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February 4, 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: January 28 and 29, 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 January 28 and 29, 2016, are presented in this report. Bi Weekly readings currently include instruments at I/P-001-13, I/P-002-13, I/P-003-A-10, I/P-004-13, I/P-009-13, B-101, B-102, B-105, B-105A, B-05-03, B-05-04, B-05-A-11, P-1, P-9N, TGR I-2, and TGR I-4.

Piezometer Readings

P-001-13, P-002-13, P-003-10, B-05-04, B-05-A-11 –Pore pressure readings at these locations indicate slight fluctuations in total head throughout this reading period but virtually no net change.

P-004-13 – Instruments at this location are now accessible. The last time we were able to download data from the dataloggers was December 18, 2015. Since that time, the total head in the shallow piezometer has shown a net decrease of 2.2 feet. There was virtually no change in the pore pressure recorded by the deep piezometer.

P-009-13 – Pore pressures at this location varied over a range of about 2 feet but ended the two-week period with pore pressures about the same as at the start of the period.

B-105 – We worked with TGR as they excavated in an attempt to locate the tubing for the pneumatic piezometers at B-105 but were not able to find them. These piezometers should be considered damaged and lost.

B-05-03 – TGR will attempt to locate the ends of the cables for these piezometers and trace them back to the original location of the instruments. This will be done after the crane is repositioned and they are able to lift a section of the crane pad.

Inclinometer Readings

Inclinometer readings at I-001-13, I-002-13, I-003-10B-101, B-102, B-105A, B-05-04, B-05-A-11, P-1, P-9N, and TGR I-4 showed virtually no movement this two-week period. Displacements shown at the top of some slope tubes is due to flexing of the tube when readings are taken because some of the protective covers are only temporarily set in place until earthwork near these installations is completed.

I-004-13 – The inclinometer at this location is still inaccessible.

I-009-13 – Readings this period indicate slight positive A-axis displacement in the upper 10 feet and slight B-axis displacement in the upper 30 feet of the profile.

TGR I-2 – This location is currently inaccessible due to deep voids behind the shoring system.

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

Very truly yours,

SME

Brendan P. Lieske, E.I.
Staff Engineer

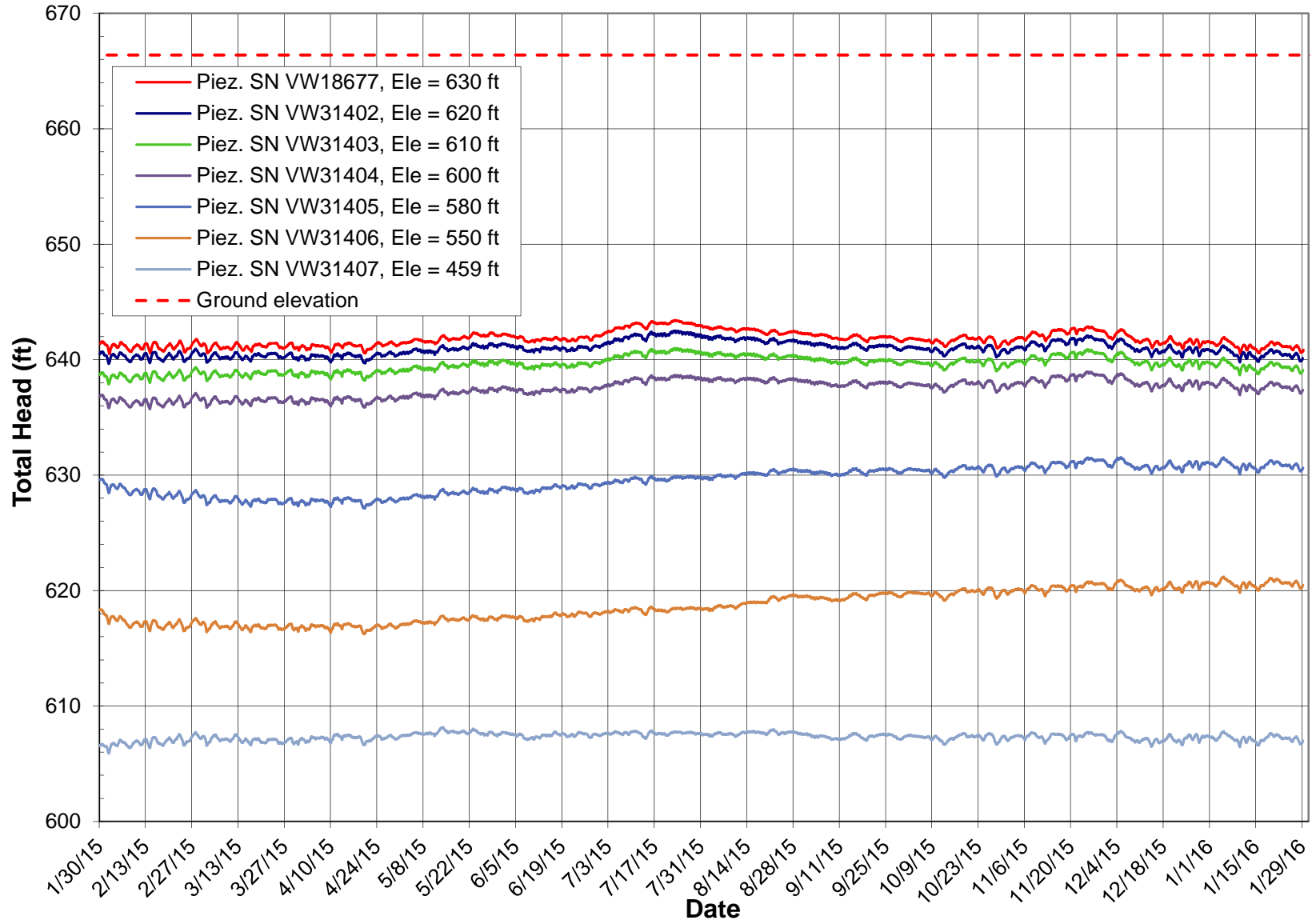
Alan J. Esser, P.E., D.GE
Chief Consultant

Attachments

cc: Distribution list via email

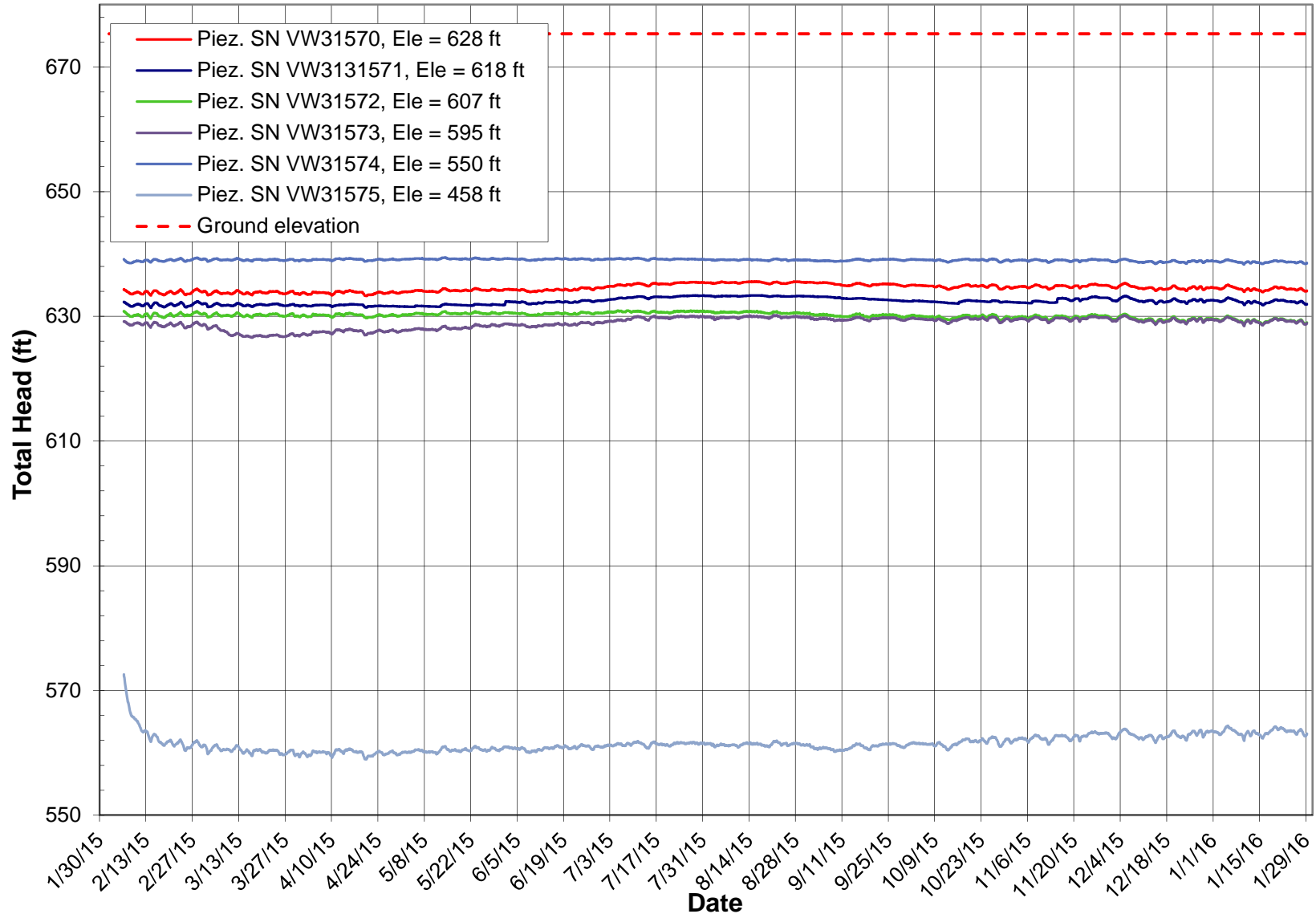
P-001-13 VW Piezometer Readings

Ground surface elevation = 666.4 ft



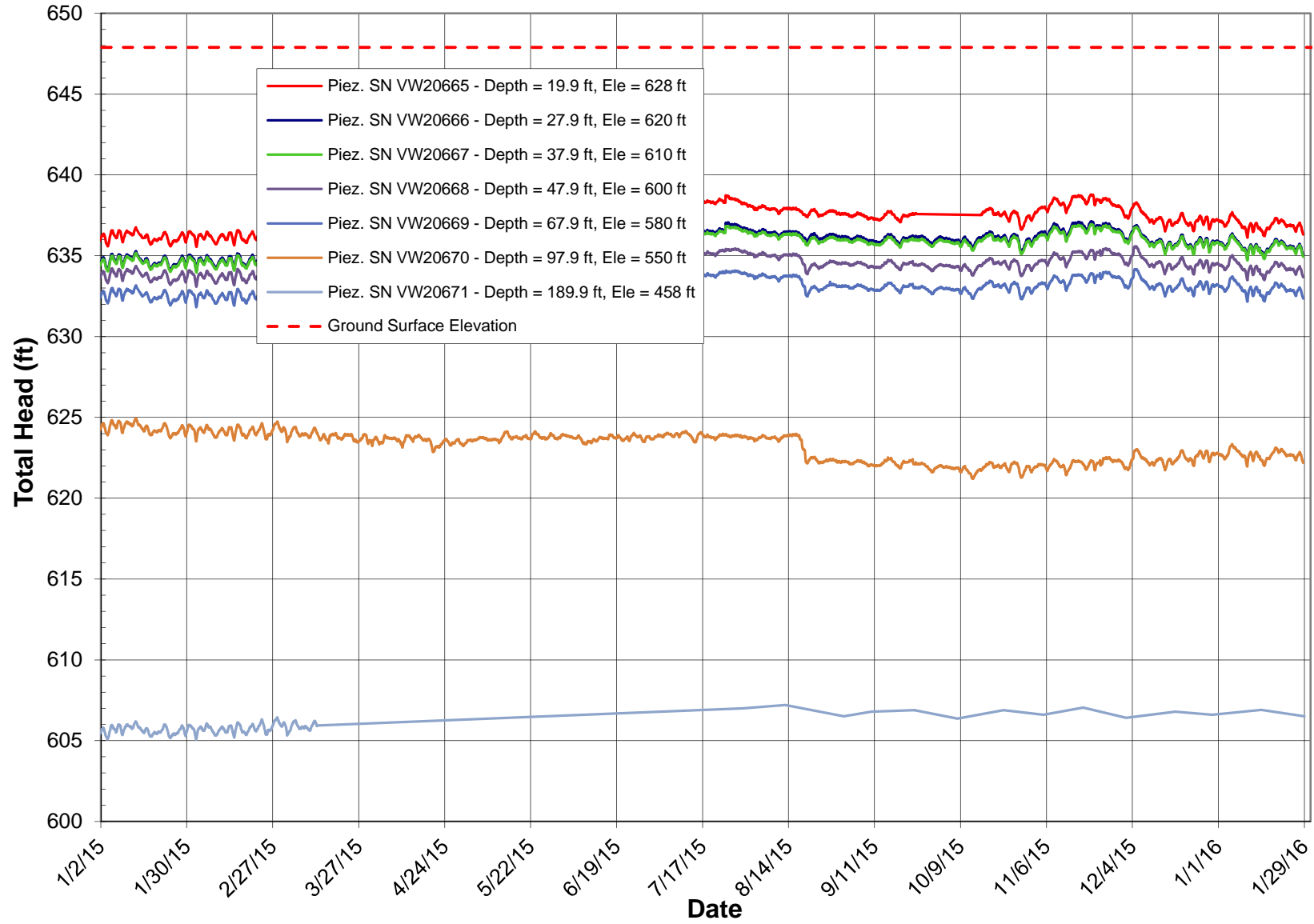
P-002-13 VW Piezometer Readings

Ground surface elevation = 675.29 ft



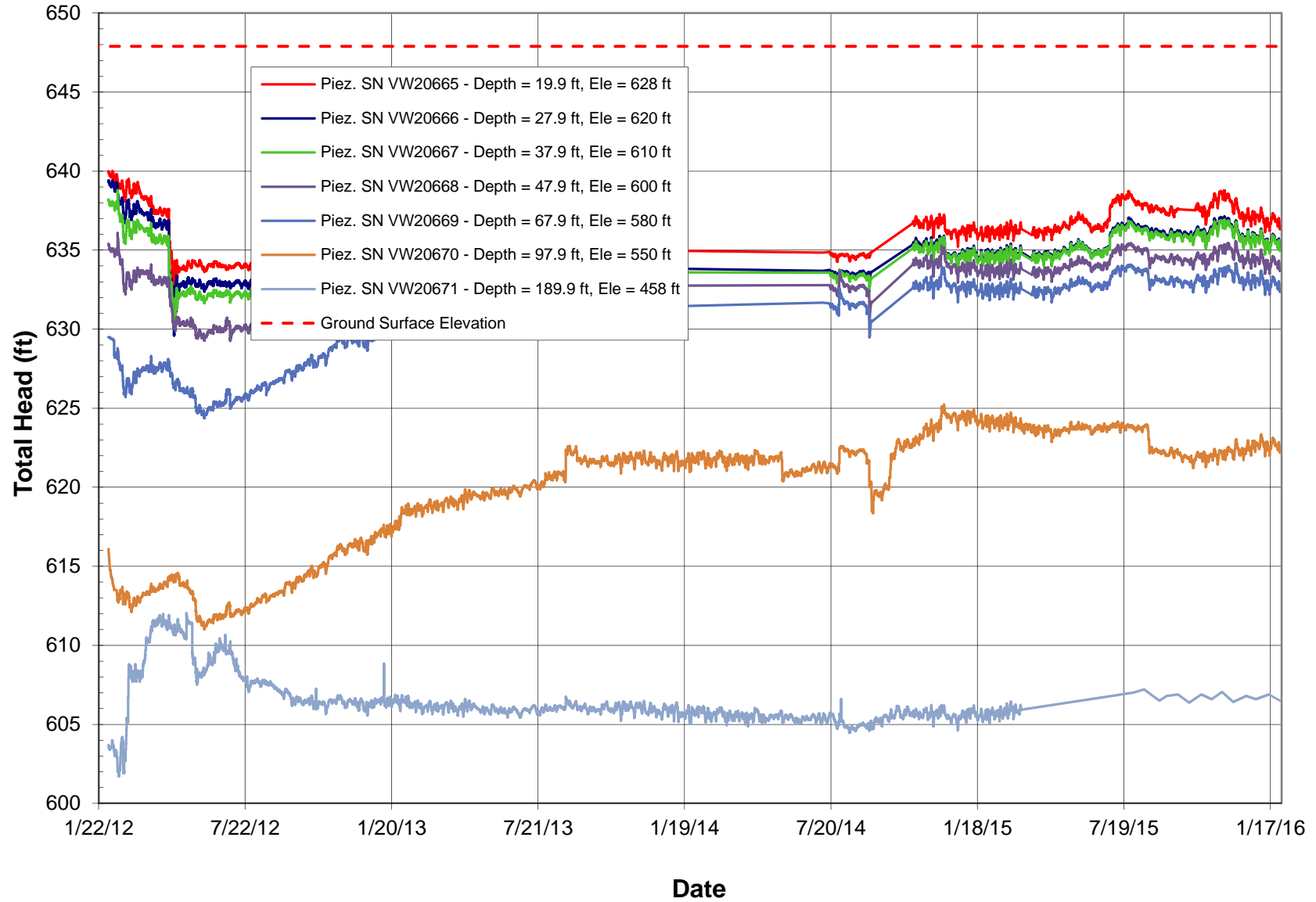
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



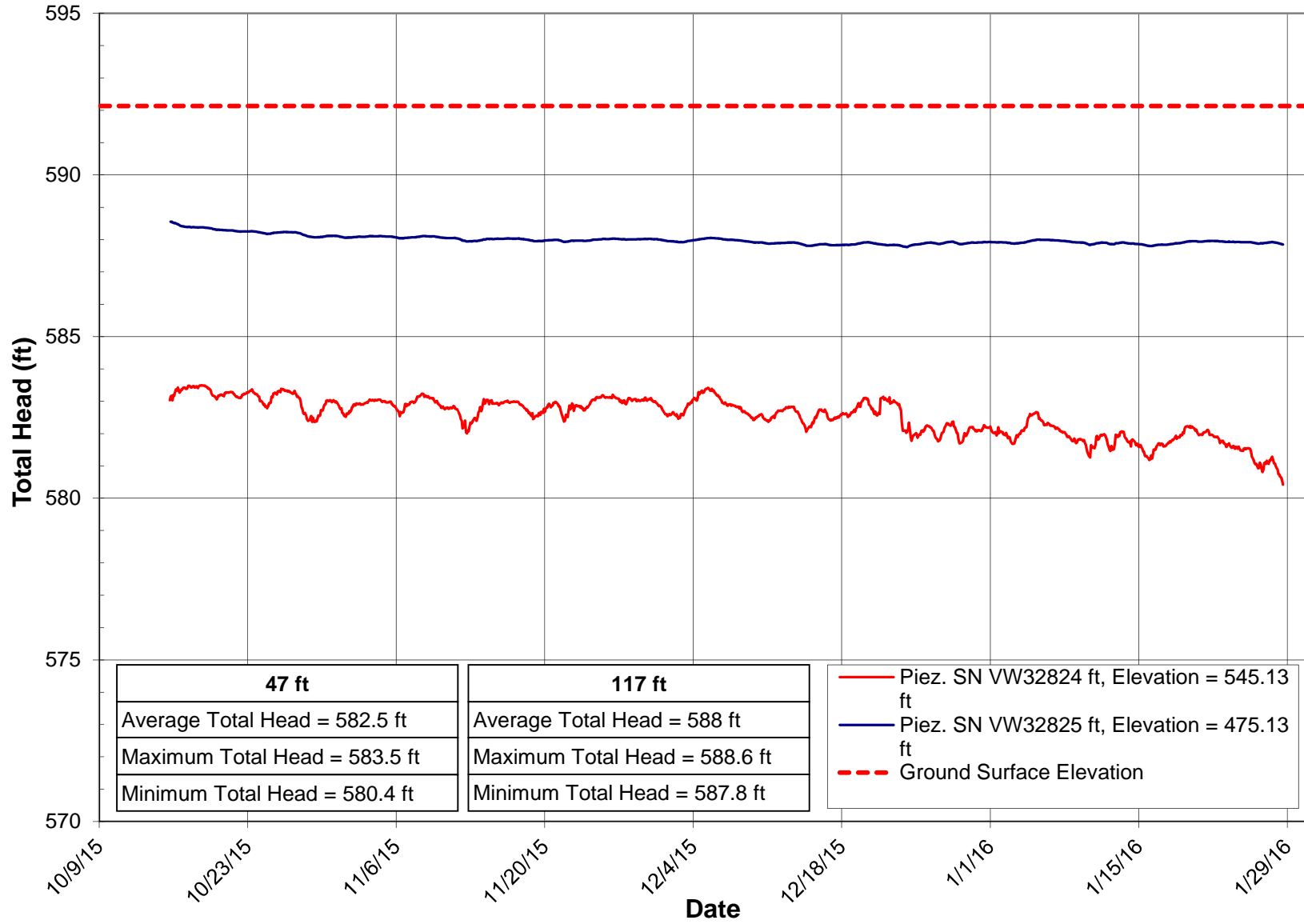
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



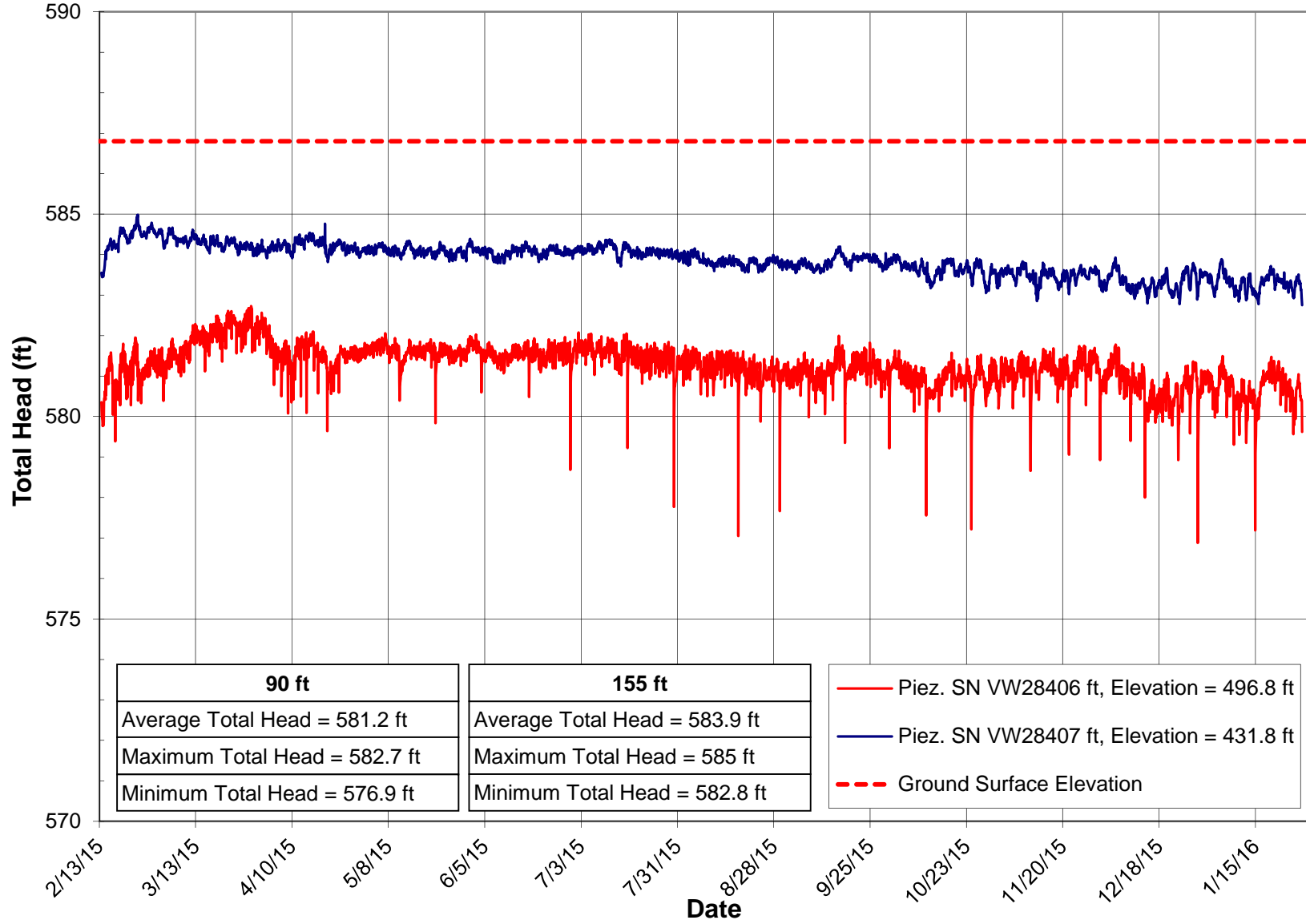
P-004-13 VW Piezometer Readings

Ground surface elevation = 592.13 ft



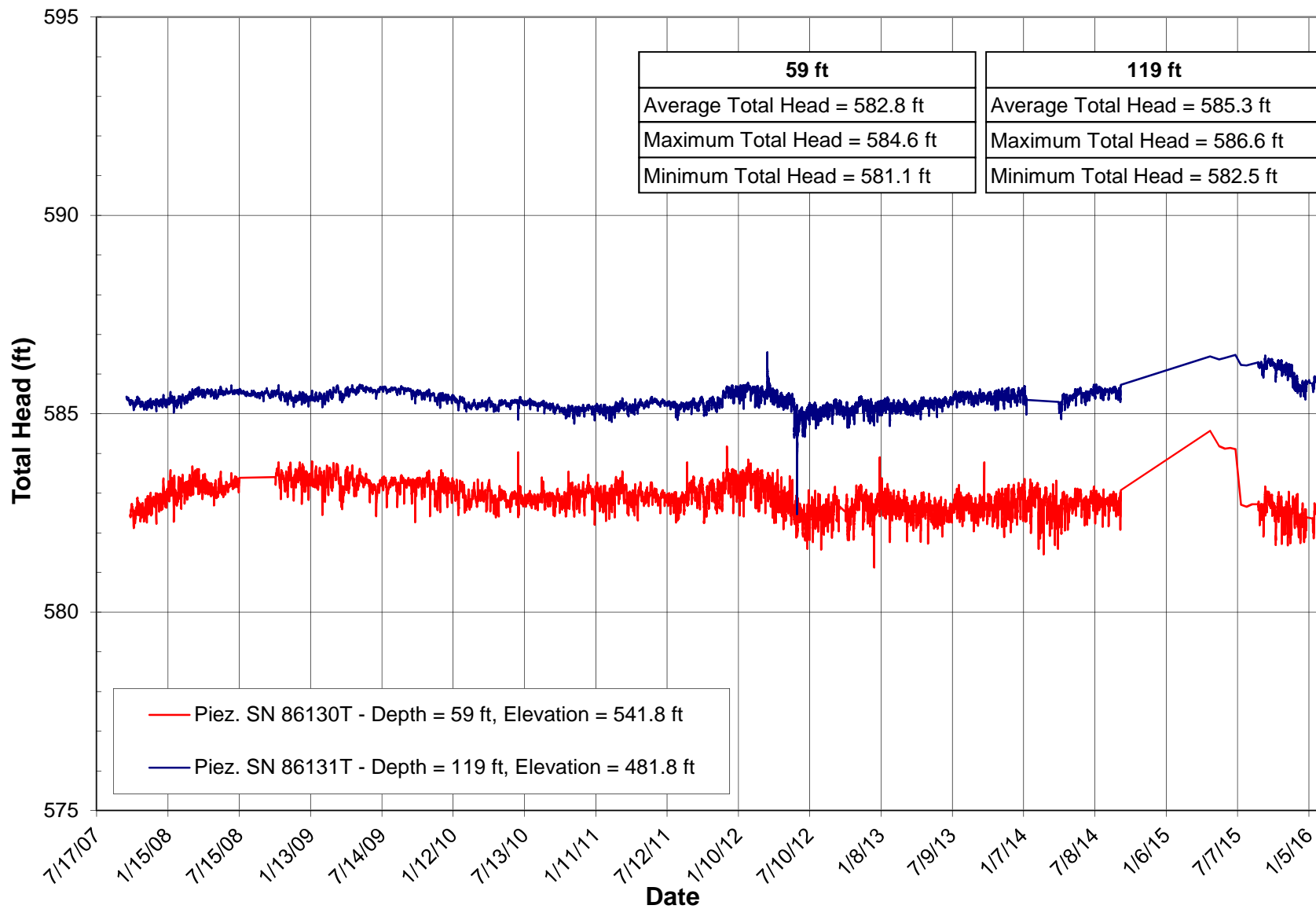
P-009-13 VW Piezometer Readings

Ground surface elevation = 586.6 ft



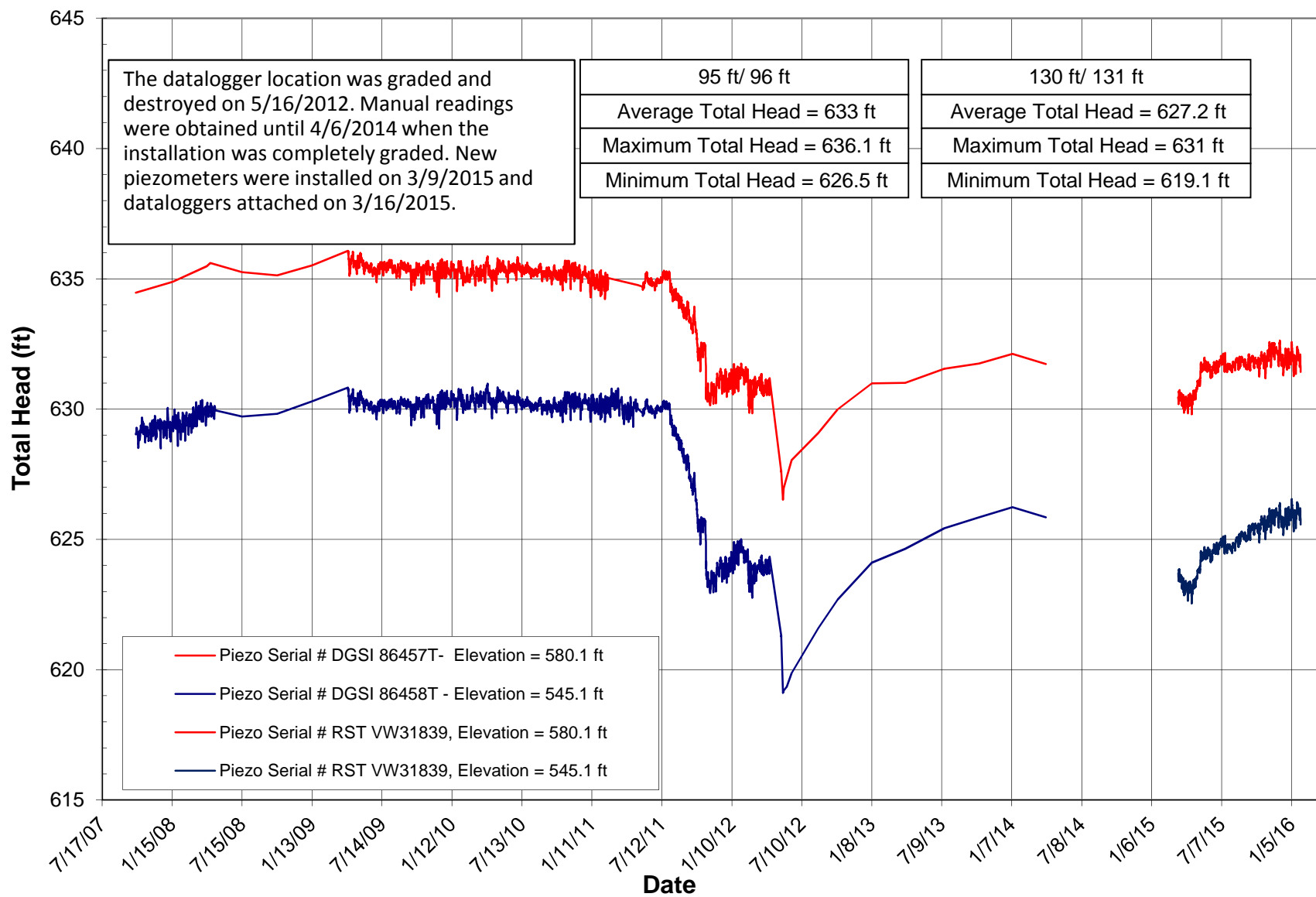
B-05-04 VW Piezometer Readings

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)



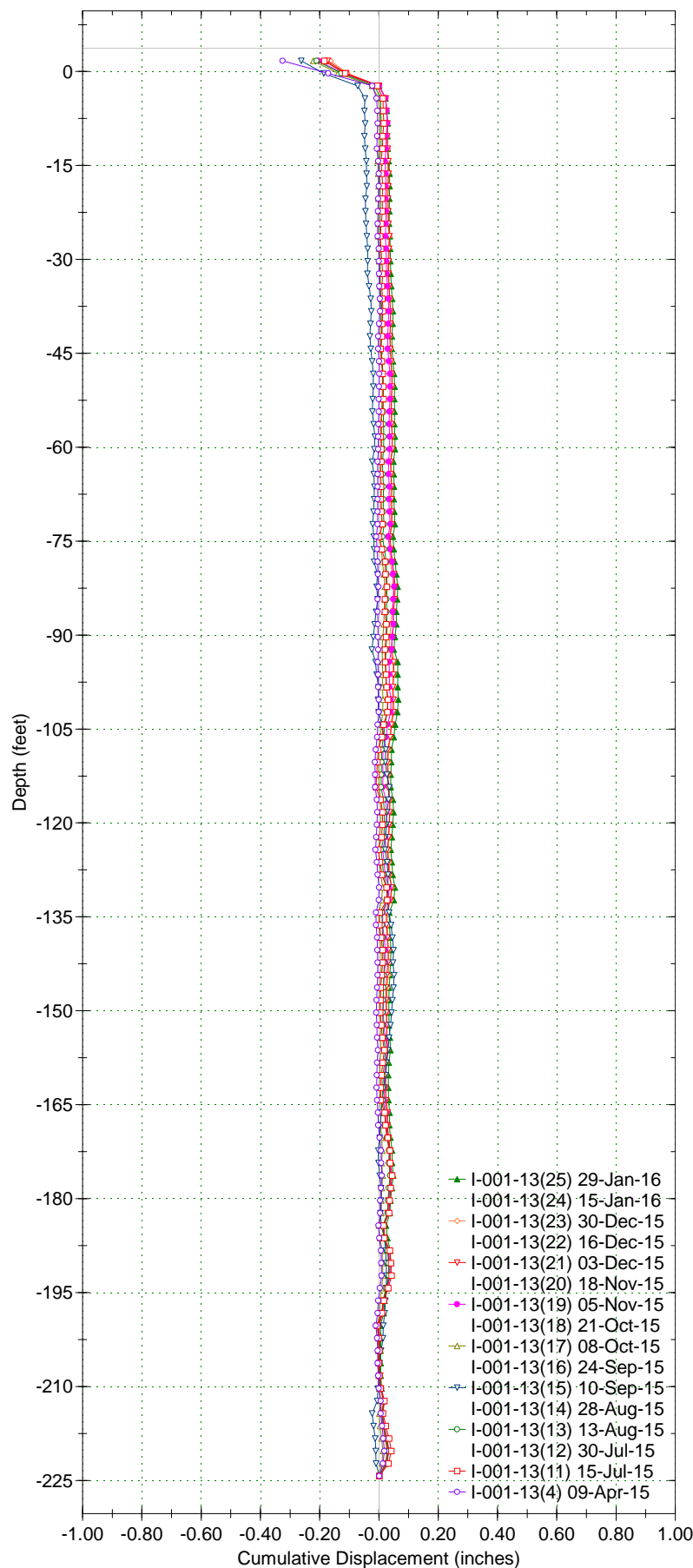
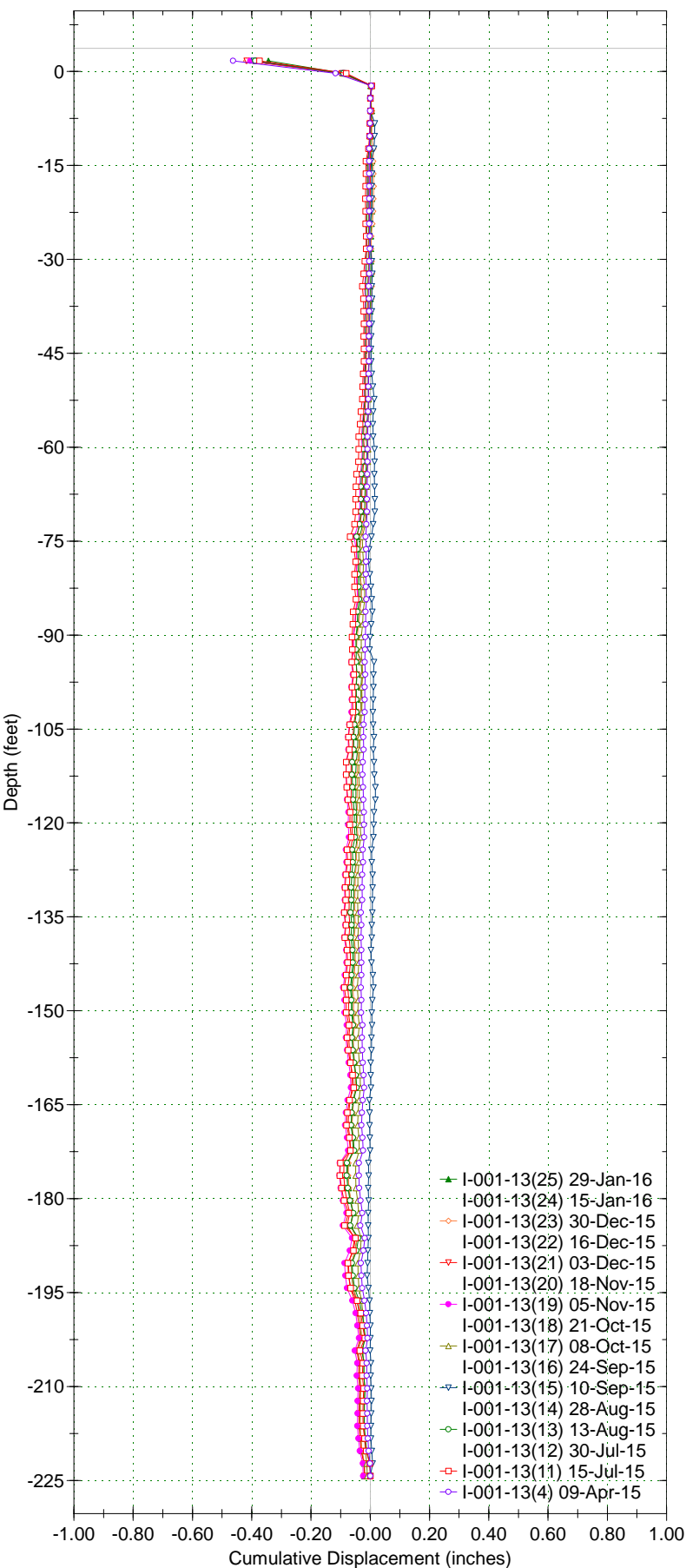
Borehole : I-001-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



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

Axis - A

Axis - B



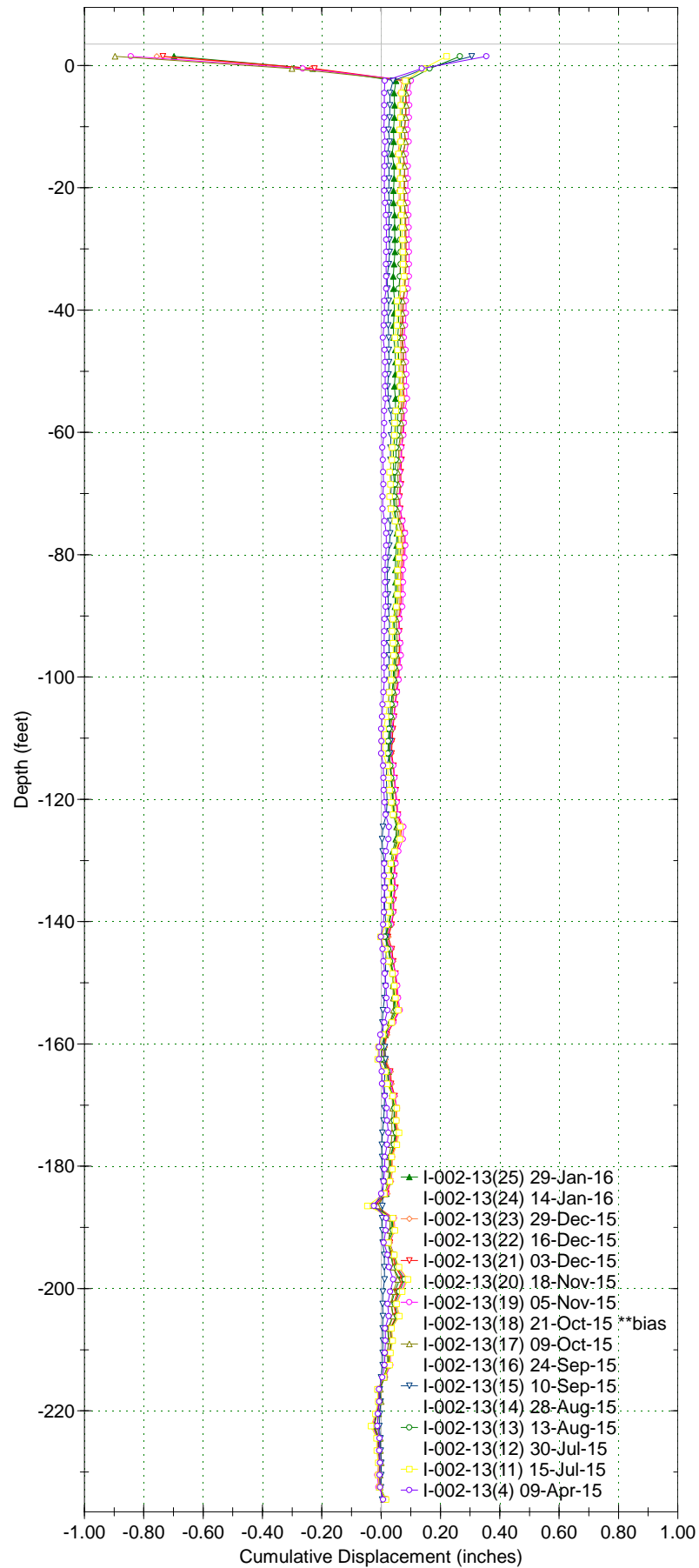
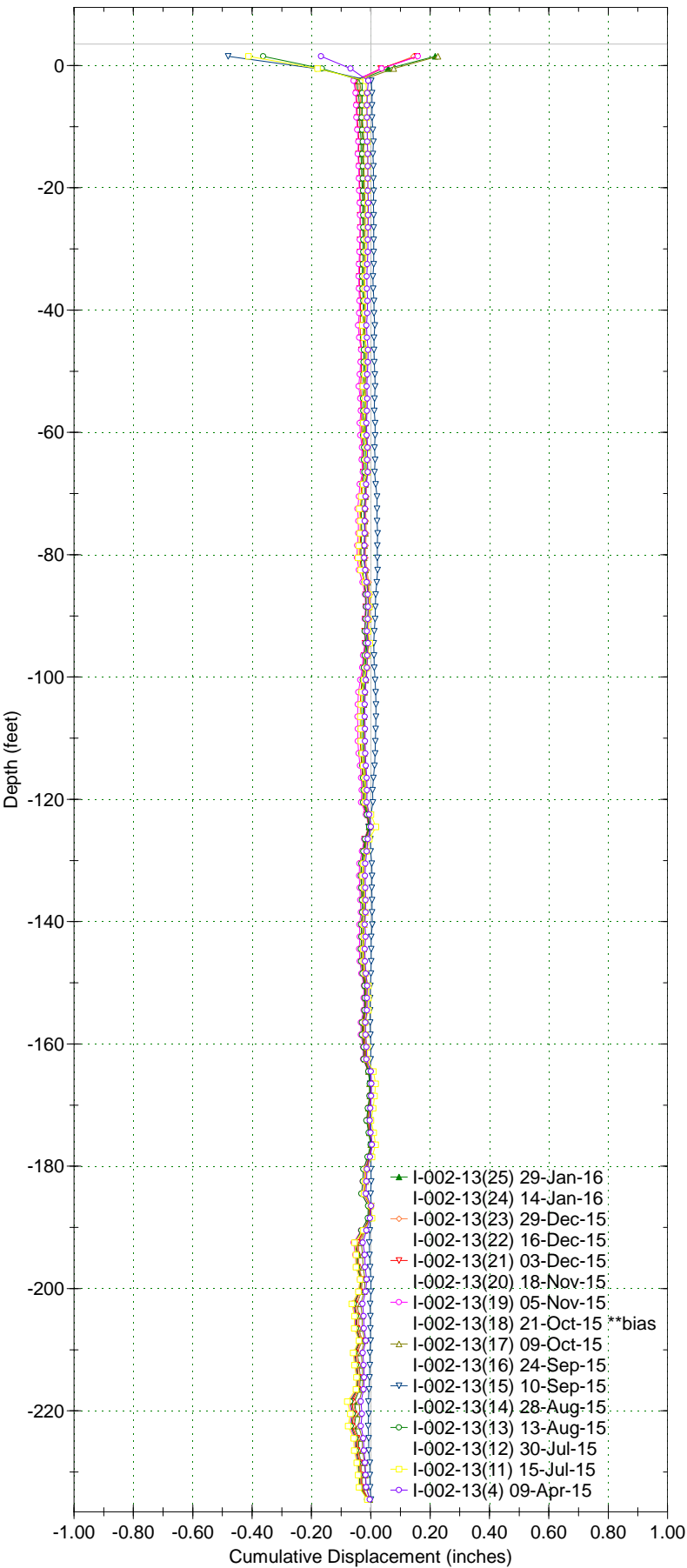
Borehole : I-002-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 3.5 feet
Borehole Total Depth : 238.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 03 10:04
Applied Azimuth : 0.0 degrees

Axis - A

Axis - B



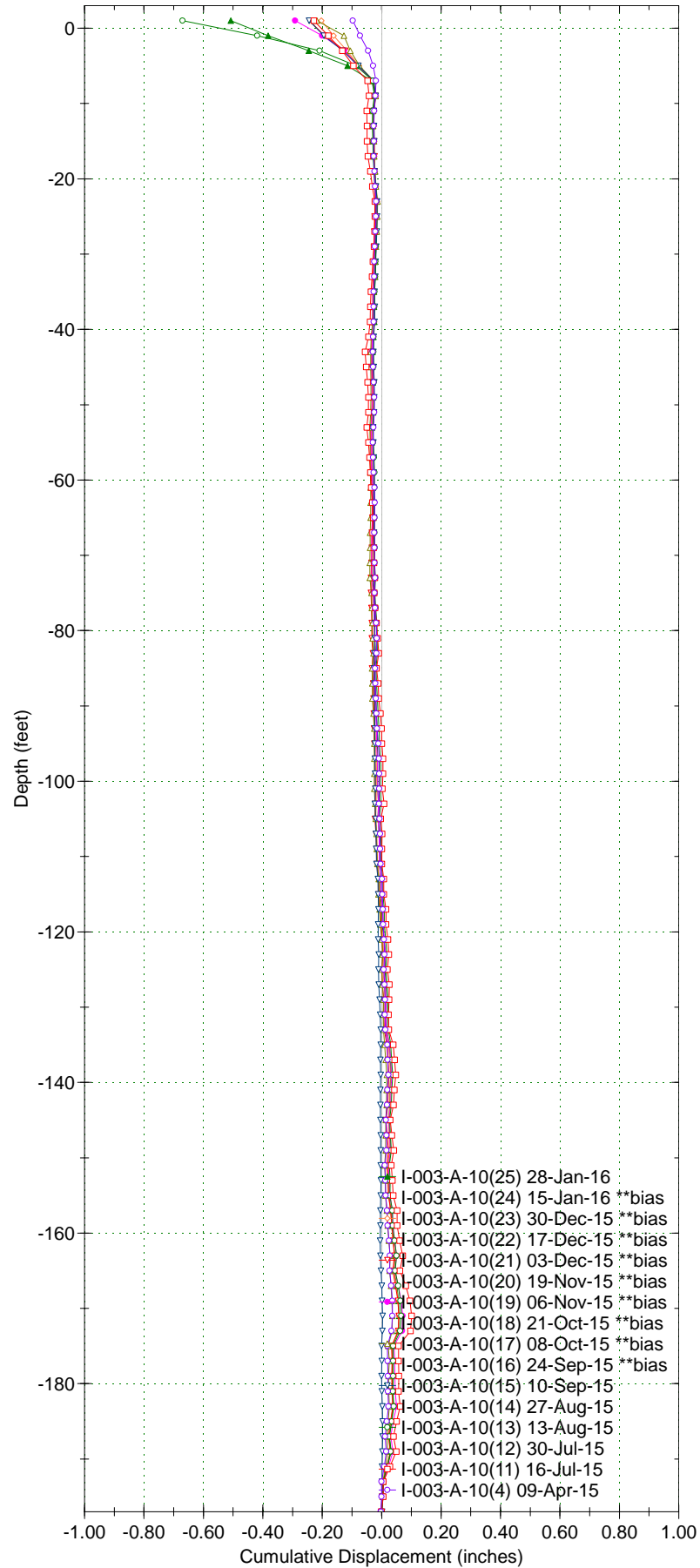
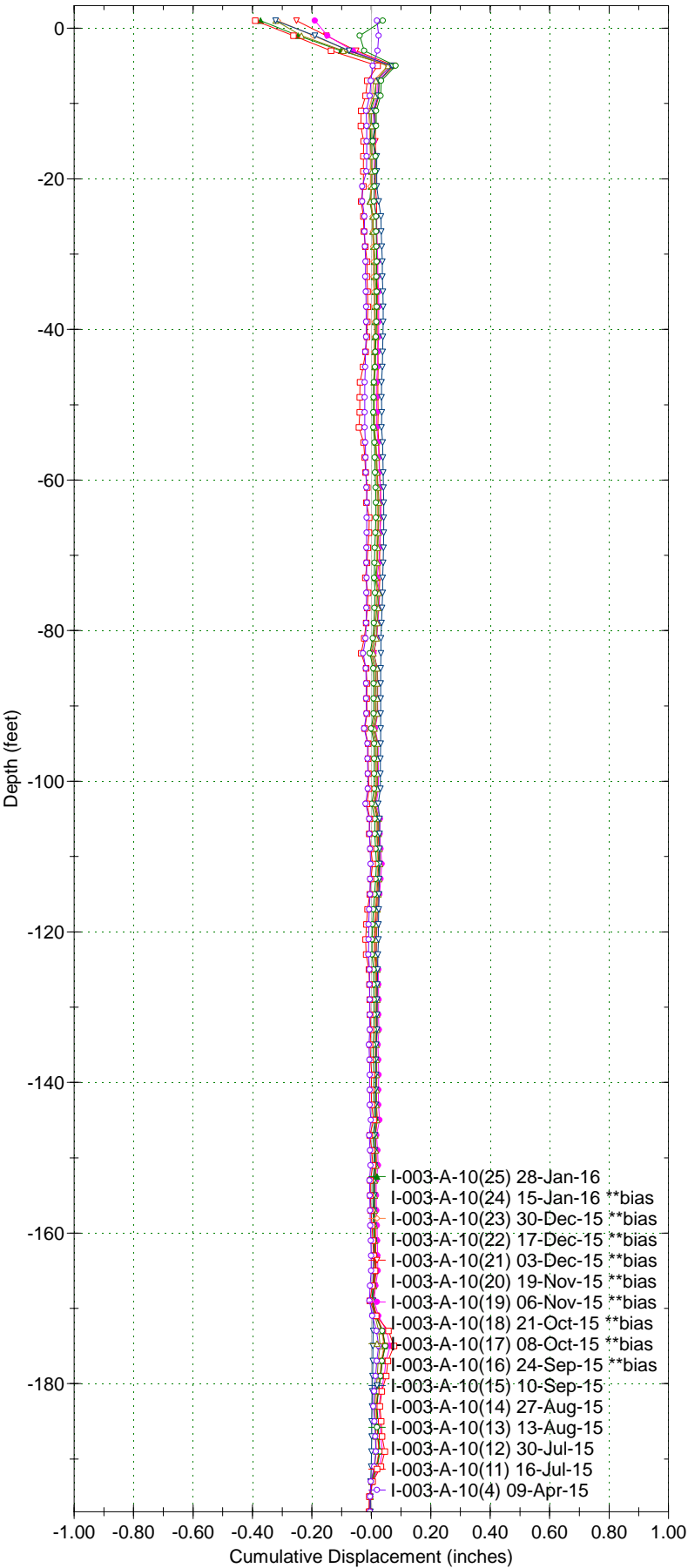
Borehole : I-003-A-10
Project : CUY-90-15-24
Location :
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 202.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 19 11:00
Applied Azimuth : 0.0 degrees

Axis - A

Axis - B



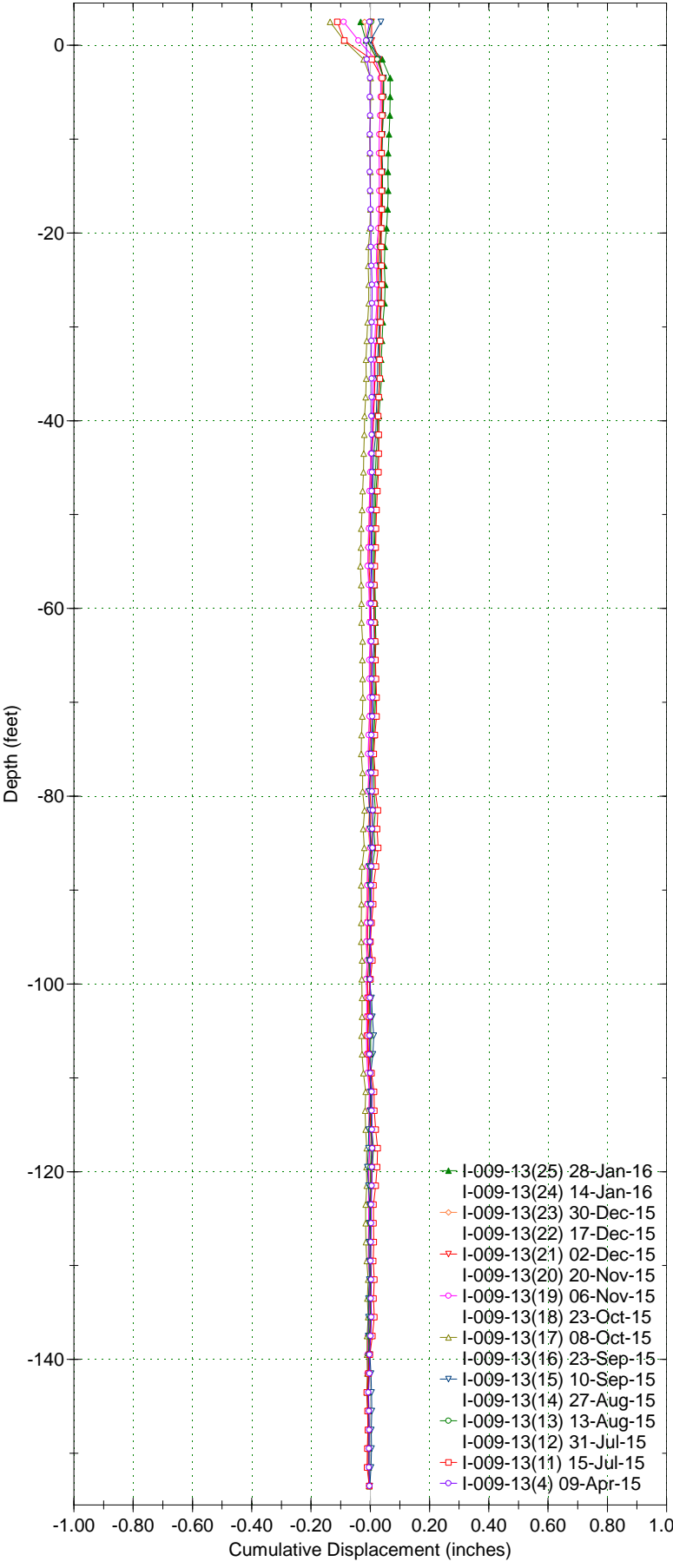
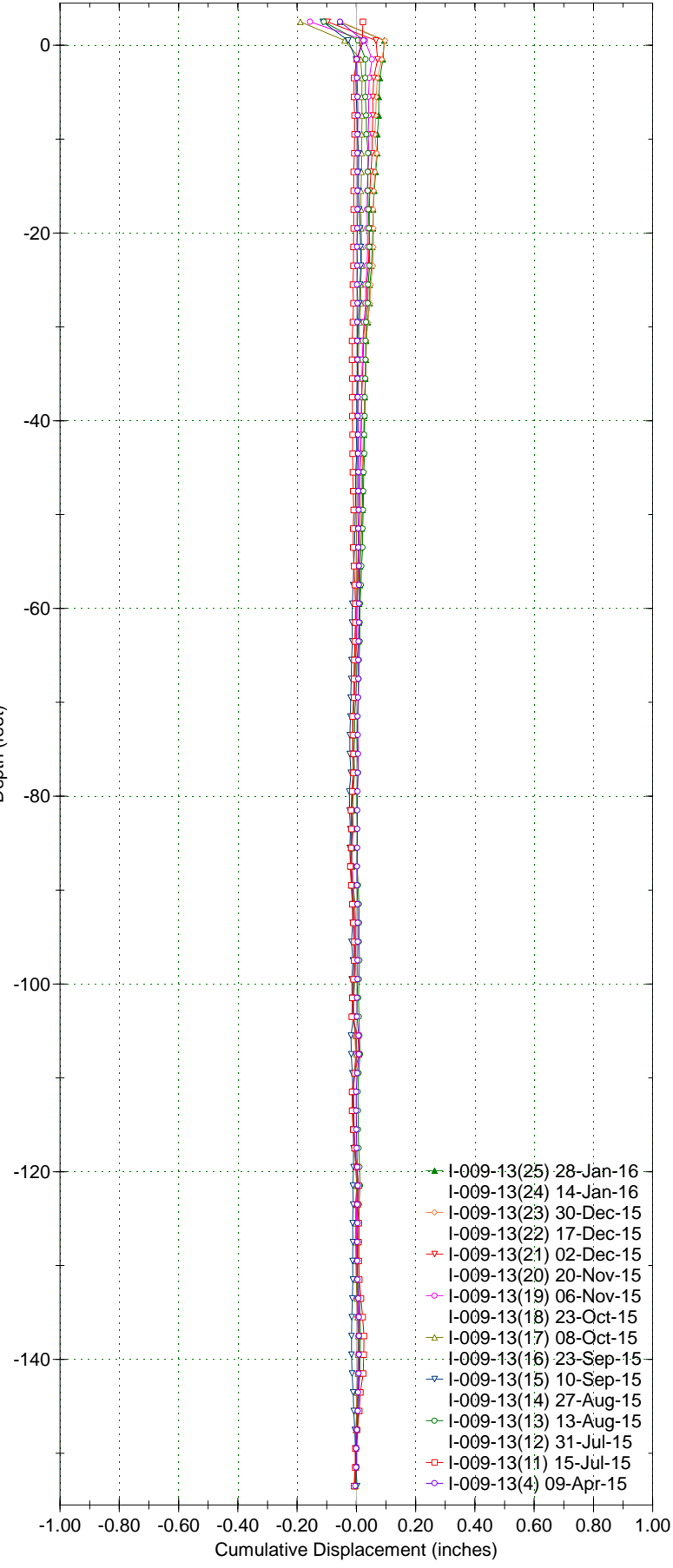
Borehole : I-009-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 4.5 feet
Borehole Total Depth : 158.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 18 15:56
Applied Azimuth : 0.0 degrees

Axis - A

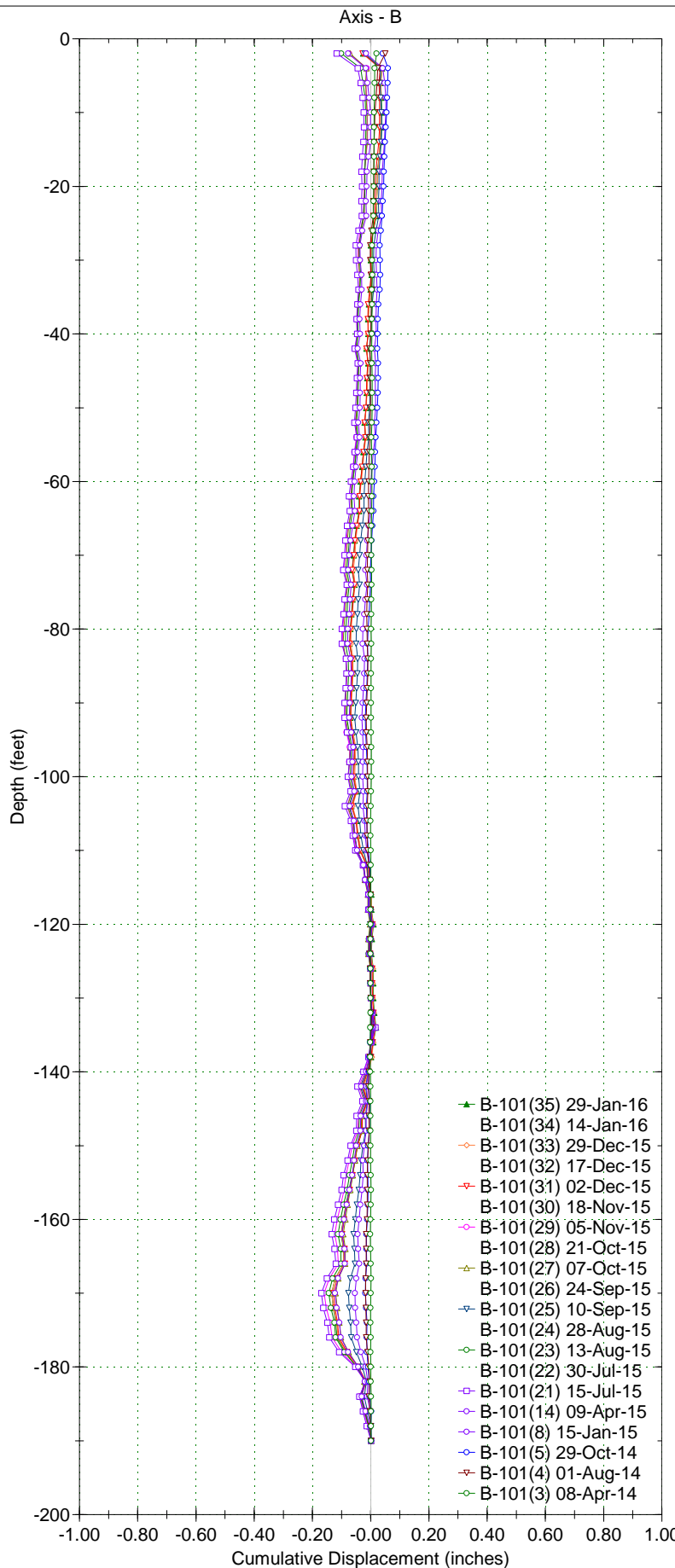
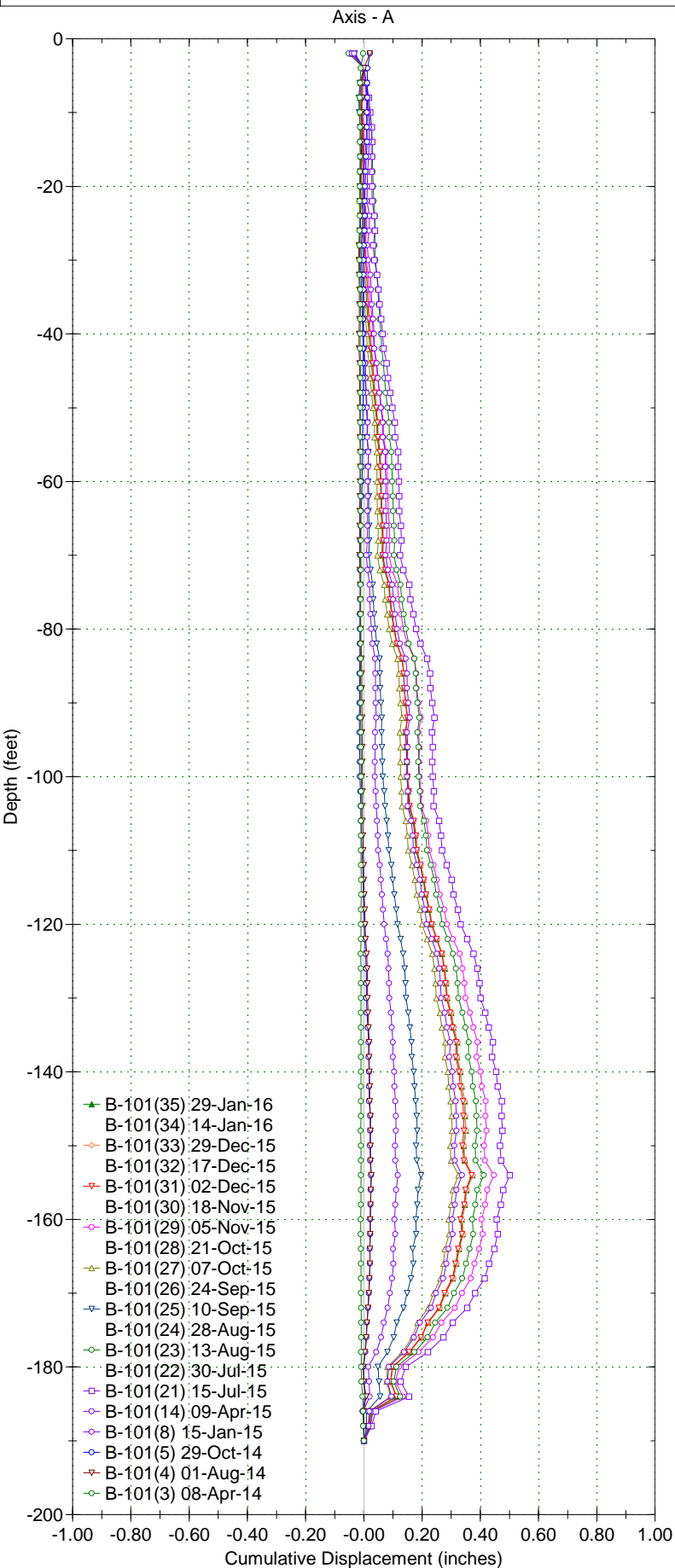
Axis - B



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



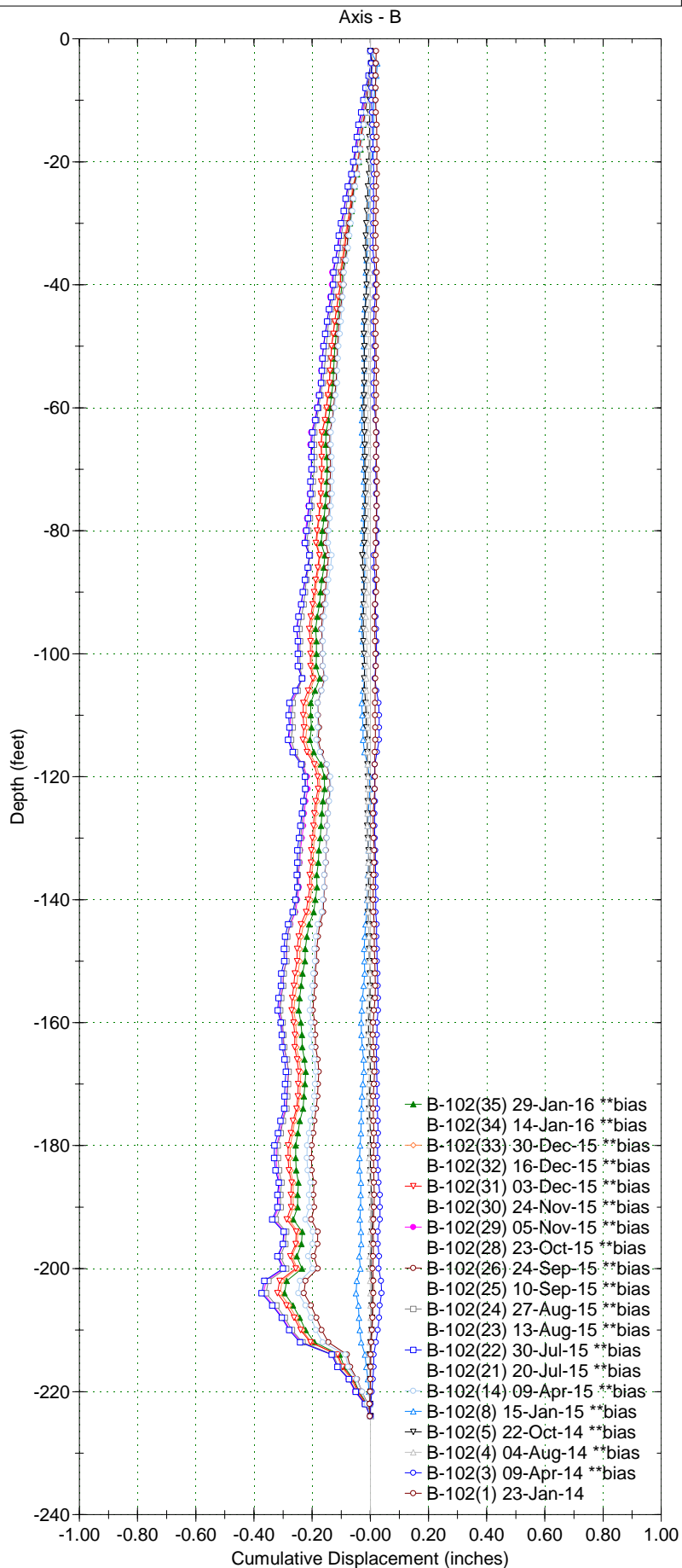
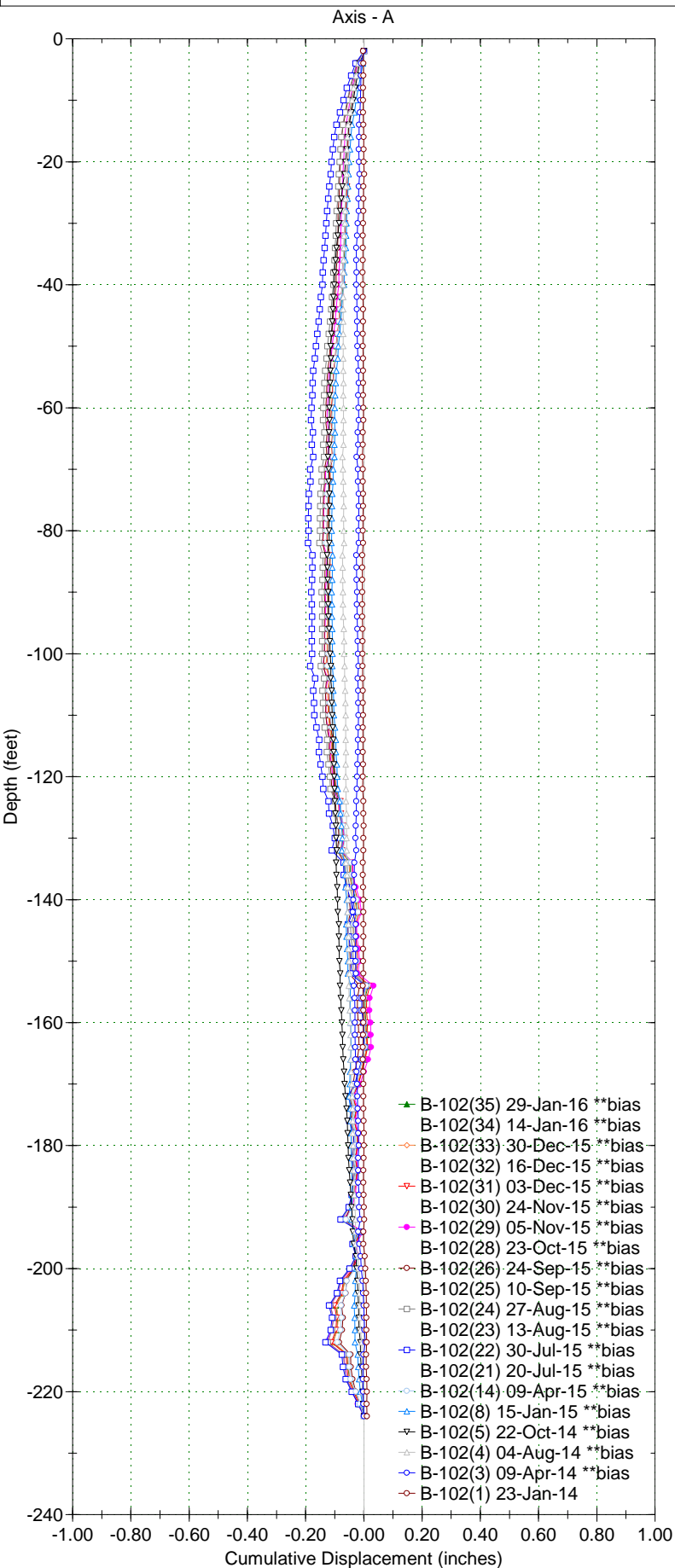
Spiral Correction : N/A
Collar Elevation : 0.0 feet
Borehole Total Depth : 190.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 09:01
Applied Azimuth : 0.0 degrees



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



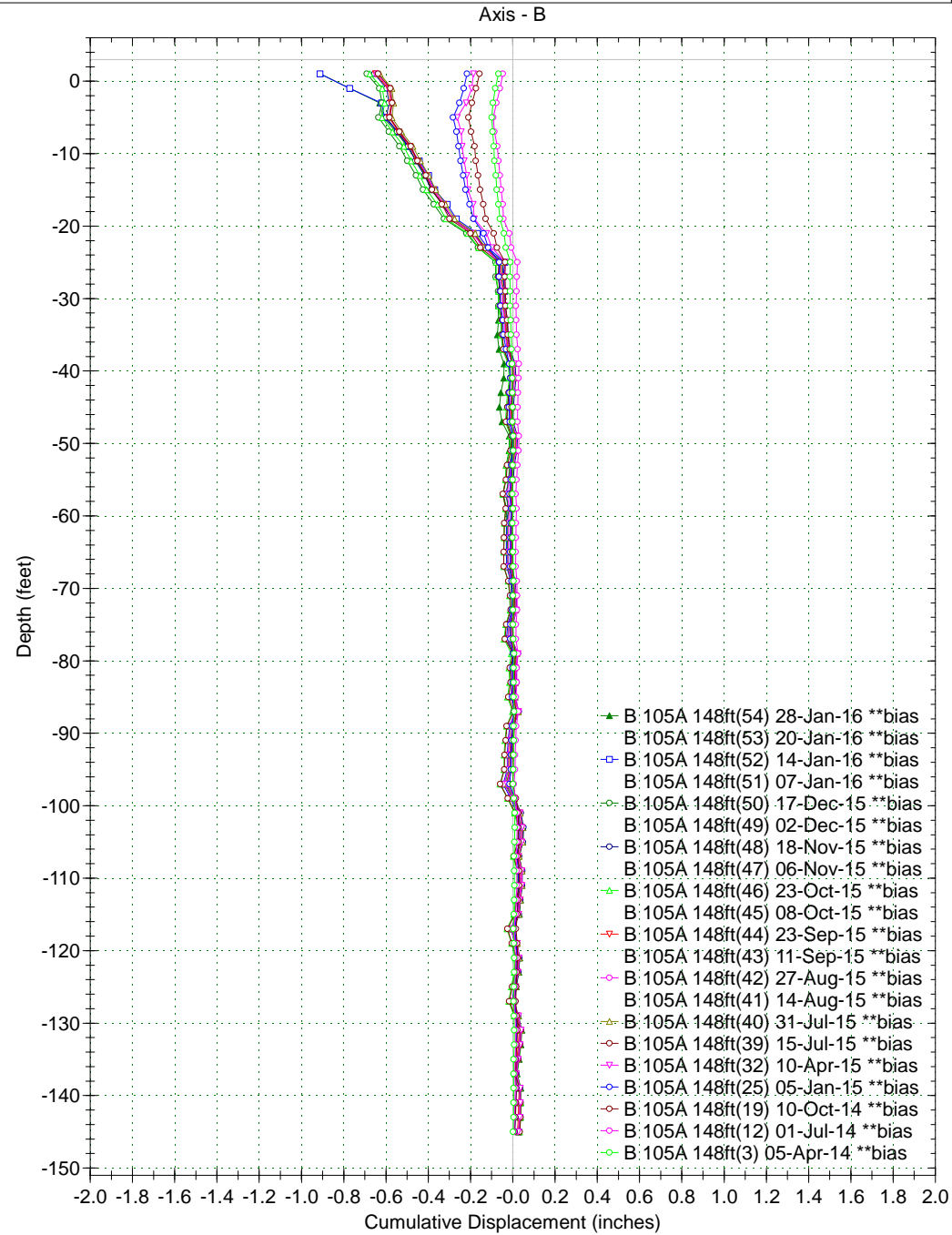
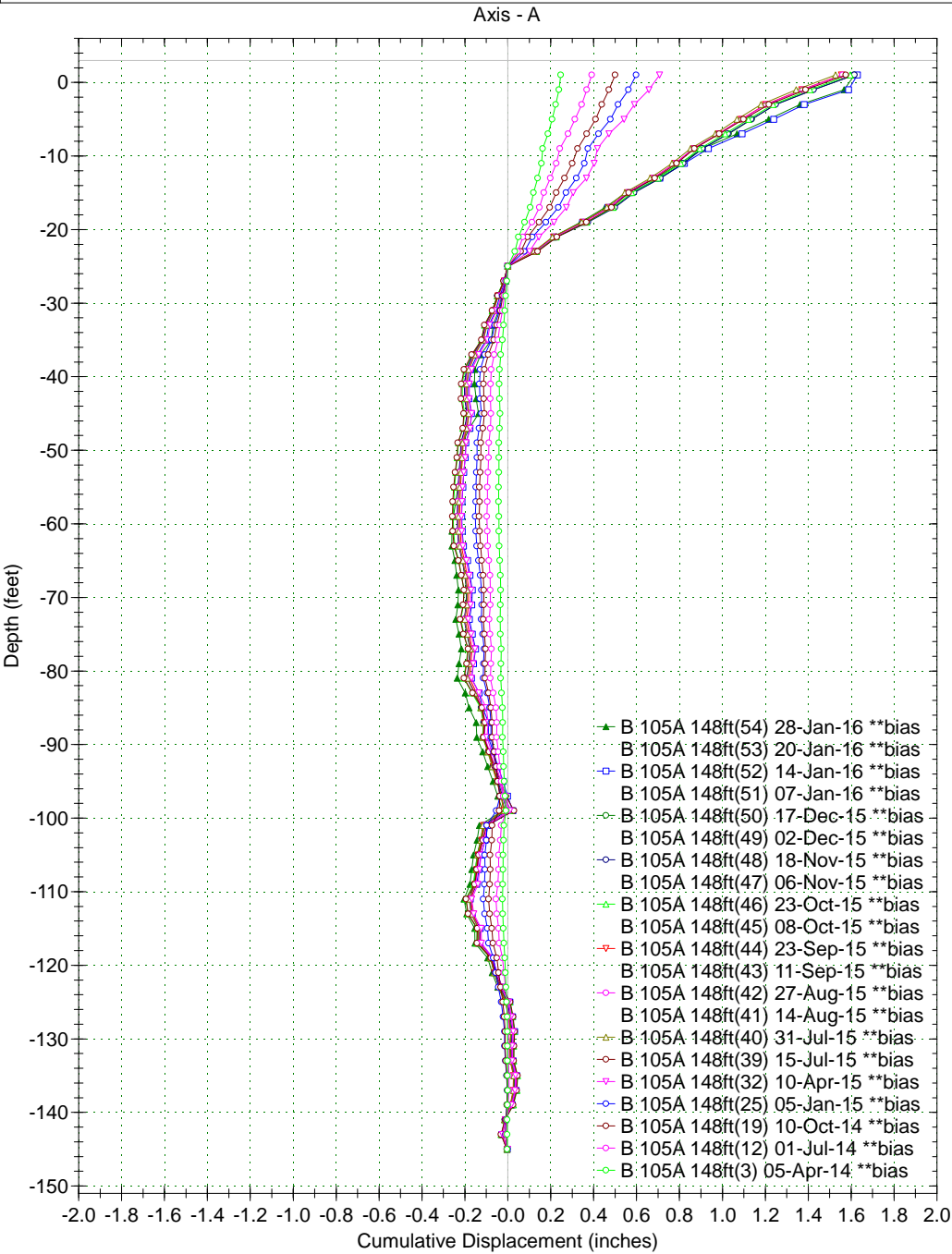
Spiral Correction : N/A
Collar Elevation : 0.0 feet
Borehole Total Depth : 224.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 23 08:21
Applied Azimuth : 0.0 degrees



Borehole : B 105A 148ft
 Project : CUY-90-15-24
 Location : Cleveland, Ohio
 Northing : Sta. 19+11.38
 Easting : 90.9' Rt of CL
 Collar :

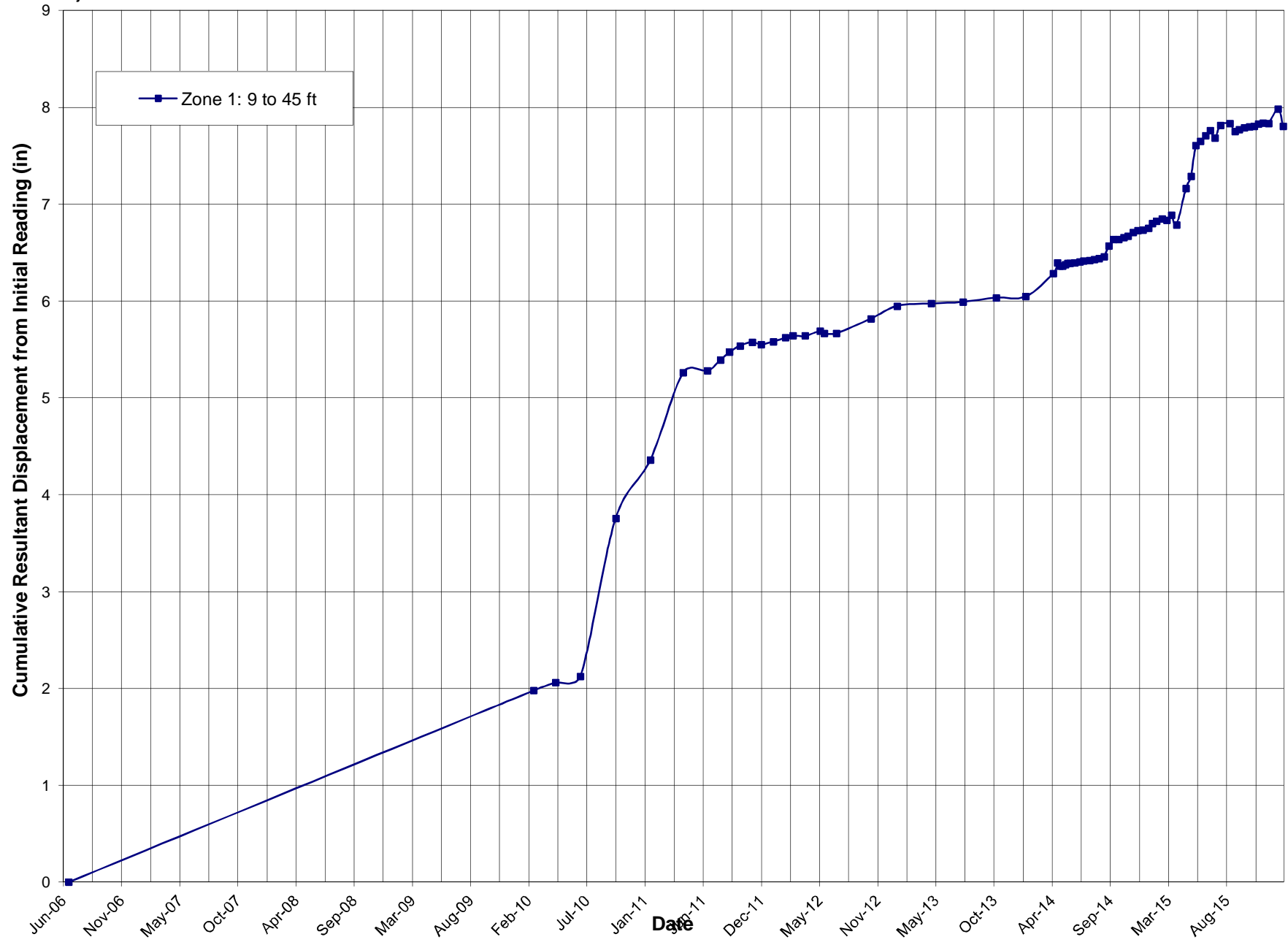


Spiral Correction : N/A
 Collar Elevation : 3.0 feet
 Borehole Total Depth : 148.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 15 09:19
 Applied Azimuth : 0.0 degrees



CUY-90-15.24
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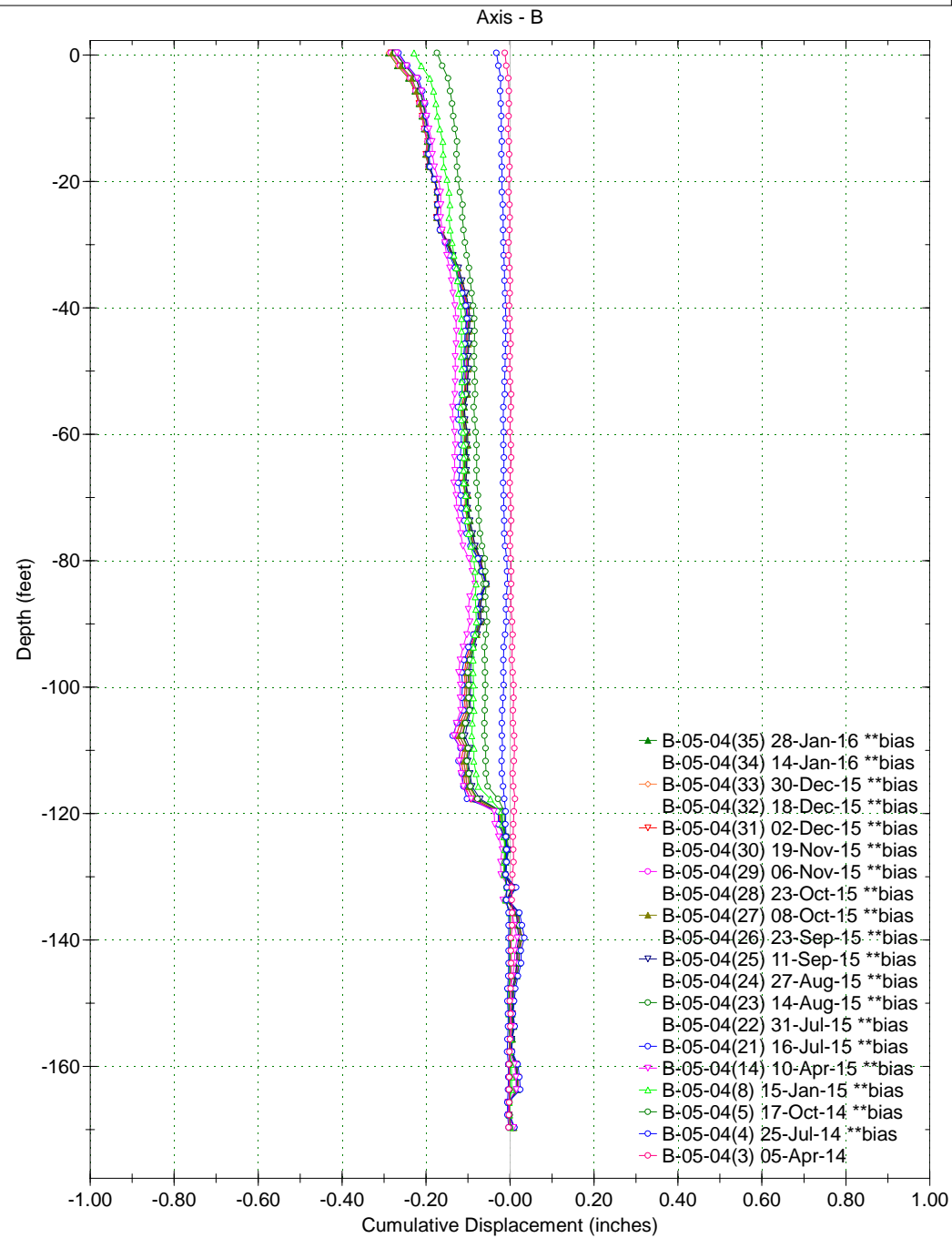
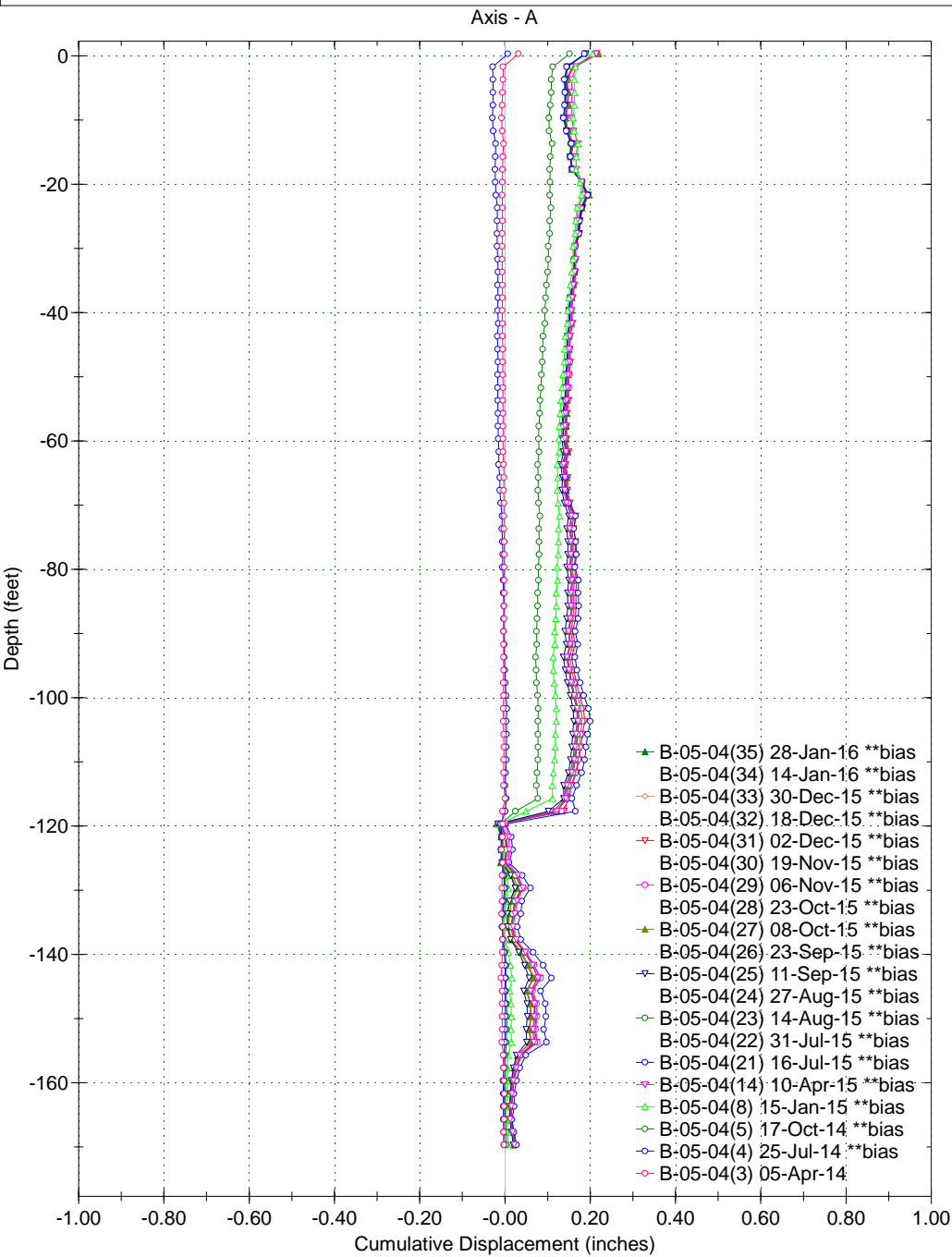
B-105A



Borehole : B-05-04
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing : Sta. 133+51.67
Easting : 242.09' Rt of CL
Collar :

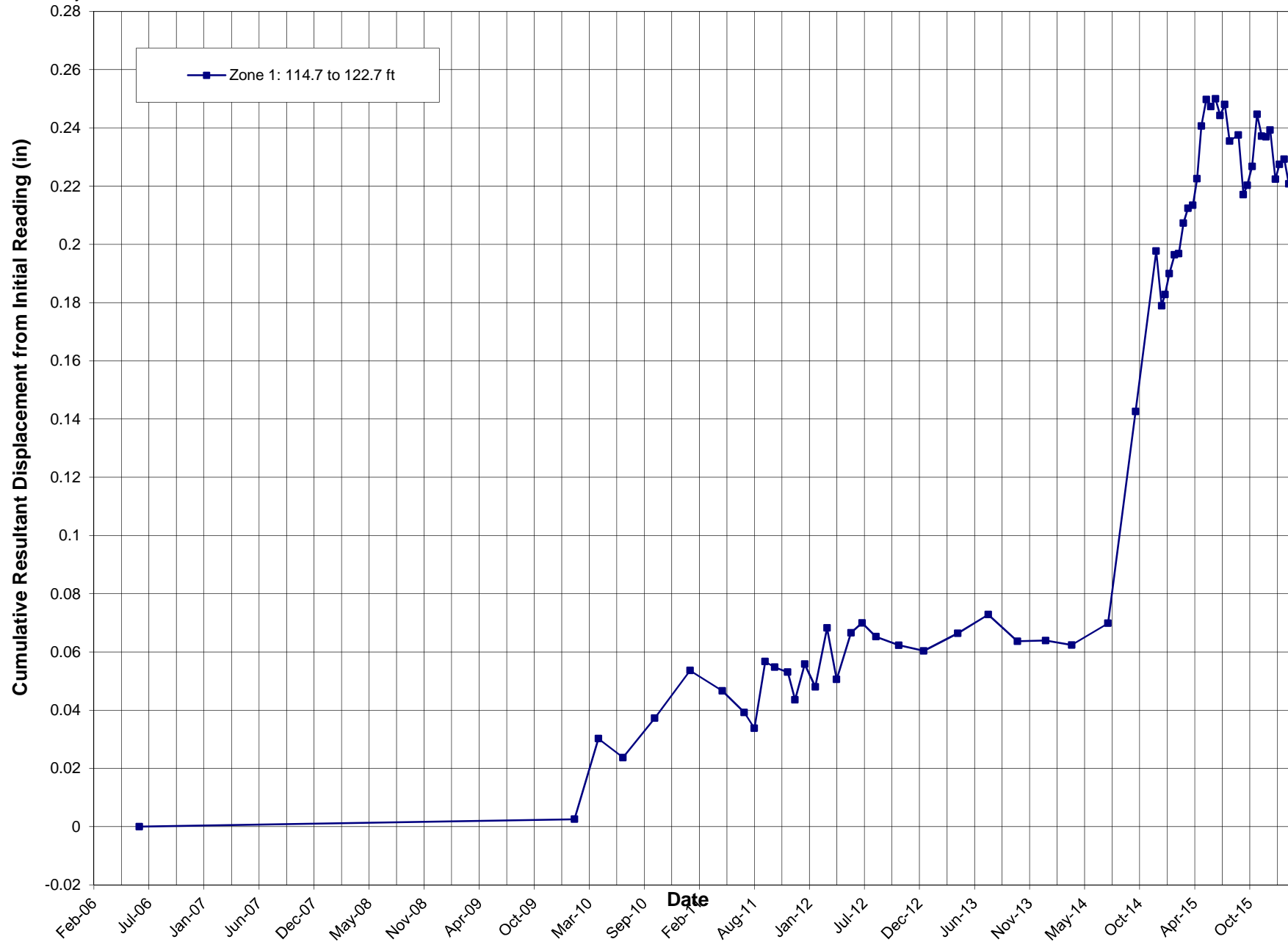


Spiral Correction : N/A
Collar Elevation : 2.3 feet
Borehole Total Depth : 172.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 12:30
Applied Azimuth : 0.0 degrees



CUY-90-15.24
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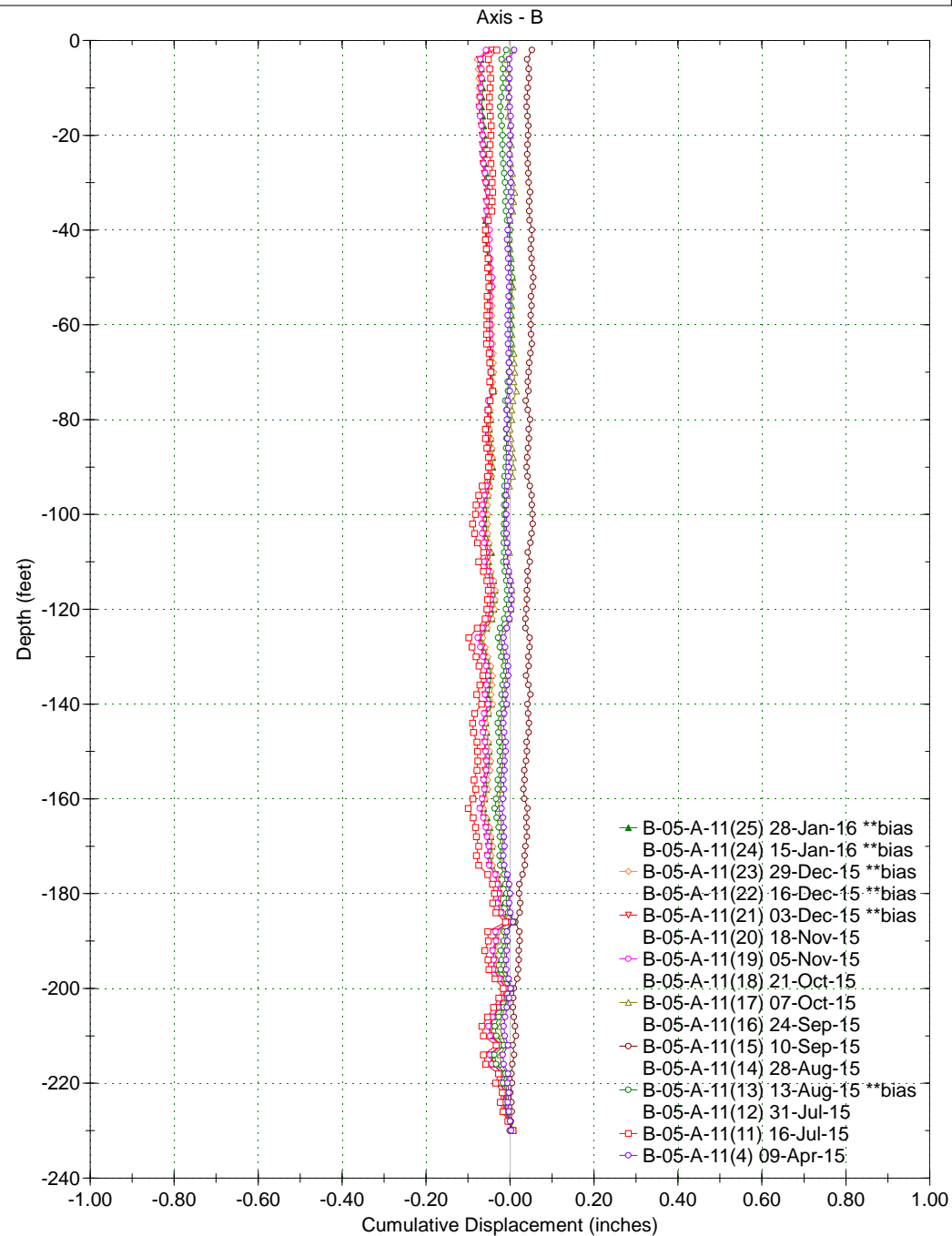
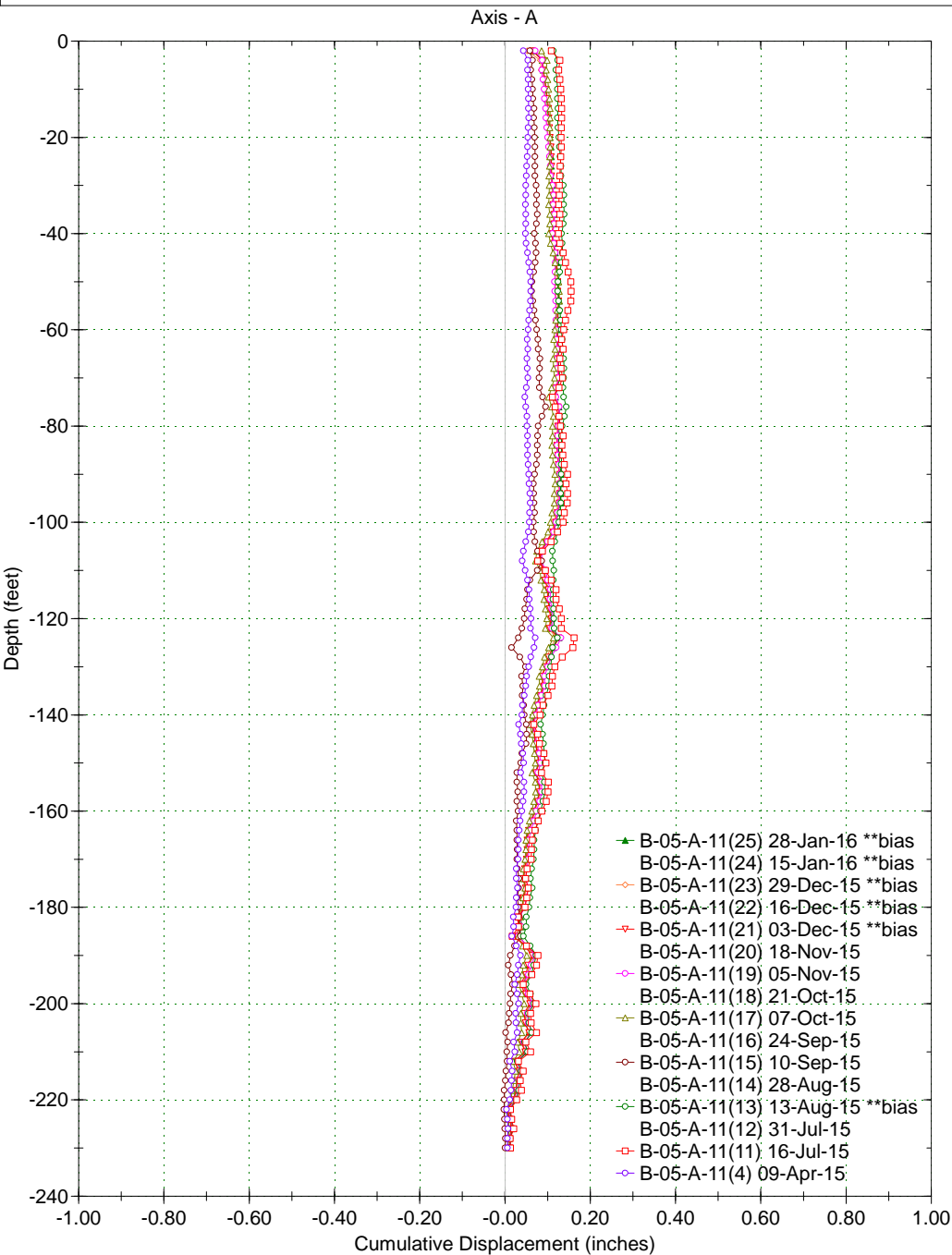
B-05-04



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



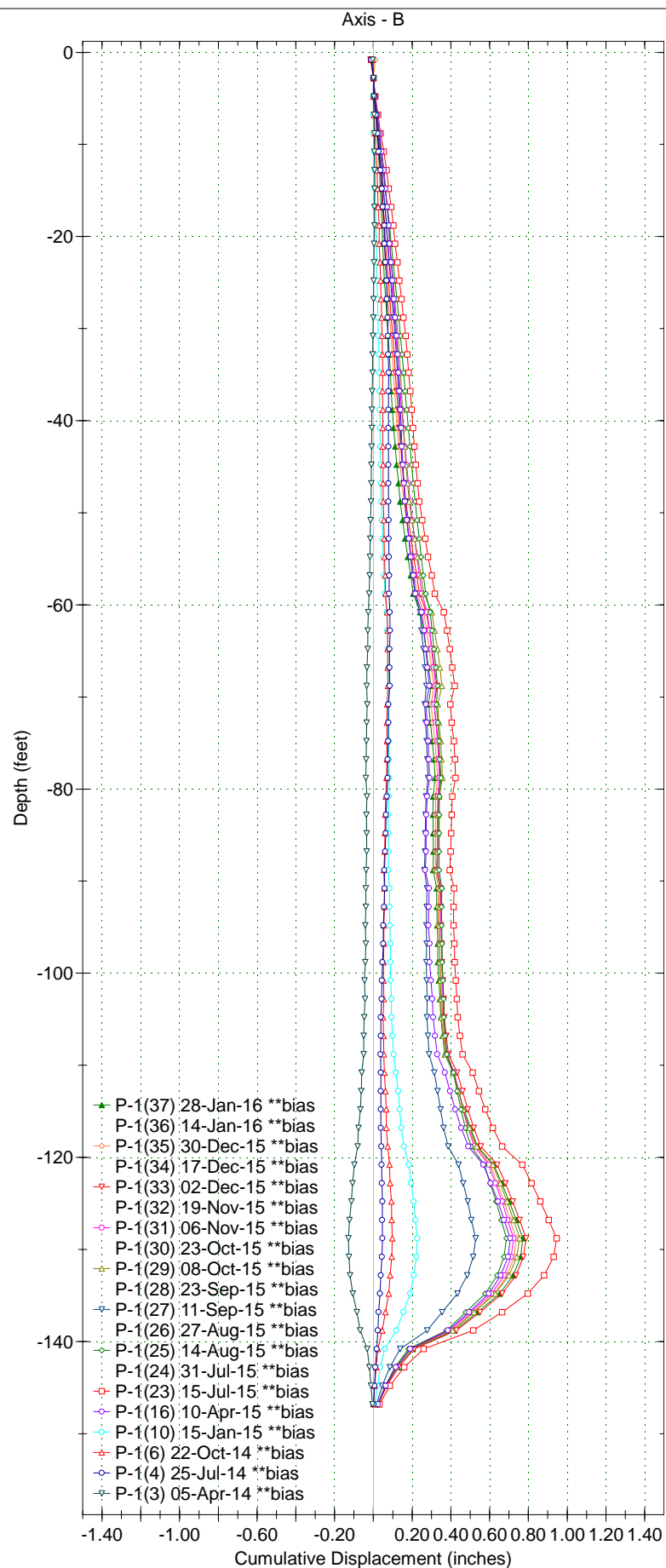
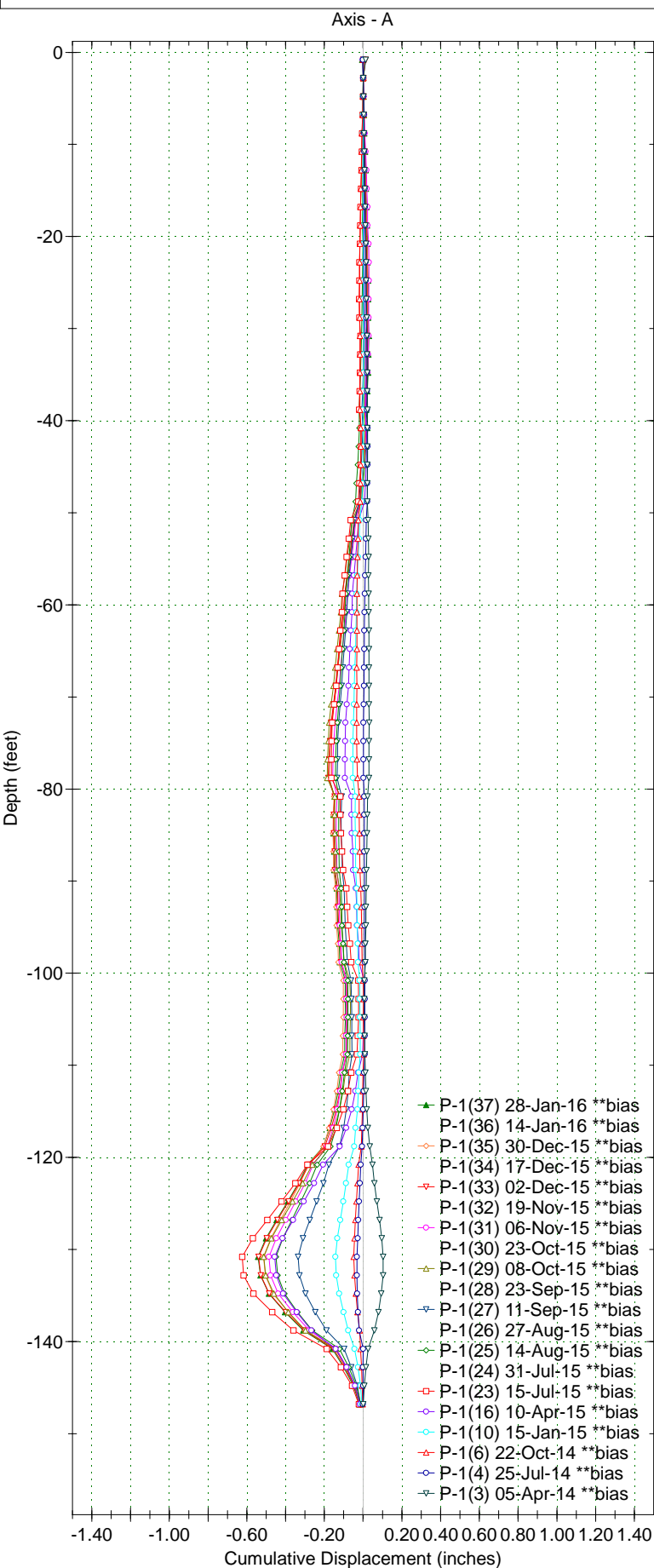
Spiral Correction : N/A
Collar Elevation : 0.0 feet
Borehole Total Depth : 230.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 19 09:08
Applied Azimuth : 0.0 degrees



Borehole : P-1
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :

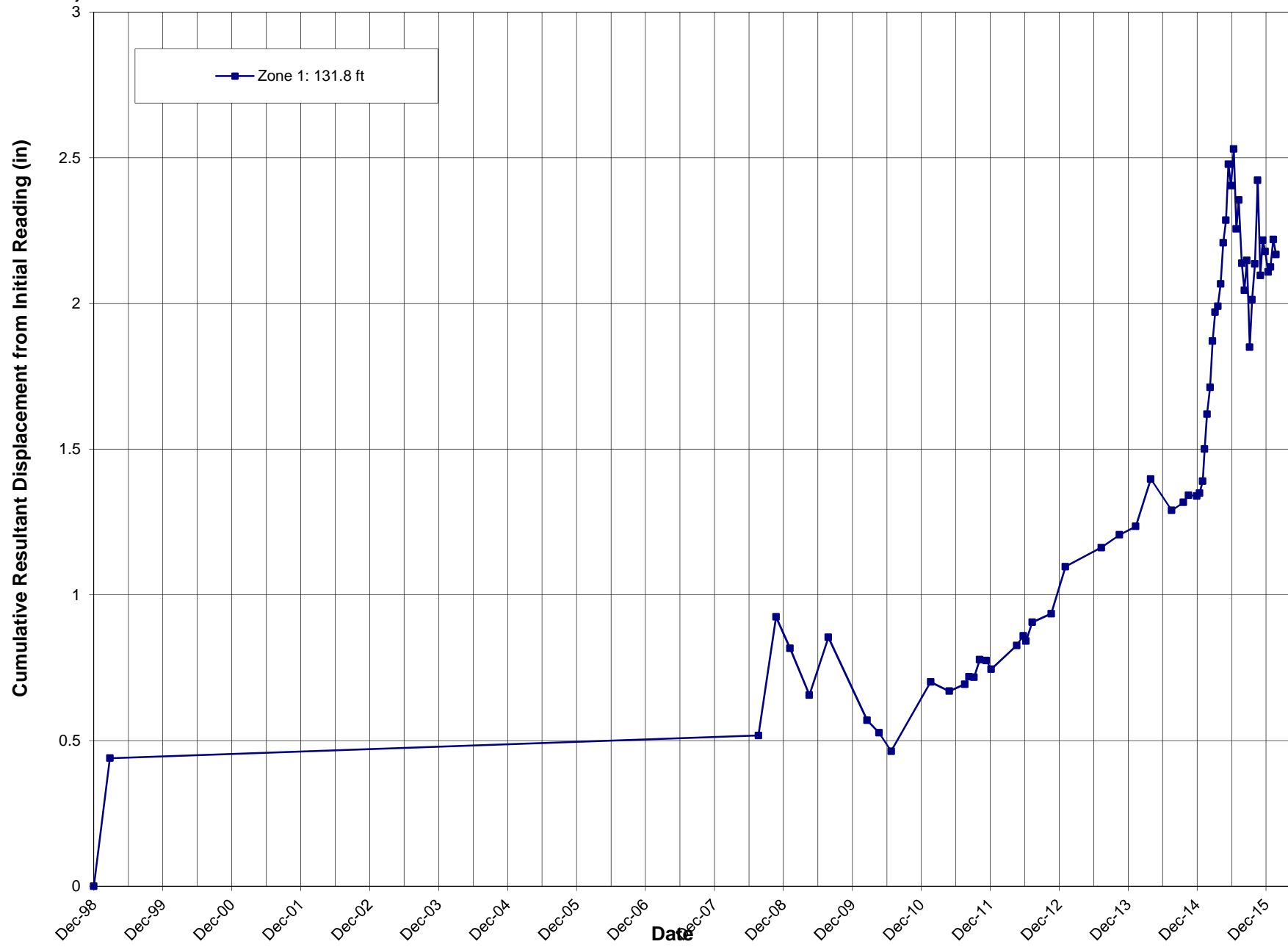


Spiral Correction : N/A
Collar Elevation : 1.2 feet
Borehole Total Depth : 148.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 10:47
Applied Azimuth : 0.0 degrees



CUY-90-15.24
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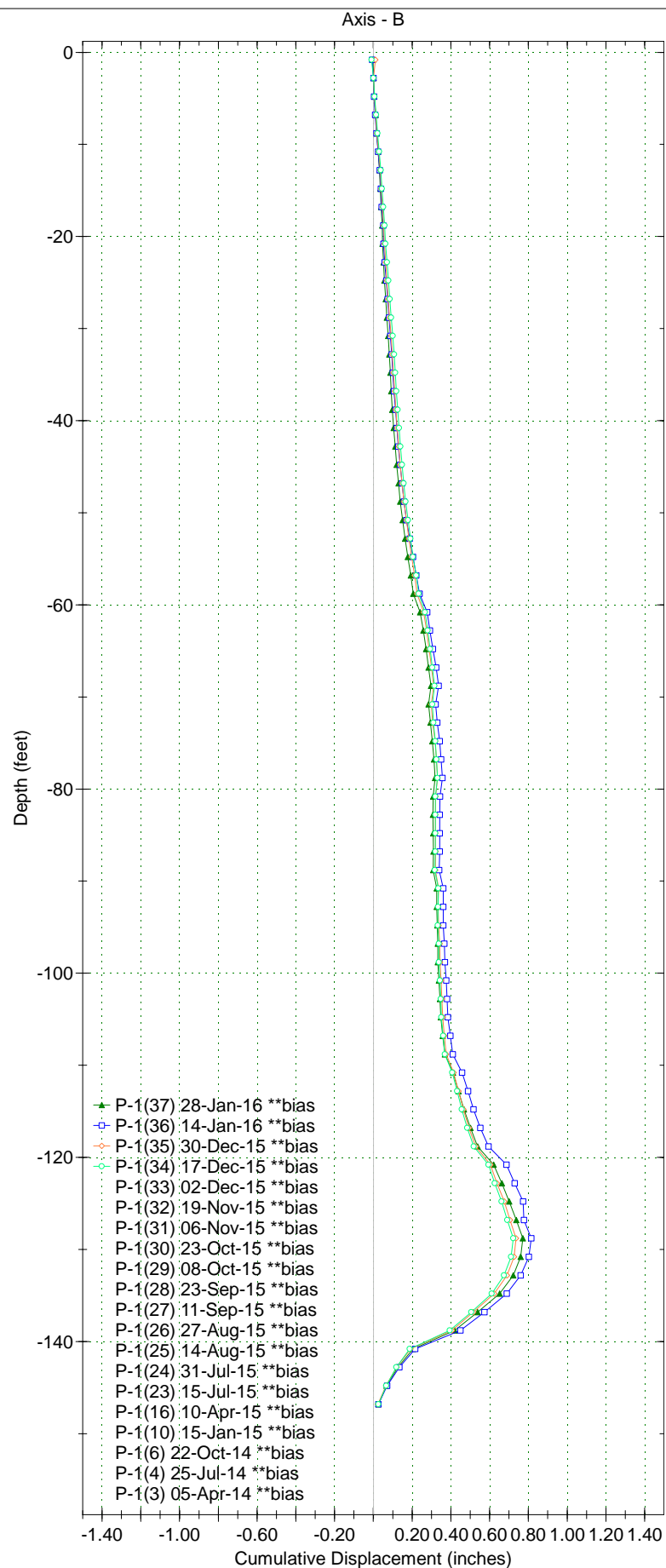
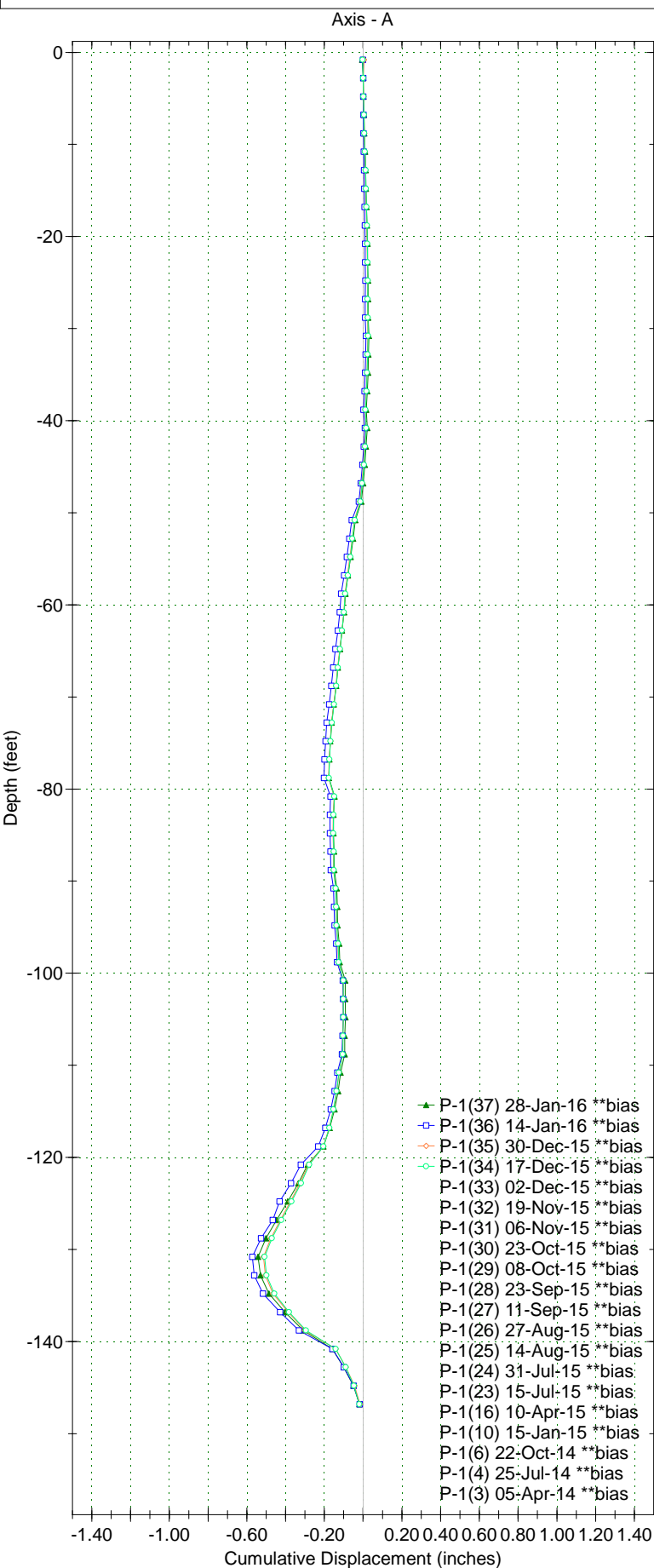
P-1



Borehole : P-1
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 1.2 feet
Borehole Total Depth : 148.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 10:47
Applied Azimuth : 0.0 degrees



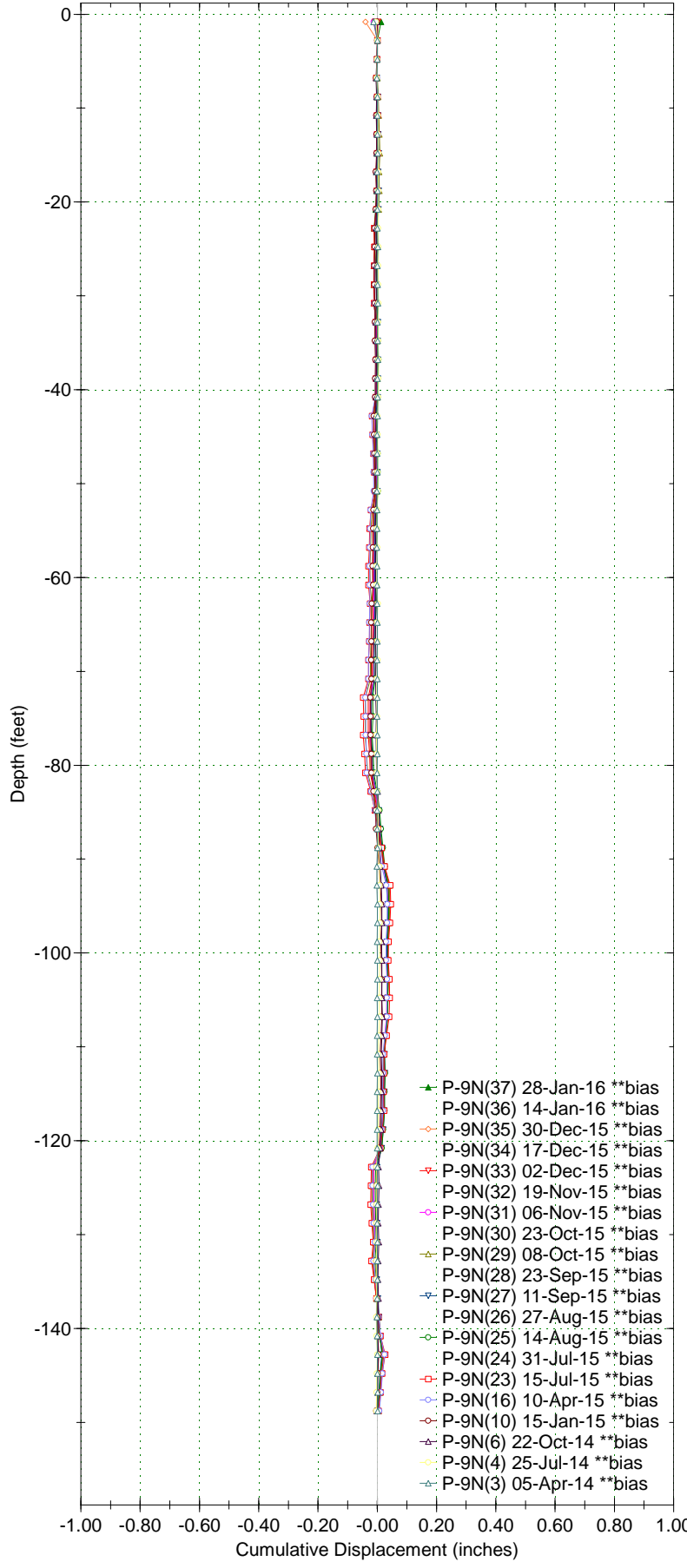
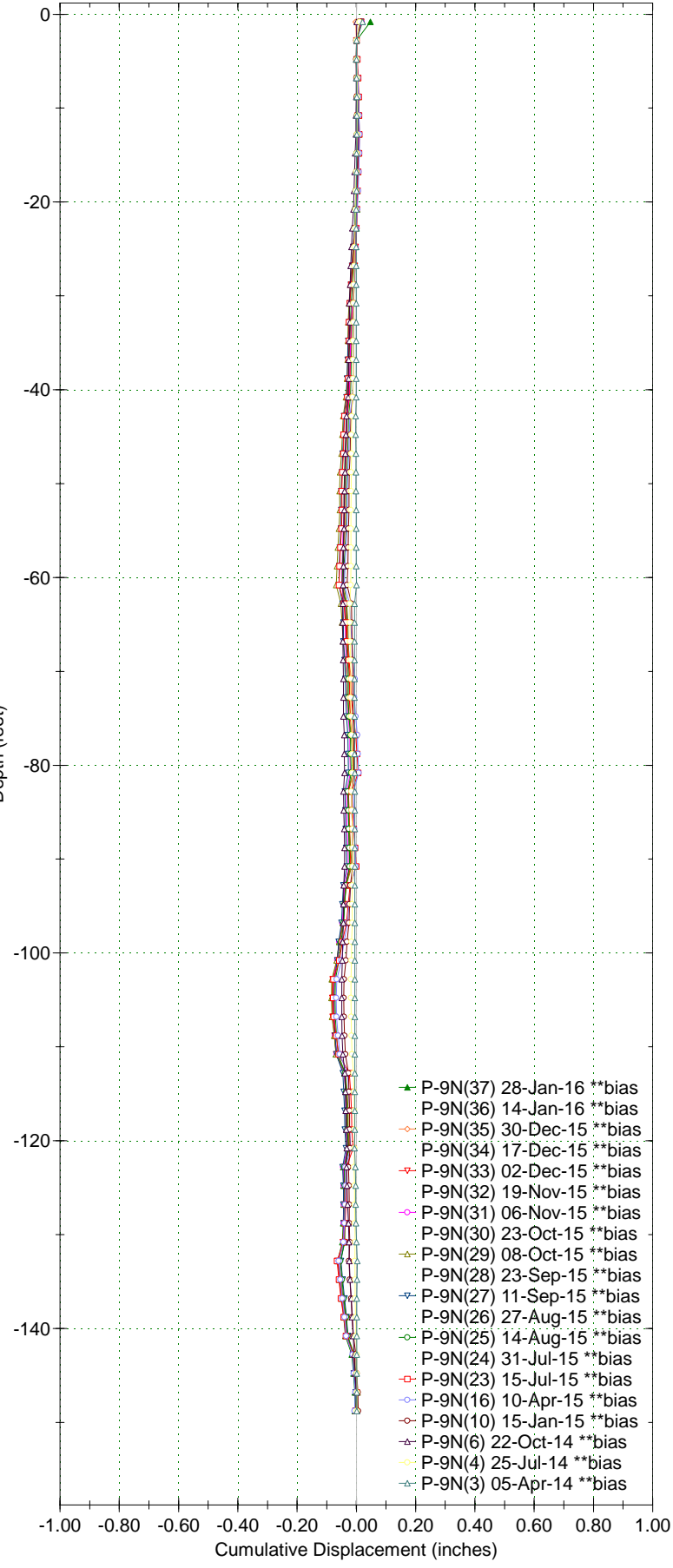
Borehole : P-9N
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 1.2 feet
Borehole Total Depth : 150.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 16 09:28
Applied Azimuth : 0.0 degrees

Axis - A

Axis - B

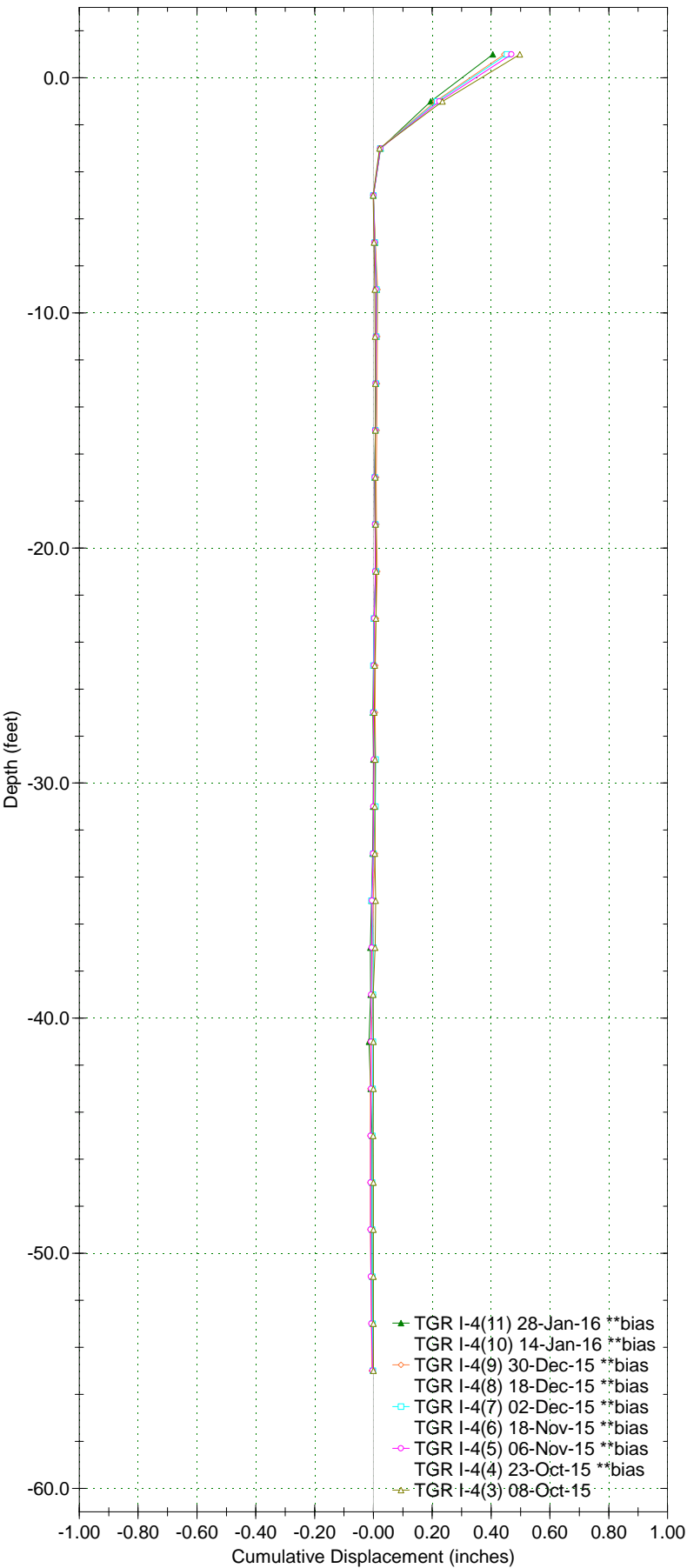


Borehole : TGR I-4
Project : CUY-90-15-24
Location :
Northing :
Easting :
Collar :



Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 58.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Sep 23 10:39
Applied Azimuth : 0.0 degrees

Axis - A



Axis - B

