

ALBERTA TRANSPORTATION AND
ECONOMIC CORRIDORS GRMP
NORTH CENTRAL (ATHABASCA AND FORT
McMURRAY DISTRICTS)
INSTRUMENTATION MONITORING – SPRING 2025



Site Number	Location	Name	Hwy	km
NC097	HWY 63:12 L1 0.093	Parsons Creek Interchange	63:12	km 0.09
Legal Description: 12-5-87-10 W6		UTM Co-ordinates		
		12V E 473714	N	6293608

Current Monitoring:	27-May-2025	Previous Monitoring	12-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): SI14-05, SI15-14, SI1409A, SI14-13, SI14-14, SI14-19	Pneumatic Piezometers (PN): N/A	Vibration Wire Piezometers (VW): PZ14-15, PZ14-19, PZ14-20, PZ14-28a, PZ14-29a, PZ14-30a, PZ14-33, PZ14-34, PZ14-35, PZ14-36, PZ14-37, PZ14-38, PZ14-39, PZ14-40, PZ14-41, PZ14-42, PZ14-43, PZ14-46, PZ14-47, PZ14-48, PZ14-49, PZ14-50, PZ15-03, PZ15-04, PZ15-05, PZ15-06, PZ15-07, PZ15-09, PZ15-10	Standpipe Piezometers (SP): N/A
Load Cell (LC): N/A	Strain Gauges: N/A	SAAs: N/A	Others: Settlement Cells: (SC14-09, SC14-12, SC15-04, SC15-06)

Readout Equipment Used			
Slope Inclinometers: RST Digital Inclinator probe with a 2 ft. wheelbase and an RST Pocket PC readout	Pneumatic Piezometers:	Vibration Wire Piezometers: RST VW2106 and a GEOKON GK-404 vibrating wire readout	Standpipe Piezometers:
Load Cell:	Strain Gauges:	SAAs:	Others: RST VW2106 and a GEOKON GK-404 vibrating wire readout
Notes: - SI14-13, SI14-14, and SI14-19 found to be sheared since the spring of 2024 readings.			

Discussion	
Zones of New Movement:	None
Interpretation of Monitoring Results:	<u>Parsons Interchange:</u> Slope inclinometer SI14-05, installed near the west headslope of the bridge, showed a rate of movement of 1.8 mm/yr over 1.5 m to 4.6 m depth and a rate of movement of 1.0 mm/yr over 4.6 m to 9.4 m depth since the fall of 2024 readings. SI15-14 showed no discernible movement since it was last read in the spring of 2024. PZ14-15 showed an increase in groundwater level of 0.25 m since it was last read in the fall of 2024. PZ14-19 and PZ14-20 showed decreases in ground water levels of 0.08 m and 0.38 m, respectively, since they were last read in the fall of 2024. PZ14-04 and PZ15-10 showed decreases in groundwater level of 0.03 m and 0.10 m, respectively since they were last read in the spring of 2024. PZ15-05, PZ15-06, and PZ15-07 showed increases in groundwater level of 0.04 m, 0.10 m, and 0.10 m, respectively, since they were last read in the spring of 2024. PZ15-03 and PZ15-09 were dry during the current readings. Settlement cells SC14-09, SC14-12, SC15-04, and SC15-05 showed increases in settlement by 83.34 mm, 2.59 mm, 6.18 mm, and 5.80 mm, respectively, compared to the fall of 2024 readings. <u>Hwy 686 Cut Slope:</u> SI14-09A showed a rate of movement of 0.1 mm/yr over 19.5 m to 22.6 m depth since the spring of 2024 readings. PZ14-28a, PZ14-30a, PZ14-33, PZ14-34, PZ14-37, PZ14-38, PZ14-40, and PN14-46 showed decreases in groundwater level of 0.13 m, 0.01 m, 0.50 m, 0.45 m, 0.12 m, 0.11 m, 0.97 m, and 0.17 m, respectively, since the spring of 2024 readings. PZ14-29a, PZ14-35, PZ14-36, PZ14-39, PZ14-41, PZ14-47, and PZ14-49 showed increases in groundwater levels of 0.49 m, 0.95 m, 0.80 m, 0.01 m, 0.09 m, 0.11 m, and 5.04 m, respectively, since the spring of 2024 readings. PZ14-50 was previously dry and is now indicating a groundwater level 3.25 m above the piezometric tip elevation. The current readings in PN14-49, and PN14-50 are the highest recorded in these instruments since they were initialized. PZ14-42, PZ14-43, and PZ14-48 were dry.
Future Work:	The operational instruments at this site should be read again in the spring of 2026. Due to the movement noted within the west headslope of the bridge, it is also recommended that SI14-5, SC14-12, SC14-09, PZ14-19, PZ14-20, PZ14-15, located in the vicinity of the bridge west headslope, be read again in the fall of 2025.
Instrumentation Repairs:	Consideration should be given to replacing the sheared slope indicators along the HWY 686 Cut slope, allowing for continued monitoring in those locations.
Additional Comments:	

Attachments:	• Table NC097-1 Spring 2025 – HWY 63:12 Parsons Creek Interchange, Slope Inclinometer Instrumentation Reading Summary • Table NC097-2 Spring 2025 – HWY 63:12 Parsons Creek Interchange, Vibrating Wire Piezometer Instrumentation Reading Summary • Table NC097-3 Spring 2025 – HWY 63:12 Parsons Creek Interchange, Settlement Gauge Instrumentation Reading Summary • Statement of Limitations and Conditions • APPENDIX A – NC097-1 SPRING 2025 - o Field Inspector's report - o Site Plan Showing Approximate Instrument Locations (Drawing No. 32122-NC097) - o Parsons Interchange Instruments ▪ SI Reading Plot(s) ▪ Vibrating Wire Piezometer Plots (Figures PZ1 through PZ6) ▪ Vibrating Wire Settlement Cell Plots (Figures SC1 through SC4) - o HWY 686 Cut Slope Instruments ▪ SI Reading Plot(s) ▪ Vibrating Wire Piezometer Plots (Figures 686-1 through 686-14)
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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 NC097-1: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Slope Inclinomometer Instrumentation Reading Summary

Date Monitored: May 27, 2025

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)
Parsons Interchange								
SI14-05	August 27, 2014	75.0 mm over 1.5 m to 4.6 m in 98° direction	99.0 on May 28, 2015	Operational	September 12, 2024	1.2	1.8	-0.6
		103.3 mm over 4.6 m to 9.4 m in 98° direction	66.2 on October 15, 2014			0.7	1.0	-1.3
SI15-14	May 16, 2015	89.5 over 3.4 m to 12.5 m in 355° direction	877.9 June 22, 2015	Operational	June 9, 2024	No Discernible Movement	N/A	-6.8
HWY 686 Cut Slope								
SI14-09A	May 6, 2014	19.2 over 19.5 m to 22.6 m in 130° direction	26.9 on October 27, 2014	Operational	June 9, 2024	0.2	0.1	-0.7
SI14-11	August 27, 2014	41.9 over 4.6 m to 5.8 m in 145° direction	34.4 on September 19, 2014	Sheared at 4.9 m below top of casing	June 26, 2021	N/A	N/A	N/A
SI14-13	August 24, 2014	45.3 over 10.1 m to 11.3 m in 28° direction	25.4 on October 9, 2014	Sheared at 10.4 m below top of casing	June 9, 2024	N/A	N/A	N/A

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-1 – Continued: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Slope Inclinator Instrumentation Reading Summary

Date Monitored: May 27, 2025

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)
HWY 686 Cut Slope - Continued								
SI14-14	August 24, 2014	49.4 over 4.0 m to 5.8 m in 354° direction	35.6 on September 19, 2014	Sheared at 4.9 m below top of casing	June 9, 2024	N/A	N/A	N/A
		23.4 over 9.4 m to 11.3 m in 354° direction	12.1 on September 19, 2014			N/A	N/A	N/A
SI14-16	August 25, 2014	48.8 over 11.9 m to 13.7 m in 138° direction	46.9 on September 19, 2014	Sheared at 12.8 m below top of casing	September 24, 2020	N/A	N/A	N/A
SI14-18	April 4, 2014	16.2 over 13.1 m to 14.3 m in 26° direction	13.0 on September 24, 2020	Sheared at 2.7 m below top of casing	June 26, 2021	N/A	N/A	N/A
		13.0 over 27.7 m to 29.6 m in 26° direction	14.3 on July 16, 2015			N/A	N/A	N/A
SI14-19	April 2, 2014	63.8 over 5.8 m to 7.6 m in 32° direction	32.0 on August 24, 2014	Sheared at 6.7 m below top of casing	June 9, 2024	N/A	N/A	N/A

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-1 – Continued: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Slope Inclinator Instrumentation Reading Summary

Date Monitored: Not Monitored.

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)
HWY 686 Cut Slope - Continued								
SI15-21	October 1, 2015	87.9 over 2.7 m to 5.2 m in 12° direction	82.5 on September 25, 2020	Sheared at 3.0 m below top of casing	September 25, 2020	N/A	N/A	N/A
		21.3 over 6.4 m to 8.2 m in 12° direction	30.9 on October 9, 2015			N/A	N/A	N/A
		3.6 over 9.4 m to 11.3 m in 12° direction	8.0 on October 9, 2015			N/A	N/A	N/A

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-2: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Vibrating Wire Piezometer Instrumentation Reading Summary

Date Monitored: May 27, 2025

INSTRUMENT #	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM GROUNDWATER ELEV. (m)	CURRENT GROUNDWATER ELEV. (m)	PREVIOUS GROUNDWATER ELEV. (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
Parsons Interchange								
PZ14-15 (30825)	December 1, 2014	247.78	258.75	Operational	260.92 on June 28, 2015	252.77	252.52 (Sep. 12, 2024)	0.25
PZ14-19 (30827)	November 27, 2014	246.35	258.24	Operational	260.97 on June 28, 2015	252.52	252.60 (Sep. 12, 2024)	-0.08
PZ14-20 (30828)	November 27, 2014	253.67	258.24	Operational	262.41 on August 15, 2015	253.75	254.13 (Sep. 12, 2024)	-0.38
PZ15-03 (31641)	February 6, 2015	256.83	259.35	Operational	261.31 on June 29, 2015	DRY	DRY (June 9, 2024)	N/A
PZ15-04 (31642)	February 6, 2015	247.08	259.35	Operational	260.58 on June 29, 2015	251.93	251.96 (June 9, 2024)	-0.03
PZ15-05 (30959)	January 25, 2015	258.61	262.27	Operational	268.65 on August 28, 2015	262.21	262.17 (June 9, 2024)	0.04
PZ15-06 (30960)	January 25, 2015	251.60	262.27	Operational	267.25 on August 28, 2015	259.31	259.21 (June 9, 2024)	0.10
PZ15-07 (30961)	January 22, 2015	257.73	262.30	Operational	269.68 on August 23, 2015	262.26	262.16 (June 9, 2024)	0.10
PZ15-09 (30855)	January 21, 2015	257.72	260.16	Operational	269.03 on June 28, 2015	DRY	DRY (June 9, 2024)	N/A
PZ15-10 (30956)	January 21, 2017	254.06	260.16	Operational	272.21 on August 18, 2015	255.87	255.97 (June 9, 2024)	-0.10

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-2 – Continued: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Vibrating Wire Piezometer Instrumentation Reading Summary

Date Monitored: May 27, 2024 (Previously monitored June 9, 2024)

INSTRUMENT #	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM GROUNDWATER ELEV. (m)	CURRENT GROUNDWATER ELEV. (m)	PREVIOUS GROUNDWATER ELEV. (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
HWY 686 Cut Slope								
PZ14-28a (28239)	April 29, 2014	323.28	333.43	Operational	325.05 on November 11, 2014	324.06	324.19	-0.13
PZ14-29a (28240)	April 29, 2014	313.62	333.43	Operational	315.24 on August 29, 2014	314.37	313.88	0.49
PZ14-30a (28241)	April 29, 2014	307.06	333.43	Operational	310.70 on June 9, 2024	310.69	310.70	-0.01
PZ14-31 (29840)	August 25, 2014	307.96	324.11	Damaged	315.24 on February 15, 2015	N/A	309.57 (June 26, 2021)	N/A
PZ14-32 (29847)	August 25, 2014	314.06	324.11	Damaged	316.44 on October 8, 2014	N/A	313.98 (June 26, 2021)	N/A
PZ14-33 (29841)	August 25, 2014	307.03	314.03	Operational	310.75 on June 9, 2024	310.25	310.75	-0.50
PZ14-34 (21878)	April 2, 2014	326.35	335.86	Operational	328.43 on October 8, 2014	326.18	326.63	-0.45
PZ14-35 (21879)	April 2, 2014	316.23	335.86	Operational	322.26 on May 28, 2023	319.74	318.79	0.95
PZ14-36 (28235)	April 2, 2014	306.78	335.86	Operational	322.18 on May 28, 2023	319.66	318.86	0.80
PZ14-37 (29842)	August 23, 2014	314.33	324.33	Operational	318.17 on September 25, 2020	314.69	314.81	-0.12

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-2 – Continued: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Vibrating Wire Piezometer Instrumentation Reading Summary

Date Monitored: May 27, 2024 (Previously monitored June 9, 2024)

INSTRUMENT #	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM GROUNDWATER ELEV. (m)	CURRENT GROUNDWATER ELEV. (m)	PREVIOUS GROUNDWATER ELEV. (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
HWY 686 Cut Slope - Continued								
PZ14-38 (29848)	August 23, 2014	308.23	324.33	Operational	311.62 on May 29, 2020	307.98	308.09	-0.11
PZ14-39 (29843)	August 24, 2014	304.29	314.29	Operational	308.30 on October 8, 2014	304.38	304.37	0.01
PZ14-40 (18140)	April 3, 2014	321.72	331.90	Operational	331.26 on June 9, 2024	330.29	331.26	-0.97
PZ14-41 (21880)	April 3, 2014	314.10	331.90	Operational	322.24 on June 28, 2015	314.22	314.13	0.09
PZ14-42 (28244)	April 3, 2014	296.42	331.90	Operational	296.35 on March 16, 2017	DRY	DRY	N/A
PZ14-43 (29844)	August 25, 2014	303.99	313.99	Operational	304.48 on September 25, 2020	DRY	DRY	N/A
PZ14-45 (29845)	August 25, 2014	296.03	304.03	Damaged	296.82 on September 25, 2020	N/A	296.82 (Sep. 25, 2020)	N/A
PZ14-46 (28236)	April 3, 2014	317.46	330.67	Operational	318.83 on September 24, 2020	317.71	317.88	-0.17
PZ14-47 (28237)	April 3, 2014	311.36	330.67	Operational	313.26 on September 24, 2020	312.29	312.18	0.11
PZ14-48 (28238)	April 3, 2014	295.81	330.67	Operational	300.15 on August 29, 2014	DRY	296.03	N/A

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-2 – Continued: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Vibrating Wire Piezometer Instrumentation Reading Summary

Date Monitored: May 27, 2024 (Previously monitored June 9, 2024)

INSTRUMENT #	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM GROUNDWATER ELEV. (m)	CURRENT GROUNDWATER ELEV. (m)	PREVIOUS GROUNDWATER ELEV. (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
HWY 686 Cut Slope - Continued								
PZ14-49 (17575)	April 1, 2014	300.40	308.45	Operational	305.57 on May 27, 2025	305.57	300.53	5.04
PZ14-50 (18817)	April 1, 2014	294.61	308.45	Operational	297.86 on May 27, 2025	297.86	DRY	N/A

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

Table NC097-3: Spring 2025 – Hwy 63:12 Parsons Creek Interchange Settlement Gauge Instrumentation Reading Summary

Date Monitored: May 27, 2025

INSTRUMENT #	DATE INITIALIZED	CURRENT STATUS	CURRENT SETTLEMENT (mm)	PREVIOUS SETTLEMENT (mm)	CHANGE IN SETTLEMENT (mm) ⁽¹⁾
Parsons Interchange					
SC14-09	November 27, 2014	Operational	-900.31	-816.97	-83.34
SC14-12	November 27, 2014	Operational	-1225.42	-1222.83	-2.59
SC15-04	January 25, 2015	Operational	-942.44	-936.26	-6.18
SC15-06	January 22, 2015	Operational	-1425.10	-1419.30	-5.80

Drawing 32122-NC097 in Appendix A provides a sketch of the approximate location of the monitoring instrumentation for this site.

(1) Negative (-) change in settlement indicates upward movement (heave) of the ground surface and positive (+) change in settlement indicates downward movement (settlement) of the ground surface.



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

SPRING 2025

**APPENDIX A
DATA PRESENTATION**

SITE NC097: HWY 63:12 PARSONS CREEK INTERCHANGE

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
NORTH CENTRAL REGION - ATHABASCA AND FORT McMURRAY DISTRICTS
INSTRUMENTATION MONITORING FIELD SUMMARY (NC097)
SPRING 2025**

Location: Parsons Creek Interchange (Hwy 63:12 L1 0.093)	Readout:
File Number: 32122	Casing Diameter 2.75"/3.34"
Probe: RST SET 8R	Temp: 27
Cable: RST SET 8R	Read by: NKR/GE

SLOPE INCLINOMETER (SI) READINGS

SI#	GPS Location 3TM EBA Scaled		Date	Stickup (m)	Depth from top of Casing (ft)	Azimuth of A+ Groove	Current Bottom Depth Readings				Probe/ Reel #	Size (")	Remarks
	Northing	Easting					A+	A-	B+	B-			
Parsons Interchange													
SI14-05	6296408	-26266	27-May-25	1.10	30 to 6	85	-90	96	-493	498	8R/8R	3.34	
SI15-14	6296510	-26349	27-May-25	1.15	46 to 4	322	1672	-1704	-323	328	8R/8R	2.75	
HWY 686 Cut Slope													
SI14-09A	6296436	-27145	27-May-25	0.91	89 to 5	132	-151	158	297	-298	8R/8R	3.34	
SI14-13	6296181	-27073	27-May-25	1.04	54 to 6	30	-414	425	467	-491	8R/8R	3.34	Sheared off at 34.0ft
SI14-14	6296236	-27082	27-May-25	1	36 to 6	356	819	-809	198	207	8R/8R	3.34	Sheared off at 16.0ft
SI14-19	6296200	-26857	27-May-25	2.23	52 to 6	349	9	9	96	-100	8R/8R	3.34	Sheared off at 22 ft

INSPECTOR REPORT

SI14-13 Probe does not go down past 34.0ft
SI14-14 Sheared off at 16.0 ft, first pass was ok , second pass probe did not go past 16 ft.
SI 14-19 Probe does not go past 22 ft. Sheared off at 22 ft.

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
NORTH CENTRAL REGION - ATHABASCA AND FORT McMURRAY DISTRICTS
INSTRUMENTATION MONITORING FIELD SUMMARY (NC097)
SPRING 2025**

Location: Parsons Creek Interchange (Hwy 63:12 L1 0.093)
File Number: 32122

Readout: GK404, SN 364
Temp: 26
Read by: NKR/GE

VIBRATING WIRE PIEZOMETER (VW) READINGS

VW#	Date	Reading		Identification Number	Monitoring Station	Datalogger Serial	3TM EBA Scaled		Comment
		B Unit	Temp.				Northing	Easting	
Parsons Interchange									
PZ14-15	27-May-25	8473.8	7.8	30825	MS-09	4123	6296421	-26343	
PZ14-19	27-May-25	8436.2	-	30827	MS-09	4123	6296421	-26343	
PZ14-20	27-May-25	8893.9	4.1	30828	MS-09	4123	6296421	-26343	
PZ15-03	27-May-25	8902.6	4.3	31641	MS-08	3881	6296343	-26371	
PZ15-04	27-May-25	8428.1	5.4	31642	MS-08	3881	6296343	-26371	
PZ15-05	27-May-25	8522.0	5.7	30959	MS-08	3881	6296365	-26435	
PZ15-06	27-May-25	8203.6	5.0	30960	MS-08	3882	6296365	-36435	
PZ15-07	27-May-25	8413.7	5.0	30961	MS-08	3882	6296365	-26435	
PZ15-09	27-May-25	8902.6	4.3	30955	MS-09	4002	6296443	-26415	
PZ15-10	27-May-25	8827.6	-	30956	MS-09	4002	6296443	-26415	

INSPECTOR REPORT

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
NORTH CENTRAL REGION - ATHABASCA AND FORT McMURRAY DISTRICTS
INSTRUMENTATION MONITORING FIELD SUMMARY (NC097)
SPRING 2025**

Location: Parsons Creek Interchange (Hwy 63:12 L1 0.093)
File Number: 32122

Readout: GK404, SN 364
Temp (deg C): 26
Read by: NKR/GE

VIBRATING WIRE PIEZOMETER (VW) READINGS

VW#	Date	Reading		Identification Number	3TM EBA Scaled		Comment
		B Unit	Temp.		Northing	Easting	
HWY 686 Cut Slope							
PZ14-28a	27-May-25	8949.3	4.1	28239	6296436	-27145	
PZ14-29a	27-May-25	8801.4	3.4	28240	6296436	-27145	
PZ14-30a	27-May-25	8757.2	3.3	28241	6296436	-27145	
PZ14-33	27-May-25	8737.1	4.6	29841	6296338	-27090	
PZ14-34	27-May-25	8783.7	4.1	21878	6296113	-27056	
PZ14-35	27-May-25	8468.5	3.8	21879	6296113	-27056	
PZ14-36	27-May-25	7789.8	3.7	28235	6296113	-27056	
PZ14-37	27-May-25	8859.6	3.7	29842	6296181	-27073	
PZ14-38	27-May-25	8910.8	3.8	29848	6296181	-27073	
PZ14-39	27-May-25	9010.9	3.8	29843	6296236	-27082	
PZ14-40	27-May-25	8307.7	4.6	18140	6296538	-26935	
PZ14-41	27-May-25	8608.6	3.9	21880	6296538	-26935	
PZ14-42	27-May-25	8857.6	3.7	28244	6296538	-26935	
PZ14-43	27-May-25	8938.1	4.9	29844	6296434	-26914	
PZ14-46	27-May-25	8926.6	3.8	28236	6296077	-26851	
PZ14-47	27-May-25	8654.4	3.3	28237	6296077	-26851	
PZ14-48	27-May-25	9086.1	3.1	28238	6296077	-26851	
PZ14-49	27-May-25	8309.2	5.8	17575	6296200	-26857	
PZ14-50	27-May-25	8495.6	4	18817	6296200	-26857	

INSPECTOR REPORT

**ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS
NORTH CENTRAL REGION - ATHABASCA AND FORT McMURRAY DISTRICTS
INSTRUMENTATION MONITORING FIELD SUMMARY (NC097)
SPRING 2025**

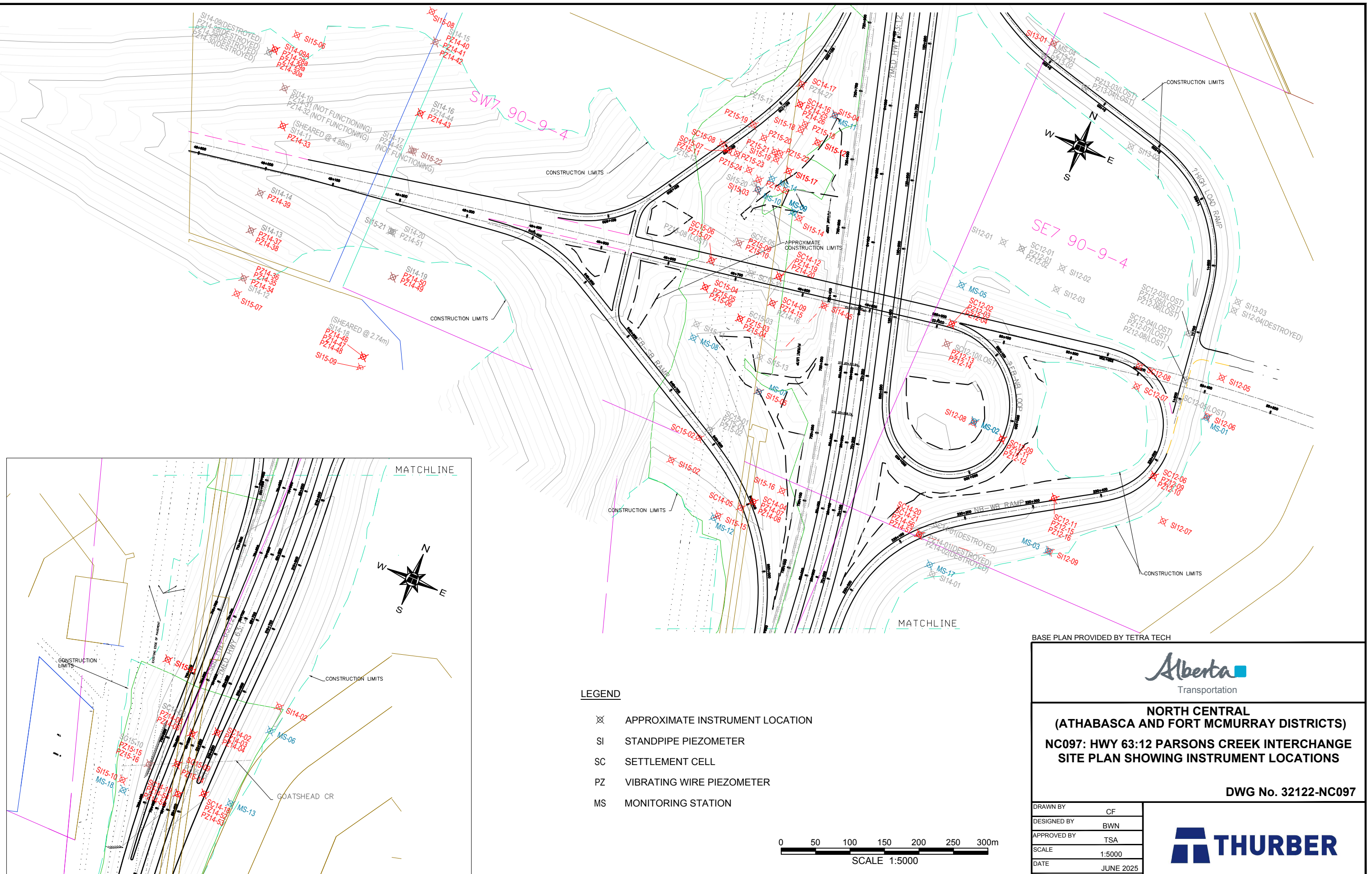
Location: Parsons Creek Interchange (Hwy 63:12 L1 0.093)
File Number: 32122

Readout: GK404, SN 364
Temp: 26
Read by: NKR/GE

SETTLEMENT CELL READINGS

SC#	Date	Reading		Identification Number	Monitoring Station	Datalogger Serial	3TM EBA Scaled		Comment
		B Unit	Temp.				Northing	Easting	
Parsons Interchange									
SC14-09	27-May-25	7642.7	4.9	1426083	MS-09	4002	6296382	-26336	
SC14-12	27-May-25	7449.8	5	1426084	MS-09	4001	6296421	-26343	
SC15-04	27-May-25	7496.7	4.7	1426091	MS-08	3881	6296365	-26435	
SC15-06	27-May-25	7384.8	4.0	1426092	MS-08	3882	6296404	-26442	

INSPECTOR REPORT



BASE PLAN PROVIDED BY TETRA TECH



**NORTH CENTRAL
(ATHABASCA AND FORT MCMURRAY DISTRICTS)
NC097: HWY 63:12 PARSONS CREEK INTERCHANGE
SITE PLAN SHOWING INSTRUMENT LOCATIONS**

DWG No. 32122-NC097

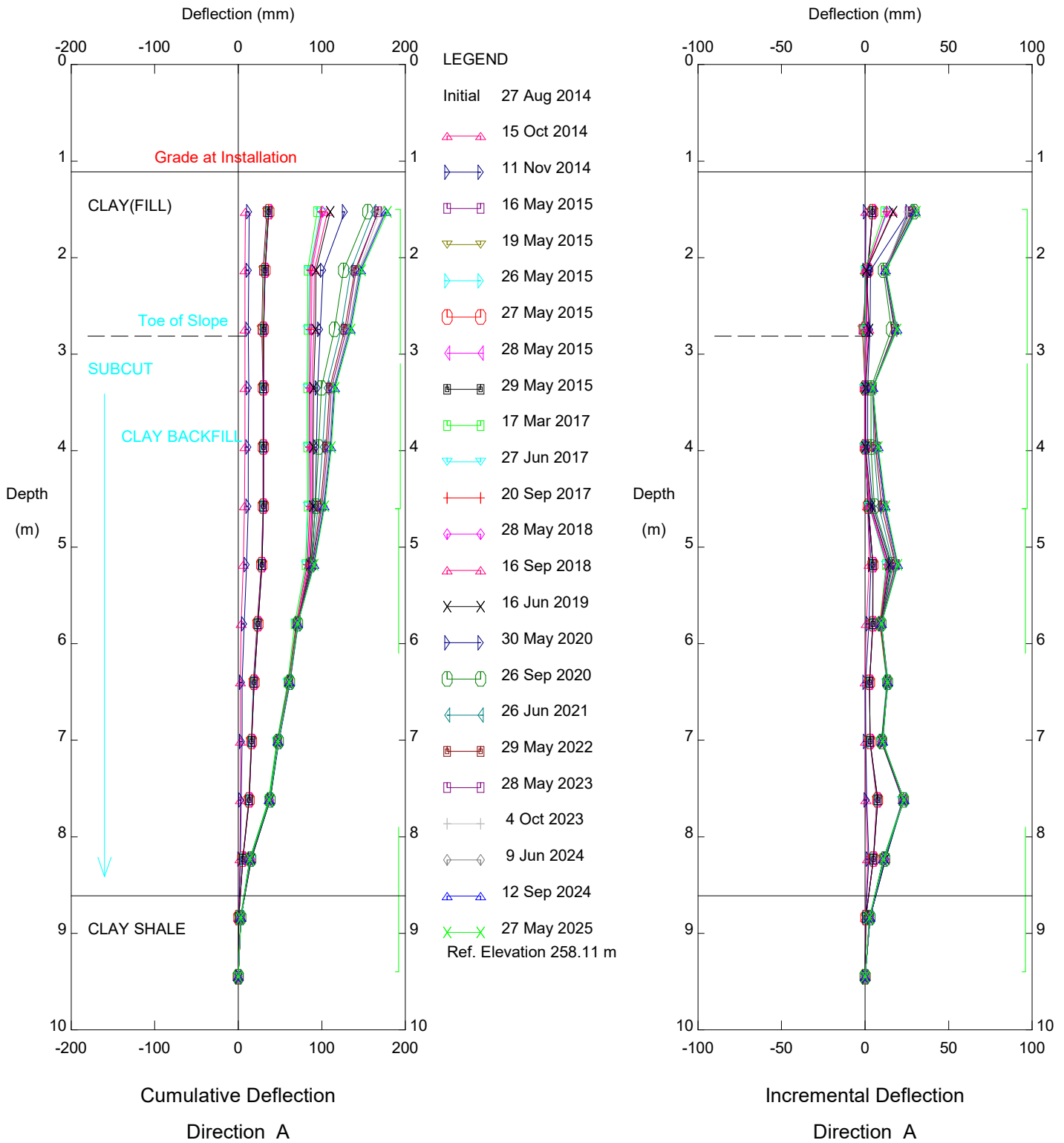
DRAWN BY	CF
DESIGNED BY	BWN
APPROVED BY	TSA
SCALE	1:5000
DATE	JUNE 2023
FILE No.	3212





Parsons Interchange Instruments

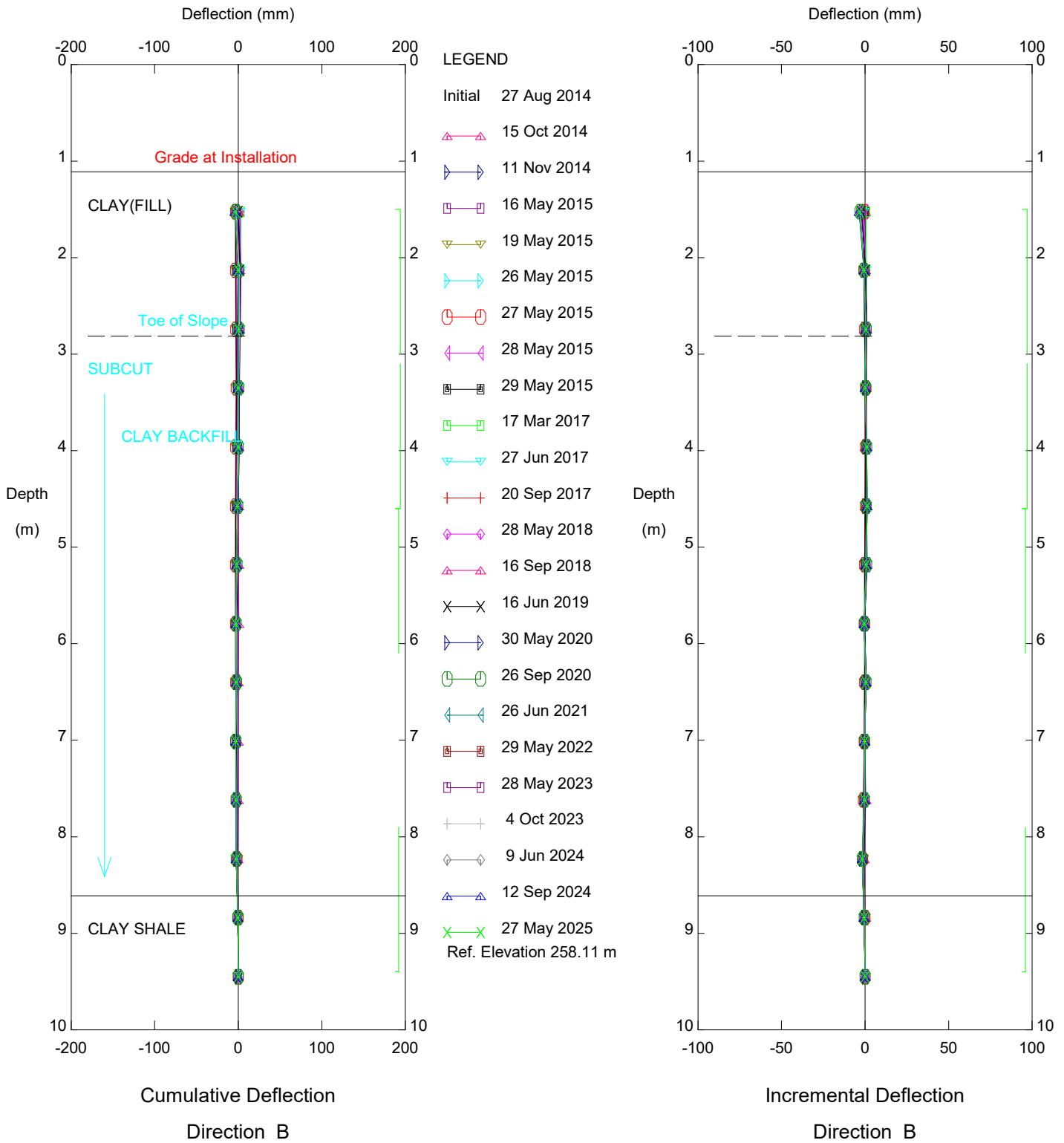
Thurber Engineering Ltd.



Hwy 686, 49+833.7 o/s +6.6m, Inclinometer SI14-05

Alberta Transportation

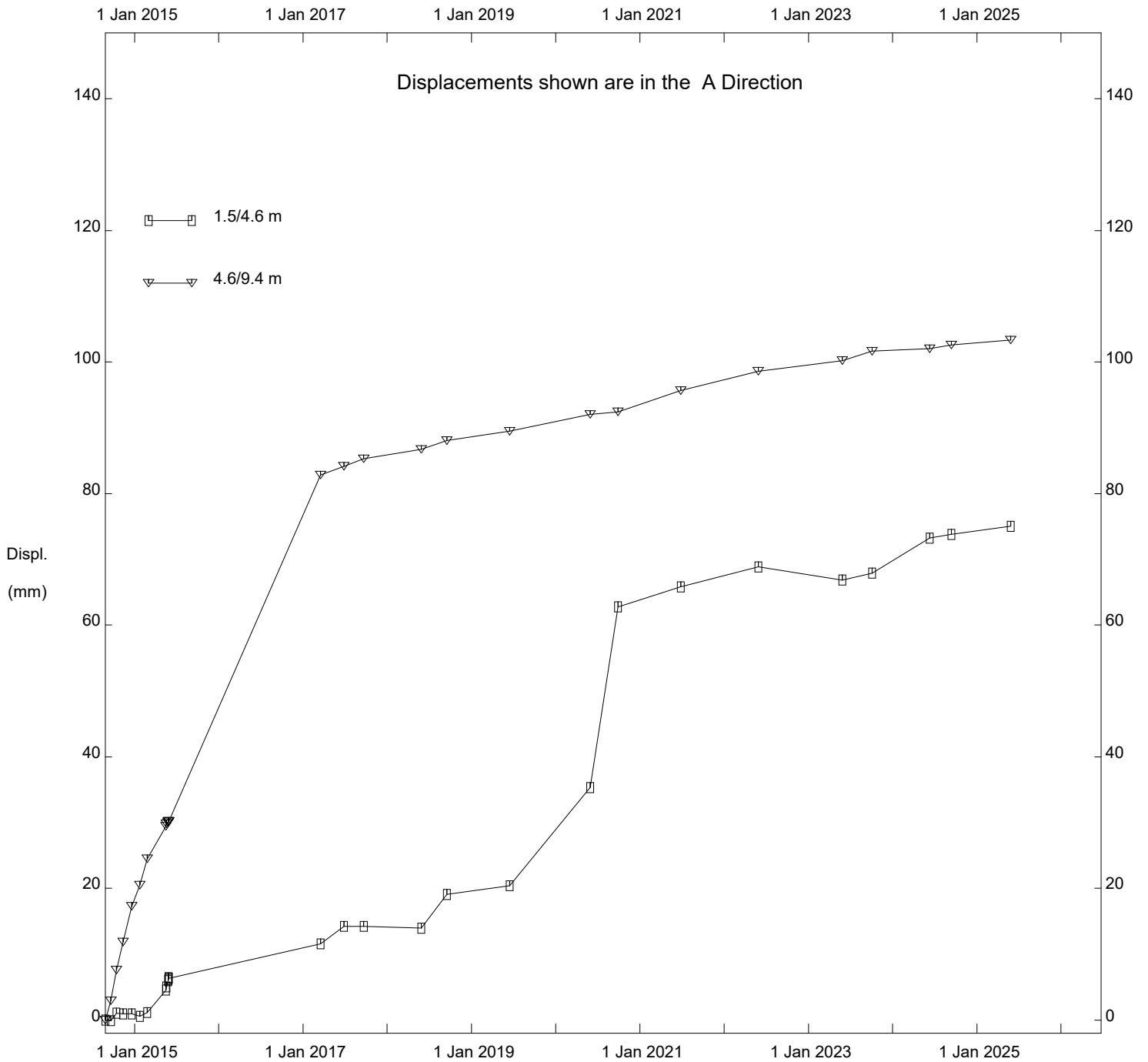
Thurber Engineering Ltd.



Hwy 686, 49+833.7 o/s +6.6m, Inclinometer SI14-05

Alberta Transportation

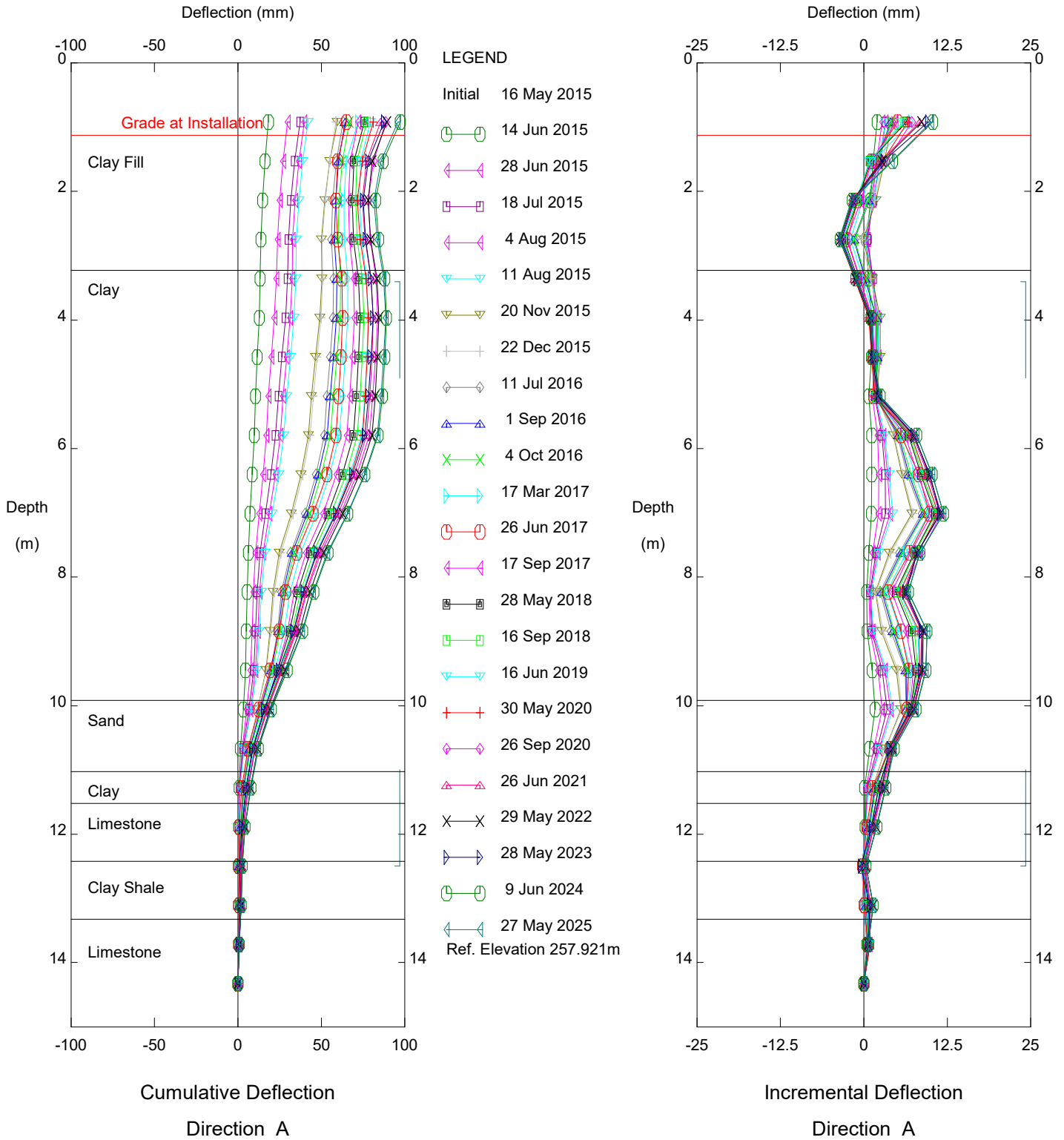
Thurber Engineering Ltd.



Hwy 686, 49+833.7 o/s +6.6m, Inclinator SI14-05

Alberta Transportation

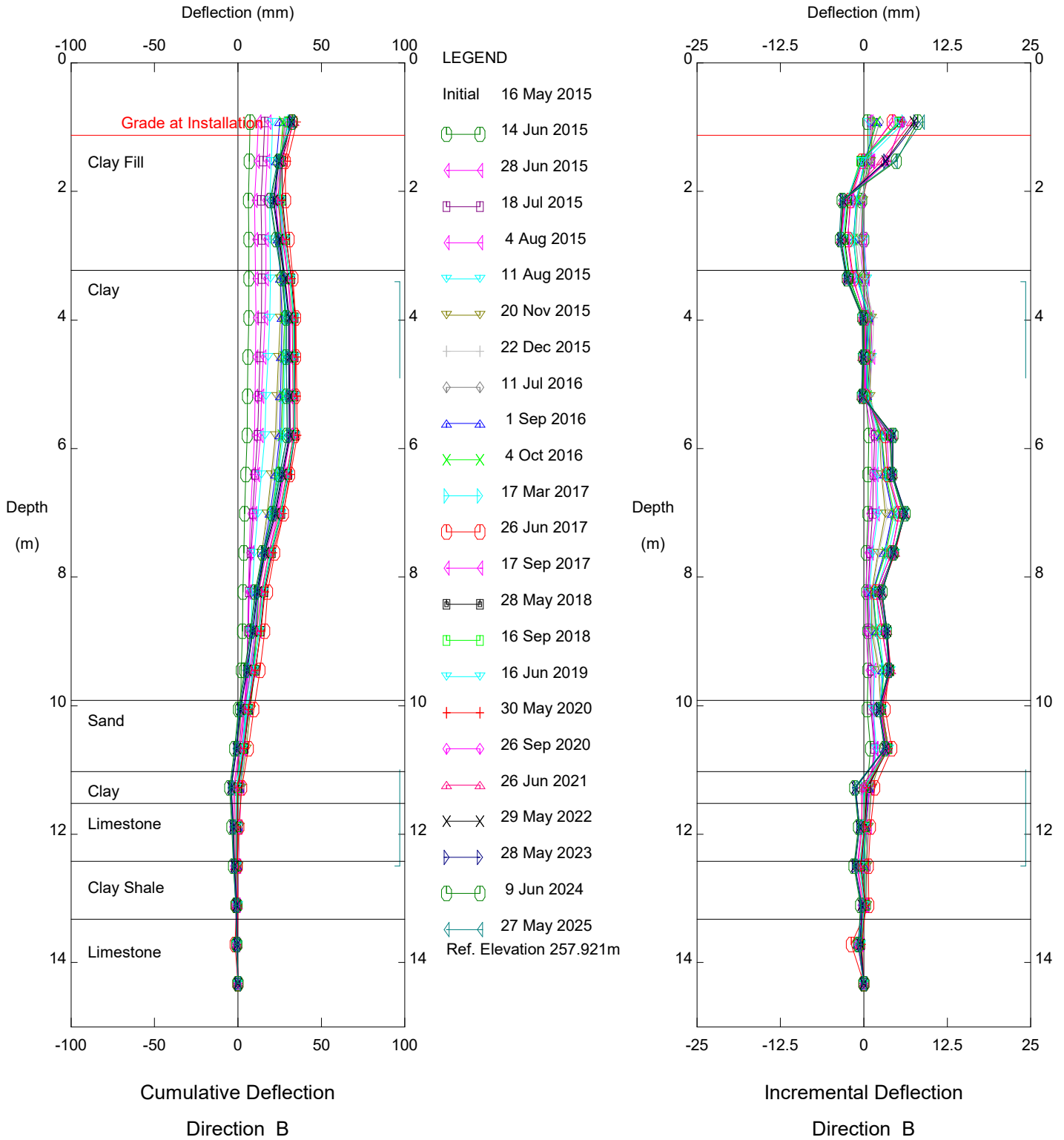
Thurber Engineering Ltd.



Hwy 686, 49+760 o/s -110m, Inclinometer SI15-14

Alberta Transportation

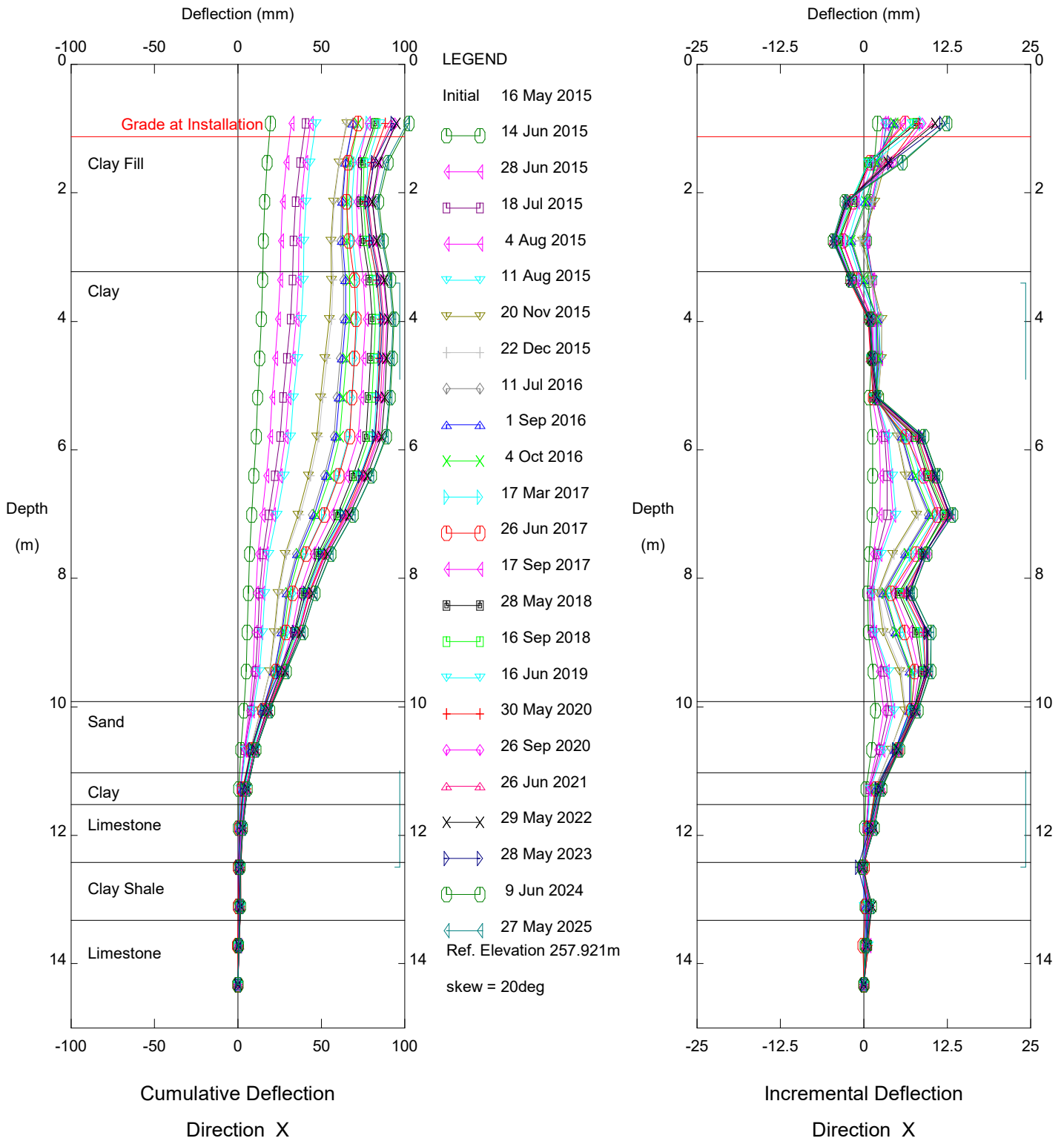
Thurber Engineering Ltd.



Hwy 686, 49+760 o/s -110m, Inclinometer SI15-14

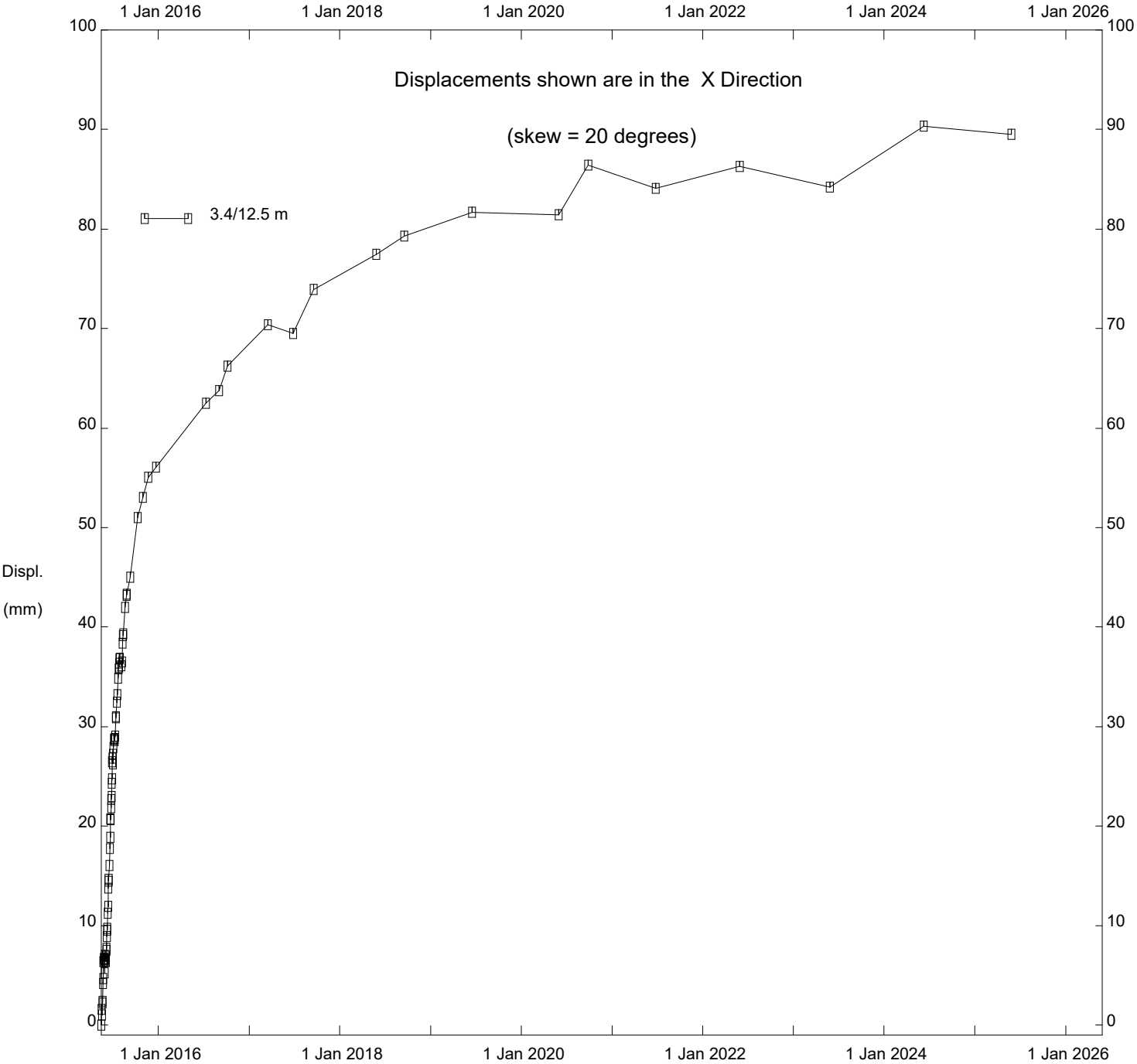
Alberta Transportation

Thurber Engineering Ltd.



Hwy 686, 49+760 o/s -110m, Inclinometer SI15-14

Alberta Transportation



Hwy 686, 49+760 o/s -110m, Inclinometer SI15-14

STATION 49+760 o/s +20m
HWY 686:20
Piezometer Plot

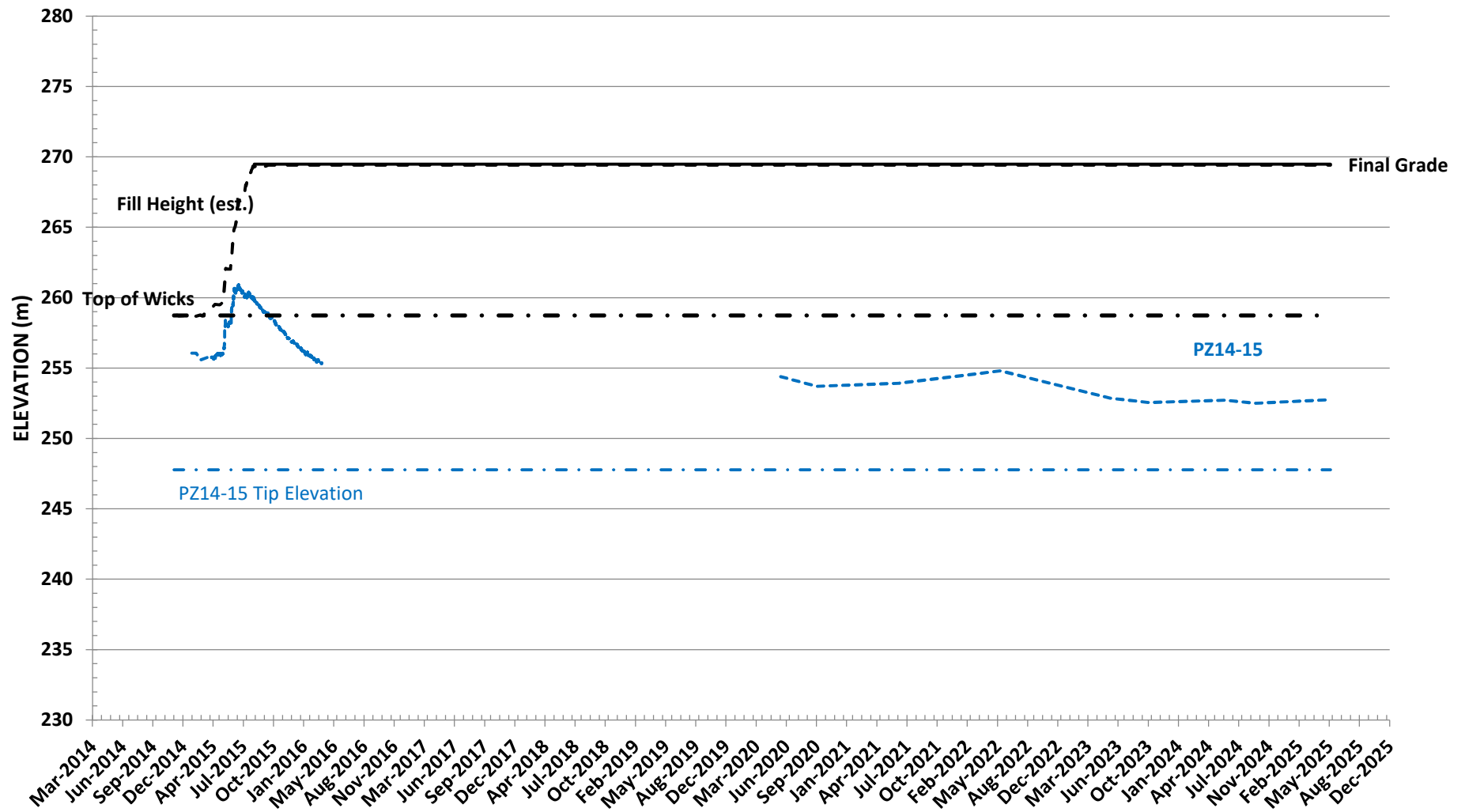


Figure PZ1

STATION 49+760 o/s 20.1m
HWY 686:20
Piezometer Plot

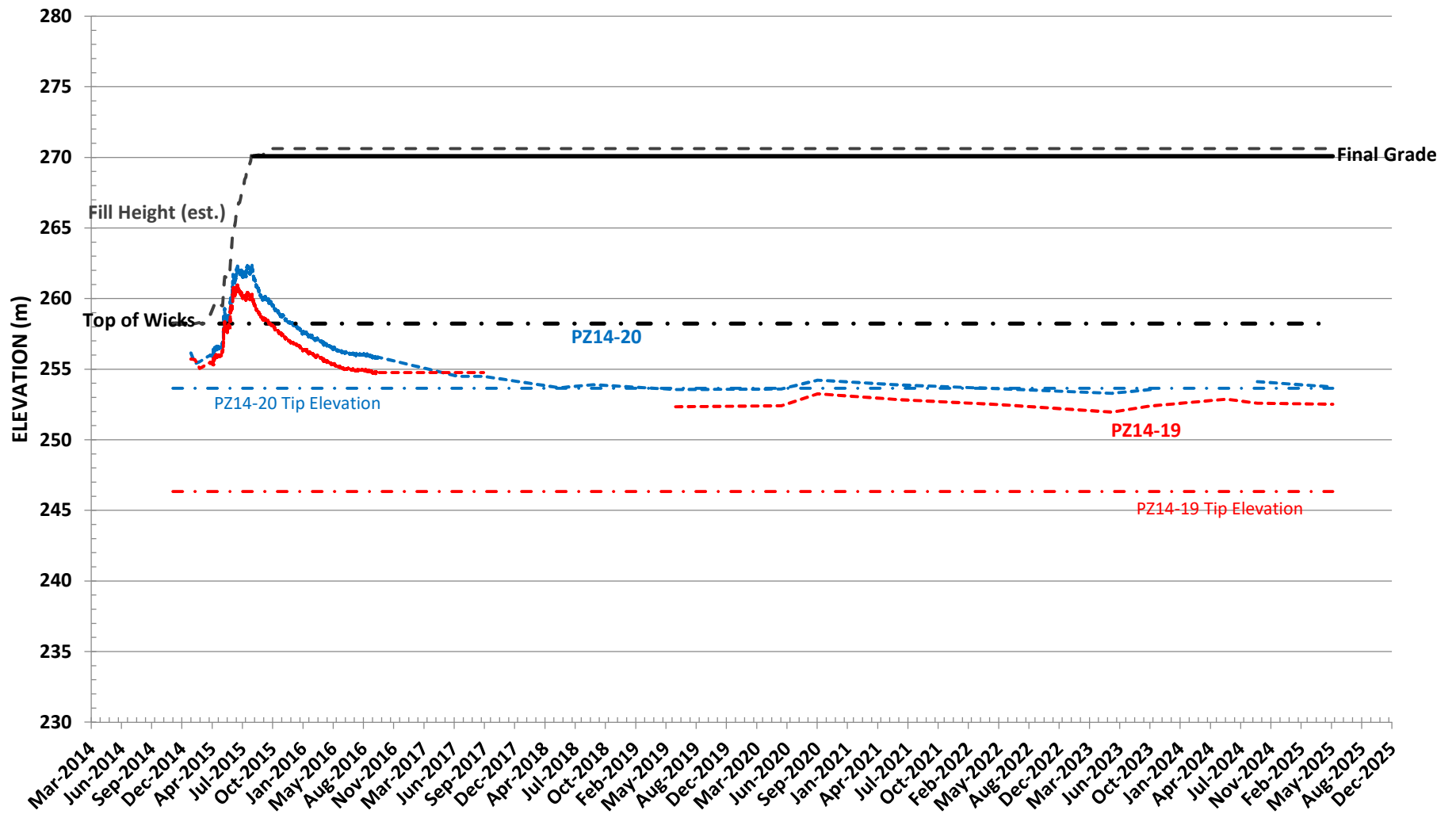


Figure PZ2

STATION 420+640 o/s -7m
SB - EB LOOP
Piezometer Plot

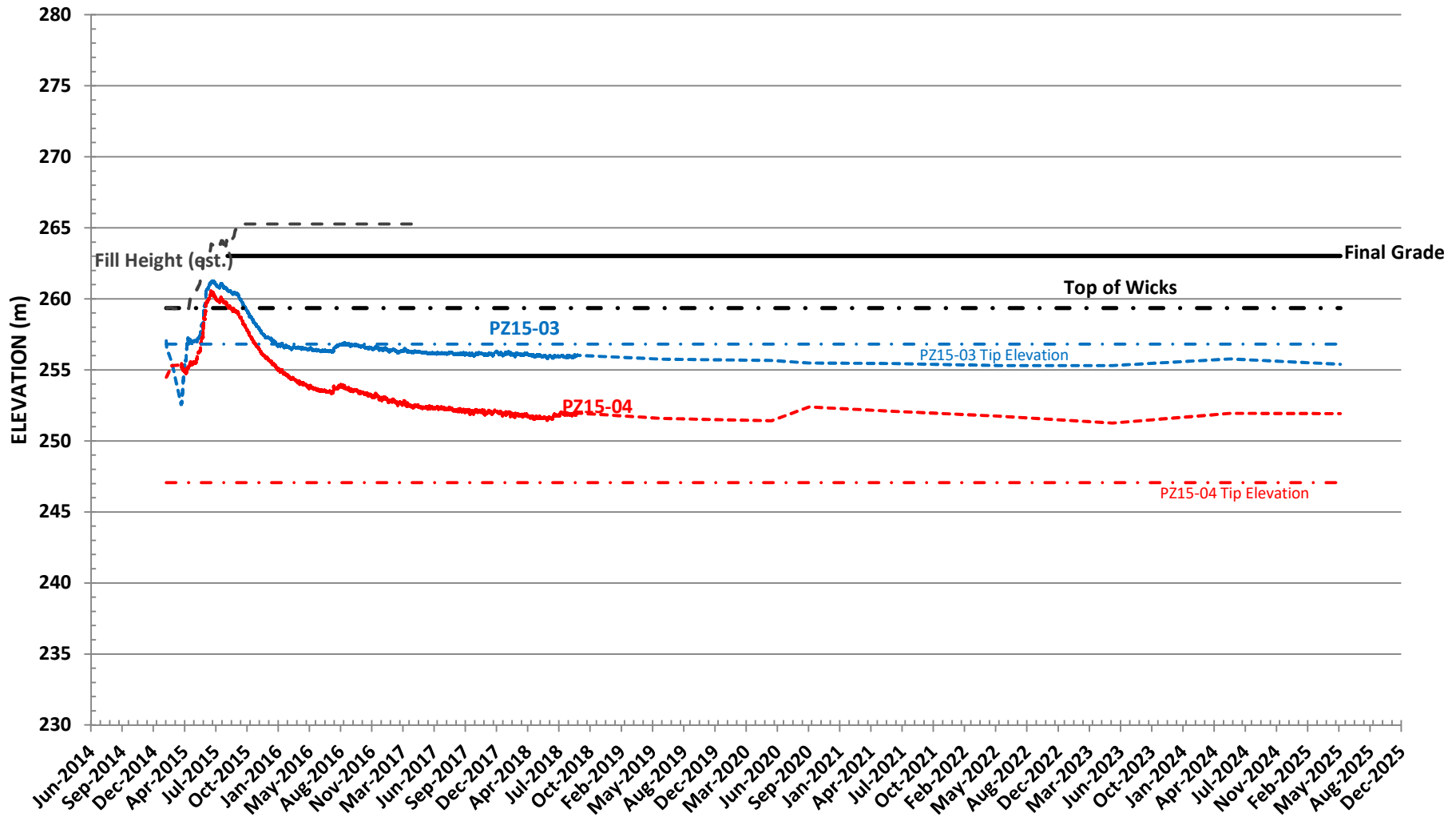
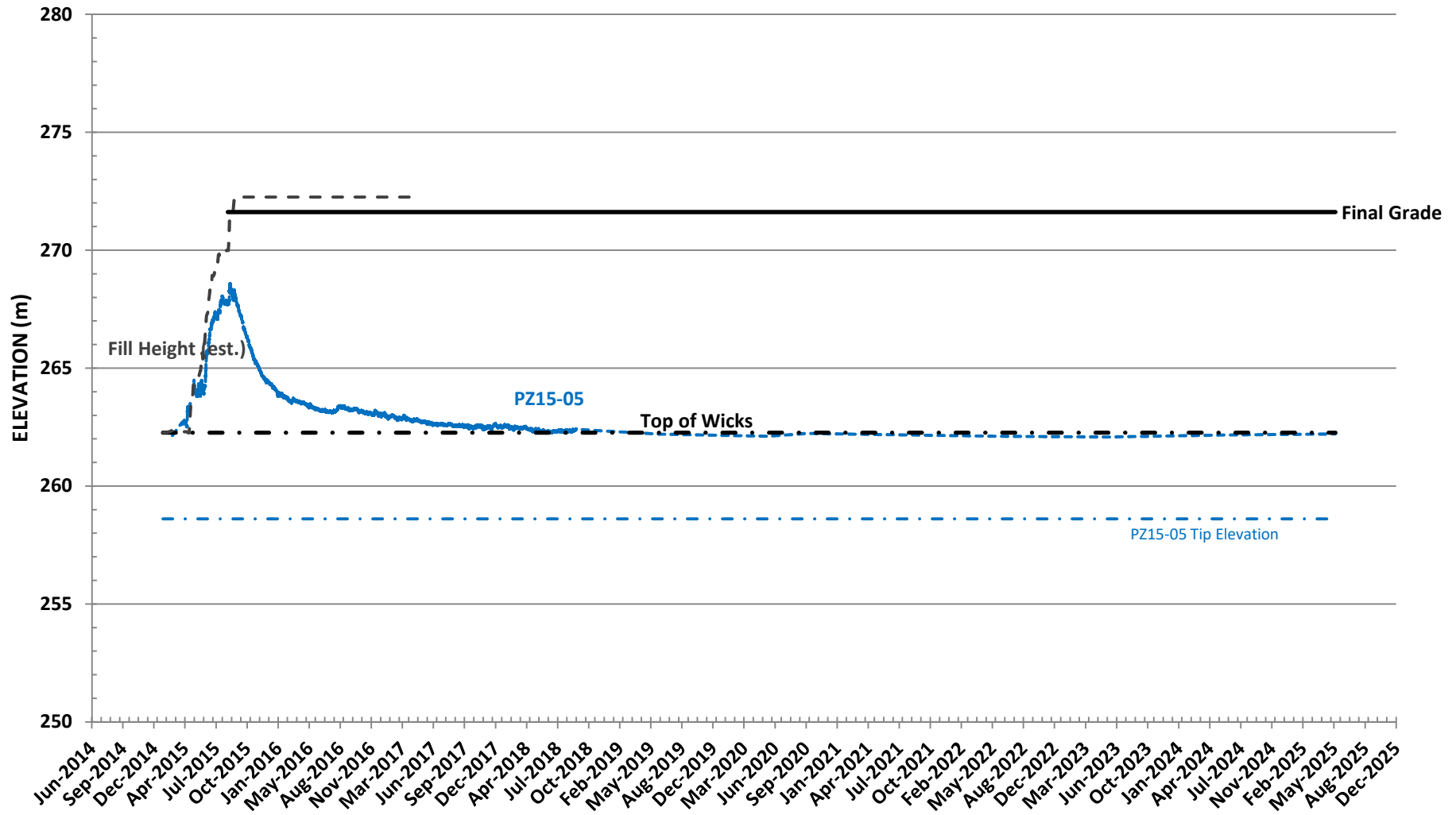


Figure PZ3

STATION 49+660 o/s +20m
HWY 686:20
Piezometer Plot



STATION 49+660 o/s -20m
HWY 686:20
Piezometer Plot

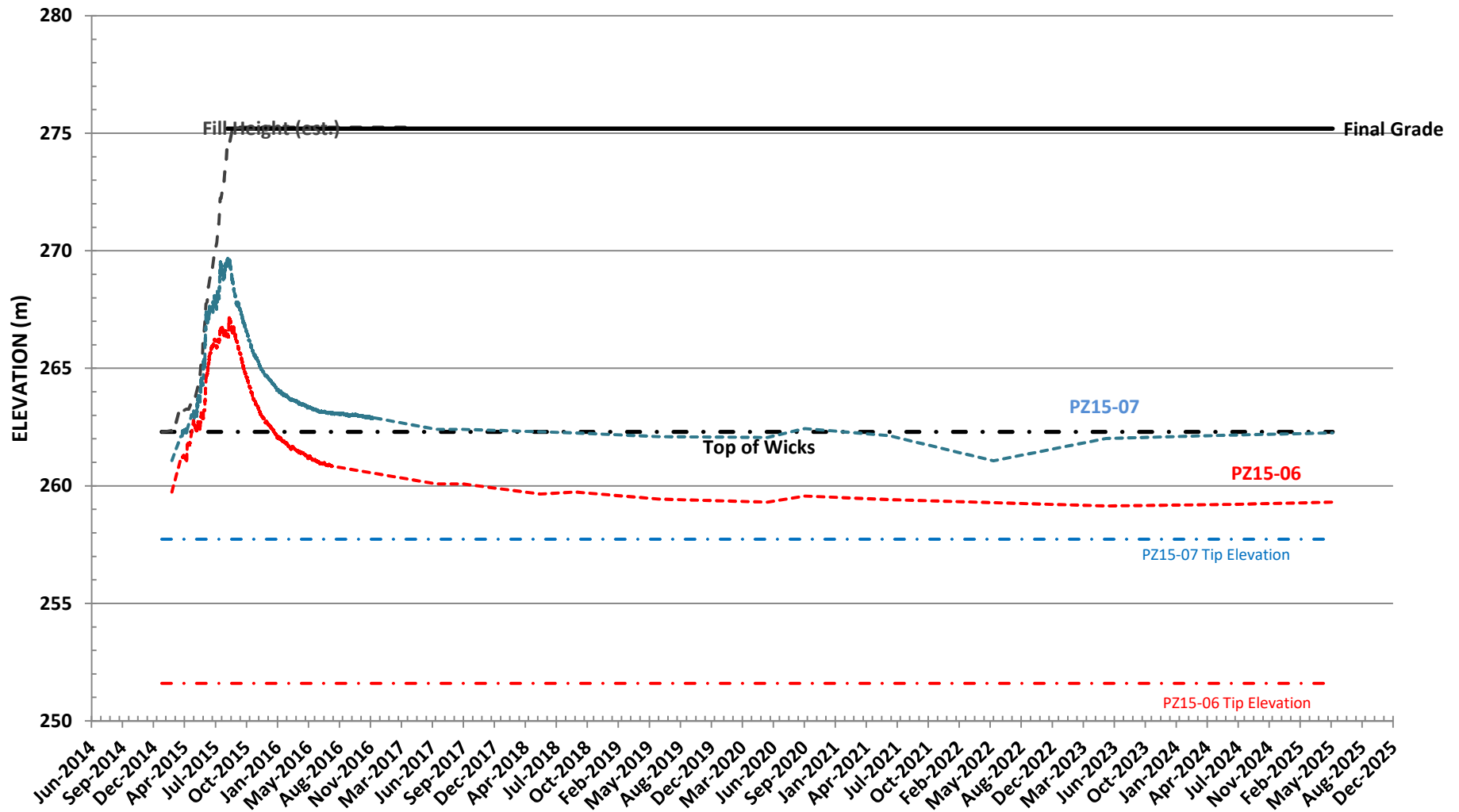


Figure PZ5

STATION 49+693 o/s -54m
HWY 686:20
Piezometer Plot

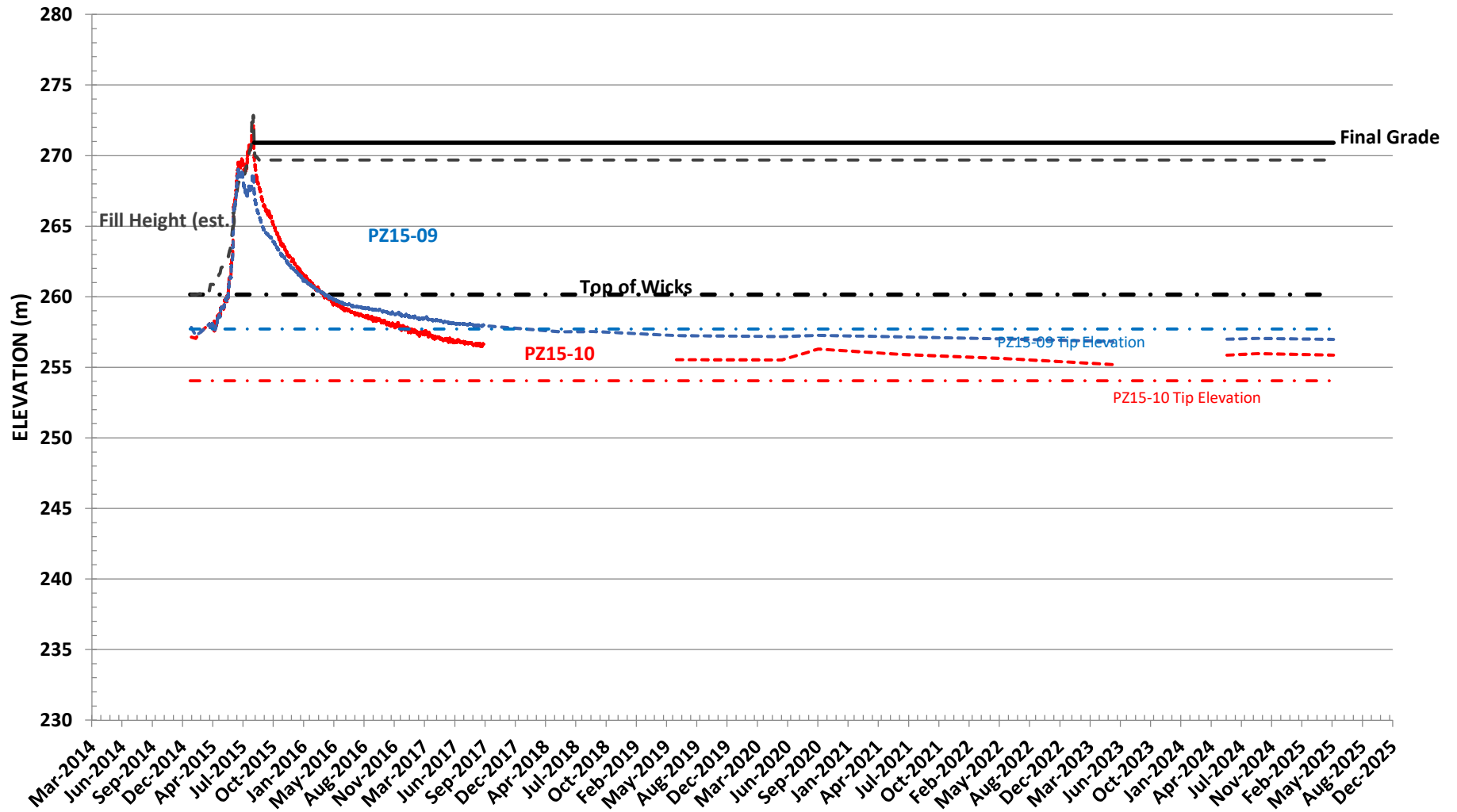


Figure PZ6

STATION 49+760 o/s +20m
HWY 686:20
Settlement Plot

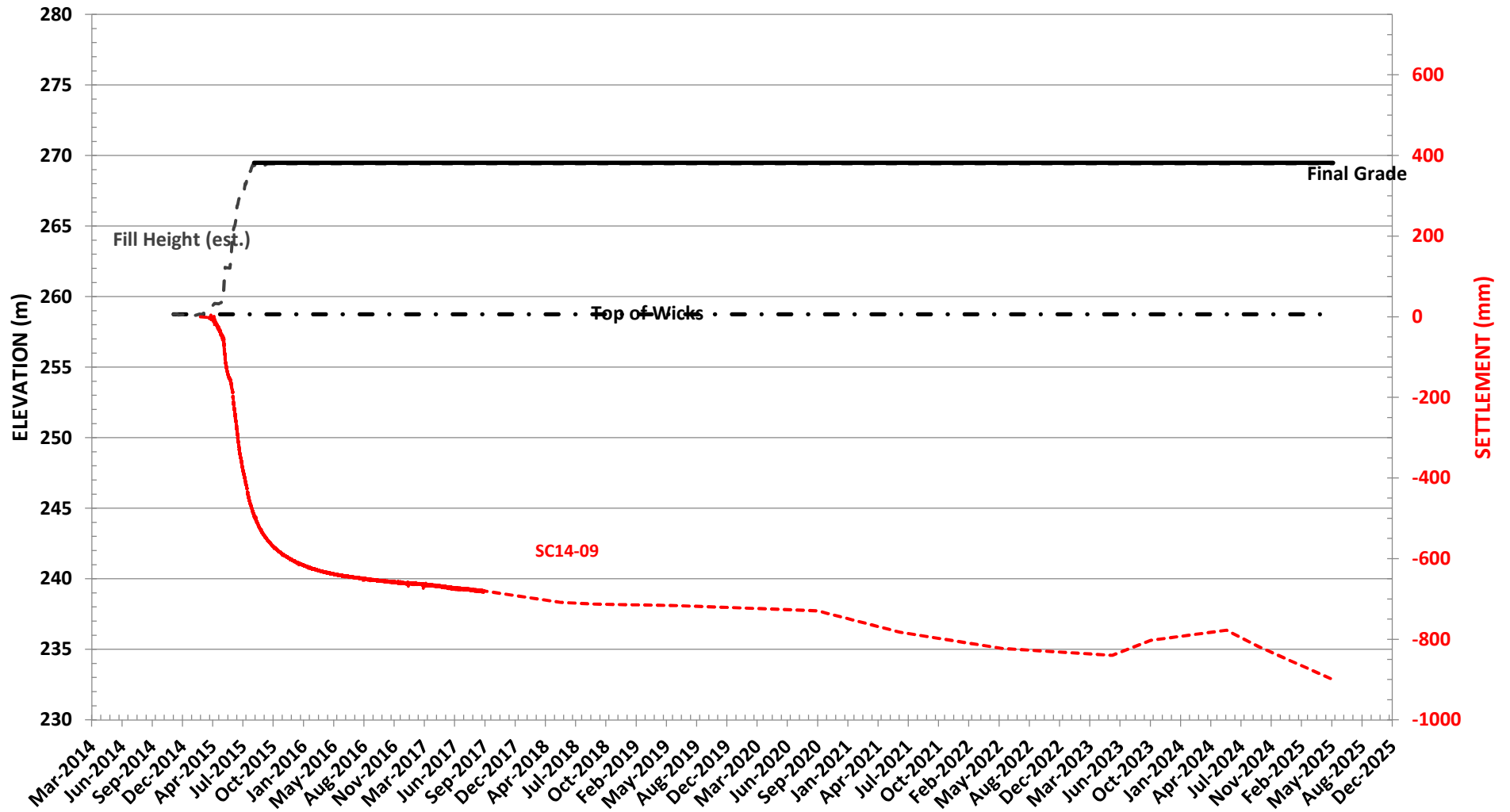


Figure SC1

STATION 49+760 o/s -19.7m
HWY 686:20
Settlement Plot

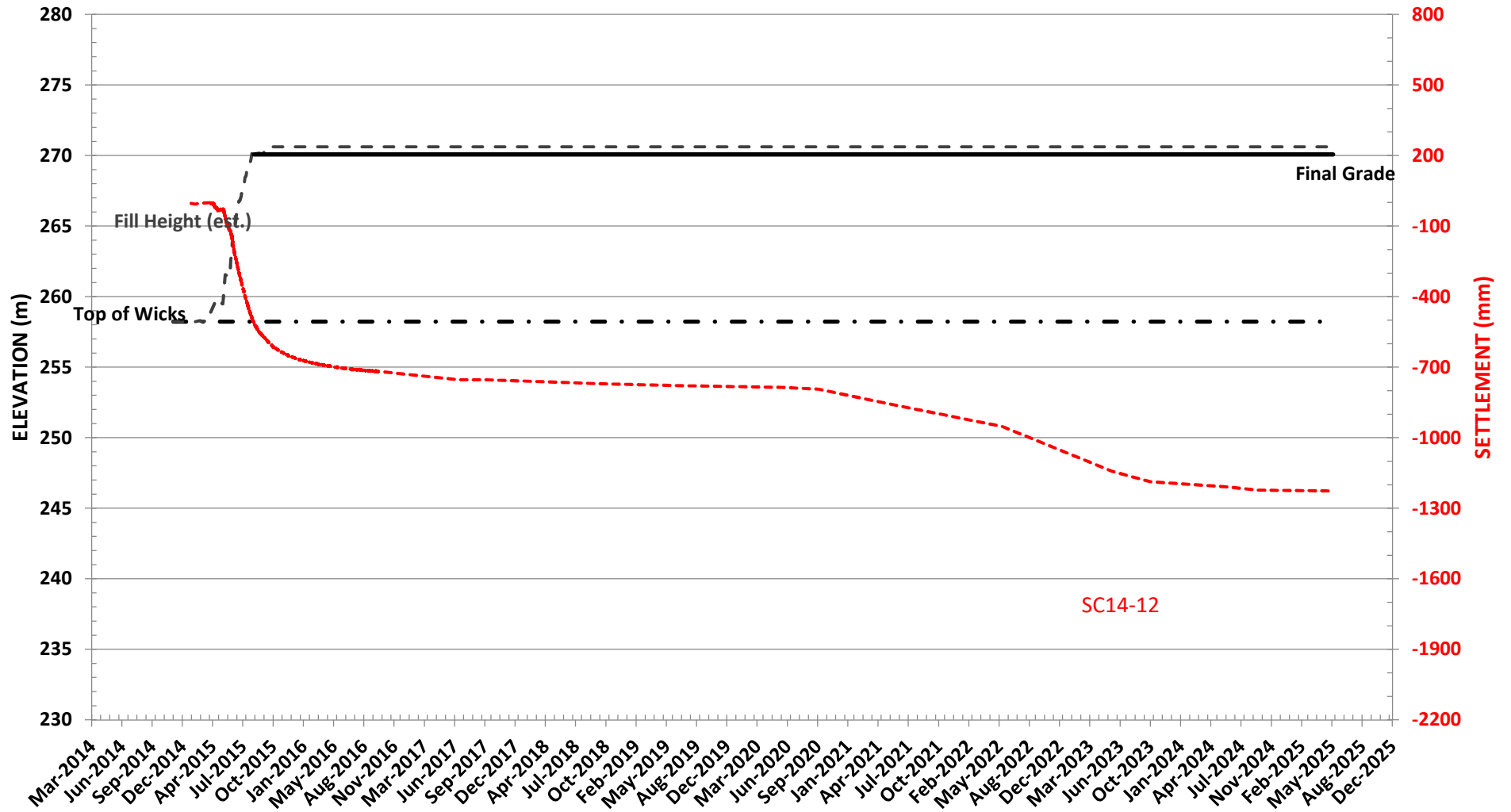


Figure SC2

STATION 49+660 o/s +20m
HWY 686:20
Settlement Plot

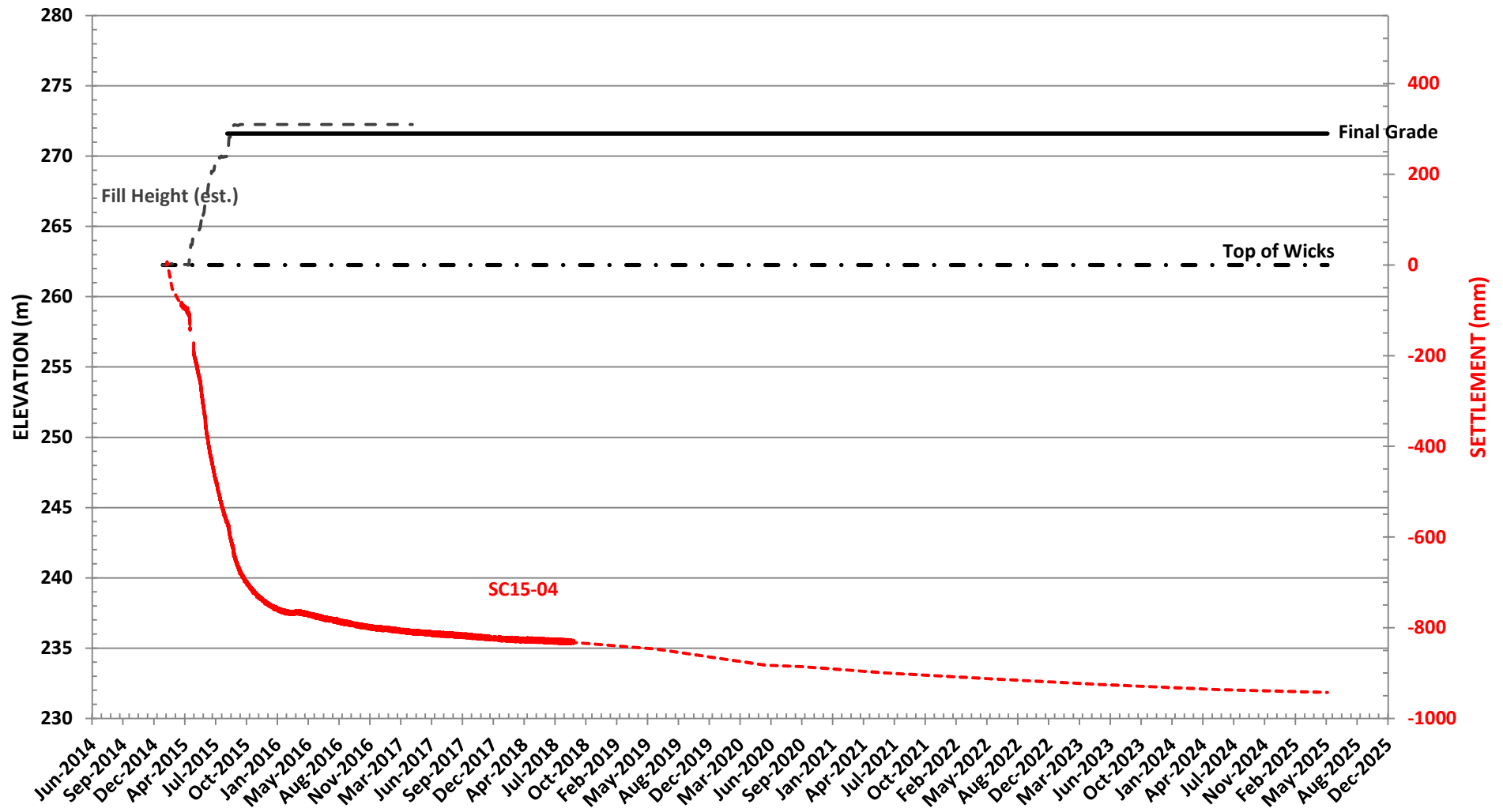


Figure SC3

STATION 49+660 o/s -20m
HWY 686:20
Settlement Plot

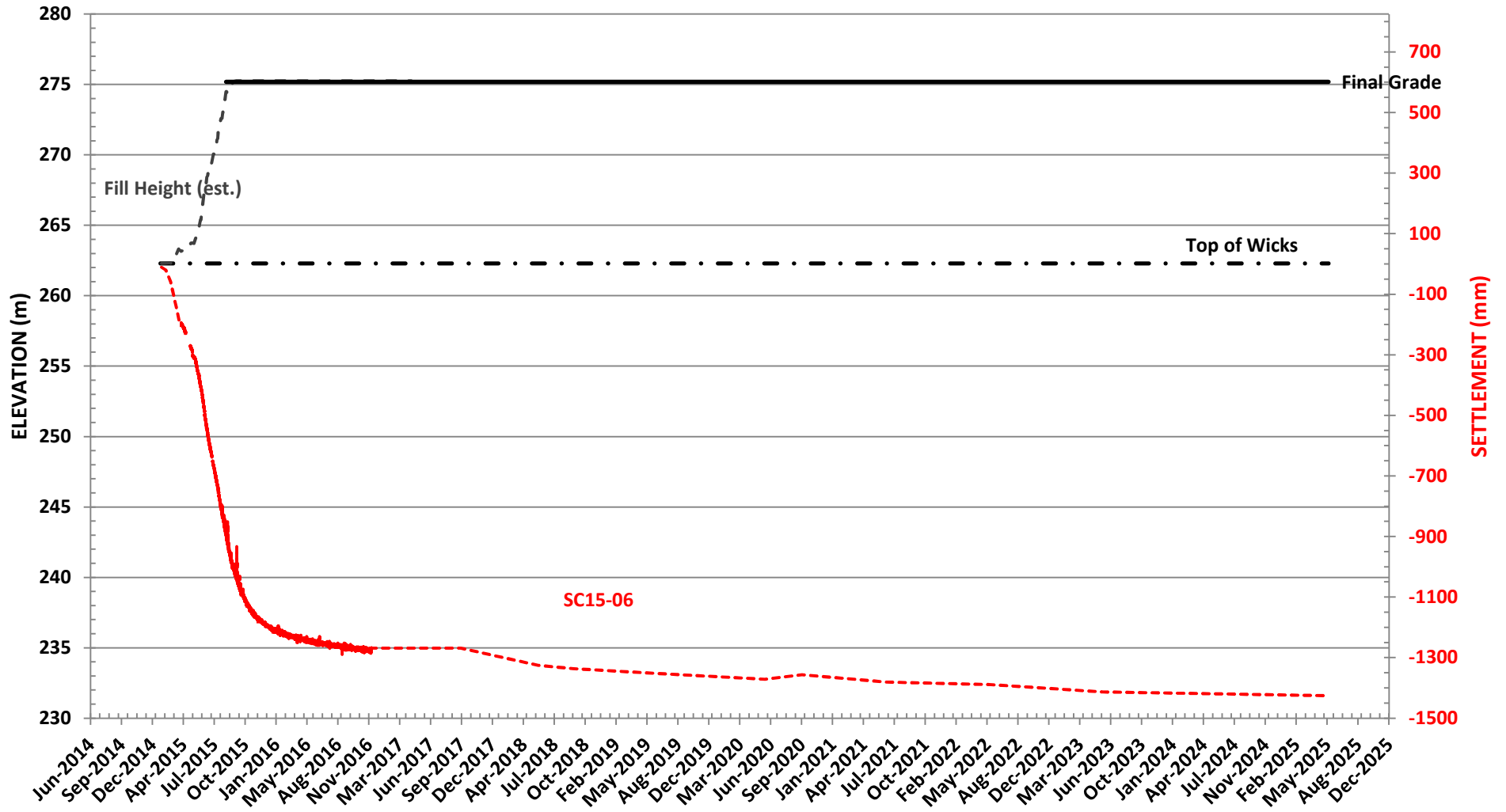
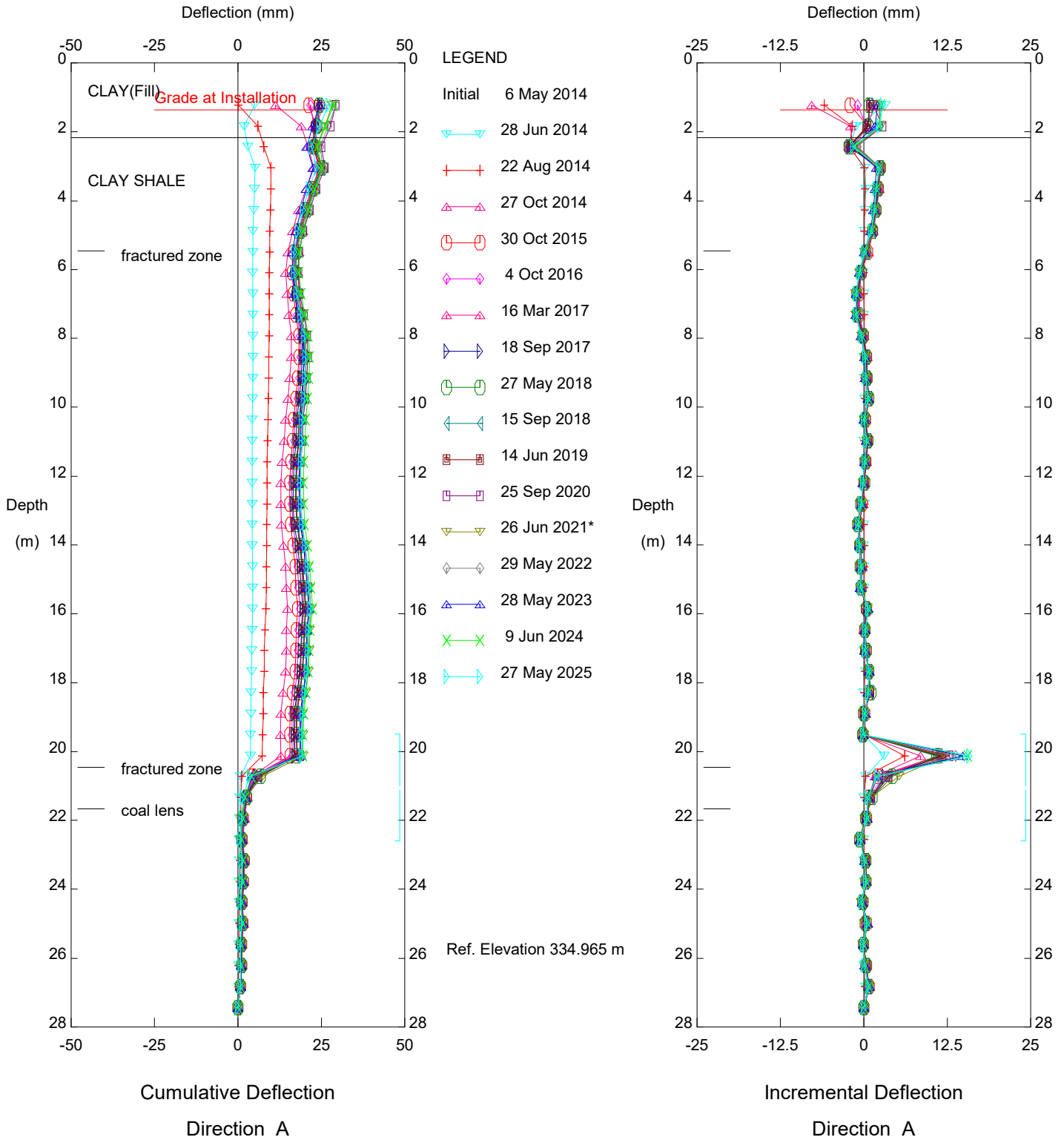


Figure SC4



HWY 686 Cut Slope Instruments

Thurber Engineering Ltd.

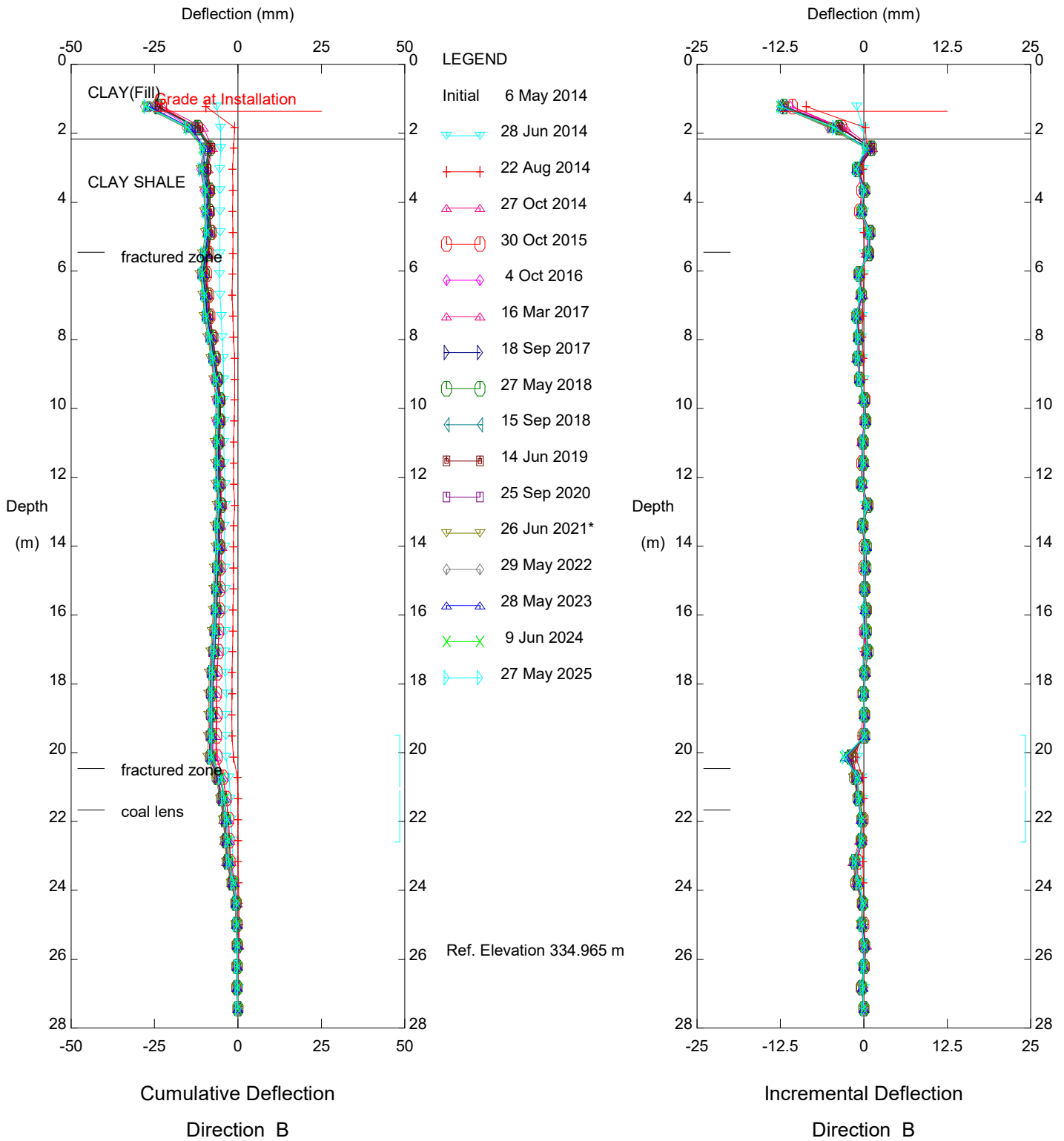


HWY 686, 48+973 o/s -173m, Inclinometer SI14-09A

Alberta Transportation

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

Thurber Engineering Ltd.

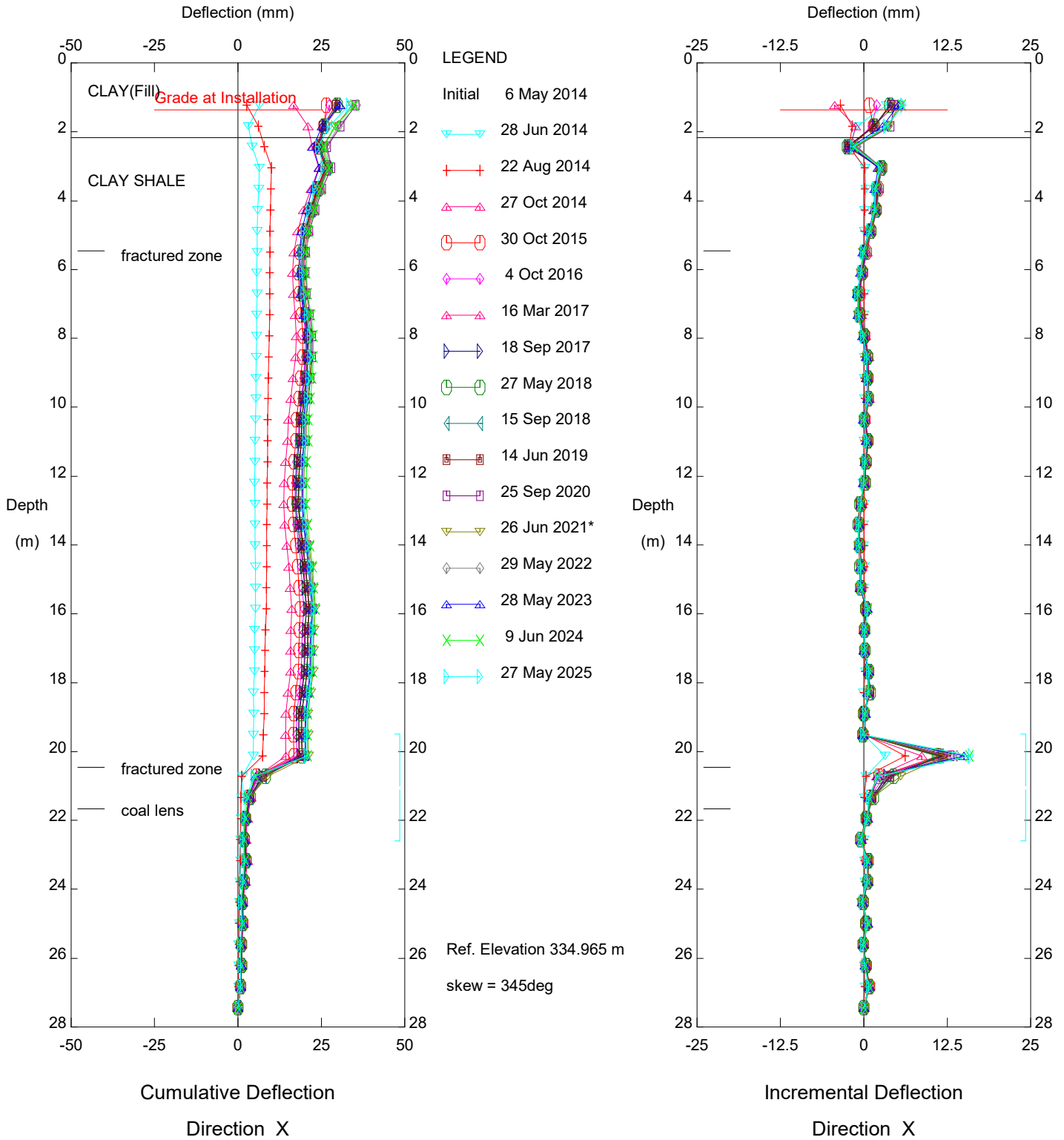


HWY 686, 48+973 o/s -173m, Inclinometer SI14-09A

Alberta Transportation

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

Thurber Engineering Ltd.

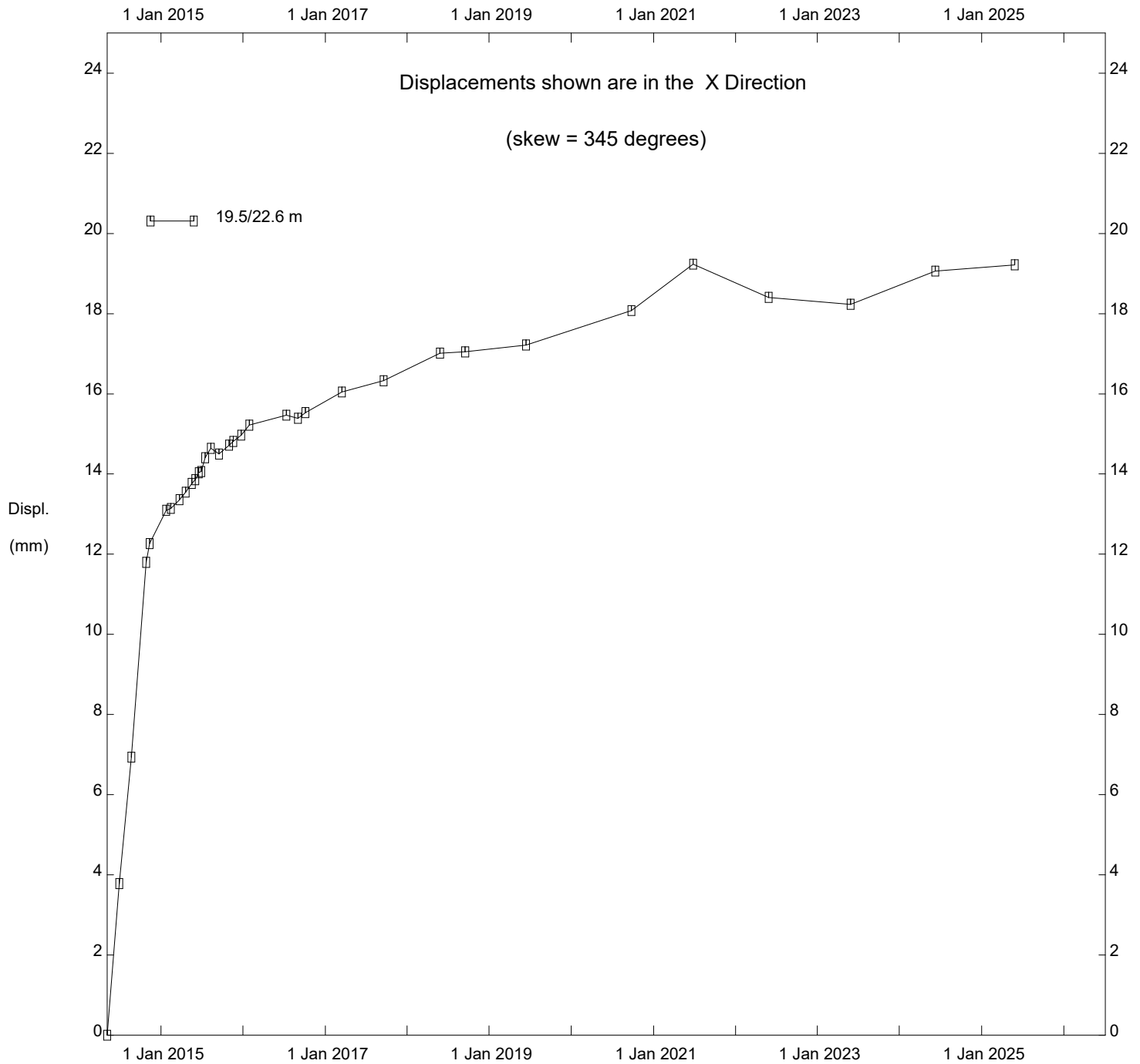


HWY 686, 48+973 o/s -173m, Inclinometer SI14-09A

Alberta Transportation

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

Thurber Engineering Ltd.



HWY 686, 48+973 o/s -173m, Inclinator SI14-09A

Alberta Transportation

Hwy 686; 49+000
Piezometer Plot

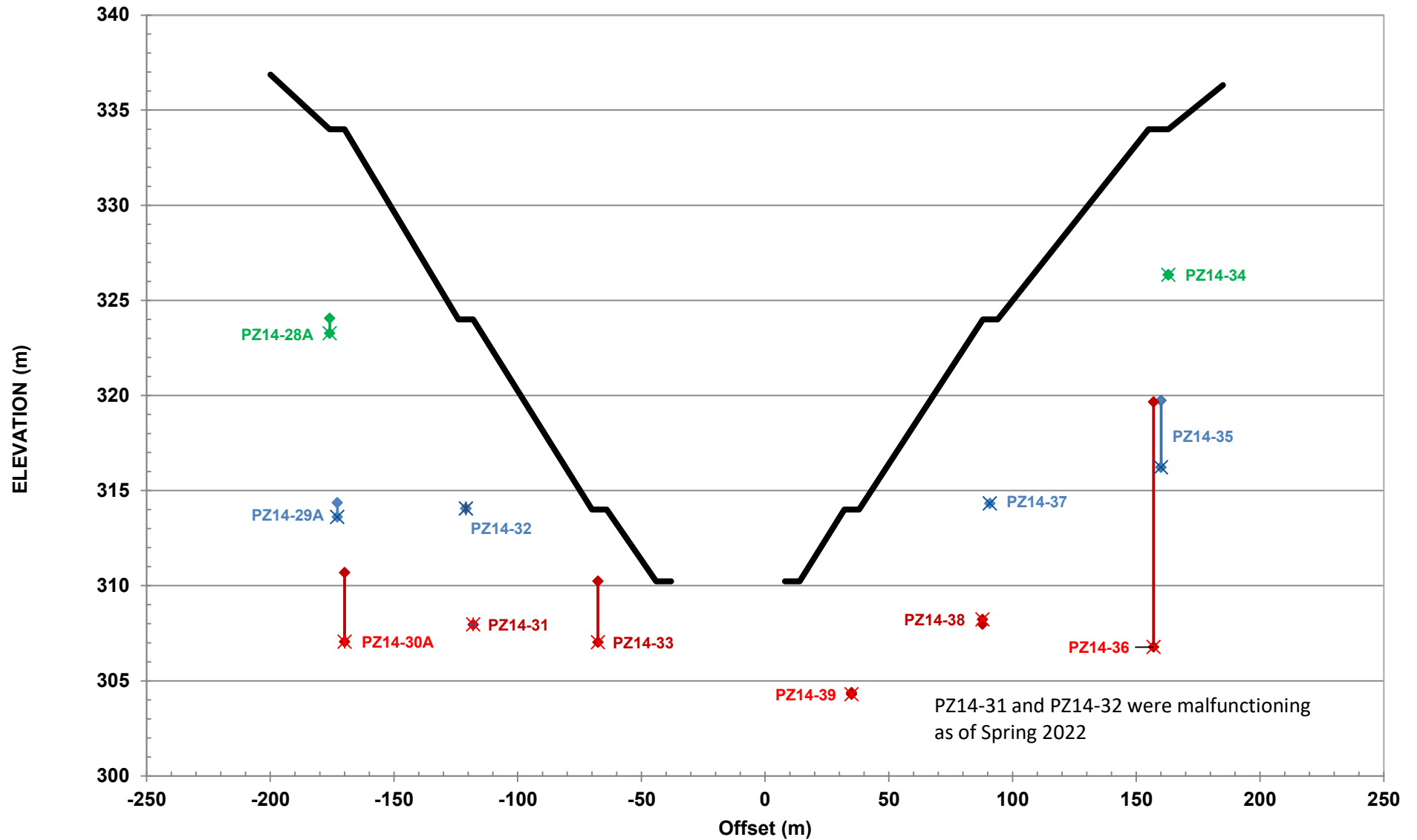


Figure 686-1

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s -172m
PIEZOMETER PLOTS

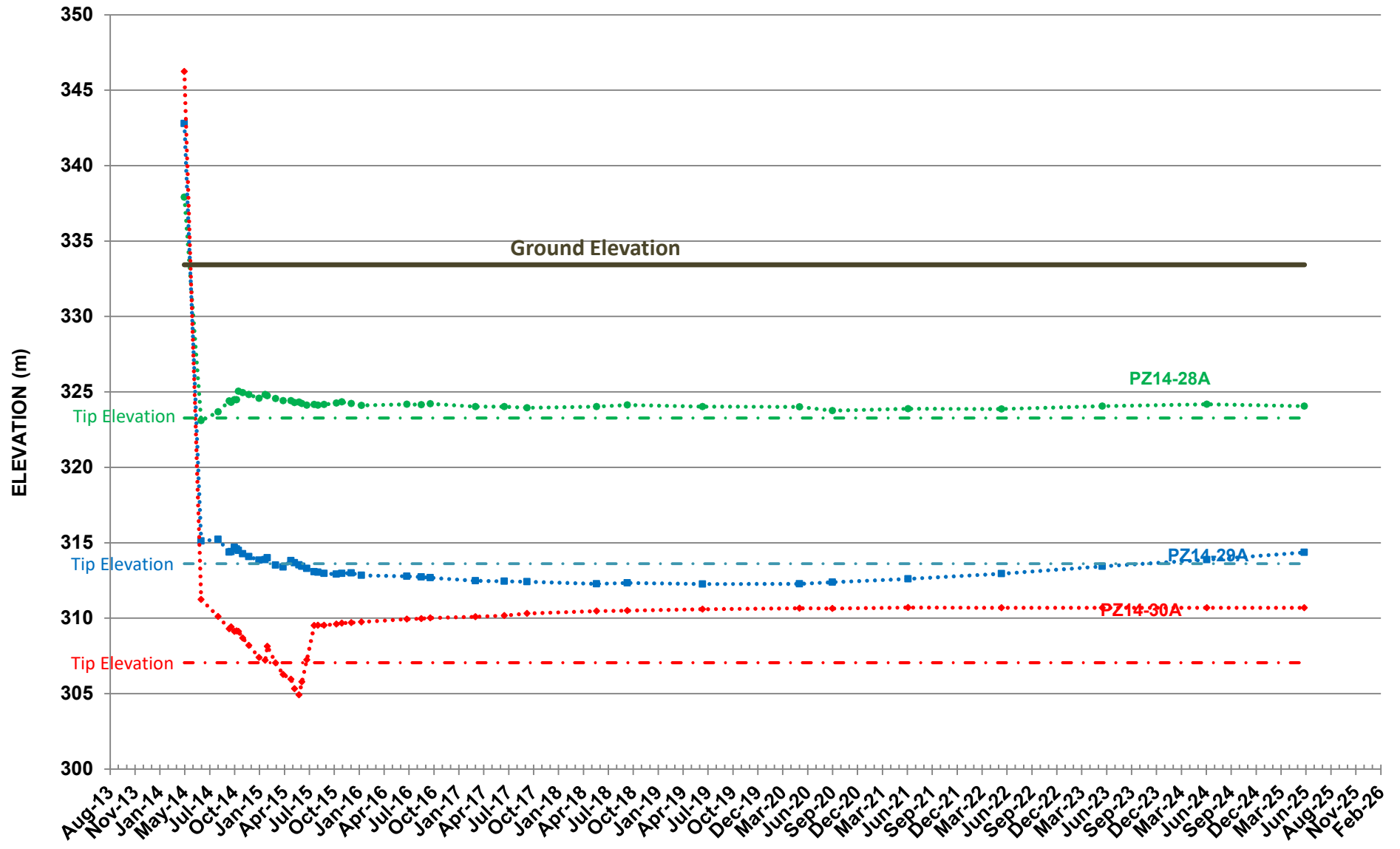


Figure 686-2

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s -121m
PIEZOMETER PLOTS

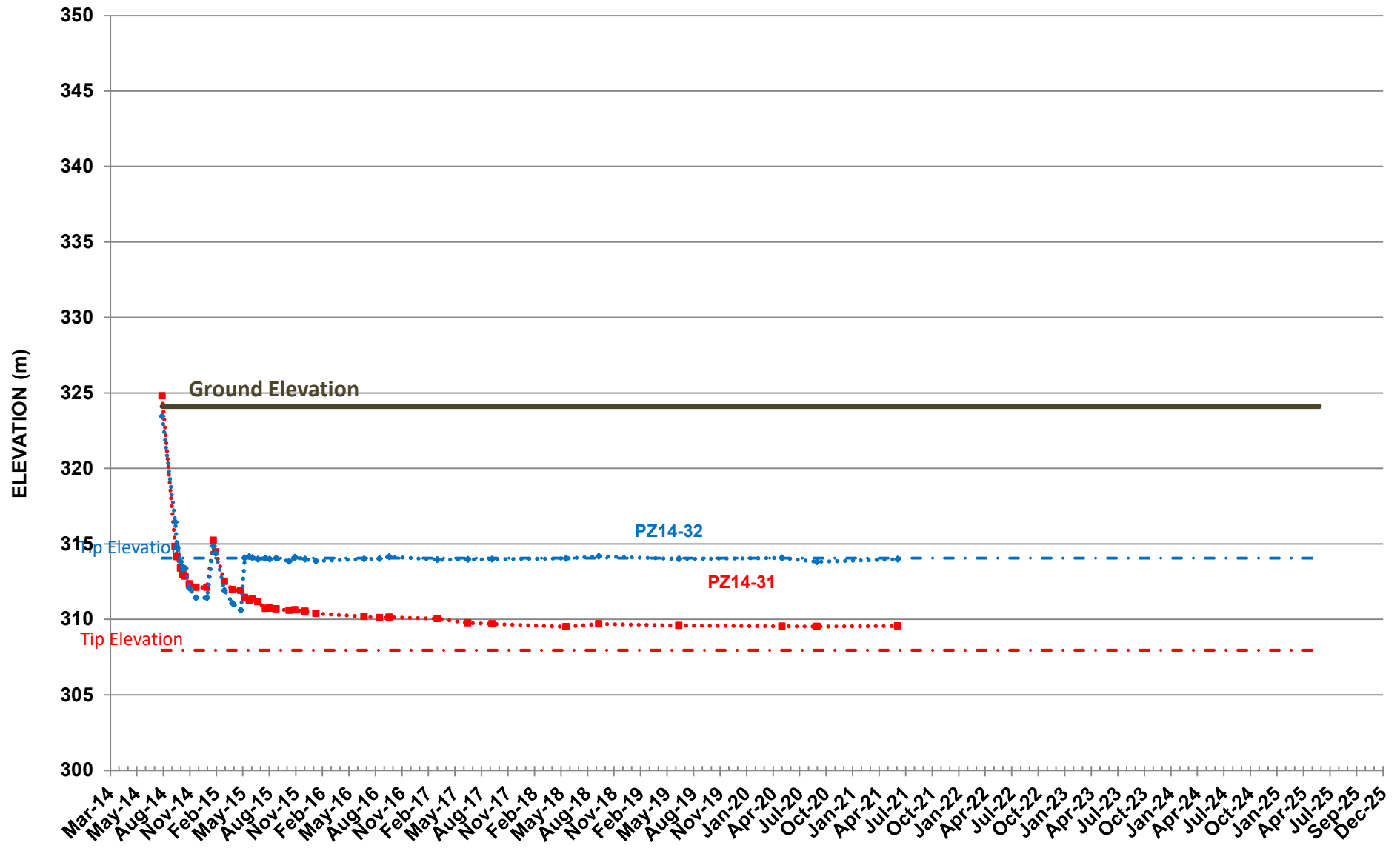


Figure 686-3

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s -65m
PIEZOMETER PLOTS

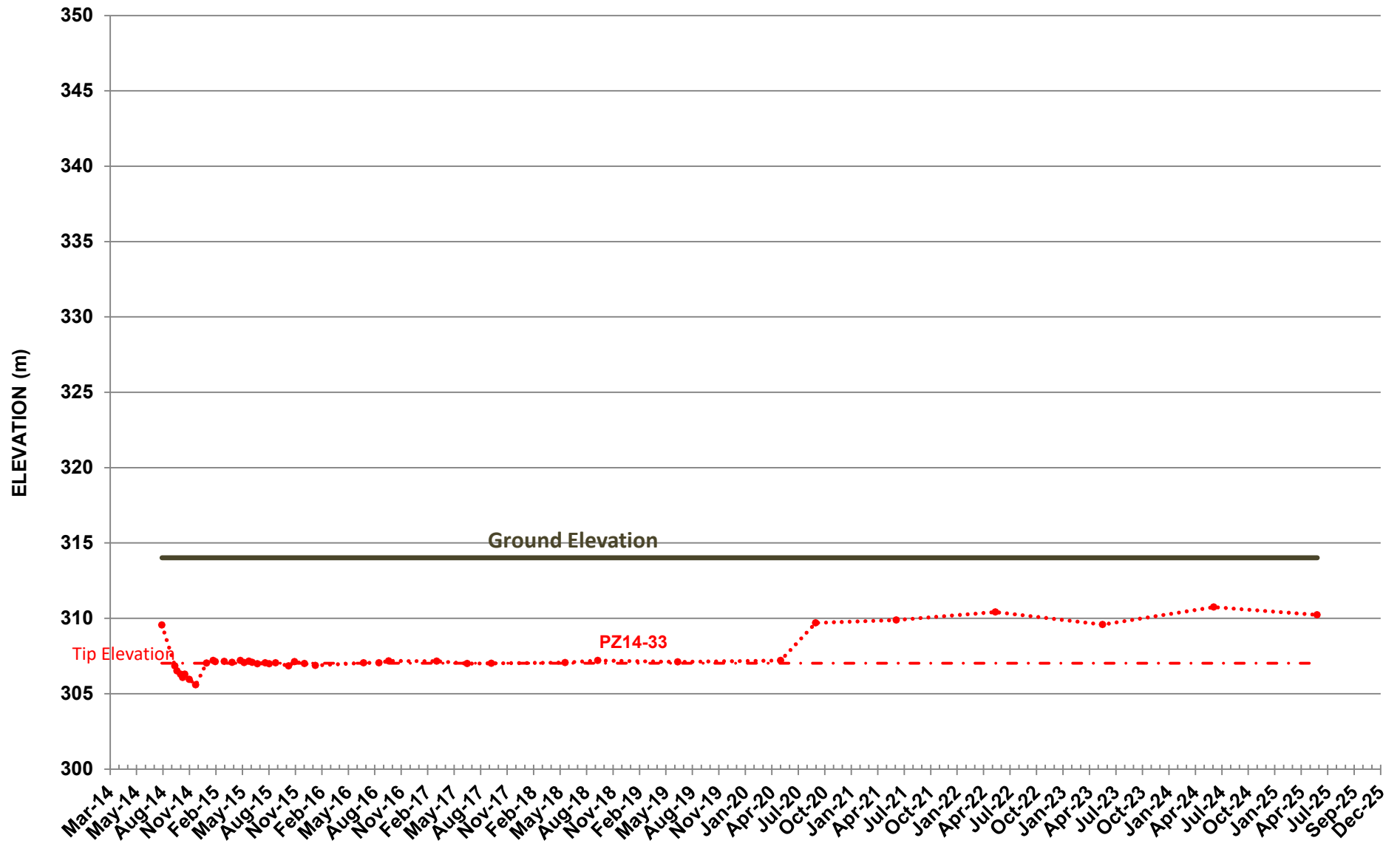


Figure 686-4

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s +160m
PIEZOMETER PLOTS

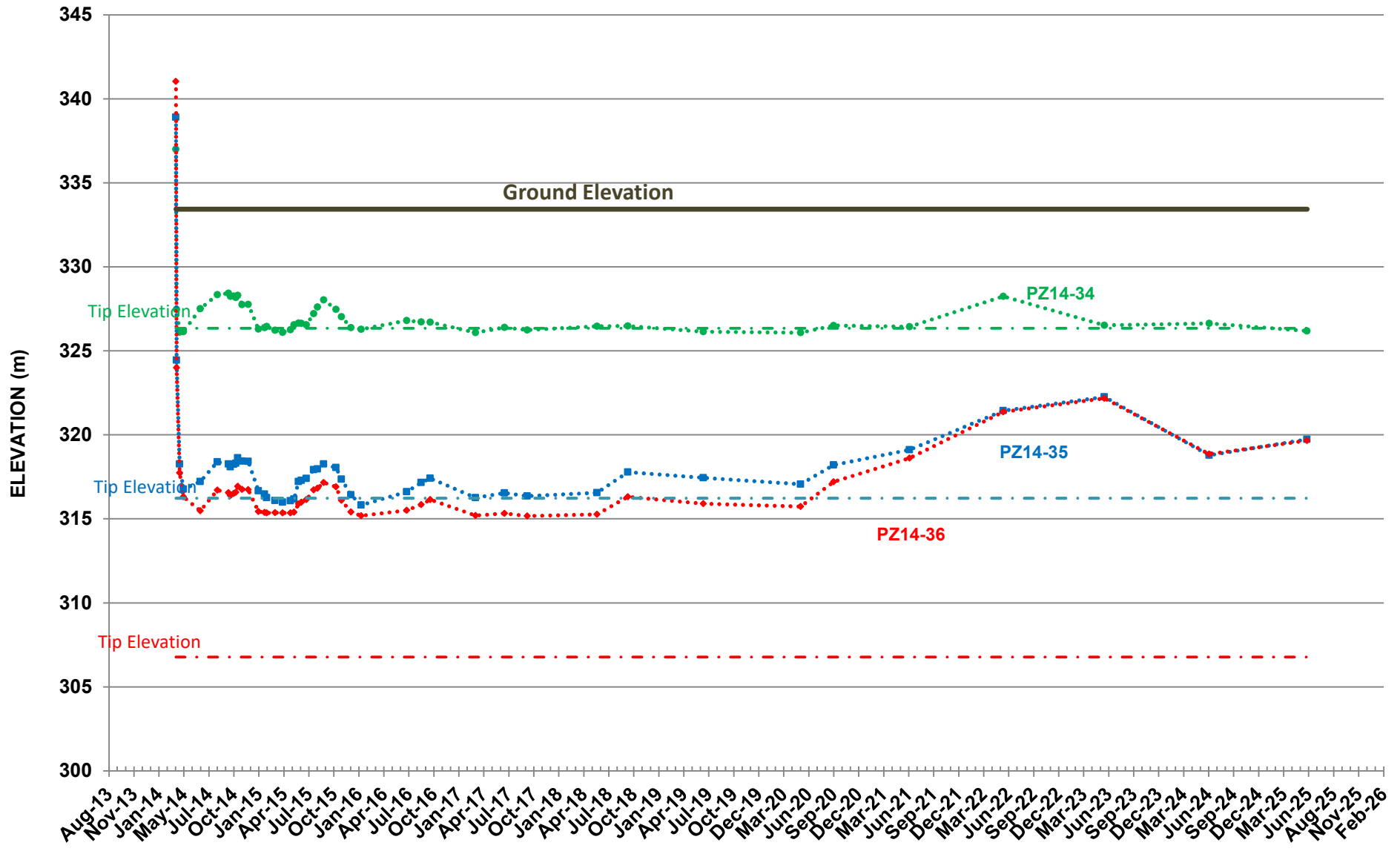


Figure 686-5

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s +91m
PIEZOMETER PLOTS

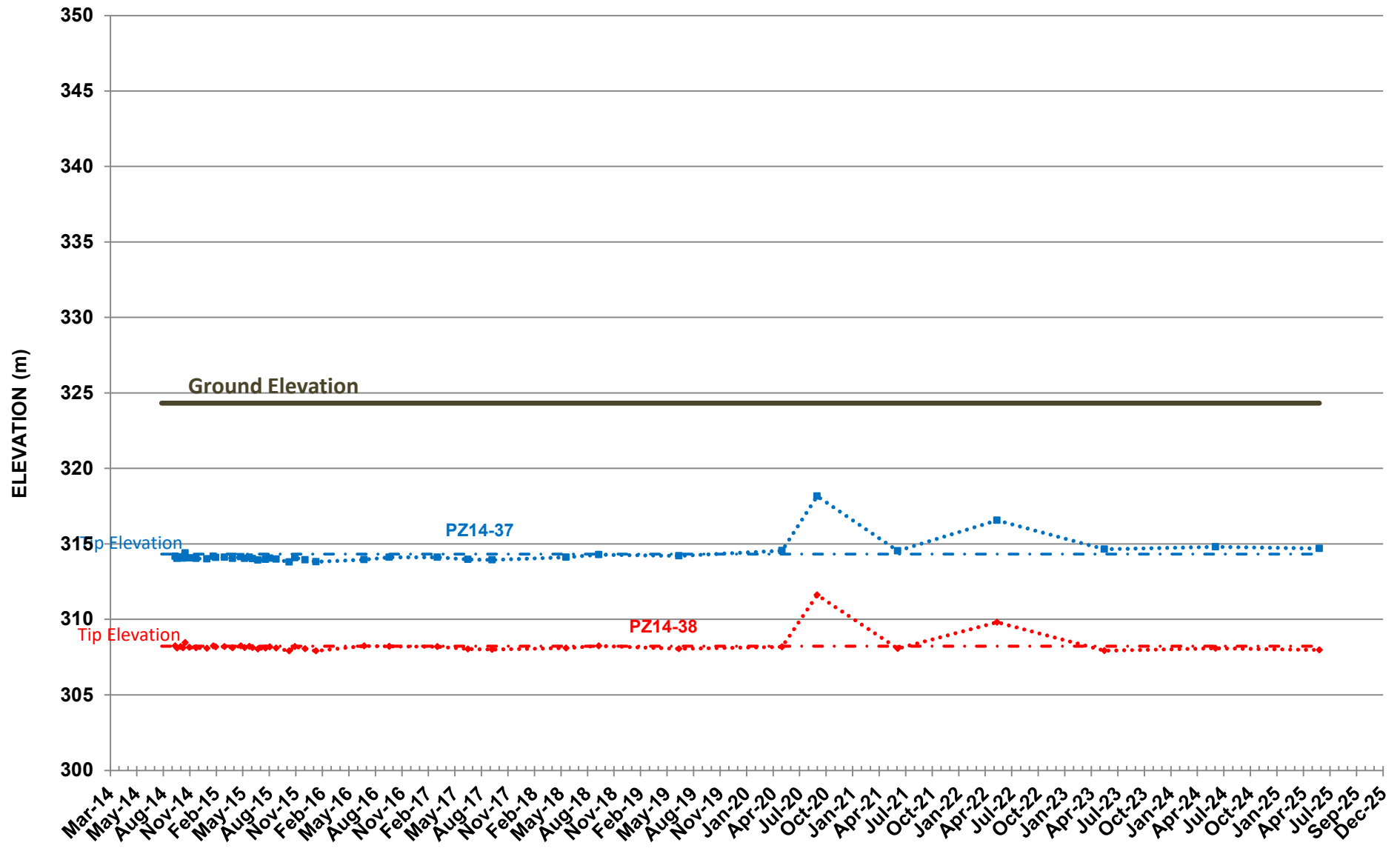


Figure 686-6

HWY 686; NORTH CUT SLOPE
STATION 49+000 o/s +35m
PIEZOMETER PLOTS

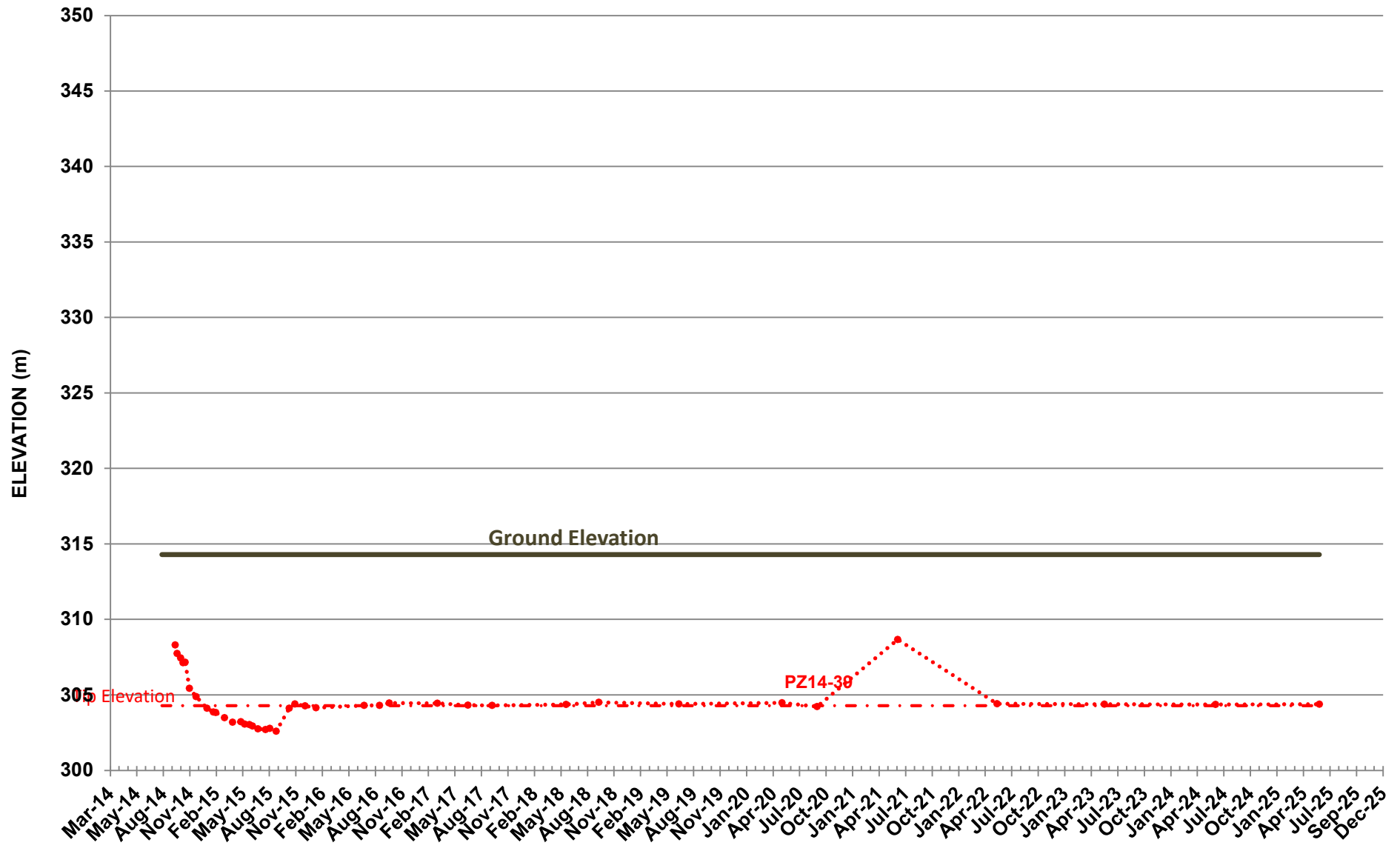


Figure 686-7

Hwy 686; 49+200 Piezometer Plot

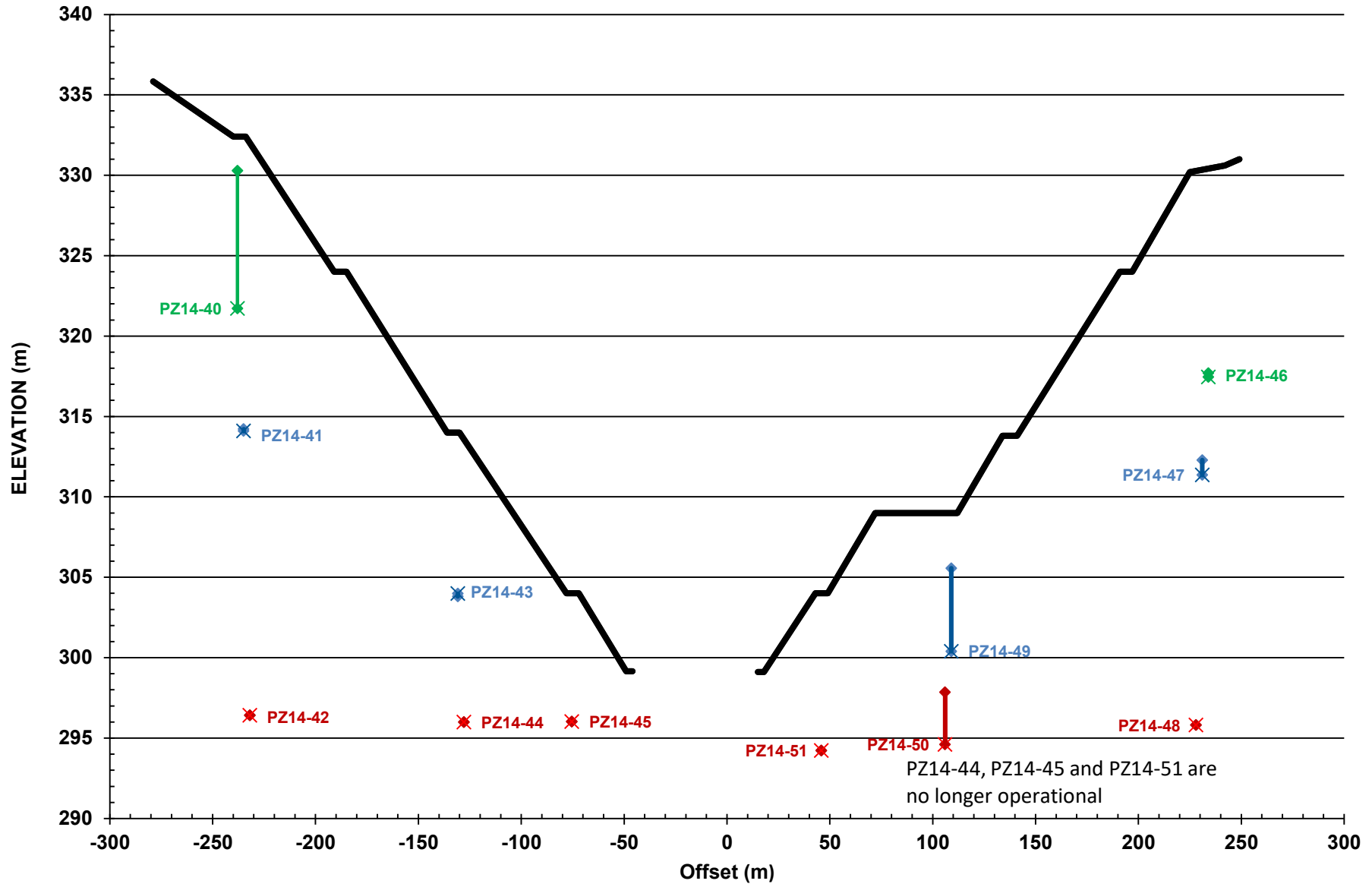


Figure 686-8

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s -235m
PIEZOMETER PLOTS

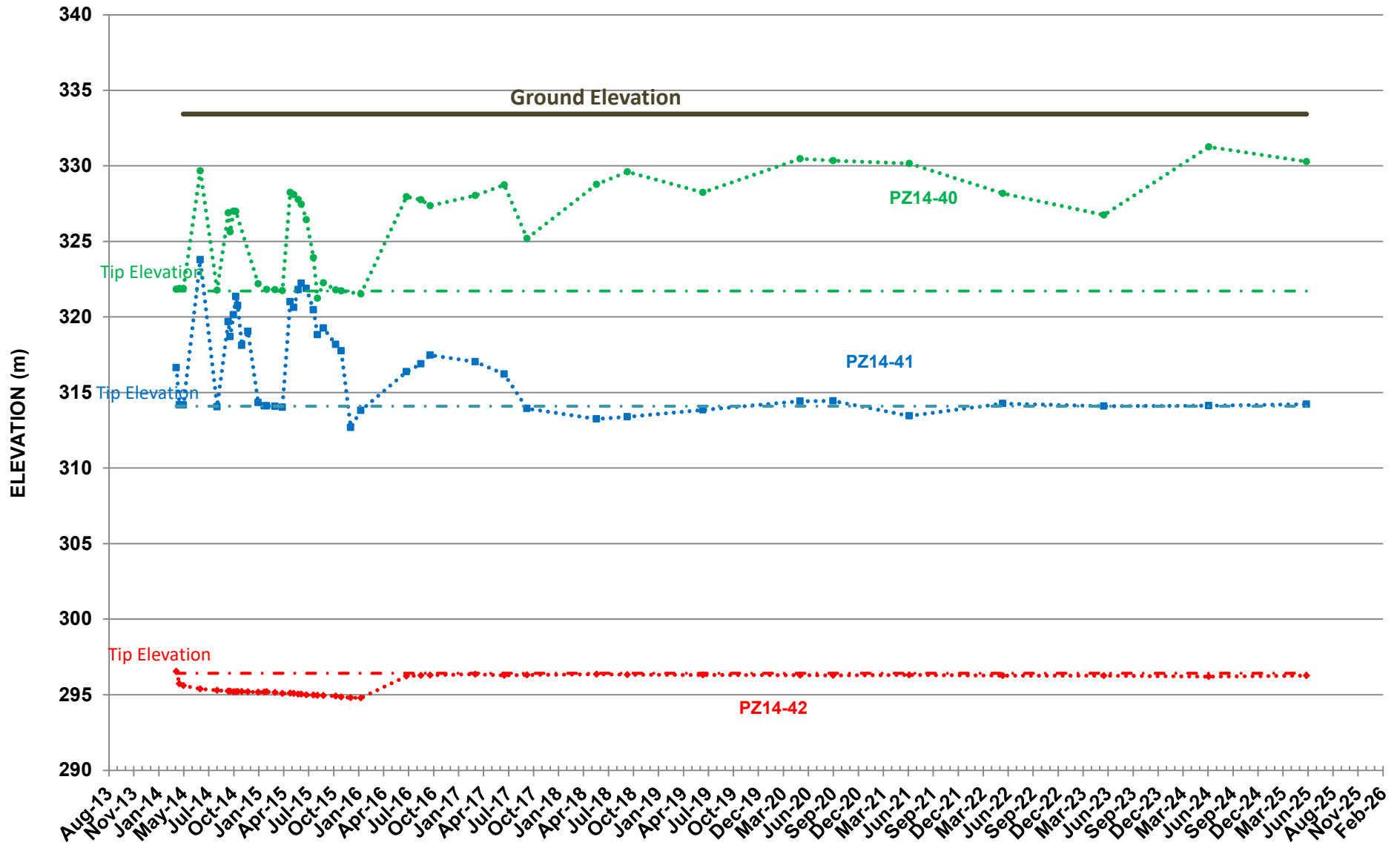


Figure 686-9

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s -131m
PIEZOMETER PLOTS

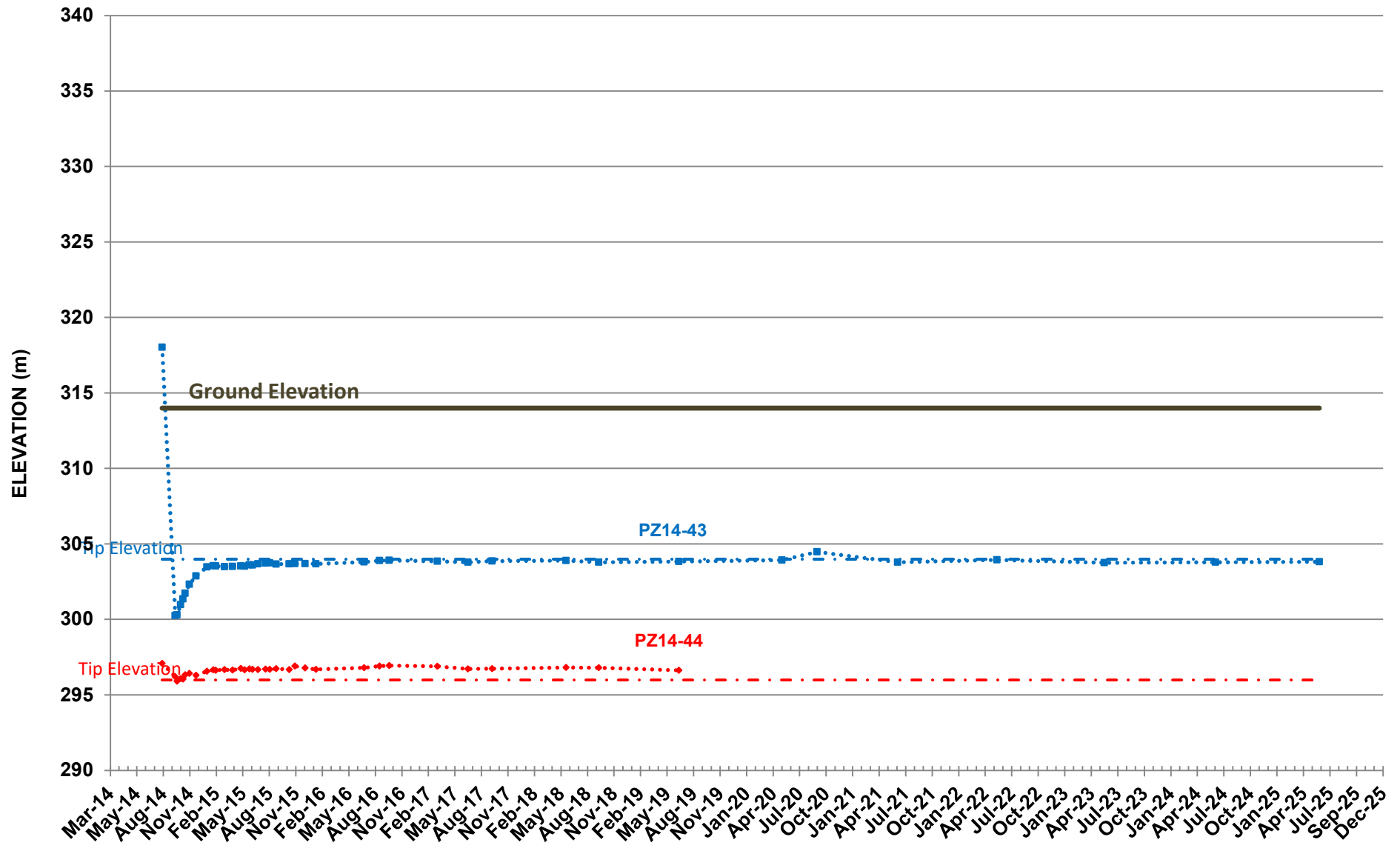


Figure 686-10

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s -75m
PIEZOMETER PLOTS

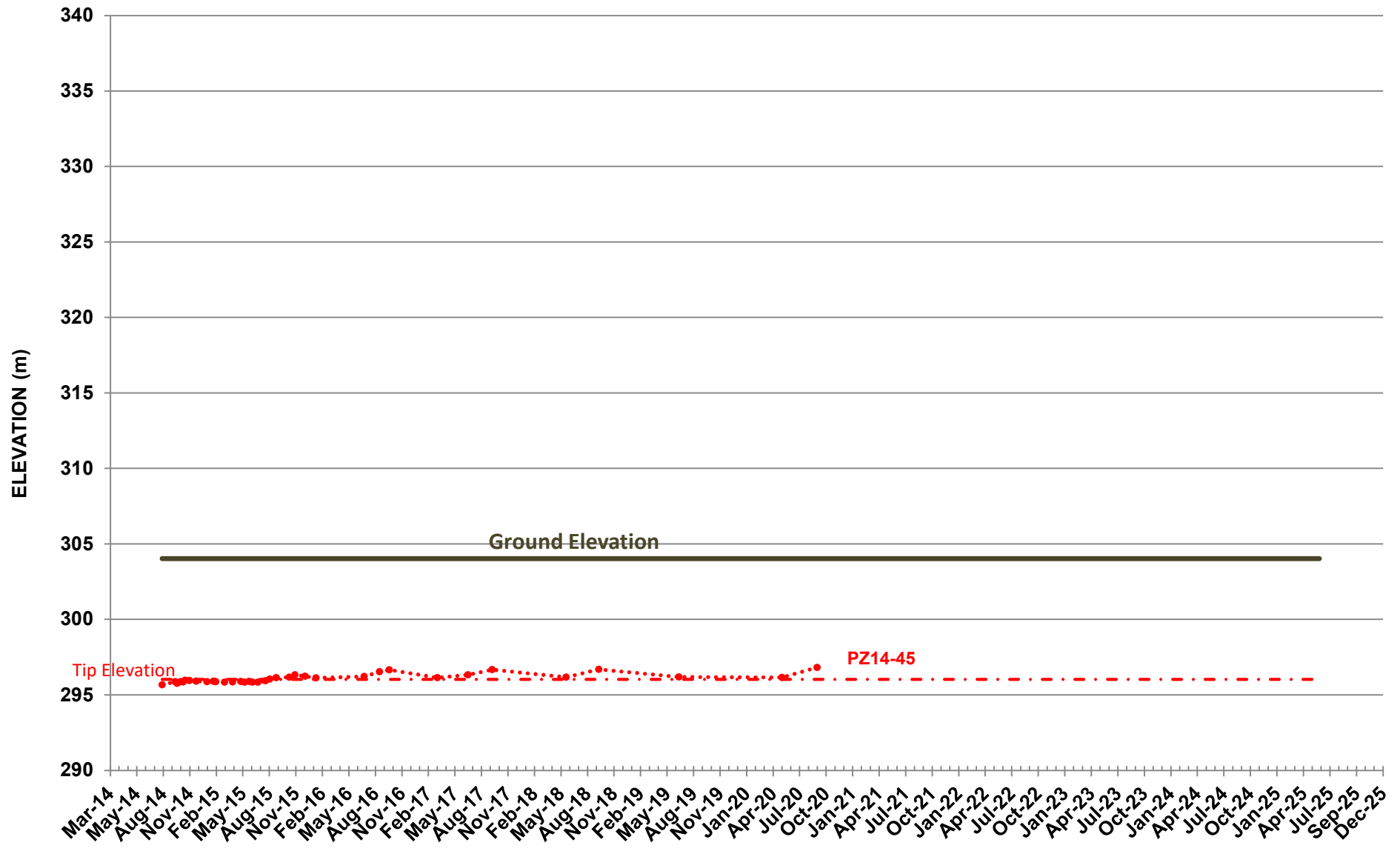


Figure 686-11

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s +231m
PIEZOMETER PLOTS

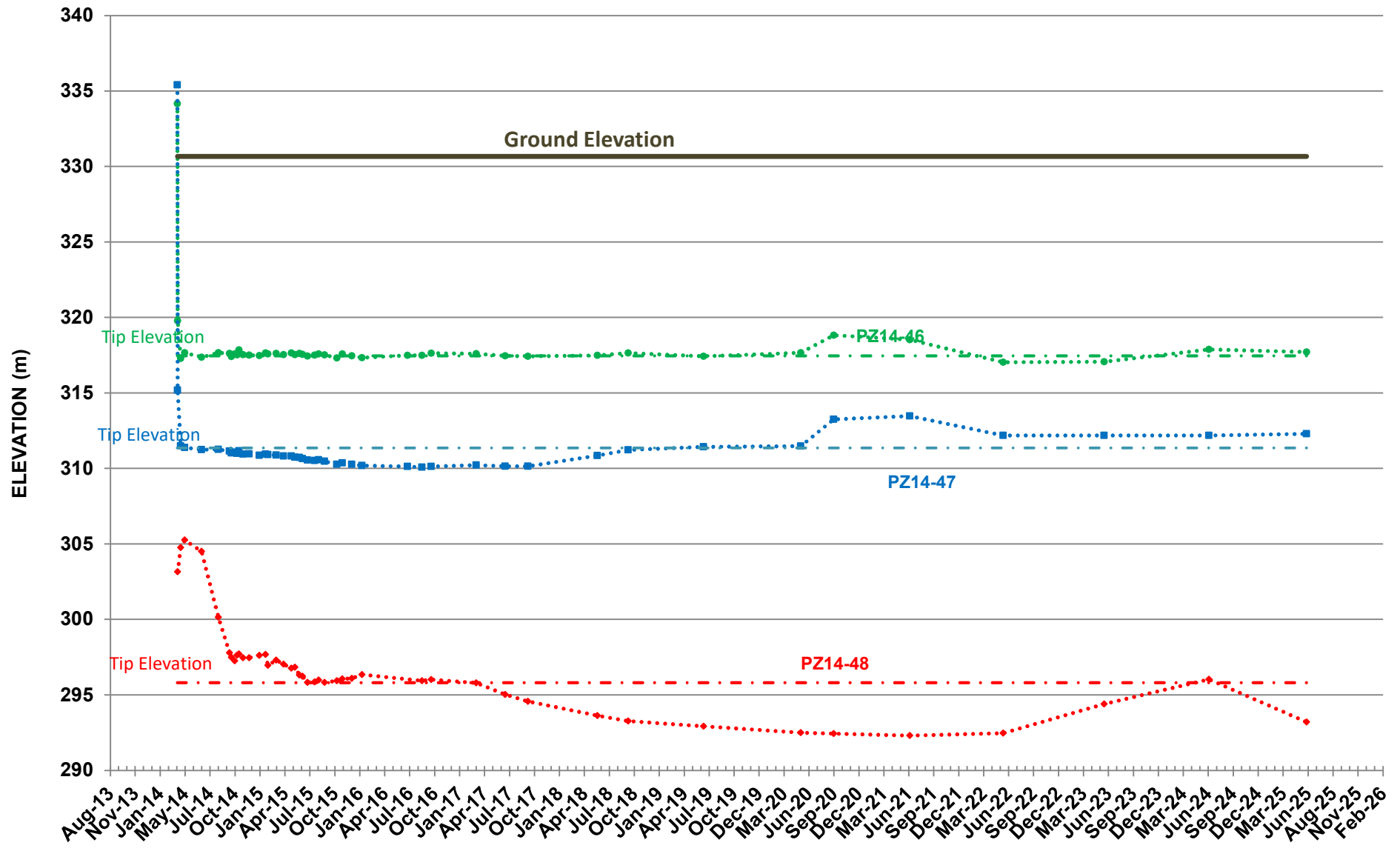


Figure 686-12

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s +109m
PIEZOMETER PLOTS

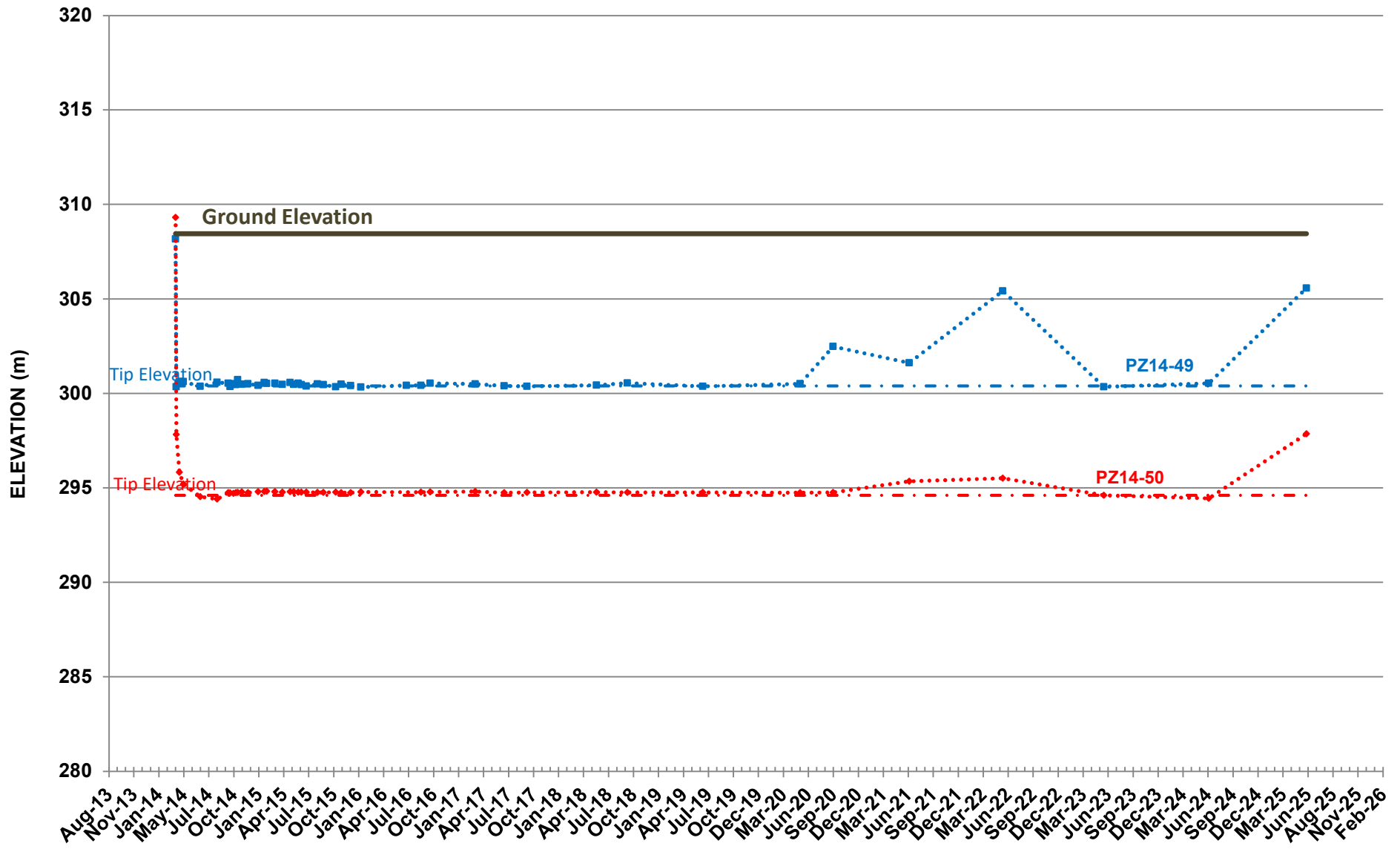


Figure 686-13

HWY 686; NORTH CUT SLOPE
STATION 49+200 o/s +49m
PIEZOMETER PLOTS

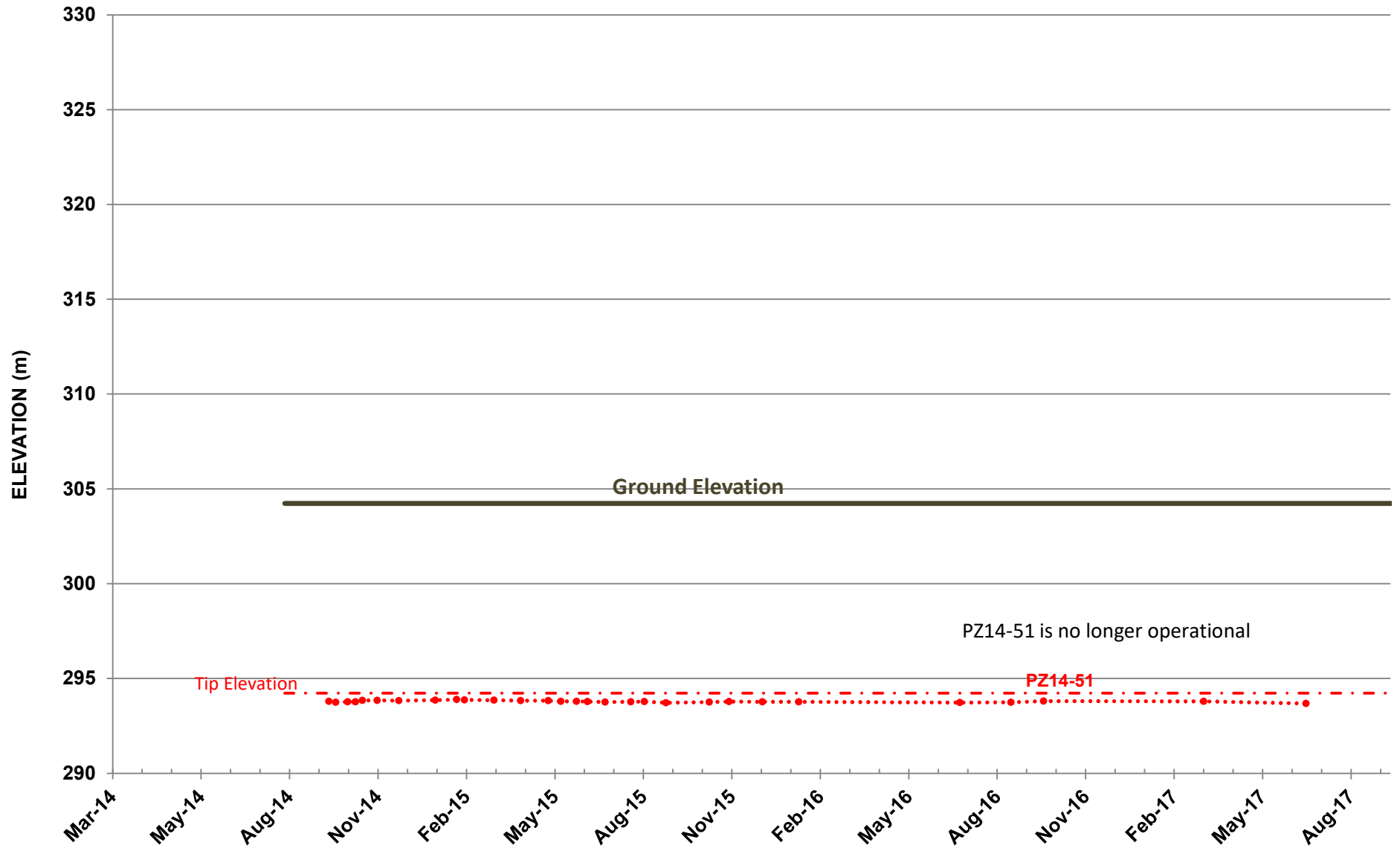


Figure 686-14