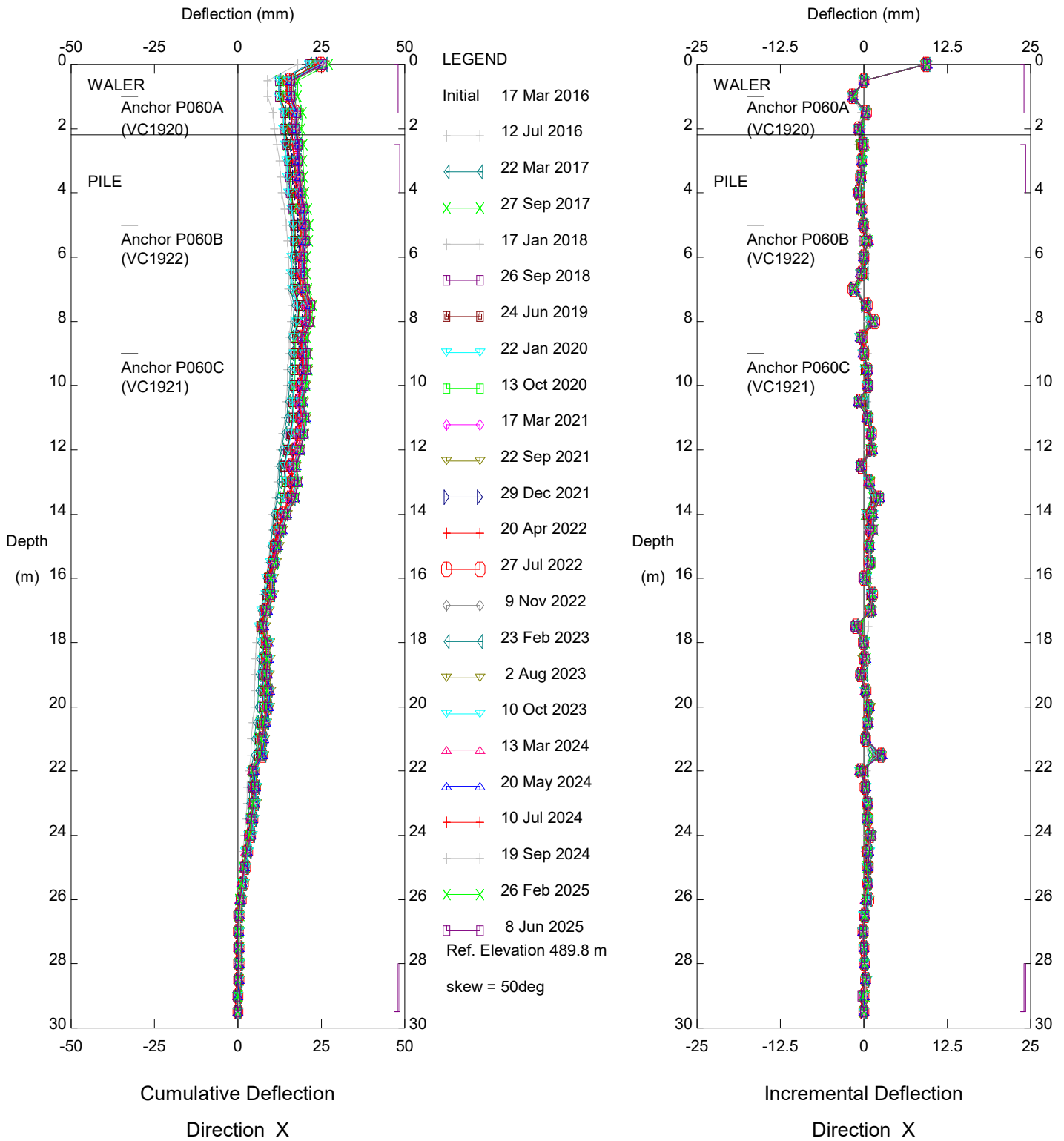
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Hwy 986:01 Daishowa West, Inclinometer SAA-P060

Alberta Transportation

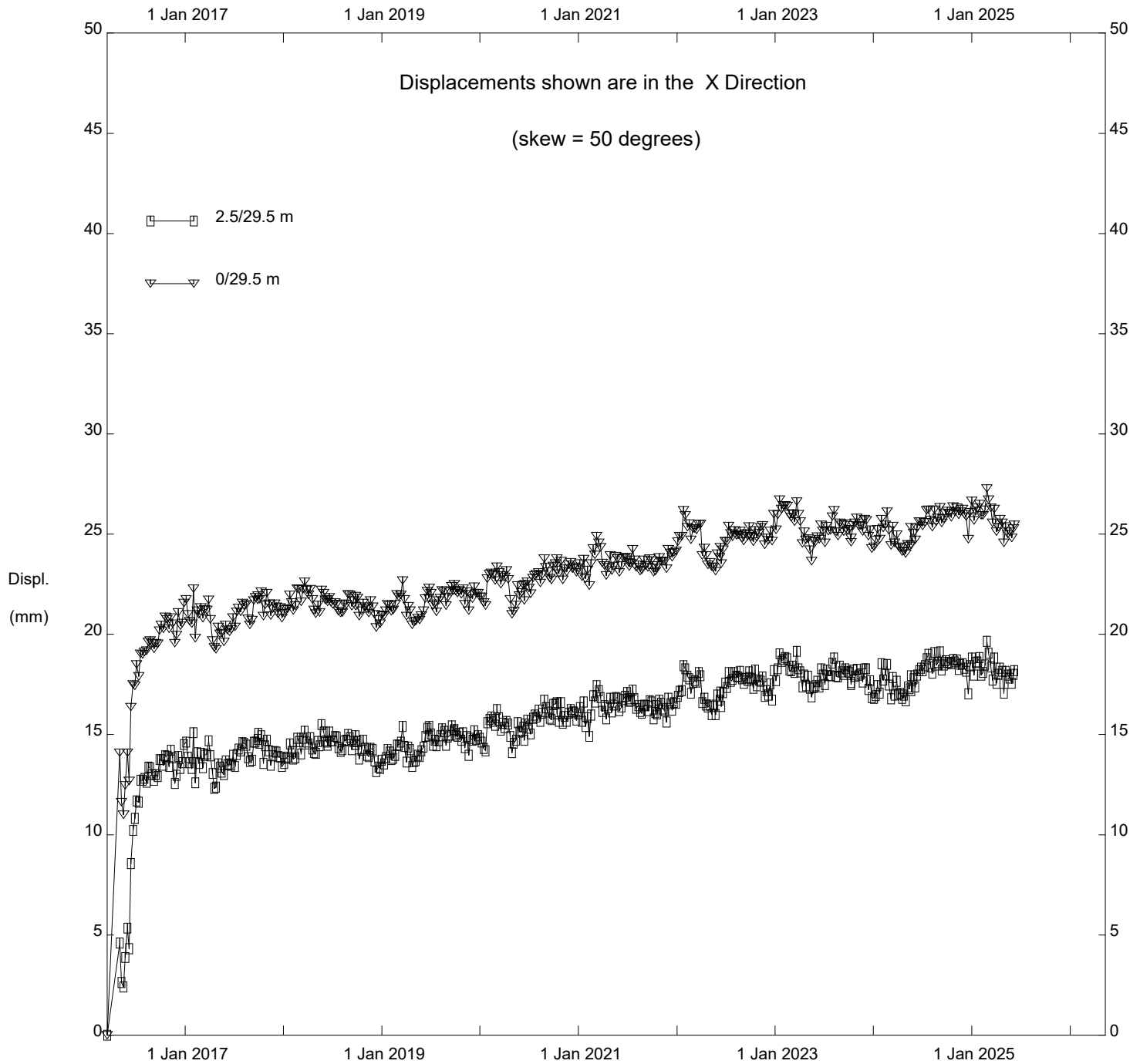
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Alberta Transportation

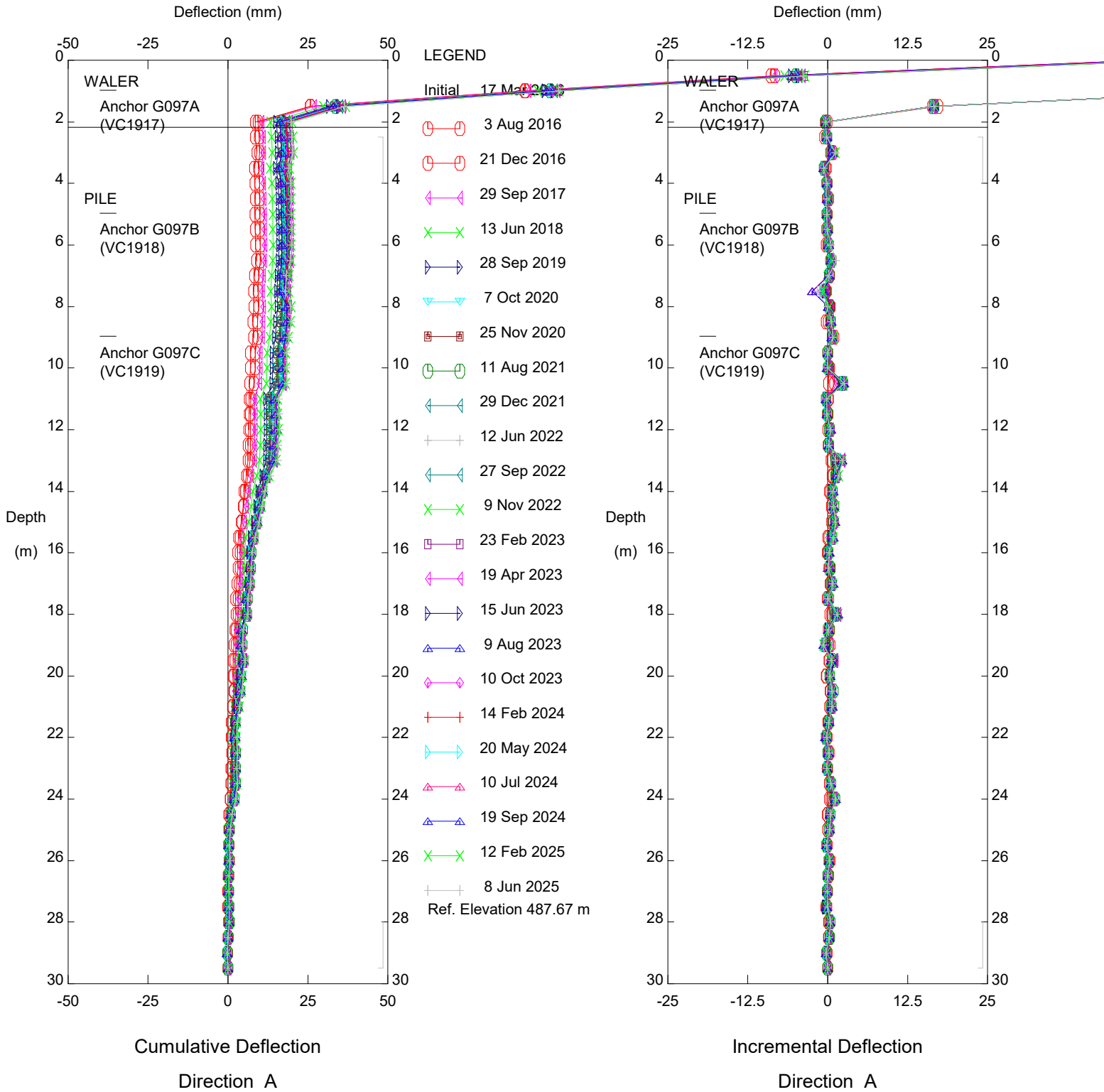
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Alberta Transportation

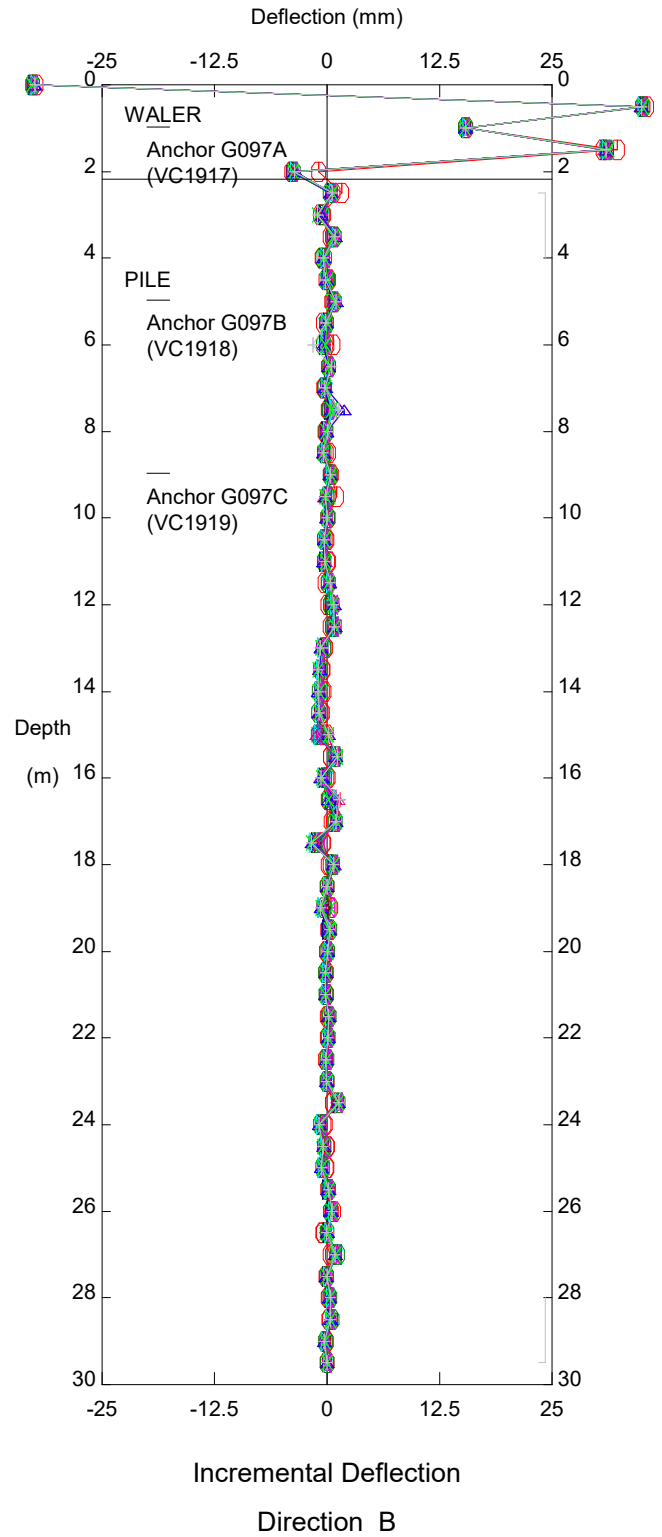
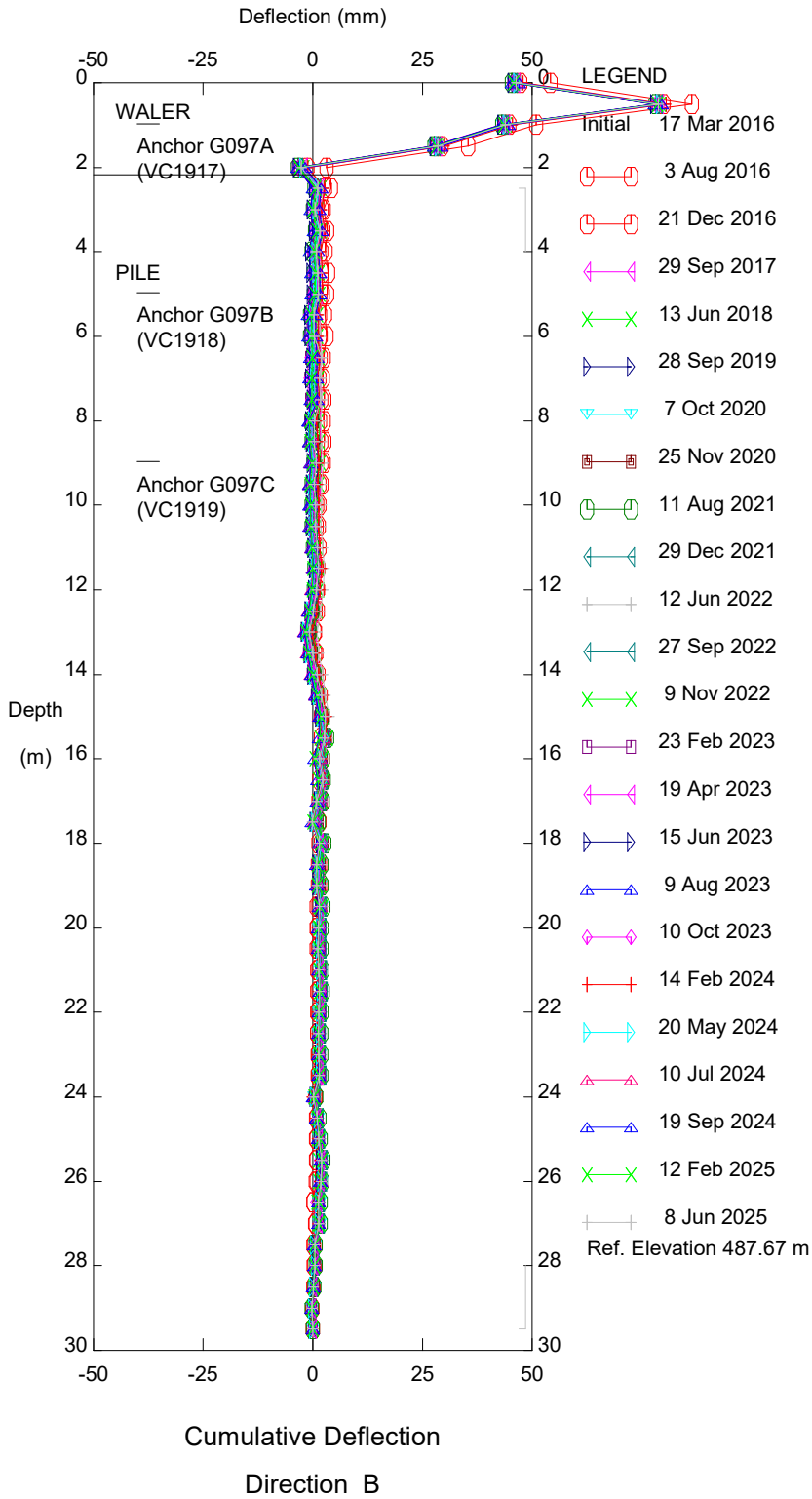
Thurber Engineering Ltd.



Hwy 986:01 Daishowa West, Inclinator SAA-P097

Alberta Transportation

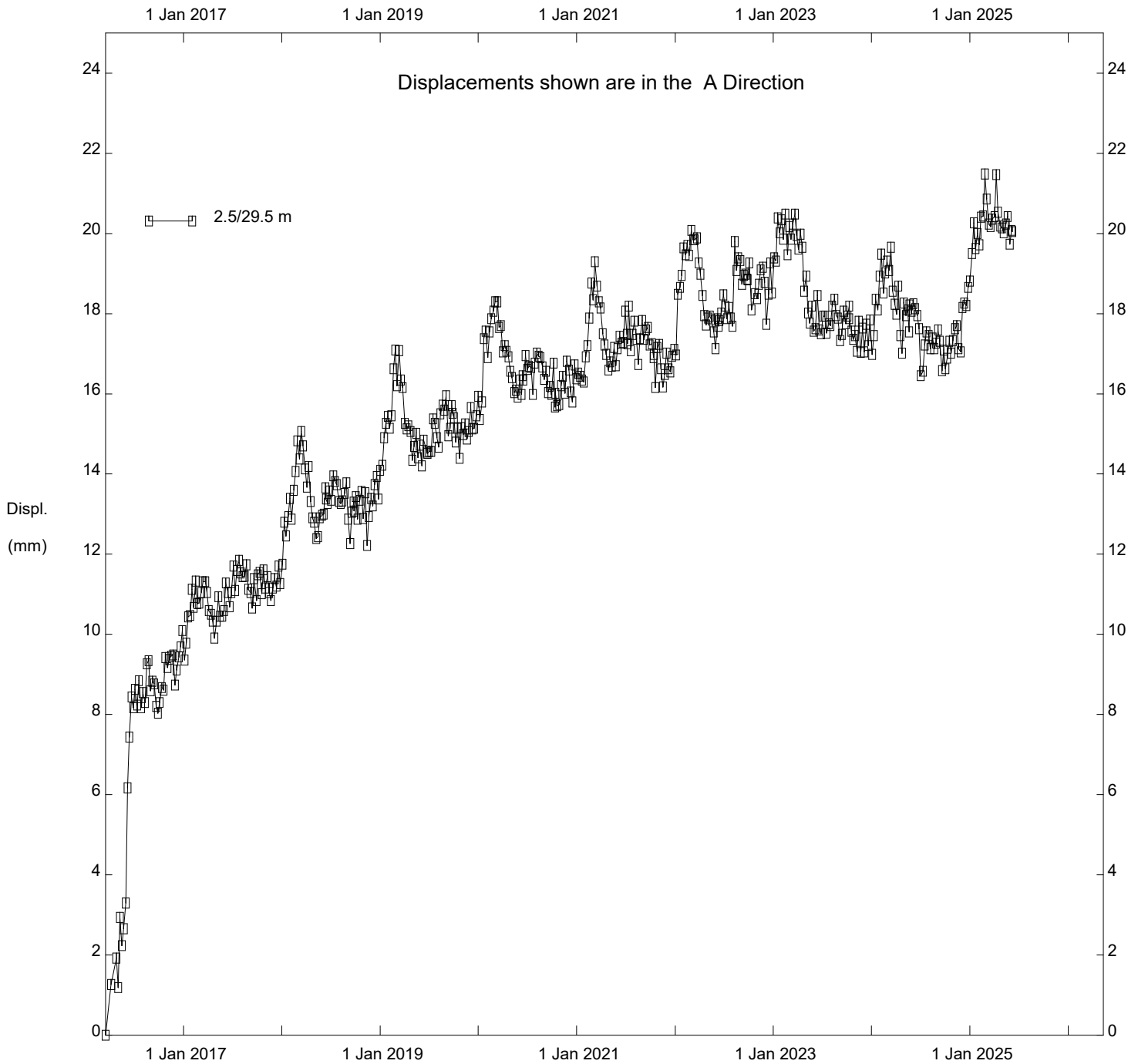
Thurber Engineering Ltd.



Hwy 986:01 Daishowa West, Inclinator SAA-P097

Alberta Transportation

Thurber Engineering Ltd.



Hwy 986:01 Daishowa West, Inclinator SAA-P097

Alberta Transportation

FIGURE PH071-1
PIEZOMETRIC ELEVATION FOR HWY 986:01, DAISHOWA WEST HILL
(UPSLOPE PIEZOMETERS)

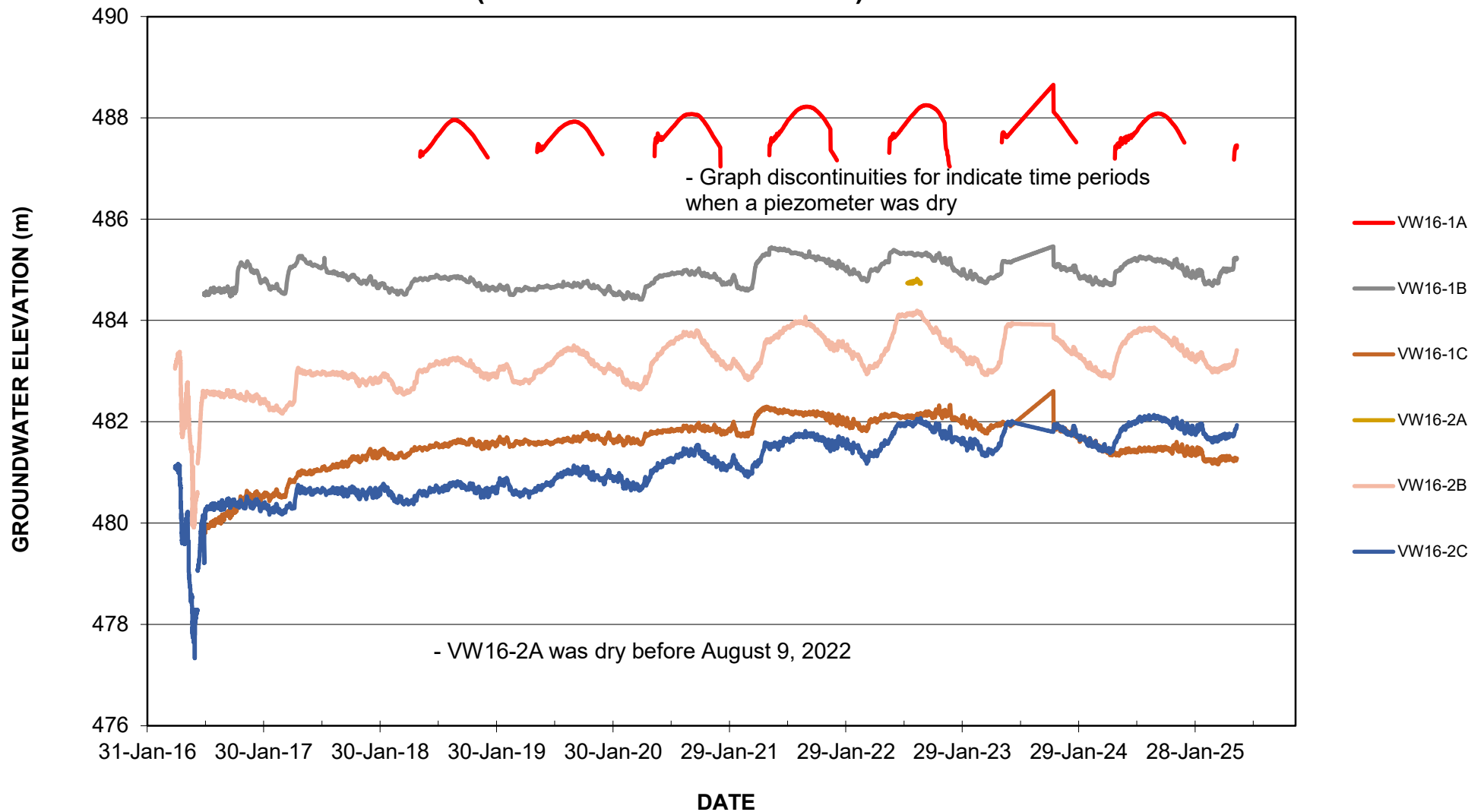
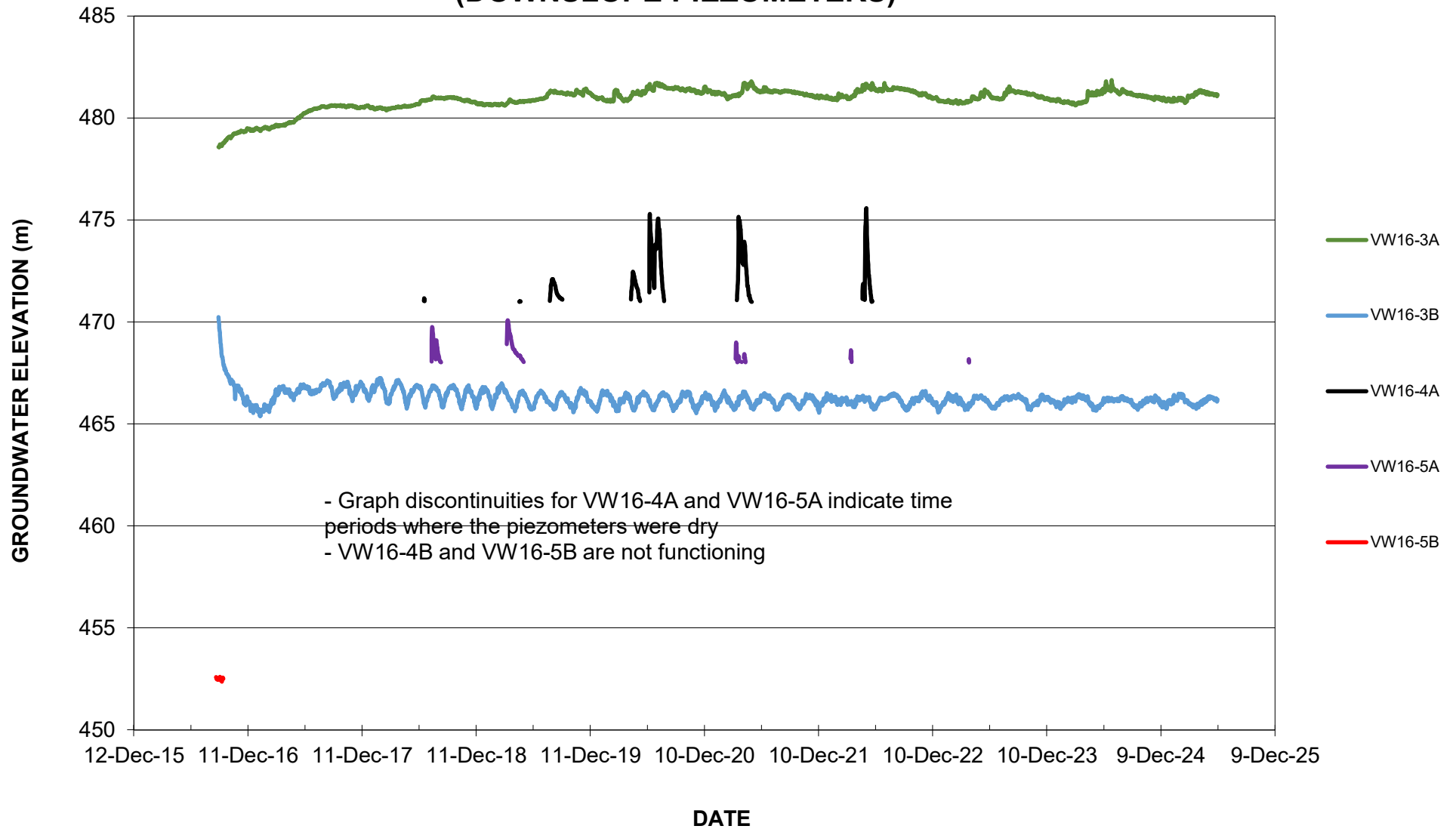


FIGURE PH071-2
PIEZOMETRIC ELEVATIONS FOR HWY 986:01, DAISHOWA WEST HILL
(DOWNSLOPE PIEZOMETERS)



PILE P66 DOWNSLOPE SIDE STRAIN GAUGE VALUES VS DEPTH

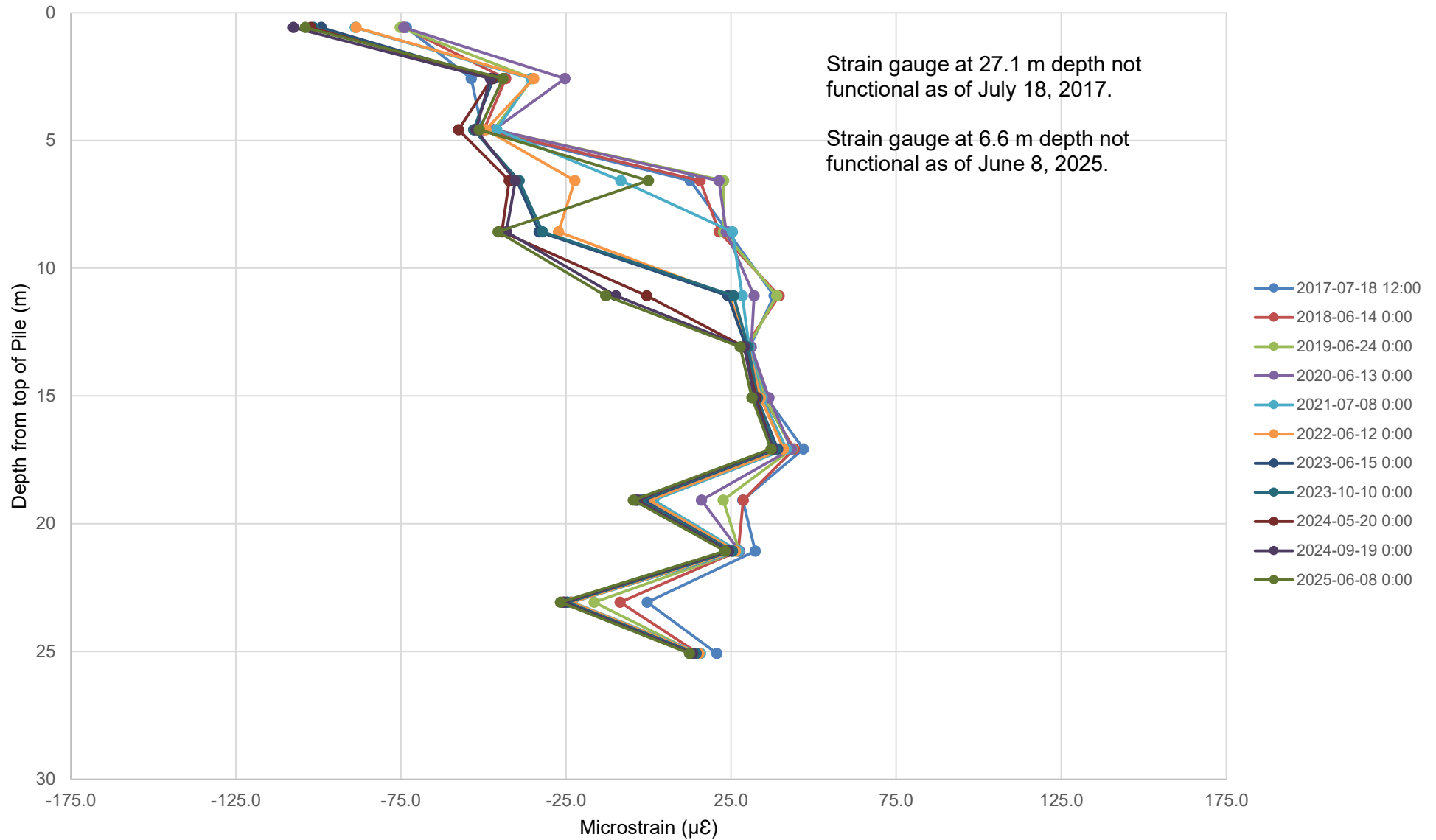


FIGURE PH071-4
HWY 986:01 DAISHOWA WEST HILL
PILE P66 UPSLOPE SIDE STRAIN GAUGE VALUES VS DEPTH

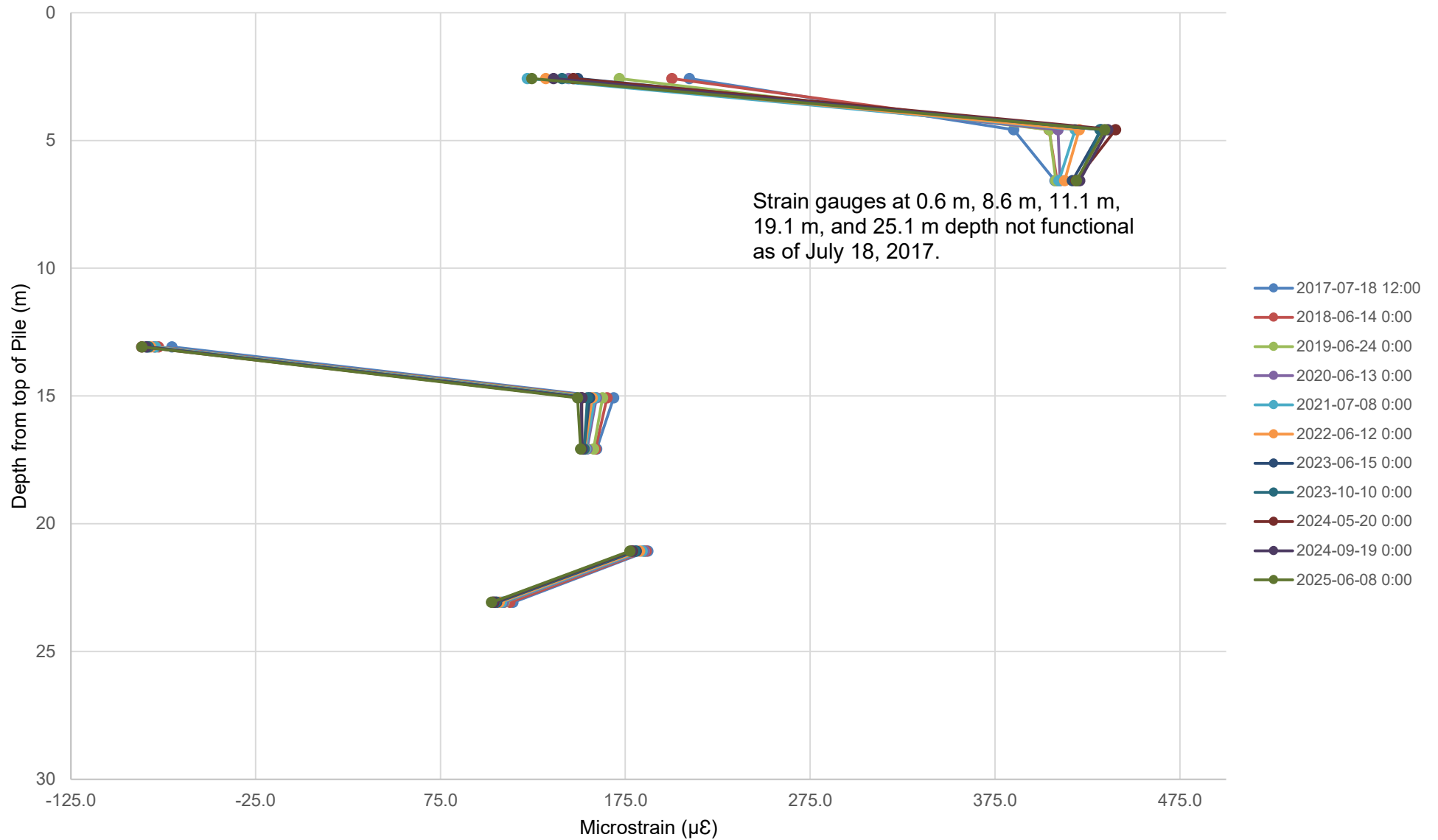


FIGURE PH071-5
LOAD CELL DATA FOR HWY 986:01, DAISHOWA WEST (PILE P022)

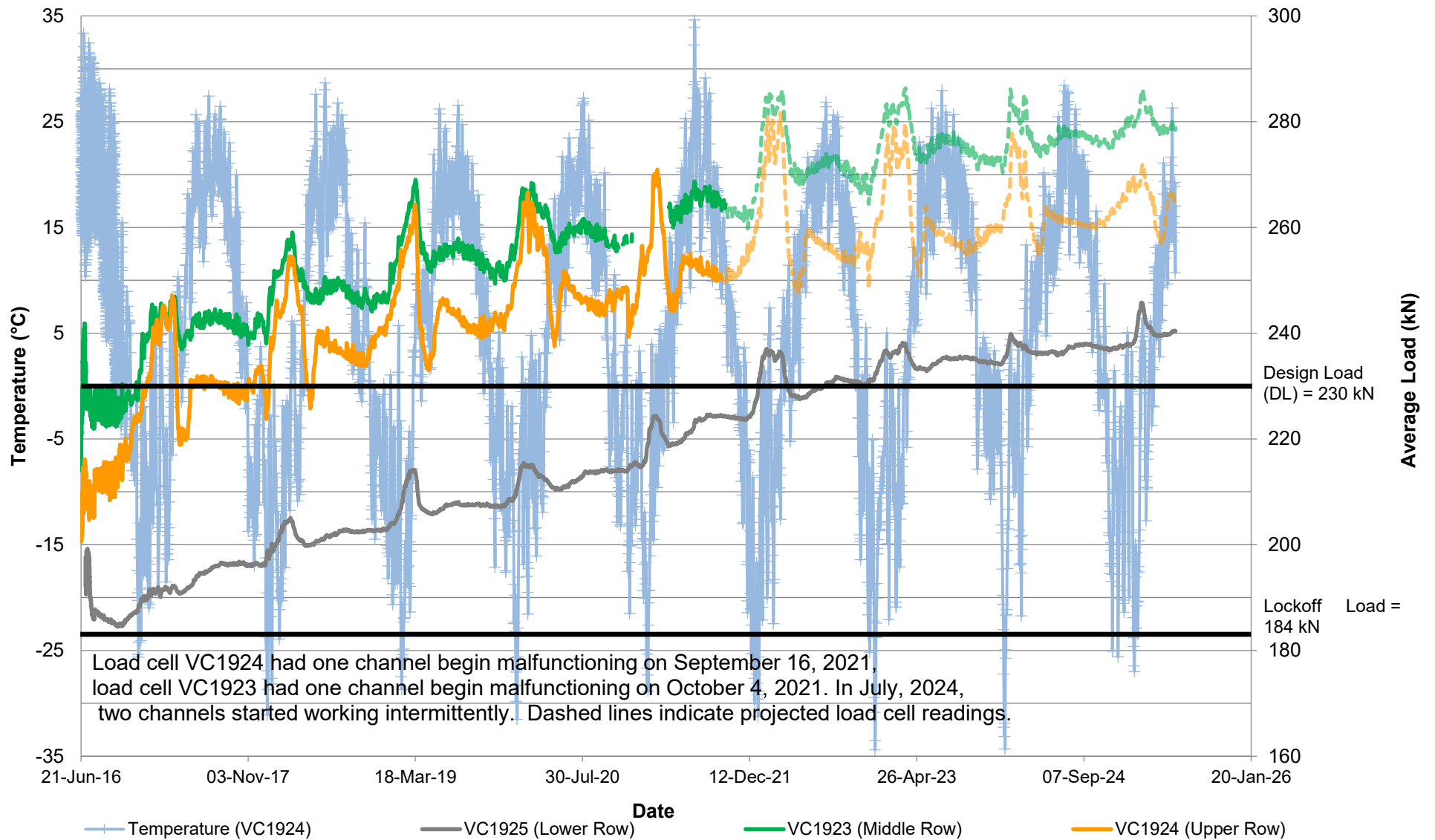


FIGURE PH071-6
LOAD CELL DATA FOR HWY 986:01, DAISHOWA WEST (PILE P060)

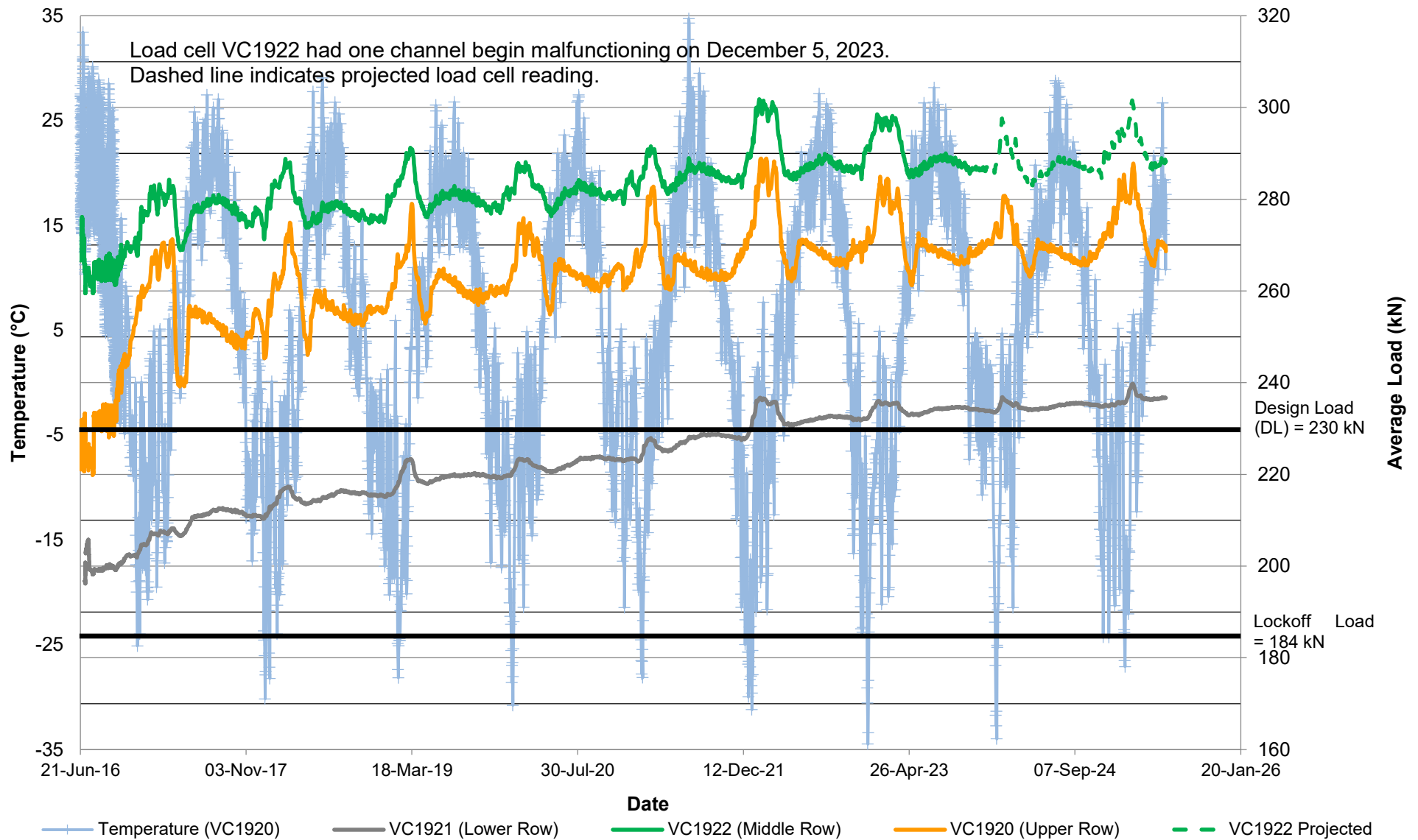


FIGURE PH071-7
LOAD CELL DATA FOR HWY 986:01, DAISHOWA WEST (PILE P097)

