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February 16, 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: February 10 and 11, 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 February 10 and 11, 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-A-11 – Pore pressure readings at these locations indicate slight fluctuations in total head throughout this reading period but virtually no net change. The shallowest piezometer at P-003-10 output all erroneous data. We think this is due to a loose connection, which has occurred with this piezometer in the past. We will attempt to reconnect the piezometer this week during our weekly B-105 site visit.

P-004-13 – At this location the pore pressure readings in the shallow piezometer show a net increase of about 1 foot in total head over the past two weeks. There was virtually no change in the pore pressure recorded by the deep piezometer.

P-009-13 – Pore pressure readings in the shallow piezometer at this location indicate a net increase of about 0.5 feet over this past two-week period. Pore pressures in the deep piezometer fluctuated, but show virtually no net change.

B-05-04 – Bi-weekly readings at this location show increases in total head of about 0.5 feet in both piezometers during the past two weeks.

Inclinometer Readings

Inclinometer readings at I-001-13, I-002-13, I-003-10, I-009-13, B-102, 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.

B-101 – Inclinometer readings at this location indicate an increase in the positive A-axis direction from about 50 to 180 feet, with a maximum displacement of about 0.1 inches occurring at 154 feet.

B-105A – At this location, inclinometer readings indicate slight displacements in the positive A-axis direction from the surface to about 5 feet and in the negative B-axis direction from the surface to about 70 feet.

B-05-04 – The cumulative resultant displacement zone plot between 115 and 123 feet indicates a slight increase of about 0.02 inches. The cumulative displacement graph shows virtually no movement.

P-1 – Inclinometer readings at this location indicate increasing displacements in the negative A-axis direction and positive B-axis direction between about 120 and 140 feet. The cumulative resultant displacement zone plot at 132 feet indicates an increase of about 0.2 inches.

TGR I-2 – This location is still inaccessible.

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

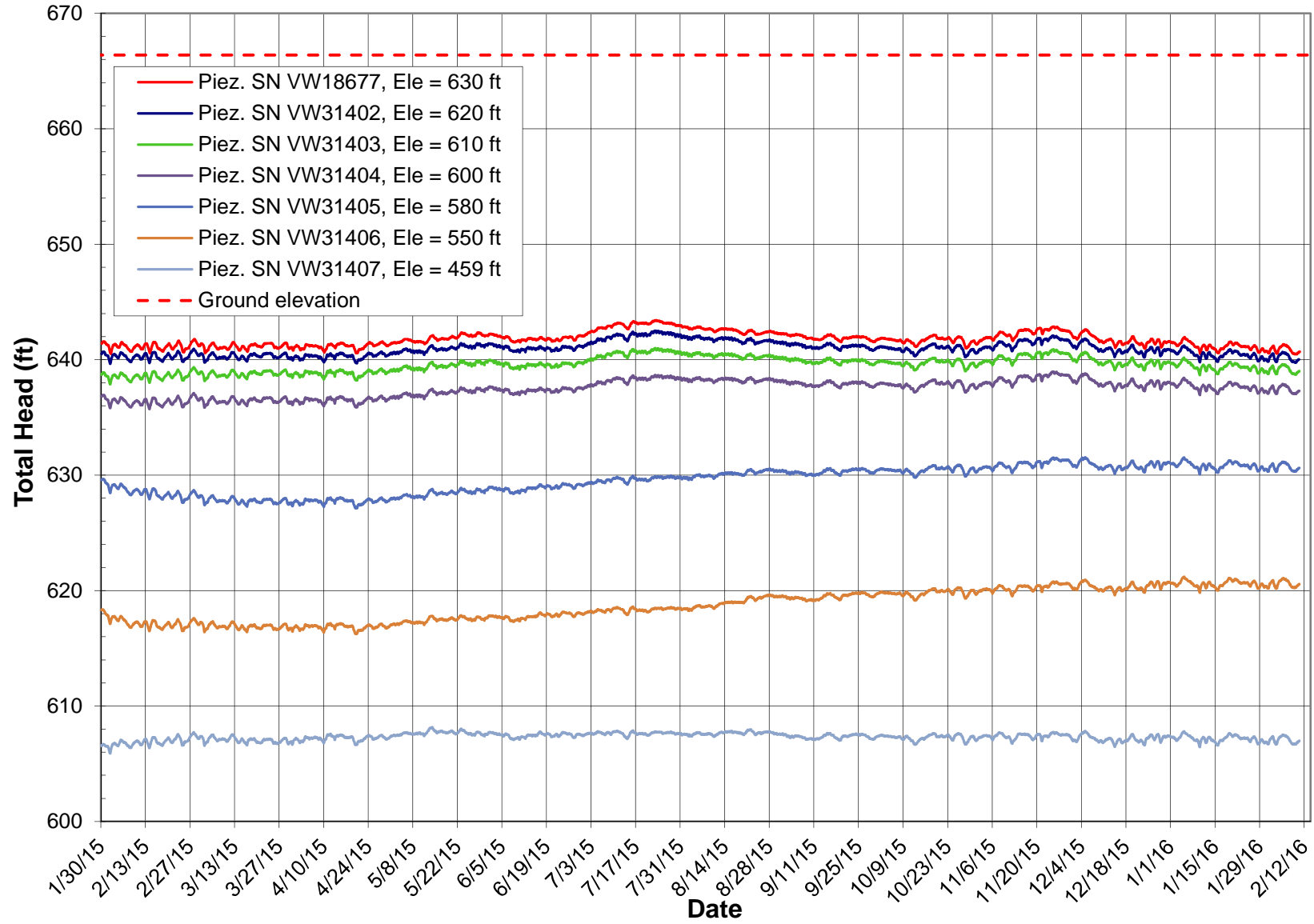
Alan J. Esser, P.E., D.GE
Chief Consultant

Attachments

cc: Distribution list via email

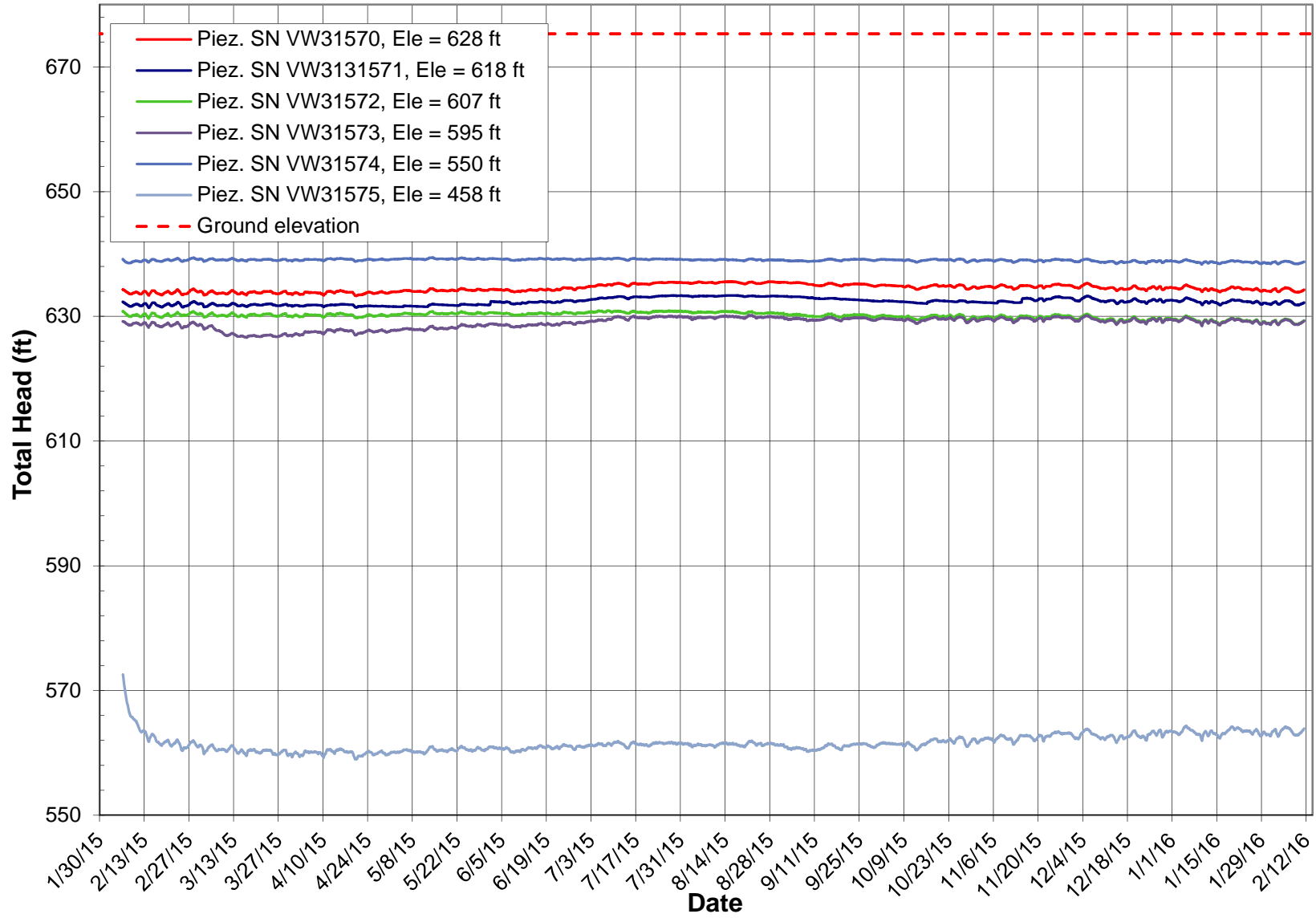
P-001-13 VW Piezometer Readings

Ground surface elevation = 666.4 ft



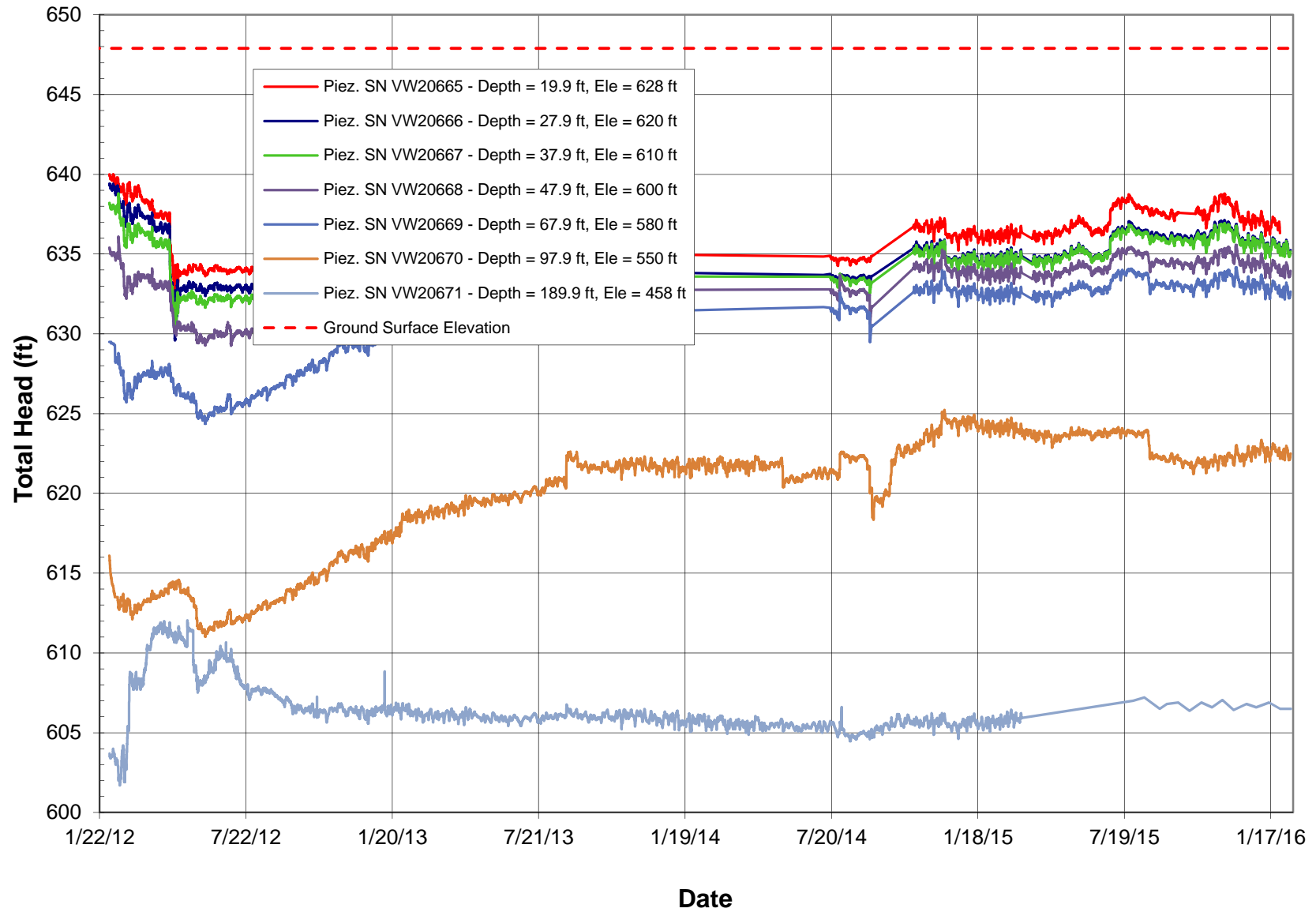
P-002-13 VW Piezometer Readings

Ground surface elevation = 675.29 ft



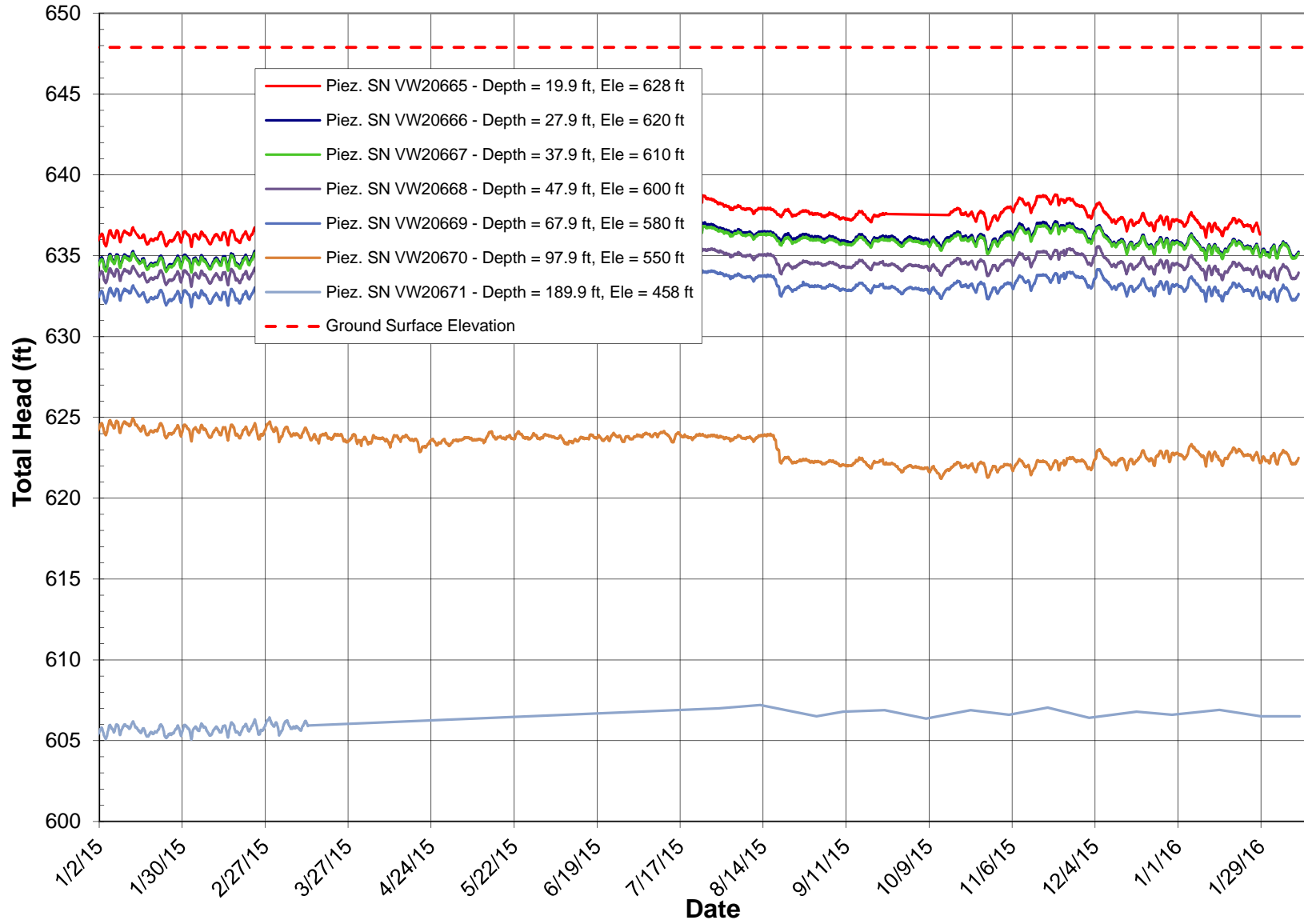
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



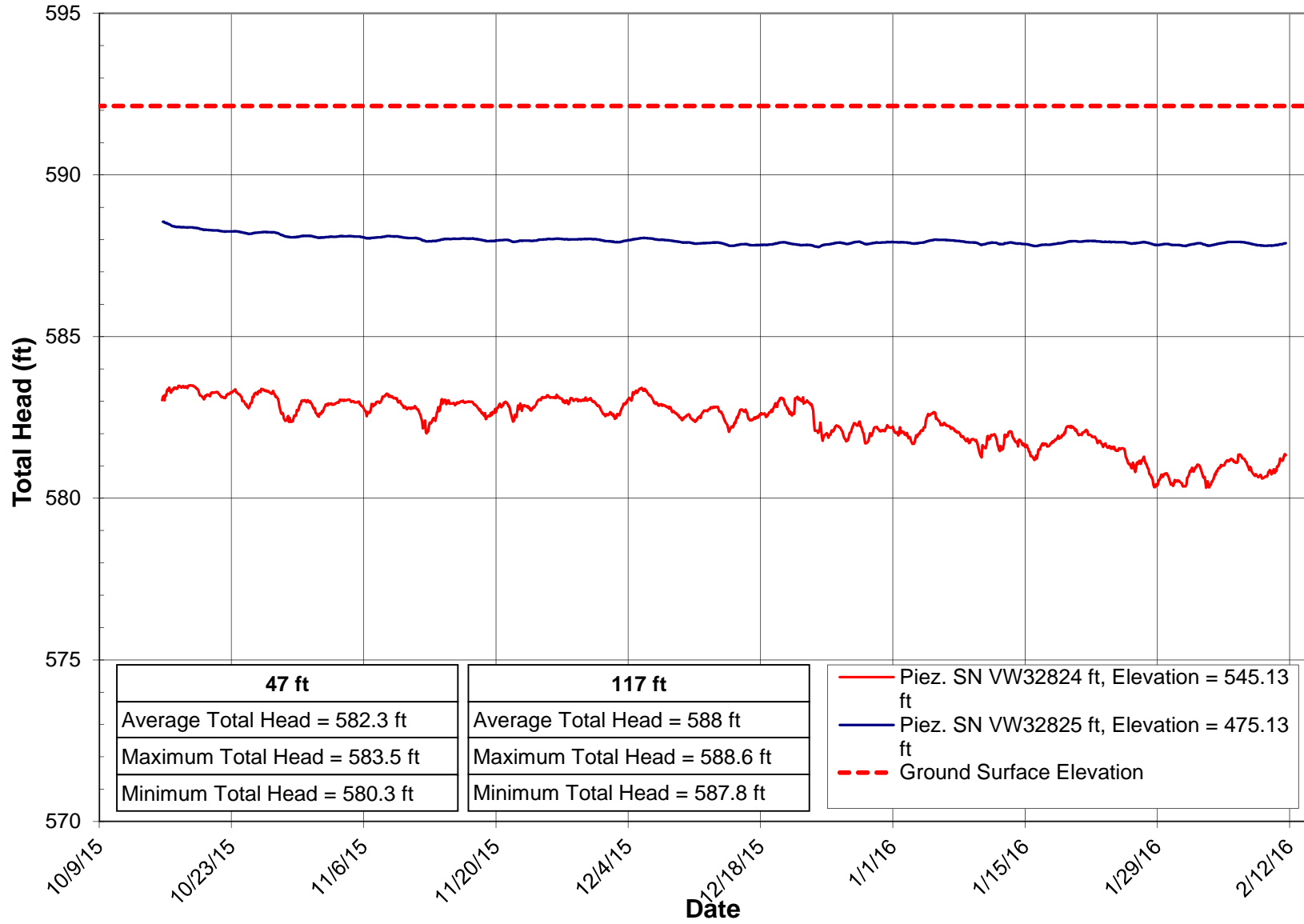
P-003-10 VW Piezometer Readings

Ground surface elevation = 647.9 ft



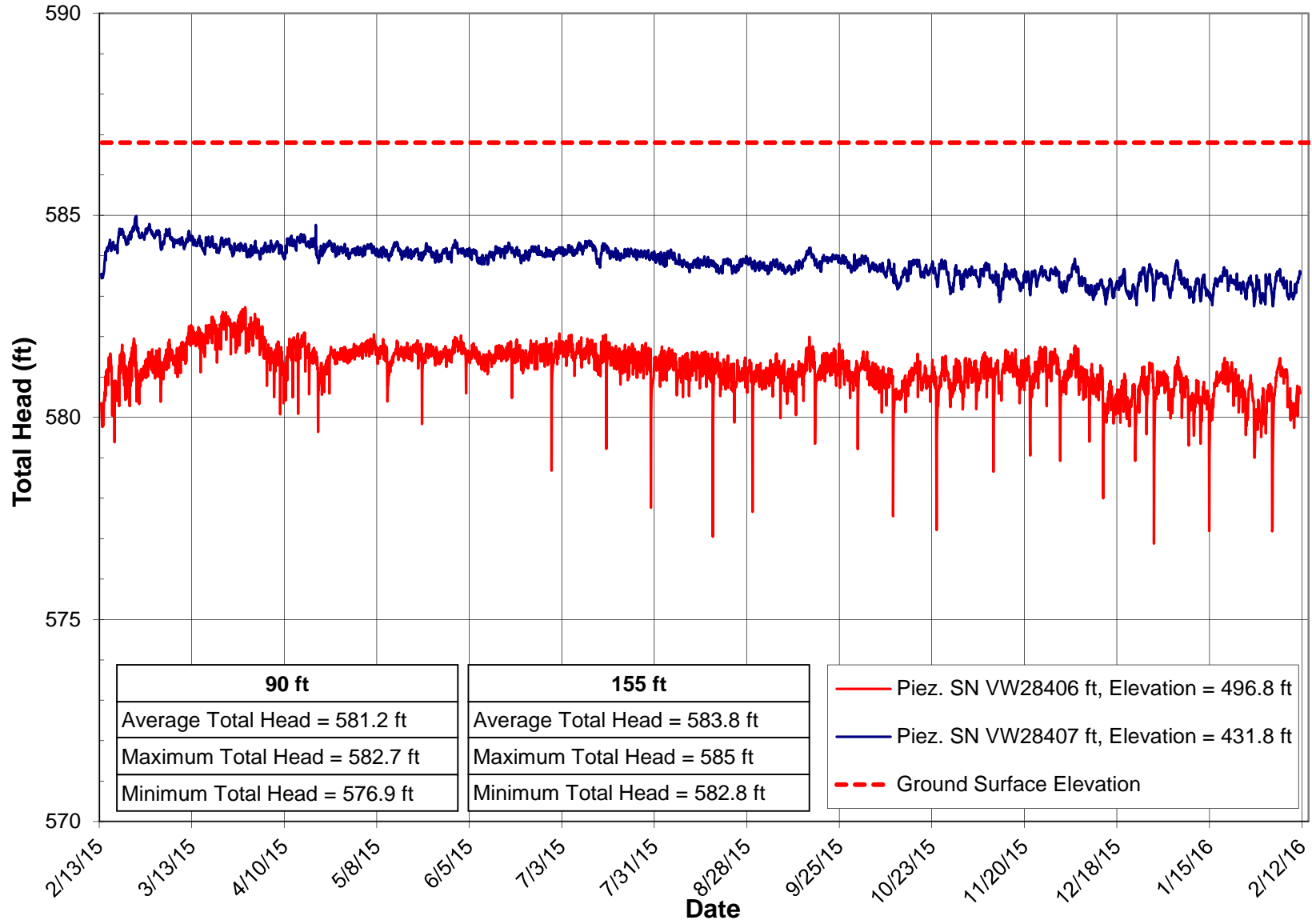
P-004-13 VW Piezometer Readings

Ground surface elevation = 592.13 ft



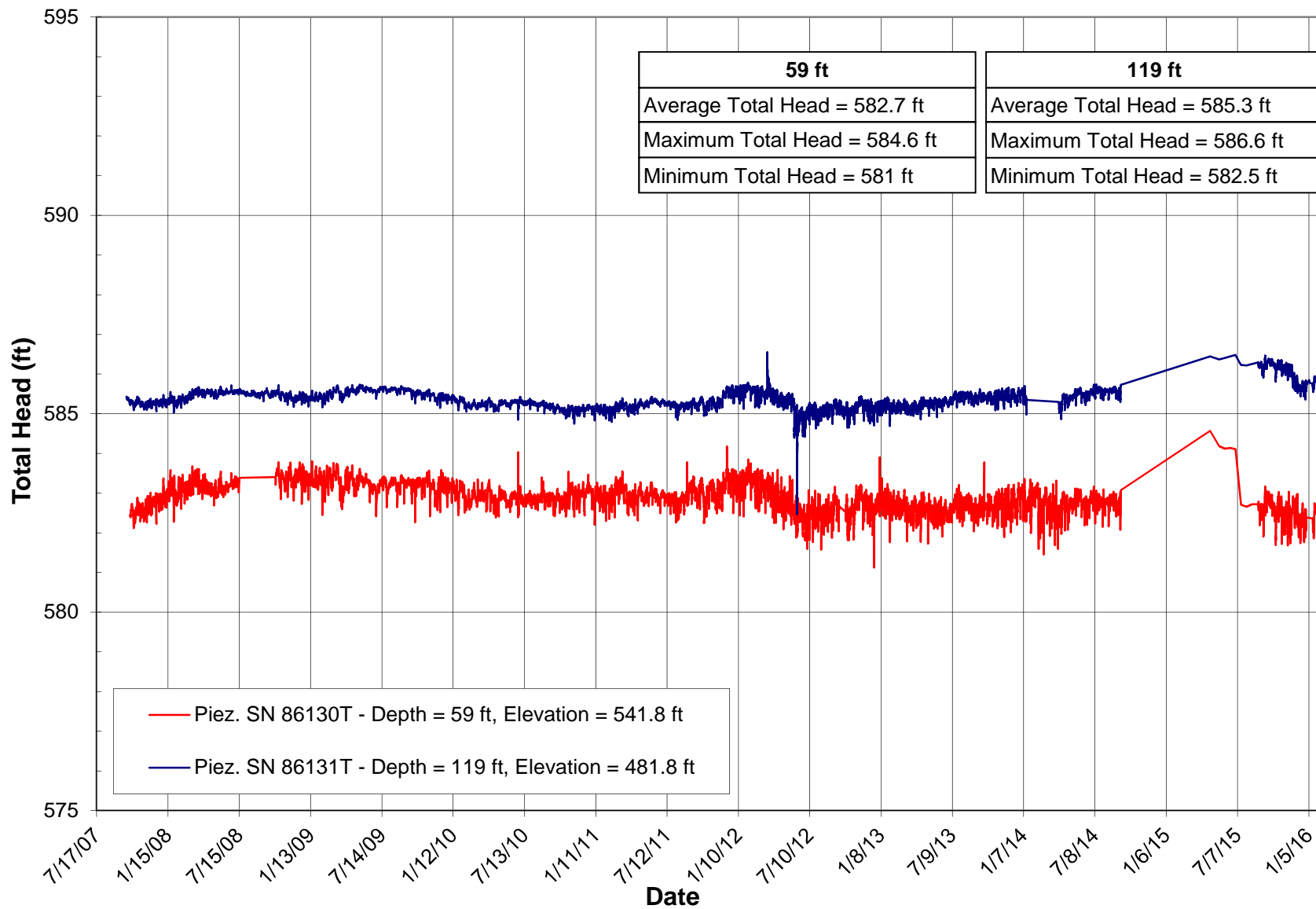
P-009-13 VW Piezometer Readings

Ground surface elevation = 586.6 ft



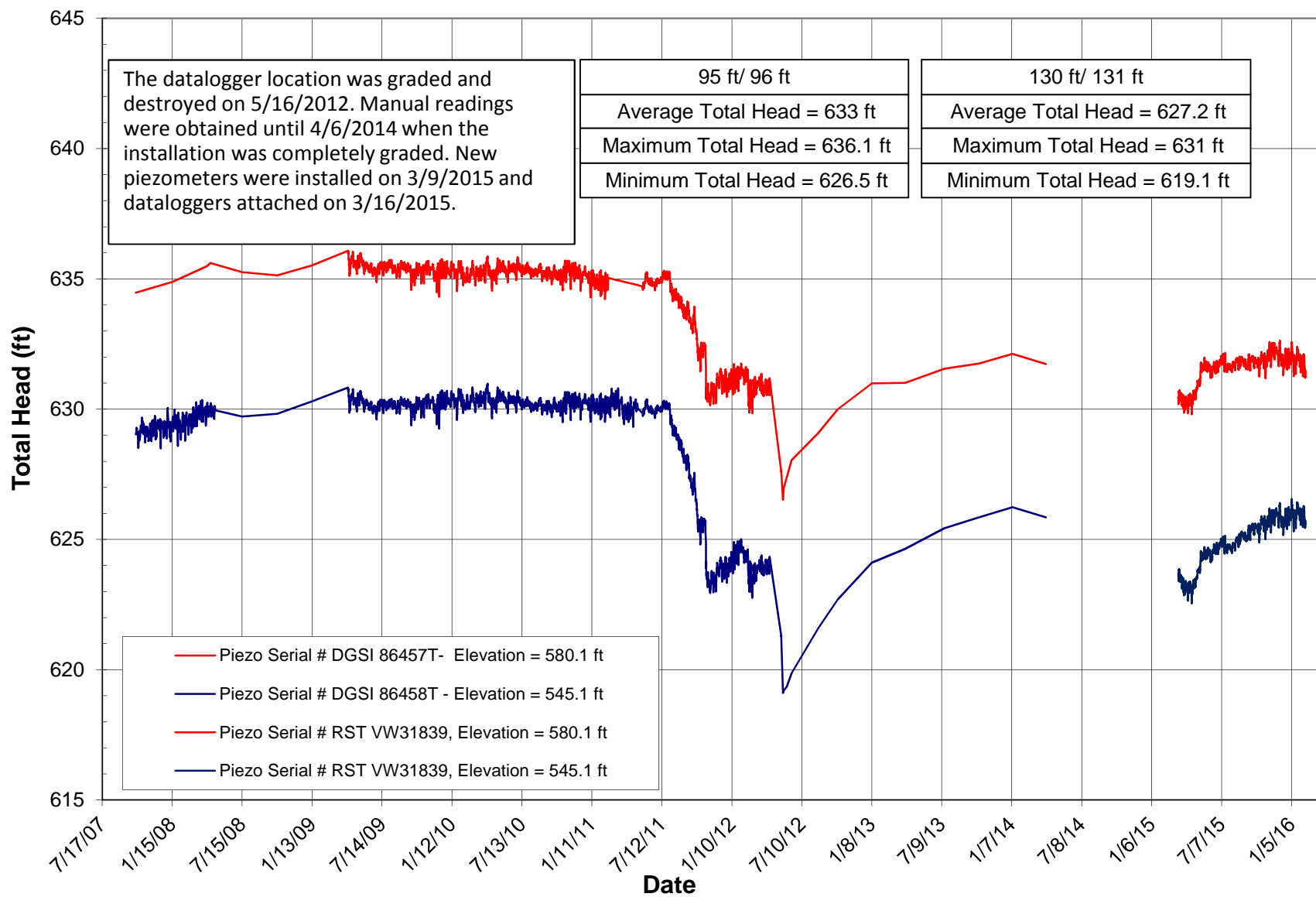
B-05-04 VW Piezometer Readings

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)

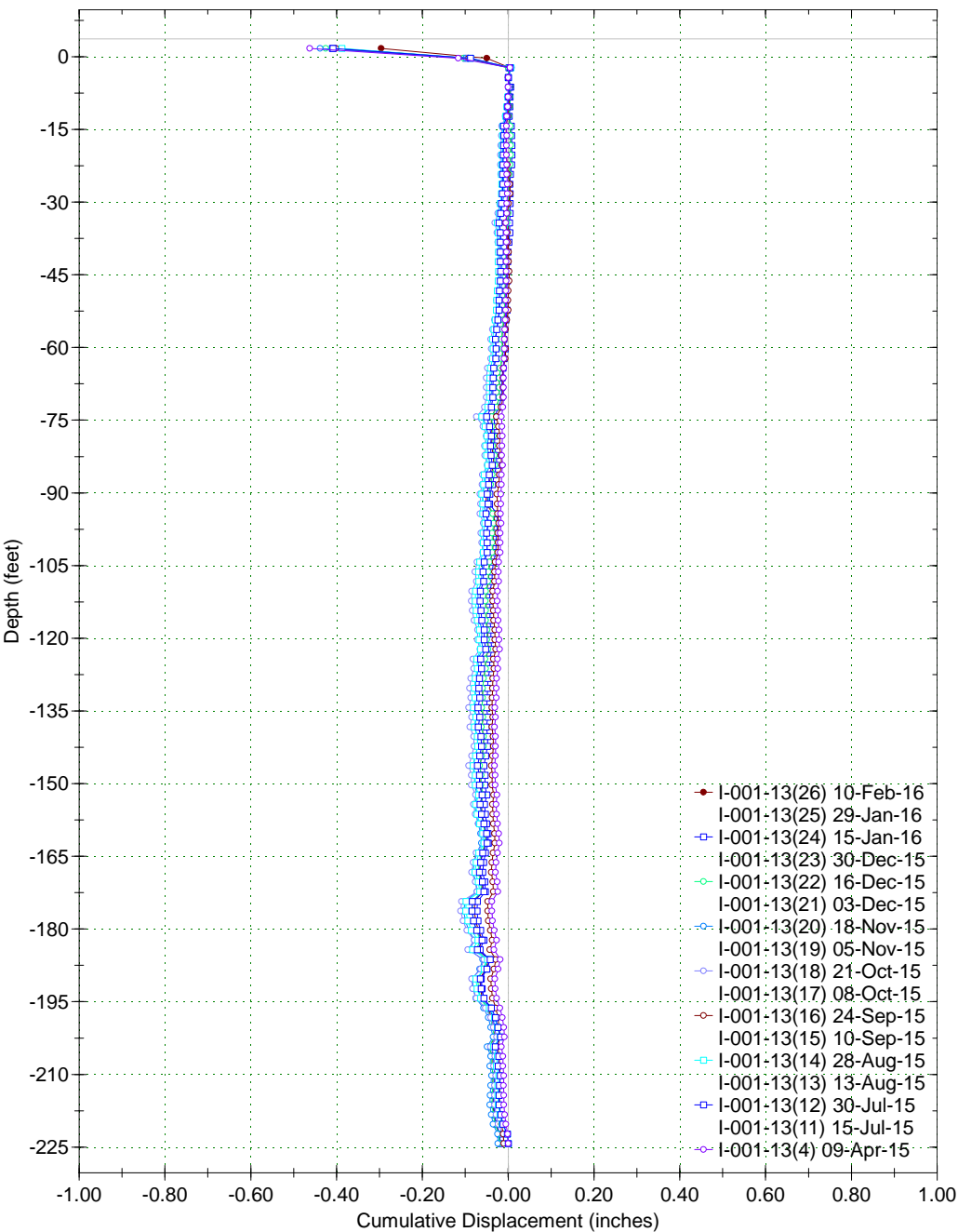


Borehole : I-001-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :

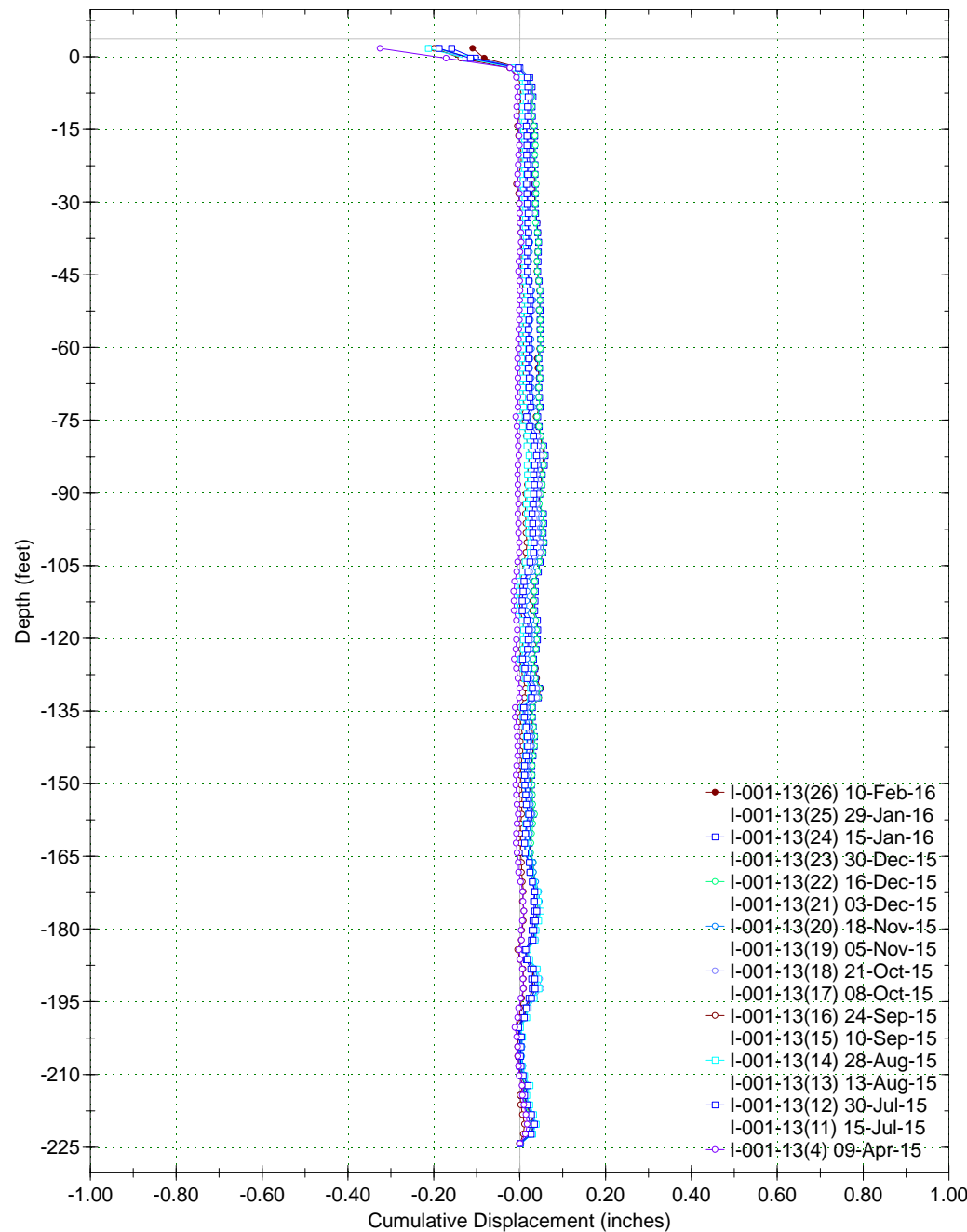


Spiral Correction : N/A
Collar Elevation : 3.7 feet
Borehole Total Depth : 228.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 03 11:14
Applied Azimuth : 0.0 degrees

Axis - A



Axis - B

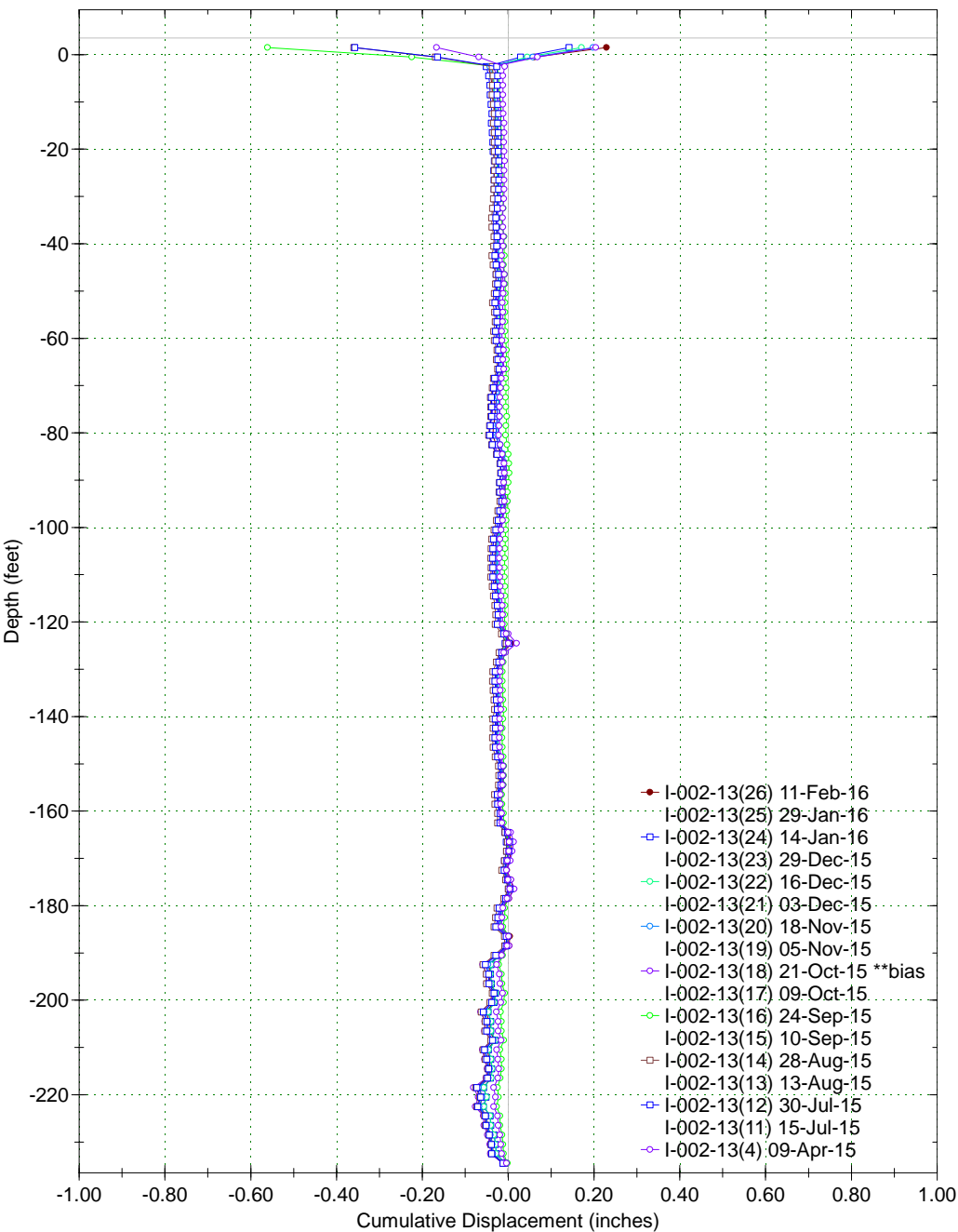


Borehole : I-002-13
Project : CUY-90-15-24
Location : Cleveland, Ohio
Northing :
Easting :
Collar :

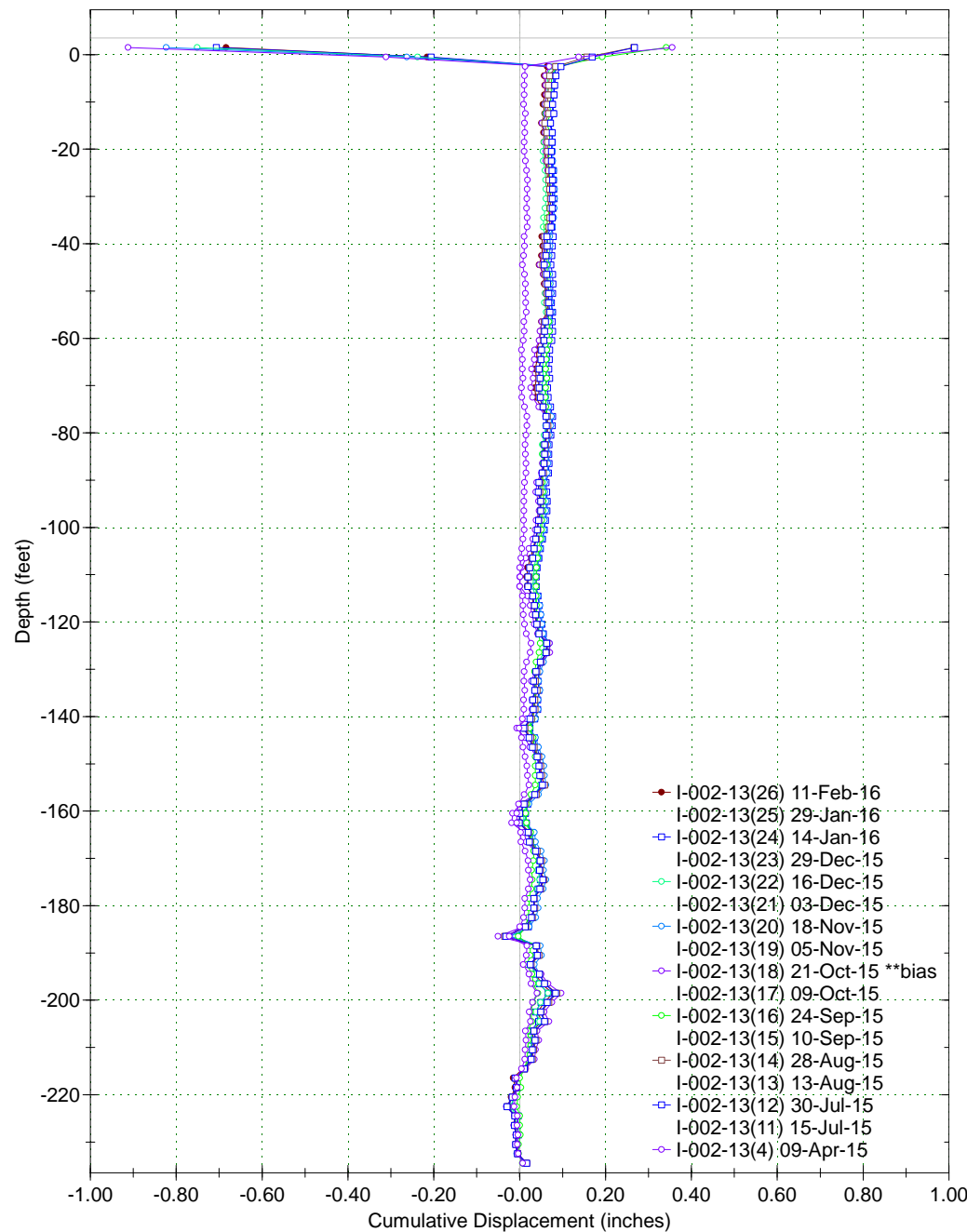


Spiral Correction : N/A
Collar Elevation : 3.5 feet
Borehole Total Depth : 238.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 03 10:04
Applied Azimuth : 0.0 degrees

Axis - A



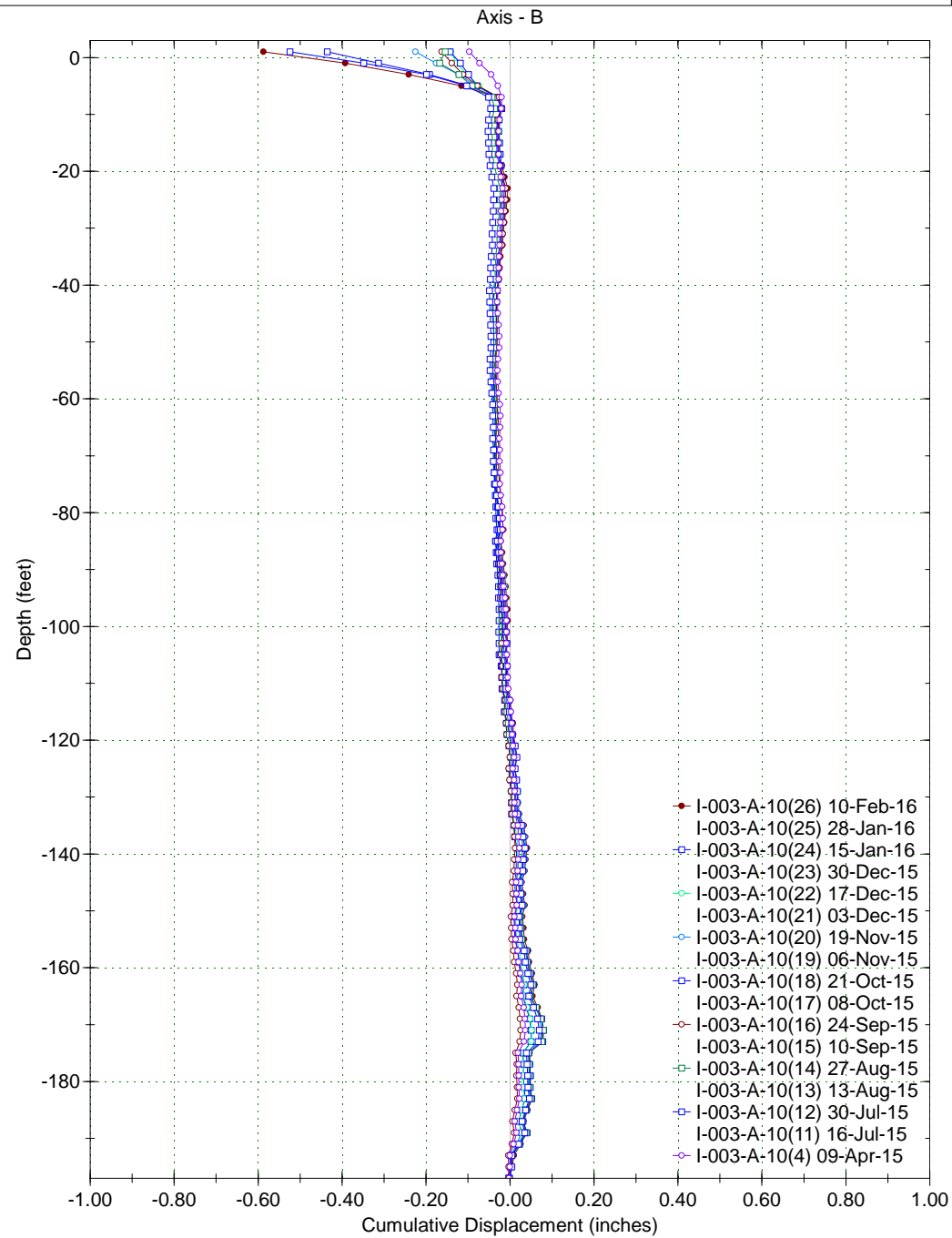
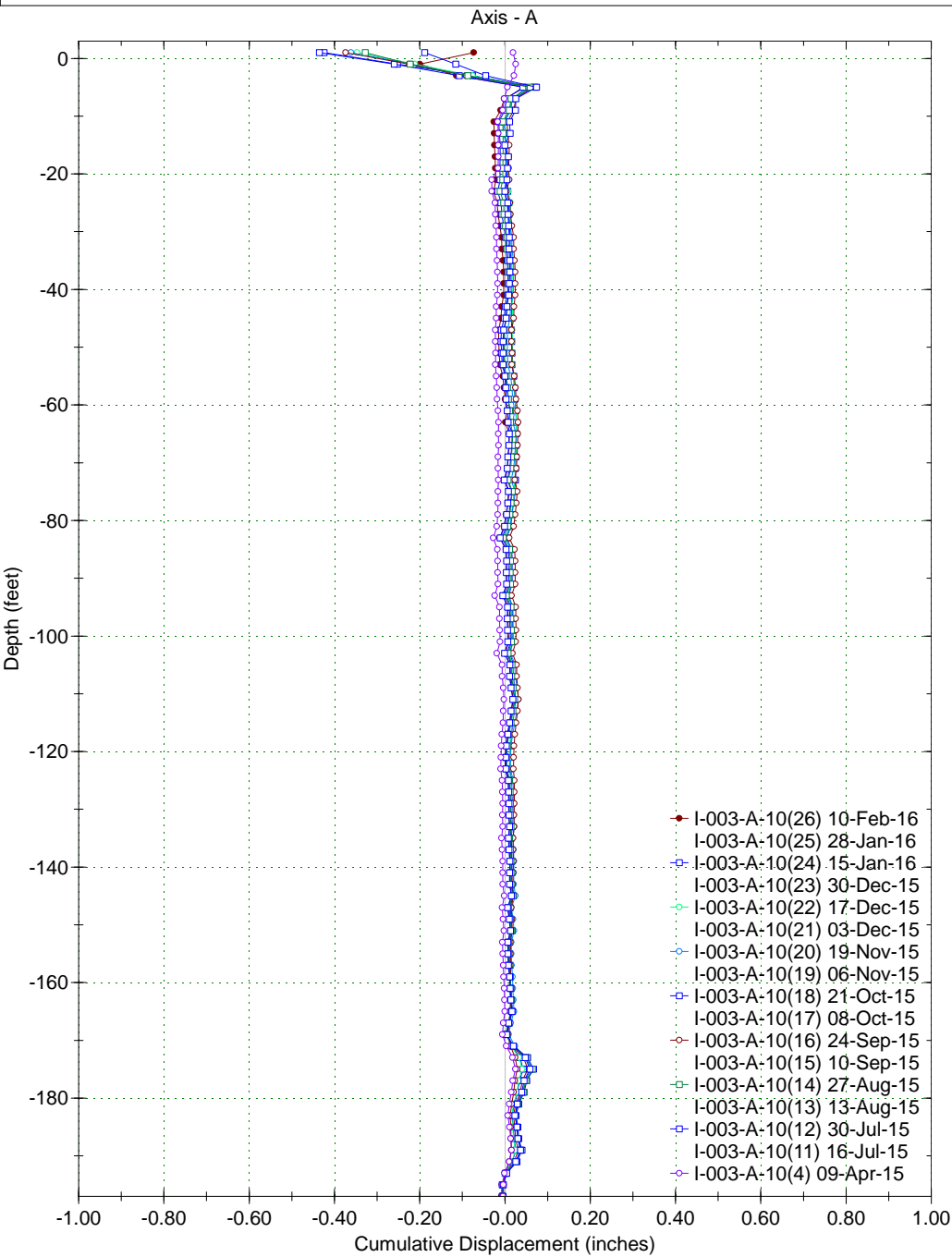
Axis - B



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



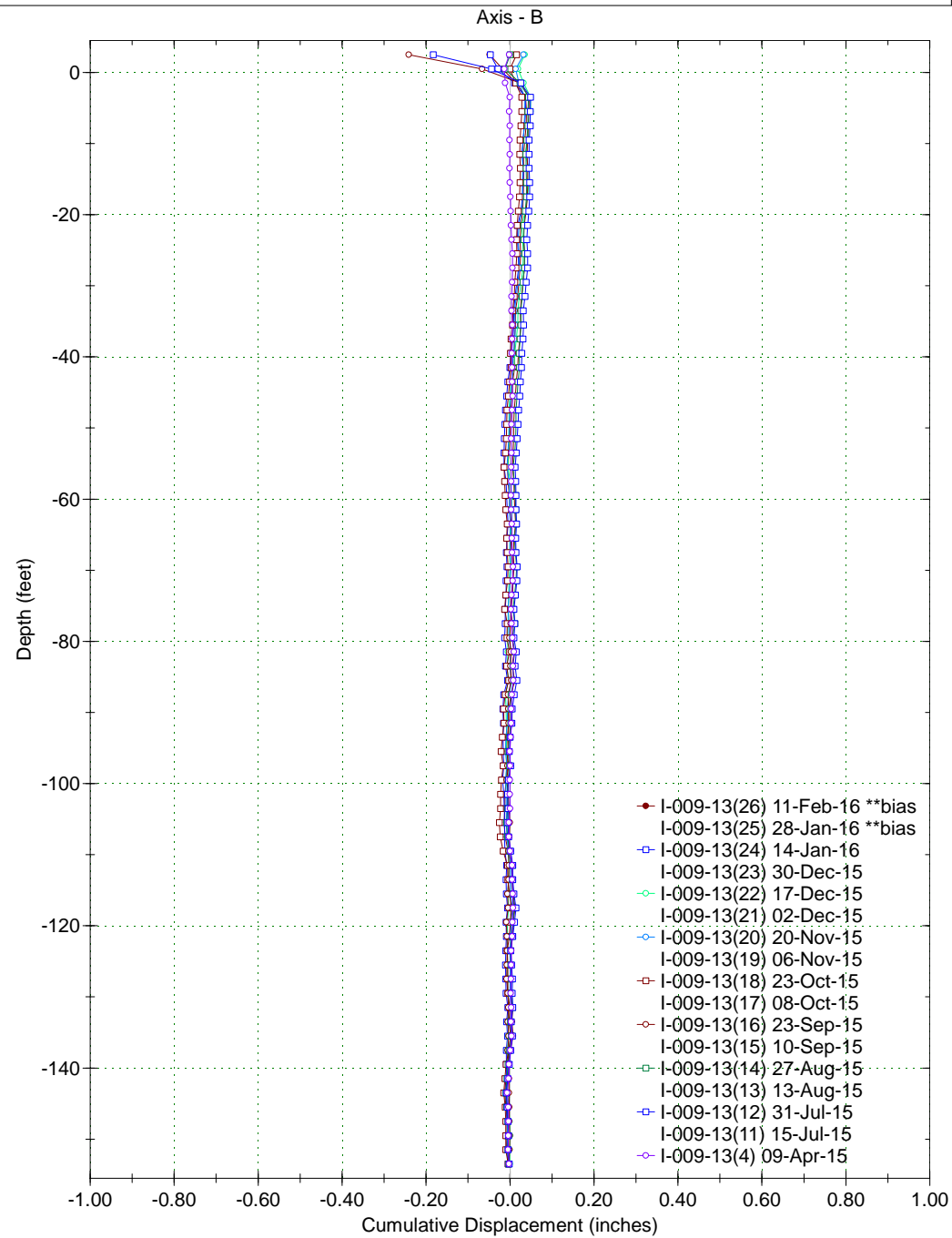
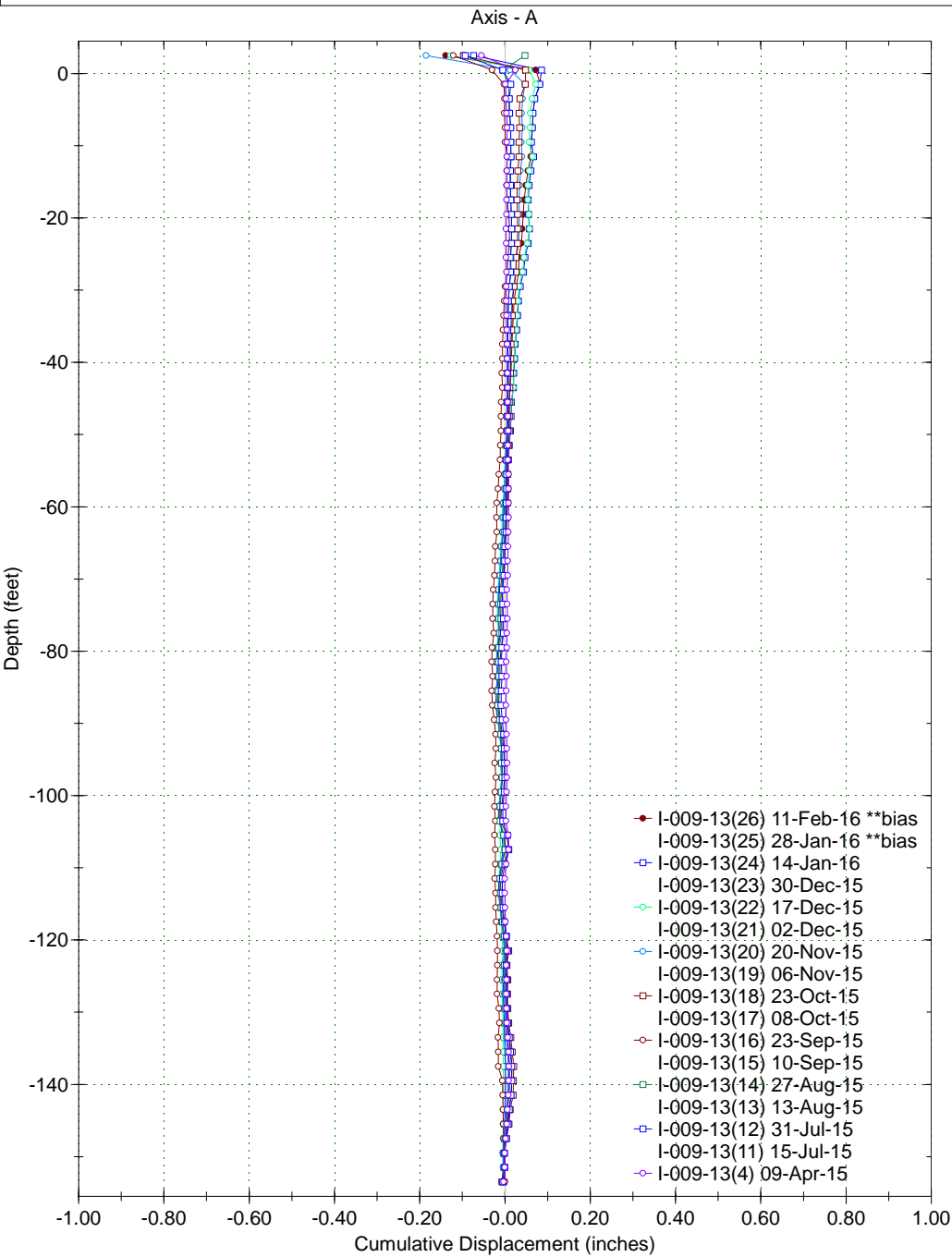
Spiral Correction : N/A
Collar Elevation : 3.0 feet
Borehole Total Depth : 202.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 19 11:00
Applied Azimuth : 0.0 degrees



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



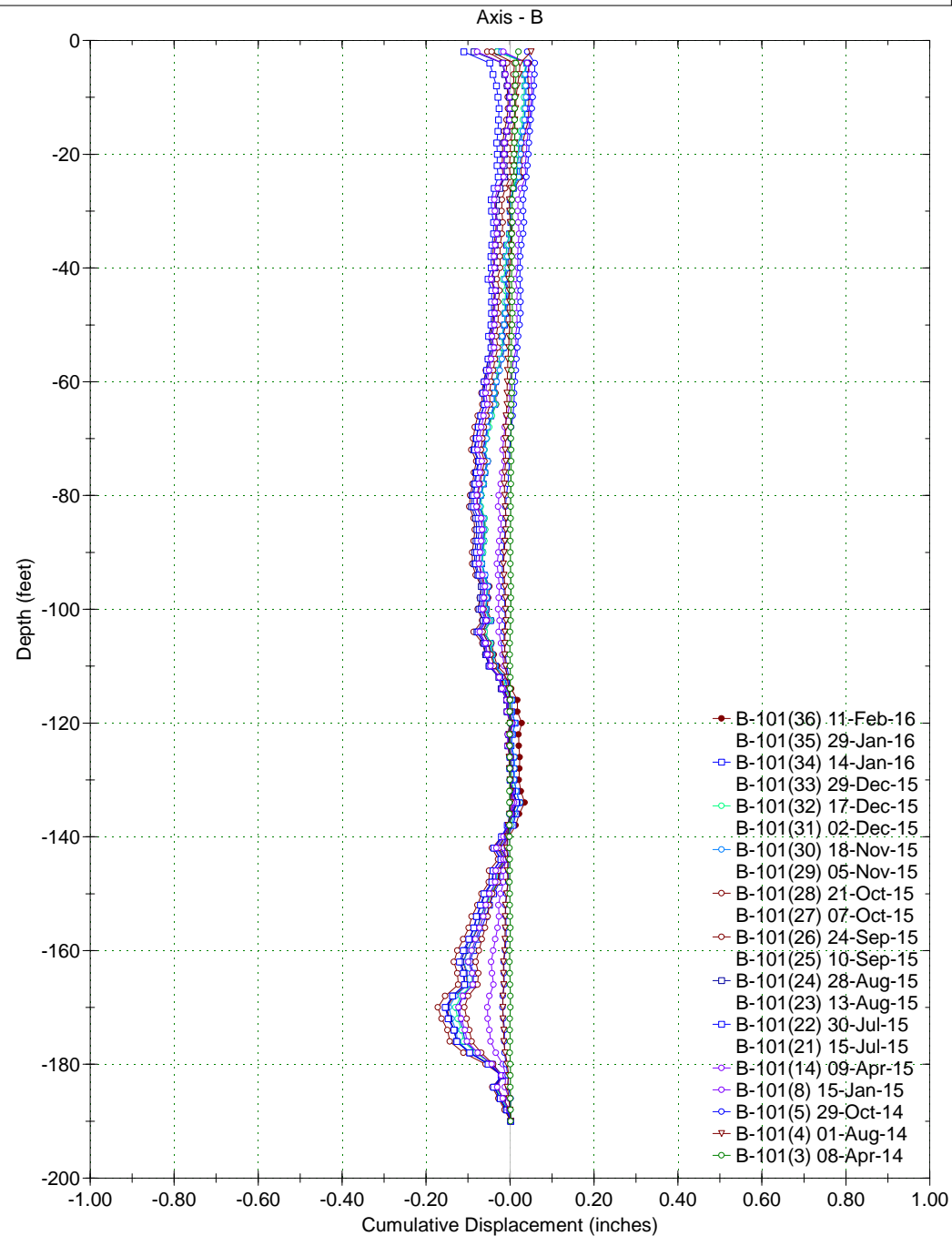
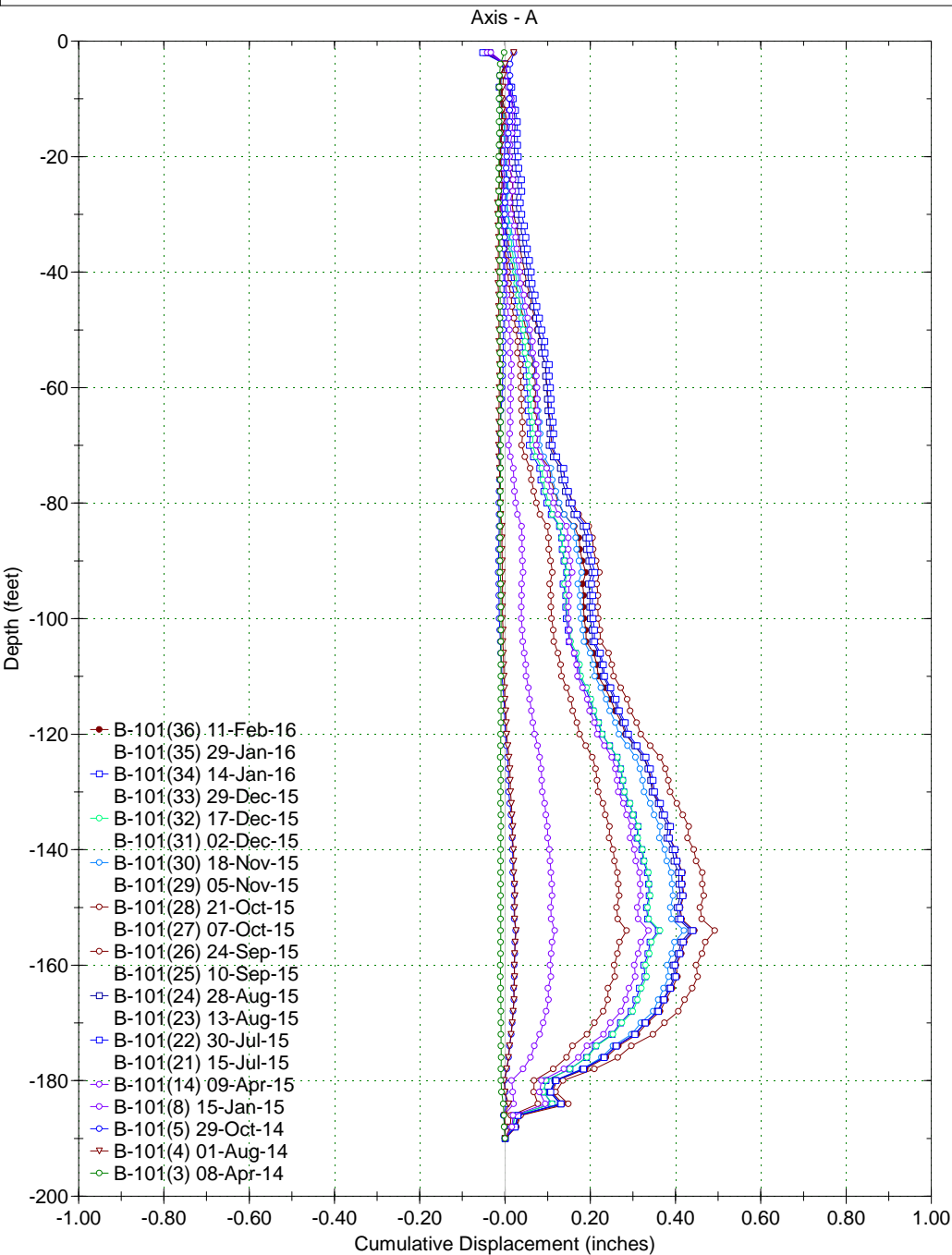
Spiral Correction : N/A
Collar Elevation : 4.5 feet
Borehole Total Depth : 158.0 feet
A+ Groove Azimuth :
Base Reading : 2015 Mar 18 15:56
Applied Azimuth : 0.0 degrees



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



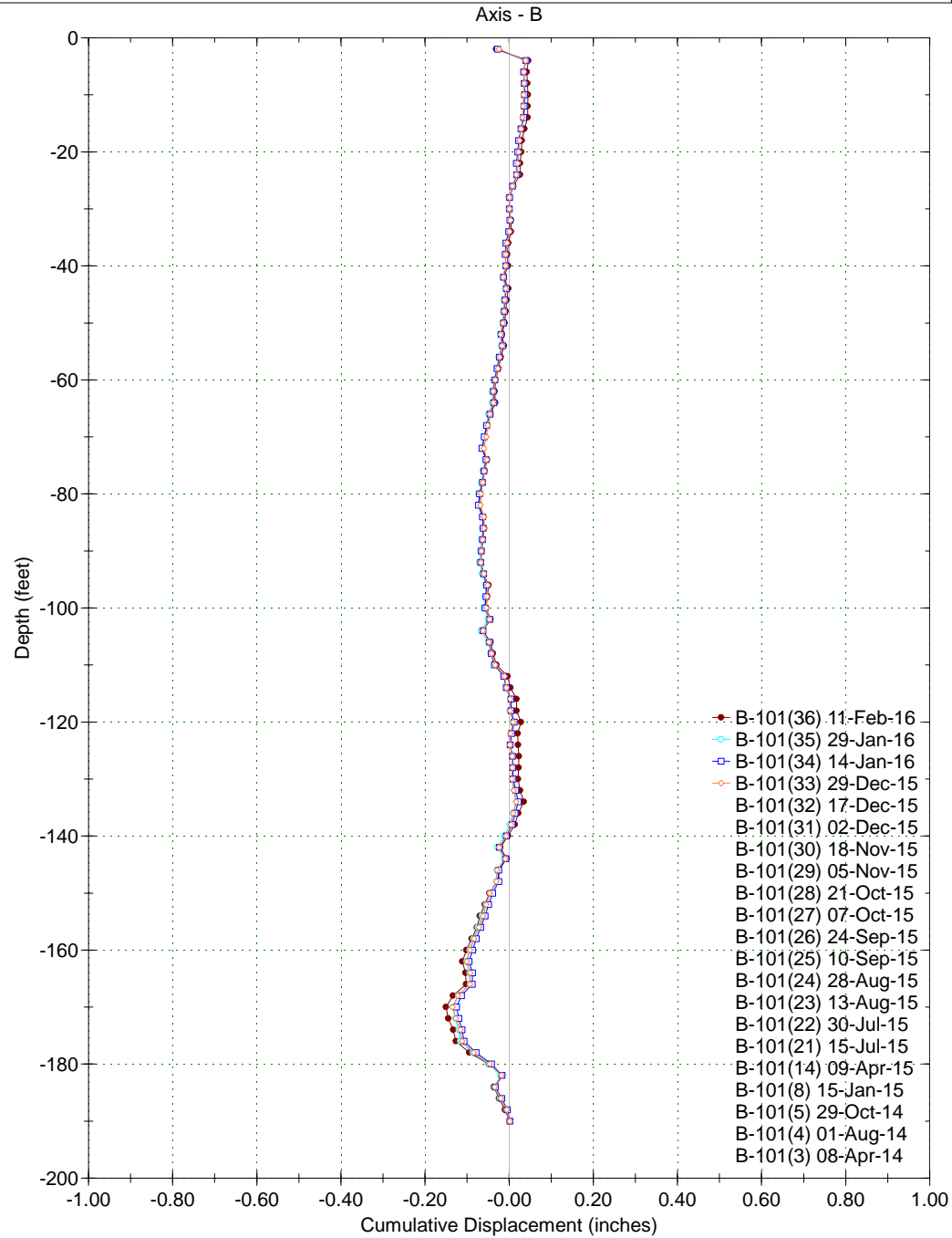
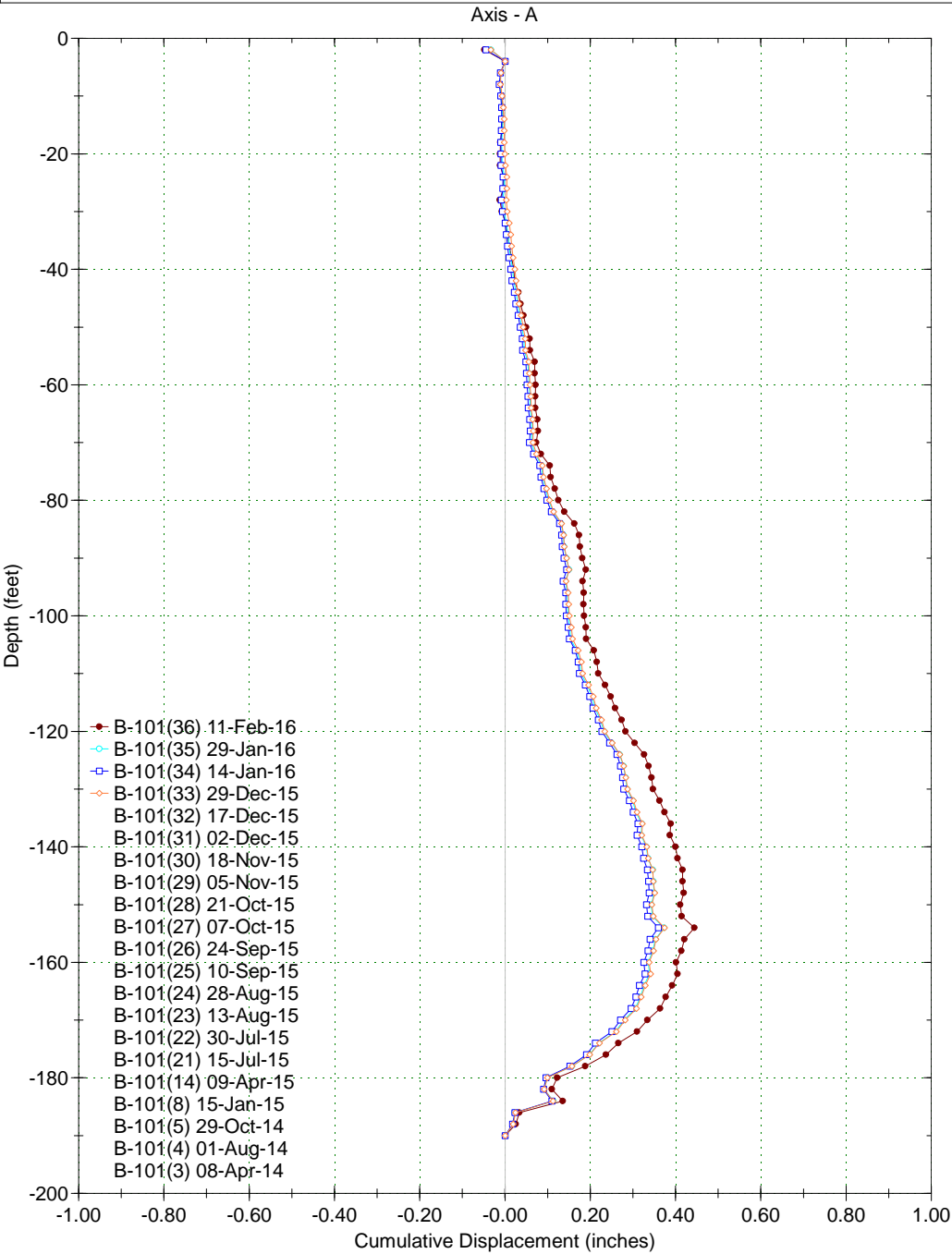
Spiral Correction : N/A
 Collar Elevation : 0.0 feet
 Borehole Total Depth : 190.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 22 09:01
 Applied Azimuth : 0.0 degrees



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



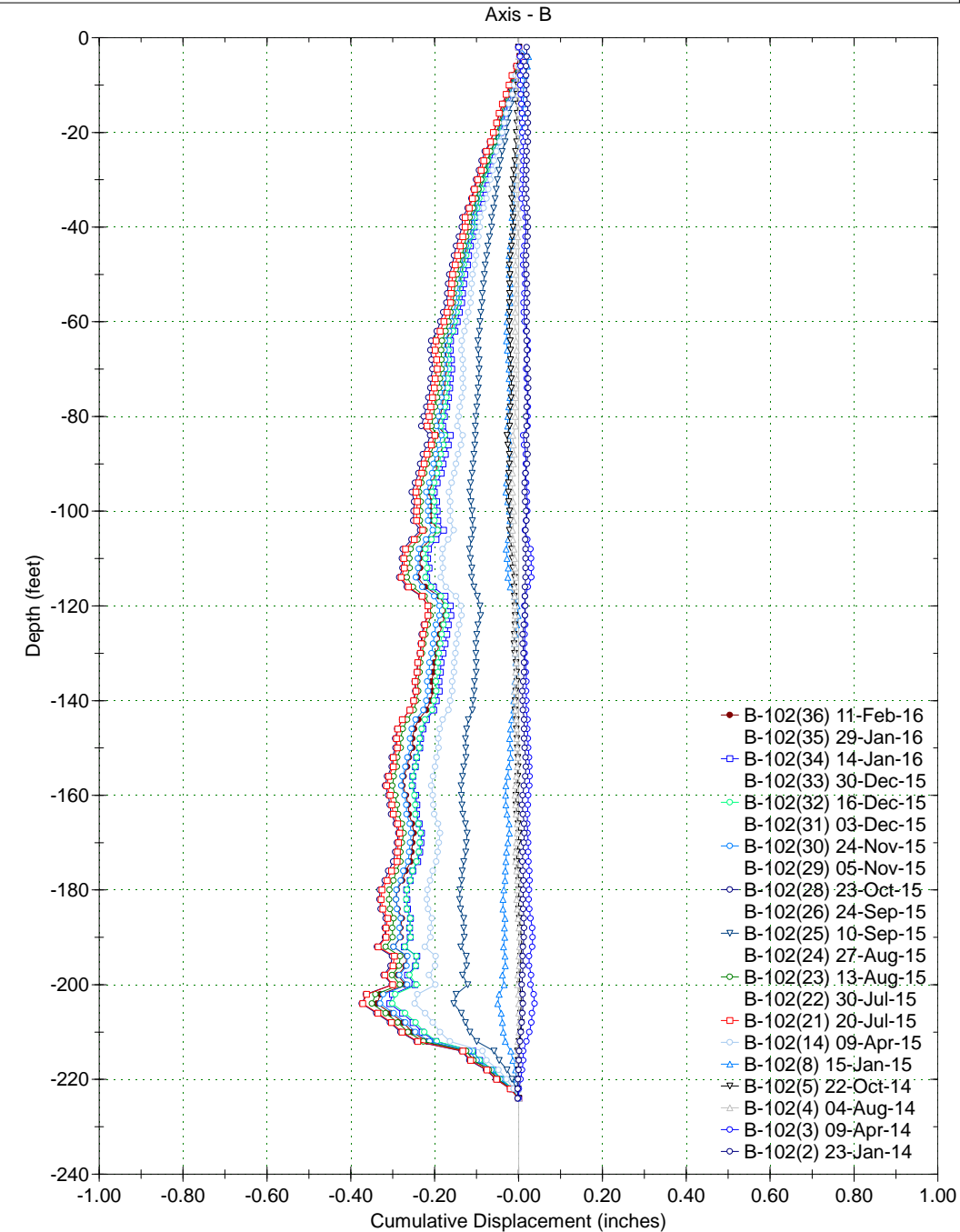
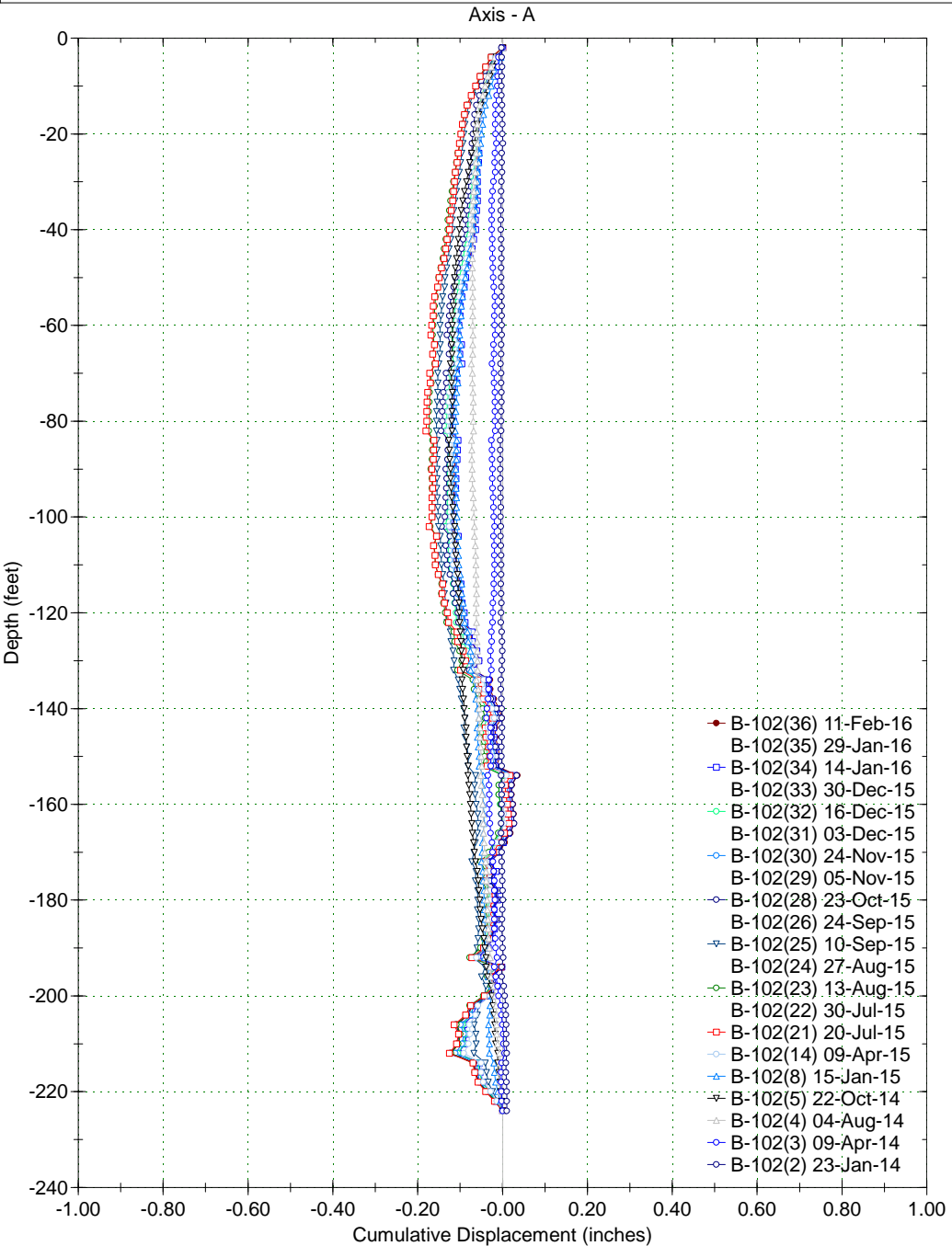
Spiral Correction : N/A
 Collar Elevation : 0.0 feet
 Borehole Total Depth : 190.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 22 09:01
 Applied Azimuth : 0.0 degrees



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



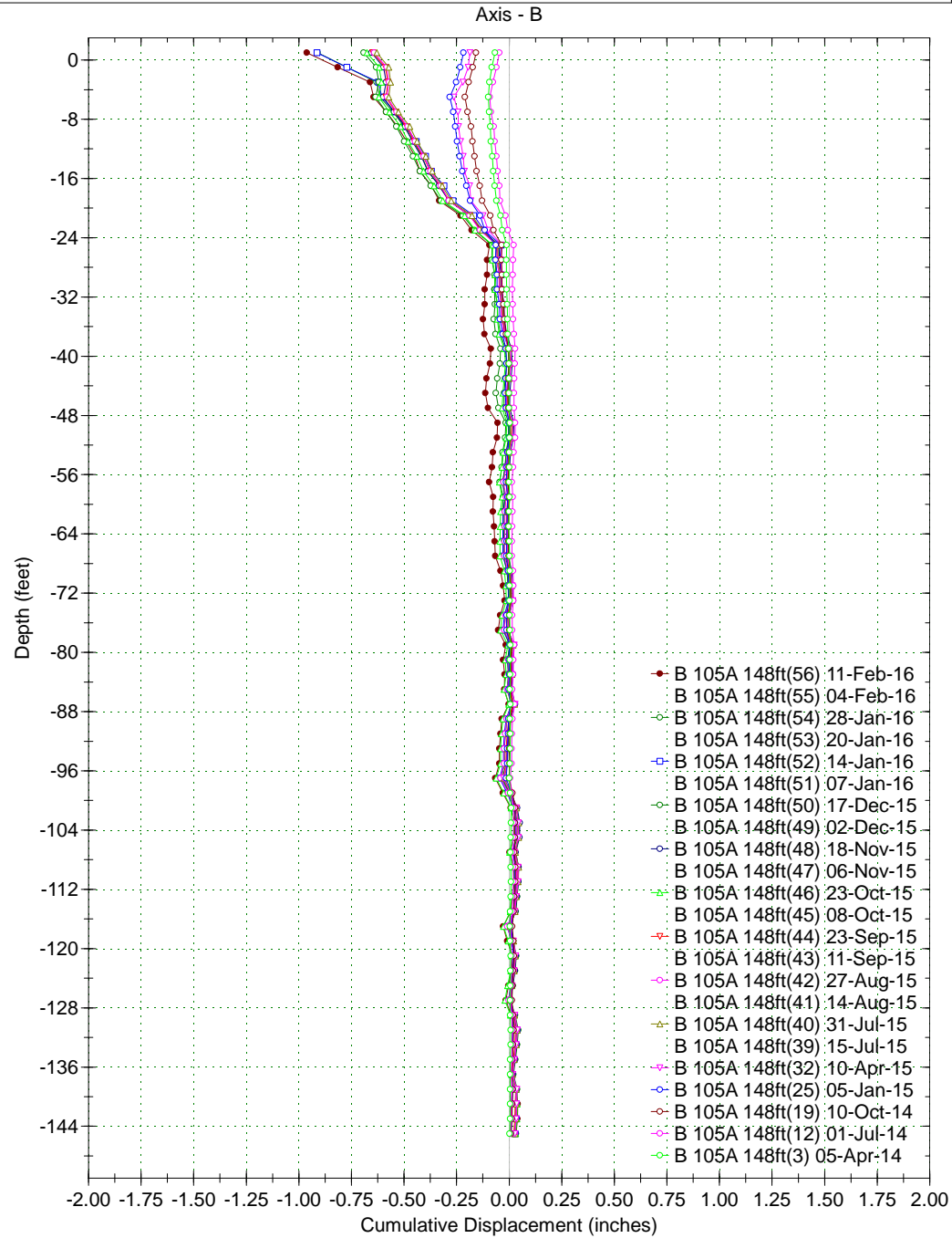
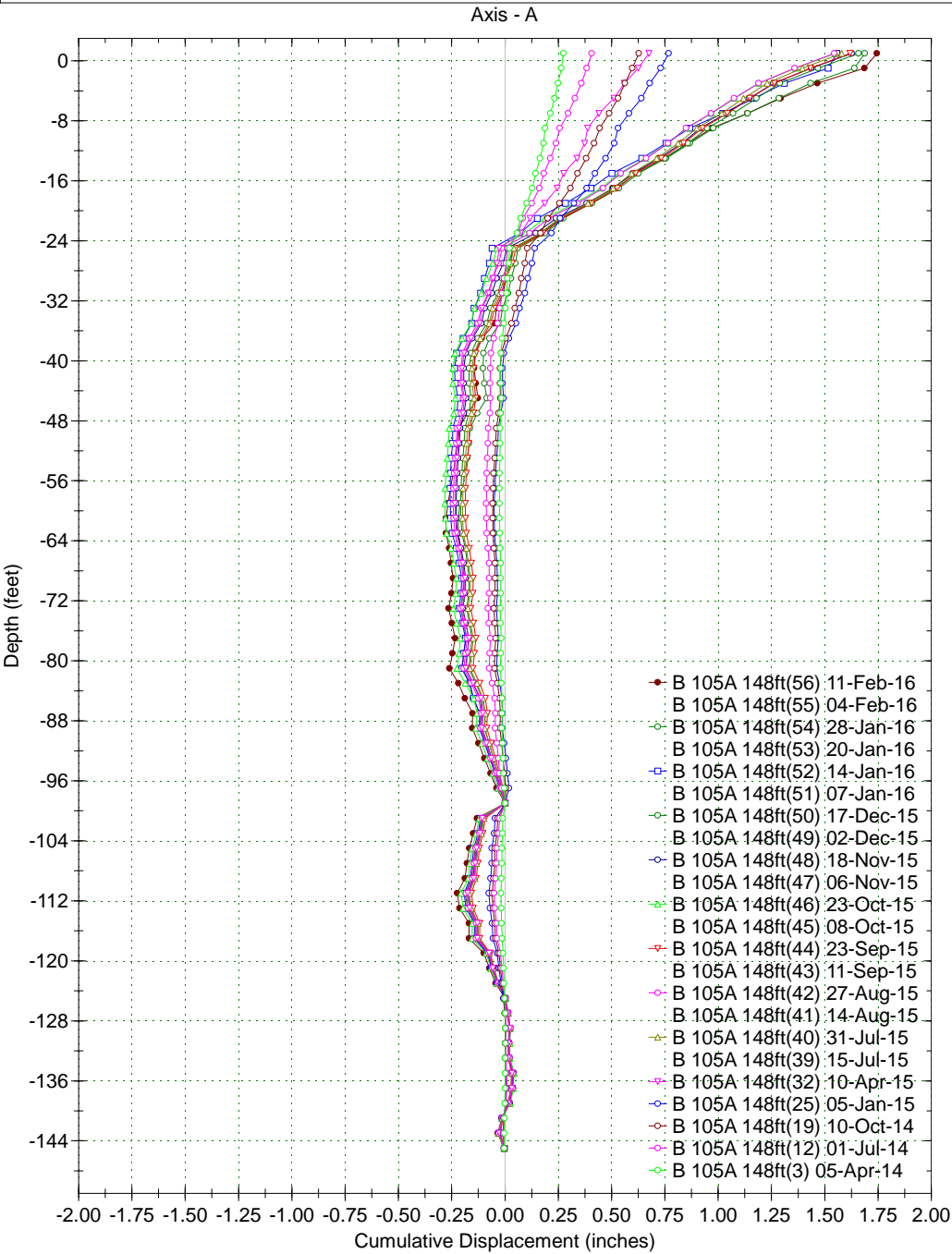
Spiral Correction : N/A
 Collar Elevation : 0.0 feet
 Borehole Total Depth : 224.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 23 08:21
 Applied Azimuth : 0.0 degrees



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



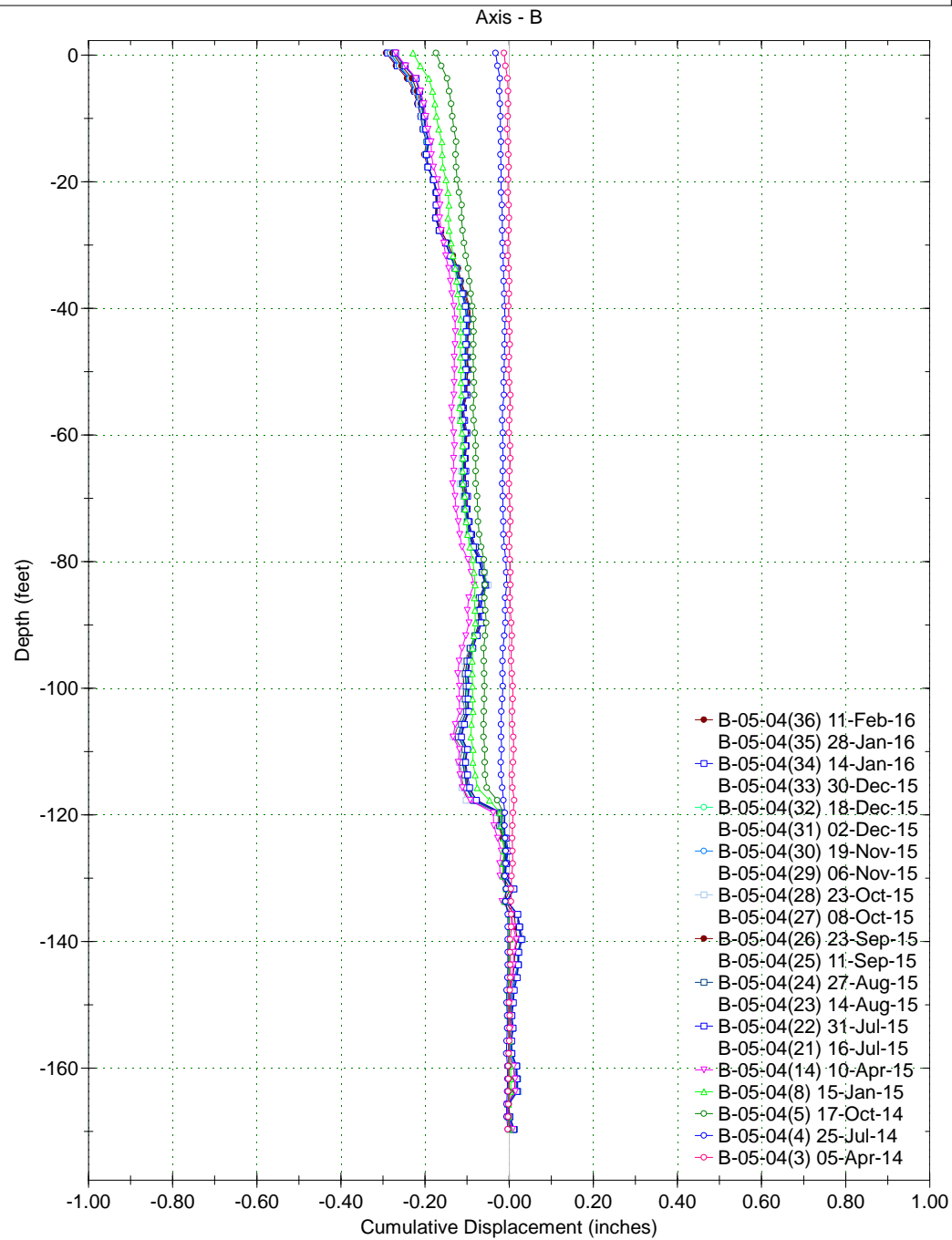
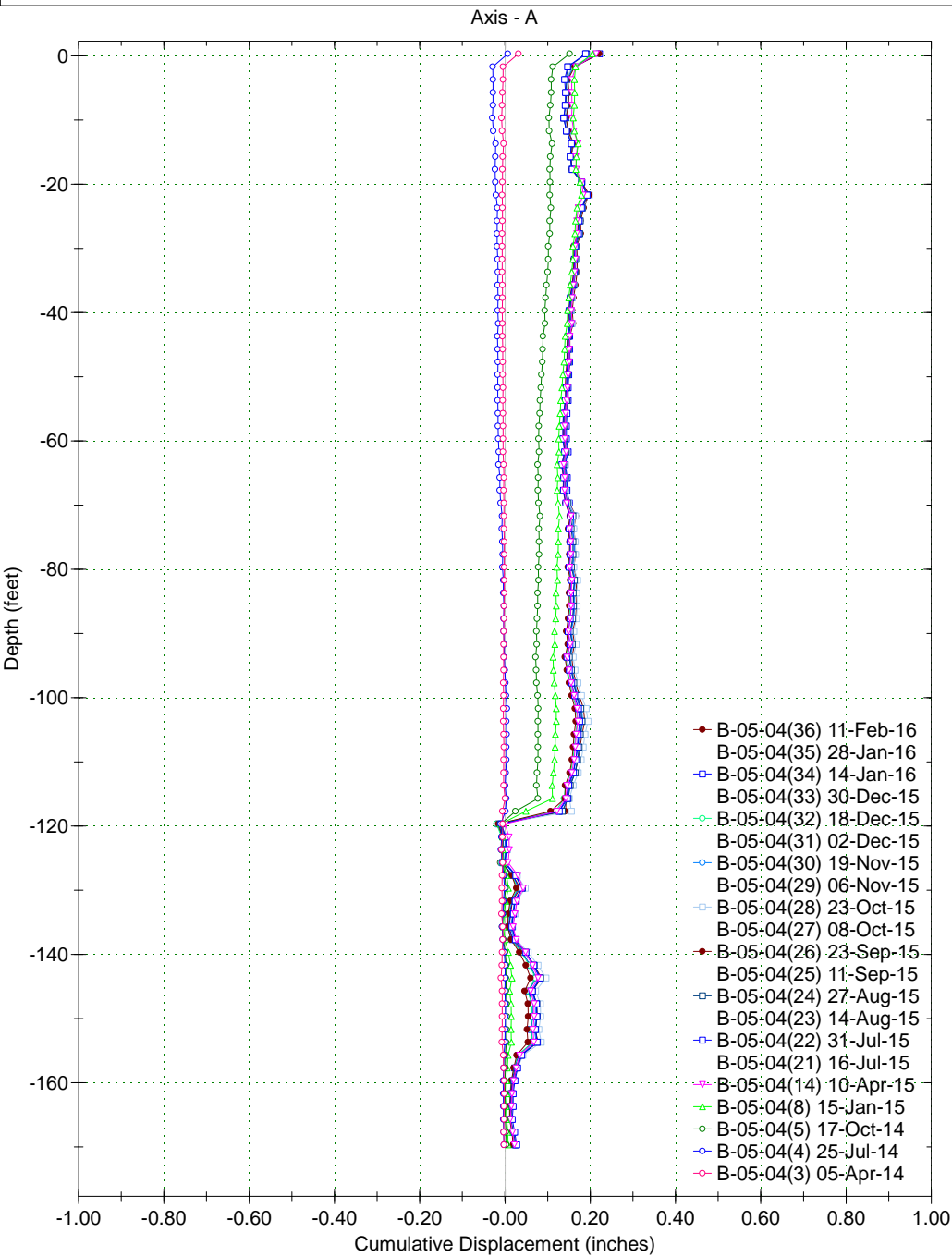
Spiral Correction : N/A
 Collar Elevation : 3.0 feet
 Borehole Total Depth : 148.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 15 09:19
 Applied Azimuth : 0.0 degrees



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

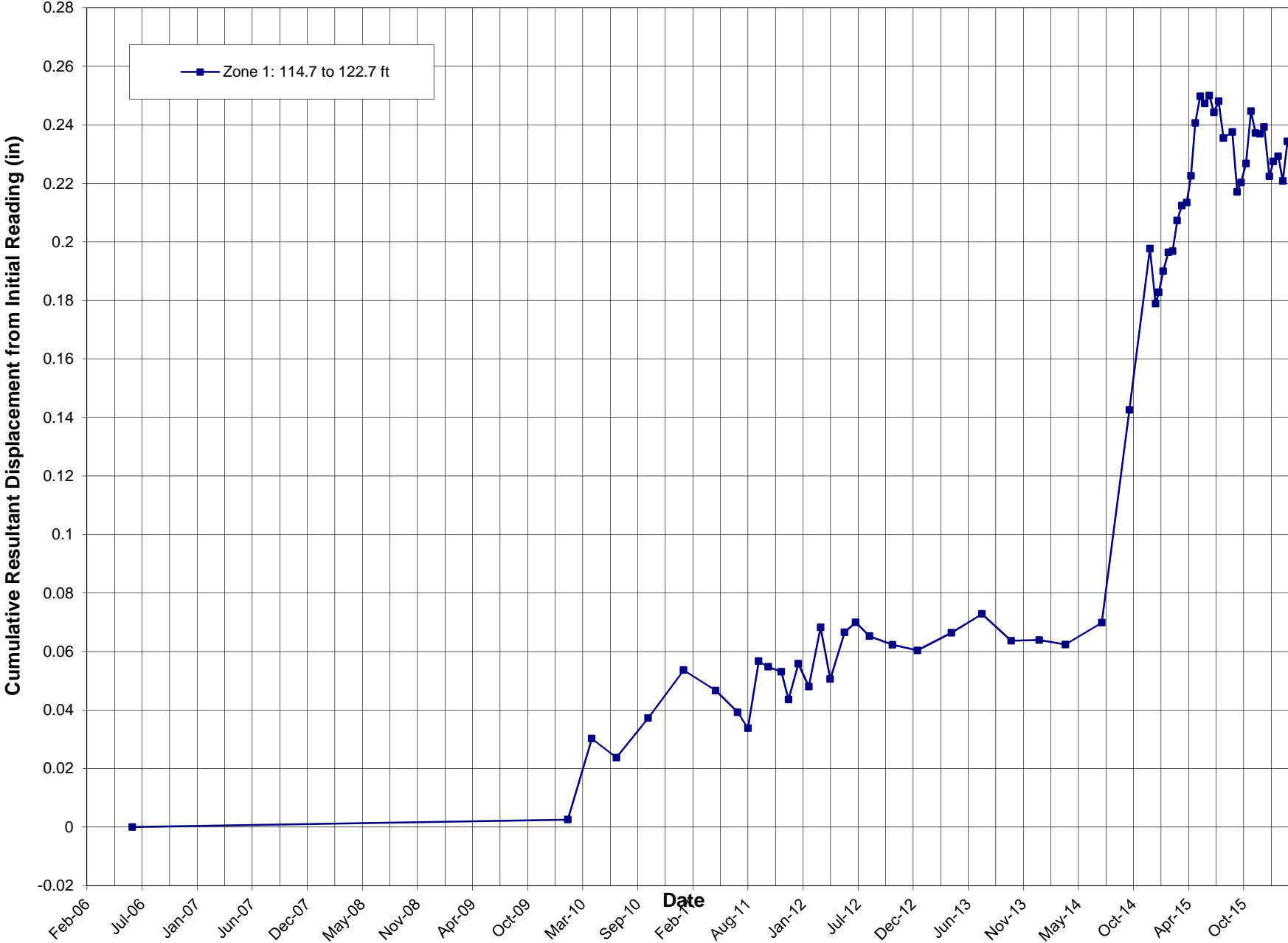


Spiral Correction : N/A
Collar Elevation : 2.3 feet
Borehole Total Depth : 172.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 12:30
Applied Azimuth : 0.0 degrees



CUY-90-15.24
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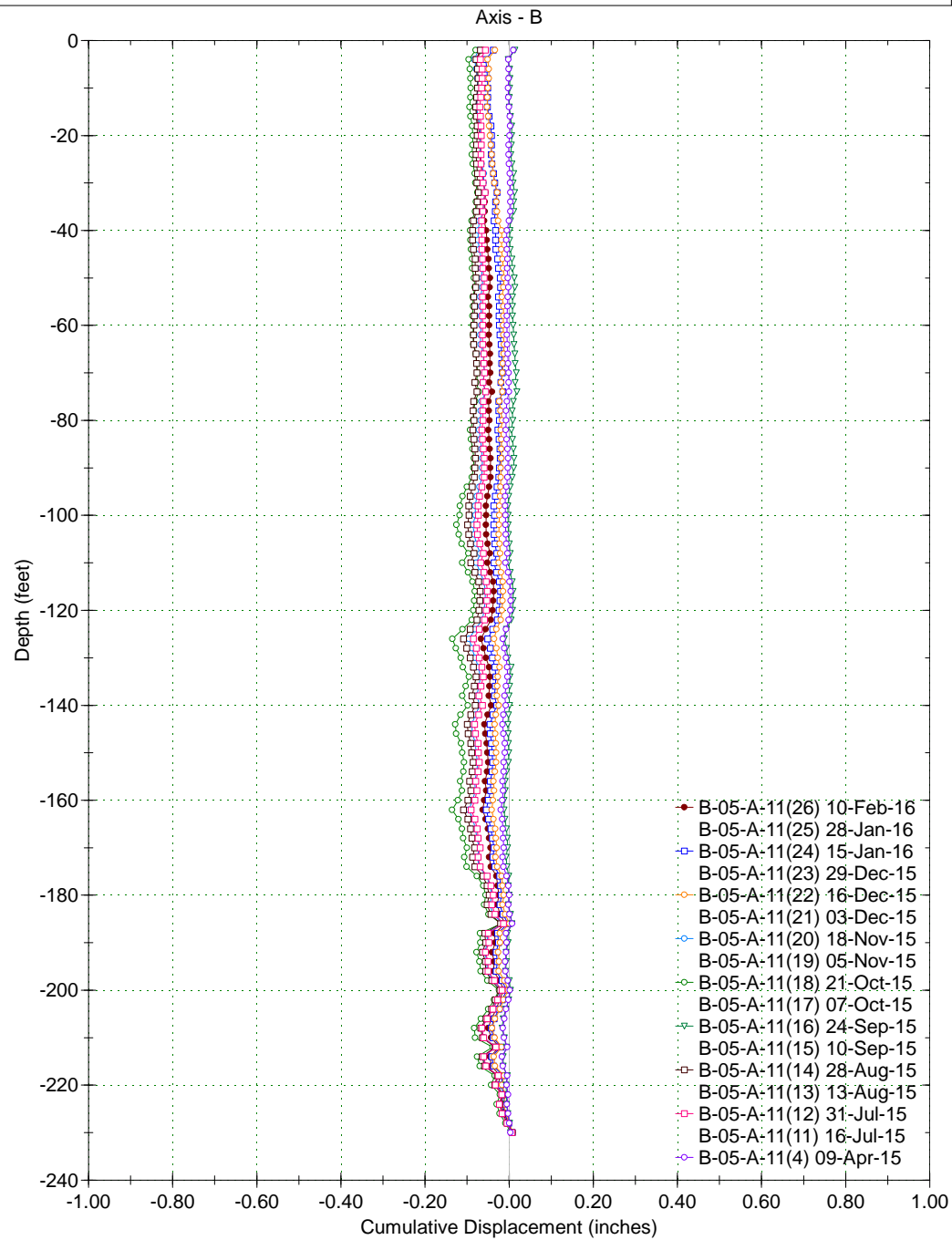
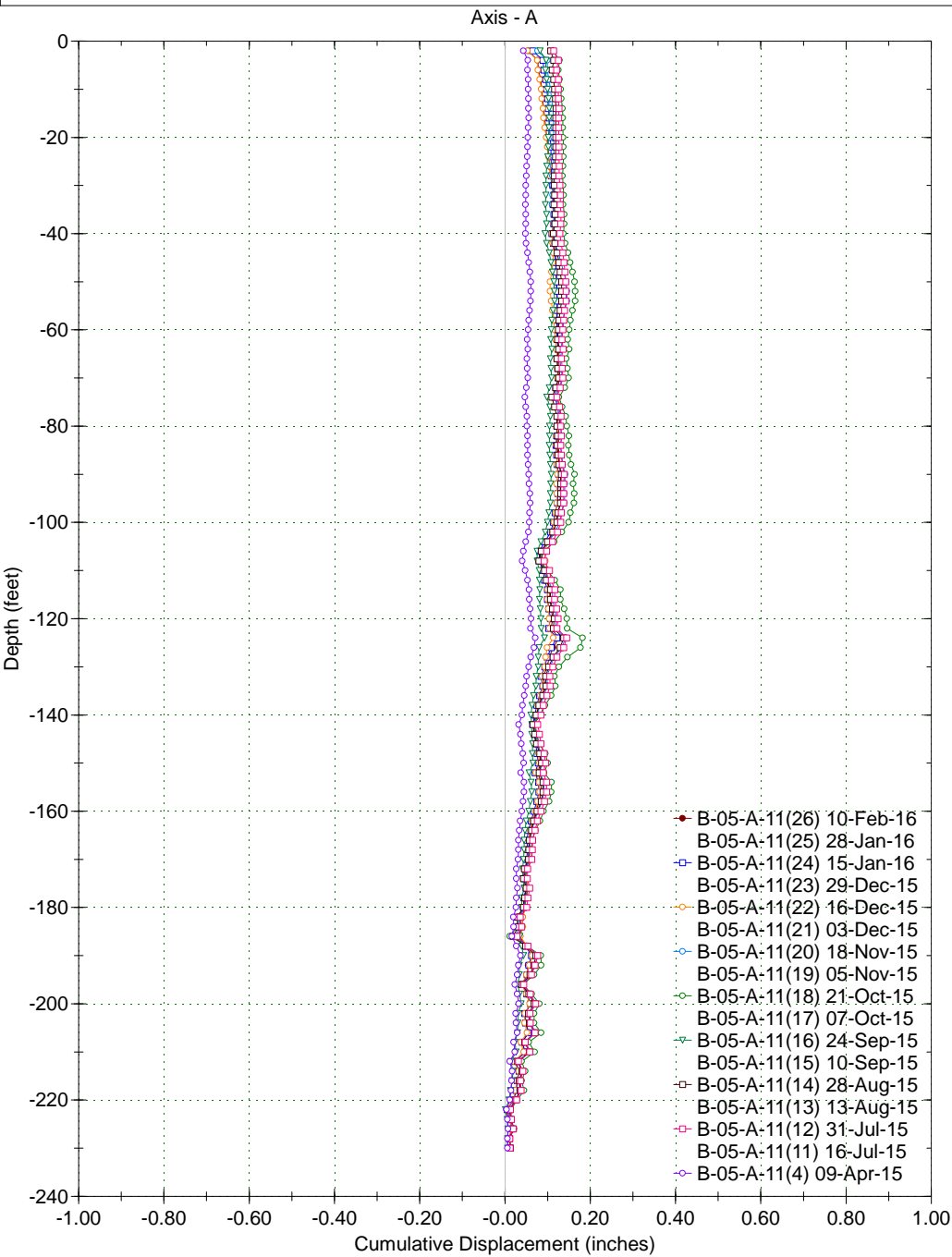
B-05-04



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



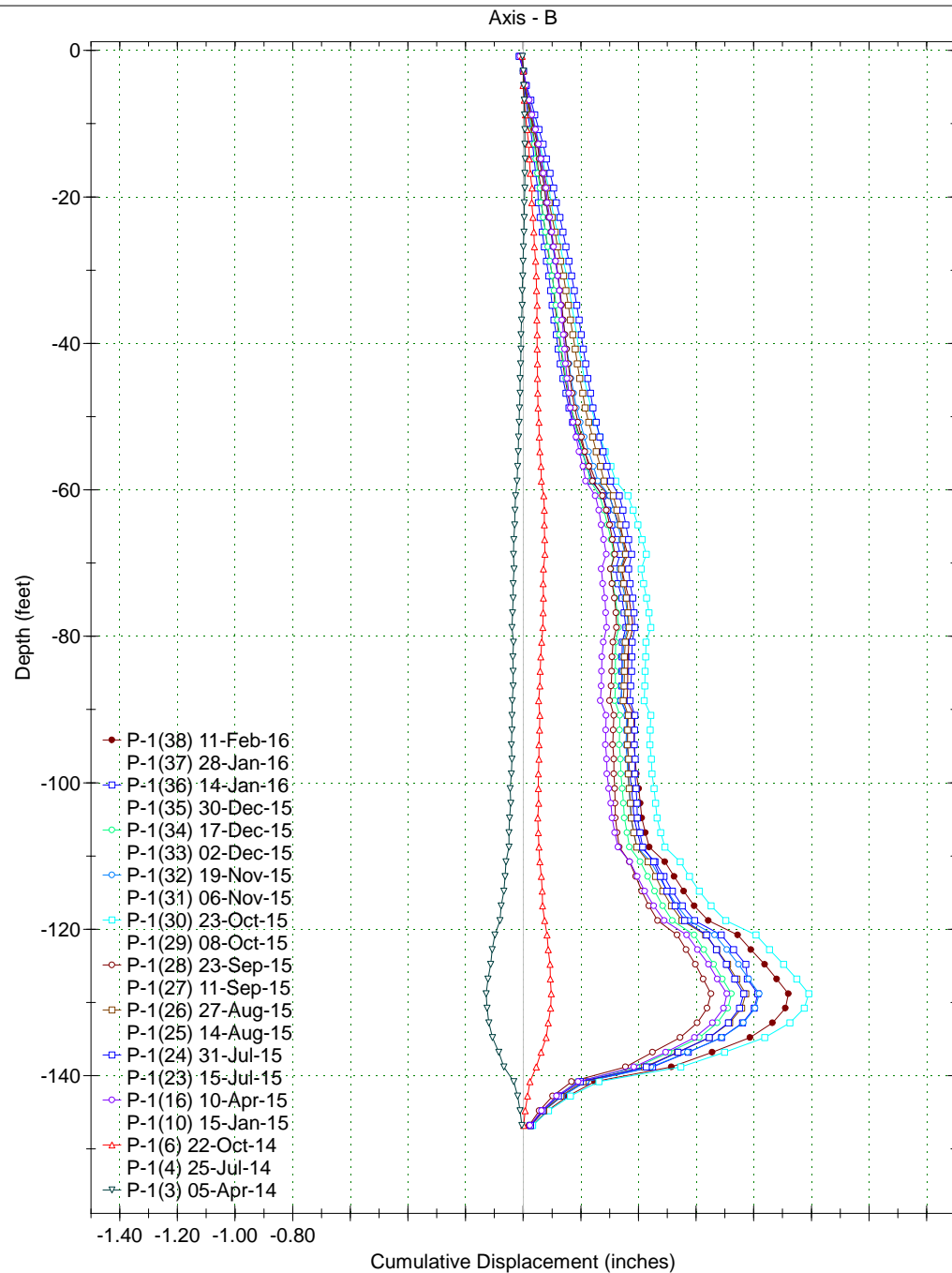
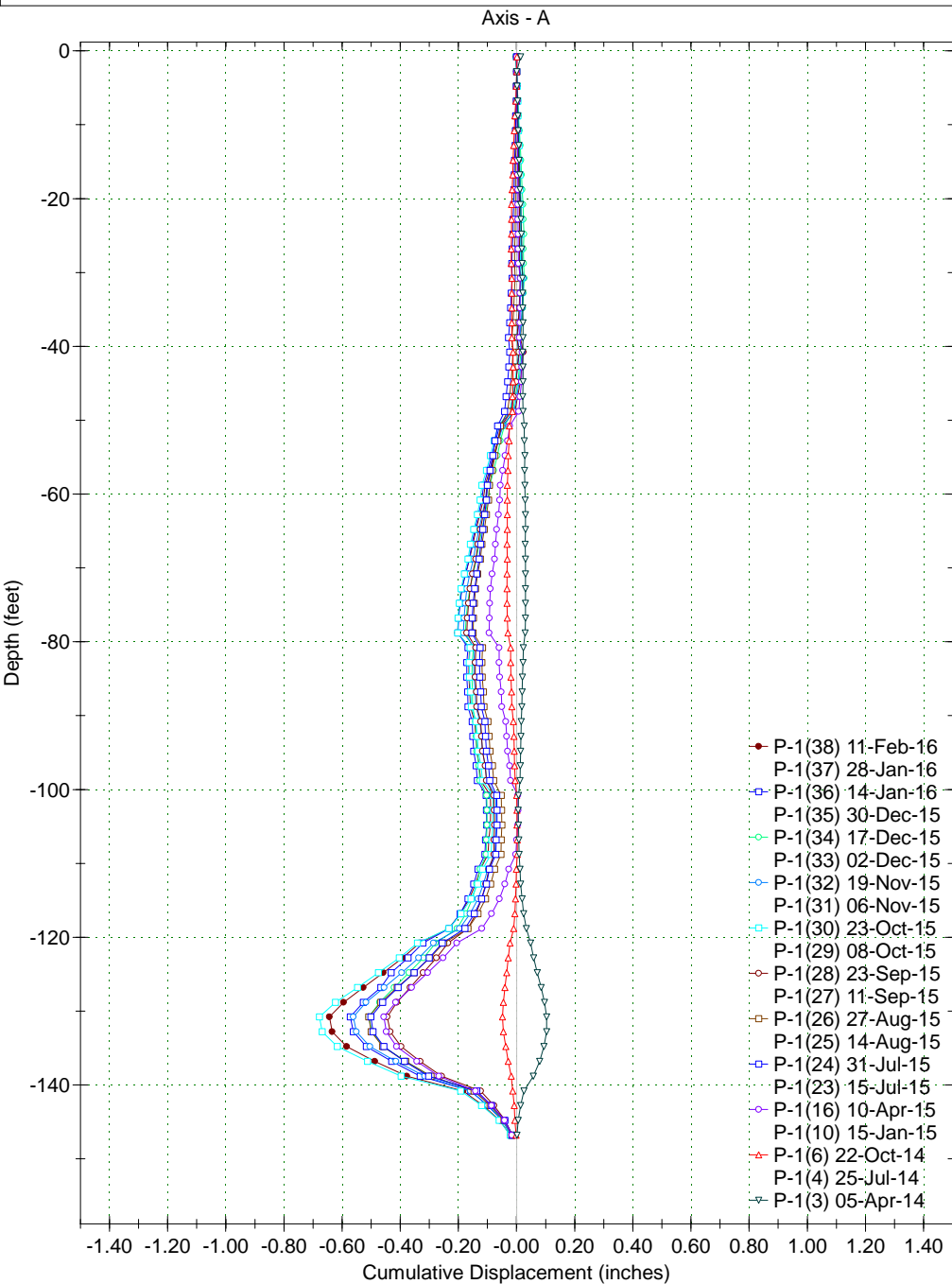
Spiral Correction : N/A
 Collar Elevation : 0.0 feet
 Borehole Total Depth : 230.0 feet
 A+ Groove Azimuth :
 Base Reading : 2015 Mar 19 09:08
 Applied Azimuth : 0.0 degrees



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

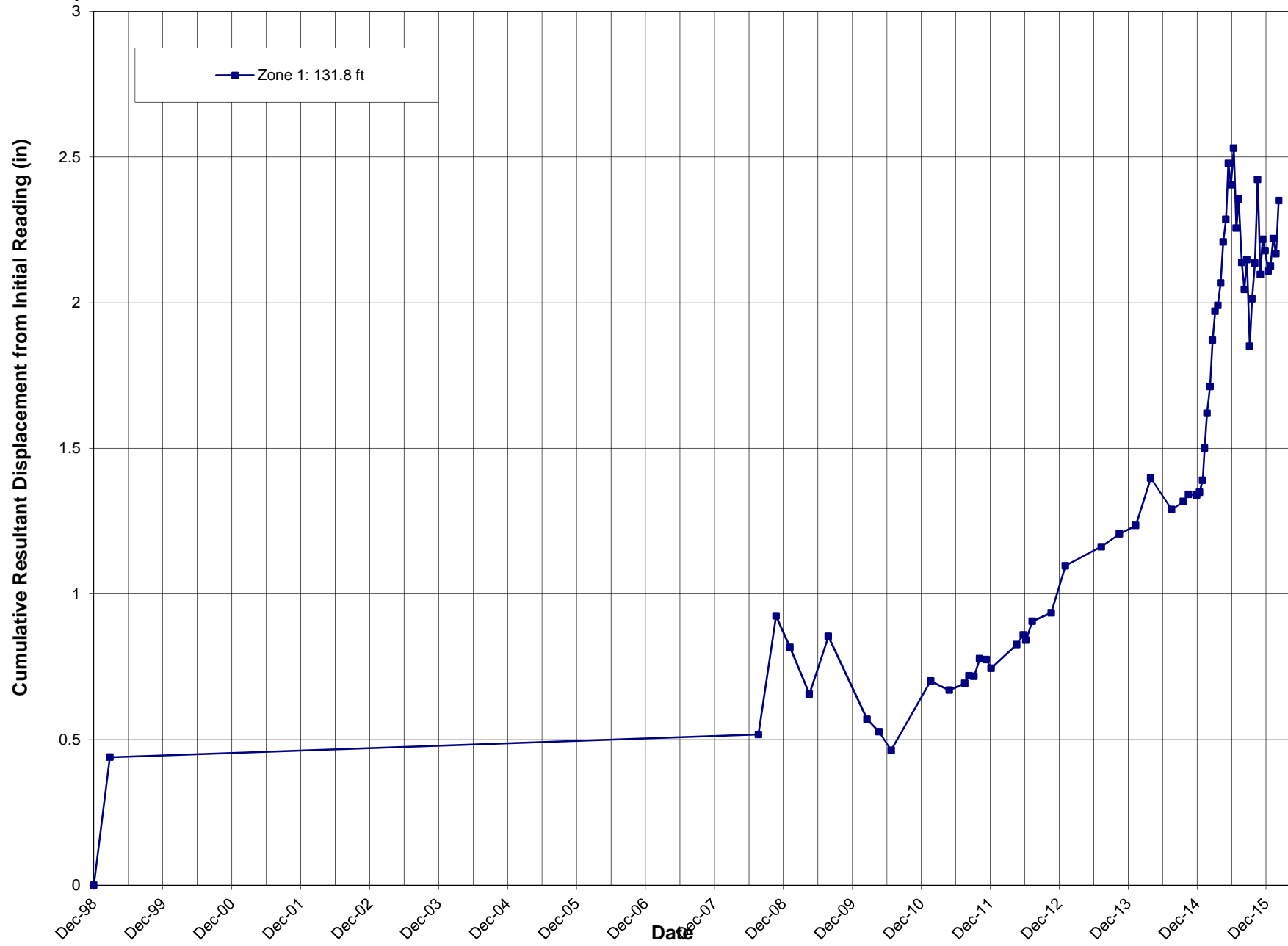


Spiral Correction : N/A
Collar Elevation : 1.2 feet
Borehole Total Depth : 148.0 feet
A+ Groove Azimuth :
Base Reading : 2014 Jan 22 10:47
Applied Azimuth : 0.0 degrees



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

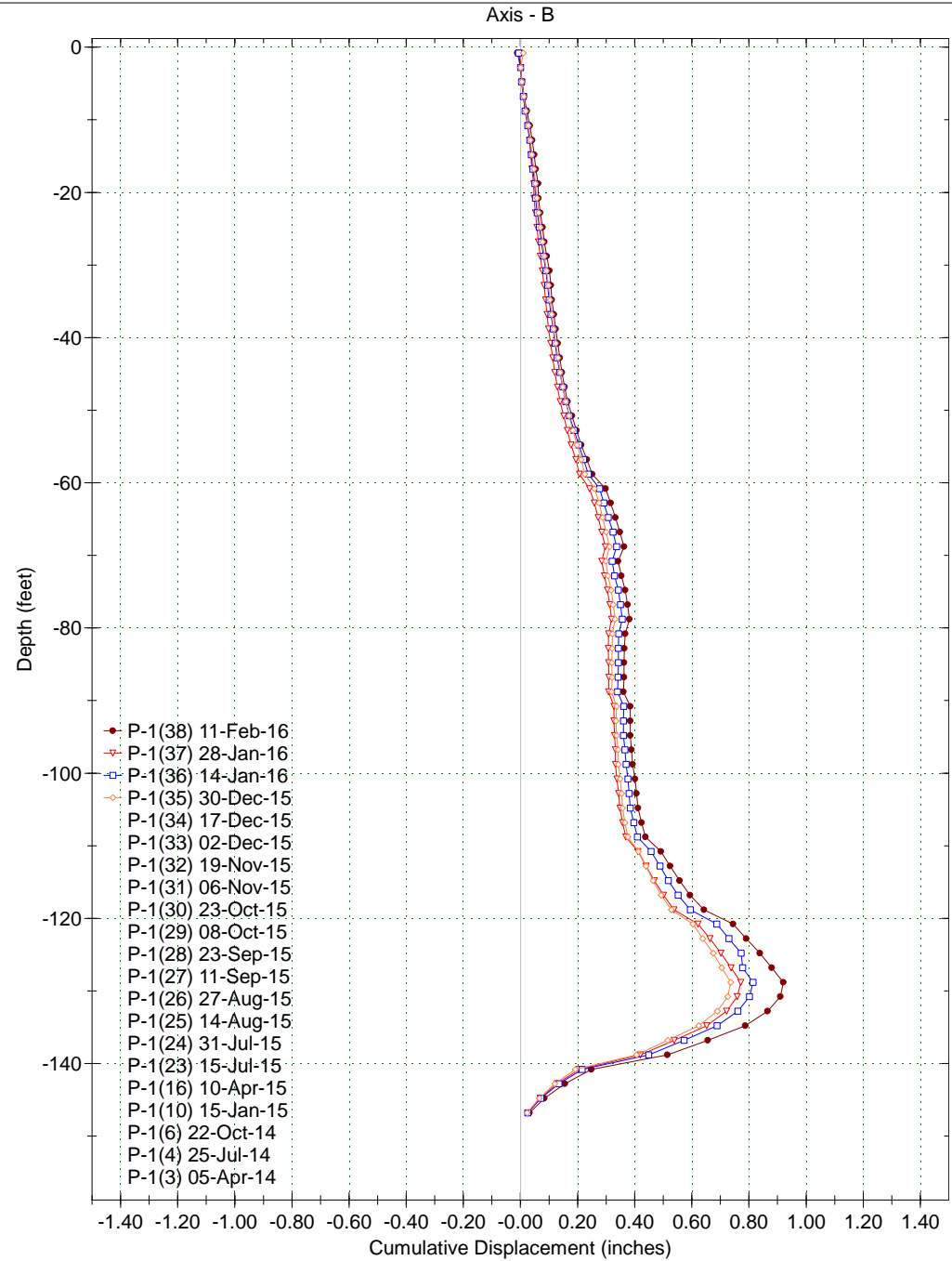
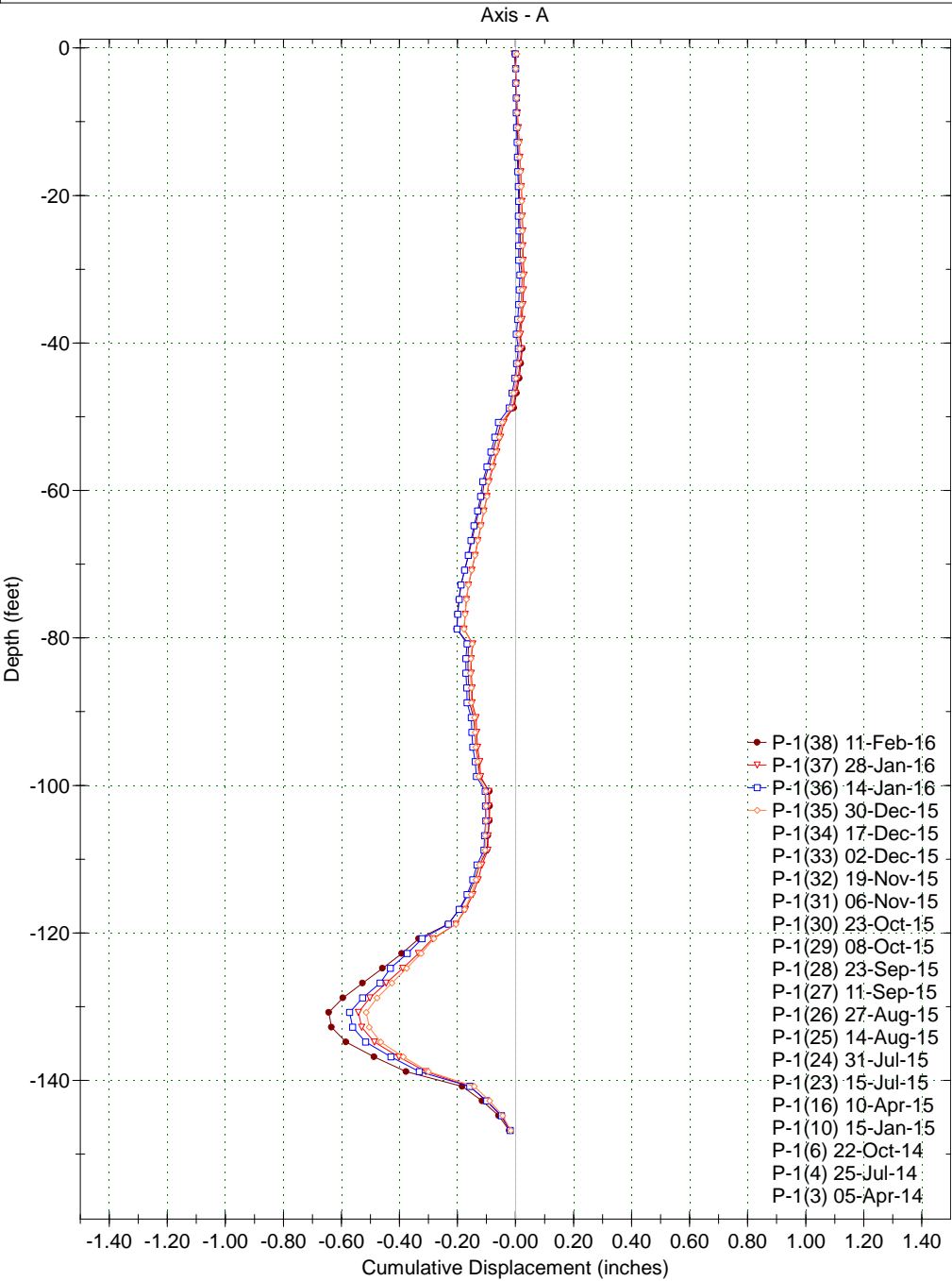
P-1



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



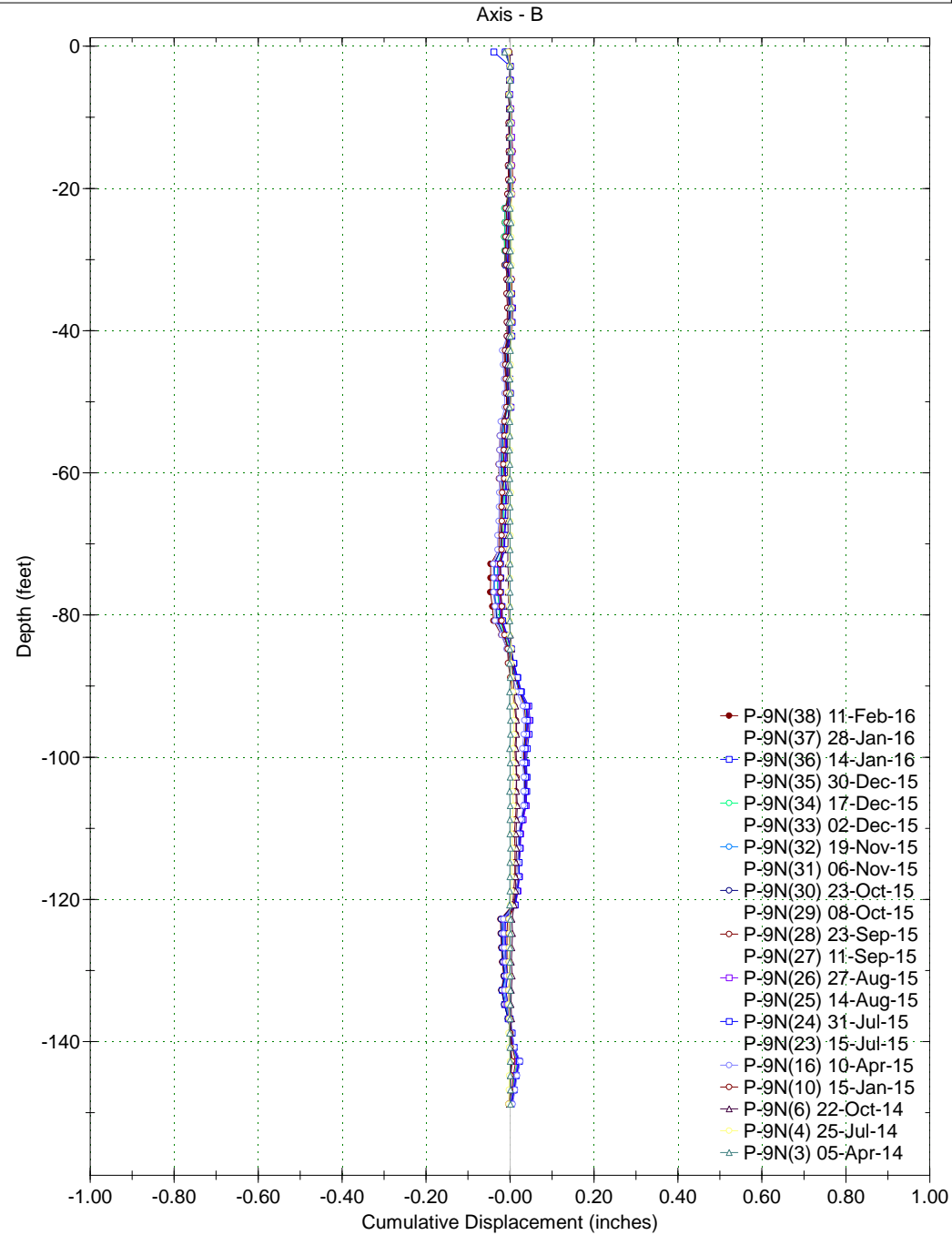
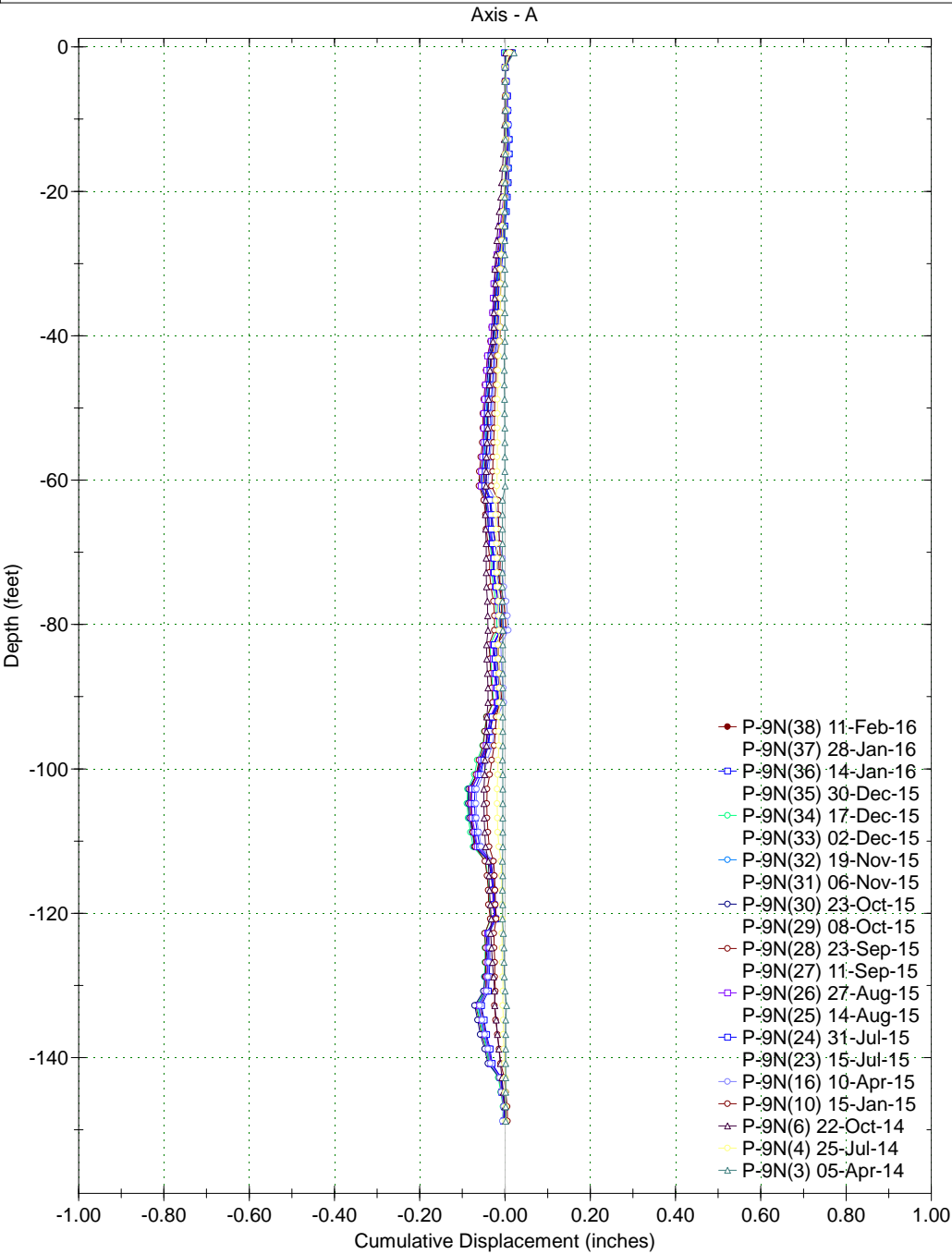
Spiral Correction : N/A
 Collar Elevation : 1.2 feet
 Borehole Total Depth : 148.0 feet
 A+ Groove Azimuth :
 Base Reading : 2014 Jan 22 10:47
 Applied Azimuth : 0.0 degrees



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



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

