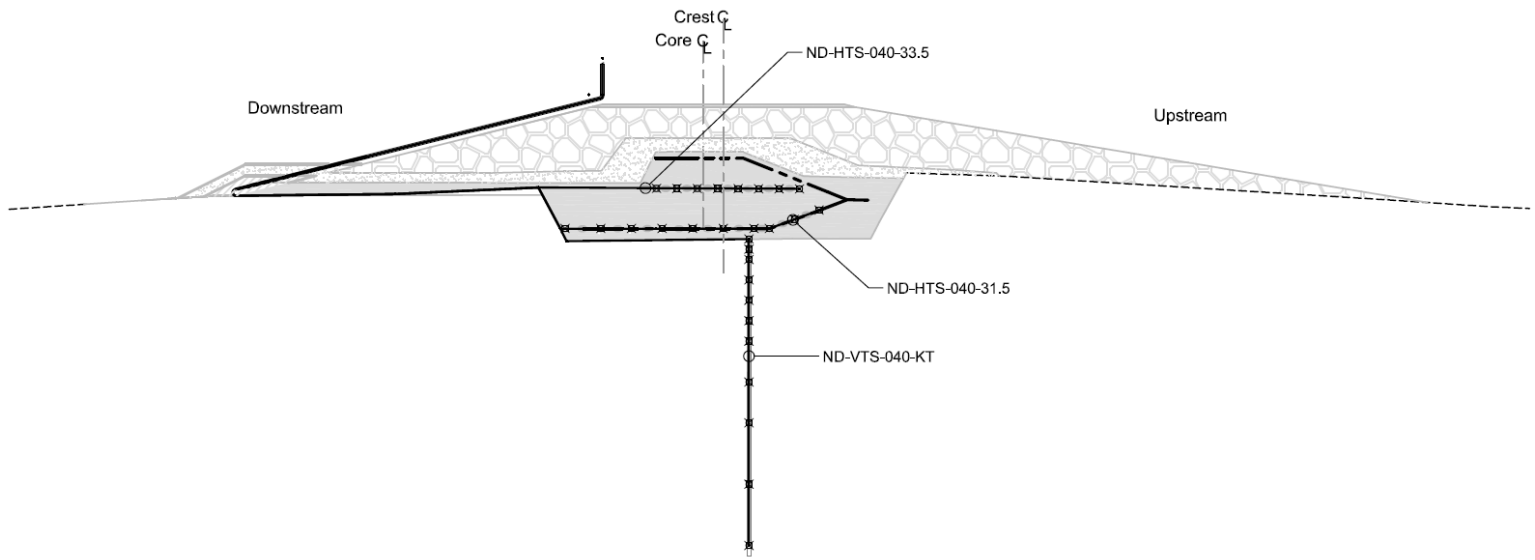
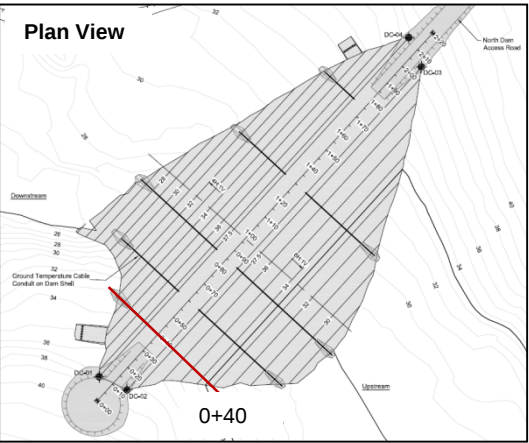


Appendix A: Ground Temperature Cable Data

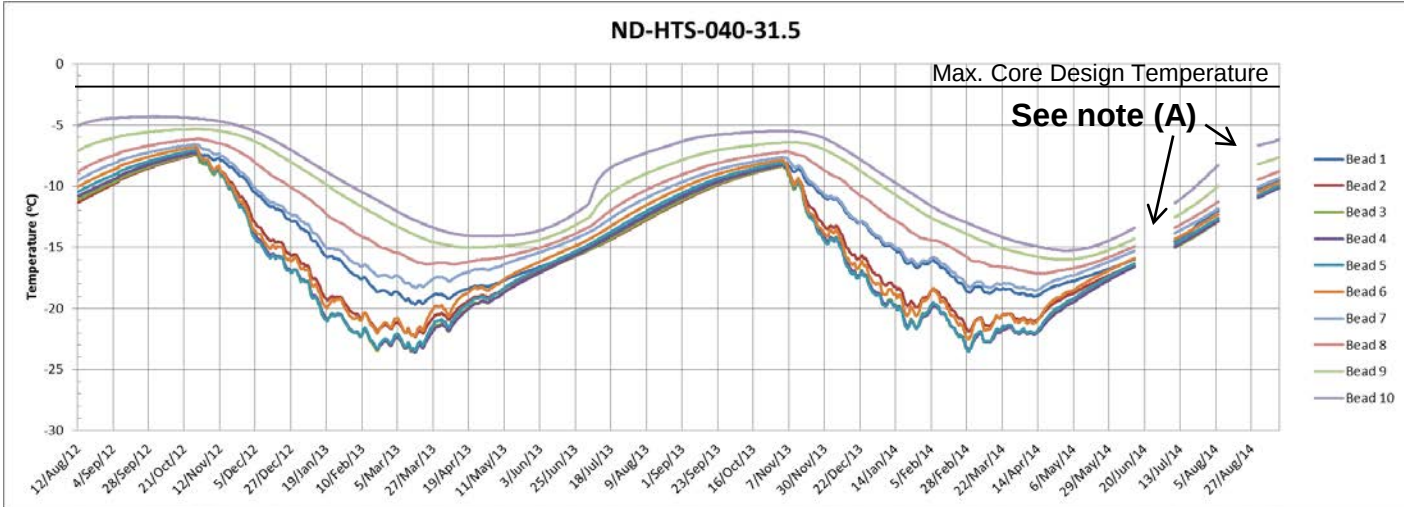
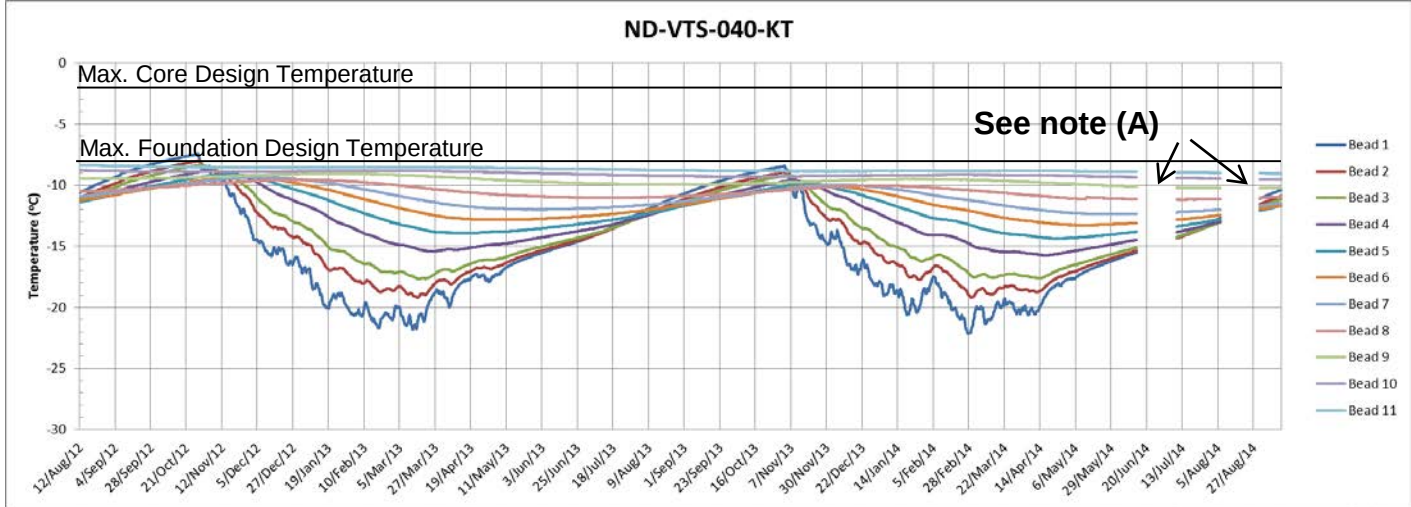
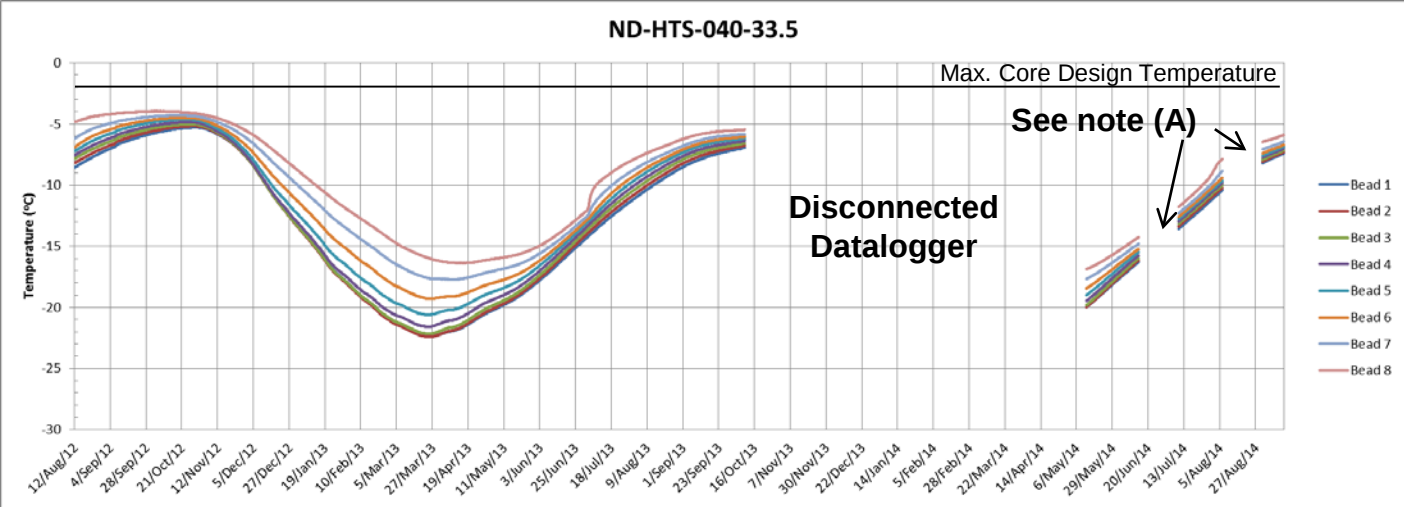
DATALOGGER DOWNLOAD TRACKING

Date	Monitored by	Start Date	End Date	Comments
29-Nov-12				
06-Jun-13	SRK (Ashley Landriaux)	31-May-13	5-May-13	Wrote summary memo.
05-May-14		31-May-13	5-May-14	
07-Jun-14	ESR (Ikey Evalik)			Download did not work, old data on card. Files not saved on server.
14-Jun-14	ESR (Jill Turk, Ikey Evalik)	6-May-14	14-Jun-14	
16-Jun-14	ND-VTS-175-KT and ND-HTS-175-33.5 swapped (now correctly attached to datalogger)			
	DATA MISSING - June 14, 2014 to July 9, 2014			
09-Jul-14	ESR (Ikey Evalik, Leonard)			Download did not work, old data on card. Files not saved on server.
20-Jul-14	SRK (Lowell Wade)	9-Jul-14	20-Jul-14	Memory card "B" corrupt, to be replaced.
28-Jul-14	ESR (Claire)	10-Jul-14	28-Jul-14	Only CR1000#1 data, sent to verify that the repairs to ND-HTS-040-33.5 (string 21) worked.
06-Aug-14	ESR (Ikey Evalik)	10-Jul-14	6-Aug-14	Light noted when card placed in CR1000#2
07-Aug-14	ESR (Claire)	9-Jul-14	6-Aug-14	Only CR1000#2 data sent to check card is working correctly, it is not.
	DATA MISSING - August 6 to 31, 2014			
14-Sep-14	ESR (Claire)	6-Aug-14	14-Sep-14	Data between Aug 6th and Aug 31 missing for CR1000 #1



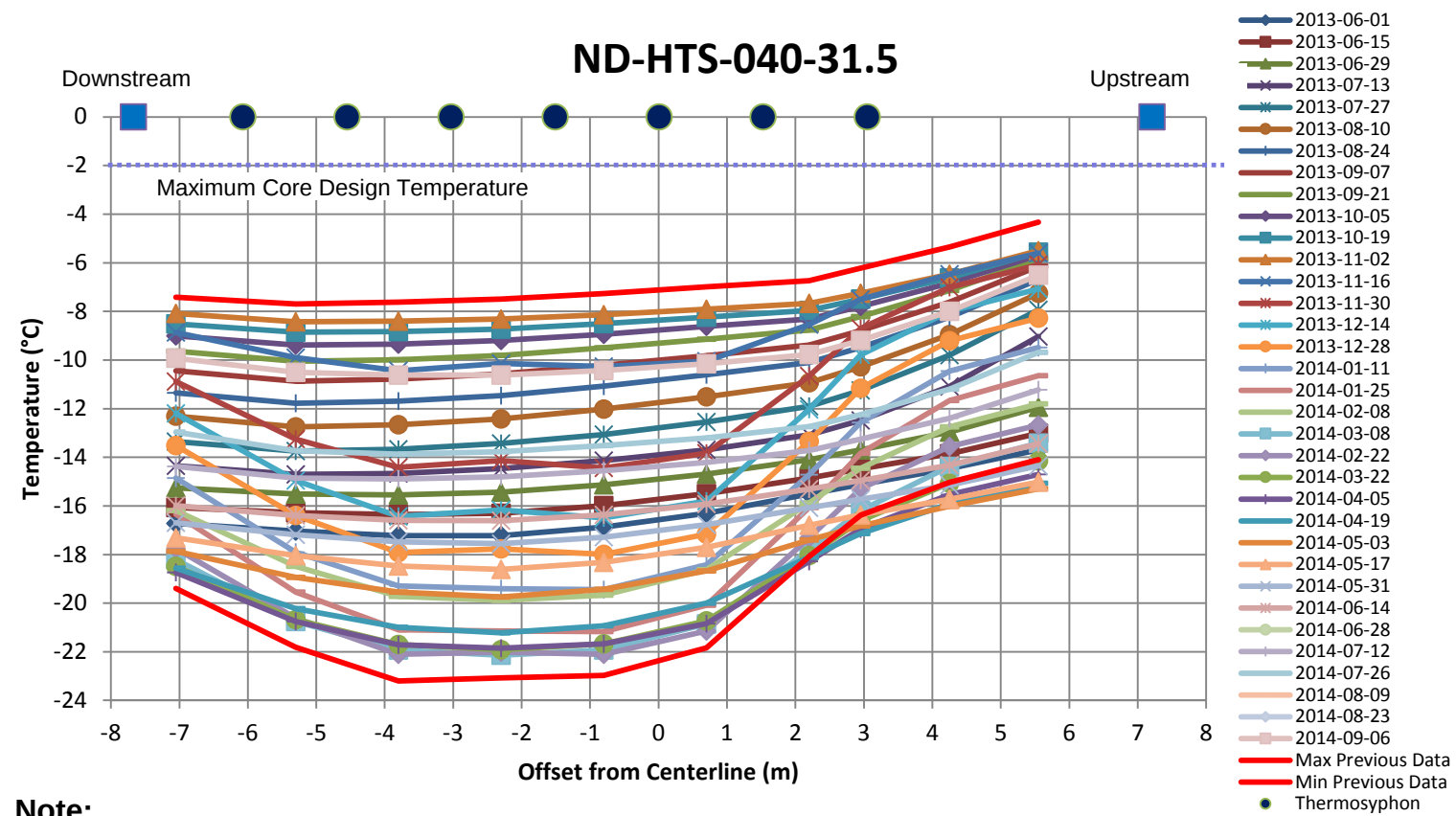
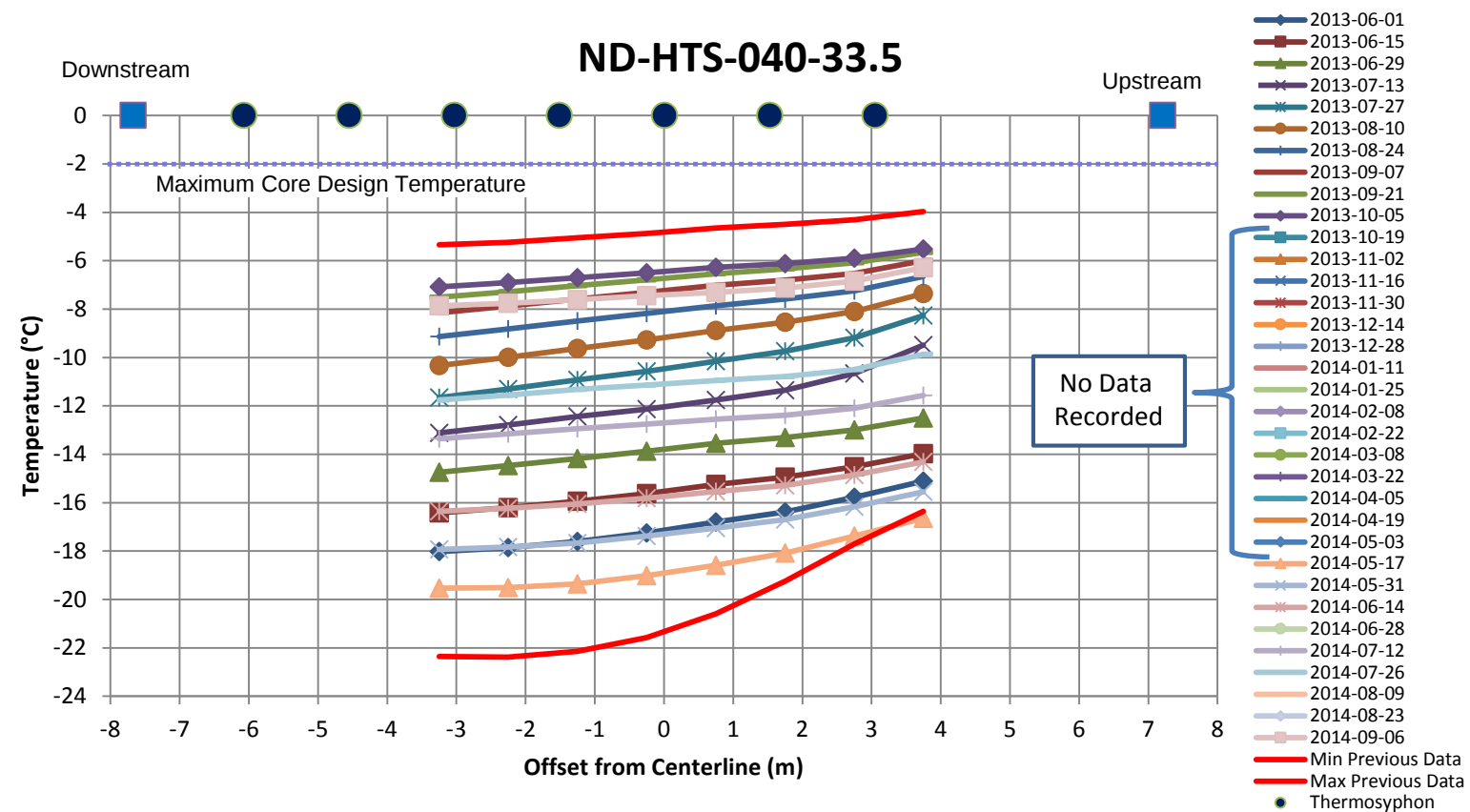
Ground Temperature Cable Status:

- Cable irreparably damaged
- Bead damaged or data missing



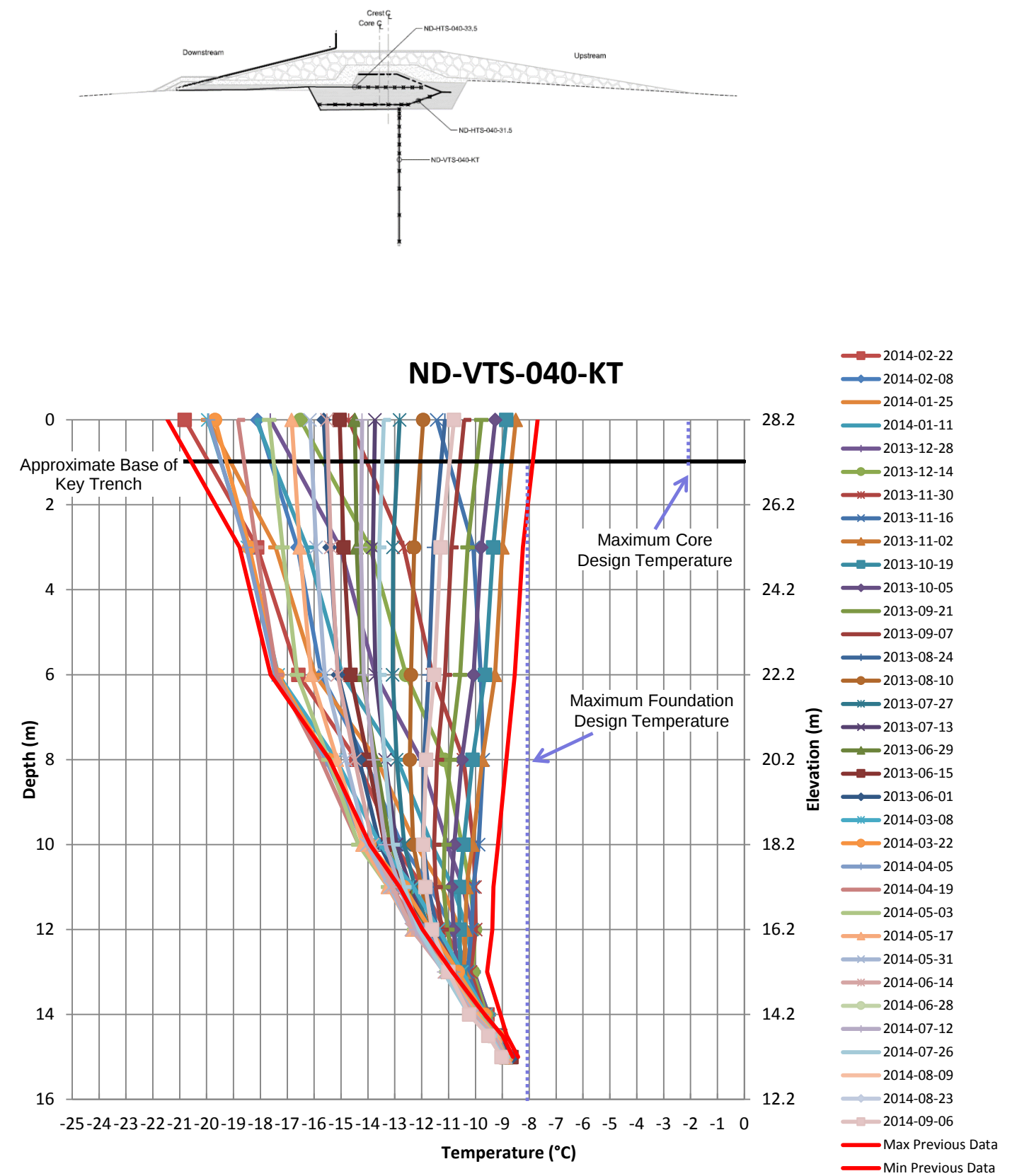
- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - (A) Card download error: data needs to be extracted from datalogger.

		2014 Geotechnical Inspection		
		Station 0+40 Ground Temperature Cable Temperature Vs. Time		
Job No: 1CT022.001	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.1
Filename: Figure_Ground Temperature CableTempVTime.pptx				

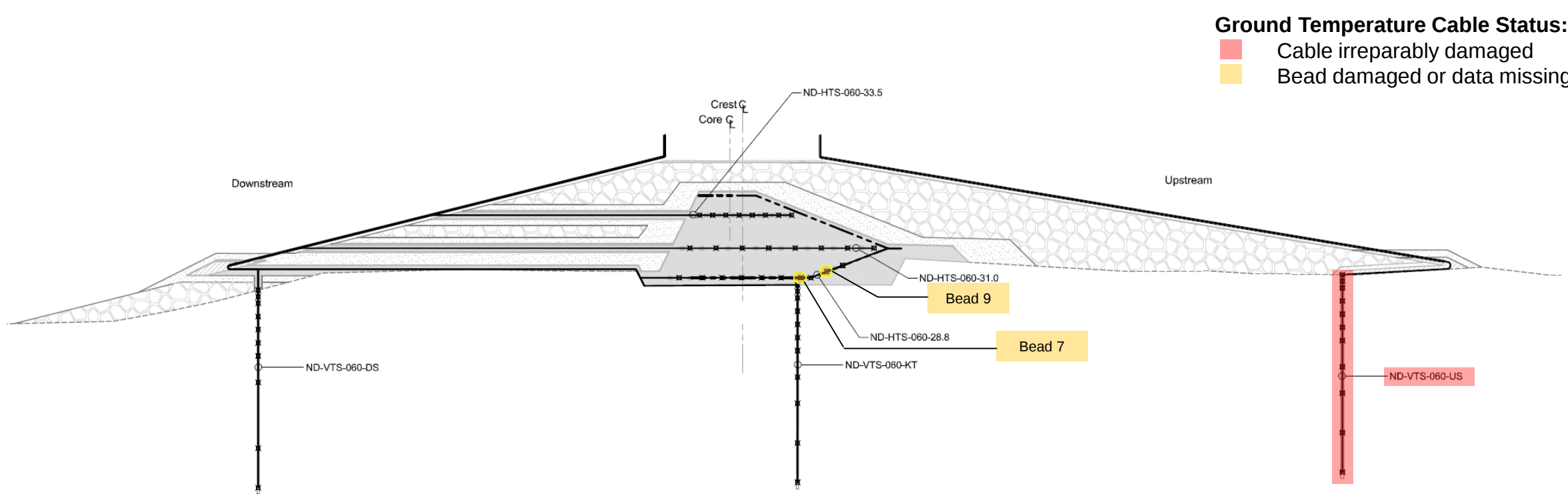
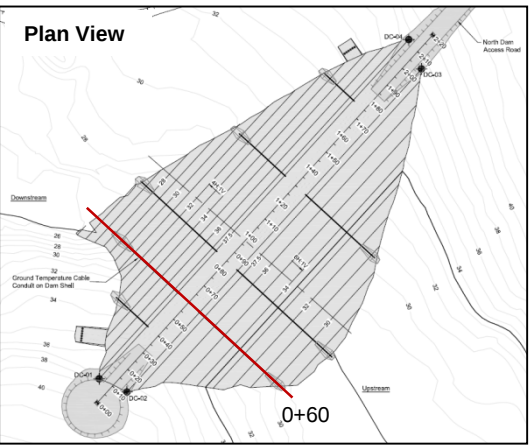


Note:

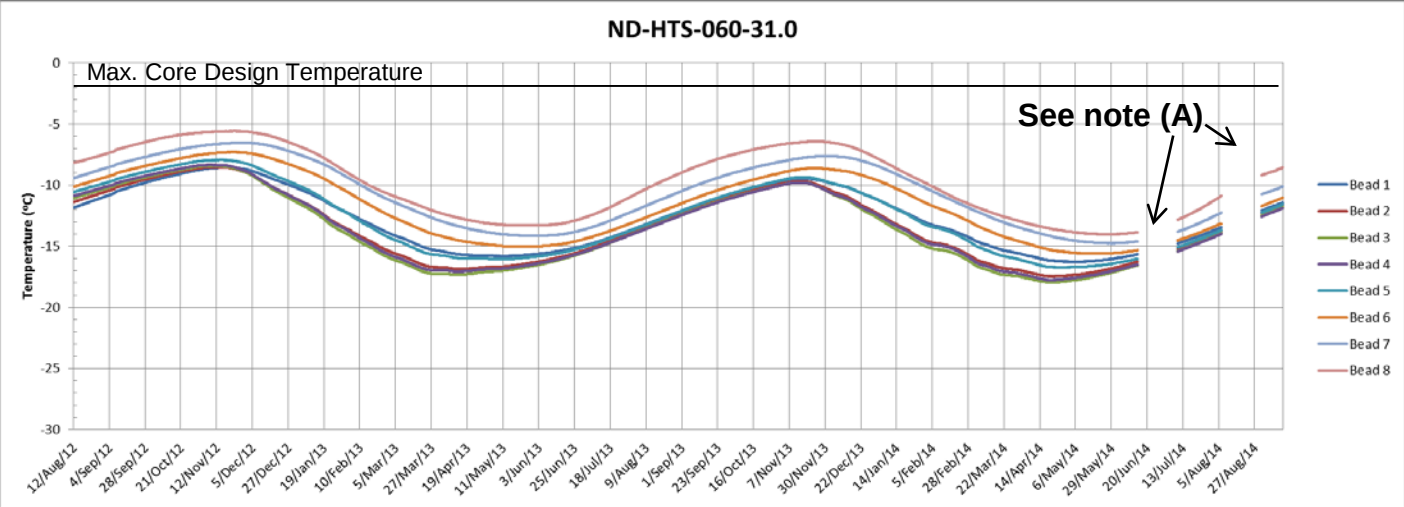
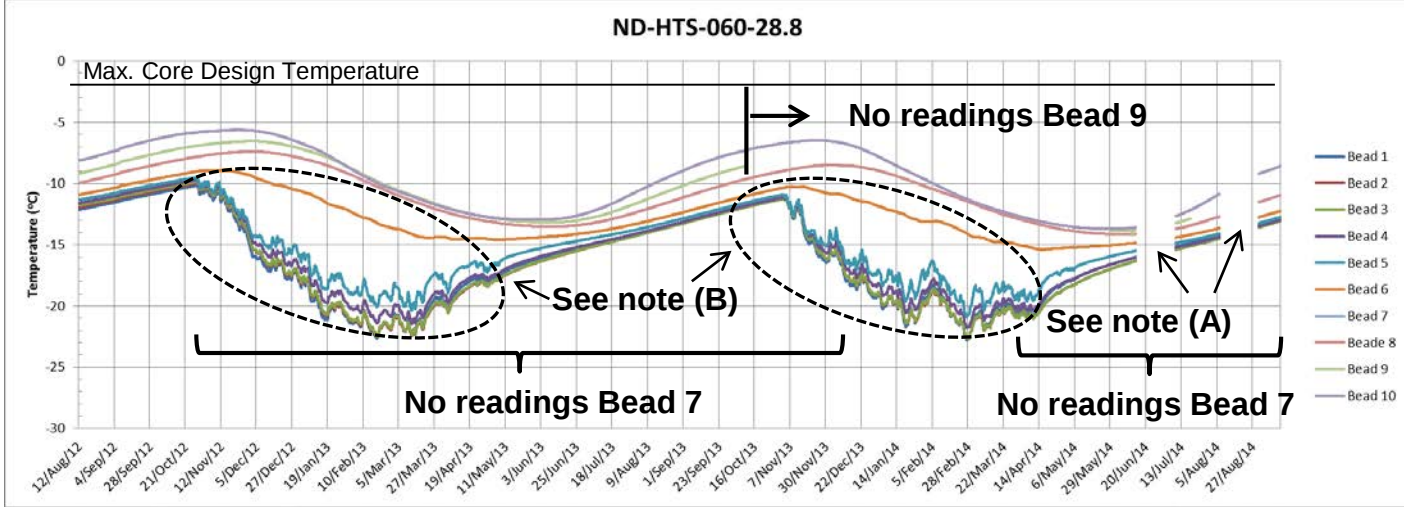
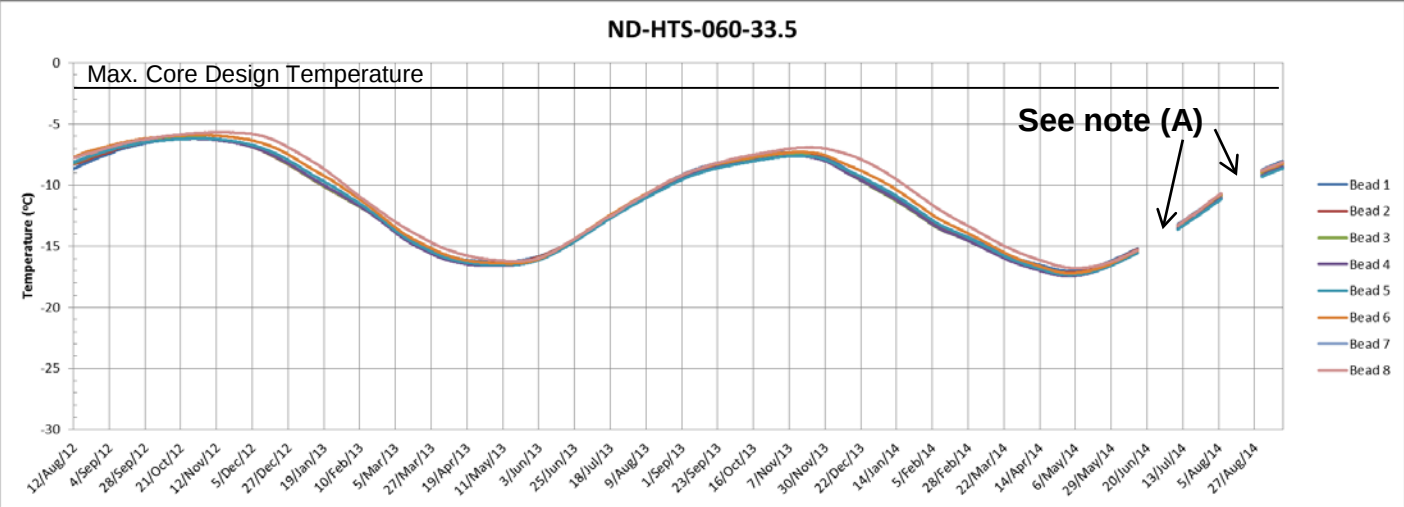
- Previous Data was recorded between August 2012 and May 2013



		2014 Geotechnical Inspection		
		Station 0+40 Ground Temperature Cable Readings by Location		
		Date: Oct. 2014	Approved: MMM	Figure: A.2
Job No: 1CT022.001 Filename: Figure_Ground Temperature CableTempVTime.pptx	HOPE BAY MINING LTD.			

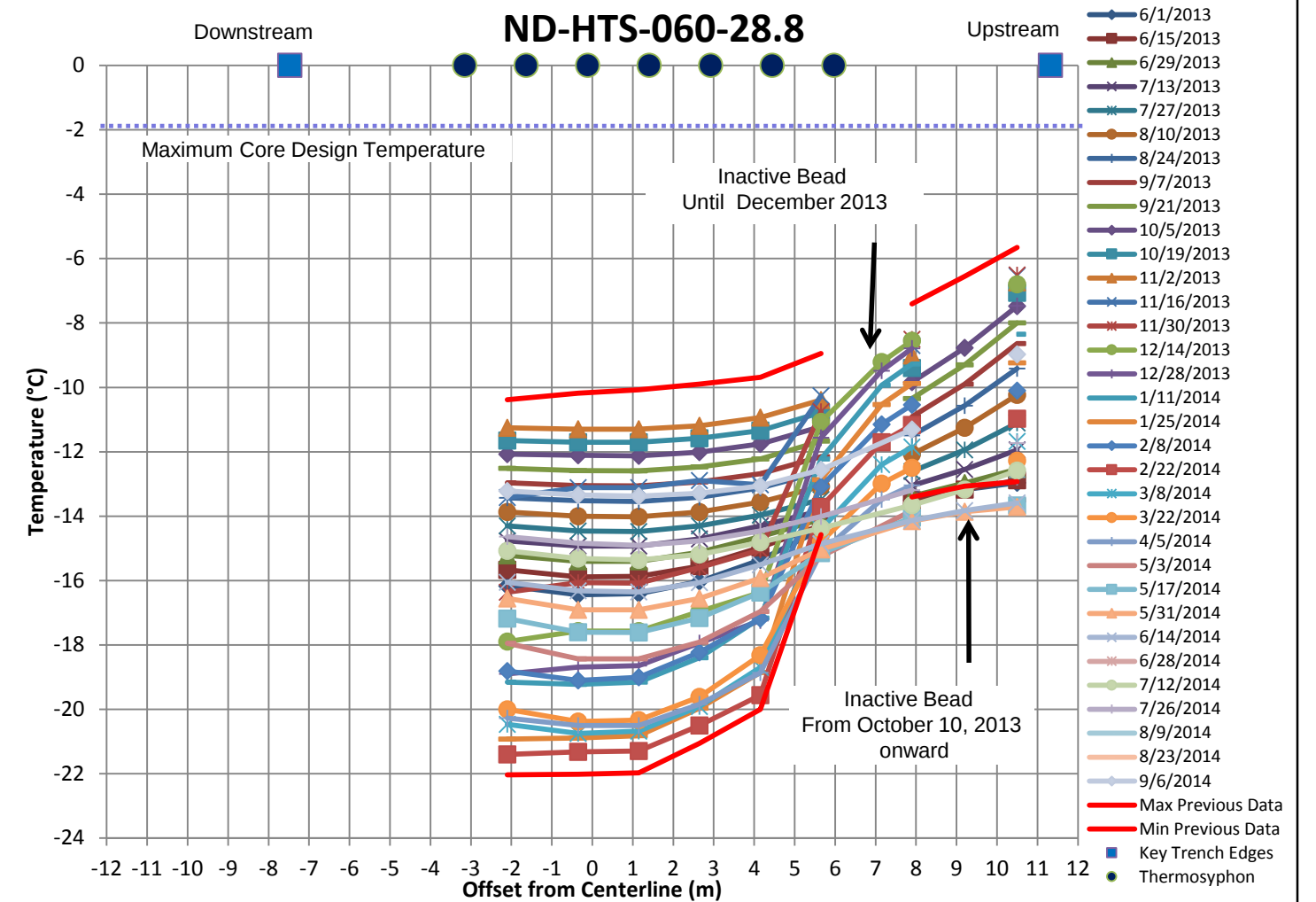
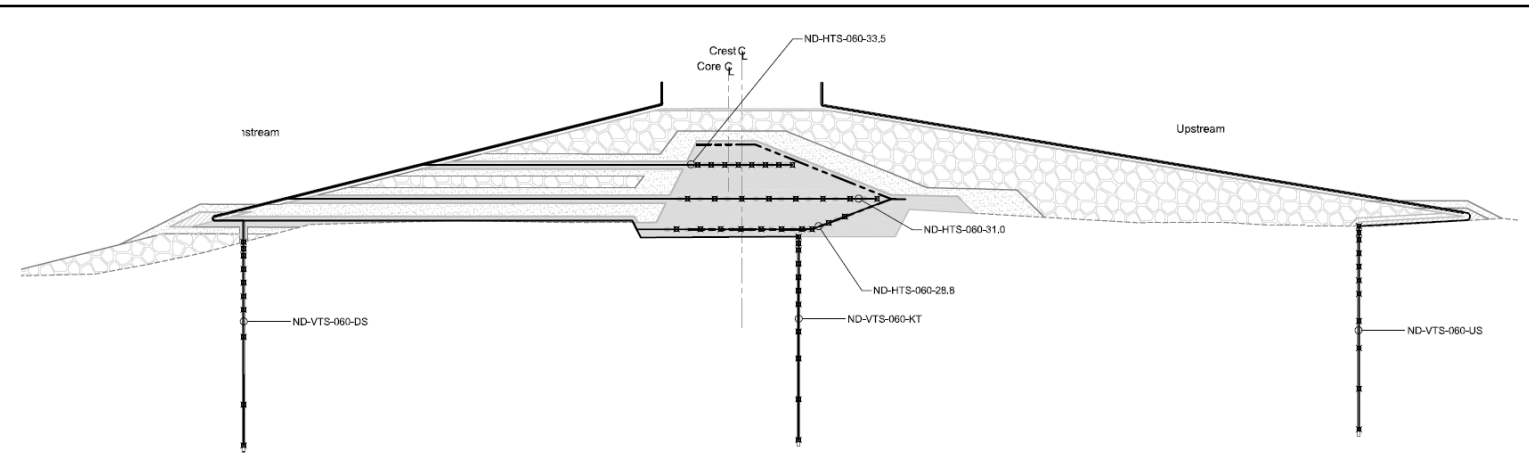
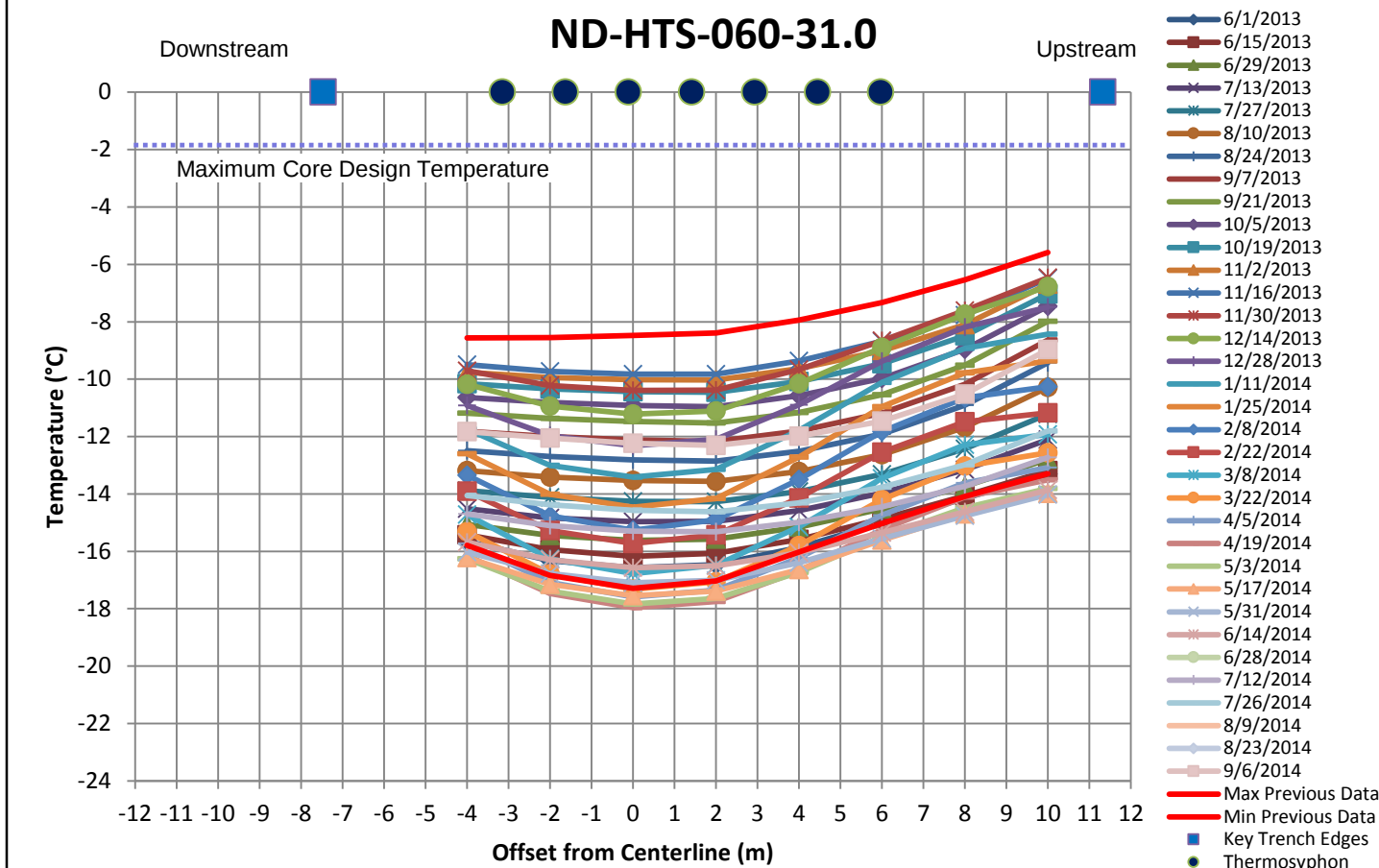
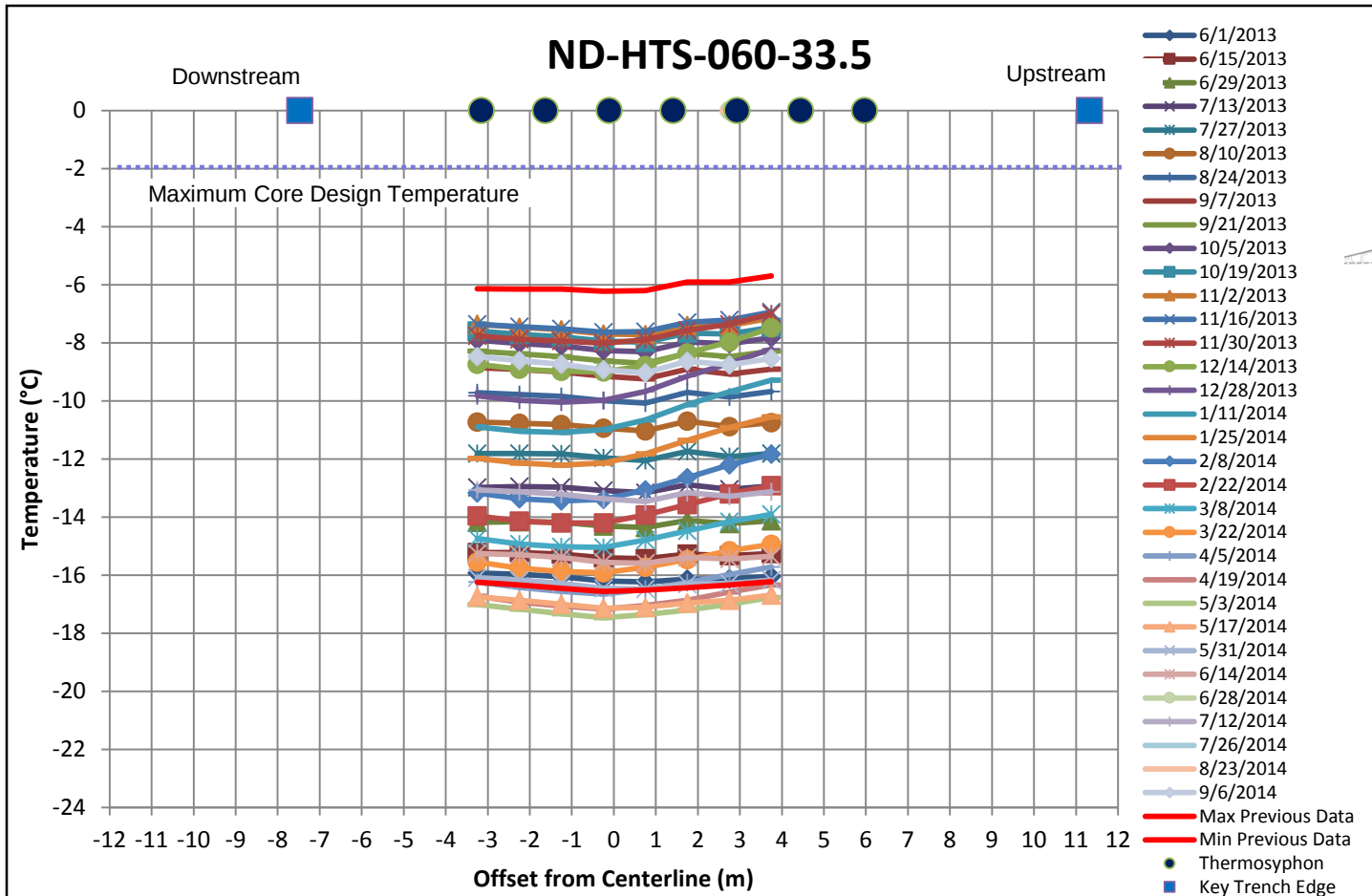


Ground Temperature Cable Status:
Cable irreparably damaged
Bead damaged or data missing



Notes:

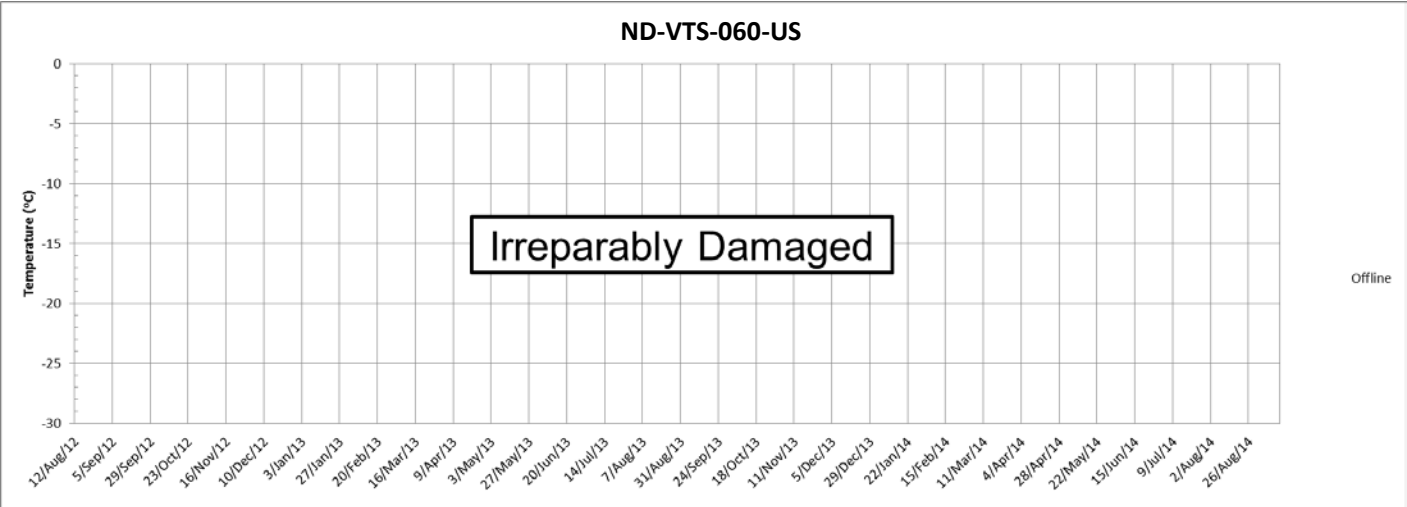
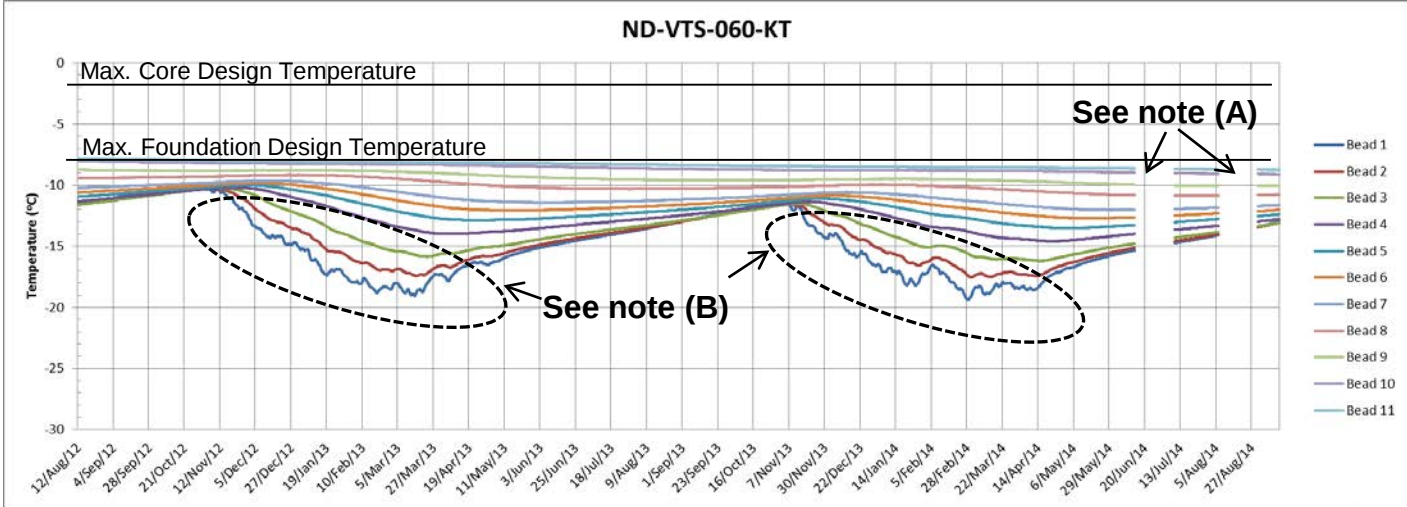
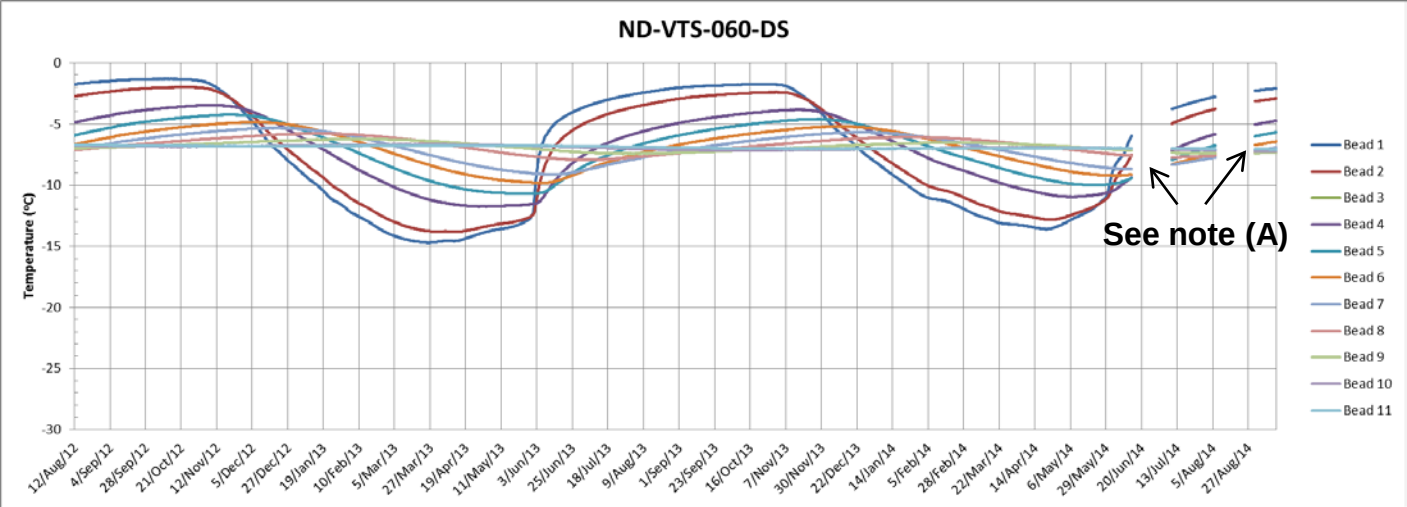
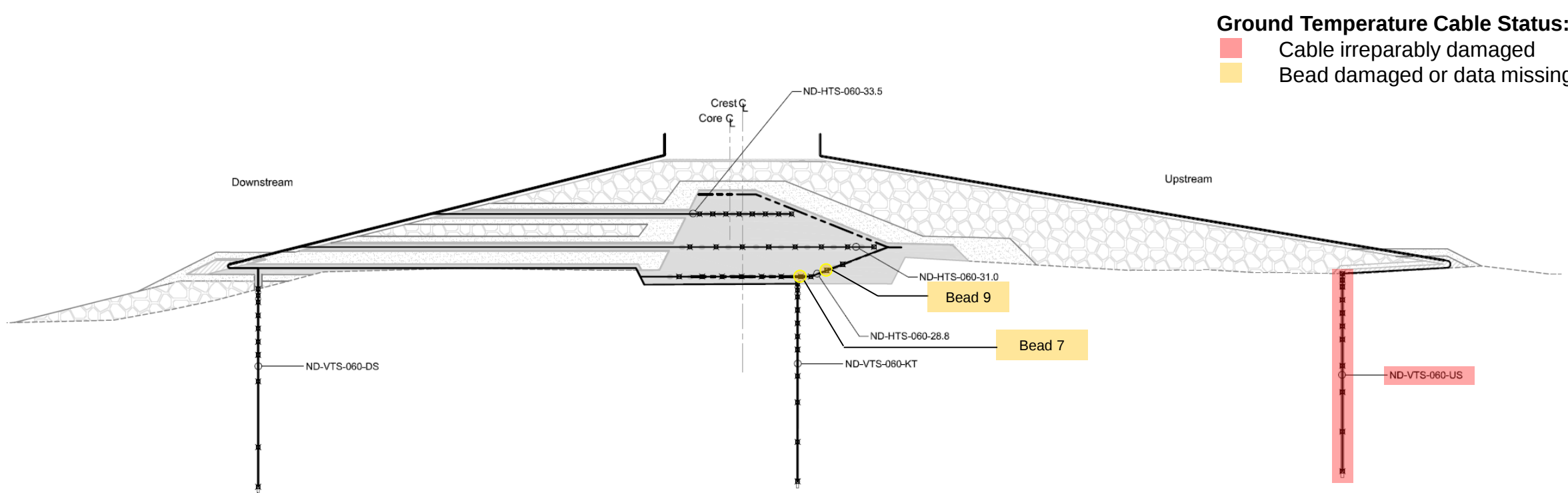
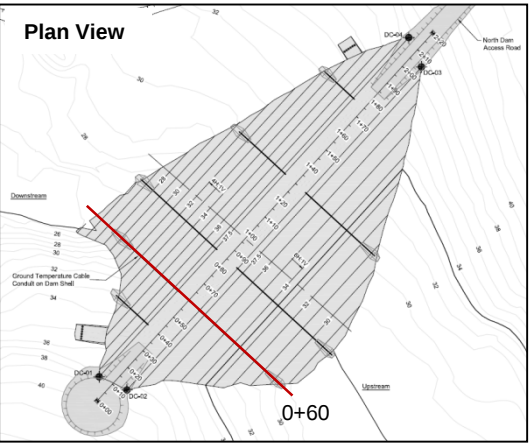
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
- (A) Card download error: data needs to be extracted from datalogger.
- (B) Variation in Ground Temperature Cable readings during winter months due to close proximity of Ground Temperature Cable beads to thermosyphon pipes.



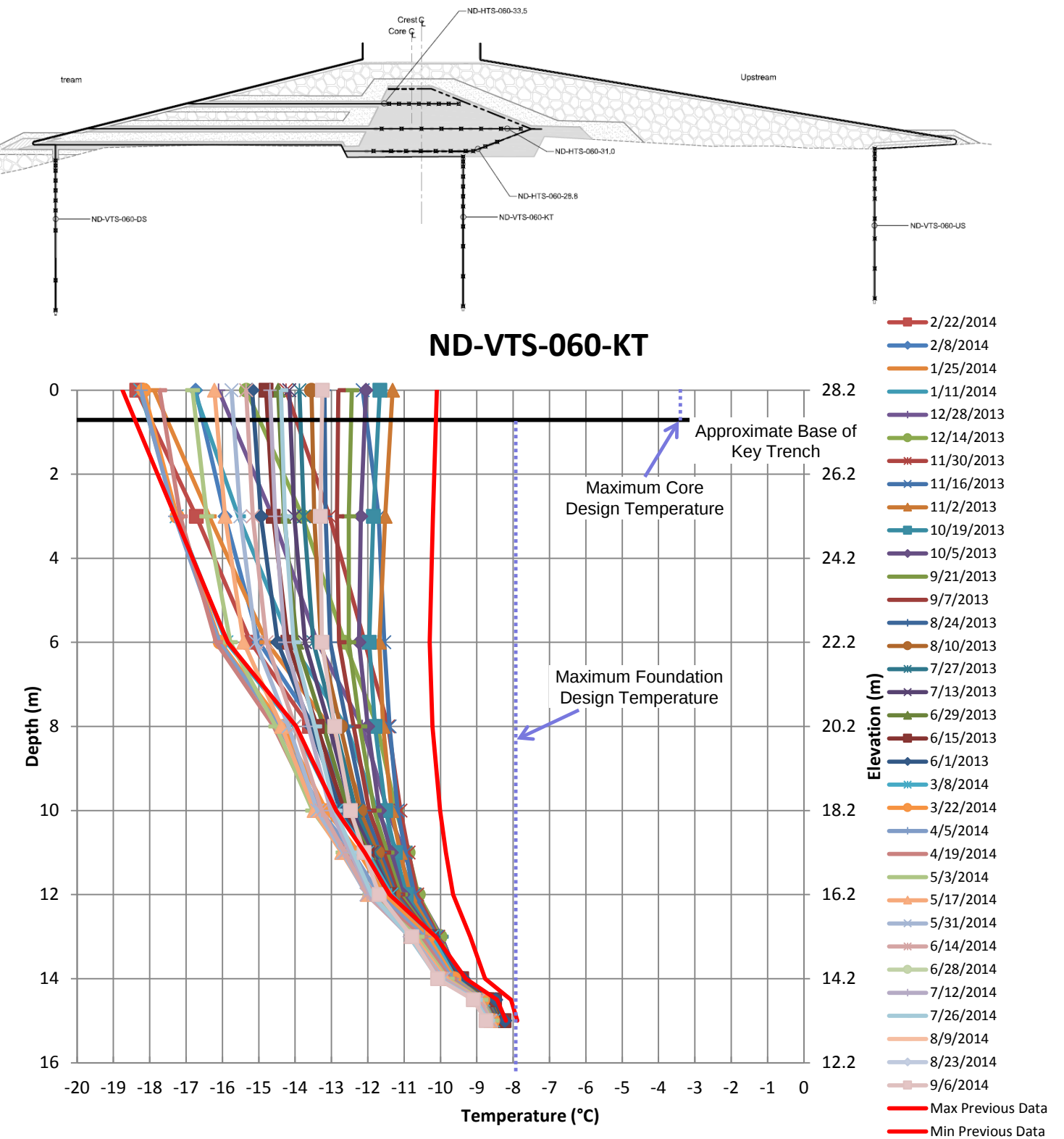
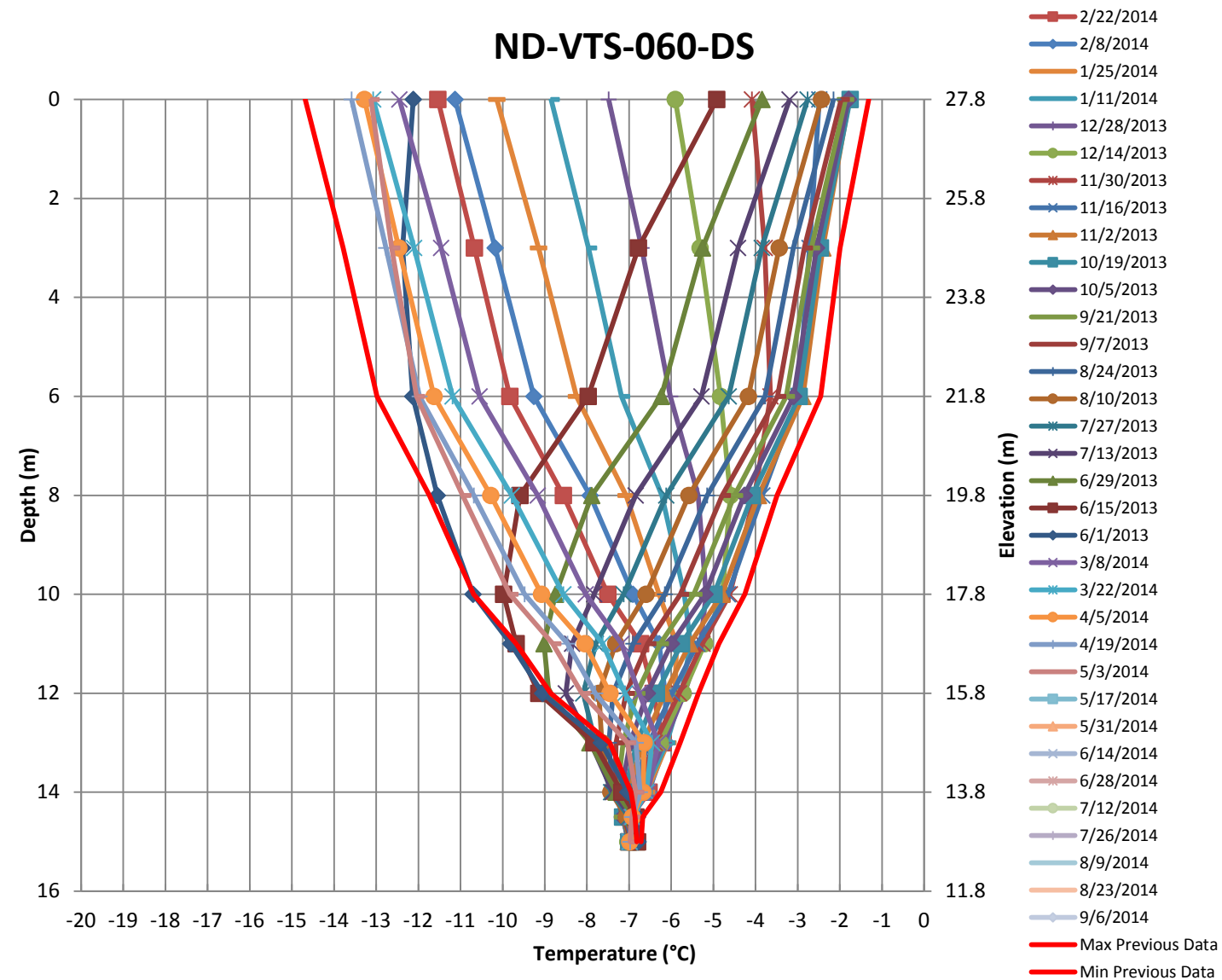
Note:

- Previous Data was recorded between August 2012 and May 2013

		2014 Geotechnical Inspection		
		Station 0+60 Horizontal Ground Temperature Cable Readings by Location		
Job No: 1CT022.001	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.4
Filename: Figure_Ground Temperature CableTempVTime.pptx				



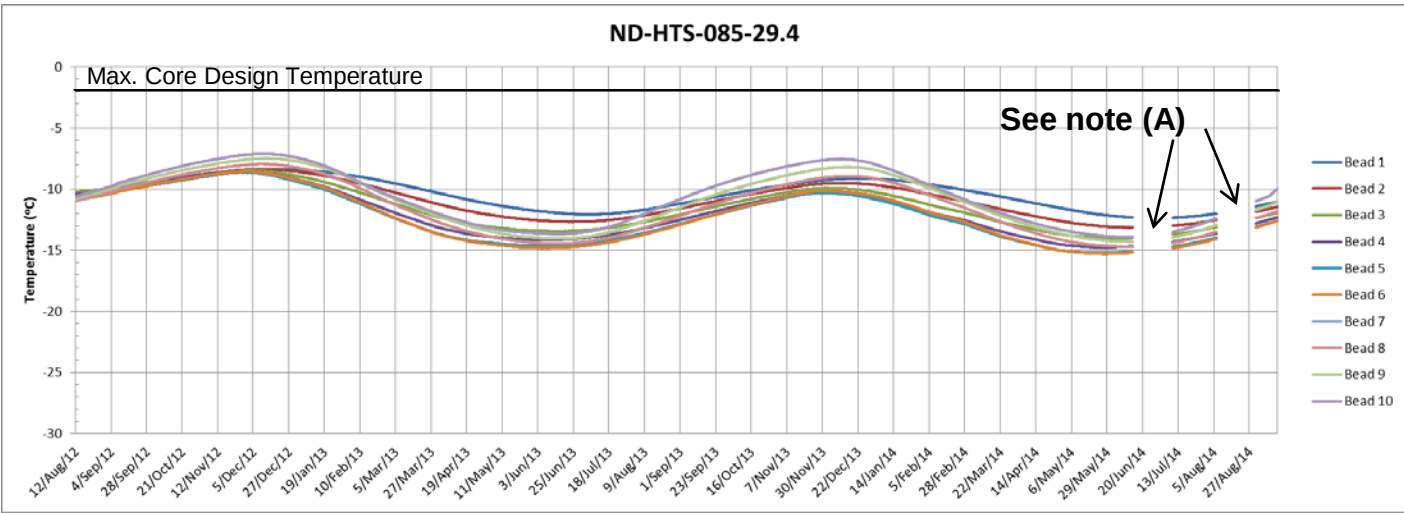
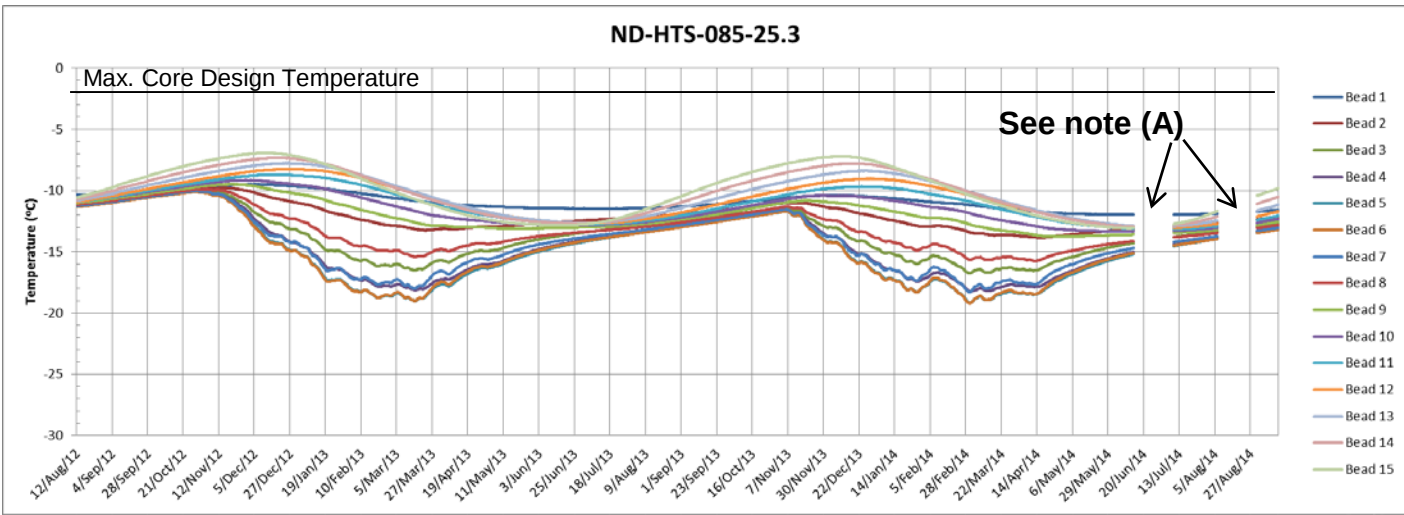
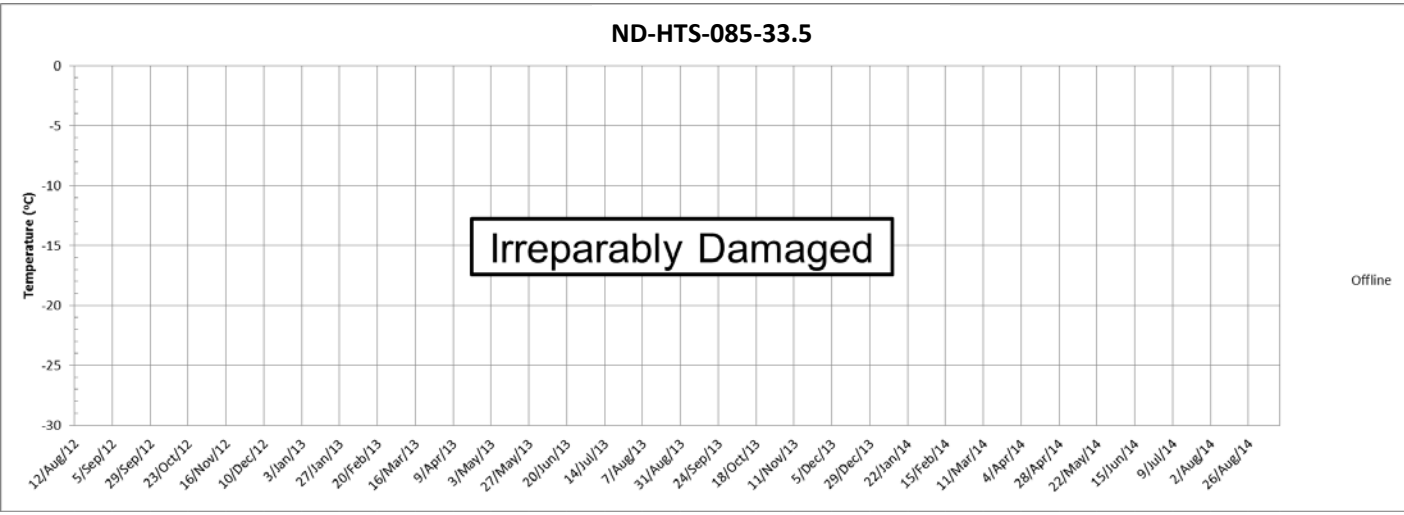
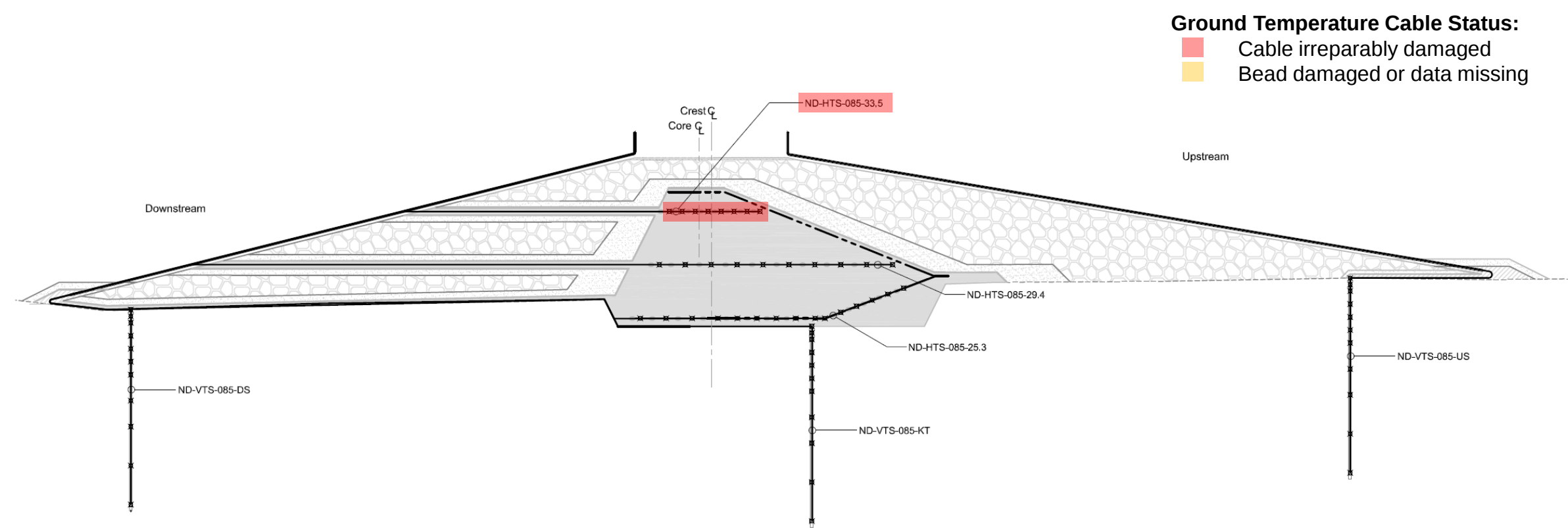
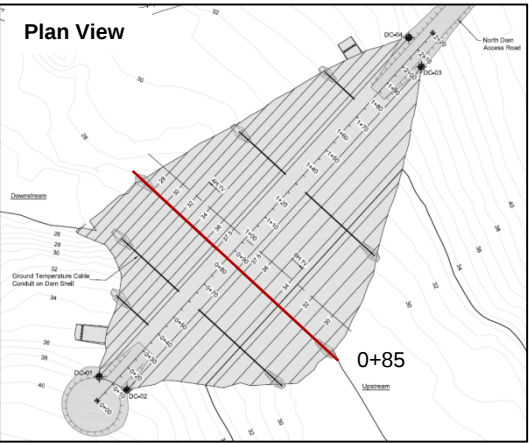
- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - (A) Card download error: data needs to be extracted from datalogger.
 - (B) Variation in Ground Temperature Cable readings during winter months due to close proximity of Ground Temperature Cable beads to thermosyphon pipes.



Note:

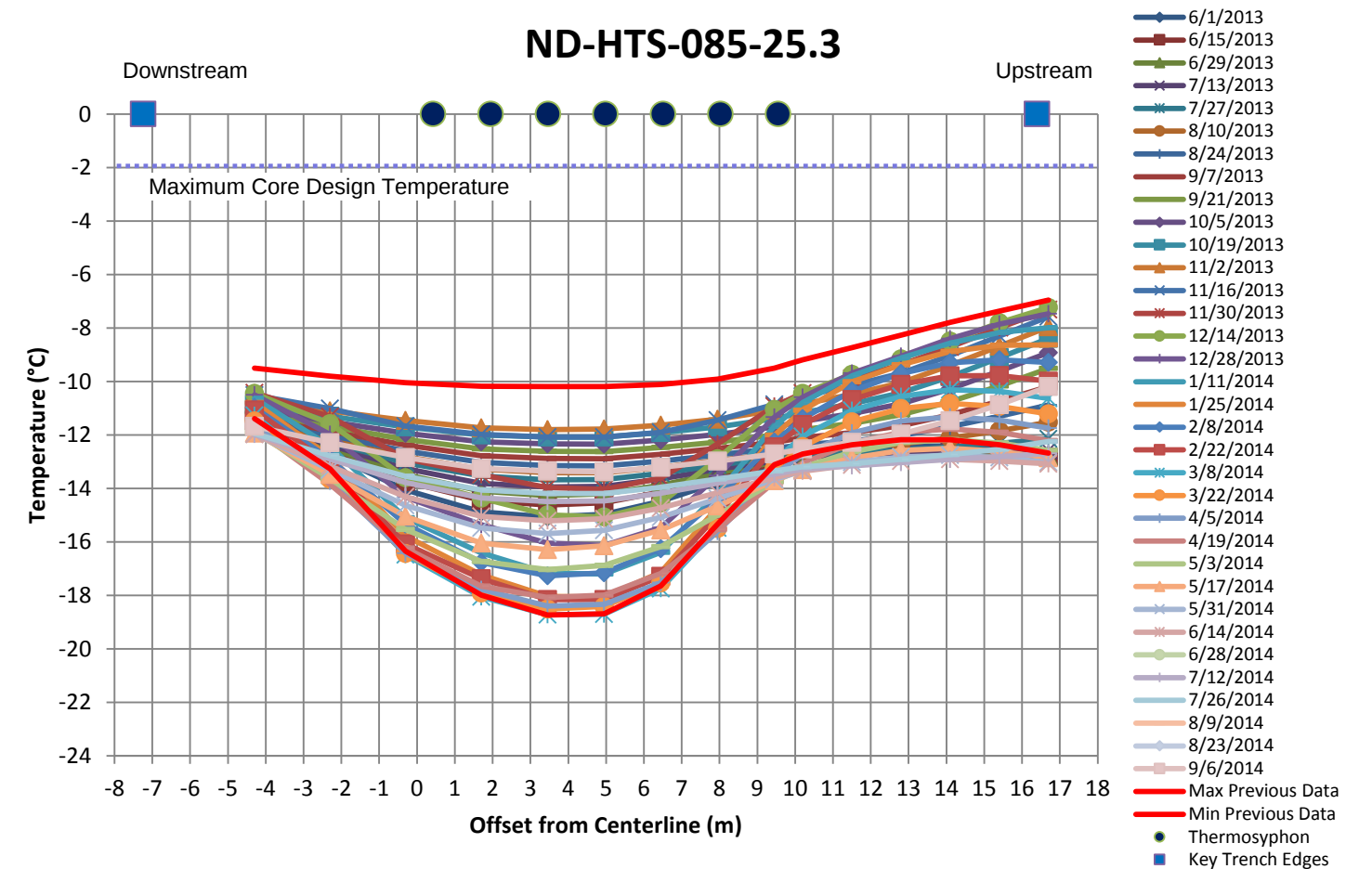
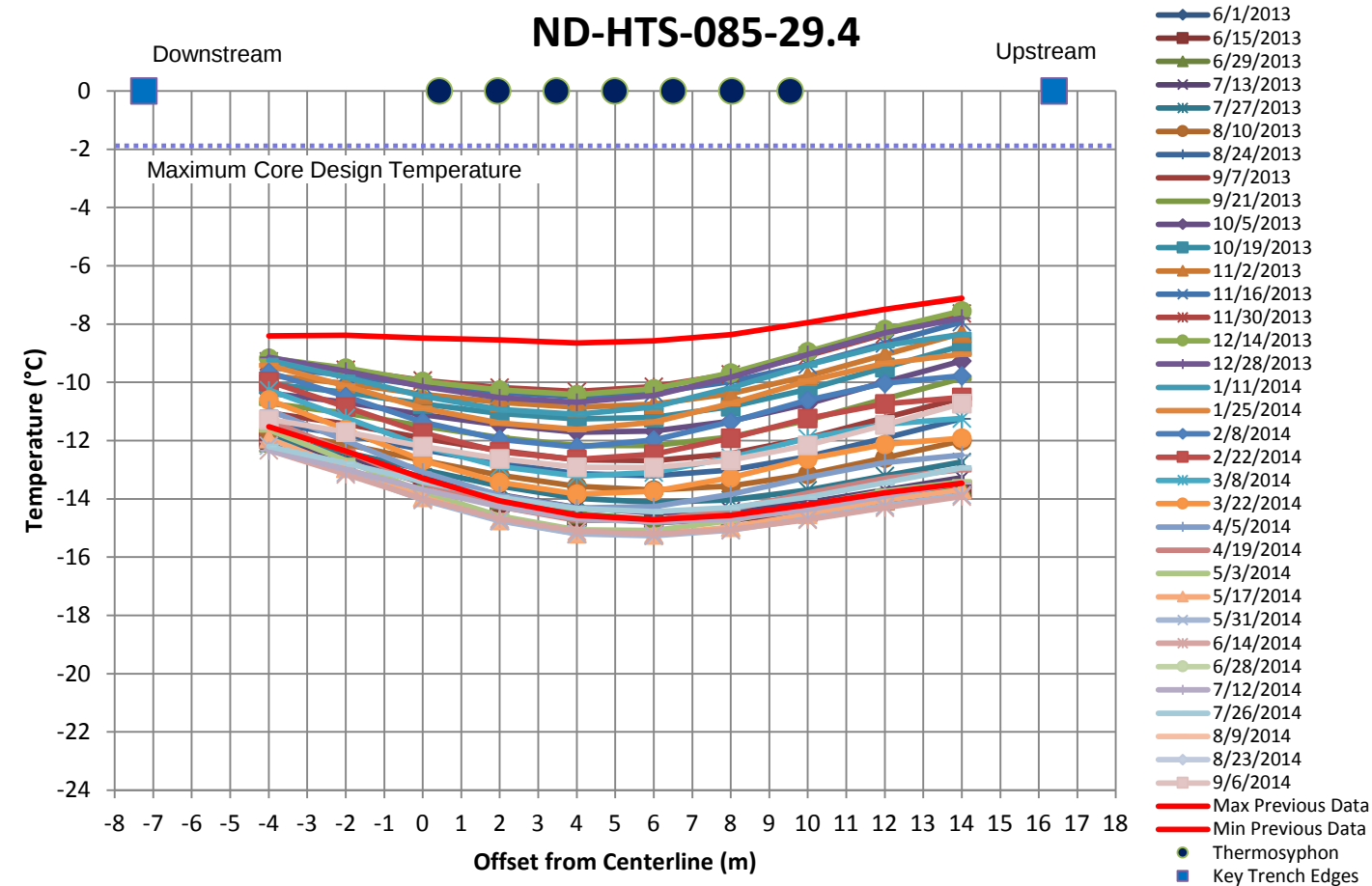
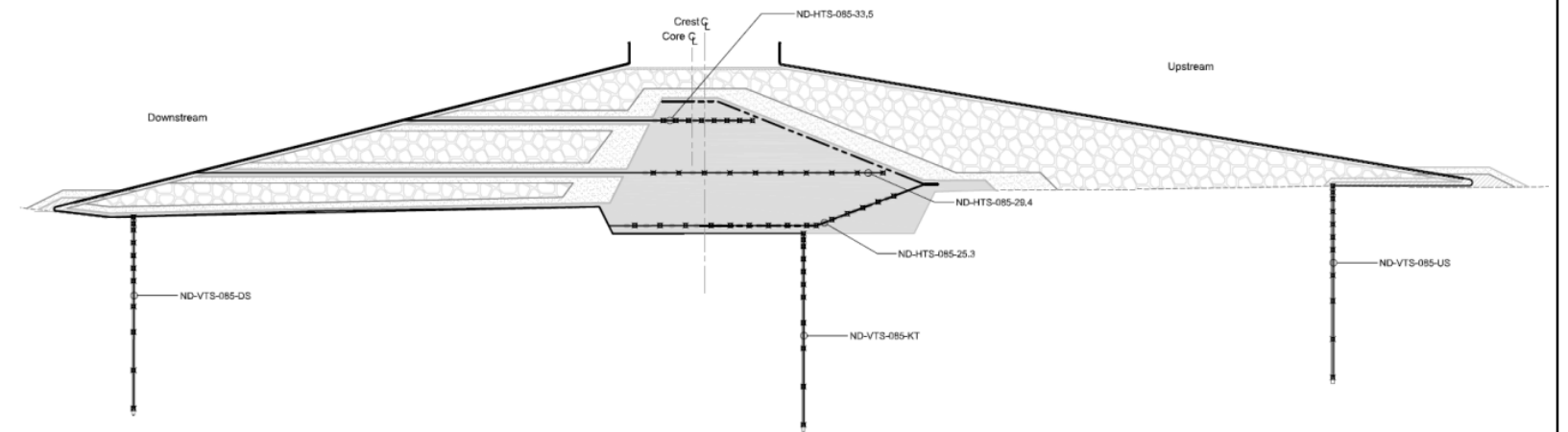
- Previous Data was recorded between August 2012 and May 2013

		2014 Geotechnical Inspection		
		Station 0+60 Vertical Ground Temperature Cable Readings by Location		
Job No: 1CT022.001	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.6
Filename: Figure_Ground Temperature CableTempVTime.pptx				



Notes:

- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
- (A) Card download error: data needs to be extracted from datalogger.



Notes:

- ND-HTS-085-33.5 was irreparably damaged during construction
- Previous Data was recorded between August 2012 and May 2013



Job No: 1CT022.001
 Filename: Figure_Ground Temperature CableTempVTime.pptx

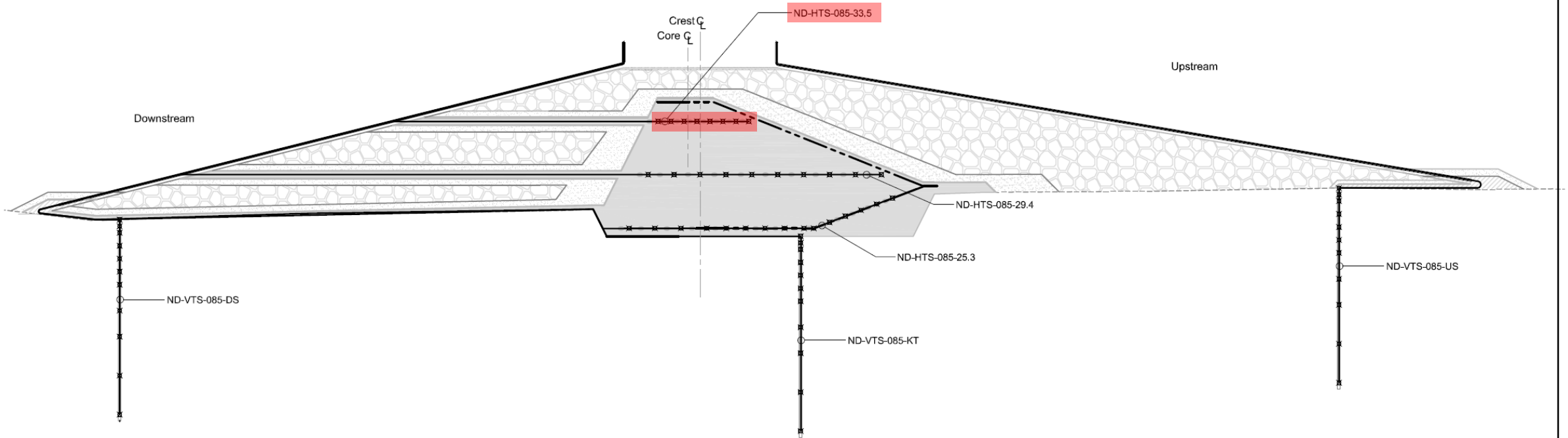
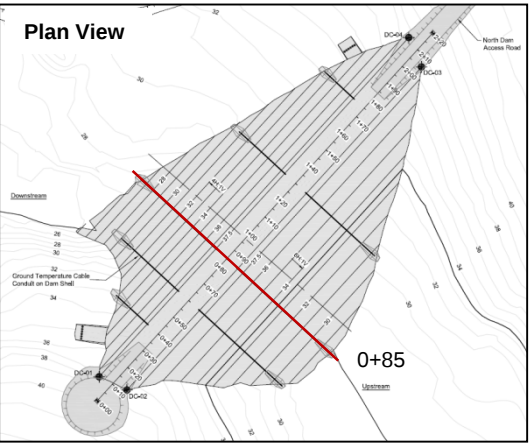


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2014 Geotechnical Inspection

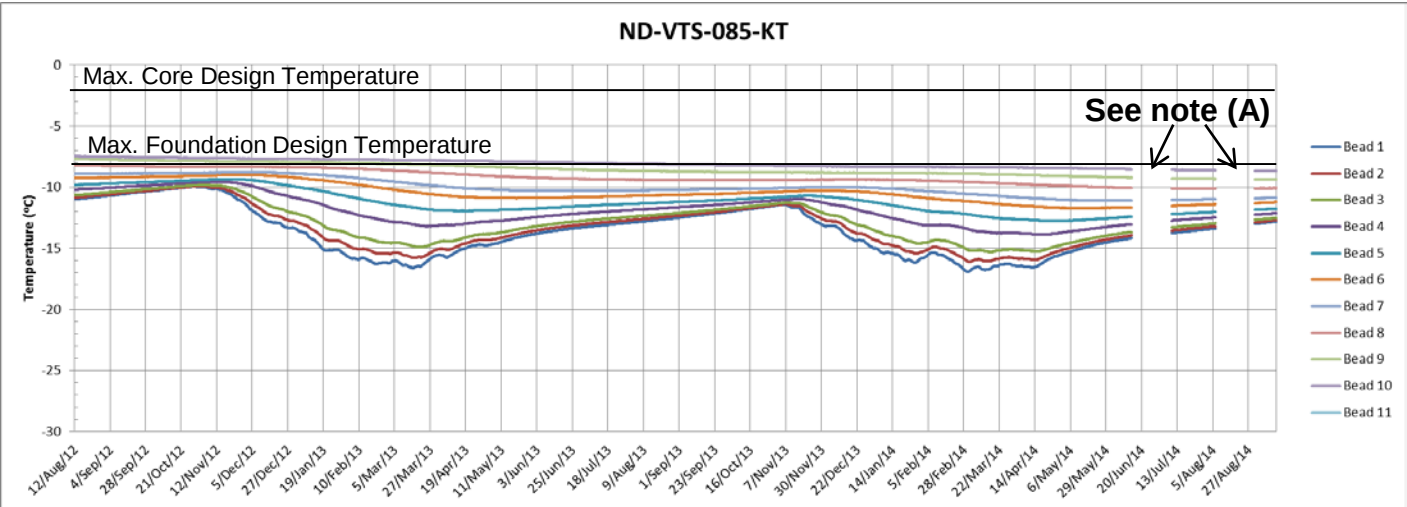
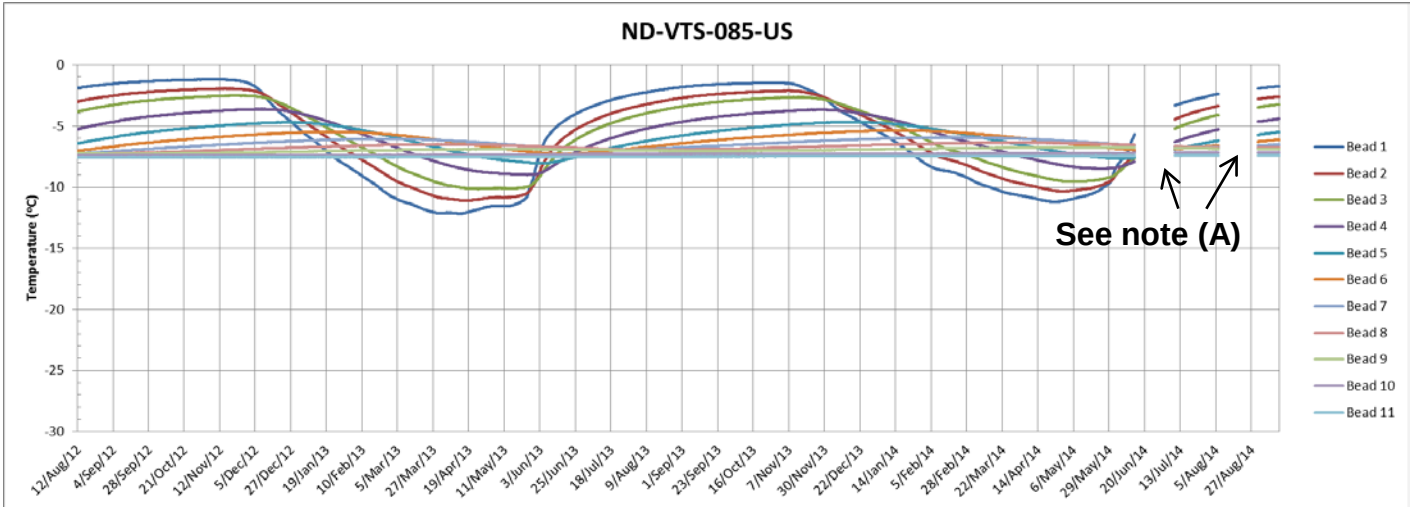
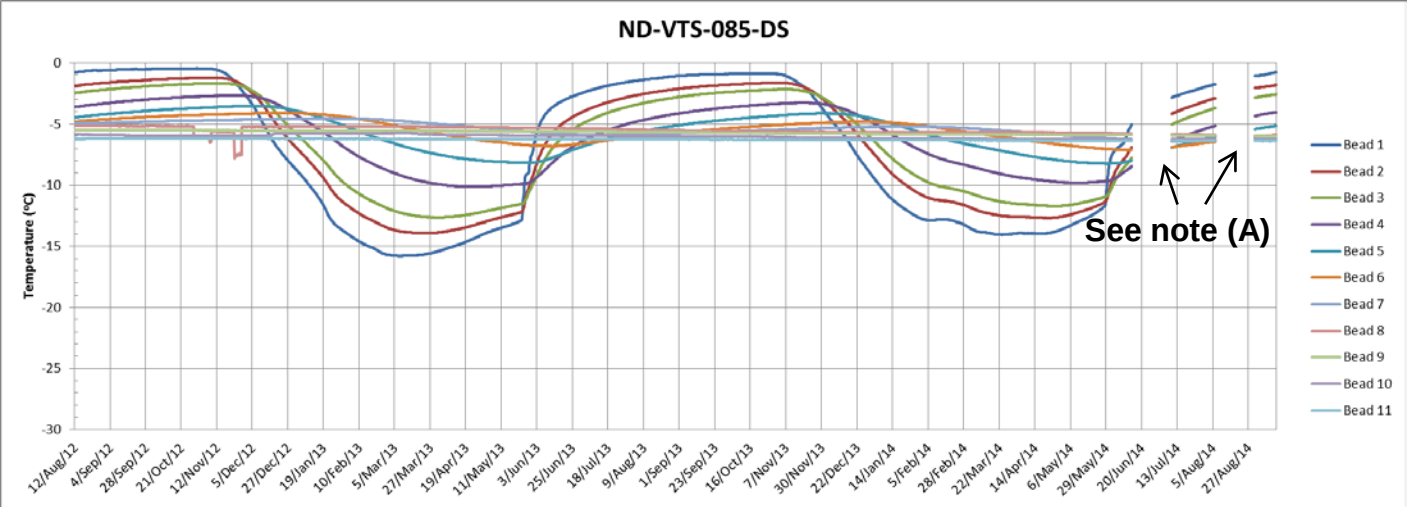
Station 0+85 Horizontal Ground
 Temperature Cable Readings
 by Location

Date: Oct. 2014 Approved: MMM Figure: **A.8**



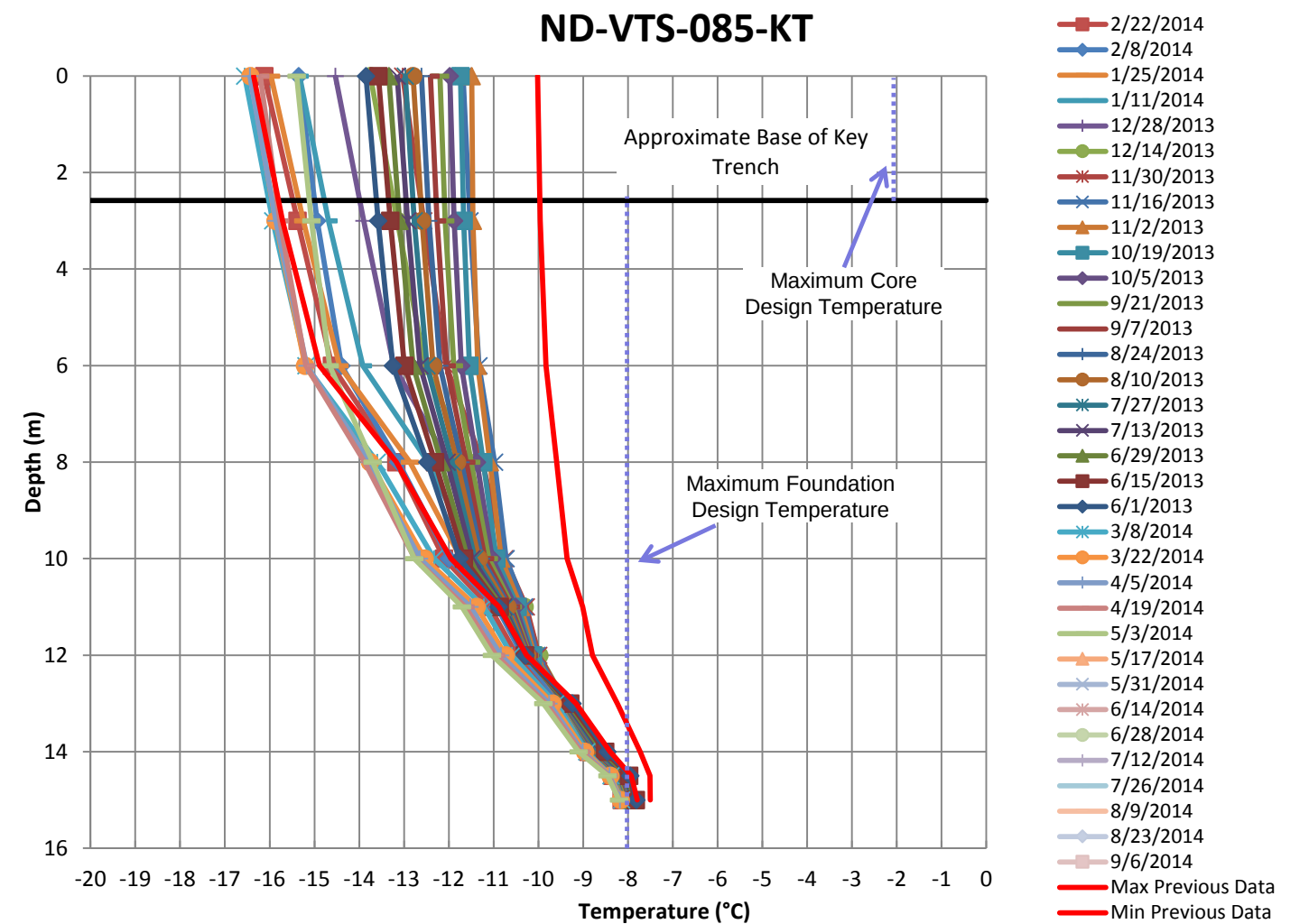
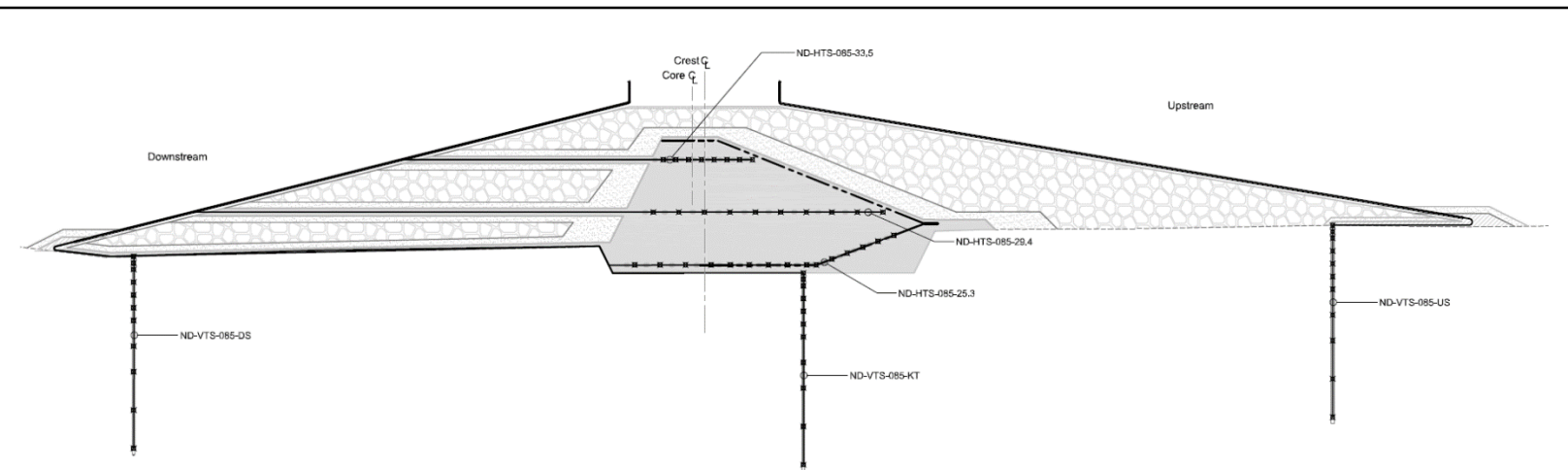
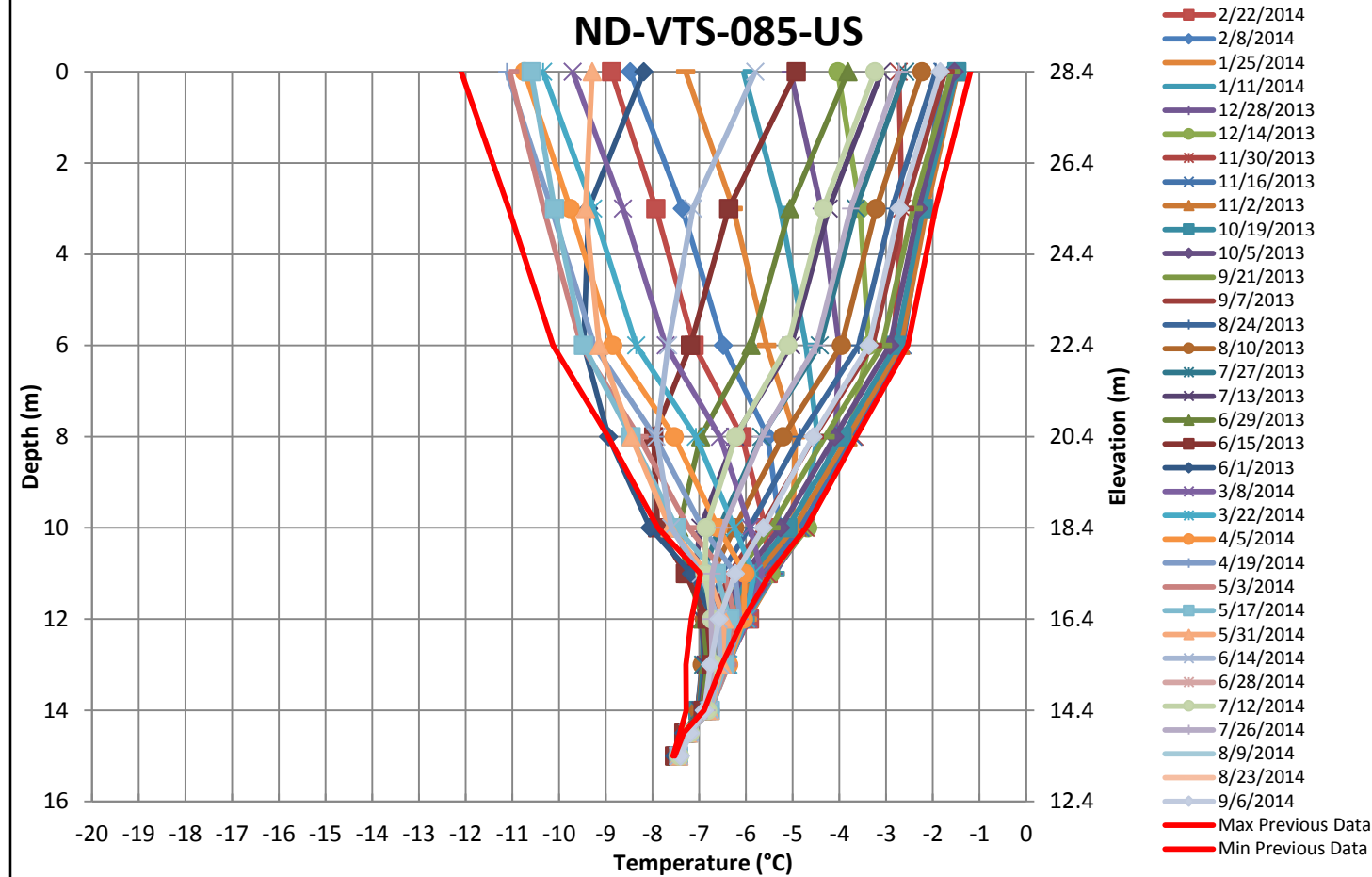
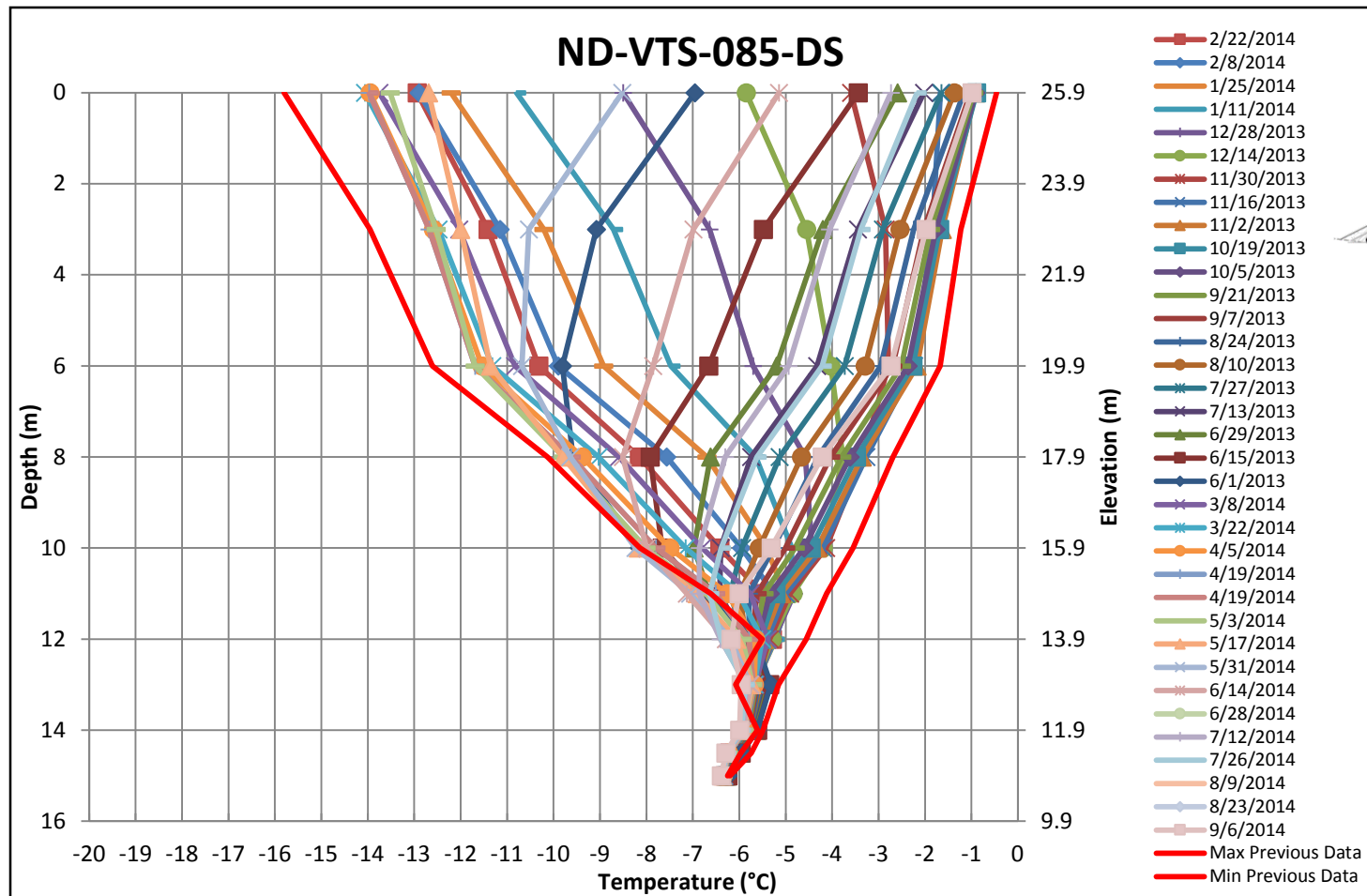
Ground Temperature Cable Status:

- Cable irreparably damaged
- Bead damaged or data missing



- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - (A) Card download error: data needs to be extracted from datalogger.

 Job No: 1CT022.001 Filename: Figure_Ground Temperature CableTempVTime.pptx	 HOPE BAY MINING LTD.	2014 Geotechnical Inspection		
		Station 0+85 Vertical Ground Temperature Cable Temperature Vs. Time		
		Date: Oct. 2014	Approved: MMM	Figure: A.9



Note:

- Previous Data was recorded between August 2012 and May 2013



Job No: 1CT022.001

Filename: Figure_Ground Temperature CableTempVTime.pptx



HOPE BAY MINING LTD.

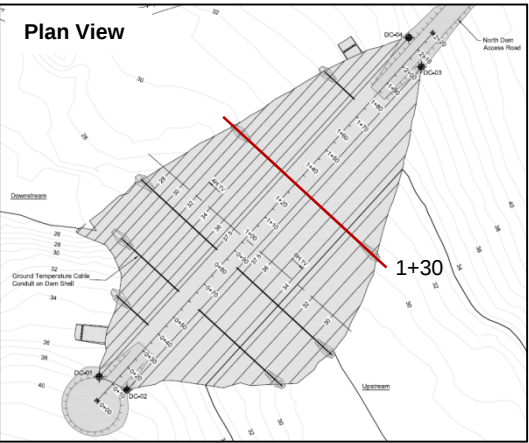
2014 Geotechnical Inspection

**Station 0+85 Vertical Ground
Temperature Cable Readings
by Location**

Date:
Oct. 2014

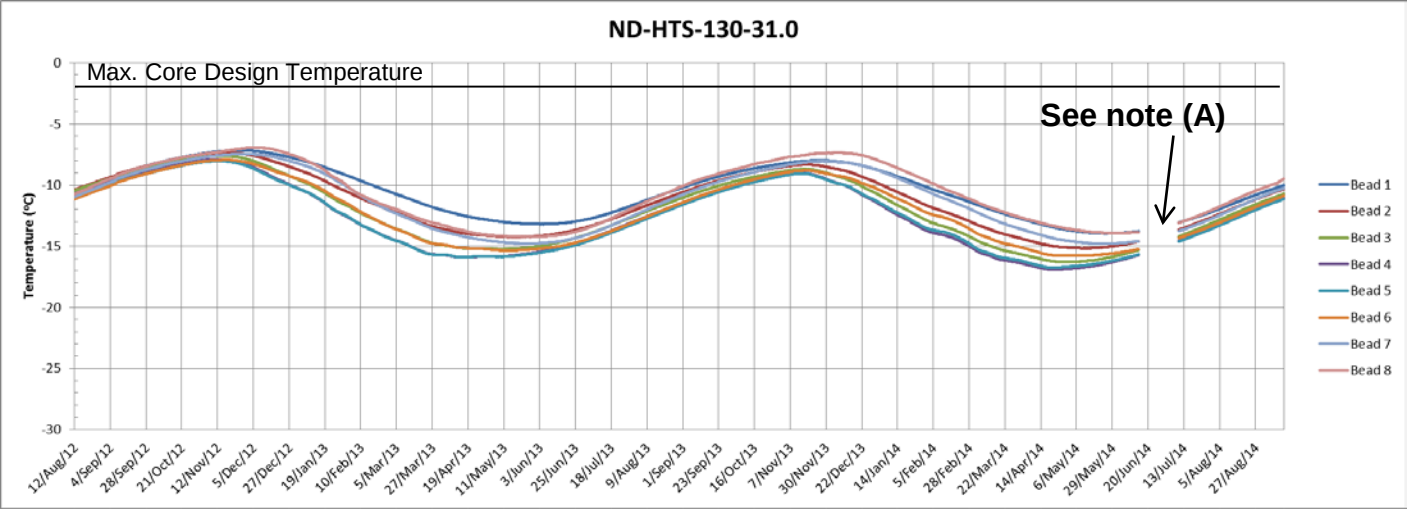
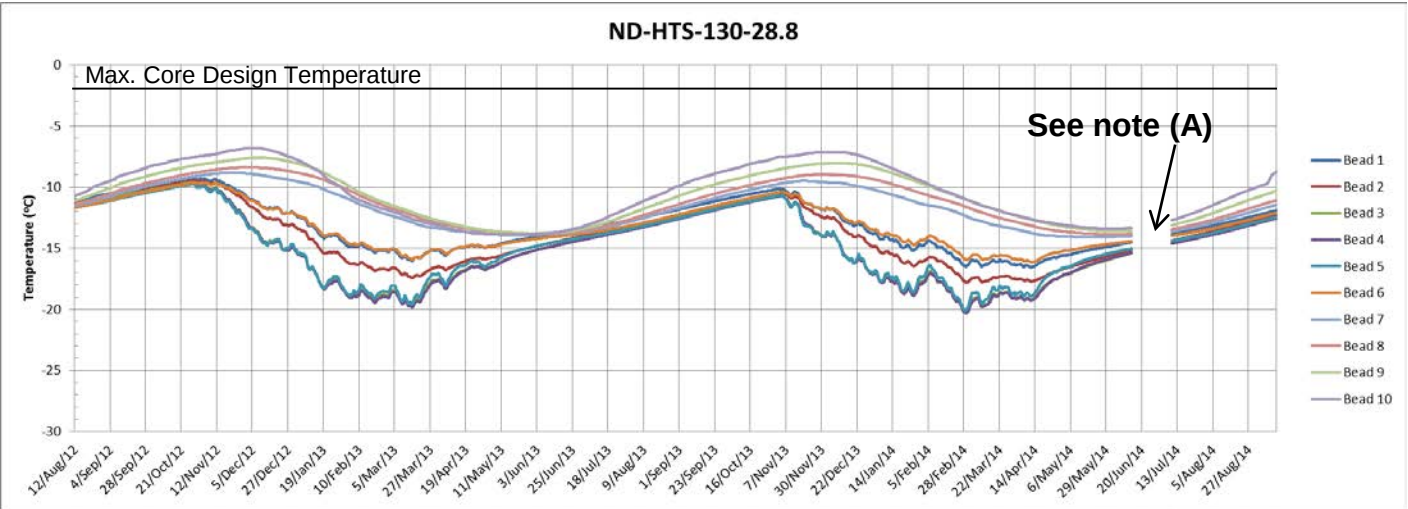
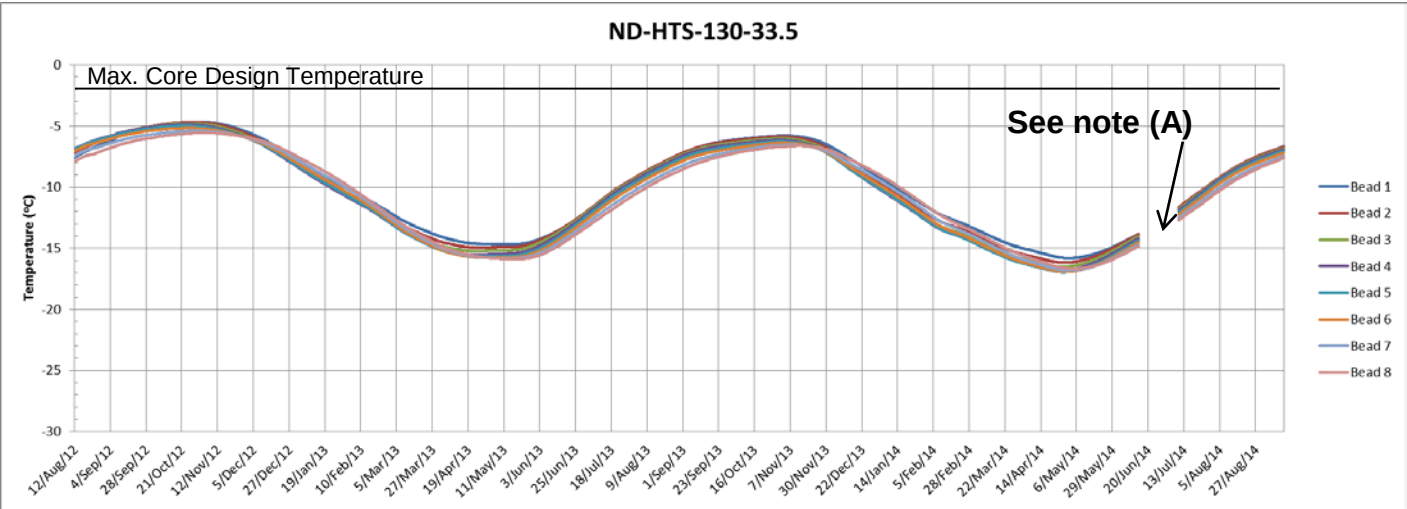
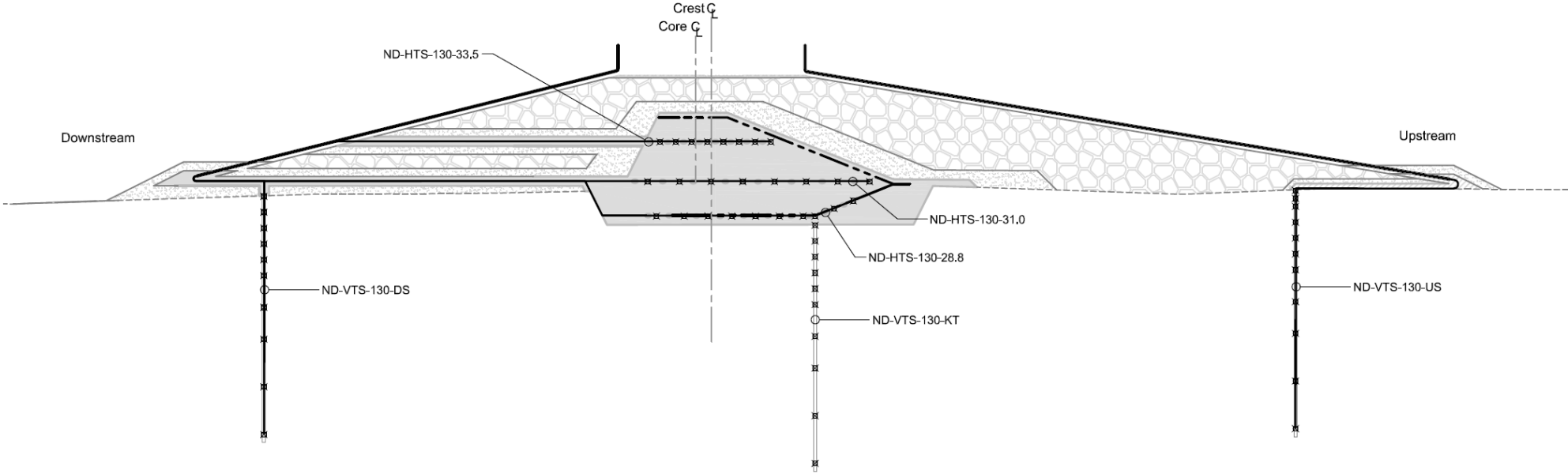
Approved:
MMM

Figure:
A.10



Ground Temperature Cable Status:

- Cable irreparably damaged
- Bead damaged or data missing



- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - (A) Card download error: data needs to be extracted from datalogger.

srk consulting

TMAC
RESOURCES

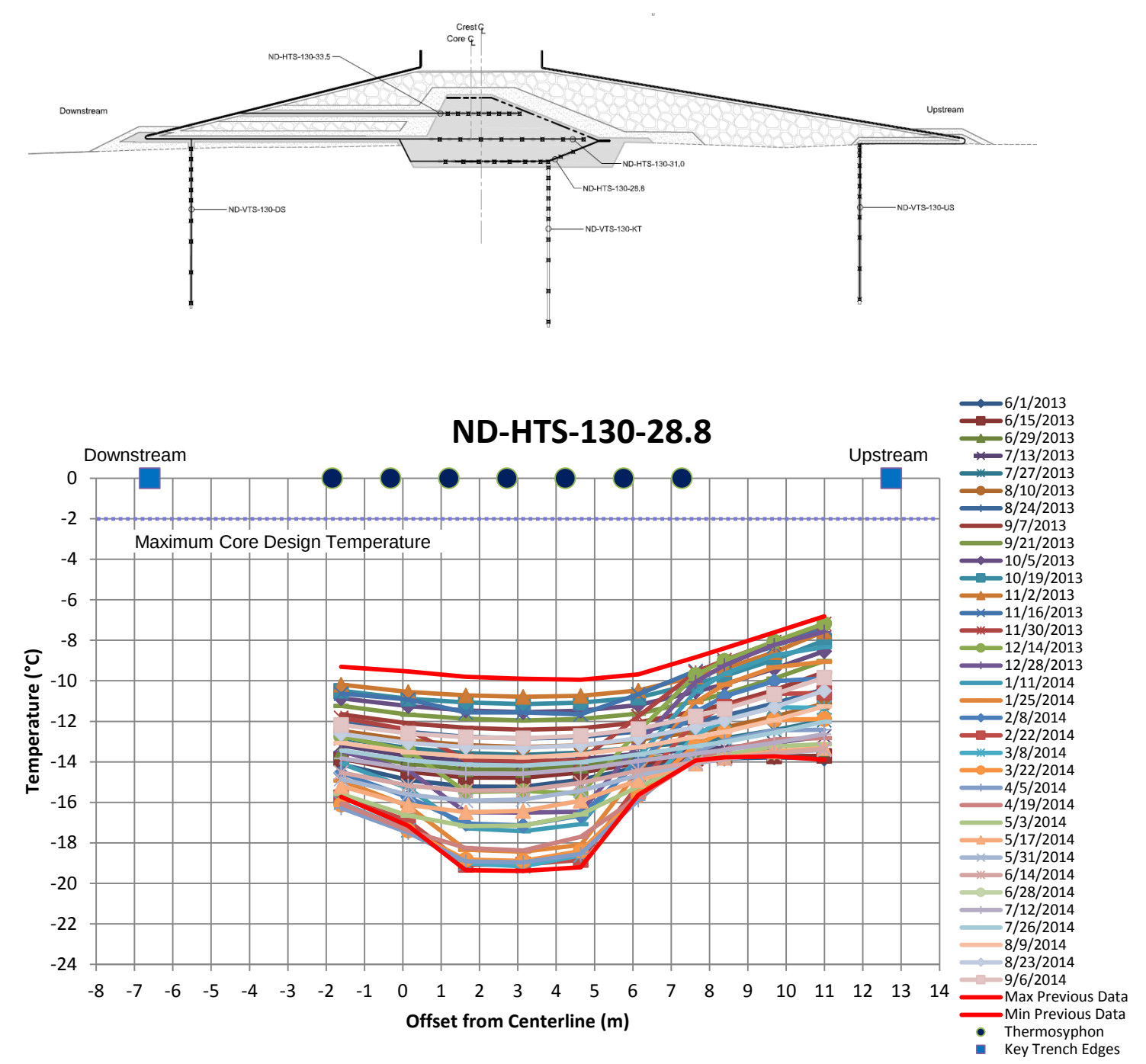
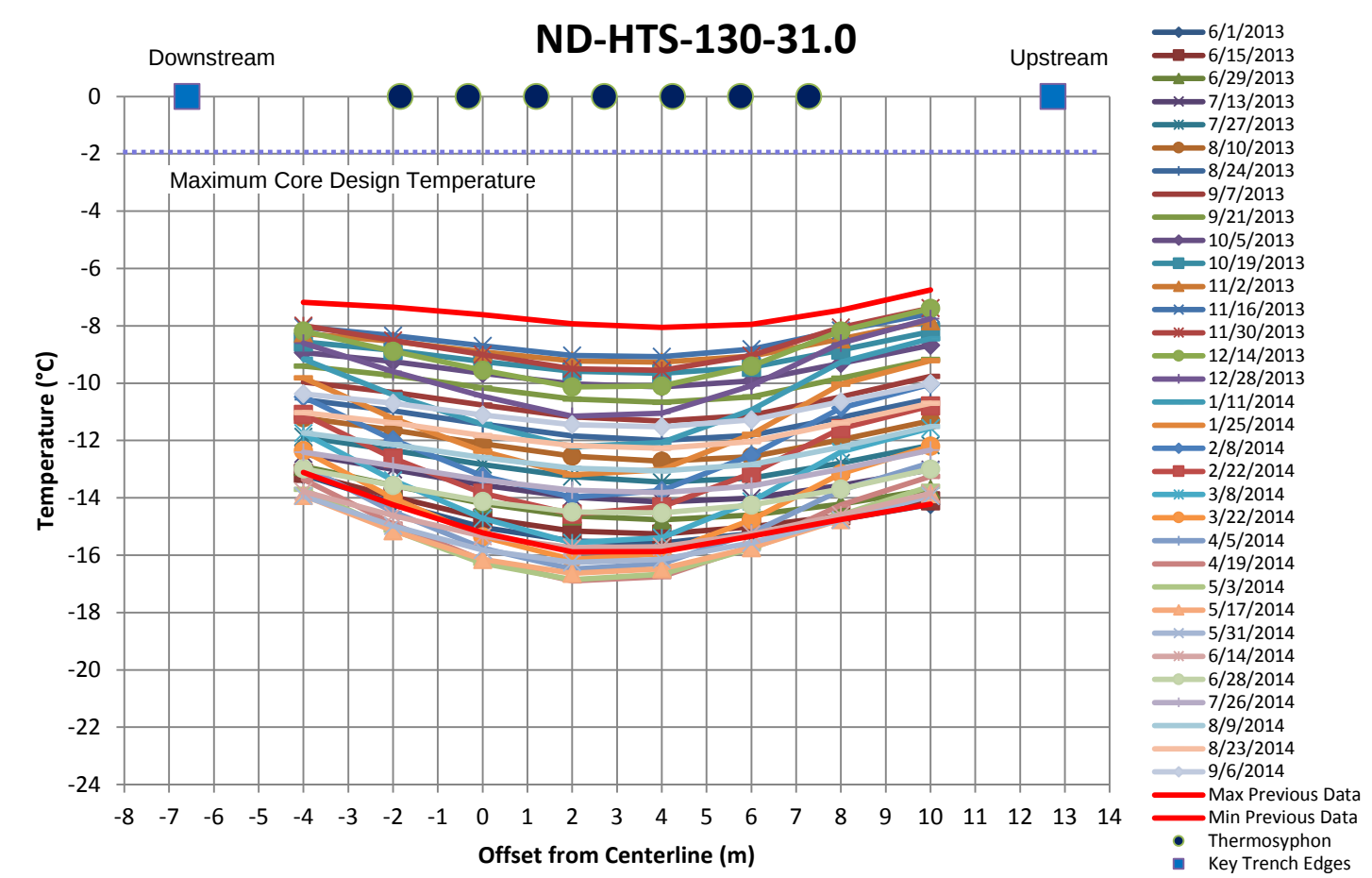
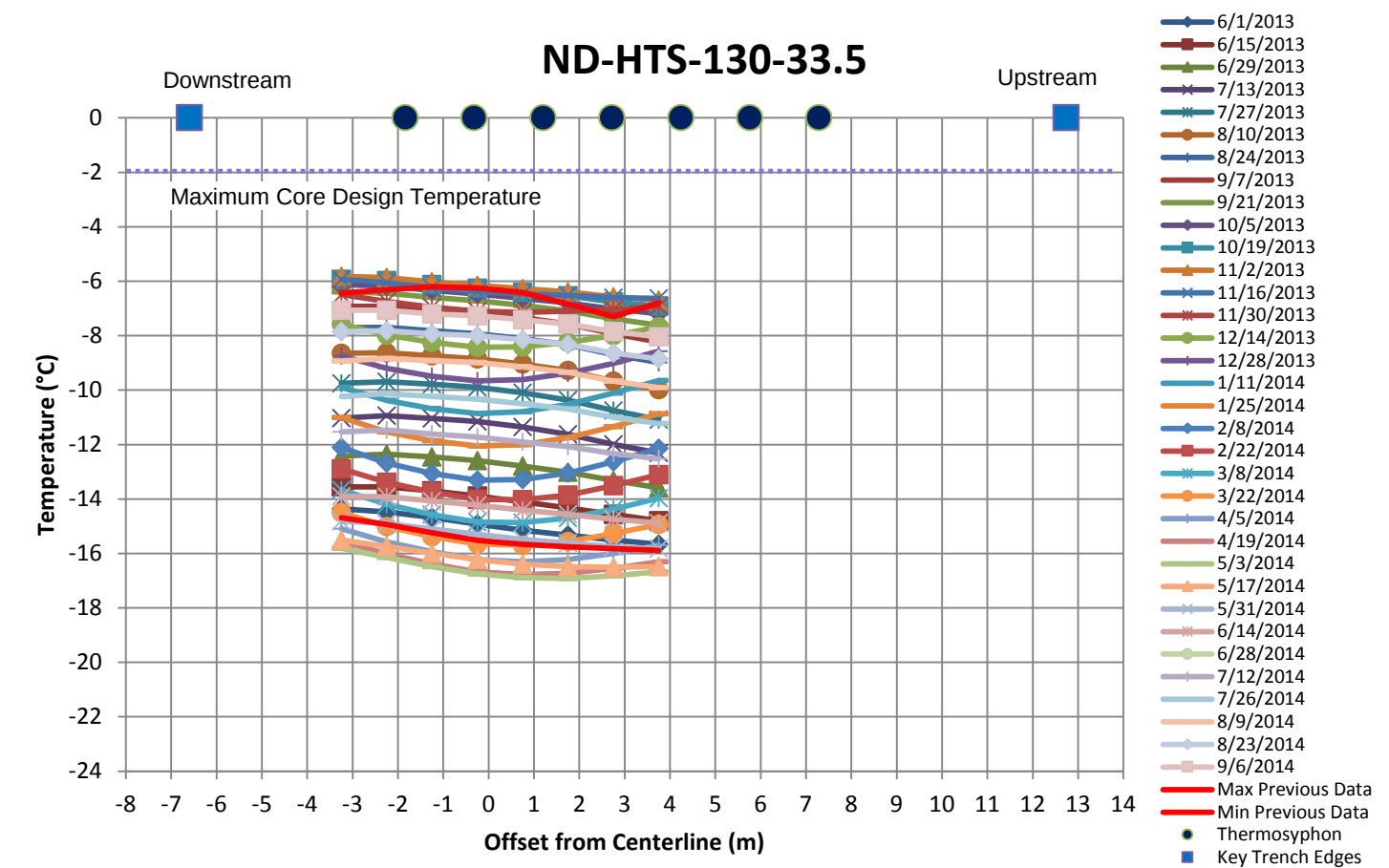
2014 Geotechnical Inspection

Station 1+30
Horizontal Ground Temperature
Cable Temperature Vs. Time

Job No: 1CT022.001
Filename: Figure_Ground Temperature CableTempVTime.pptx

HOPE BAY MINING LTD.

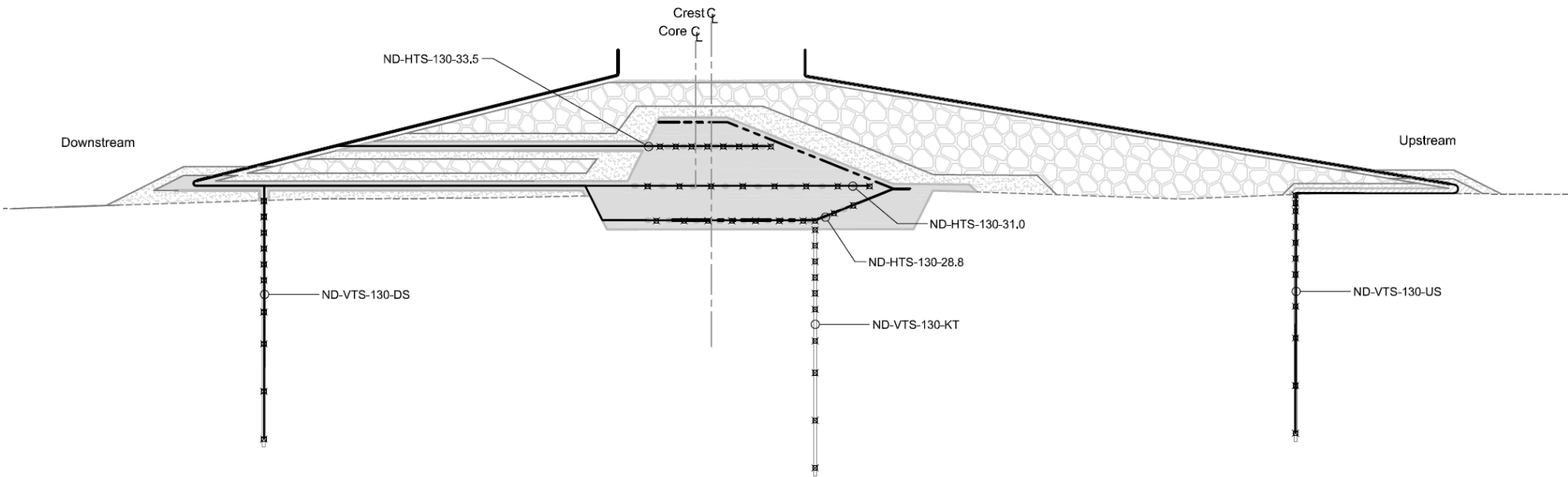
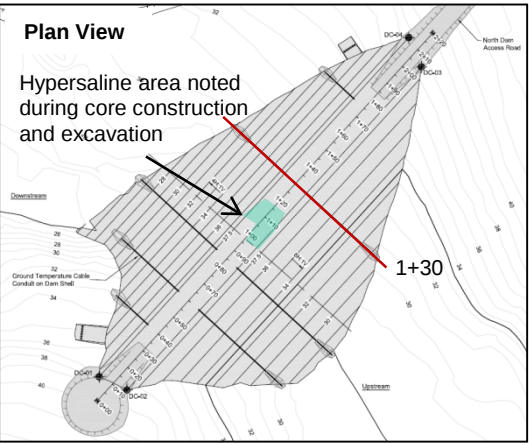
Date: Oct. 2014
Approved: MMM
Figure: **A.11**



Note:

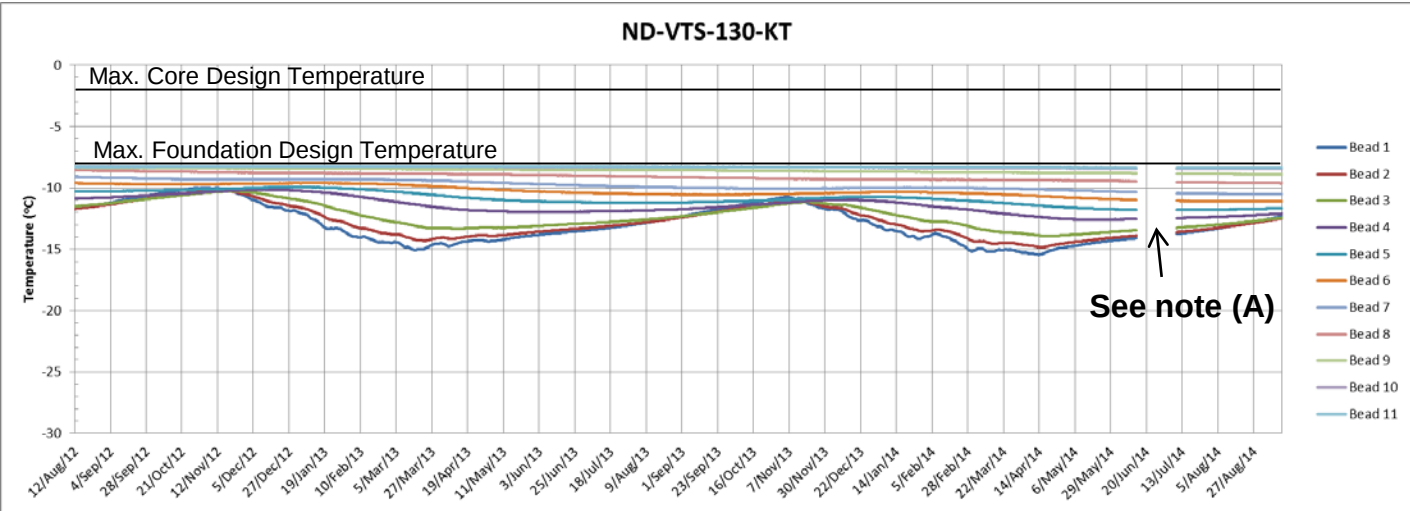
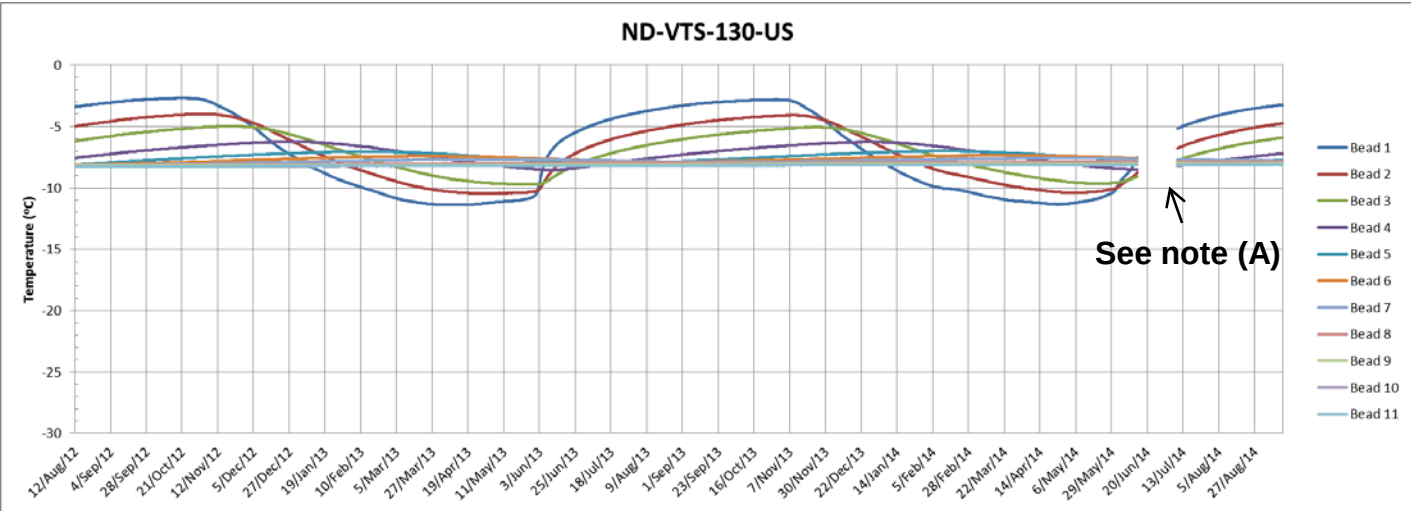
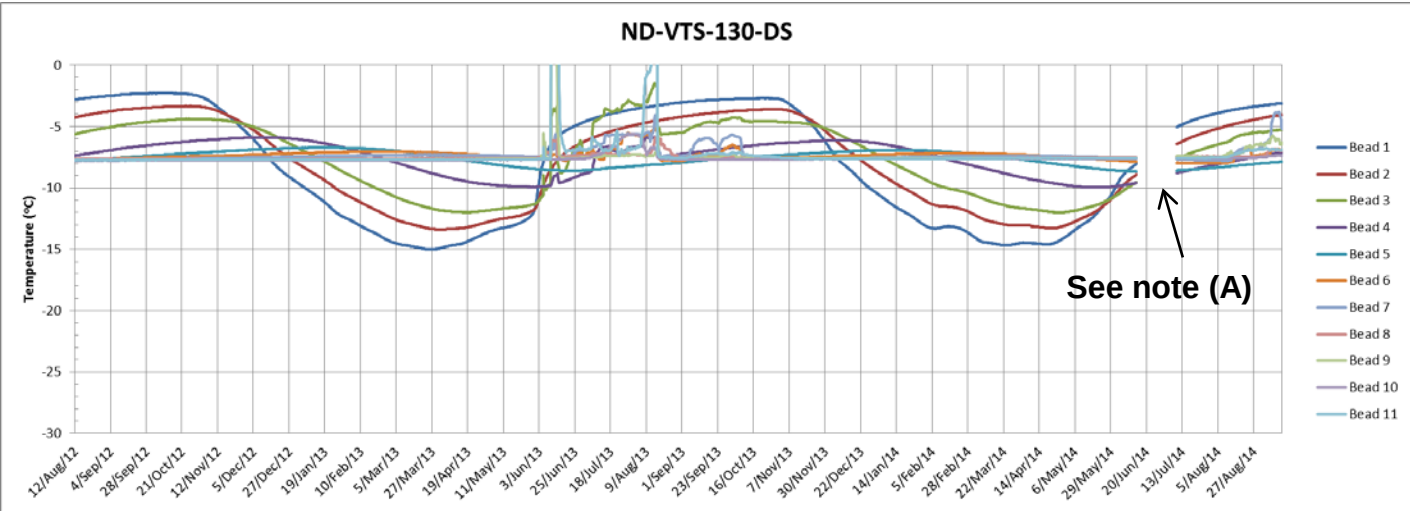
- Previous Data was recorded between August 2012 and May 2013

		2014 Geotechnical Inspection		
		Station 1+30 Horizontal Ground Temperature Cable Readings by Location		
Job No: 1CT022.001	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.12
Filename: Figure_Ground Temperature CableTempVTime.pptx				



Ground Temperature Cable Status:

- Cable irreparably damaged
- Bead damaged or data missing



- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - (A) Card download error: data needs to be extracted from datalogger.

srk consulting

TMAC
RESOURCES

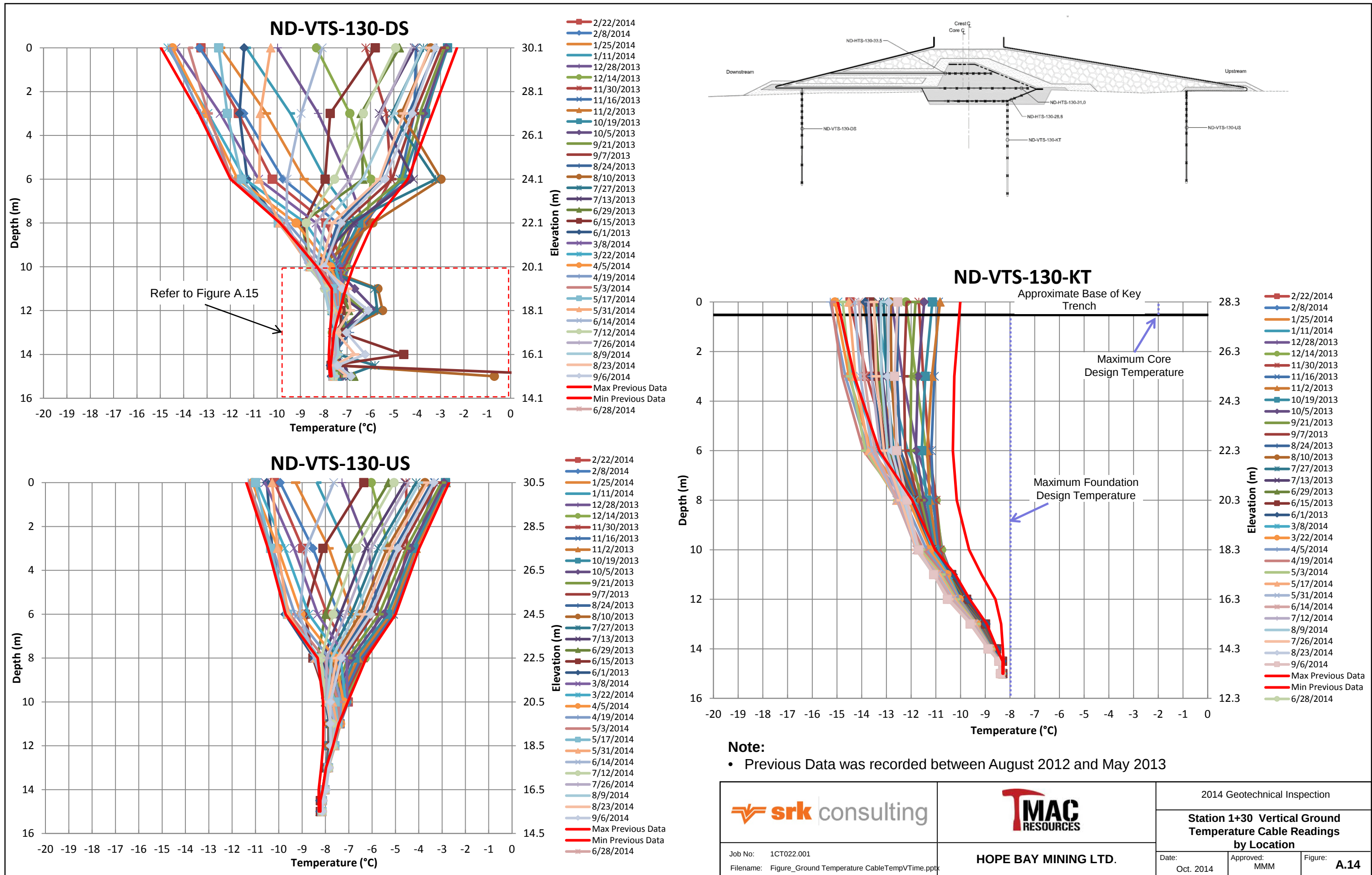
2014 Geotechnical Inspection

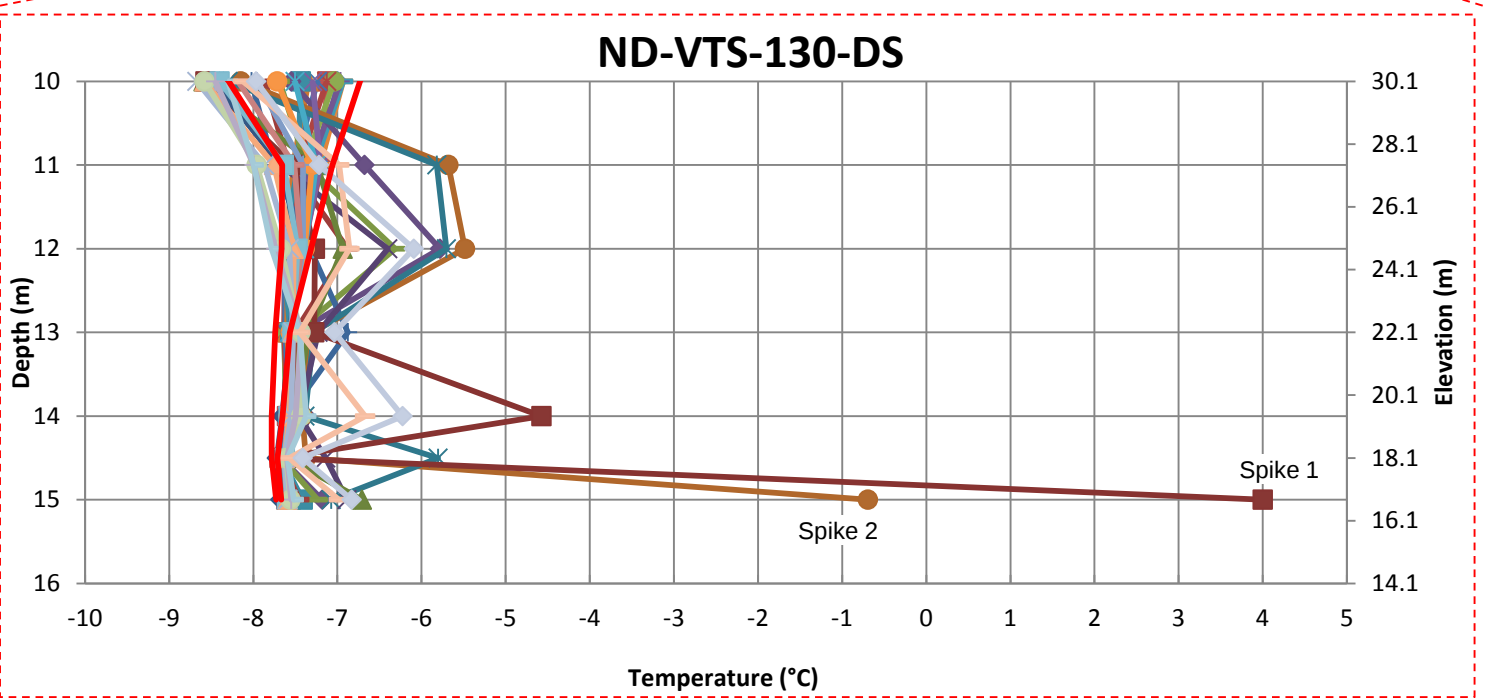
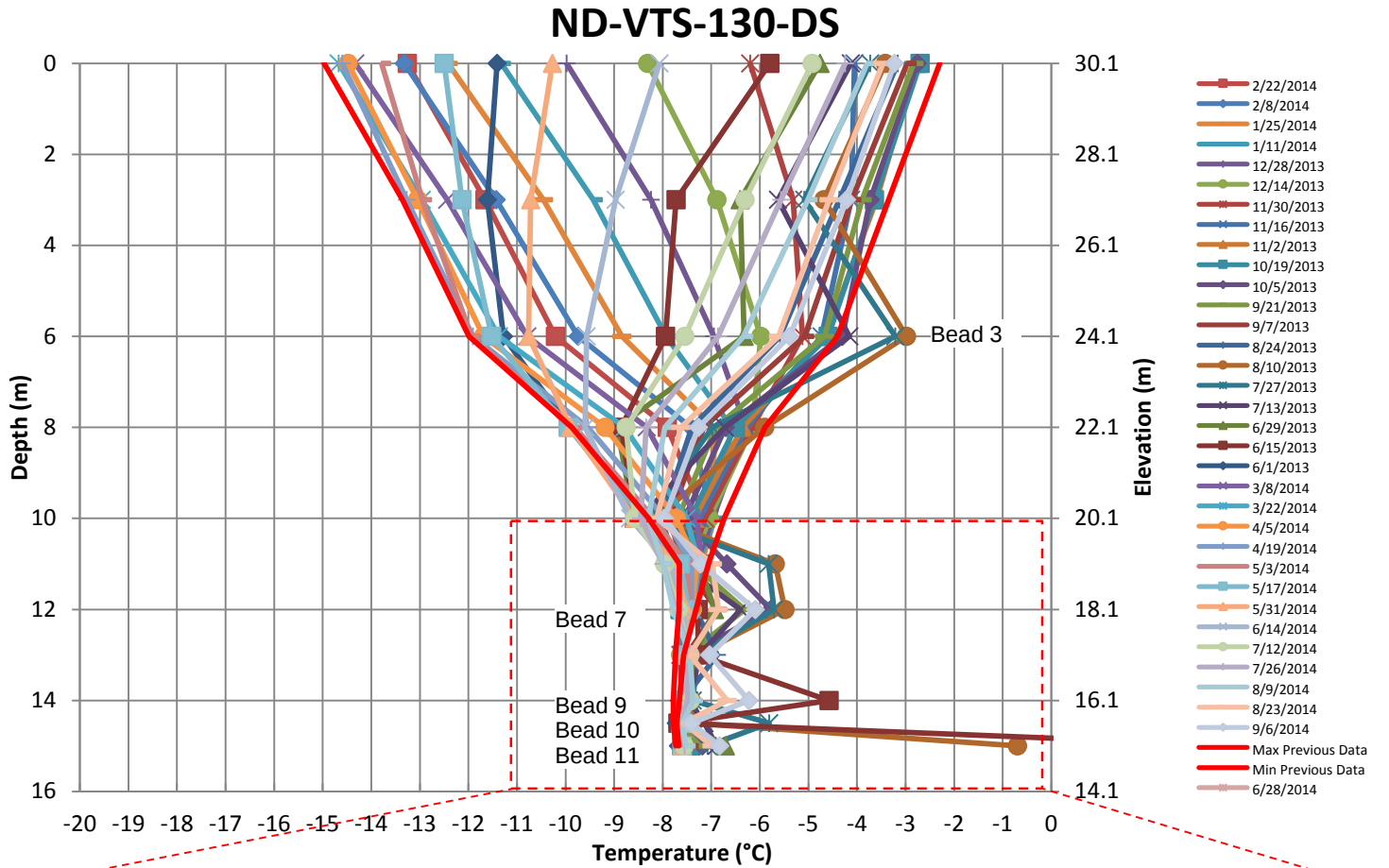
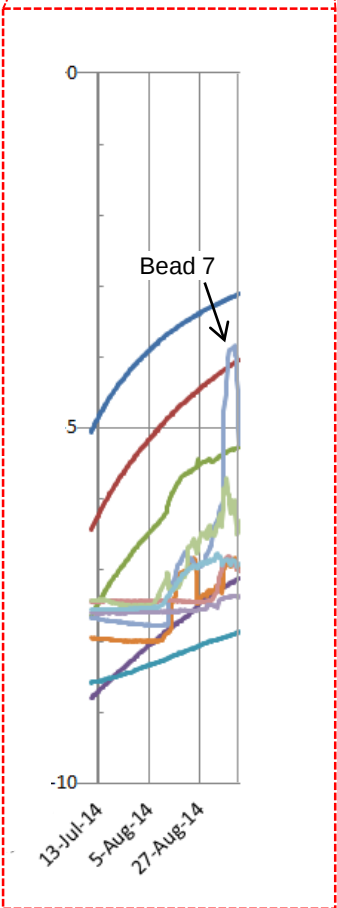
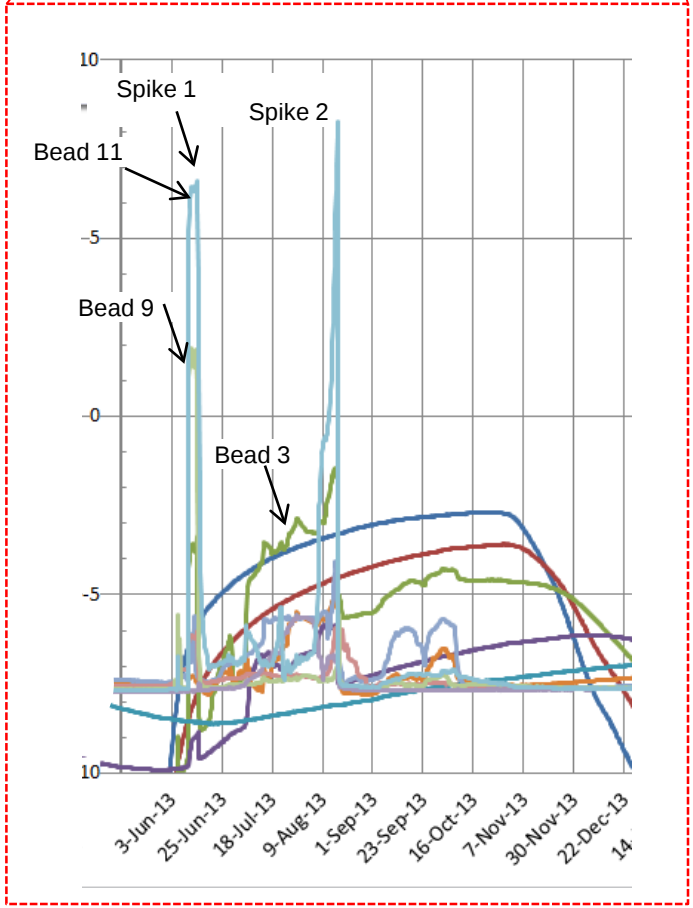
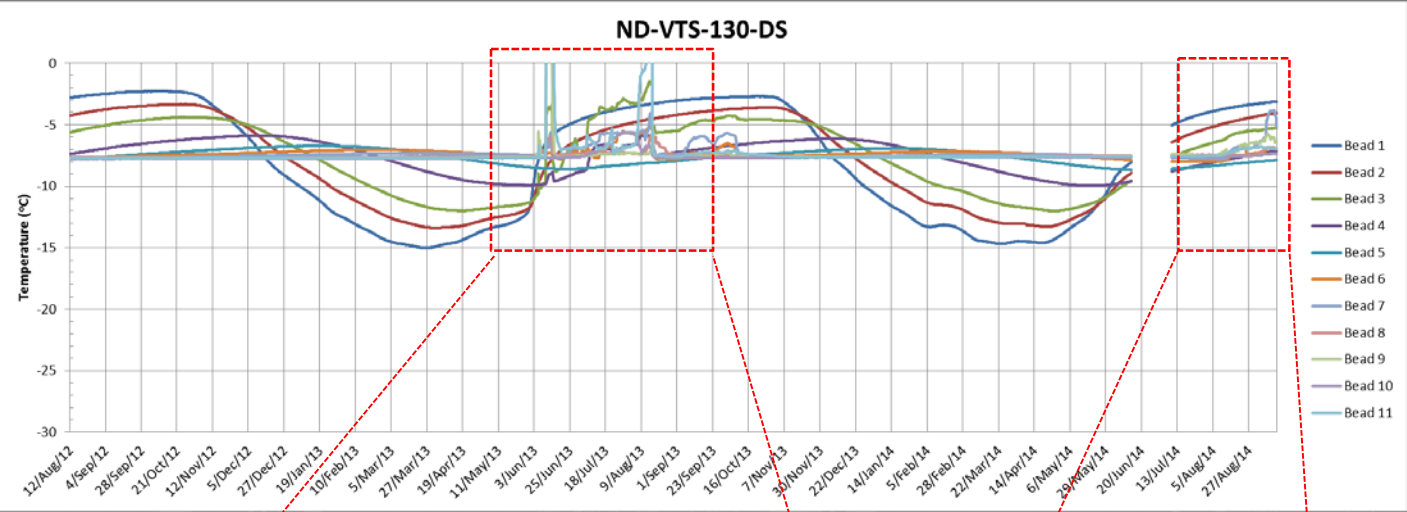
Station 1+30
Vertical Ground Temperature Cable
Temperature Vs. Time

Job No: 1CT022.001
Filename: Figure_Ground Temperature CableTempVTime.pptx

HOPE BAY MINING LTD.

Date: Oct 2014
Approved: MMM
Figure: **A.13**





Note:

- Previous Data was recorded between August 2012 and May 2013



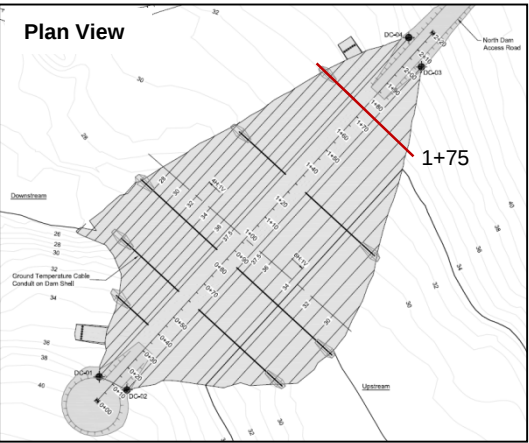
2014 Geotechnical Inspection

ND-VTS-130-DS
Closer Look at Odd Readings

Job No: 1CT022.001
Filename: Figure_Ground Temperature CableTempVTime.pptx

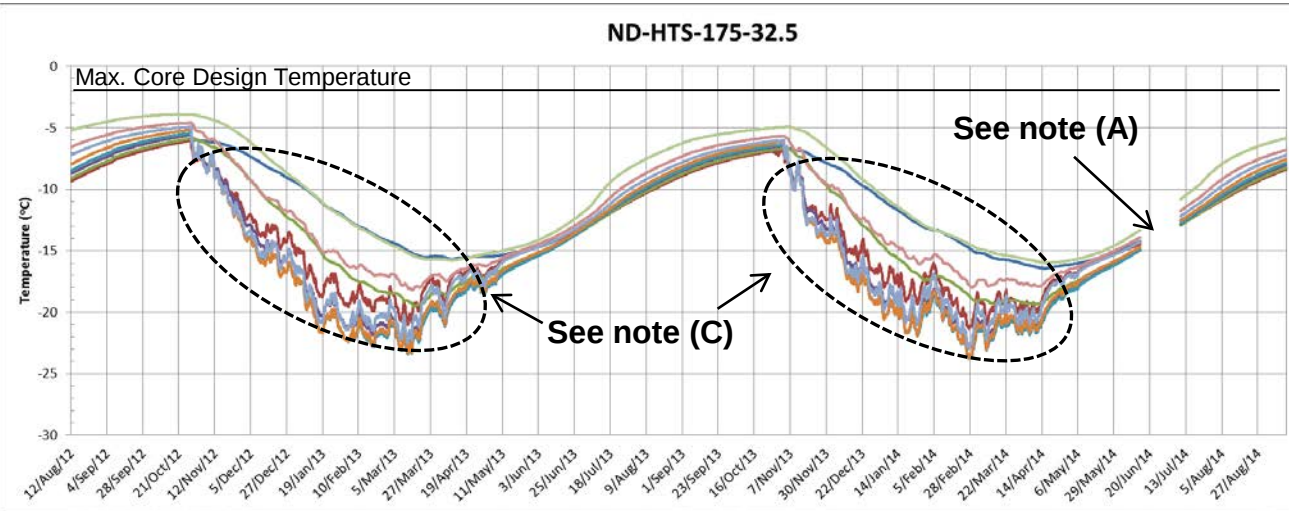
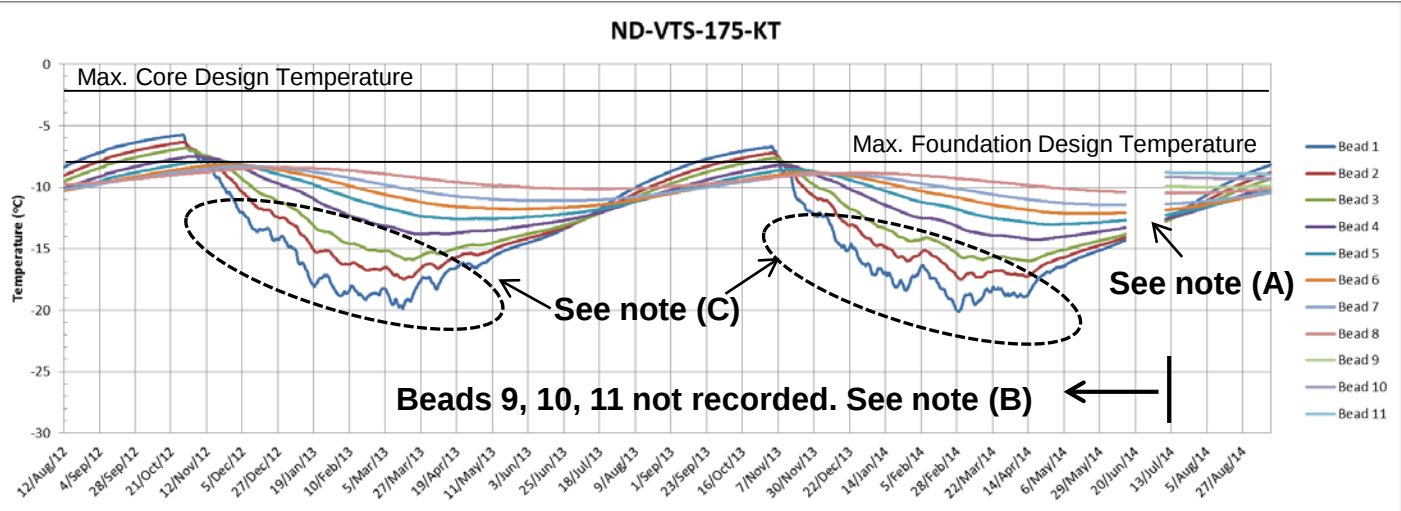
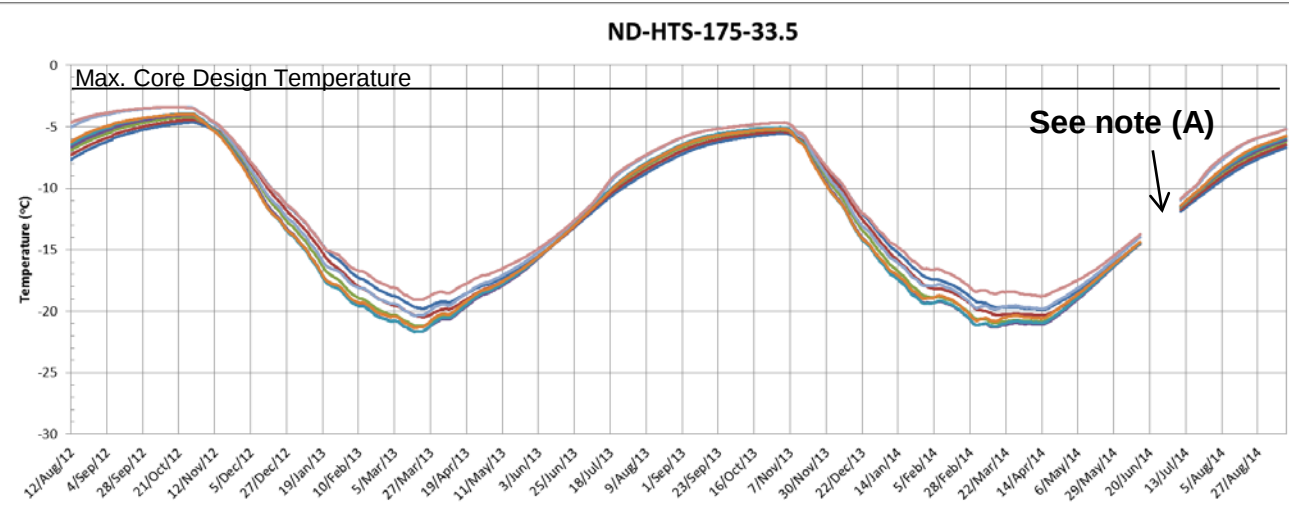
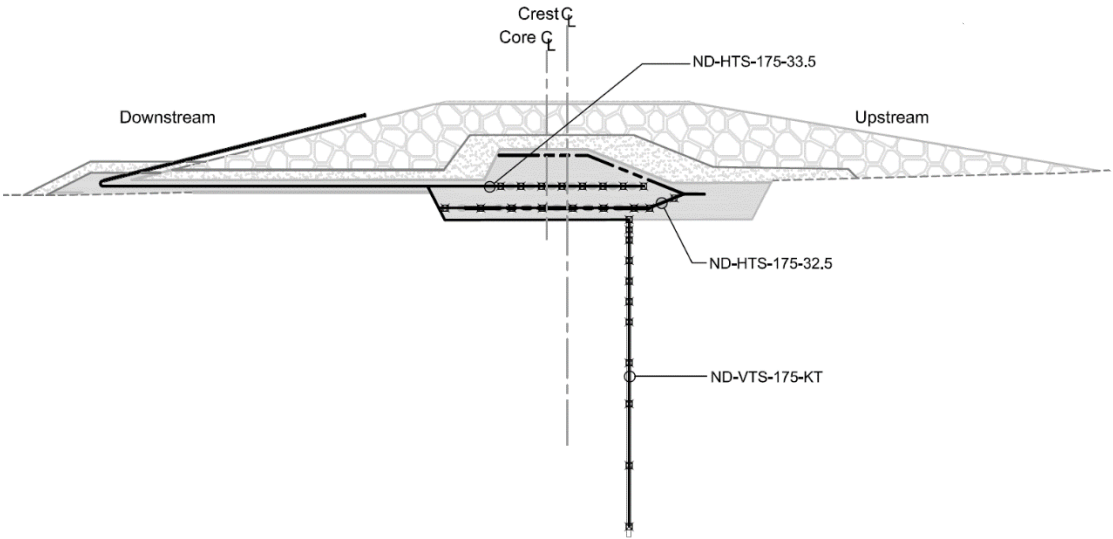
HOPE BAY MINING LTD.

Date: Oct. 2014
Approved: MMM
Figure: **A.15**



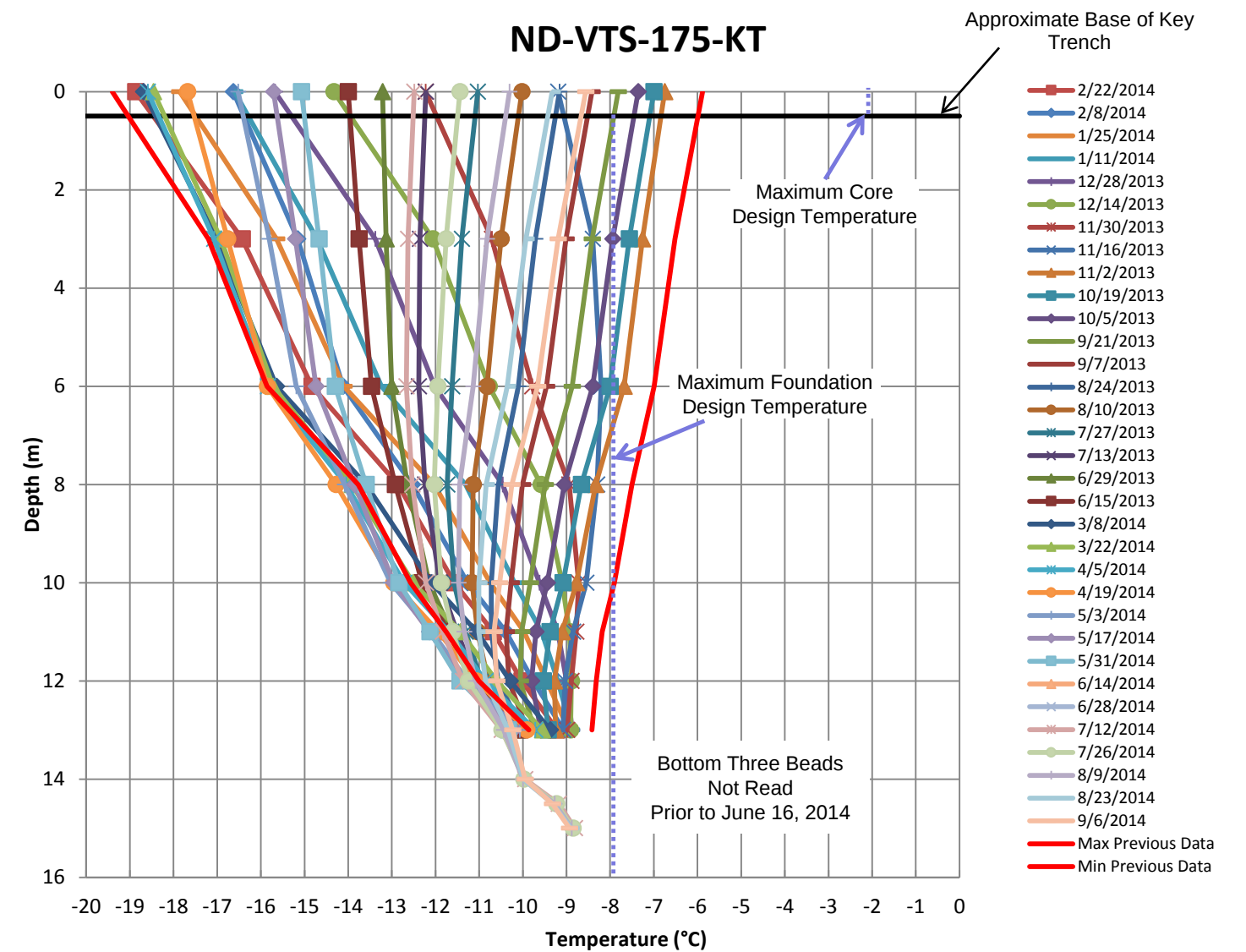
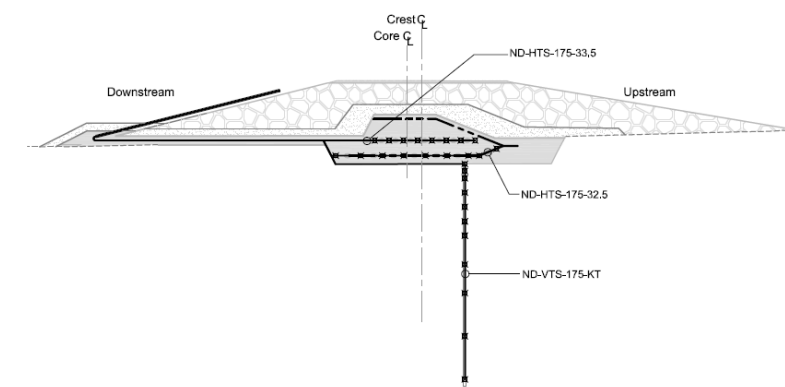
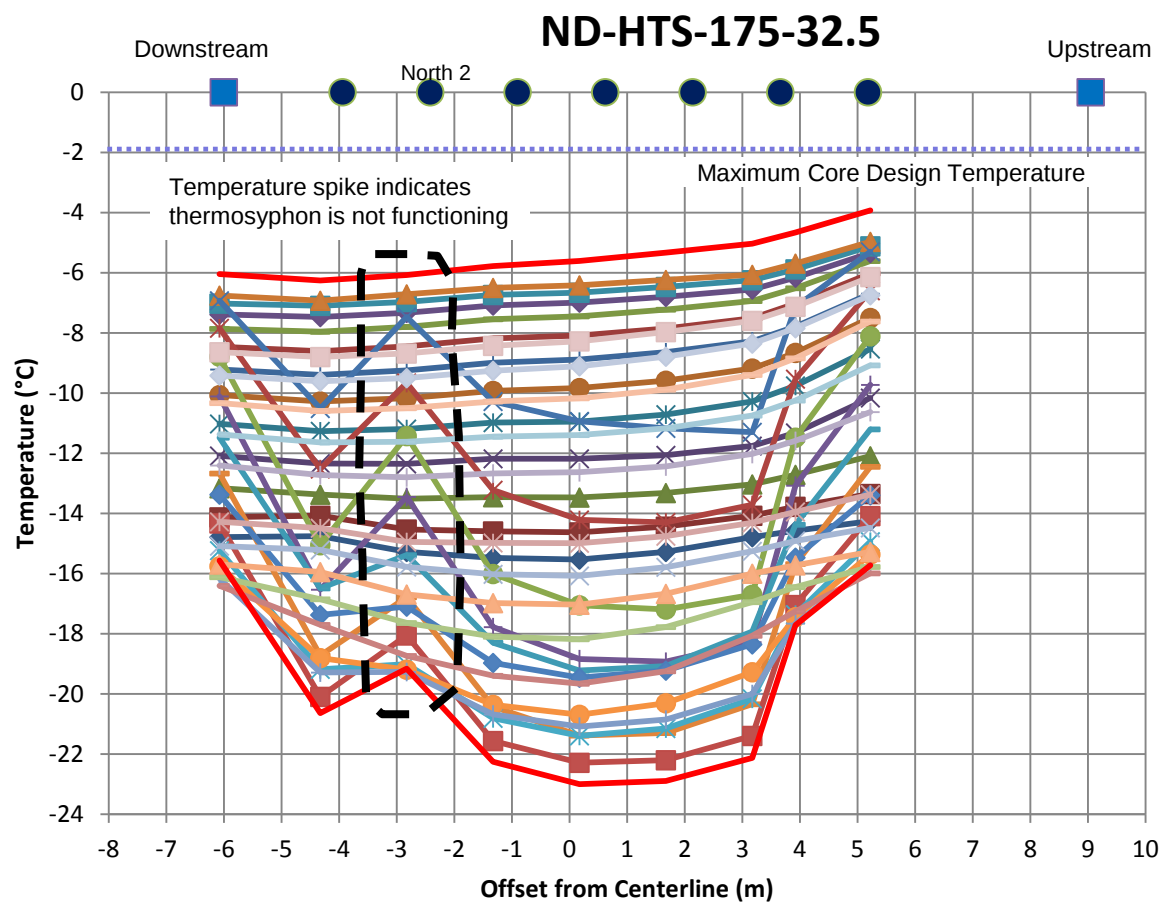
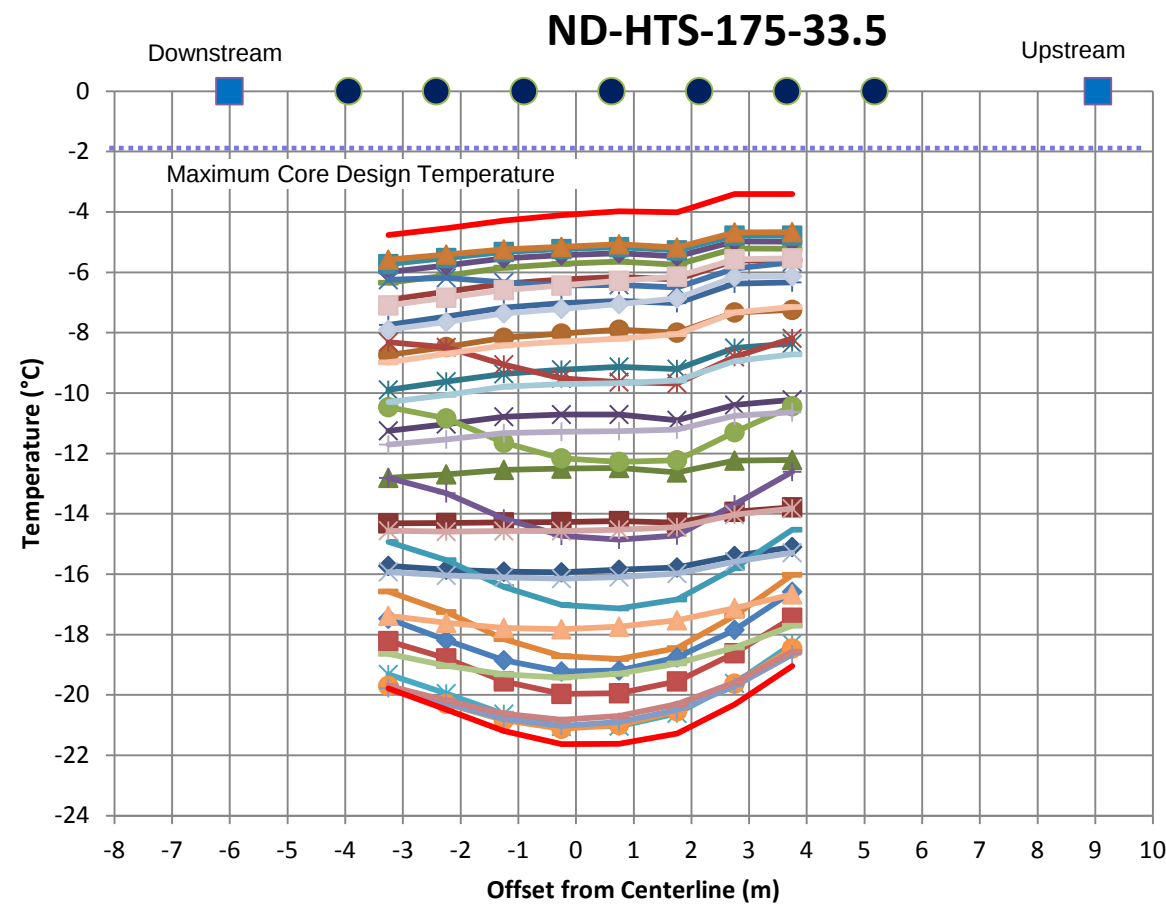
Ground Temperature Cable Status:

- Cable irreparably damaged
- Bead damaged or data missing



- Notes:**
- Bead numbers increase from downstream to upstream (horizontal) and top to bottom (vertical)
 - **(A)** Card download error: data needs to be extracted from datalogger.
 - **(B)** Incorrectly connected to datalogger as ND-HTS-175-33.5; therefore, no readings for beads 9, 10 and 11.
 - **(C)** Variation in Ground Temperature Cable readings during winter months due to close proximity of Ground Temperature Cable beads to thermosyphon pipes.

		2014 Geotechnical Inspection		
		Station 1+75 Ground Temperature Cable Temperature Vs. Time		
Job No: 1CT022.001	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.16
Filename: Figure_Ground Temperature CableTempVTime.pptx				



Note:

- Previous Data was recorded between August 2012 and May 2013

		2014 Geotechnical Inspection		
		Station 1+75 Ground Temperature Cable Readings by Location		
Job No: 1CT022.001 Filename: Figure_Ground Temperature CableTempVTime.pptx	HOPE BAY MINING LTD.	Date: Oct. 2014	Approved: MMM	Figure: A.17