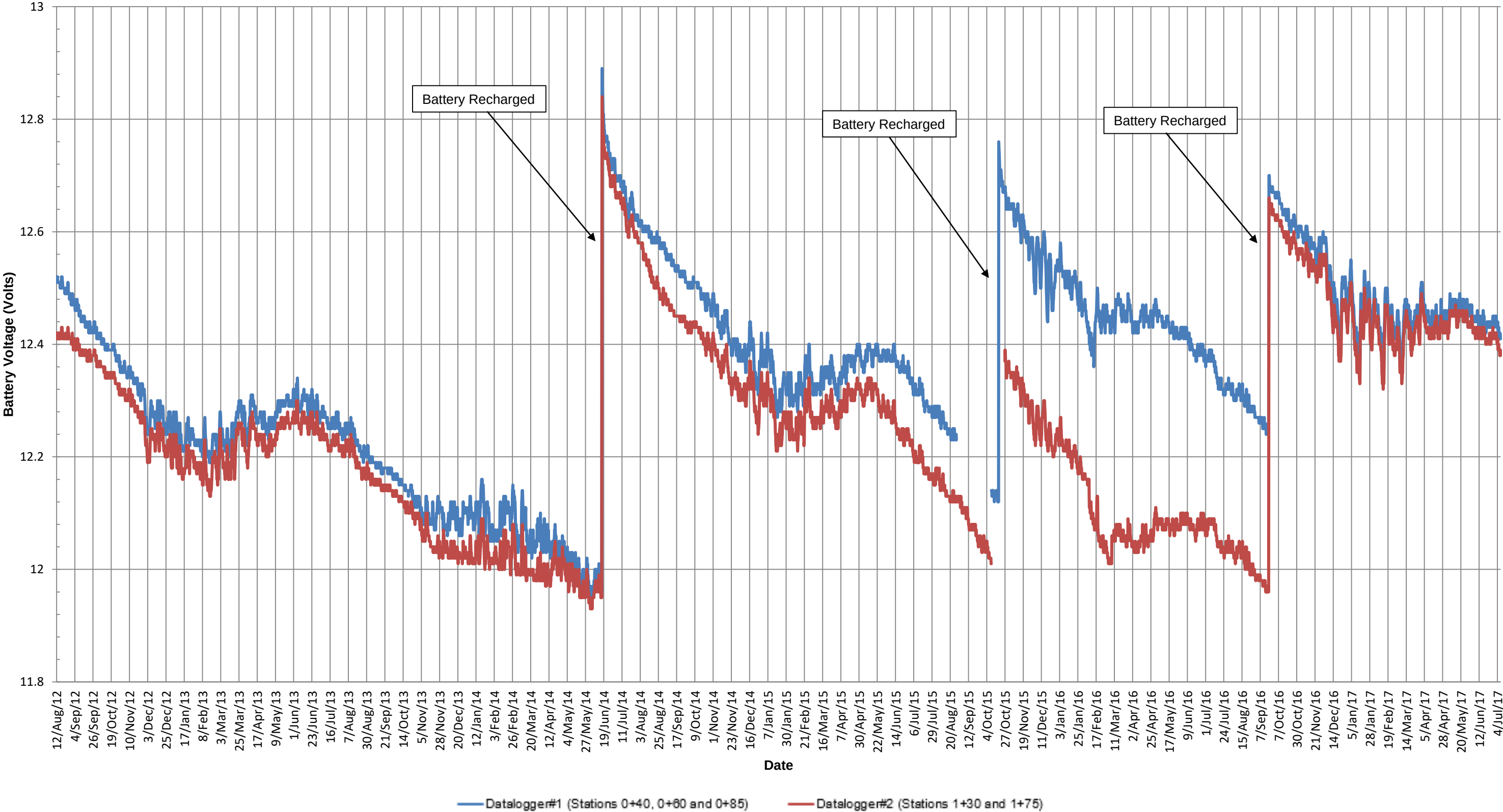


Battery Voltage

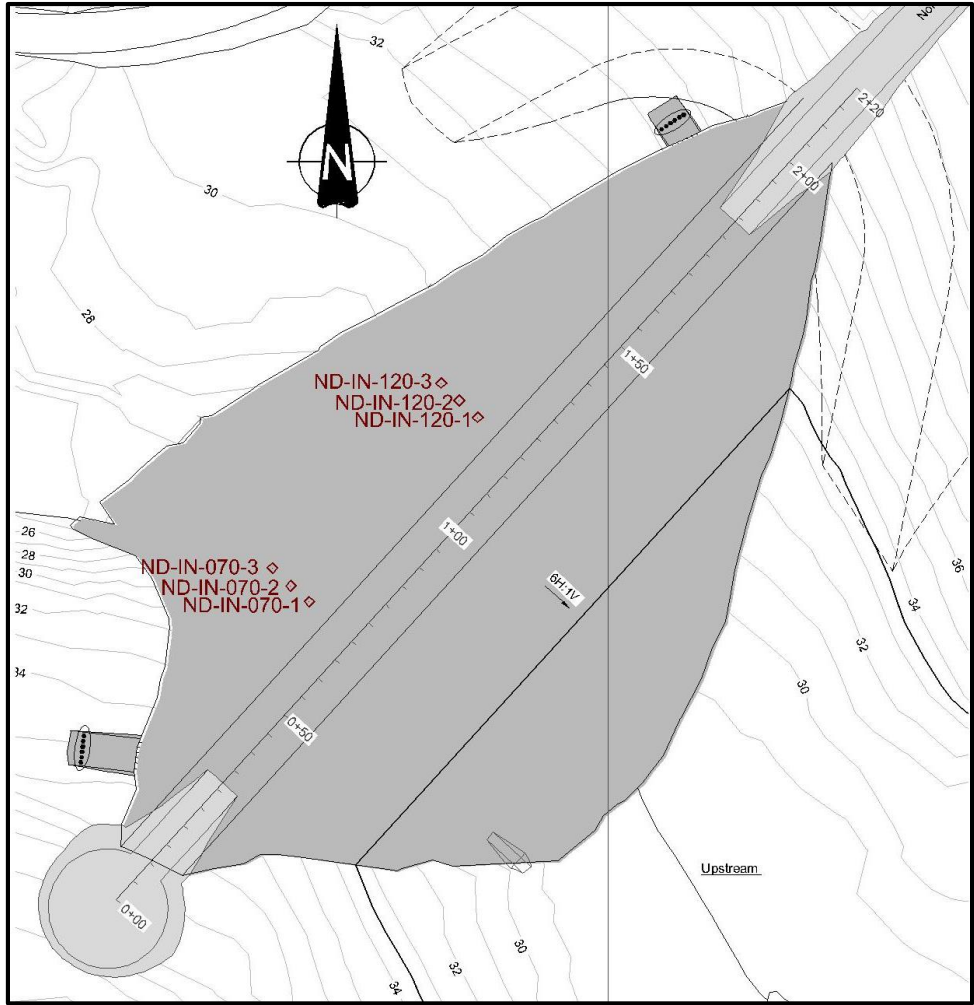


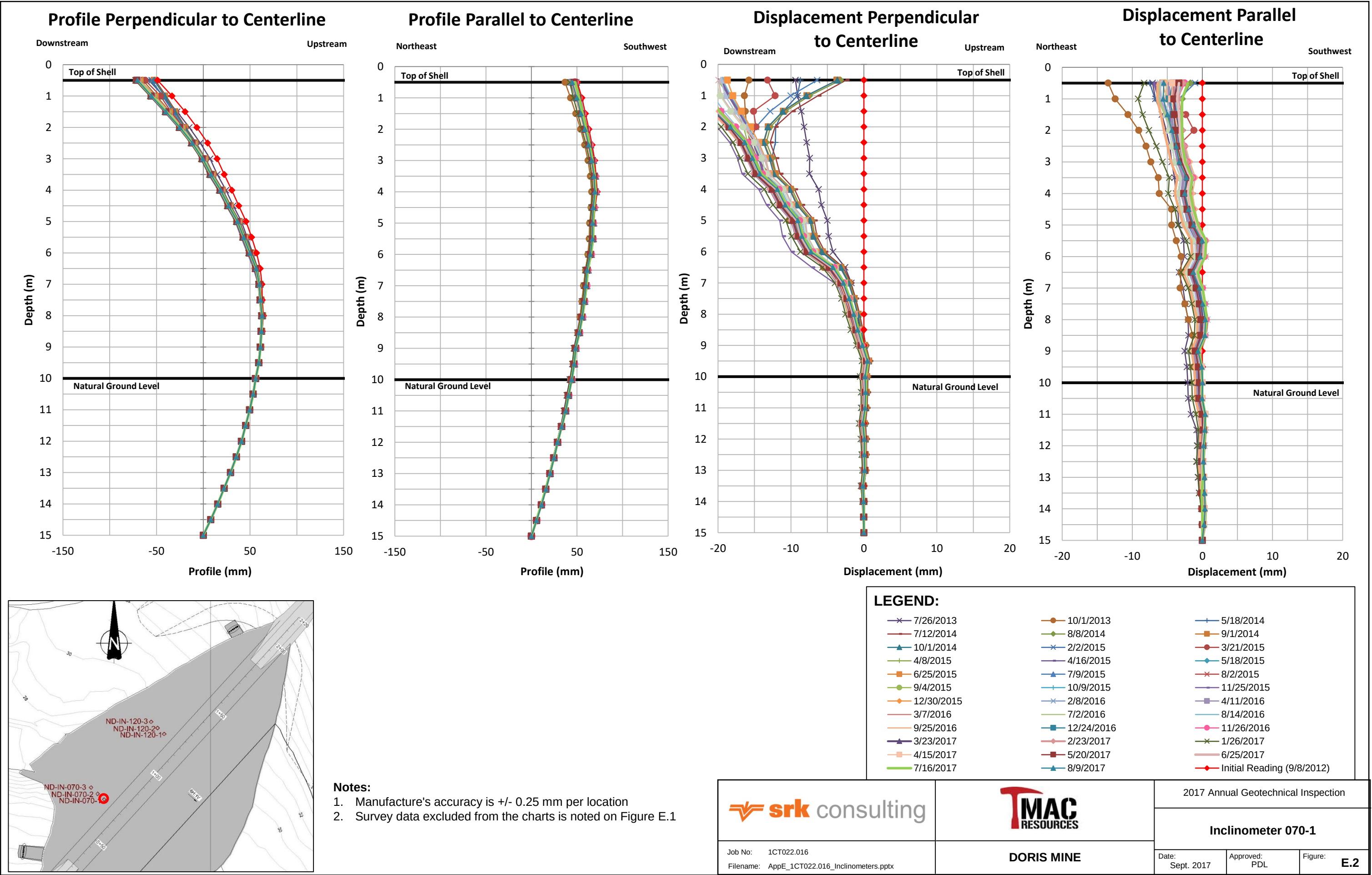
Notes:

- 1. Operating voltage range is 9.6 to 16 V
- 2. Optimal operating voltage is 12 to 14 V
- 3. Datalogger will shut down if voltage drops below 9.6 V

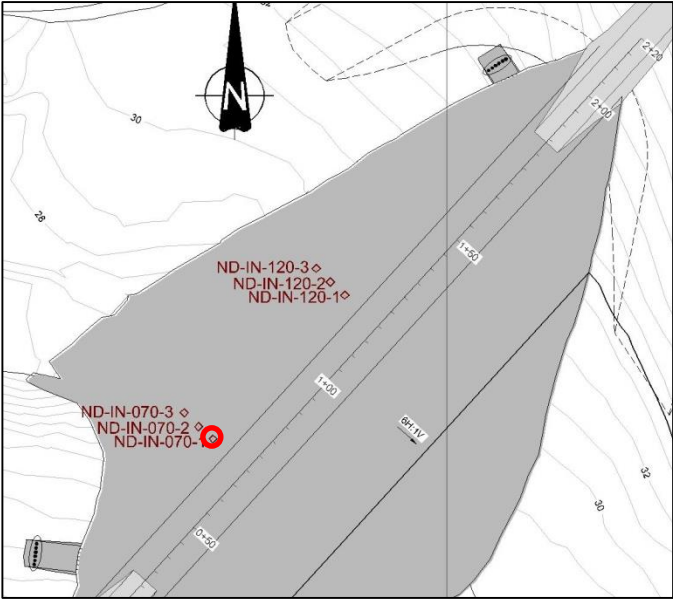
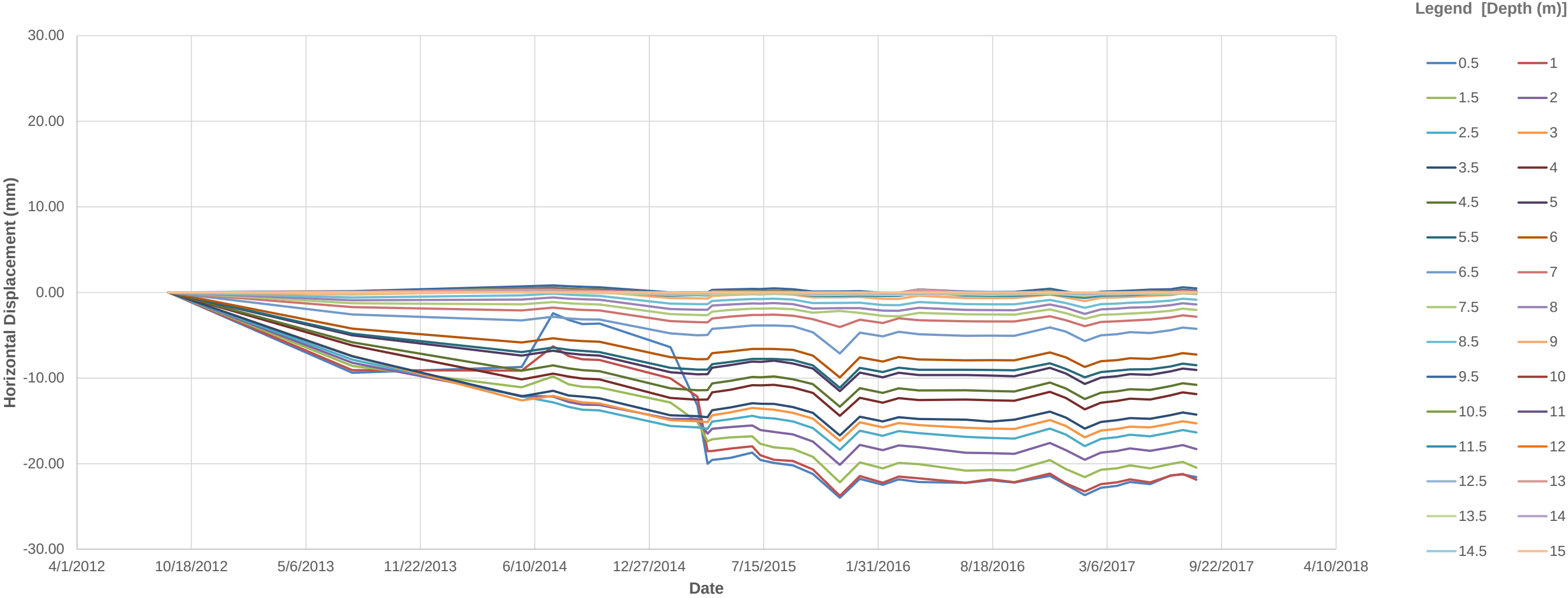
Inclinometers Measured							Data Quality
Date	070-1	070-2	070-3	120-1	120-2	120-3	
26-Sep-16	x	x	x	x	x	x	120-1 Checksum slightly out at 0.5m, data received with reverse signs for 120-2
26-Nov-16	x	x	x	x	x	x	
25-Dec-16	x	x	x	x	x	x	Data logger issue
3-Jan-17						x	
26-Jan-17	x	x	x	x	x	x	Data logger issue
23-Feb-17	x	x	x	x	x	x	
23-Mar-17	x	x	x	x	x	x	
15-Apr-17	x	x	x	x	x	x	
20-May-17	x	x	x	x	x	x	
25-Jun-17	x	x	x	x	x	x	
16-Jul-17	x	x	x	x	x	x	
9-Aug-17	x	x	x	x	x	x	
DATA CUT OFF FOR 2017 AGI							

- Notes:
- 1. Green marks good quality survey data
 - 2. Yellow marks survey data with zeros or error values replaced
 - 3. Orange marks poor quality survey data (excluded from graphs or modified)



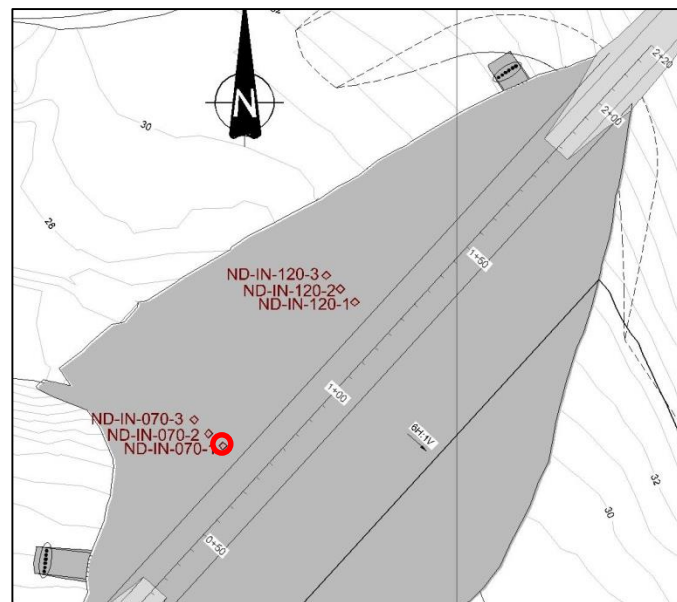
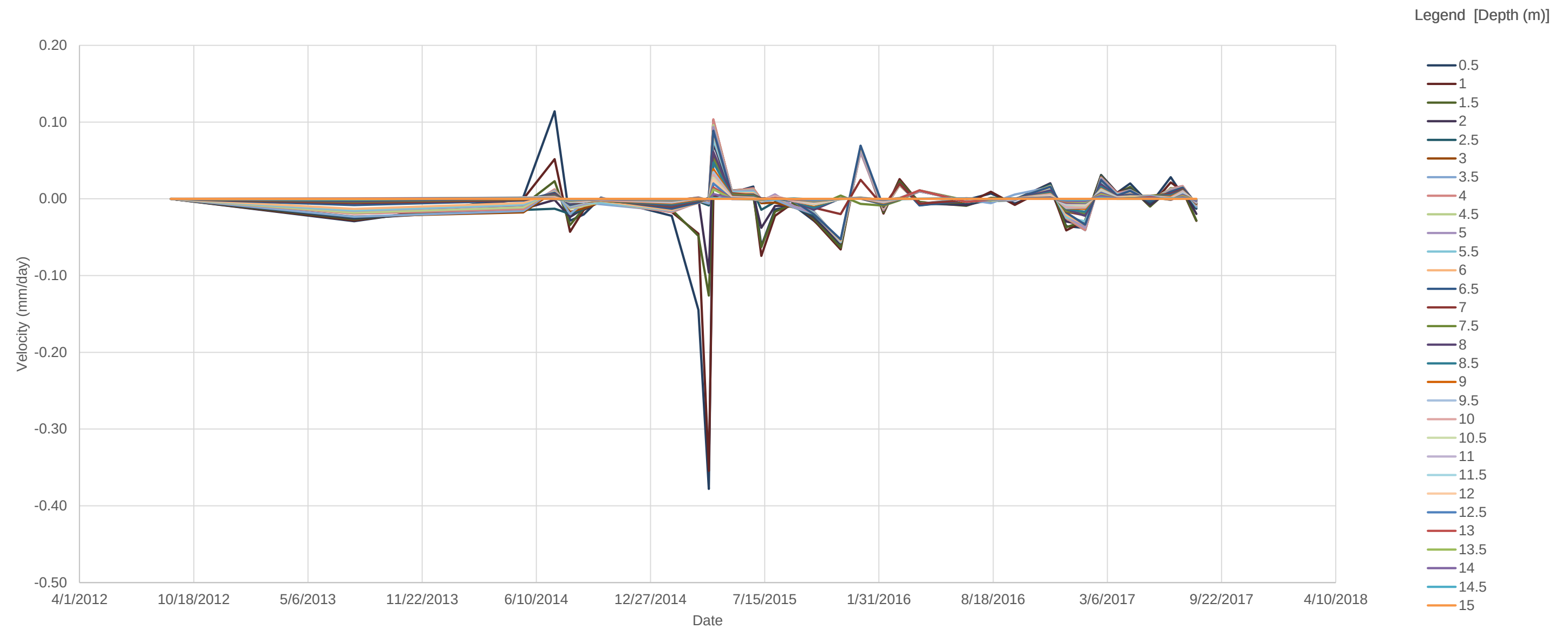


Inclinometer 070-1A Timeseries



- Notes:**
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

Inclinometer 070-1A Timeseries



- Notes:**
1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1



Job No: 1CT022.016
Filename: AppE_1CT022.016_Inclinometers.pptx



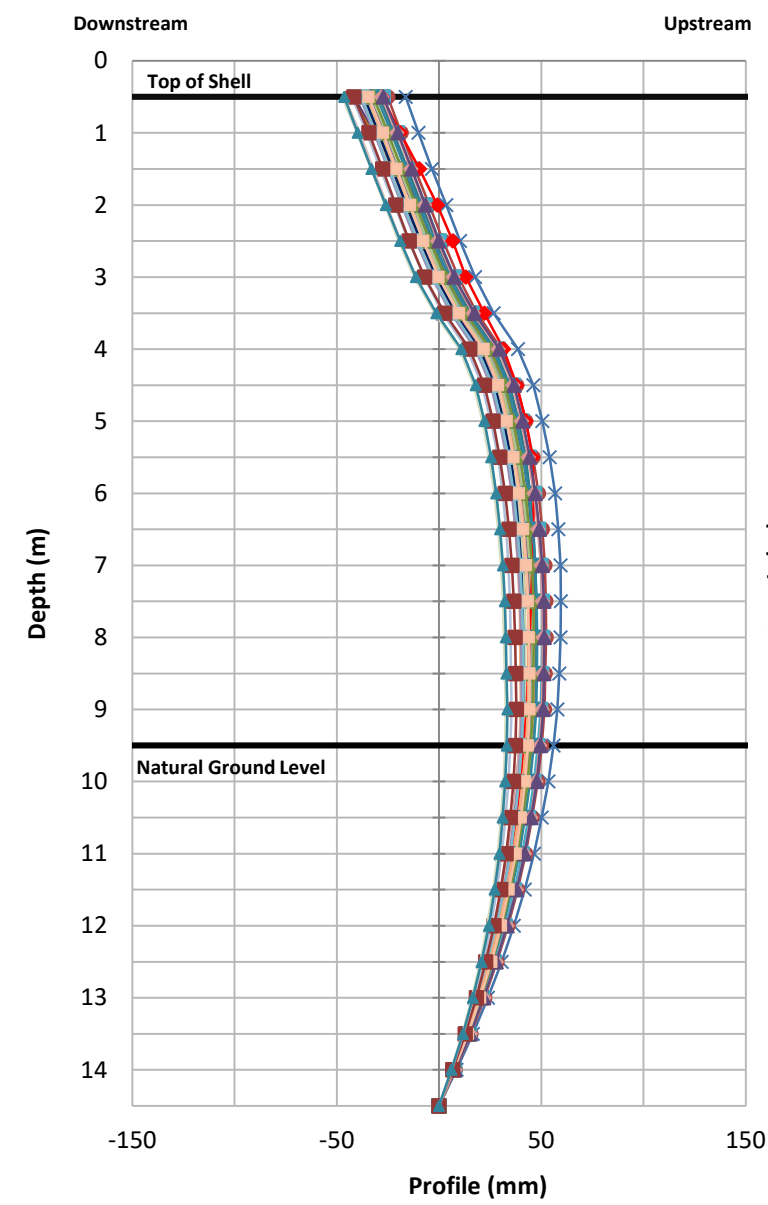
DORIS MINE

2017 Annual Geotechnical Inspection

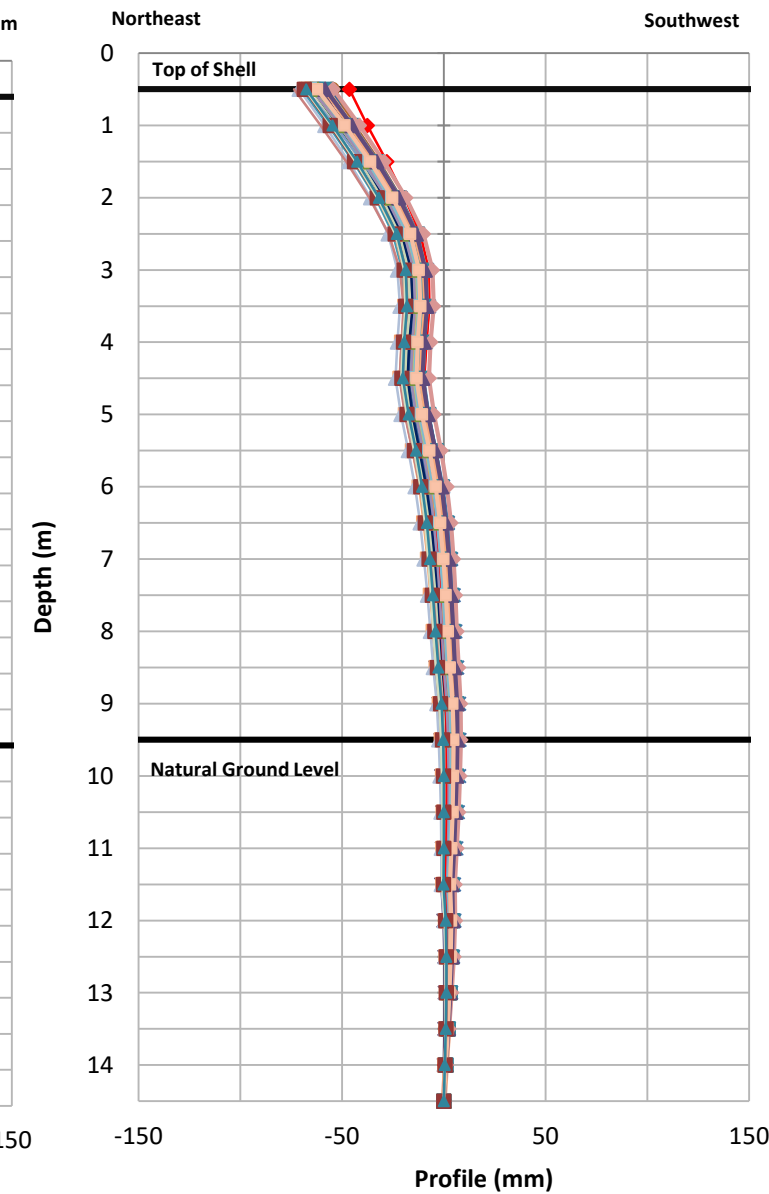
**Inclinometer 070-1A
Velocity Time Series**

Date: Sept. 2017	Approved: PDL	Figure: E.4
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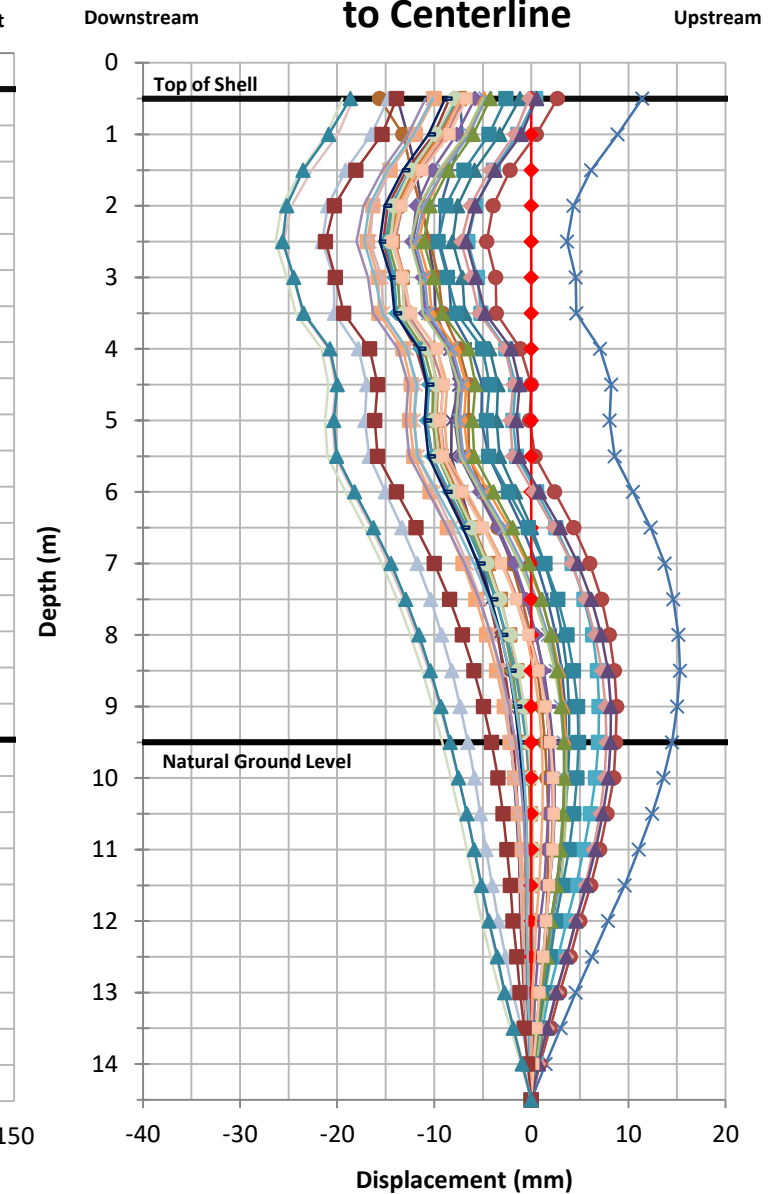
Profile Perpendicular to Centerline



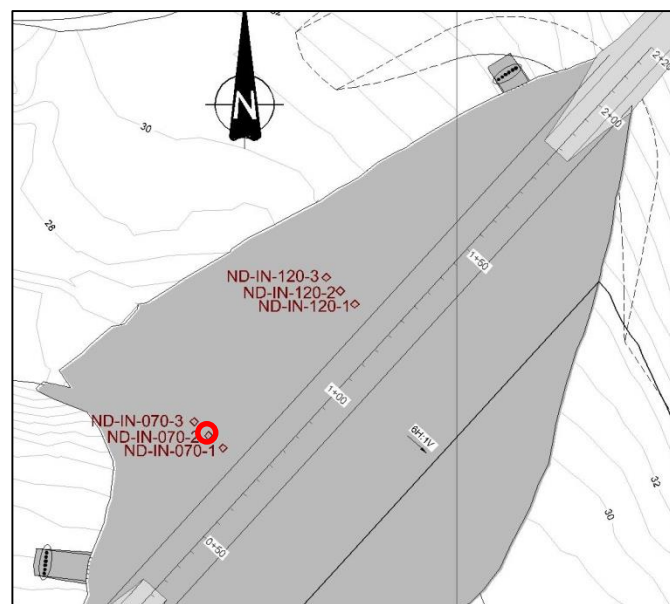
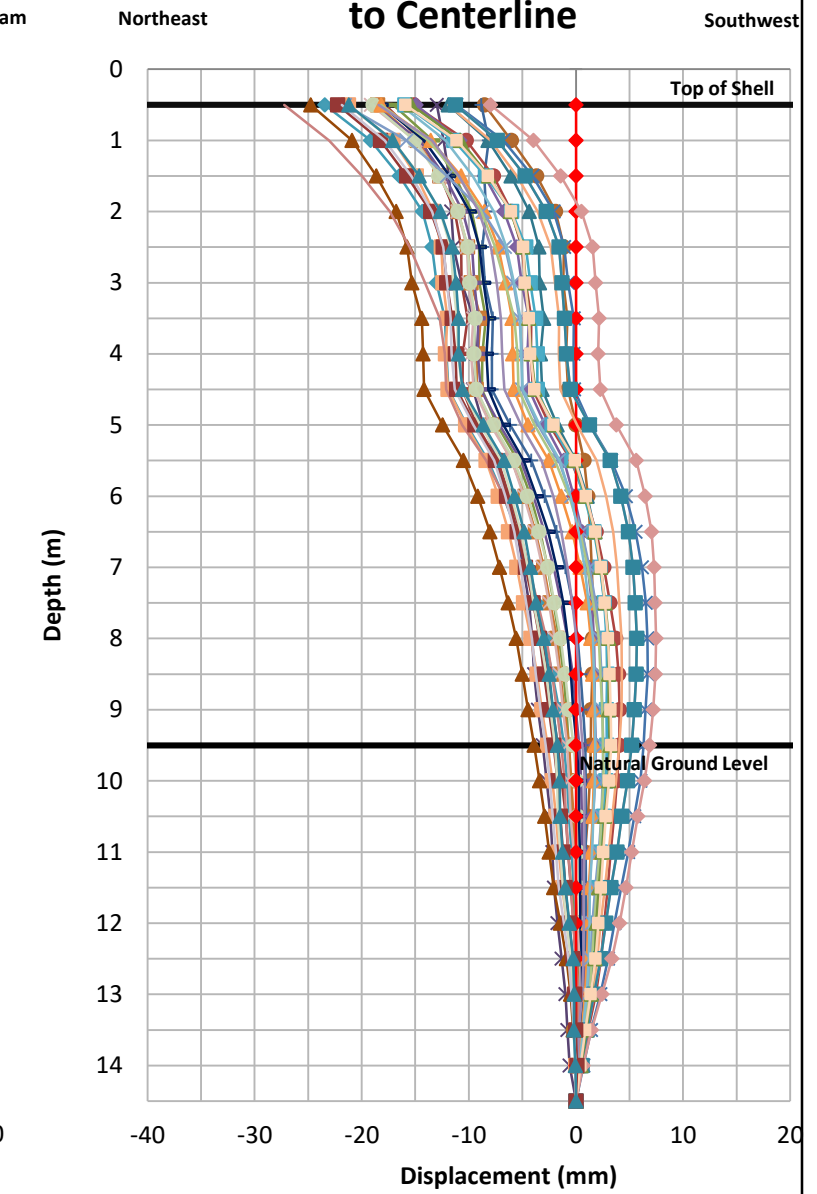
Profile Parallel to Centerline



Displacement Perpendicular to Centerline



Displacement Parallel to Centerline

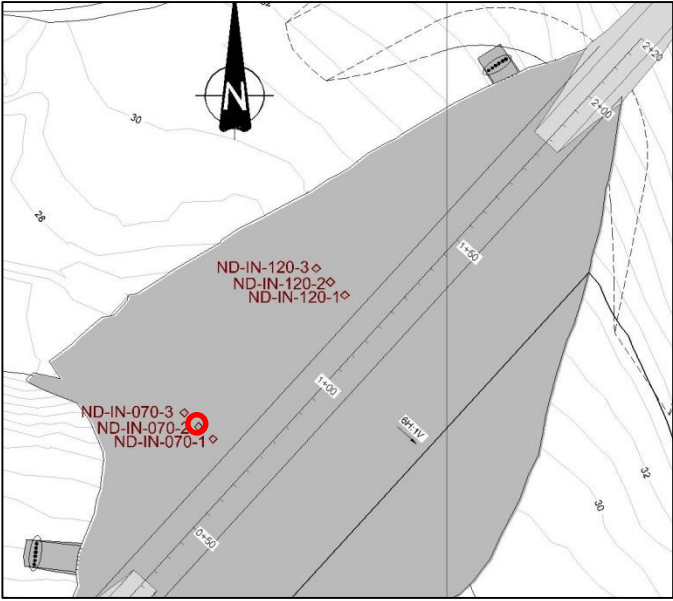
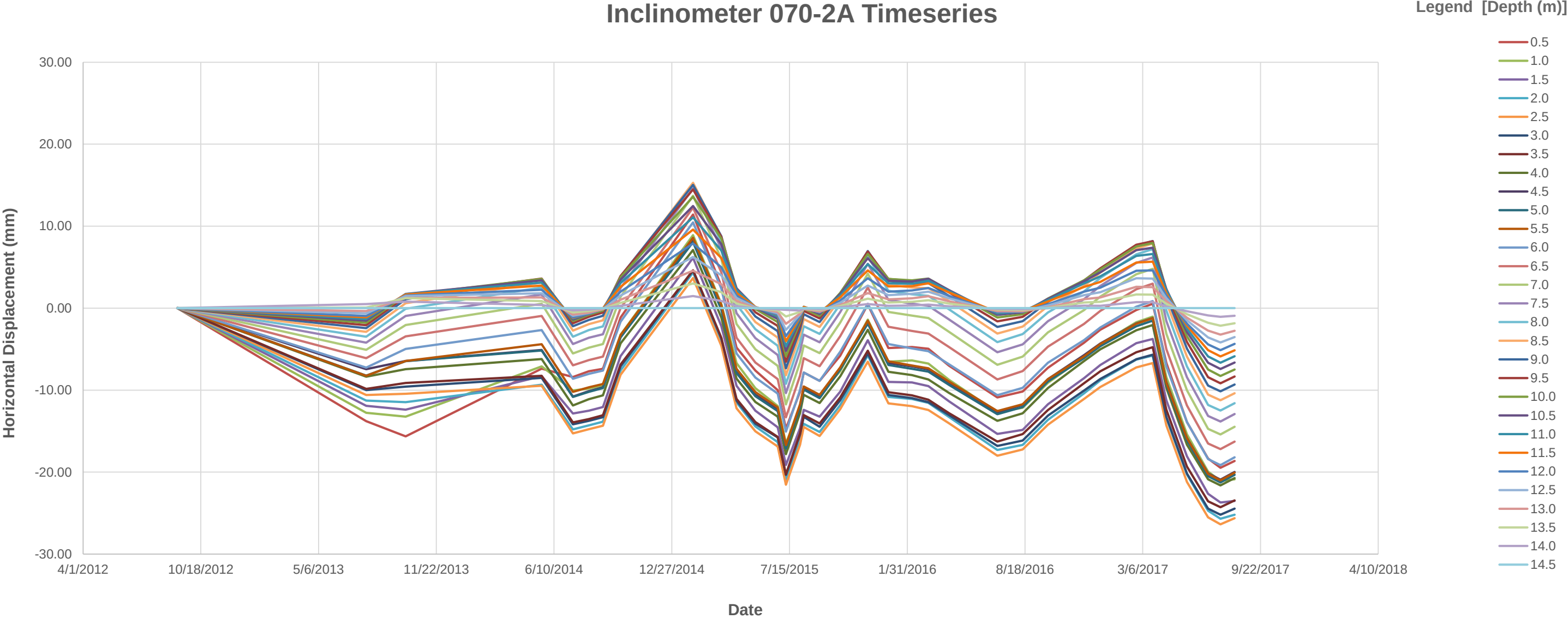


- Notes:**
1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1

LEGEND:		
7/26/2013	10/1/2013	5/20/2014
7/12/2014	8/8/2014	9/1/2014
10/1/2014	2/1/2015	3/21/2015
4/16/2015	5/18/2015	6/25/2015
7/9/2015	8/2/2015	8/8/2015
9/4/2015	10/9/2015	11/25/2015
12/30/2015	2/8/2016	3/7/2016
4/11/2016	7/2/2016	8/14/2016
9/26/2016	12/24/2016	11/26/2016
2/23/2017	3/23/2017	4/15/2017
5/20/2017	6/25/2017	7/16/2017
8/9/2017	Initial Reading (9/8/2012)	

		2017 Annual Geotechnical Inspection		
		Inclinometer 070-2		
Job No: 1CT022.016	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.5
Filename: AppE_1CT022.016_Inclinometers.pptx				

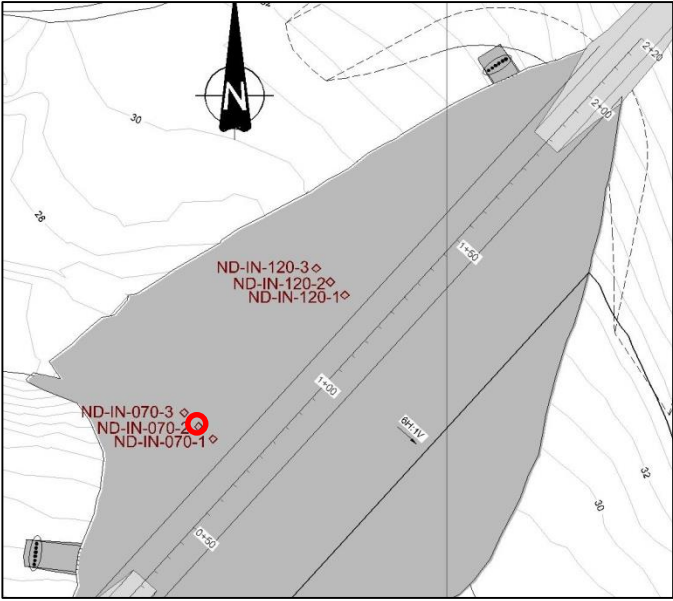
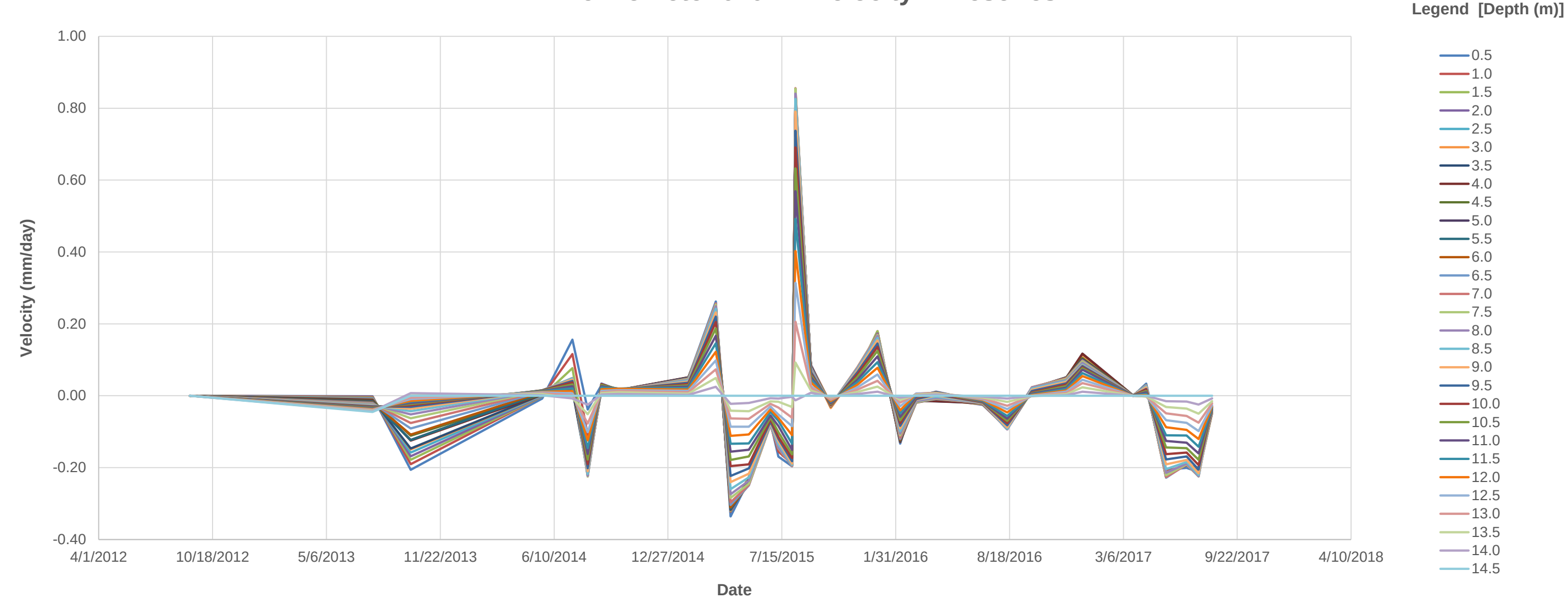
Inclinometer 070-2A Timeseries



- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

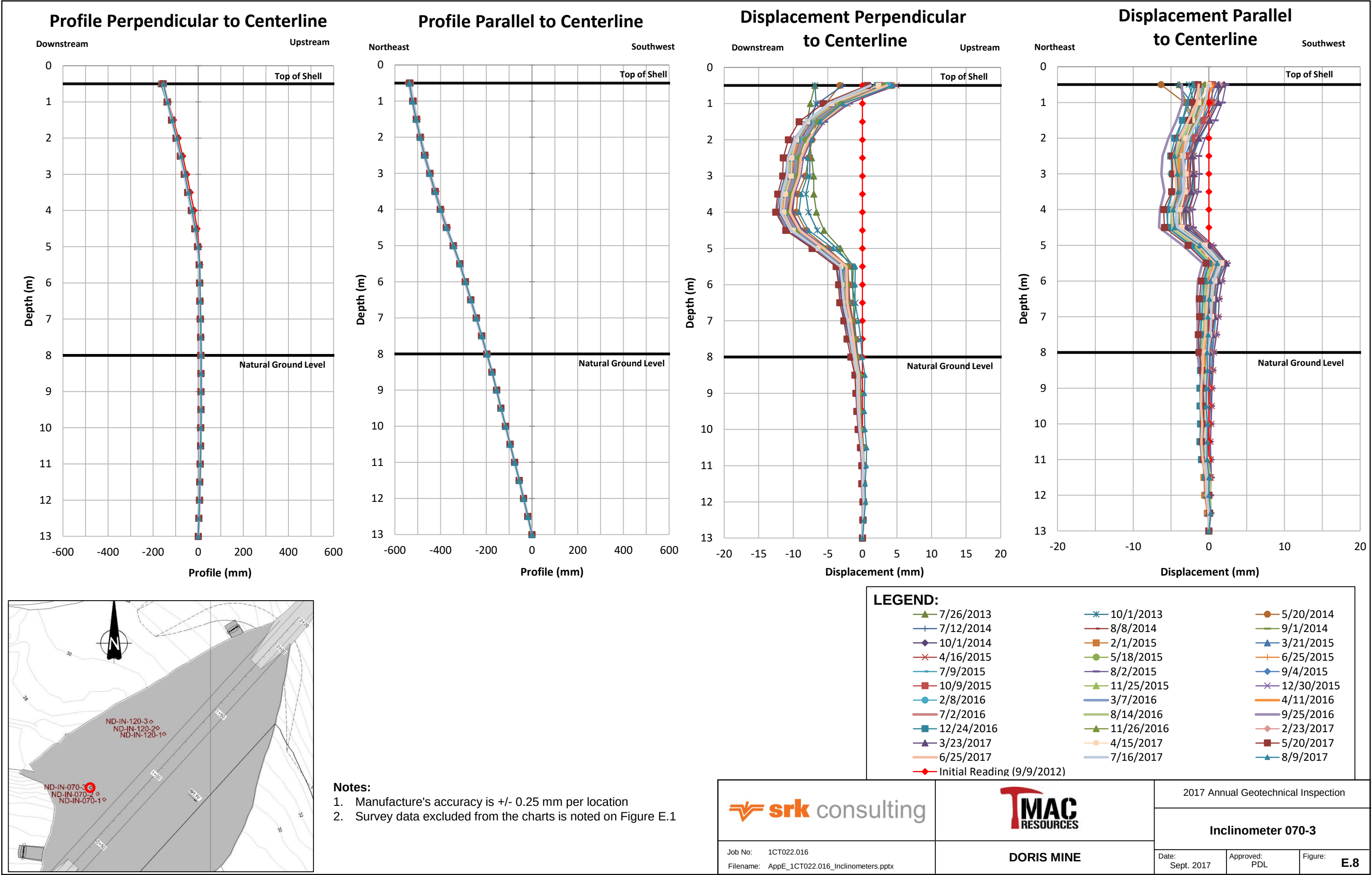
		2017 Annual Geotechnical Inspection		
		Inclinometer 070-2A Displacement Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.6

Inclinometer 070-2A Velocity Timeseries

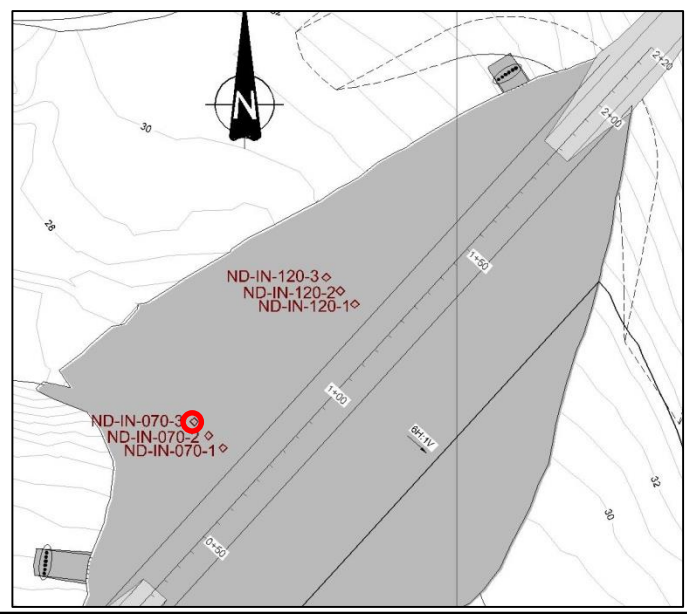
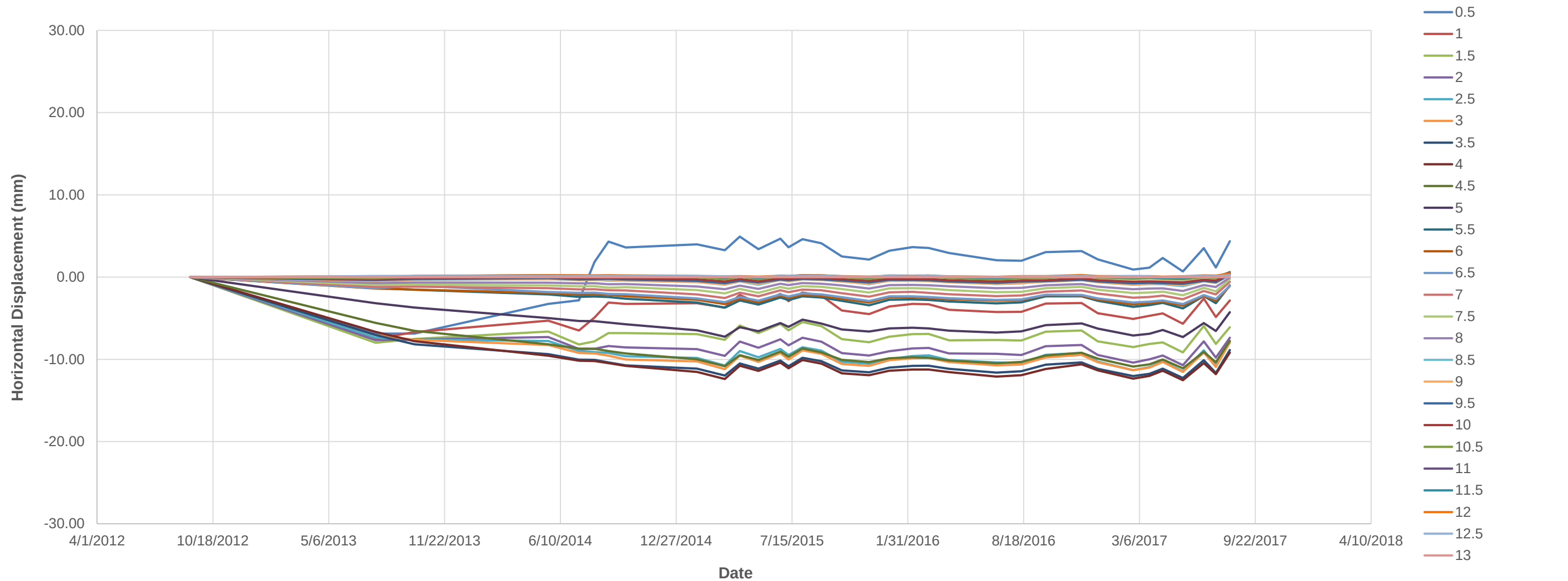


- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

 Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	 DORIS MINE	2017 Annual Geotechnical Inspection		
		Inclinometer 070-2A Velocity Time Series		
		Date: Sept. 2017	Approved: PDL	Figure: E.7



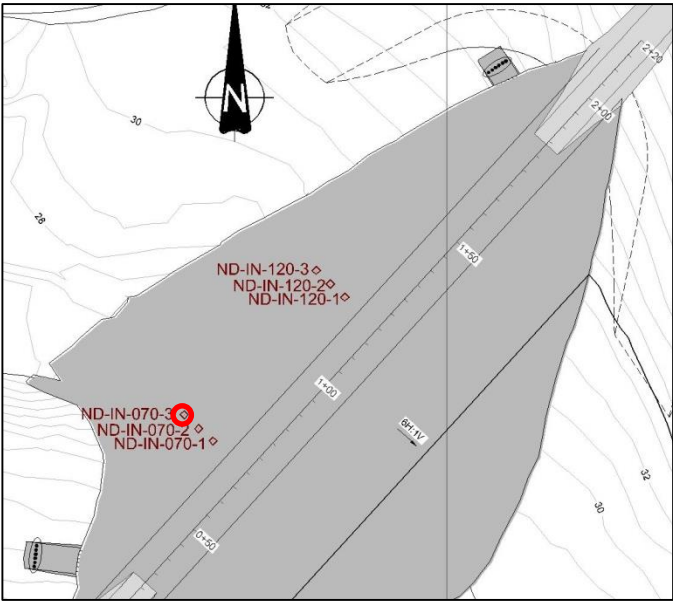
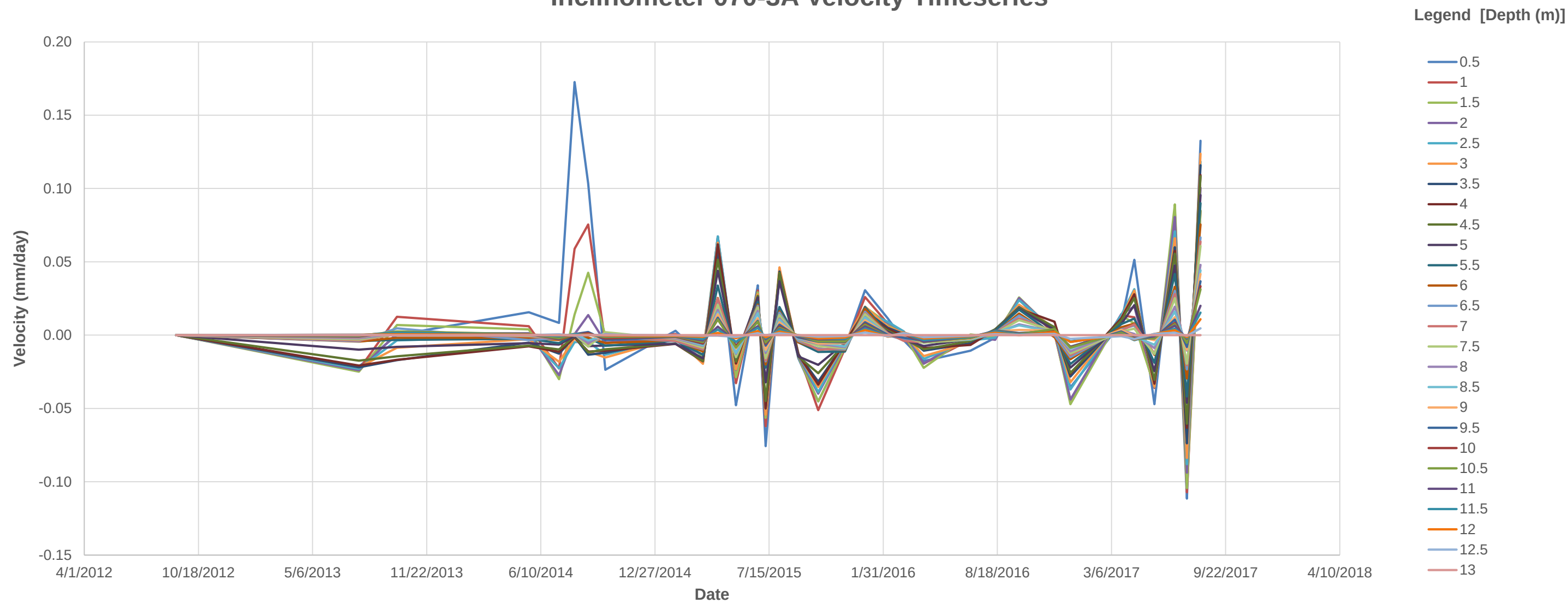
Inclinometer 070-3A Timeseries



- Notes:**
1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1

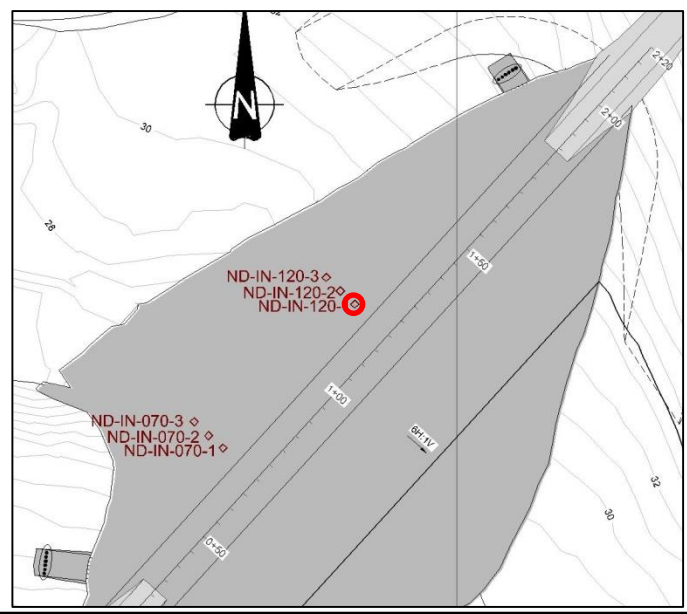
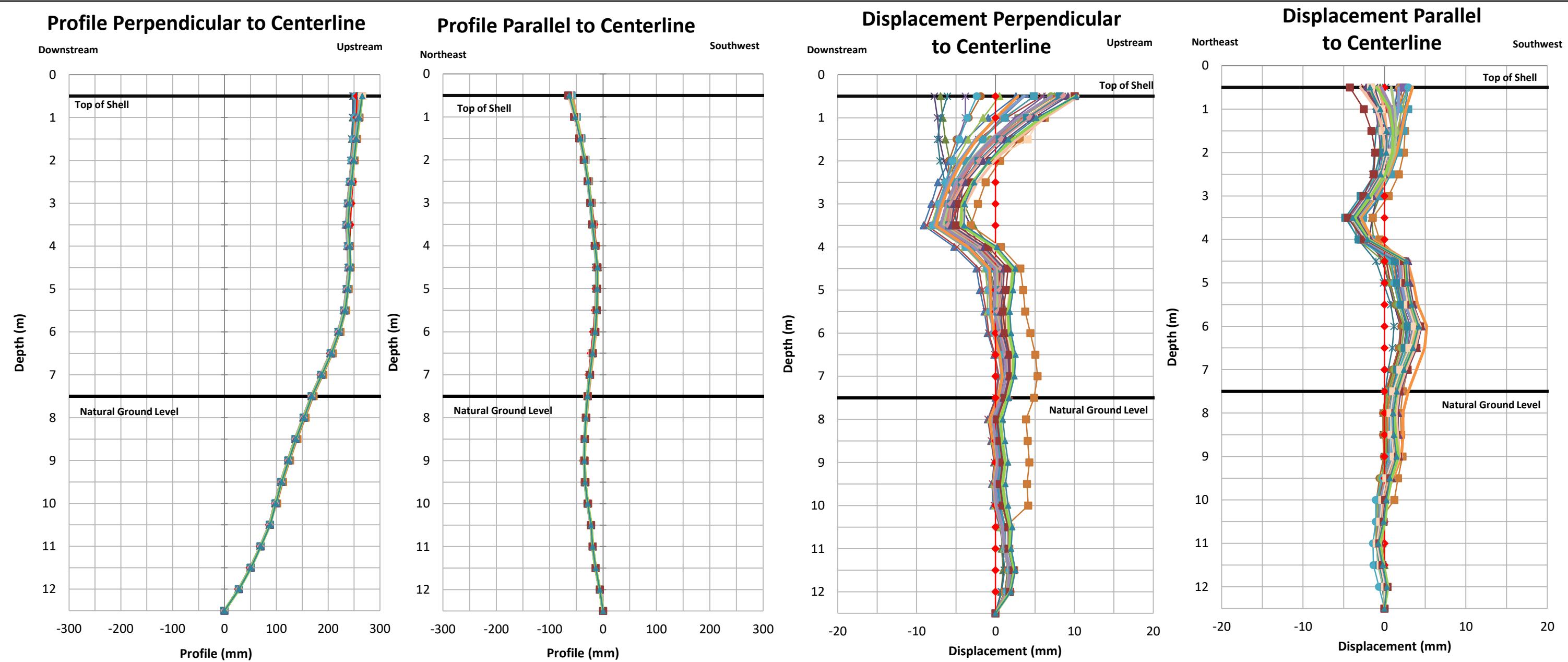
		2017 Annual Geotechnical Inspection		
		Inclinometer 070-3A Displacement Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.9

Inclinometer 070-3A Velocity Timeseries



- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

		2017 Annual Geotechnical Inspection		
		Inclinometer 070-3A Velocity Time Series		
Job No: 1CT022.016	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.10
Filename: AppE_1CT022.016_Inclinometers.pptx				



Notes:
 1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1

LEGEND:

7/26/2013	10/1/2013	5/18/2014
7/12/2014	8/8/2014	9/1/2014
10/1/2014	2/2/2015	3/21/2015
4/8/2015	4/16/2015	5/18/2015
6/25/2015	7/9/2015	8/2/2015
9/4/2015	10/9/2015	11/25/2015
12/30/2015	2/8/2016	4/11/2016
3/7/2016	7/2/2016	8/14/2016
9/25/2016	12/24/2016	11/26/2016
3/23/2017	2/23/2017	1/26/2017
4/15/2017	5/20/2017	6/25/2017
7/16/2017	8/9/2017	Initial Reading (9/8/2012)



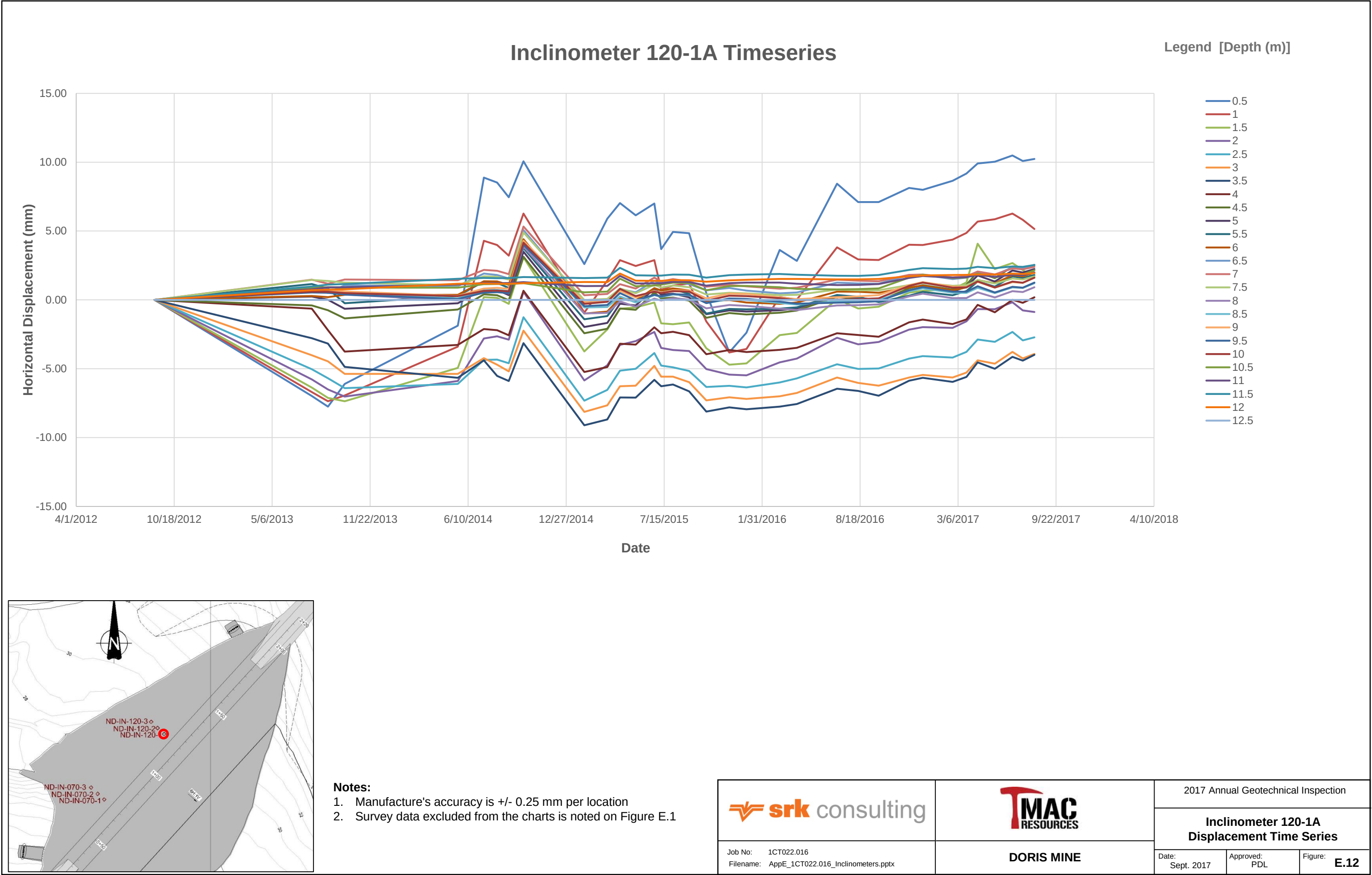
2017 Annual Geotechnical Inspection

Inclinometer 120-1

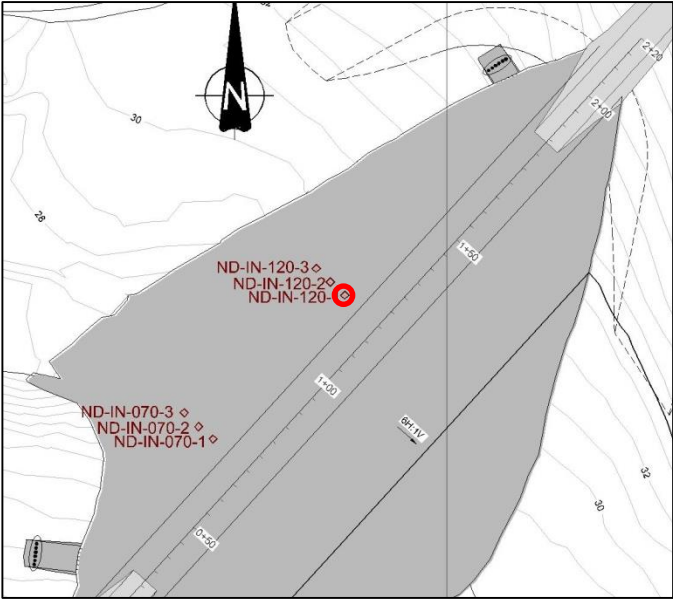
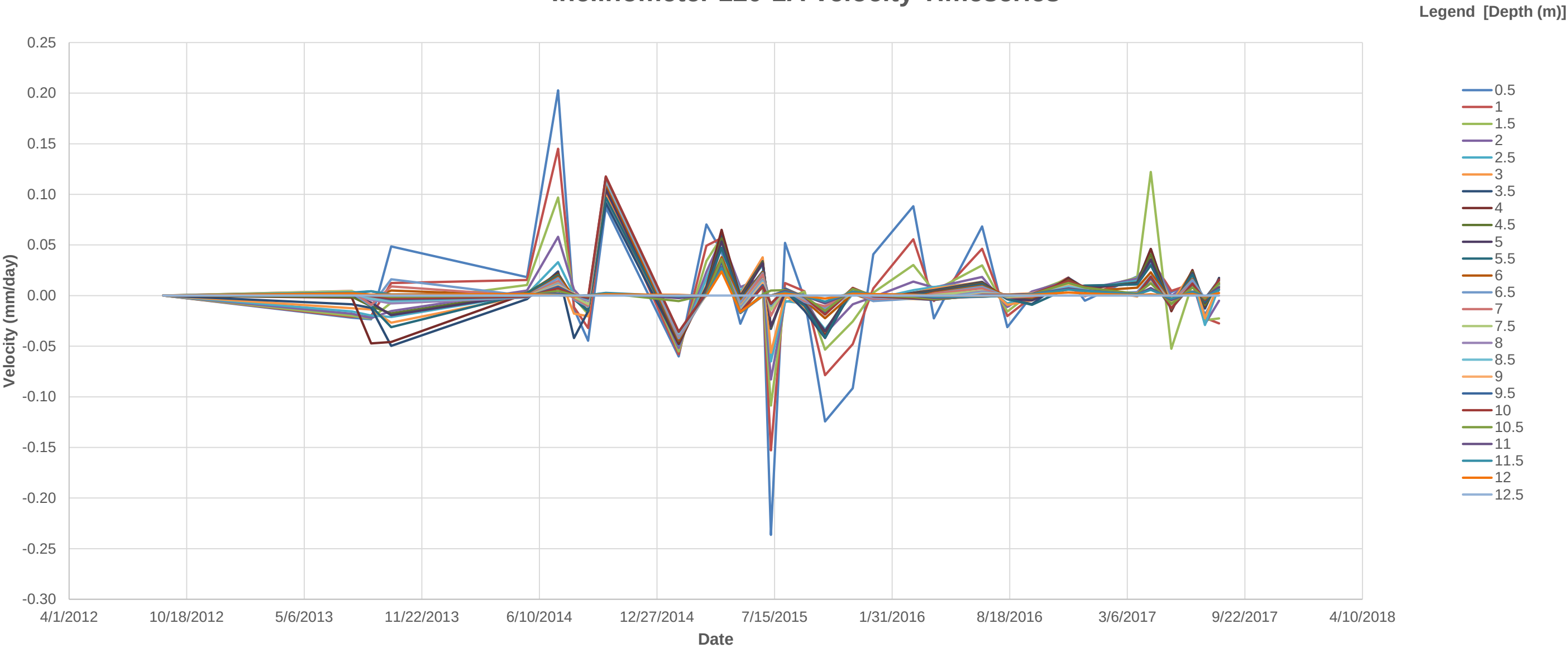
Job No: 1CT022.016
 Filename: AppE_1CT022.016_Inclinometers.pptx

DORIS MINE

Date: Sept. 2017	Approved: PDL	Figure: E.11
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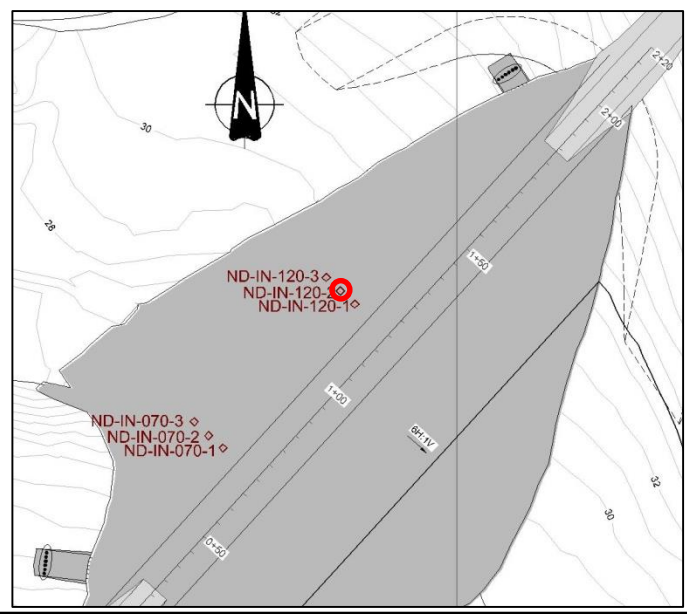
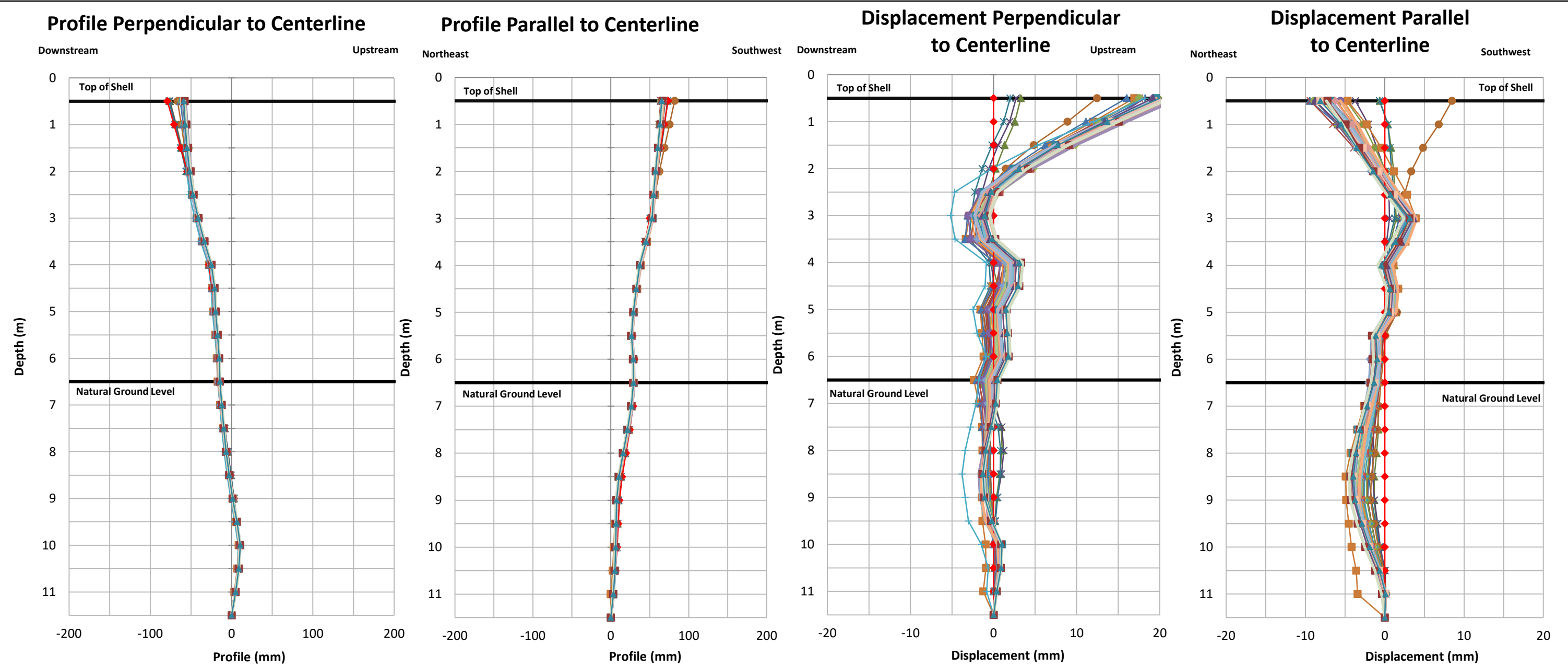


Inclinometer 120-1A Velocity Timeseries



- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

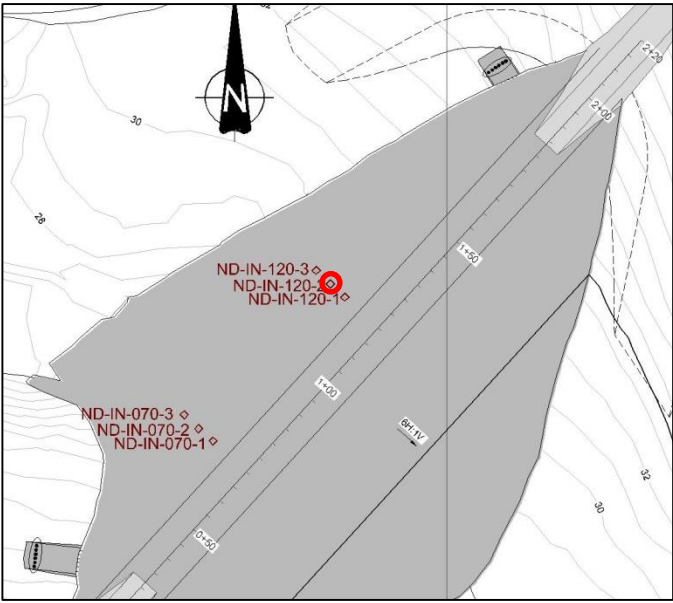
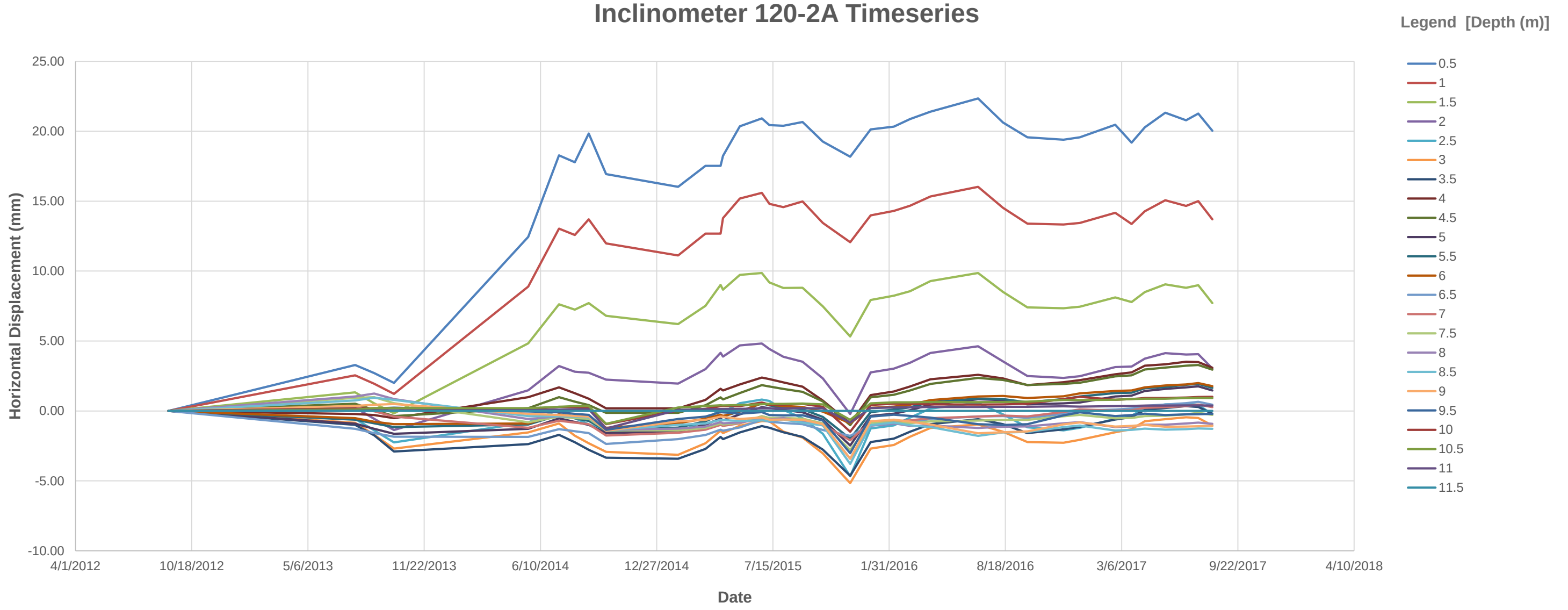
		2017 Annual Geotechnical Inspection		
		Inclinometer 120-1A Velocity Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.13



Notes:
 1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1

LEGEND:		
7/26/2013	5/20/2014	6/18/2014
7/6/2014	7/12/2014	8/8/2014
9/1/2014	10/1/2014	2/2/2015
3/21/2015	4/20/2015	5/20/2015
6/26/2015	7/9/2015	8/2/2015
8/28/2015	9/4/2015	10/9/2015
11/25/2015	12/30/2015	2/8/2016
3/7/2016	4/11/2016	7/2/2016
8/14/2016	9/25/2016	11/26/2016
1/3/2017	1/26/2017	3/23/2017
4/15/2017	2/23/2017	5/20/2017
6/25/2017	7/16/2017	8/9/2017
Initial Reading (9/8/2012)		

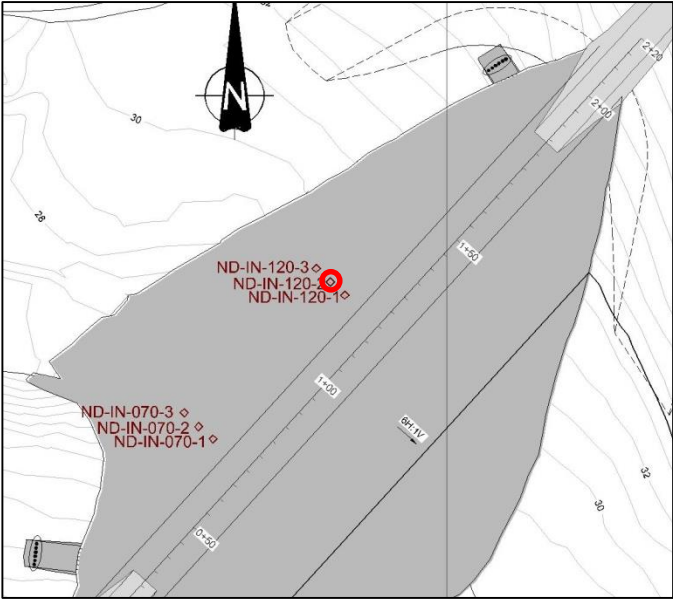
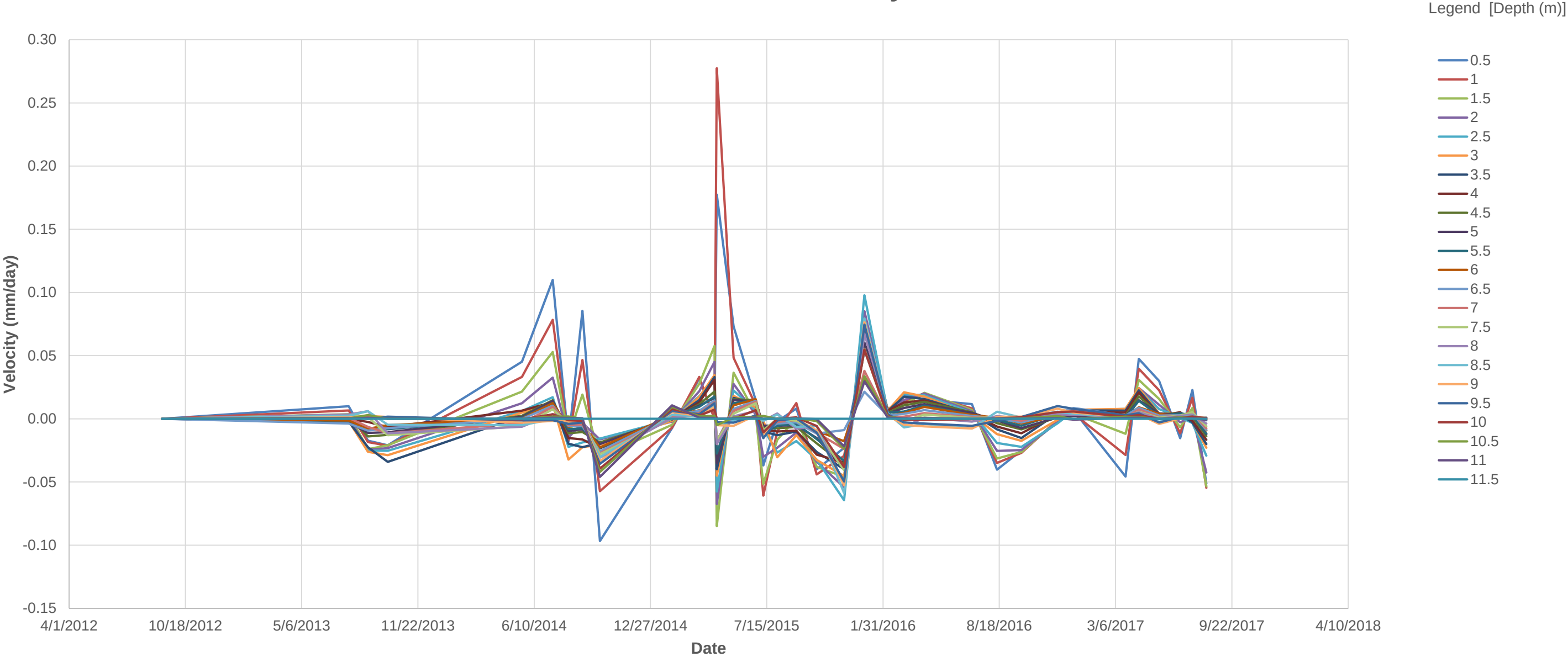
		2017 Annual Geotechnical Inspection		
		Inclinometer 120-2		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.14



- Notes:**
1. Manufacture's accuracy is +/- 0.25 mm per location
 2. Survey data excluded from the charts is noted on Figure E.1

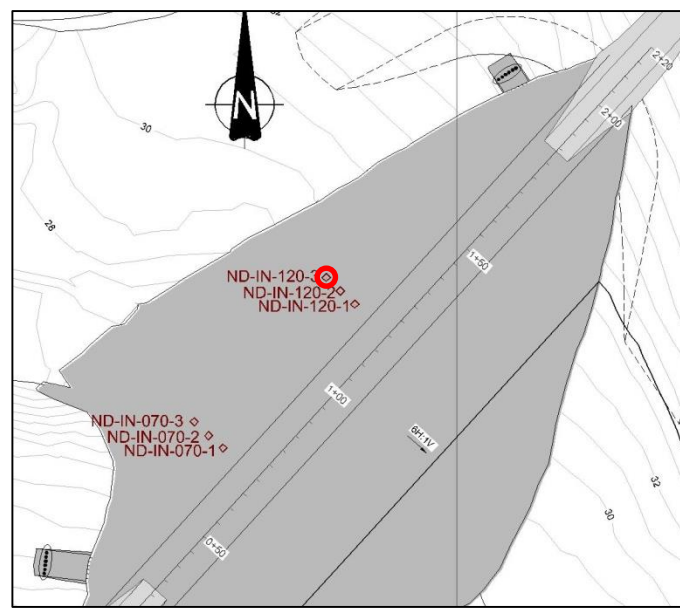
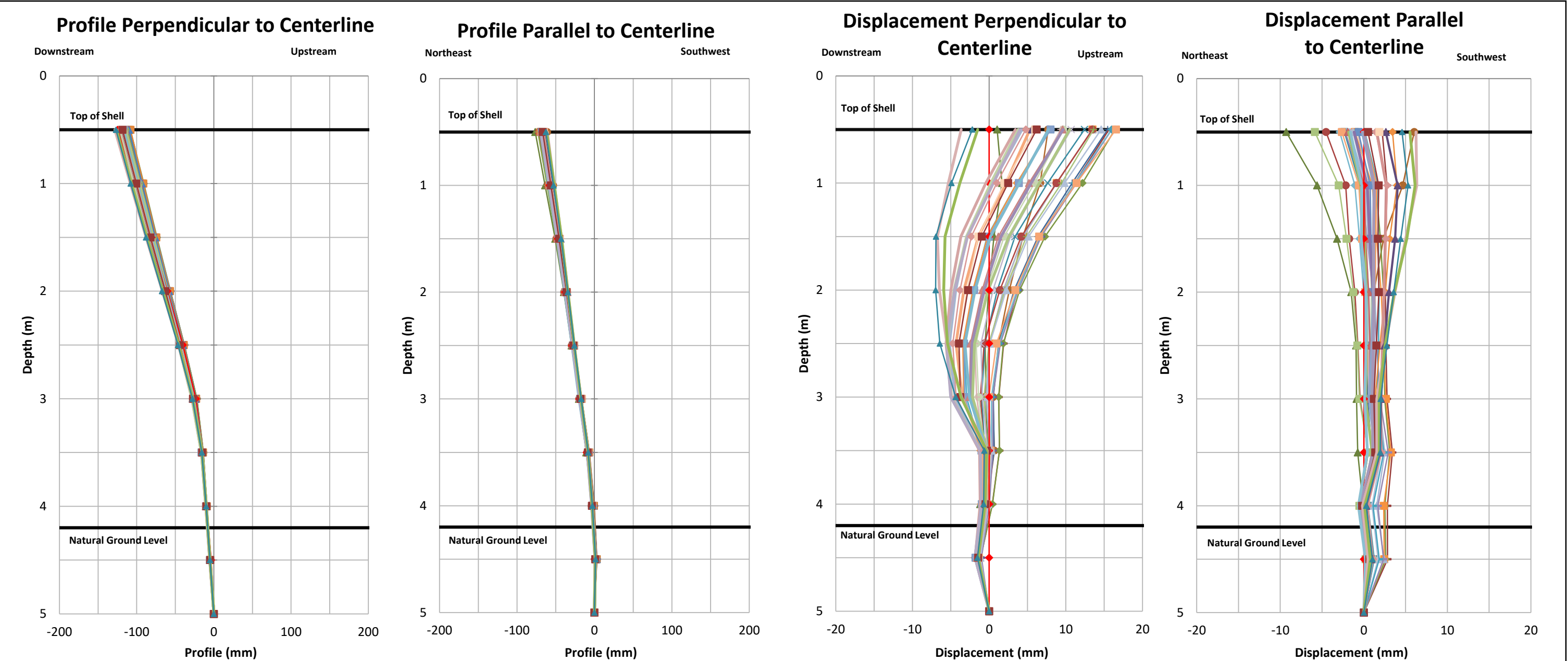
		2017 Annual Geotechnical Inspection		
		Inclinometer 120-2A Displacement Time Series		
		Date: Sept. 2017	Approved: PDL	Figure: E.15
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE			

Inclinometer 120-2A Velocity Timeseries



- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

		2017 Annual Geotechnical Inspection		
		Inclinometer 120-2A Velocity Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.16



Notes:

1. Manufacturer's accuracy is +/- 0.25 mm per location
2. Survey data excluded from the charts is noted on Figure E.1

LEGEND:

7/26/2013	5/20/2014	6/18/2014
7/6/2014	7/12/2014	8/8/2014
9/1/2014	10/1/2014	2/2/2015
3/21/2015	4/20/2015	5/20/2015
6/26/2015	7/9/2015	8/2/2015
8/28/2015	9/4/2015	10/9/2015
11/25/2015	12/30/2015	2/8/2016
3/7/2016	4/11/2016	7/2/2016
8/14/2016	9/25/2016	11/26/2016
1/3/2017	1/26/2017	3/23/2017
4/15/2017	2/23/2017	5/20/2017
6/25/2017	7/16/2017	8/9/2017
Initial Reading (9/8/2012)		

2017 Annual Geotechnical Inspection

Inclinometer 120-3

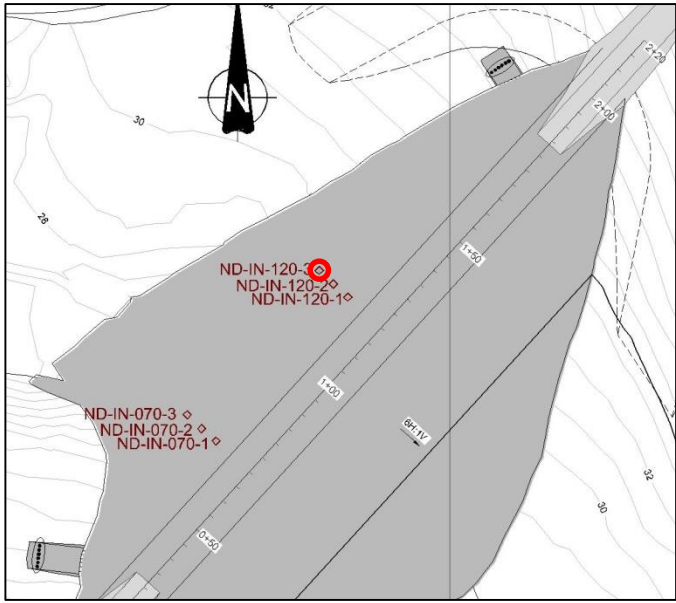
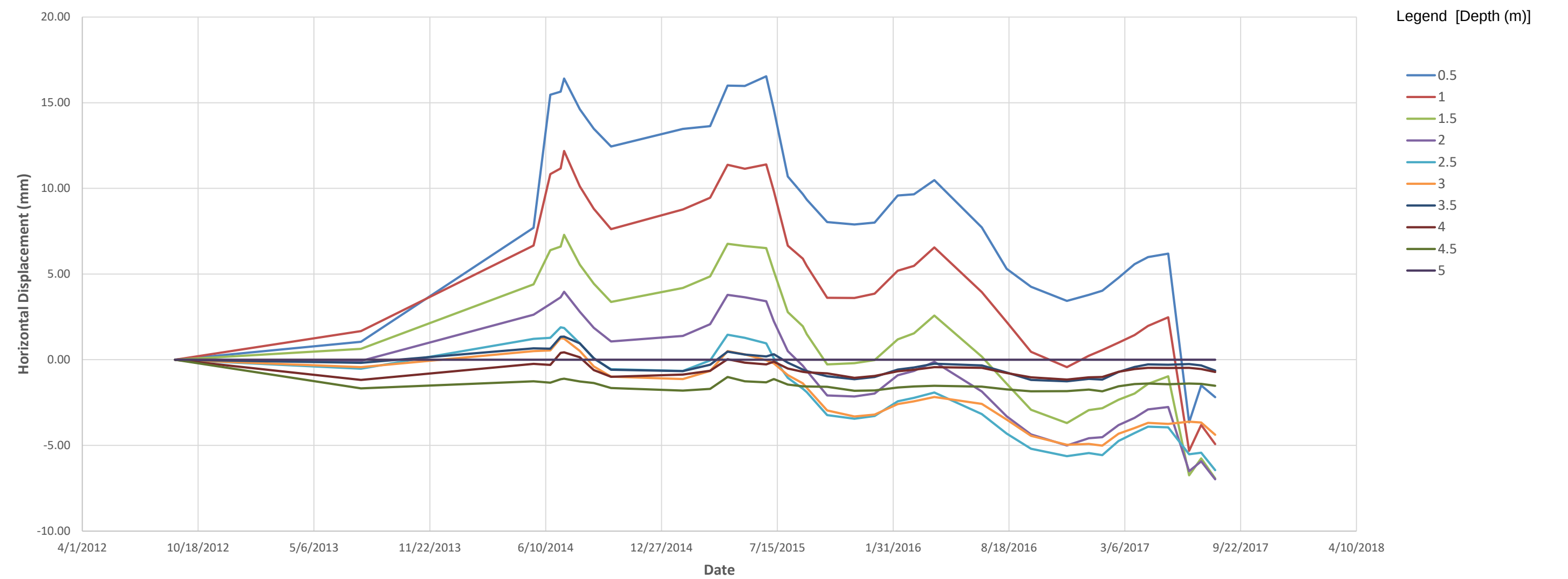
Date: Sept. 2017	Approved: PDL	Figure: E.17
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Job No: 1CT022.016

Filename: AppE_1CT022.016_Inclinometers.pptx

DORIS MINE

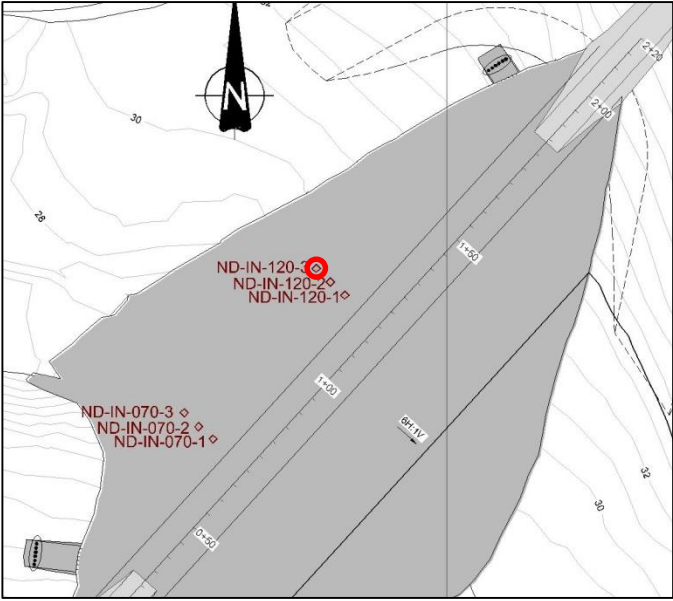
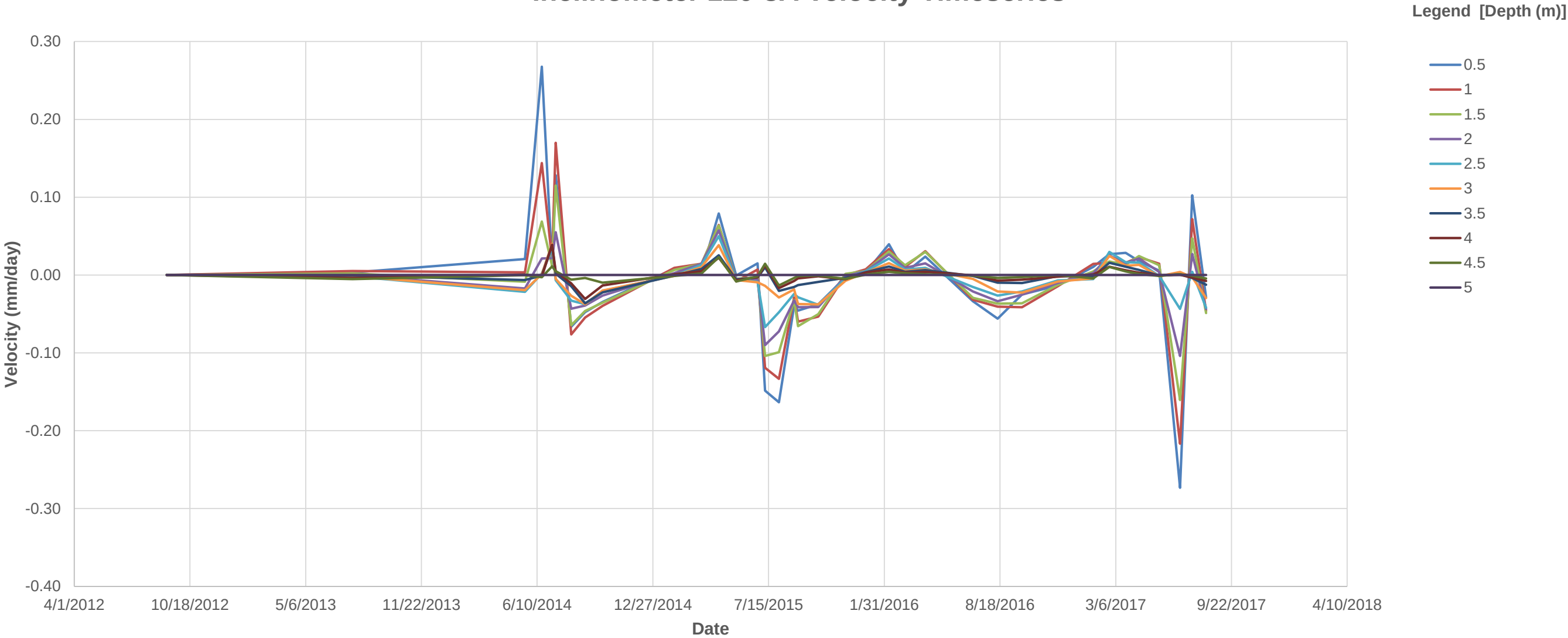
Inclinometer 120-3A Timeseries



- Notes:**
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

		2017 Annual Geotechnical Inspection		
		Inclinometer 120-3A Displacement Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.18

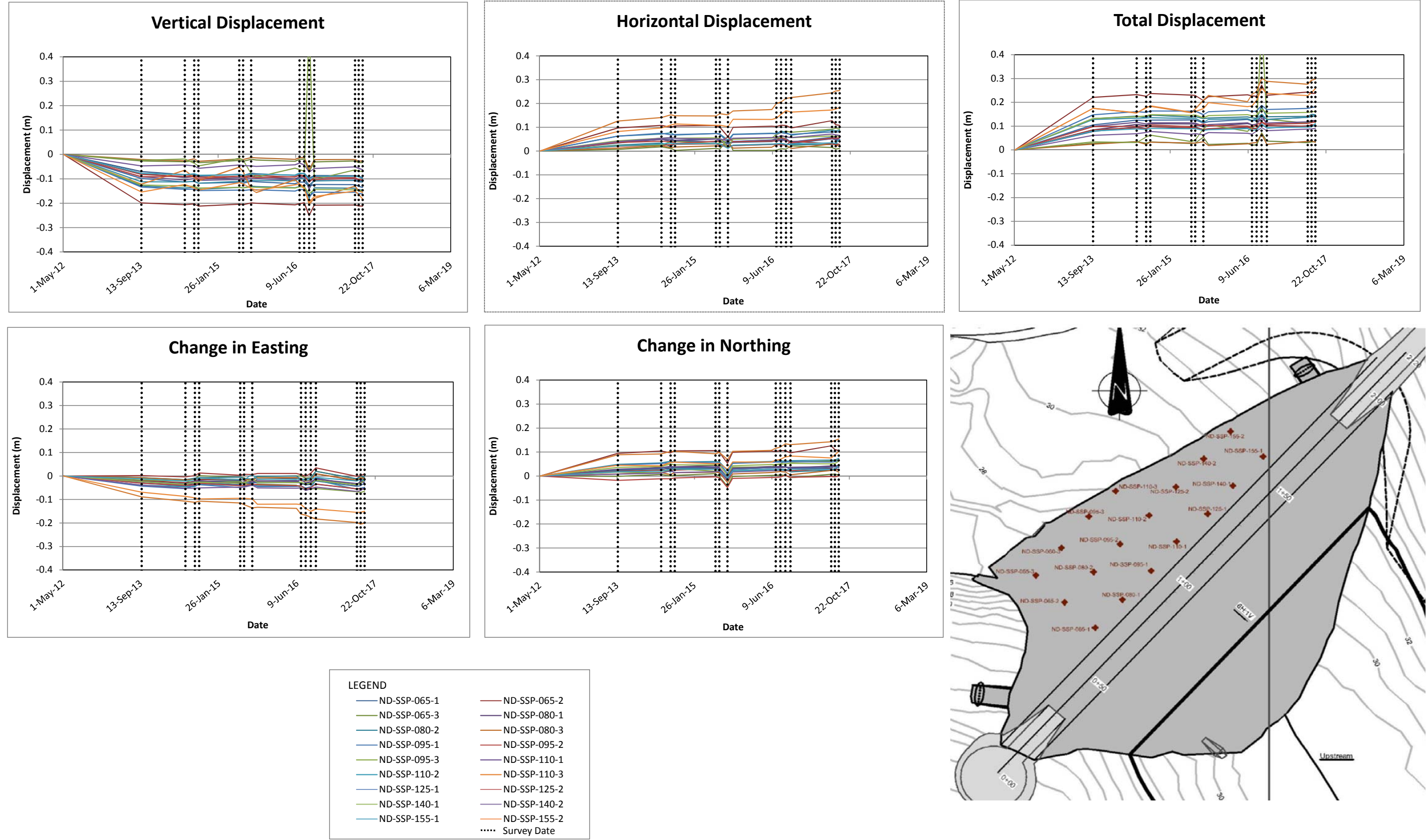
Inclinometer 120-3A Velocity Timeseries



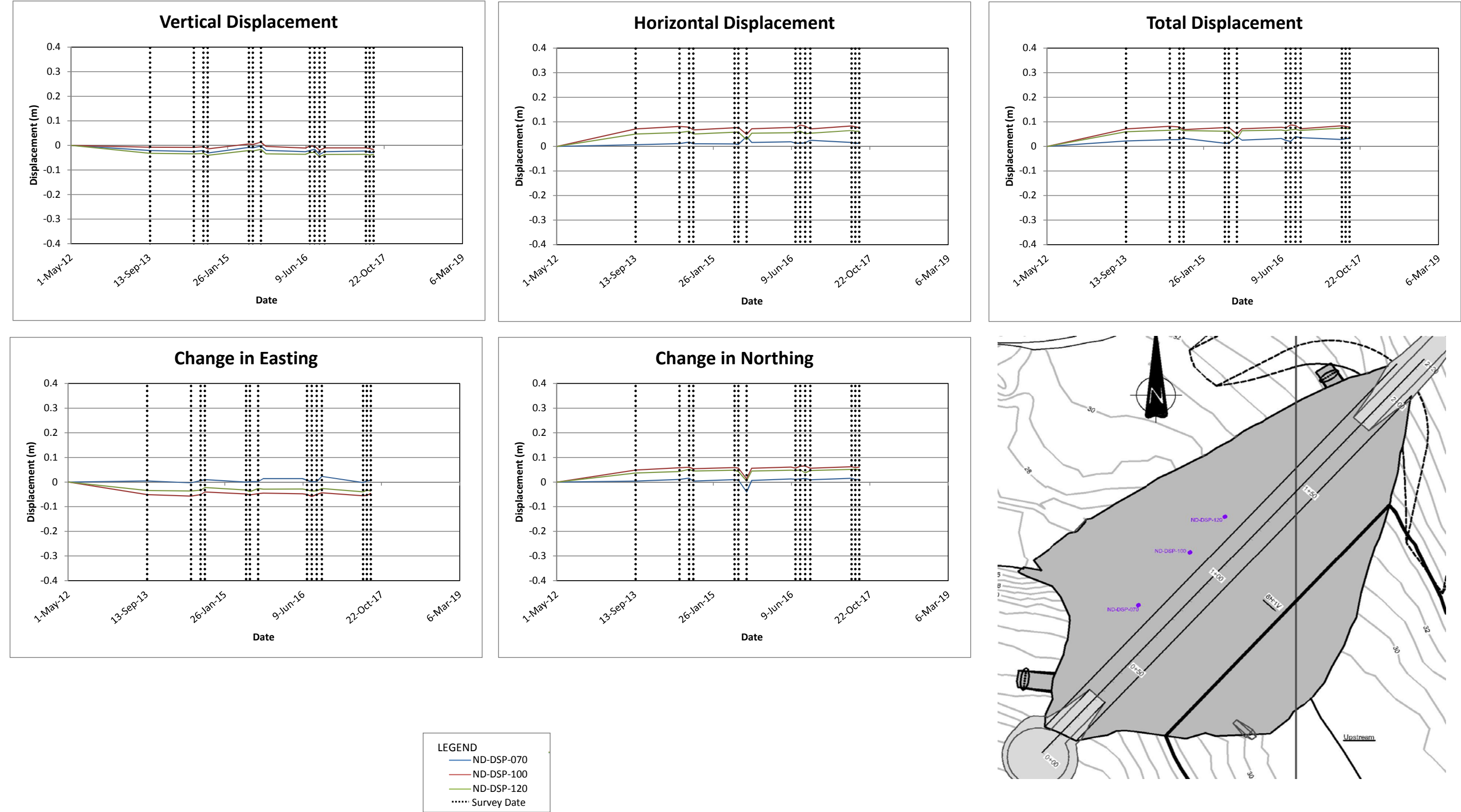
- Notes:
- 1. Manufacture's accuracy is +/- 0.25 mm per location
 - 2. Survey data excluded from the charts is noted on Figure E.1

		2017 Annual Geotechnical Inspection		
		Inclinometer 120-3A Velocity Time Series		
Job No: 1CT022.016 Filename: AppE_1CT022.016_Inclinometers.pptx	DORIS MINE	Date: Sept. 2017	Approved: PDL	Figure: E.19

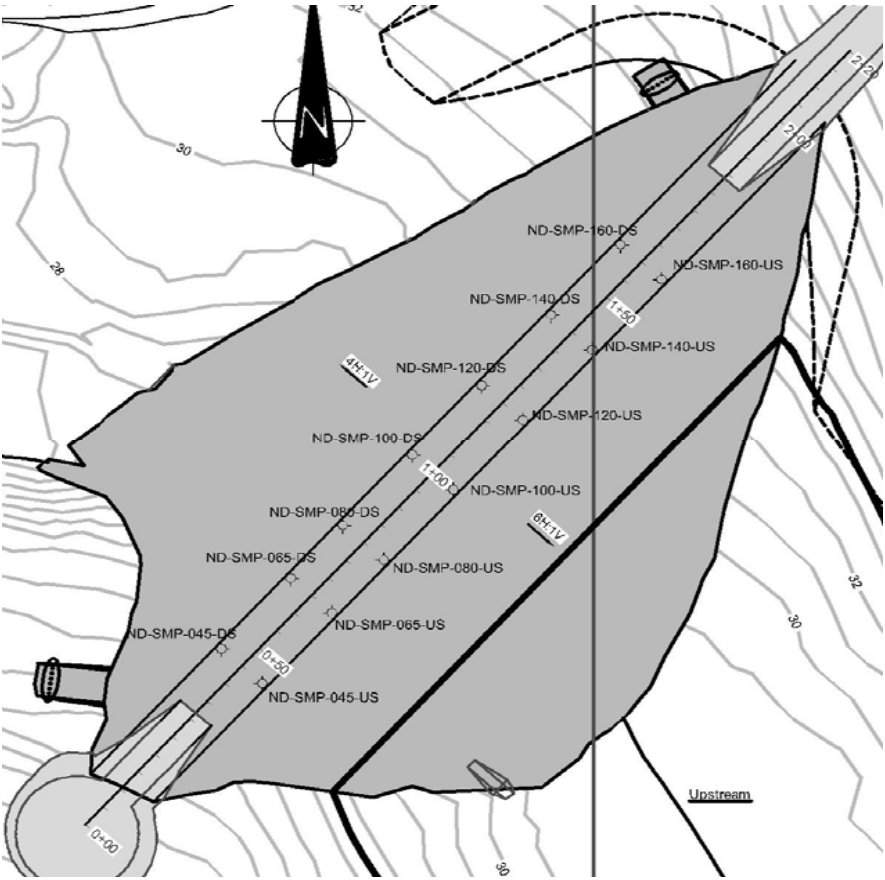
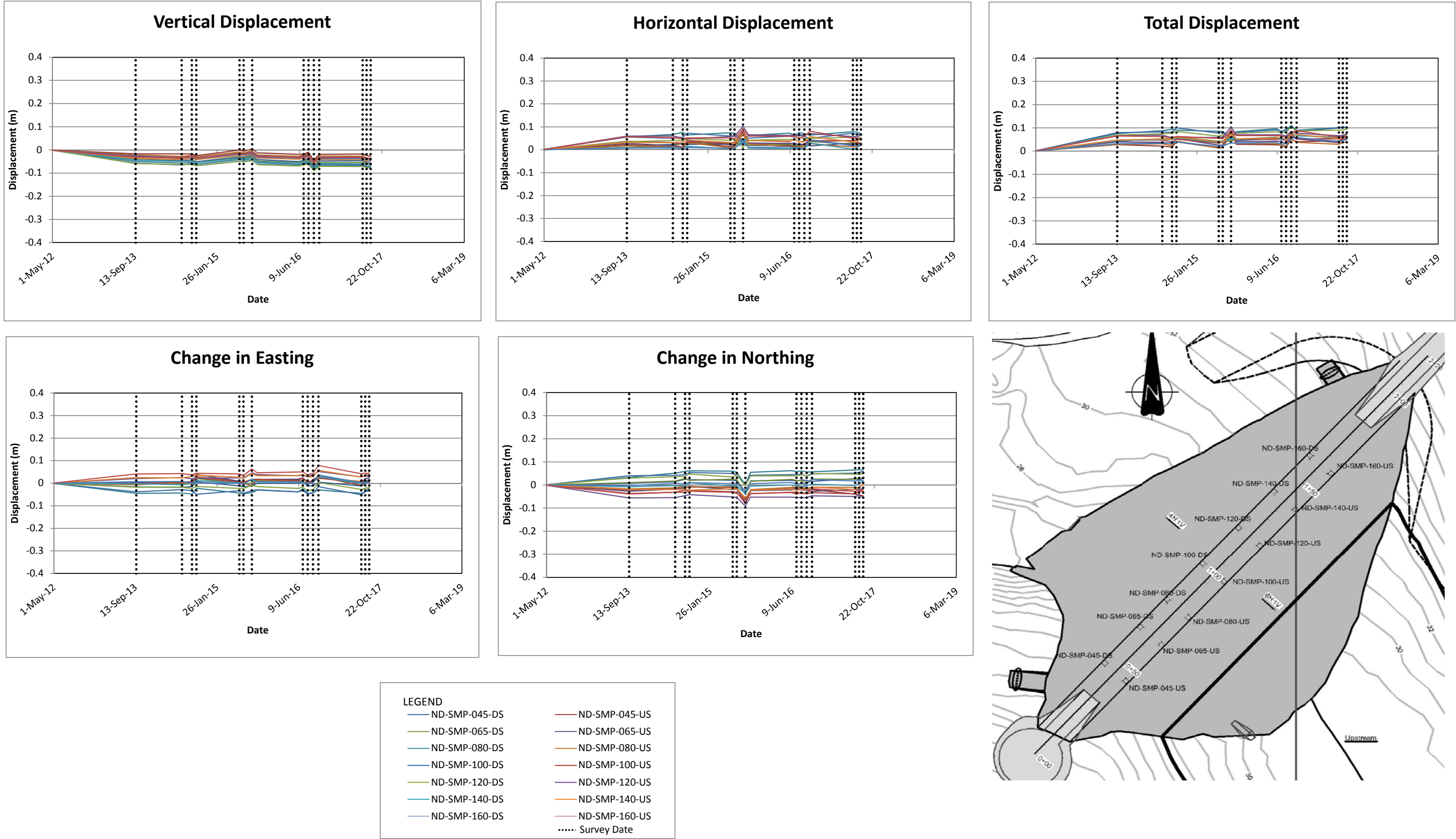
SURFICIAL SURVEY MONITORING POINTS



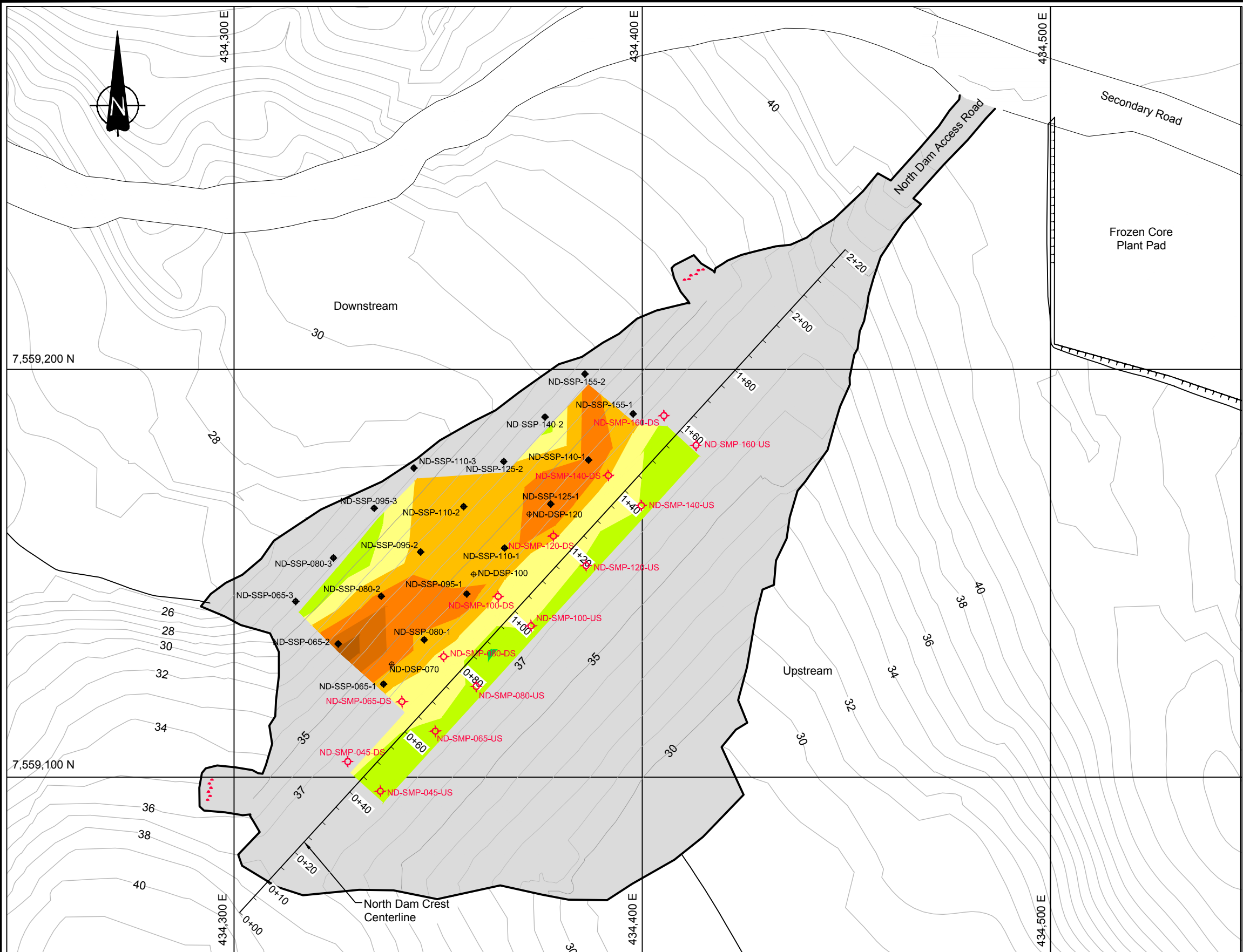
DEEP SETTLEMENT POINTS



CREST SURVEY MONITORING POINTS



C:\01_SITES\Hope Bay\North Dam\June2017 Settlement update\1CT022.016-North Dam Settlement_2017_rev0.dwg



LEGEND

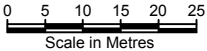
- Crest Monitoring Point
- Surface Survey Point
- Major Contour
- Final Surface Extents
- Thermosyphon Radiator

NOTES

- Topographic contour data for the terrain model was provided by the Contractor.
- The co-ordinate system is UTM NAD 83, Zone 13.

Settlement Elevation Legend

Minimum Elevation (m)	Maximum Elevation (m)	Color
-0.20	-0.17	
-0.17	-0.14	
-0.14	-0.11	
-0.11	-0.08	
-0.08	-0.05	
-0.05	-0.02	
-0.02	0.01	



SRK JOB NO.: 1CT022.016
FILE NAME: 1CT022.016-North Dam Settlement_2017_rev0.dwg



DORIS MINE

2017 Geotechnical Inspection

North Dam Settlement Isopach
for July 2017 Settlement Points

DATE: Sept. 2017	APPROVED: PL	FIGURE: F.4
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Appendix G – Walk Over Surveys



North Dam Weekly Walkover Survey Report

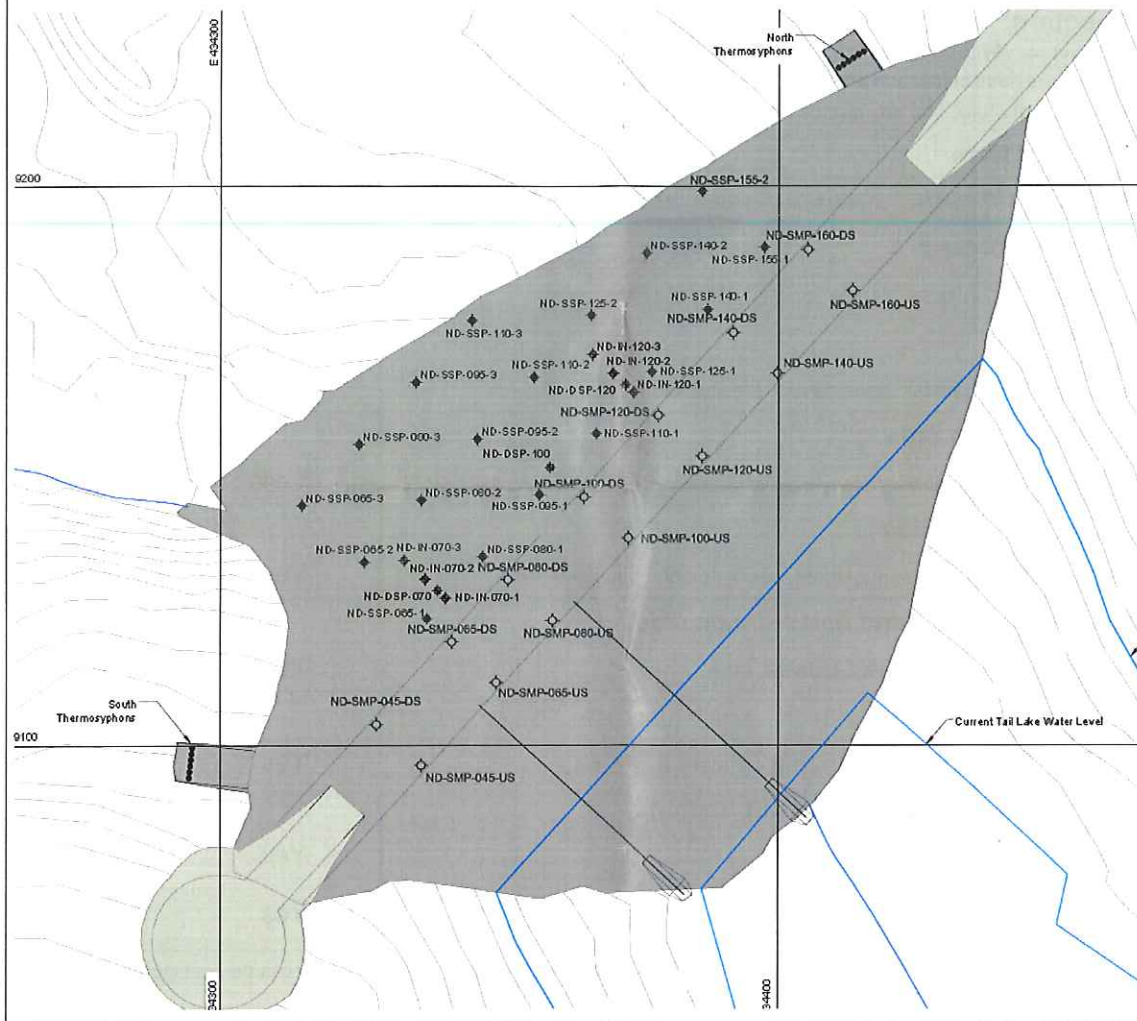
Date:	Sept 4, 2016
Inspected By:	Josh Fris
Conditions:	(ie. snow on ground, clear) Clear

Visual Inspection:

This weekly walkover survey report is a means to track the condition on the North Dam, please provide details on changes that have developed since the previous inspection and/or any observations of particular concern. All photos are appreciated. Please send the completed form (scans are fine) and any photos to hopebaymonitoring@srk.com and pluedke@srk.com

Upstream Side of Dam		
Any visible concerns? (cracks, depressions, erosion, etc.)	Yes	☒ No
Downstream Side of Dam Animal holes unchanged		
Any visible concerns? (cracks, depressions, erosion, seepage, etc.)	Yes	☒ No
Crest of Dam		
Any visible concerns? (cracks, depressions, erosion, etc.)	Yes	☒ No
Thermosyphons North Side Erosion unchanged		
Any visible concerns? (cracks, punctures, peeling paint, birds nests, etc.)	Yes	☒ No
Thermosyphons South Side		
Any visible concerns? (cracks, punctures, peeling paint, birds nests, etc.)	Yes	☒ No
Instrumentation (on crest and downstream side)		
Any visible concerns? (bent, rusted, cracked, etc.)	Yes	☒ No
Thermistors and Dataloggers		
Any visible concerns? (frayed or cut cables, damaged boxes, etc.)	Yes	☒ No
Suspended Sediment in TIA (When not frozen)		
Any suspended sediment in Tail Lake?	Yes	☒ No
Water at the Toe of the Downstream Side of the Dam (If yes refer to Doris North – North Dam and Tail Lake Outflow Seepage Monitoring Work Plan 2015)		
Yes	Yes	☒ No
If you answered yes to any of the questions above please provide details and photos. Observations can be sketched on the figure provided on the next page. If seepage has been noted please estimate the flow.		

Please provide any other observations you have made or items that did not fit in the space above



Photos:

Please collect the following photos:

Photo from north end looking south along the dam

Photo from south end looking north along the dam

Other photos, please describe





North Dam Weekly Walkover Survey Report

Date:	Sept 2016
Inspected By:	Sarah Foss
Conditions:	(ie. snow on ground, clear) Clear.

Visual Inspection:

This weekly walkover survey report is a means to track the condition on the North Dam, please provide details on changes that have developed since the previous inspection and/or any observations of particular concern. All photos are appreciated. Please send the completed form (scans are fine) and any photos to hopebaymonitoring@srk.com and pluedke@srk.com

Upstream Side of Dam		
Any visible concerns? (cracks, depressions, erosion, etc.)	Yes	No
Downstream Side of Dam		
Any visible concerns? (cracks, depressions, erosion, seepage, etc.)	Yes	No
Crest of Dam		
Any visible concerns? (cracks, depressions, erosion, etc.)	Yes	No
Thermosyphons North Side <i>Erosion on channel</i>		
Any visible concerns? (cracks, punctures, peeling paint, birds nests, etc.)	Yes	No
Thermosyphons South Side		
Any visible concerns? (cracks, punctures, peeling paint, birds nests, etc.)	Yes	No
Instrumentation (on crest and downstream side)		
Any visible concerns? (bent, rusted, cracked, etc.)	Yes	No
Thermistors and Dataloggers		
Any visible concerns? (frayed or cut cables, damaged boxes, etc.)	Yes	No
Suspended Sediment in TIA (When not frozen)		
Any suspended sediment in Tail Lake?	Yes	No
Water at the Toe of the Downstream Side of the Dam (If yes refer to Doris North - North Dam and Tail Lake Outflow Seepage Monitoring Work Plan 2015)		
	Yes	No
If you answered yes to any of the questions above please provide details and photos. Observations can be sketched on the figure provided on the next page. If seepage has been noted please estimate the flow.		