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November 10, 2016

David Lastovka, P.E.
ODOT District 12 Transportation Engineer
Ohio Department of Transportation
5500 Transportation Boulevard
Garfield Heights, Ohio 44125-5396

E-mail to: Dave.Lastovka@dot.state.oh.us

Re: November 2, 3, and 4, 2016 Bi-Weekly Readings
CUY-90-15.24 Slope Monitoring
PID 96504
SME Project No. 069032.00

Dear Mr. Lastovka:

Bi-weekly instrument readings for the I-90 west slope taken on November 2, 3, and 4, 2016, are presented in this report. Bi-weekly readings currently include instruments at I/P-001-13, I/P-002-13, I/P-003-10, I/P-004-13, I/P-009-13, B-101, B-102, B-105A, B-05-02, B-05-A-03, B-05-04, B-05-A-11, P-1, P-9N, and TGR I-4. Changes reported for the individual instruments are for the previous two-week period unless noted otherwise.

Piezometer Readings

P-001-13, P-002-13, P-003-10, P-004-13, P-009-13, B-05-02, B-05-A-11
– Pore pressure readings at these locations fluctuated by less than 0.5 feet and show virtually no net change in total head for the period.

B-105A – Total head in the shallow piezometer at this location continued to decrease during this recording cycle. From August 13 to November 3, 2016, the net decrease in total head has been 2.15 feet. Pore pressures in the deep piezometer show virtually no change.

B-05-02 – Since the last week of September, pore pressures decreased about 4.5 feet in both piezometers at this location. This is likely due to earthwork operations in the area of these instruments.

B-05-A-03 – At this location, pore pressure readings in both piezometers indicate fluctuations over a range of about 0.8 feet but no net change during this period.

Inclinometer Readings

We were unable to complete the scheduled inclinometer readings at I-009-13, B-05-02, B-05-A-03, B-05-04, P-1, P-9N, and TGR I-4 because our inclinometer probe was damaged. We sent the probe to the manufacturer for repair and expect to have it returned within a week. If the repairs are delayed, we will use another inclinometer to take readings.

Prior to failure of inclinometer probe, we obtained readings at I-001-13, I-002-13, I-004-13, I-009-13, B-101, B-102, B-05-A-11. Plots for all of these locations show virtually no movement this period. In some cases, the plots indicated displacement at the top of the casing. This is due to disturbance of the area around the casing that occurred during construction. Protective covers have not yet been permanently concreted in place because of the ongoing construction near these instruments.

B-105A – The current plot indicates a slight increase in positive A-axis and negative B-axis displacement of the top 60 to 70 feet of the casing.

This concludes our report of bi-weekly instrument readings. Please call or email with any questions.

Very truly yours,

SME

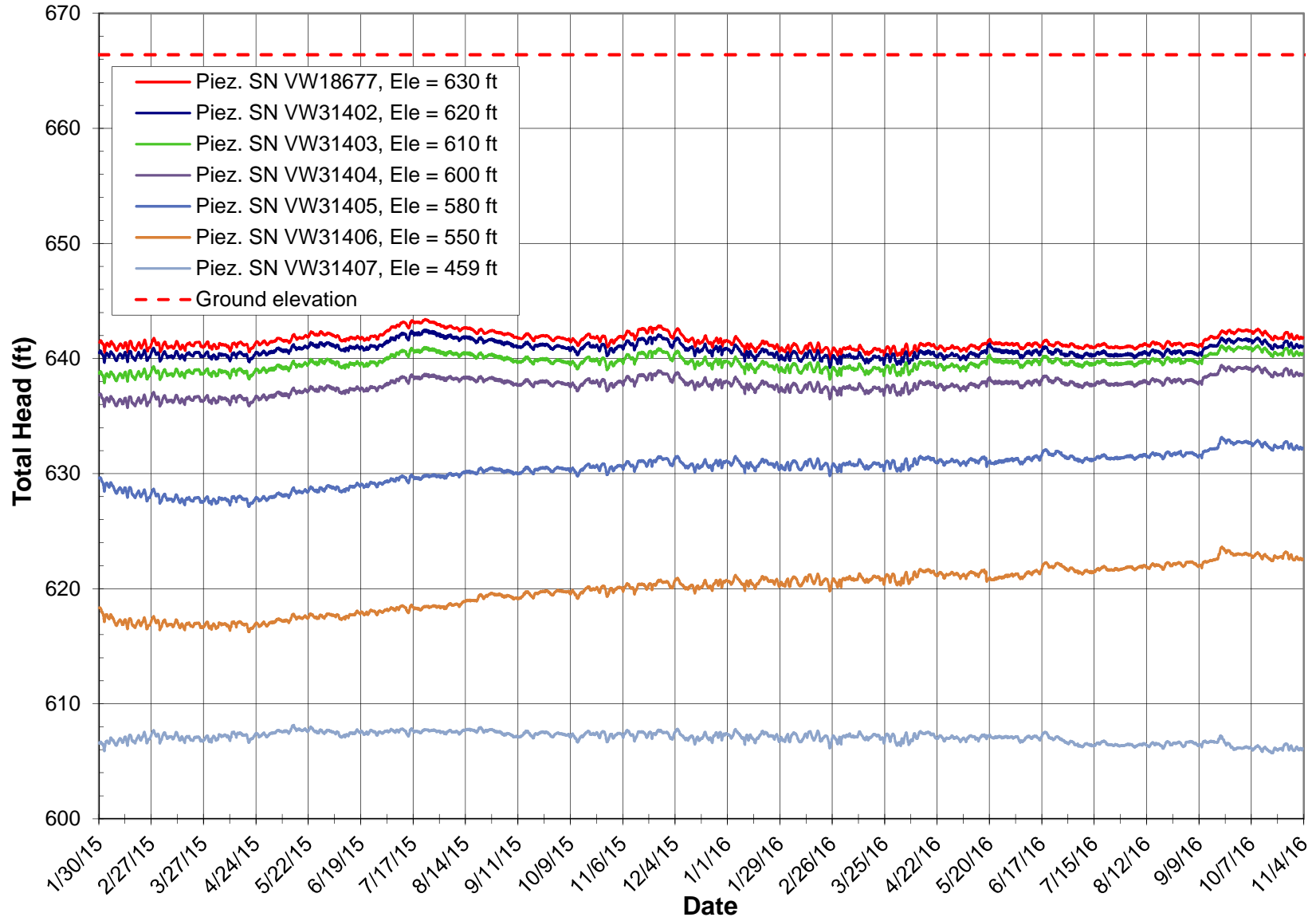
Brendan P. Lieske, P.E.
Senior Staff Engineer

Alan J. Esser, P.E., D.GE
Chief Consultant

Copies sent to distribution list.

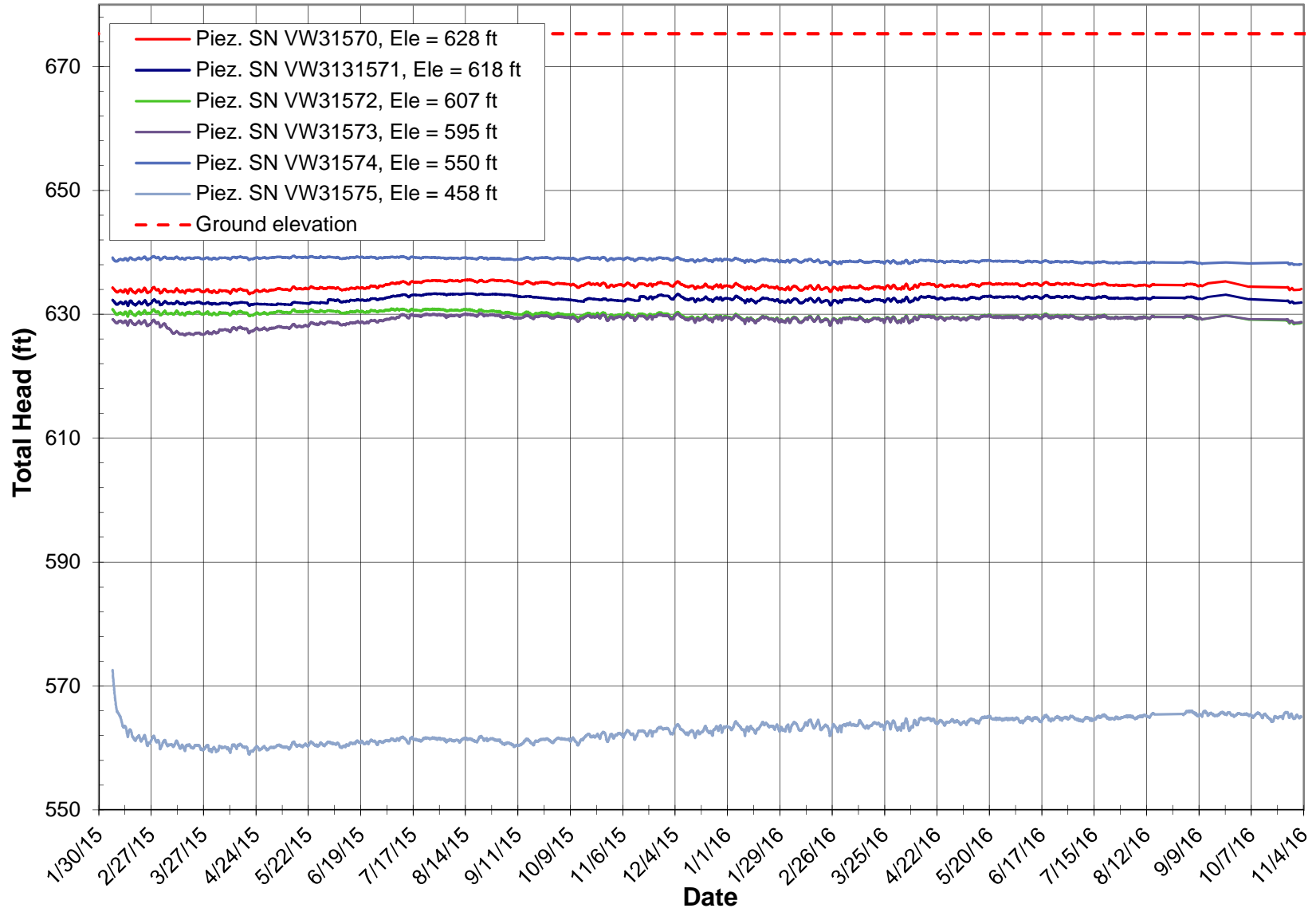
P-001-13 VW Piezometer Readings

Ground surface elevation = 666.4 ft



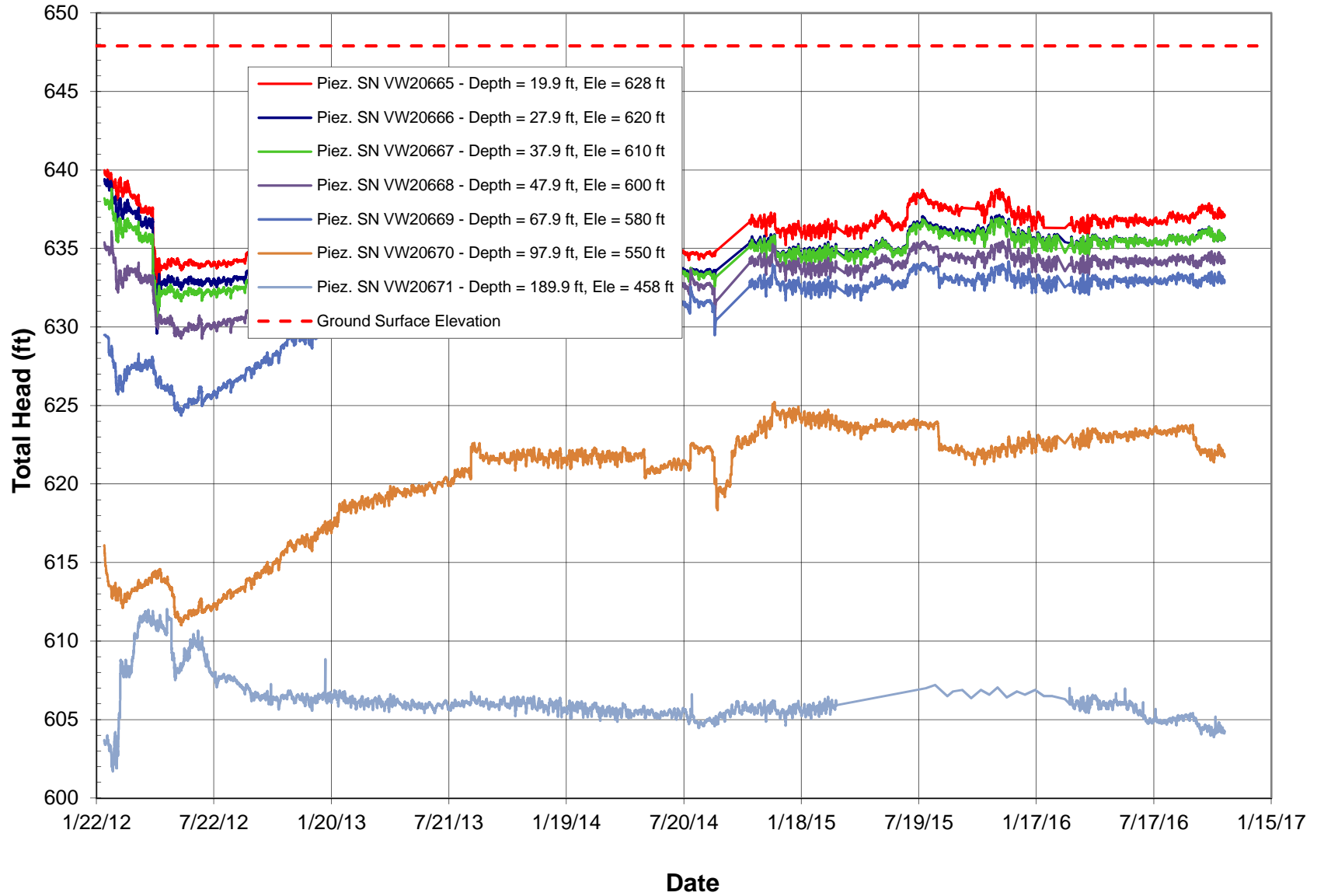
P-002-13 VW Piezometer Readings

Ground surface elevation = 675.29 ft



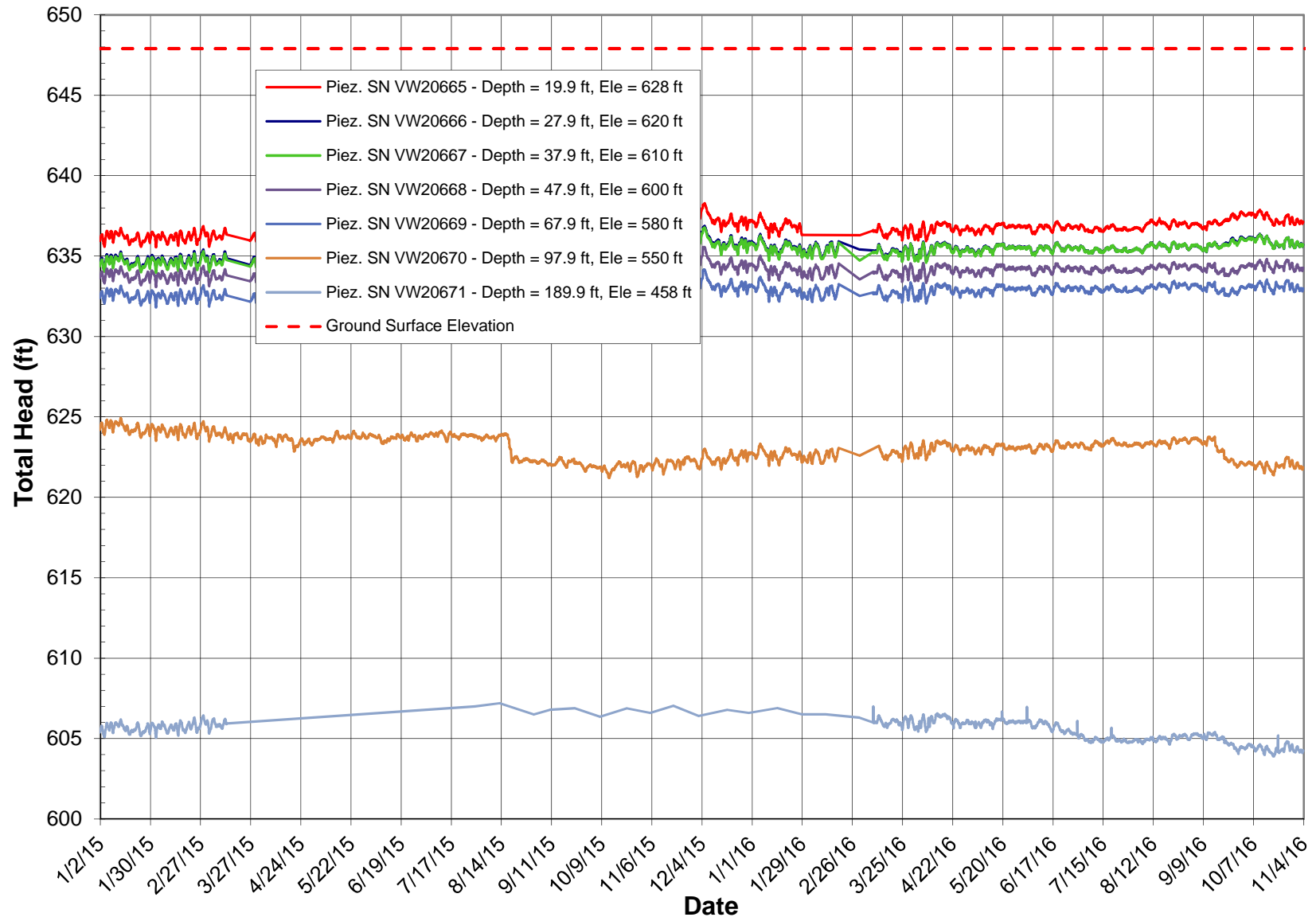
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



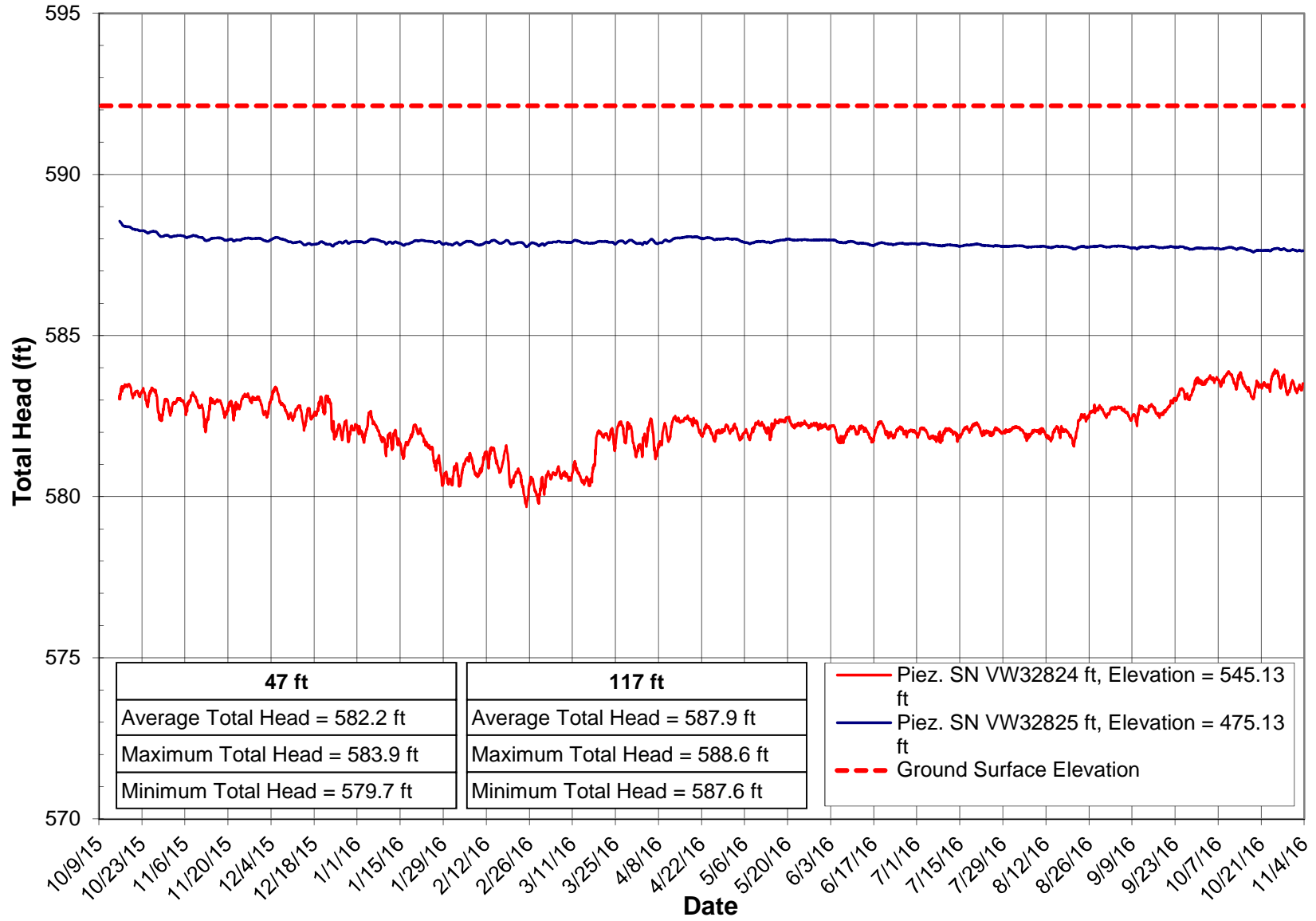
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



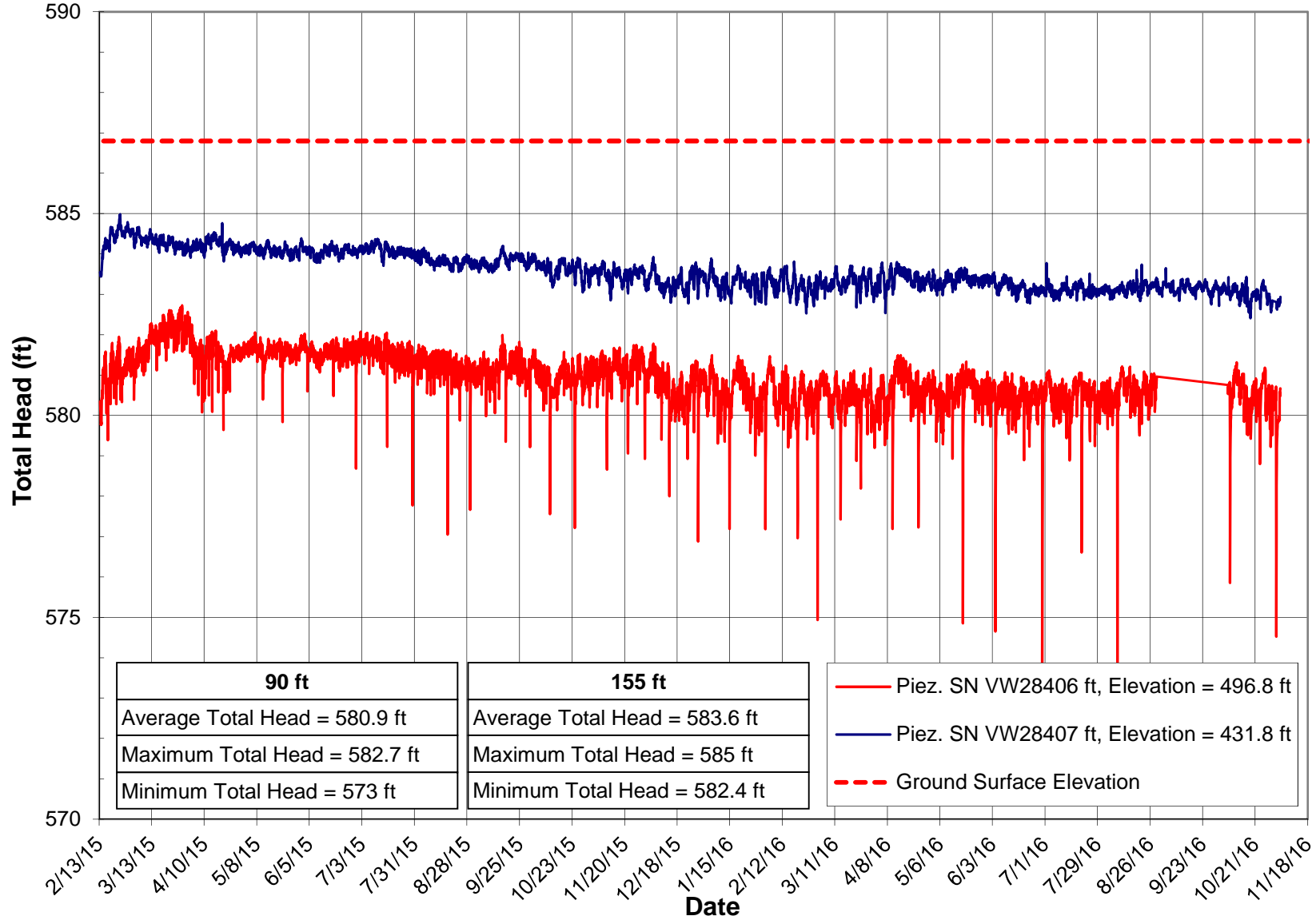
P-004-13 VW Piezometer Readings

Ground surface elevation = 592.13 ft



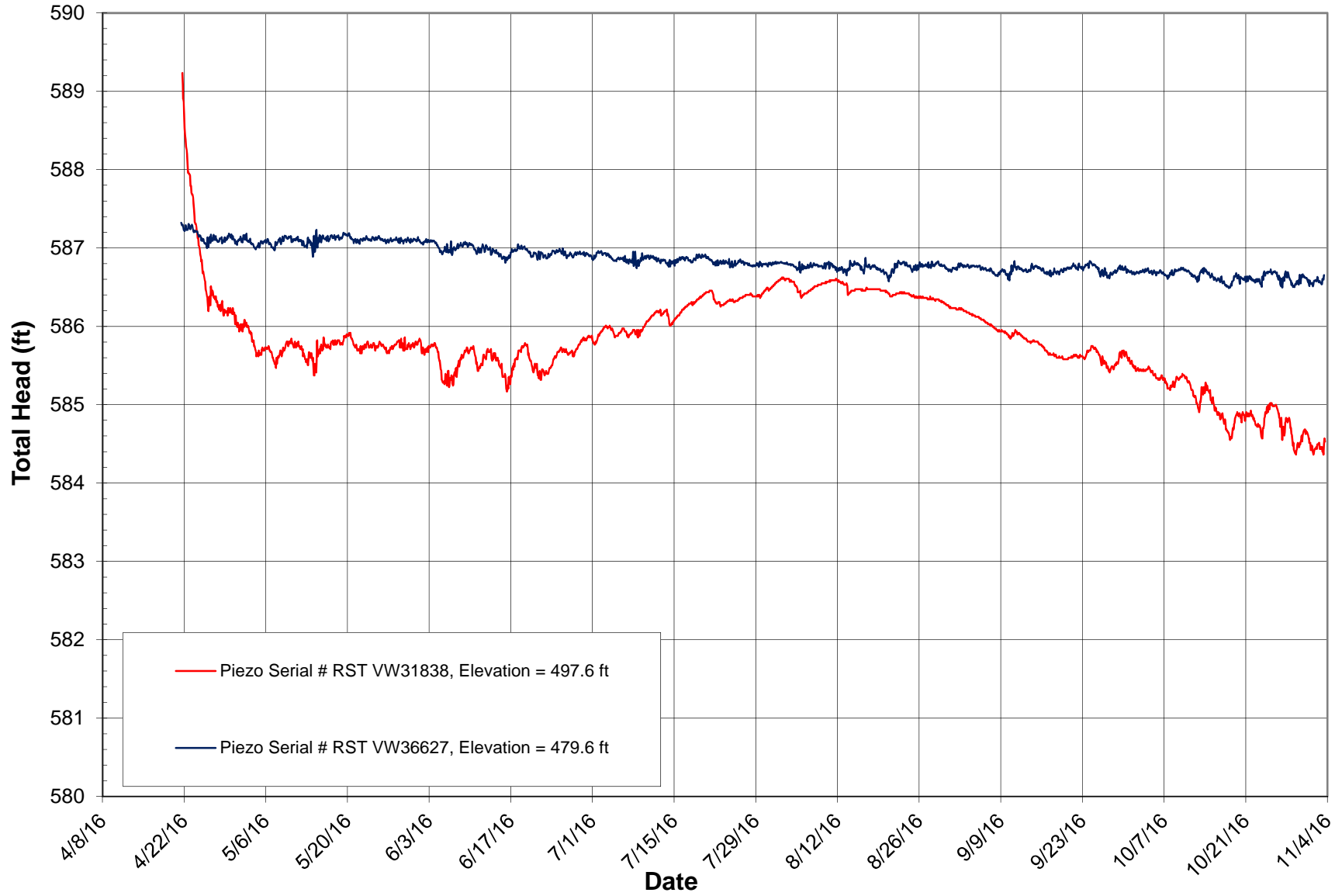
P-009-13 VW Piezometer Readings

Ground surface elevation = 586.6 ft



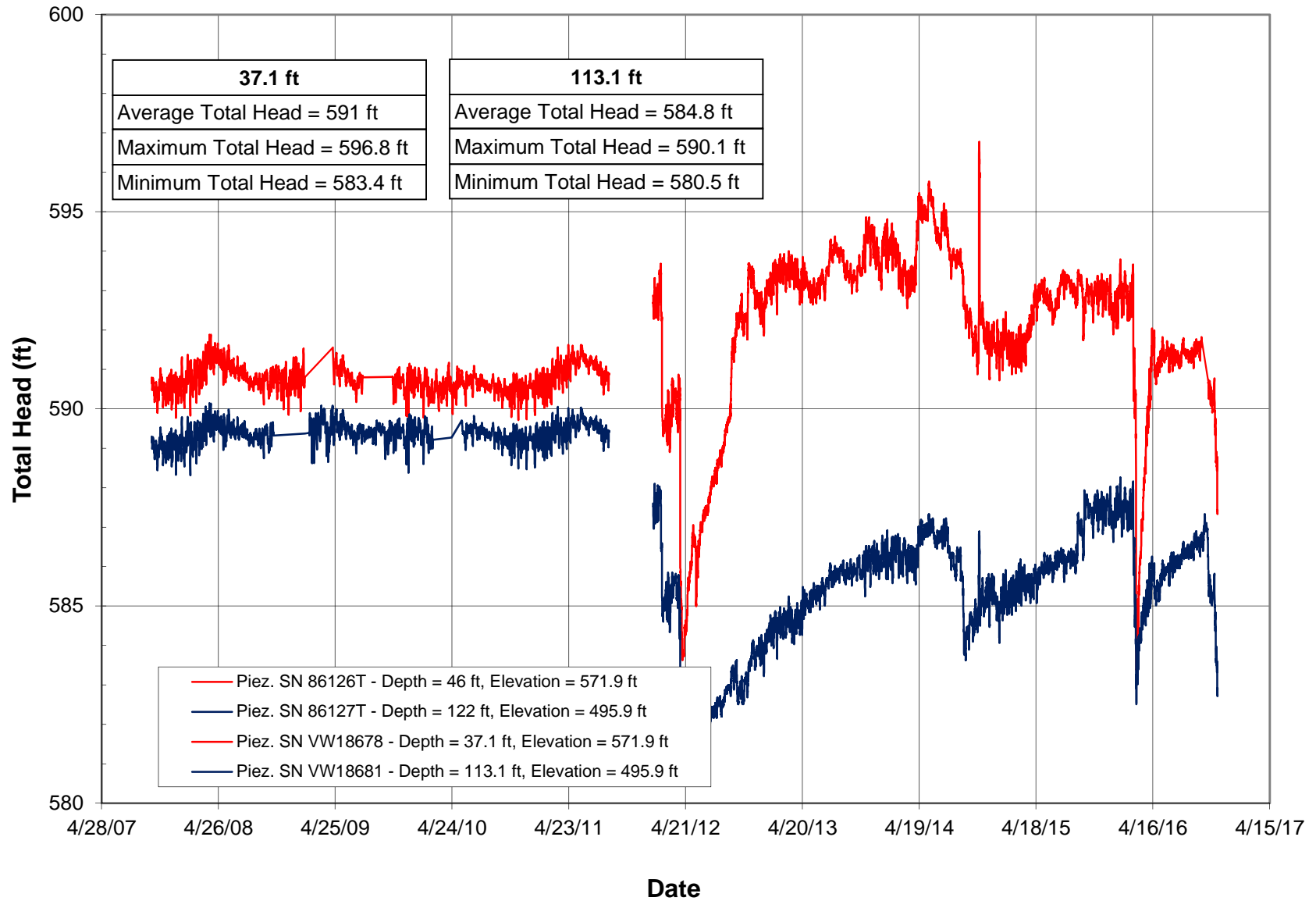
B-105A VW Piezometer Readings

Ground surface elevation = 585.6 ft



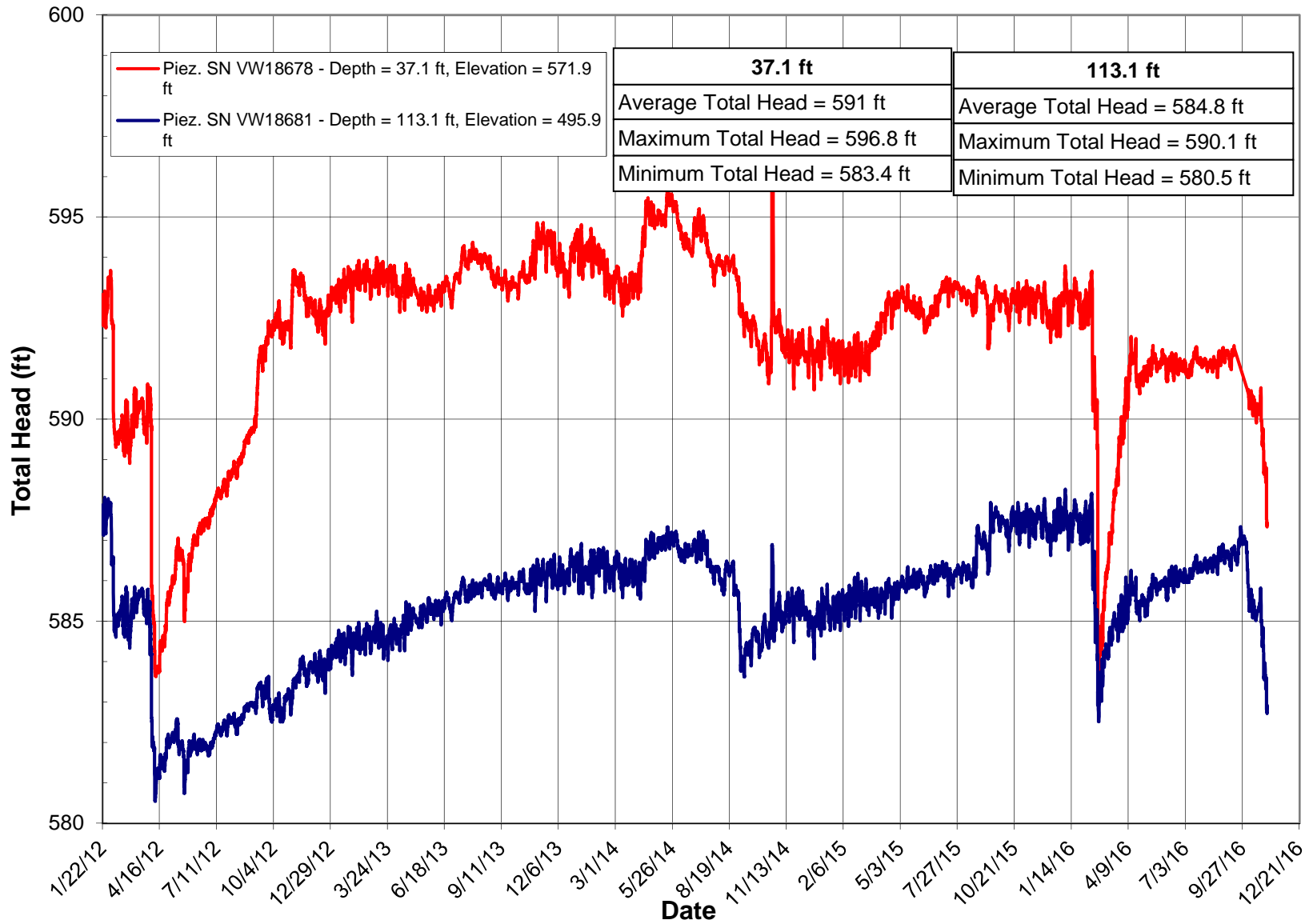
B-05-02 VW Piezometer Readings

Ground surface elevation = approx 609.0 ft



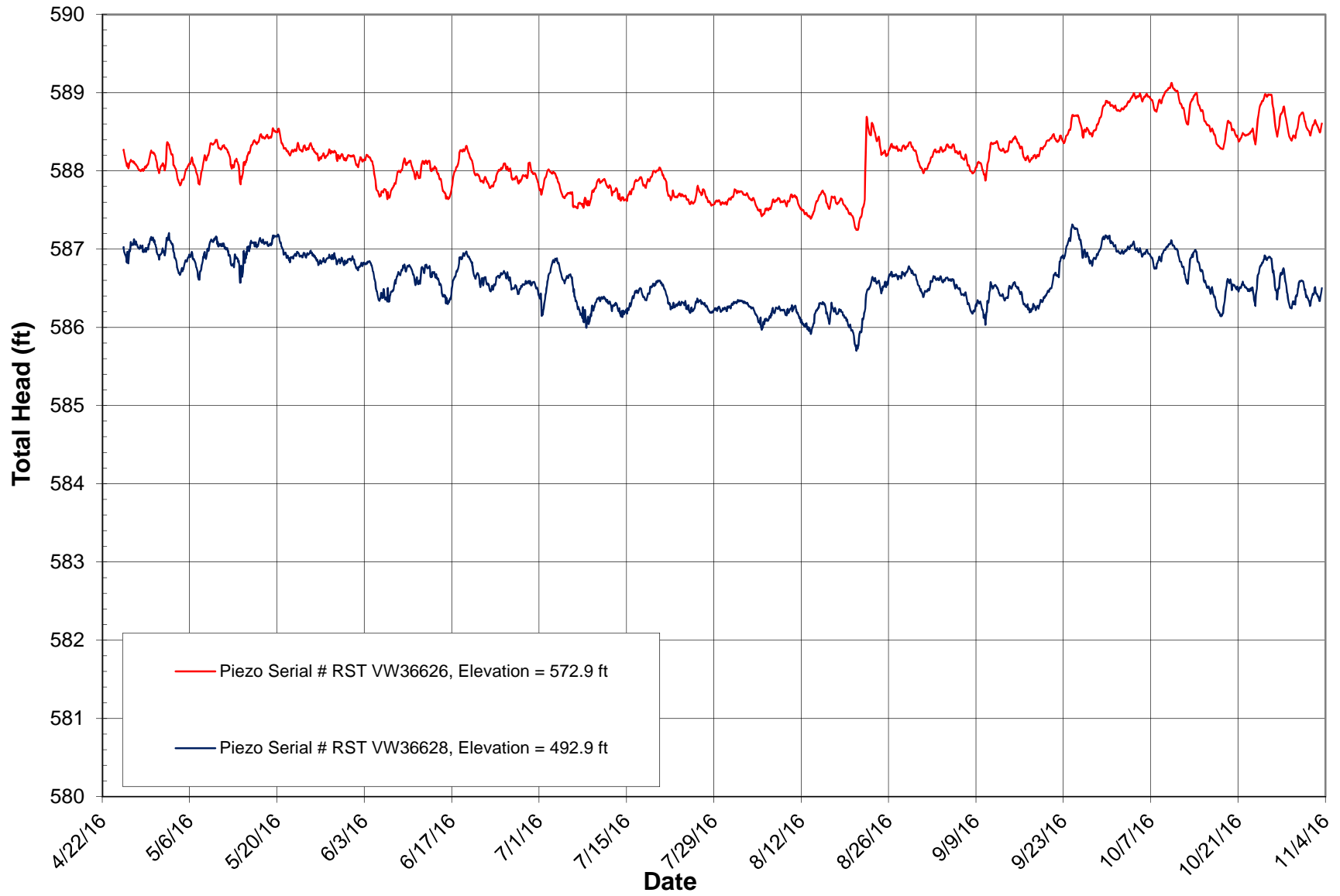
B-05-02 VW Piezometer Readings

Ground surface elevation = approx 609.0 ft



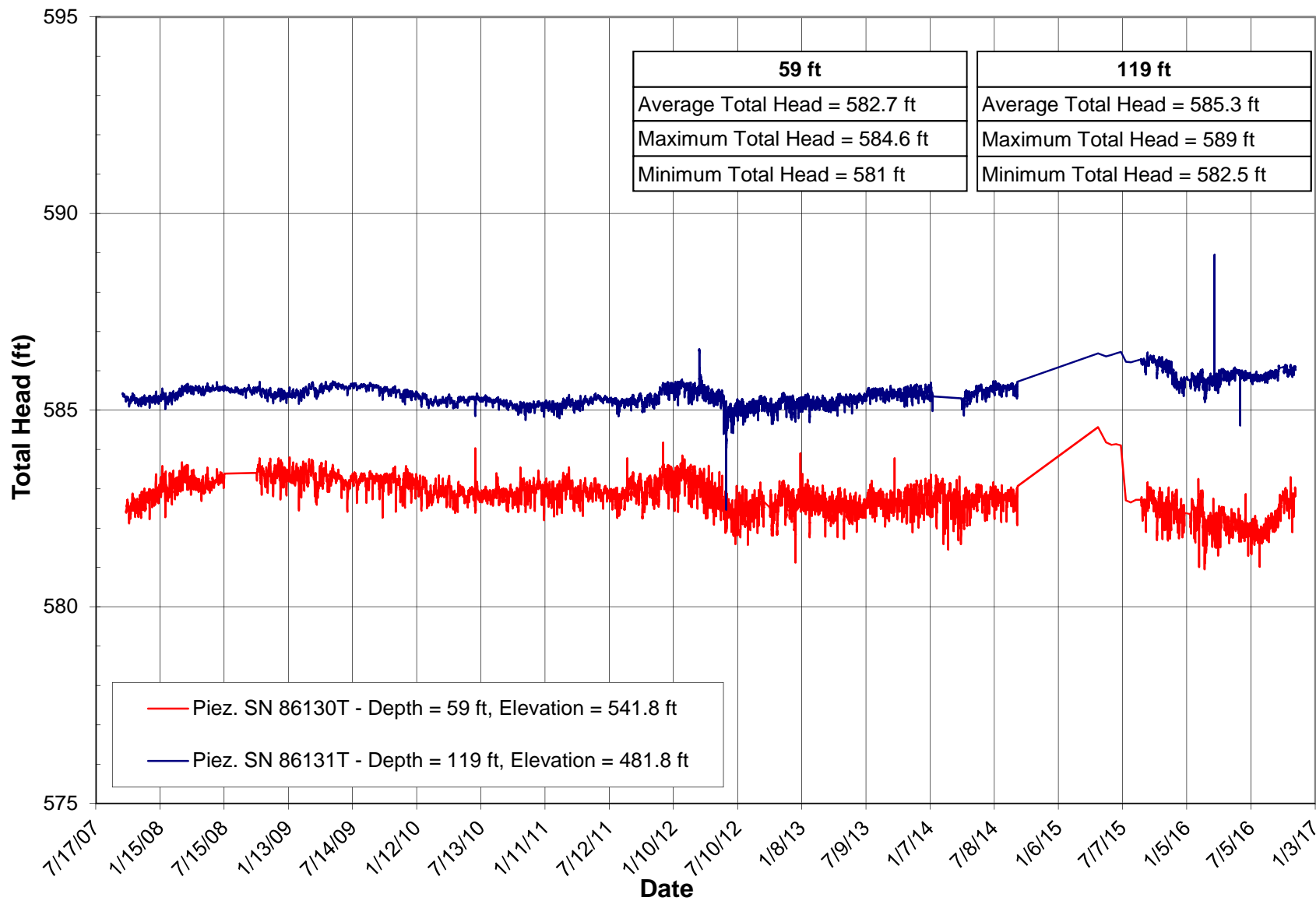
B-05-A-03 VW Piezometer Readings

Ground surface elevation = 599.9 ft



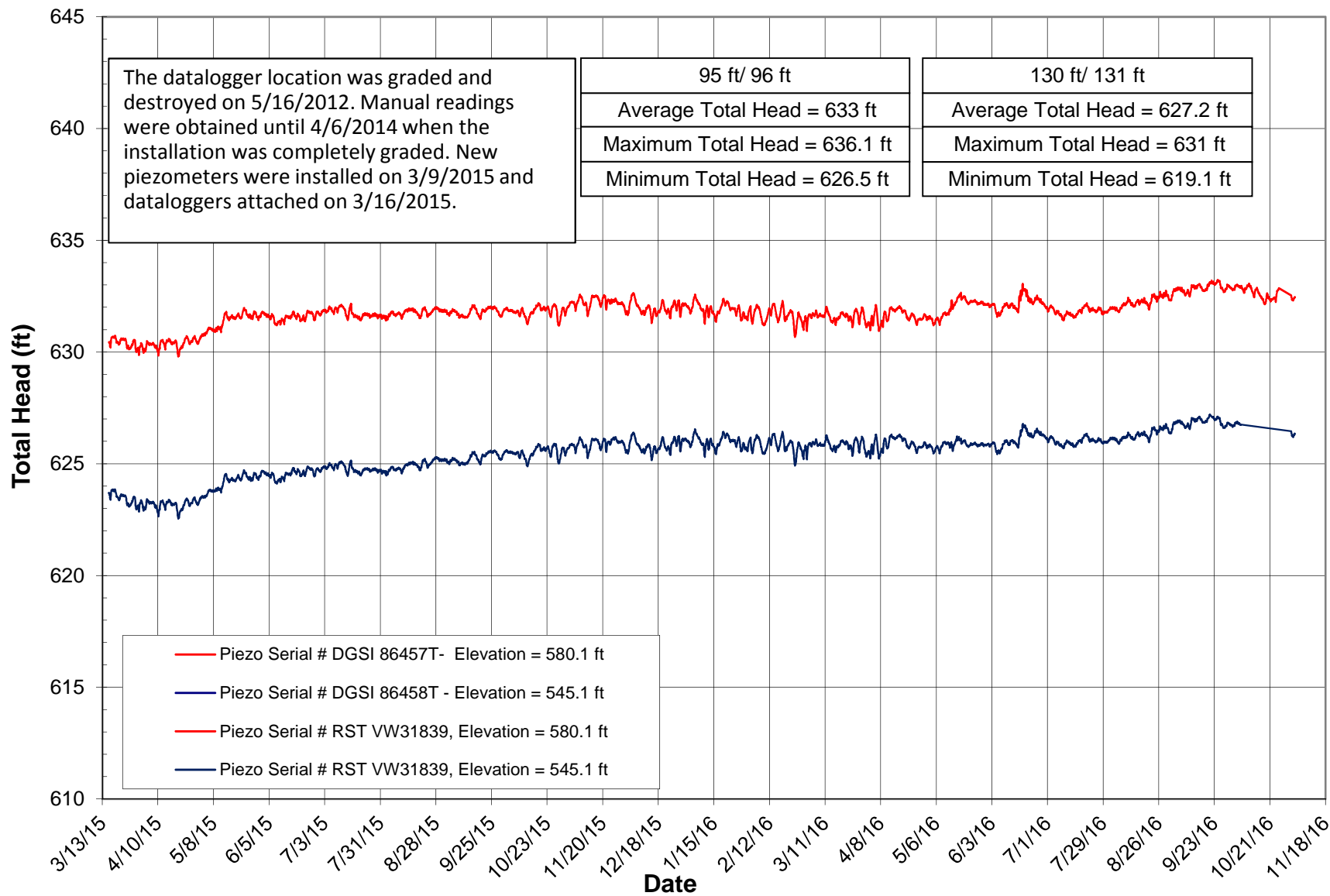
B-05-04 VW Piezometer Readings

Ground surface elevation = 600.8 ft



B-05-11/B-05-A-11 VW Piezometer Readings

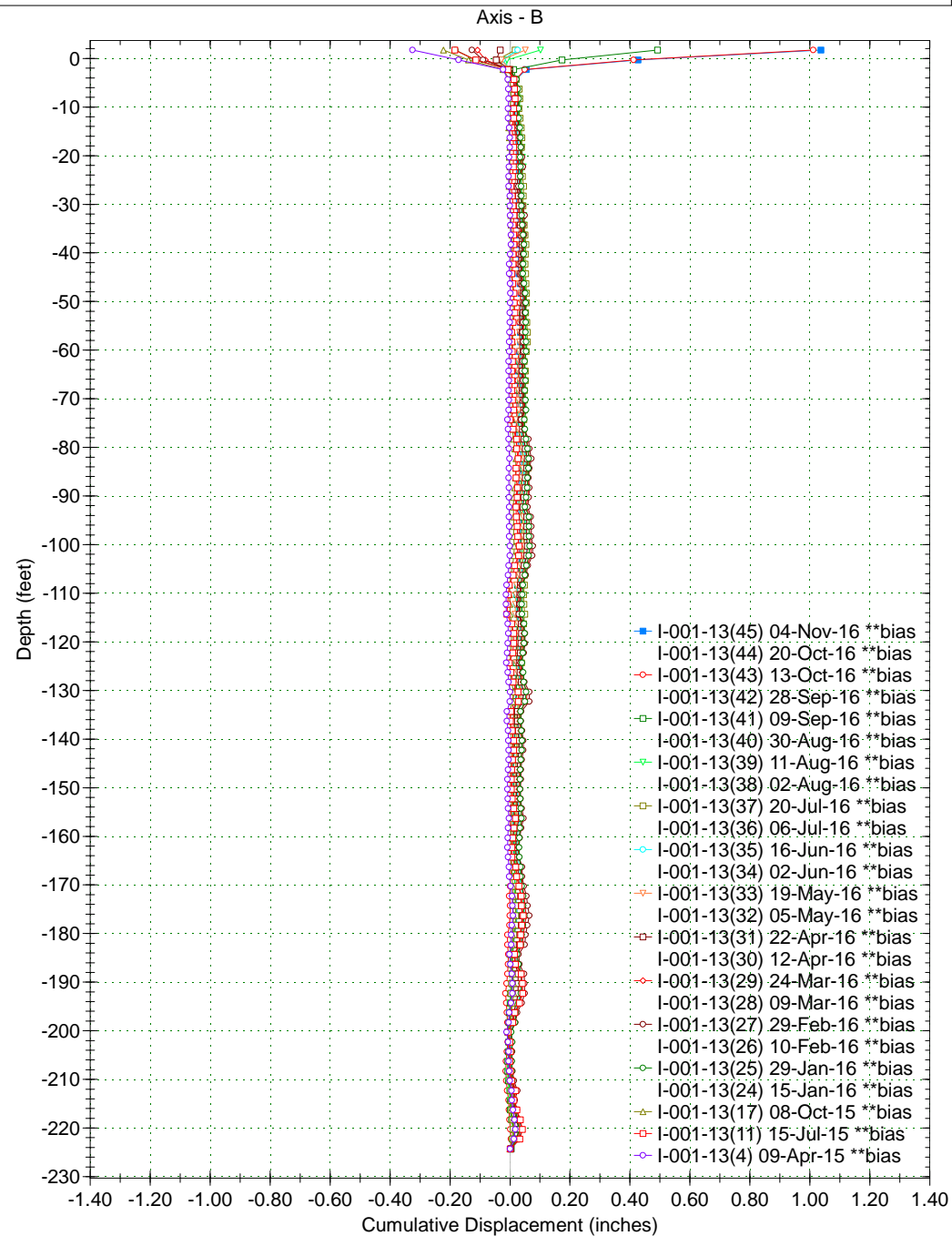
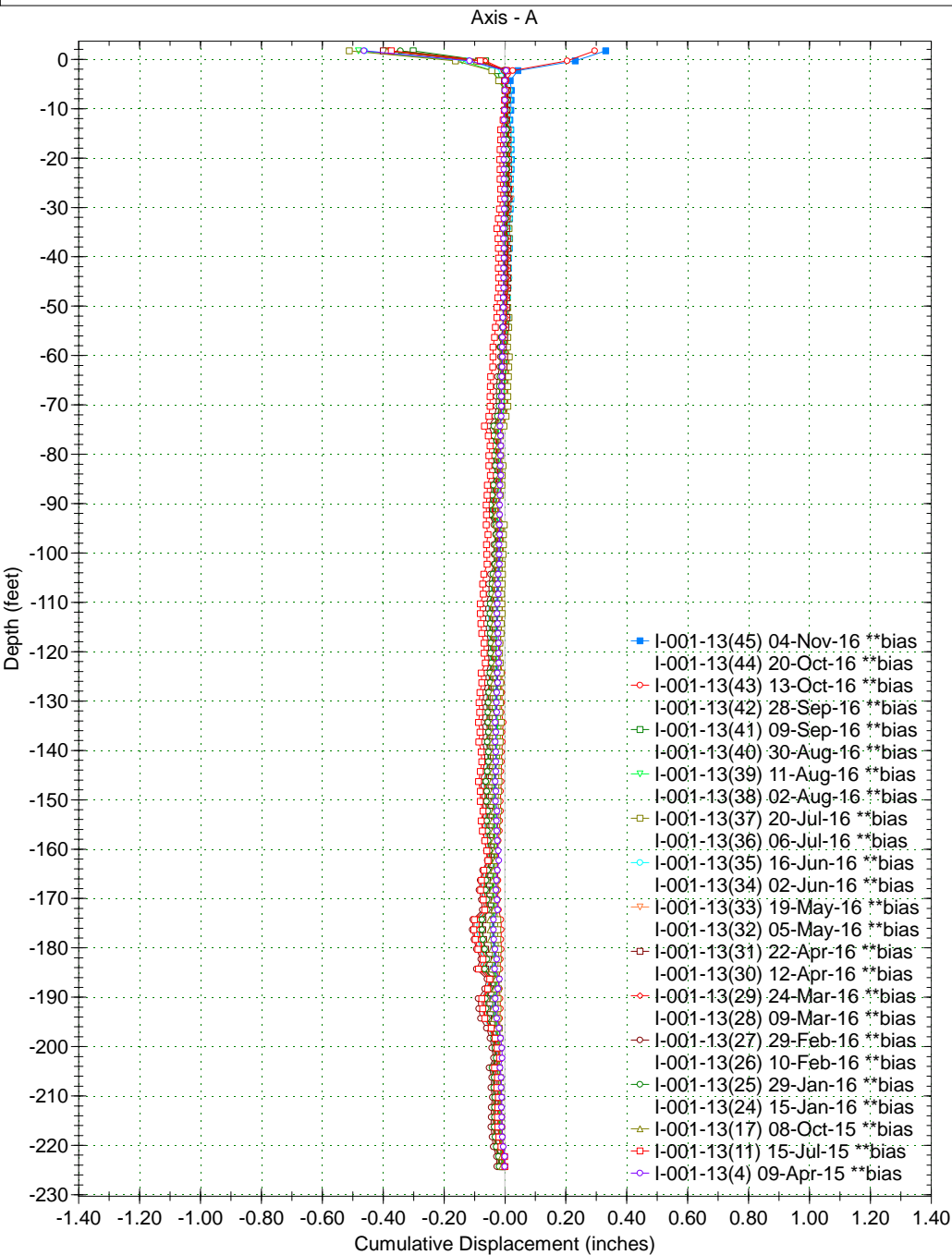
Ground surface elevation = 675.1 ft (B-05-11) / 676.1 ft (B-05-A-11)



Borehole : I-001-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 3.7 feet
Borehole Total Depth : 228.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 03 11:14
Applied Azimuth : 0.0 degrees

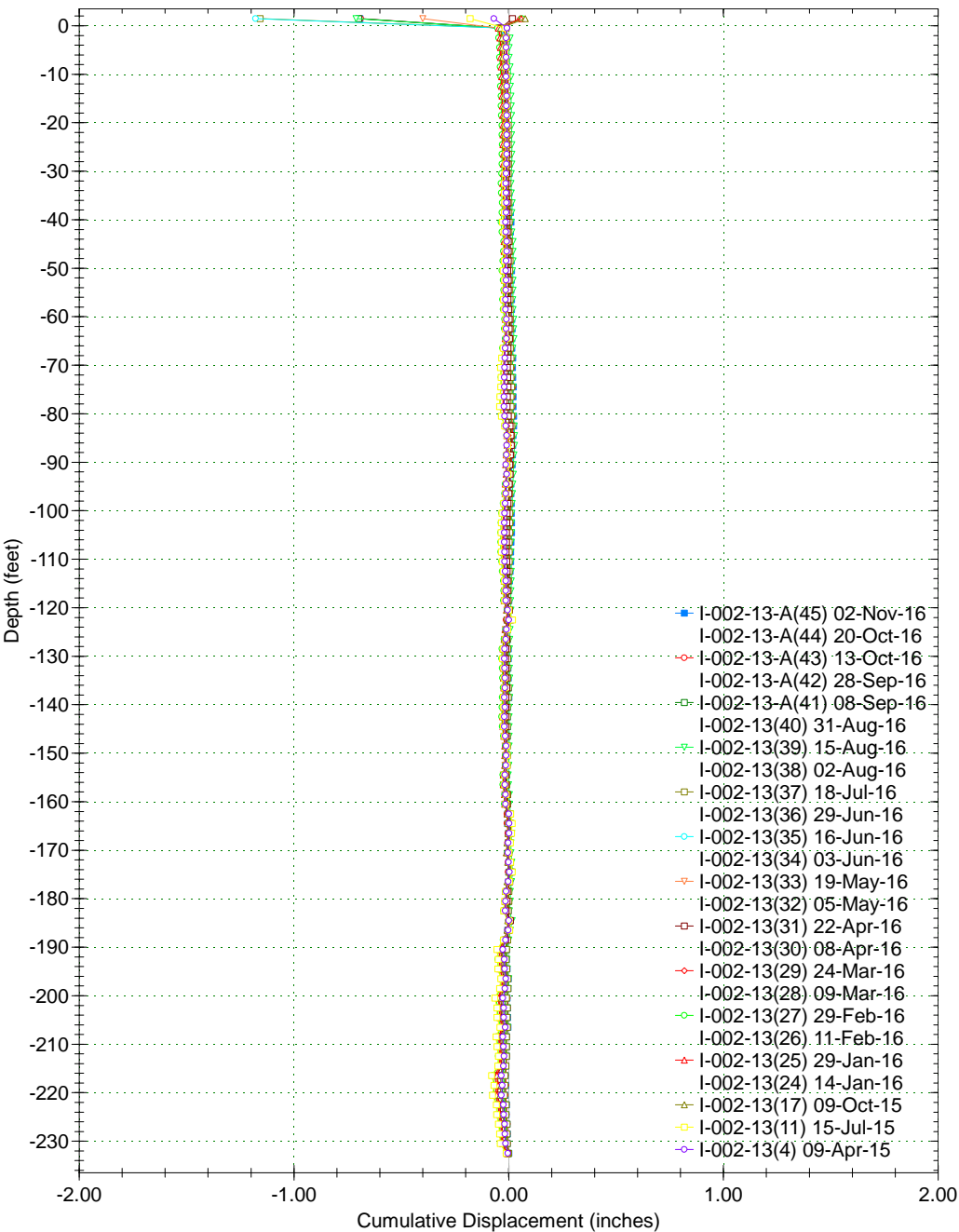


Borehole : I-002-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :

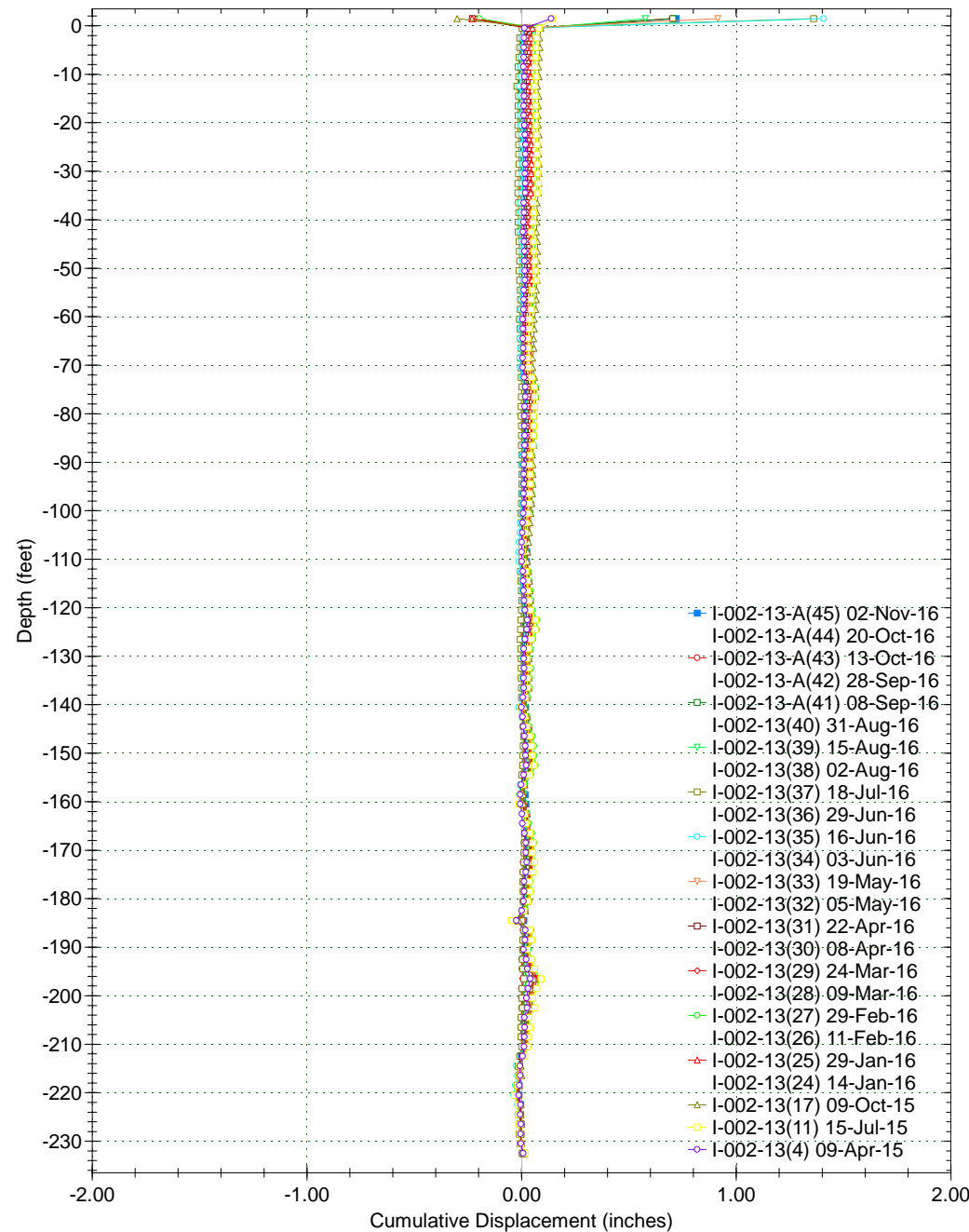


Spiral Correction : N/A
Collar Elevation : 3.5 feet
Borehole Total Depth : 236.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 03 10:04
Applied Azimuth : 0.0 degrees

Axis - A



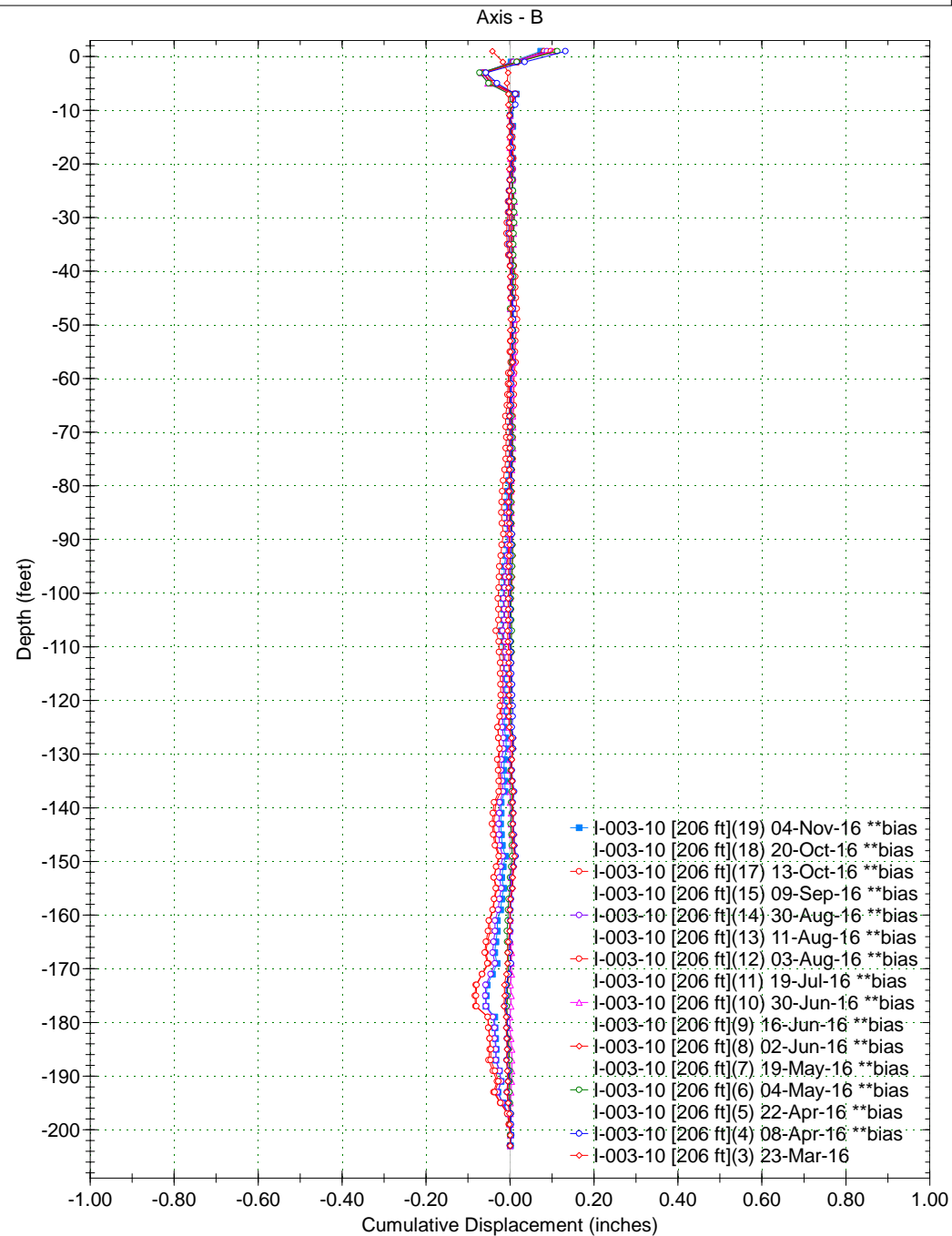
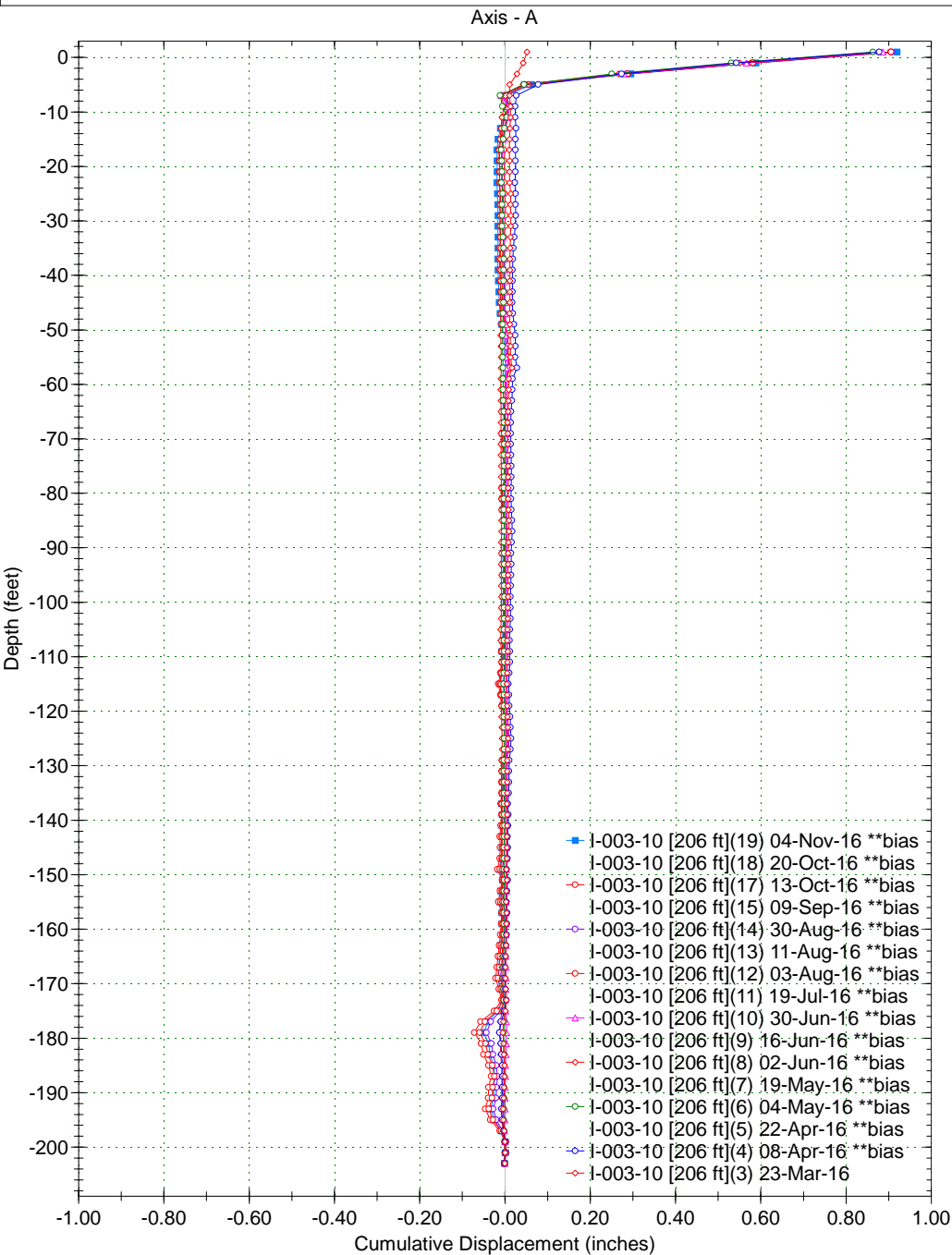
Axis - B



Borehole : I-003-10 [206 ft]
Project : CUY-90-15-24
Location :
Northing :
Easting :
Collar :



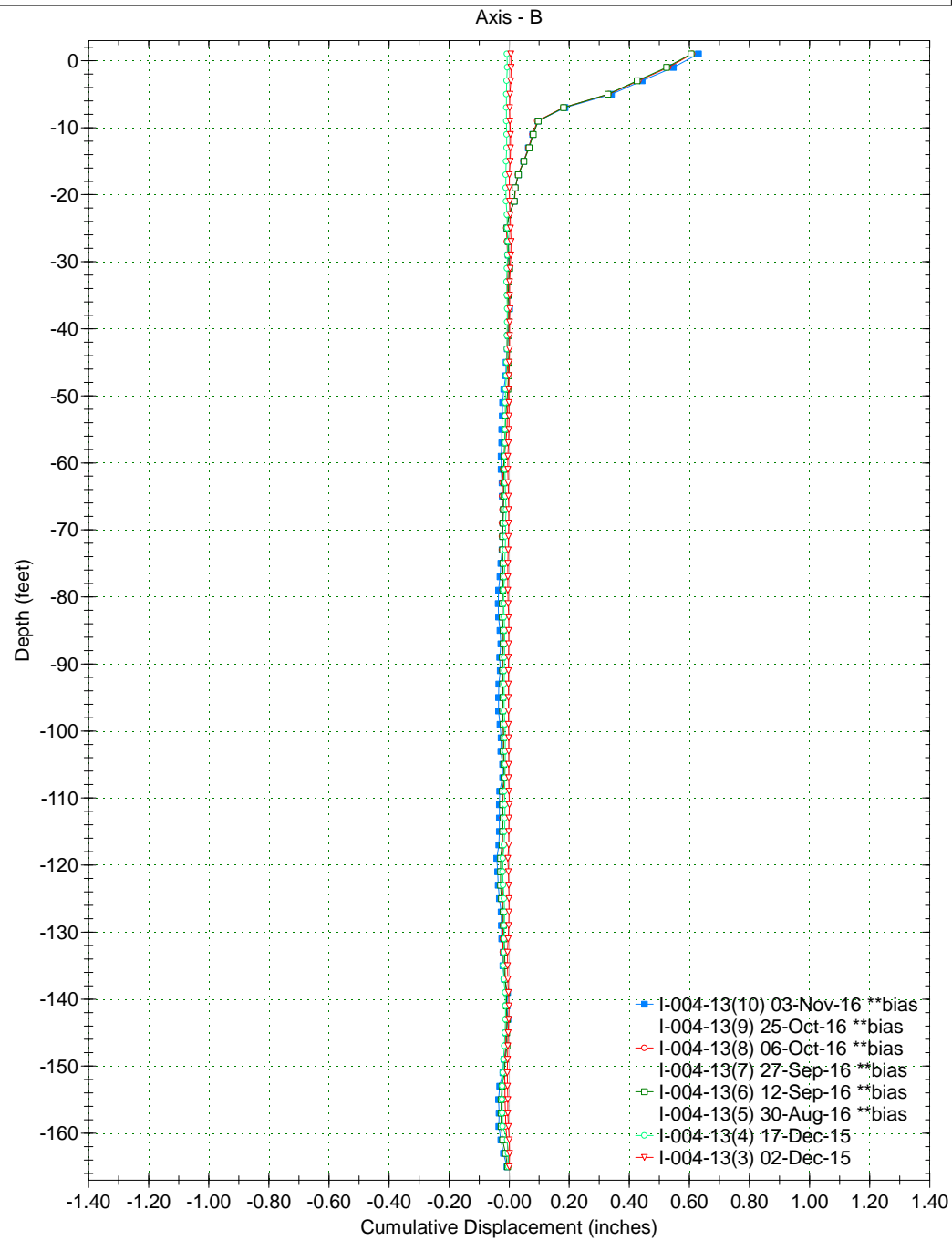
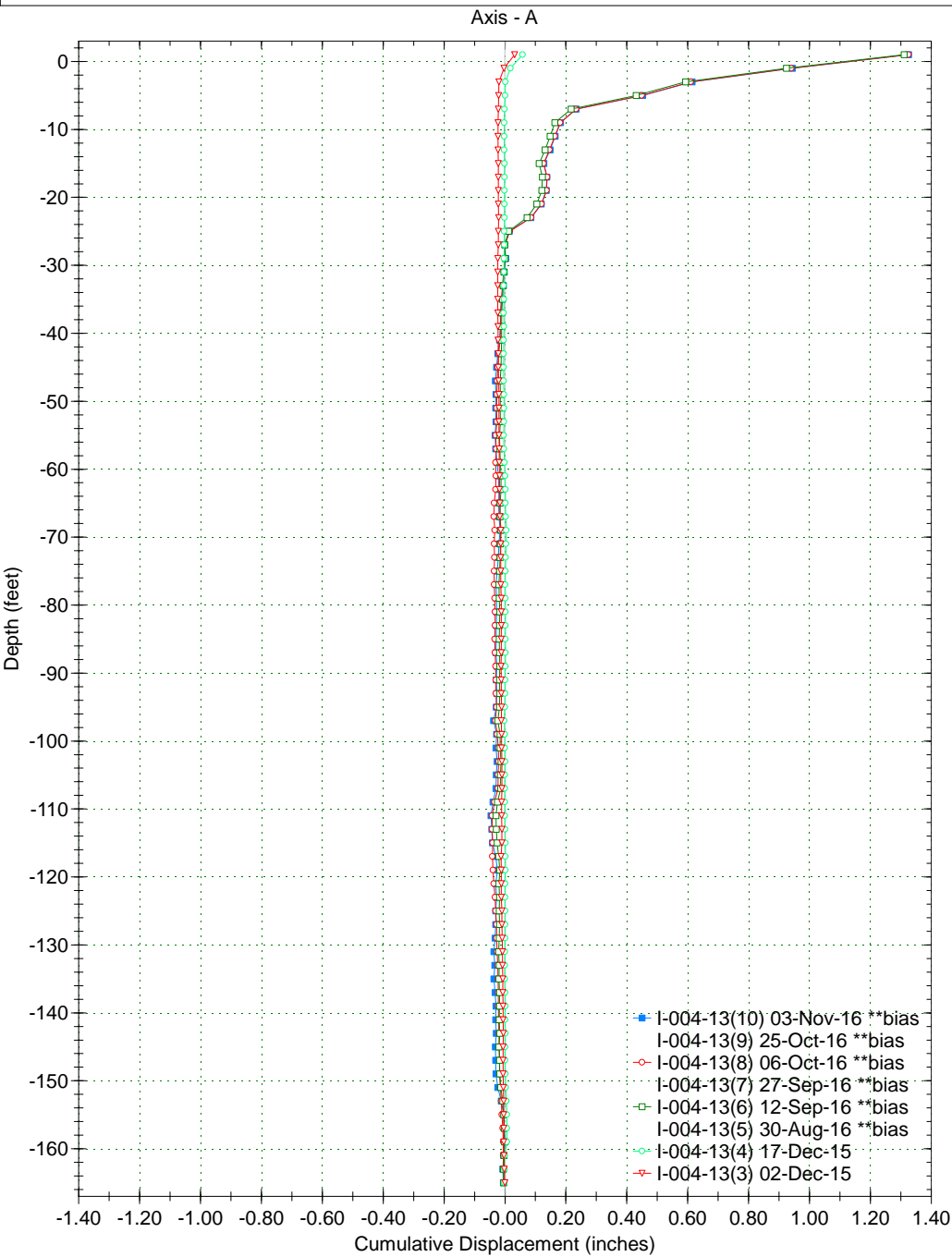
Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 206.0 feet
A+ Groove Azimuth :
Base Reading : 2016 Mar 08 15:42
Applied Azimuth : 0.0 degrees



Borehole : I-004-13
Project : CUY-90-15-24
Location :
Northing :
Easting :
Collar :



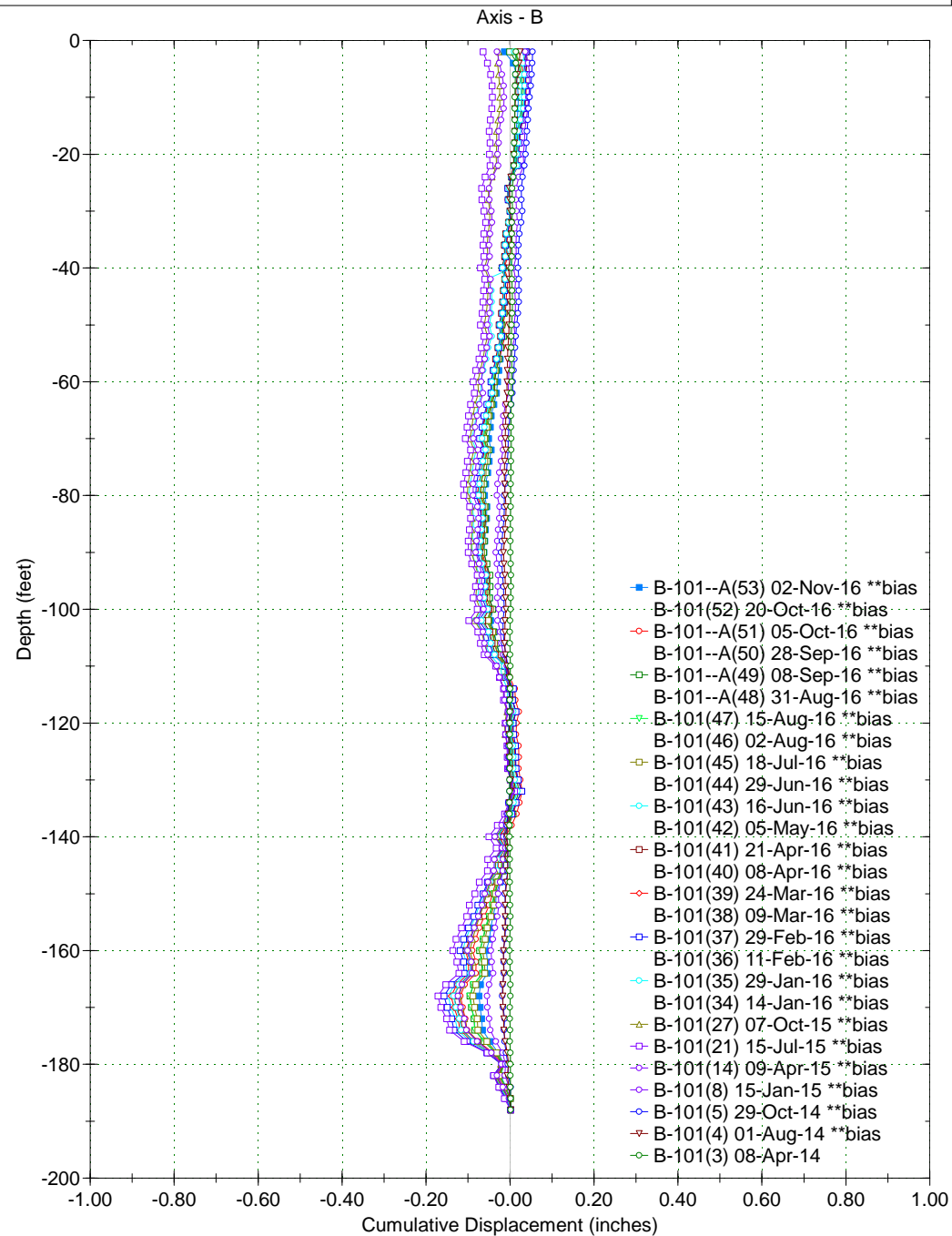
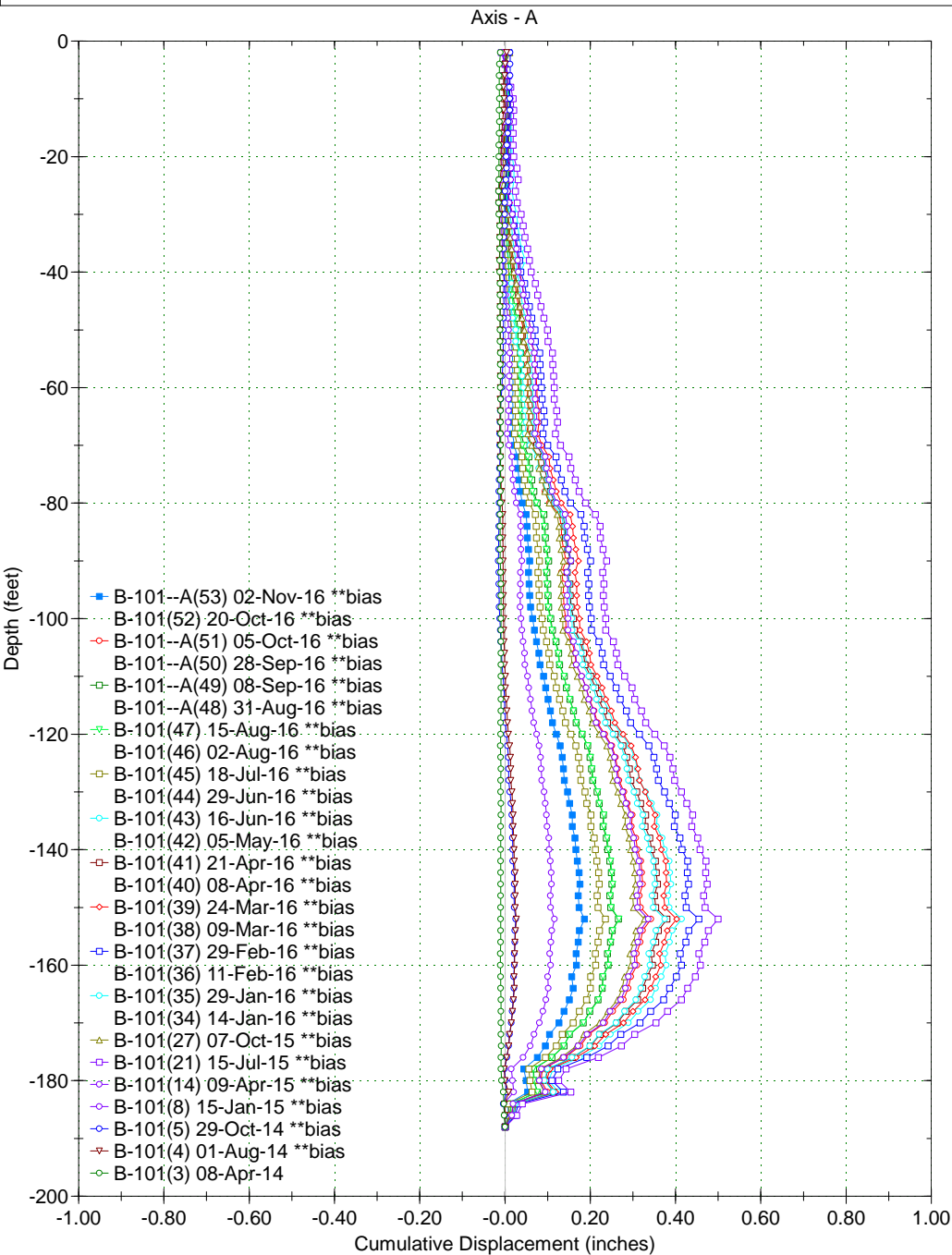
Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 168.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Nov 20 09:09
Applied Azimuth : 0.0 degrees



Borehole : B-101
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing : Sta. 15+06.50
Easting : 120.7' Rt of CL
Collar :



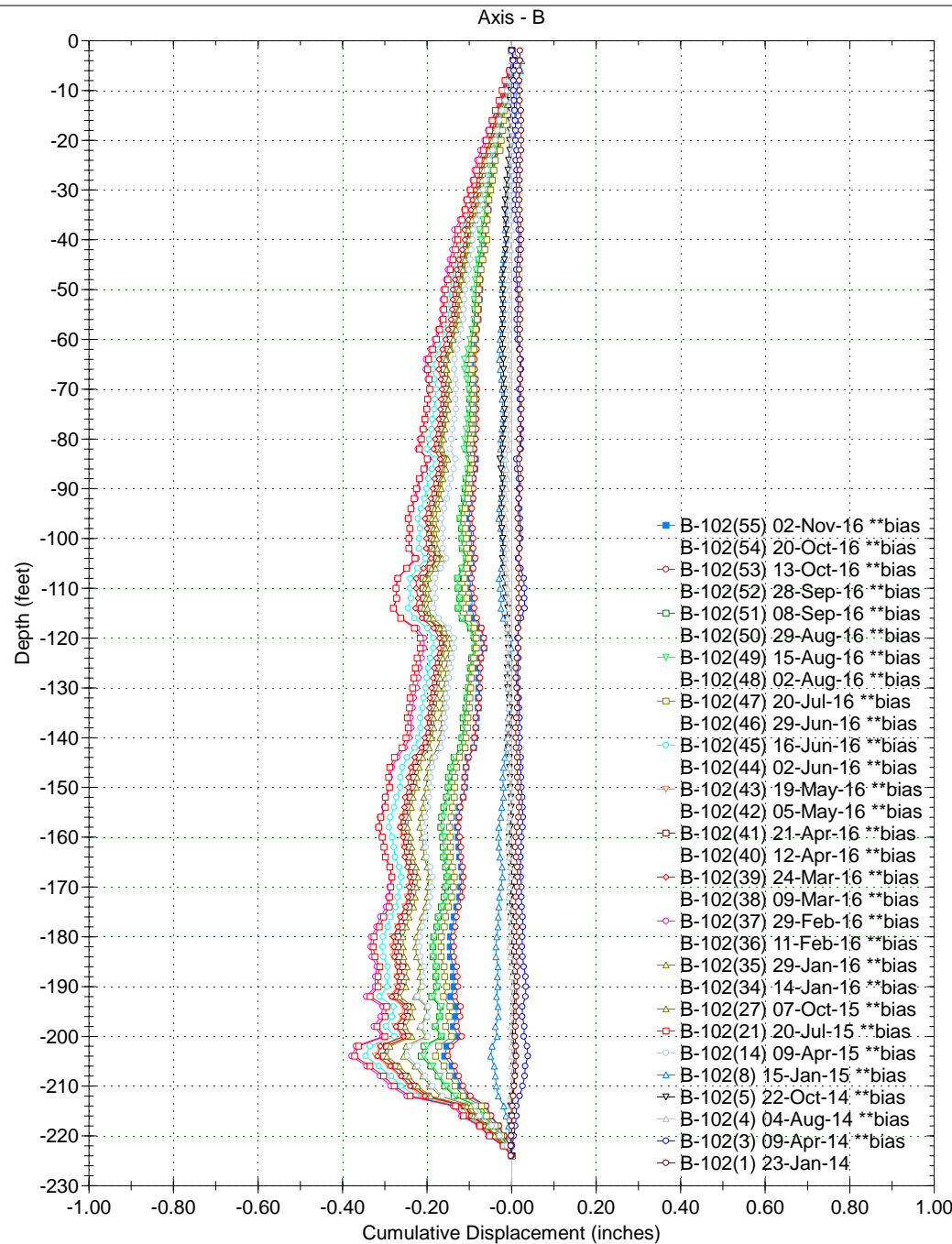
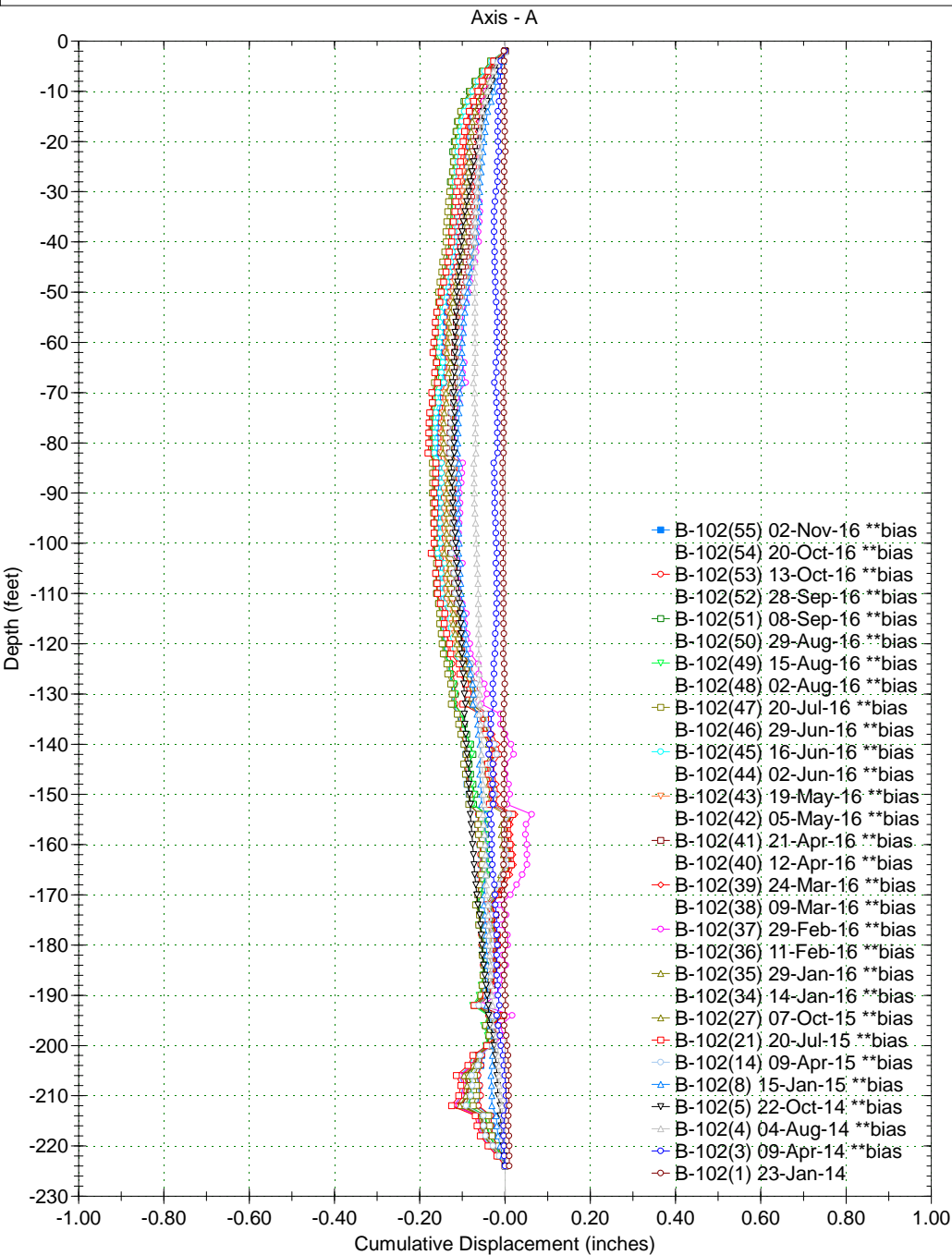
Spiral Correction : N/A
Collar Elevation : 0.0 feet
Borehole Total Depth : 188.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 09:01
Applied Azimuth : 0.0 degrees



Borehole : B-102
 Project : CUY-90-15-24
 Location : Cleveland, Ohio
 Northing : Sta. 15+95.34
 Easting : 134.7' Rt of CL
 Collar :



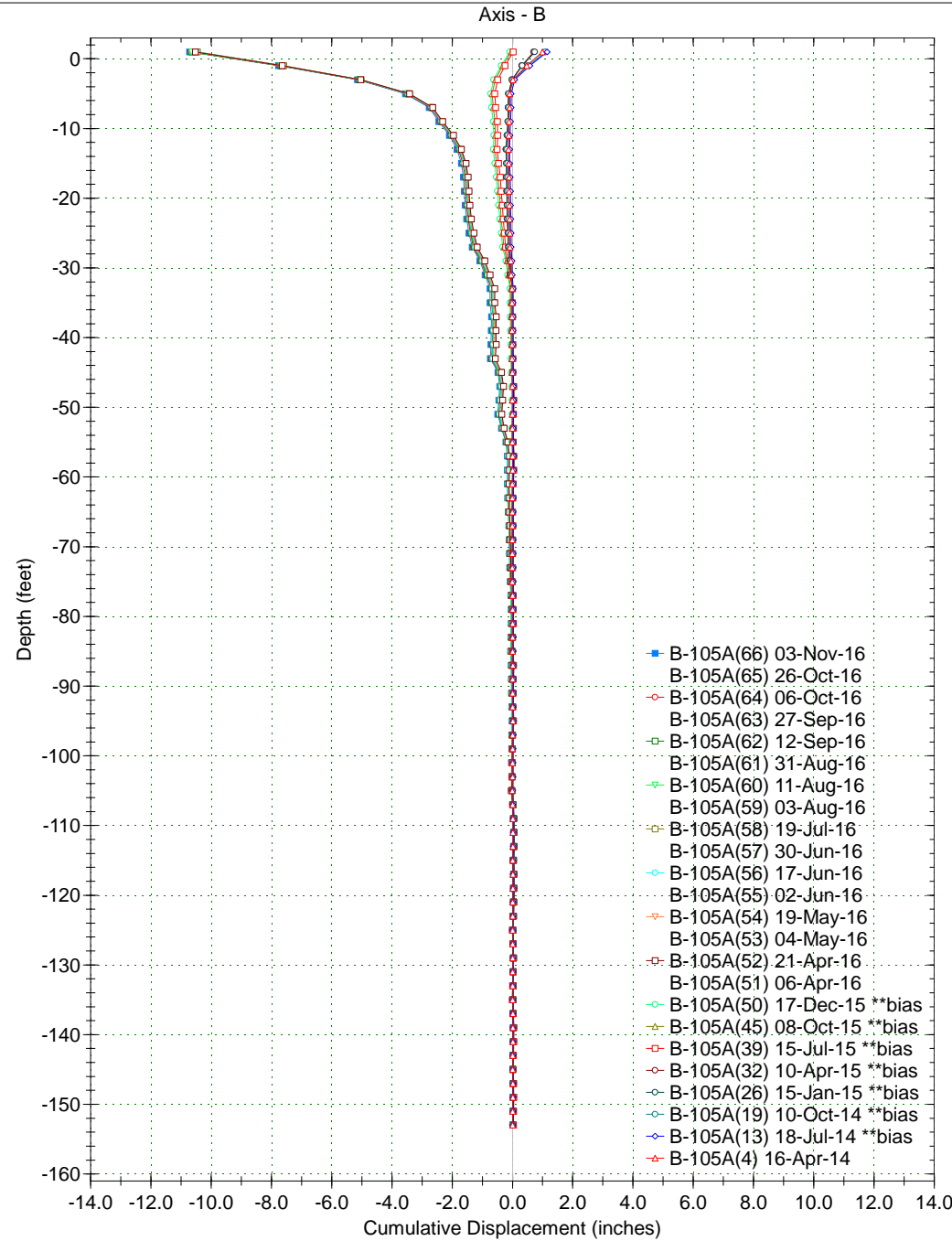
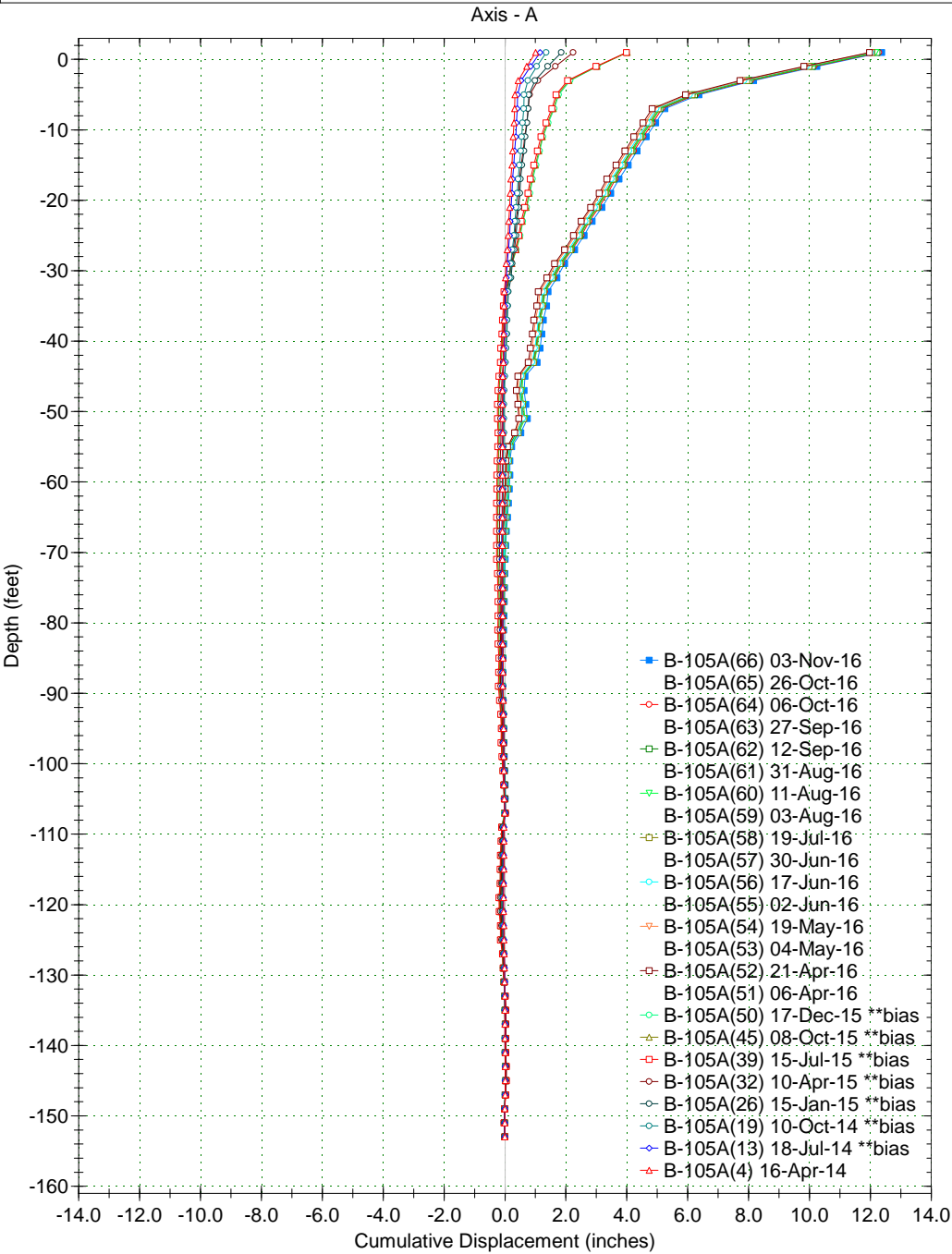
Spiral Correction : N/A
 Collar Elevation : 0.0 feet
 Borehole Total Depth : 224.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 23 08:21
 Applied Azimuth : 0.0 degrees



Borehole : B-105A
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing : Sta. 19+11.38
Easting : 90.9' Rt of CL
Collar :

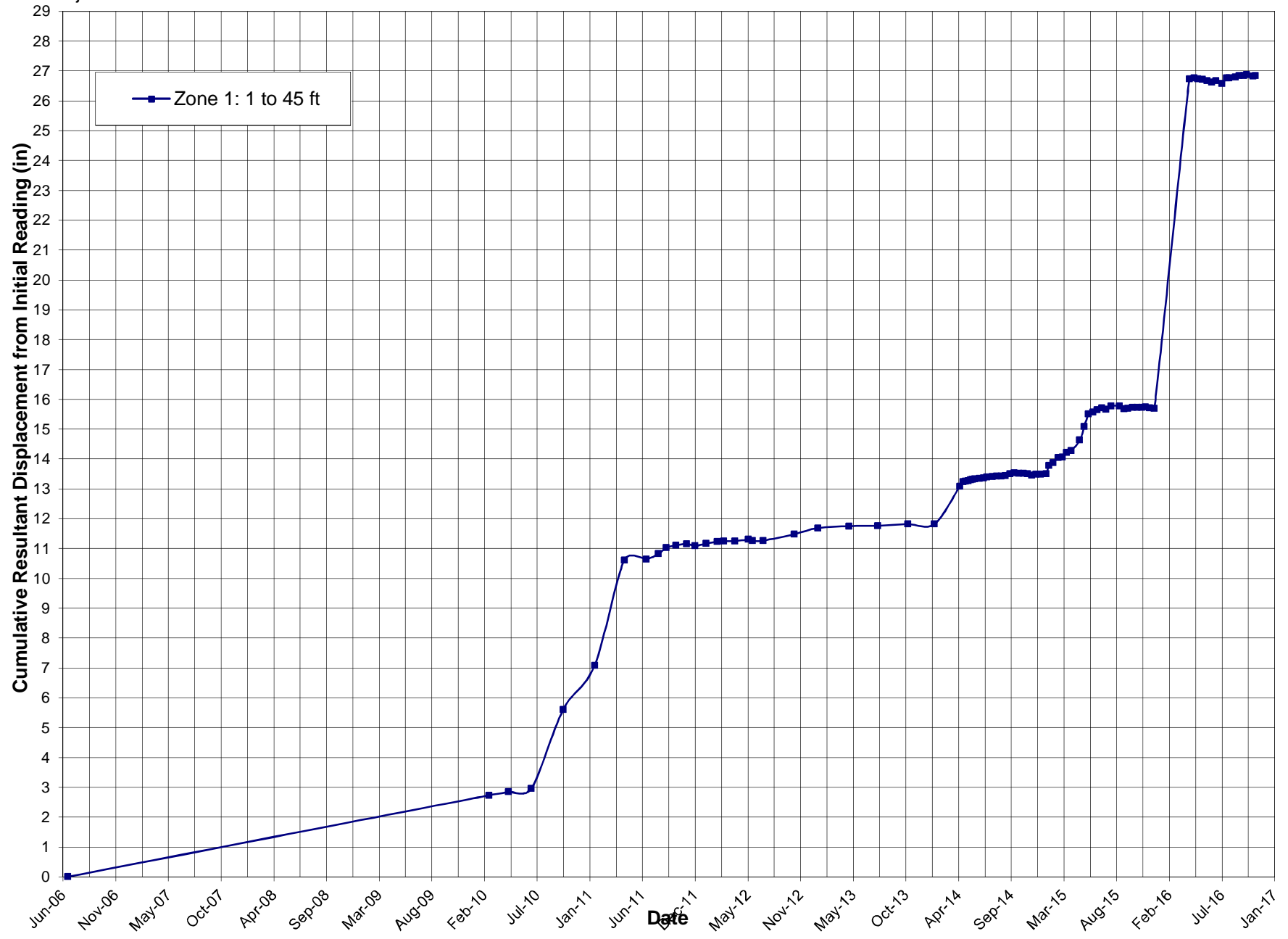


Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 156.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 15 09:19
Applied Azimuth : 0.0 degrees



CUY-90-15.24
PID 96504
SME Project#: 069032.00

B-105A



Borehole : B-05-A-11 230 ft
Project : CUY-90-15-24
Location :
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 0.0 feet
Borehole Total Depth : 230.0 feet
A+ Groove Azimuth :
Base Reading : 2016 Sep 28 08:37
Applied Azimuth : 0.0 degrees

