AGNICO EAGLE
MEADOWBANK

Table 2: Whale Tail Dike Instrumentation List (Inclinometers SAA)

Location	Instrument ID / Drawing Name	Operational (✓)/Not operational (×)	Manual/Automatic	Elevation interval in meters (top/bottom)	Number of reading points
0+205	WTD-SAA-0+205 / INC-1	✓	Automatic	157/143	29
0+369	WTD-SAA-0+369 / INC-2	✓	Automatic	157/139	37
0+560	WTD-SAA-0+560 / INC-3	✓	Automatic	157/141	33
0+730	WTD-SAA-0+730 / INC-4	✓	Automatic	157/142	31

Table 3: Whale Tail Dike Instrumentation List (Data Loggers)

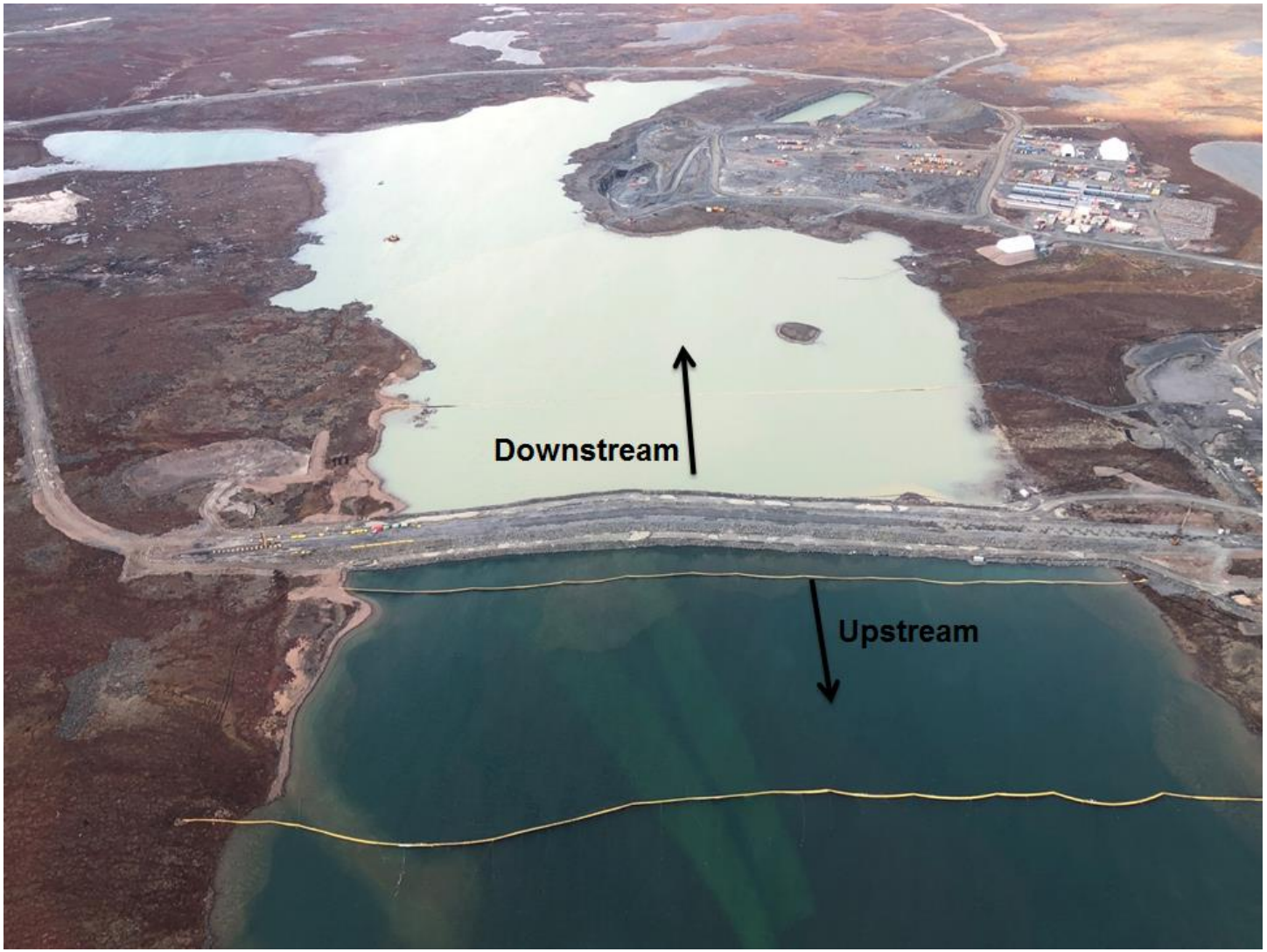
Location	Instrument ID	Operational (✓)/Not operational (×)
0+255	DL 0+255 Shack 1	✓
0+365	DL 0+365 Shack 2	✓
0+435	DL 0+435 Shack 3	✓
0+668	DL 0+668 Shack 4	✓

Whale Tail Dewatering Instrumentation Report

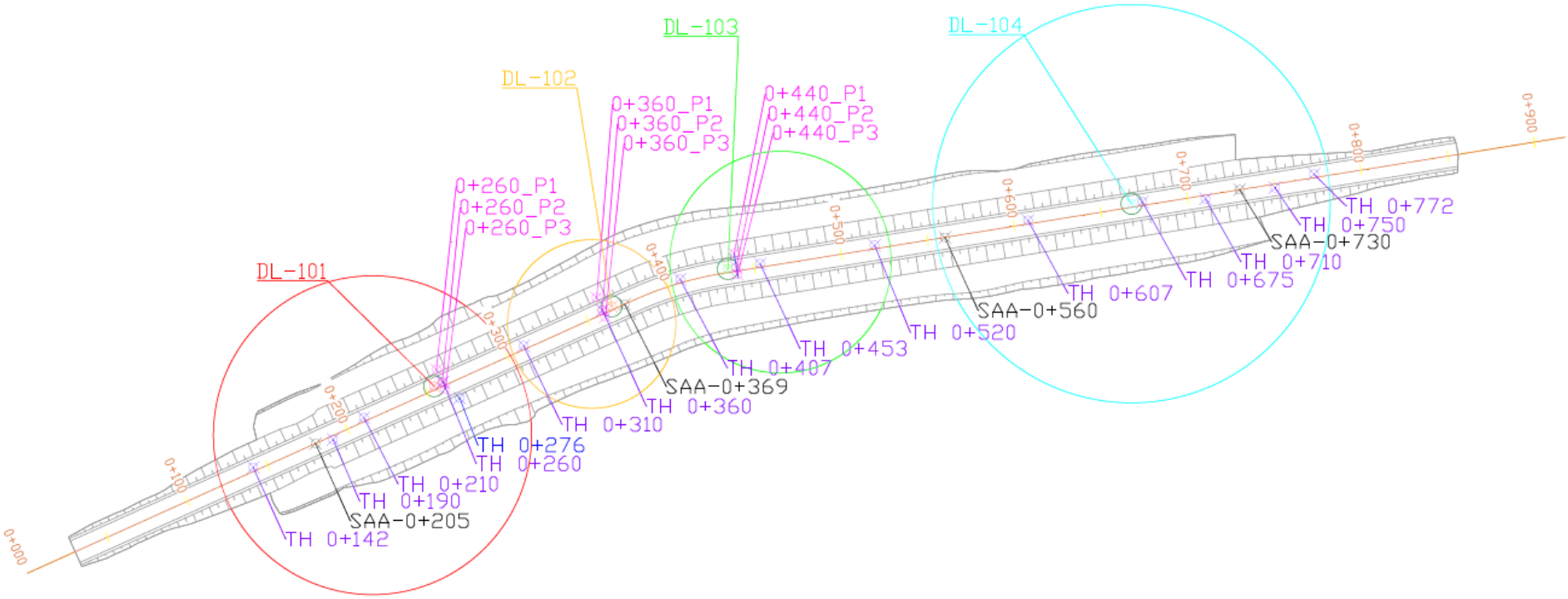
Date : March 2, 2019

Author : Engineering

Whale Tail Dike Aerial View

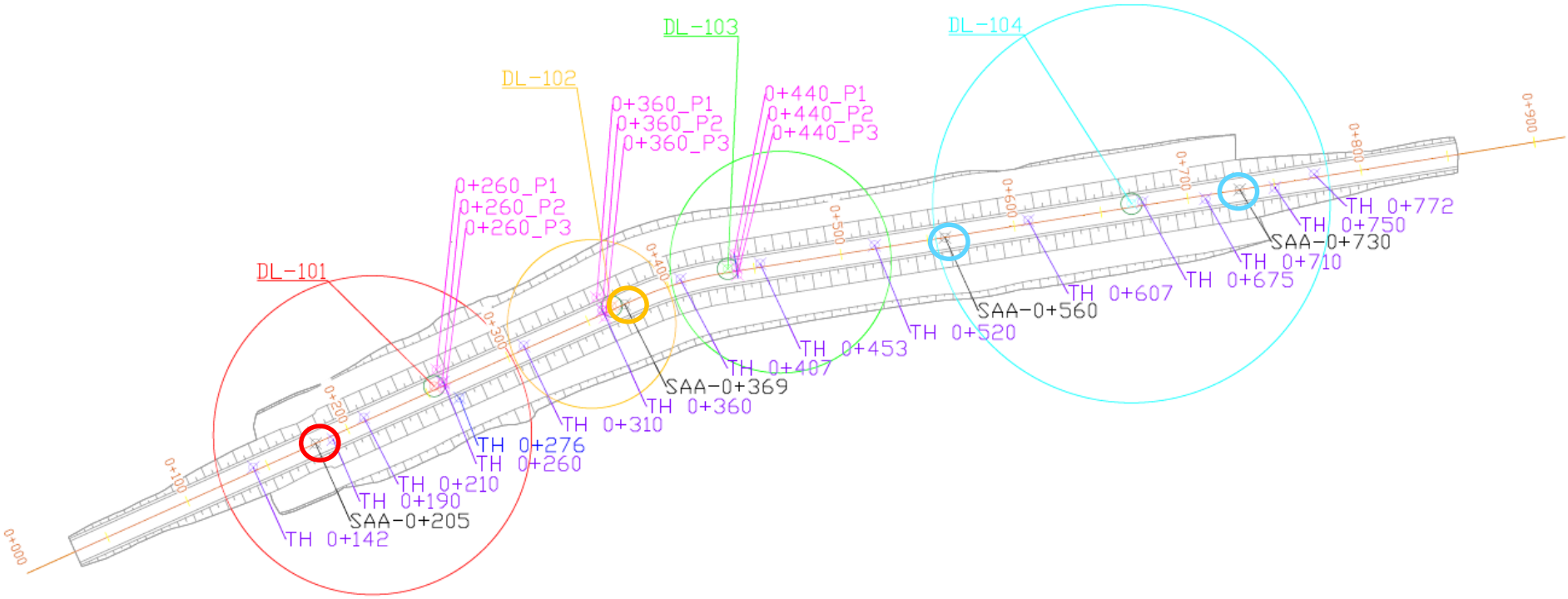


Plan View of Instruments Location



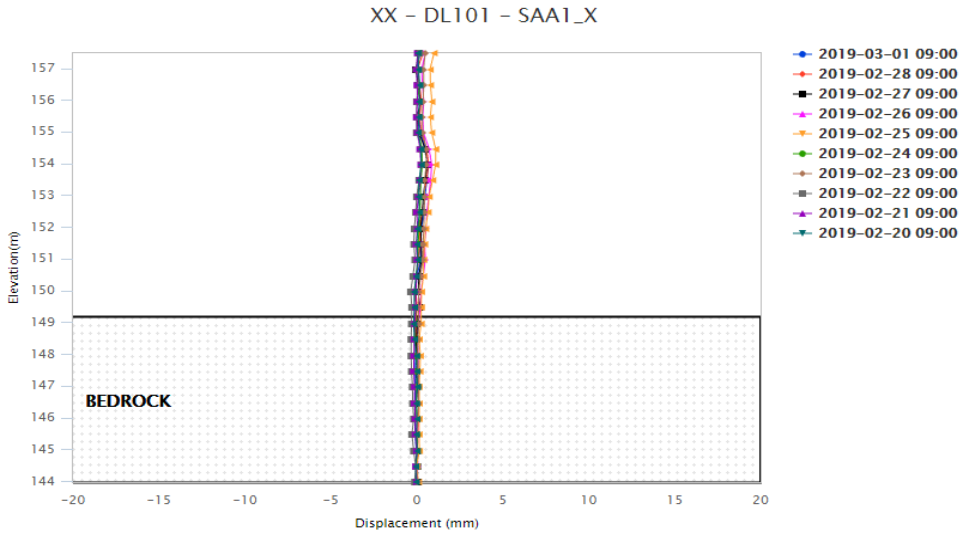
\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

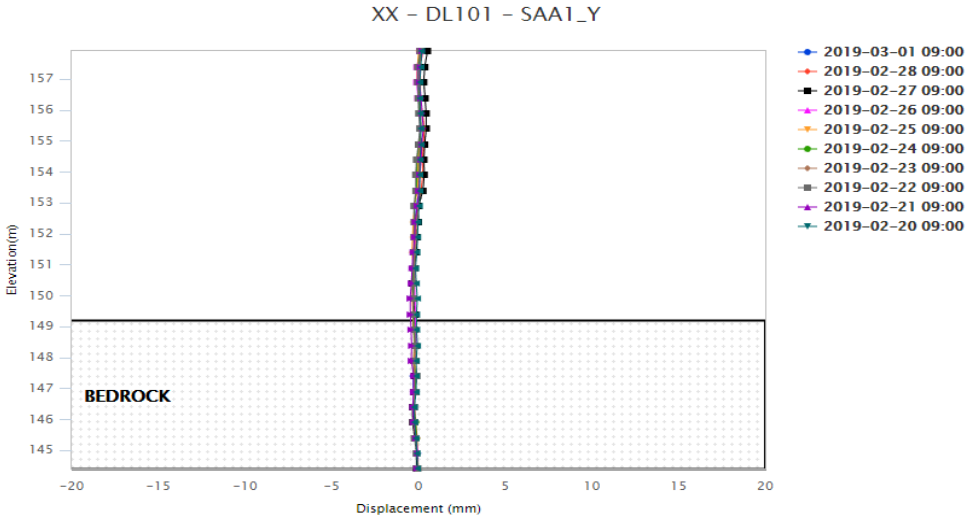
Inclinometers

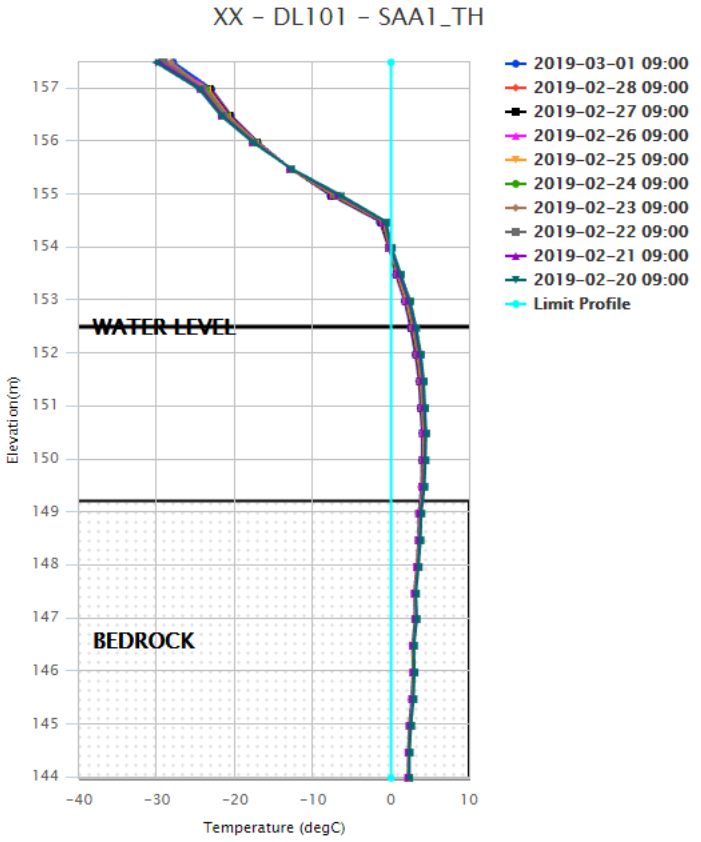


\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

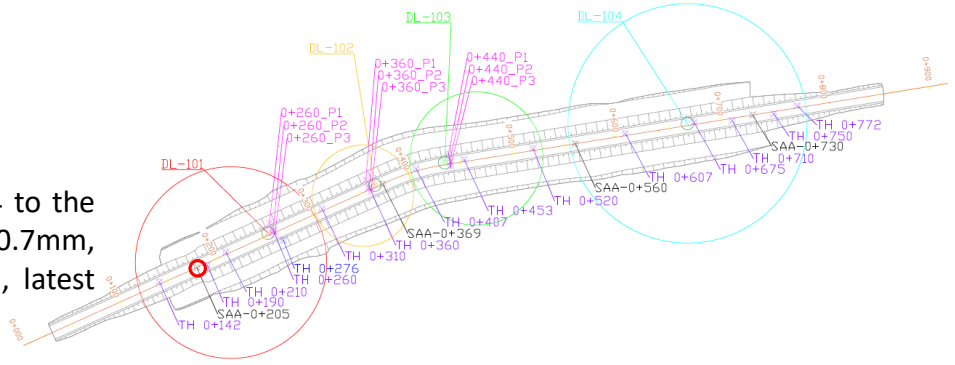
Inclinometer SAA-0+205 / INC-1





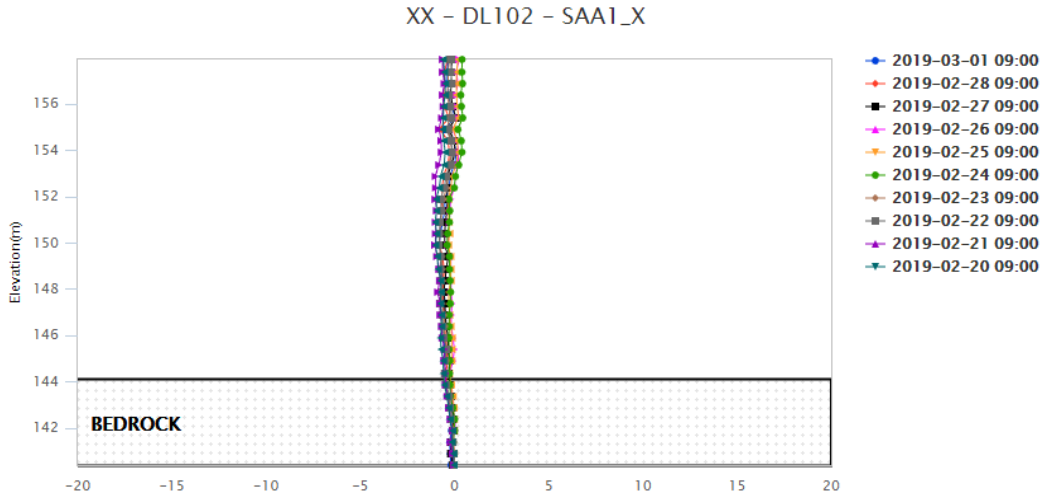


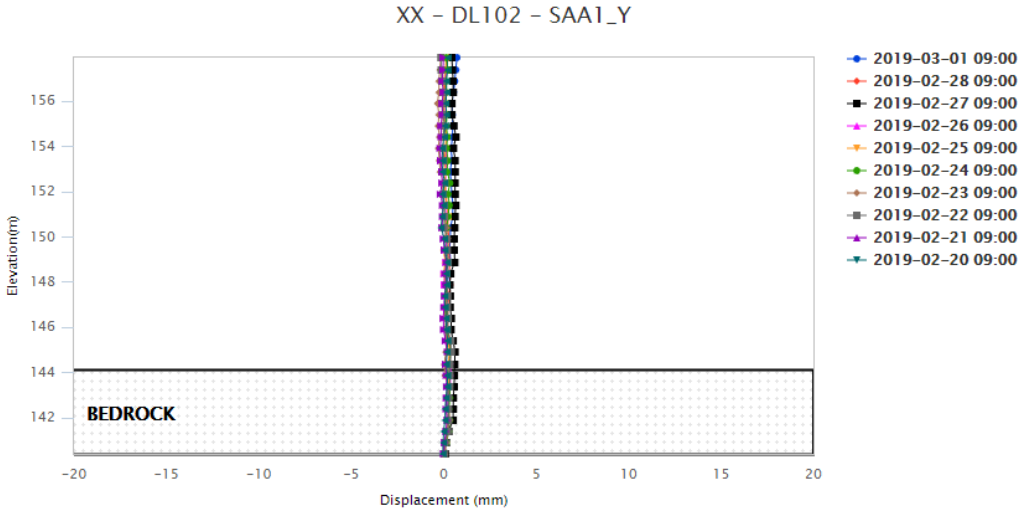
Comments: The instrument is above freezing point from elev. 154 to the bottom at 144MASL. Maximum *X* displacement is at elev. 154 (+0.7mm, latest data). Maximum *Y* displacement is at elev. 149.9 (-0.4mm, latest data).

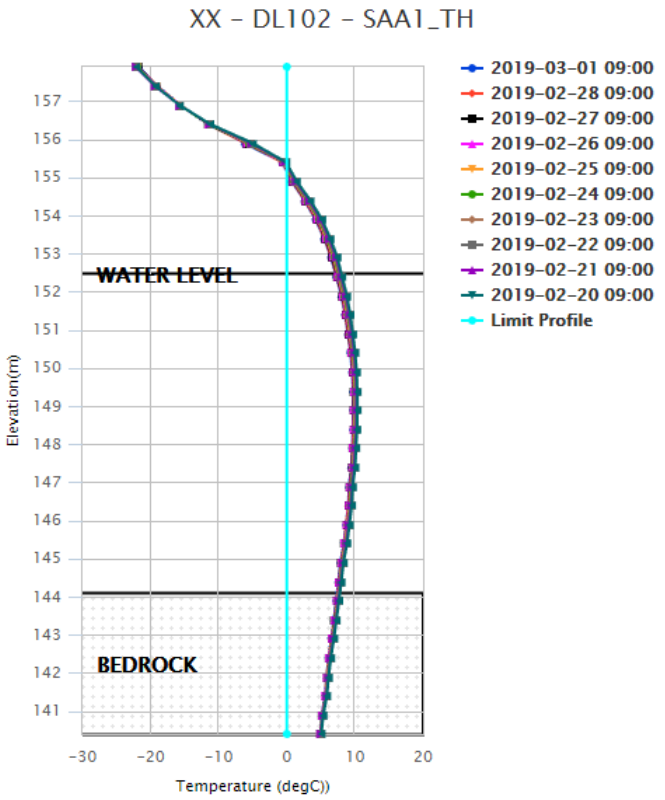


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

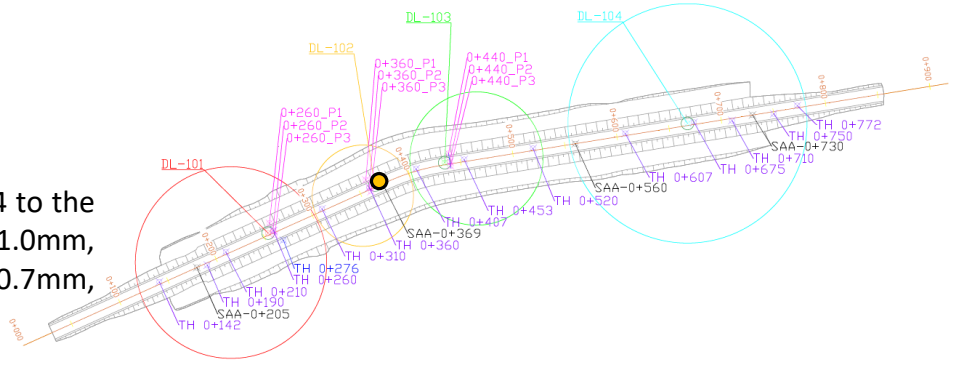
Inclinometer SAA-0+369 / INC-2



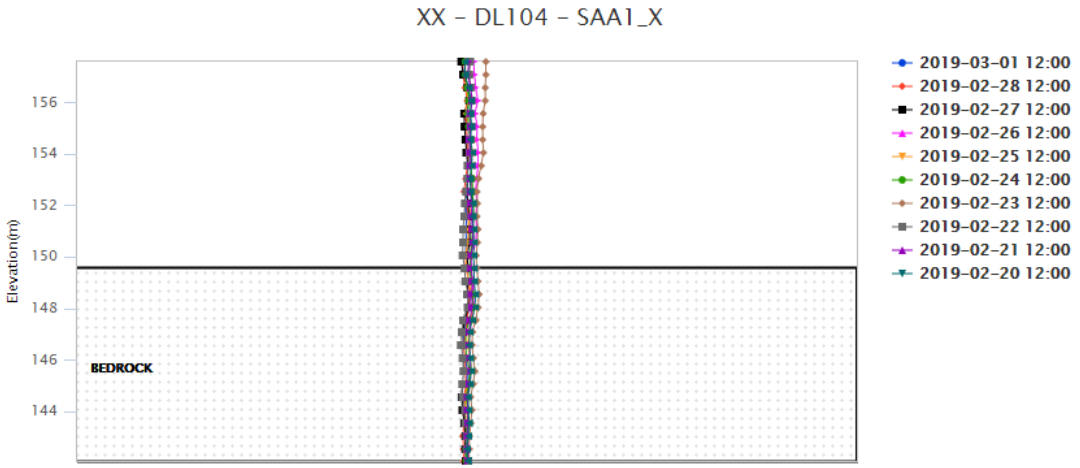


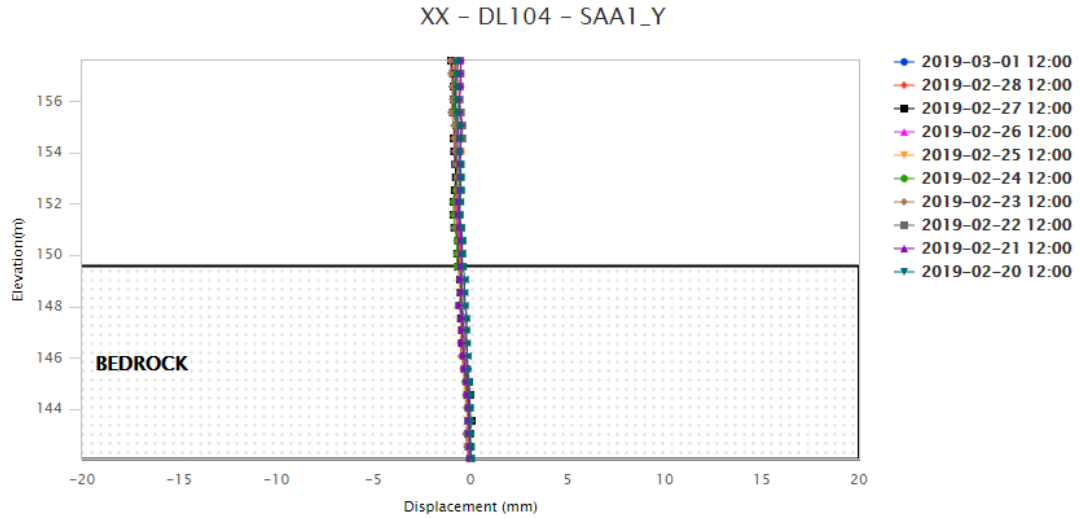


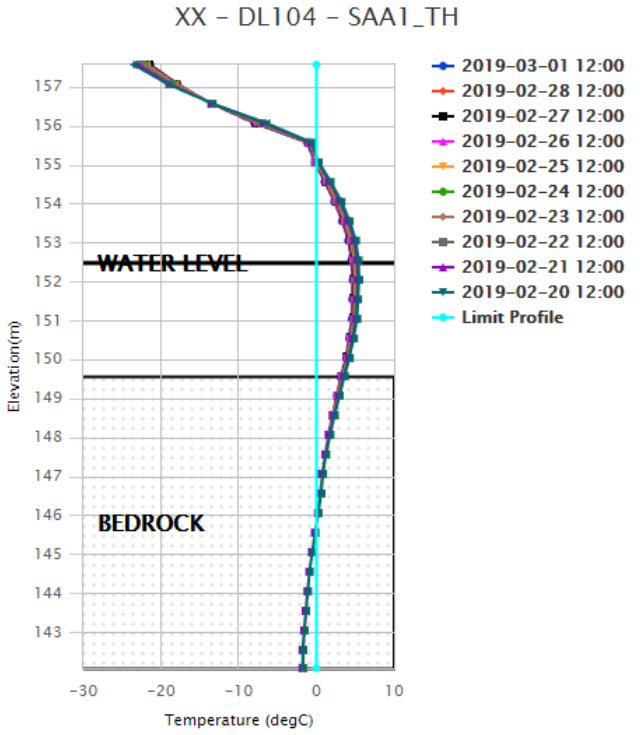
Comments: The instrument is above freezing point from elev. 154.4 to the bottom at 140.4MASL. Maximum *X* displacement is at elev. 149.9 (-1.0mm, latest data). Maximum *Y* displacement is at the top of the hole (+0.7mm, latest data).

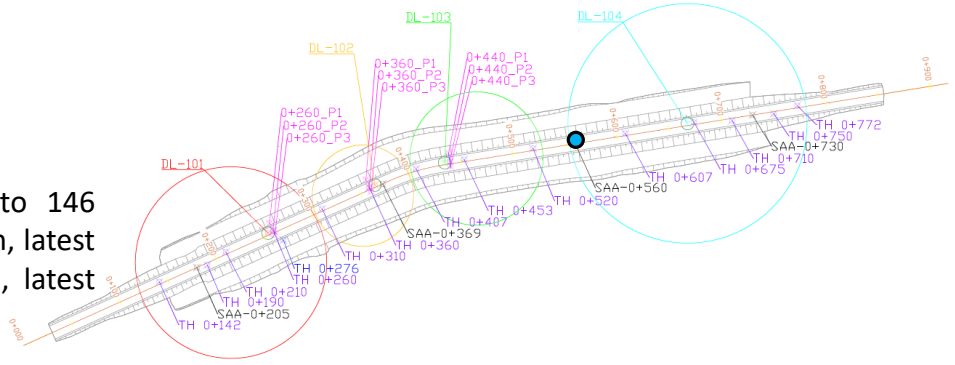


Inclinometer SAA-0+560 / INC-3





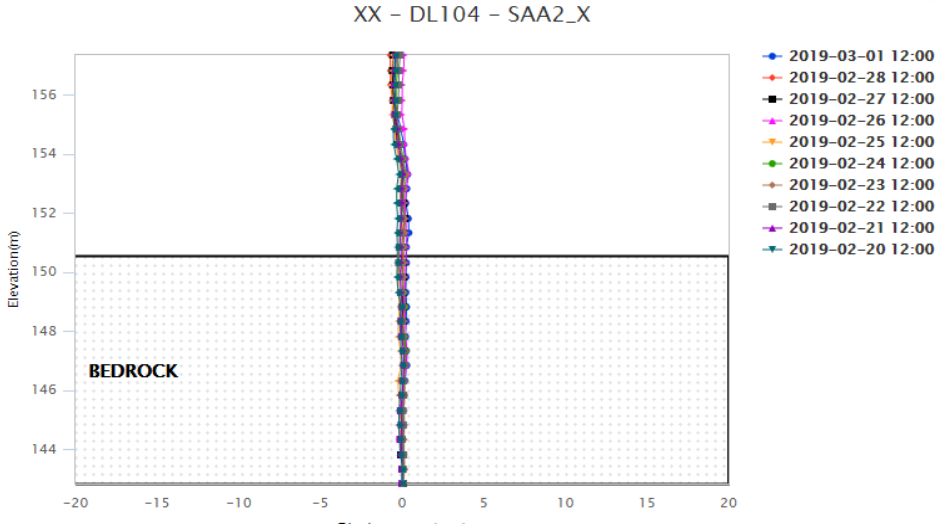


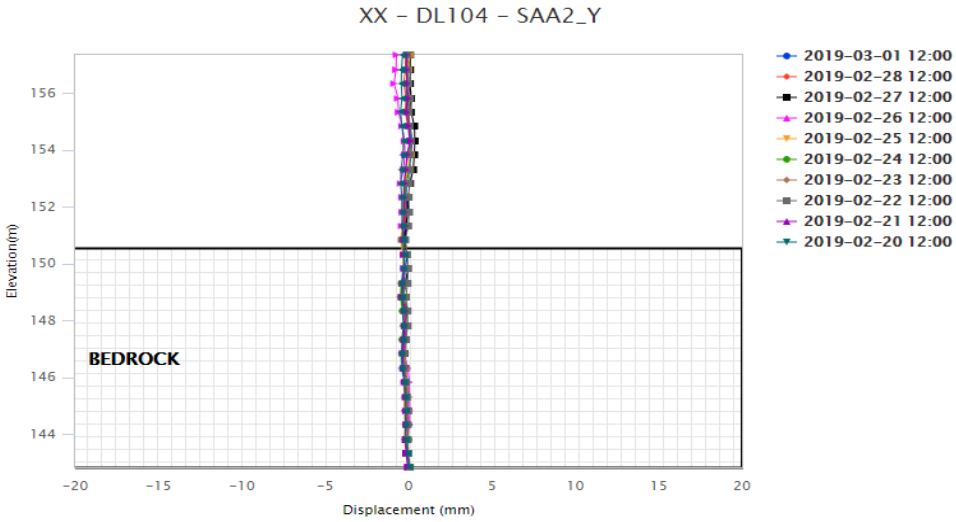


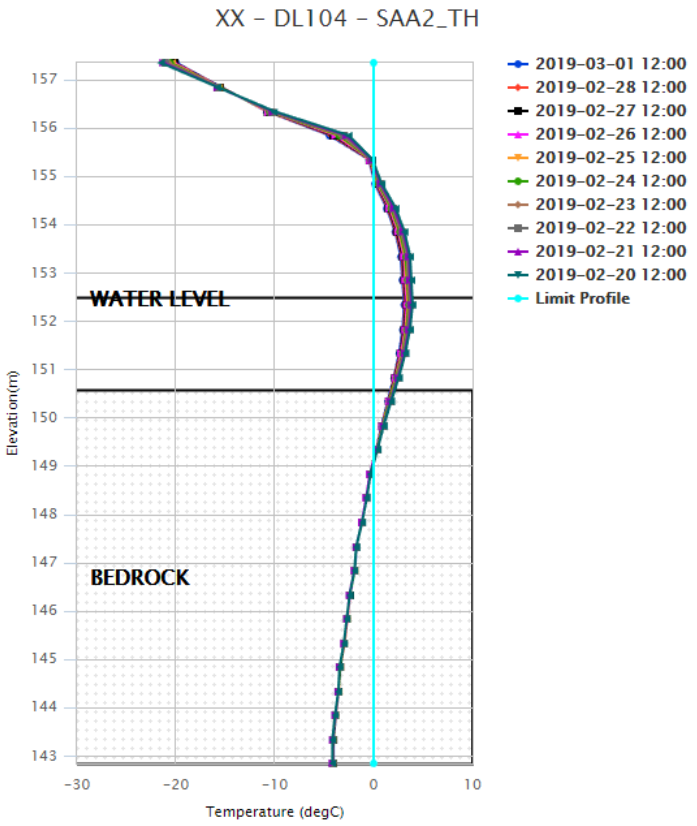
Comments: The instrument is above freezing point from elev. 155 to 146 MASL. Maximum *X* displacement is at the top of the hole (-0.21mm, latest data). Maximum *Y* displacement is at elev. 154 MASL (-0.72mm, latest data).

\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

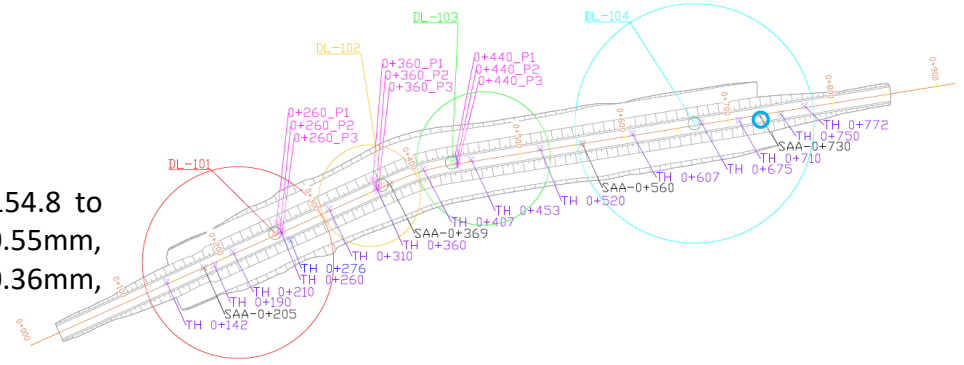
Inclinometer SAA-0+730 / INC-4



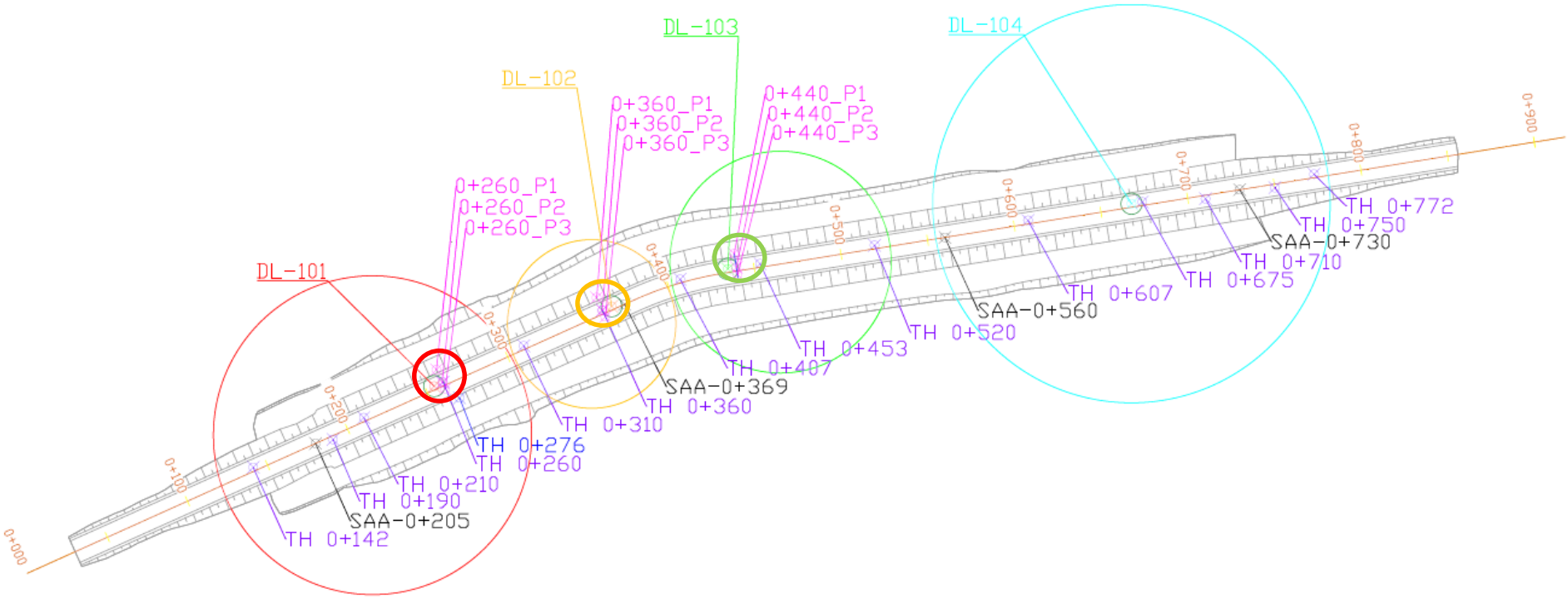




Comments: The instrument is above freezing point from elev. 154.8 to 149.3 MASL. Maximum *X* displacement is at the top of the hole (-0.55mm, latest data). Maximum *Y* displacement is at elev. 148.8 MASL (-0.36mm, latest data).

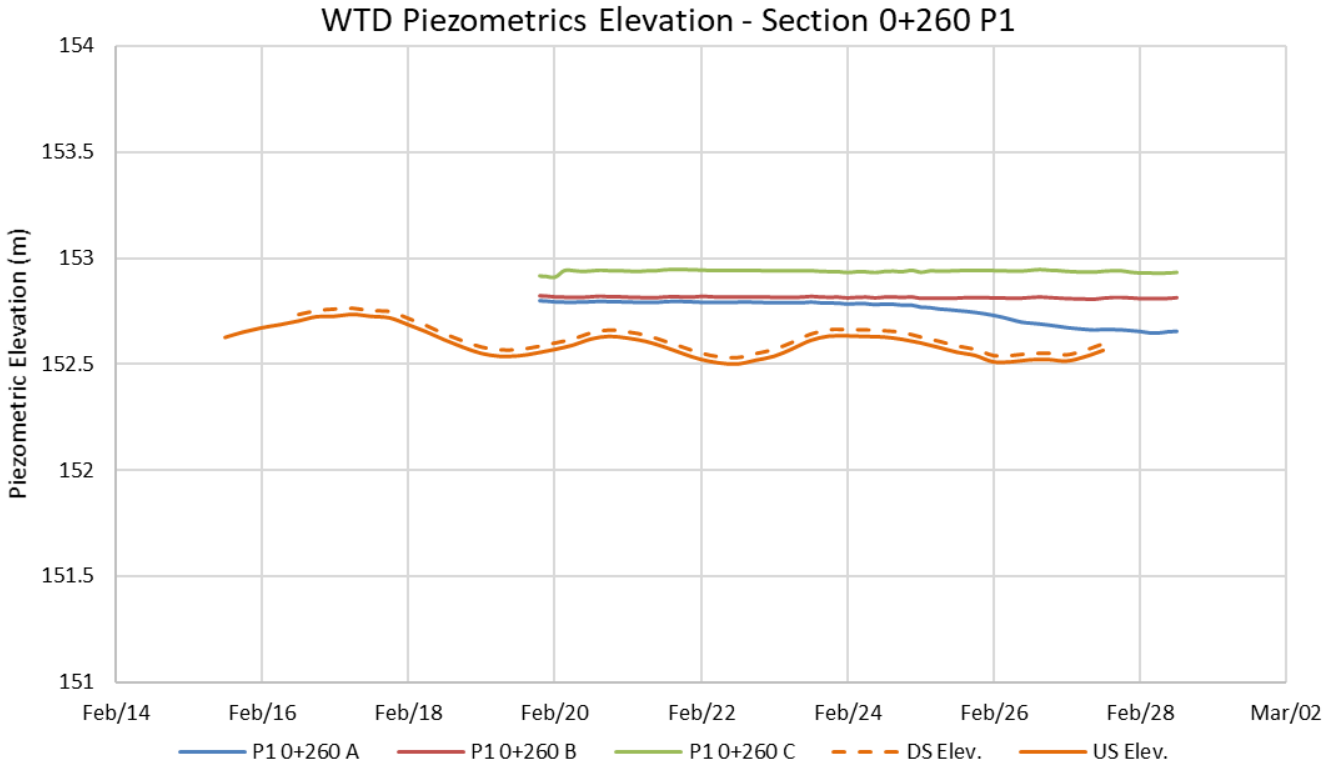


Piezometers



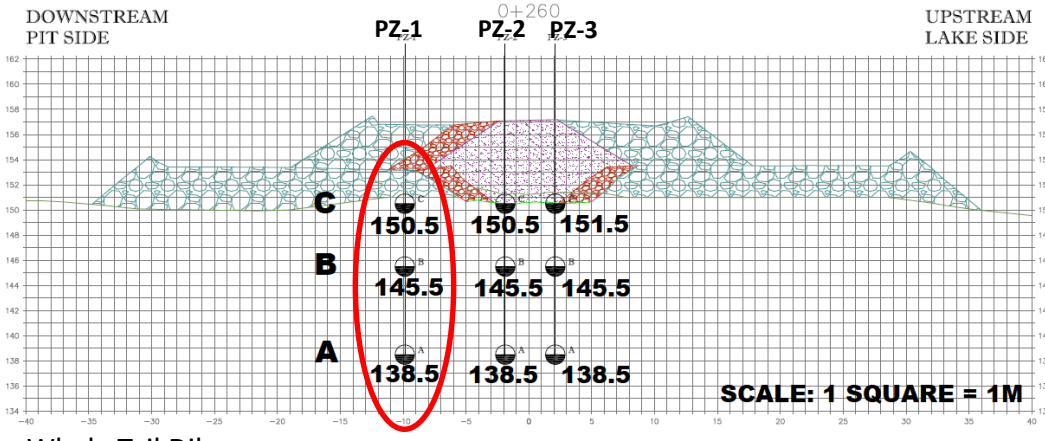
\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

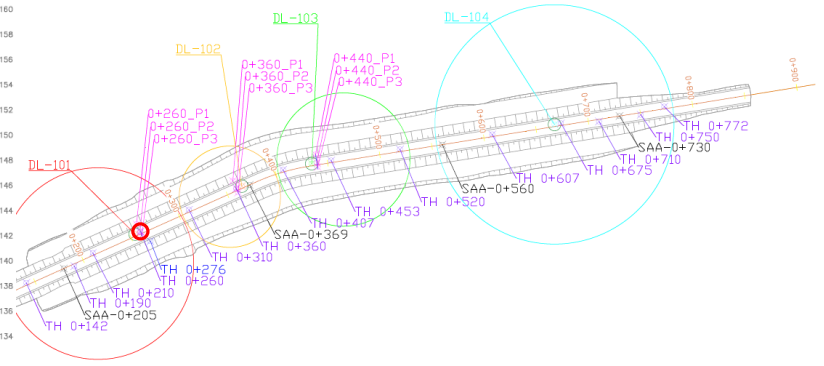
Piezometer 0+260_P1 (A-B-C) / PZ-1



Comments:

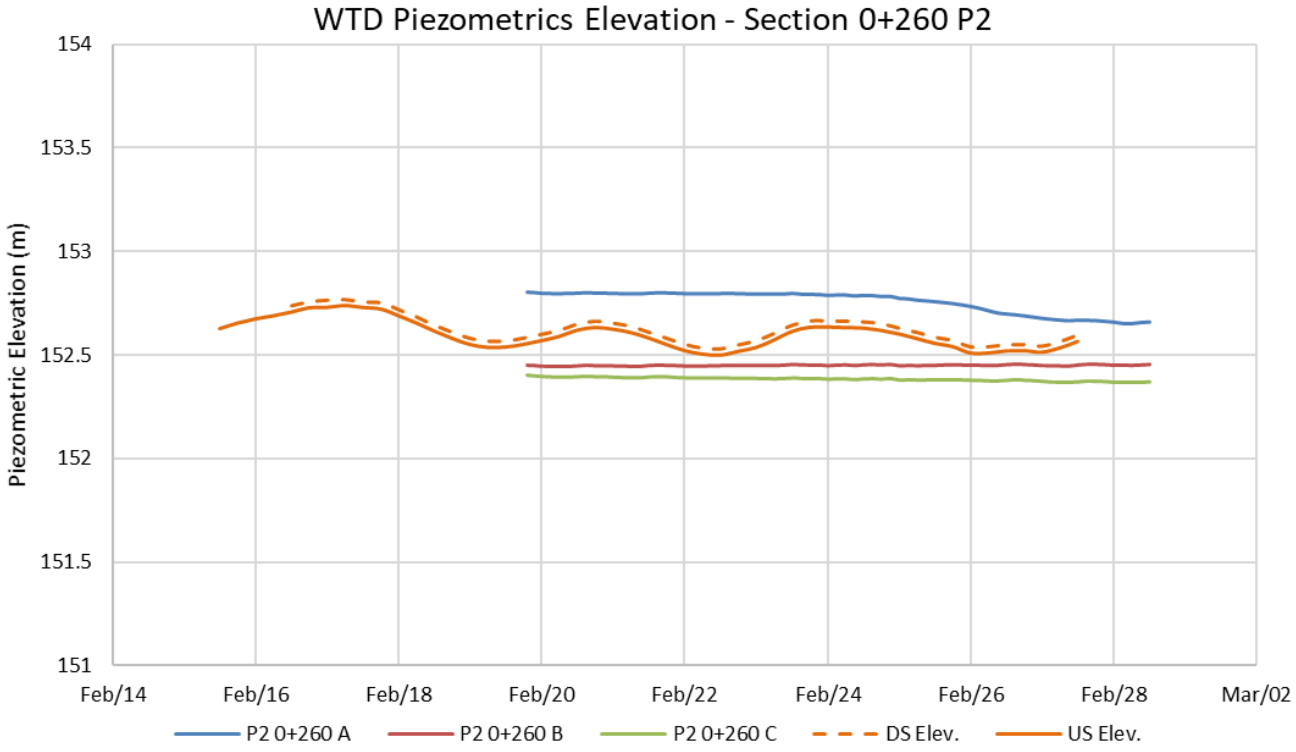
All piezometers are considered stable and above freezing point. Temperatures are in between 0.5°C (C) and 2.3°C (B).





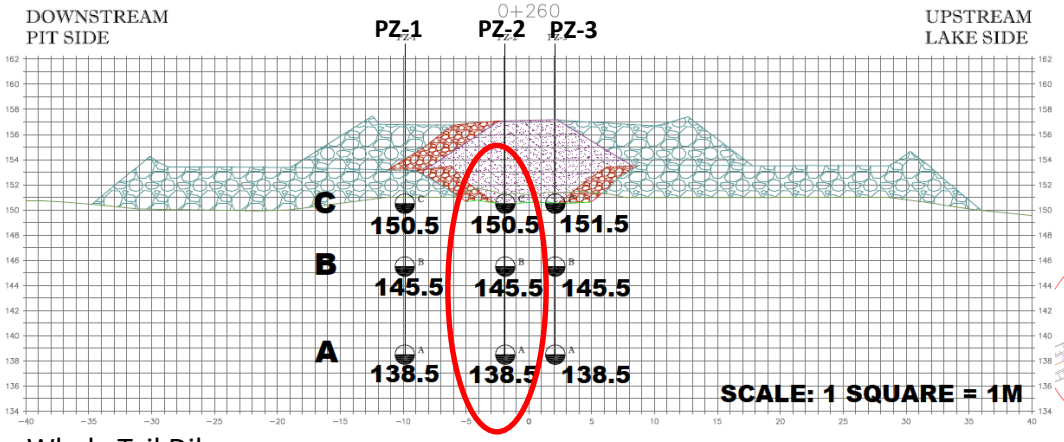
\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

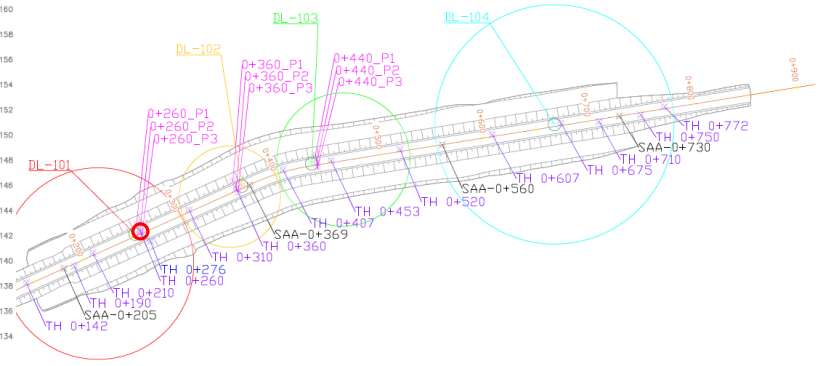
Piezometer 0+260_P2 (A-B-C) / PZ-2



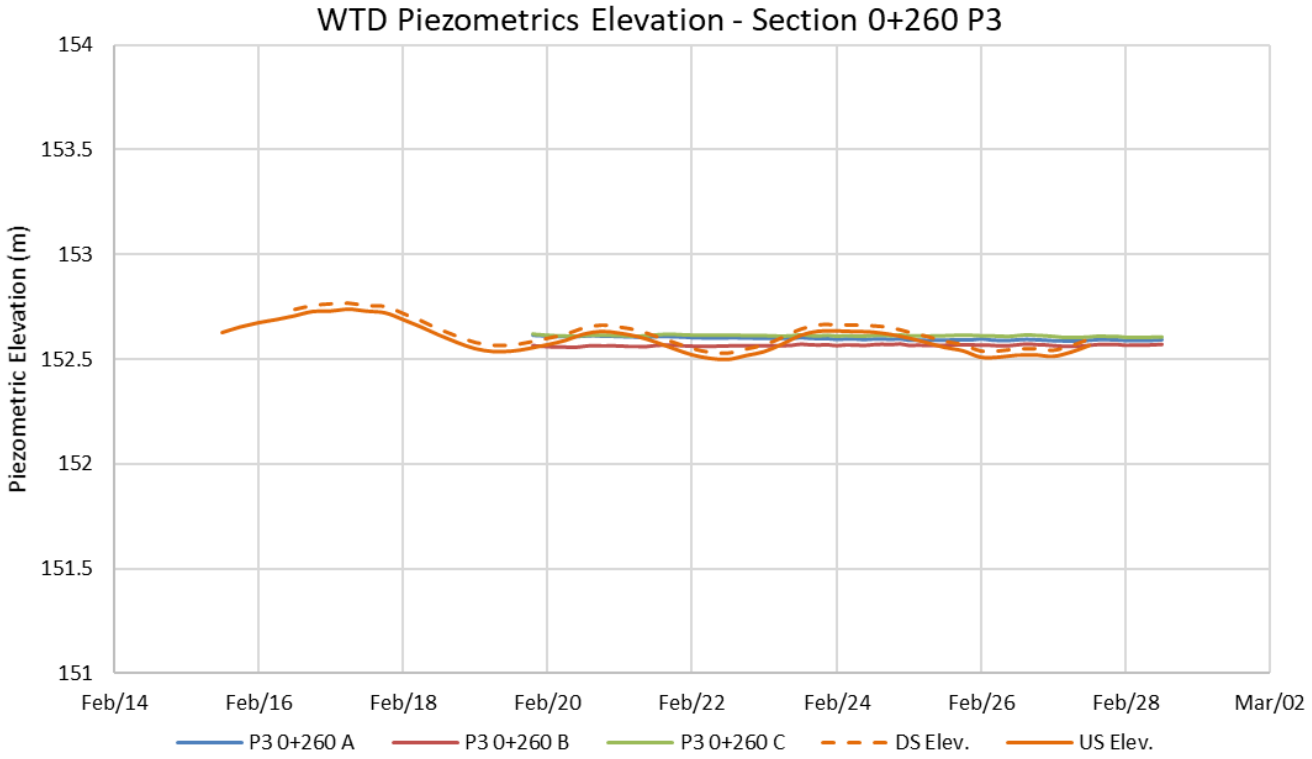
Comments:

All piezometers are considered stable and above freezing point. Temperatures are in between 1.6°C (A) and 4.1°C (C).



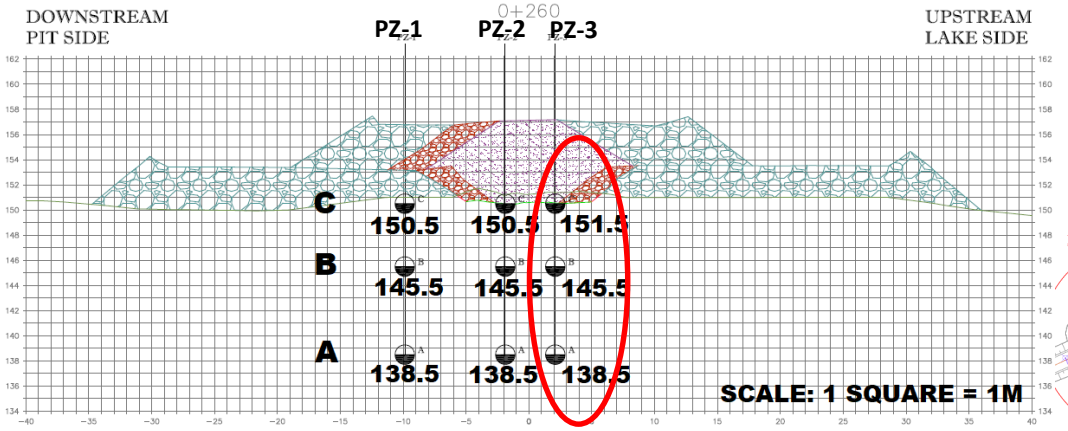


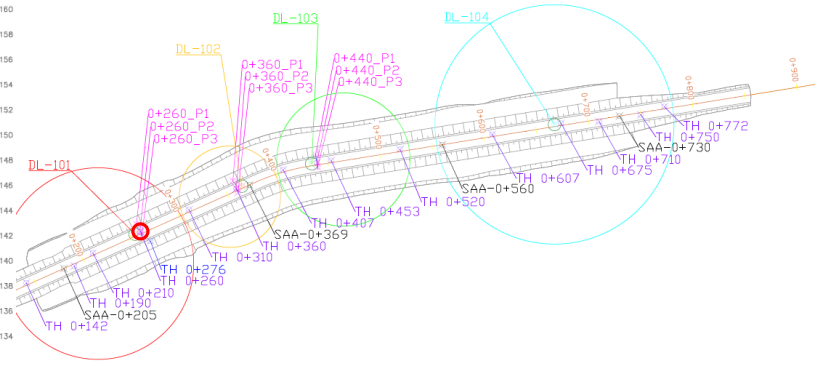
Piezometer 0+260_P3 (A-B-C) / PZ-3



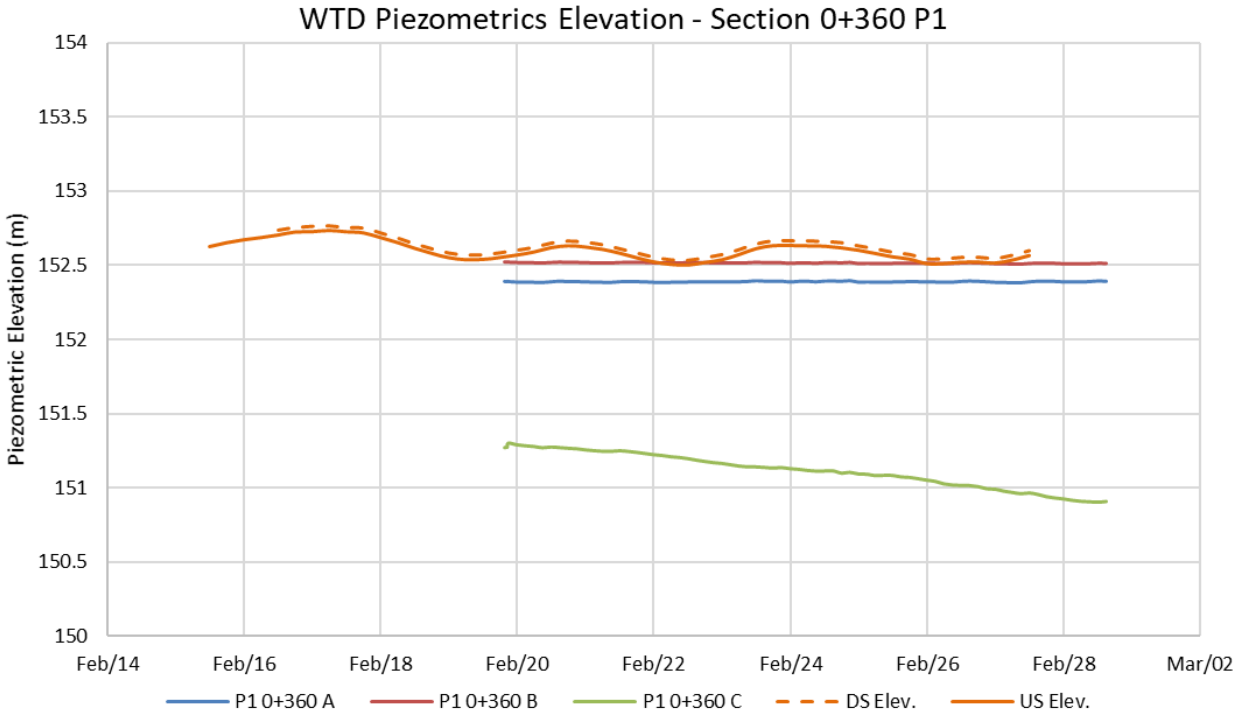
Comments:

All piezometers are considered stable and above freezing point. All piezos reading are very close to the water level. Temperatures are in between 1.0°C (A) and 4.2°C (C).



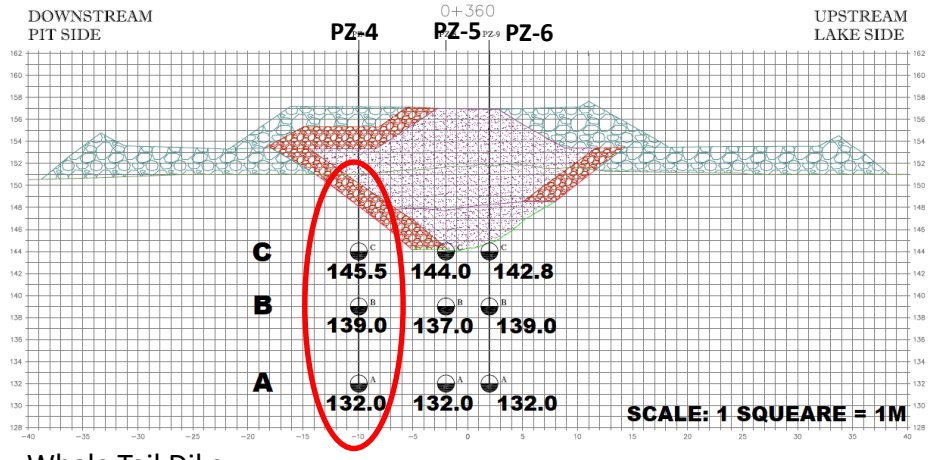


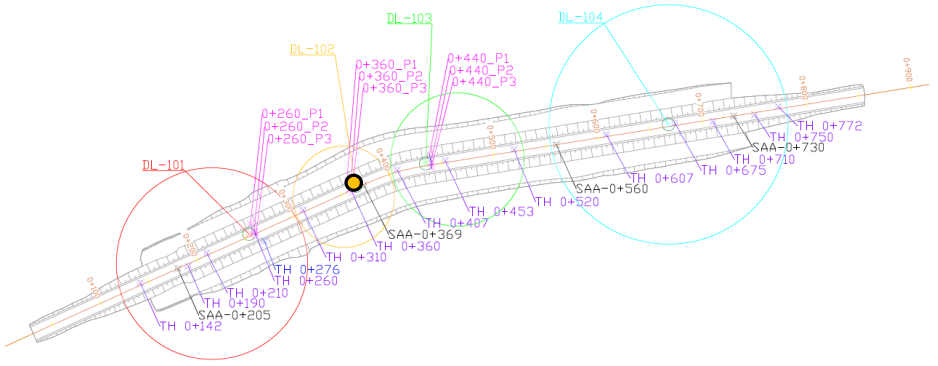
Piezometer 0+360_P1 (A-B-C) / PZ-4



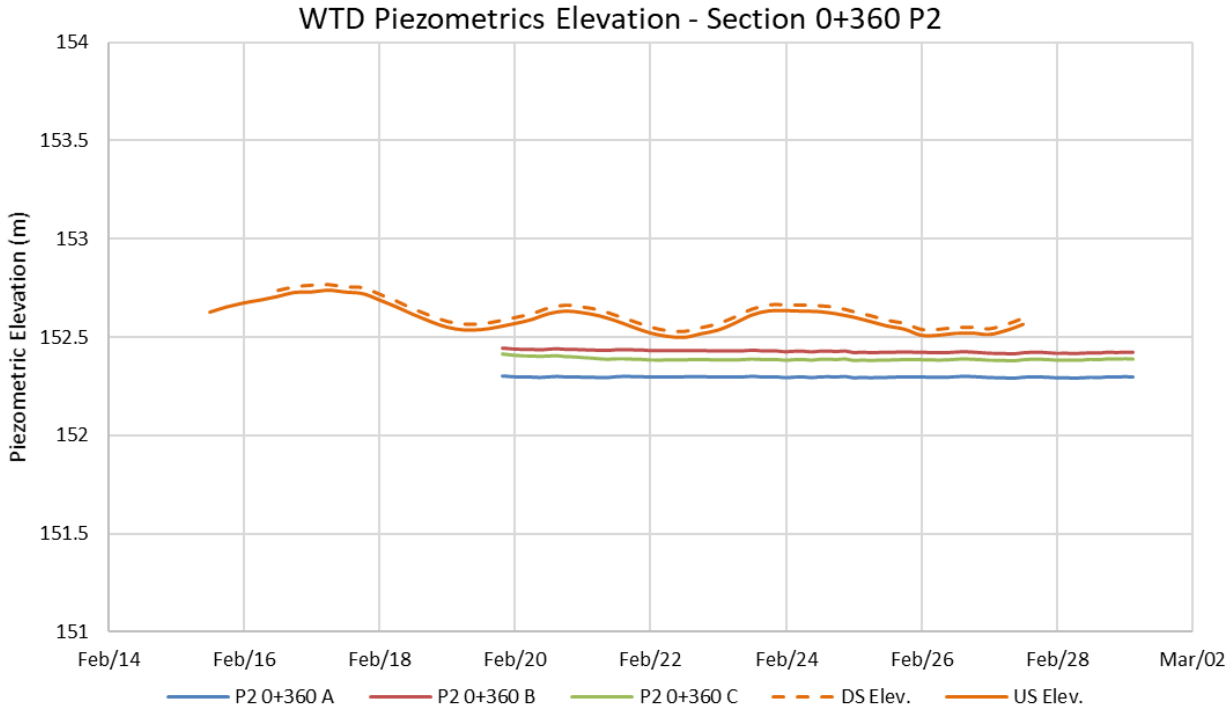
Comments:

All piezometers are considered stable and above freezing point. Piezo C shows a continued downtrend but on a small scale, it seems to have stabilized in the past day, therefore considered stable. Temperatures are in between 2.0°C (A) and 3.5°C (C).



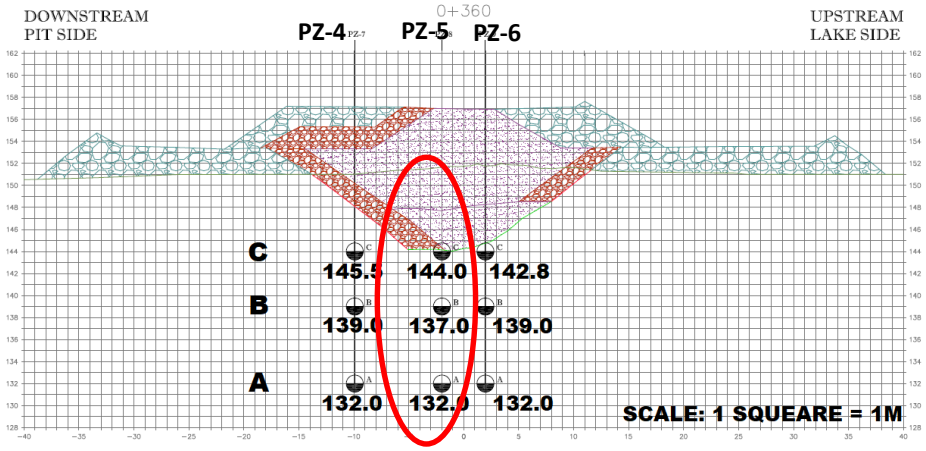


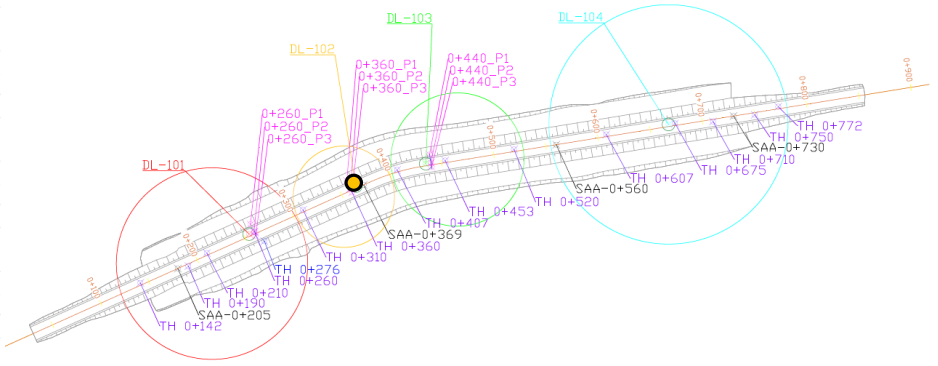
Piezometer 0+360_P2 (A-B-C) / PZ-5



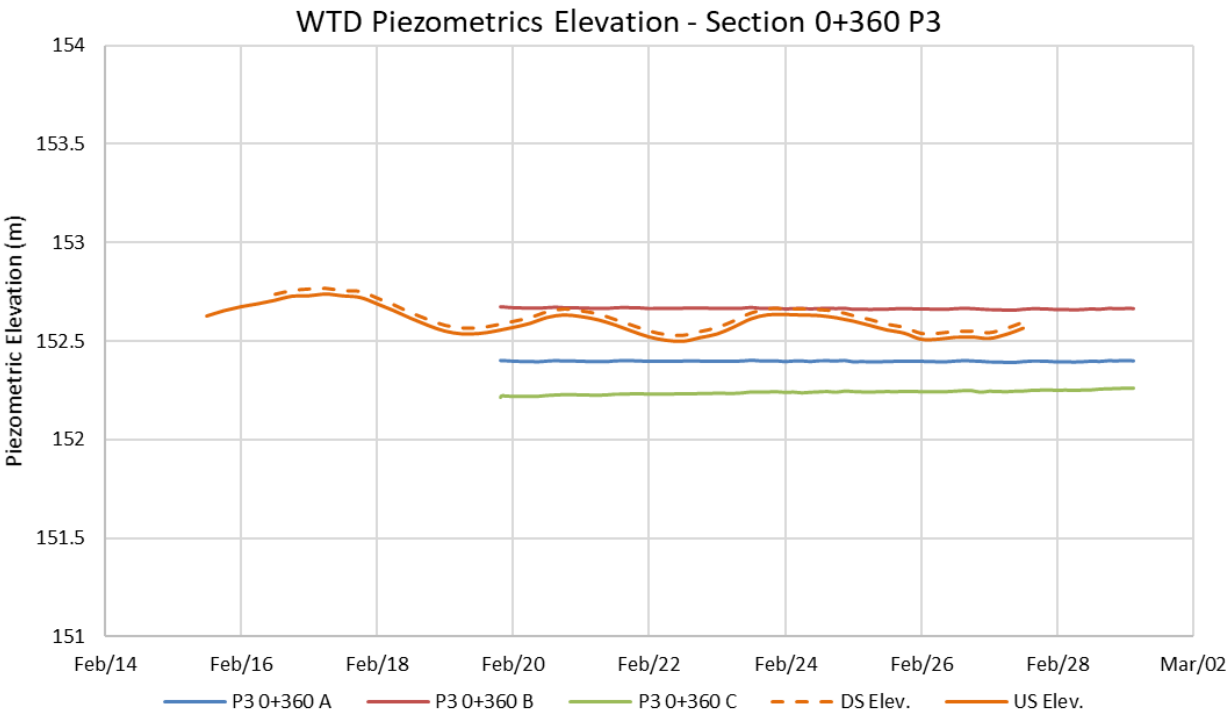
Comments:

All piezometers are considered stable and above freezing point. Temperatures are in between 0.5°C (A) and 5.2°C (C).



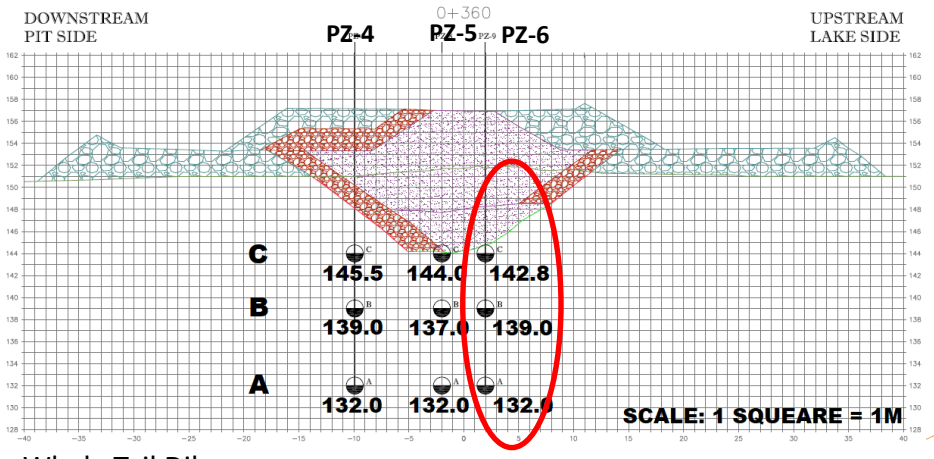


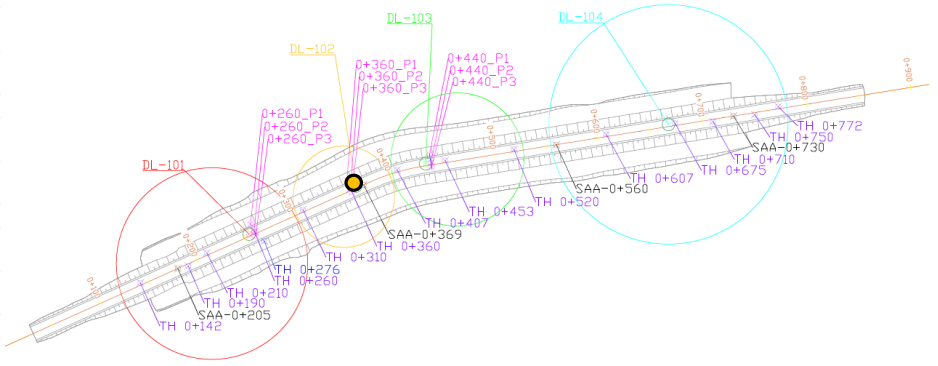
Piezometer 0+360_P3 (A-B-C) / PZ-6



Comments:

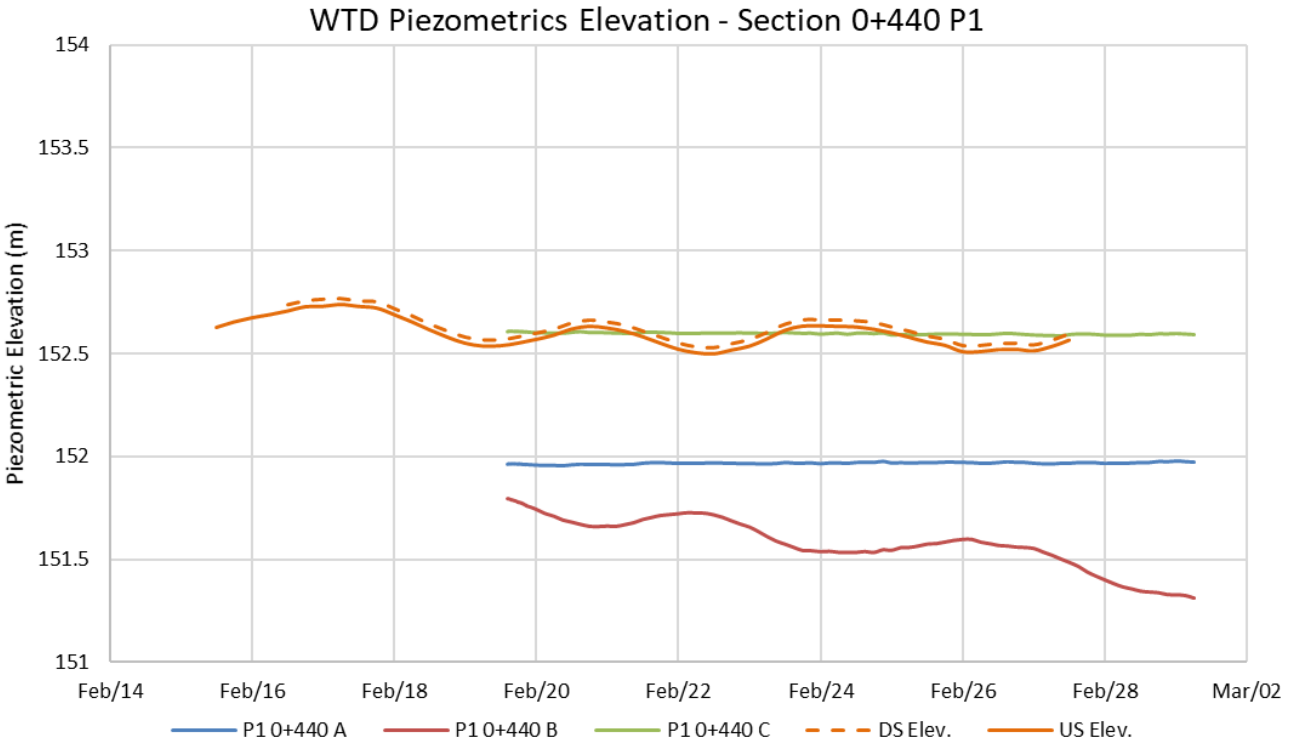
All piezometers are considered stable and above freezing point. Temperatures are in between 1.9°C (A) and 5.5°C (C).





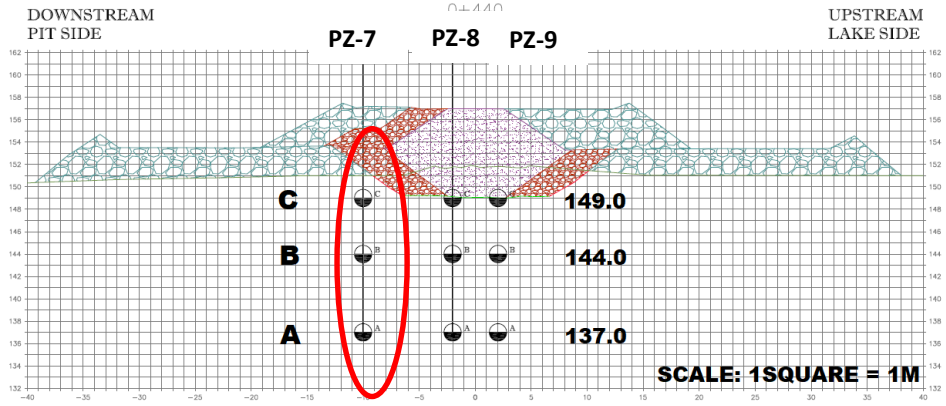
\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

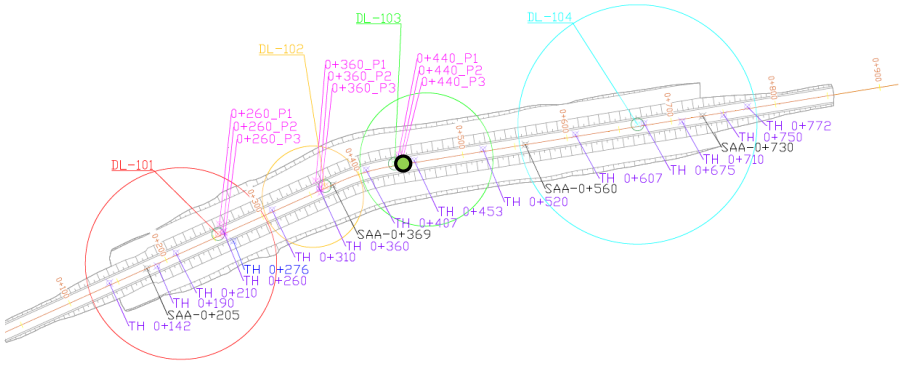
Piezometer 0+440_P1 (A-B-C) / PZ-7



Comments:

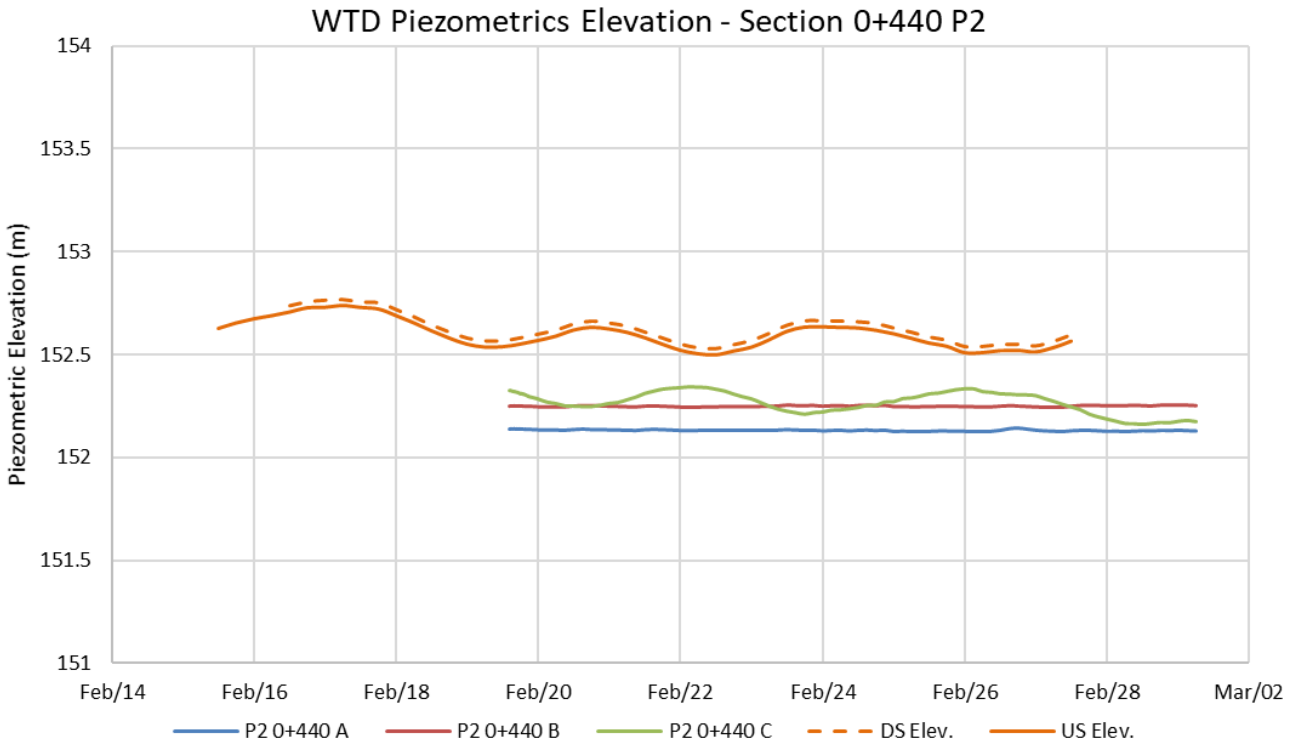
All piezometers are considered stable and above freezing point. PZ-7-B Shows a cyclical downtrend but seems to have stabilized in the past days which is supported from more recent data on March 2nd and 3rd that are not shown on this graph. Temperatures are in between 2.1°C (A) and 2.0°C (C).





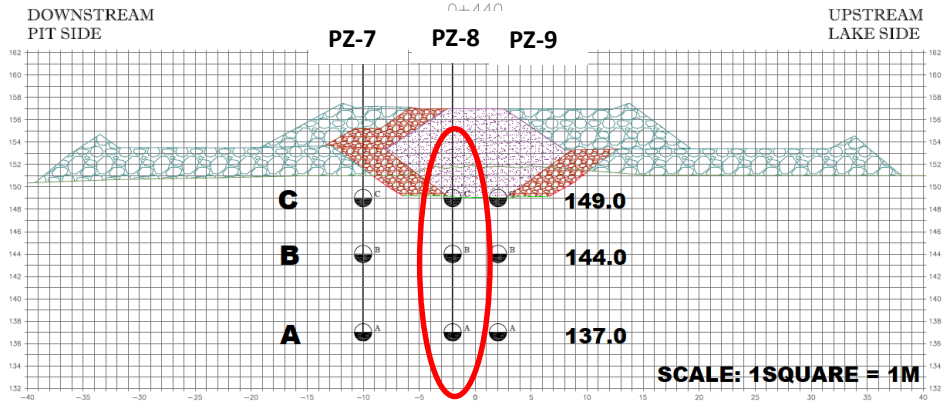
\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

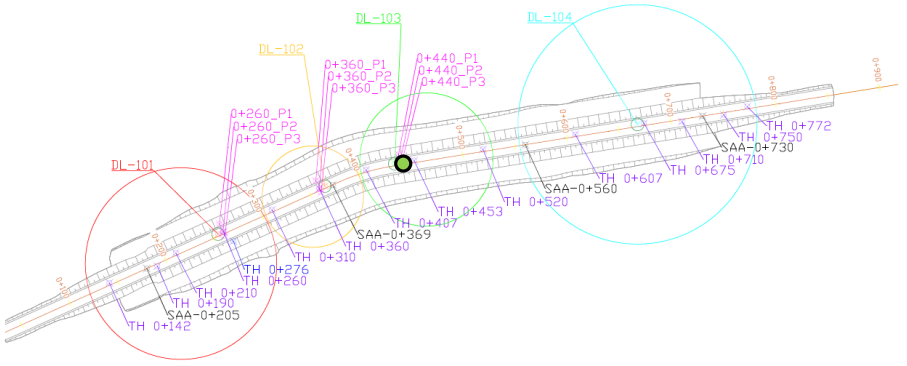
Piezometer 0+440_P2 (A-B-C) / PZ-8



Comments:

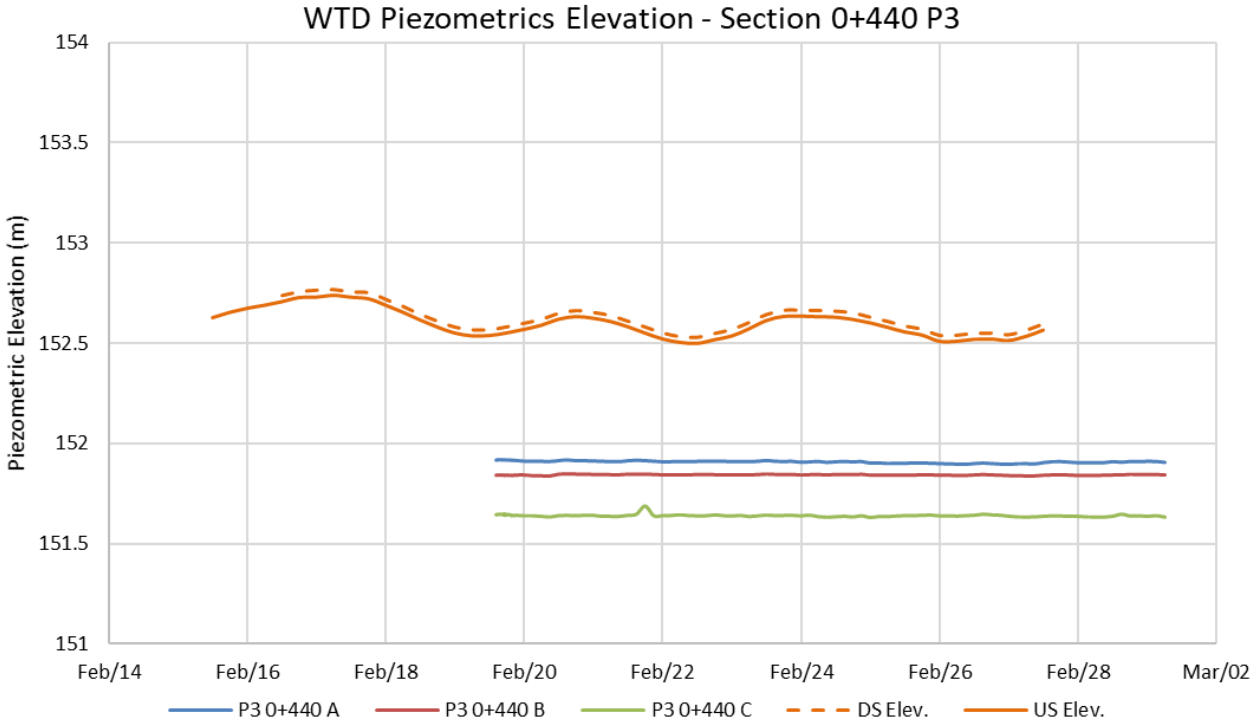
All piezometers are considered stable and above freezing point. Temperatures are in between 1.6°C (A) and 4.6°C (C).





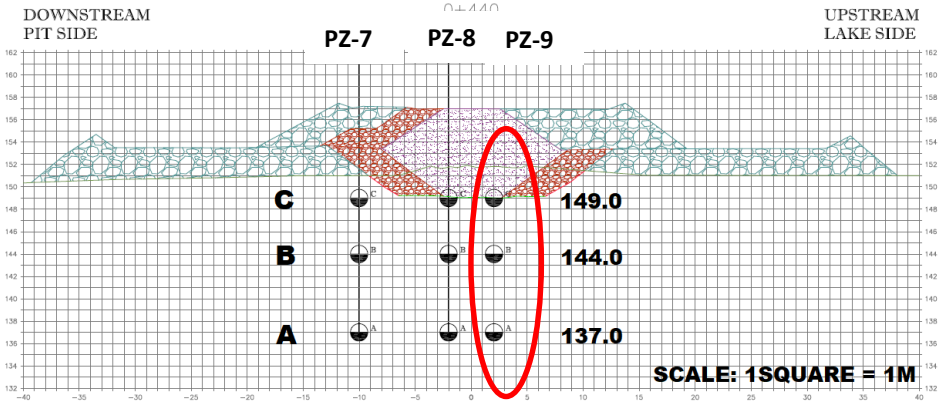
\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

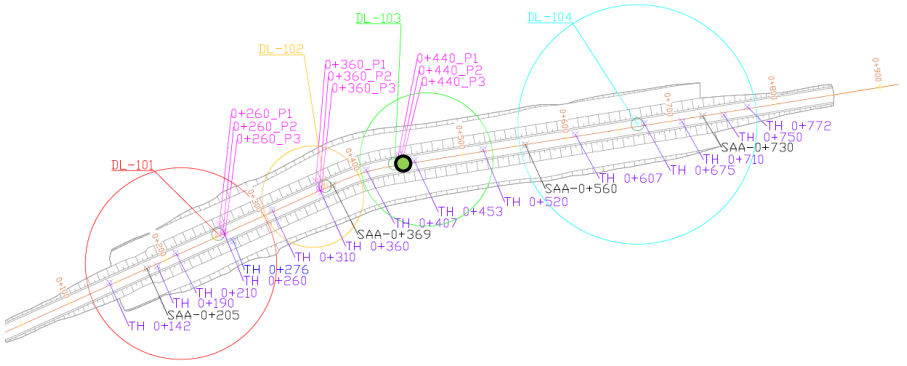
Piezometer 0+440_P3 (A-B-C) / PZ-9



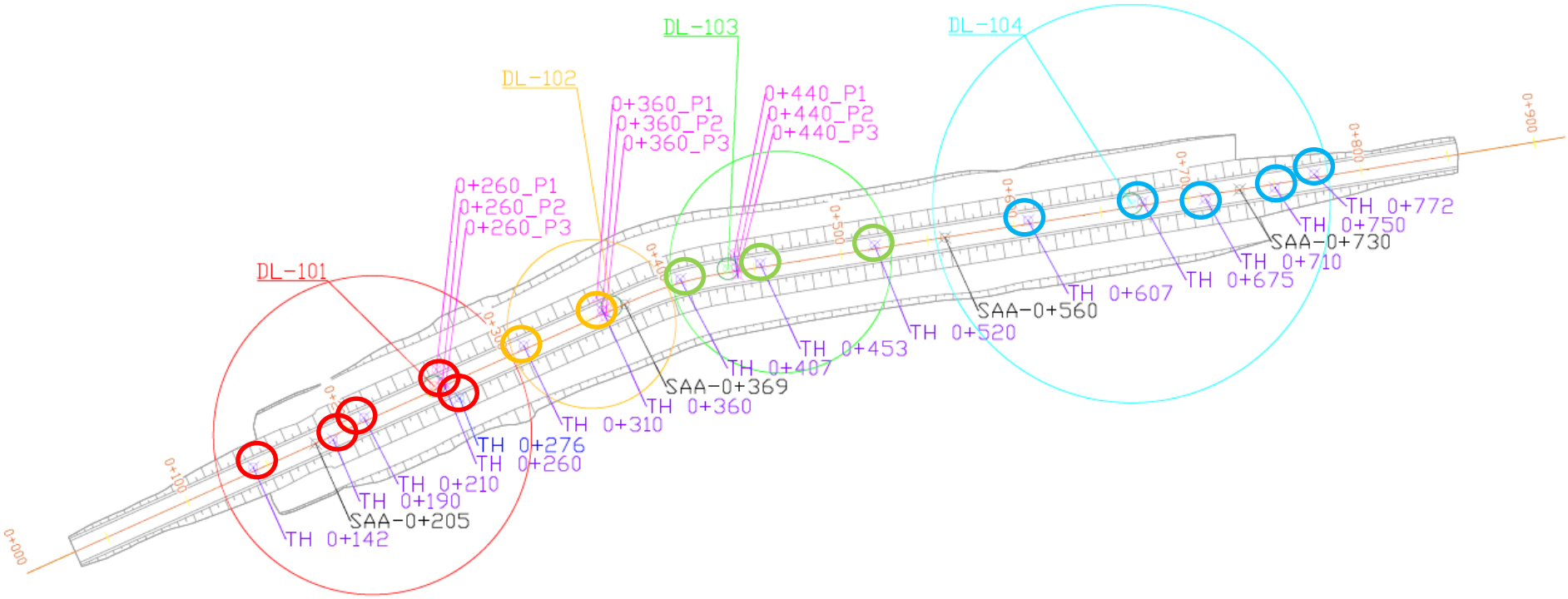
Comments:

All piezometers are considered stable and above freezing point. Temperatures are in between 1.7°C (A) and 4.3°C (C).



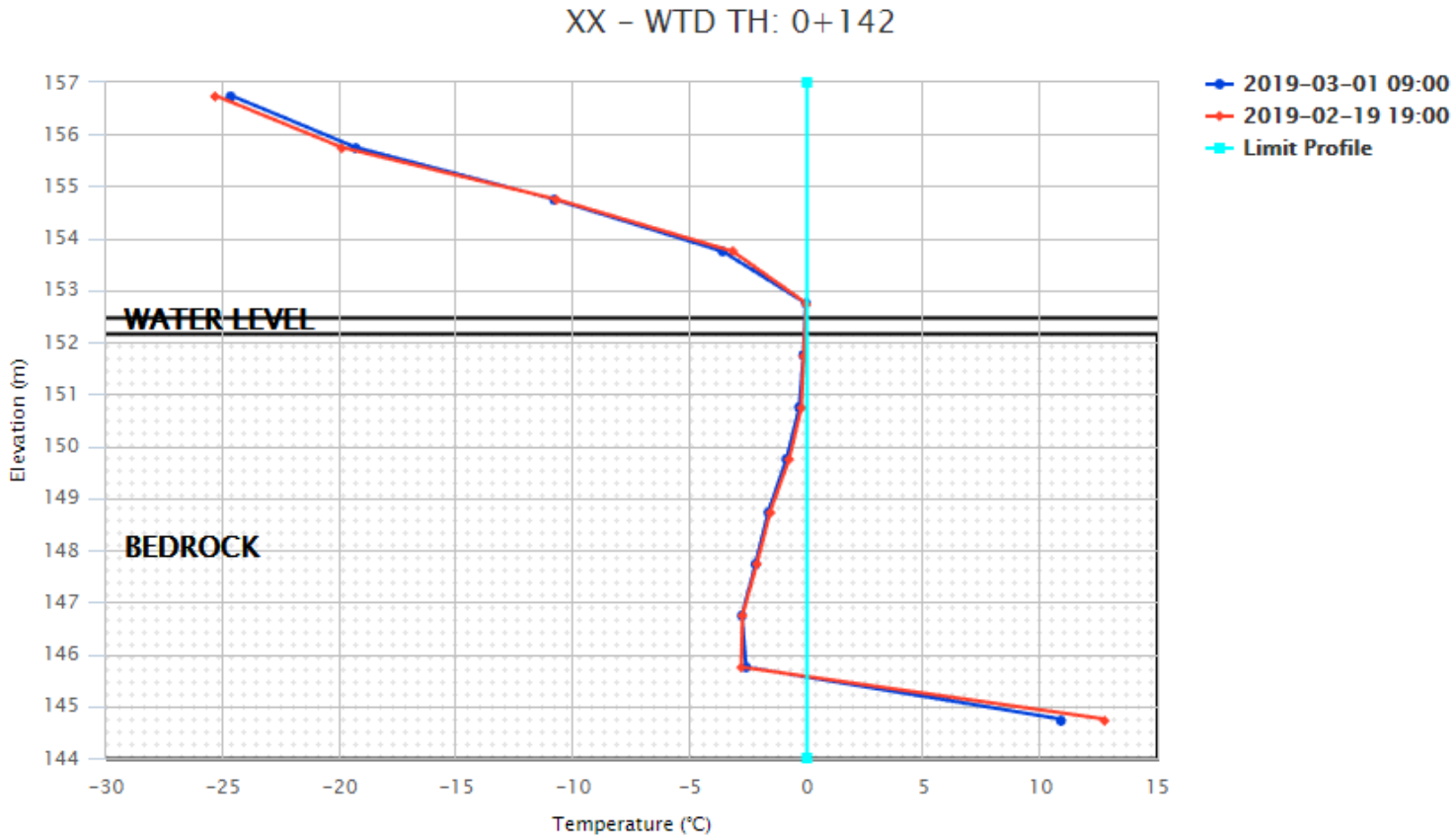


Thermistors

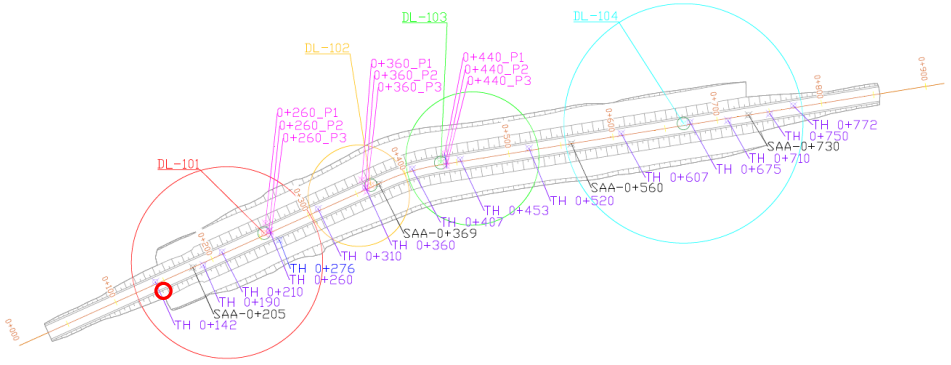


\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

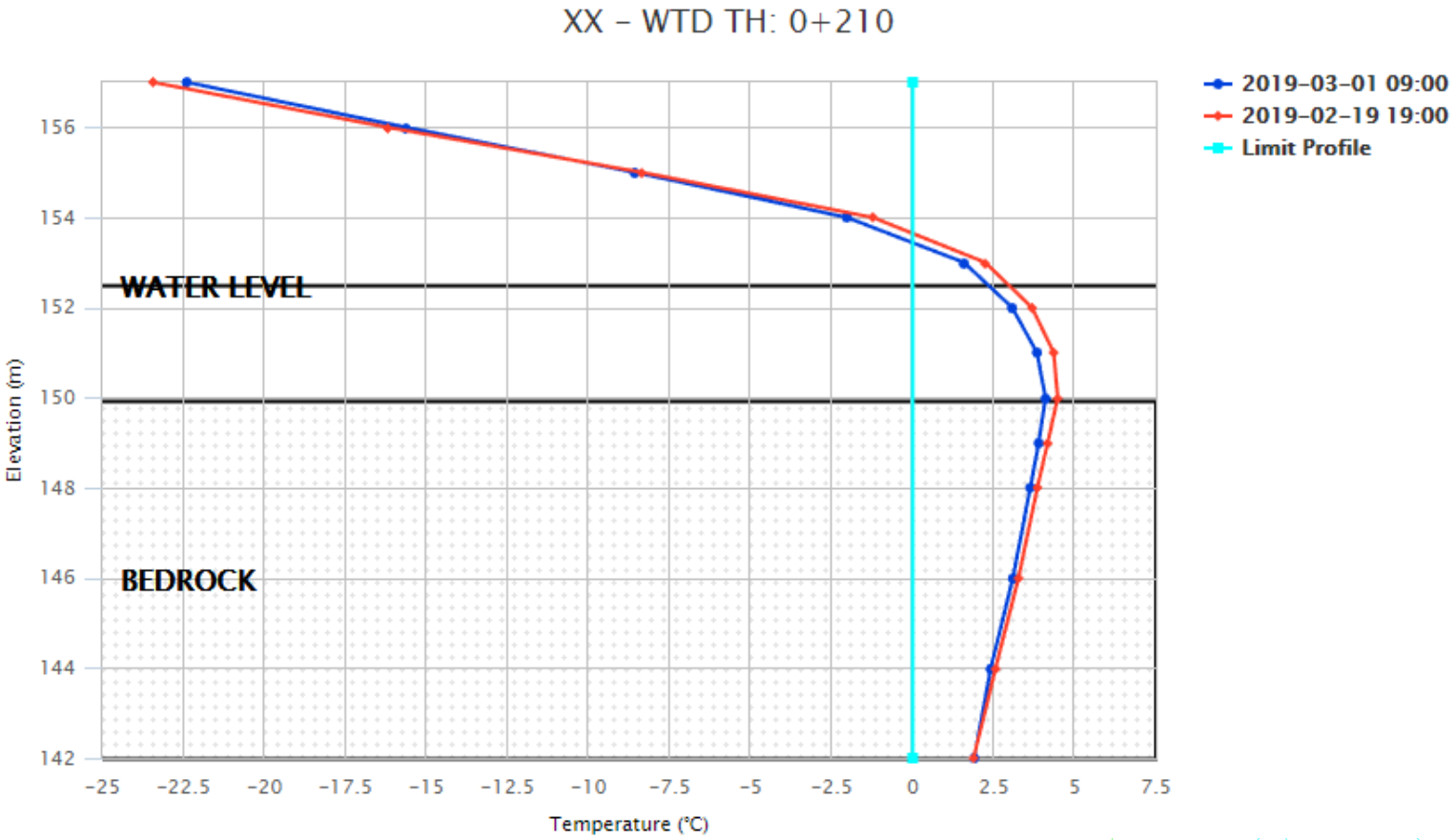
Thermistor TH 0+142 / TH-1



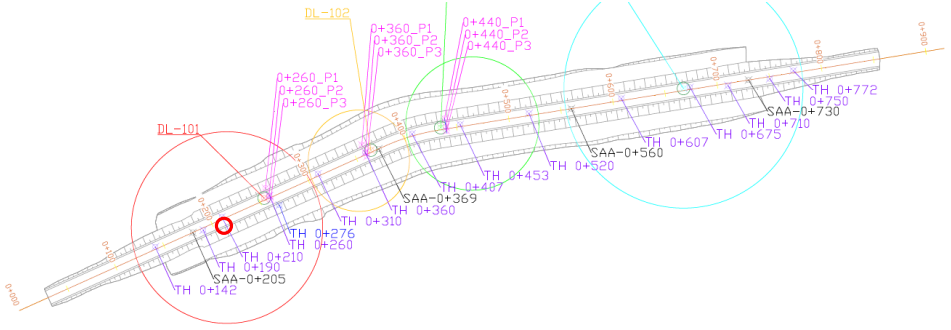
Comments: The instrument had only small temperature variations since the installation. There is a temperature peak at the bottom of the hole at 10.9°C. To be investigated with manual Reading. It is considered stable.



Thermistor TH 0+210 / TH-2

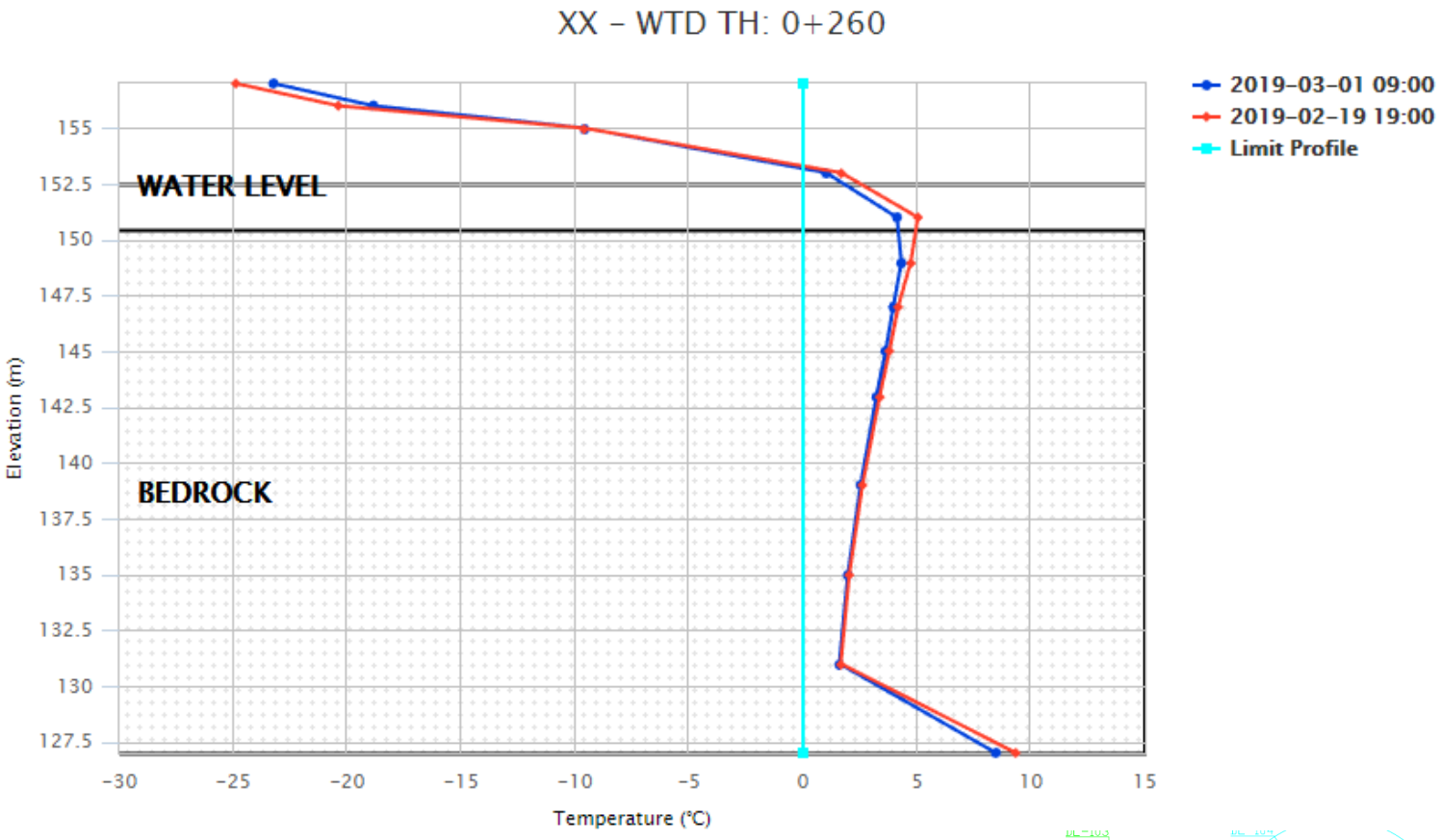


Comments: The thermistor cool down decimals of a degree in between 149 and 154 MASL. It is above freezing point from elevation 153.5 MASL. It is considered stable.

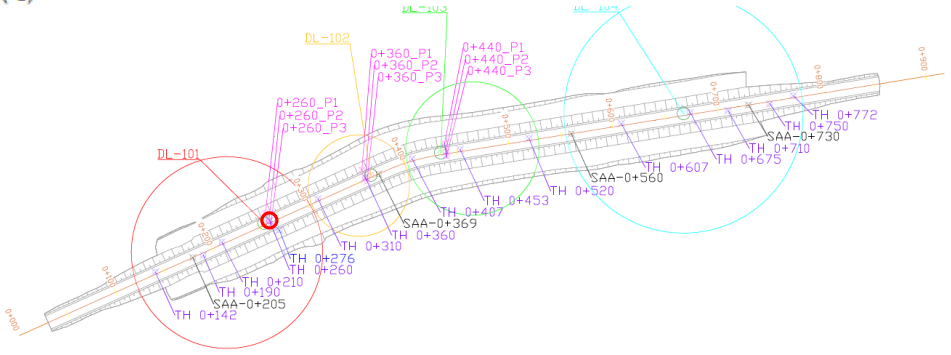


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+260 / TH-3

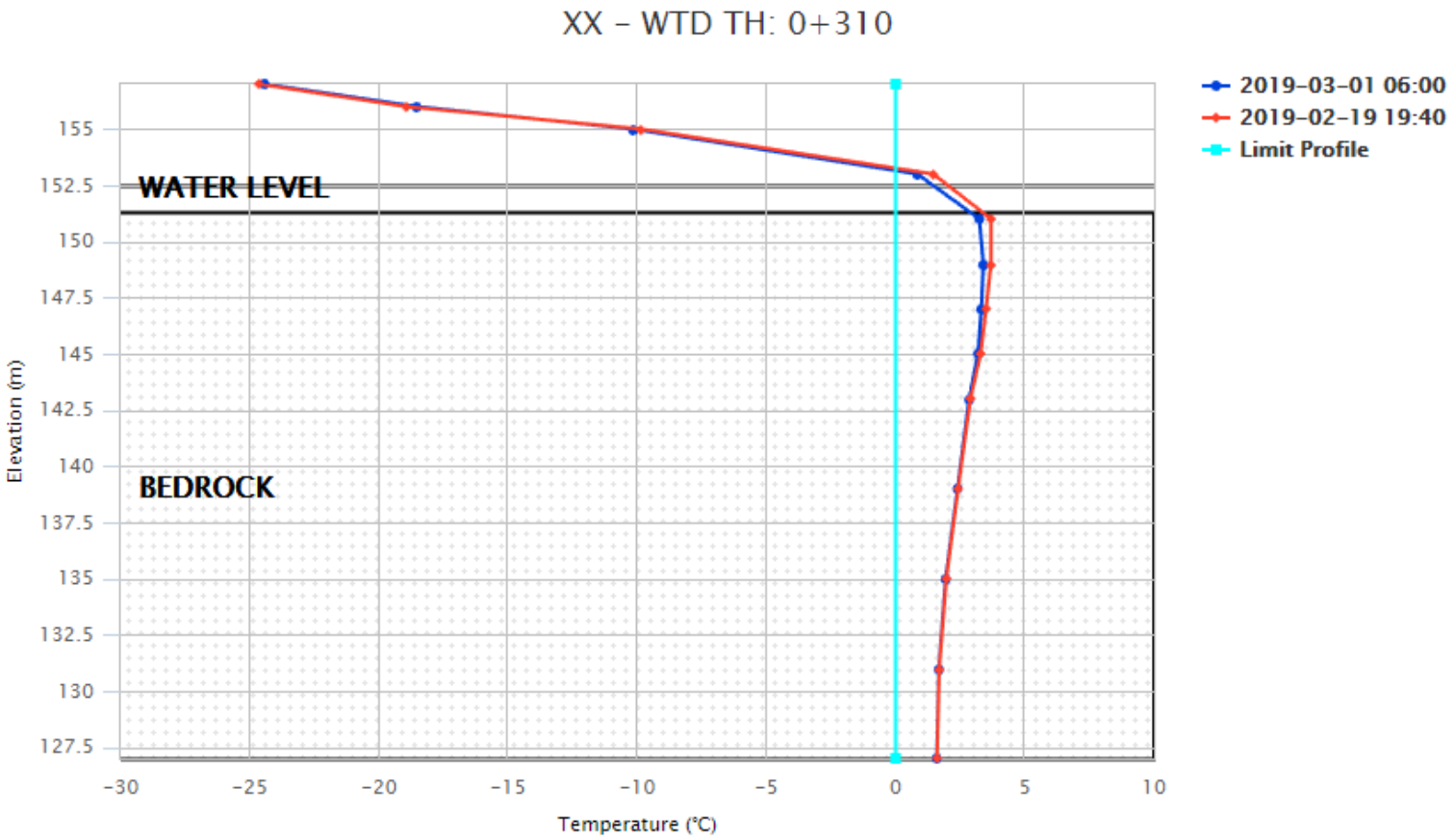


Comments: The thermistor cool down decimals of a degree to a degree (elev. 151) in between 149 and 153 MASL. It as above freezing point form elevation 153 and there is a temperature peak at the bottom of the hole at elevation 127MASL (8.5°C). It is considered stable.

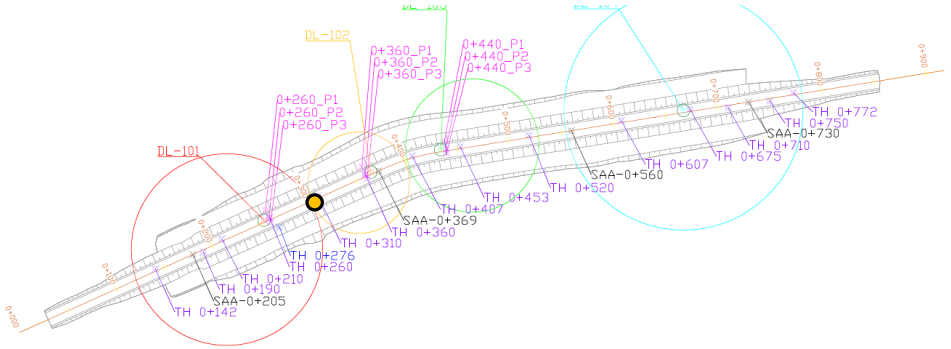


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+310 / TH-4

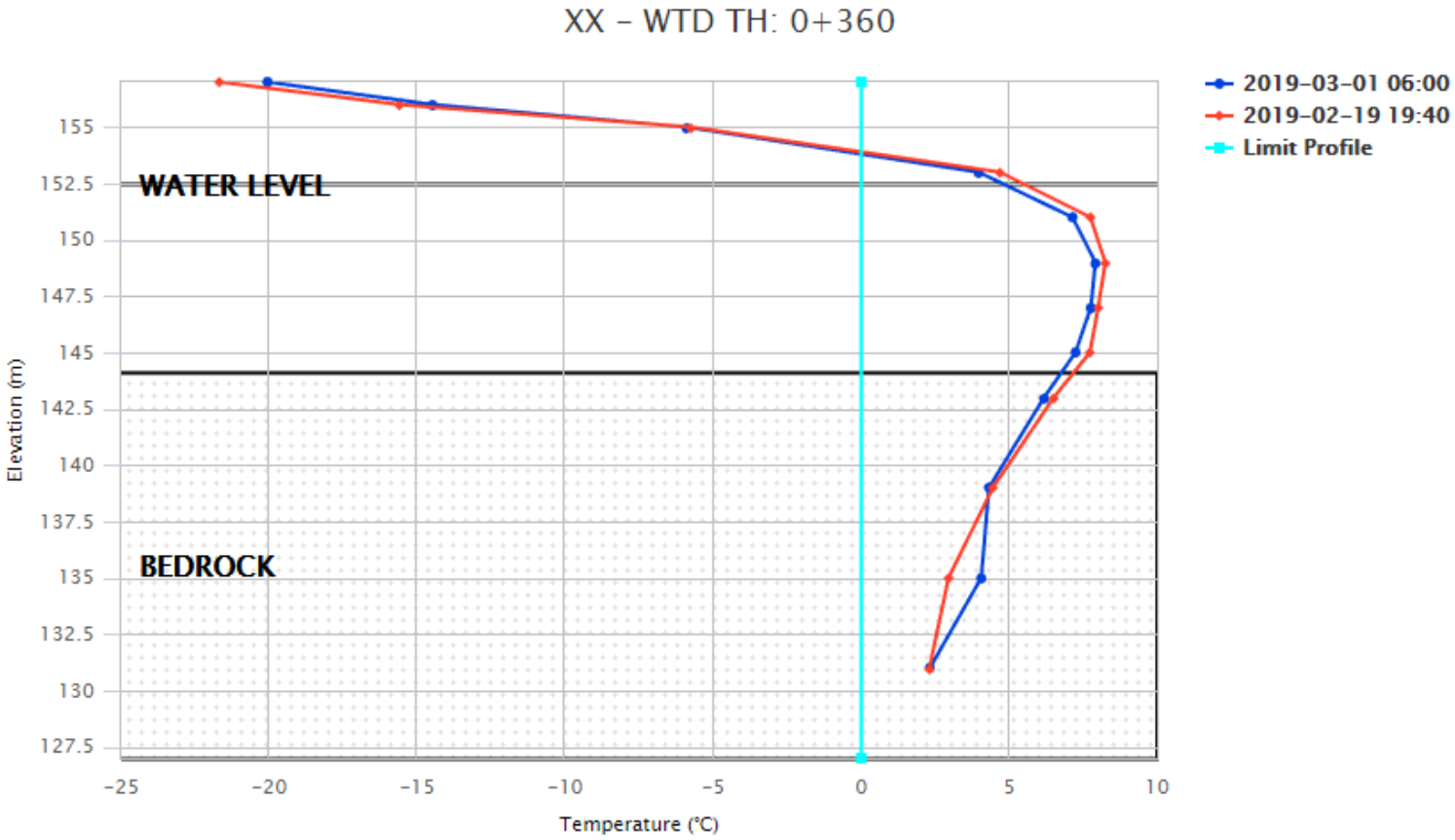


Comments: The thermistor went down decimals of a degree to a degree, in between 149 and 153 MASL. It is above freezing point from 153 MAAL to the bottom of the hole, and generally cooling down along the way. It is considered stable.

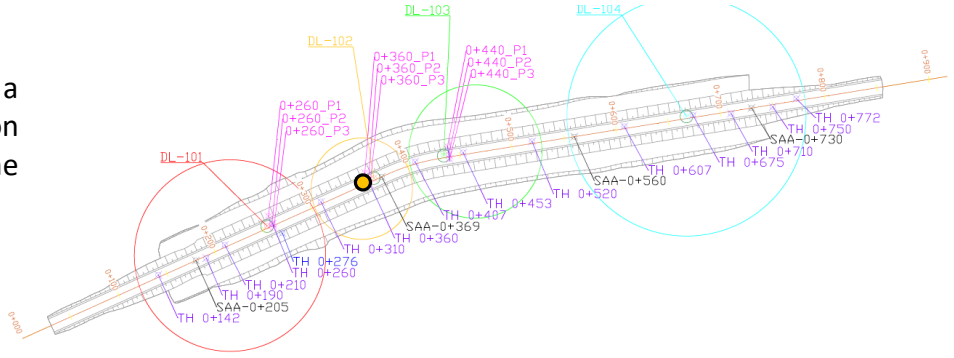


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+360 / TH-5

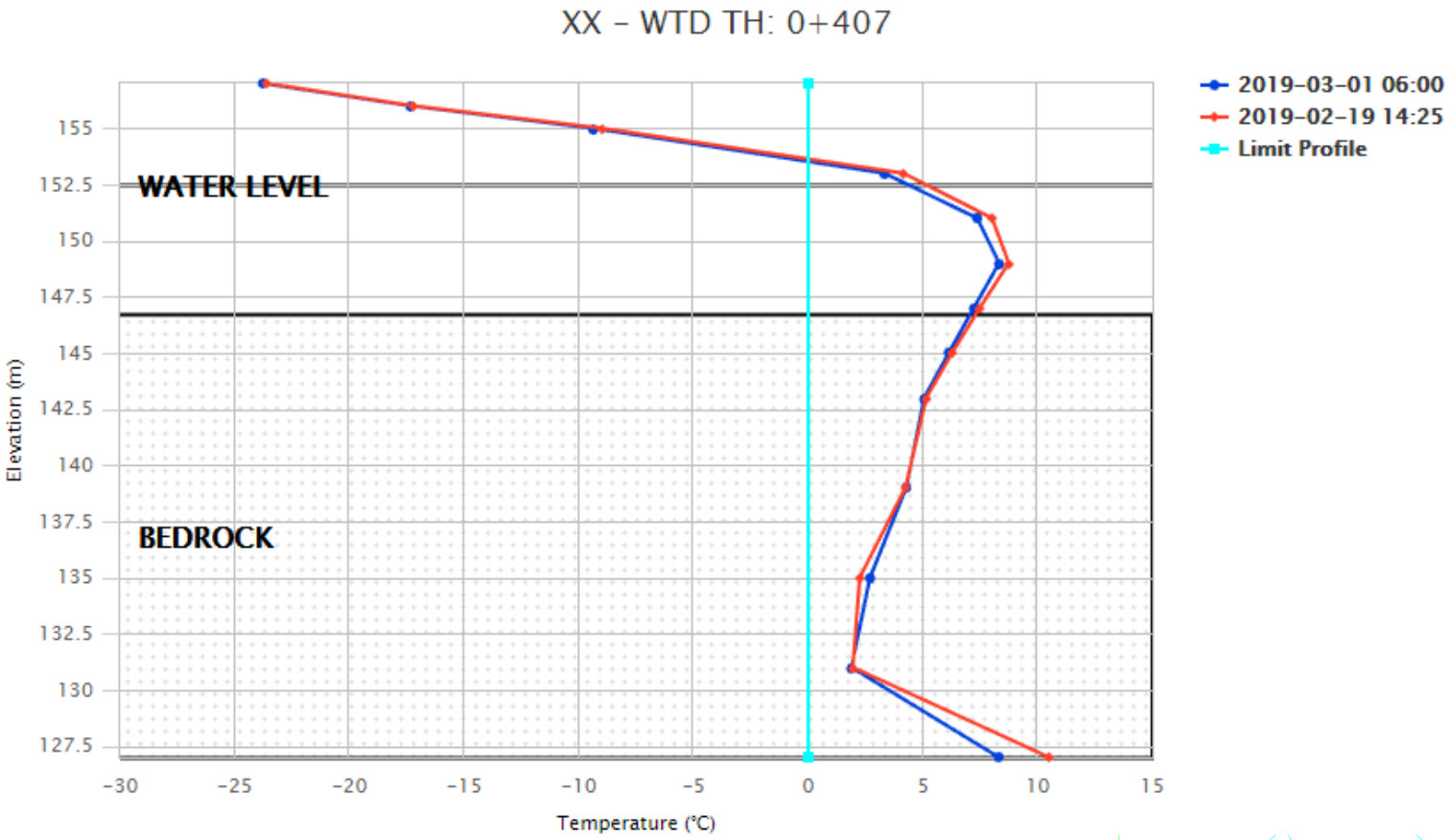


Comments: The instrument generally went down decimals of a degree in between 153 and 139 MASL. There is a peek at elevation 135MASL (+1.1°C) since installation. It is too early to understand the cause (capacitance etc.). It is considered stable.

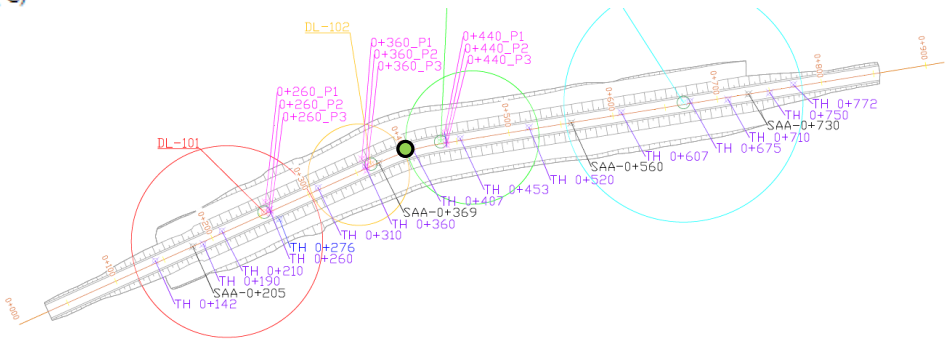


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+407 / TH-6

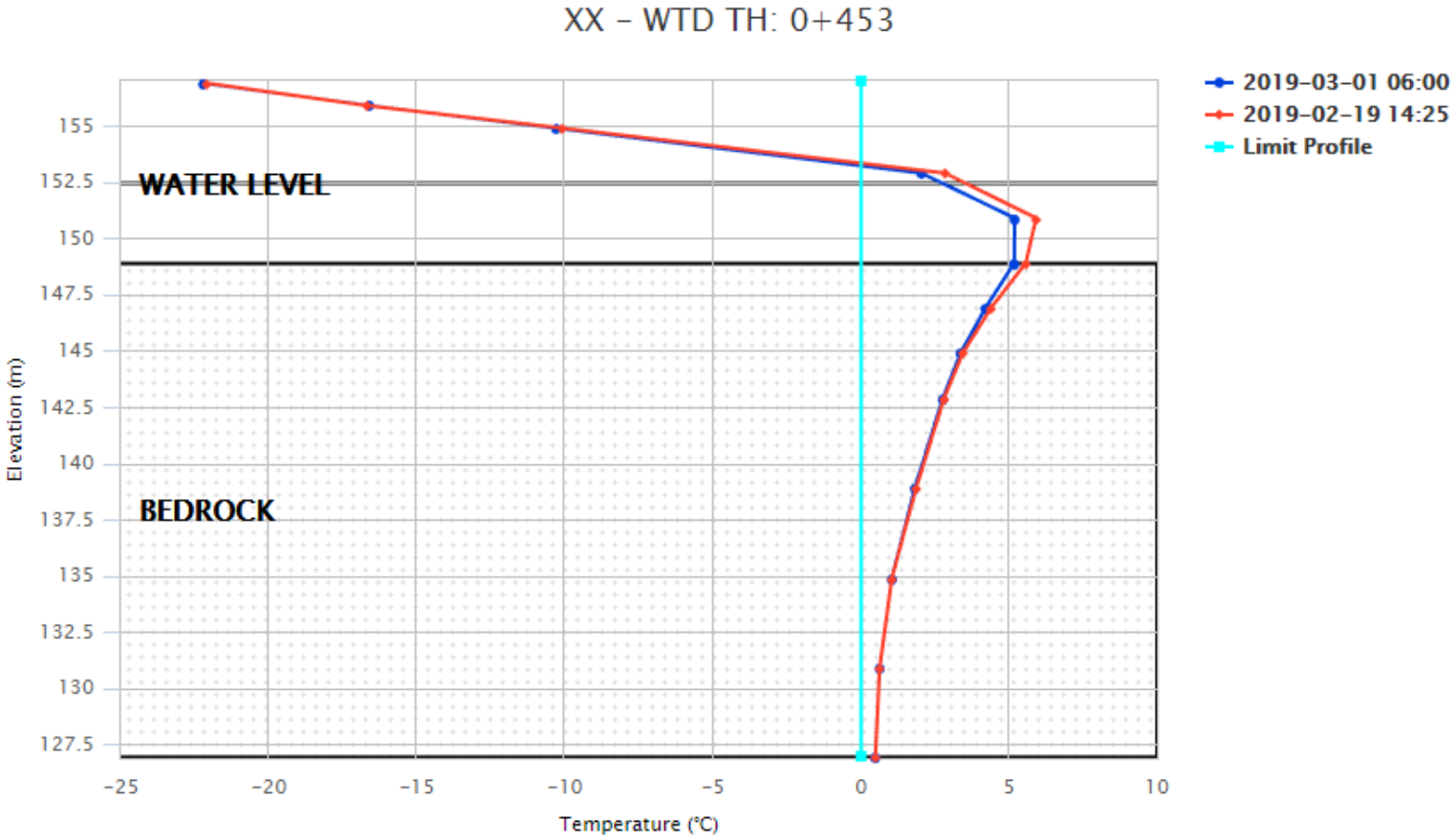


Comments: The instrument generally went down decimals of a degree in between 153 and 147 MASL. It is above freezing point from 153.5 MASL to the bottom of the hole. There is a peek at the bottom of the hole at elevation 127MASL (8.29°C). It is considered stable.

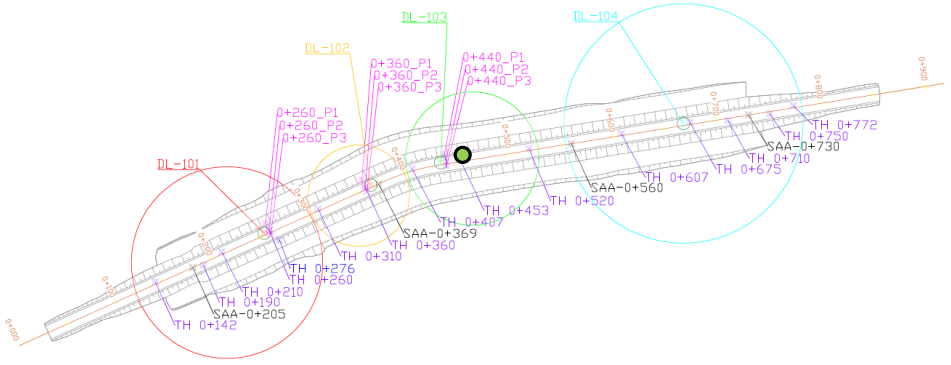


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+453 / TH-7

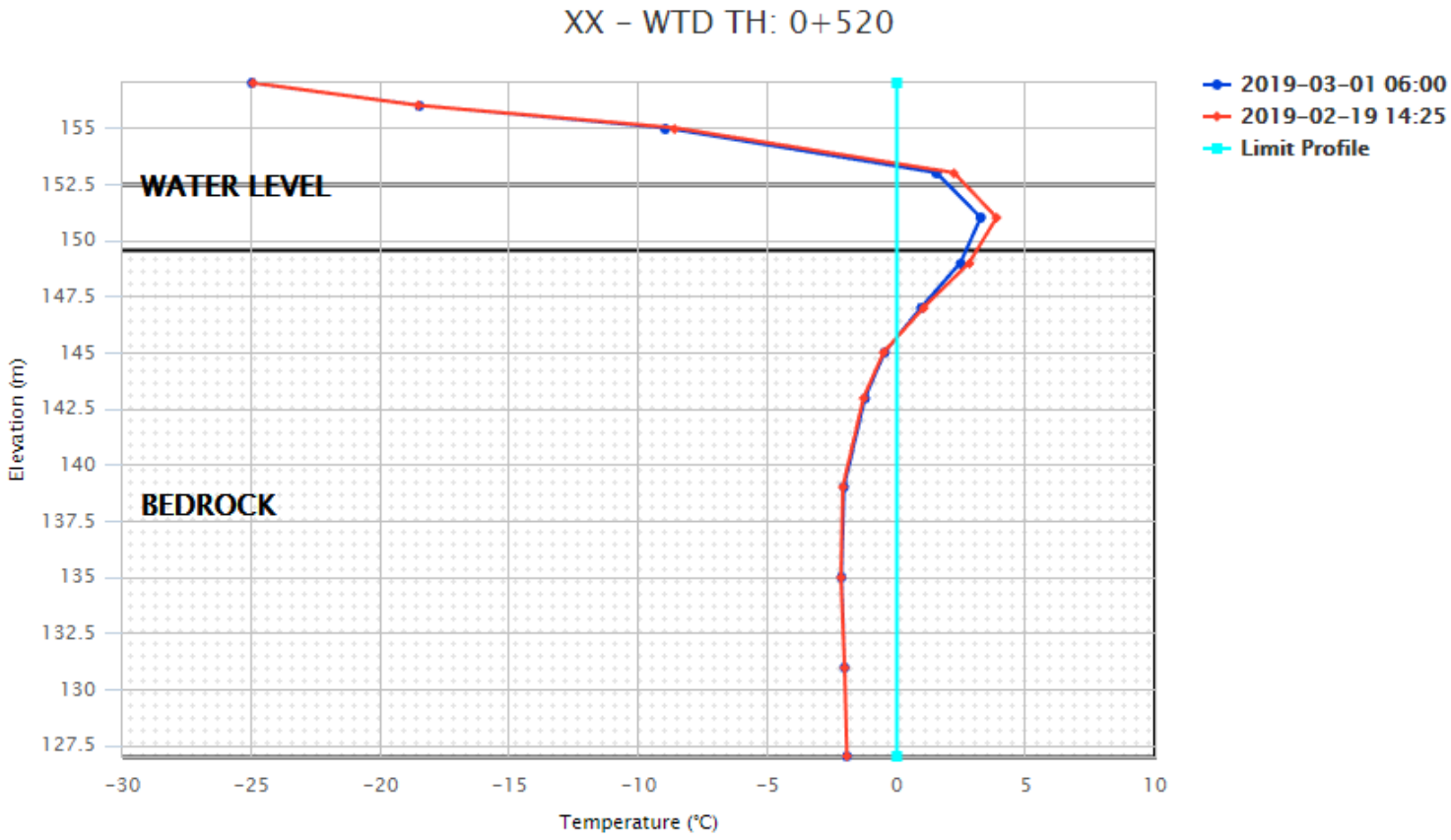


Comments: The instrument generally went down decimals of a degree in between 153 and 147 MASL. The remaining of the beads on the way down are stable from the previous data set. The last bead at elevation 127 MASL is close to the freezing point at 0.48°C. It is considered stable.

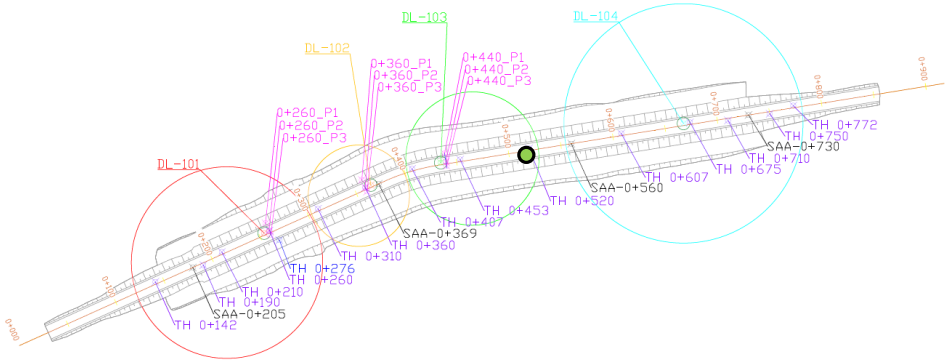


\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

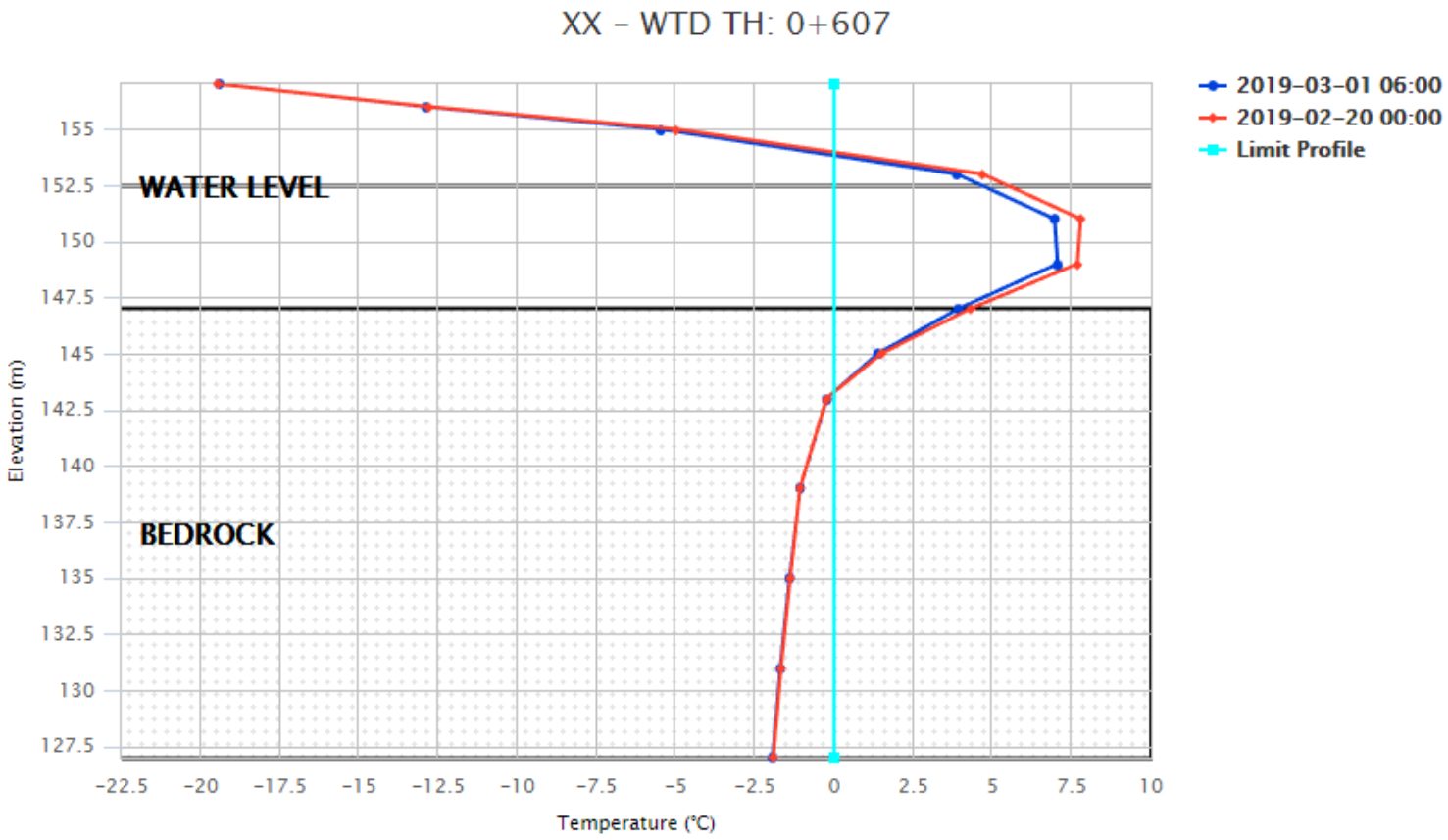
Thermistor TH 0+520 / TH-8



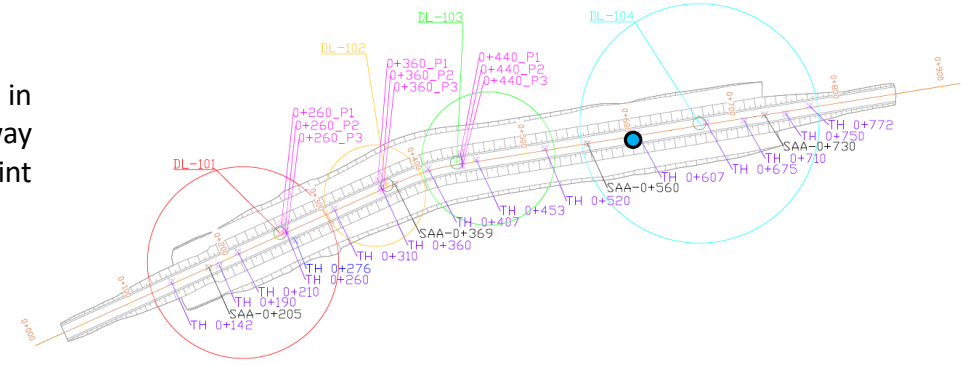
Comments: The instrument went down decimals of a degree in between 153 and 149 MASL. The remaining of the beads on the way down are stable from the previous data set. It is above freezing point in between elevation 153 and 147 MASL.



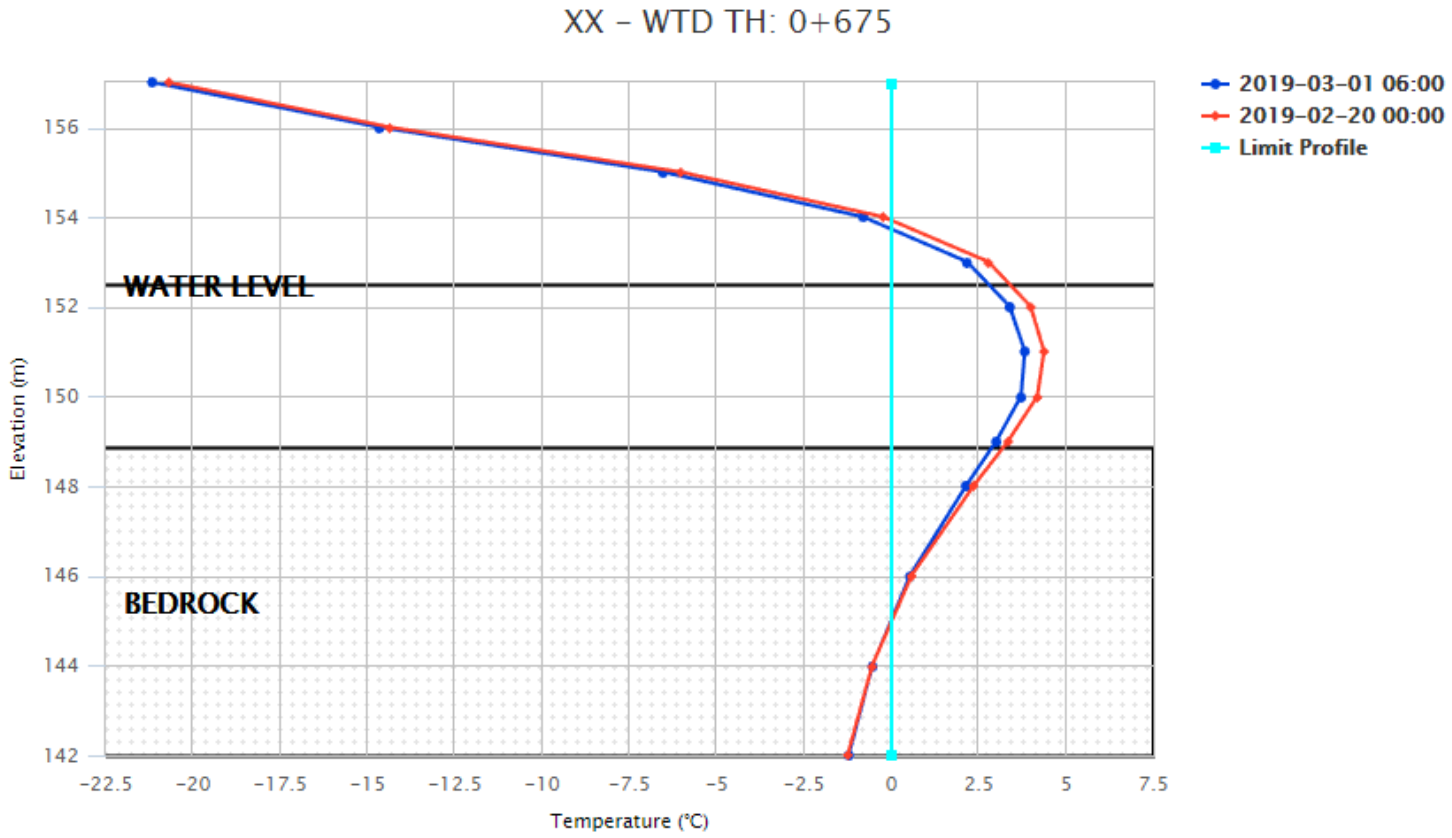
Thermistor TH 0+607 / TH-9



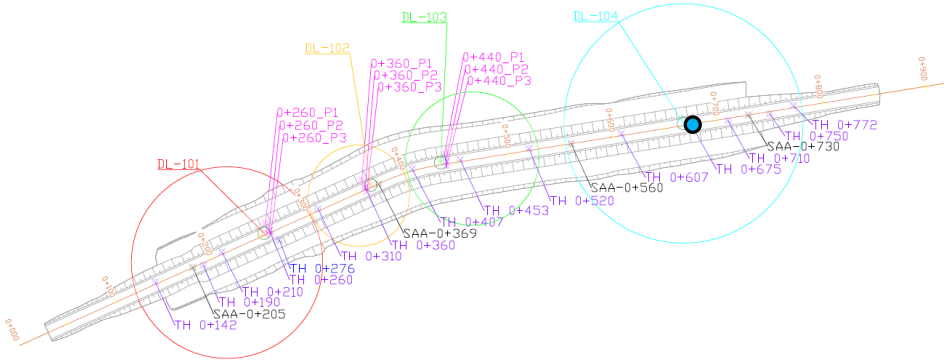
Comments: The instrument went down decimals of a degree in between 153 and 147 MASL. The remaining of the beads on the way down are stable from the previous data set, and above freezing point from between 153 and 145MASL.



Thermistor TH 0+675 / TH-10



Comments: The instrument went down decimals of a degree in between 154 and 148 MASL. The remaining of the beads on the way down are stable from the previous data set, and above freezing point from between 153 and 146MASL.



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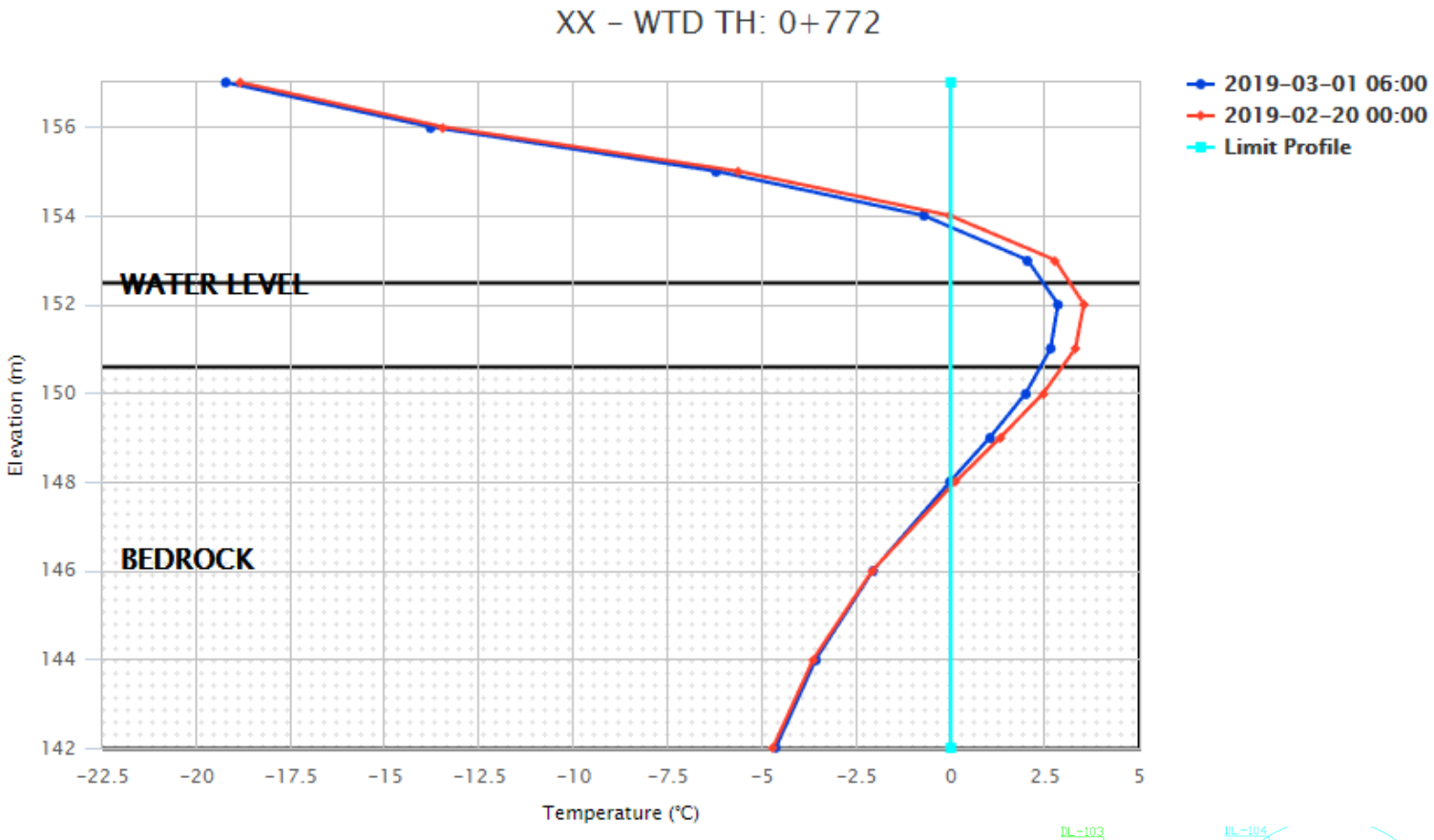
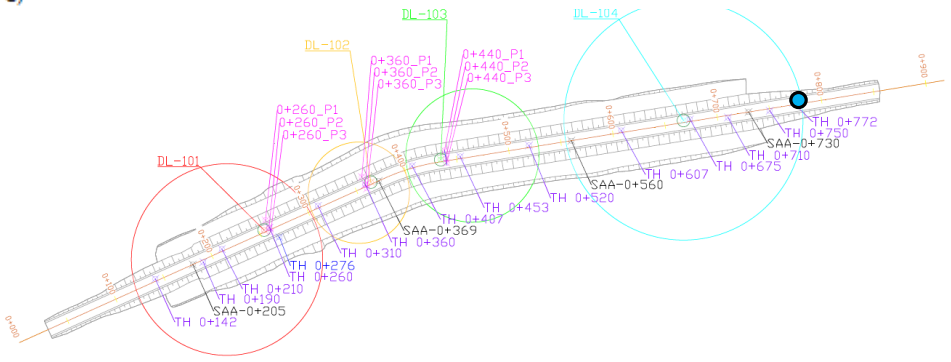
Thermistor TH 0+772 / TH-11

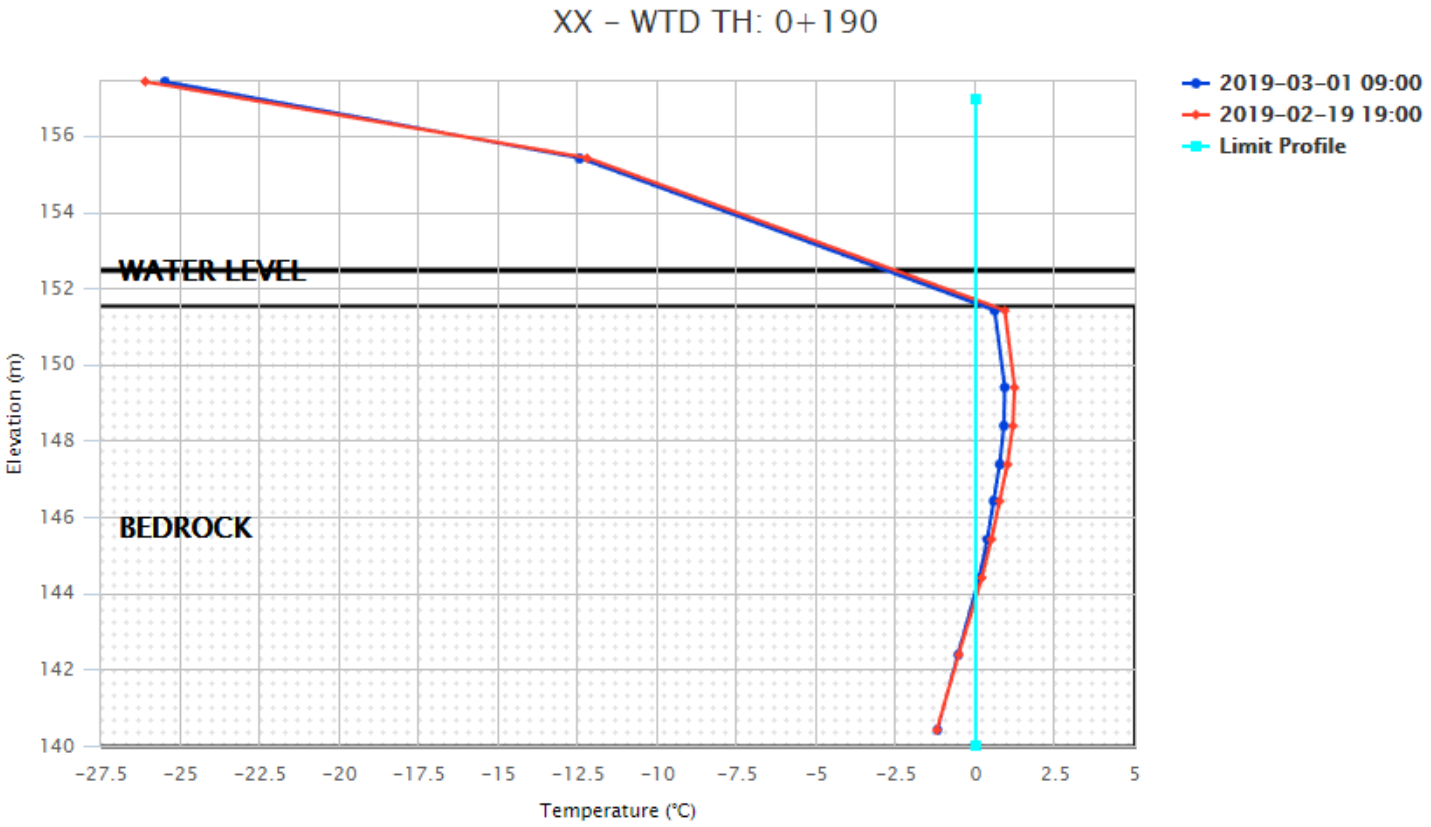


Comments: The instrument went down decimals of a degree in between 155 and 148 MASL. The remaining of the beads on the way down are stable from the previous data set, and above freezing point from between 153 and 148MASL.

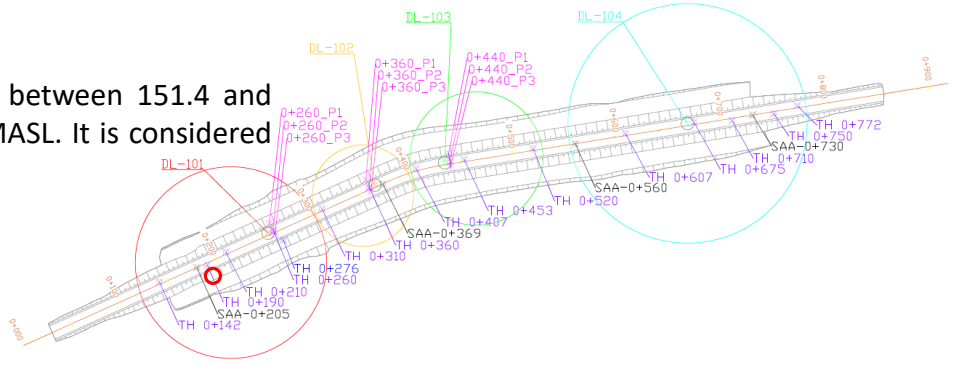


\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

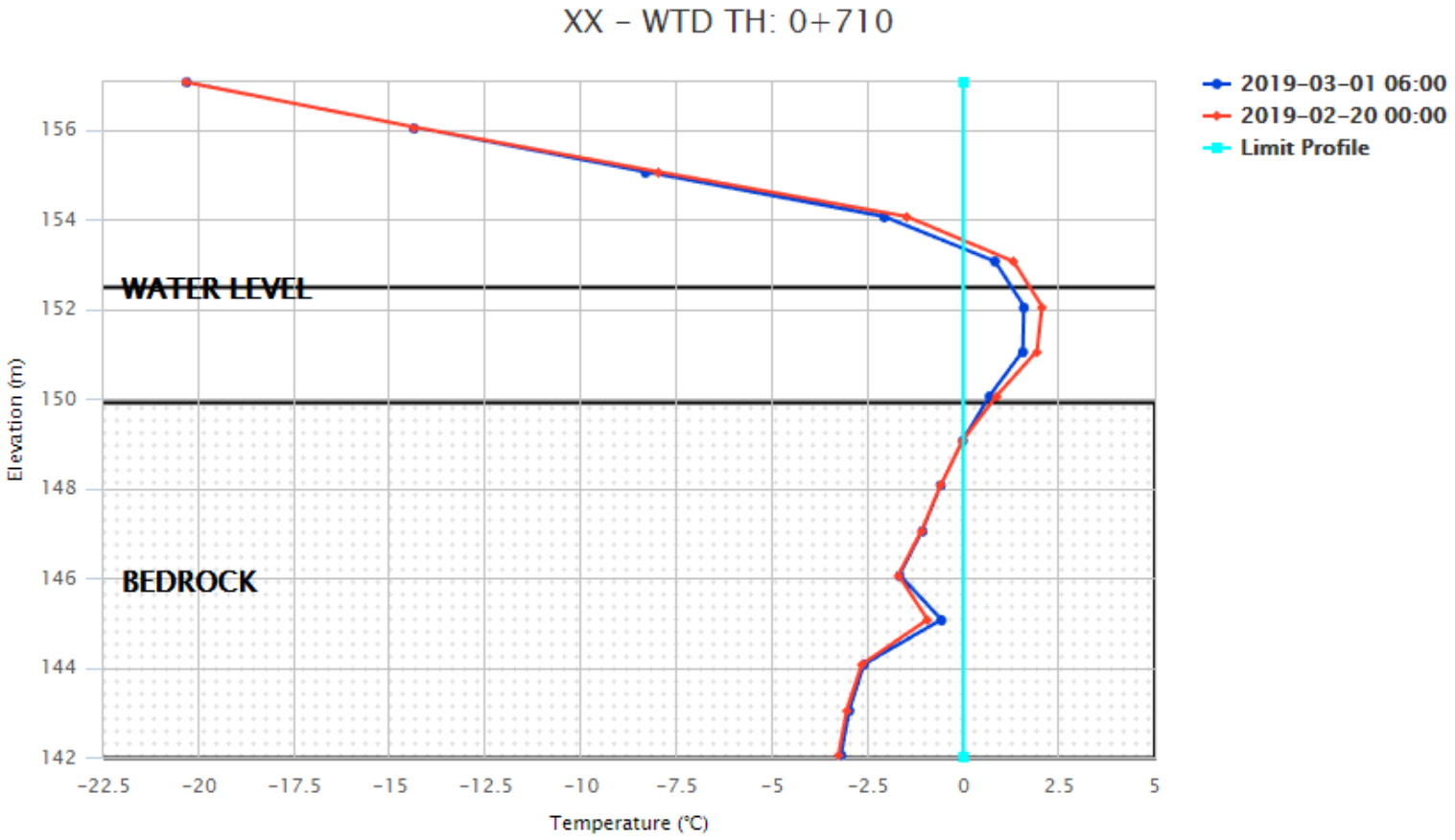
Thermistor TH 0+190 (WA) / TH-12



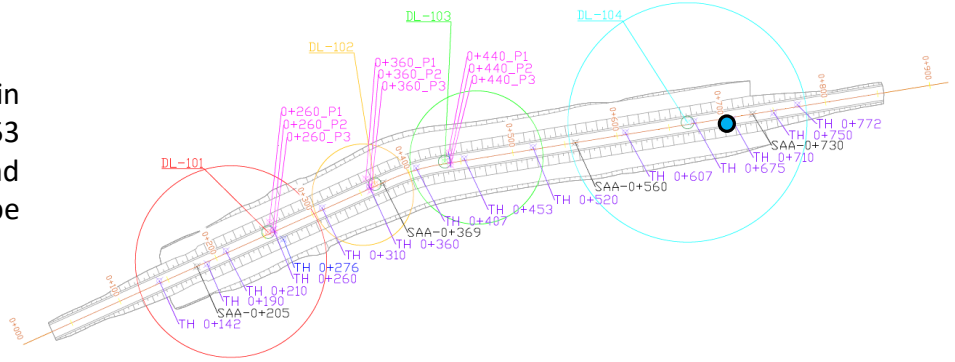
Comments: The instrument went down decimals of a degree in between 151.4 and 146.4 MASL. It is above freezing point between 151.4 and 144.4 MASL. It is considered stable.



Thermistor TH 0+710 (EA) / TH-13

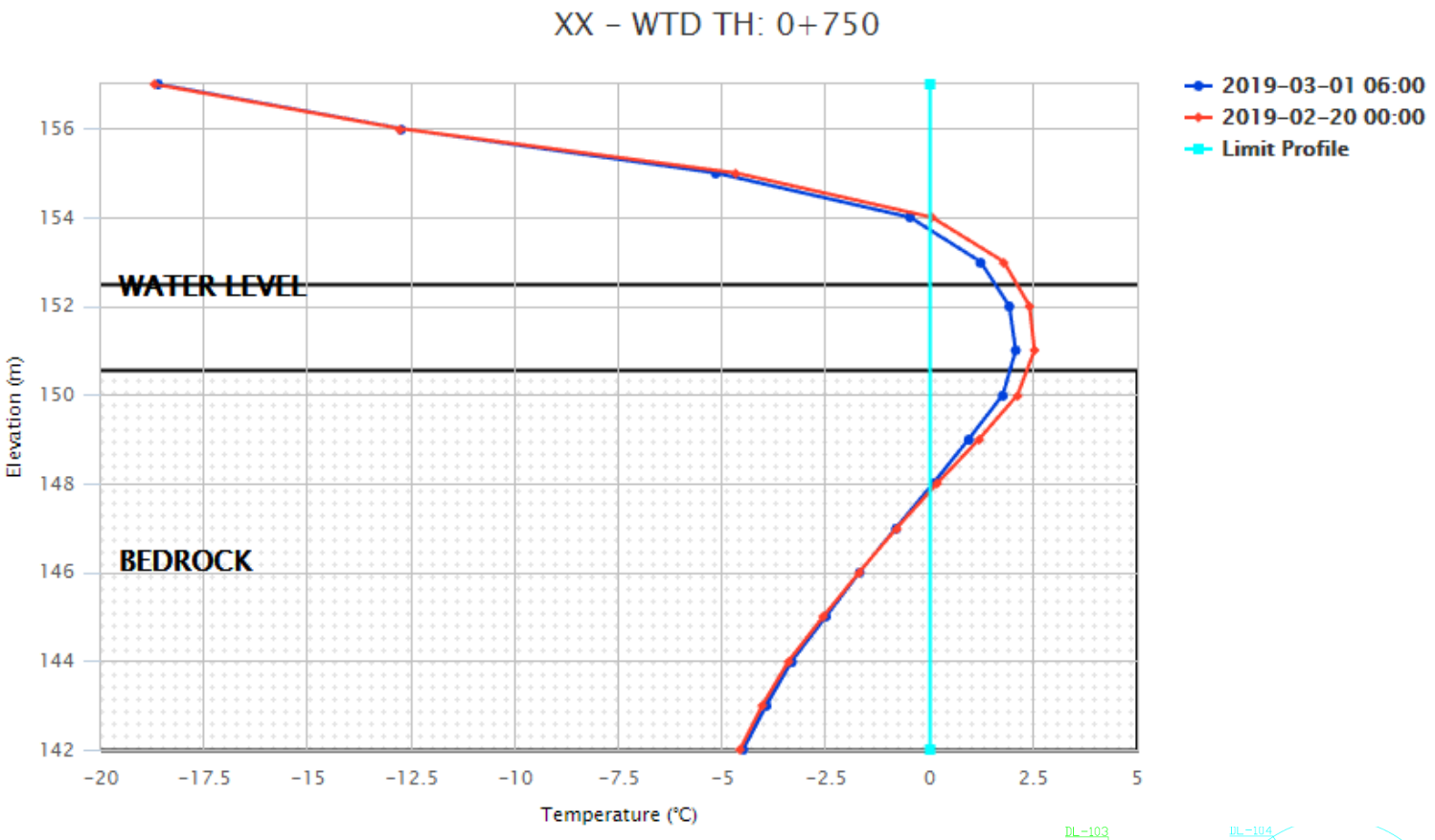


Comments: The instrument went down decimals of a degree in between 154 and 150 MASL. It is above freezing point between 153 and 149 MASL. At elevation 145 there is a peak in temperature and that cis typical of the capacitance effect. That would need to be confirmed. It is considered to be stable.

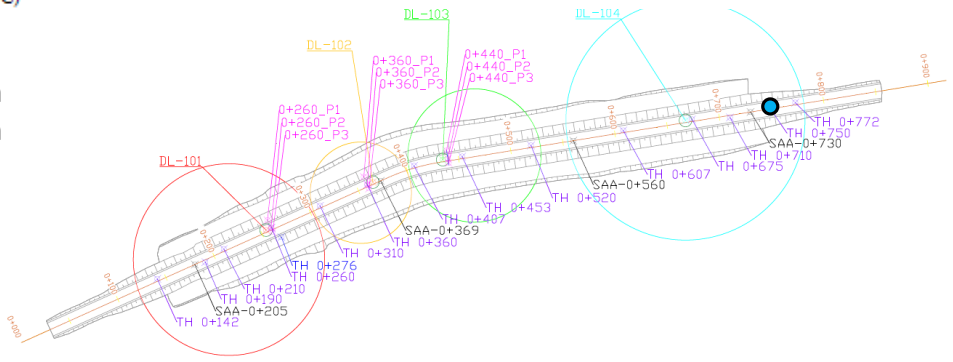


\\Cambfs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+750 (EA) / TH-14

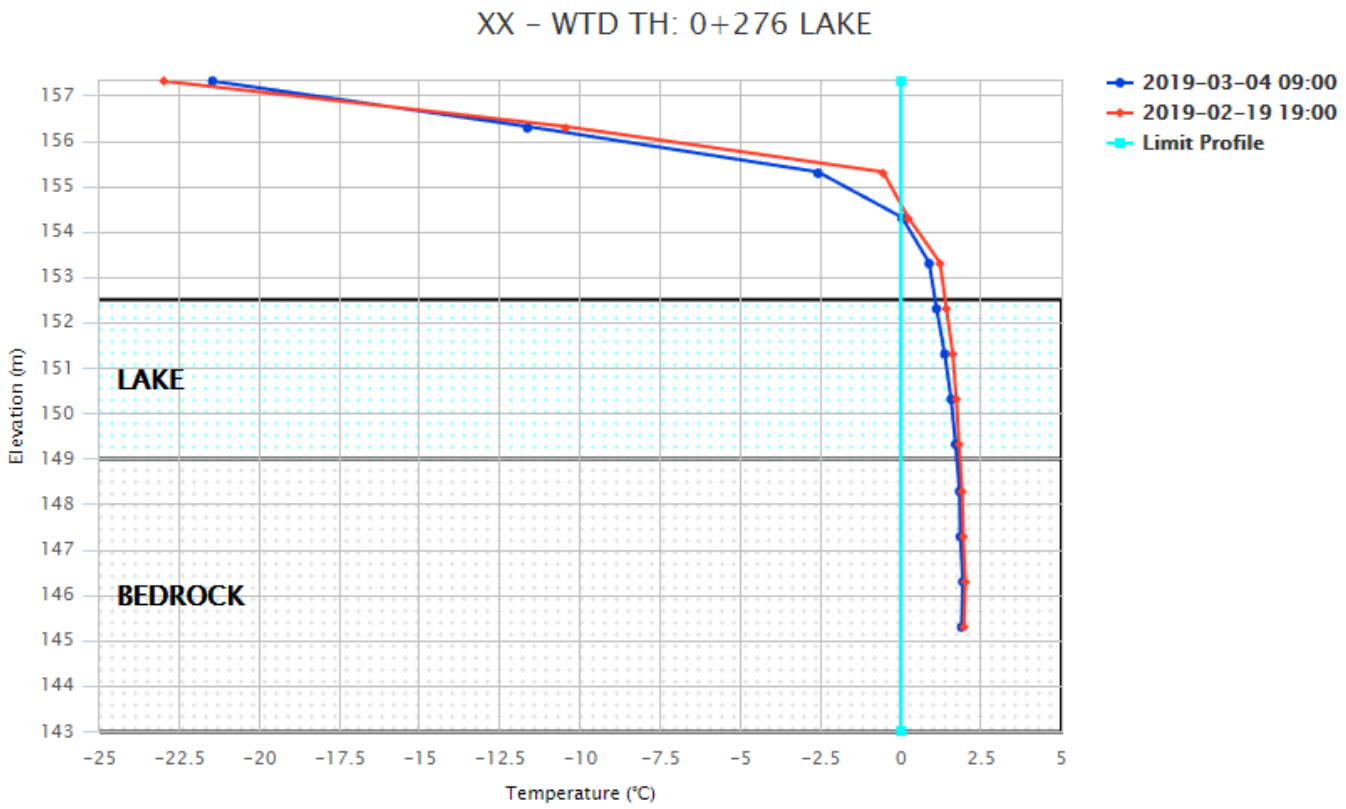


Comments: The instrument went down decimals of a degree in between 154 and 149 MASL. It is above freezing point between 153.9 and 148 MASL. It is considered stable.

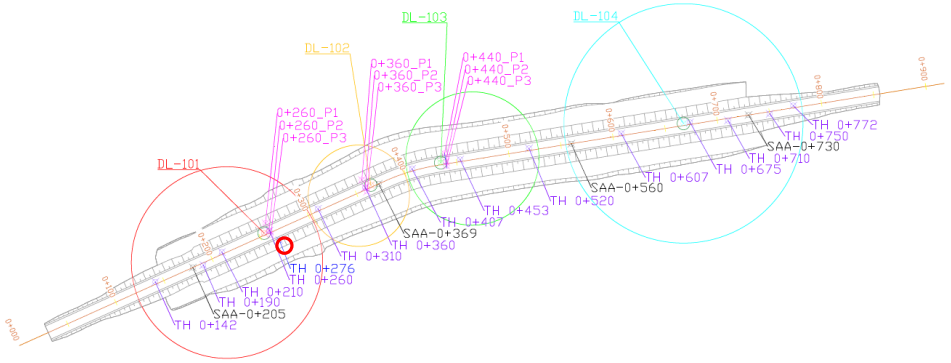


\\CanbFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Thermistor TH 0+276 / TH-Lake



Comments: The capillarity effect could explain the discrepancy in between the water level (152.5m) and the freezing point elevation of the TH (154.3m).



\\CambFs01\groups\Engineering\05-Geotechnic\14- Amaruq\01 - Dewatering Dikes\1 - Whale Tale Dike\4 - Operation\1- Inspection

Appendix C-3

Instrumentation during Construction

Pile 254

Ground Elevation : 157.177

Rock socket bottom elevation : 149.779

Total Depth (m) : 7.398

Pouring date: 10-20-18 7:30 AM

Setting of the thermocouple: 10-20-18 7:45 AM

Placed on the downstream border of the pile

Thermocouple		#1	#2	#3	#4	Average
Depth from surface (m)		7.0	5.0	3.0	1.0	-
Elevation (m)		150.18	152.18	154.18	156.18	-
Readings (°C)	10-20-18 7:45 AM	17.6	17.9	16.9	15.5	17.0
	10-20-18 10:15 AM	15.8	16.5	16.8	15.6	16.2
	10-20-18 12:00 PM	14.4	15.4	15.4	13.1	14.6
	10-20-18 2:00 PM	16.5	18	18.1	14.5	16.8
	10-20-18 4:00 PM	16.8	18.9	17.4	14.3	16.9
	10-20-18 8:00 PM	17.8	20.8	18.3	15.1	18.0
	10-20-18 10:00 PM	17.8	20.8	18.3	15.1	18.0
	10-21-18 12:00 AM	21.2	24.3	21.2	16.6	20.8
	10-21-18 2:00 AM	24.4	28	24.6	18.2	23.8
	10-21-18 4:00 AM	26.2	30.5	26.2	18.8	25.4
	10-21-18 7:00 AM	30.3	34.4	30.8	20.6	29.0
	10-21-18 9:30 AM	32.7	36.1	34.1	22.1	31.3
	10-21-18 1:00 PM	32.3	35.8	33.8	21.3	30.8
	10-21-18 3:15 PM	33.7	37.1	35.6	22.6	32.3
	10-21-18 5:00 PM	33.9	37.4	35.9	21.9	32.3
	10-21-18 7:00 PM	34.1	37.5	36.8	22.9	32.8
	10-21-18 9:00 PM	34.5	37.9	37.4	23.2	33.3
	10-21-18 11:00 PM	34.7	37.9	37.5	23.1	33.3
	10-22-18 1:00 AM	35.7	38.3	37.9	23.7	33.9
	10-22-18 3:00 AM	35.2	38.4	38.8	23.4	34.0
	10-22-18 5:00 AM	34.5	37.6	36.7	22.6	32.9
	10-22-18 7:00 AM	33.3	36.5	35.9	21.7	31.9
	10-22-18 9:00 AM	33.3	36.1	35.5	20.9	31.5
	10-22-18 11:00 AM	33.8	36.7	36.3	21.5	32.1
	10-22-18 1:00 PM	33.4	36	35.6	20.7	31.4
	10-22-18 5:00 PM	33.2	36.4	36	21.4	31.8
	10-22-18 8:15 PM	33.4	36.7	35.2	20.7	31.5
	10-22-18 11:50 PM	33.7	37.7	35.6	20.1	31.8
	10-23-18 2:25 AM	32.1	34.5	33.9	19.4	30.0
	10-23-18 4:30 AM	31.4	34.3	34.1	19.8	29.9

	10-23-18 7:00 AM	30.8	33.6	32.7	19.7	29.2
	10-23-18 10:00 AM	29.4	32.7	31.8	18.1	28.0
	10-23-18 4:30 PM	28.3	33.3	31.2	18.1	27.7
	10-24-18 7:00 AM	27.2	31.1	29.2	15.6	25.8
	10-24-18 1:00 PM	26.4	30.8	29.4	16.1	25.7
	10-24-18 7:15 PM	25.8	29.9	28.2	14.9	24.7
	10-24-18 11:15 PM	25.6	29.9	28.7	16.1	25.1
	10-25-18 3:15 AM	25.4	29.8	28.8	15.7	24.9
	10-25-18 9:30 AM	24.7	28.8	27.9	14.6	24.0
	10-25-18 1:35 PM	24.9	30.1	28.7	16.4	25.0
	10-25-18 8:00 PM	22.8	27.6	26.7	14.4	22.9
	10-26-18 3:00 AM	21.8	27.1	26.2	14	22.3
	10-26-18 2:30 PM	21.9	26.2	25.4	12.2	21.4
	10-26-18 8:00 PM	19.6	24.8	24.4	12.2	20.3
	10-27-18 4:15 AM	18.7	23.9	23.6	11.6	19.5
	10-27-18 8:45 AM	19.1	23.9	23.3	10.9	19.3
	10-27-18 4:00 PM	17.7	23.1	22.2	9.9	18.2
	10-28-18 12:45 AM	18.2	23.4	22.6	11.2	18.9
	10-28-18 4:00 PM	16.8	22.6	21.7	9.6	17.7
	10-29-18 3:15 AM	15.9	21.6	20.9	9.4	17.0
	10-30-18 12:55 AM	14.2	19.9	19.4	8.4	15.5
	10-30-18 9:00 AM	14.8	20.9	20.2	10.1	16.5
	10-31-18 2:00 PM	13.3	18.8	18.1	9.6	15.0
	11-1-18 4:00 PM	13.2	18.5	17.7	10.8	15.1
	11-2-18 1:30 AM	13.6	18.2	17.1	10.6	14.9
	11-2-18 9:35 PM	11.3	16.7	15.7	9.7	13.4
	11-3-18 11:30 PM	11.4	16.4	15.4	10.2	13.4
	11-5-18 2:30 AM	11.5	15.9	14.8	9.3	12.9
	11-6-18 5:00 AM	13.5	18.2	16.6	11.2	14.9
	11-9-18 3:00 AM	14.2	18.8	17.3	10.8	15.3
	11-10-18 3:00 AM	15.1	19	17	10.1	15.3
	11-14-18 7:30 PM	12.8	17.1	14.4	8.5	13.2
	11-18-18 1:00 AM	14.1	17.1	15.7	8.1	13.8
	11-23-18 1:45 PM	12	17.1	14.2	7.6	12.7

Pile 142

Ground elevation : 157.281

Rock socket bottom elevation : 148.351

Total Depth (m) : 8.93

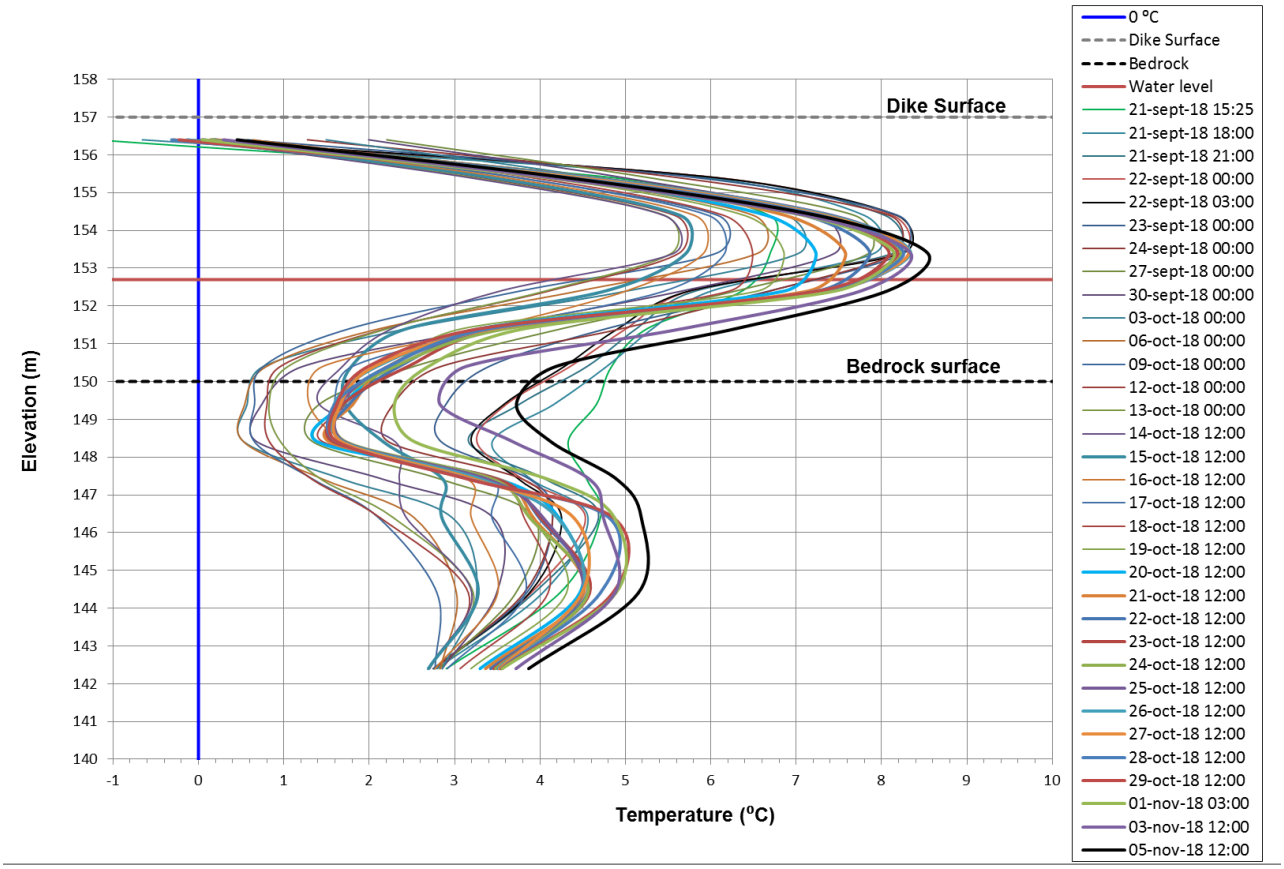
Pouring date: 2018-10-08

Setting of the thermocouple: 10-8-18 5:30 AM

Placed in the middle of the pile

Thermocouple		#1	#2	#3	#4	Average
Depth from surface (m)		8.50	6.34	4.18	2.02	-
Elevation (m)		148.78	150.94	153.10	155.26	-
Readings (°C)	10-8-18 9:15 PM	47.3	42.3	52.1	49.6	47.825
	10-9-18 12:15 AM	48.8	43.3	53.4	52.3	49.45
	10-9-18 3:15 AM	48.9	43.9	55.1	55.2	50.775
	10-9-18 9:00 AM	50	47	55	58	52.5
	10-9-18 9:00 PM	47.8	43.9	53.6	57.7	50.75
	10-10-18 9:45 PM	43.3	40.1	48.2	52.7	46.075
	10-11-18 2:30 AM	44.3	40.9	49	52.9	46.775
	10-11-18 3:00 PM	43	40	47	50	45
	10-12-18 2:00 AM	42.2	40	46.4	47.9	44.125

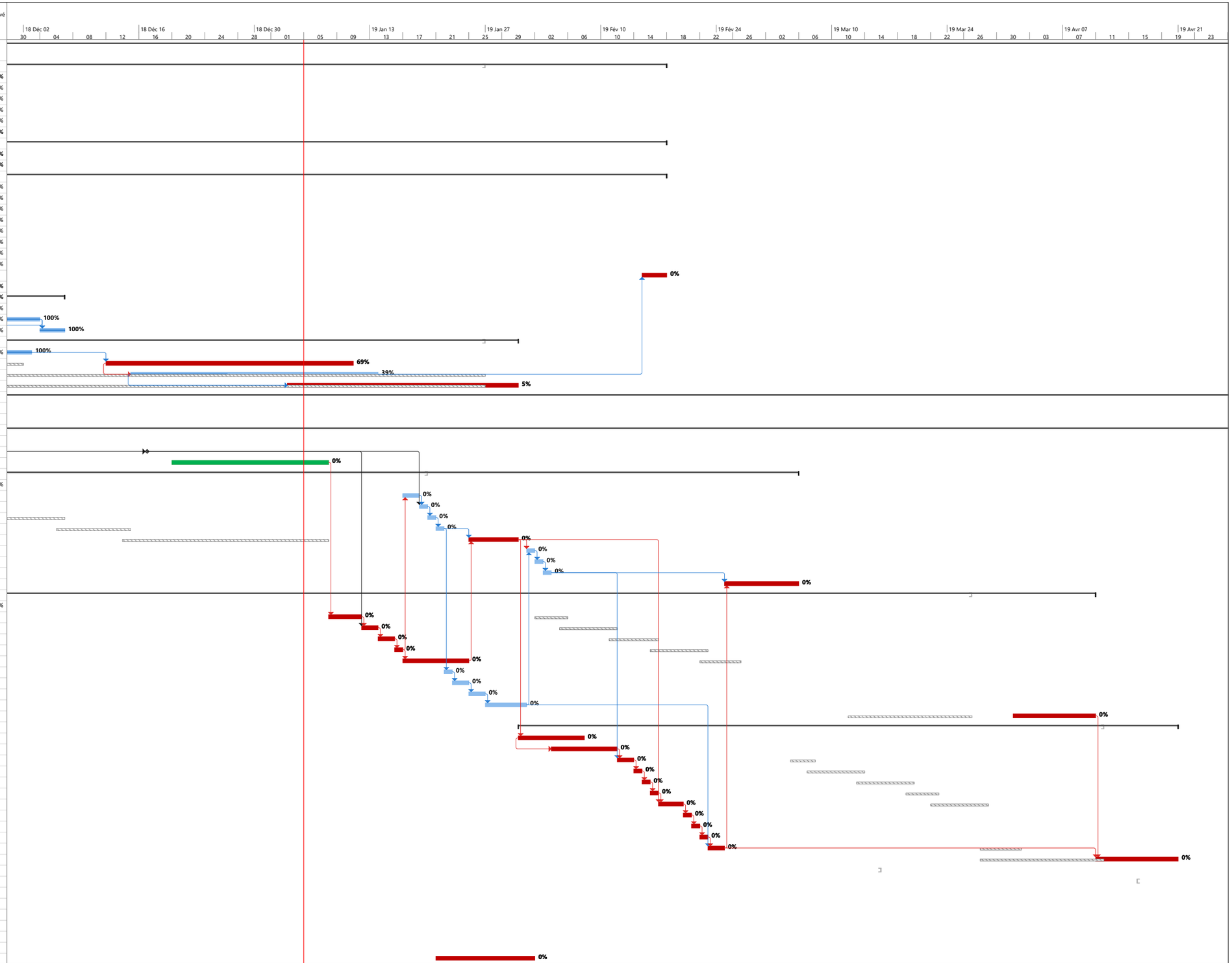
Project:	**Amaruq Gold Mine**			
Location:	**Whale Tale DIKE**			
Borehole Number :	**TH 0+336**	**Borehole depth (m):**		
Chainage	**0+335.8**	**Surface elevation (m):**	**157.000**	
Offset	**+2.25**	**Elevation of 1st bead (m):**	**156.399**	**TOP Casing**
Easting:	**607298.444**	**Bead Spacing:**	**1 to 2 m**	
Northing:	**7254713.437**			
String #:	**SNC SPARE-2**			



Appendix D

Final Construction Schedule

N°	Nom de la tâche	Durée	Début	Fin	% achevé
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**451 jours**	**Lun 18-06-18**	**Jeu 19-09-12**	**59%**
2	**Whale Tail Dike**	**245 jours**	**Lun 18-06-18**	**Lun 19-02-18**	**86%**
3	**Milestones - Key dates**	**35 jours**	**Ven 18-07-13**	**Ven 18-08-17**	**100%**
4	Permit Obtention	0 jour	Ven 18-07-13	Ven 18-07-13	100%
5	End of Permit Notice delay	0 jour	Jeu 18-07-26	Jeu 18-07-26	100%
6	Barge Material Arrival - Dynamic Compaction	0 jour	Lun 18-07-23	Lun 18-07-23	100%
7	Barge Material Arrival - Secant piles	0 jour	Ven 18-08-17	Ven 18-08-17	100%
8	**Turbidity Barrier**	**104 jours**	**Lun 18-06-18**	**Dim 18-09-30**	**100%**
17	**Excavation & Embankment**	**208 jours**	**Mer 18-07-25**	**Lun 19-02-18**	**98%**
18	**East Abutment**	**34,98 jours**	**Mer 18-07-25**	**Mar 18-08-28**	**100%**
22	**West Abutment**	**52 jours**	**Sam 18-07-28**	**Mar 18-09-18**	**100%**
29	**Dike construction**	**206 jours**	**Ven 18-07-27**	**Lun 19-02-18**	**96%**
30	Rockfill placement (Bottom to 154) -2 team	7 jours	Ven 18-07-27	Ven 18-08-03	100%
31	Lake Bed Mass Excavation (West to East)	9 jours	Ven 18-08-03	Dim 18-08-12	100%
32	Lake Bed Final Clean-up	9 jours	Sam 18-08-04	Lun 18-08-13	100%
33	Coarse Filter - Key Trench (Bottom to 154)	9 jours	Lun 18-08-06	Mer 18-08-15	100%
34	Fine Filter - Key Trench (Bottom to 154)	19 jours	Mar 18-08-07	Dim 18-08-26	100%
35	Fine Filter Placement (From 154 to 157)	13,98 jours	Mer 18-08-15	Mar 18-08-28	100%
36	Coarse Filter Placement (From 154 to 157)	4,78 jours	Dim 18-08-26	Jeu 18-08-30	100%
37	Rockfill Placement (From 154 to 157)	5 jours	Lun 18-08-27	Sam 18-09-01	100%
38	Rockfill Placement (From 157 to Top) - access road	3 jours	Ven 19-02-15	Lun 19-02-18	0%
39	**Dynamic Compaction**	**20 jours**	**Mar 18-08-28**	**Lun 18-09-17**	**100%**
44	**Secant pile wall**	**112 jours**	**Ven 18-08-17**	**Ven 18-12-07**	**100%**
45	Mobilisation (Mixing plant & 1st rig Set-up)	21 jours	Ven 18-08-17	Ven 18-09-07	100%
46	Secant pile wall - Production	77 jours	Mar 18-09-18	Mar 18-12-04	100%
47	Demobilization	3 jours	Mar 18-12-04	Ven 18-12-07	100%
48	**Grouting**	**66 jours**	**Lun 18-11-26**	**Jeu 19-01-31**	**43%**
49	Casing Installation for Injection (meters)	7 jours	Lun 18-11-26	Lun 18-12-03	100%
50	Drilling Bedrock (meters)	30 jours	Mer 18-12-12	Ven 19-01-11	69%
51	Injection (# holes)	30 jours	Sam 18-12-15	Lun 19-01-14	39%
52	Instrumentation	28 jours	Jeu 19-01-03	Jeu 19-01-31	5%
53	**Saline Protection Channel**	**241,98 jou**	**Mar 18-09-04**	**Ven 19-05-03**	**15%**
58	**East Channel**	**7 jours**	**Dim 19-09-01**	**Dim 19-09-08**	**0%**
61	**East Channel Coffer Dam**	**4 jours**	**Dim 19-09-08**	**Jeu 19-09-12**	**0%**
66	**Key dates**	**512 jours**	**Dim 18-09-16**	**Lun 20-02-10**	**14%**
67	NPAG available	0 jour	Lun 18-11-19	Lun 18-11-19	0%
68	Aggregates available	0 jour	Lun 18-12-17	Lun 18-12-17	0%
69	Christmas holidays	18,98 jour	Jeu 18-12-20	Lun 19-01-07	0%
70	**North East Dike**	**170,98 jou**	**Dim 18-09-16**	**Mar 19-03-05**	**60%**
71	Excavation	34 jours	Dim 18-09-16	Sam 18-10-20	100%
72	Rockfill - Under BGM (15%)	2 jours	Mer 19-01-16	Ven 19-01-18	0%
73	Coarse Filter - Under BGM (50%)	1 jour	Ven 19-01-18	Sam 19-01-19	0%
74	Fine Filter - Under BGM (50%)	1 jour	Sam 19-01-19	Dim 19-01-20	0%
75	Fine Filter Amended with Bentonite - Under BGM (50%)	1 jour	Dim 19-01-20	Lun 19-01-21	0%
76	Bituminous Geomembrane	6 jours	Jeu 19-01-24	Mer 19-01-30	0%
77	Fine Filter Amended with Bentonite - Above BGM (50%)	1 jour	Jeu 19-01-31	Ven 19-02-01	0%
78	Fine Filter - Above BGM (50%)	1 jour	Ven 19-02-01	Sam 19-02-02	0%
79	Coarse Filter - Above BGM (50%)	1 jour	Sam 19-02-02	Dim 19-02-03	0%
80	Rockfill - Above BGM (85%)	9 jours	Dim 19-02-24	Mar 19-03-05	0%
81	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**	**33%**
82	Excavation	18 jours	Mer 18-10-03	Dim 18-10-21	100%
83	Rockfill - Under BGM (45%)	4 jours	Lun 19-01-07	Ven 19-01-11	0%
84	Coarse Filter - Under BGM (50%)	2 jours	Ven 19-01-11	Dim 19-01-13	0%
85	Fine Filter - Under BGM (50%)	2 jours	Dim 19-01-13	Mar 19-01-15	0%
86	Fine Filter Amended with Bentonite - Under BGM (50%)	1 jour	Mar 19-01-15	Mer 19-01-16	0%
87	Bituminous Geomembrane	8 jours	Mer 19-01-16	Jeu 19-01-24	0%
88	Fine Filter Amended with Bentonite - Above BGM (50%)	1 jour	Lun 19-01-21	Mar 19-01-22	0%
89	Fine Filter - Above BGM (50%)	2 jours	Mar 19-01-22	Jeu 19-01-24	0%
90	Coarse Filter - Above BGM (50%)	2 jours	Jeu 19-01-24	Sam 19-01-26	0%
91	Rockfill - Above BGM (55%)	5 jours	Sam 19-01-26	Jeu 19-01-31	0%
92	Instrumentation	10 jours	Lun 19-04-01	Jeu 19-04-11	0%
93	**Mammoth Dike**	**80,02 jours**	**Mer 19-01-30**	**Dim 19-04-21**	**0%**
94	Drilling&Blasting	8 jours	Mer 19-01-30	Jeu 19-02-07	0%
95	Excavation	8 jours	Dim 19-02-03	Lun 19-02-11	0%
96	Rockfill - Under BGM (50%)	2 jours	Lun 19-02-11	Mer 19-02-13	0%
97	Coarse Filter - Under BGM (50%)	1 jour	Mer 19-02-13	Jeu 19-02-14	0%
98	Fine Filter - Under BGM (50%)	1 jour	Jeu 19-02-14	Ven 19-02-15	0%
99	Fine Filter Amended with Bentonite - Under BGM (50%)	1 jour	Ven 19-02-15	Sam 19-02-16	0%
100	Bituminous Geomembrane	3 jours	Sam 19-02-16	Mar 19-02-19	0%
101	Fine Filter Amended with Bentonite - Above BGM (50%)	1 jour	Mar 19-02-19	Mer 19-02-20	0%
102	Fine Filter - Above BGM (50%)	1 jour	Mer 19-02-20	Jeu 19-02-21	0%
103	Coarse Filter - Above BGM (50%)	1 jour	Jeu 19-02-21	Ven 19-02-22	0%
104	Rockfill - Above BGM (50%)	2 jours	Ven 19-02-22	Dim 19-02-24	0%
105	Instrumentation	10 jours	Jeu 19-04-11	Dim 19-04-21	0%
106	**South Wail Tail Diverson Channel A45 Lake - 612 m.li.**	**162 jours**	**Dim 19-09-01**	**Lun 20-02-10**	**0%**
115	**WRSF Saddle Dam**	**13 jours**	**Mar 19-10-01**	**Lun 19-10-14**	**0%**
121					
122					
123					
124					
125					
126					
127		11,98 jour	Lun 19-01-21	Ven 19-02-01	0%



Appendix E

Fine and coarse filter material gradation

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-015
		DATE:	2018-08-12

Description of Material:	Fine Filter	**Location of Sampling:**	Stockpile Sana crusher
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime côté
	zone 1	**Sampling Date:**	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	86	51	33	24	17	12	9	7	5.7
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

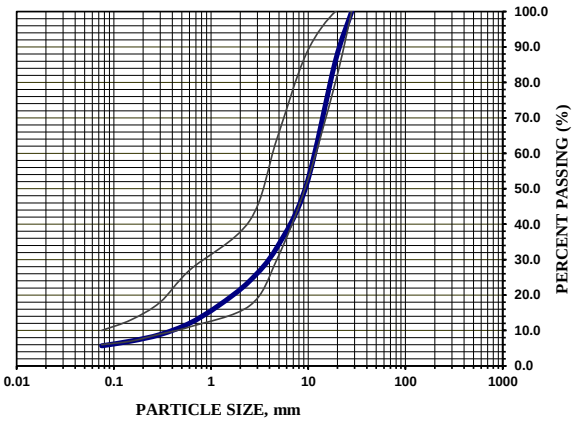
Other tests	Results	Requirements min.	Requirements max.
Water content	1.00%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	66.6%	Cu = 30	D_{85} = 18.6	D_{15} = 0.9
% sand	27.7%	Cc = 3	D_{60} = 11.4	D_{10} = 0.4
% silt/clay	5.7%		D_{50} = 9.2	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-016
		DATE:	2018-08-12

Description of Material:	Fine Filter	**Location of Sampling:**	Stockpile pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	83	45	28	20	14	10	8	6	5.0
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

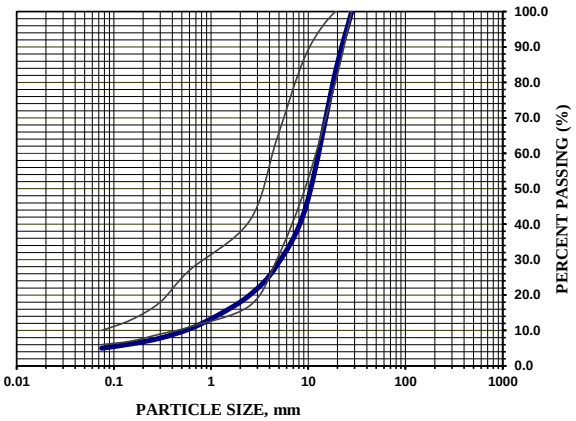
Other tests	Results	Requirements min.	Requirements max.
Water content	0.97%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	71.6%	Cu = 23	D_{85} = 19.9	D_{15} = 1.3
% sand	23.4%	Cc = 4	D_{60} = 12.5	D_{10} = 0.5
% silt/clay	5.0%		D_{50} = 10.4	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-017
		DATE:	2018-08-12

Description of Material:	Fine Filter	**Location of Sampling:**	Stockpile pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	85	45	29	20	14	10	8	6	4.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

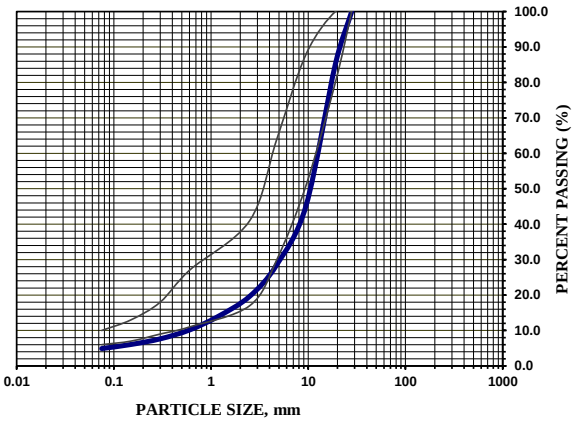
Other tests	Results	Requirements min.	Requirements max.
Water content	0.97%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	71.4%	Cu = 21	D_{85} = 19.0	D_{15} = 1.4
% sand	23.7%	Cc = 4	D_{60} = 12.3	D_{10} = 0.6
% silt/clay	4.9%		D_{50} = 10.3	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-018
		DATE:	2018-08-10

Description of Material:	Fine Filter	**Location of Sampling:**	Stockpile pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	99	71	45	32	23	18	14	11	9.1
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

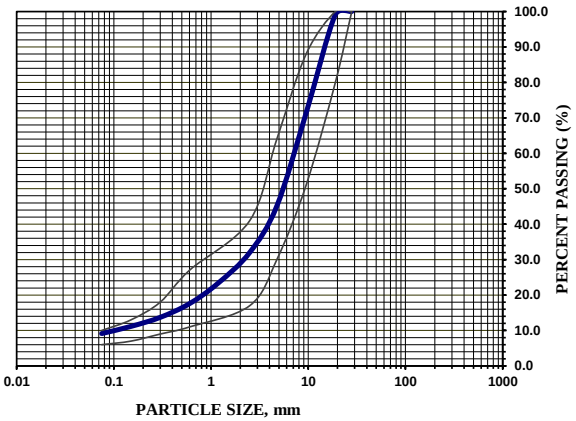
Other tests	Results	Requirements min.	Requirements max.
Water content	1.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	54.9%	Cu = 70	D_{85} = 13.4	D_{15} = 0.4
% sand	36.0%	Cc = 6	D_{60} = 7.0	D_{10} = 0.1
% silt/clay	9.1%		D_{50} = 5.4	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-019
		DATE:	2018-08-10

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Max.C/DJC
	zone 1	**Sampling Date:**	2018-07-25 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	84	47	30	22	16	12	9	7	5.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

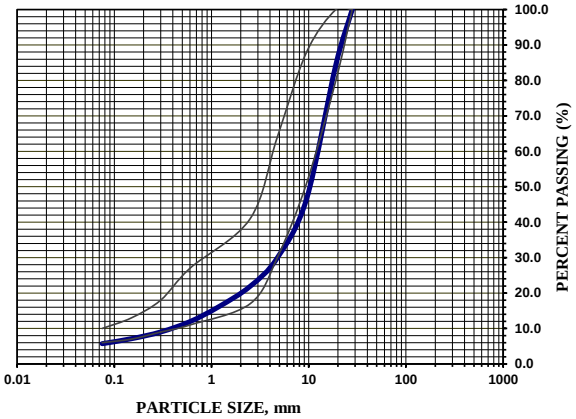
Other tests	Results	Requirements min.	Requirements max.
Water content			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	70.1%	Cu = 32	D_{85} = 19.3	D_{15} = 1.0
% sand	24.2%	Cc = 5	D_{60} = 12.1	D_{10} = 0.4
% silt/clay	5.7%		D_{50} = 10.1	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-020
		DATE:	2018-08-13

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Max.C/DJC
	zone 1	**Sampling Date:**	2018-07-25 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	60	40	29	21	15	11	8	6.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

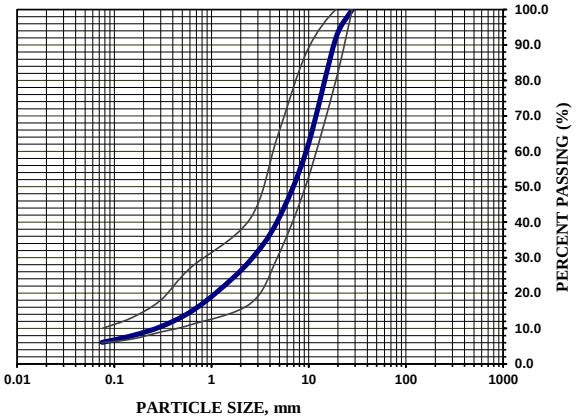
Other tests	Results	Requirements min.	Requirements max.
Water content	1.32%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	59.8%	Cu = 36	D_{85} = 16.3	D_{15} = 0.6
% sand	34.1%	Cc = 3	D_{60} = 9.4	D_{10} = 0.3
% silt/clay	6.1%		D_{50} = 6.7	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-021
		DATE:	2018-08-11

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Max.C/DJC
	zone 1	**Sampling Date:**	2018-07-25 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	61	41	29	20	15	11	8	6.9
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

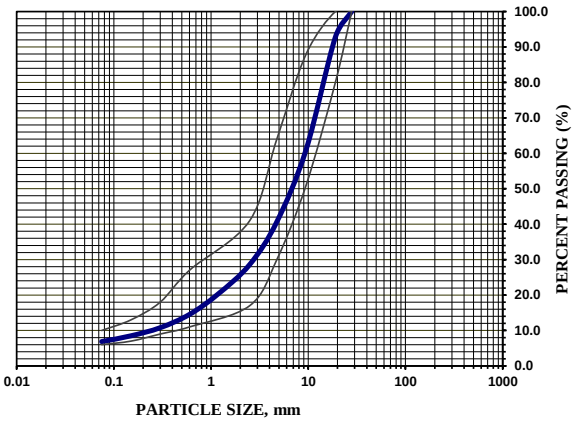
Other tests	Results	Requirements min.	Requirements max.
Water content	1.28%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	59.3%	Cu = 39	D_{85} = 16.0	D_{15} = 0.6
% sand	33.8%	Cc = 3	D_{60} = 9.2	D_{10} = 0.2
% silt/clay	6.9%		D_{50} = 6.5	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-022
		DATE:	2018-08-03

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-07-29

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	87	49	31	20	13	10	8	6	5.2
Individual Results																	
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

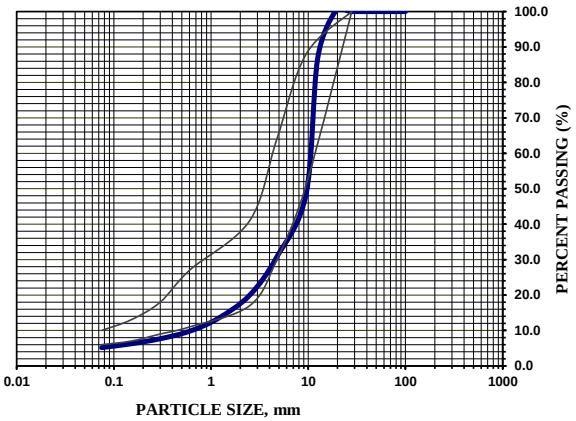
Other tests	Results	Requirements min.	Requirements max.
Water content	2.76%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	69.2%	Cu = 17	D_{85} = 12.3	D_{15} = 1.4
% sand	25.6%	Cc = 3	D_{60} = 10.3	D_{10} = 0.6
% silt/clay	5.2%		D_{50} = 9.6	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample Nº:**	FF-AMQ-023
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-07-30 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	97	70	49	34	24	18	14	12	9.5
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

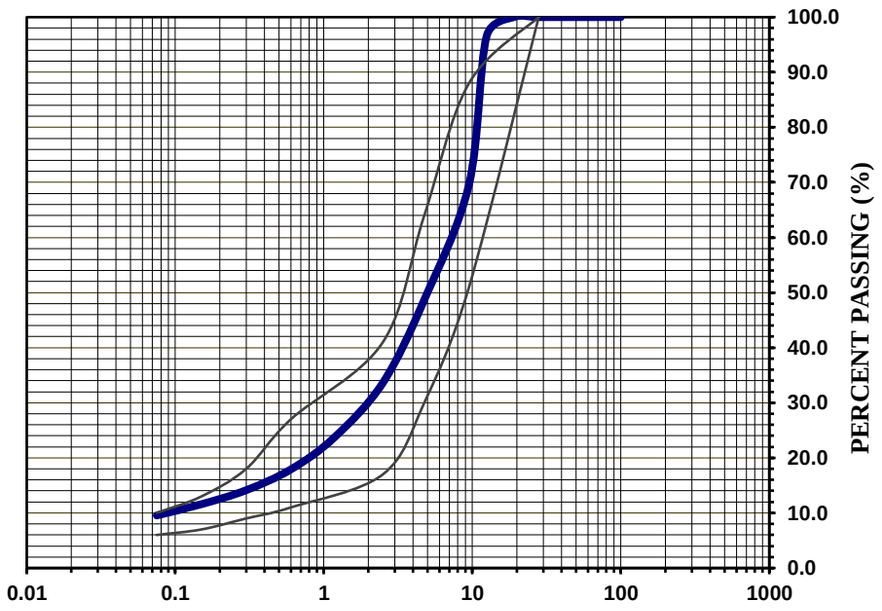
Other tests	Results	Requirements min.	Requirements max.
Water content	6.93%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	51.3%	Cu = 79	D_{85} = 11.1	D_{15} = 0.4
% sand	39.2%	Cc = 6	D_{60} = 6.9	D_{10} = 0.1
% silt/clay	9.5%		D_{50} = 5.0	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample Nº:**	FF-AMQ-024
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-01

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	97	75	54	40	30	24	19	16	13.6
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

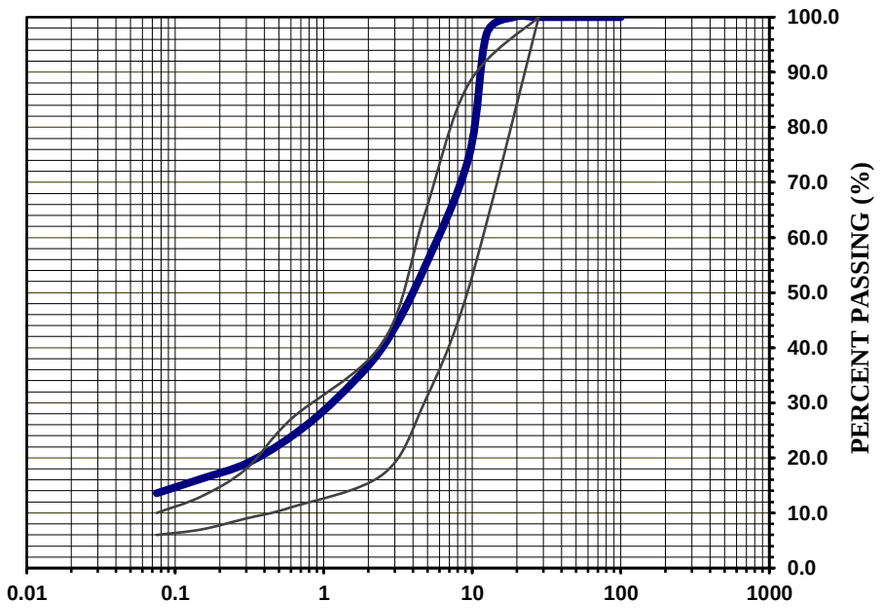
Other tests	Results	Requirements min.	Requirements max.
Water content	3.28%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	45.6%	Cu = 103	D_{85} = 10.8	D_{15} = 0.1
% sand	40.8%	Cc = 4	D_{60} = 5.7	D_{10} = 0.1
% silt/clay	13.6%		D_{50} = 3.9	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample Nº:**	FF-AMQ-025
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-07-31 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	59	38	27	19	15	11	9	7.7
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

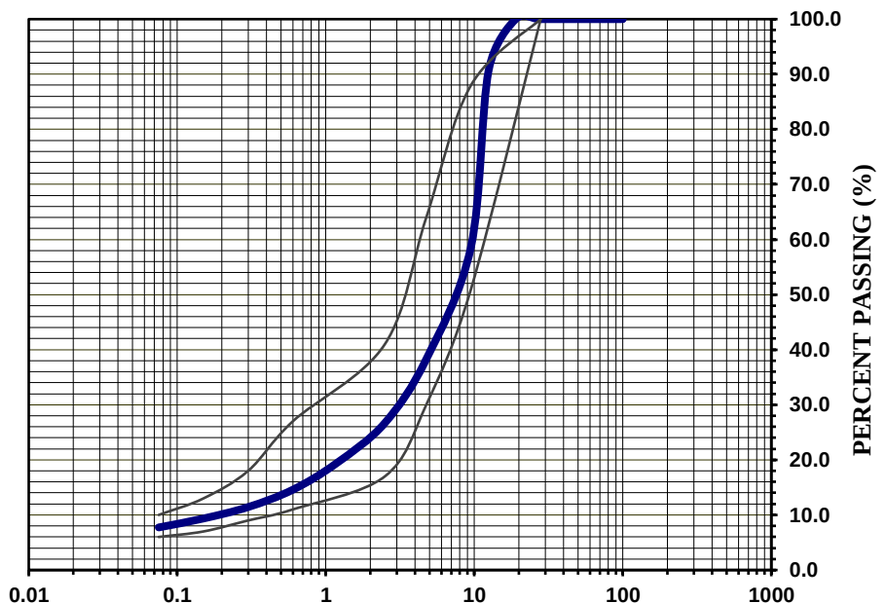
Other tests	Results	Requirements min.	Requirements max.
Water content	2.16%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	61.7%	Cu = 52	D_{85} = 11.9	D_{15} = 0.6
% sand	30.5%	Cc = 5	D_{60} = 9.6	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 7.1	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-026
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-08-01 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	88	60	42	30	23	17	13	10	8.4
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

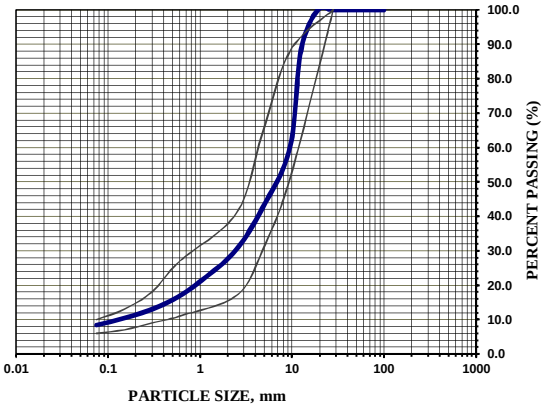
Other tests	Results	Requirements min.	Requirements max.
Water content	2.14%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	57.7%	Cu = 73	D_{85} = 12.1	D_{15} = 0.4
% sand	33.9%	Cc = 5	D_{60} = 9.5	D_{10} = 0.1
% silt/clay	8.4%		D_{50} = 6.4	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-027
		DATE:	2018-08-11

Description of Material:	Fine Filter	**Location of Sampling:**	Stock pile PAD Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-01

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	94	86	65	48	36	27	21	17	14	11.4
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

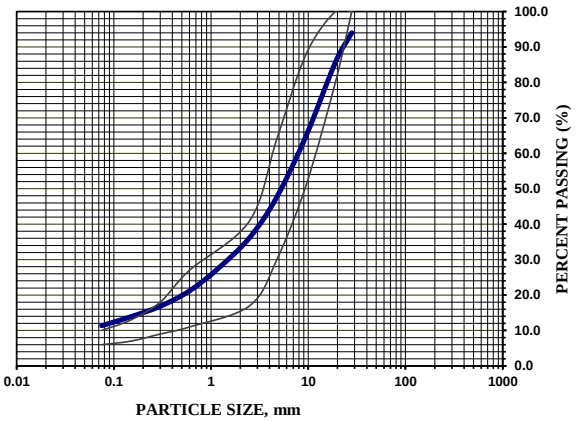
Other tests	Results	Requirements min.	Requirements max.
Water content	2.43%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	52.3%	Cu = 116	D_{85} = 18.6	D_{15} = 0.2
% sand	36.3%	Cc = 4	D_{60} = 7.8	D_{10} = 0.1
% silt/clay	11.4%		D_{50} = 5.2	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-028
		DATE:	2018-08-03

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Mélina Guay
	zone 1	**Sampling Date:**	2018-08-02

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	57	38	29	22	17	13	10	8.3
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

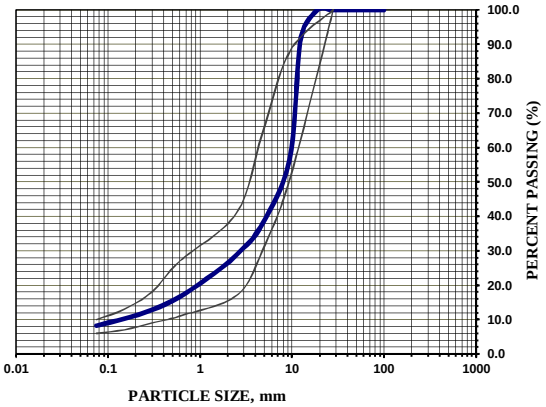
Other tests	Results	Requirements min.	Requirements max.
Water content	2.34%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	62.2%	Cu = 70	D_{85} = 11.8	D_{15} = 0.4
% sand	29.5%	Cc = 5	D_{60} = 9.7	D_{10} = 0.1
% silt/clay	8.3%		D_{50} = 7.4	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-029
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-02 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	96	66	46	32	22	17	13	10	8.3
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

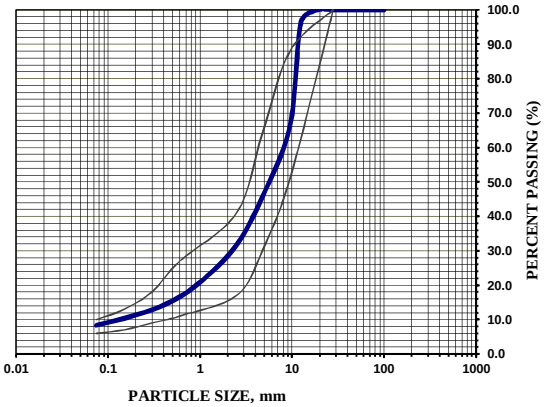
Other tests	Results	Requirements min.	Requirements max.
Water content	1.81%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	54.4%	Cu = 58	D_{85} = 11.3	D_{15} = 0.4
% sand	37.3%	Cc = 5	D_{60} = 7.7	D_{10} = 0.1
% silt/clay	8.3%		D_{50} = 5.5	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-030
		DATE:	2018-08-04

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Mélina Guay
	zone 1	**Sampling Date:**	2018-08-03

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	56 mm	28 mm	25 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	61	39	29	22	17	13	11	8.3
Individual	Results																
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

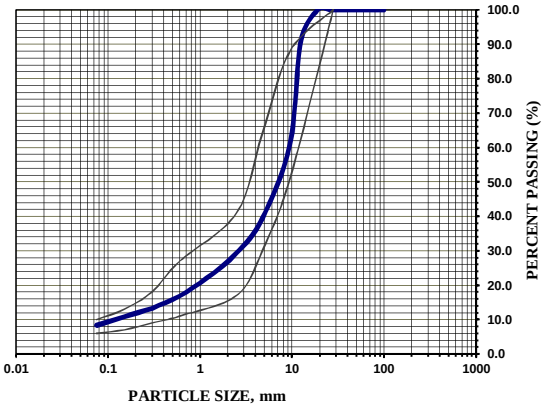
Other tests	Results	Requirements min.	Requirements max.
Water content	2.01%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	60.6%	Cu = 77	D_{85} = 11.8	D_{15} = 0.4
% sand	31.1%	Cc = 6	D_{60} = 9.2	D_{10} = 0.1
% silt/clay	8.3%		D_{50} = 6.7	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-031
		DATE:	2018-08-05

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-03 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	97	69	49	33	25	19	15	13	10.6
Individual Results																	
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

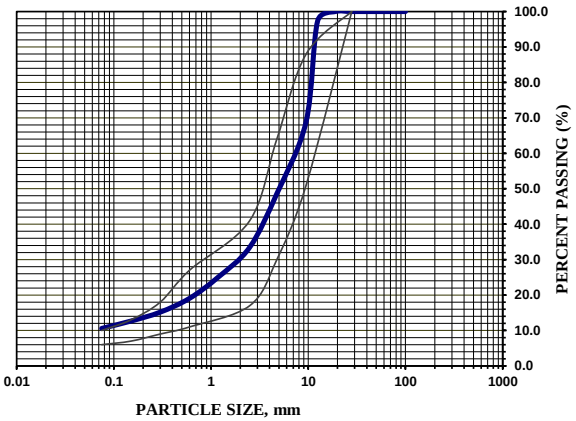
Other tests	Results	Requirements min.	Requirements max.
Water content			
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	51.4%	Cu = 98	D_{85} = 11.1	D_{15} = 0.3
% sand	38.0%	Cc = 7	D_{60} = 7.0	D_{10} = 0.1
% silt/clay	10.6%		D_{50} = 5.0	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-032
		DATE:	2018-08-05

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-08-04

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	59	40	29	21	16	12	10	7.9
Individual Results																	
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

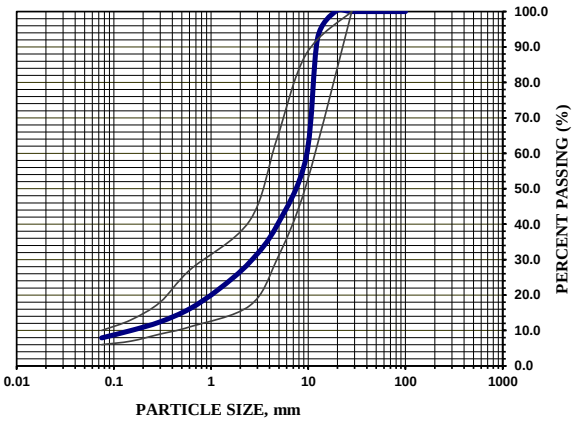
Other tests	Results	Requirements min.	Requirements max.
Water content	1.73%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	60.4%	Cu = 64	D_{85} = 11.8	D_{15} = 0.5
% sand	31.7%	Cc = 5	D_{60} = 9.6	D_{10} = 0.2
% silt/clay	7.9%		D_{50} = 6.9	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-033
		DATE:	2018-08-08

Description of Material:	Fine Filter	**Location of Sampling:**	Sana Crusher (Amaruq)
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-05

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	94	65	44	33	25	19	15	12	9.5
Individual Results																	
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

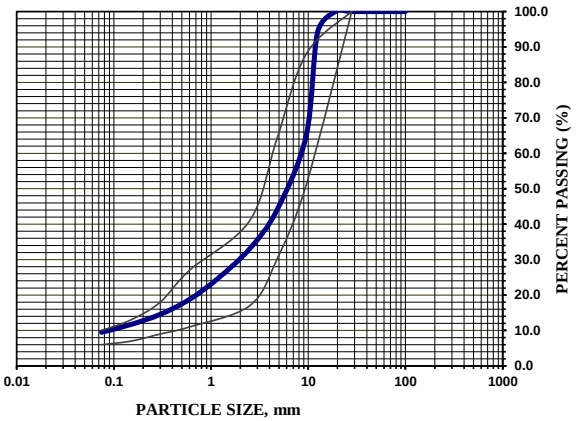
Other tests	Results	Requirements min.	Requirements max.
Water content	2.67%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	56.1%	Cu = 92	D_{85} = 11.5	D_{15} = 0.3
% sand	34.4%	Cc = 5	D_{60} = 8.1	D_{10} = 0.1
% silt/clay	9.5%		D_{50} = 5.8	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-034
		DATE:	2018-08-08

Description of Material:	Fine Filter	**Location of Sampling:**	In place (key trench)
Origin:	Sana Crusher Amaruq		Station : 0+230 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Mélina Guay
	zone 1	**Sampling Date:**	2018-08-06

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	91	54	34	23	17	14	11	9	7.8
Individual Results																	
Require-ments	min.						100			51	30	17		11	9	7	6.0
	max.						100			88	64	41		27	18	13	10.0

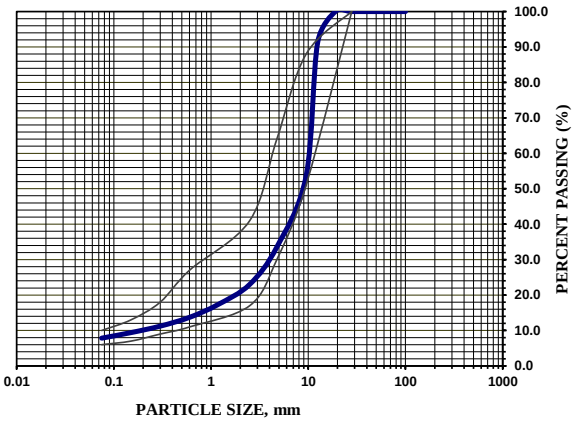
Other tests	Results	Requirements min.	Requirements max.
Water content	2.05%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	66.5%	Cu = 53	D_{85} = 11.9	D_{15} = 0.8
% sand	25.7%	Cc = 8	D_{60} = 10.0	D_{10} = 0.2
% silt/clay	7.8%		D_{50} = 8.4	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-035
		DATE:	2018-08-10

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+250 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Mélina Guay
	zone 1	**Sampling Date:**	2018-08-07

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	90	57	37	27	20	15	12	9	7.6
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

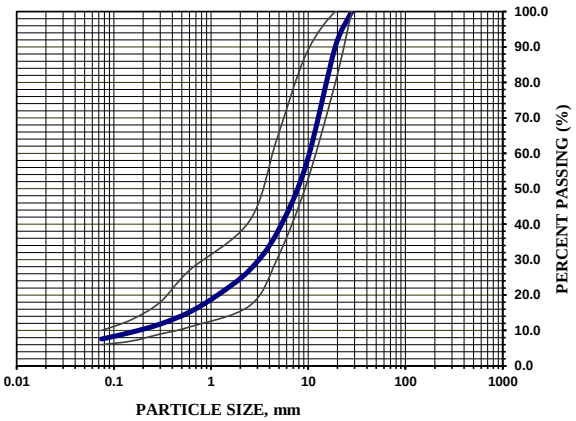
Other tests	Results	Requirements min.	Requirements max.
Water content	1.64%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	62.5%	Cu = 58	D_{85} = 17.1	D_{15} = 0.6
% sand	29.9%	Cc = 5	D_{60} = 10.2	D_{10} = 0.2
% silt/clay	7.6%		D_{50} = 7.4	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-036
		DATE:	2018-08-10

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+285 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-08

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	86	51	35	26	19	14	10	8	6.2
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

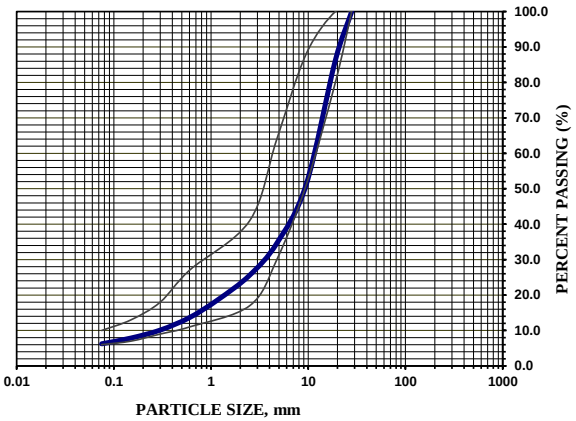
Other tests	Results	Requirements min.	Requirements max.
Water content	0.86%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	65.4%	Cu = 39	D_{85} = 18.5	D_{15} = 0.7
% sand	28.4%	Cc = 4	D_{60} = 11.3	D_{10} = 0.3
% silt/clay	6.2%		D_{50} = 9.1	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-037
		DATE:	2018-08-10

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+225 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-10

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	89	58	39	30	24	18	14	11	9.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

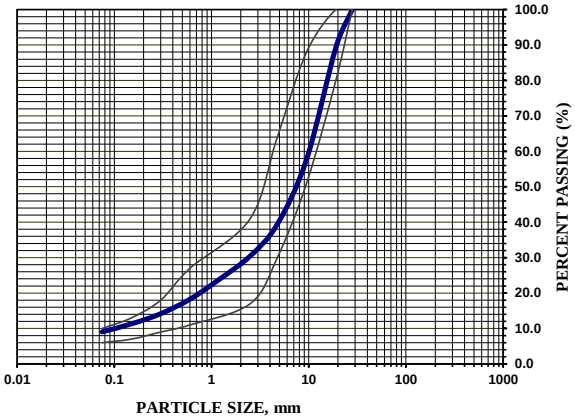
Other tests	Results	Requirements min.	Requirements max.
Water content	2.72%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	60.6%	Cu = 100	D_{85} = 17.3	D_{15} = 0.3
% sand	30.4%	Cc = 6	D_{60} = 10.0	D_{10} = 0.1
% silt/clay	9.1%		D_{50} = 7.1	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-038
		DATE:	2018-08-12

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+240 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-11

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	63	45	33	24	18	14	12	9.3
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

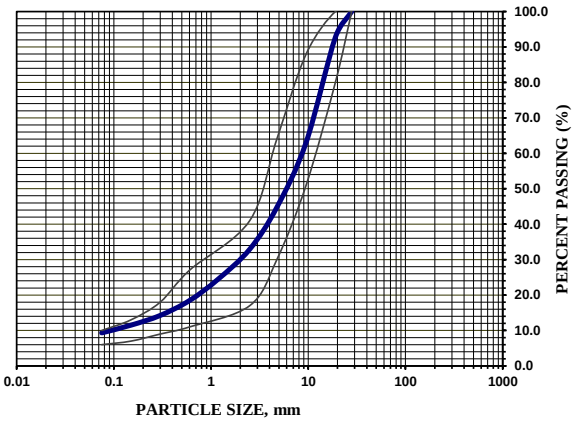
Other tests	Results	Requirements min.	Requirements max.
Water content	2,82%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	55.3%	Cu = 91	D_{85} = 15.9	D_{15} = 0.3
% sand	35.4%	Cc = 5	D_{60} = 8.5	D_{10} = 0.1
% silt/clay	9.3%		D_{50} = 5.8	

Remarks:

Prepared by: Daniel Roy /Melina Guay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-039
		DATE:	2018-08-15

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+222 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Daniel Roy
	zone 1	**Sampling Date:**	2018-08-13 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	95	70	51	40	30	23	18	14	11.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

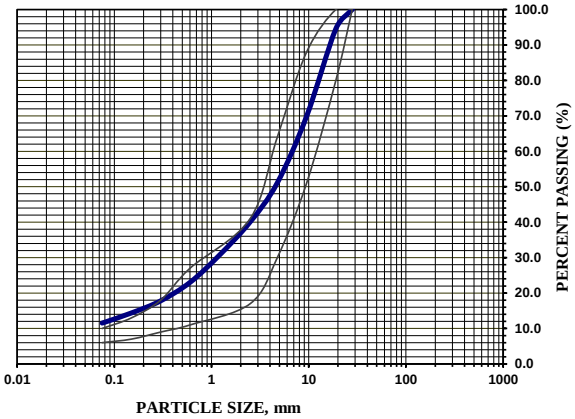
Other tests	Results	Requirements min.	Requirements max.
Water content	3.21%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	48.9%	Cu = 100	D_{85} = 14.5	D_{15} = 0.2
% sand	39.6%	Cc = 3	D_{60} = 6.6	D_{10} = 0.1
% silt/clay	11.5%		D_{50} = 4.5	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-040
		DATE:	2018-08-15

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+200 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-13 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	60	41	31	24	19	15	12	9.6
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

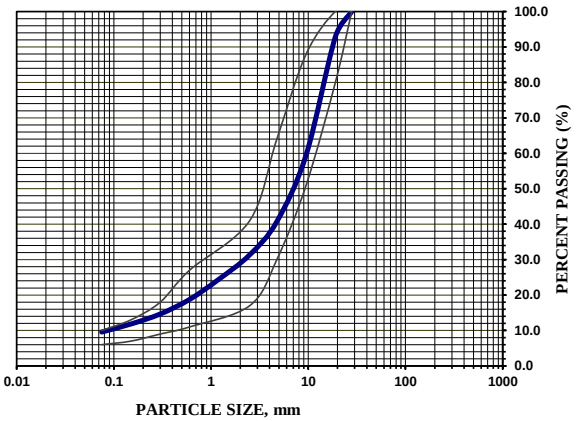
Other tests	Results	Requirements min.	Requirements max.
Water content	1.27%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	59.3%	Cu = 112	D_{85} = 16.1	D_{15} = 0.3
% sand	31.2%	Cc = 6	D_{60} = 9.6	D_{10} = 0.1
% silt/clay	9.6%		D_{50} = 6.7	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-041
		DATE:	2018-08-15

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile Pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-14 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	88	54	35	25	18	14	11	9	7.4
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

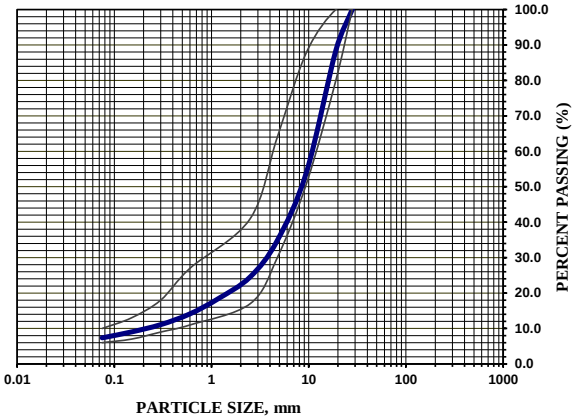
Other tests	Results	Requirements min.	Requirements max.
Water content	2.38%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	65.2%	Cu = 51	D_{85} = 17.7	D_{15} = 0.7
% sand	27.5%	Cc = 6	D_{60} = 10.7	D_{10} = 0.2
% silt/clay	7.4%		D_{50} = 8.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-042
		DATE:	2018-08-15

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+350 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-14 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	61	43	33	26	20	15	13	9.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

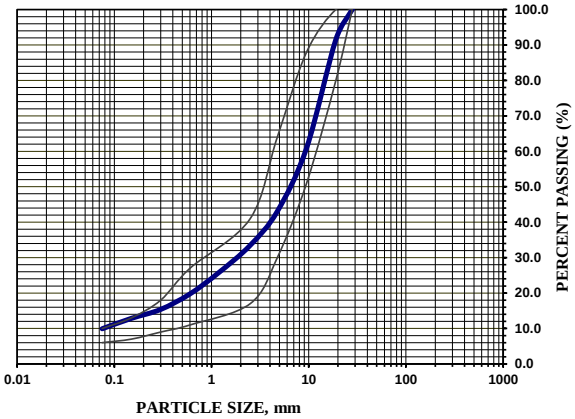
Other tests	Results	Requirements min.	Requirements max.
Water content	2.44%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.0%	Cu = 120	D_{85} = 16.4	D_{15} = 0.3
% sand	33.1%	Cc = 5	D_{60} = 9.2	D_{10} = 0.1
% silt/clay	9.9%		D_{50} = 6.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-043
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+095 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-14 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	65	47	35	27	20	16	13	10.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

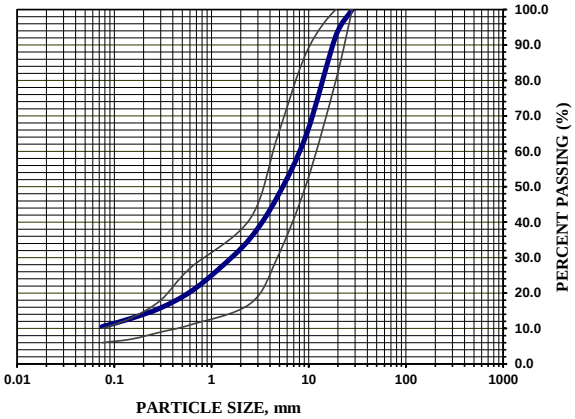
Other tests	Results	Requirements min.	Requirements max.
Water content	1.50%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	52.9%	Cu = 109	D_{85} = 15.7	D_{15} = 0.2
% sand	36.6%	Cc = 4	D_{60} = 7.8	D_{10} = 0.1
% silt/clay	10.5%		D_{50} = 5.3	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-044
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile Pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-14 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	96	65	42	31	23	17	12	9	7.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

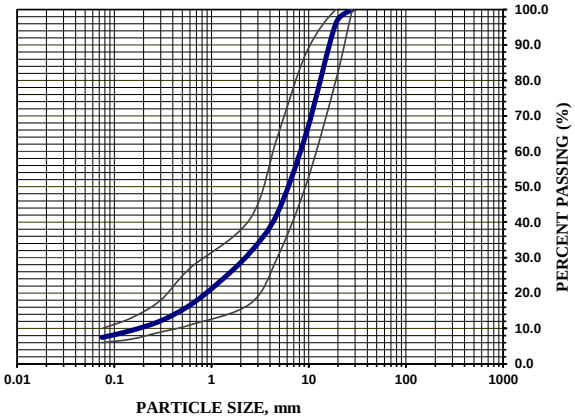
Other tests	Results	Requirements min.	Requirements max.
Water content	1.65%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.5%	Cu = 47	D_{85} = 14.8	D_{15} = 0.5
% sand	35.0%	Cc = 3	D_{60} = 8.1	D_{10} = 0.2
% silt/clay	7.5%		D_{50} = 6.0	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-045
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+360 El.153
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-14 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	66	46	37	28	22	17	13	10.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

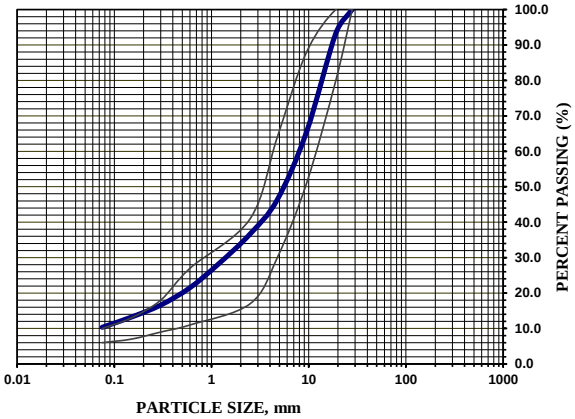
Other tests	Results	Requirements min.	Requirements max.
Water content	2.73%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	53.6%	Cu = 107	D_{85} = 15.4	D_{15} = 0.2
% sand	36.0%	Cc = 3	D_{60} = 7.8	D_{10} = 0.1
% silt/clay	10.3%		D_{50} = 5.4	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-046
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+218 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-14 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	69	50	38	30	23	18	15	11.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

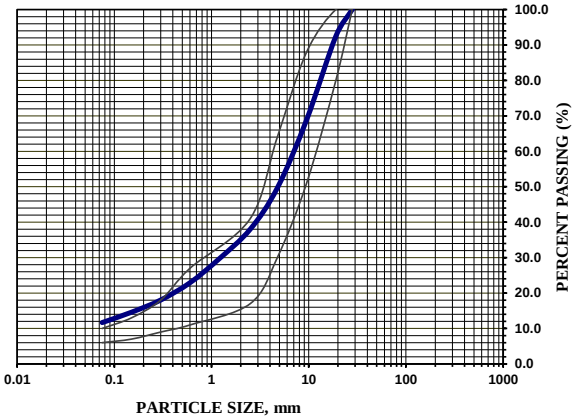
Other tests	Results	Requirements min.	Requirements max.
Water content	2.87%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	50.3%	Cu = 105	D_{85} = 15.3	D_{15} = 0.2
% sand	38.0%	Cc = 3	D_{60} = 6.9	D_{10} = 0.1
% silt/clay	11.7%		D_{50} = 4.8	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-047
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+250 El.155
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-15 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	62	43	33	25	19	14	11	9.0
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

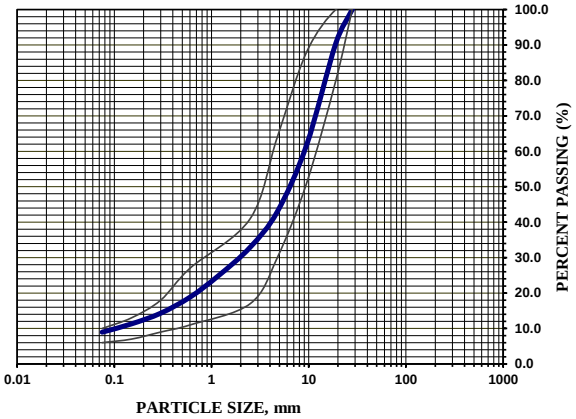
Other tests	Results	Requirements min.	Requirements max.
Water content	3.86%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.0%	Cu = 87	D_{85} = 16.6	D_{15} = 0.3
% sand	34.0%	Cc = 4	D_{60} = 8.9	D_{10} = 0.1
% silt/clay	9.0%		D_{50} = 6.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-048
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+270 El.155
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-15 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	88	54	37	28	21	16	12	10	7.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

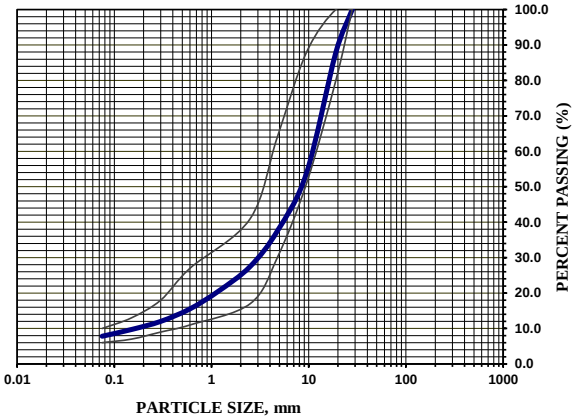
Other tests	Results	Requirements min.	Requirements max.
Water content	2.00%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	62.5%	Cu = 66	D_{85} = 17.9	D_{15} = 0.5
% sand	29.7%	Cc = 5	D_{60} = 10.8	D_{10} = 0.2
% silt/clay	7.8%		D_{50} = 8.1	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-049
		DATE:	2018-08-16

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile Pad Q
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-15 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	62	42	31	23	17	12	10	7.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

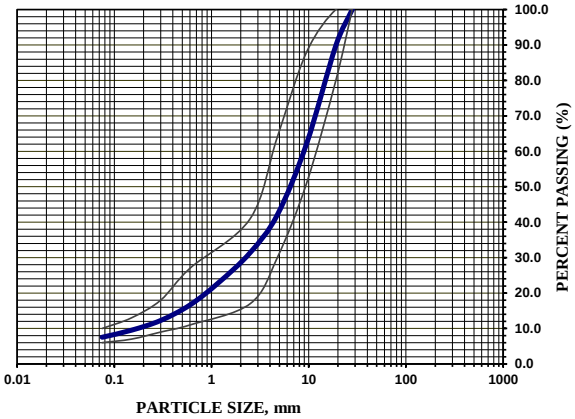
Other tests	Results	Requirements min.	Requirements max.
Water content	1.81%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.9%	Cu = 52	D_{85} = 16.8	D_{15} = 0.5
% sand	34.5%	Cc = 3	D_{60} = 8.8	D_{10} = 0.2
% silt/clay	7.5%		D_{50} = 6.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-050
		DATE:	2018-08-17

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile Extension Pad
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-15 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	65	47	37	27	19	13	10	7.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

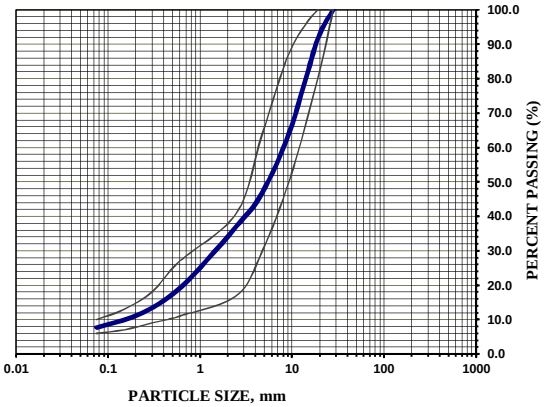
Other tests	Results	Requirements min.	Requirements max.
Water content	1.16%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	53.1%	Cu = 52	D_{85} = 16.0	D_{15} = 0.4
% sand	39.2%	Cc = 2	D_{60} = 7.9	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 5.4	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-051
		DATE:	2018-08-17

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+368 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-16 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	95	67	48	37	28	22	17	13	10.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

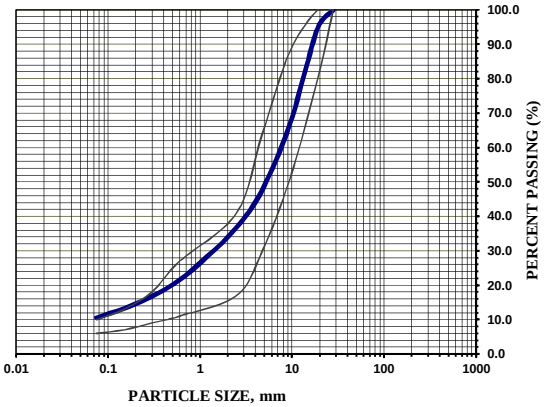
Other tests	Results	Requirements min.	Requirements max.
Water content	2.18%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	52.3%	Cu = 103	D_{85} = 14.9	D_{15} = 0.2
% sand	37.2%	Cc = 4	D_{60} = 7.4	D_{10} = 0.1
% silt/clay	10.5%		D_{50} = 5.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-052
		DATE:	2018-08-17

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+380 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-16 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	89	56	39	30	22	16	11	9	6.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

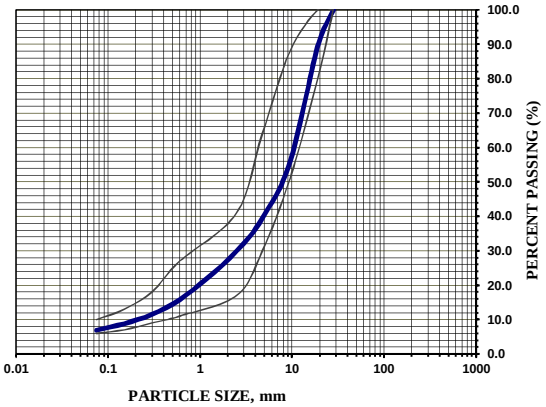
Other tests	Results	Requirements min.	Requirements max.
Water content	1.58%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	60.5%	Cu = 51	D_{85} = 17.3	D_{15} = 0.5
% sand	32.6%	Cc = 3	D_{60} = 10.4	D_{10} = 0.2
% silt/clay	6.9%		D_{50} = 7.4	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-053
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+235 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-16 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	64	44	32	24	18	14	11	8.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

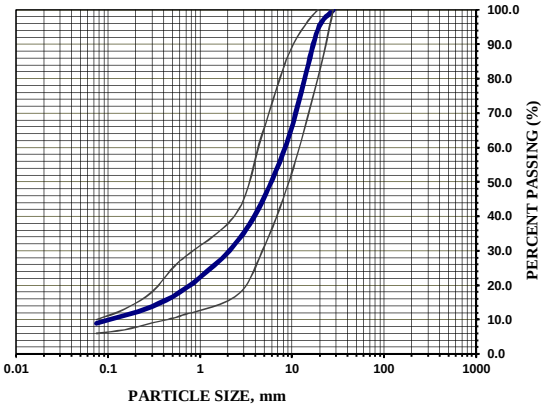
Other tests	Results	Requirements min.	Requirements max.
Water content	2.11%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	55.6%	Cu = 78	D_{85} = 15.4	D_{15} = 0.4
% sand	35.5%	Cc = 5	D_{60} = 8.2	D_{10} = 0.1
% silt/clay	8.9%		D_{50} = 5.8	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
		PROJECT N°:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N°:**	FF-AMQ-054
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile Extension Pad
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-16 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	95	70	49	34	24	16	12	9	7.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

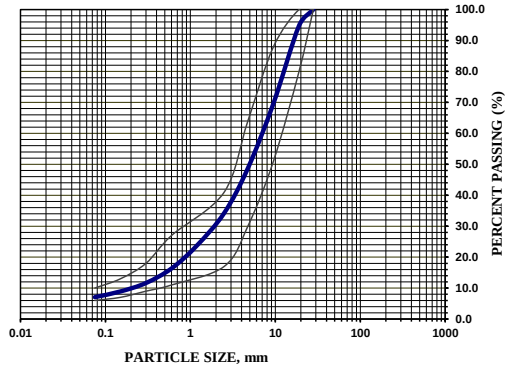
Other tests	Results	Requirements min.	Requirements max.
Water content	1.75%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	51.3%	Cu = 35	D_{85} = 14.5	D_{15} = 0.5
% sand	41.6%	Cc = 3	D_{60} = 6.9	D_{10} = 0.2
% silt/clay	7.1%		D_{50} = 5.0	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-055
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+400 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-17 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	63	45	35	27	20	15	12	9.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

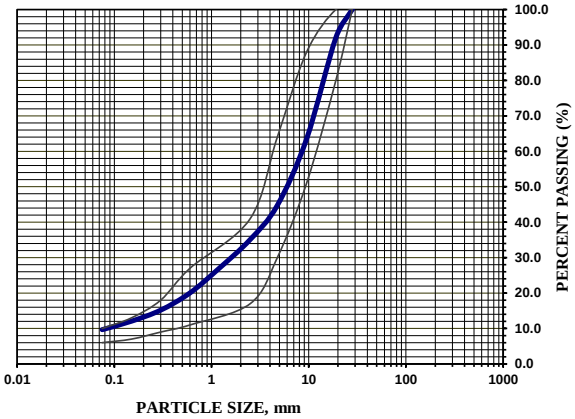
Other tests	Results	Requirements min.	Requirements max.
Water content	1.31%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	55.3%	Cu = 101	D_{85} = 16.0	D_{15} = 0.3
% sand	35.1%	Cc = 4	D_{60} = 8.4	D_{10} = 0.1
% silt/clay	9.7%		D_{50} = 5.8	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-056
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+298 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-17 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	88	61	43	33	25	19	14	11	8.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

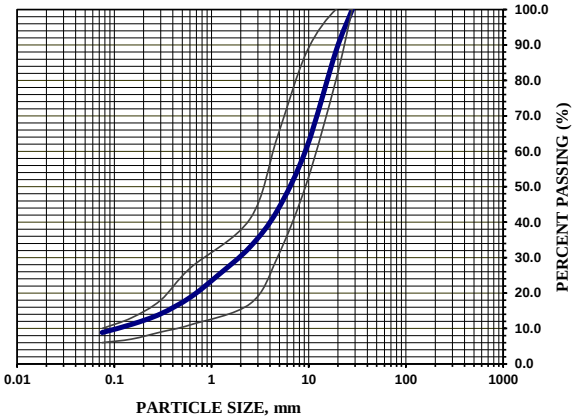
Other tests	Results	Requirements min.	Requirements max.
Water content	2.33%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	56.7%	Cu = 86	D_{85} = 17.5	D_{15} = 0.3
% sand	34.4%	Cc = 4	D_{60} = 9.1	D_{10} = 0.1
% silt/clay	8.9%		D_{50} = 6.2	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-057
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile on the Extension Pad
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Daniel Roy
	zone 1	**Sampling Date:**	2018-08-17 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	83	42	27	20	15	11	9	7	5.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

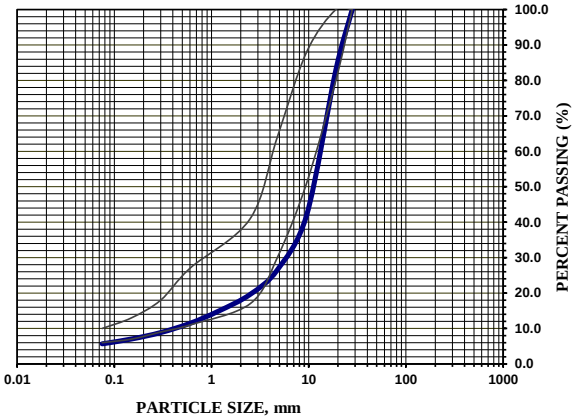
Other tests	Results	Requirements min.	Requirements max.
Water content	1.32%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	73.5%	Cu = 32	D_{85} = 19.9	D_{15} = 1.2
% sand	20.9%	Cc = 6	D_{60} = 12.9	D_{10} = 0.4
% silt/clay	5.7%		D_{50} = 10.9	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-058
		DATE:	2018-08-19

Description of Material:	Fine Filter	**Location of Sampling:**	Stock Pile on the Extension Pad
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-17 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	89	56	36	27	20	15	11	9	6.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

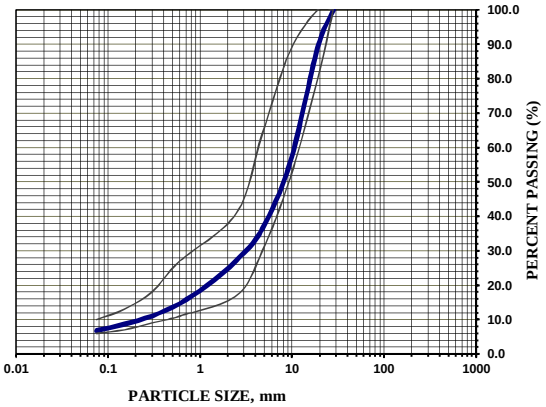
Other tests	Results	Requirements min.	Requirements max.
Water content	2.22%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	63.6%	Cu = 47	D_{85} = 17.4	D_{15} = 0.6
% sand	29.6%	Cc = 4	D_{60} = 10.4	D_{10} = 0.2
% silt/clay	6.8%		D_{50} = 7.8	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-059
		DATE:	2018-08-18

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+422 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-17 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	62	42	29	21	16	12	10	7.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

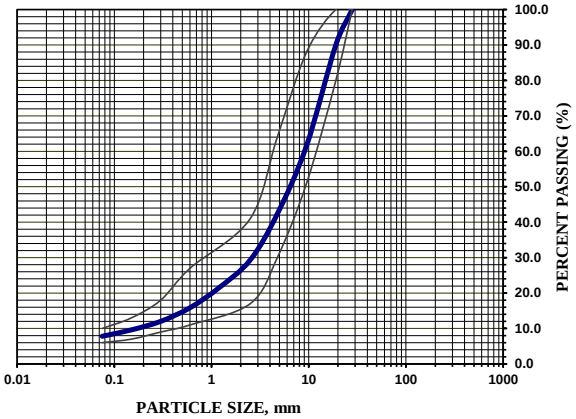
Other tests	Results	Requirements min.	Requirements max.
Water content	1.57%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.7%	Cu = 53	D_{85} = 16.8	D_{15} = 0.5
% sand	34.5%	Cc = 4	D_{60} = 9.0	D_{10} = 0.2
% silt/clay	7.8%		D_{50} = 6.3	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-060
		DATE:	2018-08-19

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+196 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-17 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	64	43	32	23	17	12	10	7.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

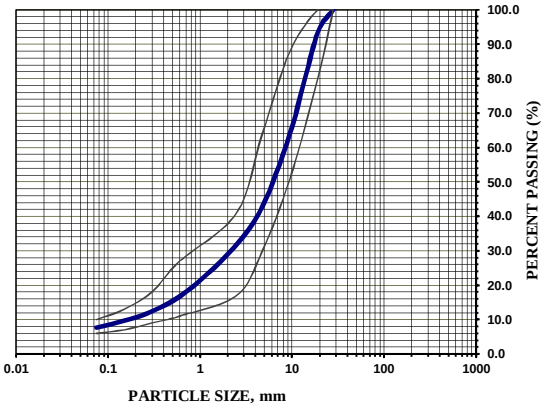
Other tests	Results	Requirements min.	Requirements max.
Water content	1.62%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	57.2%	Cu = 51	D_{85} = 15.6	D_{15} = 0.5
% sand	35.1%	Cc = 3	D_{60} = 8.3	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 6.0	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-061
		DATE:	2018-08-19

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+460 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-18 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	86	47	30	21	15	12	9	7	5.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

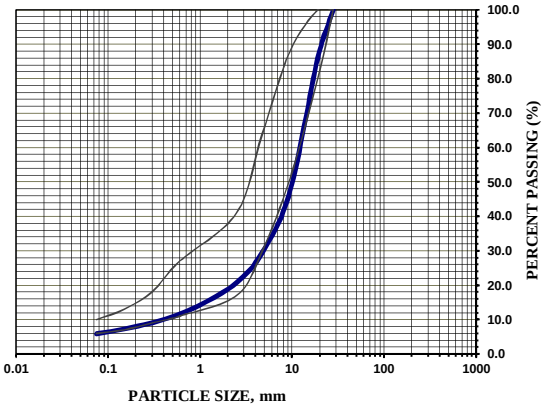
Other tests	Results	Requirements min.	Requirements max.
Water content	1.36%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	70.5%	Cu = 31	D_{85} = 18.7	D_{15} = 1.1
% sand	23.7%	Cc = 5	D_{60} = 11.9	D_{10} = 0.4
% silt/clay	5.9%		D_{50} = 10.0	

Remarks:

Prepared by: Daniel Roy

Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-062
		DATE:	2018-08-19

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+763 El.153.5
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-18 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	95	66	45	33	24	18	13	11	8.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

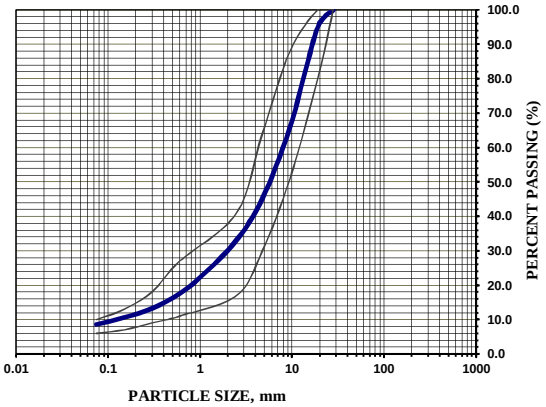
Other tests	Results	Requirements min.	Requirements max.
Water content	3.39%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	54.9%	Cu = 63	D_{85} = 15.0	D_{15} = 0.4
% sand	36.6%	Cc = 4	D_{60} = 7.8	D_{10} = 0.1
% silt/clay	8.6%		D_{50} = 5.6	

Remarks:

Prepared by: Daniel Roy

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-063
		DATE:	2018-08-19

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+387 El.155
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-18 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	58	41	32	25	19	14	11	8.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

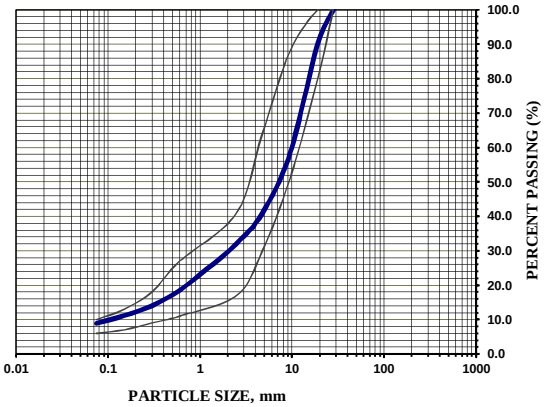
Other tests	Results	Requirements min.	Requirements max.
Water content	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.1%	Cu = 93	D_{85} = 17.0	D_{15} = 0.3
% sand	32.0%	Cc = 4	D_{60} = 9.9	D_{10} = 0.1
% silt/clay	8.9%		D_{50} = 6.8	

Remarks:

Prepared by: Daniel Roy

Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-064
		DATE:	2018-08-21

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+410 El.157
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-19 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	61	41	29	22	16	13	10	8.2
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

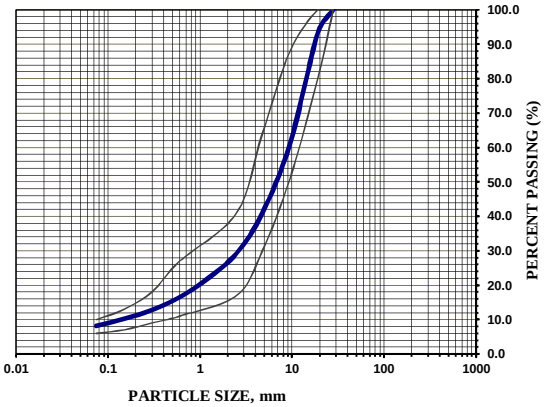
Other tests	Results	Requirements min.	Requirements max.
Water content	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.0%	Cu = 66	D_{85} = 15.9	D_{15} = 0.5
% sand	32.8%	Cc = 5	D_{60} = 9.2	D_{10} = 0.1
% silt/clay	8.2%		D_{50} = 6.5	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-065
		DATE:	2018-08-22

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+447 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-19 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	60	40	29	21	16	12	10	7.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

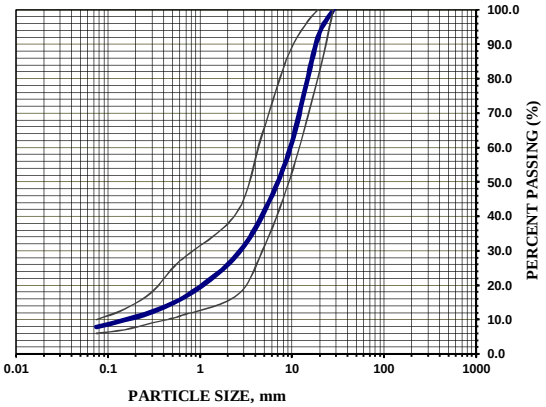
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.7%	Cu = 61	D_{85} = 16.4	D_{15} = 0.5
% sand	32.4%	Cc = 5	D_{60} = 9.6	D_{10} = 0.2
% silt/clay	7.9%		D_{50} = 6.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-066
		DATE:	2018-08-21

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+775 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-19 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	99	87	52	34	23	16	12	9	7	5.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

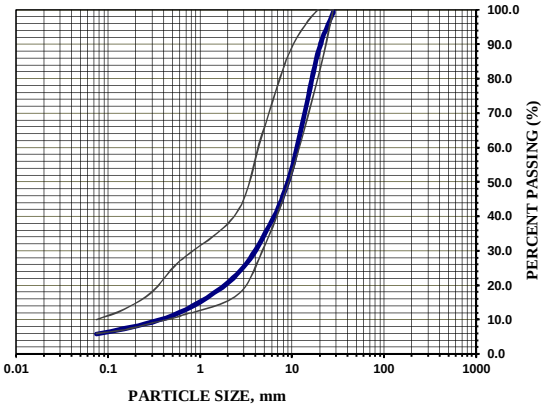
Other tests	Results	Requirements min.	Requirements max.
Water content	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	66.5%	Cu = 31	D_{85} = 18.2	D_{15} = 1.0
% sand	27.7%	Cc = 4	D_{60} = 11.1	D_{10} = 0.4
% silt/clay	5.8%		D_{50} = 8.8	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample Nº:**	FF-AMQ-067
		DATE:	2018-08-21

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+535 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-20 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	99	88	58	39	29	22	17	13	11	8.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

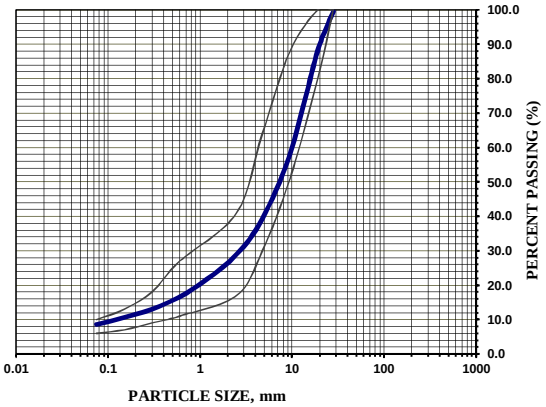
Other tests	Results	Requirements min.	Requirements max.
Water content	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	60.7%	Cu = 81	D_{85} = 17.7	D_{15} = 0.4
% sand	30.7%	Cc = 6	D_{60} = 9.9	D_{10} = 0.1
% silt/clay	8.6%		D_{50} = 7.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-068
		DATE:	2018-08-21

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+469 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-20 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	87	49	31	22	16	13	10	8	6.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

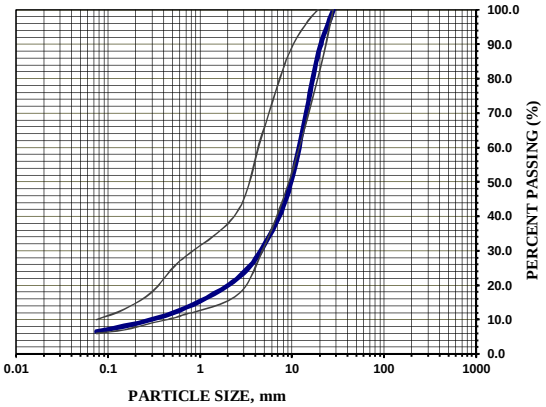
Other tests	Results	Requirements min.	Requirements max.
Water content	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	69.3%	Cu = 39	D_{85} = 18.4	D_{15} = 0.9
% sand	24.2%	Cc = 6	D_{60} = 11.7	D_{10} = 0.3
% silt/clay	6.5%		D_{50} = 9.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-069
		DATE:	2018-08-23

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+560 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-21 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	55	36	27	21	16	13	11	8.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

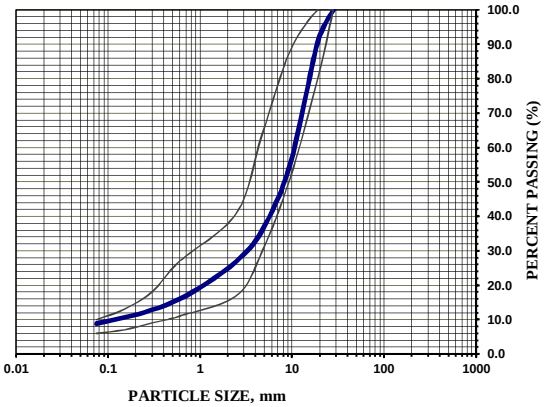
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	64.0%	Cu = 89	D_{85} = 17.0	D_{15} = 0.5
% sand	27.2%	Cc = 8	D_{60} = 10.5	D_{10} = 0.1
% silt/clay	8.8%		D_{50} = 7.9	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-070
		DATE:	2018-08-22

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+494 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-21 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	55	35	25	18	14	11	9	7.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

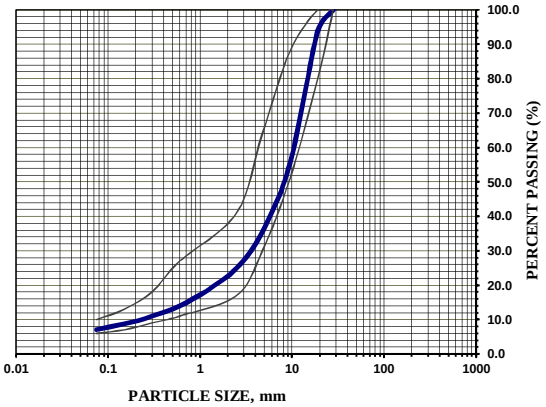
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	64.5%	Cu = 46	D_{85} = 16.2	D_{15} = 0.7
% sand	28.4%	Cc = 5	D_{60} = 10.3	D_{10} = 0.2
% silt/clay	7.1%		D_{50} = 7.9	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-071
		DATE:	2018-08-23

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+455 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-22 Day Shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	56	39	27	19	14	11	9	7.0
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

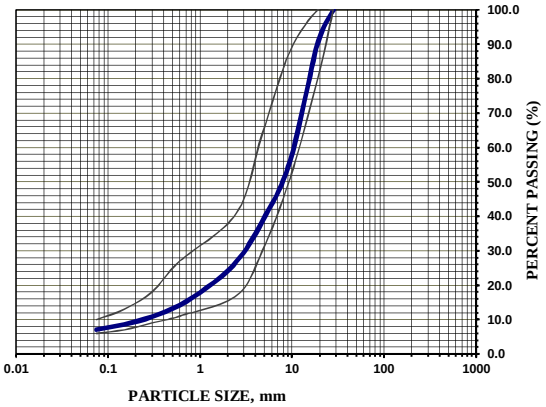
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	61.5%	Cu = 44	D_{85} = 17.1	D_{15} = 0.7
% sand	31.5%	Cc = 4	D_{60} = 10.3	D_{10} = 0.2
% silt/clay	7.0%		D_{50} = 7.5	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-072
		DATE:	2018-08-22

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+460 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Cote
	zone 1	**Sampling Date:**	2018-08-22 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	87	53	38	30	23	17	13	11	8.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

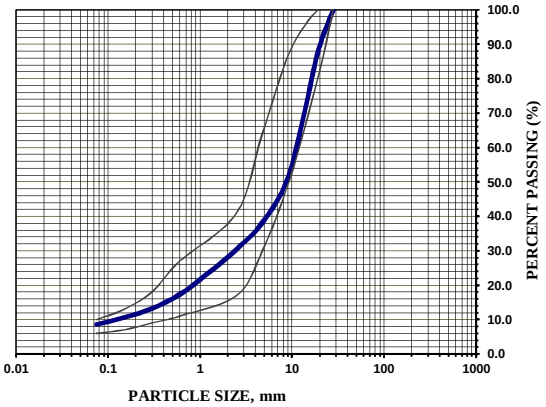
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	61.8%	Cu = 89	D_{85} = 18.1	D_{15} = 0.4
% sand	29.6%	Cc = 4	D_{60} = 10.9	D_{10} = 0.1
% silt/clay	8.6%		D_{50} = 8.3	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-073
		DATE:	2018-08-23

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+465 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Cote
	zone 1	**Sampling Date:**	2018-08-22 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	62	42	31	22	16	12	10	7.9
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

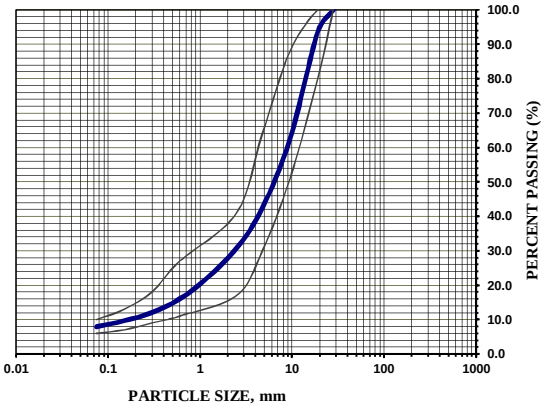
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	57.6%	Cu = 52	D_{85} = 15.7	D_{15} = 0.5
% sand	34.5%	Cc = 4	D_{60} = 8.7	D_{10} = 0.2
% silt/clay	7.9%		D_{50} = 6.2	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-074
		DATE:	2018-08-23

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+520 El.155m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-22 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	64	44	32	24	19	14	11	9.0
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

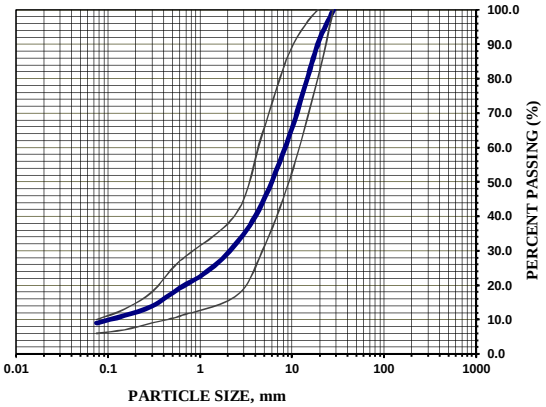
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	56.1%	Cu = 80	D_{85} = 16.7	D_{15} = 0.3
% sand	34.9%	Cc = 5	D_{60} = 8.3	D_{10} = 0.1
% silt/clay	9.0%		D_{50} = 5.9	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-075
		DATE:	2018-08-23

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+590 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-22 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	95	62	42	29	20	15	11	9	7.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

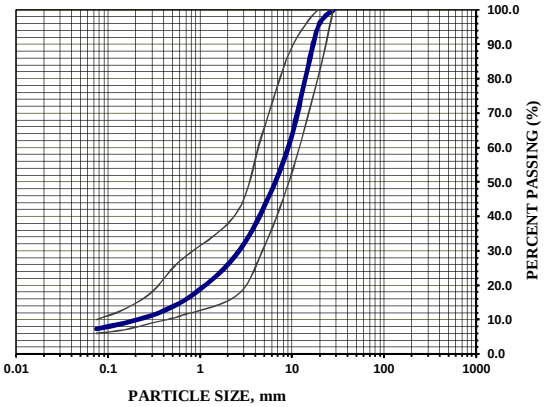
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	58.3%	Cu = 44	D_{85} = 15.5	D_{15} = 0.6
% sand	34.4%	Cc = 4	D_{60} = 9.0	D_{10} = 0.2
% silt/clay	7.3%		D_{50} = 6.3	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-076
		DATE:	2018-08-25

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+620 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-23 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	56	36	26	18	13	10	8	6.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

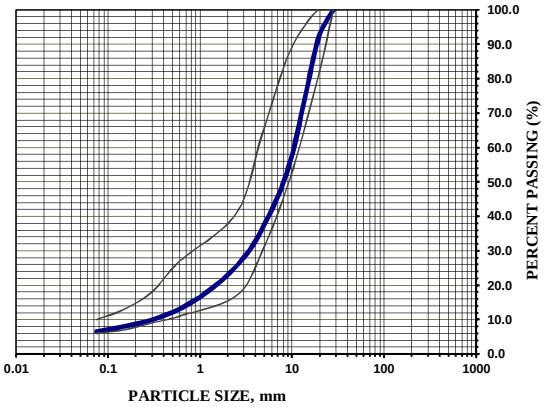
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	63.6%	Cu = 34	D_{85} = 16.9	D_{15} = 0.8
% sand	29.9%	Cc = 3	D_{60} = 10.3	D_{10} = 0.3
% silt/clay	6.5%		D_{50} = 7.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-077
		DATE:	2018-08-25

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+637 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-23 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	60	40	28	20	15	11	9	7.2
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

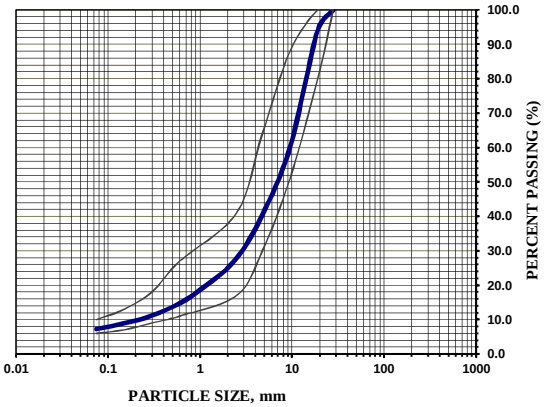
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.6%	Cu = 45	D_{85} = 15.8	D_{15} = 0.6
% sand	33.2%	Cc = 4	D_{60} = 9.5	D_{10} = 0.2
% silt/clay	7.2%		D_{50} = 6.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-078
		DATE:	2018-08-25

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+564 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-23 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	63	41	29	21	16	12	10	7.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

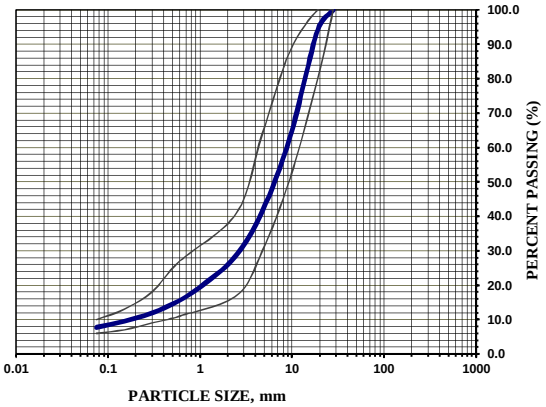
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	58.5%	Cu = 51	D_{85} = 15.5	D_{15} = 0.5
% sand	33.7%	Cc = 5	D_{60} = 8.6	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 6.3	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-079
		DATE:	2018-08-25

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+775 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-23 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	58	38	26	19	14	11	9	7.2
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

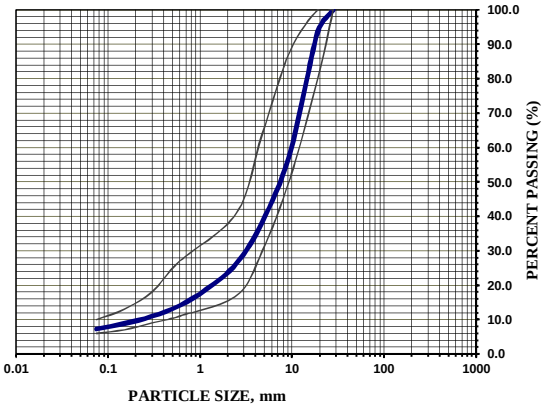
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	61.6%	Cu = 44	D_{85} = 16.0	D_{15} = 0.7
% sand	31.1%	Cc = 4	D_{60} = 9.8	D_{10} = 0.2
% silt/clay	7.2%		D_{50} = 7.1	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-080
		DATE:	2018-08-25

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+470 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-24 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	89	57	40	30	23	17	14	11	9.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

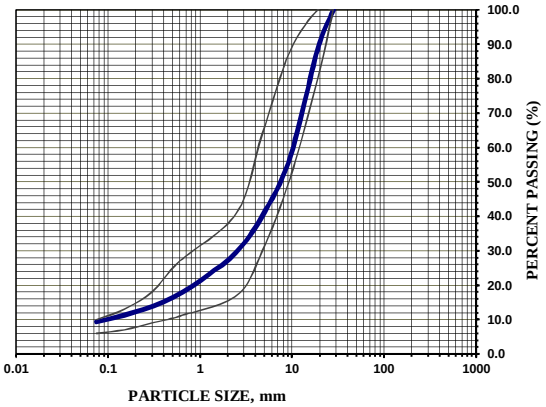
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.9%	Cu = 105	D_{85} = 17.6	D_{15} = 0.4
% sand	30.8%	Cc = 7	D_{60} = 10.1	D_{10} = 0.1
% silt/clay	9.3%		D_{50} = 7.1	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-081
		DATE:	2018-08-26

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+590 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-24 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	65	45	32	23	17	13	10	8.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

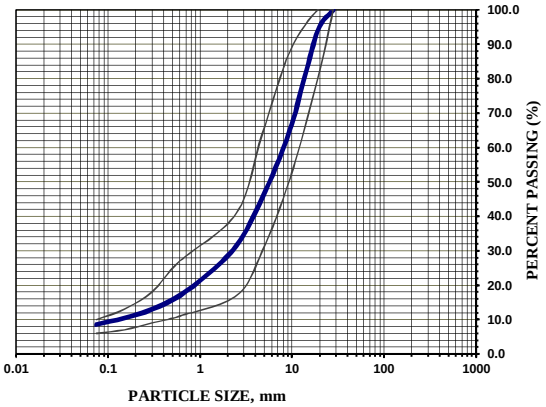
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	54.6%	Cu = 62	D_{85} = 15.3	D_{15} = 0.4
% sand	36.9%	Cc = 5	D_{60} = 7.9	D_{10} = 0.1
% silt/clay	8.5%		D_{50} = 5.6	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-082
		DATE:	2018-08-26

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+660 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-24 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	59	39	26	18	13	10	8	6.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

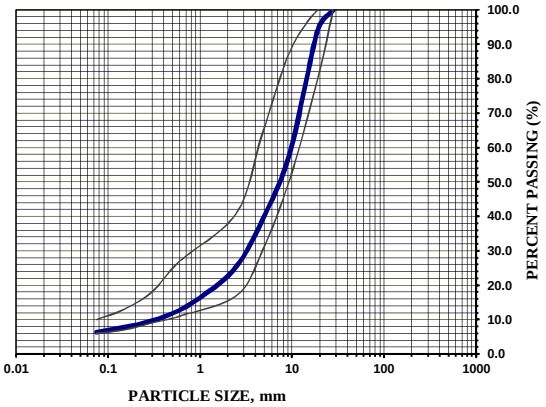
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	61.1%	Cu = 30	D_{85} = 15.9	D_{15} = 0.8
% sand	32.6%	Cc = 3	D_{60} = 9.8	D_{10} = 0.3
% silt/clay	6.3%		D_{50} = 7.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-083
		DATE:	2018-08-26

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+635 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-24 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	94	63	43	29	21	15	11	9	7.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

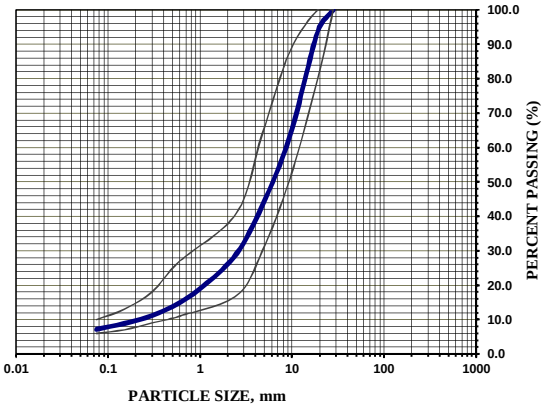
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	56.9%	Cu = 40	D_{85} = 15.6	D_{15} = 0.6
% sand	36.0%	Cc = 4	D_{60} = 8.5	D_{10} = 0.2
% silt/clay	7.1%		D_{50} = 6.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Maxime Côté

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	FF-AMQ-084
		DATE:	2018-08-27

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+820 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-25 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	97	67	44	31	22	16	12	10	7.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

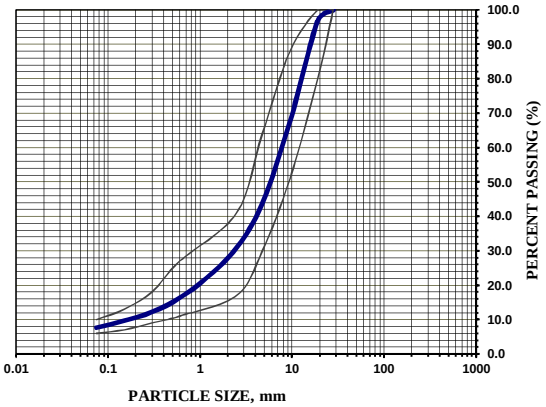
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	56.2%	Cu = 46	D_{85} = 14.4	D_{15} = 0.5
% sand	36.1%	Cc = 4	D_{60} = 7.6	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 5.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-085
		DATE:	2018-08-27

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+782 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-25 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	56	37	25	18	13	10	8	6.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

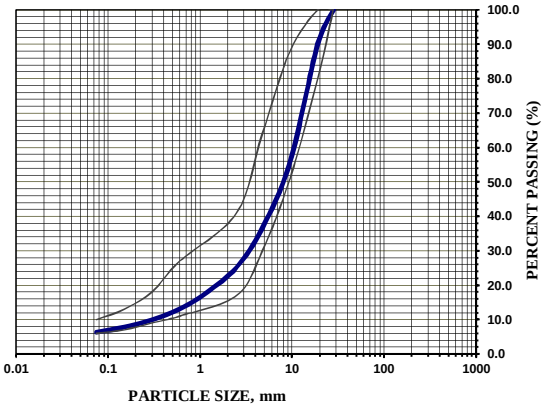
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	63.4%	Cu = 34	D_{85} = 17.1	D_{15} = 0.8
% sand	30.3%	Cc = 3	D_{60} = 10.4	D_{10} = 0.3
% silt/clay	6.3%		D_{50} = 7.7	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-086
		DATE:	2018-08-27

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+803 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-25 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	59	40	28	20	15	11	9	7.5
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

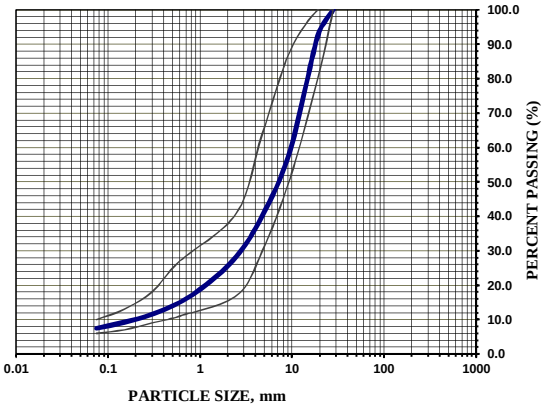
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	59.8%	Cu = 51	D_{85} = 16.3	D_{15} = 0.6
% sand	32.7%	Cc = 4	D_{60} = 9.7	D_{10} = 0.2
% silt/clay	7.5%		D_{50} = 6.8	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-087
		DATE:	2018-08-28

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+750 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-26 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	91	60	39	27	19	14	10	8	6.6
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

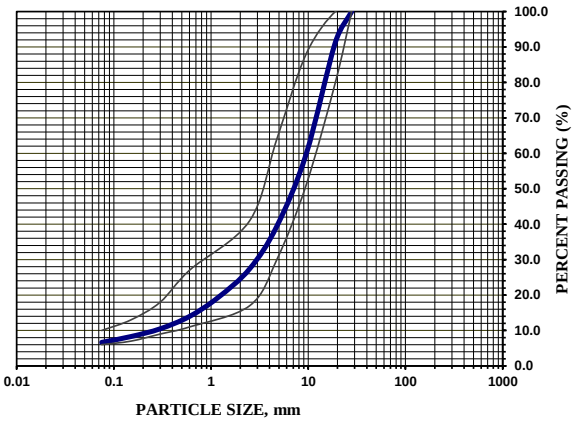
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	60.6%	Cu = 37	D_{85} = 16.5	D_{15} = 0.7
% sand	32.8%	Cc = 3	D_{60} = 9.6	D_{10} = 0.3
% silt/clay	6.6%		D_{50} = 6.8	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	FF-AMQ-088
		DATE:	2018-08-28

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+705 El.153.5m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-26 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	91	55	36	24	17	12	10	8	6.1
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

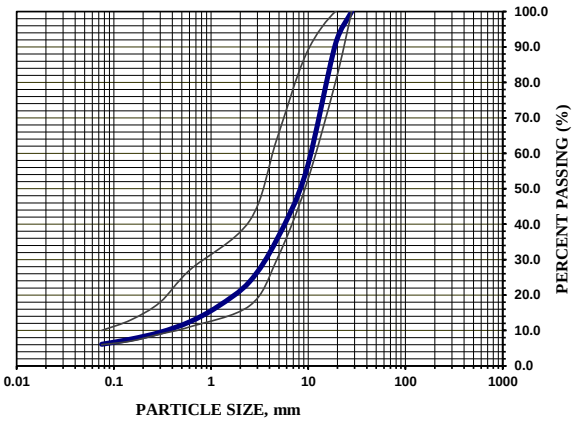
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	64.3%	Cu = 31	D_{85} = 17.0	D_{15} = 0.9
% sand	29.6%	Cc = 3	D_{60} = 10.5	D_{10} = 0.3
% silt/clay	6.1%		D_{50} = 8.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	FF-AMQ-089
		DATE:	2018-08-28

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+655 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-26 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	62	42	31	23	18	15	12	10.2
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

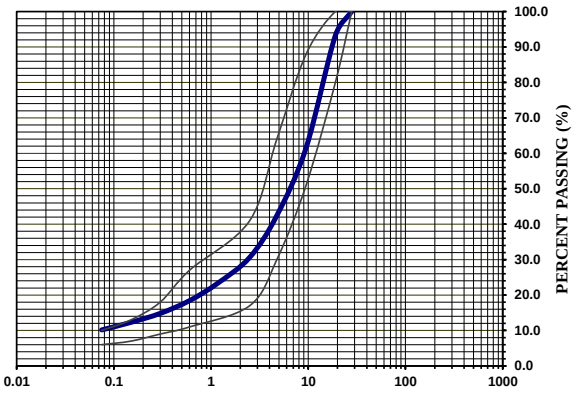
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.6%	Cu = 121	D_{85} = 15.9	D_{15} = 0.3
% sand	32.3%	Cc = 8	D_{60} = 9.0	D_{10} = 0.1
% silt/clay	10.2%		D_{50} = 6.2	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-090
		DATE:	2018-08-28

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+370 El.154.2m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-26 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	56	38	26	19	14	10	8	6.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

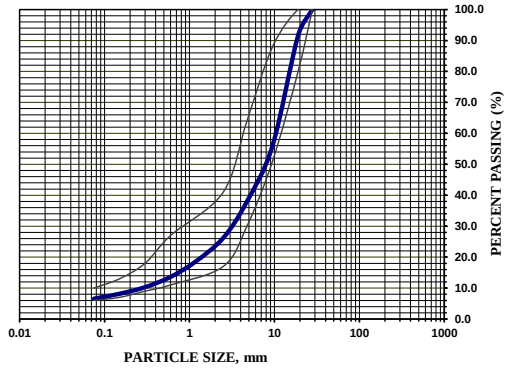
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	62.0%	Cu = 38	D_{85} = 16.7	D_{15} = 0.7
% sand	31.4%	Cc = 3	D_{60} = 10.3	D_{10} = 0.3
% silt/clay	6.6%		D_{50} = 7.5	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-091
		DATE:	2018-08-28

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+707 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-26 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	55	34	22	15	11	9	7	5.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

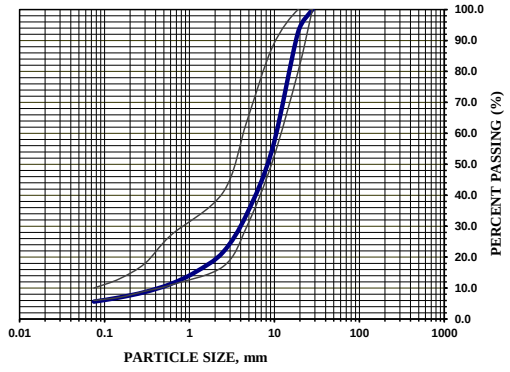
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	66.0%	Cu = 25	D_{85} = 16.5	D_{15} = 1.1
% sand	28.4%	Cc = 3	D_{60} = 10.4	D_{10} = 0.4
% silt/clay	5.6%		D_{50} = 8.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N^{o}:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N^{o}:**	11130315-B1
		Sample N^{o}:	FF-AMQ-092
		DATE:	2018-09-01

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+ 339 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-08-30 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	57	39	27	20	15	12	10	8.0
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

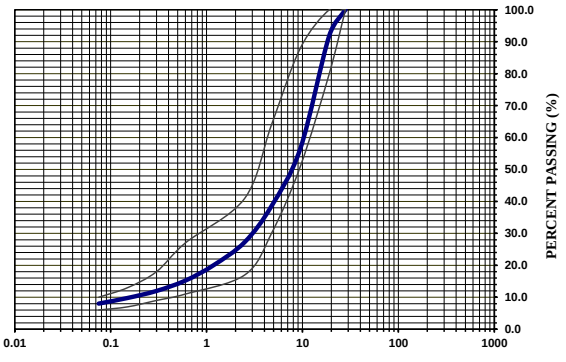
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.92%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	61.4%	Cu = 63	D_{85} = 16.6	D_{15} = 0.6
% sand	30.5%	Cc = 5	D_{60} = 10.2	D_{10} = 0.2
% silt/clay	8.0%		D_{50} = 7.4	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
		PROJECT N°:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N°:**	FF-AMQ-093
		DATE:	2018-09-01

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+225 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fortin-Tremblay
	zone 1	**Sampling Date:**	2018-08-30 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	62	42	30	21	16	12	10	7.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

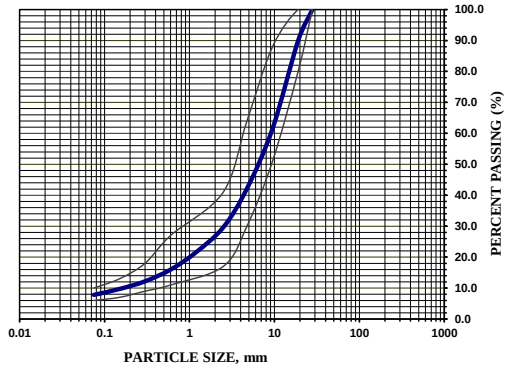
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	4.11%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	57.8%	Cu = 55	D_{85} = 16.9	D_{15} = 0.5
% sand	34.4%	Cc = 4	D_{60} = 9.0	D_{10} = 0.2
% silt/clay	7.8%		D_{50} = 6.3	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-094
		DATE:	2018-09-01

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+130 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-08-31 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	83	62	45	30	22	16	12	10	7.6
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

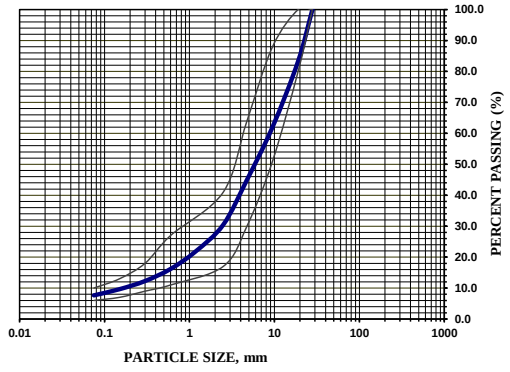
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	0.95%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	55.0%	Cu = 53	D_{85} = 19.8	D_{15} = 0.5
% sand	37.3%	Cc = 4	D_{60} = 8.7	D_{10} = 0.2
% silt/clay	7.6%		D_{50} = 5.8	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-095
		DATE:	2018-09-01

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+100 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-09-01 Day shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	89	55	35	25	18	14	11	9	7.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

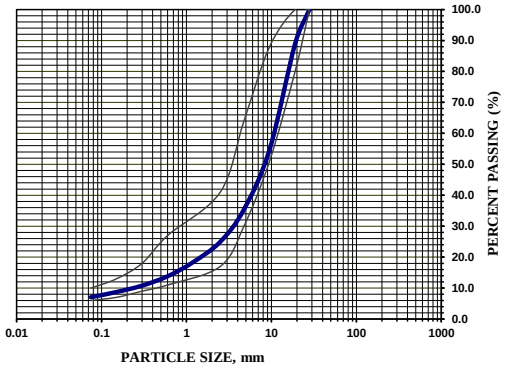
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.62%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	64.6%	Cu = 46	D_{85} = 17.5	D_{15} = 0.7
% sand	28.3%	Cc = 5	D_{60} = 10.6	D_{10} = 0.2
% silt/clay	7.1%		D_{50} = 8.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
		PROJECT N°:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N°:**	FF-AMQ-096
		DATE:	2018-09-05

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+495 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-09-01 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	86	53	36	25	18	13	10	8	6.8
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

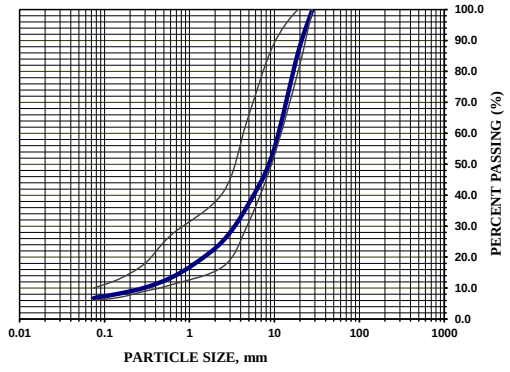
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.77%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	63.7%	Cu = 39	D_{85} = 18.5	D_{15} = 0.8
% sand	29.5%	Cc = 3	D_{60} = 10.9	D_{10} = 0.3
% silt/clay	6.8%		D_{50} = 8.3	

Remarks:

Prepared by: Daniel Roy

Verified by: Melina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-097
		DATE:	2018-09-05

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+565 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-09-03 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	55	37	26	19	14	10	8	6.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

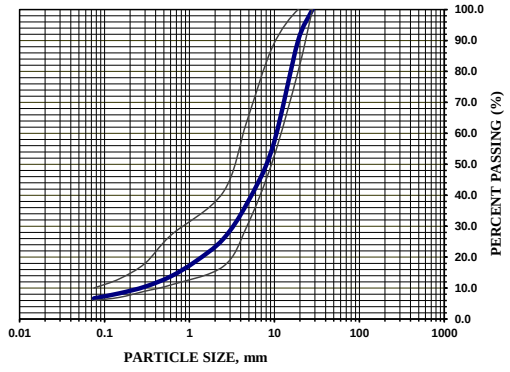
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.53%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	62.7%	Cu = 40	D_{85} = 17.2	D_{15} = 0.7
% sand	30.6%	Cc = 4	D_{60} = 10.4	D_{10} = 0.3
% silt/clay	6.7%		D_{50} = 7.7	

Remarks:

Prepared by: Daniel Roy

Verified by: Melina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-098
		DATE:	2018-09-05

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+340 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-09-03 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	67	47	34	25	18	13	10	8.0
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

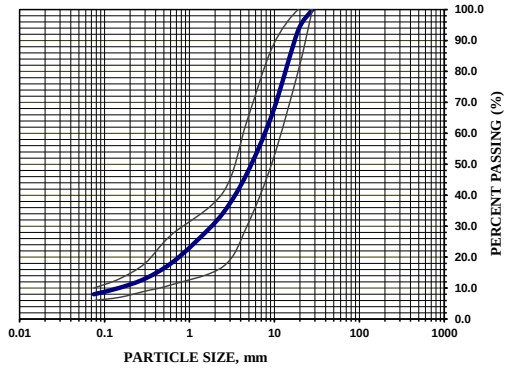
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.51%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	53.0%	Cu = 52	D_{85} = 15.3	D_{15} = 0.4
% sand	39.0%	Cc = 3	D_{60} = 7.5	D_{10} = 0.1
% silt/clay	8.0%		D_{50} = 5.3	

Remarks:

Prepared by: Daniel Roy

Verified by: Melina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-099
		DATE:	2018-09-05

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+570 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Daniel Roy
	zone 1	**Sampling Date:**	2018-09-04 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	85	50	32	23	17	13	10	8	6.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

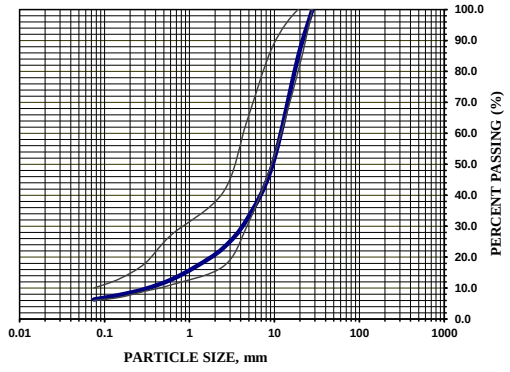
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	2.41%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	67.8%	Cu = 36	D_{85} = 19.1	D_{15} = 0.9
% sand	25.9%	Cc = 4	D_{60} = 11.6	D_{10} = 0.3
% silt/clay	6.3%		D_{50} = 9.5	

Remarks:

Prepared by: Daniel Roy

Verified by: Melina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-100
		DATE:	2018-09-08

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+665 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Daniel Roy
	zone 1	**Sampling Date:**	2018-09-05 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	91	59	40	27	18	13	10	8	6.4
Individual Results																	
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

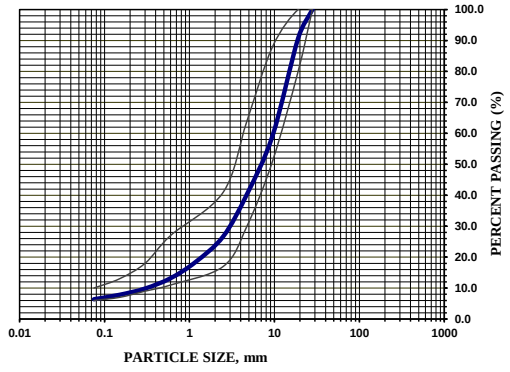
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.66%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	59.7%	Cu = 31	D_{85} = 16.8	D_{15} = 0.8
% sand	33.9%	Cc = 3	D_{60} = 9.7	D_{10} = 0.3
% silt/clay	6.4%		D_{50} = 6.8	

Remarks:

Prepared by: Amadou Oury Diallo

Verified by: Melina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N^{o}:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N^{o}:**	11130315-B1
		Sample N^{o}:	FF-AMQ-101
		DATE:	2018-09-07

Description of Material:	Fine Filter	**Location of Sampling:**	Key Trench WTD St.0+ 765 El.157m
Origin:	Sana Crusher Amaruq		
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cedrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-09-06 Night shift

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	57	39	28	21	15	12	9	7.7
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

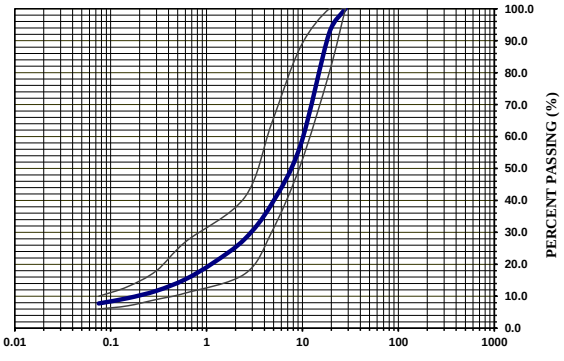
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.60%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	61.2%	Cu = 56	D_{85} = 16.4	D_{15} = 0.6
% sand	31.1%	Cc = 4	D_{60} = 10.0	D_{10} = 0.2
% silt/clay	7.7%		D_{50} = 7.2	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-102
		DATE:	2018-11-27

Description of Material:	Fine Filter	**Location of Sampling:**	Crusher Sana WRSF
Origin:	Sana Crusher Amaruq		
Proposed Use:	Amaruq Dike	**Sampled by:**	D.F
		Sampling Date:	2018-11-24

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	57	37	26	19	15	12	10	8.1
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

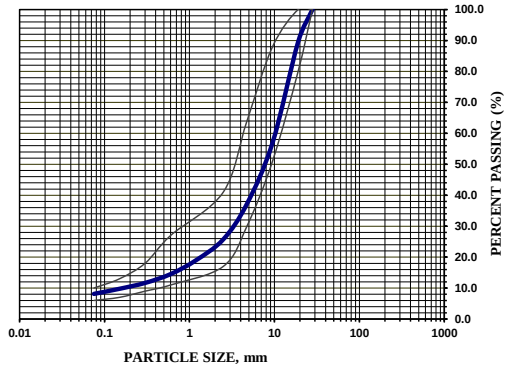
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	2.57%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	62.8%	Cu = 62	D_{85} = 17.3	D_{15} = 0.6
% sand	29.1%	Cc = 6	D_{60} = 10.1	D_{10} = 0.2
% silt/clay	8.1%		D_{50} = 7.4	

Remarks:

Prepared by: Amadou Oury Diallo

Verified by: Cédrick Fillon Tremblay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-103
		DATE:	2018-11-27

Description of Material:	Fine Filter	**Location of Sampling:**	Crusher Sana WRSF
Origin:	Sana Crusher Amaruq		
Proposed Use:	Amaruq Dike	**Sampled by:**	D.F
		Sampling Date:	2018-11-24

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	86	53	32	21	14	11	8	7	5.3
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

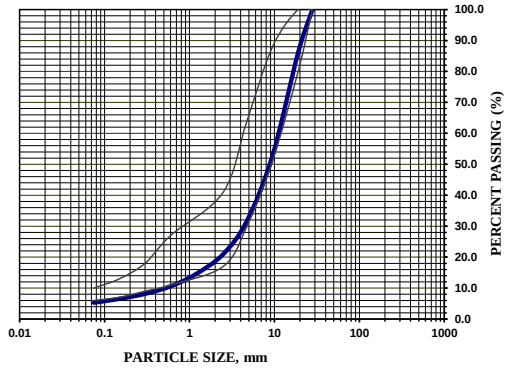
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	6.02%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	68.3%	Cu = 22	D_{85} = 18.6	D_{15} = 1.3
% sand	26.5%	Cc = 3	D_{60} = 11.0	D_{10} = 0.5
% silt/clay	5.3%		D_{50} = 8.7	

Remarks:

Prepared by: Amadou Oury Diallo

Verified by: Cédrick Fillon Tremblay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N°:**	11130315-B1
		Sample N°:	FF-AMQ-104
		DATE:	2018-12-02

Description of Material:	Fine Filter	**Location of Sampling:**	Crusher Sana WRSF
Origin:	Sana Crusher Amaruq		
Proposed Use:	Amaruq Dikes	**Sampled by:**	M.G.
		Sampling Date:	2018-12-01

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	x mm	x mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	90	61	41	28	19	13	10	8	6.4
Individual	Results																
Require-ments	min.							100		51	30	17		11	9	7	6.0
	max.							100		88	64	41		27	18	13	10.0

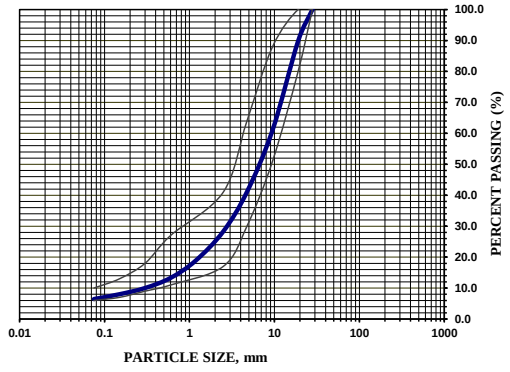
Other tests	Results	Requirements min.	Requirements max.
Moisture countain	1.64%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	58.9%	Cu = 31	D_{85} = 16.9	D_{15} = 0.7
% sand	34.6%	Cc = 3	D_{60} = 9.2	D_{10} = 0.3
% silt/clay	6.4%		D_{50} = 6.5	

Remarks: Sana Crusher broke down at this time, Sample in the stockpile

Prepared by: Amadou Oury Diallo

Verified by: Cédrick Fillon Tremblay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	CF-AMQ-002
		DATE:	

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (key trench)
Origin:	Sana Crusher Amaruq		Station : 0+220 / El : 153m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Melina Guay
	zone 1	**Sampling Date:**	2018-08-05

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	84	67	52	44	34	27	21	17	13	10	8	6.4
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

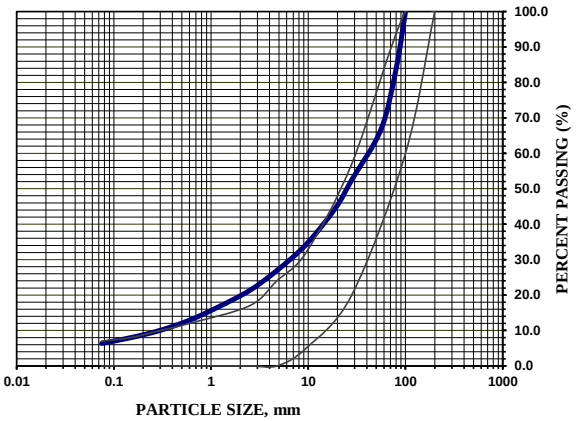
Other tests	Results	Requirements min.	Requirements max.
Water content	2.63%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	73.1%	Cu = 136	D_{85} = 81.4	D_{15} = 0.9
% sand	20.5%	Cc = 3	D_{60} = 40.4	D_{10} = 0.3
% silt/clay	6.4%		D_{50} = 24.8	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	CF-AMQ-003
		DATE:	

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (south side key trench)
Origin:	Sana Crusher Amaruq		Station : 0+225 / El : 153m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-08

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	67	62	57	41	35	26	21	17	14	11	9	7	5.7
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

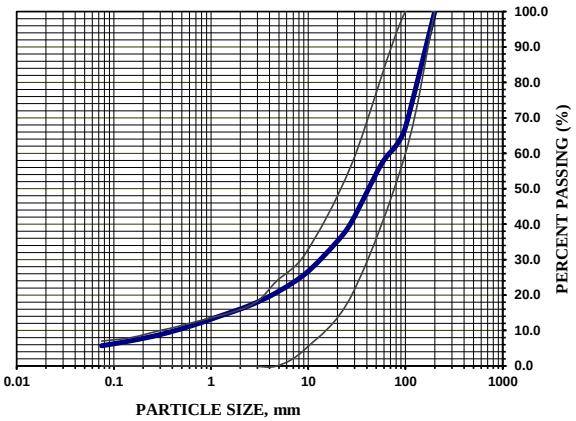
Other tests	Results	Requirements min.	Requirements max.
Water content	2.63%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	79.2%	Cu = 164	D_{85} = #DIV/0!	D_{15} = 1.5
% sand	15.1%	Cc = 6	D_{60} = 69.3	D_{10} = 0.4
% silt/clay	5.7%		D_{50} = 41.8	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	CF-AMQ-004
		DATE:	2018-08-11

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+295 / El : 153m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-08

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	83	64	44	30	23	16	12	9	7	5	4	4	3.0
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

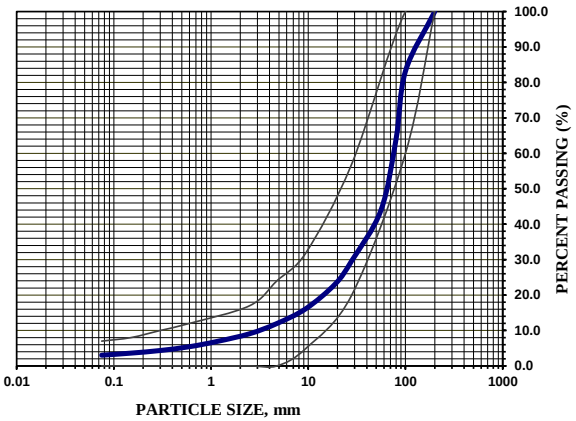
Other tests	Results	Requirements min.	Requirements max.
Water content	1.20%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	88.0%	Cu = 24	D_{85} = #DIV/0!	D_{15} = 7.8
% sand	8.9%	Cc = 4	D_{60} = 74.5	D_{10} = 3.1
% silt/clay	3.0%		D_{50} = 62.3	

Remarks:

Prepared by: Cédrick Fillon Tremblay

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-005
		DATE:	2018-08-11

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (South side key trench)
Origin:			Station : 0+345 / El : 153m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-09

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	88	68	45	29	24	17	13	11	9	7	5	4	3.6
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

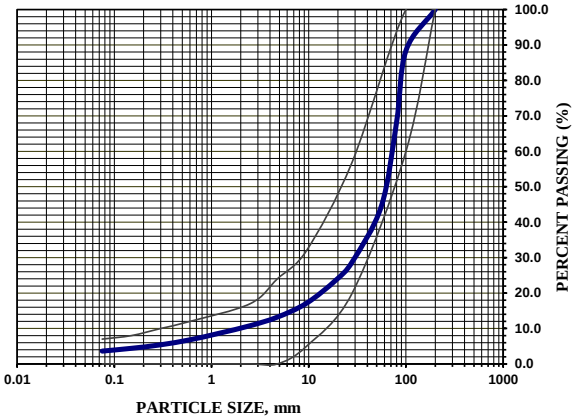
Other tests	Results	Requirements min.	Requirements max.
Water content	2.17%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	86.8%	Cu = 37	D_{85} = 96.3	D_{15} = 6.5
% sand	9.6%	Cc = 6	D_{60} = 70.7	D_{10} = 1.9
% silt/clay	3.6%		D_{50} = 60.8	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	CF-AMQ-006
		DATE:	2018-08-14

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+370 / El : 153m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-12 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	67	58	42	27	22	17	12	10	8	6	5	4	3.1
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

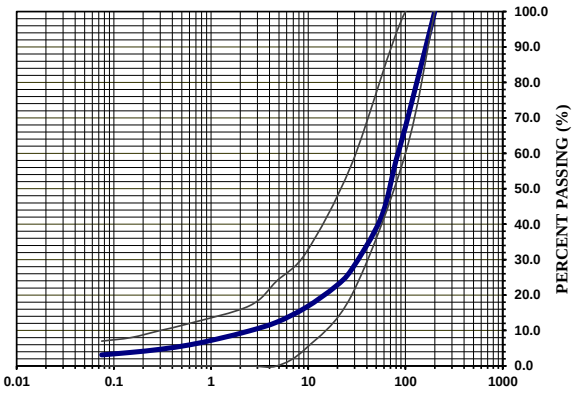
Other tests	Results	Requirements min.	Requirements max.
Water content	2.27%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	87.6%	Cu = 33	D_{85} = #DIV/0!	D_{15} = 7.4
% sand	9.2%	Cc = 5	D_{60} = 83.8	D_{10} = 2.6
% silt/clay	3.1%		D_{50} = 67.0	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-007
		DATE:	2018-08-15

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (South side key trench)
Origin:			Station : 0+185 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon Tremblay
	zone 1	**Sampling Date:**	2018-08-12 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	62	50	40	28	23	17	13	11	9	7	5	4	3.5
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

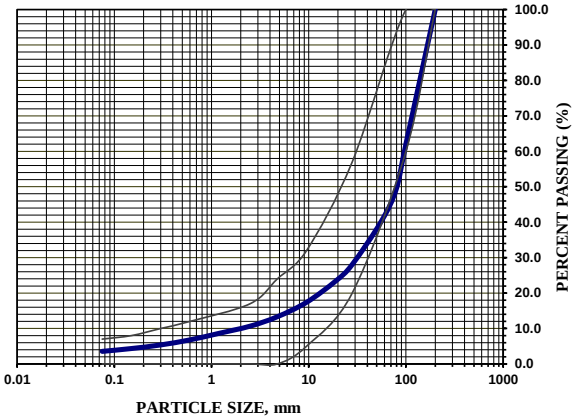
Other tests	Results	Requirements min.	Requirements max.
Water content	1.82%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	86.7%	Cu = 49	D_{85} = #DIV/0!	D_{15} = 6.3
% sand	9.8%	Cc = 5	D_{60} = 96.3	D_{10} = 2.0
% silt/clay	3.5%		D_{50} = 80.6	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-008
		DATE:	2018-08-15

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (South side key trench)
Origin:			Station : 0+116 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-14 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	83	67	57	41	35	26	20	16	13	10	8	7	5.5
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

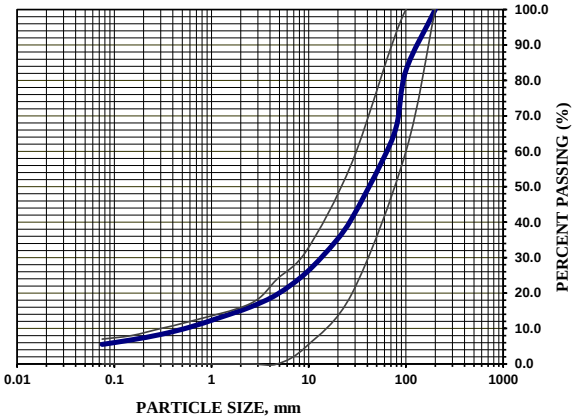
Other tests	Results	Requirements min.	Requirements max.
Water content	2.82%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	80.3%	Cu = 118	D_{85} = #DIV/0!	D_{15} = 1.9
% sand	14.2%	Cc = 5	D_{60} = 62.4	D_{10} = 0.5
% silt/clay	5.5%		D_{50} = 41.3	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-009
		DATE:	2018-08-17

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (South side key trench)
Origin:			Station : 0+130 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-16 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	83	72	61	45	38	29	23	18	15	12	10	8	6.5
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

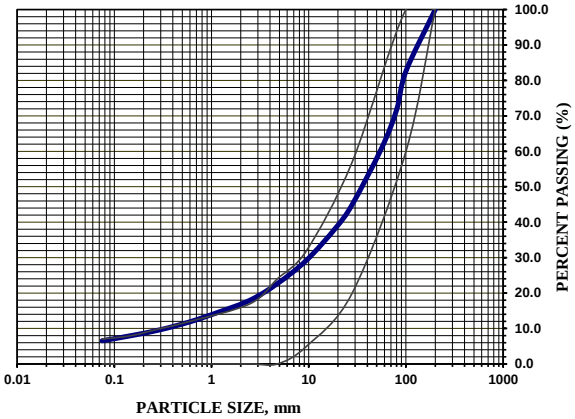
Other tests	Results	Requirements min.	Requirements max.
Water content	2.60%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	77.3%	Cu = 163	D_{85} = #DIV/0!	D_{15} = 1.3
% sand	16.1%	Cc = 6	D_{60} = 54.1	D_{10} = 0.3
% silt/clay	6.5%		D_{50} = 34.9	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-010
		DATE:	2018-08-18

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (South side key trench)
Origin:			Station : 0+746 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-17 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	78	63	53	35	28	20	16	13	10	8	7	6	4.5
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

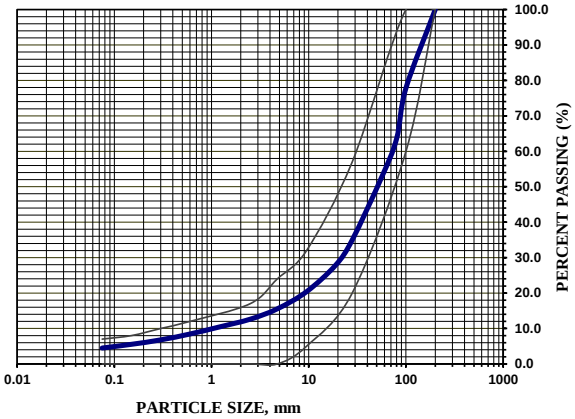
Other tests	Results	Requirements min.	Requirements max.
Water content	1.56%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	84.4%	Cu = 69	D_{85} = #DIV/0!	D_{15} = 4.2
% sand	11.1%	Cc = 6	D_{60} = 71.4	D_{10} = 1.0
% silt/clay	4.5%		D_{50} = 50.6	

Remarks:

Prepared by: Daniel Roy

Verified by: Denis-Jacques Coulombe

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	CF-AMQ-011
		DATE:	2018-08-19

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+260 / El : 155m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-18 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	88	71	56	42	36	27	19	16	13	11	9	8	6.2
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

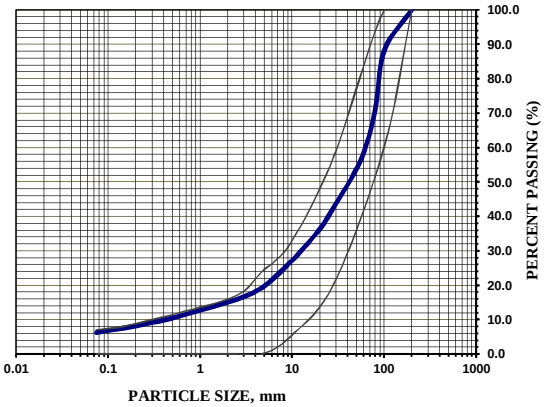
Other tests	Results	Requirements min.	Requirements max.
Water content	3.65%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	80.7%	Cu = 145	D_{85} = 96.0	D_{15} = 1.9
% sand	13.1%	Cc = 6	D_{60} = 61.1	D_{10} = 0.4
% silt/clay	6.2%		D_{50} = 40.8	

Remarks:

Prepared by: Daniel Roy

Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample Nº:**	CF-AMQ-012
		DATE:	2018-08-22

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+577 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Denis-Jacques Coulombe
	zone 1	**Sampling Date:**	2018-08-20 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	68	63	55	37	28	19	13	10	8	7	5	4	3.5
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

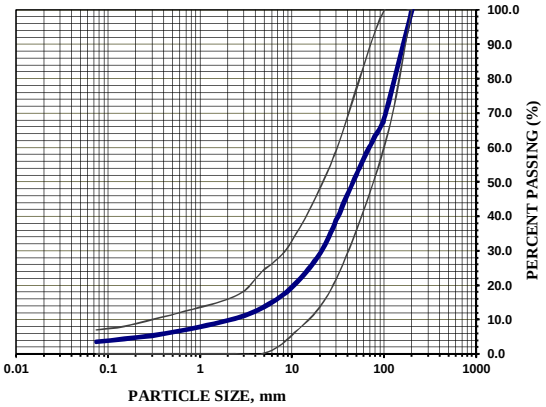
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	86.6%	Cu = 32	D_{85} = #DIV/0!	D_{15} = 5.8
% sand	9.9%	Cc = 3	D_{60} = 69.3	D_{10} = 2.2
% silt/clay	3.5%		D_{50} = 46.2	

Remarks:

Prepared by: Daniel Roy

Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11130315-B1
PROJECT:	Whale tail Dike, Amaruq	**Sample N⁰:**	CF-AMQ-013
		DATE:	2018-08-23

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+520 / El : 155m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-22 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	59	55	46	31	24	17	13	10	8	7	5	4	3.7
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

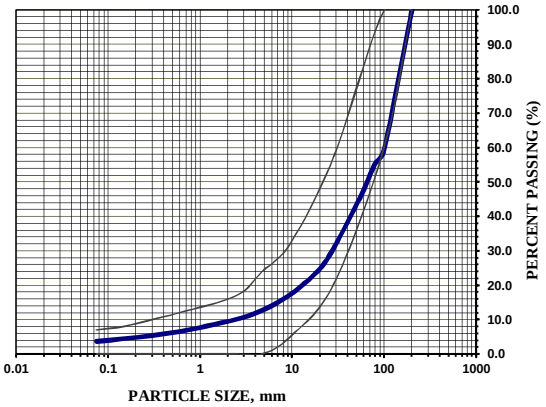
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	87.3%	Cu = #DIV/0!	D_{85} = #DIV/0!	D_{15} = 6.8
% sand	9.0%	Cc = #DIV/0!	D_{60} = #DIV/0!	D_{10} = 2.4
% silt/clay	3.7%		D_{50} = 65.3	

Remarks:

Prepared by: Marc-Olivier Bernard Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-014
		DATE:	2018-08-26

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+692 / El : 153.5m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-24 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative	Results			100	75	69	53	29	21	15	11	9	7	6	4	4	2.8
Individual	Results																
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

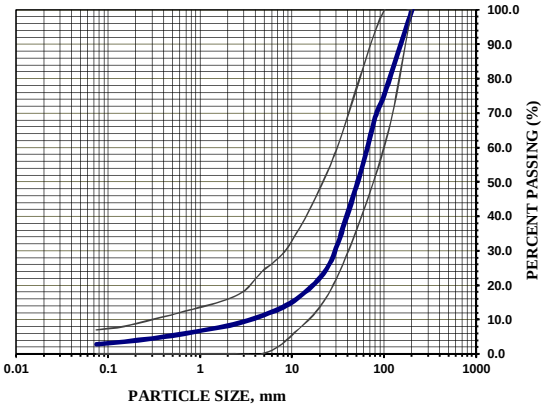
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter (SNC): Amaruq

Sieve Analysis Graph



% gravel	88.9%	Cu = 19	D_{85} = #DIV/0!	D_{15} = 9.8
% sand	8.3%	Cc = 4	D_{60} = 65.6	D_{10} = 3.5
% silt/clay	2.8%		D_{50} = 51.4	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: DJC

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-015
		DATE:	2018-08-28

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+780 / El : 157m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Maxime Côté
	zone 1	**Sampling Date:**	2018-08-26 (D)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	85	80	66	49	40	26	17	11	8	6	4	3	2.9
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

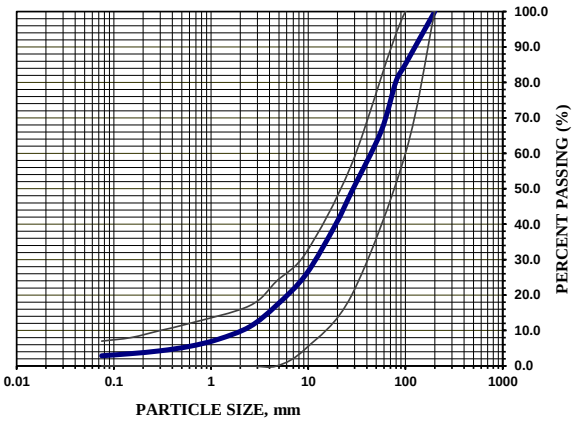
Other tests	Results	Requirements min.	Requirements max.

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	82.8%	Cu = 22	D_{85} = 99.2	D_{15} = 3.8
% sand	14.3%	Cc = 2	D_{60} = 43.5	D_{10} = 2.0
% silt/clay	2.9%		D_{50} = 28.9	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample Nº:	CF-AMQ-016
		DATE:	2018-08-28

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+685 / El : 157m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-08-27 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	74	53	45	26	21	15	11	8	6	4	3	3	2.3
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

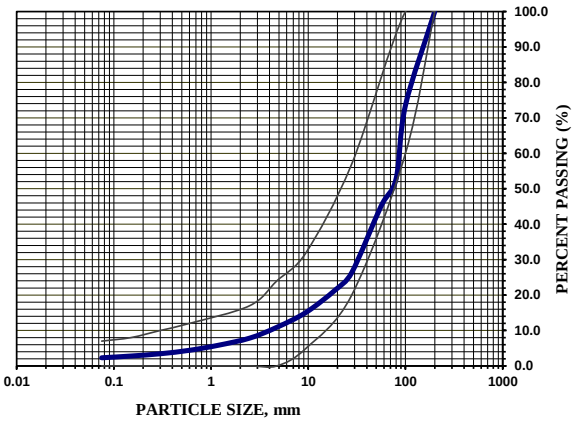
Other tests	Results	Requirements min.	Requirements max.
Moisture contain	1.04%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	89.1%	Cu = 22	D_{85} = #DIV/0!	D_{15} = 9.3
% sand	8.6%	Cc = 3	D_{60} = 86.5	D_{10} = 3.9
% silt/clay	2.3%		D_{50} = 70.4	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Whale tail Dike, Amaruq	**PROJECT N⁰:**	11130315-B1
		Sample N⁰:	CF-AMQ-017
		DATE:	2018-09-01

Description of Material:	Coarse Filter	**Location of Sampling:**	In place (North side key trench)
Origin:			Station : 0+353 / El : 155m
Proposed Use:	Whale Tail Dike	**Sampled by:**	Cédrick Fillon-Tremblay
	zone 1	**Sampling Date:**	2018-08-30 (N)

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				200 mm	100 mm	80 mm	56 mm	28 mm	19 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm
Cumulative Results				100	67	60	48	32	26	19	15	11	9	7	6	5	3.7
Individual Results																	
Require-ments	min.			100	60			20		5	0	0		0	0	0	0.0
	max.			100	100			57		32	24	17		12	10	8	7.0

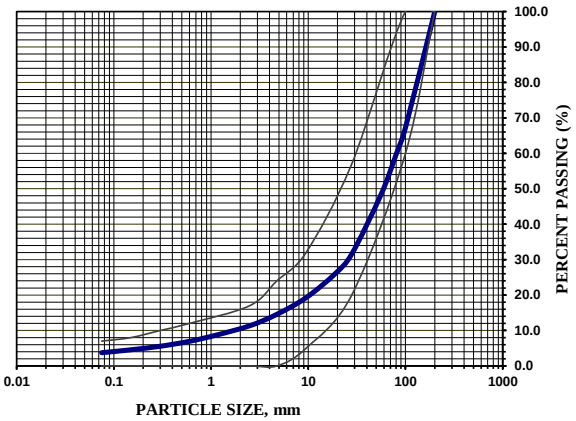
Other tests	Results	Requirements min.	Requirements max.
Moisture contain	1.73%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter (SNC): Amaruq**

Sieve Analysis Graph



% gravel	85.4%	Cu = 48	D_{85} = #DIV/0!	D_{15} = 5.1
% sand	10.8%	Cc = 5	D_{60} = 80.9	D_{10} = 1.7
% silt/clay	3.7%		D_{50} = 59.0	

Remarks:

Prepared by: Marc-Olivier Bernard

Verified by: Mélina Guay

Appendix F

Quality Control Secant Piles Compilation

PILE NUMBER	PILE TYPE	STATION	ANCHORING DATE	Verification date	POURING DATE	CB Topping (vertical m)	Top elevation S.P casing(m)	BEDROCK measurement (Top casing to bottom socket)	Rock socket bottom elevation (m)	Depth of encountered bedrock (as per HD) (m)	Elevation of encountered Bedrock (m)	Elevation of theoretical bedrock from surveyor (m)	Depth of rock socket (m)	Ground elevation (m)	Max. Deviation (%)	Offset (mm)
1	Primary	0+088.75	2018-09-30	2018-09-30	2018-10-01		160.357	6.19	154.167			155.390	*1.223*	157.810	0.202	66
2	Tertiary	0+089.55	2018-10-05	2018-10-05	2018-10-06		159.247	5.49	153.757			155.380	*1.623*	157.774	0.303	41
3	Secondary	0+090.35	2018-10-03	2018-10-03	2018-10-03		160.368	6.31	154.058			155.160	*1.102*	157.850	0.303	43
4	Tertiary	0+091.15	2018-10-06	2018-10-07	2018-10-07		158.617	4.91	153.707			154.910	*1.203*	157.732	-0.605	24
5	Primary	0+091.95	2018-09-30	2018-09-30	2018-10-01		159.713	6.19	153.523			154.650	*1.127*	157.753	0.301	40
6	Tertiary	0+092.75	2018-10-04	2018-10-04	2018-10-05		159.395	6.09	153.305			154.590	*1.285*	157.614	-0.101	66
7	Secondary	0+093.55	2018-10-06	2018-10-07	2018-10-07		159.403	6.27	153.133			154.570	*1.437*	157.418	1.510	10
8	Tertiary	0+094.35	2018-10-01	2018-10-01	2018-10-02		159.661	6.31	153.351			154.470	*1.119*	157.200	-0.302	57
9	Primary	0+095.15	2018-09-06	2018-09-08	2018-09-17		158.440	5.15	153.290			154.320	*1.030*	157.162	0.100	50
10	Tertiary	0+095.95	2018-10-05	2018-10-05	2018-10-06		157.961	4.88	153.081			154.200	*1.119*	157.248	-0.403	27
11	Secondary	0+096.75	2018-09-19	2018-09-19	2018-09-25		158.822	5.60	153.222			154.170	*0.948*	157.167	-0.301	44
12	Tertiary	0+097.55	2018-10-02	2018-10-02	2018-10-02		158.985	6.06	152.925			154.030	*1.105*	157.095	-0.403	15
13	Primary	0+098.35	2018-09-06	2018-09-08	2018-09-17		157.987	5.08	152.907			153.860	*0.953*	157.126	-0.404	25
14	Tertiary	0+099.15	2018-10-05	2018-10-05	2018-10-06		158.485	6.05	152.435			153.700	*1.265*	157.263	0.303	36
15	Secondary	0+099.95	2018-09-19	2018-09-19	2018-09-25		158.547	5.84	152.707			153.700	*0.993*	157.152	0.402	18
16	Tertiary	0+100.75	2018-10-02	2018-10-02	2018-10-02		158.795	6.10	152.695			153.770	*1.075*	157.145	0.404	31
17	Primary	0+101.55	2018-07-09	2018-08-09	2018-09-17		158.058	5.22	152.838			153.850	*1.012*	157.111	0.302	13
18	Tertiary	0+102.35	2018-10-04	2018-10-04	2018-10-05		158.970	6.18	152.790			153.970	*1.180*	157.305	0.301	18
19	Secondary	0+103.15	2018-09-19	2018-09-25	2018-09-25		159.198	6.13	153.068			154.070	*1.002*	157.150	0.201	27
20	Tertiary	0+103.95	2018-09-30	2018-10-01	2018-10-01		158.883	6.13	152.753			154.110	*1.357*	157.114	-0.404	53
21	Primary	0+104.75	2018-07-09	2018-08-09	2018-09-17		157.967	5.59	152.377			154.050	*1.673*	157.056	0.000	29
22	Tertiary	0+105.55	2018-10-02	2018-10-03	2018-10-03		158.102	5.76	152.342			153.970	*1.628*	157.207	0.403	26
23	Secondary	0+106.35	2018-09-24	2018-09-25	2018-09-26		158.807	6.22	152.587			153.880	*1.293*	157.143	0.301	56
24	Tertiary	0+107.15	2018-09-30	2018-10-01	2018-10-01		158.943	6.41	152.533			153.810	*1.277*	157.171	0.403	39
25	Primary	0+107.95	2018-09-07	2018-09-08	2018-09-17		158.075	6.05	152.025			153.750	*1.725*	157.091	0.201	32
26	Tertiary	0+108.75	2018-10-02	2018-10-03	2018-10-03		158.513	5.93	152.583			153.750	*1.167*	157.228	0.704	6
27	Secondary	0+109.55	2018-09-25	2018-09-25	2018-09-26		158.795	6.16	152.635			153.670	*1.035*	157.143	0.100	32
28	Tertiary	0+110.35	2018-09-30	2018-10-01	2018-10-01		158.619	6.15	152.469			153.520	*1.051*	157.163	-0.301	42
29	Primary	0+111.15	2018-09-06	2018-09-08	2018-09-17		158.665	7.10	151.565			153.430	*1.865*	157.108	-0.200	24
30	Tertiary	0+111.95	2018-10-03	2018-10-03	2018-10-03		158.407	6.35	152.057			153.320	*1.263*	157.269	0.403	33
31	Secondary	0+112.75	2018-09-25	2018-09-25	2018-09-26		158.261	6.18	152.081			153.270	*1.189*	157.146	0.605	19
32	Tertiary	0+113.55	2018-09-30	2018-09-30	2018-10-01		158.358	6.28	152.078			153.270	*1.192*	157.164	-0.302	42
33	Primary	0+114.35	2018-09-06	2018-09-08	2018-09-17		158.300	6.95	151.350			153.190	*1.840*	157.000	-0.101	23
34	Tertiary	0+115.15	2018-10-03	2018-10-03	2018-10-03		158.798	6.87	151.928			153.050	*1.122*	157.156	0.601	18
35	Secondary	0+115.95	2018-09-25	2018-09-25	2018-09-26		158.064	5.94	152.124			153.040	*0.916*	157.117	-0.101	16

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36	Tertiary	0+116.75	2018-10-01	2018-10-01	2018-10-02		158.137	6.35	151.787			153.040	*1.253*	157.152	-0.605	20
37	Primary	0+117.55	2018-09-06	2018-09-08	2018-09-17		158.046	6.80	151.246			153.060	*1.814*	157.086	-0.401	34
38	Tertiary	0+118.35	2018-10-03	2018-10-03	2018-10-03		157.959	6.06	151.899			153.080	*1.181*	157.163	0.507	28
39	Secondary	0+119.15	2018-09-25	2018-09-26	2018-09-26		158.077	6.95	151.127			152.960	*1.833*	157.117	-0.101	19
40	Tertiary	0+119.95	2018-10-01	2018-10-01	2018-10-01		157.910	6.06	151.850			152.900	*1.050*	157.116	-0.101	41
41	Primary	0+120.75	2018-09-06	2018-09-08	2018-09-16		157.955	6.77	151.185			152.870	*1.685*	157.000	-0.201	7
42	Tertiary	0+121.55	2018-10-03	2018-10-04	2018-10-04		158.249	6.66	151.589			152.850	*1.261*	157.181	0.301	28
43	Secondary	0+122.35	2018-09-25	2018-09-26	2018-09-26		157.887	6.08	151.807			152.800	*0.993*	157.043	0.101	14
44	Tertiary	0+123.15	2018-10-01	2018-10-01	2018-10-02		157.761	6.12	151.641			152.750	*1.109*	157.018	-0.602	32
45	Primary	0+123.95	2018-09-06	2018-09-08	2018-09-16		158.807	7.46	151.347			152.620	*1.273*	156.910	0.302	30
46	Tertiary	0+124.75	2018-10-03	2018-10-03	2018-10-03		159.190	8.29	150.900			152.350	*1.450*	157.178	0.405	48
47	Secondary	0+125.55	2018-09-25	2018-09-26	2018-09-26		158.275	7.24	151.035			152.280	*1.245*	156.979	0.302	10
48	Tertiary	0+126.35	2018-10-01	2018-10-01	2018-10-01		159.437	8.46	150.977			152.280	*1.303*	157.084	0.300	17
49	Primary	0+127.15	2018-09-06	2018-09-08	2018-09-16		158.553	7.23	151.323			152.410	*1.087*	156.989	-0.101	14
50	Tertiary	0+127.95	2018-10-03	2018-10-04	2018-10-04		158.317	7.17	151.147			152.420	*1.273*	157.129	0.201	5
51	Secondary	0+128.75	2018-09-25	2018-09-26	2018-09-26		159.022	7.60	151.422			152.400	*0.978*	157.041	-0.403	15
52	Tertiary	0+129.55	2018-10-01	2018-10-01	2018-10-01		158.195	6.83	151.365			152.400	*1.035*	157.038	0.201	28
53	Primary	0+130.35	2018-09-06	2018-09-08	2018-09-16		158.397	7.29	151.107			152.350	*1.243*	157.050	0.503	11
54	Tertiary	0+131.15	2018-10-03	2018-10-03	2018-10-03		158.941	8.00	150.941			152.210	*1.269*	157.156	-0.302	32
55	Secondary	0+131.95	2018-09-25	2018-09-26	2018-09-26		158.685	7.90	150.785			152.110	*1.325*	157.033	0.607	30
56	Tertiary	0+132.75	2018-10-01	2018-10-01	2018-10-01		157.905	7.13	150.775			152.030	*1.255*	157.110	-0.603	32
57	Primary	0+133.55	2018-09-06	2018-09-08	2018-09-16		158.010	7.18	150.830			152.000	*1.170*	156.973	-0.101	6
58	Tertiary	0+134.35	2018-10-03	2018-10-03	2018-10-03		158.933	8.16	150.773			152.050	*1.277*	157.132	-0.401	37
59	Secondary	0+135.15	2018-09-25	2018-09-26	2018-09-26		158.941	7.80	151.141			152.150	*1.009*	157.001	-0.496	26
60	Tertiary	0+135.95	2018-10-02	2018-10-02	2018-10-02		159.165	8.15	151.015			152.160	*1.145*	156.952	-0.606	11
61	Primary	0+136.75	2018-09-06	2018-09-08	2018-09-16		158.280	7.23	151.050			152.160	*1.110*	156.957	-0.302	12
62	Tertiary	0+137.55	2018-10-04	2018-10-04	2018-10-04		159.023	7.92	151.103			152.130	*1.027*	157.075	0.402	12
63	Secondary	0+138.35	2018-09-25	2018-09-26	2018-09-26		158.637	7.66	150.977			152.070	*1.093*	156.994	-0.101	22
64	Tertiary	0+139.15	2018-10-02	2018-10-02	2018-10-02		157.962	7.10	150.862			152.010	*1.148*	157.065	0.402	15
65	Primary	0+139.95	2018-09-06	2018-09-08	2018-09-16		158.062	7.00	151.062			151.950	*0.888*	156.921	-0.604	25
66	Tertiary	0+140.75	2018-10-04	2018-10-04	2018-10-04		158.458	7.61	150.848			151.910	*1.062*	157.122	-0.201	43
67	Secondary	0+141.55	2018-09-26	2018-09-26	2018-09-26		159.735	8.78	150.955			151.910	*0.955*	156.966	0.406	14
68	Tertiary	0+142.35	2018-10-02	2018-10-02	2018-10-02		158.805	7.90	150.905			152.020	*1.115*	157.035	0.502	23
69	Primary	0+143.15	2018-09-17	2018-09-17	2018-09-18		158.013	7.08	150.933			151.980	*1.047*	156.976	0.602	19
70	Tertiary	0+143.95	2018-10-04	2018-10-04	2018-10-04		159.502	8.80	150.702			151.980	*1.278*	157.166	0.302	32

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71	Secondary	0+144.75	2018-09-26	2018-09-26	2018-09-26		159.945	8.88	151.065			152.040	*0.975*	156.985	-0.203	10
72	Tertiary	0+145.55	2018-10-02	2018-10-02	2018-10-02		158.094	7.19	150.904			152.130	*1.226*	157.130	0.402	32
73	Primary	0+146.35	2018-09-17	2018-09-17	2018-09-18		158.119	7.22	150.899			152.130	*1.231*	156.961	0.301	16
74	Tertiary	0+147.15	2018-10-04	2018-10-04	2018-10-04		157.931	6.91	151.021			152.160	*1.139*	157.215	-0.704	33
75	Secondary	0+147.95	2018-09-26	2018-09-26	2018-09-26		159.133	7.89	151.243			152.170	*0.927*	157.105	-0.101	16
76	Tertiary	0+148.75	2018-10-02	2018-10-02	2018-10-01		158.097	6.92	151.177			152.190	*1.013*	157.195	-0.301	38
77	Primary	0+149.55	2018-09-17	2018-09-17	2018-09-18		158.142	6.87	151.272			152.190	*0.918*	157.037	0.201	13
78	Tertiary	0+150.35	2018-10-04	2018-10-04	2018-10-05		157.993	7.03	150.963			152.180	*1.217*	157.289	-0.201	28
79	Secondary	0+151.15	2018-09-26	2018-09-26	2018-09-26		158.064	7.00	151.064			152.060	*0.996*	157.135	-0.201	25
80	Tertiary	0+151.95	2018-10-02	2018-10-02	2018-10-02		158.048	7.20	150.848			151.980	*1.132*	157.185	0.603	44
81	Primary	0+152.75	2018-09-17	2018-09-17	2018-09-18		157.853	6.86	150.993			151.960	*0.967*	157.057	-0.301	24
82	Tertiary	0+153.55	2018-10-04	2018-10-04	2018-10-04		159.437	8.79	150.647			151.890	*1.243*	157.251	0.504	19
83	Secondary	0+154.35	2018-09-26	2018-09-26	2018-09-26		158.912	8.10	150.812			151.830	*1.018*	157.133	0.302	55
84	Tertiary	0+155.15	2018-10-02	2018-10-02	2018-10-02		158.827	7.95	150.877			151.830	*0.953*	157.140	0.302	11
85	Primary	0+155.95	2018-09-17	2018-09-17	2018-09-18		157.730	7.10	150.630			151.830	*1.200*	157.066	0.101	48
86	Tertiary	0+156.75	2018-10-04	2018-10-04	2018-10-04		157.878	7.12	150.758			151.910	*1.152*	157.280	-0.201	12
87	Secondary	0+157.55	2018-09-26	2018-09-26	2018-09-26		158.762	7.77	150.992			151.950	*0.958*	157.120	-0.201	5
88	Tertiary	0+158.35	2018-10-01	2018-10-01	2018-10-01		158.817	7.90	150.917			151.920	*1.003*	157.219	0.301	18
89	Primary	0+159.15	2018-09-17	2018-09-17	2018-09-18		158.016	7.11	150.906			151.920	*1.014*	157.086	0.301	16
90	Tertiary	0+159.95	2018-10-04	2018-10-04	2018-10-05		159.579	8.78	150.799			151.930	*1.131*	157.269	0.603	24
91	Secondary	0+160.75	2018-09-27	2018-09-26	2018-09-27		158.716	7.83	150.886			151.940	*1.054*	157.142	0.201	18
92	Tertiary	0+161.55	2018-10-01	2018-10-01	2018-10-01		158.637	7.92	150.717			151.900	*1.183*	157.231	0.301	37
93	Primary	0+162.35	2018-09-17	2018-09-17	2018-09-18		158.853	8.00	150.853			151.900	*1.047*	157.086	0.405	5
94	Tertiary	0+163.15	2018-10-04	2018-10-04	2018-10-05		157.974	7.24	150.734			151.940	*1.206*	157.318	0.302	52
95	Secondary	0+163.95	2018-09-27	2018-09-27	2018-09-27		159.028	8.26	150.768			151.930	*1.162*	157.168	0.201	6
96	Tertiary	0+164.75	2018-09-30	2018-09-30	2018-10-01		159.256	8.80	150.456			151.930	*1.474*	157.210	0.705	9
97	Primary	0+165.55	2018-09-17	2018-09-17	2018-09-18		158.874	8.40	150.474			151.970	*1.496*	157.104	0.201	18
98	Tertiary	0+166.35	2018-10-05	2018-10-05	2018-10-05		157.846	7.93	149.916			151.930	*2.014*	157.269	-0.605	27
99	Secondary	0+167.15	2018-09-27	2018-09-27	2018-09-27		159.001	8.97	150.031			151.930	*1.899*	157.108	0.502	22
100	Tertiary	0+167.95	2018-09-30	2018-09-30	2018-10-01		158.966	8.28	150.686			151.960	*1.274*	157.153	0.805	32
101	Primary	0+168.75	2018-09-17	2018-09-18	2018-09-24		158.532	7.88	150.652			151.950	*1.298*	157.030	-0.805	23
102	Tertiary	0+169.55	2018-10-05	2018-10-05	2018-10-06		158.487	7.93	150.557			151.940	*1.383*	157.321	0.504	5
103	Secondary	0+170.35	2018-09-27	2018-09-27	2018-09-27		158.156	7.48	150.676			151.700	*1.024*	157.095	0.302	5
104	Tertiary	0+171.15	2018-10-02	2018-10-02	2018-10-02		158.555	8.40	150.155			151.940	*1.785*	157.176	0.201	26
105	Primary	0+171.95	2018-09-17	2018-09-17	2018-09-24		159.285	8.47	150.815			151.980	*1.165*	157.094	0.302	5

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106	Tertiary	0+172.75	2018-10-05	2018-10-06	2018-10-07		158.18	8.12	150.060			151.980	*1.920*	157.164	-0.101	31
107	Secondary	0+173.55	2018-09-27	2018-09-27	2018-09-27		158.437	7.37	151.067			151.980	*0.913*	157.115	0.503	11
108	Tertiary	0+174.35	2018-10-02	2018-10-02	2018-10-02		158.199	7.51	150.689			152.010	*1.321*	157.202	0.405	1
109	Primary	0+175.15	2018-09-17	2018-09-17	2018-09-24		159.444	8.73	150.714			151.970	*1.256*	157.060	-0.100	22
110	Tertiary	0+175.95	2018-10-05	2018-10-05	2018-10-07		158.598	7.62	150.978			151.970	*0.992*	157.152	-0.903	17
111	Secondary	0+176.75	2018-09-27	2018-09-27	2018-09-27		158.965	8.06	150.905			152.010	*1.105*	157.121	0.201	21
112	Tertiary	0+177.55	2018-10-02	2018-10-02	2018-10-02		159.058	8.15	150.908			151.950	*1.042*	157.104	0.401	16
113	Primary	0+178.35	2018-09-17	2018-09-18	2018-09-25		158.757	8.14	150.617			151.690	*1.073*	157.003	0.604	33
114	Tertiary	0+179.15	2018-10-07	2018-10-07	2018-10-07		158.244	7.61	150.634			151.620	*0.986*	157.162	-0.201	10
115	Secondary	0+179.95	2018-09-27	2018-09-28	2018-09-28		158.412	8.32	150.092			151.600	*1.508*	157.089	0.705	34
116	Tertiary	0+180.75	2018-10-02	2018-10-02	2018-10-02		157.709	7.19	150.519			151.600	*1.081*	157.184	-0.502	41
117	Primary	0+181.55	2018-09-18	2018-09-18	2018-09-25		157.744	7.78	149.964			151.560	*1.596*	157.014	0.201	22
118	Tertiary	0+182.35	2018-10-07	2018-10-07	2018-10-08		157.952	7.60	150.352			151.540	*1.188*	157.171	0.807	15
119	Secondary	0+183.15	2018-09-27	2018-09-28	2018-09-28		157.812	7.34	150.472			151.540	*1.068*	157.136	0.301	21
120	Tertiary	0+183.95	2018-10-02	2018-10-02	2018-10-02		159.227	8.57	150.657			151.610	*0.953*	157.180	0.603	48
121	Primary	0+184.75	2018-09-18	2018-09-18	2018-09-25		157.918	7.58	150.338			151.600	*1.262*	157.033	0.503	27
122	Tertiary	0+185.55	2018-10-05	2018-10-07	2018-10-07		157.908	7.58	150.328			151.600	*1.272*	157.184	0.101	48
123	Secondary	0+186.35	2018-09-27	2018-09-27	2018-09-28		159.575	9.34	150.235			151.620	*1.385*	157.175	0.303	44
124	Tertiary	0+187.15	2018-10-02	2018-10-02	2018-10-02		158.696	8.10	150.596			151.630	*1.034*	157.165	-0.606	35
125	Primary	0+187.95	2018-09-18	2018-09-18	2018-09-25		157.976	7.48	150.501			151.500	*0.999*	157.045	-0.101	14
126	Tertiary	0+188.75	2018-10-05	2018-10-05	2018-10-07		159.413	9.12	150.293			151.300	*1.007*	157.163	0.604	13
127	Secondary	0+189.55	2018-09-27	2018-09-27	2018-09-28		158.993	8.80	150.193			151.280	*1.087*	157.141	-0.101	47
128	Tertiary	0+190.30	2018-10-08	2018-10-08	2018-10-09		157.758	7.95	149.808			151.020	*1.212*	157.317	0.606	26
129	Primary	0+191.05	2018-09-18	2018-09-18	2018-09-25		158.567	10.08	148.487			150.630	*2.143*	157.093	-0.804	30
130	Tertiary	0+191.80	2018-10-05	2018-10-05	2018-10-07		158.303	9.10	149.203			150.580	*1.377*	157.232	0.403	39
131	Secondary	0+192.55	2018-09-28	2018-09-29	2018-09-29		158.395	8.86	149.535			150.440	*0.905*	157.202	-0.201	21
132	Tertiary	0+193.30	2018-10-08	2018-10-08	2018-10-09		157.893	9.08	148.813			150.110	*1.297*	157.290	0.707	33
133	Primary	0+194.05	2018-09-19	2018-09-19	2018-09-25		158.056	9.42	148.636			149.980	*1.344*	157.081	-0.200	33
134	Tertiary	0+194.80	2018-10-07	2018-10-07	2018-10-08		158.408	9.70	148.708			149.950	*1.242*	157.209	0.402	44
135	Secondary	0+195.55	2018-10-02	2018-10-02	2018-10-02		158.698	10.11	148.588			149.810	*1.222*	157.305	0.501	48
136	Tertiary	0+196.30	2018-10-08	2018-10-09	2018-10-09		158.333	9.66	148.673			149.660	*0.987*	157.261	-0.503	8
137	Primary	0+197.05	2018-09-19	2018-09-19	2018-09-27		158.132	9.46	148.672			149.650	*0.978*	157.126	-0.301	25
138	Tertiary	0+197.80	2018-10-07	2018-10-07	2018-10-07		157.966	9.47	148.496			149.620	*1.124*	157.213	0.503	29
139	Secondary	0+198.55	2018-10-02	2018-10-02	2018-10-03		158.519	9.99	148.529			149.610	*1.081*	157.383	-0.503	25
140	Tertiary	0+199.30	2018-10-09	2018-10-09	2018-10-09		158.373	9.89	148.483			149.610	*1.127*	157.252	0.202	61

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141	Primary	0+200.05	2018-09-19	2018-09-19	2018-09-27		158.109	9.62	148.489			149.580	*1.091*	157.123	0.201	36
142	Tertiary	0+200.80	2018-10-07	2018-10-07	2018-10-08		158.181	9.83	148.351			149.410	*1.059*	157.281	-0.502	45
143	Secondary	0+201.55	2018-10-02	2018-10-02	2018-10-03		158.148	10.00	148.148			149.410	*1.262*	157.292	-0.201	30
144	Tertiary	0+202.30	2018-10-06	2018-10-07	2018-10-07		159.294	11.14	148.154			149.390	*1.236*	157.299	0.605	45
145	Primary	0+203.05	2018-09-19	2018-09-19	2018-09-28		158.147	9.77	148.377			149.360	*0.983*	157.029	-0.201	27
146	Tertiary	0+203.80	2018-10-11	2018-10-11	2018-10-11		158.403	10.36	148.043			149.240	*1.197*	157.362	-0.911	52
147	Secondary	0+204.55	2018-10-03	2018-10-03	2018-10-03		158.305	10.21	148.095			149.230	*1.135*	157.188	-0.501	36
148	Tertiary	0+205.30	2018-10-06	2018-10-07	2018-10-08		159.214	11.17	148.044			149.220	*1.176*	157.326	0.403	12
149	Primary	0+206.05	2018-09-27	2018-09-28	2018-09-28		158.387	10.38	148.007			149.270	*1.263*	157.011	-0.101	17
150	Tertiary	0+206.80	2018-10-11	2018-10-11	2018-10-11		158.961	10.89	148.071			149.360	*1.289*	157.370	0.101	6
151	Secondary	0+207.55	2018-10-02	2018-10-03	2018-10-04		158.347	10.33	148.017			149.400	*1.383*	157.245	0.403	6
152	Tertiary	0+208.30	2018-10-08	2018-10-09	2018-10-09		158.244	10.07	148.174			149.510	*1.336*	157.319	-1.212	24
153	Primary	0+209.05	2018-09-27	2018-09-28	2018-09-28		158.379	9.90	148.479			149.630	*1.151*	157.015	-0.101	33
154	Tertiary	0+209.80	2018-10-11	2018-10-11	2018-10-11	2.00	158.149	9.79	148.359			149.600	*1.241*	157.455	-0.102	34
155	Secondary	0+210.55	2018-10-04	2018-10-04	2018-10-04		158.118	10.19	147.928			149.590	*1.662*	157.255	-0.803	19
156	Tertiary	0+211.30	2018-10-09	2018-10-09	2018-10-09		157.803	9.34	148.463			149.550	*1.087*	157.324	-0.203	39
157	Primary	0+212.05	2018-09-27	2018-09-28	2018-09-28		158.369	9.96	148.409			149.530	*1.121*	157.044	0.302	13
158	Tertiary	0+212.80	2018-10-12	2018-10-12	2018-10-13		158.028	9.68	148.348			149.510	*1.162*	157.462	-0.304	25
159	Secondary	0+213.55	2018-10-07	2018-10-08	2018-10-08		159.284	10.77	148.514			149.490	*0.976*	157.334	0.300	42
160	Tertiary	0+214.30	2018-10-15	2018-10-15	2018-10-15	2.00	157.940	9.49	148.450			149.490	*1.040*	156.795	-0.606	26
161	Primary	0+215.05	2018-09-28	2018-09-30	2018-10-01		158.222	9.81	148.412			149.530	*1.118*	157.027	-0.302	52
162	Tertiary	0+215.80	2018-10-09	2018-10-09	2018-10-10		158.213	9.78	148.433			149.600	*1.167*	157.348	0.303	37
163	Secondary	0+216.55	2018-10-04	2018-10-04	2018-10-04		158.451	10.12	148.331			149.650	*1.319*	157.325	-0.301	24
164	Tertiary	0+217.30	2018-10-12	2018-10-12	2018-10-13	1.00	159.098	11.13	147.968			149.640	*1.672*	157.365	0.609	18
165	Primary	0+218.05	2018-09-29	2018-09-30	2018-10-01		158.291	10.73	147.561			149.270	*1.709*	157.080	-0.201	19
166	Tertiary	0+218.80	2018-10-09	2018-10-09	2018-10-10		158.437	9.91	148.527			149.590	*1.063*	157.296	0.101	19
167	Secondary	0+219.55	2018-10-03	2018-10-03	2018-10-03		157.879	9.53	148.349			149.590	*1.241*	157.382	-0.302	27
168	Tertiary	0+220.30	2018-10-13	2018-10-13	2018-10-13		157.869	9.54	148.329			149.600	*1.271*	157.428	-0.409	41
169	Primary	0+221.05	2018-09-29	2018-09-29	2018-09-29		158.424	10.46	147.964			149.270	*1.306*	157.052	-0.502	39
170	Tertiary	0+221.80	2018-10-10	2018-10-10	2018-10-10		159.239	10.73	148.509			149.630	*1.121*	157.293	-0.406	40
171	Secondary	0+222.55	2018-10-03	2018-10-03	2018-10-04		158.692	10.33	148.362			149.730	*1.368*	157.236	0.502	35
172	Tertiary	0+223.30	2018-10-13	2018-10-13	2018-10-13		159.233	10.45	148.783			149.980	*1.197*	157.423	0.202	50
173	Primary	0+224.05	2018-09-29	2018-09-28	2018-09-29		158.127	9.50	148.627			150.120	*1.493*	157.069	-0.403	23
174	Tertiary	0+224.80	2018-10-11	2018-10-11	2018-10-11		158.082	9.14	148.942			150.210	*1.268*	157.223	0.101	23
175	Secondary	0+225.55	2018-10-03	2018-10-03	2018-10-04		159.391	10.40	148.991			150.300	*1.309*	157.242	0.402	52

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176	Tertiary	0+226.30	2018-10-15	2018-10-15	2018-10-15		159.254	10.17	149.084			150.210	*1.126*	157.469	0.408	27
177	Primary	0+227.05	2018-09-30	2018-09-30	2018-10-01		158.867	9.86	149.007			150.130	*1.123*	157.087	-0.302	13
178	Tertiary	0+227.80	2018-10-10	2018-10-10	2018-10-10		158.776	9.74	149.036			150.060	*1.024*	157.239	-0.502	23
179	Secondary	0+228.55	2018-10-03	2018-10-03	2018-10-03		158.952	10.10	148.852			150.040	*1.188*	157.191	0.504	16
180	Tertiary	0+229.30	2018-10-11	2018-10-11	2018-10-11		158.581	10.14	148.441			150.020	*1.579*	157.319	0.506	9
181	Primary	0+230.05	2018-09-30	2018-09-30	2018-10-01		157.843	8.89	148.953			150.020	*1.067*	157.011	0.603	14
182	Tertiary	0+230.80	2018-10-09	2018-10-09	2018-10-10		158.538	9.56	148.977			150.020	*1.043*	157.276	-0.706	36
183	Secondary	0+231.55	2018-10-03	2018-10-04	2018-10-04		159.661	10.92	148.741			149.990	*1.249*	157.175	0.301	8
184	Tertiary	0+232.30	2018-10-14	2018-10-15	2018-10-15	1.00	159.787	10.91	148.877			150.040	*1.163*	157.322	0.716	35
185	Primary	0+233.05	2018-09-30	2018-09-30	2018-09-30		157.877	8.77	149.107			150.220	*1.113*	157.062	0.502	29
186	Tertiary	0+233.80	2018-10-11	2018-10-11	2018-10-11		158.721	9.99	148.731			150.330	*1.599*	157.315	0.203	28
187	Secondary	0+234.55	2018-10-04	2018-10-04	2018-10-04		158.882	9.69	149.192			150.340	*1.148*	157.175	0.401	28
188	Tertiary	0+235.30	2018-10-14	2018-10-14	2018-10-14	1.05	158.242	9.09	149.152			150.480	*1.328*	157.318	-0.307	30
189	Primary	0+236.05	2018-09-28	2018-09-28	2018-09-29		158.364	8.92	149.444			150.580	*1.136*	157.096	-0.400	10
190	Tertiary	0+236.80	2018-10-09	2018-10-09	2018-10-09		158.321	8.86	149.461			150.600	*1.139*	157.255	0.304	16
191	Secondary	0+237.55	2018-10-03	2018-10-03	2018-10-03		158.406	8.98	149.426			150.600	*1.174*	157.129	-0.201	24
192	Tertiary	0+238.30	2018-10-14	2018-10-14	2018-10-14	1.00	159.240	10.13	149.110			150.590	*1.480*	157.308	0.306	71
193	Primary	0+239.05	2018-09-28	2018-09-28	2018-09-29		158.245	8.83	149.415			150.590	*1.175*	157.036	-0.101	12
194	Tertiary	0+239.80	2018-10-10	2018-10-10	2018-10-10		158.610	8.97	149.640			150.680	*1.040*	157.219	0.302	11
195	Secondary	0+240.55	2018-10-03	2018-10-03	2018-10-03		157.738	8.08	149.658			150.810	*1.152*	157.086	-0.401	46
196	Tertiary	0+241.30	2018-10-14	2018-10-15	2018-10-15	0.60	158.862	8.95	149.912			150.880	*0.968*	157.263	0.304	23
197	Primary	0+242.05	2018-09-28	2018-09-29	2018-09-29		158.700	9.14	149.560			150.840	*1.280*	157.049	-0.201	28
198	Tertiary	0+242.80	2018-10-10	2018-10-10	2018-10-10		158.600	8.92	149.680			150.710	*1.030*	157.232	0.201	35
199	Secondary	0+243.55	2018-10-03	2018-10-03	2018-10-03		159.362	9.81	149.552			150.670	*1.118*	157.096	-0.403	18
200	Tertiary	0+244.30	2018-10-14	2018-10-14	2018-10-14	1.50	157.839	9.61	148.229			150.540	*2.311*	157.302	-0.407	34
201	Primary	0+245.05	2018-09-28	2018-09-29	2018-09-29		158.222	8.76	149.462			150.480	*1.018*	157.079	-0.201	33
202	Tertiary	0+245.80	2018-10-10	2018-10-10	2018-10-11		158.365	9.06	149.305			150.480	*1.175*	157.283	0.201	34
203	Secondary	0+246.55	2018-10-04	2018-10-04	2018-10-04		159.912	10.81	149.102			150.540	*1.438*	157.132	-0.502	35
204	Tertiary	0+247.30	2018-10-14	2018-10-15	2018-10-15	3.00	157.931	8.80	149.131			150.400	*1.269*	157.317	-0.305	29
205	Primary	0+248.05	2018-09-28	2018-09-30	2018-09-30		158.346	9.65	148.696			150.250	*1.554*	157.100	-0.503	13
206	Tertiary	0+248.80	2018-10-10	2018-10-10	2018-10-11	1.00	158.498	9.72	148.778			150.200	*1.422*	157.265	0.403	32
207	Secondary	0+249.55	2018-10-05	2018-10-05	2018-10-07		158.794	9.72	149.074			150.200	*1.126*	157.125	0.603	39
208	Tertiary	0+250.30	2018-10-15	2018-10-16	2018-10-16	1.10	158.229	9.04	149.189			150.300	*1.111*	157.350	1.119	33
209	Primary	0+251.05	2018-09-28	2018-09-30	2018-09-30		158.261	9.02	149.241			150.410	*1.169*	157.017	-0.302	25
210	Tertiary	0+251.80	2018-10-14	2018-10-14	2018-10-15	1.00	159.336	10.30	149.036			150.530	*1.494*	157.233	0.307	72

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211	Secondary	0+252.55	2018-10-05	2018-10-05	2018-10-07		158.387	9.14	149.247			150.540	*1.293*	157.100	-0.101	40
212	Tertiary	0+253.30	2018-10-15	2018-10-15	2018-10-15	1.00	157.876	8.62	149.256			150.590	*1.334*	157.247	0.203	5
213	Primary	0+254.05	2018-09-29	2018-09-30	2018-09-30		158.360	8.89	149.470			150.620	*1.150*	156.998	0.805	44
214	Tertiary	0+254.80	2018-10-13	2018-10-13	2018-10-13	0.30	158.367	8.74	149.627			150.640	*1.013*	157.177	0.408	55
215	Secondary	0+255.55	2018-10-09	2018-10-09	2018-10-09		158.108	8.70	149.408			150.610	*1.202*	157.004	-0.202	22
216	Tertiary	0+256.30	2018-10-15	2018-10-15	2018-10-15		158.177	9.07	149.107			150.510	*1.403*	157.234	-0.508	39
217	Primary	0+257.05	2018-09-29	2018-09-30	2018-09-30		158.155	8.85	149.305			150.510	*1.205*	156.960	-0.402	55
218	Tertiary	0+257.80	2018-10-12	2018-10-13	2018-10-13		158.664	9.27	149.394			150.500	*1.106*	157.151	0.304	18
219	Secondary	0+258.55	2018-10-05	2018-10-05	2018-10-06		157.789	8.83	148.959			150.480	*1.521*	156.980	-0.905	42
220	Tertiary	0+259.30	2018-10-15	2018-10-16	2018-10-16	0.47	158.13	8.88	149.250	6.800	150.420	150.430	**1.180**	157.220	-0.510	24
221	Primary	0+260.05	2018-09-29	2018-09-30	2018-09-30		157.740	8.89	148.850			150.410	*1.560*	156.903	-0.505	10
222	Tertiary	0+260.86	2018-10-12	2018-10-13	2018-10-13		158.796	9.47	149.326			150.340	*1.014*	157.122	-0.403	6
223	Secondary	0+261.66	2018-10-04	2018-10-04	2018-10-04		159.058	10.21	148.848	6.600	150.379	150.320	**1.472**	156.979	-0.503	34
224	Tertiary	0+262.46	2018-10-15	2018-10-15	2018-10-16		158.161	10.85	147.311			150.330	*3.009*	157.220	0.405	28
225	Primary	0+263.26	2018-09-29	2018-09-30	2018-09-30	1.00	158.173	8.84	149.333	6.290	150.595	150.460	**1.127**	156.885	0.101	30
226	Tertiary	0+264.06	2018-10-12	2018-10-12	2018-10-13		159.020	9.74	149.280			150.440	*1.096*	157.080	0.303	31
227	Secondary	0+264.86	2018-10-04	2018-10-04	2018-10-06		159.199	9.88	149.319	6.600	150.376	150.430	**1.057**	156.976	-0.502	50
228	Tertiary	0+265.66	2018-10-16	2018-10-17	2018-10-18	0.50	159.064	10.87	148.194			150.430	*2.182*	157.228	-0.814	48
229	Primary	0+266.46	2018-09-29	2018-09-30	2018-09-30		158.175	9.53	148.645	6.410	150.530	150.430	**1.785**	156.940	-0.403	37
230	Tertiary	0+267.26	2018-10-12	2018-10-12	2018-10-13		158.128	8.91	149.215			150.520	*1.215*	157.132	0.508	13
231	Secondary	0+268.06	2018-10-04	2018-10-04	2018-10-06		157.994	8.53	149.464	6.300	150.670	150.580	**1.116**	156.970	0.704	70
232	Tertiary	0+268.86	2018-10-15	2018-10-15	2018-10-16	1.50	158.563	10.04	148.523			150.710	*2.057*	157.224	0.408	36
233	Primary	0+269.66	2018-09-29	2018-09-30	2018-09-30		158.910	9.16	149.750	5.700	151.215	150.970	**1.220**	156.915	0.704	40
234	Tertiary	0+270.46	2018-10-12	2018-10-12	2018-10-13		159.047	9.17	149.877			151.080	*1.203*	157.106	0.403	5
235	Secondary	0+271.26	2018-10-04	2018-10-04	2018-10-04		158.376	8.45	149.926			151.220	*1.294*	156.965	-0.501	33
236	Tertiary	0+272.06	2018-10-15	2018-10-15	2018-10-16	1.50	159.368	9.39	149.978			151.120	*1.142*	157.243	0.507	40
237	Primary	0+272.86	2018-09-30	2018-10-01	2018-10-01		158.402	8.88	149.522	5.830	151.108	150.780	**1.258**	156.938	-0.201	52
238	Tertiary	0+273.66	2018-10-12	2018-10-12	2018-10-12	1.20	158.269	8.84	149.429			150.720	*1.264*	157.106	-0.203	57
239	Secondary	0+274.46	2018-10-04	2018-10-04	2018-10-04		158.583	9.30	149.283	6.300	150.693	150.720	**1.410**	156.993	-0.201	14
240	Tertiary	0+275.26	2018-10-15	2018-10-15	2018-10-15	1.60	157.949	8.59	149.359			150.720	*1.311*	157.185	-0.204	31
241	Primary	0+276.06	2018-09-30	2018-10-01	2018-10-01		157.870	8.49	149.380	6.150	150.783	150.670	**1.290**	156.933	-0.202	29
242	Tertiary	0+276.86	2018-10-12	2018-10-12	2018-10-12	1.00	158.030	8.63	149.400			150.650	*1.188*	157.079	0.606	28
243	Secondary	0+277.66	2018-10-04	2018-10-04	2018-10-04		158.442	9.34	149.102	6.400	150.588	150.610	**1.486**	156.988	-0.501	33
244	Tertiary	0+278.46	2018-10-15	2018-10-15	2018-10-15	2.00	157.891	8.75	149.141			150.610	*1.447*	157.147	0.205	29
245	Primary	0+279.26	2018-09-30	2018-09-30	2018-10-01		158.614	9.10	149.514	6.300	150.650	150.650	**1.136**	156.950	-0.201	9

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246	Tertiary	0+280.06	2018-10-18	2018-10-18	2018-10-18	0.70	158.595	9.38	149.215			150.510	*1.295*	157.244	-1.221	40
247	Secondary	0+280.86	2018-10-12	2018-10-13	2018-10-13	1.20	158.017	8.73	149.287			150.470	*1.183*	157.022	0.814	12
248	Tertiary	0+281.66	2018-10-20	2018-10-20	2018-10-26		158.161	9.04	149.121			150.490	*1.369*	157.228	-0.203	18
249	Primary	0+282.46	2018-10-04	2018-10-04	2018-10-05		158.404	8.98	149.424			150.630	*1.206*	156.902	0.000	15
250	Tertiary	0+283.26	2018-10-16	2018-10-16	2018-10-18	1.00	158.753	9.29	149.463			150.720	*1.257*	157.147	0.710	8
251	Secondary	0+284.06	2018-10-10	2018-10-10	2018-10-11	2.00	157.818	8.13	149.688	6.120	150.940	150.940	**1.252**	157.060	0.812	43
252	Tertiary	0+284.86	2018-10-27	2018-10-27	2018-10-28		158.688	9.18	149.508			151.070	*1.432*	157.113	-0.201	32
253	Primary	0+285.66	2018-10-04	2018-10-04	2018-10-05		158.072	7.99	150.082	5.720	151.162	151.100	**1.018**	156.882	0.402	44
254	Tertiary	0+286.46	2018-10-18	2018-10-18	2018-10-20		159.199	9.42	149.779			150.990	*1.201*	157.177	-0.307	23
255	Secondary	0+287.26	2018-10-09	2018-10-09	2018-10-09		157.787	8.00	149.787	5.200	151.812	150.980	**1.193**	157.012	0.404	26
256	Tertiary	0+288.06	2018-10-27	2018-10-27	2018-10-28		158.763	8.90	149.863			150.970	*1.097*	157.269	-0.101	23
257	Primary	0+288.86	2018-10-03	2018-10-03	2018-10-03		157.952	8.14	149.812	5.800	151.057	150.960	**1.148**	156.857	-0.502	24
258	Tertiary	0+289.66	2018-10-15	2018-10-16	2018-10-16	1.00	158.610	10.28	148.330			150.910	*2.570*	157.066	0.102	27
259	Secondary	0+290.46	2018-10-10	2018-10-11	2018-10-11		158.509	9.33	149.179	5.914	151.059	150.900	**1.721**	156.973	0.702	26
260	Tertiary	0+291.26	2018-10-19	2018-10-19	2018-10-20	0.90	159.211	10.37	148.841			150.880	*1.999*	157.207	-0.614	29
261	Primary	0+292.06	2018-10-03	2018-10-03	2018-10-03		158.267	8.64	149.627	6.000	150.840	150.850	**1.213**	156.840	-0.501	40
262	Tertiary	0+292.86	2018-10-15	2018-10-16	2018-10-16	2.00	157.883	8.37	149.513			150.820	*1.307*	157.072	0.713	8
263	Secondary	0+293.66	2018-10-08	2018-10-08	2018-10-08		158.454	8.71	149.744	6.100	150.894	150.820	**1.076**	156.994	0.603	36
264	Tertiary	0+294.46	2018-10-19	2018-10-19	2018-10-20	0.90	159.007	9.75	149.257			150.880	*1.623*	157.208	0.102	12
265	Primary	0+295.26	2018-10-03	2018-10-03	2018-10-03		157.669	8.04	149.629			150.920	*1.291*	156.862	0.704	16
266	Tertiary	0+296.06	2018-10-16	2018-10-16	2018-10-18	1.00	159.122	9.06	150.062			151.060	*0.998*	157.080	0.918	25
267	Secondary	0+296.86	2018-10-08	2018-10-08	2018-10-08		158.626	8.87	149.756			151.030	*1.274*	156.975	0.605	14
268	Tertiary	0+297.66	2018-10-19	2018-10-19	2018-10-20		158.638	8.78	149.858			151.070	*1.212*	157.236	0.814	30
269	Primary	0+298.46	2018-10-07	2018-10-07	2018-10-07		159.109	8.75	150.359			151.260	*0.901*	156.960	0.598	11
270	Tertiary	0+299.26	2018-10-16	2018-10-16	2018-10-18	0.40	158.068	7.83	150.238			151.160	*0.922*	157.088	-0.505	54
271	Secondary	0+300.06	2018-10-09	2018-10-09	2018-10-09		158.773	8.65	150.123			151.120	*0.997*	157.016	0.199	38
272	Tertiary	0+300.86	2018-10-27	2018-10-27	2018-10-28		159.106	9.25	149.856			151.070	*1.214*	157.120	0.401	49
273	Primary	0+301.66	2018-10-05	2018-10-05	2018-10-05		158.401	8.46	149.941	6.070	150.863	150.940	**0.922**	156.933	0.502	16
274	Tertiary	0+302.46	2018-10-18	2018-10-18	2018-10-19		158.697	8.82	149.877			150.910	*1.033*	157.145	-0.810	18
275	Secondary	0+303.26	2018-10-10	2018-10-10	2018-10-10		158.479	8.56	149.921			150.910	*0.989*	157.022	-0.503	40
276	Tertiary	0+304.06	2018-10-27	2018-10-27	2018-10-28		159.347	9.60	149.747			150.910	*1.163*	157.274	-0.604	42
277	Primary	0+304.86	2018-10-05	2018-10-05	2018-10-05		158.068	8.14	149.928	5.780	151.200	151.000	**1.072**	156.980	0.700	13
278	Tertiary	0+305.66	2018-10-19	2018-10-19	2018-10-20	1.00	159.152	9.48	149.672			151.150	*1.478*	157.189	-1.410	2
279	Secondary	0+306.46	2018-10-10	2018-10-10	2018-10-10		158.289	8.02	150.269			151.420	*1.151*	157.085	0.403	14
280	Tertiary	0+307.26	2018-10-28	2018-10-28	2018-10-28	1.00	159.238	9.00	150.238			151.490	*1.252*	157.284	0.101	25

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281	Primary	0+308.06	2018-10-07	2018-10-07	2018-10-07		158.681	8.17	150.511	5.400	151.657	151.680	**1.146**	157.057	0.601	31
282	Tertiary	0+308.86	2018-10-16	2018-10-16	2018-10-19	0.20	158.023	7.50	150.523			151.690	*1.134*	157.190	0.000	54
283	Secondary	0+309.66	2018-10-10	2018-10-10	2018-10-10		159.054	8.34	150.714	5.100	152.022	151.740	**1.026**	157.122	0.101	43
284	Tertiary	0+310.46	2018-10-27	2018-10-27	2018-10-28		158.652	8.60	150.052			151.640	*1.278*	157.327	-0.201	24
285	Primary	0+311.21	2018-10-07	2018-10-07	2018-10-07		159.109	8.75	150.359	5.700	151.363	151.330	**0.971**	157.063	-0.303	58
286	Tertiary	0+311.96	2018-10-29	2018-10-29	2018-10-29		159.646	10.40	149.246			151.110	*1.764*	157.473	-0.602	46
287	Secondary	0+312.71	2018-10-11	2018-10-11	2018-10-11	4.90	158.843	9.07	149.773	6.000	151.162	151.010	**1.237**	157.162	0.303	44
288	Tertiary	0+313.46	2018-10-16	2018-10-17	2018-10-19	0.50	158.166	9.65	148.516			150.930	*2.182*	157.298	-0.407	36
289	Primary	0+314.21	2018-10-07	2018-10-07	2018-10-07		157.748	8.49	149.258	6.400	150.698	150.750	**1.440**	157.098	-0.301	10
290	Tertiary	0+314.96	2018-10-28	2018-10-28	2018-10-28	2.00	158.098	8.91	149.188			150.660	*1.312*	157.294	-0.402	34
291	Secondary	0+315.71	2018-10-11	2018-10-11	2018-10-11	1.30	158.272	8.90	149.372	6.600	150.614	150.500	**1.128**	157.214	-0.102	51
292	Tertiary	0+316.46	2018-10-16	2018-10-16	2018-10-18	1.00	158.390	10.77	147.620			150.050	*2.410*	157.301	0.303	25
293	Primary	0+317.21	2018-10-07	2018-10-07	2018-10-08		158.533	9.60	148.933	7.000	150.104	150.030	**1.097**	157.104	-0.201	30
294	Tertiary	0+317.96	2018-10-27	2018-10-27	2018-10-28		159.783	11.75	148.033			149.110	*1.077*	157.312	0.604	27
295	Secondary	0+318.71	2018-10-11	2018-10-11	2018-10-11	0.50	159.137	10.75	148.387			149.780	*1.393*	157.318	0.202	72
296	Tertiary	0+319.46	2018-10-18	2018-10-18	2018-10-18	1.00	158.494	10.30	148.194			149.660	*1.466*	157.404	-0.405	33
297	Primary	0+320.21	2018-10-07	2018-10-07	2018-10-07		158.285	10.14	148.145	7.340	149.755	149.570	**1.425**	157.095	-0.101	34
298	Tertiary	0+320.96	2018-10-28	2018-10-28	2018-10-29	2.50	158.126	10.75	147.376			149.430	*1.688*	157.487	-0.801	34
299	Secondary	0+321.71	2018-10-14	2018-10-15	2018-10-15	4.00	157.914	10.30	147.614	8.234	149.064	149.300	**1.450**	157.298	0.407	16
300	Tertiary	0+322.46	2018-10-30	2018-10-30	2018-10-30	1.50	158.564	11.40	147.164			149.220	*1.894*	157.524	-0.502	33
301	Primary	0+323.21	2018-10-07	2018-10-07	2018-10-07		158.533	10.64	147.893	8.050	149.058	149.070	**1.165**	157.108	-0.604	30
302	Tertiary	0+323.96	2018-10-18	2018-10-19	2018-10-27		158.622	11.25	147.372			148.910	*1.538*	157.375	-0.912	32
303	Secondary	0+324.71	2018-10-13	2018-10-13	2018-10-13	1.60	158.295	10.79	147.505			148.690	*1.185*	157.273	-0.408	42
304	Tertiary	0+325.46	2018-10-28	2018-10-28	2018-10-29	0.50	159.101	12.11	146.991			148.690	*1.699*	157.450	0.705	46
305	Primary	0+326.21	2018-10-07	2018-10-08	2018-10-08		158.198	11.08	147.118	8.510	148.585	148.630	**1.467**	157.095	-0.502	25
306	Tertiary	0+326.96	2018-10-18	2018-10-19	2018-10-27		158.431	10.99	147.441			148.550	*1.109*	157.360	-1.215	44
307	Secondary	0+327.71	2018-10-13	2018-10-13	2018-10-13	1.70	158.169	10.80	147.369			148.550	*1.181*	157.245	0.000	54
308	Tertiary	0+328.46	2018-10-29	2018-10-29	2018-10-29	1.00	159.213	12.50	146.713			148.410	*1.697*	157.452	-0.301	35
309	Primary	0+329.21	2018-10-08	2018-10-08	2018-10-09		159.363	12.49	146.873	8.400	148.678	148.160	**1.287**	157.078	-0.804	39
310	Tertiary	0+329.96	2018-10-20	2018-10-21	2018-10-27		158.453	11.66	146.793			148.060	*1.267*	157.345	0.508	22
311	Secondary	0+330.71	2018-10-13	2018-10-13	2018-10-13	1.00	159.711	12.90	146.811			148.030	*1.219*	157.265	-0.101	15
312	Tertiary	0+331.46	2018-10-29	2018-10-29	2018-10-29	1.00	158.533	12.27	146.263			147.870	*1.607*	157.458	-0.302	6
313	Primary	0+332.21	2018-10-08	2018-10-08	2018-10-09		158.372	11.70	146.672	9.400	147.677	147.710	**1.005**	157.077	-0.604	12
314	Tertiary	0+332.96	2018-10-20	2018-10-24	2018-10-27		157.966	12.66	145.306			147.710	*2.404*	157.364	-0.202	59
315	Secondary	0+333.71	2018-10-13	2018-10-13	2018-10-13	2.00	158.638	12.72	145.918			147.030	*1.112*	157.215	-0.101	28

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316	Tertiary	0+334.46	2018-10-29	2018-10-29	2018-10-30	2.00	158.048	12.48	145.568			147.680	*2.112*	157.493	0.302	29
317	Primary	0+335.21	2018-10-09	2018-10-09	2018-10-09		158.835	13.07	145.765	10.850	146.231	147.640	**0.466**	157.081	0.302	39
318	Tertiary	0+335.96	2018-10-20	2018-10-27	2018-10-27		158.061	12.85	145.211			147.650	*1.020*	157.380	-1.204	50
319	Secondary	0+336.71	2018-10-13	2018-10-13	2018-10-14	7.50	158.449	15.31	143.139	10.500	146.721	147.620	**3.582**	157.221	-0.608	5
320	Tertiary	0+337.46	2018-10-29	2018-10-29	2018-10-29		159.137	16.22	142.917			147.590	*3.422*	157.376	0.201	19
321	Primary	0+338.21	2018-10-08	2018-10-08	2018-10-09		158.362	12.54	145.822	10.700	146.339	146.940	**0.517**	157.039	0.704	60
322	Tertiary	0+338.96	2018-11-02	2018-11-03	2018-11-03	2.60	160.154	16.90	143.254			146.940	*3.042*	157.582	0.201	25
323	Secondary	0+339.71	2018-10-15	2018-10-16	2018-10-16	6.00	158.143	14.00	144.143	10.900	146.296	146.760	**2.153**	157.196	-0.408	47
324	Tertiary	0+340.46	2018-10-31	2018-10-31	2018-10-31	0.30	159.115	15.09	144.025			146.760	*2.271*	157.576	0.802	22
325	Primary	0+341.21	2018-10-09	2018-10-09	2018-10-09		157.756	11.93	145.826	10.000	147.045	146.920	**1.094**	157.045	0.200	37
326	Tertiary	0+341.96	2018-10-28	2018-10-28	2018-10-29	1.00	158.962	13.73	145.232			147.070	*1.548*	157.427	-0.603	45
327	Secondary	0+342.71	2018-10-14	2018-10-15	2018-10-15	1.50	159.534	14.22	145.314	10.500	146.780	147.000	**1.466**	157.280	-0.305	12
328	Tertiary	0+343.46	2018-11-01	2018-11-01	2018-11-01	0.75	158.413	13.35	145.063			146.850	*1.436*	157.845	-0.101	44
329	Primary	0+344.21	2018-10-10	2018-10-10	2018-10-10	0.50	158.130	12.52	145.610	10.550	146.499	146.740	**0.889**	157.049	-0.306	49
330	Tertiary	0+344.96	2018-10-30	2018-10-30	2018-10-30		158.881	14.93	143.951			146.740	*1.708*	157.449	-0.402	17
331	Secondary	0+345.71	2018-10-13	2018-10-14	2018-10-14		158.305	14.26	144.045	11.600	145.659	146.640	**1.614**	157.259	-0.203	28
332	Tertiary	0+346.46	2018-10-19	2018-10-20	2018-10-27		158.399	13.84	144.559			146.520	*1.100*	157.362	-1.008	52
333	Primary	0+347.21	2018-10-10	2018-10-10	2018-10-10	1.00	158.849	13.49	145.359	10.710	146.366	146.480	**1.007**	157.076	0.404	25
334	Tertiary	0+347.96	2018-10-31	2018-10-31	2018-10-31	0.20	158.981	14.98	144.001			146.480	*1.350*	157.485	-0.704	51
335	Secondary	0+348.71	2018-10-14	2018-10-14	2018-10-14	4.00	158.201	14.36	143.841	11.916	145.351	146.480	**1.510**	157.267	0.202	32
336	Tertiary	0+349.46	2018-10-28	2018-10-28	2018-10-29		158.071	14.66	143.411			146.480	*1.940*	157.398	0.201	18
337	Primary	0+350.21	2018-10-10	2018-10-10	2018-10-10	1.50	157.573	12.22	145.353	10.600	146.468	146.430	**1.077**	157.068	-0.102	16
338	Tertiary	0+350.96	2018-10-31	2018-11-01	2018-11-01	0.70	158.112	13.08	145.032			146.370	*1.240*	157.515	-0.403	39
339	Secondary	0+351.71	2018-10-16	2018-10-18	2018-10-18	1.50	157.917	12.68	145.237	11.000	146.272	146.330	**1.035**	157.272	0.611	3
340	Tertiary	0+352.46	2018-10-29	2018-10-29	2018-10-29		158.279	13.50	144.779			146.300	*1.493*	157.594	0.500	24
341	Primary	0+353.21	2018-10-10	2018-10-10	2018-10-10	3.50	157.488	12.40	145.088	10.670	146.930	146.290	**1.202**	157.600	0.718	45
342	Tertiary	0+353.96	2018-10-20	2018-10-20	2018-10-27		158.274	15.31	142.964			146.440	*1.109*	157.386	-0.408	35
343	Secondary	0+354.71	2018-10-14	2018-10-14	2018-10-14	1.00	157.919	14.98	142.939	13.000	144.073	146.970	**1.134**	157.073	-0.204	17
344	Tertiary	0+355.46	2018-10-30	2018-10-30	2018-10-31		158.791	16.12	142.671			146.750	*1.402*	157.542	-0.300	16
345	Primary	0+356.21	2018-10-10	2018-10-10	2018-10-11	4.00	157.867	13.48	144.387	11.050	146.008	145.520	**1.133**	157.058	-0.303	21
346	Tertiary	0+356.96	2018-10-27	2018-10-27	2018-10-28		159.263	17.21	142.053			144.690	*1.454*	157.397	-0.403	47
347	Secondary	0+357.71	2018-10-14	2018-10-14	2018-10-14	4.00	157.994	15.83	142.164	13.800	143.507	144.650	**1.343**	157.307	0.504	15
348	Tertiary	0+358.46	2018-10-29	2018-10-30	2018-10-31		158.751	17.30	141.451			144.370	*1.603*	157.412	-0.301	31
349	Primary	0+359.21	2018-10-11	2018-10-11	2018-10-12		158.421	16.83	141.591	14.000	143.054	144.140	**1.463**	157.054	0.609	39
350	Tertiary	0+359.96	2018-10-27	2018-10-27	2018-10-28	3.35	158.182	16.48	141.702			144.140	*1.352*	157.396	0.702	10

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351	Secondary	0+360.71	2018-10-15	2018-10-15	2018-10-15	4.00	157.905	15.58	142.325	13.400	143.891	143.940	**1.566**	157.291	-0.204	34
352	Tertiary	0+361.46	2018-10-30	2018-10-30	2018-10-31	0.30	158.234	15.96	142.274			143.740	*1.287*	157.387	0.607	53
353	Primary	0+362.21	2018-10-09	2018-10-09	2018-10-09	0.50	158.141	15.61	142.531	13.450	143.561	143.680	**1.030**	157.011	-0.203	16
354	Tertiary	0+362.96	2018-11-01	2018-11-02	2018-11-02	0.40	159.213	18.36	140.853			143.690	*1.565*	157.771	-0.200	21
355	Secondary	0+363.71	2018-10-15	2018-10-15	2018-10-18		158.393	17.15	141.243	14.800	142.418	143.650	**1.175**	157.218	0.704	39
356	Tertiary	0+364.46	2018-10-28	2018-10-28	2018-10-29	0.50	158.571	18.00	140.571			143.650	*1.847*	157.363	0.502	7
357	Primary	0+365.21	2018-10-11	2018-10-11	2018-10-11	4.30	157.807	16.80	141.007	14.400	142.568	143.650	**1.561**	156.968	-0.707	55
358	Tertiary	0+365.96	2018-10-31	2018-11-01	2018-11-01	1.00	158.667	18.25	140.417			143.660	*1.157*	157.444	0.606	45
359	Secondary	0+366.71	2018-10-16	2018-10-16	2018-10-16	4.00	158.910	18.32	140.590	15.600	141.574	144.030	**0.984**	157.174	-0.204	30
360	Tertiary	0+367.46	2018-10-28	2018-10-28	2018-10-29	1.00	158.842	19.40	139.442			144.220	*1.388*	157.433	-0.302	34
361	Primary	0+368.21	2018-10-11	2018-10-11	2018-10-11	6.10	158.005	18.59	139.415	16.130	140.830	144.210	**1.415**	156.960	-0.304	17
362	Tertiary	0+368.96	2018-11-03	2018-11-03	2018-11-04	0.90	158.823	19.55	139.273			144.380	*1.557*	157.706	0.101	38
363	Secondary	0+369.71	2018-10-19	2018-10-20	2018-10-28	2.75	158.198	18.50	139.698	16.500	140.857	145.090	**1.159**	157.357	0.708	23
364	Tertiary	0+370.46	2018-10-27	2018-11-02	2018-11-02	1.00	158.182	18.41	139.772			145.380	*1.085*	157.547	0.504	37
365	Primary	0+371.21	2018-10-15	2018-10-16	2018-10-16	6.00	158.079	13.52	144.559	11.100	145.838	145.670	**1.111**	156.938	0.913	34
366	Tertiary	0+371.96	2018-11-03	2018-11-03	2018-11-04	5.95	158.511	14.20	144.311			146.720	*1.359*	157.633	-0.602	52
367	Secondary	0+372.71	2018-10-19	2018-10-20	2018-10-20	3.00	158.923	12.67	146.253	9.700	147.609	147.400	**1.147**	157.309	-0.506	14
368	Tertiary	0+373.46	2018-10-29	2018-10-29	2018-10-29		158.530	13.02	145.510			147.430	*1.890*	157.454	0.502	40
369	Primary	0+374.21	2018-10-15	2018-10-15	2018-10-15	1.60	158.349	11.69	146.659	9.100	148.025	147.750	**1.091**	157.125	-0.406	29
370	Tertiary	0+374.96	2018-10-31	2018-10-31	2018-10-31		158.443	12.85	145.593			147.820	*1.387*	157.481	0.301	14
371	Secondary	0+375.71	2018-10-19	2018-10-20	2018-10-20	3.30	158.756	13.05	145.706	10.300	146.980	147.870	**1.274**	157.280	0.308	41
372	Tertiary	0+376.46	2018-10-29	2018-10-29	2018-10-29		159.144	13.63	145.514			148.020	*1.466*	157.415	-0.301	17
373	Primary	0+377.21	2018-10-15	2018-10-15	2018-10-15	1.90	157.841	11.23	146.611	8.700	148.409	148.070	**1.459**	157.109	-0.408	39
374	Tertiary	0+377.96	2018-11-02	2018-11-04	2018-11-05	1.60	158.122	11.40	146.722			148.070	*1.348*	157.603	0.304	25
374b	Tertiary	TBC	2018-11-02	2018-11-04	2018-11-05	1.40	159.632	12.65	146.982			148.070	*1.088*	157.261	0.803	316
375	Secondary	0+378.71	2018-10-20	2018-10-20	2018-10-27	0.60	159.044	11.85	147.194	8.900	148.361	148.150	**0.956**	157.261	-0.102	22
376	Tertiary	0+379.46	2018-10-31	2018-10-31	2018-10-31		158.601	11.64	146.961			148.360	*1.189*	157.552	0.302	12
377	Primary	0+380.21	2018-10-15	2018-10-16	2018-10-16	3.00	157.524	10.37	147.154	8.600	148.482	148.310	**1.156**	157.082	-0.102	5
378	Tertiary	0+380.96	2018-11-08	2018-11-08	2018-11-08	3.00	158.269	12.14	146.129			148.040	*1.598*	157.626	0.509	23
379	Secondary	0+381.71	2018-10-21	2018-10-21	2018-10-27	2.80	158.447	12.33	146.117	9.500	147.727	147.960	**1.610**	157.227	-0.303	33
380	Tertiary	0+382.46	2018-10-29	2018-10-29	2018-10-30		158.024	11.92	146.104			147.840	*1.286*	157.454	-0.302	34
381	Primary	0+383.21	2018-10-16	2018-10-16	2018-10-18	4.00	158.287	12.20	146.087	9.400	147.659	147.390	**1.303**	157.059	-0.406	8
382	Tertiary	0+383.96	2018-11-08	2018-11-08	2018-11-08	1.80	158.288	13.82	144.468			147.060	*1.988*	157.651	0.102	30
383	Secondary	0+384.71	2018-10-21	2018-10-21	2018-10-28	3.00	158.268	13.25	145.018	10.800	146.456	147.040	**1.438**	157.256	0.202	45
384	Tertiary	0+385.46	2018-11-02	2018-11-03	2018-11-03	1.60	158.140	13.24	144.900			147.040	*1.556*	157.601	-0.501	43

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385	Primary	0+386.21	2018-10-17	2018-10-18	2018-10-18	5.00	158.423	13.21	145.213	10.300	146.754	147.130	**1.541**	157.054	0.307	33
386	Tertiary	0+386.96	2018-11-05	2018-11-06	2018-11-06	1.50	158.912	14.09	144.822			147.230	*1.907*	157.746	0.102	29
387	Secondary	0+387.71	2018-10-20	2018-10-24	2018-10-27	1.95	158.204	13.15	145.054	10.550	146.729	147.320	**1.675**	157.279	-0.602	28
388	Tertiary	0+388.46	2018-10-30	2018-10-30	2018-10-30		159.630	14.95	144.680			147.890	*2.049*	157.452	-0.401	39
389	Primary	0+389.21	2018-10-17	2018-10-18	2018-10-18	2.00	157.844	10.80	147.044	8.700	148.387	148.260	**1.216**	157.087	-0.306	12
390	Tertiary	0+389.96	2018-11-01	2018-11-01	2018-11-01	2.90	158.066	11.35	146.716			148.230	*1.248*	157.493	-0.704	13
391	Secondary	0+390.71	2018-10-28	2018-10-28	2018-10-18		159.456	13.20	146.256	9.300	147.964	148.100	**1.708**	157.264	0.501	16
392	Tertiary	0+391.46	2018-10-30	2018-10-30	2018-10-30		158.425	12.29	146.135			148.030	*1.342*	157.465	0.702	14
393	Primary	0+392.21	2018-10-17	2018-10-18	2018-10-19	2.00	158.639	12.23	146.409	9.600	147.477	147.910	**1.068**	157.077	0.406	19
394	Tertiary	0+392.96	2018-11-04	2018-11-04	2018-11-05	2.60	158.067	11.82	146.247			147.830	*1.230*	157.503	-0.301	46
395	Secondary	0+393.71	2018-10-27	2018-10-28	2018-10-28		159.367	12.92	146.447	9.230	148.016	147.640	**1.193**	157.246	0.602	38
396	Tertiary	0+394.46	2018-11-01	2018-11-01	2018-11-01	3.00	158.303	12.40	145.903			147.540	*1.597*	157.383	-0.100	26
397	Primary	0+395.21	2018-10-17	2018-10-18	2018-10-18	8.00	157.454	11.30	146.154	9.500	147.536	147.500	**1.346**	157.036	0.708	31
398	Tertiary	0+395.96	2018-11-04	2018-11-04	2018-11-05	2.30	157.947	12.30	145.647			147.480	*1.833*	157.548	0.709	19
399	Secondary	0+396.71	2018-10-28	2018-10-28	2018-10-28		158.205	12.26	145.945	9.390	147.814	147.500	**1.555**	157.204	-0.101	7
400	Tertiary	0+397.46	2018-11-01	2018-11-01	2018-11-01	2.90	157.810	11.82	145.990			147.490	*1.500*	157.309	0.502	20
401	Primary	0+398.21	2018-10-17	2018-10-18	2018-10-19	8.00	158.462	12.06	146.402	9.100	147.928	147.680	**1.278**	157.028	0.709	42
402	Tertiary	0+398.96	2018-11-05	2018-11-06	2018-11-06	2.00	158.067	11.42	146.647			147.960	*1.033*	157.457	0.202	56
403	Secondary	0+399.71	2018-10-29	2018-10-29	2018-10-29	1.50	159.139	12.06	147.079	8.800	148.416	148.230	**1.151**	157.216	-0.402	67
404	Tertiary	0+400.46	2018-11-02	2018-11-03	2018-11-04	2.00	157.990	12.02	145.970			148.090	*1.970*	157.342	0.401	20
405	Primary	0+401.21	2018-10-20	2018-10-24	2018-10-27	0.50	157.811	11.55	146.261	8.900	148.107	147.940	**1.679**	157.007	0.202	24
406	Tertiary	0+401.96	2018-11-05	2018-11-06	2018-11-06	0.50	157.832	12.23	145.602			147.940	*1.748*	157.419	0.409	28
407	Secondary	0+402.71	2018-10-29	2018-10-29	2018-10-29		159.112	13.28	145.832	9.700	147.475	147.350	**1.518**	157.175	0.201	33
408	Tertiary	0+403.46	2018-11-02	2018-11-03	2018-11-03	2.50	157.838	12.92	144.918			146.730	*1.602*	157.317	0.704	22
409	Primary	0+404.21	2018-10-17	2018-10-18	2018-10-19	2.00	157.807	12.80	145.007	10.300	146.684	146.520	**1.513**	156.984	0.513	39
410	Tertiary	0+404.96	2018-11-06	2018-11-06	2018-11-06	2.00	158.066	13.26	144.806			146.540	*1.714*	157.384	-0.304	63
411	Secondary	0+405.71	2018-10-28	2018-10-28	2018-10-28		157.792	12.47	145.322	10.000	147.162	146.580	**1.258**	157.162	0.302	19
412	Tertiary	0+406.46	2018-11-01	2018-11-01	2018-11-01	4.00	158.644	14.30	144.344			146.790	*1.646*	157.241	0.201	45
413	Primary	0+407.21	2018-10-18	2018-10-18	2018-10-20	5.00	157.919	13.29	144.629	10.900	145.990	146.880	**1.361**	156.890	0.511	18
414	Tertiary	0+407.96	2018-11-04	2018-11-04	2018-11-04		159.090	14.74	144.350			146.900	*1.640*	157.457	0.403	26
415	Secondary	0+408.71	2018-10-28	2018-10-28	2018-10-28		157.807	11.70	146.107	8.810	148.310	147.430	**1.323**	157.120	0.201	37
416	Tertiary	0+409.46	2018-11-01	2018-11-01	2018-11-01	2.90	158.539	12.45	146.089			148.080	*1.341*	157.119	-0.505	51
417	Primary	0+410.21	2018-10-18	2018-10-18	2018-10-20	0.50	157.939	10.60	147.339	8.700	148.183	148.250	**0.844**	156.883	-0.304	19
418	Tertiary	0+410.96	2018-11-05	2018-11-06	2018-11-06	2.40	157.897	11.59	146.307			148.320	*2.013*	157.456	0.306	49
419	Secondary	0+411.71	2018-10-28	2018-10-28	2018-10-28		157.880	11.40	146.480			148.360	*1.880*	157.077	-0.503	41

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420	Tertiary	0+412.46	2018-11-04	2018-11-04	2018-11-04	0.30	157.798	11.50	146.298			148.400	*2.102*	157.282	0.501	10
421	Primary	0+413.21	2018-10-16	2018-10-16	2018-10-20	2.50	157.957	10.96	146.997	8.600	148.278	148.250	**1.253**	156.878	-0.706	33
422	Tertiary	0+413.96	2018-11-05	2018-11-06	2018-11-06	2.50	158.007	11.24	146.767			148.170	*1.403*	157.285	-0.102	38
423	Secondary	0+414.71	2018-10-31	2018-10-31	2018-10-31	1.10	157.980	10.97	147.010	8.540	148.384	148.170	**1.160**	156.924	0.504	31
424	Tertiary	0+415.46	2018-11-04	2018-11-04	2018-11-04	2.20	157.636	10.94	146.696			148.170	*1.474*	157.186	0.502	9
425	Primary	0+416.21	2018-10-28	2018-10-28	2018-10-28		157.885	11.07	146.815			148.190	*1.375*	156.968	0.905	24
426	Tertiary	0+416.96	2018-11-08	2018-11-08	2018-11-08	3.00	158.031	11.22	146.811			148.330	*1.519*	157.331	-0.303	34
427	Secondary	0+417.71	2018-10-31	2018-10-31	2018-10-31	0.90	158.225	10.87	147.355	8.350	148.677	148.340	**0.985**	157.027	-0.201	31
428	Tertiary	0+418.46	2018-11-04	2018-11-04	2018-11-04	1.90	158.275	11.70	146.575			148.300	*1.725*	157.256	0.302	46
429	Primary	0+419.21	2018-10-28	2018-10-28	2018-10-28		158.282	11.20	147.082			148.380	*1.298*	156.953	-0.405	38
430	Tertiary	0+419.96	2018-11-17	2018-11-18	2018-11-18	1.20	159.636	12.80	146.836		-	148.390	*1.554*	157.408	-0.102	10
431	Secondary	0+420.71	2018-11-01	2018-11-01	2018-11-01	2.50	158.269	10.93	147.339			148.390	*1.051*	157.089	0.301	45
432	Tertiary	0+421.46	2018-11-07	2018-11-07	2018-11-07		158.208	11.62	146.588			148.490	*1.902*	157.417	-0.506	29
433	Primary	0+422.21	2018-10-29	2018-10-29	2018-10-30		158.518	11.30	147.218	7.900	149.064	148.650	**1.432**	156.964	-0.703	64
434	Tertiary	0+422.96	2018-11-17	2018-11-18	2018-11-18	0.70	159.750	12.68	147.070		-	148.650	*1.370*	157.372	0.510	64
435	Secondary	0+423.71	2018-11-01	2018-11-01	2018-11-01	0.50	158.581	11.28	147.301	8.400	148.665	148.440	**1.139**	157.065	0.301	31
436	Tertiary	0+424.46	2018-11-06	2018-11-06	2018-11-06	0.50	158.232	11.30	146.932			148.410	*1.478*	157.364	0.615	18
437	Primary	0+425.21	2018-10-29	2018-10-30	2018-10-30		157.936	10.60	147.336	8.390	148.568	148.410	**1.074**	156.958	1.003	21
438	Tertiary	0+425.96	2018-11-17	2018-11-18	2018-11-18		158.809	11.82	146.989		-	148.450	*1.421*	157.342	-0.611	34
439	Secondary	0+426.71	2018-11-01	2018-11-01	2018-11-01	1.90	158.699	11.30	147.399	8.300	148.741	148.620	**1.221**	157.041	-0.202	118
440	Tertiary	0+427.46	2018-11-08	2018-11-08	2018-11-08	1.80	158.240	10.97	147.270			148.710	*1.350*	157.226	-0.511	45
441	Primary	0+428.21	2018-10-29	2018-10-30	2018-10-30		158.418	11.15	147.268	8.010	148.936	148.710	**1.442**	156.946	0.406	19
442	Tertiary	0+428.96	2018-11-19	2018-11-19	2018-11-20	2.70	158.568	11.28	147.288		-	148.730	*1.442*	157.353	0.303	6
443	Secondary	0+429.71	2018-10-31	2018-11-01	2018-11-01	2.50	158.742	11.25	147.492			148.660	*1.168*	157.086	0.604	26
444	Tertiary	0+430.46	2018-11-07	2018-11-07	2018-11-07	3.00	158.499	11.28	147.219			148.770	*1.551*	157.271	0.000	50
445	Primary	0+431.21	2018-10-29	2018-10-30	2018-10-30		158.254	10.50	147.754	7.910	149.016	148.840	**1.086**	156.926	0.703	17
446	Tertiary	0+431.96	2018-11-19	2018-11-19	2018-11-20	1.10	159.726	12.37	147.356		-	148.910	*1.484*	157.304	0.303	20
447	Secondary	0+432.71	2018-11-02	2018-11-02	2018-11-03	1.90	158.579	10.91	147.669	7.800	149.268	148.910	**1.241**	157.068	0.402	27
448	Tertiary	0+433.46	2018-11-07	2018-11-07	2018-11-07	1.00	158.004	10.49	147.514			148.950	*1.396*	157.188	-0.102	28
449	Primary	0+434.21	2018-10-31	2018-10-31	2018-10-31	1.10	158.350	10.56	147.790	7.910	149.049	148.950	**1.160**	156.959	1.003	24
450	Tertiary	0+434.96	2018-11-18	2018-11-19	2018-11-19		158.294	11.01	147.284		-	148.900	*1.566*	157.290	0.410	44
451	Secondary	0+435.71	2018-11-03	2018-11-03	2018-11-03	1.00	158.809	11.10	147.709	7.900	149.179	148.850	**1.141**	157.079	-0.201	30
452	Tertiary	0+436.46	2018-11-07	2018-11-07	2018-11-07	3.00	158.910	11.12	147.790			148.880	*1.060*	157.218	0.305	42
453	Primary	0+437.21	2018-10-31	2018-10-31	2018-10-31	0.80	158.709	10.96	147.749	7.700	149.270	148.910	**1.161**	156.970	-0.302	9
454	Tertiary	0+437.96	2018-11-20	2018-11-20	2018-11-20	1.50	158.032	10.50	147.532		-	149.040	*1.378*	157.311	-0.402	42

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455	Secondary	0+438.71	2018-11-02	2018-11-02	2018-11-03	1.00	158.961	11.36	147.601	7.800	149.272	149.010	**1.409**	157.072	-0.303	16
456	Tertiary	0+439.46	2018-11-08	2018-11-08	2018-11-10		158.968	11.46	147.508			149.010	*1.496*	157.426	-0.102	42
457	Primary	0+440.21	2018-10-31	2018-10-31	2018-10-31	0.40	158.449	10.54	147.909	7.930	149.004	149.050	**1.095**	156.934	0.501	8
458	Tertiary	0+440.96	2018-11-20	2018-11-20	2018-11-20	0.50	158.968	11.23	147.738		-	149.020	*1.222*	157.229	-0.202	12
459	Secondary	0+441.71	2018-11-02	2018-11-02	2018-11-02	0.70	157.786	9.93	147.856	7.700	149.321	148.960	**1.104**	157.021	-0.301	19
460	Tertiary	0+442.46	2018-11-07	2018-11-08	2018-11-08	2.00	159.086	12.57	146.516			148.950	*1.611*	157.306	-0.101	26
461	Primary	0+443.21	2018-10-29	2018-10-29	2018-10-30		157.709	10.81	146.899	8.750	148.127	148.930	**1.228**	156.877	-0.805	43
462	Tertiary	0+443.96	2018-11-20	2018-11-21	2018-11-21	4.80	159.008	12.55	146.458		-	148.930	*2.472*	157.251	0.502	44
463	Secondary	0+444.71	2018-10-31	2018-11-01	2018-11-01	1.80	158.150	10.56	147.590			148.980	*1.390*	157.311	-0.709	32
464	Tertiary	0+445.46	2018-11-05	2018-11-05	2018-11-06		158.030	10.76	147.270	8.300	148.821	149.020	**1.750**	157.121	-0.201	11
465	Primary	0+446.21	2018-10-29	2018-10-29	2018-10-30	0.40	158.178	10.19	147.988	7.950	148.927	149.060	**0.939**	156.877	1.007	22
466	Tertiary	0+446.96	2018-11-08	2018-11-08	2018-11-09		158.379	11.05	147.329			148.990	*1.661*	157.185	0.306	21
467	Secondary	0+447.71	2018-10-31	2018-11-01	2018-11-01	2.00	157.694	9.82	147.874			148.990	*1.116*	156.929	0.402	20
468	Tertiary	0+448.46	2018-11-05	2018-11-05	2018-11-06	0.50	157.707	10.30	147.407	8.300	148.818	148.990	**1.583**	157.118	-0.300	40
469	Primary	0+449.21	2018-10-29	2018-10-29	2018-10-30		158.463	10.69	147.773	8.000	148.885	148.980	**1.112**	156.885	-0.504	27
470	Tertiary	0+449.96	2018-11-08	2018-11-08	2018-11-09		159.031	12.62	146.411			148.970	*1.877*	157.394	-0.513	21
471	Secondary	0+450.71	2018-11-01	2018-11-01	2018-11-01	3.30	157.577	10.90	146.677	8.700	148.288	148.960	**1.611**	156.988	0.401	29
472	Tertiary	0+451.46	2018-11-05	2018-11-05	2018-11-06		158.305	11.91	146.395			148.960	*1.893*	157.333	-0.408	39
473	Primary	0+452.21	2018-10-30	2018-10-30	2018-10-30	1.50	158.483	10.85	147.633	8.100	148.810	148.970	**1.177**	156.910	0.401	63
474	Tertiary	0+452.96	2018-11-08	2018-11-09	2018-11-09		157.788	10.89	146.898			149.030	*1.912*	157.198	0.719	36
475	Secondary	0+453.71	2018-11-01	2018-11-01	2018-11-01	2.80	157.765	9.90	147.865	7.500	149.513	149.030	**1.165**	157.013	0.805	26
476	Tertiary	0+454.46	2018-11-07	2018-11-07	2018-11-07	1.50	157.973	10.53	147.443			149.020	*1.557*	157.220	-0.305	5
477	Primary	0+455.21	2018-10-30	2018-10-30	2018-10-30	1.50	158.792	11.06	147.732	7.800	149.138	149.000	**1.268**	156.938	0.301	9
478	Tertiary	0+455.96	2018-11-18	2018-11-18	2018-11-18	1.00	159.131	11.70	147.431		-	149.010	*1.569*	157.284	-0.205	29
479	Secondary	0+456.71	2018-11-01	2018-11-01	2018-11-01	3.10	158.043	10.44	147.603	7.700	149.327	149.000	**1.397**	157.027	-0.402	29
480	Tertiary	0+457.46	2018-11-07	2018-11-08	2018-11-08	2.80	158.672	11.29	147.382			149.000	*1.618*	157.169	-0.511	48
481	Primary	0+458.21	2018-10-30	2018-10-30	2018-10-30	1.00	159.098	11.34	147.758	7.500	149.445	149.070	**1.312**	156.945	0.000	85
482	Tertiary	0+458.96	2018-11-18	2018-11-18	2018-11-18	0.90	158.984	11.31	147.674		-	149.080	*1.356*	157.337	0.409	46
483	Secondary	0+459.71	2018-11-02	2018-11-02	2018-11-02	2.05	158.470	10.50	147.970	7.900	149.223	149.030	**1.060**	157.123	0.201	36
484	Tertiary	0+460.46	2018-11-20	2018-11-20	2018-11-20	0.50	159.101	11.30	147.801		-	149.030	*1.229*	157.363	-0.703	59
485	Primary	0+461.21	2018-10-31	2018-10-31	2018-10-31	1.92	157.977	10.12	147.857	7.800	149.585	149.040	**1.183**	157.385	-0.403	24
486	Tertiary	0+461.96	2018-11-18	2018-11-18	2018-11-18	0.70	159.281	11.71	147.571		-	149.090	*1.469*	157.347	-0.716	49
487	Secondary	0+462.71	2018-11-02	2018-11-02	2018-11-02	2.30	158.178	10.24	147.938	7.800	149.298	149.200	**1.262**	157.098	-0.100	16
488	Tertiary	0+463.46	2018-11-08	2018-11-08	2018-11-08	0.80	158.396	10.65	147.746			149.280	*1.454*	157.541	0.509	43
489	Primary	0+464.21	2018-10-30	2018-10-30	2018-10-30	1.50	159.129	11.30	147.829	7.500	149.787	149.280	**1.451**	157.287	0.602	44

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490	Tertiary	0+464.96	2018-11-18	2018-11-19	2018-11-18		159.539	11.83	147.709		-	149.350	*1.571*	157.361	0.513	23
491	Secondary	0+465.71	2018-11-01	2018-11-01	2018-11-01	2.60	158.944	10.65	148.294	7.700	149.373	149.430	**1.079**	157.073	0.602	23
492	Tertiary	0+466.46	2018-11-08	2018-11-08	2018-11-08	1.20	159.144	11.95	147.194			149.440	*2.118*	157.275	-0.507	25
493	Primary	0+467.21	2018-10-30	2018-10-30	2018-10-30	1.60	159.022	10.70	148.322	7.700	149.312	149.460	**0.990**	157.012	-0.102	45
494	Tertiary	0+467.96	2018-11-18	2018-11-19	2018-11-19	0.20	159.866	11.74	148.126		-	149.490	*1.186*	157.338	-0.206	37
495	Secondary	0+468.71	2018-11-03	2018-11-03	2018-11-03	2.10	158.296	10.20	148.096	7.600	149.488	149.510	**1.392**	157.088	0.203	43
496	Tertiary	0+469.46	2018-11-08	2018-11-08	2018-11-08	0.50	158.626	10.91	147.716			149.530	*1.741*	157.348	-0.305	10
497	Primary	0+470.21	2018-10-31	2018-10-31	2018-10-31	0.80	158.206	9.81	148.396	7.600	149.457	149.540	**1.061**	157.057	-0.402	42
498	Tertiary	0+470.96	2018-11-18	2018-11-19	2018-11-19		159.085	10.73	148.355		-	149.570	*1.102*	157.379	-1.230	36
499	Secondary	0+471.71	2018-11-02	2018-11-02	2018-11-02	1.70	159.075	10.50	148.575	7.500	149.629	149.570	**0.995**	157.129	0.300	7
500	Tertiary	0+472.46	2018-11-07	2018-11-07	2018-11-07	1.00	158.686	10.71	147.976			149.590	*1.378*	157.296	-0.206	35
501	Primary	0+473.21	2018-10-31	2018-10-31	2018-10-31	2.35	158.200	9.90	148.300	7.700	149.354	149.680	**1.054**	157.054	0.201	6
502	Tertiary	0+473.96	2018-11-09	2018-11-10	2018-11-11	2.00	158.702	10.68	148.022			149.640	*1.332*	157.000	1.021	31
503	Secondary	0+474.71	2018-11-02	2018-11-02	2018-11-02	0.50	158.850	10.40	148.450	7.420	149.640	149.610	**1.160**	157.060	-0.302	31
504	Tertiary	0+475.46	2018-11-07	2018-11-07	2018-11-07	1.30	158.044	10.33	147.714			149.610	*1.803*	157.454	-0.307	36
505	Primary	0+476.21	2018-10-31	2018-10-31	2018-10-31	6.15	159.217	11.00	148.217	7.500	149.517	149.590	**1.300**	157.017	-0.301	34
506	Tertiary	0+476.96	2018-11-20	2018-11-20	2018-11-20	1.50	159.547	11.60	147.947		-	149.560	*1.570*	157.310	-0.507	56
507	Secondary	0+477.71	2018-11-03	2018-11-03	2018-11-03	1.20	158.930	10.80	148.130	7.600	149.560	149.530	**1.400**	157.160	0.301	20
508	Tertiary	0+478.46	2018-11-08	2018-11-08	2018-11-08	1.30	158.905	11.25	147.655			149.540	*1.875*	157.334	0.510	9
509	Primary	0+479.21	2018-10-31	2018-10-31	2018-11-01	2.90	158.376	10.02	148.356	7.200	149.789	149.540	**1.184**	156.989	0.403	14
510	Tertiary	0+479.96	2018-11-20	2018-11-20	2018-11-20	0.40	159.778	11.70	148.078		-	149.620	*1.462*	157.340	0.202	45
511	Secondary	0+480.71	2018-11-03	2018-11-03	2018-11-03	1.75	159.088	10.90	148.188	7.500	149.671	149.700	**1.483**	157.171	0.301	39
512	Tertiary	0+481.46	2018-11-09	2018-11-10	2018-11-11	2.30	158.791	11.01	147.781			149.660	*1.839*	157.254	0.308	18
513	Primary	0+482.21	2018-10-31	2018-10-31	2018-11-01	2.60	158.453	10.10	148.353	7.300	149.714	149.620	**1.267**	157.014	0.202	8
514	Tertiary	0+482.96	2018-11-20	2018-11-21	2018-11-21	2.50	158.964	10.70	148.264		-	149.620	*1.356*	157.289	0.805	54
515	Secondary	0+483.71	2018-11-03	2018-11-03	2018-11-03	1.60	158.337	10.11	148.227	7.000	150.143	149.620	**1.393**	157.143	0.502	17
516	Tertiary	0+484.46	2018-11-08	2018-11-09	2018-11-09		158.640	10.67	147.970			149.640	*1.650*	157.242	0.103	46
517	Primary	0+485.21	2018-10-31	2018-10-31	2018-10-31	2.80	158.936	10.52	148.416	7.100	149.887	149.670	**1.254**	156.987	-0.202	24
518	Tertiary	0+485.96	2018-11-17	2018-11-18	2018-11-18	0.60	159.091	11.06	148.031		-	149.470	*1.439*	157.278	0.511	47
519	Secondary	0+486.71	2018-11-03	2018-11-03	2018-11-03	1.30	158.826	10.63	148.196	7.400	149.760	149.620	**1.424**	157.160	0.502	11
520	Tertiary	0+487.46	2018-11-09	2018-11-09	2018-11-09	1.00	159.612	11.62	147.992			149.610	*1.608*	157.280	-0.502	21
521	Primary	0+488.21	2018-10-30	2018-10-31	2018-10-31	2.15	158.341	10.02	148.321	7.100	149.849	149.600	**1.279**	156.949	0.000	39
522	Tertiary	0+488.96	2018-11-17	2018-11-18	2018-11-18	0.60	159.241	11.43	147.811		-	149.590	*1.553*	157.347	-0.717	47
523	Secondary	0+489.71	2018-11-03	2018-11-03	2018-11-03	3.45	157.983	9.94	148.043	7.700	149.364	149.590	**1.321**	157.064	-0.402	17
524	Tertiary	0+490.46	2018-11-07	2018-11-07	2018-11-08	1.80	158.748	11.10	147.648			149.600	*1.716*	157.390	-0.512	41

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525	Primary	0+491.21	2018-10-30	2018-10-31	2018-10-31	1.20	158.103	9.64	148.463	7.500	149.449	149.590	0.986	156.949	-0.808	16
526	Tertiary	0+491.96	2018-11-17	2018-11-18	2018-11-18	0.60	159.272	11.14	148.132		-	149.620	1.317	157.323	0.306	21
527	Secondary	0+492.71	2018-11-01	2018-11-01	2018-11-01	2.95	158.131	10.00	148.131	7.400	149.664	149.640	1.509	157.064	-1.104	23
528	Tertiary	0+493.46	2018-11-07	2018-11-07	2018-11-08	3.00	158.887	10.84	148.047			149.660	1.389	157.286	-0.307	42
529	Primary	0+494.21	2018-10-30	2018-10-31	2018-10-31	2.18	158.230	9.71	148.520	7.500	149.436	149.660	0.916	156.936	0.303	44
530	Tertiary	0+494.96	2018-11-19	2018-11-20	2018-11-20	0.70	159.490	11.55	147.940		-	149.660	1.426	157.366	-0.810	35
531	Secondary	0+495.71	2018-11-03	2018-11-03	2018-11-03	2.55	158.704	10.52	148.184	7.700	149.366	149.660	1.182	157.066	-0.201	37
532	Tertiary	0+496.46	2018-11-07	2018-11-07	2018-11-08	1.50	159.711	12.53	147.181			149.600	1.613	157.348	-0.206	49
533	Primary	0+497.21	2018-10-31	2018-10-31	2018-10-31	0.40	158.619	11.10	147.519	8.200	148.794	149.580	1.275	156.994	-0.302	53
534	Tertiary	0+497.96	2018-11-19	2018-11-20	2018-11-20	1.50	158.126	11.16	146.966		-	149.570	1.828	157.327	0.604	17
535	Secondary	0+498.71	2018-11-03	2018-11-03	2018-11-03	4.45	157.718	9.55	148.168	7.300	149.755	149.550	1.382	157.055	-0.602	15
536	Tertiary	0+499.46	2018-11-08	2018-11-09	2018-11-09		158.260	10.62	147.640			149.510	1.425	157.417	-0.307	27
537	Primary	0+500.21	2018-10-31	2018-10-31	2018-10-31	0.80	158.767	10.70	148.067	7.900	149.065	149.500	0.998	156.965	-0.301	31
538	Tertiary	0+500.96	2018-11-19	2018-11-20	2018-11-20	2.00	159.028	11.45	147.578		-	149.510	1.187	157.353	-0.401	18
539	Secondary	0+501.71	2018-11-04	2018-11-04	2018-11-04	4.10	158.674	11.13	147.544	8.350	148.765	149.530	1.221	157.115	0.907	21
540	Tertiary	0+502.46	2018-11-09	2018-11-08	2018-11-09		159.130	11.89	147.240			149.600	1.525	157.374	-0.402	58
541	Primary	0+503.21	2018-10-31	2018-10-31	2018-10-31	0.44	158.172	10.00	148.172	7.500	149.489	149.650	1.317	156.989	-0.301	45
542	Tertiary	0+503.96	2018-11-19	2018-11-20	2018-11-20	2.20	159.193	11.09	148.103		-	149.670	1.215	157.358	0.504	11
543	Secondary	0+504.71	2018-11-04	2018-11-04	2018-11-05	2.50	158.360	10.88	147.480	7.800	149.318	149.660	1.838	157.118	-0.201	70
544	Tertiary	0+505.46	2018-11-07	2018-11-08	2018-11-09	0.30	158.420	11.25	147.170			149.660	2.148	157.309	-0.102	15
545	Primary	0+506.21	2018-11-02	2018-11-02	2018-11-02	1.90	157.704	10.10	147.604	7.360	149.579	149.660	1.975	156.939	0.300	4
546	Tertiary	0+506.96	2018-11-19	2018-11-20	2018-11-20	0.80	159.827	11.55	148.277		-	149.670	1.302	157.269	-0.200	50
547	Secondary	0+507.71	2018-11-05	2018-11-05	2018-11-05		159.741	12.16	147.581	7.200	149.894	149.700	2.119	157.094	0.410	23
548	Tertiary	0+508.46	2018-11-24	2018-11-24	2018-11-24	0.30	159.726	11.46	148.266		-	149.710	0.906	157.325	0.610	18
549	Primary	0+509.21	2018-11-02	2018-11-02	2018-11-02	3.30	158.993	11.28	147.713	7.700	149.172	149.650	1.459	156.872	-0.703	6
550	Tertiary	0+509.96	2018-11-18	2018-11-18	2018-11-19	0.50	159.049	10.99	148.059		-	149.630	1.113	157.245	-0.619	38
551	Secondary	0+510.71	2018-11-04	2018-11-04	2018-11-04	4.50	157.949	10.40	147.549	7.810	149.279	149.620	1.730	157.089	0.101	37
552	Tertiary	0+511.46	2018-11-24	2018-11-24	2018-11-24	0.60	159.239	11.70	147.539		-	149.630	1.143	157.324	0.504	47
553	Primary	0+512.21	2018-11-01	2018-11-02	2018-11-02	7.20	157.660	10.06	147.600	8.200	148.682	149.650	1.082	156.882	0.401	3
554	Tertiary	0+512.96	2018-11-18	2018-11-18	2018-11-19	2.10	158.712	11.04	147.672		-	149.680	1.010	157.286	-0.307	12
555	Secondary	0+513.71	2018-11-04	2018-11-04	2018-11-05	3.60	158.759	11.39	147.369	7.900	149.221	149.640	1.852	157.121	-0.303	33
556	Tertiary	0+514.46	2018-11-24	2018-11-24	2018-11-24	1.70	158.420	10.60	147.820		-	149.670	1.011	157.344	-0.403	15
557	Primary	0+515.21	2018-11-01	2018-11-02	2018-11-02	2.20	157.652	10.12	147.532	8.100	148.831	149.650	1.299	156.931	0.401	16
558	Tertiary	0+515.96	2018-11-18	2018-11-18	2018-11-19	2.30	159.279	11.51	147.769		-	149.720	1.062	157.275	-0.103	16
559	Secondary	0+516.71	2018-11-04	2018-11-04	2018-11-05	2.60	159.081	11.55	147.531	7.520	149.574	149.710	2.043	157.094	0.101	21

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560	Tertiary	0+517.46	2018-11-21	2018-11-21	2018-11-21	1.50	159.245	11.06	148.185		-	149.650	*1.365*	157.417	-0.201	50
561	Primary	0+518.21	2018-11-01	2018-11-02	2018-11-02	2.15	158.081	10.88	147.201	7.300	149.676	149.550	**2.349**	156.976	-0.285	25
562	Tertiary	0+518.96	2018-11-18	2018-11-18	2018-11-19	0.40	159.349	11.32	148.029		-	149.520	*1.095*	157.249	0.917	25
563	Secondary	0+519.71	2018-11-04	2018-11-04	2018-11-05	3.95	158.780	11.26	147.520	7.980	149.124	149.520	**1.604**	157.104	0.706	23
564	Tertiary	0+520.46	2018-11-21	2018-11-21	2018-11-21	1.50	159.498	11.72	147.778		-	149.530	*1.346*	157.397	0.402	73
565	Primary	0+521.21	2018-11-01	2018-11-02	2018-11-02	1.60	159.007	11.52	147.487	7.300	149.714	149.560	**2.073**	157.014	0.204	39
566	Tertiary	0+521.96	2018-11-18	2018-11-18	2018-11-18	0.50	159.373	11.30	148.073		-	149.600	*1.487*	157.305	0.409	57
567	Secondary	0+522.71	2018-11-08	2018-11-08	2018-11-08	1.00	159.056	10.84	148.216	7.600	149.628	149.590	**1.374**	157.228	0.302	50
568	Tertiary	0+523.46	2018-11-21	2018-11-21	2018-11-22	2.10	158.814	10.88	147.934		-	149.550	*1.373*	157.382	1.206	104
569	Primary	0+524.21	2018-11-04	2018-11-04	2018-11-05	4.50	157.891	10.37	147.521	7.730	149.307	149.530	**1.786**	157.037	-0.200	17
570	Tertiary	0+524.96	2018-11-19	2018-11-19	2018-11-20	2.10	158.835	10.83	148.005		-	149.520	*1.302*	157.311	0.714	1
571	Secondary	0+525.71	2018-11-08	2018-11-08	2018-11-08	0.55	159.160	10.68	148.480	7.600	149.566	149.520	**1.040**	157.166	-0.204	29
572	Tertiary	0+526.46	2018-11-21	2018-11-21	2018-11-22	0.70	159.498	11.32	148.178		-	149.520	*0.999*	157.386	-0.906	71
573	Primary	0+527.21	2018-11-04	2018-11-04	2018-11-04	8.00	158.952	11.68	147.272	7.850	149.177	149.550	**1.905**	157.027	-0.202	34
574	Tertiary	0+527.96	2018-11-19	2018-11-19	2018-11-20	2.10	158.271	10.63	147.641		-	149.520	*1.536*	157.336	0.305	35
575	Secondary	0+528.71	2018-11-08	2018-11-08	2018-11-08	1.40	158.634	10.28	148.354	7.500	149.667	149.520	**1.166**	157.167	0.920	26
576	Tertiary	0+529.46	2018-11-23	2018-11-23	2018-11-24	1.75	159.430	11.64	147.790		-	149.520	*1.396*	157.430	0.704	57
577	Primary	0+530.21	2018-11-04	2018-11-04	2018-11-04	5.60	158.097	10.54	147.557	7.840	149.186	149.530	**1.629**	157.026	0.202	13
578	Tertiary	0+530.96	2018-11-19	2018-11-19	2018-11-19	1.90	158.744	10.87	147.874		-	149.540	*1.312*	157.334	-0.305	51
579	Secondary	0+531.71	2018-11-09	2018-11-10	2018-11-11	0.70	158.909	10.38	148.529	7.700	149.614	149.570	**1.041**	157.314	0.102	25
580	Tertiary	0+532.46	2018-11-23	2018-11-23	2018-11-24	2.80	159.455	11.16	148.295		-	149.580	*1.193*	157.478	0.402	64
581	Primary	0+533.21	2018-11-05	2018-11-05	2018-11-05	0.75	159.165	11.58	147.585	7.600	149.488	149.590	**1.903**	157.088	0.303	58
582	Tertiary	0+533.96	2018-11-19	2018-11-19	2018-11-19	2.05	158.682	10.70	147.982		-	149.590	*1.506*	157.338	-1.025	56
583	Secondary	0+534.71	2018-11-09	2018-11-10	2018-11-11	1.30	158.767	10.27	148.497	7.730	149.494	149.590	**0.997**	157.224	-0.410	29
584	Tertiary	0+535.46	2018-11-23	2018-11-23	2018-11-24	2.70	159.383	11.28	148.103		-	149.590	*1.223*	157.441	-0.101	10
585	Primary	0+536.21	2018-11-05	2018-11-05	2018-11-05	0.40	159.173	10.93	148.243	7.800	149.326	149.530	**1.083**	157.126	-0.401	15
586	Tertiary	0+536.96	2018-11-18	2018-11-18	2018-11-18	0.30	159.134	11.26	147.874		-	149.440	*1.452*	157.326	-0.204	47
587	Secondary	0+537.71	2018-11-09	2018-11-10	2018-11-11	0.70	159.039	10.78	148.259	7.500	149.750	149.430	**1.171**	157.250	0.308	14
588	Tertiary	0+538.46	2018-11-21	2018-11-22	2018-11-22	1.60	158.761	10.40	148.361		-	149.440	*0.956*	157.400	0.797	53
589	Primary	0+539.21	2018-11-05	2018-11-05	2018-11-05	1.00	158.994	10.64	148.354	7.800	149.317	149.390	**0.963**	157.117	0.400	35
590	Tertiary	0+539.96	2018-11-18	2018-11-18	2018-11-18	1.00	159.279	11.62	147.659		-	149.370	*1.548*	157.303	1.019	2
591	Secondary	0+540.71	2018-11-09	2018-11-10	2018-11-11	0.70	159.200	11.23	147.970	8.040	149.207	149.370	**1.237**	157.247	0.711	52
592	Tertiary	0+541.46	2018-11-20	2018-11-21	2018-11-21	2.50	159.577	12.06	147.517		-	149.390	*1.690*	157.394	-0.201	44
593	Primary	0+542.21	2018-11-04	2018-11-04	2018-11-04	2.10	159.018	11.91	147.108	7.760	149.342	149.430	**2.234**	157.102	-0.100	14
594	Tertiary	0+542.96	2018-11-18	2018-11-18	2018-11-19	1.10	159.442	11.70	147.742		-	149.520	*1.600*	157.308	0.619	15

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595	Secondary	0+543.71	2018-11-08	2018-11-08	2018-11-08	0.60	159.406	11.13	148.276	7.700	149.485	149.500	**1.209**	157.185	0.609	32
596	Tertiary	0+544.46	2018-11-23	2018-11-24	2018-11-24	3.20	159.416	11.08	148.336		-	149.510	*1.111*	157.398	-0.302	71
597	Primary	0+545.21	2018-11-04	2018-11-04	2018-11-04	2.10	157.904	10.48	147.424	7.630	149.447	149.540	**2.023**	157.077	-0.303	16
598	Tertiary	0+545.96	2018-11-19	2018-11-19	2018-11-19	0.30	159.158	11.60	147.558		-	149.520	*1.700*	157.295	-0.308	26
599	Secondary	0+546.71	2018-11-08	2018-11-08	2018-11-08	0.65	159.146	10.89	148.256	7.900	149.258	149.450	**1.002**	157.158	-0.203	31
600	Tertiary	0+547.46	2018-11-23	2018-11-24	2018-11-24	0.70	159.589	11.50	148.089		-	149.420	*1.169*	157.437	0.500	43
601	Primary	0+548.21	2018-11-04	2018-11-04	2018-11-04	3.00	158.060	10.89	147.170	7.600	149.461	149.420	**2.250**	157.061	-0.302	15
602	Tertiary	0+548.96	2018-11-18	2018-11-19	2018-11-19	0.80	159.352	11.61	147.742		-	149.420	*1.473*	157.335	0.614	29
603	Secondary	0+549.71	2018-11-10	2018-11-10	2018-11-11	0.80	158.962	10.77	148.192	8.000	149.215	149.470	**1.023**	157.215	-0.102	30
604	Tertiary	0+550.46	2018-11-24	2018-11-24	2018-11-21	0.90	159.550	11.40	148.150		-	149.530	*0.977*	157.414	-0.303	78
605	Primary	0+551.21	2018-11-06	2018-11-07	2018-11-07	1.80	158.949	11.64	147.309	7.970	149.127	149.520	**1.818**	157.097	-0.303	19
606	Tertiary	0+551.96	2018-11-17	2018-11-18	2018-11-19	0.60	159.409	11.71	147.699		-	149.480	*1.428*	157.355	0.303	52
607	Secondary	0+552.71	2018-11-10	2018-11-10	2018-11-11	0.30	158.837	10.66	148.177	7.900	149.376	149.470	**1.199**	157.276	-0.406	24
608	Tertiary	0+553.46	2018-11-24	2018-11-24	2018-11-24	1.00	159.459	11.57	147.889		-	149.460	*1.487*	157.497	1.015	49
609	Primary	0+554.21	2018-11-05	2018-11-05	2018-11-05	2.70	158.050	10.91	147.140	7.300	149.818	149.440	**2.300**	157.118	0.301	20
610	Tertiary	0+554.96	2018-11-20	2018-11-20	2018-11-20	1.60	159.533	11.88	147.653		-	149.380	*1.430*	157.423	-0.812	29
611	Secondary	0+555.71	2018-11-11	2018-11-13	2018-11-13	1.50	159.683	11.74	147.943	8.200	149.083	149.380	**1.140**	157.283	0.103	18
612	Tertiary	0+556.46	2018-11-24	2018-11-24	2018-11-25	0.40	159.467	11.68	147.787		-	149.380	*1.296*	157.499	0.807	27
613	Primary	0+557.21	2018-11-05	2018-11-05	2018-11-05	1.70	157.883	10.65	147.233	7.650	149.523	149.380	**2.147**	157.173	-0.813	27
614	Tertiary	0+557.96	2018-11-20	2018-11-20	2018-11-20	1.50	159.284	11.15	148.134		-	149.370	*1.236*	157.486	0.400	55
615	Secondary	0+558.71	2018-11-09	2018-11-10	2018-11-11	1.50	159.247	10.88	148.367	7.700	149.619	149.400	**1.033**	157.319	0.304	12
616	Tertiary	0+559.46	2018-11-24	2018-11-25	2018-11-25	0.50	159.411	11.53	147.881		-	149.490	*1.519*	157.549	0.402	21
617	Primary	0+560.21	2018-11-06	2018-11-06	2018-11-06	3.00	157.912	10.56	147.352	7.650	149.569	149.640	**2.217**	157.219	-0.408	13
618	Tertiary	0+560.96	2018-11-20	2018-11-20	2018-11-20	1.90	159.874	11.50	148.374		-	149.720	*1.111*	157.532	-0.804	72
619	Secondary	0+561.71	2018-01-09	2018-11-10	2018-11-11	2.30	159.330	11.11	148.220	7.900	149.485	149.670	**1.265**	157.385	0.612	30
620	Tertiary	0+562.46	2018-11-24	2018-11-24	2018-11-25	1.70	159.800	11.72	148.080		-	149.650	*1.405*	157.630	0.705	25
621	Primary	0+563.21	2018-11-05	2018-11-05	2018-11-05	3.00	157.808	10.44	147.368	7.600	149.657	149.640	**2.272**	157.257	-0.201	20
622	Tertiary	0+563.96	2018-11-18	2018-11-19	2018-11-19	0.40	159.198	11.05	148.148		-	149.620	*1.112*	157.534	0.410	31
623	Secondary	0+564.71	2018-11-09	2018-11-09	2018-11-11	3.60	158.482	10.38	148.102	8.090	149.260	149.600	**1.158**	157.350	-0.204	18
624	Tertiary	0+565.46	2018-11-23	2018-11-23	2018-11-24	3.40	158.618	10.89	147.728		-	149.600	*1.344*	157.719	-0.301	183
625	Primary	0+566.21	2018-11-05	2018-11-05	2018-11-05	3.50	158.455	11.09	147.365	8.200	149.072	149.530	**1.707**	157.272	-0.404	47
626	Tertiary	0+566.96	2018-11-18	2018-11-18	2018-11-18	0.30	158.421	10.97	147.451		-	149.410	*1.621*	157.514	0.407	32
627	Secondary	0+567.71	2018-11-08	2018-11-09	2018-11-11	3.60	158.290	10.24	148.050	7.830	149.539	149.410	**1.360**	157.369	-0.203	11
628	Tertiary	0+568.46	2018-11-21	2018-11-23	2018-11-24	2.75	159.110	11.47	147.640		-	149.370	*1.346*	157.783	0.604	129
629	Primary	0+569.21	2018-11-04	2018-11-04	2018-11-04	3.90	157.996	10.85	147.146	8.270	148.986	149.320	**1.840**	157.256	0.302	18

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630	Tertiary	0+569.96	2018-11-18	2018-11-19	2018-11-19	1.50	159.179	11.33	147.849		-	149.300	*1.137*	157.525	-0.718	16
631	Secondary	0+570.71	2018-11-08	2018-11-09	2018-11-10	2.70	158.331	10.26	148.071	7.700	149.657	149.300	**1.229**	157.357	-0.102	21
632	Tertiary	0+571.46	2018-11-24	2018-11-24	2018-11-25	3.90	158.289	10.91	147.379		-	149.300	*1.453*	157.674	1.203	11
633	Primary	0+572.21	2018-11-03	2018-11-03	2018-11-04	2.30	158.417	11.21	147.207	8.450	148.832	149.380	**1.625**	157.282	-0.404	12
634	Tertiary	0+572.96	2018-11-18	2018-11-18	2018-11-18	2.40	158.084	11.04	147.044		-	149.430	*1.788*	157.453	-0.206	20
635	Secondary	0+573.71	2018-11-08	2018-11-09	2018-11-10	3.80	158.395	10.42	147.975	7.580	149.756	149.250	**1.275**	157.336	-0.102	29
636	Tertiary	0+574.46	2018-11-25	2018-11-25	2018-11-25	5.90	158.046	11.24	146.806		-	149.100	*1.219*	157.661	-0.604	61
637	Primary	0+575.21	2018-11-03	2018-11-03	2018-11-04	2.80	157.968	11.13	146.838	9.200	148.025	149.050	**1.187**	157.225	0.000	50
638	Tertiary	0+575.96	2018-11-18	2018-11-18	2018-11-18	3.15	158.078	10.96	147.118		-	148.890	*0.907*	157.490	0.305	50
639	Secondary	0+576.71	2018-11-11	2018-11-11	2018-11-12	1.70	158.174	10.73	147.444	8.500	148.883	148.820	**1.376**	157.383	0.511	13
640	Tertiary	0+577.46	2018-11-25	2018-11-25	2018-11-25	5.30	158.459	11.00	147.459		-	148.820	*1.361*	157.595	-0.503	75
641	Primary	0+578.21	2018-11-06	2018-11-06	2018-11-06	3.00	158.267	10.75	147.517	8.070	149.154	148.830	**1.313**	157.224	-0.406	14
642	Tertiary	0+578.96	2018-11-18	2018-11-18	2018-11-18	4.20	158.357	11.17	147.187		-	148.880	*1.429*	157.453	-0.510	25
643	Secondary	0+579.71	2018-11-10	2018-11-11	2018-11-12	2.65	158.010	10.80	147.210	8.700	148.616	148.900	**1.406**	157.316	-0.307	12
644	Tertiary	0+580.46	2018-11-22	2018-11-23	2018-11-24	3.10	158.253	10.93	147.323		-	148.890	*1.293*	157.575	-0.201	112
645	Primary	0+581.21	2018-11-06	2018-11-06	2018-11-06	3.70	157.646	10.02	147.626	7.810	149.362	148.860	**1.234**	157.172	0.404	26
646	Tertiary	0+581.96	2018-11-20	2018-11-21	2018-11-21	0.50	158.642	10.95	147.692		-	148.840	*1.138*	157.498	0.201	23
647	Secondary	0+582.71	2018-11-11	2018-11-11	2018-11-11	2.50	158.209	10.65	147.559	8.450	148.861	148.830	**1.271**	157.311	-0.512	30
648	Tertiary	0+583.46	2018-11-25	2018-11-25	2018-11-25	2.20	158.142	10.90	147.242		-	148.840	*1.578*	157.552	0.708	24
649	Primary	0+584.21	2018-11-06	2018-11-06	2018-11-06	4.00	157.463	9.80	147.663	7.910	149.222	148.820	**1.157**	157.132	-0.102	33
650	Tertiary	0+584.96	2018-11-20	2018-11-20	2018-11-21	2.80	158.236	11.25	146.986		-	148.850	*1.064*	157.475	-0.201	22
651	Secondary	0+585.71	2018-11-13	2018-11-14	2018-11-14	2.90	158.058	10.98	147.078	9.300	148.050	148.750	**0.972**	157.350	0.715	28
652	Tertiary	0+586.46	2018-11-25	2018-11-25	2018-11-25	2.25	158.376	11.31	147.066		-	148.710	*0.984*	157.647	1.408	40
653	Primary	0+587.21	2018-11-11	2018-11-11	2018-11-11	1.50	158.084	11.16	146.924	8.550	148.646	148.710	**1.722**	157.196	0.821	18
654	Tertiary	0+587.96	2018-11-20	2018-11-20	2018-11-21	4.70	157.841	10.81	147.031		-	148.710	*1.568*	157.549	-0.504	54
655	Secondary	0+588.71	2018-11-13	2018-11-14	2018-11-14	1.90	158.011	10.51	147.501	8.700	148.599	148.710	**1.098**	157.299	-0.203	36
656	Tertiary	0+589.46	2018-11-25	2018-11-25	2018-11-25	3.10	157.799	10.78	147.019		-	148.710	*1.580*	157.468	-1.003	29
657	Primary	0+590.21	2018-11-11	2018-11-11	2018-11-11	1.80	157.847	10.50	147.347	8.380	148.731	148.700	**1.353**	157.111	0.000	47
658	Tertiary	0+590.96	2018-11-20	2018-11-20	2018-11-21	4.10	158.219	11.17	147.049		-	148.520	*0.930*	157.426	0.804	45
659	Secondary	0+591.71	2018-11-13	2018-11-14	2018-11-14	3.20	158.809	11.88	146.929	9.300	147.979	148.540	**1.050**	157.279	-0.102	45
660	Tertiary	0+592.46	2018-11-26	2018-11-26	2018-11-26	5.90	157.987	11.09	146.897		-	148.540	*1.082*	157.454	0.202	7
661	Primary	0+593.21	2018-11-11	2018-11-11	2018-11-11	0.30	158.072	11.14	146.932	8.600	148.474	148.450	**1.518**	157.074	0.511	16
662	Tertiary	0+593.96	2018-11-20	2018-11-20	2018-11-21	3.80	158.179	11.15	147.029		-	148.330	*1.131*	157.407	0.202	32
663	Secondary	0+594.71	2018-11-15	2018-11-15	2018-11-16		158.015	10.91	147.105	9.000	148.193	148.160	**1.055**	157.193	0.000	70
664	Tertiary	0+595.46	2018-11-27	2018-11-27	2018-11-27	3.70	158.239	11.85	146.389		-	148.150	*1.307*	157.650	0.706	45

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665	Primary	0+596.21	2018-11-11	2018-11-12	2018-11-13	2.40	157.542	11.20	146.342	9.300	147.696	148.140	**1.354**	156.996	0.711	36
666	Tertiary	0+596.96	2018-11-22	2018-11-22	2018-11-23	10.20	158.671	12.74	145.931		-	148.150	*1.765*	157.352	-0.602	41
667	Secondary	0+597.71	2018-11-13	2018-11-14	2018-11-14	1.50	157.638	10.97	146.668	9.400	147.731	148.160	**1.063**	157.131	-0.615	71
668	Tertiary	0+598.46	2018-11-28	2018-11-28	2018-11-28	2.90	158.377	11.89	146.487		-	148.170	*1.244*	157.621	0.201	38
668b	Tertiary	TBC	2018-11-30	2018-11-30	2018-12-01	2.80	159.155	13.84	145.315		-		*2.805*	157.777	0.302	16
669	Primary	0+599.21	2018-11-11	2018-11-12	2018-11-13	2.00	157.596	11.13	146.466	8.350	148.606	148.120	**1.654**	156.956	0.409	285
670	Tertiary	0+599.96	2018-11-25	2018-11-25	2018-11-25	3.00	158.498	14.06	144.438		-	148.000	*2.850*	157.325	0.404	34
671	Secondary	0+600.71	2018-11-13	2018-11-14	2018-11-14	2.50	158.181	12.24	145.941	9.800	147.288	147.730	**1.347**	157.088	-1.127	52
672	Tertiary	0+601.46	2018-11-28	2018-11-28	2018-11-28	2.80	158.568	12.76	145.808		-	147.690	*1.480*	157.548	-0.201	29
673	Primary	0+602.21	2018-11-11	2018-11-12	2018-11-12	1.60	157.633	11.52	146.113	9.500	147.411	147.360	**1.247**	156.911	0.914	56
674	Tertiary	0+602.96	2018-11-22	2018-11-22	2018-11-23	3.90	157.976	12.05	145.926		-	147.070	*1.137*	157.329	-0.702	45
675	Secondary	0+603.71	2018-11-14	2018-11-15	2018-11-15	1+0.45	159.003	13.15	145.853	10.000	147.063	147.080	**1.210**	157.063	0.305	4
676	Tertiary	0+604.46	2018-11-30	2018-11-30	2018-11-30	2.40	158.796	12.93	145.866		-	146.990	*1.081*	157.523	0.101	41
677	Primary	0+605.21	2018-11-11	2018-11-12	2018-11-12	1.90	157.904	12.36	145.544	10.000	146.947	146.950	**1.403**	156.947	-0.410	28
678	Tertiary	0+605.96	2018-11-28	2018-11-28	2018-11-28	2.70	158.287	12.75	145.537		-	146.920	*1.201*	157.299	0.403	11
678B	Tertiary	TBC	2018-12-01	2018-12-01	2018-12-01	2.80	158.952	13.20	145.752		-	146.910	*0.986*	157.200	-0.201	86
679	Secondary	0+606.71	2018-11-14	2018-11-15	2018-11-15	1.80	157.889	12.19	145.699	10.300	146.738	146.900	**1.039**	157.038	0.816	31
680	Tertiary	0+607.46	2018-12-01	2018-12-01	2018-12-01	2.80	159.243	13.50	145.743		-	146.960	*0.995*	157.636	0.303	46
681	Primary	0+608.21	2018-11-06	2018-11-07	2018-11-07	3.00	157.935	12.26	145.675	9.790	147.099	146.970	**1.295**	156.889	-0.406	19
682	Tertiary	0+608.96	2018-11-22	2018-11-23	2018-11-24	7.75	158.228	12.48	145.748		-	146.970	*1.222*	157.241	0.402	35
683	Secondary	0+609.71	2018-11-13	2018-11-13	2018-11-14	2.60	158.776	13.17	145.606	9.700	147.242	147.170	**1.564**	156.942	0.612	60
684	Tertiary	0+610.46	2018-11-24	2018-11-26	2018-11-26	4.60	159.536	13.60	145.936		-	147.170	*1.234*	157.447	0.402	40
685	Primary	0+611.21	2018-11-06	2018-11-07	2018-11-07	6.00	157.406	11.65	145.756	8.400	148.490	147.230	**1.474**	156.890	-0.306	26
686	Tertiary	0+611.96	2018-11-20	2018-11-20	2018-11-21	3.40	158.172	12.07	146.102		-	147.320	*1.128*	157.202	-0.501	39
687	Secondary	0+612.71	2018-11-13	2018-11-13	2018-11-13	2.10	157.863	11.18	146.683	9.200	147.769	147.660	**0.977**	156.969	0.512	51
688	Tertiary	0+613.46	2018-11-24	2018-11-24	2018-11-24	1.90	158.976	12.35	146.626		-	147.680	*1.034*	157.398	0.500	46
689	Primary	0+614.21	2018-11-05	2018-11-07	2018-11-07	4.00	158.039	11.46	146.579	9.150	147.765	147.820	**1.186**	156.915	0.514	29
690	Tertiary	0+614.96	2018-11-20	2018-11-20	2018-11-21	3.30	157.824	11.08	146.744		-	147.920	*1.021*	157.258	-0.302	39
691	Secondary	0+615.71	2018-11-14	2018-11-15	2018-11-15	2.20	158.084	11.13	146.954	9.000	148.025	147.960	**1.006**	157.025	-0.307	37
692	Tertiary	0+616.46	2018-11-24	2018-11-24	2018-11-24	2.00	159.129	12.30	146.829		-	147.970	*1.107*	157.417	-0.100	32
693	Primary	0+617.21	2018-11-11	2018-11-11	2018-11-12	3.70	157.688	10.90	146.788	9.000	147.936	147.970	**1.148**	156.936	0.205	2
694	Tertiary	0+617.96	2018-11-21	2018-11-22	2018-11-23	1.80	158.335	11.51	146.825		-	147.930	*1.065*	157.281	-0.402	32
695	Secondary	0+618.71	2018-11-14	2018-11-15	2018-11-15	2.10	158.084	11.24	146.844	9.000	148.019	147.890	**1.046**	157.019	-0.513	25
696	Tertiary	0+619.46	2018-11-27	2018-11-27	2018-11-27	1.80	159.432	12.80	146.632		-	147.860	*1.188*	157.461	0.707	8
697	Primary	0+620.21	2018-11-11	2018-11-11	2018-11-12	4.40	157.659	11.01	146.649	9.000	147.942	147.820	**1.171**	156.942	0.204	14

PILE NUMBER	PILE TYPE	STATION	ANCHORING DATE	Verification date	POURING DATE	CB Topping (vertical m)	Top elevation S.P casing(m)	BEDROCK measurement (Top casing to bottom socket)	Rock socket bottom elevation (m)	Depth of encountered bedrock (as per HD) (m)	Elevation of encountered Bedrock (m)	Elevation of theoretical bedrock from surveyor (m)	Depth of rock socket (m)	Ground elevation (m)	Max. Deviation (%)	Offset (mm)
698	Tertiary	0+620.96	2018-11-21	2018-11-21	2018-11-23	3.50	158.000	11.70	146.300		-	147.670	*1.250*	157.288	0.303	43
699	Secondary	0+621.71	2018-11-17	2018-11-17	2018-11-17	2.40	159.716	13.33	146.386	9.500	147.642	147.550	**1.164**	157.142	0.504	16
700	Tertiary	0+622.46	2018-11-28	2018-11-28	2018-11-28	7.80	158.462	12.25	146.212		-	147.550	*1.122*	157.445	0.705	40
701	Primary	0+623.21	2018-11-12	2018-11-13	2018-11-13	0.50	157.677	11.38	146.297	9.600	147.334	147.510	**1.037**	156.934	0.713	17
702	Tertiary	0+623.96	2018-11-21	2018-11-21	2018-11-22	3.10	157.600	11.45	146.150		-	147.490	*1.184*	157.289	0.706	36
703	Secondary	0+624.71	2018-11-17	2018-11-17	2018-11-18	2.60	157.845	11.63	146.215	9.500	147.671	147.480	**1.265**	157.171	-0.716	19
704	Tertiary	0+625.46	2018-11-26	2018-11-26	2018-11-26	8.40	158.049	12.22	145.829		-	147.450	*1.313*	157.454	-0.102	28
705	Primary	0+626.21	2018-11-12	2018-11-12	2018-11-13	0.50	157.797	11.84	145.957	9.800	147.142	147.500	**1.185**	156.942	-0.510	14
706	Tertiary	0+626.96	2018-11-24	2018-11-24	2018-11-24	4.30	158.021	12.05	145.971		-	147.500	*1.171*	157.427	-0.100	98
707	Secondary	0+627.71	2018-11-16	2018-11-16	2018-11-16	4.50	158.090	11.62	146.470	9.600	147.573	147.490	**1.020**	157.173	0.713	36
708	Tertiary	0+628.46	2018-11-28	2018-11-29	2018-11-29	2.90	159.025	14.51	144.515		-	147.470	*2.955*	157.546	0.204	67
709	Primary	0+629.21	2018-11-12	2018-11-12	2018-11-13	1.70	157.399	11.10	146.299	9.250	147.727	147.580	**1.281**	156.977	0.204	38
710	Tertiary	0+629.96	2018-11-24	2018-11-24	2018-11-24	3.00	157.945	11.57	146.375		-	147.670	*1.205*	157.425	-0.402	44
711	Secondary	0+630.71	2018-11-16	2018-11-16	2018-11-16	4.50	158.023	11.64	146.383	9.150	148.048	147.630	**1.247**	157.198	-0.615	61
712	Tertiary	0+631.46	2018-11-28	2018-11-29	2018-11-29	3.60	158.339	13.40	144.939		-	147.510	*2.539*	157.521	0.503	26
713	Primary	0+632.21	2018-11-12	2018-11-12	2018-11-13	1.95	157.993	11.83	146.163	9.500	147.478	147.530	**1.315**	156.978	0.714	30
714	Tertiary	0+632.96	2018-11-22	2018-11-24	2018-11-24	4.20	158.136	12.05	146.086		-	147.530	*1.392*	157.404	0.903	7
715	Secondary	0+633.71	2018-11-15	2018-11-15	2018-11-16		158.292	12.05	146.242	9.530	147.667	147.590	**1.348**	157.197	-0.411	40
716	Tertiary	0+634.46	2018-11-28	2018-11-28	2018-11-28	14.00	158.726	12.29	146.436		-	147.650	*1.154*	157.554	0.503	69
717	Primary	0+635.21	2018-11-11	2018-11-11	2018-11-12	9.40	157.641	11.14	146.501	8.600	148.345	147.690	**1.189**	156.945	0.103	39
718	Tertiary	0+635.96	2018-11-21	2018-11-21	2018-11-21	3.30	158.055	11.60	146.455		-	147.780	*1.235*	157.337	-0.503	17
719	Secondary	0+636.71	2018-11-14	2018-11-14	2018-11-15	2.40	158.544	11.79	146.754	9.000	148.117	147.800	**1.046**	157.117	0.821	56
720	Tertiary	0+637.46	2018-11-28	2018-11-29	2018-11-29	3.10	158.104	13.90	144.204		-	148.000	*3.596*	157.504	-0.100	70
721	Primary	0+638.21	2018-11-09	2018-11-10	2018-11-11	1.90	157.986	10.90	147.086	8.200	148.734	148.100	**1.014**	156.934	0.410	43
722	Tertiary	0+638.96	2018-11-21	2018-11-21	2018-11-21	1.20	158.340	11.75	146.590		-	148.120	*1.510*	157.311	-0.404	24
723	Secondary	0+639.71	2018-11-15	2018-11-16	2018-11-16	1.00	159.356	12.18	147.176	8.700	148.378	148.250	**1.074**	157.078	0.306	41
724	Tertiary	0+640.46	2018-11-26	2018-11-26	2018-11-26	2.20	158.076	11.30	146.776		-	148.220	*1.434*	157.393	0.603	17
725	Primary	0+641.21	2018-11-09	2018-11-10	2018-11-11	2.00	158.041	10.84	147.201	8.000	148.951	148.210	**1.009**	156.951	-0.204	22
726	Tertiary	0+641.96	2018-11-21	2018-11-21	2018-11-21	1.80	159.321	12.65	146.671		-	148.210	*1.509*	157.314	-0.403	26
727	Secondary	0+642.71	2018-11-15	2018-11-16	2018-11-16	2.40	157.953	10.97	146.983	8.860	148.319	148.180	**1.197**	157.179	0.821	19
728	Tertiary	0+643.46	2018-11-26	2018-11-26	2018-11-26	2.10	158.102	11.00	147.102		-	148.100	*0.948*	157.427	0.202	38
729	Primary	0+644.21	2018-11-13	2018-11-13	2018-11-13	2.30	157.883	10.93	146.953	8.800	148.157	148.050	**1.097**	156.957	-0.102	33
730	Tertiary	0+644.96	2018-11-22	2018-11-22	2018-11-22	3.45	157.987	11.20	146.787		-	148.050	*1.193*	157.326	0.707	13
731	Secondary	0+645.71	2018-11-15	2018-11-15	2018-11-16		157.734	11.03	146.704	8.800	148.421	147.980	**1.276**	157.221	0.409	44
732	Tertiary	0+646.46	2018-11-27	2018-11-27	2018-11-27	2.20	158.132	11.29	146.842		-	147.900	*1.048*	157.436	0.603	31

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733	Primary	0+647.21	2018-11-12	2018-11-12	2018-11-12	6.20	157.562	10.79	146.772	8.940	147.998	147.890	**1.118**	156.938	0.102	19
734	Tertiary	0+647.96	2018-11-21	2018-11-21	2018-11-21	4.40	157.868	11.41	146.458		-	147.880	*1.392*	157.415	0.302	32
735	Secondary	0+648.71	2018-11-15	2018-11-15	2018-11-16		157.704	11.04	146.664	8.900	148.261	147.850	**1.186**	157.161	0.103	38
736	Tertiary	0+649.46	2018-11-27	2018-11-27	2018-11-27	2.80	157.975	11.35	146.625		-	147.840	*1.215*	157.460	-0.302	44
737	Primary	0+650.21	2018-11-11	2018-11-11	2018-11-12	3.50	157.767	11.22	146.547	8.700	148.231	147.840	**1.293**	156.931	0.000	36
738	Tertiary	0+650.96	2018-11-21	2018-11-21	2018-11-21	4.40	157.990	11.73	146.260		-	147.820	*1.520*	157.411	0.298	3
739	Secondary	0+651.71	2018-11-16	2018-11-17	2018-11-17	1.20	158.829	12.34	146.489	9.000	148.270	147.780	**1.291**	157.270	-0.719	44
740	Tertiary	0+652.46	2018-11-26	2018-11-27	2018-11-27	1.40	159.471	13.04	146.431		-	147.780	*1.249*	157.499	0.602	55
741	Primary	0+653.21	2018-11-13	2018-11-13	2018-11-13	2.90	158.380	11.65	146.730	9.100	147.873	147.680	**0.950**	156.973	0.612	61
742	Tertiary	0+653.96	2018-11-22	2018-11-22	2018-11-22	5.40	157.928	11.30	146.628		-	147.570	*0.942*	157.453	0.505	13
743	Secondary	0+654.71	2018-11-16	2018-11-17	2018-11-17	1.40	158.281	12.06	146.221	9.330	148.062	147.590	**1.369**	157.392	0.512	26
744	Tertiary	0+655.46	2018-11-26	2018-11-27	2018-11-27	3.10	158.118	11.93	146.188		-	147.600	*1.402*	157.505	0.503	7
745	Primary	0+656.21	2018-11-15	2018-11-15	2018-11-15	2.10	158.495	11.81	146.685	8.900	148.047	147.720	**1.035**	156.947	0.611	25
746	Tertiary	0+656.96	2018-11-22	2018-11-22	2018-11-22	2.50	158.061	11.60	146.461		-	148.030	*1.259*	157.495	0.506	29
747	Secondary	0+657.71	2018-11-16	2018-11-17	2018-11-18	0.50	158.863	11.84	147.023	8.800	148.566	148.190	**1.167**	157.366	0.613	15
748	Tertiary	0+658.46	2018-11-26	2018-11-27	2018-11-27	2.80	157.912	11.06	146.852		-	148.130	*1.278*	157.484	-0.101	79
749	Primary	0+659.21	2018-11-13	2018-11-13	2018-11-13	3.10	157.814	10.79	147.024	8.700	148.261	148.130	**1.106**	156.961	-0.103	42
750	Tertiary	0+659.96	2018-11-22	2018-11-22	2018-11-22	2.20	158.222	11.45	146.772		-	148.230	*1.358*	157.520	0.202	29
751	Secondary	0+660.71	2018-11-16	2018-11-17	2018-11-17	4.10	158.061	11.08	146.981	9.000	148.215	148.230	**1.234**	157.215	1.029	8
752	Tertiary	0+661.46	2018-11-28	2018-11-28	2018-11-28	2.80	159.085	12.00	147.085		-	148.230	*1.019*	157.558	-0.202	87
753	Primary	0+662.21	2018-11-13	2018-11-13	2018-11-13	0.60	158.445	11.31	147.135	8.700	148.104	148.390	**0.969**	156.804	-0.411	51
754	Tertiary	0+662.96	2018-11-25	2018-11-25	2018-11-25	2.10	159.472	12.57	146.902		-	148.440	*1.202*	157.382	0.808	57
755	Secondary	0+663.71	2018-11-15	2018-11-16	2018-11-16	3.85	158.080	10.65	147.430	8.420	148.801	148.520	**1.090**	157.221	-0.206	25
756	Tertiary	0+664.46	2018-11-29	2018-11-29	2018-11-29	3.10	158.426	11.15	147.276		-	148.660	*1.244*	157.536	-0.201	67
757	Primary	0+665.21	2018-11-11	2018-11-12	2018-11-12	2.60	158.064	10.61	147.454	7.800	149.040	148.700	**1.246**	156.840	0.714	73
758	Tertiary	0+665.96	2018-11-25	2018-11-25	2018-11-25	1.95	159.046	11.80	147.246		-	148.710	*1.434*	157.362	-0.302	22
759	Secondary	0+666.71	2018-11-14	2018-11-14	2018-11-15		158.385	10.73	147.655	8.400	148.747	148.680	**1.025**	157.147	0.512	46
760	Tertiary	0+667.46	2018-11-29	2018-11-29	2018-11-29	2.70	158.336	11.03	147.306		-	148.680	*1.374*	157.501	0.603	84
761	Primary	0+668.21	2018-11-11	2018-11-12	2018-11-13	1.30	158.159	10.74	147.419	7.800	149.114	148.680	**1.261**	156.914	-0.508	59
762	Tertiary	0+668.96	2018-11-24	2018-11-24	2018-11-24	2.50	158.568	11.20	147.368		-	148.610	*0.996*	157.341	-0.503	47
763	Secondary	0+669.71	2018-11-14	2018-11-14	2018-11-15		158.167	10.72	147.447	8.800	148.364	148.610	**0.917**	157.164	-0.307	26
764	Tertiary	0+670.46	2018-11-29	2018-11-29	2018-11-29	3.50	158.211	11.14	147.071		-	148.620	*1.293*	157.506	-0.605	49
765	Primary	0+671.21	2018-11-11	2018-11-12	2018-11-12	1.40	158.505	10.86	147.645	7.900	149.086	148.650	**1.005**	156.986	0.815	71
766	Tertiary	0+671.96	2018-11-27	2018-11-27	2018-11-27	2.10	157.940	10.55	147.390		-	148.740	*1.260*	157.373	-1.612	48
767	Secondary	0+672.71	2018-11-15	2018-11-15	2018-11-15		158.430	10.64	147.790	8.150	149.018	148.780	**0.990**	157.168	0.512	16

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768	Tertiary	0+673.46	2018-11-29	2018-11-29	2018-11-29	3.15	158.122	10.60	147.522		-	148.810	*1.258*	157.475	-0.202	76
769	Primary	0+674.21	2018-11-11	2018-11-12	2018-11-12	1.80	158.543	11.16	147.383	8.200	148.837	148.800	**1.417**	157.037	-0.305	54
770	Tertiary	0+674.96	2018-11-27	2018-11-27	2018-11-27	1.90	158.597	11.47	147.127		-	148.800	*1.673*	157.365	1.107	31
771	Secondary	0+675.71	2018-11-14	2018-11-15	2018-11-15		158.454	10.76	147.694	8.100	149.078	148.810	**1.116**	157.178	-0.205	15
772	Tertiary	0+676.46	2018-11-29	2018-11-29	2018-11-29	3.50	158.906	11.22	147.686		-	148.830	*1.124*	157.510	0.101	18
773	Primary	0+677.21	2018-11-11	2018-11-12	2018-11-12	2.20	158.532	10.87	147.662	8.200	148.872	148.810	**1.148**	157.072	-0.102	33
774	Tertiary	0+677.96	2018-11-27	2018-11-28	2018-11-28	3.30	158.181	10.60	147.581		-	148.810	*1.229*	157.403	-0.200	42
775	Secondary	0+678.71	2018-11-14	2018-11-15	2018-11-15		158.497	10.82	147.677	8.200	148.969	148.830	**1.153**	157.169	-0.308	7
776	Tertiary	0+679.46	2018-11-29	2018-11-29	2018-11-29	2.90	158.097	10.80	147.297		-	148.900	*1.533*	157.442	0.302	83
777	Primary	0+680.21	2018-11-12	2018-11-13	2018-11-13	1.00	158.883	11.04	147.843	7.900	149.257	148.980	**1.137**	157.157	-0.306	33
778	Tertiary	0+680.96	2018-11-27	2018-11-28	2018-11-28	3.10	158.272	10.45	147.822		-	148.990	*1.158*	157.393	-0.202	74
779	Secondary	0+681.71	2018-11-15	2018-11-16	2018-11-16	1.10	158.833	10.87	147.963	7.900	149.313	149.020	**1.057**	157.213	0.925	22
780	Tertiary	0+682.46	2018-11-30	2018-11-30	2018-11-30	2.00	158.755	11.00	147.755		-	149.060	*1.265*	157.462	-0.603	46
781	Primary	0+683.21	2018-11-12	2018-11-13	2018-11-13	0.80	158.963	10.95	148.013	7.800	149.316	149.060	**1.047**	157.116	0.408	37
782	Tertiary	0+683.96	2018-11-28	2018-11-28	2018-11-28	1.50	158.404	10.84	147.564		-	149.080	*1.496*	157.366	0.401	11
783	Secondary	0+684.71	2018-11-15	2018-11-15	2018-11-16		158.882	11.05	147.832	7.800	149.397	149.140	**1.308**	157.197	0.102	16
784	Tertiary	0+685.46	2018-11-30	2018-11-30	2018-11-30	1.80	158.628	10.81	147.818		-	149.150	*1.322*	157.459	-0.201	7
785	Primary	0+686.21	2018-11-12	2018-11-13	2018-11-13	0.30	159.044	10.91	148.134	7.500	149.590	149.150	**1.016**	157.090	0.000	39
786	Tertiary	0+686.96	2018-11-27	2018-11-28	2018-11-28	3.10	158.349	10.46	147.889		-	149.160	*1.261*	157.387	-0.201	27
787	Secondary	0+687.71	2018-11-15	2018-11-15	2018-11-16	1.10	159.163	11.14	148.023	7.700	149.527	149.190	**1.167**	157.227	0.305	22
788	Tertiary	0+688.46	2018-11-29	2018-11-29	2018-11-29	1.75	158.829	10.87	147.959		-	149.210	*1.231*	157.440	-0.200	25
789	Primary	0+689.21	2018-11-13	2018-11-14	2018-11-14	1.50	158.716	10.71	148.006	7.750	149.321	149.210	**1.204**	157.071	0.616	79
790	Tertiary	0+689.96	2018-11-27	2018-11-28	2018-11-28	1.90	159.722	11.66	148.062		-	149.200	*1.138*	157.412	0.201	100
791	Secondary	0+690.71	2018-11-15	2018-11-16	2018-11-16	3.30	158.896	10.90	147.996	7.900	149.301	149.230	**1.234**	157.201	-0.101	46
792	Tertiary	0+691.46	2018-12-01	2018-12-01	2018-12-01	1.40	158.918	11.08	147.838		-	149.260	*1.392*	157.511	-0.602	56
793	Primary	0+692.21	2018-11-13	2018-11-14	2018-11-14	1.50	158.878	11.16	147.718	7.650	149.405	149.290	**1.572**	157.055	0.411	20
794	Tertiary	0+692.96	2018-11-29	2018-11-30	2018-11-30	1.90	158.864	10.91	147.954		-	149.310	*1.336*	157.384	0.302	11
795	Secondary	0+693.71	2018-11-16	2018-11-16	2018-11-18	1.70	158.882	10.71	148.172	7.400	149.804	149.340	**1.168**	157.204	-0.507	37
796	Tertiary	0+694.46	2018-12-02	2018-12-02	2018-12-02	1.80	159.122	10.84	148.282		-	149.390	*1.058*	157.491	0.811	42
797	Primary	0+695.21	2018-11-13	2018-11-14	2018-11-14	2.50	158.983	10.82	148.163	7.600	149.463	149.420	**1.257**	157.063	0.206	16
798	Tertiary	0+695.96	2018-11-30	2018-11-30	2018-11-30	2.70	158.463	10.34	148.123		-	149.400	*1.277*	157.397	0.403	35
799	Secondary	0+696.71	2018-11-16	2018-11-16	2018-11-16	0.30	159.447	10.91	148.537	7.300	149.887	149.540	**1.003**	157.187	0.205	11
800	Tertiary	0+697.46	2018-12-02	2018-12-02	2018-12-02	1.40	159.202	10.70	148.502		-	149.600	*1.038*	157.430	0.100	29
801	Primary	0+698.21	2018-11-11	2018-11-12	2018-11-12	0.30	159.457	10.95	148.507	7.000	150.018	149.620	**1.113**	157.018	0.203	45
802	Tertiary	0+698.96	2018-11-29	2018-11-29	2018-11-30	0.60	159.016	10.67	148.346		-	149.670	*1.274*	157.322	0.403	50

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803	Secondary	0+699.71	2018-11-14	2018-11-14	2018-11-15	0.50	159.090	10.35	148.740	7.200	149.898	149.750	**1.010**	157.098	-0.303	19
804	Tertiary	0+700.46	2018-12-01	2018-12-01	2018-12-01	2.40	158.836	10.51	148.326		-	149.790	*1.424*	157.341	-0.302	1
805	Primary	0+701.21	2018-11-11	2018-11-12	2018-11-12	2.40	159.233	10.68	148.553	6.900	150.100	149.800	**1.247**	157.000	0.204	34
806	Tertiary	0+701.96	2018-11-29	2018-11-29	2018-11-30	0.60	158.902	10.34	148.562		-	149.880	*1.238*	157.289	0.201	13
807	Secondary	0+702.71	2018-11-13	2018-11-14	2018-11-15	1.50	159.548	10.52	149.028	6.950	150.111	150.000	**0.972**	157.061	0.307	19
808	Tertiary	0+703.46	2018-12-01	2018-12-01	2018-12-01	0.75	159.297	10.55	148.747	6.950	-	150.000	**1.253**	157.316	0.405	11
809	Primary	0+704.21	2018-11-11	2018-11-12	2018-11-12	1.30	159.354	10.84	148.514	6.800	150.185	150.070	**1.556**	156.985	-0.618	22
810	Tertiary	0+704.96	2018-11-29	2018-11-29	2018-11-30	0.60	158.813	10.07	148.743		-	150.060	*1.317*	157.269	-0.301	22
811	Secondary	0+705.71	2018-11-15	2018-11-16	2018-11-16	0.30	159.127	10.26	148.867	7.000	150.160	150.060	**1.193**	157.160	0.102	36
812	Tertiary	0+706.46	2012-12-01	2018-12-01	2018-12-01	1.30	158.931	10.30	148.631		-	150.090	*1.429*	157.300	0.303	13
813	Primary	0+707.21	2018-11-13	2018-11-13	2018-11-14	1.10	159.526	10.75	148.776	6.800	150.237	150.200	**1.424**	157.037	0.205	25
814	Tertiary	0+707.96	2018-11-28	2018-11-28	2018-11-28	4.15	158.459	10.11	148.349		-	150.260	*1.851*	157.229	-0.302	47
815	Secondary	0+708.71	2018-11-15	2018-11-16	2018-11-16	0.30	159.075	10.19	148.885	6.700	150.419	150.260	**1.375**	157.119	1.221	20
816	Tertiary	0+709.46	2018-11-30	2018-12-01	2018-12-01	1.50	158.728	11.10	147.628		-	150.240	*2.582*	157.304	-0.201	47
817	Primary	0+710.21	2018-11-12	2018-11-13	2018-11-13	0.50	159.286	10.21	149.076	6.700	150.295	150.210	**1.134**	156.995	0.618	18
818	Tertiary	0+710.96	2018-11-29	2018-11-29	2018-11-29	2.60	158.734	10.05	148.684		-	150.160	*1.444*	157.289	-0.405	6
819	Secondary	0+711.71	2018-11-15	2018-11-16	2018-11-16	0.30	159.447	10.49	148.957	7.000	150.128	150.140	**1.171**	157.128	-0.408	31
820	Tertiary	0+712.46	2018-11-30	2018-12-01	2018-12-01	1.00	158.765	10.72	148.045		-	150.130	*2.035*	157.292	0.702	65
821	Primary	0+713.21	2018-11-12	2018-11-13	2018-11-13	2.00	159.240	10.41	148.830	6.900	150.140	150.080	**1.250**	157.040	0.206	27
822	Tertiary	0+713.96	2018-11-29	2018-11-29	2018-11-29	1.70	159.527	10.97	148.557		-	149.960	*1.373*	157.286	0.502	50
823	Secondary	0+714.71	2018-11-16	2018-11-16	2018-11-17	1.00	158.901	10.26	148.641	7.100	150.035	149.930	**1.289**	157.135	0.818	37
824	Tertiary	0+715.46	2018-11-30	2018-11-30	2018-11-30	2.60	158.626	9.93	148.696		-	149.900	*1.164*	157.297	0.402	31
825	Primary	0+716.21	2018-11-13	2018-11-14	2018-11-14	1.80	159.369	10.56	148.809	6.800	150.238	149.860	**1.051**	157.038	-0.204	54
826	Tertiary	0+716.96	2018-11-29	2018-11-29	2018-11-29	3.45	158.639	10.06	148.579		-	149.840	*1.261*	157.315	-0.303	86
827	Secondary	0+717.71	2018-11-16	2018-11-16	2018-11-17	1.80	159.363	10.72	148.643	7.000	150.117	149.840	**1.197**	157.117	0.514	13
828	Tertiary	0+718.46	2018-11-30	2018-12-01	2018-12-01	0.30	158.854	10.60	148.254		-	149.870	*1.586*	157.302	0.302	23
829	Primary	0+719.21	2018-11-13	2018-11-14	2018-11-14	0.50	159.419	10.51	148.909	6.700	150.336	149.910	**1.001**	157.036	-0.206	53
830	Tertiary	0+719.96	2018-11-29	2018-11-29	2018-11-29	3.10	158.630	10.31	148.320		-	149.980	*1.590*	157.212	0.503	40
831	Secondary	0+720.71	2018-11-16	2018-11-16	2018-11-17	1.80	159.115	10.49	148.625	7.000	150.151	150.050	**1.425**	157.151	0.103	29
832	Tertiary	0+721.46	2018-11-30	2018-12-01	2018-12-01	0.30	158.900	10.31	148.590		-	150.090	*1.460*	157.311	0.302	35
833	Primary	0+722.21	2018-11-13	2018-11-14	2018-11-14	1.00	159.451	10.30	149.151	6.600	150.440	150.150	**0.999**	157.040	-0.204	37
834	Tertiary	0+722.96	2018-11-26	2018-11-26	2018-11-26	1.40	158.941	10.25	148.691		-	150.230	*1.459*	157.256	0.302	79
835	Secondary	0+723.71	2018-11-16	2018-11-17	2018-11-17	1.00	159.763	10.70	149.063	6.700	150.433	150.260	**1.197**	157.133	0.307	68
836	Tertiary	0+724.46	2018-11-30	2018-11-30	2018-11-30	1.55	159.426	10.20	149.226		-	150.260	*1.034*	157.269	-0.805	22
837	Primary	0+725.21	2018-11-14	2018-11-15	2018-11-15	1.00	159.804	10.64	149.164	6.600	150.447	150.280	**1.116**	157.047	0.308	24

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838	Tertiary	0+725.96	2018-11-25	2018-11-26	2018-11-26	3.00	158.799	10.27	148.529		-	150.250	*1.681*	157.224	0.802	127
839	Secondary	0+726.71	2018-11-16	2018-11-17	2018-11-17	1.00	159.298	10.40	148.898	6.800	150.387	150.210	**1.312**	157.187	0.613	47
840	Tertiary	0+727.46	2018-12-01	2018-12-01	2018-12-01	2.00	158.859	10.10	148.759		-	150.160	*1.371*	157.331	0.300	28
841	Primary	0+728.21	2018-11-15	2018-11-15	2018-11-15	1.00	159.296	10.30	148.996	6.400	150.665	150.130	**1.134**	157.065	0.206	14
842	Tertiary	0+728.96	2018-11-30	2018-11-30	2018-11-30	2.70	158.598	9.67	148.928		-	150.120	*1.192*	157.289	0.104	38
843	Secondary	0+729.71	2018-11-16	2018-11-16	2018-11-17	1.00	159.198	10.33	148.868	6.900	150.329	150.140	**1.272**	157.229	0.513	31
844	Tertiary	0+730.46	2018-12-01	2018-12-01	2018-12-01	2.10	158.964	10.40	148.564		-	150.180	*1.516*	157.360	0.303	18
845	Primary	0+731.21	2018-11-15	2018-11-15	2018-11-15	0.70	159.281	10.40	148.881	6.900	150.217	150.080	**1.199**	157.117	0.614	7
846	Tertiary	0+731.96	2018-11-30	2018-11-30	2018-11-30	1.65	159.281	10.33	148.951		-	150.120	*1.129*	157.285	0.101	23
847	Secondary	0+732.71	2018-11-16	2018-11-16	2018-11-17	1.20	159.340	10.27	149.070	6.900	150.288	150.240	**1.170**	157.188	0.307	25
848	Tertiary	0+733.46	2018-12-01	2018-12-01	2018-12-01	1.30	159.562	10.72	148.842		-	150.240	*1.368*	157.331	0.206	33
849	Primary	0+734.21	2018-11-13	2018-11-14	2018-11-14	1.60	159.752	10.73	149.022	6.600	150.484	150.210	**1.188**	157.084	-0.204	29
850	Tertiary	0+734.96	2018-11-30	2018-11-30	2018-11-30	0.95	159.092	10.00	149.092		-	150.180	*1.088*	157.269	0.202	6
851	Secondary	0+735.71	2018-11-16	2018-11-16	2018-11-17	2.40	159.270	10.28	148.990	6.800	150.353	150.180	**1.190**	157.153	1.322	47
852	Tertiary	0+736.46	2018-12-01	2018-12-01	2018-12-01	0.50	159.450	10.42	149.030		-	150.180	*1.150*	157.330	0.400	27
853	Primary	0+737.21	2018-11-13	2018-11-14	2018-11-14	1.50	159.703	10.70	149.003	6.500	150.565	150.180	**1.177**	157.065	0.924	7
854	Tertiary	0+737.96	2018-11-30	2018-11-30	2018-11-30	2.25	158.048	9.00	149.048		-	150.220	*1.132*	157.205	-0.301	36
855	Secondary	0+738.71	2018-11-16	2018-11-16	2018-11-17	2.40	159.338	10.20	149.138	6.450	150.695	150.190	**1.052**	157.145	1.017	19
856	Tertiary	0+739.46	2018-12-02	2018-12-02	2018-12-02	1.40	158.679	9.52	149.159		-	150.210	*1.031*	157.370	-0.504	14
857	Primary	0+740.21	2018-11-13	2018-11-14	2018-11-14	1.30	159.783	10.67	149.113	6.500	150.550	150.410	**1.297**	157.050	-0.103	31
858	Tertiary	0+740.96	2018-12-01	2018-12-01	2018-12-01	1.60	158.150	9.24	148.910		-	150.600	*1.500*	157.449	-0.200	35
859	Secondary	0+741.71	2018-11-28	2018-01-28	2018-11-28	6.50	157.843	9.51	148.333	6.800	150.485	150.690	**2.152**	157.285	0.202	40
860	Tertiary	0+742.46	2018-12-02	2018-12-02	2018-12-03	1.90	158.266	10.57	147.696		-	150.710	*2.420*	157.573	0.202	41
861	Primary	0+743.21	2018-11-25	2018-11-26	2018-11-26	3.70	157.870	9.90	147.970	7.000	150.116	150.730	**2.146**	157.116	0.201	117
862	Tertiary	0+743.96	2018-12-13	2018-12-03	2018-12-03	1.20	158.455	10.60	147.855		-	150.720	*2.261*	157.539	0.509	34
863	Secondary	0+744.71	2018-11-28	2018-11-28	2018-11-28	4.90	158.040	10.10	147.940	7.100	150.244	150.710	**2.304**	157.344	0.201	15
864	Tertiary	0+745.46	2018-12-02	2018-12-02	2018-12-03	1.60	158.477	10.53	147.947		-	150.690	*2.297*	157.516	0.403	42
865	Primary	0+746.21	2018-11-26	2018-11-26	2018-11-26	2.00	158.315	10.02	148.295	6.500	150.625	150.650	**2.330**	157.125	-0.302	41
866	Tertiary	0+746.96	2018-12-01	2018-12-01	2018-12-01	2.10	158.872	10.89	147.982		-	150.620	*2.628*	157.603	-0.301	17
867	Secondary	0+747.71	2018-11-28	2018-11-28	2018-11-28	3.80	158.209	9.75	148.459	6.700	150.674	150.610	**2.151**	157.374	-0.503	27
868	Tertiary	0+748.46	2018-12-02	2018-12-02	2018-12-03	3.00	158.316	10.21	148.106		-	150.600	*2.429*	157.659	-0.601	32
869	Primary	0+749.21	2018-11-25	2018-11-25	2018-11-26	4.80	158.058	9.63	148.428	6.600	150.535	150.600	**2.107**	157.135	0.301	71
870	Tertiary	0+749.96	2018-12-01	2018-12-01	2018-12-01	2.40	158.731	10.81	147.921		-	150.600	*2.614*	157.595	-0.202	21
871	Secondary	0+750.71	2018-11-28	2018-11-28	2018-11-28	3.70	158.149	9.80	148.349	6.500	150.811	150.610	**2.261**	157.311	0.503	45
872	Tertiary	0+751.46	2018-12-03	2018-12-03	2018-12-03	1.10	158.427	10.25	148.177		-	150.560	*2.373*	157.652	0.505	17

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873	Primary	0+752.21	2018-11-25	2018-11-25	2018-11-25	1.90	159.439	11.05	148.389	6.550	150.609	150.550	**2.161**	157.159	-0.304	47
874	Tertiary	0+752.96	2018-12-02	2018-12-02	2018-12-02	1.20	159.181	10.90	148.281		-	150.580	*2.254*	157.503	-0.405	16
875	Secondary	0+753.71	2018-11-30	2018-11-30	2018-12-01	3.05	157.947	9.60	148.347	6.800	150.535	150.620	**2.188**	157.335	0.200	15
876	Tertiary	0+754.46	2018-12-03	2018-12-03	2018-12-03	1.20	158.475	10.11	148.365		-	150.630	*2.170*	157.565	-0.704	20
877	Primary	0+755.21	2018-11-26	2018-11-26	2018-11-26	3.20	158.514	10.26	148.254	6.500	150.667	150.580	**2.326**	157.167	0.703	100
878	Tertiary	0+755.96	2018-12-01	2018-12-01	2018-12-01	1.70	158.224	10.03	148.194		-	150.500	*2.272*	157.516	0.301	27
879	Secondary	0+756.71	2018-11-27	2018-11-28	2018-11-28	4.70	157.951	9.74	148.211	6.800	150.466	150.500	**2.255**	157.266	-0.100	33
880	Tertiary	0+757.46	2018-12-03	2018-12-03	2018-12-03	1.65	158.174	10.23	147.944		-	150.570	*2.522*	157.559	-0.411	51
881	Primary	0+758.21	2018-11-25	2018-11-25	2018-11-25	2.20	158.451	10.10	148.351	6.400	150.740	150.590	**2.239**	157.140	-0.301	13
882	Tertiary	0+758.96	2018-12-04	208-12-04	2018-12-04	2.05	158.530	10.46	148.070		-	150.520	*2.130*	157.578	-0.903	42
883	Secondary	0+759.71	2018-11-30	2018-11-30	2018-11-30	4.40	158.190	10.13	148.060	7.100	150.200	150.390	**2.140**	157.300	-0.503	27
884	Tertiary	0+760.46	2018-12-03	2018-12-03	2018-12-03	1.70	158.374	10.81	147.564		-	150.340	*2.636*	157.539	0.406	18
885	Primary	0+761.21	2018-11-27	2018-11-27	2018-11-28	1.55	158.446	10.22	148.226	6.800	150.358	150.310	**2.084**	157.158	-0.302	29
886	Tertiary	0+761.96	2018-12-04	2018-12-04	2018-12-04	2.10	159.436	11.26	148.176		-	150.310	*2.134*	157.598	0.609	18
887	Secondary	0+762.71	2018-11-30	2018-11-30	2018-11-30	4.00	158.283	10.21	148.073	6.800	150.527	150.400	**2.327**	157.327	0.501	41
888	Tertiary	0+763.46	2018-12-03	2018-12-03	2018-12-04	1.10	159.449	11.30	148.149		-	150.440	*2.251*	157.576	0.822	37
889	Primary	0+764.21	2018-11-27	2018-11-27	2018-11-27	3.80	158.159	9.80	148.359	6.700	150.403	150.430	**2.044**	157.103	0.603	32
890	Tertiary	0+764.96	2018-12-01	2018-12-02	2018-12-02	2.00	158.050	9.86	148.190		-	150.430	*2.213*	157.480	-0.403	38
891	Secondary	0+765.71	2018-11-29	2018-11-29	2018-11-29	2.55	158.026	10.06	147.966	6.800	150.455	150.440	**2.474**	157.255	0.703	17
892	Tertiary	0+766.46	2018-12-04	2018-12-04	2018-12-04	0.40	159.703	11.27	148.433		-	150.490	*1.962*	157.591	-0.507	43
893	Primary	0+767.21	2018-11-27	2018-11-27	2018-11-27	3.20	158.217	9.84	148.377	6.700	150.395	150.420	**2.018**	157.095	0.404	47
894	Tertiary	0+767.96	2018-12-03	2018-12-03	2018-12-03	1.00	159.316	11.37	147.946		-	150.390	*2.444*	157.559	0.402	188
895	Secondary	0+768.71	2018-12-01	2018-12-01	2018-12-01	3.10	158.083	9.80	148.283	6.900	150.407	150.410	**2.124**	157.307	0.504	14
896	Tertiary	0+769.46	2018-12-04	2018-12-04	2018-12-04	1.30	159.937	12.03	147.907		-	150.460	*2.500*	157.709	0.303	24
897	Primary	0+770.21	2018-11-26	2018-11-26	2018-11-26	4.90	157.933	10.03	147.903	6.500	150.543	150.500	**2.597**	157.043	0.301	55
898	Tertiary	0+770.96	2018-12-01	2018-12-02	2018-12-02	2.55	158.176	10.10	148.076		-	150.490	*2.414*	157.510	0.401	35
899	Secondary	0+771.71	2018-11-28	2018-11-29	2018-11-29	2.60	158.344	10.00	148.344	6.700	150.577	150.520	**2.176**	157.277	0.302	32
900	Tertiary	0+772.46	2018-12-03	2018-12-03	2018-12-03	0.50	159.249	10.81	148.439		-	150.520	*2.081*	157.511	-0.704	48
901	Primary	0+773.21	2018-11-26	2018-11-26	2018-11-26	2.00	159.438	11.00	148.438	6.400	150.616	150.520	**2.082**	157.016	0.507	49
902	Tertiary	0+773.96	2018-12-01	2018-12-01	2018-12-02	1.60	158.387	9.25	149.137		-	150.520	*1.479*	157.450	0.201	35
903	Secondary	0+774.71	2018-11-28	2018-11-28	2018-11-29	2.95	158.504	9.00	149.504	6.600	150.625	149.730	**1.121**	157.225	0.302	4
904	Tertiary	0+775.46	2018-12-03	2018-12-03	2018-12-03	0.80	158.496	9.97	148.526		-	149.740	*1.884*	157.504	-0.201	27
905	Primary	0+776.21	2018-11-26	2018-11-26	2018-11-26	2.60	158.376	9.00	149.376	6.600	150.410	149.750	**1.034**	157.010	0.301	37
906	Tertiary	0+776.96	2018-12-01	2018-12-01	2018-12-01	0.60	158.236	8.97	149.266	6.600	-	149.770	**1.144**	157.467	0.603	25
907	Secondary	0+777.71	2018-11-28	2018-11-28	2018-11-28	4.00	158.366	8.70	149.666	6.600	150.634	149.800	**0.968**	157.234	-0.401	30

PILE NUMBER	PILE TYPE	STATION	ANCHORING DATE	Verification date	POURING DATE	CB Topping (vertical m)	Top elevation S.P casing(m)	BEDROCK measurement (Top casing to bottom socket)	Rock socket bottom elevation (m)	Depth of encountered bedrock (as per HD) (m)	Elevation of encountered Bedrock (m)	Elevation of theoretical bedrock from surveyor (m)	Depth of rock socket (m)	Ground elevation (m)	Max. Deviation (%)	Offset (mm)
908	Tertiary	0+778.46	2018-12-02	2018-12-02	2018-12-03	1.80	158.281	8.74	149.541		-	149.830	*1.093*	157.411	0.402	16
909	Primary	0+779.21	2018-11-25	2018-11-25	2018-11-25	3.10	158.303	9.61	148.693	6.400	150.648	149.850	**1.955**	157.048	-0.301	54
910	Tertiary	0+779.96	2018-12-01	2018-12-01	2018-12-01	0.40	157.950	8.28	149.670	6.600	-	149.880	**0.909**	157.368	0.202	37
911	Secondary	0+780.76	2018-11-27	2018-11-27	2018-11-27	1.50	158.419	9.21	149.209	6.600	150.579	149.910	**1.370**	157.179	-0.100	10
912	Tertiary	0+781.56	2018-12-02	2018-12-02	2018-12-03	1.50	158.401	9.31	149.091		-	149.940	*1.350*	157.383	-0.302	19
913	Primary	0+782.36	2018-11-25	2018-11-25	2018-11-25	2.70	158.946	10.10	148.846	6.600	150.441	149.970	**1.595**	157.041	-0.203	45
914	Tertiary	0+783.16	2018-12-01	2018-12-01	2018-12-01	3.00	158.075	8.43	149.645	6.600	-	149.990	**0.796**	157.293	0.101	14
915	Secondary	0+783.96	2018-11-27	2018-11-27	2018-11-27	3.15	157.952	8.75	149.202	6.500	150.667	150.040	**1.465**	157.167	0.503	37
916	Tertiary	0+784.76	2018-12-03	2018-12-03	2018-12-03	0.80	158.268	8.85	149.418		-	150.080	*1.249*	157.403	0.400	34
917	Primary	0+785.56	2018-11-25	2018-11-25	2018-11-25	2.00	158.787	9.77	149.017	6.100	150.914	150.120	**1.897**	157.014	0.201	15
918	Tertiary	0+786.36	2018-12-01	2018-12-01	2018-12-02	1.50	158.750	9.02	149.730	6.200	-	150.160	**1.184**	157.329	0.806	37
919	Secondary	0+787.16	2018-11-29	2018-11-29	2018-11-29	1.00	158.915	8.95	149.965	6.200	150.992	150.190	**1.027**	157.192	1.103	12
920	Tertiary	0+787.96	2018-12-03	2018-12-03	2018-12-03	2.00	158.085	8.45	149.635		-	150.230	*1.173*	157.320	-0.402	64
921	Primary	0+788.76	2018-11-27	2018-11-27	2018-11-27	2.90	157.558	8.32	149.238	6.200	150.808	150.270	**1.570**	157.008	0.102	24
922	Tertiary	0+789.56	2018-12-01	2018-12-01	2018-12-01	1.10	158.431	8.90	149.531	6.200	-	150.310	**1.277**	157.251	0.100	39
923	Secondary	0+790.36	2018-11-29	2018-11-29	2018-11-29	1.30	158.051	8.41	149.641	6.200	150.904	150.350	**1.263**	157.104	-0.201	43
924	Tertiary	0+791.16	2018-12-02	2018-12-02	2018-12-02	1.40	158.325	8.73	149.595		-	150.380	*1.309*	157.275	0.303	68
925	Primary	0+791.96	2018-11-27	2018-11-27	2018-11-27	2.10	158.636	8.90	149.736	5.400	151.591	150.420	**1.855**	156.991	0.404	26
926	Tertiary	0+792.76	2018-12-01	2018-12-01	2018-12-01	0.65	158.947	9.40	149.547	6.500	-	150.460	**1.042**	157.218	0.701	49
927	Secondary	0+793.56	2018-11-29	2018-11-29	2018-11-29	2.75	157.983	8.75	149.233	6.500	150.589	150.520	**1.356**	157.089	0.302	28
928	Tertiary	0+794.36	2018-12-03	2018-12-03	2018-12-04	1.90	158.300	9.88	148.420		-	150.590	*2.169*	157.282	0.102	21
929	Primary		2018-11-27	2018-11-27	2018-11-27	3.00	159.233	9.90	149.333	5.400	151.561	150.660	**2.228**	156.961	-0.101	6
930	Tertiary	0+795.96	2018-12-02	2018-12-02	2018-12-02	0.60	158.804	8.42	150.384	5.600	-	150.730	**1.077**	157.232	0.304	28
931	Secondary	0+796.76	2018-11-28	2018-11-28	2018-11-29	2.80	158.267	8.86	149.407	5.600	151.461	150.800	**2.054**	157.061	-0.202	30
932	Tertiary	0+797.56	2018-12-03	2018-12-03	2018-12-04	0.90	158.236	8.12	150.116		-	150.860	*1.345*	157.286	-0.307	36
933	Primary	0+798.36	2018-11-27	2018-11-27	2018-11-27	0.90	158.488	8.05	150.438	5.300	151.662	150.920	**1.224**	156.962	0.506	28
934	Tertiary	0+799.16	2018-12-02	2018-12-02	2018-12-02	0.30	159.177	9.29	149.887	5.900	-	150.980	**1.295**	157.228	-0.405	30
935	Secondary	0+799.96	2018-11-30	2018-11-30	2018-11-30	1.50	158.404	8.52	149.884	5.900	151.182	151.040	**1.298**	157.082	0.202	27
936	Tertiary	0+800.76	2018-12-03	2018-12-03	2018-12-04	1.10	158.071	8.22	149.851		-	151.110	*1.331*	157.291	-0.304	42
937	Primary	0+801.56	2018-11-28	2018-11-28	2018-11-28	1.80	158.616	8.17	150.446	5.400	151.587	151.170	**1.141**	156.987	-0.401	50
938	Tertiary	0+802.36	2018-12-02	2018-12-02	2018-12-02	1.60	158.183	7.95	150.233	5.600	-	151.240	**1.214**	157.215	-0.406	28
939	Secondary	0+803.16	2018-11-30	2018-11-30	2018-11-30	1.10	158.650	8.60	150.050	5.600	151.447	151.300	**1.397**	157.047	-0.404	29
940	Tertiary	0+803.96	2018-12-03	2018-12-03	2018-12-04	1.40	158.099	8.05	150.049		-	151.370	*1.398*	157.318	0.102	32
941	Primary	0+804.76	2018-11-28	2018-11-28	2018-11-28	1.70	157.848	6.27	151.578	4.200	152.808	151.430	**1.230**	157.008	0.101	23
942	Tertiary	0+805.56	2018-12-02	2018-12-02	2018-12-03	0.50	157.953	7.55	150.403	5.400	-	151.480	**1.256**	157.153	-0.100	18

PILE NUMBER	PILE TYPE	STATION	ANCHORING DATE	Verification date	POURING DATE	CB Topping (vertical m)	Top elevation S.P casing(m)	BEDROCK measurement (Top casing to bottom socket)	Rock socket bottom elevation (m)	Depth of encountered bedrock (as per HD) (m)	Elevation of encountered Bedrock (m)	Elevation of theoretical bedrock from surveyor (m)	Depth of rock socket (m)	Ground elevation (m)	Max. Deviation (%)	Offset (mm)
943	Secondary	0+806.36	2018-11-30	2018-11-30	2018-11-30	1.20	157.982	7.33	150.652	5.400	151.659	151.540	**1.007**	157.059	-0.202	23
944	Tertiary	0+807.16	2018-12-04	2018-12-04	2018-12-04	1.30	158.338	8.34	149.998		-	151.600	*1.602*	157.269	0.308	32
945	Primary	0+807.96	2018-11-28	2018-11-29	2018-11-29	1.60	157.653	7.00	150.653	4.600	152.424	151.660	**1.771**	157.024	0.506	22
946	Tertiary	0+808.76	2018-12-02	2018-12-02	2018-12-02	1.10	157.830	6.95	150.880	5.100	-	151.710	**1.127**	157.269	0.505	14
947	Secondary	0+809.56	2018-11-30	2018-11-30	2018-11-30	0.75	157.735	7.22	150.515	5.100	152.007	151.770	**1.492**	157.107	0.510	20
948	Tertiary	0+810.36	2018-12-04	2018-12-04	2018-12-04	1.10	157.932	7.29	150.642		-	151.830	*1.365*	157.283	-0.204	24
949	Primary	0+811.16	2018-11-28	2018-11-29	2018-11-29	1.60	157.602	7.13	150.472	4.500	152.566	151.890	**2.094**	157.066	-0.704	52
950	Tertiary	0+811.96	2018-12-02	2018-12-02	2018-12-02	1.20	157.637	6.37	151.267	4.900	-	151.950	**1.005**	157.235	-0.202	54
951	Secondary	0+812.76	2018-11-30	2018-11-30	2018-11-30	1.20	158.187	7.11	151.077	4.900	152.272	152.010	**1.195**	157.172	-0.301	58
952	Tertiary	0+813.56	2018-12-04	2018-12-04	2018-12-04	1.40	158.041	7.38	150.661		-	152.080	*1.611*	157.323	-0.307	25
953	Primary	0+814.36	2018-11-29	2018-11-29	2018-11-30	1.10	157.665	6.87	150.795	4.600	152.526	152.150	**1.731**	157.126	0.302	45
954	Tertiary	0+815.16	2018-12-02	2018-12-03	2018-12-03	1.50	157.577	6.09	151.487	4.800	-	152.210	**0.922**	157.332	0.500	14
955	Secondary	0+815.96	2018-11-30	2018-11-30	2018-12-01	0.30	158.208	7.19	151.018	4.800	152.409	152.270	**1.391**	157.209	0.503	60
956	Tertiary	0+816.76	2018-12-04	2018-12-04	2018-12-04	1.30	158.811	7.87	150.941		-	152.330	*1.468*	157.412	0.103	31
957	Primary	0+817.56	2018-11-29	2018-11-29	2018-11-30	0.60	157.925	6.84	151.085	4.500	152.695	152.390	**1.610**	157.195	0.100	38
958	Tertiary	0+818.36	2018-12-02	2018-12-03	2018-12-03	1.70	157.893	6.30	151.593	4.700	-	152.460	**0.992**	157.425	0.200	70
959	Secondary	0+819.16	2018-11-30	2018-11-30	2018-12-01	0.25	158.713	7.32	151.393	4.700	152.585	152.510	**1.192**	157.285	-0.402	40
960	Tertiary	0+819.96	2018-12-04	2018-12-04	2018-12-04	1.30	158.278	7.13	151.148		-	152.560	*1.437*	157.481	-0.515	48
961	Primary	0+820.76	2018-12-29	2018-11-29	2018-11-30	0.70	157.954	6.68	151.274	4.600	152.671	152.610	**1.397**	157.271	0.503	11
962	Tertiary	0+821.56	2018-12-03	2018-12-03	2018-12-03	1.45	158.069	6.58	151.489	4.600	-	152.660	**1.182**	157.483	0.903	37
963	Secondary	0+822.36	2018-11-30	2018-11-30	2018-12-01	0.30	158.512	7.05	151.462	4.600	152.778	152.710	**1.316**	157.378	-0.504	15
964	Tertiary	0+823.16	2018-12-04	2018-12-04	2018-12-04	1.80	158.184	6.72	151.464		-	152.760	*1.314*	157.660	0.301	30
965	Primary	0+823.96	2018-11-29	2018-11-29	2018-11-30	0.60	158.053	6.89	151.163	4.500	152.879	152.800	**1.716**	157.379	-0.301	14
966	Tertiary	0+824.76	2018-12-02	2018-12-03	2018-12-03	1.50	158.159	7.10	151.059		-	152.840	*1.229*	157.552	1.099	34
967	Secondary	0+825.56	2018-11-19	2018-11-19	2018-11-19	0.10	158.210	6.30	151.910	5.100	152.288	152.870	**0.378**	157.388	-1.136	18
968	Tertiary	0+826.36	2018-11-22	2018-11-22	2018-11-22	0.40	158.033	5.18	152.853		-	152.910	**-0.565**	157.382	0.301	108
969	Primary	0+827.16	2018-11-19	2018-11-19	2018-11-19	0.20	158.676	5.83	152.846	4.300	153.110	152.950	**0.264**	157.410	-0.618	24
970	Tertiary	0+827.96	2018-11-22	2018-11-22	2018-11-22	2.30	157.946	5.30	152.646			152.980	**-0.272**	157.431	-0.102	26
971	Secondary	0+828.76	2018-11-19	2018-11-19	2018-11-19	0.20	158.337	6.10	152.237	5.100	152.374	153.030	**0.137**	157.474	-0.614	30
972	Tertiary	0+829.56	2018-11-22	2018-11-22	2018-11-22	1.50	158.026	5.05	152.976		-	153.080	**-0.931**	157.494	-1.106	70
973	Primary	0+830.36	2018-11-19	2018-11-19	2018-11-19	0.30	158.294	6.24	152.054	5.500	152.045	153.130	**-0.009**	157.545	-0.516	72
974	Tertiary	0+831.16	2018-11-22	2018-11-22	2018-11-22	2.00	157.932	4.90	153.032		-	153.180	**-0.987**	157.555	-0.605	71
975	Secondary	0+831.96	2018-11-19	2018-11-19	2018-11-19	0.30	158.294	5.90	152.394	5.380	152.231	153.230	**-0.163**	157.611	-0.923	25

Notes:

1) From stations 0+500 to 0+0+600 (piles # 537 to 670) and 0+709.5 to 0+727.5 (piles # 816 to 840), there was a frozen zone and bedrock surface was expected to be 0.8 to 1.0 m deeper.

PILE NUMBER	PILE TYPE	STATION	ANCHORING DATE	Verification date	POURING DATE	CB Topping (vertical m)	Top elevation S.P casing(m)	BEDROCK measurement (Top casing to bottom socket)	Rock socket bottom elevation (m)	Depth of encountered bedrock (as per HD) (m)	Elevation of encountered Bedrock (m)	Elevation of theoretical bedrock from surveyor (m)	Depth of rock socket (m)	Ground elevation (m)	Max. Deviation (%)	Offset (mm)
2) From stations 0+743 to 0+773 (piles # 859 to 901), secant piles required a minimal rock socket of 2.0 m instead of 1.0 m. **3) From stations 0+775 to 0+825 (piles # 903 to 966), minimal rock socket of 1.0 m was approved based to HDFI encountered bedrock surface.** **4) From stations 0+826 to 0+832 (piles # 967 to975) at the east abutment, no rock socket was required due to frozen till presence during stripping of the foundation.**																

Appendix G

CB Slurry Laboratory Testing

Appendix G-1

Testing Results on Slurry Mixes

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-09-10	BP-001		1.130	70	12.5	Bottom		1.255	113	12.4									CB-WTD-001	The Viscosity does not fit with the spec, but it does not affect quality of the mix. It only affect the operations on the field.	MIX A
	BP-002		1.030	79	11.6	Bottom		1.255	113	15.4									CB-WTD-002		MIX A
	BP-003		1.030	-	11.4	Bottom		1.250	-	15.2											MIX A
	BP-004		1.030	-	11.0	Bottom		1.255	74	14.6									CB-WTD-003		MIX A
	BP-005		1.015	70	11.6	Bottom		1.240	111	14.1											MIX A
	BP-006		1.010	53	9.4	Bottom		1.240	68	14.1									CB-WTD-004		MIX A
	BP-007		1.010	57	11.9	Bottom				-										Rejected	MIX A
2018-09-16 day	1	10h25	1.025	>197	11.0	Bottom	12h25	1.255	>180	17.8	22.0	clear	6.0	-	1475	0.0	-1.23		CB-WTD-005		MIX B
	2	13h30	1.040	120	13.0	Bottom	15h03	1.255	>180	17.1	20.0	clear	6.0	-							MIX B
	3	15h30	1.040	205	15.1	Bottom	16h00	1.255	>180	16.5	22.0	clear	12.0	-					CB-WTD-006		MIX B
	4	16h30	1.035	190	15.5	Bottom	17h40	1.265	>180	19.0	22.0	clear	12.0	-							MIX B
	5	18h00	1.035	216	15.3	Bottom	18h26	1.250	>180	15.3	21.0	clear	12.5	-							MIX B
2018-09-16 night	6	19h10	1.025	>180	15.1	Bottom	19h40	1.260	>180	17.8	17.8	clear	11.2	-				19h40			MIX B
	7	20h16	1.030	>180	17.7	Bottom	22h05	1.255	>180	18.7	17.1	clear	7.8	-				22h05		Pipe trench beside the batch plan	MIX B
	8	23h09	1.030	>180	16.9	Bottom	23h30	1.270	>180	-	16.4	clear	12.3	-	840	0.0	-1.25	23h38	CB-WTD-007		MIX B
	9	00h15	1.030	>180	18.1	Bottom	00h30	1.265	>180	17.8	17.0	clear	12.1	-				00h30			MIX B

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	10	00h50	1.025	>180	17.1	Bottom	1h15	1.260	>180	18.5	20.4	clear	11.2	-				1h15			MIX B
	11	2h10	1.025	>180	15.1	Bottom	2h45	1.250	>180	16.5	19.5	clear	11.0	-				2h45	CB-WTD-008		MIX B
	12	3h30	1.030	>180	16.7	Bottom	2h55	1.255	>180	18.1	22.1	clear	10.8	-				3h55			MIX B
	13	4h30	1.030	>180	17.6	Bottom	4h50	1.255	>180	19.0	22.0	clear	10.8	-				4h50			MIX B
2018-09-17 day	14	6h25	1.025	>180	16.5	Bottom	6h38	1.240	>180	20.0	18.0	clear	11.0	-	1405	0.0	0	6h38	CB-WTD-009		MIX B
	15	8h27	1.025	>180	25.0	Bottom	9h15	1.265	>180	25.0	13.0	clear	8.6	-				9h15			MIX B
	16	9h43	1.030	>180	18.6	Bottom	10h11	1.265	>180	20.8	14.4	clear	12.5	-				10h11			MIX B
	17	10h25	1.030	>180	16.4	Bottom	11h19	1.270	>180	20.6	14.9	clear	11.9	-				11h19	CB-WTD-010		MIX B
	18	16h35	1.025	87	37.1	Bottom	17h52	1.250	>180	31.1	23.3	clear	12.7	-				17h52			MIX B
2018-09-17 night	19	19h05	1.030	>180	23.1	Bottom	19h50	1.260	>180	26.1	24.0	clear	12.0	-				19h50			MIX B
	20	20h30	1.030	>180	19.4	Bottom	21h08	1.265	>180	21.7	25.3	clear	12.3	-				21h08	CB-WTD-011		MIX B
	21	22h00	1.025	>180	18.7	Bottom	22h50	1.265	>180	19.1	19.1	clear	12.4	-				22h50	CB-WTD-012		MIX B
	22	23h15	1.030	>180	15.1	Bottom	23h42	1.255	>180	18.5	19.4	clear	12.0	-				23h42			MIX B
	23	0h38	1.030	>180	14.7	Bottom	2h34	1.250	>180	20.3	18.0	clear	11.2	-				2h34			MIX B
	24	3h18	1.025	>180	15.2	Bottom	4h21	1.260	>180	19.5	15.8	clear	11.3	-				4h21			MIX B
	25	5h00	1.030	>180	14.9	Bottom	5h53	1.255	>180	13.1	13.8	clear	11.7	-				5h53			MIX B
2018-09-18 day	26	10h45	1.030	>180	17.2	Bottom	9h19	1.260	>180	18.2	12.5	clear	10.5	-	445	0.0	1.23	9h19	CB-WTD-013		MIX B
	27	13h00	1.030	>180	18.2	Bottom	11h10	1.270	>180	18.6	11.3	clear	11.3	-				11h10			MIX B

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	28	9h10	1.030	157	22.0	Bottom	13h40	1.260	>180	20.0	11.9	clear	11.9	-				13h40	CB-WTD-014	Rejected, PAT broken.	MIX B
9/24/2018 Night	86	8h07	1.035	88	17.8	Bottom	9h13	1.240	49	18.6	22.4	CLEAR	10.6					09:21	CB-WTD-015		MIX A
	88	8h50	1.030	140	15.6	Bottom	9h40	1.200	45	18.5	23.9	CLEAR	10.6								MIX A
	90	9h50	1.025	85	13.2	Bottom	10h50	1.245	53	18.4	25.1	CLEAR	10.6								MIX A
	92	10h30	1.030	150	13.0	Bottom	11h05	1.250	54	16.3	23.5	CLEAR	10.6								MIX A
	94	11h14	1.035	116	12.6	Bottom	12h21	1.250	53	17.4	21.4	CLEAR	10.6								MIX A
9/25/2018 NIGHT	96	12h00	1.030	180	12.6	Bottom	12h34	1.245	63	17.6	20.6	CLEAR	10.6								MIX A
	98	1h00	1.030	97	13.4	Bottom	2h17	1.250	57	17.5	20.3	CLEAR	10.6								MIX A
	100	1h49	1.035	151	12.8	Bottom	2h20	1.240	62	16.9	22.3	CLEAR	10.6								MIX A
	102	2h35	1.033	>180	12.3	Bottom	3h43	1.240	55	18.2	24.0	CLEAR	10.6					03:43	CB-WTD-016		MIX A
	104	3h25	1.030	130	12.4	Bottom	3h50	1.245	53	17.6	21.2	CLEAR	10.6								MIX A
	106	4h06	1.030	150	11.8	Bottom	5h40	1.245	48	16.8	22.6	CLEAR	10.6								MIX A
	108	5h30	1.032	50=?	12.6	Bottom	6h00	1.230	54	18.3	24.3	CLEAR	10.6								MIX A
9/25/2018 DAY	110	13h18	1.020	54	12.9	Bottom	13h50	1.220	42	19.6	23.0										MIX A
	112	14h10	1.030	55	14.2	Bottom	14h30	1.250	147	21.6	23.0										MIX A
	114	16h20	1.030	57	15.3	Bottom	17h30	1.250	118	16.4	23.0										MIX A
9/25/2018 Night	116	3h45	1.030	>180	21.0	Bottom	5h02	1.265	122	22.1	24.1		11.7						CB-WTD-018		MIX A
	118	4h45	1.030	140	18.6	Bottom	5h10	1.240	55	17.5	26.8		-								MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
9/26/2018 DAY	120	6h30	1.030	55	12.1	Bottom	6h35	1.245	-	16.0	26.3		-								MIX A
	122	6h20	1.030	53	12.1	Bottom	6h30	1.240	-	18.2	28.3		-								MIX A
	124	7h40	1.025	51	11.2	Bottom	9h15	1.250	61	17.4	19.2		8.0						CB-WTD-019		MIX A
	126	9h30	1.025	58	11.6	Bottom	9h56	1.250	55	17.6	24.1		9.0								MIX A
	128	10h20	1.025	51	12.4	Bottom	10h50	1.245	53	14.2	14.8		8.7								MIX A
	130	11h10	1.030		12.8	Bottom	11h40	1.250	57	15.5	16.1		9.4								MIX A
	132	11h50	1.030		15.1	Bottom	13h20	1.245	54	19.0	23.4		9.6								MIX A
	134	13h30	1.030	53	13.4	Bottom	13h35	1.235	54	15.6	24.1		8.1								MIX A
	136	14h00	1.025	53	14.2	Bottom	15h05	1.260		14.5	13.8								16:30	CB-WTD-020		MIX A
2018-09-26 Night	138	15h45	1.025	51	14.2	Bottom	16h10	1.240	48	15.5	16.0											MIX A
	140	16h50	1.025	49	14.4	Bottom	17h20	1.245	53	16.2	13.1											MIX A
	142	18h20	1.030	40	15.8	Bottom	19h10	1.250	56	18.6	23.1											MIX A
	144	19h34	1.030	51	16.3	Bottom	20h55	1.240	52	19.1	27.1											MIX A
	146	20h13	1.030	45	15.0	Bottom	20h37	1.250	52	16.8	18.1											MIX A
	148	20h10	1.030	47	15.5	Bottom	10h40	1.260	64	21.6	25.0											MIX A
	150	10h38		45	23.6	Bottom	12h40	1.275	stuck in cone/argo no effect	32.0	12.3		10.3								Rejected batch cause of temperature and arbo does not have effect	MIX A
	152	2h20	1.030	81	20.5	Bottom	4h03	1.250	61	21.8										CB-WTD-021		MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	154	5h06	1.025	52	19.6	Bottom	-	1.250	>180	20.1											MIX A
9/26/2018 DAY	156	7h35	1.030	49	17.5	Bottom	8h45	1.280	70	15.4	18.1									Density higher than normal bc of lost of some bentonite on the ground	MIX A
	158	9h30	1.030		18.4	Bottom	11h35	1.250	59	19.6											MIX A
	160	11h30	1.030	53	18.2	Bottom	12h05	1.235	54	17.8									CB-WTD-022		MIX A
	162	14h20	1.030		18.1	Bottom	14h50	1.245	64	18.3											MIX A
	164	15h10	1.030	55	16.1	Bottom	15h35	1.235	57	18.5	18.6		7.8								MIX A
	166	16h10	1.030		16.8	Bottom	-	1.250		21.2	17.9										MIX A
	168	16h45	1.030		16.6	Bottom	16h50	1.250		18.1											MIX A
9/27/2018 NIGHT	170	19h28	1.035	48	16.5	Bottom	20h12	1.255	88	20.4									CB-WTD-023		MIX A
	172	-	1.030	47	16.3	Bottom	20h25	1.252	81	19.2	27.6										MIX A
	174	20h43	1.035	51	15.6	Bottom	21h51	1.250	75	18.6	27.2										MIX A
	176	9h21	1.030	46	14.7	Bottom	9h55	1.260	77	20.5	26.2										MIX A
	178	10h47	1.030	50	14.8	Bottom	11h42	1.255	67	18.5	31.0										MIX A
	180	11h26	1.035	61	16.5	Bottom	11h48	1.250	70	19.5	28.3										MIX A
	182	12h20	1.030	60	16.3	Bottom	1h37	1.255	66	-	35.0										MIX A
	184	1h06	1.030	57	16.6	Bottom	1h32	1.250	62	21.7	29.3										MIX A
	186	2h22	1.030	60	15.8	Bottom	3h05	1.250	66	20.4	34.0										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	188	2h47	1.030	48	15.5	Bottom	3h09	1.255	58	20.3	34.3										MIX A
	190	3h33	1.035	51	15.4	Bottom	-	1.250	N-A	21.0	18.0										MIX A
	192	3h48	1.025	49	14.8	Bottom	-	-	-	-	31.6									Batch plan problem, no cb made with	MIX A
9/28/2018 NIGHT	194	-	-	-	-	Bottom	9h29	1.245	57	19.3	-	clear	13.9							QC was in lab for the bentonite batch	MIX A
	196	9h20	1.030	68	15.6	Bottom	9h41	1.000	51	18.8	27.0										MIX A
	198	9h55	1.030	64	15.8	Bottom	11h00	1.265	69	21.0	31.1										MIX A
	200	-	1.030	146	15.8	Bottom	11h04	1.265	61	20.1	31.5										MIX A
	202	11h36	1.032	92	15.5	Bottom	12h56	1.255	88	24.1	-										MIX A
	204	12h34	1.035	77	16.3	Bottom	12h45	1.275	75	19.5	32.0							12:58	CB-WTD-024		MIX A
	206	1h20	1.035	80	16.1	Bottom	2h39	1.270	60	20.8	26.6										MIX A
	208	2h08	1.030	68	16.4	Bottom	2h44	1.265	52	19.0	25.9										MIX A
	210	3h24	1.035	70	17.1	Bottom	4h29	1.265	64	21.6	28.1								CB-WTD-025		MIX A
	212	4h22	1.030	74	16.5	Bottom	4h32	1.250	57.000	19.0	28.7										MIX A
9/29/2018 DAY	214	5h00				Bottom	6h40	1.230	N-A	20.0	14.0							08:20	CB-WTD-026		MIX A
	216	7h25				Bottom	9h45													Dumped problem with batch plan	MIX A
	218	17h10	1.025	137	17.1	Bottom	17h40	1.250	46	19.2	14.8										MIX A
2018-09-29 NIGHT	220	6h33	1.03	80	17.6	Bottom	6h55	1.280	51	20.3	17.1										MIX A
	222	8h32	1.03	n-a	24.2	Bottom	10h22	1.250	46	22.8	21.2							10:22	CB-WTD-027		MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	224	10h11	1.030	102	17.3	Bottom	10h25	1.255	58	19.6	29.8										MIX A
	226	11h02	1.030	123	15.8	Bottom	11h44	1.255	51	20.4	23.0	9.2	clear								MIX A
	228	11h38	1.040	97	15.0	Bottom	11h48	1.250	48	17.8	31.2										MIX A
	230	12h21	1.035	96	15.1	Bottom	1h33	1.250	55	19.3	30.5										MIX A
	232	1h26	1.030	109	15.0	Bottom	1h38	1.255	49	17.7	23.0										MIX A
	234	2h13	1.035	90	14.4	Bottom	3h10	1.245	61	19.5	30.8										MIX A
	236	2h50	1.030	106	14.1	Bottom	3h05	1.260	53	18.6	31.8							03:05	CB-WTD-028		MIX A
	238	4h05	1.030	90	16.3	Bottom	5h00	1.250	47	21.0	27.5										MIX A
	240	-	1.030	112	16.8	Bottom	5h07	1.255	51	19.2	29.1										MIX A
2018-09-30 DAY	242	-	-	-	-	Bottom	7h35	1.245	58	20.5	10.3							08:00	CB-WTD-029		MIX A
	244	-	1.030	-	16.4	Bottom	8h00	1.250	57	18.9	11.2										MIX A
	246	8h30	1.030	61	17.1	Bottom	9h20	1.260	53	19.5	10.5		10.5								MIX A
	248	10h00	1.030	58	15.8	Bottom	10h20	1.255	48	19.1	12.4										MIX A
	250	10h48	1.025	50	16.3	Bottom	11h10	1.250	49	20.2	13.4										MIX A
	252	11h50	1.030	52	15.3	Bottom	13h00	1.250	54	19.7	15.2										MIX A
	254	-	-	-	-	Bottom	14h20	1.250	49	18.9	11.2										MIX A
	256	13h55	1.025	65	19.4	Bottom	14h10	1.250	58	19.4	12.4										MIX A
	258	14h50	1.025	57	16.3	Bottom	19h05	1.255	>180	22.9	13.3									Arbo mis trop tot , rejeté 1/2 du camion (#258,260)	MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	260	15h45	1.030	51	15.8	Bottom	19h10	1.260	>180	24.0	14.4							19:10	CB-WTD-030	Arbo mis trop tot, rejeté 1/2 du camion (#258,260)	MIX A
2018-09-30 NIGHT	262	19h30	1.035	55	27.1	Bottom	-		>180	28.3	15.1	Clear	11.1							Rejeté, trop chaud et Arbo aucune efficacité	MIX A
	264	10h23	1.030	102	16.6	Bottom	20h43	1.260	85	21.3	30.3										MIX A
	266	21h37	1.030	73	19.9	Bottom	22h18	1.220	75	22.1	24.3										MIX A
	268	22h45	1.035	80	12.6	Bottom	11h32	1.250	47	19.6	26.4										MIX A
	270	11h28	1.030	68	13.9	Bottom	11h39	1.255	49	20.3	28.1										MIX A
	272	12h04	1.030	64	12.8	Bottom	12h55	1.255	71	19.1	30.0										MIX A
	274	12h49	1.030	89	15.4	Bottom	12h59	1.250	52	17.2	27.5										MIX A
	276	1h55	1.035	78	14.7	Bottom	2h35	1.240	49	20.5	29.0										MIX A
	278	2h31	1.030	77	15.7	Bottom	2h42	1.260	46	20.2	30.5										MIX A
	280	3h21	1.035	81	15.0	Bottom	4h03	1.250	55	19.3	28.5										MIX A
	282	4h04	1.025	64	15.0	Bottom	4h12	1.240	51	17.6	28.4							04:12	CB-WTD-031		MIX A
	284	4h43	-	78	13.3	Bottom	5h32	1.260	-	18.1	27.0										MIX A
	286	-	-	-		Bottom	7h17	1.250	58	15.7	24.4										MIX A
2018-10-01 DAY	288	-	-	-		Bottom	7h30	1.245	66	15.8	24.6										MIX A
	290	8h05	1.020	150	15.5	Bottom	8h47	1.265	78	19.8	24.3	Clear	13.1								MIX A
	292	-	-	-		Bottom	10h02	1.240	75	18.8	26.0							10:02	CB-WTD-032		MIX A
	294	10h40	1.030	64	11.2	Bottom	10h40	1.260	74	18.2	21.8										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-10-01 NIGHT	296	-	1.031	66		Bottom	-	1.030	82	17.8	23.8										MIX A
	298	-	-	-		Bottom	13h20	1.255	75	18.2	26.2										MIX A
	300	-	-	-		Bottom	13h28	1.260	72	18.8	26.2										MIX A
	302	19h45	1.025	58	13.5	Bottom	14h15	1.240	-	18.7	27.4								CB-WTD-033		MIX A
	304	-	1.030	-		Bottom	15h05	1.250	74	16.3	23.8										MIX A
	306	16h46	1.030	73	26.2	Bottom	5h40	1.260	140	22.1	27.1										MIX A
	308	-	-	-	-	Bottom	5h45	1.260	115	23.2	26.2										MIX A
	310	19h15	1.030	101	14.9	Bottom	20h20	1.260	68	20.4	25.3										MIX A
	312	19h45	1.030	128	15.3	Bottom	20h20	1.260	85	20.2	25.3										MIX A
	314	20h45	1.025	119	15.2	Bottom	21h55	1.255	66	22.0	26.3										MIX A
	316	21h32	1.030	143	15.8	Bottom	21h55	1.260	63	21.0	26.3	Clear	13.3		240	-1.875	0.750				MIX A
	318	22h17	1.030	>180	15.5	Bottom	23h35	1.255	64	22.1	25.4										MIX A
	320	23h05	1.030	>180	15.7	Bottom	23h35	1.255	56	22.2	25.4							23h35	CB-WTD-034		MIX A
	322	23h45	1.025	139	15.3	Bottom	1h15	1.265	71	22.3	22.4										MIX A
	324	1h05	1.030	119	15.5	Bottom	2h30	1.255	56	20.5	24.3										MIX A
	326	1h44	1.030	72	15.6	Bottom	2h35	1.260	66	21.1	24.3										MIX A
	328	3h05	1.030	103	15.6	Bottom	4h15	1.255	57	21.5	25.4										MIX A
	330	3h50	1.035	129	15.7	Bottom	4h15	1.255	57	21.7	25.4										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-10-02-DAY	332					Bottom		1.255	82	18.2	20.1										MIX A
	334					Bottom		1.250	80	18.7	20.1										MIX A
	336		1.030	150	16.5	Bottom		1.260	81	17.6	21.8										MIX A
	338					Bottom		1.250	110	18.0	21.8										MIX A
	340		1.030	74	19.5	Bottom		1.250	91	20.8	24.0										MIX A
	342		1.035	129	16.5	Bottom		1.265	87	20.5	24.0										MIX A
2018-10-02 NIGHT	346	-	-	-	-	Bottom	19h00	1.250	120	22.3	22.0										MIX A
	348	-	-	-	-	Bottom	19h00	1.250	128	25.2	22.0										MIX A
	350	19h20	1.030	73	18.6	Bottom	20h32	1.250	76	21.6	20.5	clear	11.7								MIX A
	352	20h00	1.030	129	16.1	Bottom	20h32	1.250	56	18.8	20.5										MIX A
	354	20h40	1.035	96	14.8	Bottom	21h56	1.250	60	18.5	21.2				240	-1.250	0.625				MIX A
	356	21h25	1.035	109	15.0	Bottom	21h56	1.250	53	17.8	21.2										MIX A
	358	22h12	1.030	108	14.3	Bottom	23h25	1.255	51	18.1	22.2										MIX A
	360	22h55	1.030	103	14.7	Bottom	23h25	1.250	53	18.4	22.2										MIX A
	362	0h01	1.035	111	14.5	Bottom	1h05	1.255	57	17.7	18.9	clear	10.8					1h05	CB-WTD-036		MIX A
	364	0h40	1.030	125	14.2	Bottom	1h23	1.250	53	21.5	22.5										MIX A
	366	2h00	1.035	105	15.6	Bottom	2h45	1.245	48	18.4	22.8										MIX A
	368	2h40	1.030	113	15.5	Bottom	2h55	1.250	59	17.6	22.8										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	370	3h20	1.030	119	15.8	Bottom	4h32	1.245	59	18.2	20.4										MIX A
	372	4h05	1.030	109	15,2	Bottom	4h32	1.245	57	18.1	20.4										MIX A
2018-10-03 DAY	374					Bottom	6h35	1.250	89	12.5	23.0										MIX A
	376	7h00	1.030	114	12.5	Bottom	7h22	1.235	71	17.8	25.0										MIX A
	378	8h43	1.035	120	13.4	Bottom	9h03	1.255	79	13.5	24.8										MIX A
	380					Bottom	9h09	1.260	78	14.3	24.8										MIX A
	382	9h30	1.035	130	14.3	Bottom	10h31	1.255	79	16.6	24.6										MIX A
	384					Bottom	10h35	1.250	80	17.1	24.2										MIX A
	386	11h03	1.030	140	15.2	Bottom	12h37	1.250	78	13.5	24.3										MIX A
	388	11h52	1.035	135	15.3	Bottom	12h41	1.255	69	14.3	22.0										MIX A
	390	12h48	1.030	129	17.0	Bottom	13h56	1.260	71	16.1	22.0	Clear	13.5					14h05	CB-WTD-037		MIX A
	392	13h45	1.025	108	16.8	Bottom	14h03	1.250	77	17.3	22.0										MIX A
	394	15h00	1.030	133	12.5	Bottom	15h50	1.255	48	20.2	22.0										MIX A
	396	15h44	1.035	132	16.0	Bottom	15h58	1.255	64	18.5	22.0										MIX A
	398	16h30	1.030	126	17.5	Bottom															MIX A
	400	17h10	1.035	124	15.3	Bottom															MIX A
2018-10-03 NIGHT	402	18h25	1.030	67	17.8	Bottom	19h19	1.245	49	19.1	18.9										MIX A
	404	19h00	1.030	125	15.7	Bottom	19h19	1.245	51	18.8	18.9										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	406	19h45	1.030	124	15.8	Bottom	20h50	1.250	45	17.3	19.5										MIX A
	408	20h28	1.030	138	14.7	Bottom	20h50	1.255	49	16.9	19.5	clear	11.8								MIX A
	410	12h09	1.030	141	15.0	Bottom	22h32	1.250	47	18.4	18.9				300	-1.667	0.77				MIX A
	412	22h00	1.030	117	15.6	Bottom	22h32	1.245	55	16.3	18.9										MIX A
	414	23h15	1.030	120	15.9	Bottom	1h02	1.255	61	19.1	17.8										MIX A
	416	23h50	1.030	119	15.7	Bottom	1h02	1.255	57	19.5	17.8	clear	12.2								MIX A
	418	1h20	1.035	145	16.2	Bottom	2h38	1.245	52	20.8	23.1										MIX A
	420	2h15	1.030	154	16.1	Bottom	2h45	1.240	53	20.5	23.1							2h45	CB-WTD-038		MIX A
	422	3h20	1.030	134	15.9	Bottom	4h08	1.250	45	20.0	20.5										MIX A
	424	4h00	1.035	134	16.3	Bottom	4h15	1.250	61	19.6	20.5										MIX A
2018-10-04 DAY	426	-	-	-	-	Bottom	6h03	1.255	50	16.8	19.5										MIX A
	428	-	-	-	-	Bottom	6h10	1.250	49	17.1	19.5										MIX A
	430	6h24	1.030	70	9.5	Bottom	8h25	1.250	51	13.1	18.7										MIX A
	432	7h15	1.035	77	9.7	Bottom	8h30	1.255	49	14.5	18.7										MIX A
	434	8h00	1.030	79	9.8	Bottom	10h00	1.250	52	15.1	18.5										MIX A
	436	9h28	1.035	90	12.3	Bottom	10h10	1.250	49	18.5	18.8										MIX A
	438	10h25	1.030	86	12.5	Bottom	11h35	1.255	54	16.1	21.5										MIX A
	440	11h15	1.025	120	10.8	Bottom	11h42	1.250	56	15.2	21.5	Clear	10.2								MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	442	-	-	-		Bottom	13h35	1.255	52	18.2	22.1										MIX A
	444	12h45	1.030	123	9.8	Bottom	13h30	1.260	53	17.8	22.1							13h30	CB-WTD-039		MIX A
	446	13H45	1.030	85	12.5	Bottom	14h53	1.260	75	17.3	22.5										MIX A
	448	14h38	1.035	89	14.5	Bottom	15h02	1.255	72	17.5	22.5										MIX A
	450	15h20	1.025	102	15.4	Bottom	16h42	1.260	59	15.9	21.5										MIX A
	452	16h35	1.035	121	15.8	Bottom	16h56	1.255	65	15.5	22.2										MIX A
2018-10-04 NIGHT	454	-	-	-	-	Bottom	18h33	1.260	48	17.2	19.5										MIX A
	456	18h30	1.035	71	15.8	Bottom	18h56	1.260	79	19.4	19.5										MIX A
	458	19h08	1.035	102	16.2	Bottom	20h25	1.260	48	19.9	20.4	clear	12.4								MIX A
	460	19h34	1.030	67	14,4	Bottom	20h25	1.260	47	17.2	20.4										MIX A
	462	20h35	1.030	107	15.2	Bottom	22h04	1.245	43	18.4	20.2										MIX A
	464	21h20	1.035	95	15.4	Bottom	22h04	1.245	40	18.3	20.2							22h04	CB-WTD-040		MIX A
	466	22h23	1.030	53	15.2	Bottom	23h45	1.250	42	18.5	20.2										MIX A
	468	23h05	1.030	51	15.2	Bottom	23h45	1.250	41	17.9	20.2										MIX A
	470	00h00	1.030	47	15.6	Bottom	1h22	1.240	45	21.2	19.8										MIX A
	472	1h22	1.030	52	15.2	Bottom	1h30	1.245	47	20.1	19.8										MIX A
2018-10-05 DAY	474	11h12	1.030	90	15.5	Bottom	13h10	1.250	42	18.1	19.3										MIX A
	476	12h42	1.030	129	12.1	Bottom	13h15	1.255	55	18.2	19.3										MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	478	13h40	1.035	98	14.3	Bottom	14h54	1.260	58	18.2	18.5				240	-0.6	0.61				MIX A
	480	14h30	1.030	115	14.8	Bottom	15h00	1.255	54	18.5	18.8										MIX A
	482	15h32	1.030	68	15.2	Bottom	17h00	1.255	52	18.3	19.2	Clear	13.5					17h15	CB-WTD-041		MIX A
	484	16h18	1.035	90	13.5	Bottom	17h05	1.250	43	18.1	19.2										MIX A
2018-10-05 NIGHT	486					Bottom	18h55	1.245	46	18.2	18.5				180	0.37	1.12				MIX A
	488	18h15	1.030	67	16.4	Bottom	18h55	1.240	42	18.0	18.5										MIX A
	490	19h09	1.030	53	14.6	Bottom	20h30	1.260	49	19.8	24.0										MIX A
	492	19h54	1.035	64	15.4	Bottom	20h30	1.250	52	17.9	24.0										MIX A
2018-10-06 DAY	494					Bottom	13h33	1.255	41	16.8	19.5										MIX A
	496	13h00	1.030	59	14.2	Bottom	13h00	1.030	59	14.2	19.5				180	0.0	1.2	13H40			MIX A
	498	13h56	1.030	46	16.1	Bottom	14h30	1.250	42	20.5	20.2	Clear	12.2								MIX A
	500	14h50	1.030	50	15.6	Bottom	15h55	1.255	43	18.1	20.5							16H00	CB-WTD-042		MIX A
	502	16H05	1.025	49	18.1	Bottom	17h46	1.255	42	20.8	20.5										MIX A
	504	16H44	1.030	51	15.7	Bottom	17h44	1.250	46	20.3	20.5										MIX A
2018-10-06 NIGHT	506	18h30	1.030	45	19.9	Bottom	-	-	-	-										Rejected, too much water	MIX A
	508	19h00	1.030	46	17.2	Bottom	-	-	-	-										Rejected, too much water	MIX A
	510	-	-	-	-	Bottom	21h25	1.240	44	19.1	16.9									CB retested because pump of vaccum truck broke and long time waiting. Results similar	MIX A
	512	20h55	1.030	59	14.6	Bottom	21h25	1.255	44	15.6	16.9	clear	9.2								MIX A

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	514	21h45	1.030	61	13.5	Bottom	00h15	1.280	55	20.4	14.5							00H20	CB-WTD-043	Density high due to the sampling on the top of the PAT	MIX A
	516	23h40	1.030	53	15.4	Bottom	00h15	1.255	43	16.2	14.5				300 min	0.0	0.56				MIX A
	518	00h54	1.030	59	14.2	Bottom	2h18	1.270	44	17.9	11.8									Density high due to the sampling on the top of the PAT	MIX A
	520	1h25	1.030	50	14.2	Bottom	2h18	1.240	48	18.6	11.8	clear	12.4								MIX A
	522	2h40	1.030	55	14.5	Bottom	4h15	1.270	47	18.6	17.4									Density high due to the sampling on the top of the PAT	MIX A
	524	3h34	1.030	47	14.1	Top	4h15	1.270	44	17	17.4										MIX A
						Bottom		1.250	45	17.2											
	526	4h35	1.030	54	15.2	Bottom	6h10	1.270	50	19.2	18.1										MIX A
	528	5h25	1.025	54	15.6	Bottom	6h15	1.270	46	19.5	18.1										MIX A
2018-10-07 DAY	530	6h25	1.025	53	15.5	Top	8h20	1.270	47	22.1	18.5										MIX A
	532	7h40	1.030	53	15.8	Top	8h25	1.275	40	18.2	18.5				300	0.0	1.16	8h25			MIX A
						Bottom		1.260	39	18.6											
	534	8h14	1.030	50	18.1	Top	10h10	1.265	45	22.1	22.6										MIX A
	536	8h38	1.035	48	17.2	Top	10h15	1.265	43	19.6	22.6										MIX A
						Bottom		1.255	41	20.1											
	538	9h50	1.030	66	15.3	Top	11.56	1.280	62	22.1	21.6										MIX A
						Bottom		1.270	73	24.0											
	540	11H17	1.030	78	16.1	Top	11h50	1.280	51	19.3	21.6	Clear	11.3								MIX A
	542	12h10	1.035	65	14.2	Top	13h45	1.275	65	19.3	20.1										MIX A
	544	12h50	1.025	71	14.1	Top	13h35	1.280	51	20.3	20.1							13h40	CB-WTD-044		MIX A
						Bottom		1.275	53	21.2											
	546	13h59	1.030	73	14.2	Top	15h34	1.280	55	20.5	19.6										MIX A
						Bottom		1.265	57	21.3											

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	548	14h35	1.030	68	15.4	Top	15h29	1.275	49	18.3	19.6										MIX A
	550	15h49	1.025	79	14.2	Top	17h48	1.280	59	20.1	18.5										MIX A
	552	16h25	1.030	88	14.4	Top	17h40	1.285	51	19.1	18.5										MIX A
						Bottom		1.275	53	19.2											
2018-10-07 NIGHT	554	18h05	1.025	109	21.0	Top	19h40	1.290	48	22.9	22.9				300	1.04	0.83				MIX A
						Bot.		1.280	54	21.4											
	556	19h12	1.030	47	15.8	Top	19h43	1.290	48	19.9	22.9				300	-0.24	0.69				MIX A
	558	18h00	1.030	58	14.5	Top	22h40	1.290	80	18.6	20.5										MIX A
						Bot.		1.280	63	17.6											
	560	18h40	1.030	66	14.2	Top	22h40	1.280	170	21.4	20.5										MIX A
	562	00h15	1.030	50	-	Top	00h35	1.290	50	17.1	19.4										MIX A
	564	1h00	1.030	54	14.6	Top	1h45	1.295	60	18.2	18.9										MIX A
	566	1h35	1.030	69	14.2	Top	1h50	1.290	68	16.8	18.9								CB-WTD-045		MIX A
						Bot.		1.270	70	16.2											
	568	2h30	1.030	64	14.1	Top	3h57	1.290	64	19.2	21.9										MIX A
						Bot.															
	570	3h25	1.030	55	14.5	Top	3h50	1.285	70	17.7	21.9										MIX A
						Bot.		1.285	79	18.0											
	572	4h10	1.025	61	14.3	Top	5h50	1.285	77	21.5	21.9										MIX A
						Bot.															
	574	5h18	1.030	56	14.3	Top	5h50	1.270	53	18.4	21.9										MIX A
						Bot.															
2018-10-08 DAY	576	6h15	1.030	98	15.9	Top															MIX A
						Bot.															
	578	7h30	1.025	151	16.1	Top															MIX A
						Bot.															
	580	8H29	1.030	122	18.2	Top															MIX A
						Bot.															
	582	12H55	1.030	80	16.5	Top	13h08	1.280	77	21.5	19.0	Clear	13.0								MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
						Bot.															A
	584	13H30	1.030	78	17.5	Top															MIX A
						Bot.															
	586	15h35	1.030	78	15.8	Top	16h10	1.270	69	17.1	19.5							16h10	CB-WTD-046		MIX A
						Bot.		1.270	68	17.2											
2018-10-08 NIGHT	588	16h35	1.030	70	16.4	Top															MIX A
						Bot.															
	590	20H00	1.030	80	16.4	Top	20H50	1.240	58	18.2	15.0	Clear	13.0								MIX A
						Bot.		1.240	60	18.4											
	592	21H05	1.030	78	16.8	Top	22H04	1.250	55	19.4	17.0	Clear	12.5								MIX A
						Bot.															
	594	21H50	1.030	75	17.0	Top	22h15	1.240	57	18.5	17.0	Clear	13.0								MIX A
						Bot.		1.24	59	18.5											
	596	22H31	1.025	84	16.0	Top	23H49	1.255	54	19.6	17.0	Clear	12.0								MIX A
						Bot.		1.26	57	19.7											
	598	23H08	1.030	82	16.0	Top	23H58	1.25	53	18.8	17.5	Clear	12.5								MIX A
						Bot.		1.25	55	18.7											
	600	0h15	1.025	77	16.0	Top	1h30	1.25	54	18.1	18.0	Clear	14.0		360	-1.19	1.19				MIX A
						Bot.		1.26	61	18.1											
	602	0h40	1.040	88	15.1	Top	1h35	1.25	51	18.6	18.0	Clear	12.0					1h40	CB-WTD-047		MIX A
						Bot.		1.25	53	18.4											
	604	2h20	1.030	84	14.6	Top	3h25	1.24	53	18	18.0	Clear	11.0								MIX A
						Bot.															
	606	3H10	1.025	79	14.9	Top	3H33	1.245	63	17.7	18.0	Clear	12.0								MIX A
						Bot.		1.245	65	17.7											
	608	3h55	1.030	80	15.2	Top	5h18	1.240	54	17.0	17.0										MIX A
						Bot.															
	610	4h34	1.040	92	13.7	Top	5H24	1.250	54	18.1	17.0										MIX A
						Bot.		1.25	55	18.1											
2018-10-09 DAY	612	6h20	1.030	77	14.8	Top	7h17	1.255	44	16.1	18.5										MIX C
						Bot.		1.255	46	16.3											
	614	7h00	1.030	79	14.1	Top	7h25	1.250	54	16.8	18.5	Clear	13.9								MIX C
	616	7h45	1.030	79	13.7	Top	9h05	1.265	61	18.1	19.0										MIX C
						Bot.		1.260	60	18.1											

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	618	7H26	1.030	106	14.1	Top	9h15	1.260	65	18.1	19.0										MIX C
	620	9h31	1.030	81	18.0	Top	11h20	1.255	55	18.3	22.7				240	-1.14	1.14				MIX C
	622	10h20	1.030	127	14.1	Top	11h30	1.260	47	18.2	22.7										MIX C
						Bot.		1.260	49	18.2											
	624	11h43	1.030	59	17.5	Top	13h20	1.265	66	26.5	22.0										MIX C
						Bot.		1.265	64	26.3											
	626	12h20	1.030	100	15.1	Top	13h12	1.265	52	18.7	22.0							13h12	CB-WTD-048		MIX C
	628	13h09	1.030	79	16.1	Top	15h06	1.255	56	21.6	22.5										MIX C
	630	14h20	1.030	77	15.8	Top	15h00	1.255	53	21.5	22.5										MIX C
						Bot.		1.255	54	21.5											
	632	15h15	1.030	78	17.6	Top	17h03	1.265	72	21.6	22.2										MIX C
						Bot.		1.260	71	21.7											
	634	16h00	1.030	76	16.7	Top	16h58	1.260	56	19.2	22.2										MIX C
	636	16h13	1.025	61	19.4	Top	18h33	1.260	57	21.1	20.4										MIX C
	638	18h20	1.030	65	16.5	Top	18h40	1.260	54	20.1	20.4				420	-0.77	1.10				MIX C
						Bot.		1.260	55	19.1											
2018-10-09 NIGHT	640	18h59	1.030	57	16.3	Top	20h05	1.260	60	19.3	19.9										MIX C
	642	19h50	1.030	103	14.7	Bot	20h15	1.240	48	16.6	19.9										MIX C
								1.240	49	16.5											
	644	20h40	1.250	142	15.4	Bot	21h50	1.245	44	17.2	19.8										MIX C
	646	21h48	1.030	151	14.9	Top	22h00	1.255	51	16.6	19.8										MIX C
	648	22h25	1.030	90	13.6	Top	23h37	1.260	44	16.9	18.6	clear	10.9								MIX C
	650	23h15	1.030	93	12.4	Bot	23h27	1.245	50	14.4	18.6										MIX C
	652	23h45	1.030	99	12.7	Top	1h03	1.265	49	17.1	18.9										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	654	00h35	1.030	70	12.6	Bot	1h03	1.260	49	15.6	18.9							1h03	CB-WTD-049		MIX C
	656	1h12	1.030	69	13.2	Top	1h12	1.260	49	17.3	20.8										MIX C
	658	2h08	1.030	78	14.7	Bot	2h37	1.245	48	15.8	20.8										MIX C
	660	3h08	1.030	75	13.6	Top	4h30	1.255	53	18.4	25.5										MIX C
	662	3h50	1.035	86	12.7	Bot	4h30	1.250	48	16.3	25.5										MIX C
	664	4h40	1.025	67	13.7	Top	6h41	1.255	62	19.3	22.5										MIX C
	666	5h28	1.030	73	13.0	Top	6h45	1.260	54	18.4	22.5										MIX C
2018-10-10 DAY	668	7h00	1.030	55	19.3	Top	8h46	1.255	62	21.6	23.1				300	0.0	0.0	8h46			MIX C
	670	7h37	1.025	92	15.4	Top	8h50	1.260	57	21.3	23.1										MIX C
	672	8h55	1.030	56	15.2	Top	10h32	1.255	49	22.6	22.1										MIX C
	674	9H35	1.030	79	14.8	Top	10H36	1.260	57	18.3	22.1	Clear	12.7								MIX C
	676	10H46	1.030	75	16.8	Top	12h30	1.260	65	21.2	21.5										MIX C
	678	11h25	1.030	82	15.4	Top	12h36	1.250	63	18.3	21.5										MIX C
	680	13H19	1.030	76	15.3	Top	14H45	1.255	60	19.2	24.1							14h45	CB-WTD-050		MIX C
	682	14H15	1.025	83	16.1	Top	14H40	1.250	51	18.1	24.1										MIX C
	684	14H57	1.030	82	15.9	Top	16h37	1.250	43	19.3	25.5										MIX C
	686	15h35	1.030	77	14.7	Top	16h42	1.270	44	19.2	25.5										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	688	17h00	1.030	57	16.1	Top	17h57	1.255	47	19.1	25.0										MIX C
	690	16h42	1.030	78	16.3	Top	18h15	1.255	66	18.1	24.0										MIX C
2018-10-10 NIGHT	692	18h30	1.030	80	16.1	Top	19h27	1.245	55	19.7	22.0	Clear	12.1								MIX C
	694	18h45	1.030	75	16.3	Top	19h18	1.250	51	20.8	23.0										MIX C
	696	20h00	1.030	80	16.1	Top	21h00	1.240	50	18.1	22.5										MIX C
	698	20h50	1.030	76	16.5	Top	21h55	1.250	51	18.4	22.0										MIX C
	700	21h20	1.030	74	16.1	Top	22h15	1.240	58	17.6	21.5										MIX C
	702	22h38	1.040	88	14.1	Top	23h36	1.240	48	17.8	20.0										MIX C
	704	23h33	1.025	66	15.8	Top	23h50	1.255	60	18.3	20.5										MIX C
	706	0h26	1.030	77	14.9	Top	1h09	1.240	52	17.9	25.0										MIX C
	708	0H50	1.025	69	14.1	Top	1h22	1.250	55	17.8	26.0										MIX C
	710	1h50	1.030	74	14.3	Top	2h45	1.250	52	18.6	29.0										MIX C
	712	2h25	1.030	80	14.7	Top	2h51	1.255	50	17.9	29.0										MIX C
	714	3h05	1.030	73	14.8	Top	3h38	1.240	47	18.1	27.0										MIX C
	716	3h38	1.025	70	15.1	Top	4h30	1.250	48	17.6	26.5										MIX C
2018-10-11 DAY	718	4h55	1.030	78	15.5	Top	6h10	1.250	39	18.5	25.5										MIX C
	720	5h25	1.030	71	14.8	Top	6h16	1.255	44	19,1	25.5										MIX C
	722	6h35	1.030	98	15.3	Top	7h37	1.255	49	18.6	26.1										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	724	7h18	1.030	105	13.9	Top	7h40	1.260	51	18.4	26.1										MIX C
	726	8h05	1.030	79	13.8	Top	9h05	1.250	44	17.9	26.3										MIX C
	728	7h46	1.030	103	12.8	Top	9h10	1.250	47	16.8	26.3				300	0.6	1.2	9h10			MIX C
	730	9h30	1.030	87	12.6	Top	10h30	1.250	45	16.5	26.5										MIX C
	732	10h08	1.030	98	11.9	Top	10h35	1.250	47	15.8	26.5										MIX C
	734	10h40	1.025	79	12.3	Top	12h15	1.255	49	18.9	26.6										MIX C
	736	11h40	1.030	76	13.1	Top	12h20	1.250	48	20.3	26.6	Clear	12.8								MIX C
	738	12h40	1.030	58	12.9	Top	14h08	1.255	61	21.0	23.6										MIX C
	740	13h45	1.030	77	16.3	Top	14h12	1.250	60	19.7	23.6										MIX C
	742	1510	1.030	69	12.7	Top	16h17	1.260	57	23.1	25.0										MIX C
	744	16h00	1.030	87	11.8	Top	16H26	1.255	49	20.9	25.0										MIX C
	746	16h49	1.030	74	14.6	Top	18h04	1.260	46	21.6	22.5										MIX C
	748	17h35	1.030	83	13.9	Top	18h07	1.255	52	19.7	22.5										MIX C
2018-10-11 NIGHT	750	18h35	1.030	72	14.0	Top	20h32	1.255	60	20	21.9				360	-0.22	0.89				MIX C
	752	19h10	1.025	89	13.5	Top	20h32	1.240	53	17.9	21.9										MIX C
	754	20h40	1.030	102	13.4	Top	20h30	1.240	50	18.2	23.4										MIX C
	756	21h27	1.030	143	15.3	Top	20h35	1.250	63	17.7	23.4										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-10-12 NIGHT	758	22h05	1.030	103	15.6	Top	23h10	1.240	53	19.1	22.5										MIX C
	760	22h45	1.030	63	13.3	Top	23h10	1.260	65	19.1	22.5										MIX C
	762	23h50	1.030	90	14.9	Top	00h55	1.245	46	17.9	22.4										MIX C
	764	00h30	1.030	83	14.4	Top	00h55	1.240	48	17.0	22.4										MIX C
	766	1h05	1.030	63	13.9	Top	3h00	1.250	53	19.9	24.5	Clear	13,4								MIX C
	768	2h05	1.030	62	11.6	Top	3h00	1.240	64	19.9	24.5										MIX C
	770	3h10	1.030	63	13.5	Top	4h38	1.240	51	19.3	24.5										MIX C
	772	20h35	1.030	82	13.8	Top	21h50	1.240	48	17.6	18.1	Clear	12.0		300	0.00	0	21h50			MIX C
	774	21h30	1.030	63	14.6	Top	22h26	1.240	51	18.4	17.6										MIX C
	776	22h26	1.030	78	15.4	Top	1h15	1.250	77	23	19.9										MIX C
	778	23h37	1.030	87	14.1	Top	1h36	1.240	54	19.1	19.9	Clear	11.4								MIX C
	780	2h11	1.040	101	19.1	Top	3h34	1.230	49	19.1	16.5										MIX C
	782	3h22	1.030	81	20.7	Top	3h58	1.250	70	20.7	16.2										MIX C
	784	4h38	1.040	92	18.1	Top	6h01	1.250	63	19.8	19.2										MIX C
	786	5h29	1.030	131	16.2	Top	5h53	1.260	71	19.6	16.5										MIX C
2018-10-13-DAY	790	6h30	1.030	>180	16.4	Top	7h50	1.255	72	18.2	18.5										MIX C
	792	7h30	1.030	99	14.6	Top	7h51	1.250	54	17.3	18.5										MIX C
	794	8h12	1.030	156	14.4	Top	10h20	1.240	55	18.2	17.8				360	-1.25	1.25				MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	796	8h30	1.030	151	13.6	Top	10h15	1.230	46	18.2	17.8										MIX C
	798	10h32	1.030	79	21.6	Top	12h46	1.240	73	22.1	15.7										MIX C
	800	11h15	1.030	147	15.7	Top	12h46	1.225	51	19.0	15.7	Clear	10.9								MIX C
	802	13h06	1.030	73	25.6	Top	14h40	1.240	60	24.7	18.1										MIX C
	804	13h49	1.030	103	16.4	Top	14h140	1.230	53	22.0	18.1										MIX C
	806	15h03	1.020	151	17.2	Top	16h35	1.245	49	21.1	20.0										MIX C
	808	15h55	1.030	134	16.9	Top	16h53	1.250	78	18.6	20.0										MIX C
	810	16h55	1.025	79	10.1	Top	18h55	1.235	63	20.4	10.5										MIX C
	812	17h34	1.025	102	16.3	Top	18h55	1.230	49	17.6	10.5										MIX C
2018-10-13 NIGHT	814	19h15	1.030	67	17.3	Top	20h14	1.230	56	18.7	16.2										MIX C
	816	19h55	1.030	98	16.4	Top	20h28	1.240	79	19.4	16.2										MIX C
	818	20h55	1.030	98	16.0	Top	22h35	1.225	41	19.2	13.9										MIX C
	820	21h55	1.030	117	15.2	Top	22h35	1.225	50	17.7	13.9				360	-0.82	0.82	22h35	CB-WTD-052		MIX C
	822	22h50	1.030	99	14.5	Top	00h15	1.225	42	17.2	12.6										MIX C
	824	00h05	1.025	140	15,4	Top	00h25	1.225	52	17.1	12.6										MIX C
						Bot		1.225	56	16.7											
	826	00h55	1.030	>180	15,6	Top	2h30	1.220	42	17.2	14.4										MIX C
	828	1h40	1.030	64	13.4	Top	2h30	1.220	46	17.1	14.4	Clear	8.2								MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	830	2h40	1.025	60	15.8	Top	3h52	1.220	42	16.2	15.2										MIX C
	832	3h55	1.030	90	14,2	Top	4h10	1.230	58	16.2	15.2										MIX C
	834	4h40	1.030	88	14.0	Top	6h30	1.230	49	16.9	18.6										MIX C
	836	5h15	1.030	63	12.6	Top	6h30	1.220	41	16.4	18.6										MIX C
2018-10-14 DAY	838	6h45	1.020	58	12.9	Top	8h20	1.230	49	17.0	16.7										MIX C
	840	7h21	1.025	52	14.1	Top	8h20	1.230	47	17.5	16.7	clear	10.4								MIX C
	842	8h45	1.025	50	19.1	Top	10h25	1.220	44	21.9	25.6										MIX C
	844	9h22	1.020	57	16.6	Top	10h25	1.220	42	20.9	25.6										MIX C
	846	10h50	1.025	57	18.9	Top	13h10	1.220	52	23.0	29.1										MIX C
	848	11h25	1.025	73	15.9	Top	13h10	1.230	52	20.6	29.1										MIX C
	850	13h32	1.030	49	21.7	Top	14h35	1.220	41	23.4	21.4	clear	12.3								MIX C
	852	14h23	1.025	62	17.5	Top	14h43	1.230	42	21.1	19.6										MIX C
	854	15h12	1.020	77	17.2	Top	16h10	1.230	40	19.7	19.0										MIX C
	856	15h57	1.020	79	16.0	Top	16h18	1.220	42	18.5	17.1										MIX C
	858	16h45	1.025	54	15.1	Top	17h50	1.230	40	17.6	16.9										MIX C
	860	17h30	1.025	56	14.4	Top	17h56	1.225	38	18.4	14.0										MIX C
2018-10-14 NIGHT	862	18h29	1.035	103	15.9	Top	19h25	1.220	37	17.2	23.7				480	-2.44	2.00				MIX C
	864	19h15	1.030	88	15.3	Top	19h35	1.220	44	15.5	23.7										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	866	20h06	1.025	52	13.1	Top	21h25	1.230	37	16.7	24.4										MIX C
	868	20h52	1.030	52	14.5	Top	21h25	1.230	38	15.6	24.4										MIX C
	870	22h00	1.025	57	15.2	Top	22h50	1.220	38	17.1	19.4								2018-10-15 Field-1	It was hard to make difference between water and CB on the field, so we took a sample it appears that the CB is mixing with water.	MIX C
						Field	00h00	1.180	34	-											
	872	22h45	1.030	60	14.2	Top	22h55	1.220	44	16.6	19.4										MIX C
						Field	00h00	1.180	34	-											
	874	23h45	1.025	52	14.6	Top	00h35	1.220	41	17.4	20.9									Only 1 five gallons of arbo has been added instead of two to see if the CB is mixing again with water. It appears that it was really better.	MIX C
						Field	1h30	1.219	44	15.6											
	876	00h30	1.030	59	14.1	Top	00h45	1.230	48	17.2	20.9										MIX C
						Field	1h30	1.210	44	14.6											
	878	1h30	1.025	44	13.9	Top	2h10	1.220	41	16.9	22.8										MIX C
	880	2h15	1.030	50	13.6	Top	2h20	1.225	56	16.6	22.8										MIX C
	882	3h00	1.025	51	13.9	Top	4h20	1.235	45	16.4											MIX C
	884	3h40	1.030	57	13.6	Top	4h20	1.230	44	17.6											MIX C
	886	4h55	1.030	57	14.2	Top	6h22	1.225	41	17.6	24.9										MIX C
	888	5h35	1.035	65	14.1	Top	6h27	1.230	45	18.6	21.4										MIX C
2018-10-15 D	890	6h40	1.025	46	15.7	Top	6h40	1.250	46	15.7	20.9										MIX C
	892	7h22	1.030	53	15.2	Top	8h36	1.230	42	16.5	16.5				360	-1.25	1.25				MIX C
	894	9h05	1.025	51	22.4	Top	10h24	1.230	47	23.3	15.6										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	896	9h54	1.025	50	17.3	Top	10h19	1.225	49	20.1	16.8										MIX C
	898	10h32	1.025	71	17.0	Top	11h35	1.225	43	19.6	21.6										MIX C
	900	11h25	1.025	69	14.7	Top	11h40	1.225	43	16.6	16.1										MIX C
	902	12h01	1.025	58	13.6	Top	12h53	1.230	44	12.4	16.8										MIX C
	904	12h45	1.025	64	14.4	Top	13h05	1.225	51	17.1	20.7										MIX C
	906	13:35	1.025	63	14.8	Top	14:35	1.230	45	19.1	15.8										MIX C
	908	14:25	1.025	58	15.1	Top	14:37	1.220	55	16.1	21.3										MIX C
	910	15:18	1.020	84	14.2	Top	16:05	1.230	46	17.5	15.3	c	7.5					16:05	53		MIX C
	912	16:01	1.020	53	15.1	Top	16:18	1.220	75	16.8	16.0										MIX C
	914	16:50	1.025	56	15.2	Top	17:40	1.230	42	17.3	16.6										MIX C
	916	17:35	1.025	54	14.5	Top	17:51	1.240	43	16.5	16.6										MIX C
2018-10-15 NIGHT	918	18:22	1.025	64	14.8	Top	18:55	1.220	51	17	17.9										MIX C
	920	19:11	1.025	62	14.6	Top	20:04	1.230	41	17.2	23.1										MIX C
	922	19:59	1.025	57	13.8	Top	20:30	1.230	43	15.9	21.6	c	12.4								MIX C
	924	20:48	1.030	66	12.9	Top	21:02	1.235	44	15.6	17.2										MIX C
	926	21:31	1.025	62	14.2	Top	22:19	1.230	46	17.1	26.6										MIX C
	928	22:16	1.030	55	13.7	Top	20:34	1.225	48	16.4	20.7										MIX C
	930	23:23	1.025	57	15.8	Top	12:00	1.230	46	17.9	16.5										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	932	12:08	1.025	61	16.0	Top	12:24	1.235	45	18.1	14.6										MIX C
	934	12:57	1.025	53	15.3	Top	01:50	1.225	42	18.6	13.2										MIX C
	936	01:45	1.025	57	15.1	Top	02:17	1.240	48	17.1	16.2										MIX C
	938	02:35	1.025	64	15.9	Top	03:41	1.225	44	18.2	20.1										MIX C
	940	03:33	1.025	56	15.3	Top	03:45	1.225	41	17.4	28.7										MIX C
	942	04:15	1.025	62	17.0	Top	04:35	1.220	62	18.4	NA										MIX C
	944	05:07	1.030	59	16.6	Top	05:28	1.230	49	18.7	NA										MIX C
2018-10-16 DAY	946	06:33	1.025	196	15.1	Top	07:02	1.235	78	20.9	16.7										MIX C
	948	07:06	1.025	103	15.7	Top	07:35	1.230	42	19.6	15.9				300	-1.25	1.25				MIX C
	950	07:54	1.025	100	15.9	Top	08:44	1.220	41	18.9	12.4										MIX C
	952	08:38	1.025	79	15.2	Top	08:57	1.225	51	18.2	12.3										MIX C
	954	09:25	1.025	65	14.3	Top	10:05	1.230	41	18.3	4.1										MIX C
	956	10:18	1.025	67	13.1	Top	10:25	1.225	45	16.2	14.2	c	12.7	5							MIX C
	958	10:54	1.025	62	12.9	Top	11:44	1.230	40	17.2	12.3										MIX C
	960	11:39	1.030	70	13.2	Top	11:57	1.225	52	16.6	11.9										MIX C
	962	12:33	1.030	75	14.2	Top	13:28	1.225	42	18.4	12.7										MIX C
	964	13:24	1.025	74	14.5	Top	13:42	1.220	48	17.3	12.0										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	966	14:27	1.030	72	15.1	Top	15:18	1.230	41	17.9	13.6										MIX C
	968	15:10	1.030	70	15.2	Top	15:32	1.235	46	20.2	14.4										MIX C
	970	16:04	1.030	58	16.6	Top	17:00	1.230	42	19.2	11.7										MIX C
	972	16:50	1.025	61	14.4	Top	17:11	1.220	51	18.1	11.7										MIX C
2018-10-16 NIGTH	974	15:50	1.025	78	15.2	Top	18:32	1.220	46	19.6	13.3										MIX C
	976	18:51	1.025	114	16.7	Top	19:10	1.230	54	17.6	18.3										MIX C
	978	19:35	1.025	82	15.7	Top	20:00	1.230	51	16.5											MIX C
	980	20:26	1.030	>180	15.6	Top					29.6	c	12.4								MIX C
2018-10-17 Night	982	18:46	1.030	>180	15.2	Top	20:17	1.220	39	17.6	33.3									Viscosity was low in the batch 982 because 2X arbo in this one. So, no arbo was added in the batch 984 to make it as normal vicosity in the vacuum truck.	MIX C
	984	20:21	1.025	>180	15.3	Top	20:36	1.235	118	17.3	33.5										MIX C
	986	21:09	1.030	>180	13.9	Top	22:22	1.220	49	17.4	24.4										MIX C
	988	22:10	1.025	>180	10.9	Top	22:20	1.225	47	15.4	23.6										MIX C
	990	23:00	1.030	>180	10.9	Top	23:38	1.235	52	15.1	17.8										MIX C
	992	23:42	1.025	>180	10.1	Top	23:54	1.220	50	14.4	22.9										MIX C
	994	12:42	1.025	89	11.2	Top	12:56	1.230	52	13.6	16.2				300	1.18	0	01:25	CB-WTD-054		MIX C
	996	01:19	1.025	94	11.3	Top	01:37	1.220	47	14.4	18.2										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	998	02:17	1.030	85	9.9	Top	02:50	1.220	50	15.4	20.2										MIX C
	1000	02:57	1.030	78	12.0	Top	03:15	1.225	57	15	19.7										MIX C
	1002	03:42	1.030	76	10.7	Top	04:01	1.225	49	14.4	29.6										MIX C
	1004	04:26	1.025	85	11.3	Top	04:52	1.225	51	14.7	17.7										MIX C
2018-10-18 Day	1006	05:32	1.030	74	14.1	Top	06:30	1.225	41	16.4	12.4										MIX C
	1008	06:24	1.030	67	14.7	Top	06:38	1.230	49	14.7	13.8										MIX C
	1010	07:18	1.025	73	11.0	Top	08:03	1.230	44	15.4	9.1										MIX C
	1012	07:58	1.030	74	10.9	Top	08:11	1.230	46	13.2	8.1				300	0.00	0.63				MIX C
	1014	08:39	1.030	95	10.1	Top	08:25	1.230	45	14.4	6.8										MIX C
	1016	08:18	1.030	63	10.2	Top	08:36	1.225	45	12.3	7.2										MIX C
	1018	10:08	1.030	153	10.2	Top	10:56	1.235	51	15.7	12.0										MIX C
	1020	10:50	1.025	120	10.7	Top	11:06	1.230	48	14.1	11.7										MIX C
	1022	11:43	1.010	162	11.6	Top	12:14	1.220	44	15.7	11.7										MIX C
	1024	12:20	1.020	127	11.1	Top	12:43	1.220	51	15.9	15.5										MIX C
	1026	13:21	1.025	73	12.4	Top	14:40	1.220	44	17.3	14.2	c	9.9	5							MIX C
	1028	14:31	1.020	>180	12.9	Top	14:47	1.230	70	15.9	14.1										MIX C
	1030	15:17	1.020	97	11.6	Top	16:05	1.230	42	16.1	14.3										MIX C
	1032	15:59	1.020	70	11.6	Top	16:15	1.225	44	15.2	13.8										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
2018-10-18 Night	1034	16:41	1.025	92	10.7	Top	17:31	1.230	42	14.6	16.9										MIX C
	1036	17:25	1.030	74	11.3	Top	17:36	1.215	47	13.7	14.6										MIX C
	1038	18:12	1.030	92	12.1	Top	19:35	1.230	41	16.2	21.5										MIX C
	1040	19:11	1.025	87	12.4	Top	19:38	1.220	43	14.3	16.9										MIX C
	1042	20:00	1.025	>180	12.1	Top	21:09	1.225	75	14.9	19.6									1/2 Arbo for test	MIX C
	1044	20:50	1.025	83	12.1	Top	21:12	1.220	69	13.6	23.0	c	11.9							1/2 Arbo for test	MIX C
	1046	21:40	1.030	97	10.4	Top	22:35	1.225	44	14.9	25.7										MIX C
	1048	22:36	1.020	82	10.6	Top	22:50	1.200	61	9.9	28.9									Operator forget one valve on PAT so batch 1048 not tested, I tested the truck with batch 1046 and 1048 combined	MIX C
	1050	00:04	1.025	172	12.1	Top	12:41	1.230	48	15.6	28.6										MIX C
	1052	00:44	1.025	112	11.4	Top	12:53	1.220	44	14.2	19.6										MIX C
	1054	01:30	1.025	111	11.1	Top	02:17	1.230	51	15.2	29.1										MIX C
	1056	02:21	1.020	51	15.2	Top	02:26	1.225	47	13.9	30.9										MIX C
	1058	03:28	1.025	102	12.6	Top	03:59	1.225	43	15.9	28.6										MIX C
	1060	04:03	1.030	87	11.7	Top	04:12	1.225	50	13.9	27.2										MIX C
2018-10-19 Day	1062	04:56	1.025	81	11.5	Top	05:51	1.225	45	16.2	26.1										MIX C
	1064	05:40	1.030	>180	11.4	Top	05:55	1.230	75	14.6	20.2										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1066	08:27	1.020	55	17.6	Top	08:22	1.220	40	19.1	15.4										MIX C
	1068	08:15	1.050	100	12.4	Top	08:30	1.210	52	15.6	17.1										MIX C
	1070	09:07	1.020	>180	12.4	Top	10:08	1.230	54	16.8	18.5										MIX C
	1072	09:55	1.030	>180	13.2	Top	10:02	1.230	44	16.8	18.6										MIX C
2018-10-19 Night	1074	11:25	1.025	>180	18.1	Top	11:45	1.225	72	19.4	19.2										MIX C
	1076	00:21	1.025	102	14.1	Top	01:26	1.220	43	16.2	20.8	c	12.0								MIX C
	1078	01:18	1.025	>180	11.2	Top	01:32	1.235	57	13.2	25.6										MIX C
	1080	02:13	1.030	138	11.3	Top	03:05	1.220	46	14.1	24.1										MIX C
	1082	02:51	1.030	149	12.1	Top	03:12	1.220	51	13.8	25.9										MIX C
	1084	03:43	1.030	156	11.1	Top	04:42	1.225	43	15.6	25.7										MIX C
2018-10-20 Day	1086	04:30	1.025	>180	12.0	Top	04:49	1.235	46	15.2	27.1										MIX C
	1088	05:30	1.025	173	12.1	Top	06:16	1.230	41	152	24.1										MIX C
	1090	06:09	1.030	140	11.7	Top	06:28	1.230	56	14.6	19.1									Added 3 more kg of Arbo because it was too thick.	MIX C
	1092	06:54	1.025	124	11.4	Top	07:58	1.220	43	15.7	22.1										MIX C
	1094	07:55	1.020	51	9.9	Top	08:04	1.220	46	13.9	25.0										MIX C
	1096	08:26	1.020	145	11.4	Top	09:15	1.220	47	15.4	18.7	c	11.0	NA							MIX C
	1098	09:10	1.030	164	12.6	Top	09:24	1.230	46	15.1	15.9										MIX C
	1100	09:52	1.020	174	12.1	Top	10:41	1.230	46	16.1	11.7							10h41	CB-WTD-055		MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1102	10:34	1.020	>180	11.3	Top	10:48	1.225	50	14	11.3										MIX C
	1104	11:44	1.030	>180	12.4	Top	12:25	1.225	45	15.7	18.3										MIX C
	1106	12:20	1.020	>180	12.7	Top	12:32	1.225	52	12.8	22.1										MIX C
	1108	13:15	1.025	>180	14.8	Top	14:00	1.230	120	17.4	18.3										MIX C
	1110	13:51	1.030	>180	13.4	Top	14:10	1.230	49	16.6	17.1	c	12.4	NA							MIX C
	1112	14h45	1.030	>180	14.2	Top	15h09	1.230	48	17.5	25.7										MIX C
	1114	15:20	1.030	>180	12.9	Top	15:27	1.225	66	15.9	19.0										MIX C
	1116	16:56	1.030	>180	14.1	Top	NA	NA	NA	NA	NA										MIX C
	1118					Top															MIX C
	1120					Top															MIX C
	1122					Top															MIX C
	1124					Top															MIX C
	1126					Top															MIX C
	1128					Top															MIX C
	1130					Top															MIX C
	1132					Top															MIX C
2019-10-26 NIGHT	1134	22:05	1.025	51	10.1	Top	22:25	1.225	36	11.8	27.6							22:30	CB-WTD-056	batch plan cement side running with	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1136	22:35	1.025	61	11.9	Top	22:30	1.225	68	11.7	16.7									SANA injection plan	MIX C
	1138	23:12	1.025	71	11.6	Top	00:14	1.235	37	13.7	27.9										MIX C
	1140	23:50	1.025	169	12.2	Top	00:27	1.235	39	11.8	27.1										MIX C
	1142	01:06	1.030	>180	11.9	Top	02:12	1.230	42	15.4	25.6	c	7.6							Batch plan in running normal	MIX C
	1144	01:59	1.035	>180	11.5	Top	02:20	1.240	62	13.7	28.8										MIX C
	1146	02:59	1.025	85	12.9	Top	03:26	1.235	45	13.4											MIX C
	1148	03:34	1.030	>180	10.2	Top	03:49	1.242	44	11.9											MIX C
	1150	04:02	1.030	>180	8.6	Top	04:53	1.230	48	12.2											MIX C
	1152	04:48	1.030	>180	9.7	Top	04:57	1.250	57	11.1											MIX C
	1154	05:30	1.035	>180	11.1	Top	06:40	1.225	41	13.0											MIX C
2018-10-27 DAY	1156	06:15	1.030	88	12.6	Top	09:05	1.210	49	13.8											MIX C
	1158	08:45	1.030	62	14.5	Top	09:30	1.220	38	13.1											MIX C
	1160	10:00	1.030	>180	14.8	Top	10:30	1.220	41	13.9											MIX C
	1162	10:45	1.030	>180	13.2	Top	11:30	1.230	40	15.0											MIX C
	1164	12:00	1.030	>180	13.1	Top	12:40	1.225	45	12.7											MIX C
	1166	12:50	1.035	132	15.4	Top	13:10	1.230	44	14.7											MIX C
	1168	13:40	1.030	173	12.4	Top	14:35	1.230	44	12.9								15h00	CB-WTD-057		MIX C
	1170	14:30	1.035	>180	14.9	Top	15:00	1.240	39	13.6											MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1172	15:20	1.030	>180	12.1	Top	16:00	1.230	49	14.2											MIX C
	1174	16:05	1.035	>180	13.9	Top	16:30	1.240	42	15.5											MIX C
	1176	17:05	1.030	>180	13.9	Top	17:25	1.240	39	13.6											MIX C
2018-10-27 NIGHT	1178	18:15	1.025	>180	11.3	Top	18:19	1.235	45	14.6	38.8										MIX C
	1180	18:37	1.030	>180	12.6	Top	19:37	1.245	46	16.5	36.6										MIX C
	1182					Top	19:45	1.260	52	16.1	25.0									bentonite not tested	MIX C
	1184	19:53	1.030	154	15.6	Top	21:05	1.235	46	17.3	23.1	c	6.4								MIX C
	1186	20:30	1.030	>180	13.9	Top	21:10	1.235	44	16.7	27.9										MIX C
	1188	21:17	1.030	134	15.8	Top	22:32	1.240	42	17.4	31.6										MIX C
	1190	22:00	1.030	>180	12.9	Top	22:35	1.240	43	17.6	24.2										MIX C
	1192	22:40	1.030	155	14.1	Top	23:42	1.240	45	18.0	35.2										MIX C
	1194	13:36	1.035	151	14.2	Top	23:47	1.250	53	15.1	31.7										MIX C
	1196	00:08	1.030	>180	13.8	Top	01:10	1.240	43	15.6	31.7										MIX C
	1198	00:41	1.025	>180	13.3	Top	01:15	1.245	45	15.2	35.4										MIX C
	1200	01:23	1.030	>180	16.7	Top	02:32	1.235	41	19.2	28.7										MIX C
	1202	02:10	1.025	>180	14.8	Top	02:36	1.250	48	16.9	33.9										MIX C
	1204	02:57	1.025	>180	13.4	Top	03:52	1.235	44	16.7	34.6										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1206	03:34	1.030	>180	12.9	Top	03:56	1.250	51	15.9	34.0										MIX C
	1208	04:05	1.025	>180	13.9	Top	05:14	1.235	45	17.6	27.5										MIX C
	1210	04:49	1.030	>180	13.7	Top	05:18	1.250	46	16.4	34.1										MIX C
	1212					Top	06:10	1.245	42	14.6										bentonite not tested, cross shift	MIX C
2018-10-28 DAY	1214	06:15	1.030	>180	13.9	Top	06:30	1.250	40	15.1	18.5										MIX C
	1216	07:05	1.035	>180	13.5	Top	07:50	1.235	43	14.1	23.5										MIX C
	1218	08:00	1.030	>180	12.9	Top	08:15	1.250	46	15.9	25.0										MIX C
	1220	08:45	1.035	>180	13.1	Top	09:25	1.240	45	15.9	22.0										MIX C
	1222	09:50	1.035	>180	12.7	Top	11:05	1.255	46	16.0	19.5										MIX C
	1224	11:40	1.035	>180	14.8	Top	11:55	1.240	41	15.4	31.0										MIX C
	1226	12:20	1.030	>180	13.1	Top	12:40	1.240	40	14.7	29.0										MIX C
	1228	13:00	1.035	>180	12.9	Top	13:10	1.255	49	14.7	26.0										MIX C
	1230	13:50	1.030	75	13.1	Top	14:10	1.250	40	14.4	24.5										MIX C
	1232	14:30	1.030	>180	12.9	Top	14:45	1.255	50	15.1	25.1										MIX C
	1234	15:10	1.035	110	13.3	Top	15:25	1.255	39	14.5	24.6	c	6.2								MIX C
	1236	15:50	1.030	139	13.0	Top	16:05	1.255	41	14.0	29.7										MIX C
	1238	16:25	1.035	>180	13.5	Top	16:40	1.245	48	13.9	n/a				300	-3.86	1.2	16:40	CB-WTD-058		MIX C
	1240	17:05	1.030	>180	12.9	Top	17:30	1.260	55	15.1	n/a										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				C
2018-10-28 NIGHT	1242	18:00	1.035	>180	13.7	Top	19:46	1.245	53	17.0	21.1									MIX C
	1244	18:55	1.030	>180	14.1	Top	20:09	1.240	49	17.8	27.5									MIX C
	1246	20:41	1.025	>180	13.6	Top	21:24	1.240	50	15.9	23.9									MIX C
	1248	21:16	1.025	>180	13.7	Top	21:31	1.255	57	15.6	35.7									MIX C
	1250	21:52	1.025	>180	14.4	Top	22:46	1.230	46	16.4	30.2									MIX C
	1252	22:25	1.025	153	12.4	Top	22:49	1.245	47	16.2	29.4									MIX C
	1254	22:55	1.030	>180	13.3	Top	00:01	1.235	46	18.7	38.5									MIX C
	1256	23:50	1.025	>180	14.4	Top	00:04	1.240	42	16.2	29.0									MIX C
	1258	00:27	1.025	>180	12.9	Top	01:05	1.240	44	14.9	32.1	c	8.9							MIX C
	1260	01:02	1.030	>180	13.1	Top	01:08	1.245	52	14.4	30.2									MIX C
	1262	01:37	1.025	>180	13.1	Top	02:19	1.240	45	15.2	30.8							01:13	CB-WTD-059	MIX C
	1264	02:16	1.025	>180	12.2	Top	02:25	1.245	50	16.4	34.7									MIX C
	1266	02:16	1.025	>180	12.2	Top	02:25	1.245	50	16.4	34.7									MIX C
	1268	02:49	1.030	>180	13.4	Top	03:40	1.240	41	17.7	31.9									MIX C
	1270	03:27	1.030	124	13.1	Top	03:44	1.240	40	17.6	28.6									MIX C
	1272	04:17	1.030	159	14.9	Top	05:03	1.230	38	17.0	30.9									MIX C
	1274	04:55	1.030	>180	12.5	Top	04:59	1.250	40	15.9	27.1									MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1276	05:30	1.030	>180	12.7	Top	05:54	1.350	37	15.1	29.2										MIX C
	1278	06:04	1.035	150	12.6	Top	06:16	1.235	42	14.6	27.2										MIX C
2018-10-29 DAY	1280	06:30	1.035	95	13.7	Top	06:45	1.255	47	16.2	25.7										MIX C
	1282	07:10	1.030	139	13.9	Top	07:40	1.235	50	14.5	26.3										MIX C
	1284	08:10	1.035	>180	14.1	Top	08:35	1.270	41	14.4	27.2										MIX C
	1286	08:55	1.035	>180	13.5	Top	09:05	1.245	50	14.9	25.4										MIX C
	1288	09:35	1.035	>180	12.6	Top	09:45	1.240	45	13.5	23.9										MIX C
	1290	10:10	1.030	127	13.0	Top	10:15	1.240	42	14.5	23.4										MIX C
	1292	10:50	1.035	105	13.6	Top	11:00	1.245	49	14.7	21.6										MIX C
	1294	11:25	1.030	120	13.9	Top	11:35	1.250	52	14.6	20.9										MIX C
	1296	12:00	1.035	>180	13.7	Top	12:10	1.250	50	14.8	22.5										MIX C
	1298	12:40	1.030	>180	13.0	Top	12:50	1.240	53	14.9	30.0										MIX C
	1300	13:15	1.030	>180	13.9	Top	13:25	1.240	42	14.9	26.4										MIX C
	1302	13:50	1.035	>180	14.0	Top	13:55	1.240	59	14.2	25.9	Clear	8.4	9.75	300	-2.75	1.5		CB-WTD-060		MIX C
	1304	15h35	1.035	>180	13.9	Top	15h40	1.240	47	14.7	26.4										MIX C
	1306	16h03	1.035	>180	14.0	Top	16h15	1.245	49	14.3	23.7										MIX C
	1308	16h40	1.030	>180	13.3	Top	16h45	1.240	45	13.9	27.1										MIX C
	1310	17h15	1.035	>180	13.7	Top	17h20	1.250	50	14.6	26.5										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1312	17h45	1.035	135	13.8	Top	-	1.245	47	14.7	20.2										MIX C
2018-10-29 NIGHT	1314	-	-	-	-	Top	18h50	1.400	40	15.5	24.2										MIX C
	1316	-	-	-	-	Top	18h56	1.245	42	14.7	24.2										MIX C
	1318	19h20	1.030	96	12.2	Top	19h50	1.235	41	14.4	27.5										MIX C
	1320	19h56	1.035	99	12.7	Top	20h00	1.230	48	13.9	27.5										MIX C
	1322	20h23	1.030	100	12.7	Top	21h00	1.245	42	14.6	26.4										MIX C
	1324	20h55	1.035	82	12.7	Top	21h00	1.240	45	13.6	26.4	Clear	8.6	9.85							MIX C
	1326	21h20	1.030	84	12.4	Top	22h00	1.230	39	13.9	26.4										MIX C
	1328	21h50	1.030	82	12.6	Top	22h00	1.250	49	13.9	26.4										MIX C
	1330	22h26	1.030	79	13.0	Top	22h57	1.240	40	14.0	24.2								CB-WTD-061		MIX C
	1332	22h52	1.035	71	13.1	Top	22h57	1.250	53	13.9	24.2										MIX C
	1334	23h22	1.030	63	12.5	Top	23h55	1.240	41	14.1	25.4				600	-2.75	2.2				MIX C
	1336	23h44	1.030	61	11.9	Top	23h55	1.245	41	12.8	25.4										MIX C
	1338	00h13	1.035	61	12.2	Top	1h04	1.245	41	15.6	28.5										MIX C
	1340	00h45	1.030	85	11.9	Top	1h04	1.240	42	15.2	28.5										MIX C
	1342	1h17	1.030	106	12.6	Top	2h05	1.235	44	14.5	22.6										MIX C
	1344	1h49	1.030	95	12.9	Top	2h05	1.245	47	14.3	22.6										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-10-30 DAY	1346	2h20	1.030	145	13.1	Top	3h07	1.245	54	14.6	18.9										MIX C
	1348	2h58	1.030	102	13.8	Top	3h07	1.235	58	13.8	18.9									Half Arbo	MIX C
	1350	3h24	1.035	66	11.6	Top	3h55	1.225	48	13.5	22.5									Half Arbo, Rejected by accident	MIX C
	1352	3h50	1.030	66	12.4	Top	3h55	1.245	53	13.6	22.5									Half Arbo	MIX C
	1354	4h20	1.035	70	12.7	Top	5h12	1.250	55	15.6	-									Half Arbo	MIX C
	1356	4h44	1.035	72	12.9	Top	5h12	1.240	45	15.4	-									Half Arbo	MIX C
	1358	5h27	1.030	77	13.1	Top	6h10	1.240	48	14.9	-									Half Arbo	MIX C
	1360	6h15	1.035	90	13.7	Top	6h15	1.245	49	14.5	-									Half Arbo	MIX C
	1362	6h30	1.035	69	12.8	Top	7h10	1.235	49	14.0	20.4									Half Arbo	MIX C
	1364	7h00	1.035	74	13.0	Top	7h35	1.245	48	13.6	19.1									Half Arbo	MIX C
	1366	7h50	1.030	80	11.8	Top	8h45	1.250	46	14.3	22.0									Half Arbo	MIX C
	1368	8h35	1.035	99	11.6	Top	9h00	1.245	50	13.2	23.7								CB-WTD-062		MIX C
	1370	9h15	1.030	105	11.3	Top	9h45	1.245	53	14.0	21.9										MIX C
	1372	10h00	1.030	>180	11.7	Top	10h10	1.235	51	12.9	24.7										MIX C
	1374	10h25	1.025	138	11.6	Top	10h40	1.250	40	13.7	30.1									Half Arbo	MIX C
	1376	10h55	1.030	102	12.5	Top	11h10	1.230	51	14.1	26.7									Half Arbo, Overload of Hydrated Bentonite	MIX C
	1378	12h10	1.030	83	13.8	Top	12h15	1.250	48	14.3	26.5										MIX C
	1380	12h18	1.030	68	-	Top	12h20	1.250	48	14.8	26.6										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1382	12h40	1.030	-	12.6	Top	13h30	1.250	-	14.6	28.3										MIX C
	1384	13h20	1.030	53	11.9	Top	13h30	1.250	38	16.1	29.5										MIX C
	1386	14h00	1.035	55	12.1	Top	14h20	1.255	42	13.7	29.3										MIX C
	1388	14h36	1.030	-	12.8	Top	14h50	1.250	48	16.2	28.5										MIX C
	1390	15h05	1.025	71	11.9	Top	15h28	1.250	39	13.5	26.5										MIX C
	1392	15h30	1.025	79	12.1	Top	15h54	1.250	40	13.0	24.3										MIX C
	1394	16h08	1.030	86	12.9	Top	16h26	1.250	41	16.3	25.1										MIX C
	1396	16h32	1.030	90	12.1	Top	16h44	1.250	49	13.1	25.1										MIX C
	1398	17h00	1.025	100	13.1	Top	17h15	1.250	41	13.1	21.5										MIX C
	1400	17h30	1.025	106	11.8	Top	17h45	1.250	42	13.4	18.5										MIX C
	1402	17h58	1.030	80	12.6	Top	18h25	1.255	52	14.1	25.4									Half Arbo	MIX C
2018-10-30 NIGHT	1404	18h31	1.030	85	11.9	Top	18h35	1.245	49	13.6	25.4									Half Arbo	MIX C
	1406	19h04	1.030	112	13.1	Top	19h24	1.255	49	15.3	27.4	clear	11.1	10.09						Half Arbo	MIX C
	1408	19h30	1.030	80	12.6	Top	19h35	1.245	60	14.0	27.3									Half Arbo	MIX C
	1410	20h08	1.035	81	14.4	Top	20h24	1.240	53	15.7	28.8									Half Arbo	MIX C
	1412	20h30	1.030	86	12.5	Top	20h37	1.245	50	13.7	28.8				540	-2.76	0.55			Half Arbo	MIX C
	1414	20h52	1.035	103	11.8	Top	21h40	1.240	53	14.4	27.5									Half Arbo	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1416	21h15	1.035	101	11.9	Top	21h40	1.240	50	14.2	27.5									Half Arbo	MIX C
	1418	21h54	1.030	81	12.6	Top	22h37	1.245	46	15.2	-									Half Arbo	MIX C
	1420	22h22	1.030	69	12.0	Top	22h37	1.245	50	13.9	-									Half Arbo	MIX C
	1422	22h55	1.030	80	12.7	Top	23h40	1.245	43	14.9	-									Half Arbo	MIX C
	1424	23h17	1.030	55	11.5	Top	23h40	1.240	43	14.1	-									Half Arbo	MIX C
	1426	00h07	1.030	51	12.3	Top	00h40	1.250	45	15.2	25.4									Half Arbo	MIX C
	1428	00h35	1.030	82	13.2	Top	00h40	1.250	50	14.2	25.4									Half Arbo	MIX C
	1430	-	-	-	-	Top	1h33	1.240	44	14.3	26.2									Half Arbo	MIX C
	1432	1h20	1.030	51	11.2	Top	1h33	1.245	47	14.4	26.2									Half Arbo	MIX C
	1434	1h52	1.030	91	12.3	Top	3h00	1.245	50	15.5	24.3									Half Arbo	MIX C
	1436	2h18	1.030	58	11.9	Top	3h00	1.240	45	14.9	24.3									Half Arbo	MIX C
	1438	3h11	1.030	61	13.9	Top	3h50	1.235	46	15.4	25.4									Half Arbo	MIX C
	1440	3h43	1.030	50	12.3	Top	3h50	1.250	50	13.5	25.4									Half Arbo	MIX C
	1442	4h25	1.030	84	14.4	Top	4h40	1.240	47	15.4	24.2	clear	9.3	9.95						Half Arbo	MIX C
	1444	4h48	1.030	68	12.2	Top	4h55	1.250	53	14.1	24.2									Half Arbo	MIX C
	1446	5h06	1.035	65	11.7	Top	5h40	1.240	44	14.1	24.2									Half Arbo	MIX C
	1448	5h30	1.030	69	12.3	Top	5h40	1.245	52	13.1	24.2									Half Arbo	MIX C
	1450	5h52	1.030	89	11.5	Top	6h30	1.245	39	13.5	26.2										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				C
2018-10-31 DAY	1452	6h25	1.030	92	13.2	Top	6h33	1.250	48	13.6	26.5									MIX C
	1454	6h48	1.030	91	11.7	Top	7h28	1.250	53	13.8	-	clear	9.5						CB-WTD-063		MIX C
	1456	7h12	1.030	101	13.0	Top	7h31	1.250	49	13.8	-										MIX C
	1458	8h00	1.030	96	11.8	Top	8h10	1.250	41	12.5	23.5										MIX C
	1460	8h20	1.030	94	11.6	Top	8h30	1.250	45	13.1	24.5				480	-2.25	1.12				MIX C
	1462	8h54	1.030	80	10.9	Top	9h10	1.250	43	13.6	25.1										MIX C
	1464	9h20	1.030	61	11.0	Top	9h40	1.250	49	12.6	24.3										MIX C
	1466	9h45	1.030	68	-	Top	10h33	1.250	44	-	30.5										MIX C
	1468	10h15	1.030	69	11.2	Top	10h28	1.250	37	12.6	30.5										MIX C
	1470	10h45	1.030	71	11.6	Top	11h20	1.245	37	13.1	27.1										MIX C
	1472	11h40	1.030	69	10.9	Top	11h45	1.245	43	12.9	26.5										MIX C
	1474	12h00	1.030	58	11.3	Top	12h18	1.250	43	13.2	26.8										MIX C
	1476	12h30	1.035	54	11.0	Top	12h45	1.255	47	13.6	27.3										MIX C
	1478	12h57	1.030	62	11.6	Top	13h12	1.245	44	13.4	26.5										MIX C
	1480	13h28	1.035	58	10.9	Top	13h40	1.245	41	12.3	28.4										MIX C
	1482	14h05	1.030	73	12.6	Top	14h10	1.250	41	12.8	26.4										MIX C
	1484	14h30	1.030	58	-	Top	14h40	1.250	46	-	26.3										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-10-31 NIGHT	1486	15h00	1.030	59	11.1	Top	15h18	1.245	43	12.0	26.4								CB-WTD-064		MIX C
	1488	15h35	1.030	57	11.2	Top	15h45	1.250	40	12.6	26.5										MIX C
	1490	16h10	1.030	58	11.7	Top	16h23	1.255	46	12.8	24.7									Half Arbo	MIX C
	1492	16h40	1.030	56	10.7	Top	16h45	1.245	44	12.6	23.4									Half Arbo	MIX C
	1494	17h00	1.030	50	10.7	Top	17h15	1.245	41	12.1										Half Arbo	MIX C
	1496	17h33	1.030	57	10.9	Top	17h38	1.255	43	11.3										Half Arbo	MIX C
	1498	18h00	1.030	59	11.9	Top	18h30	1.240	41	14.0										Half Arbo	MIX C
	1500	-	-	-	-	Top	18h51	1.245	42	12.9										Half Arbo	MIX C
	1502	18h55	1.030	59	11.6	Top	20h00	1.245	47	14.7										Half Arbo	MIX C
	1504	19h20	1.030	53	11.9	Top	20h00	1.245	44	14.8										Half Arbo	MIX C
	1506	20h07	1.030	61	14.1	Top	20h49	1.245	43	14.3										Half Arbo	MIX C
	1508	20h42	1.030	66	14.3	Top	21h00	1.245	45	13.8		clear	8.7	10.14						Half Arbo	MIX C
	1510	21h12	1.030	62	12.4	Top	21h50	1.240	46	13.3										Half Arbo	MIX C
	1512	21h48	1.035	61	12.6	Top	22h00	1.245	45	13.1										Half Arbo	MIX C
	1514	22h30	1.030	76	13.6	Top	23h20	1.230	45	14.9									CB-WTD-065	Half Arbo	MIX C
	1516	22h54	1.030	68	12.2	Top	23h20	1.250	45	14.4										Half Arbo	MIX C
	1518	23h40	1.030	68	13.4	Top	00h15	1.260	56	15.0										Half Arbo	MIX C
	1520	00h05	1.030	74	12.7	Top	00h15	1.250	55	13.9										Half Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				C
	1522	00h27	1.030	93	11.9	Top	1h14	1.245	53	14.9										Half Arbo	MIX C
	1524	1h17	1.030	63	11.7	Top	1h34	1.225	74	13.7										Half Arbo	MIX C
	1526	2h05	1.025	42	11.6	Top	2h30	1.240	42	13.9										Half Arbo	MIX C
	1528	2h21	1.030	60	11.4	Top	2h30	1.225	46	13.2										Half Arbo	MIX C
	1530	2h45	1.030	71	11.7	Top	3h25	1.250	48	14.2		clear	8.7	9.97						Half Arbo	MIX C
	1532	3h10	1.030	65	11.8	Top	3h25	1.260	51	13.1										Half Arbo	MIX C
	1534	3h50	1.030	64	13.1	Top	4h30	1.245	48	14.9										Half Arbo	MIX C
	1536	4h24	1.030	56	14.9	Top	4h30	1.250	48	14.1										Half Arbo	MIX C
	1538	5h06	1.035	70	11.0	Top	5h35	1.230	47	13.6										Half Arbo	MIX C
	1540	5h30	1.030	70	10.9	Top	5h35	1.250	44	12.9										Half Arbo	MIX C
2018-11-01 DAY	1542	-	1.035	71	-	Top	6h15	1.245	49	13.8										Half Arbo	MIX C
	1544	6h10	1.035	71	11.3	Top	6h30	1.250	51	13.9										Half Arbo	MIX C
	1546	6h35	1.030	72	10.8	Top	7h50	1.250	49	14.4										Half Arbo	MIX C
	1548	7h40	1.030	69	11.4	Top	8h08	1.255	52	13.7										Half Arbo	MIX C
	1550	8h18	1.025	78	11.3	Top	9h00	1.250	50	13.4					480	-2.11	0.53		CB-WTD-069	Half Arbo	MIX C
	1552	8h50	1.030	-	11.9	Top	9h20	1.240	72	13.1										Half Arbo	MIX C
	1554	11h27	1.025	79	11.7	Top	11h38	1.250	57	13.0										Half Arbo	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1556	11h50	1.030	103	11.2	Top	12h04	1.245	79	13.6										Half Arbo	MIX C
	1558	12h18	1.030	132	10.9	Top	13h10	1.250	42	13.2										Half Arbo	MIX C
	1560	12h53	1.030	140	10.8	Top	13h15	1.250	39	13.3										Half Arbo	MIX C
	1562	13h37	1.030	>180	13.1	Top	14h14	1.250	47	13.9										Half Arbo	MIX C
	1564	14h08	1.030	143	12.1	Top	14h24	1.255	42	13.9										Half Arbo	MIX C
	1566	14h40	1.030	92	11.3	Top	14h58	1.250	45	13.4										Half Arbo	MIX C
	1568	15h10	1.030	100	12.2	Top	15h27	1.255	53	13.6										Half Arbo	MIX C
	1570	15h40	1.030	120	12.6	Top	16h00	1.255	42	13.1										Half Arbo	MIX C
	1572	16h28	1.030	123	12.3	Top	16h28	1.255	43	12.9										Half Arbo	MIX C
	1574	1700	1.025	62	11.2	Top	17h00	1.255	41	12.9										Half Arbo	MIX C
	1576	17h25	1.030	79	11.3	Top	17h25	1.255	40	12.7										Half Arbo	MIX C
2018-11-01 NIGHT	1578	17h38	1.030	96	10.8	Top	18h34	1.250	61	-	32.4									Half Arbo	MIX C
	1580	18h18	1.030	149	-	Top	18h34	1.245	47	12.3	32.4										MIX C
	1582	18h48	1.030	>180	12.6	Top	19h22	1.250	48	14.3	31.5										MIX C
	1584	19h06	1.025	105	12.7	Top	19h22	1.250	48	13.6	31.5	Clear	9.1	10.25							MIX C
	1586	19h36	1.030	>180	13.0	Top	20h25	1.255	74	15.5	28.4										MIX C
	1588	20h10	1.035	>180	12.8	Top	20h25	1.260	80	14.5	28.4										MIX C
	1590	20h35	1.030	>180	13.5	Top	21h34	1.240	48	15.0	25.1										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1592	21h20	1.030	>180	13.4	Top	21h34	1.250	52	15.5	25.1										MIX C
	1594	21h49	1.030	172	13.1	Top	23h50	1.240	60	18.0	-				420	-2.00	1.41		CB-WTD-070	Half Arbo, to test infiltration with higher thickness	MIX C
	1596	22h12	1.025	140	13.0	Top	23h50	1.250	56	15.5	-									Half Arbo, to test infiltration with higher thickness	MIX C
	1598	00h39	1.030	117	14.3	Top	1h08	1.245	49	15.6	22.4										MIX C
	1600	1h08	1.030	136	12.7	Top	1h08	1.250	48	13.5	22.4										MIX C
	1602	1h21	1.030	136	12.4	Top	2h02	1.245	48	14.4	25.5										MIX C
	1604	1h56	1.030	161	13.6	Top	2h15	1.250	49	15.1	25.5										MIX C
	1606	2h26	1.030	148	13.5	Top	3h14	1.245	54	15.9	21.5										MIX C
	1608	2h53	1.030	131	11.7	Top	3h14	1.240	49	14.9	21.5										MIX C
	1610	4h16	1.030	145	14.2	Top	4h35	1.240	47	15.1	19.4										MIX C
	1612	7h15	1.030	>180	13.8	Top	7h25	1.240	43	13.8	22.3										MIX C
2018-11-02 DAY	1614	12h05	1.035	>180	13.7	Top	12h48	1.250	46	14.3	23.5	Clear	5.2	6.77							MIX C
	1616	12h41	1.035	>180	14.4	Top	12h55	1.260	48	14.9	29.4										MIX C
	1618	13h12	1.030	>180	13.4	Top	13h30	1.245	46	13.6	27.7										MIX C
	1620	13h40	1.030	>180	13.2	Top	14h00	1.240	46	12.6	19.7										MIX C
	1622	14h10	1.030	92	11.9	Top	14h35	1.250	43	13.7	17.9										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-11-02 NIGHT	1624	14h45	1.035	>180	12.6	Top	14h50	1.260	55	13.0	26.5								CB-WTD-071		MIX C
	1626	15h15	1.030	160	13.2	Top	15h35	1.240	51	13.0	23.9										MIX C
	1628	15h48	1.030	73	11.4	Top	16h05	1.245	44	13.5	20.7										MIX C
	1630	16h25	1.030	118	12.1	Top	16h44	1.250	50	13.6	22.0										MIX C
	1632	16h50	1.030	97	11.7	Top	17h00	1.250	46	13.1	23.6										MIX C
	1634	17h15	1.035	100	11.9	Top	17h30	1.250	48	12.9	24.1										MIX C
	1636	17h42	1.030	99	11.5	Top	18h00	1.250	45	13.1	27.5										MIX C
	1638	17h42	1.030	99	11.5	Top	18h00	1.250	45	13.1	27.5										MIX C
	1640	18h23	1.035	79	11.1	Top	19h00	1.245	52	14.2	27.2									Half Arbo	MIX C
	1642	18h48	1.030	102	12.1	Top	19h00	1.250	56	13.6	27.2									Half Arbo	MIX C
	1644	19h13	1.030	100	12.1	Top	19h45	1.240	45	14.5	26.4										MIX C
	1646	19h39	1.030	132	11.6	Top	19h51	1.250	47	14.0	26.4										MIX C
	1648	20h00	1.030	86	11.5	Top	20h50	1.250	45	14.4	25.2										MIX C
	1650	20h26	1.030	85	11.1	Top	20h50	1.250	45	12.8	25.2										MIX C
	1652	20h55	1.030	104	11.6	Top	21h50	1.240	46	13.8	22.2										MIX C
	1654	21h26	1.030	80	11.3	Top	21h50	1.240	46	12.8	22.2										MIX C
	1656	22h15	1.030	118	14.1	Top	22h45	1.250	49	14.2	23.4										MIX C
	1658	22h38	1.030	108	13.1	Top	22h45	1.250	48	13.1	23.4										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1660	23h05	1.035	71	11.3	Top	23h50	1.250	46	15.1	33.4										MIX C
	1662	23h30	1.030	85	11.6	Top	23h50	1.255	47	13.4	33.4										MIX C
	1664	1h16	1.035	84	11.9	Top	1h45	1.240	44	14.4	32.5										MIX C
	1666	1h36	1.035	84	12.0	Top	1h45	1.250	43	13.6	32.5								CB-WTD-072		MIX C
	1668	2h57	1.030	94	12.1	Top	3h25	1.245	45	13.3	30.0										MIX C
	1670	3h20	1.030	94	11.1	Top	3h30	1.250	46	13.3	30.0										MIX C
2018-11-03 DAY	1672	9h53	1.030	42	13.3	Top	10h20	1.245	36	14.3	24.8										MIX C
	1674	10h28	1.030	60	12.2	Top	10h50	1.250	44	13.0	24.8										MIX C
	1676	11h08	1.030	70	12.6	Top	11h25	1.255	40	13.8	25.0	Clear	10.5								MIX C
	1678	11h35	1.035	80	12.0	Top	13h58	1.255	46	15.0	22.0										MIX C
	1680	13h45	1.025	87	11.3	Top	14h02	1.255	44	13.3	22.0										MIX C
	1682	14h20	1.030	79	12.8	Top	14h33	1.250	42	13.0	22.5										MIX C
	1684	15h00	1.030	86	14.0	Top	15h55	1.250	41	14.6	31.0										MIX C
	1686	15h34	1.030	90	13.6	Top	16h20	1.255	46	14.1	31.2								CB-WTD-073		MIX C
	1688	16h00	1.035	106	11.6	Top	17h35	1.255	42	14.6	31.0										MIX C
	1690	16h45	1.030	98	13.6	Top	17h20	1.250	39	14.3	31.0										MIX C
	1692	17h15	1.030	84	15.5	Top	-	-	-	-	-										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-11-03 NIGHT	1694	18h35	1.035	158	13.5	Top	19h00	1.250	48	14.5	31.5										MIX C
	1696	18h53	1.030	109	11.8	Top	19h00	1.255	47	13.0	31.5				600	-1.89	1.89				MIX C
	1698	19h13	1.035	152	12.6	Top	19h55	1.255	46	14.5	30.4										MIX C
	1700	1h33	1.030	106	12.0	Top	19h55	1.250	44	13.5	30.4										MIX C
	1702	20h15	1.035	66	11.1	Top	20h55	1.250	45	14.8	30.0										MIX C
	1704	10h36	1.030	74	12.4	Top	20h55	1.250	46	13.6	30.0										MIX C
	1706	21h04	1.030	91	12.6	Top	22h18	1.240	47	15.1	29.1										MIX C
	1708	21h30	1.030	105	11.9	Top	22h18	1.245	45	15.1	29.1										MIX C
	1710	22h30	1.030	>180	15.3	Top	23h35	1.250	54	17.8	28.9										MIX C
	1712	23h07	1.030	>180	13.5	Top	23h35	1.250	47	15.0	28.9	Clear	9.4								MIX C
	1714	23h45	1.030	152	15.4	Top	00h47	1.245	49	16.0	30.4										MIX C
	1716	00h27	1.030	107	14.0	Top	00h47	1.240	47	14.5	30.4										MIX C
	1718	00h57	1.030	108	13.5	Top	1h50	1.250	55	15.2	28.9								CB-WTD-074	Half Arbo	MIX C
	1720	1h38	1.030	46	11.4	Top	1h50	1.250	49	14.2	28.9									Half Arbo	MIX C
	1722	1h05	1.030	78	12.8	Top	1h53	1.250	43	16.5	30.1										MIX C
	1724	1h42	1.030	77	13.8	Top	1h53	1.245	49	14.8	30.1										MIX C
	1726	2h25	1.030	78	13.6	Top	3h15	1.245	41	15.6	27.5										MIX C
	1728	2h55	1.030	68	14.8	Top	3h15	1.245	40	15.2	27.5										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1730	3h28	1.030	68	13.3	Top	4h15	1.245	43	15.1	25.8										MIX C
	1732	4h02	1.035	86	13.1	Top	4h15	1.255	45	13.6	25.8										MIX C
	1734	4h30	1.030	141	12.6	Top	5h05	1.245	46	14.7	27.0										MIX C
	1736	4h49	1.030	89	11.8	Top	5h05	1.250	43	13.1	27.0										MIX C
	1738	5h16	1.030	122	12.1	Top	6h03	1.250	47	14.5	24.8										MIX C
	1740	5h50	1.035	>180	12.1	Top	6h03	1.250	46	13.3	24.0										MIX C
2018-11-04 DAY	1742	6h15	1.030	>180	12.6	Top	6h38	1.260	46	14.5	14.5										MIX C
	1744	6h47	1.035	>180	13.3	Top	7h04	1.255	51	13.5	13.3										MIX C
	1746	7h22	1.030	>180	13.2	Top	7h38	1.255	52	13.5	13.5										MIX C
	1748	7h55	1.035	>180	13.3	Top	8h05	1.245	58	13.9	14.7										MIX C
	1750	8h18	1.035	>180	12.5	Top	8H40	1.250	56	13.2	16.0	Clear	8.4								MIX C
	1752	9h05	1.035	>180	11.3	Top	9h18	1.255	50	13.8	15.9										MIX C
	1754	9h50	1.030	170	12.1	Top	10h00	1.255	49	12.9	12.1										MIX C
	1756	10h15	1.030	162	11.4	Top	10h29	1.260	47	13.0	14.0										MIX C
	1758	10h45	1.030	>180	11.5	Top	13h35	1.250	45	15.5	19.5										MIX C
	1760	11h12	1.035	>180	12.1	Top	13h50	1.260	44	15.4	19.5										MIX C
	1762	13h45	1.035	>180	13.3	Top	14h32	1.250	46	16.0	22.1										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1764	14h28	1.035	>180	13.0	Top	14h44	1.265	48	13.9	20.5										MIX C
	1766	15h00	1.035	>180	12.7	Top	15h15	1.250	49	13.3	20.5				420	-2.50	1		CB-WTD-075		MIX C
	1768	15h25	1.030	>180	12.5	Top	15h46	1.260	42	13.3	21.7										MIX C
	1770	15h50	1.035	147	12.2	Top	16h35	1.245	42	14.1	15.7										MIX C
	1772	16h29	1.030	151	11.8	Top	16h43	1.255	43	13.1	16.6										MIX C
	1774	16h58	1.035	121	11.9	Top	17h13	1.255	46	13.0	17.9										MIX C
	1776	17h21	1.030	117	11.5	Top	17h35	1.260	44	12.7	20.4										MIX C
2018-11-04 NIGHT	1778	18h20	1.030	108	13.6	Top	19h26	1.250	47	14.6	27.6										MIX C
	1780	19h00	1.035	124	12.7	Top	19h26	1.250	47	14.0	27.6										MIX C
	1782	19h35	1.030	72	13.3	Top	21h13	1.255	56	18.4	24.3										MIX C
	1784	20h12	1.035	83	12.6	Top	21h13	1.255	50	15.3	24.3										MIX C
	1786	21h22	1.030	60	15.9	Top	22h23	1.245	48	16.3	31.6										MIX C
	1788	22h14	1.030	107	13.6	Top	22h27	1.240	44	14.5	31.6	Clear	8.8								MIX C
	1790	13h45	1.030	100	13.8	Top	00h15	1.250	57	14.6	31.6				420	-1.65	1.65		CB-WTD-076	Half Arbo	MIX C
	1792	00h07	1.030	131	13.6	Top	00h15	1.250	53	13.4	31.6									Half Arbo	MIX C
	1794	00h45	1.030	120	15.0	Top	1h15	1.250	47	17.0	32.9										MIX C
	1796	1h10	1.035	114	13.8	Top	1h15	1.250	43	14.3	32.9										MIX C
	1798	1h40	1.035	123	14.1	Top	2h16	1.250	53	14.7	32.4									Half Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1800	2h10	1.030	97	13.0	Top	2h20	1.260	51	13.7	32.4									Half Arbo	MIX C
	1802	3h34	1.030	142	12.9	Top	3h08	1.245	45	14.1	30.4										MIX C
	1804	2h58	1.030	164	11.8	Top	3h08	1.245	44	13.4	30.4										MIX C
	1806	3h21	1.030	129	12.3	Top	4h15	1.250	47	14.2	32.3										MIX C
	1808	3h48	1.035	117	12.3	Top	4h15	1.250	45	13.7	32.3										MIX C
	1810	4h34	1.030	84	14.6	Top	5h28	1.250	44	16.1	32.0										MIX C
	1812	5h05	1.030	70	13.5	Top	5h28	1.250	43	15.0	32.0										MIX C
2018-11-05-DAY	1814	5h35	1.035	77	15.6	Top	6h20	1.250	41	15.6	30.0										MIX C
	1816	6h04	1.030	68	14.5	Top	6h28	1.255	39	14.8	30.0										MIX C
	1818	6h45	1.030	76	12.0	Top	7h35	1.250	40	14.7	25.5										MIX C
	1820	7h19	1.030	59	-	Top	7h38	1.250	39	14.9	25.5										MIX C
	1822	7h40	1.035	60	11.9	Top	8h40	1.255	41	15.3	28.2										MIX C
	1824	8h30	1.030	53	12.0	Top	8h48	1.250	42	13.8	28.2										MIX C
	1826	9h00	1.030	64	11.8	Top	9h50	1.255	39	15.0	30.3										MIX C
	1828	9h40	1.030	66	12.1	Top	9h56	1.250	41	13.3	30.3										MIX C
	1830	10h08	1.030	57	12.3	Top	10h35	1.250	40	13.6	31.2										MIX C
	1832	10h30	1.035	59	12.0	Top	10h45	1.255	39	13.4	32.2										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1834	11h08	1.030	76	13.3	Top	11h38	1.250	43	14.3	28.5										MIX C
	1836	11h34	1.035	69	12.0	Top	11h58	1.255	43	14.4	26.5	Clear	11.3		300	-1.08	1.08				MIX C
	1838	12h08	1.030	74	12.8	Top	13h07	1.250	40	13.3	22.5										MIX C
	1840	12h57	1.030	78	13.3	Top	13h28	1.255	39	13.4	24.7										MIX C
	1842	13h35	1.030	76	12.0	Top	14h18	1.250	44	13.5	24.5							14h30	CB-WTD-077		MIX C
	1844	14h09	1.035	79	12.9	Top	14h37	1.255	41	13.5	23.5										MIX C
	1846	14h40	1.030	77	12.6	Top	15h19	1.250	42	14.2	23.6										MIX C
	1848	15h16	1.030	67	12.4	Top	15h30	1.260	42	13.5	23.7										MIX C
	1850	15h36	1.035	70	12.3	Top	16h11	1.250	39	13.4	26.0										MIX C
	1852	16h06	1.030	78	11.6	Top	16h33	1.250	41	13.6	28.3										MIX C
	1854	16h31	1.030	69	11.8	Top	17h35	1.255	41	14.1	30.2										MIX C
	1856	17h25	1.030	55	12.1	Top	17h44	1.255	42	13.1	28.9										MIX C
2018-11-05 NIGHT	1858	17h50	1.030	64	13.0	Top	18h40	1.250	44	13.7	28.9										MIX C
	1860	18h25	1.030	49	13.3	Top	18h40	1.255	43	13.1	28.9										MIX C
	1862	18h45	1.030	69	13.1	Top	19h37	1.245	52	15.0	28.9									Half Arbo	MIX C
	1864	19h20	1.035	70	12.6	Top	19h37	1.245	52	13.3	28.9									Half Arbo	MIX C
	1866	19h52	1.030	113	13.2	Top	20h40	1.255	45	14.5	27.6										MIX C
	1868	20h23	1.030	77	12.5	Top	20h40	1.260	43	13.5	27.6										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1870	21h09	1.030	124	15.0	Top	21h42	1.255	48	15.1	28.5										MIX C
	1872	21h35	1.030	64	12.5	Top	21h42	1.245	45	14.3	28.5	Clear	9.1								MIX C
	1874	22h02	1.035	93	13.6	Top	22h56	1.250	42	15.8	25.0										MIX C
	1876	22h34	1.035	83	13.0	Top	22h56	1.250	41	14.1	25.0										MIX C
	1878	23h08	1.030	84	13.5	Top	00h06	1.245	41	14.5	25.1								CB-WTD-078		MIX C
	1880	23h39	1.030	73	13.5	Top	00h06	1.250	42	14.4	25.1										MIX C
	1882	00h15	1.035	71	13.5	Top	1h11	1.245	43	15.5	20.5										MIX C
	1884	00h46	1.030	60	12.0	Top	1h11	1.245	44	13.5	20.5										MIX C
	1886	2h34	1.025	45	10.9	Top	3h08	1.230	42	12.1	25.0									Half Arbo	MIX C
	1888	3h02	1.030	78	12.6	Top	3h08	1.245	46	13.0	25.0										MIX C
	1890	3h37	1.030	95	14.7	Top	4h31	1.250	45	15.3	28.4										MIX C
	1892	4h07	1.030	112	13.1	Top	4h31	1.250	46	13.9	28.4										MIX C
	1894	4h41	1.035	113	13.6	Top	5h30	1.250	46	15.8	27.7										MIX C
	1896	5h12	1.035	110	13.4	Top	5h30	1.245	47	14.3	27.7										MIX C
2018-11-06 DAY	1898	5h52	1.030	92	13.9	Top	6h30	1.255	55	14.6	17.5										MIX C
	1900	6h25	1.035	157	13.5	Top	6h45	1.260	43	15.1	16.6										MIX C
	1902	7h00	1.030	79	13.0	Top	7h38	1.250	47	14.4	16.2										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1904	7h30	1.030	>180	11.9	Top	7h57	1.260	46	13.9	17.4										MIX C
	1906	8h04	1.035	>180	12.8	Top	9h01	1.250	44	14.7	19.6										MIX C
	1908	8h56	1.030	>180	12.6	Top	9h20	1.255	42	13.8	18.6										MIX C
	1910	9h30	1.035	140	12.5	Top	9h59	1.250	41	14.0	19.7										MIX C
	1912	10h00	1.035	>180	11.9	Top	10h18	1.260	50	13.8	20.0										MIX C
	1914	10h26	1.030	>180	12.9	Top	10h50	1.245	41	13.9	19.9	Clear	8.2								MIX C
	1916	11h00	1.030	127	12.7	Top	11h20	1.255	48	13.4	21.4										MIX C
	1918	11h35	1.030	152	12.8	Top	12h15	1.250	40	14.0	22.1										MIX C
	1920	12h23	1.035	>180	12.8	Top	12h38	1.255	47	13.8	18.4				480	-2.50	1.25		CB-WTD-079	Bleeding test	MIX C
	1922	12h55	1.030	>180	12.7	Top	xxxxx	xxxxx	xxxxx	xxxxx	20.5									Wasted Sump due to a problem during pumping to the PAT, half of the bentonite has been poured on the gorund	MIX C
	1924	xxxxx	xxxxx	xx	xxxxx	Top	xxxxx	xxxxx	xxxxx	xxxxx	20.9									Wasted Sump	MIX C
	1926	16h25	1.035	139	11.8	Top	17h03	1.240	51	13.9	19.1									Half ARBO, to test infiltration with higher thickness	MIX C
	1928	16h52	1.035	>180	12.1	Top	17h10	1.250	53	13.9	20.7									Half ARBO, to test infiltration with higher thickness	MIX C
	1930	17h30	1.035	>180	12.5	Top	17h41	1.240	59	14.1	23.5									Half ARBO	MIX C
	1932	17h50	1.030	135	11.9	Top	18h05	1.255	50	12.5	22.4					-2.08	1.77			Half Arbo	MIX C
2019-11-06 NIGHT	1934	18h27	1.030	148	15.3	Top	19h23	1.240	47	15.3	30.0										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	1936	19h08	1.030	154	14.6	Top	19h23	1.245	46	14.6	30.0										MIX C
	1938	19h45	1.035	>180	14.6	Top	20h00	1.245	46	17.1	28.5										MIX C
	1940	20h49	1.035	>180	15.3	Top	20h00	1.245	47	14.6	28.5										MIX C
	1942	21h27	1.030	>180	15.1	Top	22h20	1.245	45	15.9	29.5										MIX C
	1944	22h13	1.030	>180	15.2	Top	22h20	1.245	49	15.0	29.5								CB-WTD-080		MIX C
	1946	1h45	1.035	80	13.9	Top	1h54	1.235	47	14.0	25.6									Half Truck Load	MIX C
	1948	2h36	1.030	>180	13.9	Top	3h07	1.250	48	15.2	28.4										MIX C
	1950	3h00	1.030	>180	12.5	Top	3h07	1.245	48	13.6	28.4	Clear	11.9								MIX C
	1952	3h33	1.030	>180	12.9	Top	4h18	1.240	44	15.7	26.2										MIX C
	1954	4h00	1.030	>180	13.0	Top	4h18	1.250	45	13.8	26.2										MIX C
	1956	4h37	1.030	>180	13.8	Top	5h12	1.240	45	15.3	28.3										MIX C
	1958	5h05	1.030	>180	14.0	Top	5h12	1.250	45	13.9	28.3										MIX C
	1960	5h32	1.030	>180	13.6	Top	6h00	1.250	46	15.3	29.5										MIX C
	1962	5h55	1.030	69	12.1	Top	6h05	1.240	44	13.9	29.5										MIX C
2018-11-07 DAY	1964	6h30	1.030	79	12.7	Top	7h05	1.255	37	14.0	23.5										MIX C
	1966	7h00	1.035	77	13.2	Top	7h20	1.255	37	14.2	23.5	Clear	10.8								MIX C
	1968	7h55	1.030	80	12.8	Top	8h25	1.250	38	14.3	20.7										MIX C
	1970	8h20	1.030	59	13.1	Top	8h42	1.250	39	13.2	20.5										MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	1972	8h55	1.030	59	13.3	Top	9h25	1.255	39	14.3	21.1										MIX C
	1974	9h03	1.300	53	12.9	Top	9h50	1.250	40	13.7	19.6										MIX C
	1976	9h30	1.035	56	12.7	Top	10h46	1.250	40	14.0	20.0										MIX C
	1978	9h55	1.030	55	10.8	Top	10h50	1.255	39	13.6	20.0										MIX C
	1980	10h40	1.030	56	11.5	Top	11h48	1.250	39	14.1	20.5										MIX C
	1982	11h01	1.030	50	10.9	Top	11h51	1.255	40	13.9	20.5										MIX C
	1984	10h25	1.030	55	10.8	Top	12h40	1.255	47	13.4	23.5										MIX C
	1986	11h55	1.030	56	10.8	Top	13h00	1.250	39	13.6	24.5										MIX C
	1988	11h33	1.030	58	11.6	Top	13h50	1.250	39	14.0	22.4										MIX C
	1990	13h33	1.035	56	11.9	Top	13h43	1.250	44	13.6	22.0							13h43	CB-WTD-081		MIX C
	1992	13h15	1.030	73	12.6	Top	13h43	1.250	39	13.4	22.6										MIX C
	1994	13h47	1.035	54	12.6	Top	14h36	1.250	41	13.9	22.6										MIX C
	1996	15h26	1.035	52	12.6	Top	15h46	1.250	37	14.1	22.4										MIX C
	1998	16h00	1.030	56	12.8	Top	16h10	1.250	39	13.9	22.5										MIX C
2018-11-07 NIGHT	2000	16h15	1.030	55	10.9	Top	19h12	1.240	45	15.8	16.9										MIX C
	2002	18h36	1.030	57	12.7	Top	19h12	1.250	44	15.8	16.9										MIX C
	2004	5h16	1.025	52	14.4	Top	5h43	1.240	39	13.5	21.8										MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2006	5h36	1.030	69	12.8	Top	5h43	1.240	41	11.9	21.8										MIX C
2018-11-08 DAY	2008	6h03	1.030	65	12.1	Top	7h30	1.250	41	14.7	22.1										MIX C
	2010	7h10	1.035	155	13.4	Top	7h32	1.255	40	13.9	22.1										MIX C
	2012	7h46	1.030	82	11.4	Top	8h24	1.250	43	13.1	19.8										MIX C
	2014	8h07	1.035	107	11.2	Top	8h29	1.255	39	12.9	21.1	Clear	9.4	8.5						Water Ph Test by environement crew	MIX C
	2016	8h40	1.035	93	12.6	Top	9h05	1.245	40	13.0	16.7										MIX C
	2018	9h14	1.035	75	12.1	Top	9h38	1.245	42	12.9	17.4										MIX C
	2020	9h47	1.030	73	11.6	Top	10h13	1.250	43	12.6	19.1										MIX C
	2022	10h21	1.035	79	11.3	Top	10h48	1.240	38	12.1	12.4										MIX C
	2024	10h55	1.035	63	10.9	Top	11h40	1.245	41	12.9	18.1										MIX C
	2026	11h34	1.030	119	11.9	Top	11h58	1.255	43	12.9	22.5										MIX C
	2028	12h01	1.030	105	11.2	Top	12h38	1.250	45	13.3	21.9										MIX C
	2030	12h33	1.035	124	10.9	Top	12h50	1.255	42	12.9	20.4										MIX C
	2032	13h00	1.030	134	11.1	Top	13h39	1.250	47	14.0	20.1				660	-2.42	1.89	13h39	CB-WTD-082	Bleeding Test	MIX C
	2034	13h45	1.030	124	11.9	Top	14h05	1.255	40	13.8	21.3										MIX C
	2036	14h15	1.030	65	11.2	Top	14h44	1.250	45	13.6	19.4										MIX C
	2038	15h00	1.035	89	11.8	Top	15h15	1.255	49	13.9	18.9									Half ARBO	MIX C
	2040	15h25	1.035	130	10.9	Top	15h55	1.250	47	13.4	21.4									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2042	15h48	1.035	111	11.0	Top	16h08	1.260	49	13.6	21.9									Half ARBO	MIX C
	2044	16h15	1.030	93	11.1	Top	16h50	1.250	43	13.4	22.1									Half ARBO	MIX C
	2046	16h45	1.035	99	12.4	Top	17h03	1.245	47	12.9	21.0									Half ARBO	MIX C
	2048	17h20	1.030	>180	12.6	Top	17h36	1.255	48	13.1	21.4									Half ARBO	MIX C
2018-11-08 NIGHT	2050	17h51	1.035	77	12.4	Top	18h05	1.255	46	13.4	21.1									Half ARBO	MIX C
	2052	18h31	1.030	61	14.8	Top	19h35	1.245	44	14.8	20.6									Half ARBO	MIX C
	2054	19h02	1.030	61	13.6	Top	19h35	1.245	46	13.6	20.6									Half ARBO	MIX C
	2056	19h41	1.035	66	13.6	Top	20h49	1.240	43	15.6	22.9									Half ARBO	MIX C
	2058	20h17	1.030	55	11.5	Top	20h49	1.245	43	13.1	22.9									Half ARBO	MIX C
	2060	21h04	1.030	73	14.4	Top	21h58	1.260	45	15.8	23.2									Half ARBO	MIX C
	2062	21h34	1.030	66	13.4	Top	21h58	1.250	47	12.9	23.2									Half ARBO	MIX C
	2064	22h10	1.030	85	14.1	Top	22h55	1.250	54	14.7	21.1	Clear	8.8							Half ARBO	MIX C
	2066	22h40	1.030	106	12.1	Top	22h55	1.250	51	12.9	21.1									Half ARBO	MIX C
	2068	23h12	1.030	104	13.3	Top	23h55	1.250	55	14.4	28.3									Half ARBO	MIX C
	2070	23h45	1.030	112	12.9	Top	23h55	1.250	51	13.2	28.3									Half ARBO	MIX C
	2072	00h12	1.035	90	13.1	Top	1h13	1.250	55	15.9	31.0									Half ARBO	MIX C
	2074	00h47	1.030	81	11.9	Top	1h13	1.240	48	13.6	31.0									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2076	1h30	1.030	79	12.8	Top	2h15	1.250	52	15.4	25.8				420	-1.56	1.56	2h15	CB-WTD-083	Half ARBO	MIX C
	2078	2h20	1.030	>180	12.9	Top	2h38	1.265	68	13.7	23.3										MIX C
	2080	2h57	1.030	153	14.4	Top	3h33	1.240	60	14.7	28.6									Half ARBO	MIX C
	2082	3h25	1.030	119	12.7	Top	3h33	1.240	57	13.5	28.6									Half ARBO	MIX C
	2084	3h58	1.030	91	13.0	Top	4h48	1.240	55	15.3	29.1									Half ARBO / Half Truck load	MIX C
2018-11-09 NIGHT	2086	19h12	1.025	42	8.6	Top	19h58	1.235	40	11.4	31.1									Half ARBO	MIX C
	2088	19h53	1.030	52	8.3	Top	20h20	1.235	50	11.1	30.8									Half ARBO	MIX C
	2090	20h37	1.030	89	8.6	Top	21h20	1.250	49	9.8	30.6									Half ARBO	MIX C
	2092	21h05	1.030	88	8.6	Top	21h20	1.245	52	8.9	30.6	clear	5.4							Half ARBO	MIX C
	2094	21h33	1.030	83	8.2	Top	22h40	1.250	55	10.9	31.6	Clear	5.0							Half ARBO	MIX C
	2096	22h25	1.035	130	8.4	Top	22h40	1.245	48	9.6	31.6									Half ARBO	MIX C
	2098	22h55	1.030	>180	8.9	Top	23h53	1.240	52	10.5	34.9	Clear	5.0							Half ARBO	MIX C
	2100	23h31	1.030	>180	7.7	Top	23h53	1.240	53	10.6	34.9									Half ARBO	MIX C
	2102	00h00	1.030	`180	9.3	Top	1h02	1.240	58	13.5	33.9									Half ARBO	MIX C
	2104	00h43	1.035	>180	9.9	Top	1h02	1.250	55	14.0	33.9	Clear	9.4		480	-1.55	1.55	1h02	CB-WTD-084	Half ARBO	MIX C
2018-11-10 NIGHT	2106	21h45	1.030	113	19.4	Top	-	-	-	-	-									Rejected, cleaning pipes dump	MIX C
	2108	23h35	1.030	123	15.4	Top	00h04	1.225	56	16.1	30.7								CB-WTD-085	Half ARBO	MIX C
	2110	00h12	1.030	99	14.0	Top	00h12	1.230	55	16.1	30.2									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2112	00h41	1.030	106	13.7	Top	1h15	1.225	56	14.8	31.6									Half ARBO	MIX C
	2114	1h33	1.030	125	14.8	Top	1h50	1.220	50	14.8	32.4									Half ARBO	MIX C
	2116	2h29	1.035	>180	16.5	Top	3h00	1.210	52	16.3	30.8								CB-WTD-086	Half ARBO	MIX C
	2118	2h52	1.030	78	13.0	Top	3h05	1.220	45	14.0	30.8	clear	9.5							Half ARBO	MIX C
	2120	3h12	1.030	164	12.4	Top	3h57	1.230	49	14.6	34.2									Half ARBO	MIX C
	2122	3h45	1.030	>180	12.6	Top	4h03	1.235	47	13.9	34.2									Half ARBO	MIX C
	2124	4h13	1.030	75	12.2	Top	5h30	1.240	51	16.1	35.6									Half ARBO	MIX C
	2126	5h07	1.030	88	12.2	Top	5h30	1.240	50	14.1	35.6									Half ARBO	MIX C
2018-11-11 DAY	2128	5h39	1.030	75	13.3	Top	7H05	1.250	50	15.9	30.0									Half ARBO	MIX C
	2130	6h30	1.030	96	14.1	Top	7H08	1.250	53	16.0	30.0									Half ARBO	MIX C
	2132	7H28	1.025	126	13.6	Top	7h17	1.245	58	17.5	27.5									Half ARBO	MIX C
	2134	7h55	1.025	129	14.1	Top	8h20	1.245	55	18.1	27.5									Half ARBO	MIX C
	2136	8h30	1.030	55	13.5	Top	9h40	1.250	56	17.5	28.5									Half ARBO	MIX C
	2138	8h50	1.025	124	14.1	Top	9h45	1.250	63	15.6	28.5									Half ARBO	MIX C
	2140	9h12	1.030	136	12.6	Top	12h05	1.235	76	18.1	24.5									Half ARBO	MIX C
	2142	10h25	1.030	108	13.1	Top	12h10	1.240	58	16.1	24.5									Half ARBO	MIX C
	2144	11h06	1.025	133	13.6	Top	13H50	1.250	61	15.6	26.6	Clear	11.6							Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-11-11 NIGHT	2146	12h23	1.030	91	12.6	Top	13H58	1.250	52	15.1	26.6									Half ARBO	MIX C
	2148	14h18	1.030	56	12.9	Top	15h56	1.245	54	18.5	23.7									Half ARBO	MIX C
	2150	16h45	1.030	103	12.6	Top	15h59	1.250	49	13.9	23.5									Half ARBO	MIX C
	2152	17h16	1.030	75	14.0	Top	17h54	1.245	50	16.1	20.3									Half ARBO	MIX C
	2154	17h47	1.030	105	13.8	Top	18h00	1.250	77	14.8	20.5									Half ARBO	MIX C
	2156	18h43	1.030	99	12.1	Top	19h41	1.215	51	14.7	23.3									Half ARBO	MIX C
	2158	19h24	1.030	123	11.6	Top	19h41	1.230	66	14.3	23.3	Clear	9.7							Half ARBO	MIX C
	2160	19h52	1.030	85	11.3	Top	20h36	1.205	47	14.3	23.3	Clear	9.1						20h36	CB-WTD-088	Half ARBO	MIX C
	2162	20h31	1.030	84	12.1	Top	20h46	1.220	56	14.2	24.9									Half ARBO	MIX C
	2164	21h21	1.030	74	12.1	Top	21h48	1.210	49	14.0	22.5	Clear	8.9							Half ARBO	MIX C
	2166	21h58	1.030	73	11.7	Top	22h12	1.225	44	13.6	20.6									Half ARBO	MIX C
	2168	22h28	1.030	106	12.1	Top	23h04	1.215	45	12.9	23.8									Half ARBO	MIX C
	2170	22h52	1.030	90	11.9	Top	23h04	1.215	44	12.9	23.8									Half ARBO	MIX C
	2172	23h14	1.030	79	12.5	Top	00h07	1.220	49	13.4	23.9									Half ARBO	MIX C
	2174	23h56	1.030	71	11.9	Top	00h07	1.220	48	12.2	23.9									Half ARBO	MIX C
	2176	00h18	1.030	90	11.9	Top	1h15	1.220	51	13.1	25.1	Clear	8.1							Half ARBO	MIX C
	2178	00h54	1.030	80	11.2	Top	1h15	1.230	52	12.6	25.1									Half ARBO	MIX C
	2180	1h24	1.025	74	11.2	Top	2h15	1.215	50	13.4	22.6									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2182	2h03	1.030	84	11.6	Top	2h15	1.220	50	12.5	22.6									Half ARBO	MIX C
	2184	2h26	1.025	73	11.5	Top	3h24	1.220	49	13.8	24.3									Half ARBO	MIX C
	2186	2h52	1.030	75	11.4	Top	3h24	1.230	49	12.0	24.3	Clear	8.8							Half ARBO	MIX C
	2188	3h32	1.030	80	11.8	Top	4h25	1.220	48	13.2	22.4									Half ARBO	MIX C
	2190	4h10	1.030	57	11.1	Top	4h35	1.220	49	13.2	22.3									Half ARBO	MIX C
	2192	4h32	1.030	110	11.9	Top	5h23	1.220	46	13.4	24.8									Half ARBO	MIX C
	2194	5h07	1.030	46	11.9	Top	5h23	1.220	46	12.5	24.8									Half ARBO	MIX C
2018-11-12 Day	2196	5h30	1.030	85	11.4	Top	6h52	1.225	51	10.2	10.6									Half ARBO	MIX C
	2198	N/A				Top	6h58	1.210	44	10.1	10.6									Half ARBO	MIX C
	2200	7h50	1.030	53	11.6	Top	8h30	1.210	45	11.4	11.9									Half ARBO	MIX C
	2202	8h20	1.030	61	12.6	Top	8h35	1.225	46	14.4	11.8									Half ARBO	MIX C
	2204	8h55	1.030	80	12.7	Top	9h43	1.220	46	15.1	10.0									Half ARBO	MIX C
	2206	9h15	1.025	131	15.4	Top	10h10	1.220	56	11.9	8.9									Half ARBO	MIX C
	2208	10h40	1.025	143	14.1	Top	11h20	1.215	48	15.8	14.3									Half ARBO	MIX C
	2210	11h00	1.020	>180	12.3	Top	11h25	1.225	55	14.9	16.1									Half ARBO	MIX C
	2212	12h50	1.025	125	13.4	Top	13h25	1.200	53	15.0	9.5									Half ARBO	MIX C
	2214	13h20	1.030	>180	11.0	Top	13h33	1.220	53	13.3	11.9									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2216	14h00	1.025	120	14.6	Top	15h15	1.250	88	14.6	16.3				420	0.00	1.11		CB-WTD-089	Half ARBO	MIX C
	2218	15h10	1.020	104	12.8	Top	15h45	1.270	75	16.6	11.8									Half ARBO	MIX C
	2220	16h15	1.030	127	15.7	Top	18h20	1.210	51	16.4										Half ARBO	MIX C
	2222	18h30	1.025	103	12.1	Top	18h45	1.210	48	16.6										Half ARBO	MIX C
2018-11-12 Nigth	2224	19h30	1.030	146	14.8	Top	19h50	1.210	49	15.2										Half ARBO	MIX C
	2226	20h00	1.030	152	13.4	Top	20h10	1.225	55	15.2										Half ARBO	MIX C
	2228	20h30	1.030	153	14.1	Top	21h15	1.225	58	15.6										Half ARBO	MIX C
	2230	20h50	1.030	>180	13.4	Top	21h20	1.230	62	12.9										Half ARBO	MIX C
	2232	21h30	1.030	144	14.1	Top	10h55	1.230	51	16.4										Half ARBO	MIX C
	2234	10h00	1.030	>180	11.6	Top	11h00	1.225	58	17.1										Half ARBO	MIX C
	2236	11h10	1.030	154	17.7	Top	11h50	1.220	64	16.8										Half ARBO	MIX C
	2238	11h40	1.030	172	12.3	Top	0h00	1.220	54	14.3										Half ARBO	MIX C
	2240	0h12	1.030	171	12.4	Top	1h15	1.220	51	15.1										Half ARBO	MIX C
	2242	0h45	1.030	150	12.8	Top	1h18	1.225	57	14.4										Half ARBO	MIX C
	2244	1h40	1.030	177	16.3	Top	2h25	1.220	54	16.5										Half ARBO	MIX C
	2246	2h00	1.030	165	12.6	Top	2h30	1.225	58	16.1					480	-1.22	2.11		CB-WTD-090	Half ARBO	MIX C
	2248	2h50	1.030	168	14.5	Top	3h45	1.225	54	15.8										Half ARBO	MIX C
	2250	3h30	1.030	172	13.9	Top	3h50	1.225	57	161.0										Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2252	4h30	1.030	168	15.6	Top	5h10	1.220	51	15.9										Half ARBO	MIX C
	2254	5h00	1.030	172	14.8	Top	5h20	1.230	51	14.9										Half ARBO	MIX C
	2256	5h40	1.030	161	15.1	Top	6h27	1.200	48	17.6										Half ARBO	MIX C
	2258	6h15	1.025	>180	12.8	Top	6h35	1.220	56	15.4	6.0									Half ARBO	MIX C
2018-11-13 Day	2260	6h54	1.030	>180	13.8	Top	7h48	1.205	66	16.8	12.0	Clear	7.8							Half ARBO	MIX C
	2262	7h43	1.030	85	12.6	Top	8h00	1.210	49	15.1	13.0									Half ARBO	MIX C
	2264	8h35	1.035	86	14.7	Top	9h35	1.225	54	18.6	11.4									Half ARBO	MIX C
	2266	9h00	1.035	91	13.1	Top	9h30	1.220	54	15.8	13.8									Half ARBO	MIX C
	2268	N/A				Top	10h45	1.220	63	15.3	9.5									Half ARBO	MIX C
	2270	10h25	1.030	88	12.1	Top	10h55	1.210	56	17.6	9.8									Half ARBO	MIX C
	2272	11h15	1.030	93	12.9	Top	12h20	1.215	60	16.6	12.3									Half ARBO	MIX C
	2274	11h40	1.030	162	12.7	Top	12h15	1.220	57	15.4	14.4									Half ARBO	MIX C
	2276	12h35	1.030	98	14.,4	Top	13h55	1.210	52	14.6	7.4									Half ARBO	MIX C
	2278	13h00	1.030	100	12.5	Top	13h53	1.210	60	17.1	7.4									Half ARBO	MIX C
	2280	13h45	1.030	140	13.3	Top	14h50	1.215	60	18.7										Half ARBO	MIX C
	2282	14h35	1.035	91	13.0	Top	14h55	1.225	64	15,4										Half ARBO	MIX C
	2284	15h15	1.035	88	13.7	Top	16h25	1.200	57	17.2					420	0.00	1.1		CB-WTD-091	Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2286	15h48	1.035	122	12.8	Top	16h30	1.210	58	15.3										Half ARBO	MIX C
	2288	16h40	1.025	84	15.0	Top	18h00	1.215	84	15.6										Half ARBO	MIX C
	2290	17h20	1.030	79	13.0	Top	18h05	1.215	79	15.0										Half ARBO	MIX C
2018-11-13 Nigth	2292	18h20	1.030	163	16.4	Top	20h00	1.220	58	17.4										Half ARBO	MIX C
	2294	19h30	1.030	177	12.1	Top	20h05	1.225	54	15.6										Half ARBO	MIX C
	2296	20h15	1.030	124	14.3	Top	21h05	1.230	59	16.1										Half ARBO	MIX C
	2298	20h35	1.030	168	11.7	Top	21h10	1.230	53	14.4										Half ARBO	MIX C
	2300	21h20	1.030	169	12.9	Top	22h00	1.225	57	13.9										Half ARBO	MIX C
	2302	21h50	1.030	177	11.3	Top	22h05	1.230	51	13.4										Half ARBO	MIX C
	2304	20h15	1.030	178	10.7	Top	23h15	1.220	54	16.4										Half ARBO	MIX C
	2306	23h10	1.030	156	12.1	Top	23h18	1.225	51	13.4										Half ARBO	MIX C
	2308	23h40	1.030	161	11.9	Top	0h25	1.225	49	15.1										Half ARBO	MIX C
	2310	0h10	1.030	138	12.1	Top	0h35	1.230	53	13.6										Half ARBO	MIX C
	2312	0h45	1.030	148	12.2	Top	1h50	1.225	49	15.8										Half ARBO	MIX C
	2314	1h10	1.030	139	11.9	Top	2h00	1.235	52	14.3										Half ARBO	MIX C
	2316	2h05	1.030	158	13.9	Top	2h40	1.220	59	13.8										Half ARBO	MIX C
	2318	2h35	1.030	164	11.3	Top	2h45	1.225	54	13.0								2H45	CB-WTD-092	Half ARBO	MIX C
	2320	3h00	1.030	124	11.1	Top	3h50	1.225	62	15.1										Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2322	3h30	1.030	148	15.1	Top	3h55	1.230	58	12.7										Half ARBO	MIX C
	2324	04:30	1.030	66	13.1	Top	05:50	1.220	55	14.5										Half ARBO	MIX C
2018-11-14 DAY	2326	07:36	1.035	>180	14.1	Top	08:05	1.215	67	15.9	9.8									Half ARBO	MIX C
	2328	08:02	1.030	>180	12.4	Top	08:10	1.230	77	15.6	9.7									Half ARBO	MIX C
	2330	08:35	1.030	>180	13.2	Top	09:51	1.215	50	16.1	16.5									Half ARBO	MIX C
	2332	09:23	1.030	99	11.2	Top	09:54	1.215	48	13.9	15.1									Half ARBO	MIX C
	2334	10:10	1.025	>180	12.8	Top	11:19	1.215	46	18.6	21.4									Half ARBO	MIX C
	2336	11:03	1.030	>180	13.1	Top	11:32	1.225	59	15.6	26.1									Half ARBO	MIX C
	2338	12:00	1.025	>180	13.5	Top	12:40	1.215	52	16.8	23.7									Half ARBO	MIX C
	2340	12:28	1.025	159	14.1	Top	12:45	1.215	54	14.9	20.7									Half ARBO	MIX C
	2342	12:58	1.030	>180	14.0	Top	13:45	1.215	54	15.4	21,5	Clear	8.4	7.05						Half ARBO	MIX C
	2344	13:42	1.030	>180	12.7	Top	14:03	1.230	63	14.2	16.5									Half ARBO	MIX C
	2346	14:41	1.025	>180	14.1	Top	15:28	1.210	54	16.9	14.3									Half ARBO	MIX C
	2348	15:20	1.030	>180	12.6	Top	15:31	1.230	52	13.1	14.8									Half ARBO	MIX C
	2350	15h53	1.030	134	13.4	Top	17h00	1.210	62	16.7	23.1									Half ARBO	MIX C
	2352	16h31	1.030	>180	12.9	Top	16h54	1.225	52	13.0	20.4							17h00	CB-WTD-093	Half ARBO	MIX C
	2354	17h10	1.025	>180	13.3	Top	18h00	1.200	54	14.2	31.5									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2356	17h40	1.020	>180	11.3	Top	18h05	1.225	53	13.3	25.1									Half ARBO	MIX C
2018-11-14 Nigth	2358	18h30	1.030	>180	13.8	Top	19h45	1.220	61	17.4	20.4									Half ARBO	MIX C
	2360	19h05	1.030	>180	12.2	Top	19h40	1.240	58	14.7	22.1									Half ARBO	MIX C
	2362	20h00	1.030	171	14.9	Top	21h00	1.220	54	16.5	15.2									Half ARBO	MIX C
	2364	20h35	1.030	168	11.9	Top	21h05	1.225	50	14.3	15.2									Half ARBO	MIX C
	2366	21h10	1.030	>180	13.4	Top	21h50	1.220	57	14.4	14.7									Half ARBO	MIX C
	2368	21h40	1.030	172	14.2	Top	21h55	1.225	51	13.8	14.7									Half ARBO	MIX C
	2370	22h15	1.030	>180	13.4	Top	23h10	1.225	50	15,1	13.7									Half ARBO	MIX C
	2372	20h35	1.030	153	11.7	Top	23h15	1.225	54	13.6	13.7									Half ARBO	MIX C
	2374	23h25	1.030	160	12.5	Top	0h30	1.225	49	14.0	21.1									Half ARBO	MIX C
	2376	23h50	1.030	168	11.6	Top	0h35	1.230	53	15.4	14.0									Half ARBO	MIX C
	2378	0h40	1.030	154	14.8	Top	1h40	2.225	57	16.9	12.8									Half ARBO	MIX C
	2380	1h35	1.030	>180	12.4	Top	1h45	1.235	58	13.8	13.6				420	-1.74%	1.20%	1h45	CB-WTD-094	Half ARBO	MIX C
	2382	1h50	1.030	>180	12.8	Top	3h00	1.230	56	17.5	13.6									Half ARBO	MIX C
	2384	2h25	1.030	>180	11.4	Top	3h05	1.235	51	17.9	14.2									Half ARBO	MIX C
	2386	3h10	1.030	>180	16.7	Top	4h10	1.225	54	16.1	18.7									Half ARBO	MIX C
	2388	4h00	1.030	>180	13.1	Top	4h15	1.235	62	13.8	11.7									Half ARBO	MIX C
11-15	2390	4h30	1.025	177	13.2	Top	8h15	1.220	55	18.5	18.1									Full Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2392	5h00	1.030	>180	12.4	Top	8h15	1.220	62	18.6	15.1									Half ARBO	MIX C
	2394	8h30	1.030	54	25.8	Top	9h25	1.215	53	22.3	20.6									Half ARBO	MIX C
	2396	9h10	1.030	94	14.6	Top	9h30	1.220	47	16.3	20.6									Half ARBO	MIX C
	2398	9h45	1.040	78	13.7	Top	10h45	1.210	45	16.6	16.7				420	-0.66	1.33	22H45	CB-WTD-095	Half ARBO	MIX C
	2400	10h15	1.030	65	12.3	Top	10h50	1.230	48	15.6	14.8									Half ARBO	MIX C
	2402	11h05	1.030	51	13.2	Top	12h05	1.225	46	17.4	21.4									Half ARBO	MIX C
	2404	11h35	1.030	63	13.8	Top	12h00	1.230	46	15.7	21.4									Half ARBO	MIX C
	2406	12h25	1.035	54	14.0	Top	13h15	1.210	47	16.8	12.4									Half ARBO	MIX C
	2408	12h50	1.035	72	13.1	Top	13h10	1.230	53	14.6	13.9									Half ARBO	MIX C
	2410	13h25	1.030	73	12.3	Top	14h40	1.215	53	15.8	11.6									Half ARBO	MIX C
	2412	13h50	1.030	67	11.9	Top	14h35	1.225	49	14.3	12.3									Half ARBO	MIX C
	2414	14h50	1.030	113	15.6	Top	15h45	1.210	50	16.3	10.3									Half ARBO	MIX C
	2416	15h30	1.035	128	13.4	Top	15h50	1.210	56	16.4	10.3									Half ARBO	MIX C
	2418	16h05	1.030	90	14.3	Top	17h10	1.215	51	15.7	13.5									Half ARBO	MIX C
	2420	16h30	1.025	93	12.3	Top	17h05	1.225	48	14.9	17.4									Half ARBO	MIX C
2018-11-15 Night	2422	N-A				Top	18h05	1.225	57	15.6	14.1									Half ARBO	MIX C
	2424	17h40	1.025	>180	12.8	Top	18h00	1.220	54	14.1	15.4									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2426	18h20	1.030	>180	13.9	Top	20h10	1.220	59	17.4										Half ARBO	MIX C
	2428	19h04	1.030	>180	12.7	Top	20h15	1.235	58	14.7										Half ARBO	MIX C
	2430	20h25	1.030	>180	17.4	Top	23h45	1.225	65	22.3										Half ARBO	MIX C
	2432	23h40	1.030	>180	14.7	Top	23h50	1.230	54	14.7										Half ARBO	MIX C
	2434	0h10	1.030	>180	11.9	Top	01:10	1.225	57	16.5	14.8									Half ARBO	MIX C
	2436	0h30	1.030	>180	12.1	Top	01:15	1.235	52	13.8	11.9				420	-14.13	1.63	1h30	CB-WTD-096	Half ARBO	MIX C
	2438	01:25	1.030	163	15.1	Top	02:20	1.220	56	15.8	20.3									Half ARBO	MIX C
	2440	02:00	1.030	158	12.2	Top	02:15	1.230	57	13.5	15.0									Half ARBO	MIX C
	2442	02:25	1.030	>180	12.2	Top	03:15	1.220	58	15.1	22.0									Half ARBO	MIX C
	2444	03:00	1.030	>180	13.7	Top	03:12	1.235	51	12.8	14.3									Half ARBO	MIX C
	2446	03:25	1.025	>180	12.1	Top	04:10	1.235	58	14.3	20.1									Half ARBO	MIX C
	2448	03:54	1.025	>180	11.7	Top	04:15	1.230	51	13.4	15.0									Half ARBO	MIX C
	2450	04:20	1.030	149	12.3	Top	05:20	1.230	51	16.5	20.6									Half ARBO	MIX C
	2452	05:10	1.030	>180	11.9	Top	05:25	1.225	n/a	13.4	19.4									Half ARBO	MIX C
2018-11-16 Day	2454	05:40	1.030	>180	13.1	Top	06:54	1.225	61	15.6	20.2									Half ARBO	MIX C
	2456	06:50	1.030	>180	11.1	Top	07:01	1.225	60	13.9	21,4									Half ARBO	MIX C
	2458	07:24	1.030	>180	13.3	Top	08:00	1.210	50	16.5	25.2									Half ARBO	MIX C
	2460	07:46	1.030	>180	11.8	Top	08:14	1.225	49	14.0	25.4									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2462	08:26	1.025	>180	12.1	Top	10:21	1.220	72	16.2	18.3									Half ARBO	MIX C
	2464	08:52	1.030	>180	10.5	Top	10:17	1.230	67	14.8	23.4									Half ARBO	MIX C
	2466	09:35	1.030	136	14.0	Top	11:25	1.205	59	20.6	28.9									low density	MIX C
	2468	10:57	1.030	>180	13.3	Top	11:28	1.225	62	16.8	23.6									Half ARBO	MIX C
	2470	12:20	1.030	>180	17.2	Top	12:54	1.215	56	19.5	21,6									Half ARBO	MIX C
	2472	12:41	1.025	>180	13.6	Top	12:58	1.225	52	14.7	19.5									Half ARBO	MIX C
	2474	13:25	1.030	>180	14.9	Top	14:09	1.210	53	16.1	22.6									Half ARBO	MIX C
	2476	13:57	1.025	>180	12.6	Top	14:20	1.205	64	14.4	20.1									Half ARBO	MIX C
	2478	14:36	1.025	132	11.6	Top	15:40	1.220	50	15.3	17.3									Half ARBO	MIX C
	2480	15:10	1.020	>180	11.3	Top	15:44	1.225	53	14.6	16.9				420	-2.20	1.1	15h44	CB-WTD-097	Half ARBO	MIX C
	2482	15h57	1.025	>180	13.5	Top	16h47	1.220	52	16.3	17.6									Half ARBO	MIX C
	2484	16h23	1.030	>180	11.8	Top	17h02	1.220	54	14.4	10.8									Half ARBO	MIX C
2018-11-16 Night	2486	17h34	1.030	>180	14.9	Top	18h25	1.225	58	17.1	20.4									Half ARBO	MIX C
	2488	17h50	1.025	>180	11.3	Top	18h30	1.235	61	14.6	16.8									Half ARBO	MIX C
	2490	18h35	1.030	>180	15.7	Top	19h50	1.220	53	17.1	17.4									Half ARBO	MIX C
	2492	19h25	1.030	>180	13.4	Top	19h55	1.230	57	15.3	17.8									Half ARBO	MIX C
	2494	20h00	1.025	>180	12.0	Top	20h50	1.230	51	16.8	18.4									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2496	20h35	1.030	>180	12.4	Top	20h40	1.220	47	15.8	18.4									Half ARBO	MIX C
	2498	21h10	1.030	>180	13.9	Top	21h58	1.220	49	15.2	20.4									Half ARBO	MIX C
	2500	21h50	1.025	>180	12.8	Top	22h00	1.230	51	14.7	18.2									Half ARBO	MIX C
	2502	22h10	1.030	>180	11.9	Top	23h08	1.225	50	15.7	18.5									Half ARBO	MIX C
	2504	22h48	1.030	>180	12.3	Top	23h00	1.225	55	12.8	13.4									Half ARBO	MIX C
	2506	23h20	1.030	>180	11.8	Top	0h00	1.225	50	13.8	16.8									Half ARBO	MIX C
	2508	23h40	1.030	>180	16.4	Top	0h05	1.220	49	14.2	15.5									Half ARBO	MIX C
	2510	0h09	1.030	142	11.5	Top	1h20	1.220	53	15.4	16.4									Half ARBO	MIX C
	2512	0h35	1.030	164	11.4	Top	1h14	1.220	52	14.1	17.2									Half ARBO	MIX C
	2514	1h16	1.030	138	13.2	Top	2h05	1.220	51	15.5	14.4									Half ARBO	MIX C
	2516	1h50	1.030	>180	12.5	Top	2h10	1.225	49	13.8	25.3				420	-1.63	1.09	2h10	CB-WTD-098	Half ARBO	MIX C
	2518	3h30	1.030	51	17.5	Top	4h10	1.220	48	18.6	28.7									Half ARBO	MIX C
	2520	4h05	1.030	>180	12.1	Top	13.6	1.225	49	13.6	18.1									Half ARBO	MIX C
	2522	4h38	1.025	>180	12.2	Top	5h10	1.230	47	14.4	17.8									Half ARBO	MIX C
2018-11-17 Day	2524	5h00	1.030	>180	12.6	Top	5h15	1.220	51	15.6	19.4									Half ARBO	MIX C
	2526	5h20	1.030	>180	13.2	Top	6h15	1.205	49	13.1	22.9									Half ARBO	MIX C
	2528	5h50	1.030	>180	13.6	Top	6h20	1.210	55	13.6	18.1									Half ARBO	MIX C
	2530	8h15	1.030	>180	15.7	Top	9h08	1.215	60	15.0	11.3									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2532	9h00	1.025	66	11.7	Top	9h15	1.220	53	14.0	15.6									Half ARBO	MIX C
	2534	9h20	1.030	>180	11.7	Top	10h20	1.210	57	16.5	11.7									Half ARBO	MIX C
	2536	10h15	1.030	145	12.2	Top	10h30	1.230	53	12.8	12.3									Half ARBO	MIX C
	2538	10h40	1.030	>180	11.8	Top	11h20	1.215	61	13.9	13.3									Half ARBO	MIX C
	2540	11h15	1.030	100	11.0	Top	11h25	1.230	56	13.4	13.3									Half ARBO	MIX C
	2542	11h45	1.025	>180	12.8	Top	13h15	1.220	63	16.0	22.3									Half ARBO	MIX C
	2544	12h48	1.025	135	12.2	Top	13h10	1.220	59	15.5	22.3									Half ARBO	MIX C
	2546	13h40	1.030	>180	15.3	Top	14h20	1.205	56	16.9	18.6				420	-1.10	2.2	14h20	CB-WTD-099	Half ARBO	MIX C
	2548	14h10	1.025	>180	13.0	Top	14h25	1.230	66	14.2	20.0									Half ARBO	MIX C
2018-11-17 Night	2550	14h40	1.020	>180	12.0	Top	21h50	1.220	57	16.6	16.4									Half ARBO	MIX C
	2552	21h45	1.025	>180	13.0	Top	21h55	1.230	64	14.6	21.5									Half ARBO	MIX C
	2554	22h15	1.025	>180	12.8	Top	23h22	1.220	54	17.1	15.2									Half ARBO	MIX C
	2556	22h49	1.030	>180	11.9	Top	23h30	1.225	53	15.4	15.5									Half ARBO	MIX C
	2558	23h38	1.030	>180	11.9	Top	0h20	1.225	51	13.8	14.2									Half ARBO	MIX C
	2560	0h18	1.030	>180	13.6	Top	0h24	1.225	57	15.1	16.8									Half ARBO	MIX C
	2562	0h33	1.030	128	13.4	Top	1h19	1.230	68	14.1	23.3									Half ARBO	MIX C
	2564	1h00	1.030	>180	12.7	Top	1h10	1.220	50	14.9	10.8									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2566	01:35	1.030	59	12.0	Top	02:52	1.220	53	15.1	13.8									Half ARBO	MIX C
	2568	02:19	1.030	54	11.2	Top	03:00	1.220	50	14.0	22.0				660	-1.76	1.53	03:00	CB-WTD-100	Half ARBO	MIX C
	2570	03:15	1.030	58	15.0	Top	04:20	1.230	64	16.2	21.1									Half ARBO	MIX C
	2572	04:00	1.030	111	14.1	Top	04:10	1.215	51	16.0	22.9									Half ARBO	MIX C
2018-11-18 Day	2574	04:25	1.030	>180	12.7	Top	05:15	1.215	51	15.8	20.2									Half ARBO	MIX C
	2576	05:00	1.030	>180	14.3	Top	05:10	1.240	57	13.9	16.7									Half ARBO	MIX C
	2578	05:21	1.030	>180	16.7	Top	06:39	1.220	52	18.8	20.0									Half ARBO	MIX C
	2580	05:50	1.030	>180	10.0	Top	06:44	1.240	51	15.2	13.4									Half ARBO	MIX C
	2582	06:55	1.030	83	16.2	Top	08:01	1.220	57	17.4	22.4									Half ARBO	MIX C
	2584	07:34	1.035	>180	16.1	Top	08:09	1.230	54	13.2	31,2									Half ARBO	MIX C
	2586	08:31	1.030	>180	11.0	Top	09:10	1.220	55	14.3	22.2									Half ARBO	MIX C
	2588	08:56	1.030	122	9.7	Top	09:14	1.230	54	12.9	19.3									Half ARBO	MIX C
	2590	09:31	1.030	147	10.5	Top	10:34	1.230	59	12.8	27.2									Half ARBO	MIX C
	2592	10:11	1.025	117	10.1	Top	10:38	1.215	54	16.8	22.0									Half ARBO	MIX C
	2594	11:06	1.030	>180	12.2	Top	11:59	1.200	62	14.2	28.9									Low density because PAT overflow of bentonite	MIX C
	2596	11:36	1.035	>180	10.8	Top	12:06	1.225	54	14.0	25.6									Half ARBO	MIX C
	2598	12:26	1.035	>180	11.4	Top	13:15	1.225	50	14.7	23.4									Half ARBO	MIX C
	2600	12:56	1.030	132	8.5	Top	13:29	1.225	48	16.0	19.3									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2602	13:54	1.030	>180	13.7	Top	14:56	1.230	51	17.5	28.8	Clear	8.2							Half ARBO	MIX C
	2604	14:20	1.030	155	10.0	Top	14:50	1.220	47	12.6	30.2				420	-1.86	1.24	14:50	CB-WTD-101	Half ARBO	MIX C
	2606	15:02	1.030	114	12.2	Top	16:07	1.215	54	14.7	20.1									Half ARBO	MIX C
	2608	15:41	1.025	140	10.5	Top	16:03	1.220	51	13.5	22.7									Half ARBO	MIX C
	2610	16:34	1.025	175	13.8	Top	17:18	1.220	47	15.3	21.2									Half ARBO	MIX C
	2612	17:01	1.030	143	12.5	Top	17:30	1.215	48	14.5	21.0									Half ARBO	MIX C
2018-11-18 Night	2614	17h57	1.030	167	13.7	Top	19h00	1.225	51	16.4	27.2									Half ARBO	MIX C
	2616	18h44	1.030	144	11.4	Top	18h55	1.235	50	12.8	22.4									Half ARBO	MIX C
	2618	1915	1.030	158	12.1	Top	20h45	1.230	51	14.7	24.5									Half ARBO	MIX C
	2620	19h35	1.030	161	12.0	Top	20h50	1.235	52	14.6	20.7									Half ARBO	MIX C
	2622	20h12	1.030	57	12.0	Top	21h40	1.230	59	12.7	26.1									Half ARBO	MIX C
	2624	21h30	1.030	49	11.4	Top	21h45	1.220	56	16.0	19.8	Clear	8.1							Half ARBO	MIX C
	2626	21h50	1.030	114	10.9	Top	23h05	1.235	58	13.2	23.3									Half ARBO	MIX C
	2628	22h25	1.030	54	11.3	Top	23h00	1.220	49	13.5	18..6									Half ARBO	MIX C
	2630	23h05	1.030	53	12.1	Top	0h00	1.235	51	12.5	27.4									Half ARBO	MIX C
	2632	23h30	1.030	119	10.8	Top	0h10	1.225	53	12.2	18.6				420	-2.35	1.18	0h10	CB-WTD-102	Half ARBO	MIX C
	2634	0h15	1.030	128	12.2	Top	1h05	1.230	59	13.8	19.9									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-11-19 Day	2636	0h52	1.030	>180	11.5	Top	1h10	1.230	52	15.0	22.1									Half ARBO	MIX C
	2638	1h28	1.030	>180	12.0	Top	1h55	1.220	57	13.2	26.8									Half ARBO	MIX C
	2640	2h00	1.030	>180	10.0	Top	2h05	1.235	58	11.1	20.4									Half ARBO	MIX C
	2642	2h20	1.030	>180	10.5	Top	3h00	1.220	51	12.1	20.2									Half ARBO	MIX C
	2644	2h44	1.030	>180	11.4	Top	2h55	1.230	59	12.7	16.8									Half ARBO	MIX C
	2646	3h10	1.030	>180	11.2	Top	4h10	1.230	49	13.0	21.0									Half ARBO	MIX C
	2648	3h40	1.030	154	10.7	Top	4h04	1.240	51	12.3	19.3									Half ARBO	MIX C
	2650	04:15	1.030	72	12.6	Top	07:51	1.215	68	19.4	28.4									Half ARBO	MIX C
	2652	05:00	1.030	148	11.8	Top	07:47	1.230	53	15.2	19.0									Half ARBO	MIX C
	2654	06:10	1.030	79	15.4	Top	08:58	1.215	52	18.0	21.1									Half ARBO	MIX C
	2656	08:24	1.035	156	10.7	Top	09:01	1.230	56	16.7	21.6									Half ARBO	MIX C
	2658	09:23	1.030	>180	12.5	Top	10:14	1.225	48	15.2	26.2									Half ARBO	MIX C
	2660	09:56	1.030	>180	12.8	Top	10:18	1.230	51	15.7	26.7									Half ARBO	MIX C
	2662	11:00	1.030	150	13.3	Top	11:54	1.220	48	15.7	25.0									Half ARBO	MIX C
	2664	11:18	1.030	144	10.7	Top	11:59	1.225	50	15.0	23.9									Half ARBO	MIX C
	2666	12:07	1.030	161	13.8	Top	13:07	1.215	49	15.3	28.8									Half ARBO	MIX C
	2668	12:48	1.025	139	10.4	Top	13:12	1.220	50	13.3	23.8									Half ARBO	MIX C
	2670	13:26	1.030	>180	12.3	Top	14:22	1.220	54	15.1	30.3									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2672	13:59	1.030	68	10.8	Top	14:27	1.225	49	13.9	n/a									Half ARBO	MIX C
	2674	14h35	1.025	142	11.5	Top	15h41	1.215	48	15.3	23.5									Half ARBO	MIX C
	2676	15h12	1.035	118	10.7	Top	15h37	1.225	52	13.7	23.0									Half ARBO	MIX C
	2678	15h54	1.030	99	13.2	Top	17h30	1.215	51	15.9	23.8				360	-1.25	1.25	17h30	CB-WTD-103	Half ARBO	MIX C
	2680	16h25	1.030	127	11.0	Top	17h28	1.230	50	14.7	24.0									Half ARBO	MIX C
2018-11-19 Night	2682	17h04	1.030	111	12.1	Top	18h35	1.220	50	16.6	26.1									Half ARBO	MIX C
	2684	18h20	1.030	59	15.1	Top	18h30	1.225	51	14.2	21;2									Half ARBO	MIX C
	2686	19H00	1.030	112	13.6	Top	19H40	1.220	51	14.3	18.5									Half ARBO	MIX C
	2688	19H30	1.030	119	10.8	Top	19H48	1.230	57	12.0	21.0							19h40	CB-WTD-104	Half ARBO	MIX C
	2690	19H53	1.030	134	12.8	Top	20H26	1.235	51	11.2	23.0									Half ARBO	MIX C
	2692	20H20	1.030	58	13.4	Top	20H35	1.225	48	13.0	22.0							20h30	CB-WTD-105	Half ARBO	MIX C
	2694	20H40	1.030	>180	10.8	Top	21H16	1.230	62	12.4	19.6									Half ARBO	MIX C
	2696	21H00	1.030	158	10.0	Top	21h05	1.220	59	11.7	20.2									Half ARBO	MIX C
	2698	21H28	1.030	161	10.2	Top	22h35	1.230	50	12.3	23.4									Half ARBO	MIX C
	2700	22H03	1.025	71	10.2	Top	22h27	1.235	49	12.0	17.0									Half ARBO	MIX C
	2702	22H35	1.030	55	12.5	Top	2h10	1.220	53	20.3	20.7									Half ARBO	MIX C
	2704	2h07	1.030	162	13.2	Top	2h17	1.240	61	14.6	16.2									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2706	2h33	1.030	148	11.6	Top	04:05	1.220	61	15.2	17.1									Half ARBO	MIX C
	2708	2h54	1.030	161	11.3	Top	04:00	1.235	58	14.3	19.8				420	-2.20	1.98			Half ARBO	MIX C
	2710	04:10	1.030	58	18.0	Top	05:22	1.230	48	11.0	14.3	Clear	8.1							Half ARBO	MIX C
	2712	04:43	1.030	64	12.2	Top	05:18	1.240	53	13.0	12.4									Half ARBO	MIX C
	2714	05:28	1.030	162	14.0	Top	07:02	1.215	54	15.2	17.5									Half ARBO	MIX C
	2716	06:44	1.035	148	11.2	Top	07:05	1.235	51	11.6	22.8									Half ARBO	MIX C
2018-11-20 Day	2718	07:24	1.030	128	11.8	Top	09:56	1.215	61	14.7	20.3									Half ARBO	MIX C
	2720	07:48	1.035	142	10.3	Top	09:59	1.230	58	15.7	20.4	Clear	8.5							Half ARBO	MIX C
	2722	08:33	1.035	84	11.5	Top	11:56	1.225	53	13.6	20.4									Half ARBO	MIX C
	2724	10:38	1.030	111	10.3	Top	11:59	1.215	56	15.4	20.6									Half ARBO	MIX C
	2726	11:12	1.030	97	11.0	Top	13:00	1.205	47	18.1	23.4									Half ARBO	MIX C
	2728	12:48	1.030	137	9.6	Top	13:03	1.225	49	13.3	25.1									Half ARBO	MIX C
	2730	13:42	1.030	127	12.9	Top	14:25	1.215	46	15.5	21.5									Half ARBO	MIX C
	2732	14:07	1.030	102	12.3	Top	14:29	1.225	49	13.0	23.3									Half ARBO	MIX C
	2734	14h35	1.025	>180	11.2	Top	15h49	1.215	47	13.7	25.4									Half ARBO	MIX C
	2736	14h56	1.030	161	10.3	Top	15h54	1.220	47	12.2	23.6				300	-1.10	1.1	15h54	CB-WTD-106	Half ARBO	MIX C
	2738	15h40	1.030	>180	6.2	Top	16h45	1.215	48	14.0	22.5									Half ARBO	MIX C
	2740	16h40	1.030	>180	11.7	Top	16h51	1.225	55	13.7	20.0									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
2018-11-20 Night	2742	17h00	1.025	>180	9.6	Top	18h00	1.220	50	13.3	26.4									Half ARBO	MIX C
	2744	17h30	1.030	>180	9.5	Top	18h07	1.235	49	13.4	27.7									Half ARBO	MIX C
	2746	18h10	1.030	>180	15.2	Top	19h30	1.205	61	15.2	20.6							19h15	CB-WTD-107	Sample taken on the field	MIX C
	2748	19h00	1.030	>180	14.5	Top	19h25	1.235	57	14.5	18.1							19h15	CB-WTD-107	Half ARBO	MIX C
	2750	19h40	1.030	>180	13.0	Top	20h38	1.230	56	13.0	18.3									Half ARBO	MIX C
	2752	20h00	1.030	71	11.8	Top	20h32	1.245	60	11.8	21.4									Half ARBO	MIX C
	2754	20h40	1.030	114	13.8	Top	21h44	1.220	51	13.8	22.8									Half ARBO	MIX C
	2756	21h22	1.025	>180	12.0	Top	21h38	1.235	49	12.0	16.6									Half ARBO	MIX C
	2758	21h30	1.030	>180	11.4	Top	23h36	1.225	52	14.8	21.1									Half ARBO	MIX C
	2760	22h27	1.030	>180	11.8	Top	23h40	1.235	54	12.7	23.5									Half ARBO	MIX C
	2762	23h45	1.030	58	15.6	Top	0h32	1.220	51	14.8	17.4									Half ARBO	MIX C
	2764	0h19	1.025	161	11.0	Top	0h27	1.225	55	13.4	19.1									Half ARBO	MIX C
	2766	0h40	1.030	>180	11.9	Top	1h45	1.220	48	13.4	17.5									Half ARBO	MIX C
	2768	1h15	1.030	>180	11.0	Top	1h48	1.235	50	12.2	17.1									Half ARBO	MIX C
	2770	1h50	1.030	58	12.3	Top	2h51	1.220	47	14.0	24.4									Half ARBO	MIX C
	2772	2h32	1.030	>180	11.3	Top	2h44	1.240	51	11.4	15.9									Half ARBO	MIX C
	2774	5h04	1.030	64	12.2	Top	3h35	1.220	56	14.1	20.5									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
2018-11-21 Day	2776	3h32	1.030	59	11.6	Top	3h40	1.240	61	12.0	14.8									Half ARBO	MIX C
	2778	4h00	1.030	54	13.0	Top	4h45	1.220	49	13.8	18.7									Half ARBO	MIX C
	2780	4h36	1.030	126	12.3	Top	4h45	1.235	50	12.5	13.3									Half ARBO	MIX C
	2782	5h00	1.030	171	12.0	Top	5h45	1.220	51	11.1	17.2									Half ARBO	MIX C
	2784	5h25	1.030	>180	11.3	Top	5h40	1.230	48	10.7	13.3									Half ARBO	MIX C
	2786	5h50	1.030	>180	11.0	Top	7h00	1.210	55	19.3	14.4									Half ARBO	MIX C
	2788	7h05	1.030	117	15.3	Top	7h55	1.235	52	16.5	19.3									Half ARBO	MIX C
	2790	8h07	1.030	115	10.9	Top	9h40	1.210	52	18.1	23.1									Half ARBO	MIX C
	2792	8h40	1.030	54	12.7	Top	9h45	1.220	48	15.6	23.1									Half ARBO	MIX C
	2794	9h55	1.030	50	12.1	Top	10h45	1.220	47	18.7	15.3									Half ARBO	MIX C
	2796	10h25	1.030	55	13.3	Top	10h55	1.220	49	17.5	15.1									Half ARBO	MIX C
	2798	11h10	1.035	59	13.5	Top	12h10	1.220	44	15.6	14.4									Half ARBO	MIX C
	2800	11h55	1.030	110	13.0	Top	12h15	1.230	52	14.0	14.4									Half ARBO	MIX C
	2802	12h20	1.030	133	12.9	Top	13h30	1.210	48	15.3	13.1									Half ARBO	MIX C
	2804	13h10	1.040	>180	13.3	Top	13h35	1.220	68	14.8	13.1									Half ARBO	MIX C
	2806	14h05	1.035	>180	15.0	Top	14h55	1.220	53	10.0	13.7	Clear	8.7	7.88						Picture of water analysis took from the environment department of AEM.	MIX C
	2808	14h25	1.030	135	12.6	Top	15h00	1.230	57	14.8	13.7									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2810	15h05	1.030	148	13.8	Top	16h05	1.215	55	16.1	16.5				360	0.00	0.56	16h05	CB-WTD-108	Half ARBO	MIX C
	2812	15h35	1.025	107	11.8	Top	16h10	1.220	45	14.2	16.5									Half ARBO	MIX C
	2814	16h20	1.025	91	12.2	Top	17h10	1.225	50	16.0	16.1									Half ARBO	MIX C
	2816	16h40	1.025	123	12.3	Top	15h15	1.220	52	14.1	16.1									Half ARBO	MIX C
2018-11-21 Night	2818	17h20	1.030	151	12.6	Top	21h00	1.220	68	17.8	14.7									Half ARBO	MIX C
	2820	18h00	1.030	131	9.9	Top	21h05	1.225	71	17.6	9.3							21h05	CB-WTD-109	Half ARBO	MIX C
	2822	1h45	1.030	48	35.1	Top														Bentonite Flushed after 5h down time, temperature at 35OC	MIX C
	2824					Top														sumped	MIX C
2018-11-22 Day	2826	09:35	1.030	69	13.3	Top	10:56	1.215	48	18.2	11.5									Half ARBO	MIX C
	2828	10:41	1.030	>180	11.7	Top	10:59	1.220	56	14.5	7.6									Half ARBO	MIX C
	2830	11:30	1.025	>180	12.5	Top	11:53	1.225	48	14.3	13.6									Half ARBO	MIX C
	2832	11:48	1.030	>180	12.0	Top	11:56	1.220	53	12.2	14.3									Half ARBO	MIX C
	2834	12:46	1.030	>180	12.0	Top	15:18	1.220	64	17.2	17.6									Half ARBO	MIX C
	2836	12:51	1.035	80	10.5	Top	15:24	1.220	60	16.1	13.0							15:24	CB-WTD-110	Half ARBO	MIX C
	2838	14:50	1.035	68	18.5	Top	16:24	1.215	49	16.1	24.2									Half ARBO	MIX C
	2840	16:03	1.030	71	13.0	Top	16:31	1.215	46	13.0	20.4	Clear	9.1							Half ARBO	MIX C
2018-11-22 Night	2842	17h05	1.035	112	13.2	Top	18h25	1.220	49	17.2	19.7									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2844	17h32	1.030	131	11.2	Top	18h30	1.220	51	13.2	20.8									Half ARBO	MIX C
	2846	18h20	1.030	>180	13.6	Top	19h25	1.230	47	15.8	23.9									Half ARBO	MIX C
	2848	19h00	1.030	145	11.7	Top	19h35	1.235	51	13.2	20.9									Half ARBO	MIX C
	2850	19h40	1.030	84	12.8	Top	20h23	1.220	55	14.2	23.1									Half ARBO	MIX C
	2852	20h08	1.030	159	11.7	Top	20h18	1.240	53	11.9	22.9									Half ARBO	MIX C
	2854	20h37	1.030	146	12.3	Top	20h29	1.220	50	12.6	25.3									Half ARBO	MIX C
	2856	21h00	1.030	>180	10.4	Top	21h24	1.230	52	12.9	26.8									Half ARBO	MIX C
	2858	21h35	1.030	164	10.9	Top	22h26	1.220	52	13.5	26.8									Half ARBO	MIX C
	2860	22h06	1.030	>180	8.7	Top	22h32	1.245	51	11.5	21.8									Half ARBO	MIX C
	2862	22h40	1.030	56	11.3	Top	23h35	1.220	49	13.0	26.4									Half ARBO	MIX C
	2864	23h00	1.030	151	9.5	Top	23h27	1.220	53	9.5	21.3									Half ARBO	MIX C
	2866	23h35	1.030	51	11.0	Top	0h32	1.220	49	13.8	25.7							1h05	CB-WTD-111	Half ARBO	MIX C
	2868	0h01	1.030	128	9.3	Top	1h05	1.225	50	11.9	21.3									Half ARBO	MIX C
	2870	1h10	1.030	44	15.3	Top	1h49	1.220	56	14.3	22.6									Half ARBO	MIX C
	2872	1h43	1.030	168	10.2	Top	1h56	1.230	60	12.5	21.3									Half ARBO	MIX C
	2874	2h08	1.030	>180	10.6	Top	2h51	1.240	57	11.5	20.4									Half ARBO	MIX C
	2876	2h26	1.030	>180	11.0	Top	2h59	1.235	54	12.6	19.2									Half ARBO	MIX C
	2878	2h48	1.030	>180	10.5	Top	3h35	1.225	51	13.1	21.6									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2880	3h30	1.030	>180	10.0	Top	3h40	1.235	57	12.1	17.8									Half ARBO	MIX C
Night Shift 23-11-2018	2882	19h31	1.030	71	13.1	Top	21h35	1.270	58	13.5	13.5							21h35	CB-WTD-112	Half ARBO	MIX C
	2884	21h06	1.030	152	11.0	Top	21h05	1.225	47	13.0	16.0									Half ARBO	MIX C
	2886	2200	1.030	56	13.4	Top	22h40	1.230	47	12.5	19.7									Half ARBO	MIX C
	2888	22h33	1.030	N-A	12.6	Top	22h55	1.260	44	12.1	20.5									Half ARBO	MIX C
	2890	23h19	1.030	64	12.8	Top	23h54	1.265	55	13.1	20.0									Half ARBO	MIX C
	2892	23h48	1.030	128	12.4	Top	0h00	1.230	46	11.8	17.7									Half ARBO	MIX C
	2894	0h12	1.030	134	10.2	Top	0h43	1.230	49	11.4	22.2									Half ARBO	MIX C
	2896	0h49	1.030	66	10.9	Top	0h58	1.230	48	11.3	17.6									Half ARBO	MIX C
	2898	1h10	1.030	142	10.8	Top	1h31	1.235	46	10.8	13.1									Half ARBO	MIX C
	2900	1h45	1.030	111	11.4	Top	1h54	1.220	48	11.9	14.2									Half ARBO	MIX C
	2902	2h12	1.030	51	10.7	Top	2h48	1.220	45	12.2	14.8	Clear	8.0							Half ARBO	MIX C
	2904	2h56	1.030	54	10.3	Top	3h09	1.235	48	11.0	17.8									Half ARBO	MIX C
	2906	3h24	1.030	61	10.7	Top	4h23	1.230	47	12.2	18.4									Half ARBO	MIX C
	2908	4h16	1.030	60	10.2	Top	4h45	1.235	45	11.5	19.2									Half ARBO	MIX C
	2910	4h52	1.030	64	11.2	Top	06:10	1.245	46	14.0	11.3									Half ARBO	MIX C
	2912	5L15	1.030	71	13.8	Top	06:14	1.230	57	11.8	22.3									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
Day Shift 24-11-2018	2914	05:45	1.030	49	10.6	Top	07:20	1.225	44	14.0	15.0									Half ARBO	MIX C
	2916	06:51	1.030	57	8.3	Top	07:16	1.240	41	12.4	24.3									Half ARBO	MIX C
	2918	07:27	1.030	122	11.2	Top	08:31	1.225	44	13.4	26.2									Half ARBO	MIX C
	2920	08:00	1.035	184	8.4	Top	08:26	1.240	46	11.8	23.4									Half ARBO	MIX C
	2922	08:23	1.035	161	10.8	Top	09:44	1.230	44	13.6	28.9									Half ARBO	MIX C
	2924	09:15	1.030	>180	10.7	Top	09:39	1.240	46	11.3	19.9									Half ARBO	MIX C
	2926	09:50	1.030	91	11.4	Top	10:54	1.240	44	13.2	23.0									Half ARBO	MIX C
	2928	10:20	1.035	81	10.8	Top	10:47	1.240	43	11.3	29.3									Half ARBO	MIX C
	2930	11:02	1.030	173	12.2	Top	12:03	1.230	44	13.5	26.4									Half ARBO	MIX C
	2932	11:35	1.030	133	10.4	Top	11:59	1.240	44	12.0	25.4									Half ARBO	MIX C
	2934	12:09	1.035	115	11.3	Top	13:02	1.220	41	14.3	28.2									Half ARBO	MIX C
	2936	12:47	1.035	124	10.5	Top	12:58	1.250	52	10.7	26.7									Half ARBO	MIX C
	2938	13:10	1.030	80	9.7	Top	14:02	1.230	42	11.8	28.5									Half ARBO	MIX C
	2940	13:37	1.030	112	11.1	Top	13:59	1.240	46	11.3	25.4									Half ARBO	MIX C
	2942	14:07	1.025	128	10.7	Top	15:02	1.225	44	12.6	28.5							14:40	CB-WTD-113	Half ARBO	MIX C
	2944	14:32	1.030	134	10.8	Top	15:06	1.240	49	13.2	28.1									Half ARBO	MIX C
	2946	15:12	1.025	91	13.2	Top	16:23	1.230	46	14.1	26.5									Half ARBO	MIX C
	2948	15:44	1.030	120	11.1	Top	16:19	1.250	51	12.0	27.1									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	2950	16h14	1.035	147	10.3	Top	17h34	1.230	44	13.6	29.4									Half ARBO	MIX C
	2952	17h04	1.035	97	10.6	Top	17h30	1.250	50	13.5	23.1									Half ARBO	MIX C
	2954	17h42	1.030	67	10.8	Top	19h00	1.240	46	13.8	24.2									Half ARBO	MIX C
2018-11-24 NIGHT	2956	18h10	1.030	61	13.7	Top	19h05	1.240	49	12.2	28.0									Half ARBO	MIX C
	2958	18h35	1.030	52	11.3	Top	20h23	1.230	57	13.3	21.6									Half ARBO	MIX C
	2960	20h00	1.030	111	11.5	Top	20h30	1.230	50	12.3	21.3									Half ARBO	MIX C
	2962	20h46	1.030	128	12.9	Top	21h30	1.240	51	11.5	19.5									Half ARBO	MIX C
	2964	21h15	1.030	64	11.0	Top	21h20	1.235	61	13.5	20.4									Half ARBO	MIX C
	2966	21h40	1.030	56	10.0	Top	22h15	1.235	45	11.9	21.8									Half ARBO	MIX C
	2968	22h05	1.030	49	11.4	Top	22h26	1.240	53	11.7	15.0									Half ARBO	MIX C
	2970	22h32	1.030	63	10.7	Top	0h04	1.245	69	13.7	22.0							0h04	CB-WTD-114	Half ARBO	MIX C
	2972	23h06	1.030	81	11.2	Top	0h09	1.245	46	13.0	24.8									Half ARBO	MIX C
	2974	0h30	1.030	51	12.2	Top	1h48	1.240	47	13.2	23.1									Half ARBO	MIX C
	2976	1h30	1.030	88	12.0	Top	1h54	1.220	49	11.7	18.4									Half ARBO	MIX C
	2978	2h17	1.030	81	10.5	Top	2h55	1.230	45	11.9	17.6									Half ARBO	MIX C
	2980	2h41	1.030	52	11.0	Top	2h50	1.230	46	11.1	15.8									Half ARBO	MIX C
	2982	3h01	1.025	63	10.3	Top	4h00	1.235	49	12.3	14.2									Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	2984	3h25	1.030	85	11.0	Top	4h06	1.245	50	11.7	20.0									Half ARBO	MIX C
	2986	4h10	1.030	50	12.7	Top	5h00	1.235	45	13.3	10.2									Half ARBO	MIX C
2018-11-25 DAY	2988	4h53	1.030	48	11.5	Top	8h50	1.245	44	13.2	15.1									Half ARBO	MIX C
	2990	8h56	1.030	47	11.3	Top	9h03	1.250	51	12.5	17.4									Half ARBO	MIX C
	2992	9h15	1.035	63	10.3	Top	9h42	1.245	47	11.8	11.9									Half ARBO	MIX C
	2994	9h35	1.035	99	10.7	Top	9h49	1.245	49	13.0	23.7									Half ARBO	MIX C
	2996	9h59	1.035	60	10.2	Top	11h00	1.240	52	12.6	22.7									Half ARBO	MIX C
	2998	10h21	1.035	58	9.7	Top	11h10	1.250	45	12.5	25.7									Half ARBO	MIX C
	3000	10h46	1.030	72	9.8	Top	12h52	1.235	46	13.8	25.1	Clear	8.2							Half ARBO	MIX C
	3002	11h50	1.035	60	10.4	Top	12h54	1.240	48	11.8	22.9									Half ARBO	MIX C
	3004	13h05	1.035	64	11.4	Top	13h55	1.250	44	13.1	18.7									Half ARBO	MIX C
	3006	13h28	1.035	65	10.5	Top	13h57	1.255	45	12.9	20.1									Half ARBO	MIX C
	3008	14h04	1.030	69	11.7	Top	14h56	1.240	48	13.1	22.8				480	-2.21	1.66	15h45	CB-WTD-115	Half ARBO	MIX C
	3010	14h25	1.035	60	10.7	Top	14h59	1.250	49	11.5	24.3									Half ARBO	MIX C
	3012	15h28	1.035	127	10.9	Top	16h26	1.245	48	10.9	20.3									Half ARBO	MIX C
	3014	15h46	1.030	164	11.5	Top	16h30	1.255	53	11.8	18.4									Half ARBO	MIX C
	3016	16h07	1.035	170	10.7	Top	17h27	1.240	50	13.6	21.4									Half ARBO	MIX C
	3018	17h01	1.030	67	10.6	Top	17h29	1.255	49	11.7	26.9									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
2018-11-25 NIGHT	3020	17h36	1.035	77	12.5	Top	17h36	1.235	53	14.4	19.1									Half ARBO	MIX C
	3022	19h13	1.025	84	11.2	Top	19h26	1.235	56	11.8	17.2									Half ARBO	MIX C
	3024	19h34	1.030	79	10.8	Top	20h33	1.240	51	12.0	19.3									Half ARBO	MIX C
	3026	20h05	1.030	92	11.1	Top	20h38	1.235	49	11.3	17.5	Clear	8.0					20h38	CB-WTD-116	Half ARBO	MIX C
	3028	20h50	1.030	88	11.9	Top	21h51	1.240	46	12.7	17.8									Half ARBO	MIX C
	3030	21h23	1.030	72	11.4	Top	21h54	1.245	43	12.2	17.7									Half ARBO	MIX C
	3032	21h47	1.030	107	11.3	Top	23h15	1.235	44	12.7	22.0									Half ARBO	MIX C
	3034	23h05	1.030	88	11.3	Top	23h10	1.240	47	11.2	21.4									Half ARBO	MIX C
	3036	23h30	1.030	71	10.6	Top	1h18	1.235	49	13.8	21.9									Half ARBO	MIX C
	3038	0h10	1.030	120	12.2	Top	1h20	1.240	47	13.7	15.8									Half ARBO	MIX C
	3040	1h30	1.030	56	11.8	Top	3h15	1.240	45	13.6	19.5									Half ARBO	MIX C
	3042	3h00	1.030	84	11.1	Top	3h20	1.240	48	11.0	15.7									Half ARBO	MIX C
	3044	3h25	1.030	91	10.0	Top	5h05	1.240	53	13.7	20.7									Half ARBO	MIX C
	3046	3h57	1.030	134	12.1	Top	5h01	1.245	55	12.7	19.3				480	-1.09	1.09			Half ARBO	MIX C
2018-11-26 DAY	3048	4h36	1.030	51	10.2	Top	12h31	1.230	46	13.6	14.0									Half ARBO	MIX C
	3050	12h25	1.030	65	10.8	Top	12h35	1.250	54	12.2	19.4									Half ARBO	MIX C
	3052	12h46	1.030	73	10.1	Top	13h56	1.245	47	12.7	20.2							13h56	CB-WTD-117	Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. ($T^{O}C$)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. ($T^{O}C$)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	3054	13h07	1.035	79	10.5	Top	13h58	1.250	44	11.7	21.4									Half ARBO	MIX C
	3056	13h30	1.030	70	9.9	Top	15h45	1.245	48	13.7	25.9									Half ARBO	MIX C
	3058	14h28	1.035	89	11.2	Top	15h07	1.250	45	12.8	26.5									Half ARBO	MIX C
	3060	14h53	1.030	120	11.1	Top	16h08	1.240	48	13.7	28.1									Half ARBO	MIX C
	3062	15h40	1.035	127	11.8	Top	16h10	1.250	51	12.1	25.1									Half ARBO	MIX C
	3064	16h02	1.030	101	10.7	Top	17h09	1.235	43	13.6	24.4									Half ARBO	MIX C
	3066	17h01	1.035	129	10.9	Top	17h13	1.255	51	12.2	19.3									Half ARBO	MIX C
	3068	17h21	1.030	103	11.2	Top	18h52	1.245	53	14.8	27.0									Half ARBO	MIX C
2018-11-26 NIGHT	3070	18h44	1.035	129	12.5	Top	18h56	1.240	50	12.3	27.0									Half ARBO	MIX C
	3072	19h09	1.030	108	11.2	Top	19h50	1.255	51	12.0	27.9									Half ARBO	MIX C
	3074	19h39	1.030	59	11.3	Top	19h50	1.235	44	11.8	27.9	Clear	7.5							Half ARBO	MIX C
	3076	20h00	1.035	58	11.3	Top	21h20	1.250	47	13.5	26.5									Half ARBO	MIX C
	3078	20h37	1.030	67	11.0	Top	21h20	1.245	51	12.6	26.5									Half ARBO	MIX C
	3080	21h32	1.035	52	12.6	Top	22h10	1.245	52	13.1	26.8									Half ARBO	MIX C
	3082	21h58	1.035	67	11.5	Top	22h10	1.245	47	11.7	26.8									Half ARBO	MIX C
	3084	22h21	1.030	70	10.8	Top	23h20	1.255	48	12.9	27.3									Half ARBO	MIX C
	3086	23h07	1.030	71	11.4	Top	23h20	1.255	53	11.5	27.3									Half ARBO	MIX C
	3088	2h32	1.040	84	11.8	Top	3h20	1.240	48	14.0	24.4							3h20	CB-WTD-118	High density of	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																				bentonite due to bentonite stock in the bentonite mixer.	C
	3090	2h59	1.040	>180	11.0	Top	3h23	1.240	52	12.1	24.7										MIX C
	3092	3h29	1.035	95	10.3	Top	4h50	1.250	57	13.0	24.4									Half ARBO	MIX C
	3094	4h07	1.030	170	11.6	Top	4h50	1.245	76	12.9	24.4									Half ARBO	MIX C
2018-11-27 DAY	3096	5h00	1.035	93	13.5	Top	7h07	1.250	56	15.2	20.3									Half ARBO	MIX C
	3098	5h35	1.035	>180	10.8	Top	7h10	1.240	52	12.2	20.6									Half ARBO	MIX C
	3100	7h17	1.030	75	10.3	Top	8h15	1.250	48	12.2	26.0									Half ARBO	MIX C
	3102	7h39	1.035	87	10.9	Top	8h17	1.255	47	12.0	26.0									Half ARBO	MIX C
	3104	8h03	1.035	80	10.0	Top	9h23	1.240	60	11.9	13.4									Half ARBO	MIX C
	3106	8h55	1.035	76	11.4	Top	9h26	1.250	45	12.1	13.4	Clear	6.2							Half ARBO	MIX C
	3108	9h20	1.035	59	9.8	Top	10h26	1.245	55	12.7	18.4									Half ARBO	MIX C
	3110	10h02	1.030	91	10.7	Top	10h29	1.255	65	11.9	18.4									Half ARBO	MIX C
	3112	10h39	1.030	67	10.8	Top	11h47	1.240	62	13.1	27.0									Half ARBO	MIX C
	3114	11h11	1.030	71	10.2	Top	11h49	1.250	47	12.1	27.0									Half ARBO	MIX C
	3116	11h55	1.035	70	11.8	Top	12h39	1.245	57	12.8	19.7									Half ARBO	MIX C
	3118	12h20	1.035	61	10.3	Top	12h41	1.250	58	12.1	19.7									Half ARBO	MIX C
	3120	12h48	1.035	66	10.7	Top	13h52	1.240	62	13.3	26.1									Half ARBO	MIX C
	3122	13h23	1.035	73	10.4	Top	13h57	1.240	63	13.1	26.1							15h30	CB-WTD-119	Half ARBO	MIX C

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
	3124	13h46	1.030	67	10.2	Top	15h03	1.240	58	14.0	29.1									Half ARBO	MIX C
	3126	14h36	1.035	101	10.5	Top	15h06	1.255	60	12.6	29.3									Half ARBO	MIX C
	3128	14h59	1.035	115	11.0	Top	16h00	1.240	52	13.2	28.1									Half ARBO	MIX C
	3130	15h45	1.035	91	10.9	Top	16h04	1.250	49	11.7	28.1									Half ARBO	MIX C
	3132	16h16	1.035	96	10.3	Top	17h28	1.245	50	13.2	29.5									Half ARBO	MIX C
	3134	16h56	1.035	129	11.5	Top	17h31	1.255	52	12.4	29.0	Clear	6.4	7.2						Water Test By Environement Crew	MIX C
2018-11-27 NIGHT	3136	17h20	1.030	134	11.3	Top	18h50	1.235	54	13.8	27.1									Half ARBO	MIX C
	3138	18h36	1.035	>180	12.0	Top	18h50	1.240	47	11.9	27.1									Half ARBO	MIX C
	3140	19h02	1.030	180	11.4	Top	20h55	1.255	51	12.3	25.2									Half ARBO	MIX C
	3142	19h42	1.035	170	12.5	Top	20h55	1.255	53	12.8	25.2									Half ARBO	MIX C
	3144	21h02	1.030	144	11.5	Top	22h08	1.245	52	13.0	29.1									Half ARBO	MIX C
	3146	21h34	1.030	123	11.8	Top	22h08	1.250	55	12.1	29.1	Clear	9.3							Half ARBO	MIX C
	3148	22h17	1.030	100	12.0	Top	23h07	1.250	54	13.5	27.0									Half ARBO	MIX C
	3150	22h46	1.030	160	11.0	Top	23h07	1.250	55	11.5	27.0									Half ARBO	MIX C
	3152	23h17	1.035	93	11.5	Top	1h07	1.250	66	14.5	26.1									Half ARBO	MIX C
	3154	23h51	1.030	67	10.5	Top	1h07	1.255	56	13.5	26.1									Half ARBO	MIX C
	3156	1h15	1.030	67	17.6	Top	2h28	1.250	65	15.0	26.1									Half ARBO	MIX C
	3158	1h50	1.030	99	12.3	Top	2h28	1.245	54	13.1	26.1							2h28	CB-WTD-120	Half ARBO	MIX C
	3160	2h37	1.030	62	14.4	Top	3h12	1.250	57	13.2	25.2									Half ARBO	MIX C
	3162	3h02	1.030	55	10.6	Top	3h12	1.250	52	11.7	25.2									Half ARBO	MIX C
	3164	3h25	1.030	131	11.4	Top	4h56	1.250	72	14.2	23.5									Half ARBO	MIX C
	3166	4h00	1.025	87	11.8	Top	4h56	1.250	59	12.5	23.5									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3168	5h05	1.035	77	13.6	Top	6h00	1.250	61	13.4	26.1									Half ARBO	MIX C
	3170	5h28	1.035	103	11.7	Top	6h00	1.245	57	12.2	26.1									Half ARBO	MIX C
2018-11-28 DAY	3172	6h08	1.030	166	12.5	Top	7h18	1.245	54	13.7	19.0									Half ARBO	MIX C
	3174	6h40	1.034	74	10.3	Top	7h20	1.255	53	12.4	19.0									Half ARBO	MIX C
	3176	7h05	1.035	87	10.8	Top	8h27	1.240	54	13.3	15.4									Half ARBO	MIX C
	3178	8h05	1.030	71	10.3	Top	8h30	1.250	60	11.4	15.4									Half ARBO	MIX C
	3180	8h38	1.030	63	10.6	Top	9h29	1.225	49	13.7	24.9									Operator Error: 100 litres of grout went to the wrong tank. Tank #1 = 1.225 Tank #2 = 1.285	MIX C
	3182	9h06	1.030	62	10.4	Top	9h35	1.285	61	11.5	24.9										MIX C
	3184	9h42	1.035	90	11.4	Top	10h28	1.240	56	13.0	28.5									Half ARBO	MIX C
	3186	10h05	1.035	81	10.3	Top	10h31	1.245	55	12.9	28.4									Half ARBO	MIX C
	3188	10h40	1.035	73	12.8	Top	11h40	1.235	59	13.5	26.6									Half ARBO	MIX C
	3190	11h21	1.030	62	10.8	Top	11h44	1.245	56	11.9	26.6									Half ARBO	MIX C
	3192	12h07	1.035	94	11.6	Top	13h15	1.240	52	12.1	24.0									Half ARBO	MIX C
	3194	12h27	1.030	69	11.2	Top	13h21	1.245	54	12.7	24.0							13h21	CB-WTD-121	Half ARBO	MIX C
	3196	12h50	1.035	68	10.1	Top	14h29	1.235	53	11.9	27.1	Clear	6.3							Half ARBO	MIX C
	3198	13h55	1.035	73	10.9	Top	14h31	1.250	56	11.9	27.3									Half ARBO	MIX C
	3200	14h21	1.030	81	10.2	Top	15h21	1.235	51	13.1	27.7									Half ARBO	MIX C
	3202	14h56	1.030	103	10.5	Top	15h23	1.240	50	12.0	27.7									Half ARBO	MIX C
	3204	15h32	1.035	75	10.4	Top	16h04	1.235	55	12.4	19.4									Half ARBO	MIX C
	3206	15h56	1.030	71	10.6	Top	16h07	1.245	73	12.7	19.4									Half ARBO	MIX C
	3208	16h30	1.035	69	10.2	Top	17h13	1.235	49	11.8	23.5									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3210	16h52	1.035	>180	11.2	Top	17h15	1.250	57	11.4	23.5									Half ARBO	MIX C
2018-11-28 NIGHT	3212	17h18	1.030	127	12.0	Top	18h35	1.240	49	13.2	27.3									Half ARBO	MIX C
	3214	17h48	1.030	101	11.1	Top	18h35	1.245	48	12.7	27.3									Half ARBO	MIX C
	3216	18h25	1.030	146	14.1	Top	19h55	1.240	57	16.0	27.8									Half ARBO	MIX C
	3218	19h22	1.035	99	11.7	Top	19h55	1.240	52	12.1	27.8									Half ARBO	MIX C
	3220	20h00	1.030	79	11.7	Top	21h13	1.240	55	12.1	23.2									Half ARBO	MIX C
	3222	20h38	1.030	105	11.0	Top	21h13	1.250	52	12.0	23.2	clear	8.2							Half ARBO	MIX C
	3224	21h06	1.030	104	11.2	Top	22h25	1.240	54	12.7	20.9									Half ARBO	MIX C
	3226	21h58	1.030	98	11.7	Top	22h25	1.235	67	11.0	20.9									Half ARBO	MIX C
	3228	22h35	1.035	95	11.3	Top	0h00	1.240	58	13.1	18.9							22h35	CB-WTD-122	Half ARBO	MIX C
	3230	23h05	1.030	94	11.4	Top	0h00	1.240	48	12.2	18.9									Half ARBO	MIX C
	3232	23h34	1.030	114	10.2	Top	1h00	1.230	50	13.2	24.5									Half ARBO	MIX C
	3234	00h45	1.030	111	11.1	Top	1h00	1.240	58	11.2	24.5									Half ARBO	MIX C
	3236	1h15	1.035	117	11.2	Top	1h53	1.235	51	11.4	23.9									Half ARBO	MIX C
	3238	1h48	1.030	102	12.2	Top	2h04	1.235	53	12.0	22.5									Half ARBO	MIX C
	3240	4h55	1.030	128	14.0	Top	5h40	1.230	49	12.7	24.7									Half ARBO	MIX C
	3242	5h20	1.025	60	10.7	Top	5h40	1.235	45	11.7	24.7									Half ARBO	MIX C
2018-11-29 DAY	3244	5h52	1.030	>180	10.8	Top	6h42	1.235	47	12.6	19.9									Half ARBO	MIX C
	3246	6h20	1.030	93	12.3	Top	6h45	1.240	51	11.7	19.9									Half ARBO	MIX C
	3248	7h01	1.030	75	10.2	Top	7h49	1.235	50	12.8	20.2									Half ARBO	MIX C
	3250	7h25	1.030	137	11.5	Top	7h52	1.245	54	12.0	20.2									Half ARBO	MIX C
	3252	7h57	1.030	110	11.7	Top	8h52	1.240	50	13.0	24.0									Half ARBO	MIX C
	3254	8h30	1.035	149	11.0	Top	8h54	1.245	45	11.2	24.0									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3256	9h00	1.030	103	11.2	Top	9h57	1.245	53	14.0	15.4									Half ARBO	MIX C
	3258	9h42	1.035	100	11.3	Top	9h59	1.240	49	11.1	15.4									Half ARBO	MIX C
	3260	10h07	1.035	79	12.0	Top	11h06	1.240	54	12.7	14.9									Half ARBO	MIX C
	3262	10h36	1.035	76	10.6	Top	11h08	1.240	47	11.7	14.9									Half ARBO	MIX C
	3264	11h15	1.030	70	10.3	Top	12h06	1.240	48	12.0	16.7									Half ARBO	MIX C
	3266	11h45	1.035	73	10.5	Top	12h08	1.245	56	11.5	16.7	Clear	6.1							Half ARBO	MIX C
	3268	12h15	1.030	85	10.6	Top	13h14	1.235	52	11.9	15.0									Half ARBO	MIX C
	3270	12h47	1.030	70	10.1	Top	13h16	1.245	54	11.3	15.0									Half ARBO	MIX C
	3272	13h08	1.035	77	10.6	Top	14h16	1.235	53	12.9	23.5							14h16	CB-WTD-123	Half ARBO	MIX C
	3274	13h48	1.035	110	11.3	Top	14h18	1.245	55	12.0	23.5									Half ARBO	MIX C
	3276	14h25	1.030	90	12.4	Top	15h15	1.235	53	12.8	26.9									Half ARBO	MIX C
	3278	14h45	1.030	116	11.0	Top	15h17	1.240	52	11.6	26.9									Half ARBO	MIX C
	3280	15h10	1.030	104	10.3	Top	16h05	1.230	48	13.7	17.4									Half ARBO	MIX C
	3282	15h44	1.035	83	10.9	Top	16h07	1.245	65	11.5	17.4									Half ARBO	MIX C
	3284	16h24	1.030	107	11.2	Top	17h16	1.235	52	11.8	18.1									Half ARBO	MIX C
	3286	16h45	1.030	94	11.0	Top	17h18	1.245	51	11.3	18.1									Half ARBO	MIX C
2018-11-29 NIGHT	3288	17h10	1.030	159	10.7	Top	18h45	1.235	57	14.2	25.9									Half ARBO	MIX C
	3290	17h58	1.035	>180	10.2	Top	18h45	1.245	56	12.3	25.9									Half ARBO	MIX C
	3292	18h19	1.030	109	14.0	Top	19h46	1.240	57	14.0	24.7									Half ARBO	MIX C
	3294	19h30	1.030	81	12.1	Top	19h46	1.240	53	12.1	24.7									Half ARBO	MIX C
	3296	19h56	1.025	48	10.0	Top	21h04	1.235	49	12.3	25.7									Half ARBO	MIX C
	3298	20h30	1.030	66	10.5	Top	21h04	1.240	51	11.5	25.7									Half ARBO	MIX C
	3300	21h12	1.030	103	12.8	Top	22h05	1.240	59	12.8	24.7									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3302	21h45	1.030	94	11.8	Top	22h05	1.235	53	11.2	24.7									Half ARBO	MIX C
	3304	22h11	1.030	87	11.4	Top	23h30	1.240	55	12.5	25.6									Half ARBO	MIX C
	3306	22h56	1.030	60	10.5	Top	23h30	1.240	50	11.5	25.6	clear	7.3							Half ARBO	MIX C
	3308	23h23	1.030	52	10.3	Top	00h04	1.235	49	12.7	26.2									Half ARBO	MIX C
	3310	00h15	1.030	79	11.1	Top	00h25	1.240	49	11.0	25.4									Half ARBO	MIX C
	3312	00h37	1.030	61	10.4	Top	00h50	1.235	48	10.9	25.9									Half ARBO	MIX C
	3314	1h00	1.035	70	10.5	Top	1h15	1.235	52	11.0	25.9									Half ARBO	MIX C
	3316	1h26	1.035	50	10.0	Top	2h00	1.235	50	11.2	25.7							2h00	CB-WTD-124	Half ARBO	MIX C
	3318	1h51	1.035	64	10.0	Top	2h04	1.240	54	10.6	25.7									Half ARBO	MIX C
	3320	2h15	1.030	64	9.5	Top	2h52	1.235	52	11.3	27.5									Half ARBO	MIX C
	3322	2h38	1.030	57	9.3	Top	2h52	1.245	51	10.3	27.5									Half ARBO	MIX C
	3324	3h02	1.030	50	9.3	Top	4h00	1.240	49	12.5	28.3									Half ARBO	MIX C
	3326	3h46	1.035	71	10.3	Top	4h00	1.240	50	11.0	28.3									Half ARBO	MIX C
	3328	4h10	1.035	76	9.9	Top	5h07	1.230	52	12.7	29.8									Half ARBO	MIX C
	3330	4h42	1.030	71	10.5	Top	5h07	1.245	51	11.7	29.8									Half ARBO	MIX C
2018-11-30 DAY	3332	5h16	1.030	64	10.5	Top	6h20	1.240	48	12.6	29.1									Half ARBO	MIX C
	3334	5h50	1.030	55	10.2	Top	6h22	1.235	45	11.4	29.1									Half ARBO	MIX C
	3336	6h31	1.030	56	10.8	Top	7h31	1.240	46	13.5	27.2									Half ARBO	MIX C
	3338	7h04	1.030	59	10.6	Top	7h36	1.245	43	11.9	27.2									Half ARBO	MIX C
	3340	7h24	1.030	62	9.8	Top	9h03	1.235	52	13.8	29.5									Half ARBO	MIX C
	3342	8h15	1.030	72	10.8	Top	9h05	1.250	48	12.7	29.5									Half ARBO	MIX C
	3344	8h43	1.035	49	10.5	Top	11h20	1.235	43	13.0	20.3									Half ARBO	MIX C
	3346	11h15	1.025	48	10.0	Top	11h25	1.245	64	12.6	20.3							11h25	CB-WTD-125	Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3348	11h43	1.030	57	10.6	Top	12h34	1.235	49	12.4	26.6									Half ARBO	MIX C
	3350	12h08	1.030	54	10.4	Top	12h36	1.245	50	11.6	26.6									Half ARBO	MIX C
	3352	12h41	1.030	49	10.9	Top	13h25	1.235	46	12.6	23.3									Half ARBO	MIX C
	3354	13h09	1.030	57	10.6	Top	13h28	1.240	58	11.2	23.3									Half ARBO	MIX C
	3356	13h36	1.030	54	10.7	Top	14h46	1.240	54	13.0	28.1									Half ARBO	MIX C
	3358	14h17	1.030	59	10.3	Top	14h49	1.245	51	11.8	28.1									Half ARBO	MIX C
	3360	14h40	1.030	48	9.8	Top	15h44	1.240	48	13.2	25.9									Half ARBO	MIX C
	3362	15h26	1.030	47	10.2	Top	15h46	1.245	53	11.5	25.9									Half ARBO	MIX C
	3364	15h55	1.030	44	10.8	Top	16h43	1.235	56	12.5	18.5									Half ARBO	MIX C
	3366	16h30	1.035	48	11.0	Top	16h46	1.250	51	12.6	18.5									Half ARBO	MIX C
	3368	16h54	1.030	49	10.7	Top	18h05	1.235	49	13.4	31.5									Half ARBO	MIX C
	3370	17h25	1.035	61	11.2	Top	18h05	1.245	56	13.6	31.5									Half ARBO	MIX C
2018-11-30 NIGHT	3372	18h13	1.035	55	12.7	Top	19h15	1.235	56	13.5	30.1									Half ARBO	MIX C
	3374	18h44	1.035	59	11.8	Top	19h15	1.250	52	12.0	30.1									Half ARBO	MIX C
	3376	19h06	1.030	56	11.0	Top	20h02	1.240	51	12.3	24.0									Half ARBO	MIX C
	3378	19h50	1.030	57	11.3	Top	20h02	1.245	47	11.1	24.0									Half ARBO	MIX C
	3380	20h12	1.030	50	10.5	Top	20h53	1.235	49	12.0	25.2									Half ARBO	MIX C
	3382	20h44	1.030	58	10.6	Top	20h58	1.240	51	10.3	24.9	clear	9.7							Half ARBO	MIX C
	3384	21h10	1.030	61	10.4	Top	21h59	1.240	55	11.6	19.5									Half ARBO	MIX C
	3386	21h51	1.035	75	11.0	Top	22h08	1.235	59	10.6	20.4									Half ARBO	MIX C
	3388	22h25	1.035	73	11.2	Top	23h00	1.235	50	11.7	20.5									Half ARBO	MIX C
	3390	22h46	1.030	53	10.2	Top	23h00	1.240	50	10.5	20.5									Half ARBO	MIX C
	3392	23h14	1.030	57	10.7	Top	00h00	1.240	52	11.2	20.4									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					C
	3394	23h40	1.030	59	9.9	Top	00h00	1.240	52	10.8	20.4									Half ARBO	MIX C
	3396	00h08	1.035	61	10.0	Top	00h42	1.235	57	10.7	17.2									Half ARBO	MIX C
	3398	00h36	1.030	81	9.7	Top	1h00	1.235	53	10.2	17.9									Half ARBO	MIX C
	3400	1h13	1.030	79	9.9	Top	1h52	1.245	48	11.1	17.4								CB-WTD-126	Switch to cement HE instead of GU, but sample mixed with both.	MIX E
	3402	1h44	1.030	58	9.5	Top	2h03	1.260	48	10.3	17.4									Half ARBO	MIX E
	3404	2h19	1.035	102	10.7	Top	3h15	1.255	58	11.8	20.0									Half ARBO	MIX E
	3406	2h54	1.030	78	10.2	Top	3h15	1.260	54	11.0	20.0								CB-WTD-127	Half ARBO	MIX E
	3408	4h06	1.030	72	10.6	Top	4h45	1.260	58	13.2	23.3									Half ARBO	MIX E
	3410	4h15	1.030	94	10.8	Top	4h45	1.260	51	11.3	23.3									Half ARBO	MIX E
	3412	4h40	1.035	60	10.5	Top	5h40	1.255	58	13.0	21.0									Half ARBO	MIX E
	3414	5h30	1.030	70	11.0	Top	5h40	1.260	59	11.0	21.0									Half ARBO	MIX E
2018-12-01 DAY	3416	5h57	1.030	65	11..2	Top	6h58	1.260	54	13.1	23.5									Half ARBO	MIX E
	3418	6h35	1.030	53	13.1	Top	7h06	1.260	79	12.9	23.5									Half ARBO	MIX E
	3420	6h51	1.030	64	11.0	Top	8h05	1.265	54	11.3	22.8									Half ARBO	MIX E
	3422	7h24	1.030	62	10.6	Top	8h09	1.260	54	11.9	22.8									Half ARBO	MIX E
	3424	7h40	1.030	58	10.0	Top	9h17	1.260	54	12.8	21.5									Half ARBO	MIX E
	3426	8h43	1.030	71	11.0	Top	9h12	1.255	56	12.5	21.5									Half ARBO	MIX E
	3428	9h25	1.030	59	11.3	Top	10h23	1.260	53	10.8	15.5									Half ARBO	MIX E
	3430	9h42	1.030	54	13.0	Top	10h28	1.260	55	12.9	15.5									Half ARBO	MIX E
	3432	10h20	1.030	65	11.4	Top	11h32	1.265	53	12.4	15.4									Half ARBO	MIX E
	3434	11h00	1.030	59	9.8	Top	11h38	1.260	59	12.4	15.4									Half ARBO	MIX E
	3436	11H32	1.030	56	10.0	Top	12h45	1.260	52	12.5	13.6									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					E
	3438	12H12	1.030	52	10.8	Top	12h48	1.260	53	13.1	13.6									Half ARBO	MIX E
	3440	12h36	1.030	64	10.4	Top	13h56	1.260	55	12.2	13.7									Half ARBO	MIX E
	3442	13h23	1.030	74	10.8	Top	13h50	1.260	59	12.4	13.7									Half ARBO	MIX E
	3444	14h04	1.030	75	11.3	Top	15h07	1.260	54	13.2	11.2								CB-WTD-128	Half ARBO	MIX E
	3446	14h44	1.030	83	10.3	Top	15H00	1.260	54	11.2	11.2									Half ARBO	MIX E
	3448	15H36	1.030	86	11.6	Top	16h09	1.260	54	12.5	11.5									Half ARBO	MIX E
	3450	16H13	1.030	56	11.8	Top	16H20	1.260	69	12.3	11.5									Half ARBO	MIX E
	3452	16H33	1.030	83	10.6	Top	17h22	1.260	55	11.8	11.4									Half ARBO	MIX E
	3454	16h55	1.030	118	10.6	Top	17h28	1.260	56	11.2	11.4									Half ARBO	MIX E
2018-12-01 NIGHT	3456	17h38	1.030	79	12.3	Top	19h02	1.255	56	14.0	12.4									Half ARBO	MIX E
	3458	18h50	1.030	120	11.0	Top	19h10	1.265	53	11.5	15.1									Half ARBO	MIX E
	3460	19h28	1.030	90	10.8	Top	20h05	1.260	54	11.9	19.3									Half ARBO	MIX E
	3462	19h47	1.035	102	10.0	Top	20h05	1.250	53	10.0	19.3									Half ARBO	MIX E
	3464	20h18	1.030	70	11.5	Top	21h00	1.255	48	11.5	22.0									Half ARBO	MIX E
	3466	20h45	1.030	92	11.3	Top	21h00	1.265	54	11.3	22.0									Half ARBO	MIX E
	3468	21h15	1.030	82	13.3	Top	22h35	1.260	58	13.3	24.1									Half ARBO	MIX E
	3470	22h00	1.030	80	11.8	Top	22h35	1.260	51	11.8	24.1									Half ARBO	MIX E
	3472	22h48	1.030	64	12.3	Top	23h30	1.265	55	12.3	26.2									Half ARBO	MIX E
	3474	23h12	1.030	75	11.9	Top	23h30	1.260	61	11.9	26.2							23h30	CB-WTD-129	Full Arbo	MIX E
	3476	23h42	1.030	74	11.6	Top	3h00	1.260	80	16.8	22.0									Full Arbo	MIX E
	3478	00h15	1.030	133	10.5	Top	3h00	1.260	64	15.2	22.0									Half ARBO	MIX E
	3480	00h50	1.030	84	11.3	Top	4h40	1.250	62	14.8	32.0									Half ARBO	MIX E
	3482	4h05	1.030	92	10.8	Top	4h40	1.260	53	13.2	32.0									Half ARBO	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					E
	3484	4h48	1.030	73	13.3	Top	6h12	1.260	70	13.6	31.0									Half ARBO	MIX E
	3486	5h25	1.030	75	10.5	Top	6h08	1.260	62	13.4	31.0									Half ARBO	MIX E
2018-12-02 DAY	3488	6h20	1.030	64	13.3	Top	7h42	1.260	66	15.6	30.5									Half ARBO	MIX E
	3490	7h03	1.030	84	12.3	Top	7h45	1.260	69	15.2	30.5									Half ARBO	MIX E
	3492	7h35	1.030	95	11.9	Top	8h48	1.265	47	12.2	30.3									Half ARBO	MIX E
	3494	8h15	1.030	98	12.0	Top	8h50	1.255	54	12.1	30.3									Half ARBO	MIX E
	3496	8h36	1.030	120	10.4	Top	10h25	1.260	54	13.0	28.5									Half ARBO	MIX E
	3498	9h34	1.030	69	10.9	Top	10h28	1.260	55	13.2	28.5									Half ARBO	MIX E
	3500	9h54	1.030	98	11.1	Top	11h49	1.260	54	13.7	31.7									Half ARBO	MIX E
	3502	11h00	1.035	66	11.2	Top	11h54	1.255	59	15.3	31.7									Half ARBO	MIX E
	3504	12h00	1.030	85	13.2	Top	13h17	1.255	59	13.0	29.5									GU	MIX E
	3506	12H35	1.030	76	12.3	Top	13h13	1.260	49	12.6	29.5									GU	MIX E
	3508	13h20	1.030	84	11.6	Top	14h57	1.260	60	14.3	30.2									GU	MIX E
	3510	13h58	1.035	95	12.4	Top	14h53	1.260	59	14.0	30.2									GU	MIX E
	3512	15h01	1.030	82	12.1	Top	16H30	1.260	59	13.5	28.5									HE + GU	MIX E
	3514	15h40	1.030	79	11.8	Top	16H35	1.255	57	14.1	28.5									HE + GU	MIX E
2018-12-02 NIGHT	3516	16H00	1.030	77	12.0	Top	21h20	1.255	51	14.3	26.5									Half Arbo	MIX E
	3518	21h10	1.030	64	11.2	Top	21h20	1.260	58	12.8	26.5									Half Arbo	MIX E
	3520	21h31	1.030	68	10.7	Top	22h20	1.260	56	13.3	27.0									Half Arbo	MIX E
	3522	22h13	1.035	82	10.5	Top	22h25	1.265	55	12.5	27.2									Half Arbo	MIX E
	3524	22h32	1.035	92	10.0	Top	23h20	1.260	58	12.4	27.6									Half Arbo	MIX E
	3526	23h02	1.030	68	10.1	Top	23h20	1.260	56	11.3	27.6									Half Arbo	MIX E
	3528	23h28	1.030	83	10.5	Top	00h22	1.265	61	12.4	29.3							00h22	CB-WTD-131	Half Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					E
	3530	00h13	1.035	104	12.5	Top	00h34	1.260	58	12.6	29.3									Half Arbo	MIX E
	3532	00h43	1.030	95	10.5	Top	1h21	1.260	56	12.3	30.2									Half Arbo	MIX E
	3534	1h06	1.030	66	10.6	Top	1h21	1.265	56	11.1	30.2	clear	9.7							Half Arbo	MIX E
	3536	1h30	1.030	58	9.2	Top	2h30	1.270	61	12.7	31.2									Half Arbo	MIX E
	3538	2h04	1.035	76	10.3	Top	2h30	1.265	61	11.8	31.2									Half Arbo	MIX E
	3540	2h28	1.035	62	12.0	Top	3h27	1.260	61	12.7	28.0									Half Arbo	MIX E
	3542	3h03	1.030	60	10.0	Top	3h32	1.260	58	11.1	28.4									Half Arbo	MIX E
	3544	3h43	1.030	100	11.3	Top	4h52	1.265	66	13.7	29.2									Half Arbo	MIX E
	3546	4h07	1.035	82	9.8	Top	4h52	1.260	59	12.2	29.2									Half Arbo	MIX E
	3548	4h43	1.030	64	10.0	Top	5h45	1.270	73	13.1	33.0									Half Arbo	MIX E
	3550	5h27	1.030	77	10.0	Top	5h45	1.270	65	12.1	33.0									Half Arbo	MIX E
2018-12-03 DAY	3552	5h52	1.030	73	10.3	Top	8h28	1.255	54	14.8	30.5									Full Arbo	MIX E
	3554	6h50	1.030	50	10.4	Top	8h30	1.255	44	15.2	30.5									Full Arbo	MIX E
	3556	9h38	1.030	69	10.8	Top	10h17	1.260	51	15.8	28.0									Full Arbo	MIX E
	3558	10h03	1.030	98	10.4	Top	10h22	1.260	63	15.1	28.0									Full Arbo	MIX E
	3560	10h28	1.030	78	12.5	Top	11h15	1.260	45	13.2	26.3									Full Arbo	MIX E
	3562	10h56	1.030	76	12.1	Top	11h10	1.265	45	11.7	26.0							10h10	CB-WTD-132	Full Arbo	MIX E
	3564	11H28	1.035	49	11.5	Top	12h29	1.260	44	10.8	22.1									Full Arbo	MIX E
	3566	11H45	1.030	49	10.1	Top	12h25	1.265	43	11.4	22.1									Full Arbo	MIX E
	3568	12h15	1.030	54	10.6	Top	14h23	1.265	50	14.3	22.3									Full Arbo	MIX E
	3570	13h12	1.030	76	11.3	Top	14h26	1.260	53	14.2	22.3									Full Arbo	MIX E
	3572	13h37	1.030	69	10.9	Top	18h54	1.255	57	16.4	11.8									Full Arbo	MIX E
	3574	17h12	1.035	55	14.8	Top	18h54	1.260	47	13.3	11.8									Full Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				E
2018-12-03 NIGHT	3576	18h41	1.030	53	14.3	Top	20h17	1.260	52	12.7	9.4	clear	7.6							Full Arbo	MIX E
	3578	19h30	1.030	56	11.3	Top	20h30	1.255	44	10.5	8.5									Full Arbo	MIX E
	3580	20h00	1.035	65	9.9	Top	21h40	1.260	48	13.0	8.4									Full Arbo	MIX E
	3582	21h05	1.030	62	9.3	Top	21h40	1.265	48	10.5	8.4									Full Arbo	MIX E
	3584	21h28	1.030	61	9.0	Top	22h50	1.265	55	12.2	10.8									Full Arbo	MIX E
	3586	22h13	1.030	109	10.4	Top	22h50	1.255	46	11.2	10.8									Full Arbo	MIX E
	3588	22h40	1.030	81	9.8	Top	00h47	1.270	-	14.3	9.6									Full Arbo	MIX E
	3590	23h42	1.030	63	9.6	Top	00h47	1.260	53	12.3	9.6							00h47	CB-WTD-133	Full Arbo	MIX E
	3592	00h18	1.030	73	12.3	Top	2h10	1.260	69	12.9	8.8									Full Arbo	MIX E
	3594	1h18	1.030	74	12.9	Top	2h10	1.265	52	11.9	8.8									Full Arbo	MIX E
	3596	1h50	1.035	106	11.9	Top	3h16	1.270	57	12.9	9.2									Full Arbo	MIX E
	3598	2h52	1.035	96	10.3	Top	3h16	1.260	46	10.8	9.2									Full Arbo	MIX E
	3600	3h28	1.030	99	10.3	Top	4h20	1.255	48	11.7	15.7									Full Arbo	MIX E
	3602	4h05	1.030	70	10.7	Top	4h24	1.265	54	12.0	16.6									Full Arbo	MIX E
	3604	4h35	1.035	56	9.4	Top	5h30	1.260	55	11.5	15.0									Full Arbo	MIX E
	3606	4h56	1.030	71	9.2	Top	5h30	1.260	45	10.3	15.0									Full Arbo	MIX E
2018-12-04 DAY	3608	5h21	1.030	66	9.1	Top	7h05	1.265	43	12.4	7.3									Full Arbo, Half Load Truck	MIX E
	3610	7h11	1.030	93	9.9	Top	11h37	1.265	45	15.0	16.5									Full Arbo	MIX E
	3612	10h55	1.030	50	10.1	Top	11h40	1.260	55	12.9	16.5									Full Arbo	MIX E
	3614	11h50	1.030	95	10.0	Top	13h02	1.255	49	13.3	8.7							13h02	CB-WTD-134	Full Arbo	MIX E
	3616	12h20	1.035	89	10.3	Top	13h04	1.265	44	12.5	8.7	Clear	6.8							Full Arbo	MIX E
	3618	12h50	1.035	127	12.6	Top	14h45	1.255	46	14.0	8.4									Full Arbo	MIX E
	3620	14h40	1.030	84	10.8	Top	14h48	1.270	67	11.3	8.4									Full Arbo	MIX

DATE	# Batch plant	BETONITE HYDRATATION				CIMENT BETONITE MIX					Condition	WATER QUALITY			BLEEDING TESTS			sampling time	SAMPLE NUMBER	Notes	MIX
		Time of test	DENSITY MUD BALANCE	VISCOSITY (MARSH CONE)	TEMP. (T°C)	Top or bottom (PAT)	Time of test	DENSITY (MUD BALANCE)	VISCOSITY (MARSH CONE)	TEMP. (T°C)	batch plan T°C	CLEANLINESS (C or NC)	TEMP. (T°C)	pH	Duration (min)	Expansion (%)	Final Bleeding (%)				
																					E
	3622	15h03	1.030	100	9.6	Top	16h17	1.255	40	10.9	4.5									Full Arbo	MIX E
	3624	15h50	1.035	113	9.9	Top	16h20	1.265	73	11.3	4.5									Full Arbo	MIX E
2018-12-04 NIGHT	3626	19h30	1.030	95	10.8	Top	20h23	1.255	48	11.2	5.0									Full Arbo	MIX E
	3628	20h10	1.030	142	10.2	Top	22h20	1.260	61	13.4	1.3									Full Arbo	MIX E

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-09-16
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Maxime Côté

Batch number:	OOO1	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-005	**Pile number:**	65 (Primary)
Volume of the batch:	5.5 m ³	**Grout temperature at the B.P:**	17.8°C
Sample time (H:MM) :	12h25	**Temperature at the B.P:**	22.0°C

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	12h55	2018/09/16	15.5	18.5
End of the test	13h30	2018/09/17	20.8	18.2

Volume of specimen at beginning of the test (V_1), (ml) : 810

Expansion and bleeding readings								
	0 min.	15 min.	30 min.	45 min.	60 min.	120 min.	180 min.	1475 min.
Water level (V_2) (ml)	810	810	810	810	810	810	810	800
Grout level (V_g) (ml)	810	810	810	810	810	810	810	800
Vol. of water (V_w) (mL)	0	0	0	0	0	0		
Expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.23
Bleeding, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.23
Final Bleeding, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-01
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	316	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	-
Volume of the batch:	5.5 m ^{3}		
Sample time (H:MM) :	21h55		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	22h08	2018/10/01	21.0	26.3
End of the test	3h23	2018/10/02	25.6	25.4

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	60 min.	120 min.	254 min.	315 min.			
Water level ($\mathbf{V_2}$) (ml)	800	793	791	791	791			
Grout level ($\mathbf{V_g}$) (ml)	800	790	785	785	785			
Vol. of water ($\mathbf{V_w}$) (mL)	0	3	6	6	6			
Expansion, %	0.00	-1.25	-1.88	-1.88	-1.88			
Bleeding, %	0.00	0.38	0.75	0.75	0.75			
Combined expansion, %	0.00	-0.88	-1.13	-1.13	-1.13			
Final Bleeding, %	0.00	0.38	0.75	0.75	0.75			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-01
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	322	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}		
Sample time (H:MM) :	1h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	1h15	2018/10/01	22.4	22.4
End of the test	4h20	2018/10/01	23.9	25.4

Volume of specimen at beginning of the test (**V_1**), (ml) : 900

Expansion and bleeding readings								
	0 min.	120 min.	185 min.	240 min.				
Water level (**V_2**) (ml)	900	902	900	900				
Grout level (**V_g**) (ml)	900	900	895	895				
Vol. of water (**V_w**) (mL)	0	2	5	5				
Expansion, %	0.00	0.00	-0.56	-0.56				
Bleeding, %	0.00	0.22	0.56	0.56				
Combined expansion, %	0.00	0.22	0.00	0.00				
Final Bleeding, %	0.00	0.22	0.56	0.56				

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-02
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	354	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	-
Volume of the batch:	5.5 m ^{3}		
Sample time (H:MM) :	21h56		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	22h10	2018/10/02	17.8	15.6
End of the test	2h10	2018/10/03	23.6	14.0

Volume of specimen at beginning of the test (V_1), (ml) : 800

Expansion and bleeding readings								
	0 min.	60 min.	120 min.	180 min.	240 min.			
Water level (V_2) (ml)	800	800	795	795	795			
Grout level (V_g) (ml)	800	795	790	790	790			
Vol. of water (V_w) (mL)	0	5	5	5	5			
Expansion, %	0.00	-0.63	-1.25	-1.25	-1.25			
Bleeding, %	0.00	0.63	0.63	0.63	0.63			
Combined expansion, %	0.00	0.00	-0.63	-0.63	-0.63			
Final Bleeding, %	0.00	0.63	0.63	0.63	0.63			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-03
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Diallo

Batch number:	392	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	14h03		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	14h20	2018/10/03	16.1	-
End of the test	17h20	2018/10/03	-	-

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 820

Expansion and bleeding readings								
	0 min.	60 min.	120 min.	180 min.				
Water level ($\mathbf{V_2}$) (ml)	820	820	820	820				
Grout level ($\mathbf{V_g}$) (ml)	820	820	820	815				
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	5				
Expansion, %	0.00	0.00	0.00	-0.61				
Bleeding, %	0.00	0.00	0.00	0.61				
Combined expansion, %	0.00	0.00	0.00	0.00				
Final Bleeding, %	0.00	0.00	0.00	0.61				

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-03
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	322	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	1h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	22h34	2018/10/03	18.4	18.9
End of the test	3h34	2018/10/04	20.6	23.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 900

Expansion and bleeding readings								
	0 min.	60 min.	120 min.	180 min.	240 min.	300 min.		
Water level ($\mathbf{V_2}$) (ml)	900	902	905	902	902	902		
Grout level ($\mathbf{V_g}$) (ml)	900	900	900	895	895	895		
Vol. of water ($\mathbf{V_w}$) (mL)	0	2	5	7				
Expansion, %	0.00	0.00	0.00	-0.56	-0.56	-0.56		
Bleeding, %	0.00	0.22	0.56	0.78	0.78	0.78		
Combined expansion, %	0.00	0.22	0.56	0.22	0.22	0.22		
Final Bleeding, %	0.00	0.22	0.56	0.78	0.00	0.00		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-03
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	410-412	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	145
Volume of the batch:	5.5 m ^{3}	**Note :**	Sampling ont the pile
Sample time (H:MM) :	0h00		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	0h06	2018/10/04	14.8	16.2
End of the test	4h06	2018/10/04	20.6	21.3

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min	15 min	30 min	45 min	60 min	120 min	180 min	240 min
Water level ($\mathbf{V_2}$) (ml)	800	800	800	800	802	804	800	800
Grout level ($\mathbf{V_g}$) (ml)	800	800	800	800	800	799	795	795
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	0	2	5	5	5
Expansion, %	0.00	0.00	0.00	0.00	0.00	-0.13	-0.63	-0.63
Bleeding, %	0.00	0.00	0.00	0.00	0.25	0.63	0.63	0.63
Combined expansion, %	0.00	0.00	0.00	0.00	0.25	0.50	0.00	0.00
Final Bleeding, %	0.00	0.00	0.00	0.00	0.25	0.63	0.63	0.63

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-06
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	516	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	00h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	00h30	2018/10/06	15.4	10.4
End of the test	5h30	2018/10/06	17.2	16.3

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 900

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	900	900	903	902	900	900		
Grout level ($\mathbf{V_g}$) (ml)	900	900	900	898	895	895		
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	3	4	5	5		
Expansion, %	0.00	0.00	0.00	-0.22	-0.56	-0.56		
Bleeding, %	0.00	0.00	0.33	0.44	0.56	0.56		
Combined expansion, %	0.00	0.00	0.33	0.22	0.00	0.00		
Final Bleeding, %	0.00	0.00	0.33	0.44	0.56	0.56		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-07
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	532 (Top)	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	8h25		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	8h30	2018/10/07	18.2	
End of the test	13h30	2018/10/07	19.6	

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 860

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	860	860	860	860	860	860		
Grout level ($\mathbf{V_g}$) (ml)	860	860	855	855	850	850		
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	5	5	10	10		
Expansion, %	0.00	0.00	-0.58	-0.58	-1.16	-1.16		
Bleeding, %	0.00	0.00	0.58	0.58	1.16	1.16		
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00		
Final Bleeding, %	0.00	0.00	0.58	0.58	1.16	1.16		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-07
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	554 (Bottom)	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	19h40		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	19h50	2018/10/07	21.4	22.4
End of the test	2h50	2018/10/08	14.6	14.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 960

Expansion and bleeding readings								
	0 min.	30 min	60 min	90 min	120 min	180 min	240 min	300 min
Water level ($\mathbf{V_2}$) (ml)	960	962	961	960	960	960	958	958
Grout level ($\mathbf{V_g}$) (ml)	960	960	957	956	953	952	950	950
Vol. of water ($\mathbf{V_w}$) (mL)	0	2	4	4	7	8	8	8
Expansion, %	0.00	0.00	-0.31	-0.42	-0.73	-0.83	-1.04	-1.04
Bleeding, %	0.00	0.21	0.42	0.42	0.73	0.83	0.83	0.83
Combined expansion, %	0.00	0.21	0.10	0.00	0.00	0.00	-0.21	-0.21
Final Bleeding, %	0.00	0.21	0.42	0.42	0.73	0.83	0.83	0.83

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-07
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	556(Top)	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	19h40		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	19h50	2018/10/07	19.9	22.9
End of the test	2h50	2018/10/08	14.6	14.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 850

Expansion and bleeding readings								
	0 min.	30 min	60 min	90 min	120 min	180 min	240 min	300 min
Water level ($\mathbf{V_2}$) (ml)	850	850	855	854	853	853	853	853
Grout level ($\mathbf{V_g}$) (ml)	850	850	850	849	848	848	848	848
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	5	5	5	5	5	5
Expansion, %	0.00	0.00	0.00	-0.12	-0.24	-0.24	-0.24	-0.24
Bleeding, %	0.00	0.00	0.59	0.59	0.59	0.59	0.59	0.59
Combined expansion, %	0.00	0.00	0.59	0.47	0.35	0.35	0.35	0.35
Final Bleeding, %	0.00	0.00	0.59	0.59	0.59	0.59	0.59	0.59

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-08
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	D-J Coulombe

Batch number:	602	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	1h35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	1h35	2018/10/09	18.4	
End of the test				

Volume of specimen at beginning of the test (V_1), (ml) : 840

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min	360 min	
Water level (V_2) (ml)	840	840	840	840		840	840	
Grout level (V_g) (ml)	840	840	840	840		830	830	
Vol. of water (V_w) (mL)	0	0	0	0	0	10	10	0
Expansion, %	0.00	0.00	0.00	0.00		-1.19	-1.19	
Bleeding, %	0.00	0.00	0.00	0.00		1.19	1.19	
Combined expansion, %	0.00	0.00	0.00	0.00		0.00	0.00	
Final Bleeding, %	0.00	0.00	0.00	0.00		1.19	1.19	

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-09
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	620	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	11h20		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	11h25	2018/10/09	18.3	
End of the test				

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 880

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	880	880	880	880	880			
Grout level ($\mathbf{V_g}$) (ml)	880	880	875	875	870			
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	5	5	10			
Expansion, %	0.00	0.00	-0.57	-0.57	-1.14			
Bleeding, %	0.00	0.00	0.57	0.57	1.14			
Combined expansion, %	0.00	0.00	0.00	0.00	0.00			
Final Bleeding, %	0.00	0.00	0.57	0.57	1.14			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-09
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	638 (Top)	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	18h40		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	18h40	2018/10/09	21.1	19.6
End of the test	1h40	2018/10/10	20.6	20.6

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 905

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min	360 min	420 min
Water level ($\mathbf{V_2}$) (ml)	905	905	908	908	908	908	908	908
Grout level ($\mathbf{V_g}$) (ml)	905	900	902	900	900	898	898	898
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	6	8	8	10	10	10
Expansion, %	0.00	-0.55	-0.33	-0.55	-0.55	-0.77	-0.77	-0.77
Bleeding, %	0.00	0.55	0.66	0.88	0.88	1.10	1.10	1.10
Combined expansion, %	0.00	0.00	0.33	0.33	0.33	0.33	0.33	0.33
Final Bleeding, %	0.00	0.55	0.66	0.88	0.88	1.10	1.10	1.10

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-10
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	668	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	8H46		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	8H50	2018/10/10	21.6	
End of the test	13h50	2018/10/10	18.8	

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 940

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	940	940	940	940	940	940		
Grout level ($\mathbf{V_g}$) (ml)	940	935	935	930	930	930		
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	5	10	10			
Expansion, %	0.00	-0.53	-0.53	-1.06	-1.06	-1.06		
Bleeding, %	0.00	0.53	0.53	1.06	1.06	1.06		
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00		
Final Bleeding, %	0.00	0.53	0.53	1.06	1.06	0.00		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-11
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	728	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	9H10		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	9H15	2018/10/11	16.8	
End of the test	14h15	2018/10/11	15.9	

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 830

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	830	835	835	835	835	835		
Grout level ($\mathbf{V_g}$) (ml)	830	830	825	825	825	825		
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	10	10	10	10		
Expansion, %	0.00	0.00	-0.60	-0.60	-0.60	-0.60		
Bleeding, %	0.00	0.60	1.20	1.20	1.20	1.20		
Combined expansion, %	0.00	0.60	0.60	0.60	0.60	0.60		
Final Bleeding, %	0.00	0.60	1.20	1.20	1.20	1.20		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-11
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	750	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	18h35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	18h40	2018/10/11	20.0	21.4
End of the test	1h40	2018/10/12	26.2	26.3

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 900

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min		
Water level ($\mathbf{V_2}$) (ml)	900	905	905	906	906	906		
Grout level ($\mathbf{V_g}$) (ml)	900	902	900	898	898	898		
Vol. of water ($\mathbf{V_w}$) (mL)	0	3	5	8	8	8		
Expansion, %	0.00	0.22	0.00	-0.22	-0.22	-0.22		
Bleeding, %	0.00	0.33	0.56	0.89	0.89	0.89		
Combined expansion, %	0.00	0.56	0.56	0.67	0.67	0.67		
Final Bleeding, %	0.00	0.33	0.56	0.89	0.89	0.89		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-13
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	794	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	10h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	10h20	2018/10/13	18.2	17.8
End of the test	16h20	2018/10/13	-	-

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min	360 min	
Water level ($\mathbf{V_2}$) (ml)	800	805	800	800	800	800	800	
Grout level ($\mathbf{V_g}$) (ml)	800	805	800	800	800	800	790	
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	0	0	0	10	0
Expansion, %	0.00	0.63	0.00	0.00	0.00	0.00	-1.25	
Bleeding, %	0.00	0.00	0.00	0.00	0.00	0.00	1.25	
Combined expansion, %	0.00	0.63	0.00	0.00	0.00	0.00	0.00	
Final Bleeding, %	0.00	0.00	0.00	0.00	0.00	0.00	1.25	

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-13
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	820	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-052	**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	22h35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	22h40	2018/10/13	17.7	13.9
End of the test	4h40	2018/10/14	16.1	17.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 850

Expansion and bleeding readings								
	0 min.	60 min	120 min	180 min	240 min	300 min	360 min	
Water level ($\mathbf{V_2}$) (ml)	850	852	853	851	850	850	850	
Grout level ($\mathbf{V_g}$) (ml)	850	849	848	845	843	843	843	
Vol. of water ($\mathbf{V_w}$) (mL)	0	3	5	6	7	7	7	
Expansion, %	0.00	-0.12	-0.24	-0.59	-0.82	-0.82	-0.82	
Bleeding, %	0.00	0.35	0.59	0.71	0.82	0.82	0.82	
Combined expansion, %	0.00	0.24	0.35	0.12	0.00	0.00	0.00	
Final Bleeding, %	0.00	0.35	0.59	0.71	0.82	0.82	0.82	

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-14
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	862	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	19h25		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	18h30	2018/10/14	17.2	23.7
End of the test	3h30	2018/10/15	16.4	20.4

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 900

Expansion and bleeding readings								
	0 min.	120 min	180 min	240 min	300 min	360 min	420 min	480 min
Water level ($\mathbf{V_2}$) (ml)	900	900	900	898	896	896	896	896
Grout level ($\mathbf{V_g}$) (ml)	900	891	890	888	885	880	878	878
Vol. of water ($\mathbf{V_w}$) (mL)	0	9	10	10	11	16	18	18
Expansion, %	0.00	-1.00	-1.11	-1.33	-1.67	-2.22	-2.44	-2.44
Bleeding, %	0.00	1.00	1.11	1.11	1.22	1.78	2.00	2.00
Combined expansion, %	0.00	0.00	0.00	-0.22	-0.44	-0.44	-0.44	-0.44
Final Bleeding, %	0.00	1.00	1.11	1.11	1.22	1.78	2.00	2.00

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-15
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	J-P Lessard

Batch number:	892	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	8:36		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	8:42	2018/10/15	19.1	16.5
End of the test	14:42	2018/10/15	NA	NA

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	120 min	180 min	240 min	300 min	360 min	420 min	480 min
Water level ($\mathbf{V_2}$) (ml)	800	805	805	800	800	800		
Grout level ($\mathbf{V_g}$) (ml)	800	795	795	790	790	790		
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	10	10	10	10		
Expansion, %	0.00	-0.63	-0.63	-1.25	-1.25	-1.25		
Bleeding, %	0.00	1.25	1.25	1.25	1.25	1.25		
Combined expansion, %	0.00	0.63	0.63	0.00	0.00	0.00		
Final Bleeding, %	0.00	0.00	1.25	1.25	1.25	1.25		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-16
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	J-P Lessard

Batch number:	948	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	7:35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	7:40	2018/10/16	19.1	16.5
End of the test	12:40	2018/10/16	NA	NA

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	120 min	180 min	240 min	300 min	360 min	420 min	480 min
Water level ($\mathbf{V_2}$) (ml)	800	805	805	805	800			
Grout level ($\mathbf{V_g}$) (ml)	800	795	795	795	790			
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	10	10	10			
Expansion, %	0.00	-0.63	-0.63	-0.63	-1.25			
Bleeding, %	0.00	1.25	1.25	1.25	1.25			
Combined expansion, %	0.00	0.63	0.63	0.63	0.00			
Final Bleeding, %	0.00	0.00	1.25	1.25	1.25			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-17
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Mathieu

Batch number:	994	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :			

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	1:30	2018/10/16	15.7	16.2
End of the test	18:30	2018/10/16	NA	NA

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 850

Expansion and bleeding readings								
	0 min.	120 min	180 min	240 min	300 min	360 min	420 min	480 min
Water level ($\mathbf{V_2}$) (ml)	850	852	855	860	860			
Grout level ($\mathbf{V_g}$) (ml)	850	852	855	860	860			
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	0	0			
Expansion, %	0.00	0.24	0.59	1.18	1.18			
Bleeding, %	0.00	0.00	0.00	0.00	0.00			
Combined expansion, %	0.00	0.24	0.59	1.18	1.18			
Final Bleeding, %	0.00	0.00	0.00	0.00	0.00			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

*Cylindre gradué non recouvert

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-18
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	J-P Lessard

Batch number:	1012	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	339-385+topping
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	7:35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	8:18	2018/10/18	13.2	8.1
End of the test	13:18	2018/10/18	26.7	15.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	120 min	180 min	240 min	300 min	360 min	420 min	480 min
Water level ($\mathbf{V_2}$) (ml)	800	805	805	805	805			
Grout level ($\mathbf{V_g}$) (ml)	800	800	800	800	800			
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	5	5	5			
Expansion, %	0.00	0.00	0.00	0.00	0.00			
Bleeding, %	0.00	0.63	0.63	0.63	0.63			
Combined expansion, %	0.00	0.63	0.63	0.63	0.63			
Final Bleeding, %	0.00	0.00	0.63	0.63	0.63			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-28
Project:	Whale Tail Dike	**Shift:**	Day / Night
Location:	Amaruq	**QC rep.:**	DOM / Math.

Batch number:	1238	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-058	**Pile number:**	415-Topping
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	17h20		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	17h35	2018/10/28	13.9	25
End of the test	22h35	2018/10/28		

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 830

Expansion and bleeding readings								
	0 min.	15 min	30 min	60 min	120 min	180 min	240 min	300 min
Water level ($\mathbf{V_2}$) (ml)	830	830	830	810	810	810	810	808
Grout level ($\mathbf{V_g}$) (ml)	830	830	830	808	805	800	800	798
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	2	5	10	10	10
Expansion, %	0.00	0.00	0.00	-2.65	-3.01	-3.61	-3.61	-3.86
Bleeding, %	0.00	0.00	0.00	0.24	0.60	1.20	1.20	1.20
Combined expansion, %	0.00	0.00	0.00	-2.41	-2.41	-2.41	-2.41	-2.65
Final Bleeding, %	0.00	0.00	0.00	0.24	0.60	1.20	1.20	1.20

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-28
Project:	Whale Tail Dike	**Shift:**	Day / Night
Location:	Amaruq	**QC rep.:**	DOM / Math.

Batch number:	1238	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	17h20		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	17h35	2018/10/28	13.9	25
End of the test	22h35	2018/10/28		

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 830

Expansion and bleeding readings								
	0 min.	15 min	30 min	60 min	120 min	180 min	240 min	300 min
Water level ($\mathbf{V_2}$) (ml)	830	830	830	810	810	810	810	808
Grout level ($\mathbf{V_g}$) (ml)	830	830	830	808	805	800	800	798
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	2	5	10	10	10
Expansion, %	0.00	0.00	0.00	-2.65	-3.01	-3.61	-3.61	-3.86
Bleeding, %	0.00	0.00	0.00	0.24	0.60	1.20	1.20	1.20
Combined expansion, %	0.00	0.00	0.00	-2.41	-2.41	-2.41	-2.41	-2.65
Final Bleeding, %	0.00	0.00	0.00	0.24	0.60	1.20	1.20	1.20

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-29
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Dominic

Batch number:	1302	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-060	**Pile number:**	372-360
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	7:35		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	15h30	2018/10/29	16.2	18.5
End of the test	20h30	2018/10/29		

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 800

Expansion and bleeding readings								
	0 min.	15 min	30 min	60 min	120 min	180 min	240 min	300 min
Water level ($\mathbf{V_2}$) (ml)	800	800	800	800	800	795	792	790
Grout level ($\mathbf{V_g}$) (ml)	800	800	800	795	790	785	780	778
Vol. of water ($\mathbf{V_w}$) (mL)	0	0	0	5	10	10	12	12
Expansion, %	0.00	0.00	0.00	-0.63	-1.25	-1.88	-2.50	-2.75
Bleeding, %	0.00	0.00	0.00	0.63	1.25	1.25	1.50	1.50
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	-0.63	-1.00	-1.25
Final Bleeding, %	0.00	0.00	0.00	0.63	1.25	1.25	1.50	1.50

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-29
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	1334	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	433-461+Topping
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	23h55		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	0h00	2018/10/29	14.1	25.4
End of the test	10H00	2018/10/30		

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 910

Expansion and bleeding readings								
	0 min.	120 min	240 min	360 min	480 min	600 min		
Water level ($\mathbf{V_2}$) (ml)	910	906	905	906	905	905		
Grout level ($\mathbf{V_g}$) (ml)	910	900	895	889	885	885		
Vol. of water ($\mathbf{V_w}$) (mL)	0	6	10	17	20	20		
Expansion, %	0.00	-1.10	-1.65	-2.31	-2.75	-2.75		
Bleeding, %	0.00	0.66	1.10	1.87	2.20	2.20		
Combined expansion, %	0.00	-0.44	-0.55	-0.44	-0.55	-0.55		
Final Bleeding, %	0.00	0.66	1.10	1.87	2.20	2.20		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-30
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	1412	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	Topping
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	20h37		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	20h40	2018/10/30	13.7	28.8
End of the test	5h40			

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 905

Expansion and bleeding readings								
	0 min.	120 min	240 min	360 min	480 min	540 min		
Water level ($\mathbf{V_2}$) (ml)	905	905	900	890	890	885		
Grout level ($\mathbf{V_g}$) (ml)	905	900	890	880	880	880		
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	10	10	10	5		
Expansion, %	0.00	-0.55	-1.66	-2.76	-2.76	-2.76		
Bleeding, %	0.00	0.55	1.10	1.10	1.10	0.55		
Combined expansion, %	0.00	0.00	-0.55	-1.66	-1.66	-2.21		
Final Bleeding, %	0.00	0.55	1.10	1.10	1.10	0.55		

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-10-31
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	1460	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	427-423
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	8h30		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	8h35	2018/10/31	13.1	24.5
End of the test	16h35	2018/10/31	19.6	24.2

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 890

Expansion and bleeding readings								
	0 min.	120 min	240 min	360 min	480 min			
Water level ($\mathbf{V_2}$) (ml)	890	890	890	885	880			
Grout level ($\mathbf{V_g}$) (ml)	890	885	880	880	870			
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	10	5	10			
Expansion, %	0.00	-0.56	-1.12	-1.12	-2.25			
Bleeding, %	0.00	0.56	1.12	0.56	1.12			
Combined expansion, %	0.00	0.00	0.00	-0.56	-1.12			
Final Bleeding, %	0.00	0.56	1.12	0.56	1.12			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-01
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Amadou Oury Diallo

Batch number:	1550	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	
Volume of the batch:	5.5 m ^{3}	**Notes:**	
Sample time (H:MM) :	8h55		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	9h05	2018/11/01	13.4	20.5
End of the test	17h05	2018/10/18	26.5	29.5

Volume of specimen at beginning of the test ($\mathbf{V_1}$), (ml) : 950

Expansion and bleeding readings								
	0 min.	120 min	240 min	360 min	480 min			
Water level ($\mathbf{V_2}$) (ml)	950	950	945	940	935			
Grout level ($\mathbf{V_g}$) (ml)	950	945	935	930	930			
Vol. of water ($\mathbf{V_w}$) (mL)	0	5	10	10	5			
Expansion, %	0.00	-0.53	-1.58	-2.11	-2.11			
Bleeding, %	0.00	0.53	1.05	1.05	0.53			
Combined expansion, %	0.00	0.00	-0.53	-1.05	-1.58			
Final Bleeding, %	0.00	0.53	1.05	1.05	0.53			

Calculations :

Expansion, % = ((Vg - V1) / V1) X 100

Bleeding, % = ((V2 - Vg) / V1) X 100

Combined Expension, % = ((V2 - V1) / V1) X 100

Final bleeding, % = (Vw / V1) X 100

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-02
Project:	Whale Tail Dike	**Shift:**	night
Location:	Amaruq	**QC rep.:**	D.R.

Batch number:	1594	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-070	**Pile number:**	328+Topping
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	23h50		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	00h00	2018/11/02	18.0	19.5
End of the test	7h00	2018/11/02	18	21.2

Volume of specimen at beginning of the test (V_1), (ml) : 850

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	850	855	851	850	849	845	845	845
Grout level (V_g) (ml)	850	845	841	839	837	833	833	833
Vol. of water (V_w) (mL)	0	10	10	11	12	12	12	12
Expansion, %	0.00	-0.59	-1.06	-1.29	-1.53	-2.00	-2.00	-2.00
Bleeding, %	0.00	1.18	1.18	1.29	1.41	1.41	1.41	1.41
Combined expansion, %	0.00	0.59	0.12	0.00	-0.12	-0.59	-0.59	-0.59
Final Bleeding, %	0.00	1.18	1.18	1.29	1.41	1.41	1.41	1.41
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)	0	0	0					
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-03
Project:	Whale Tail Dike	**Shift:**	night
Location:	Amaruq	**QC rep.:**	D.R.

Batch number:	1696	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	511-507
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	19h55		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	20h00	2018/11/03	13.5	11.3
End of the test	7h00	2018/11/04	13.5	13.9

Volume of specimen at beginning of the test (V_1), (ml) : 900

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	905	906	908	905	902	900	900
Grout level (V_g) (ml)	900	902	900	899	891	890	887	885
Vol. of water (V_w) (mL)	0	3	6	9	14	12	13	15
Expansion, %	0.00	0.22	0.00	-0.11	-1.00	-1.11	-1.44	-1.67
Bleeding, %	0.00	0.33	0.67	1.00	1.56	1.33	1.44	1.67
Combined expansion, %	0.00	0.56	0.67	0.89	0.56	0.22	0.00	0.00
Final Bleeding, %	0.00	0.33	0.67	1.00	1.56	1.33	1.44	1.67
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	900	900	900					
Grout level (V_g) (ml)	883	883	883					
Vol. of water (V_w) (mL)	17	17	17					
Expansion, %	-1.89	-1.89	-1.89					
Bleeding, %	1.89	1.89	1.89					
Combined expansion, %	0.00	0.00	0.00					
Final Bleeding, %	1.89	1.89	1.89					

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-04
Project:	Whale Tail Dike	**Shift:**	night/day
Location:	Amaruq	**QC rep.:**	DF / DR

Batch number:	1766	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-075	**Pile number:**	424+Topping
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	15h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	15h20	2018/11/04	13.3	20.5
End of the test	22h20	2018/11/04	17.5	18.0

Volume of specimen at beginning of the test (V_1), (ml) : 800

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	800	800	800	798	793	788	788	788
Grout level (V_g) (ml)	800	795	790	790	785	780	780	780
Vol. of water (V_w) (mL)	0	5	10	8	8	8	8	8
Expansion, %	0.00	-0.63	-1.25	-1.25	-1.88	-2.50	-2.50	-2.50
Bleeding, %	0.00	0.63	1.25	1.00	1.00	1.00	1.00	1.00
Combined expansion, %	0.00	0.00	0.00	-0.25	-0.88	-1.50	-1.50	-1.50
Final Bleeding, %	0.00	0.63	1.25	1.00	1.00	1.00	1.00	1.00
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)	0	0	0					
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-05
Project:	Whale Tail Dike	**Shift:**	night/day
Location:	Amaruq	**QC rep.:**	DR /AUD

Batch number:	1790	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-076	**Pile number:**	573-577
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	00h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	00h20	2018/11/05	14.6	17
End of the test	7h20	2018/11/05	20.5	25.5

Volume of specimen at beginning of the test (V_1), (ml) : 910

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	910	912	915	913	910	909	912	910
Grout level (V_g) (ml)	910	910	909	905	900	897	900	895
Vol. of water (V_w) (mL)	0	2	6	8	10	12	12	15
Expansion, %	0.00	0.00	-0.11	-0.55	-1.10	-1.43	-1.10	-1.65
Bleeding, %	0.00	0.22	0.66	0.88	1.10	1.32	1.32	1.65
Combined expansion, %	0.00	0.22	0.55	0.33	0.00	-0.11	0.22	0.00
Final Bleeding, %	0.00	0.22	0.66	0.88	1.10	1.32	1.32	1.65
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)	0	0	0					
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-05
Project:	Whale Tail Dike	**Shift:**	day
Location:	Amaruq	**QC rep.:**	AUD

Batch number:	1836	**Grout indentification:**	Cement bentonite
Sample Number:		**Pile number:**	555-559+topping
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	11h58		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	12h00	2018-11-05	14.4	26.5
End of the test	17h00	2018-11-05		

Volume of specimen at beginning of the test (V_1), (ml) : 930

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	930	935	930	930	930	930		
Grout level (V_g) (ml)	930	930	925	925	925	920		
Vol. of water (V_w) (mL)	0	5	5	5	5	10		
Expansion, %	0.00	0.00	-0.54	-0.54	-0.54	-1.08		
Bleeding, %	0.00	0.54	0.54	0.54	0.54	1.08		
Combined expansion, %	0.00	0.54	0.00	0.00	0.00	0.00		
Final Bleeding, %	0.00	0.54	0.54	0.54	0.54	1.08		
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)	0	0	0					
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-06
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	1932	**Grout indentification:**	Cement bentonite
Sample Number:	-	**Pile number:**	410+Topping
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	18h05		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	18h15	2018-11-06	12.5	12.5
End of the test	4h15	2018-11-07	22.1	20.4

Volume of specimen at beginning of the test (V_1), (ml) : 960

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	960	965	965	965	960	960	957	957
Grout level (V_g) (ml)	960	960	957	955	950	945	942	942
Vol. of water (V_w) (mL)	0	5	8	10	10	15	15	15
Expansion, %	0.00	0.00	-0.31	-0.52	-1.04	-1.56	-1.88	-1.88
Bleeding, %	0.00	0.52	0.83	1.04	1.04	1.56	1.56	1.56
Combined expansion, %	0.00	0.52	0.52	0.52	0.00	0.00	-0.31	-0.31
Final Bleeding, %	0.00	0.52	0.83	1.04	1.04	1.56	1.56	1.56
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	957	957	955					
Grout level (V_g) (ml)	940	940	940					
Vol. of water (V_w) (mL)	17	17	15					
Expansion, %	-2.08	-2.08	-2.08					
Bleeding, %	1.77	1.77	1.56					
Combined expansion, %	-0.31	-0.31	-0.52					
Final Bleeding, %	1.77	1.77	1.56					

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-09
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	2104	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-084	**Pile number:**	631+top
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	1h02		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	1h25	2018-11-10	14.0	25.4
End of the test		2018-11-10		

Volume of specimen at beginning of the test (V_1), (ml) : 965

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	965	970	970	968	964	965	965	960
Grout level (V_g) (ml)	965	965	965	960	955	950	950	950
Vol. of water (V_w) (mL)	0	5	5	8	9	15	15	10
Expansion, %	0.00	0.00	0.00	-0.52	-1.04	-1.55	-1.55	-1.55
Bleeding, %	0.00	0.52	0.52	0.83	0.93	1.55	1.55	1.04
Combined expansion, %	0.00	0.52	0.52	0.31	-0.10	0.00	0.00	-0.52
Final Bleeding, %	0.00	0.52	0.52	0.83	0.93	1.55	1.55	1.04
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	960							
Grout level (V_g) (ml)	950							
Vol. of water (V_w) (mL)	10							
Expansion, %	-1.55							
Bleeding, %	1.04							
Combined expansion, %	-0.52							
Final Bleeding, %	1.04							

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-11
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Daniel Roy

Batch number:	2160	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-088	**Pile number:**	579-583
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	20h36		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	20h45	2018-11-11	12.3	14.5
End of the test	8h45	2018-11-12	18.3	8.5

Volume of specimen at beginning of the test (V_1), (ml) : 900

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	910	910	910	910	910	905	902
Grout level (V_g) (ml)	900	905	900	900	900	898	892	889
Vol. of water (V_w) (mL)	0	5	10	10	10	12	13	13
Expansion, %	0.00	0.56	0.00	0.00	0.00	-0.22	-0.89	-1.22
Bleeding, %	0.00	0.56	1.11	1.11	1.11	1.33	1.44	1.44
Combined expansion, %	0.00	1.11	1.11	1.11	1.11	1.11	0.56	0.22
Final Bleeding, %	0.00	0.56	1.11	1.11	1.11	1.33	1.44	1.44
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	900	900	900	900	900			
Grout level (V_g) (ml)	889	889	889	889	889			
Vol. of water (V_w) (mL)	11	11	11	11	11			
Expansion, %	-1.22	-1.22	-1.22	-1.22	-1.22			
Bleeding, %	1.22	1.22	1.22	1.22	1.22			
Combined expansion, %	0.00	0.00	0.00	0.00	0.00			
Final Bleeding, %	1.22	1.22	1.22	1.22	1.22			

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-12
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	JPL

Batch number:	2216	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-089	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	15h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	15h20	2018-11-12	18.1	8.6
End of the test	10h20	2018-11-13		

Volume of specimen at beginning of the test (V_1), (ml) : 900

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	906	910	910	910	910	910	910
Grout level (V_g) (ml)	900	900	900	900	900	900	900	900
Vol. of water (V_w) (mL)	0	6	10	10	10	10	10	10
Expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bleeding, %	0.00	0.67	1.11	1.11	1.11	1.11	1.11	1.11
Combined expansion, %	0.00	0.67	1.11	1.11	1.11	1.11	1.11	1.11
Final Bleeding, %	0.00	0.67	1.11	1.11	1.11	1.11	1.11	1.11
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-12
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2246	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-094	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	2h30		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	2h40	2018-11-12	16.6	N/A
End of the test	13h40	2018-11-12	19.3	10.5

Volume of specimen at beginning of the test (V_1), (ml) : 900

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	900	920	910	908	908	905	905
Grout level (V_g) (ml)	900	900	900	900	900	889	889	889
Vol. of water (V_w) (mL)	0	0	20	10	8	19	16	16
Expansion, %	0.00	0.00	0.00	0.00	0.00	-1.22	-1.22	-1.22
Bleeding, %	0.00	0.00	2.22	1.11	0.89	2.11	1.78	1.78
Combined expansion, %	0.00	0.00	2.22	1.11	0.89	0.89	0.56	0.56
Final Bleeding, %	0.00	0.00	2.22	1.11	0.89	2.11	1.78	1.78
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	905							
Grout level (V_g) (ml)	889							
Vol. of water (V_w) (mL)	16							
Expansion, %	-1.22							
Bleeding, %	1.78							
Combined expansion, %	0.56							
Final Bleeding, %	1.78							

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-13
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	JPL

Batch number:	2284	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-091	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	16h25		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	16h30	2018-11-13	17.2	8.8
End of the test	23h30	2018-11-13	N/A	N/A

Volume of specimen at beginning of the test (V_1), (ml) : 908

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	908	908	908	915	918	918	918	918
Grout level (V_g) (ml)	908	908	908	908	908	908	908	908
Vol. of water (V_w) (mL)	0	0	0	7	10	10	10	10
Expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bleeding, %	0.00	0.00	0.00	0.77	1.10	1.10	1.10	1.10
Combined expansion, %	0.00	0.00	0.00	0.77	1.10	1.10	1.10	1.10
Final Bleeding, %	0.00	0.00	0.00	0.77	1.10	1.10	1.10	1.10
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-15
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	N/A	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-092	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	N/A		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	2h50	2018-11-13	N/A	N/A
End of the test	9h50	2018-11-13	N/A	N/A

Volume of specimen at beginning of the test (V_1), (ml) : 910

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	910	910	910	910	910	910	910	900
Grout level (V_g) (ml)	910	910	910	910	906	900	900	890
Vol. of water (V_w) (mL)	0	0	0	0	4	10	10	10
Expansion, %	0.00	0.00	0.00	0.00	-0.44	-1.10	-1.10	-2.20
Bleeding, %	0.00	0.00	0.00	0.00	0.44	1.10	1.10	1.10
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.10
Final Bleeding, %	0.00	0.00	0.00	0.00	0.44	1.10	1.10	1.10
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-15
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2380	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-094	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	1h45		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	2h00	2018-11-15	13.8	13.6
End of the test	10h20	2018-11-15	17.8	14.9

Volume of specimen at beginning of the test (V_1), (ml) : 920

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	900	920	920	915	915	915	915
Grout level (V_g) (ml)	920	920	910	910	910	904	904	904
Vol. of water (V_w) (mL)	-20	-20	10	10	5	11	11	11
Expansion, %	0.00	0.00	-1.09	-1.09	-1.09	-1.74	-1.74	-1.74
Bleeding, %	-2.17	-2.17	1.09	1.09	0.54	1.20	1.20	1.20
Combined expansion, %	-2.17	-2.17	0.00	0.00	-0.54	-0.54	-0.54	-0.54
Final Bleeding, %	-2.17	-2.17	1.09	1.09	0.54	1.20	1.20	1.20
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-15
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	JPL

Batch number:	2398	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-095	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	10h50		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	11h00	2018-11-15	16.6	16.7
End of the test	18h00	2018-11-15	23.4	13.5

Volume of specimen at beginning of the test (V_1), (ml) : 904

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	904	904	910	910	910	910	910	910
Grout level (V_g) (ml)	904	904	904	900	898	898	898	898
Vol. of water (V_w) (mL)	0	0	6	10	12	12	12	12
Expansion, %	0.00	0.00	0.00	-0.44	-0.66	-0.66	-0.66	-0.66
Bleeding, %	0.00	0.00	0.66	1.11	1.33	1.33	1.33	1.33
Combined expansion, %	0.00	0.00	0.66	0.66	0.66	0.66	0.66	0.66
Final Bleeding, %	0.00	0.00	0.66	1.11	1.33	1.33	1.33	1.33
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-15
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2436	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-096	**Pile number:**	775-783
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	1h15		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	1h20	2018-11-15	13.8	11.4
End of the test	8h20	2018-11-15	N/A	N/A

Volume of specimen at beginning of the test (V_1), (ml) : 920

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	810	810	810	810	810	810	810	805
Grout level (V_g) (ml)	810	810	810	810	800	800	800	790
Vol. of water (V_w) (mL)	0	0	0	0	10	10	10	15
Expansion, %	-11.96	-11.96	-11.96	-11.96	-13.04	-13.04	-13.04	-14.13
Bleeding, %	0.00	0.00	0.00	0.00	1.09	1.09	1.09	1.63
Combined expansion, %	-11.96	-11.96	-11.96	-11.96	-11.96	-11.96	-11.96	-12.50
Final Bleeding, %	0.00	0.00	0.00	0.00	1.09	1.09	1.09	1.63
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-16
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	MATH

Batch number:	2480	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-097	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	15h44		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	15h50	2018-11-16	14.6	16.9
End of the test	22h50	2018-11-16	N/A	N/A

Volume of specimen at beginning of the test (V_1), (ml) : 910

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	910	910	910	910	910	900	900	900
Grout level (V_g) (ml)	910	910	908	900	900	895	890	890
Vol. of water (V_w) (mL)	0	0	2	10	10	5	10	10
Expansion, %	0.00	0.00	-0.22	-1.10	-1.10	-1.65	-2.20	-2.20
Bleeding, %	0.00	0.00	0.22	1.10	1.10	0.55	1.10	1.10
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	-1.10	-1.10	-1.10
Final Bleeding, %	0.00	0.00	0.22	1.10	1.10	0.55	1.10	1.10
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-17
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2516	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-098	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	2h10		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	2h20	2018-11-17	13.8	25.3
End of the test	9h20	2018-11-17	22.3	16.8

Volume of specimen at beginning of the test (V_1), (ml) : 920

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	920	920	920	920	918	915	915	915
Grout level (V_g) (ml)	920	920	920	920	910	905	905	905
Vol. of water (V_w) (mL)	0	0	0	0	8	10	10	10
Expansion, %	0.00	0.00	0.00	0.00	-1.09	-1.63	-1.63	-1.63
Bleeding, %	0.00	0.00	0.00	0.00	0.87	1.09	1.09	1.09
Combined expansion, %	0.00	0.00	0.00	0.00	-0.22	-0.54	-0.54	-0.54
Final Bleeding, %	0.00	0.00	0.00	0.00	0.87	1.09	1.09	1.09
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-18
Project:	Whale Tail Dike	**Shift:**	Night / Day
Location:	Amaruq	**QC rep.:**	MOB / Mathieu

Batch number:	2568	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-100	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	3:00		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	3:10	18/11/2018	14.0	22
End of the test	14:10	18/11/2018	22.7	26.1

Volume of specimen at beginning of the test (V_1), (ml) : 850

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	850	850	850	850	850	850	850	850
Grout level (V_g) (ml)	850	850	850	850	848	845	842	840
Vol. of water (V_w) (mL)	0	0	0	0	2	5	8	10
Expansion, %	0.00	0.00	0.00	0.00	-0.24	-0.59	-0.94	-1.18
Bleeding, %	0.00	0.00	0.00	0.00	0.24	0.59	0.94	1.18
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Bleeding, %	0.00	0.00	0.00	0.00	0.24	0.59	0.94	1.18
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	850	848	848	848				
Grout level (V_g) (ml)	838	835	835	835				
Vol. of water (V_w) (mL)	12	13	13	13				
Expansion, %	-1.41	-1.76	-1.76	-1.76				
Bleeding, %	1.41	1.53	1.53	1.53				
Combined expansion, %	0.00	-0.24	-0.24	-0.24				
Final Bleeding, %	1.41	1.53	1.53	1.53				

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-19
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2604	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-101	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	3:00		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	14:50	18/11/2018	12.6	24.8
End of the test	21h50	18/11/2018	20.5	18.6

Volume of specimen at beginning of the test (V_1), (ml) : 850

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	805	805	800	800	800	800	800	800
Grout level (V_g) (ml)	805	805	800	800	800	790	790	790
Vol. of water (V_w) (mL)	0	0	0	0	0	10	10	10
Expansion, %	-5.29	-5.29	-5.88	-5.88	-5.88	-7.06	-7.06	-7.06
Bleeding, %	0.00	0.00	0.00	0.00	0.00	1.18	1.18	1.18
Combined expansion, %	-5.29	-5.29	-5.88	-5.88	-5.88	-5.88	-5.88	-5.88
Final Bleeding, %	0.00	0.00	0.00	0.00	0.00	1.18	1.18	1.18
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-19
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Mob / Math

Batch number:	2632	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-102	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	12:30		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	12:30	19/11/2018	13.1	18.6
End of the test	7:30	19/11/2018	18.5	21.1

Volume of specimen at beginning of the test (V_1), (ml) : 850

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	850	850	860	850	840	840	840	840
Grout level (V_g) (ml)	850	850	850	840	830	830	830	830
Vol. of water (V_w) (mL)	0	0	10	10	10	10	10	10
Expansion, %	0.00	0.00	0.00	-1.18	-2.35	-2.35	-2.35	-2.35
Bleeding, %	0.00	0.00	1.18	1.18	1.18	1.18	1.18	1.18
Combined expansion, %	0.00	0.00	1.18	0.00	-1.18	-1.18	-1.18	-1.18
Final Bleeding, %	0.00	0.00	1.18	1.18	1.18	1.18	1.18	1.18
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-19
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	MC

Batch number:	2678	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-103	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	Cylinder Leaking
Sample time (H:MM) :	17H30		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	17h35 PM	19/11/2018	15.9	22.1
End of the test	23h35 PM	19/11/2018	22.4	23.8

Volume of specimen at beginning of the test (V_1), (ml) : 800

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	800	800	800	800	800	800	800	
Grout level (V_g) (ml)	800	800	800	795	790	790	790	
Vol. of water (V_w) (mL)	0	0	0	5	10	10	10	
Expansion, %	0.00	0.00	0.00	-0.63	-1.25	-1.25	-1.25	
Bleeding, %	0.00	0.00	0.00	0.63	1.25	1.25	1.25	
Combined expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Final Bleeding, %	0.00	0.00	0.00	0.63	1.25	1.25	1.25	
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-20
Project:	Whale Tail Dike	**Shift:**	NIGHT
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2708	**Grout indentification:**	Cement bentonite
Sample Number:	N/A	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	4:00		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	4:10	20/11/2018	15.9	22.1
End of the test	11:10	20/11/2018	n/a	23.8

Volume of specimen at beginning of the test (V_1), (ml) : 910

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	910	910	910	910	908	908	908	
Grout level (V_g) (ml)	910	910	902	898	890	890	890	
Vol. of water (V_w) (mL)	0	0	8	12	18	18	18	
Expansion, %	0.00	0.00	-0.88	-1.32	-2.20	-2.20	-2.20	
Bleeding, %	0.00	0.00	0.88	1.32	1.98	1.98	1.98	
Combined expansion, %	0.00	0.00	0.00	0.00	-0.22	-0.22	-0.22	
Final Bleeding, %	0.00	0.00	0.88	1.32	1.98	1.98	1.98	
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-20
Project:	Whale Tail Dike	**Shift:**	NIGHT
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2736	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-106	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	15h54		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	16h00	20/11/2018	12.2	22.5
End of the test	21h00	20/11/2018	19	24.2

Volume of specimen at beginning of the test (V_1), (ml) : 910

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	910	910	905	910	910	910		
Grout level (V_g) (ml)	910	910	900	900	900	900		
Vol. of water (V_w) (mL)	0	0	5	10	10	10		
Expansion, %	0.00	0.00	-1.10	-1.10	-1.10	-1.10		
Bleeding, %	0.00	0.00	0.55	1.10	1.10	1.10		
Combined expansion, %	0.00	0.00	-0.55	0.00	0.00	0.00		
Final Bleeding, %	0.00	0.00	0.55	1.10	1.10	1.10		
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-21
Project:	Whale Tail Dike	**Shift:**	NIGHT
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2780	**Grout indentification:**	Cement bentonite
Sample Number:	N/A	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	4h46		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	5h00	21/11/2018	12.5	13.3
End of the test	13h00	21/11/2018	19.6	10.6

Volume of specimen at beginning of the test (V_1), (ml) : 800

Expansion and bleeding readings

	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	800	805	800	800	798	795	795	795
Grout level (V_g) (ml)	800	800	795	790	790	785	780	780
Vol. of water (V_w) (mL)	0	5	5	10	8	10	15	15
Expansion, %	0.00	0.00	-0.63	-1.25	-1.25	-1.88	-2.50	-2.50
Bleeding, %	0.00	0.63	0.63	1.25	1.00	1.25	1.88	1.88
Combined expansion, %	0.00	0.63	0.00	0.00	-0.25	-0.63	-0.63	-0.63
Final Bleeding, %	0.00	0.63	0.63	1.25	1.00	1.25	1.88	1.88
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	795							
Grout level (V_g) (ml)	780							
Vol. of water (V_w) (mL)	15							
Expansion, %	-2.50							
Bleeding, %	1.88							
Combined expansion, %	-0.63							
Final Bleeding, %	1.88							

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-20
Project:	Whale Tail Dike	**Shift:**	NIGHT
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	2810	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-108	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	16h05		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	16h10	21/11/2018	16.0	16.5
End of the test	22h10	21/11/2018	23.4	5.6

Volume of specimen at beginning of the test (V_1), (ml) : 900

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	900	900	910	910	905	905	905	
Grout level (V_g) (ml)	900	900	900	900	900	900	900	
Vol. of water (V_w) (mL)	0	0	10	10	5	5	5	
Expansion, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bleeding, %	0.00	0.00	1.11	1.11	0.56	0.56	0.56	
Combined expansion, %	0.00	0.00	1.11	1.11	0.56	0.56	0.56	
Final Bleeding, %	0.00	0.00	1.11	1.11	0.56	0.56	0.56	
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)								
Grout level (V_g) (ml)								
Vol. of water (V_w) (mL)								
Expansion, %								
Bleeding, %								
Combined expansion, %								
Final Bleeding, %								

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-25
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	DF

Batch number:	3008	**Grout indentification:**	Cement bentonite
Sample Number:	CB-WTD-115	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	14h56		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	15h10	25/11/2018	13.1	22.8
End of the test	23h10	25/11/2018	19.8	20.4

Volume of specimen at beginning of the test (V_1), (ml) : 905

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	905	905	905	910	900	900	900	900
Grout level (V_g) (ml)	905	905	905	900	890	885	885	885
Vol. of water (V_w) (mL)	0	0	0	10	10	15	15	15
Expansion, %	0.00	0.00	0.00	-0.55	-1.66	-2.21	-2.21	-2.21
Bleeding, %	0.00	0.00	0.00	1.10	1.10	1.66	1.66	1.66
Combined expansion, %	0.00	0.00	0.00	0.55	-0.55	-0.55	-0.55	-0.55
Final Bleeding, %	0.00	0.00	0.00	1.10	1.10	1.66	1.66	1.66
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	900							
Grout level (V_g) (ml)	885							
Vol. of water (V_w) (mL)	15							
Expansion, %	-2.21							
Bleeding, %	1.66							
Combined expansion, %	-0.55							
Final Bleeding, %	1.66							

Expansion and Bleeding test

Client:	AEM	**Date:**	2018-11-26
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	MOB

Batch number:	3046	**Grout indentification:**	Cement bentonite
Sample Number:	N/A	**Pile number:**	
Volume of the batch:	5.5	**Notes:**	
Sample time (H:MM) :	5h01		

	Time	Date	Grout temp. (°C)	Lab. Temp. (°C)
Begin. Of the test	5h15	26/11/2018	12.7	22.1
End of the test	13h15	26/11/2018		20.9

Volume of specimen at beginning of the test (V_1), (ml) : 920

Expansion and bleeding readings								
	0h	1h	2h	3h	4h	5h	6h	7h
Water level (V_2) (ml)	920	925	925	925	925	920	920	920
Grout level (V_g) (ml)	920	920	920	915	915	910	910	910
Vol. of water (V_w) (mL)	0	5	5	10	10	10	10	10
Expansion, %	0.00	0.00	0.00	-0.54	-0.54	-1.09	-1.09	-1.09
Bleeding, %	0.00	0.54	0.54	1.09	1.09	1.09	1.09	1.09
Combined expansion, %	0.00	0.54	0.54	0.54	0.54	0.00	0.00	0.00
Final Bleeding, %	0.00	0.54	0.54	1.09	1.09	1.09	1.09	1.09
	8h	9h	10h	11h	12h	13h	14h	15h
Water level (V_2) (ml)	920							
Grout level (V_g) (ml)	910							
Vol. of water (V_w) (mL)	10							
Expansion, %	-1.09							
Bleeding, %	1.09							
Combined expansion, %	0.00							
Final Bleeding, %	1.09							

Appendix G-2

Pinhole Tests

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-09-19	**Pinhole test # 12**	**DATE OF BATCHING :** 2018-09-16
PROJECT : Whale Tail Dike			**CURING TYPE :** Cold
LOCATION : Amaruq			**AGE OF CURING :** 3 days
FILE : 11130315-B1		**TEST CONDITION**	**Molded & trimmed**
Sample : CB-WTD-005			

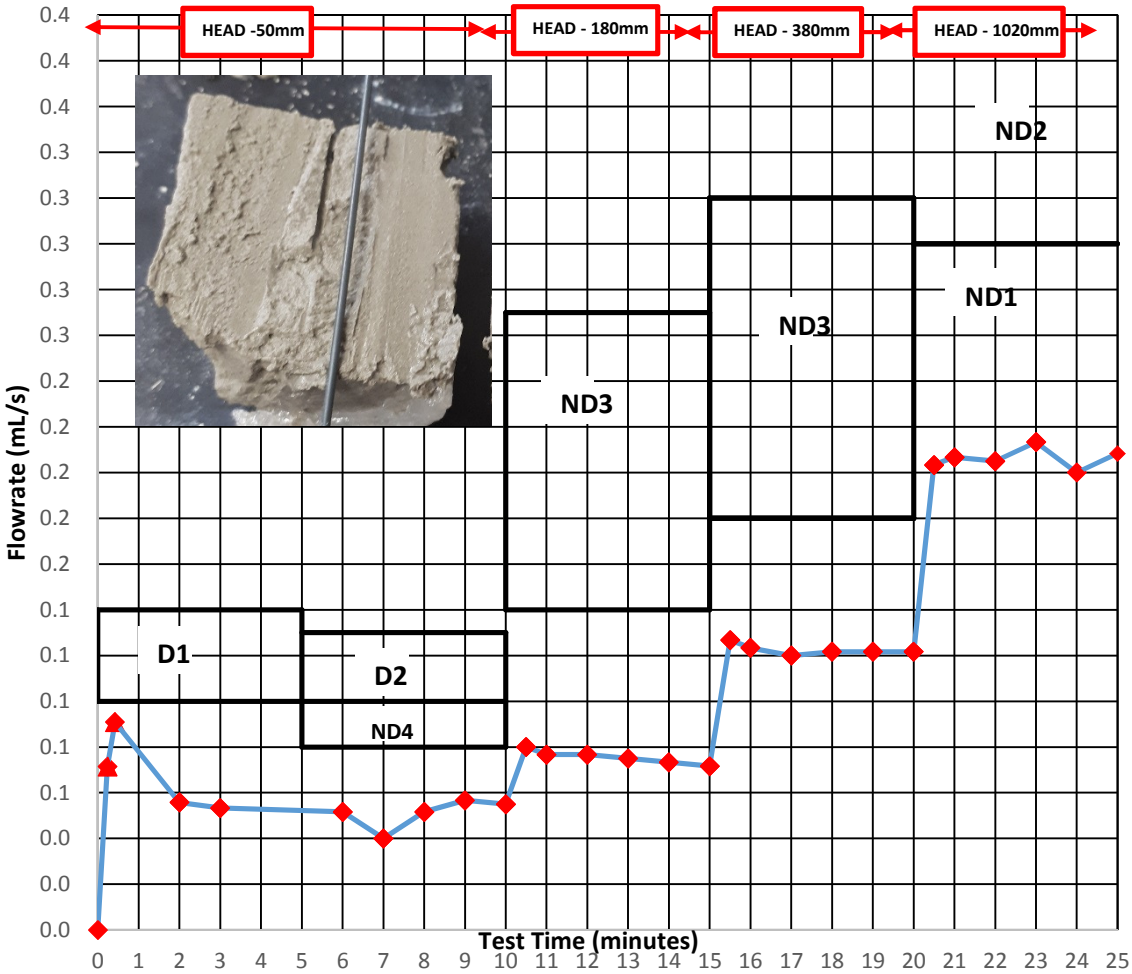
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr		S11			γ_w (kN/m^3)	-		
Container mass	g	180.6	Wn		Specific gravity est. (1/1)	-	Length mm	39.13
Total wet mass + Contai	g	225.5	WL				Diameter mm	34.58
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	106.50
Water content	%	502.23%	IP				Mass of ring + soil g	154.80

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		14	14	10	-	0.71						X	X	
Head 50 mm			25	11	10	0	0.91						X	X	
		2	0	95	53	43	0.56						X	X	
		3	0	60	32	-21	0.53						X	X	
		6	0	180	93	61	0.52						X	X	
		7	0	60	24	-69	0.40						X	X	
		8	0	60	31	7	0.52						X	X	
		9	0	60	34	3	0.57						X	X	
		10	0	60	33	-1	0.55						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	24	-	0.80						X	X	
Head 180 mm		11	0	30	23	-1	0.77						X	X	
		12	0	60	46	23	0.77						X	X	
		13	0	60	45	-1	0.75						X	X	
		14	0	60	44	-1	0.73						X	X	
		15	0	60	43	-1	0.72						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	38	-	1.27						X	X	
Head 380 mm		16	0	30	37	-1	1.23						X	X	
		17	0	60	72	35	1.20						X	X	
		18	0	60	73	1	1.22						X	X	
		19	0	60	73	0	1.22						X	X	
		20	0	60	73	0	1.22						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	61	-	2.03						X	X	
Head 1020 mm		21	0	30	62	1	2.07						X	X	
		22	0	60	123	61	2.05						X	X	
		23	0	60	128	5	2.13						X	X	
		24	0	60	120	-8	2.00						X	X	
		25	0	60	125	5	2.08						X	X	

Remarks : No signes of errosion at all. No sign of turbidity in the collected water.

CLIENT : AEM **Date of Test :** 2018-09-19	**Pinhole test # 12**	**DATE OF BATCHING :**	2018-09-16
PROJECT : Whale Tail Dike		**CURING TYPE :**	Cold
LOCATION : Amaruq		**AGE OF CURING :**	3 days
FILE : 11130315-B1	**TEST CONDITION**	**Molded & trimmed**	
Sample : CB-WTD-005			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE

Prepared by : Maxime Côté Date: 2018-09-19
Verified by : Maxime Côté Date: 2018-09-19

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-09-22	**Pinhole test # 12**	**DATE OF BATCHING :** 2018-09-17
PROJECT : Whale Tail Dike			**CURING TYPE :** Cold
LOCATION : Amaruq			**AGE OF CURING :** 5 days
FILE : 11130315-B1		**TEST CONDITION**	**Molded & trimmed**
Sample : CB-WTD-010			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr								
Container mass	g	222.7	Wn		Specific gravity est. (1/1)	-	Length mm	76.26
Total wet mass + Contai	g	269.7	WL				Diameter mm	35.00
Total dry mass + Contair	g	239.4	WP		Degree of saturation Sr (%)	-	Mass of ring g	106.50
Water content	%	64.47%	IP				Mass of ring + soil g	155.40

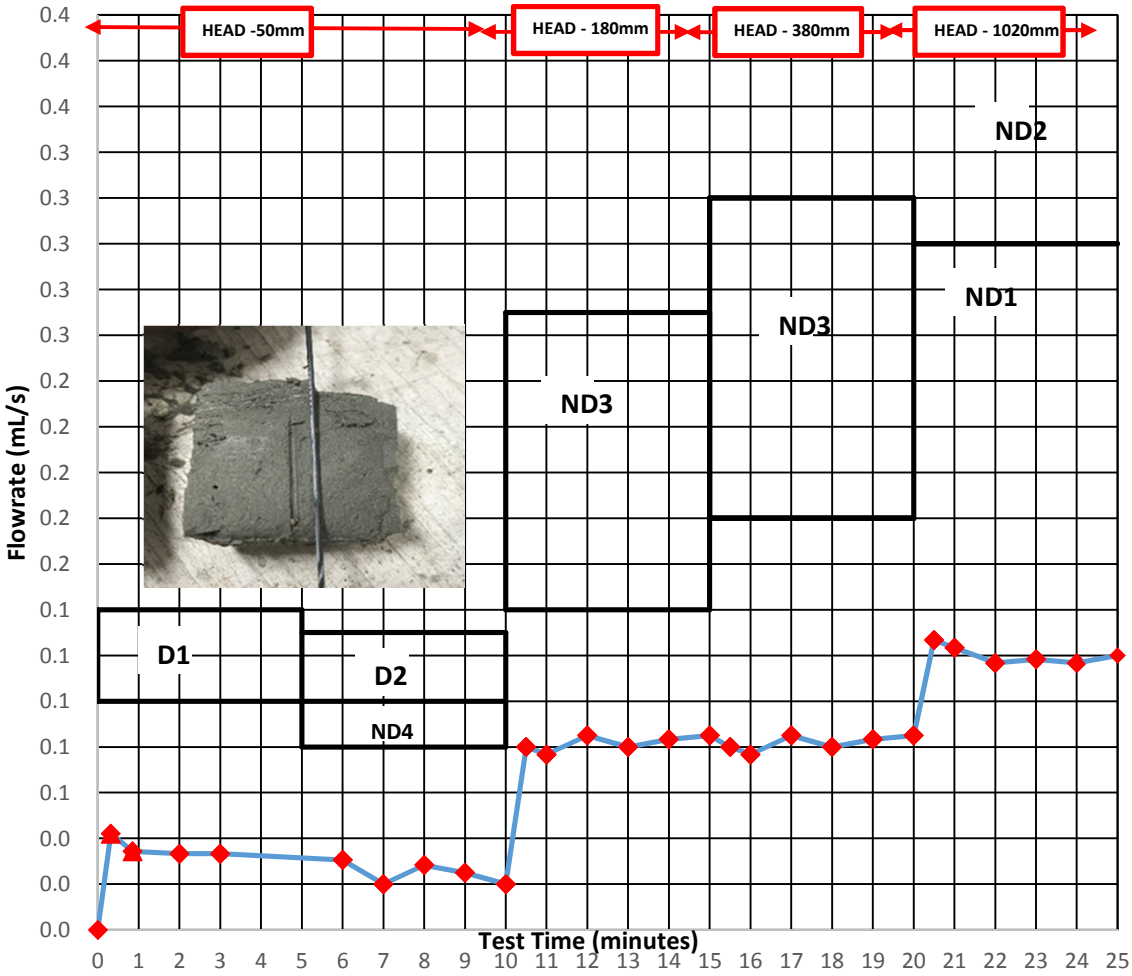
Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Slighlty dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		19	19	8	-	0.42						X	X	
Head 50 mm			51	32	11	3	0.34						X	X	
		2	0	69	23	12	0.33						X	X	
		3	0	60	20	-3	0.33						X	X	
		6	0	180	55	35	0.31						X	X	
		7	0	60	12	-43	0.20						X	X	
		8	0	60	17	5	0.28						X	X	
		9	0	60	15	-2	0.25						X	X	
		10	0	60	12	-3	0.20						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	24	-	0.80						X	X	
Head 180 mm		11	0	30	23	-1	0.77						X	X	
		12	0	60	51	28	0.85						X	X	
		13	0	60	48	-3	0.80						X	X	
		14	0	60	50	2	0.83						X	X	
		15	0	60	51	1	0.85						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	24	-	0.80						X	X	
Head 380 mm		16	0	30	23	-1	0.77						X	X	
		17	0	60	51	28	0.85						X	X	
		18	0	60	48	-3	0.80						X	X	
		19	0	60	50	2	0.83						X	X	
		20	0	60	51	1	0.85						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	38	-	1.27						X	X	
Head 1020 mm		21	0	30	37	-1	1.23						X	X	
		22	0	60	70	33	1.17						X	X	
		23	0	60	71	1	1.18						X	X	
		24	0	60	70	-1	1.17						X	X	
		25	0	60	72	2	1.20						X	X	

Remarks :

No signes of errosion at all. No sign of turbidity in the collected water.

CLIENT : AEM **Date of Test :** 2018-09-22	**Pinhole test # 12**	**DATE OF BATCHING :**	2018-09-17
PROJECT : Whale Tail Dike		**CURING TYPE :**	Cold
LOCATION : Amaruq		**AGE OF CURING :**	5 days
FILE : 11130315-B1	**TEST CONDITION**	**Molded & trimmed**	
Sample : CB-WTD-010			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE

Prepared by : Mathieu Côté Date: 2018-09-22
Verified by : Maxime Côté Date: 2018-09-23

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-09-28	**Pinhole test # 3**	**DATE OF BATCHING :** 2018-09-24
PROJECT : Whale Tail Dike			**CURING TYPE :** Cold
LOCATION : Amaruq			**AGE OF CURING :** 4 Days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-015			

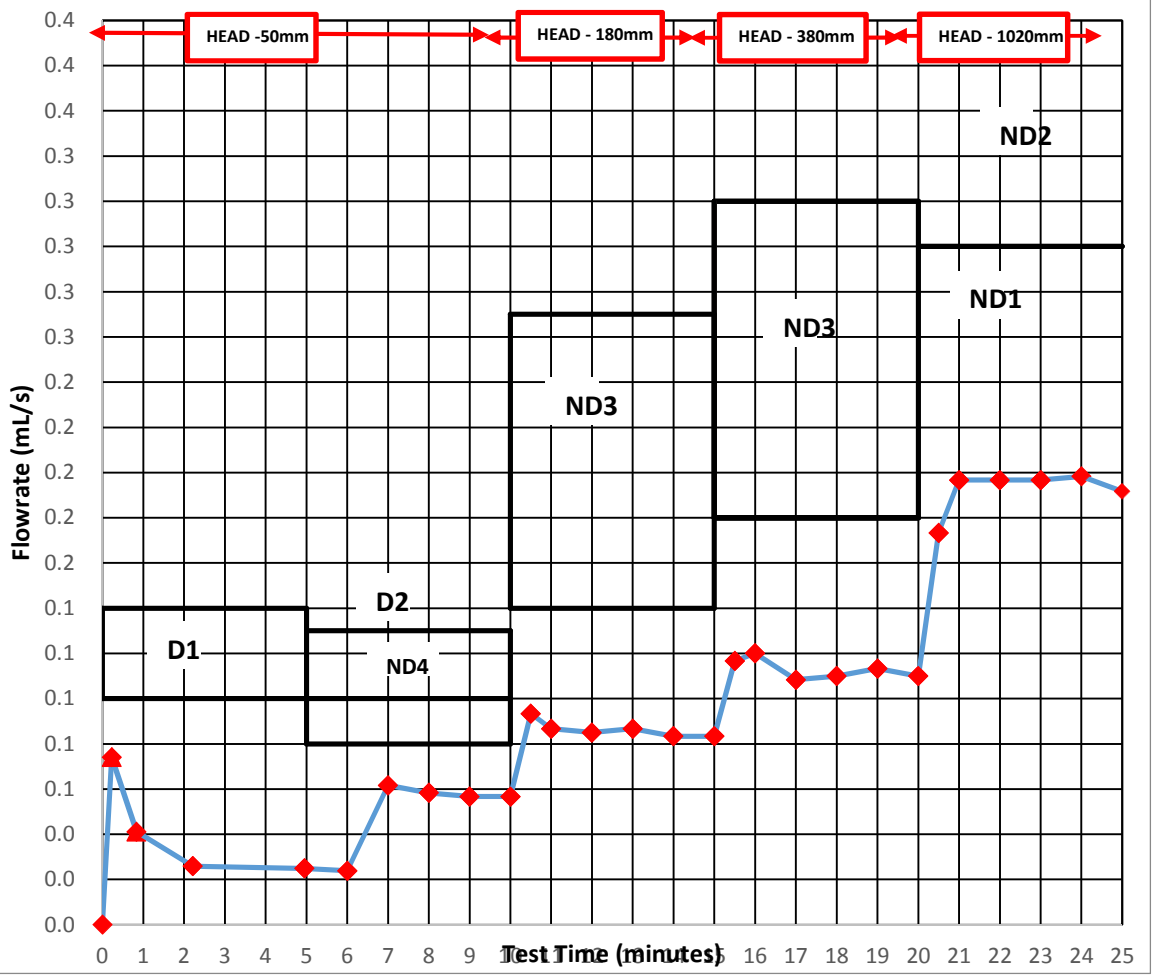
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr					γ_w (kN/m^3)	-		
Container mass	g		Wn		Specific gravity est. (1/1)	-	Length mm	
Total wet mass + Contai	g		WL				Diameter mm	
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	
Water content	%		IP				Mass of ring + soil g	

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		13.5	13.5	10	-	0.74						X	X	
Head 50 mm			50	36.5	15	5	0.41						X	X	
		2	13	96.5	25	10	0.26						X	X	
		4	57	201	50	25	0.25						X	X	
		6	0	160	38	-12	0.24						X	X	
		7	0	60	37	-1	0.62						X	X	
		8	0	60	35	-2	0.58						X	X	
		9	0	60	34	-1	0.57						X	X	
		10	0	60	34	0	0.57						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	28	-	0.93						X	X	
Head 180 mm		11	0	30	26	-2	0.87						X	X	
		12	0	60	51	25	0.85						X	X	
		13	0	60	52	1	0.87						X	X	
		14	0	60	50	-2	0.83						X	X	
		15	0	60	50	0	0.83						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	35	-	1.17						X	X	
Head 380 mm		16	0	30	36	1	1.20						X	X	
		17	0	60	65	29	1.08						X	X	
		18	0	60	66	1	1.10						X	X	
		19	0	60	68	2	1.13						X	X	
		20	0	60	66	-2	1.10						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	52	-	1.73						X	X	
Head 1020 mm		21	0	30	59	7	1.97						X	X	
		22	0	60	118	59	1.97						X	X	
		23	0	60	118	0	1.97						X	X	
		24	0	60	119	1	1.98						X	X	
		25	0	60	115	-4	1.92						X	X	

Remarks : _____

CLIENT : AEM **Date of Test :** 2018-09-28 **PROJECT :** Whale Tail Dike **LOCATION :** Amaruq **FILE :** 11130315-B1 **Sample :** CB-WTD-015	**Pinhole test # 3**	**DATE OF BATCHING :** 2018-09-24 **CURING TYPE :** Warm **AGE OF CURING :** 4 Days	
	TEST CONDITION		

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE 1

Prepared by : Cédrick Fillon-Tremblay Date: 2018-09-28
Verified by : Cédrick Fillon-Tremblay Date: 2018-09-29

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

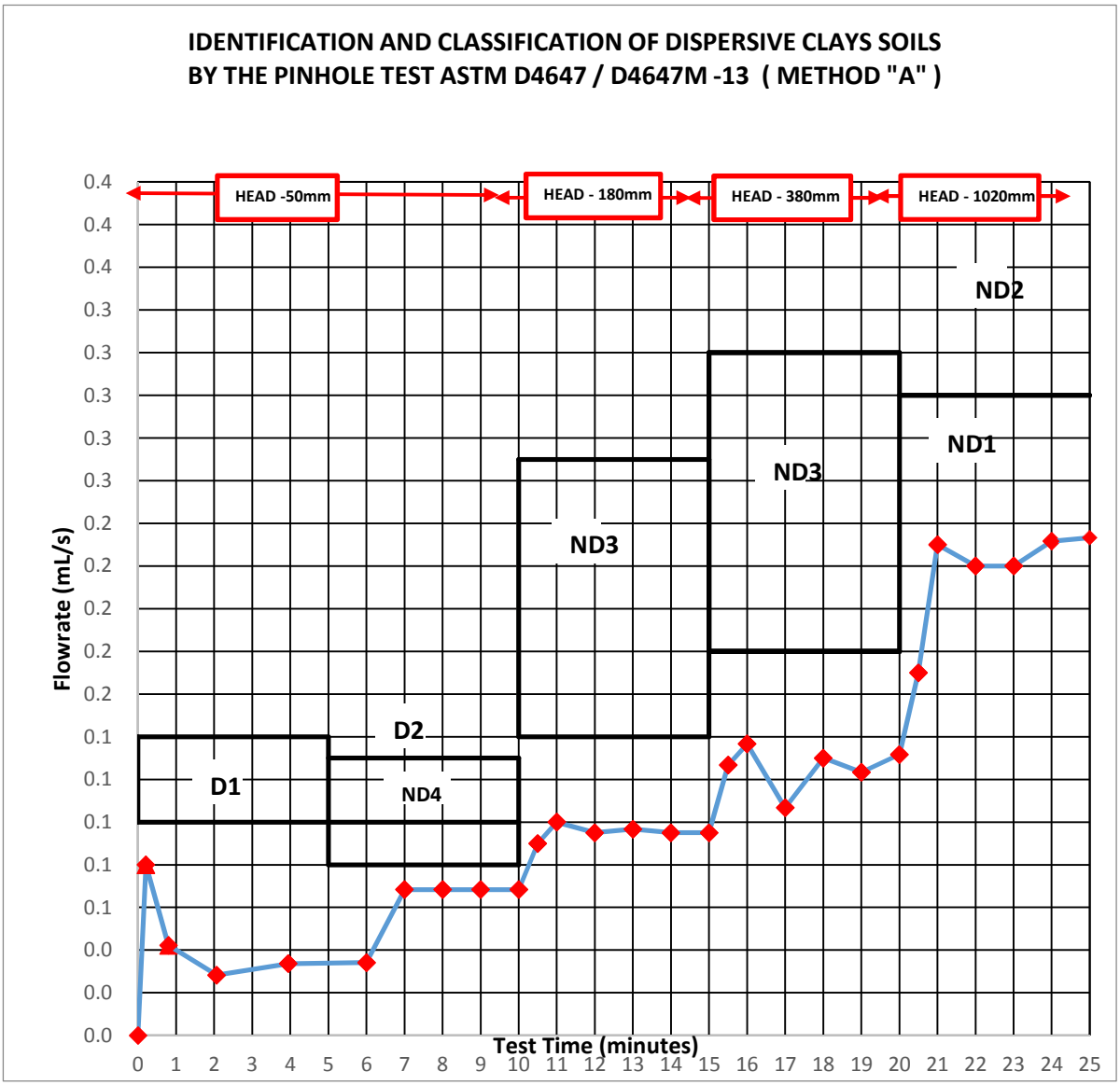
CLIENT : AEM	**Date of Test :** 2018-09-28	**Pinhole test # 4**	**DATE OF BATCHING :** 2018-09-26
PROJECT : Whale Tail Dike			**CURING TYPE :** Cold
LOCATION : Amaruq			**AGE OF CURING :** 2 days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-019			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr					γ_w (kN/m^3)	-		
Container mass	g		Wn		Specific gravity est. (1/1)	-	Length mm	
Total wet mass + Contai	g		WL				Diameter mm	
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	
Water content	%		IP				Mass of ring + soil g	

Start		**Stopwatch**						**Observation - Turbidity from side**							
min.	sec.	**min.**	**sec.**	**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	**Remarks**
0	: 00		12.5	12.5	10	-	0.80						X	X	
Head 50 mm			48	35.5	15	5	0.42						X	X	
		2	4	88.5	25	10	0.28						X	X	
		3	57	149	50	25	0.34						X	X	
		6	0	123	42	-8	0.34						X	X	
		7	0	60	41	-1	0.68						X	X	
		8	0	60	41	0	0.68						X	X	
		9	0	60	41	0	0.68						X	X	
		10	0	60	41	0	0.68						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	27	-	0.90						X	X	
Head 180 mm		11	0	30	30	3	1.00						X	X	
		12	0	60	57	27	0.95						X	X	
		13	0	60	58	1	0.97						X	X	
		14	0	60	57	-1	0.95						X	X	
		15	0	60	57	0	0.95						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	38	-	1.27						X	X	
Head 380 mm		16	0	30	41	3	1.37						X	X	
		17	0	60	64	23	1.07						X	X	
		18	0	60	78	14	1.30						X	X	
		19	0	60	74	-4	1.23						X	X	
		20	0	60	79	5	1.32						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	51	-	1.70						X	X	
Head 1020 mm		21	0	30	69	18	2.30						X	X	
		22	0	60	132	63	2.20						X	X	
		23	0	60	132	0	2.20						X	X	
		24	0	60	139	7	2.32						X	X	
		25	0	60	140	1	2.33						X	X	

Remarks : No signes of errosion at all.

CLIENT : AEM **Date of Test :** 2018-09-28	**Pinhole test # 4**	**DATE OF BATCHING :**	2018-09-26
PROJECT : Whale Tail Dike		**CURING TYPE :**	Cold
LOCATION : Amaruq		**AGE OF CURING :**	2 Days
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-019			



Result : NON-DISPERSIVE 1

Prepared by : Cédrick Fillon-Tremblay Date 2018-09-28
Verified by : Cédrick fillon Tremblay Date: 2018-09-29

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

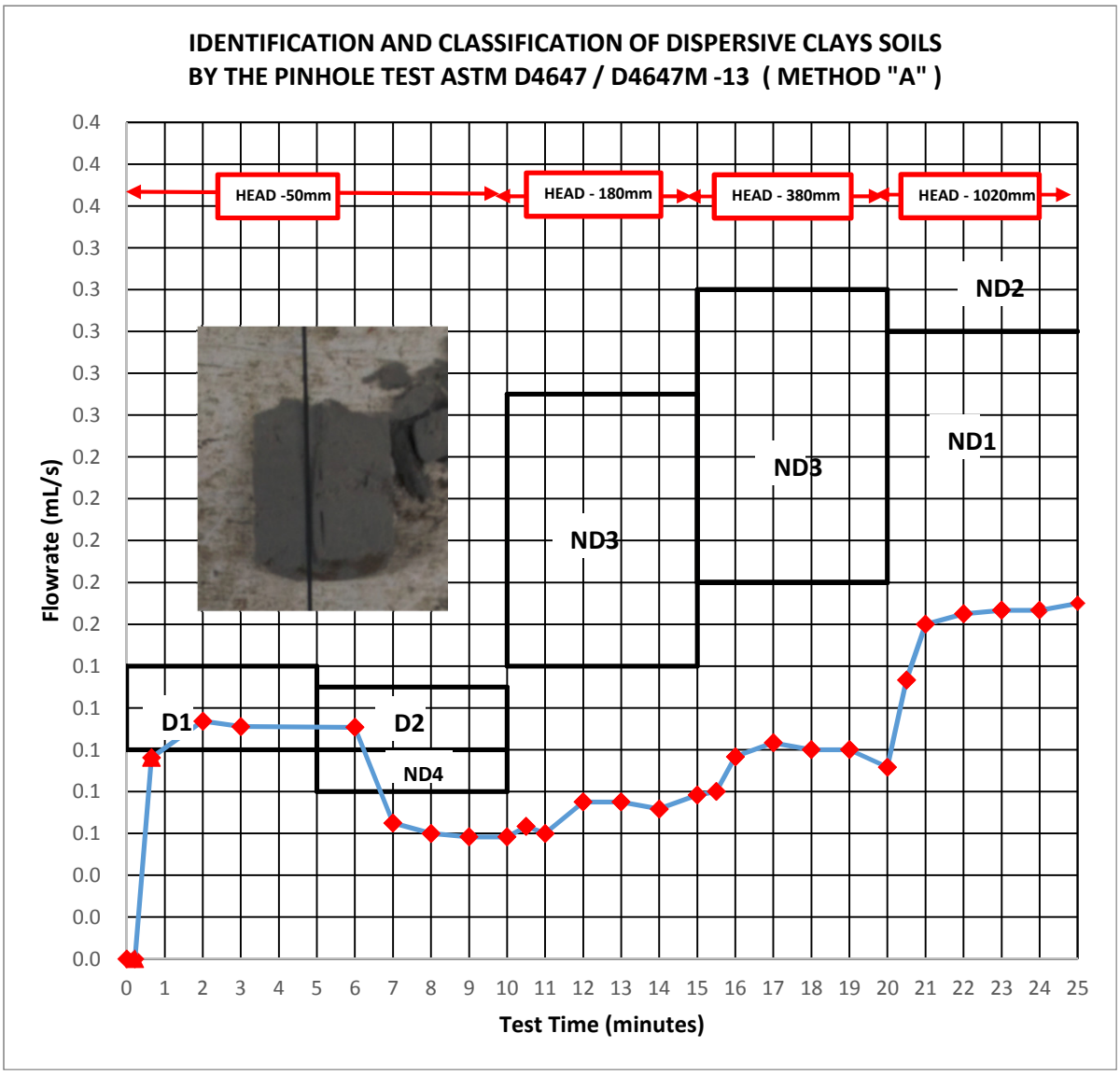
CLIENT AEM	**Pinhole test # 5**	**DATE OF BATCHING :**	2018-10-03
PROJECT Whale Tail Dike		**CURING TYPE :**	Refregirator at 2.5
LOCATION Amaruq		**AGE OF CURING :**	3 DAYS
FILE 11130315-B1	**TEST CONDITION**	**Cold condition**	
Sample CB-WTD-029			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr		-			γ_w (kN/m^3)	-		
Container mass	g	-	Wn				Length mm	-
Total wet mass + Contai	g	-	WL		Specific gravity est. (1/1)	-	Diameter mm	-
Total dry mass + Contair	g	-	WP				Mass of ring g	-
Water content ####	%	-	IP		Degree of saturation Sr (%)	-	Mass of ring + soil g	-

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	**Remarks**
0	: 00		13	13	10	-	####						X	X	Wrong Head and flow unconstant
Head 50 mm			39	26	25	15	0.96						X	X	Wrong Head and flow unconstant
		1	23	44	50	25	1.14						X	X	Wrong Head and flow unconstant
		2	53	90	100	50	1.11						X	X	Wrong Head and flow unconstant
		6	0	187	207	107	1.11						X	X	Wrong Head and flow unconstant
		7	0	60	39	-168	0.65						X	X	
		8	0	60	36	-3	0.6						X	X	
		9	0	60	35	-1	0.58						X	X	
		10	0	60	35	0	0.58						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	19	-	0.63						X	X	
Head 180 mm		11	0	30	18	-1	0.60						X	X	
		12	0	60	45	27	0.75						X	X	
		13	0	60	45	0	0.75						X	X	
		14	0	60	43	-2	0.72						X	X	
		15	0	60	47	4	0.78						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	24	-	0.80						X	X	
Head 380 mm		16	0	30	29	5	0.97						X	X	
		17	0	60	62	33	1.03						X	X	
		18	0	60	60	-2	1.00						X	X	
		19	0	60	60	0	1.00						X	X	
		20	0	60	55	-5	0.92						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	40	-	1.33						X	X	
Head 1020 mm		21	0	30	48	8	1.60						X	X	
		22	0	60	99	51	1.65						X	X	
		23	0	60	100	1	1.67						X	X	
		24	0	60	100	0	1.67						X	X	
		25	0	60	102	2	1.70						X	X	

Remarks : After some measures, we notice that flow was not constant so we put the head little higher to have a constant flow so the head at 50 mm is not representative.

CLIENT AEM	**Pinhole test # 5**	**DATE OF BATCHING :**	2018-10-03
PROJECT Whale Tail Dike		**CURING TYPE :**	Refregirator at 2.5
LOCATION Amaruq		**AGE OF CURING :**	3 DAYS
FILE 11130315-B1	**TEST CONDITION**	**Cold condition**	
Sample **CB-WTD-029**			



Result : NON-DISPERSIVE 1

Prepared by : Daniel Roy Date: 2018-10-09
Verified by : Maxime Côté Date: 2018-10-10

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

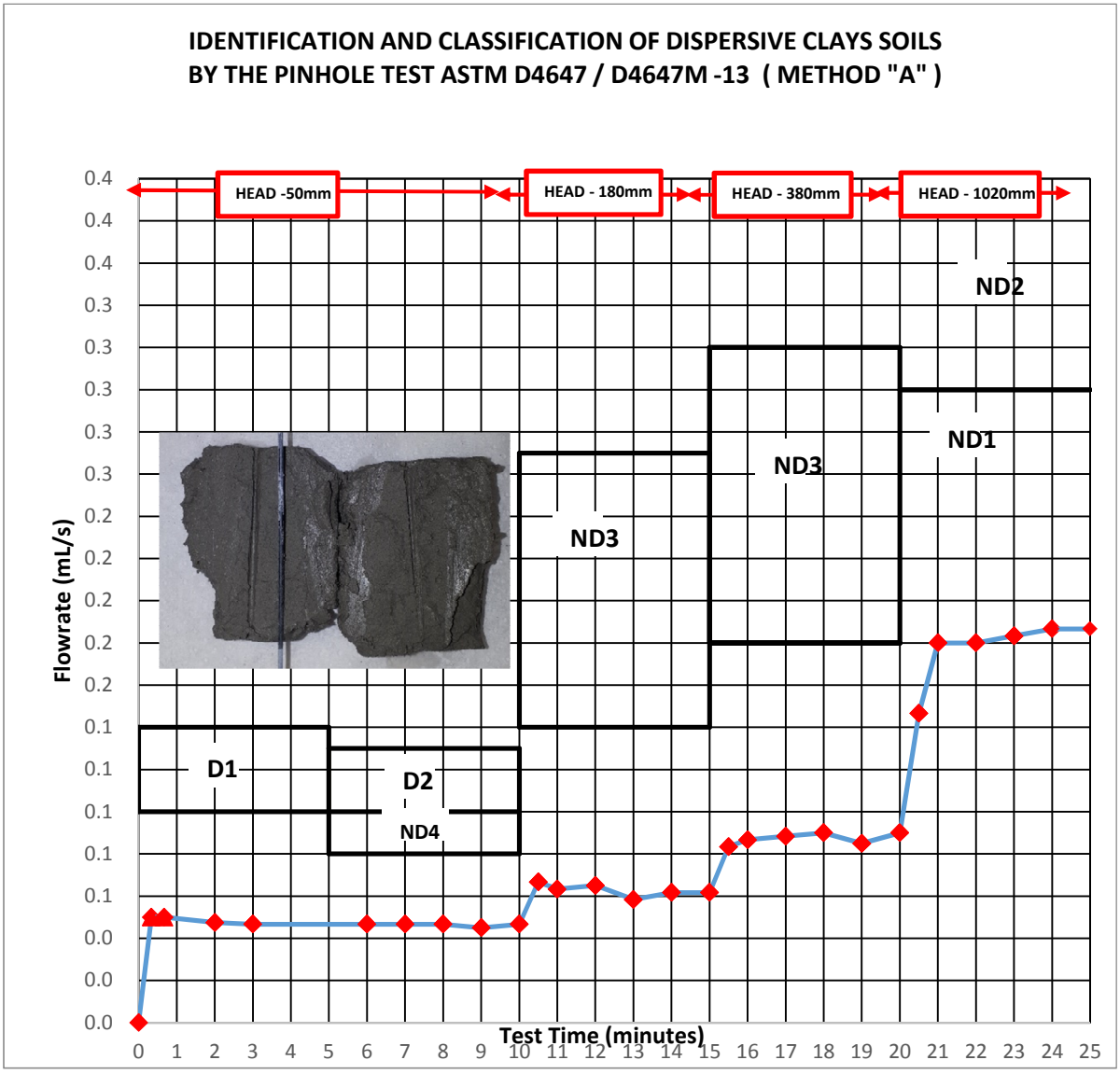
CLIENT AEM	**Pinhole test # 6**	**DATE OF BATCHING :**	2018-10-13
PROJECT Whale Tail Dike		**CURING TYPE :**	Refrigerator at 2.5
LOCATION Amaruq		**AGE OF CURING :**	3 DAYS
FILE 11130315-B1	**TEST CONDITION**	**Cold condition**	
Sample CB-WTD-052			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr					γ_w (kN/m^3)	-		
Container mass	g		Wn		Specific gravity est. (1/1)	-	Length mm	-
Total wet mass + Contai	g		WL				Diameter mm	-
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	-
Water content	%		IP				Mass of ring + soil g	-

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		20	20	10	-	0.50						X	X	
Head 50 mm			40	20	10	0	0.50						X	X	
		2		80	38	28	0.48						X	X	
		3		60	28	-10	0.47						X	X	
		6	0	180	84	56	0.47						X	X	
		7	0	60	28	-56	0.47						X	X	
		8	0	60	28	0	0.47						X	X	
		9	0	60	27	-1	0.45						X	X	
		10	0	60	28	1	0.47						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	20	-	0.67						X	X	
Head 180 mm		11	0	30	19	-1	0.63						X	X	
		12	0	60	39	20	0.65						X	X	
		13	0	60	35	-4	0.58						X	X	
		14	0	60	37	2	0.62						X	X	
		15	0	60	37	0	0.62						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	25	-	0.83						X	X	
Head 380 mm		16	0	30	26	1	0.87						X	X	
		17	0	60	53	27	0.88						X	X	
		18	0	60	54	1	0.90						X	X	
		19	0	60	51	-3	0.85						X	X	
		20	0	60	54	3	0.90						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	44	-	1.47						X	X	
Head 1020 mm		21	0	30	54	10	1.80						X	X	
		22	0	60	108	54	1.80						X	X	
		23	0	60	110	2	1.83						X	X	
		24	0	60	112	2	1.87						X	X	
		25	0	60	112	0	1.87						X	X	

Remarks : _____

CLIENT AEM	**Pinhole test # 6**	**DATE OF BATCHING :**	2018-10-13
PROJECT Whale Tail Dike		**CURING TYPE :**	Refregirator at 2.5
LOCATION Amaruq		**AGE OF CURING :**	3 DAYS
FILE 11130315-B1	**TEST CONDITION**	**Cold condition**	
Sample **CB-WTD-052**			



Result : NON-DISPERSIVE 1

Prepared by : Marc-Olivier Bernard Date: 18-10-16
Verified by : Maxime Côté Date: 2018-10-17

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Pinhole test # 7**	**DATE OF BATCHING :**	2018-10-20
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	2 DAYS
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-055			

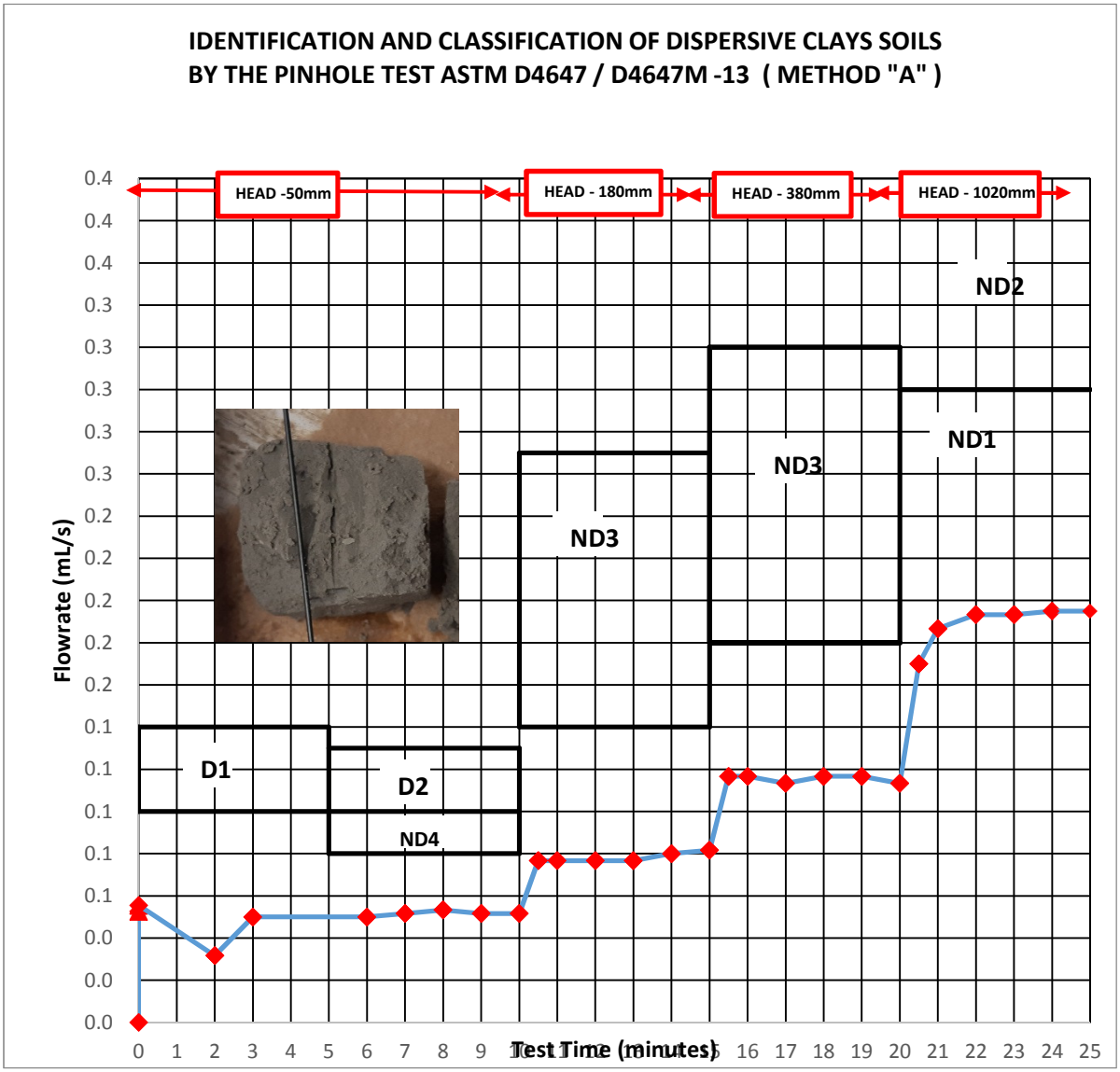
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr		S4			γ_w (kN/m^3)	-		
Container mass	g	180.6	Wn		Specific gravity est. (1/1)	-	Length mm	-
Total wet mass + Contai	g	223.9	WL				Diameter mm	-
Total dry mass + Contair	g	194.4	WP		Degree of saturation Sr (%)	-	Mass of ring g	-
Water content	%	2.1377	IP				Mass of ring + soil g	-

Start		**Stopwatch**						**Observation - Turbidity from side**							
min.	sec.	**min.**	**sec.**	**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	**Remarks**
0	: 00			19	10	-	0.53						X	X	
Head 50 mm				18	10	0	0.56						X	X	
		2		120	38	28	0.32						X	X	
		3		60	30	-8	0.50						X	X	
		6	0	180	90	60	0.50						X	X	
		7	0	60	31	-59	0.52						X	X	
		8	0	60	32	1	0.53						X	X	
		9	0	60	31	-1	0.52						X	X	
		10	0	60	31	0	0.52						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	23	-	0.77						X	X	
Head 180 mm		11	0	30	23	0	0.77						X	X	
		12	0	60	46	23	0.77						X	X	
		13	0	60	46	0	0.77						X	X	
		14	0	60	48	2	0.80						X	X	
		15	0	60	49	1	0.82						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	35	-	1.17						X	X	
Head 380 mm		16	0	30	35	0	1.17						X	X	
		17	0	60	68	33	1.13						X	X	
		18	0	60	70	2	1.17						X	X	
		19	0	60	70	0	1.17						X	X	
		20	0	60	68	-2	1.13						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	51	-	1.70						X	X	
Head 1020 mm		21	0	30	56	5	1.87						X	X	
		22	0	60	116	60	1.93						X	X	
		23	0	60	116	0	1.93						X	X	
		24	0	60	117	1	1.95						X	X	
		25	0	60	117	0	1.95						X	X	

Remarks : _____

CLIENT : AEM	**Pinhole test # 7**	**DATE OF BATCHING :**	2018-10-20
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	2 DAYS
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-055			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE 1

Prepared by : Jean Philippe Lesard Date: 18-10-22
Verified by : Marc-Olivier Bernard Date: 2018-10-22

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-01-11	**Pinhole test # 8**	**DATE OF BATCHING :** 10/29/2018
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 3 Days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-060			

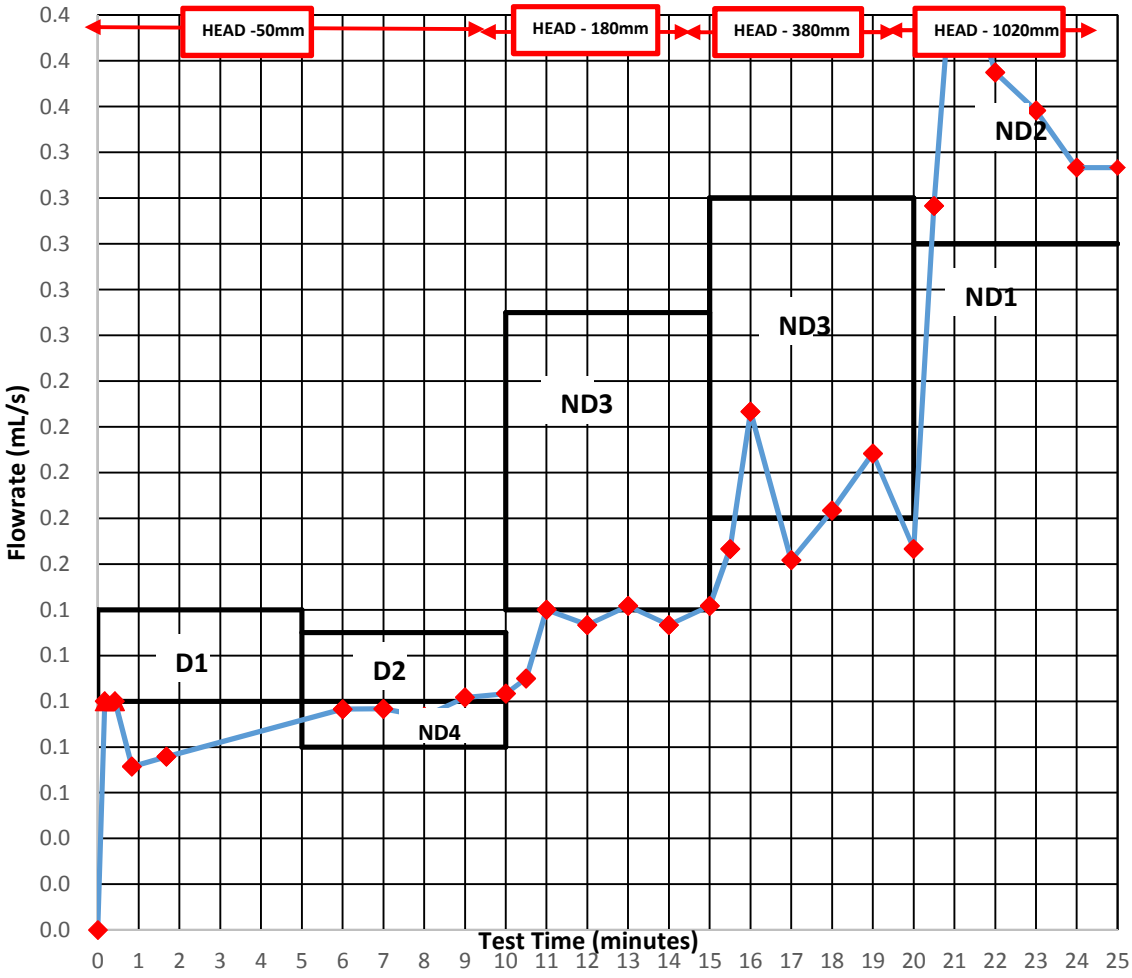
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight**		**SPECIMEN**	
Container nr					γ_w (kN/m^3)	-		
Container mass	g		Wn		Specific gravity est. (1/1)	-	Length mm	
Total wet mass + Contai	g		WL				Diameter mm	
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	
Water content	%		IP				Mass of ring + soil g	

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		10	10	10	-	1.00						X	X	
Head 50 mm			25	15	15	5	1.00						X	X	
			50	35	25	10	0.71						X	X	
		1	41	66	50	25	0.76						X	X	
		6	0	259	250	200	0.97						X	X	
		7	0	60	58	-192	0.97						X	X	
		8	0	60	56	-2	0.93						X	X	
		9	0	60	61	5	1.02						X	X	
		10	0	60	62	1	1.03						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	33	-	1.10						X	X	
Head 180 mm		11	0	30	42	9	1.40						X	X	
		12	0	60	80	38	1.33						X	X	
		13	0	60	85	5	1.42						X	X	
		14	0	60	80	-5	1.33						X	X	
		15	0	60	85	5	1.42						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	50	-	1.67						X	X	
Head 380 mm		16	0	30	68	18	2.27						X	X	
		17	0	60	97	29	1.62						X	X	
		18	0	60	110	13	1.83						X	X	
		19	0	60	125	15	2.08						X	X	
		20	0	60	100	-25	1.67						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	95	-	3.17						X	X	
Head 1020 mm		21	0	30	130	35	4.33						X	X	
		22	0	60	225	260	3.75						X	X	
		23	0	60	215	475	3.58						X	X	
		24	0	60	200	675	3.33						X	X	
		25	0	60	200	875	3.33						X	X	

Remarks : No signes of errosion at all.

CLIENT : AEM **Date of Test :** 2018-01-11	**Pinhole test # 8**	**DATE OF BATCHING :**	10/29/2018
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	3 Days
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-060			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE 2

Prepared by : Cédrick Fillon-Tremblay Date: 2018-11-01
Verified by : Cédrick Fillon-Tremblay Date: 2018-11-01

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-07-11	**Pinhole test # 9**	**DATE OF BATCHING :** 2018-11-05
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 2 DAYS
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-077			

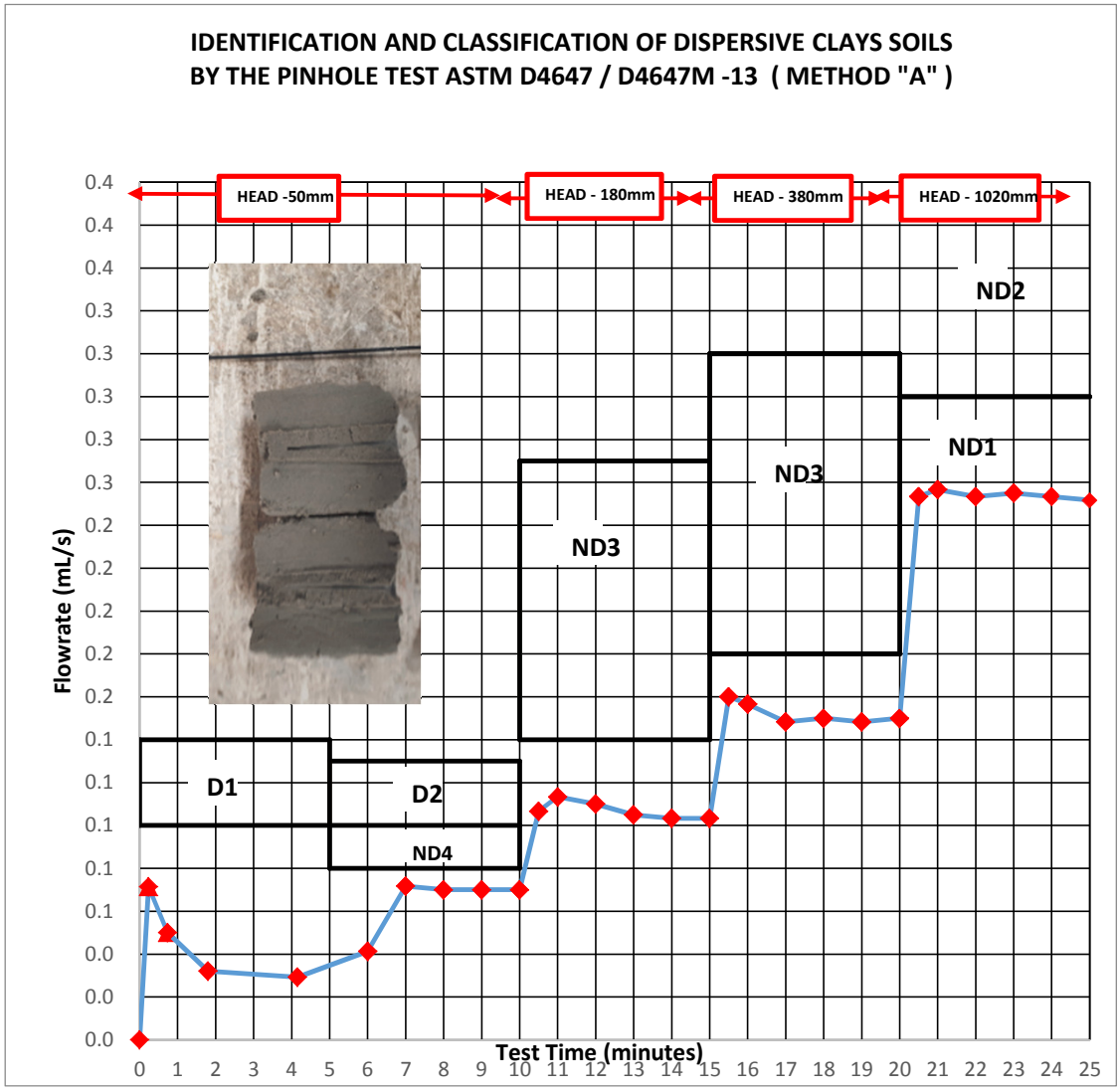
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr								
Container mass	g		Wn		Specific gravity est. (1/1)	-	Length mm	-
Total wet mass + Contai	g		WL				Diameter mm	-
Total dry mass + Contair	g		WP		Degree of saturation Sr (%)	-	Mass of ring g	-
Water content	%	#DIV/0!	IP				Mass of ring + soil g	-

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		14	14	10	-	0.71						X	X	
Head 50 mm			44	30	15	5	0.50						X	X	
		1	48	78	25	10	0.32						X	X	
		4	9	171	50	25	0.29						X	X	
		6	0	189	78	28	0.41						X	X	
		7	0	60	43	-35	0.72						X	X	
		8	0	60	42	-1	0.70						X	X	
		9	0	60	42	0	0.70						X	X	
		10	0	60	42	0	0.70						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	32	-	1.07						X	X	
Head 180 mm		11	0	30	34	2	1.13						X	X	
		12	0	60	66	32	1.10						X	X	
		13	0	60	63	-3	1.05						X	X	
		14	0	60	62	-1	1.03						X	X	
		15	0	60	62	0	1.03						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	48	-	1.60						X	X	
Head 380 mm		16	0	30	47	-1	1.57						X	X	
		17	0	60	89	42	1.48						X	X	
		18	0	60	90	1	1.50						X	X	
		19	0	60	89	-1	1.48						X	X	
		20	0	60	90	1	1.50						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	76	-	2.53						X	X	
Head 1020 mm		21	0	30	77	1	2.57						X	X	
		22	0	60	152	75	2.53						X	X	
		23	0	60	153	1	2.55						X	X	
		24	0	60	152	-1	2.53						X	X	
		25	0	60	151	-1	2.52						X	X	

Remarks : No turbidity in the collected water and no signes of errosion at all.

CLIENT : AEM **Date of Test :** 2018-07-11 **PROJECT :** Whale Tail Dike **LOCATION :** Amaruq **FILE :** 11130315-B1 **Sample :** CB-WTD-077	**Pinhole test # 9**	**DATE OF BATCHING :** 2018-11-05 **CURING TYPE :** Warm **AGE OF CURING :** 2 DAYS
	TEST CONDITION	

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Prepared by : Dominic Fournelle Date: 18-11-07
Verified by : Maxime Côté Date: 2018-11-09

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-08-11	**Pinhole test # 10**	**DATE OF BATCHING :** 2018-11-04
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 4 DAYS
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-074			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr		C3						
Container mass	g	498.2	Wn		Specific gravity est. (1/1)	-	Length mm	41.55
Total wet mass + Contai	g	533.8	WL				Diameter mm	34.85
Total dry mass + Contair	g	509.5	WP		Degree of saturation Sr (%)	-	Mass of ring g	106.60
Water content	%	-1.07	IP				Mass of ring + soil g	155.00

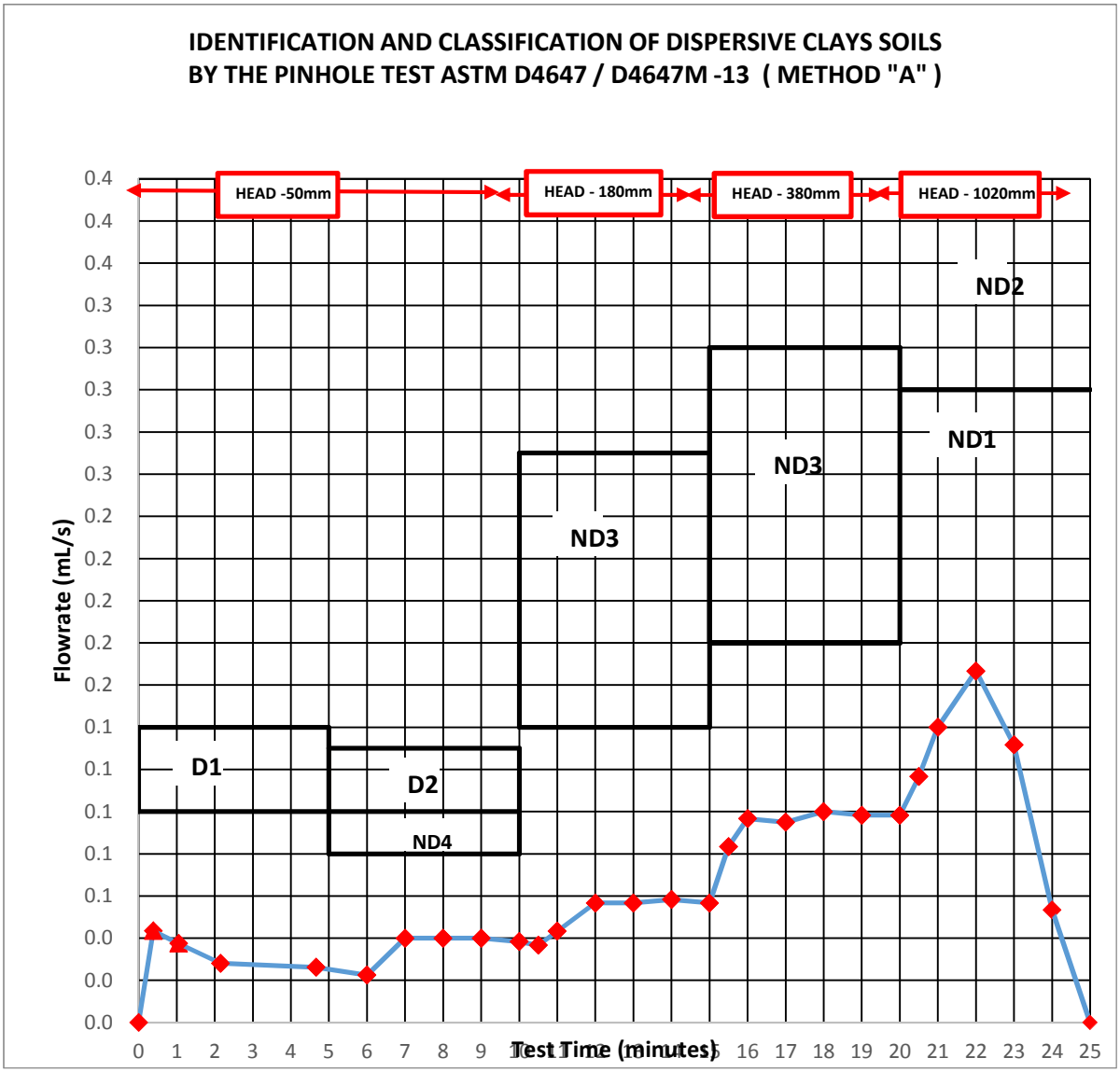
Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Slighthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		23	23	10	-	0.43						X	X	
Head 50 mm		1	3	40	15	5	0.38						X	X	
		2	9	89	25	10	0.28						X	X	
		4	40	191	50	25	0.26						X	X	
		6	0	169	38	-12	0.22						X	X	
		7	0	60	24	-14	0.40						X	X	
		8	0	60	24	0	0.40						X	X	
		9	0	60	24	0	0.40						X	X	
		10	0	60	23	-1	0.38						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	11	-	0.37						X	X	
Head 180 mm		11	0	30	13	2	0.43						X	X	
		12	0	60	34	21	0.57						X	X	
		13	0	60	34	0	0.57						X	X	
		14	0	60	35	1	0.58						X	X	
		15	0	60	34	-1	0.57						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	25	-	0.83						X	X	
Head 380 mm		16	0	30	29	4	0.97						X	X	
		17	0	60	57	28	0.95						X	X	
		18	0	60	60	3	1.00						X	X	
		19	0	60	59	-1	0.98						X	X	
		20	0	60	59	0	0.98						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	35	-	1.17						X	X	
Head 1020 mm		21	0	30	42	7	1.40						X	X	
		22	0	60	100	58	1.67						X	X	
		23	0	60	79	-21	1.32						X	X	
		24	0	60	32	-47	0.53						X	X	
		25	0	60	0	-32	0.00						X	X	

Remarks : After raising the head of water at 1020mm, the flow drop after 23 min of the test. (D.Roy & D-J Coulombe)

No signes of errosion at all.

The out take pipe was probably blocked by a snad particules (Maxime Côté)

CLIENT : AEM **Date of Test :** 2018-08-11	**Pinhole test # 10**	**DATE OF BATCHING :**	2018-11-04
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	4 DAYS
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-074			



Result : NON-DISPERSIVE 1

Prepared by : Denis-Jacques Coulombe and Daniel Roy Date: 2018-11-08
Verified by : Maxime Côté Date: 2018-11-09

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-11-16	**Pinhole test # 11**	**DATE OF BATCHING :** 2018-11-15
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 1 Days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-094			

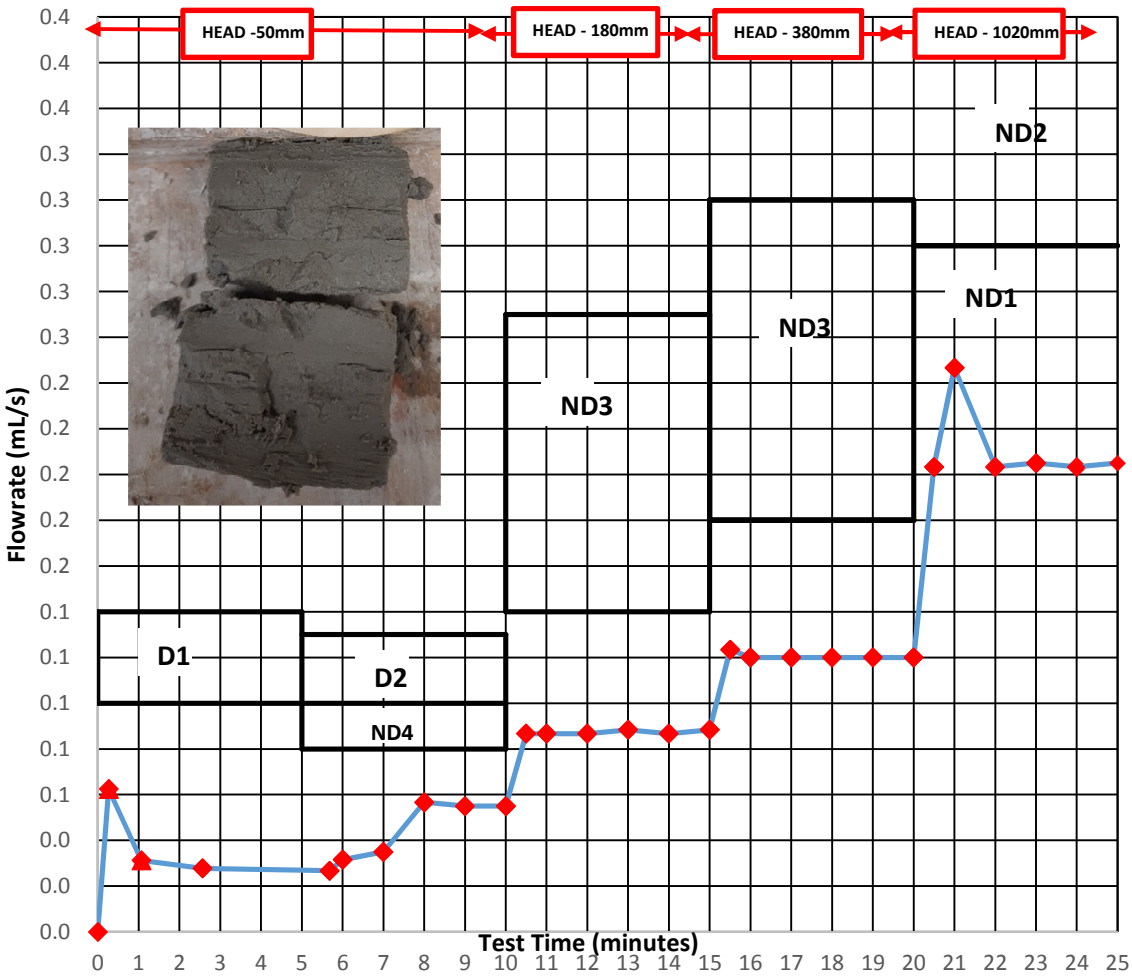
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr		S3						
Container mass	g	235.5	Wn		Specific gravity est. (1/1)	-	Length mm	42.00
Total wet mass + Contai	g	286.5	WL				Diameter mm	34.85
Total dry mass + Contair	g	252	WP		Degree of saturation Sr (%)	-	Mass of ring g	106.60
Water content	%	67.60%	IP				Mass of ring + soil g	

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		16	16	10	-	0.63						X	X	
Head 50 mm		1	4	48	15	5	0.31						X	X	
		2	34	90	25	10	0.28						X	X	
		5	41	187	50	25	0.27						X	X	
		6	0	19	6	-44	0.32						X	X	
		7	0	60	21	15	0.35						X	X	
		8	0	60	34	13	0.57						X	X	
		9	0	60	33	-1	0.55						X	X	
		10	0	60	33	0	0.55						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	26	-	0.87						X	X	
Head 180 mm		11	0	30	26	0	0.87						X	X	
		12	0	60	52	26	0.87						X	X	
		13	0	60	53	1	0.88						X	X	
		14	0	60	52	-1	0.87						X	X	
		15	0	60	53	1	0.88						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	37	-	1.23						X	X	
Head 380 mm		16	0	30	36	-1	1.20						X	X	
		17	0	60	72	36	1.20						X	X	
		18	0	60	72	0	1.20						X	X	
		19	0	60	72	0	1.20						X	X	
		20	0	60	72	0	1.20						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	61	-	2.03						X	X	
Head 1020 mm		21	0	30	74	13	2.47						X	X	
		22	0	60	122	48	2.03						X	X	
		23	0	60	123	1	2.05						X	X	
		24	0	60	122	-1	2.03						X	X	
		25	0	60	123	1	2.05						X	X	

Remarks : No signes of errosion at all.

CLIENT : AEM **Date of Test :** 2018-11-16	**Pinhole test # 11**	**DATE OF BATCHING :**	2018-11-15
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	1 Days
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-094			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE 1

Prepared by : Jean-Philippe Lessard Date: 2018-11-16
Verified by : Maxime Côté Date: 2018-11-17

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-11-20	**Pinhole test # 12**	**DATE OF BATCHING :** 2018-11-23
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 3 Days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-107			

WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr		S9						
Container mass	g	247.4	Wn		Specific gravity est. (1/1)	-	Length mm	38.00
Total wet mass + Contai	g	281.9	WL				Diameter mm	
Total dry mass + Contair	g	255.4	WP		Degree of saturation Sr (%)	-	Mass of ring g	
Water content	%	76.81%	IP				Mass of ring + soil g	

Start		**Stopwatch**		**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Observation - Turbidity from side**							**Remarks**
min.	sec.	**min.**	**sec.**					**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	
0	: 00		8	8	10	-	1.25						X	X	
Head 50 mm			26	18	15	5	0.83						X	X	
		1	3	37	25	10	0.68						X	X	
		2	15	72	50	25	0.69						X	X	
		6	0	225	315	265	1.40						X	X	
		7	0	60	-	######	####						X	X	
		8	0	60	88	######	1.47						X	X	
		9	0	60	90	2	1.50						X	X	
		10	0	60	88	-2	1.47						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30		0	0.00						X	X	
Head 180 mm		11	0	30		0	0.00						X	X	
		12	0	60		0	0.00						X	X	
		13	0	60		0	0.00						X	X	
		14	0	60		0	0.00						X	X	
		15	0	60		0	0.00						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	69	-	2.30						X	X	
Head 380 mm		16	0	30	73	4	2.43						X	X	
		17	0	60	145	72	2.42						X	X	
		18	0	60	145	0	2.42						X	X	
		19	0	60	145	0	2.42						X	X	
		20	0	60	145	0	2.42						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	104	-	3.47						X	X	
Head 1020 mm		21	0	30	95	-9	3.17						X	X	
		22	0	60	252	157	4.20						X	X	
		23	0	60	255	3	4.25						X	X	
		24	0	60	259	4	4.32						X	X	
		25	0	60	263	4	4.38						X	X	

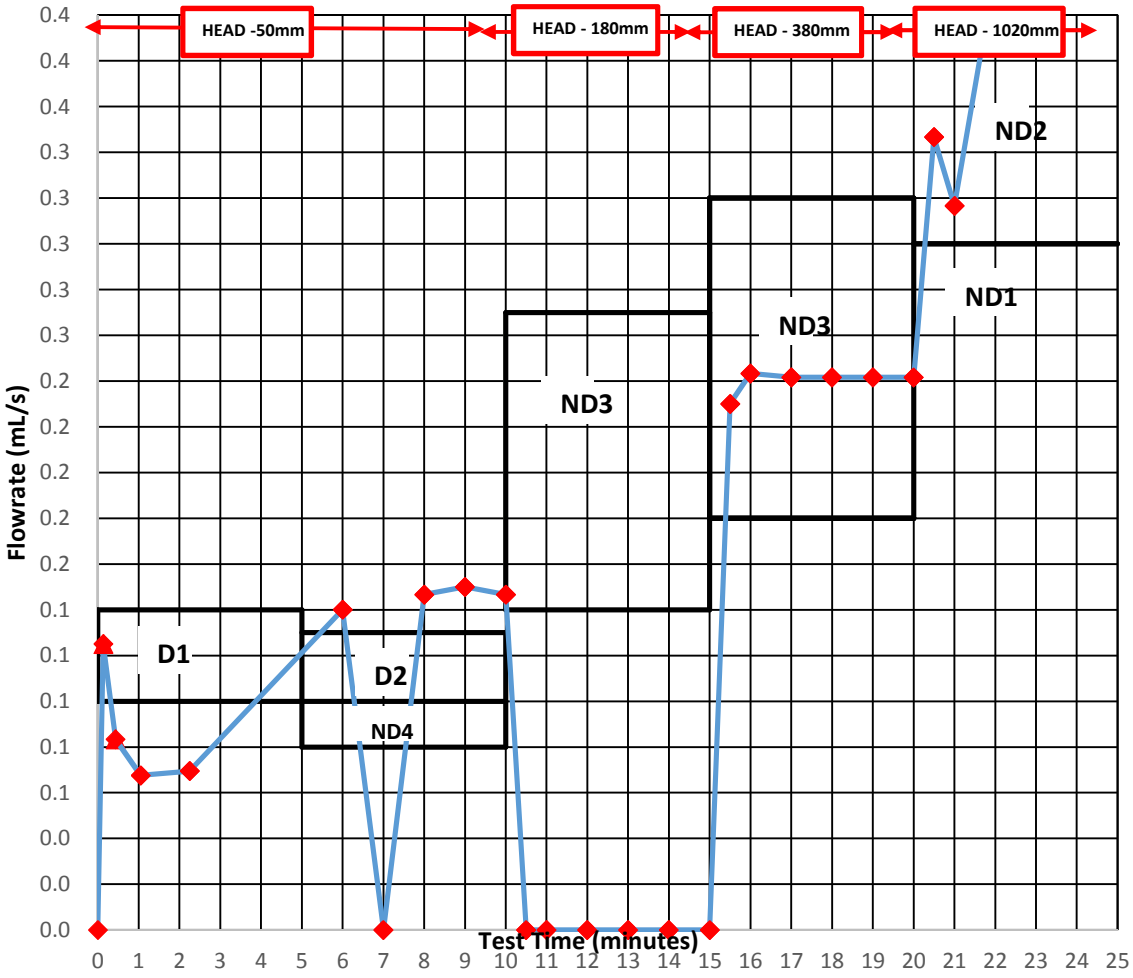
Remarks :

No signes of errosion at all. No sign of turbidity in the collected water.

Some thing wrong happenned with the way to do this test.

CLIENT : AEM **Date of Test :** 2018-11-20	**Pinhole test # 12**	**DATE OF BATCHING :**	2018-11-23
PROJECT : Whale Tail Dike		**CURING TYPE :**	Warm
LOCATION : Amaruq		**AGE OF CURING :**	3 Days
FILE : 11130315-B1	**TEST CONDITION**		
Sample : CB-WTD-107			

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE

Prepared by : Mathieu Côté Date: 2018-11-23
Verified by : Mélina Guay Date: 2018-11-23

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")

CLIENT : AEM	**Date of Test :** 2018-12-05	**Pinhole test # 12**	**DATE OF BATCHING :** 2018-11-23
PROJECT : Whale Tail Dike			**CURING TYPE :** Warm
LOCATION : Amaruq			**AGE OF CURING :** 1 Days
FILE : 11130315-B1		**TEST CONDITION**	
Sample : CB-WTD-134			

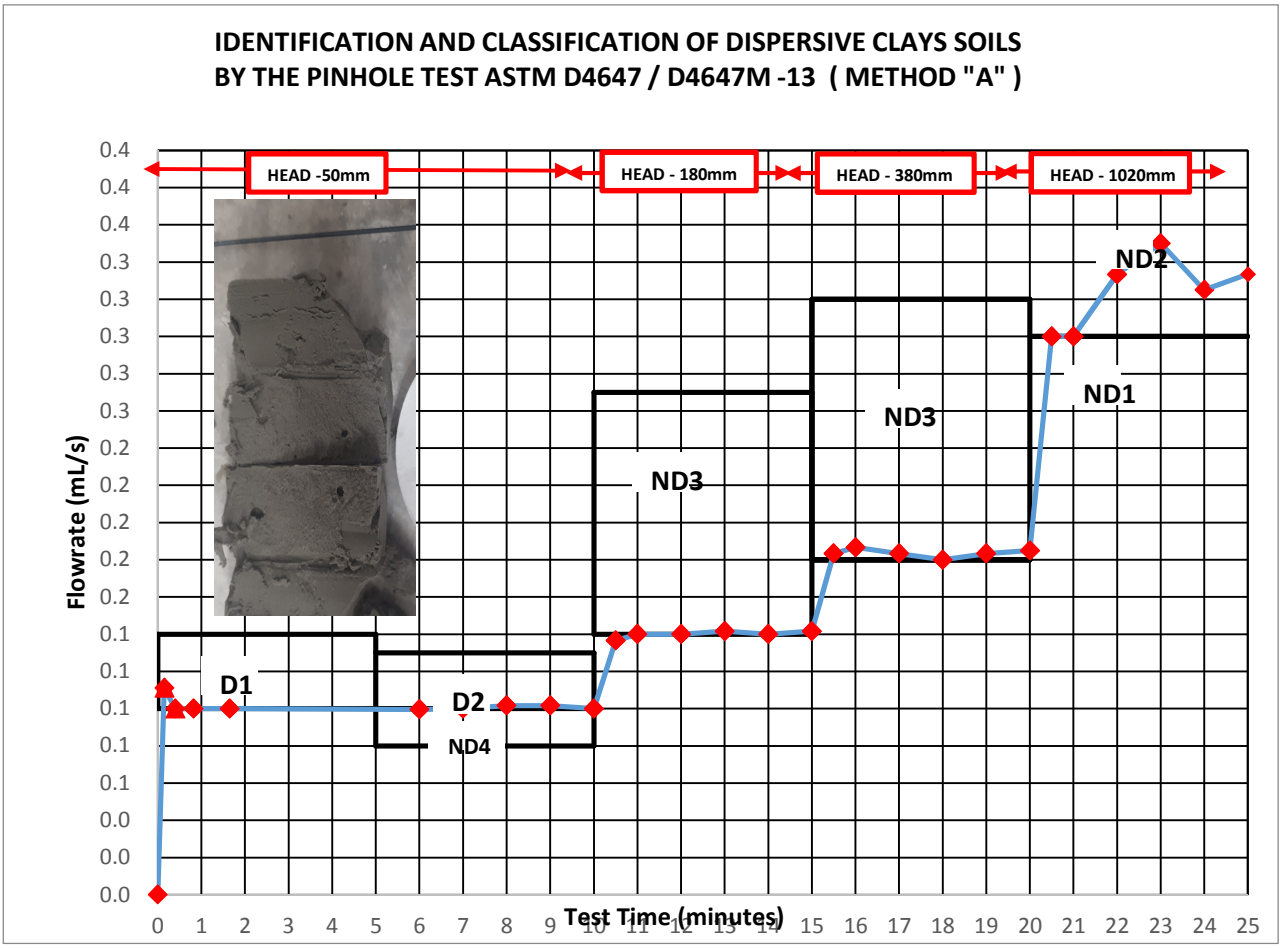
WATER CONTENT		**TOTAL**	**LIMITS OF CONSISTENCY (%)**		**Total moist unit weight** γ_w (kN/m^3)	-	**SPECIMEN**	
Container nr		S11						
Container mass	g	180.6	Wn		Specific gravity est. (1/1)	-	Length mm	39.13
Total wet mass + Contai	g	225.5	WL				Diameter mm	34.58
Total dry mass + Contair	g	195.5	WP		Degree of saturation Sr (%)	-	Mass of ring g	106.50
Water content	%	66.82%	IP				Mass of ring + soil g	154.80

Start		**Stopwatch**						**Observation - Turbidity from side**							
min.	sec.	**min.**	**sec.**	**Δ t (s)**	**Water volume (mL)**	**Δ Water volume (mL)**	**Flow rate (mL / s)**	**Very dark**	**Dark**	**Moderately dark**	**Sligthly dark**	**Barely visible**	**Completely clear**	**Completely clear from top**	**Remarks**
0	: 00		9	9	10	-	1.11						X	X	
Head 50 mm			24	15	15	5	1.00						X	X	
			49	25	25	10	1.00						X	X	
		1	39	50	50	25	1.00						X	X	
		6	0	261	260	210	1.00						X	X	
		7	0	60	60	-200	1.00						X	X	
		8	0	60	61	1	1.02						X	X	
		9	0	60	61	0	1.02						X	X	
		10	0	60	60	-1	1.00						X	X	
Start		**If the flow rate at the end of 10 min. under the 50 mm head is 0.40 to 0.80 mL/s, raise the head to 180 mm**													
min.	sec.														
		10	30	30	41	-	1.37						X	X	
Head 180 mm		11	0	30	42	1	1.40						X	X	
		12	0	60	84	42	1.40						X	X	
		13	0	60	85	1	1.42						X	X	
		14	0	60	84	-1	1.40						X	X	
		15	0	60	85	1	1.42						X	X	
Start		**If the flow rate at the end of 5 min. under the 180 mm head is 0.80 to 1.4 mL/s, raise the head to 380 mm**													
min.	sec.														
		15	30	30	55	-	1.83						X	X	
Head 380 mm		16	0	30	56	1	1.87						X	X	
		17	0	60	110	54	1.83						X	X	
		18	0	60	108	-2	1.80						X	X	
		19	0	60	110	2	1.83						X	X	
		20	0	60	111	1	1.85						X	X	
Start		**If the flow rate at the end of 5 min. under the 380 mm head is 1.0 to 1.8 mL/s, raise the head to 1020 mm**													
min.	sec.														
		20	30	30	90	-	3.00						X	X	
Head 1020 mm		21	0	30	90	0	3.00						X	X	
		22	0	60	200	110	3.33						X	X	
		23	0	60	210	10	3.50						X	X	
		24	0	60	195	-15	3.25						X	X	
		25	0	60	200	5	3.33						X	X	

Remarks : No signes of errosion at all. No sign of turbidity in the collected water.

CLIENT : AEM	**Date of Test :**	2018-12-05	**Pinhole test # 12**	**DATE OF BATCHING :**	2018-12-04
PROJECT : Whale Tail Dike				**CURING TYPE :**	Warm
LOCATION : Amaruq				**AGE OF CURING :**	1 day
FILE : 11130315-B1			**TEST CONDITION**		
Sample : CB-WTD-134					

IDENTIFICATION AND CLASSIFICATION OF DISPERSIVE CLAYS SOILS
BY THE PINHOLE TEST ASTM D4647 / D4647M -13 (METHOD "A")



Result : NON-DISPERSIVE

Prepared by : Dominic Fournel Date: 2018-12-05
Verified by : Maxime Côté Date: 2018-12-06

Appendix G-3

Unconfined Compressive Strength (UCS)

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-001	2018-09-10	MIX A	Slurry wall	Warm	1	0.05204	0.62	291.49	11	2018-09-21			
CB-WTD-001	2018-09-10	MIX A	Slurry wall	Warm	2	0.05193	0.62	292.73	11	2018-09-21			
CB-WTD-001	2018-09-10	MIX A	Slurry wall	Warm	3	0.05178	0.96	455.89	28	2018-10-08			
CB-WTD-001	2018-09-10	MIX A	Slurry wall	Warm	4	0.05203	1.19	559.69	32	2018-10-12			
CB-WTD-001	2018-09-10	MIX A	Slurry wall	Warm	5	0.05175	1.46	694.13	32	2018-10-12			
CB-WTD-002	2018-09-10	MIX A	Slurry wall	Warm	1	0.05188	0.66	312.22	12	2018-09-22			
CB-WTD-002	2018-09-10	MIX A	Slurry wall	Warm	2	0.05205	0.64	300.78	12	2018-09-22			
CB-WTD-002	2018-09-10	MIX A	Slurry wall	Warm	3	0.05221	1.5	700.64	32	2018-10-12			
CB-WTD-002	2018-09-10	MIX A	Slurry wall	Warm	4	0.0519	1.29	609.77	32	2018-10-12			
CB-WTD-002	2018-09-10	MIX A	Slurry wall	Warm	5	0.05187	1.26	596.28	32	2018-10-12			
CB-WTD-003	2018-09-10	MIX A	Slurry wall	Warm	1	0.05194	0.61	287.90	12	2018-09-22			
CB-WTD-003	2018-09-10	MIX A	Slurry wall	Warm	2	0.05189	0.73	345.20	12	2018-09-22			
CB-WTD-003	2018-09-10	MIX A	Slurry wall	Warm	3	0.05199	1.23	579.40	32	2018-10-12			
CB-WTD-004	2018-09-11	MIX A	Slurry wall	Warm	1	0.05187	0.76	359.66	11	2018-09-22			
CB-WTD-004	2018-09-11	MIX A	Slurry wall	Warm	2	0.05186	0.72	340.86	11	2018-09-22			
CB-WTD-005	2018-09-16	MIX B	65	Warm	1	0.05195	0.67	316.09	7	2018-09-23	2018-09-19	Non-dispersive (ND1)	3 days old / Cold Cure
CB-WTD-005	2018-09-16	MIX B	65	Warm	2	0.05184	0.78	369.55	7	2018-09-23			
CB-WTD-005	2018-09-16	MIX B	65	Cold	3	0.05188	0.52	245.99	7	2018-09-23			
CB-WTD-005	2018-09-16	MIX B	65	Warm	4	0.05171	1.33	633.30	28	2018-10-14			
CB-WTD-005	2018-09-16	MIX B	65	Warm	5	0.05182	1.39	659.07	28	2018-10-14			
CB-WTD-005	2018-09-16	MIX B	65	Warm	6	0.05202	1.31	616.37	28	2018-10-14			
CB-WTD-005	2018-09-16	MIX B	65	Cold	7	0.05156	0.87	416.68	33	2018-10-19			
CB-WTD-006	2018-09-16	MIX B	57	Warm	1	0.05171	0.7	333.32	7	2018-09-23			
CB-WTD-006	2018-09-16	MIX B	57	Warm	2	0.05189	0.6139	290.30	7	2018-09-23			
CB-WTD-006	2018-09-16	MIX B	57	Warm	3	0.05139	1.09	525.51	28	2018-10-14			
CB-WTD-006	2018-09-16	MIX B	57	Warm	4	0.0519	1.15	543.59	28	2018-10-14			
CB-WTD-006	2018-09-16	MIX B	57	Warm	5	0.05207	1.08	507.18	28	2018-10-14			
CB-WTD-007	2018-09-16	MIX B	41	Warm	1	0.05208	0.72	337.99	7	2018-09-23			
CB-WTD-007	2018-09-16	MIX B	41	Warm	2	0.05201	0.73	343.60	7	2018-09-23			
CB-WTD-007	2018-09-16	MIX B	41	Warm	3	0.05169	0.75	357.40	7	2018-09-23			
CB-WTD-007	2018-09-16	MIX B	41	Cold	4	0.05197	0.37	174.42	7	2018-09-23			
CB-WTD-007	2018-09-16	MIX B	41	Warm	5	0.05143	1.19	572.83	28	2018-10-14			
CB-WTD-007	2018-09-16	MIX B	41	Warm	6	0.05174	1.38	656.35	28	2018-10-14			
CB-WTD-007	2018-09-16	MIX B	41	Warm	7	0.05181	1.27	602.40	28	2018-10-14			
CB-WTD-007	2018-09-16	MIX B	41	Cold	8	0.05156	0.4	191.58	56	2018-11-11			
CB-WTD-008	2018-09-17	MIX B	29	Warm	1	0.05219	0.53	247.75	7	2018-09-24			
CB-WTD-008	2018-09-17	MIX B	29	Warm	2	0.05206	1.12	526.16	30	2018-10-17			
CB-WTD-008	2018-09-17	MIX B	29	Warm	3	0.05184	0.98	464.31	30	2018-10-17			
CB-WTD-008	2018-09-17	MIX B	29	Warm	4	0.05214	1.05	491.76	31	2018-10-18			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-009	2018-09-17	MIX B	13	Warm	1	0.05172	0.63	299.87	8	2018-09-25			
CB-WTD-009	2018-09-17	MIX B	13	Warm	2	0.05203	0.89	418.59	8	2018-09-25			
CB-WTD-009	2018-09-17	MIX B	13	Warm	3	0.05171	1.67	795.20	30	2018-10-17			
CB-WTD-009	2018-09-17	MIX B	13	Warm	4	0.05194	1.62	764.58	30	2018-10-17			
CB-WTD-009	2018-09-17	MIX B	13	Warm	5	0.05194	1.55	731.54	31	2018-10-18			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	1	0.0519	0.92	434.87	8	2018-09-25	2018-09-21	Non-dispersive (ND1)	4 days old / Cold Cure
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	2	0.05173	0.85	404.43	8	2018-09-25			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Cold	3	0.05147	0.57	273.95	8	2018-09-25			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	4	0.05212	1.71	801.49	31	2018-10-18			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	5	0.05182	1.5	711.22	31	2018-10-18			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	6	0.05203	1.54	724.31	31	2018-10-18			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Warm	7	0.05175	1.95	927.09	31	2018-10-18			
CB-WTD-010	2018-09-17	MIX B	Slurry wall	Cold	8	0.05203	0.87	409.19	32	2018-10-19			
CB-WTD-011	2018-09-17	MIX B	69	Warm	1	0.05189	1.08	510.70	8	2018-09-25			
CB-WTD-011	2018-09-17	MIX B	69	Warm	2	0.05158	1.07	512.07	8	2018-09-25			
CB-WTD-011	2018-09-17	MIX B	69	Warm	3	0.05197	1.16	546.84	8	2018-09-25			
CB-WTD-011	2018-09-17	MIX B	69	Warm	4	0.05168	1.8	858.10	30	2018-10-17			
CB-WTD-011	2018-09-17	MIX B	69	Warm	5	0.05168	2.01	958.21	31	2018-10-18			
CB-WTD-011	2018-09-17	MIX B	69	Warm	6	0.0518	1.95	925.31	31	2018-10-18			
CB-WTD-011	2018-09-17	MIX B	69	cold	7	0.05165	0.43	205.23	55	2018-11-11			
CB-WTD-012	2018-09-18	MIX B	77	Warm	1	0.05182	0.87	412.51	8	2018-09-26			
CB-WTD-012	2018-09-18	MIX B	77	Warm	2	0.05184	0.82	388.50	8	2018-09-26			
CB-WTD-012	2018-09-18	MIX B	77	Warm	3	0.05182	1.67	791.83	29	2018-10-17			
CB-WTD-012	2018-09-18	MIX B	77	Warm	4	0.05135	1.52	733.96	30	2018-10-18			
CB-WTD-012	2018-09-18	MIX B	77	Warm	5	0.05167	1.65	786.90	30	2018-10-18			
CB-WTD-012	2018-09-18	MIX B	77	Warm	6	0.05199	1.56	734.84	30	2018-10-18			
CB-WTD-012	2018-09-18	MIX B	77	Cold	7	0.05175	0.96	456.42	31	2018-10-19			
CB-WTD-013	2018-09-18	MIX B	93	Warm	1	0.05182	0.62	293.97	8	2018-09-26			
CB-WTD-013	2018-09-18	MIX B	93	Warm	2	0.05191	0.69	326.03	8	2018-09-26			
CB-WTD-013	2018-09-18	MIX B	93	Warm	3	0.05178	1.34	636.34	29	2018-10-17			
CB-WTD-013	2018-09-18	MIX B	93	Warm	4	0.05161	1.4	669.22	30	2018-10-18			
CB-WTD-013	2018-09-18	MIX B	93	Warm	5	0.05193	1.32	623.23	30	2018-10-18			
CB-WTD-014	2018-09-24	MIX A	Slurry wall	Warm	1	0.05166	0.72	343.51	4	2018-09-28			
CB-WTD-014	2018-09-24	MIX A	Slurry wall	Warm	2	0.05261	0.63	289.81	4	2018-09-28			
CB-WTD-014	2018-09-24	MIX A	Slurry wall	Warm	3	0.051916	0.91	429.88	7	2018-10-01			
CB-WTD-014	2018-09-24	MIX A	Slurry wall	Warm	4	0.05165	1.99	949.78	29	2018-10-23			
CB-WTD-015	2018-09-24	MIX A	101	Warm	1	0.05186	0.72	340.86	7	2018-10-01	2018-09-28	Non-dispersive (ND1)	4 days old / Cold cure
CB-WTD-015	2018-09-24	MIX A	101	Warm	2	0.05176	0.79	375.45	8	2018-10-02			
CB-WTD-015	2018-09-24	MIX A	101	Cold	3	0.05156	0.54	258.63	9	2018-10-03			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-015	2018-09-24	MIX A	101	Cold	4	0.05212	0.61	285.91	12	2018-10-06			
CB-WTD-015	2018-09-24	MIX A	101	Warm	5	0.05178	1.49	707.57	28	2018-10-22			
CB-WTD-015	2018-09-24	MIX A	101	Warm	6	0.05193	1.4	661.00	28	2018-10-22			
CB-WTD-015	2018-09-24	MIX A	101	Warm	7	0.052	1.44	678.06	28	2018-10-22			
CB-WTD-016	2018-09-25	MIX A	133	Warm	1	0.05154	0.4	191.73	8	2018-10-03			
CB-WTD-016	2018-09-25	MIX A	133	Warm	2	0.05135	0.37	178.66	8	2018-10-03			
CB-WTD-016	2018-09-25	MIX A	133	Warm	3	0.05196	0.83	391.43	28	2018-10-23			
CB-WTD-016	2018-09-25	MIX A	133	Warm	4	0.05151	0.68	326.31	28	2018-10-23			
CB-WTD-016	2018-09-25	MIX A	133	Warm	5	0.0513	0.67	324.15	28	2018-10-23			
CB-WTD-016	2018-09-25	MIX A	133	Warm	6	0.05204	0.75	352.61	28	2018-10-23			
CB-WTD-017	2018-09-25	MIX A	-	Warm	1	0.05155	0.95	455.17	8	2018-10-03			
CB-WTD-017	2018-09-25	MIX A	-	Warm	2	0.05167	0.94	448.29	10	2018-10-05			
CB-WTD-017	2018-09-25	MIX A	-	Warm	3	0.05185	1.74	824.07	28	2018-10-23			
CB-WTD-017	2018-09-25	MIX A	-	Warm	4	0.05168	1.85	881.94	28	2018-10-23			
CB-WTD-017	2018-09-25	MIX A	-	Warm	5	0.05169	1.65	786.29	28	2018-10-23			
CB-WTD-018	2018-09-26	MIX A	19	Warm	1	0.0516	0.99	473.42	7	2018-10-03			
CB-WTD-018	2018-09-26	MIX A	19	Warm	2	0.05779	1.02	388.87	9	2018-10-05			
CB-WTD-018	2018-09-26	MIX A	19	Warm	3	0.05149	1.99	955.69	28	2018-10-24			
CB-WTD-018	2018-09-26	MIX A	19	Warm	4	0.05176	1.89	898.22	28	2018-10-24			
CB-WTD-018	2018-09-26	MIX A	19	Warm	5	0.05183	1.82	862.62	28	2018-10-24			
CB-WTD-019	2018-09-26	MIX A	39	Warm	1	0.051747	0.68	323.33	8	2018-10-04	2018-09-28	Non-dispersive (ND1)	2 days old / Cold cure
CB-WTD-019	2018-09-26	MIX A	39	Cold	2	0.05162	0.44	210.25	8	2018-10-04			
CB-WTD-019	2018-09-26	MIX A	39	Warm	3	0.05146	0.62	298.10	9	2018-10-05			
CB-WTD-019	2018-09-26	MIX A	39	Warm	4	0.05192	0.71	335.35	10	2018-10-06			
CB-WTD-019	2018-09-26	MIX A	39	cold	5	0.05161	0.39	186.43	10	2018-10-06			
CB-WTD-019	2018-09-26	MIX A	39	Warm	6	0.05195	1.25	589.72	28	2018-10-24			
CB-WTD-019	2018-09-26	MIX A	39	Warm	7	0.05214	1.17	547.97	28	2018-10-24			
CB-WTD-019	2018-09-26	MIX A	39	Warm	8	0.05178	1.29	612.60	28	2018-10-24			
CB-WTD-019	2018-09-26	MIX A	39	Warm	9	0.05214	2.1	983.53	52	2018-11-17			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	1	0.0517	0.74	352.50	8	2018-10-04			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	2	0.0518	0.67	317.93	10	2018-10-06			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	3	0.0519	1.74	822.48	28	2018-10-24			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	4	0.05183	1.44	682.51	28	2018-10-24			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	5	0.05161	1.55	740.92	28	2018-10-24			
CB-WTD-020	2018-09-26	MIX A	63 & 67	Warm	6	0.05186	2.39	1131.47	52	2018-11-17			
CB-WTD-021	2018-09-26	MIX A	79 & 83	Warm	1	0.05174	0.6	285.37	9	2018-10-05			
CB-WTD-021	2018-09-26	MIX A	79 & 83	Warm	2	0.05194	0.62	292.62	10	2018-10-06			
CB-WTD-021	2018-09-26	MIX A	79 & 83	Warm	3	0.05163	1.33	635.27	28	2018-10-24			
CB-WTD-021	2018-09-26	MIX A	79 & 83	Warm	4	0.05151	1.38	662.23	28	2018-10-24			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-021	2018-09-26	MIX A	79 & 83	Warm	5	0.05195	1.31	618.03	28	2018-10-24			
CB-WTD-022	2018-09-27	MIX A	91	Warm	1	0.05186	0.47	222.51	8	2018-10-05			
CB-WTD-022	2018-09-27	MIX A	91	Warm	2	0.05183	0.59	279.64	10	2018-10-07			
CB-WTD-022	2018-09-27	MIX A	91	Warm	3	0.05172	1.35	642.58	28	2018-10-25			
CB-WTD-022	2018-09-27	MIX A	91	Warm	4	0.05176	1.33	632.08	28	2018-10-25			
CB-WTD-022	2018-09-27	MIX A	91	Warm	5	0.05172	1.33	633.06	28	2018-10-25			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	1	0.051943	0.39	184.04	4	2018-10-01			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	2	0.05198	0.3	141.37	4	2018-10-01			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	3	0.05187	0.46	217.69	8	2018-10-05			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	4	0.05182	1.08	512.08	28	2018-10-25			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	5	0.05163	1.05	501.53	28	2018-10-25			
CB-WTD-023	2018-09-27	MIX A	99 & 103	Warm	6	0.05192	1.06	500.66	28	2018-10-25			
CB-WTD-024	2018-09-28	MIX A	141	Warm	1	0.05218	0.79	369.43	4	2018-10-02			
CB-WTD-024	2018-09-28	MIX A	141	Warm	2	0.05203	0.76	357.45	7	2018-10-05			
CB-WTD-024	2018-09-28	MIX A	141	Warm	3	0.05143	0.8	385.09	8	2018-10-06			
CB-WTD-024	2018-09-28	MIX A	141	Warm	4	0.05189	1.78	841.71	28	2018-10-26			
CB-WTD-024	2018-09-28	MIX A	141	Warm	5	0.05195	1.71	806.74	28	2018-10-26			
CB-WTD-024	2018-09-28	MIX A	141	Warm	6	0.05197	1.85	872.12	28	2018-10-26			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	1	0.051797	0.71	336.95	2	2018-10-01			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	2	0.05175	1.42	675.11	7	2018-10-06			
CB-WTD-025	2018-09-29	MIX A	197-201	Cold	3	0.05174	0.93	442.32	7	2018-10-06			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	4	0.05154	2.2	1054.49	23	2018-10-22			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	5	0.052	2.73	1285.48	28	2018-10-27			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	6	0.05187	2.91	1377.12	28	2018-10-27			
CB-WTD-025	2018-09-29	MIX A	197-201	Warm	7	0.05196	2.84	1339.34	28	2018-10-27			
CB-WTD-025	2018-09-29	MIX A	197-201	Cold	8	0.05187	2.06	974.87	42	2018-11-10			
CB-WTD-026	2018-09-29	MIX A	131	Warm	1	0.05192	0.9	425.09	2	2018-10-01			
CB-WTD-026	2018-09-29	MIX A	131	Warm	2	0.05177	0.54	256.54	7	2018-10-06			
CB-WTD-026	2018-09-29	MIX A	131	Warm	3	0.05176	1.01	480.00	26	2018-10-25			
CB-WTD-026	2018-09-29	MIX A	131	Warm	4	0.05168	1.25	595.90	28	2018-10-27			
CB-WTD-026	2018-09-29	MIX A	131	Warm	5	0.05191	1.28	604.81	28	2018-10-27			
CB-WTD-026	2018-09-29	MIX A	131	Warm	6	0.05178	1.88	892.78	28	2018-10-27			
CB-WTD-027	2018-09-29	MIX A	169	Warm	1	0.05209	1.27	595.94	7	2018-10-06			
CB-WTD-027	2018-09-29	MIX A	169	Warm	2	0.05215	1.38	646.07	20	2018-10-19			
CB-WTD-027	2018-09-29	MIX A	169	Warm	3	0.05193	1.94	915.96	28	2018-10-27			
CB-WTD-027	2018-09-29	MIX A	169	Warm	4	0.05207	1.81	849.99	28	2018-10-27			
CB-WTD-027	2018-09-29	MIX A	169	Warm	5	0.05175	1.78	846.27	28	2018-10-27			
CB-WTD-028	2018-09-30	MIX A	229	Warm	1	0.05178	0.92	436.89	12	2018-10-12			
CB-WTD-028	2018-09-30	MIX A	229	Warm	2	0.05168	0.85	405.21	12	2018-10-12			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-028	2018-09-30	MIX A	229	Warm	3	0.05193	1.31	618.51	21	2018-10-21			
CB-WTD-028	2018-09-30	MIX A	229	Warm	4	0.05194	1.74	821.21	28	2018-10-28			
CB-WTD-028	2018-09-30	MIX A	229	Warm	5	0.05171	1.7	809.49	28	2018-10-28			
CB-WTD-028	2018-09-30	MIX A	229	Warm	6	0.05149	1.56	749.18	28	2018-10-28			
CB-WTD-029	2018-09-30	MIX A	217-213	Warm	1	0.05196	0.76	358.41	12	2018-10-12	2018-10-06	Non-Dispersive (ND1)	3 days old / Cold Cure
CB-WTD-029	2018-09-30	MIX A	217-213	Warm	2	0.05192	0.87	410.92	12	2018-10-12			
CB-WTD-029	2018-09-30	MIX A	217-213	Warm	3	0.05208	1.15	539.84	22	2018-10-22			
CB-WTD-029	2018-09-30	MIX A	217-213	Warm	4	0.05149	1.56	749.18	28	2018-10-28			
CB-WTD-029	2018-09-30	MIX A	217-213	Warm	5	0.05194	1.74	821.21	28	2018-10-28			
CB-WTD-029	2018-09-30	MIX A	217-213	Cold	6	0.05178	1.22	579.36	41	2018-11-10			
CB-WTD-030	2018-09-30	MIX A	245	Warm	1	0.05187	1.02	482.70	12	2018-10-12			
CB-WTD-030	2018-09-30	MIX A	245	Warm	2	0.05198	1.01	475.95	12	2018-10-12			
CB-WTD-030	2018-09-30	MIX A	245	Warm	3	0.05199	1.4	659.48	22	2018-10-22			
CB-WTD-030	2018-09-30	MIX A	245	Warm	4	0.05175	1.97	936.60	28	2018-10-28			
CB-WTD-030	2018-09-30	MIX A	245	Warm	5	0.05171	1.7	809.49	28	2018-10-28			
CB-WTD-030	2018-09-30	MIX A	245	Warm	6	0.05159	1.77	846.74	28	2018-10-28			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	1	0.05209	0.36	168.93	3	2018-10-04			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	2	0.05187	0.54	255.55	7	2018-10-08			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	3	0.05187	0.91	430.64	23	2018-10-24			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	4	0.05241	1.1	509.89	29	2018-10-30			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	5	0.0517	1.2	571.62	29	2018-10-30			
CB-WTD-031	2018-10-01	MIX A	161-165	Warm	6	0.05167	1.18	562.75	29	2018-10-30			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	1	0.05175	0.88	418.38	7	2018-10-08			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	2	0.05182	1.18	559.50	11	2018-10-12			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	3	0.05194	1.65	778.74	20	2018-10-21			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	4	0.05236	1.35	626.97	29	2018-10-30			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	5	0.0519	1.3	614.50	29	2018-10-30			
CB-WTD-032	2018-10-01	MIX A	241-237	Warm	6	0.05165	1.85	882.96	29	2018-10-30			
CB-WTD-033	2018-10-01	MIX A	24-28-32	Warm	1	0.05197	0.73	344.13	7	2018-10-08			
CB-WTD-033	2018-10-01	MIX A	24-28-32	Warm	2	0.05181	0.85	403.18	11	2018-10-12			
CB-WTD-033	2018-10-01	MIX A	24-28-32	Warm	3	0.05212	1.43	670.25	20	2018-10-21			
CB-WTD-033	2018-10-01	MIX A	24-28-32	Warm	4	0.05186	1.6	757.47	30	2018-10-31			
CB-WTD-033	2018-10-01	MIX A	24-28-32	Warm	5	0.05228	1.83	852.49	30	2018-10-31			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	1	0.05201	0.79	371.85	10	2018-10-12			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	2	0.05171	0.86	409.51	10	2018-10-12			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	3	0.05216	1.18	552.23	21	2018-10-23			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	4	0.05185	1.49	705.67	30	2018-11-01			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	5	0.05207	1.56	732.59	30	2018-11-01			
CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	6	0.05202	1.62	762.23	30	2018-11-01			

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CB-WTD-034	2018-10-02	MIX A	96-100-68	Warm	7	0.05171	0.86	409.51	10	2018-10-12			
CB-WTD-035	2018-10-02	MIX A	124	Warm	1	0.05215	1.03	482.21	29	2018-10-31			
CB-WTD-035	2018-10-02	MIX A	124	Warm	2	0.05205	1.06	498.17	29	2018-10-31			
CB-WTD-035	2018-10-02	MIX A	124	Warm	3	0.0514	0.98	472.29	29	2018-10-31			
CB-WTD-035	2018-10-02	MIX A	124	Warm	4	0.05143	0.45	216.62	10	2018-10-12			
CB-WTD-035	2018-10-02	MIX A	124	Warm	5	0.05206	0.49	230.20	10	2018-10-12			
CB-WTD-035	2018-10-02	MIX A	124	Warm	6	0.05196	0.84	396.14	21	2018-10-23			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	1	0.05206	0.66	310.06	2	2018-10-05			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	2	0.05186	0.97	459.22	9	2018-10-12			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	3	0.05206	1.45	681.19	22	2018-10-25			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	4	0.0517	1.68	800.27	28	2018-10-31			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	5	0.05155	1.66	795.35	28	2018-10-31			
CB-WTD-036	2018-10-03	MIX A	139-143	Warm	6	0.05212	1.67	782.74	28	2018-10-31			
CB-WTD-037	2018-10-03	MIX A	38-50-54	Warm	1	0.0518	0.91	431.81	8	2018-10-11			
CB-WTD-037	2018-10-03	MIX A	38-50-54	Warm	2	0.05186	1.22	577.57	8	2018-10-11			
CB-WTD-037	2018-10-03	MIX A	38-50-54	Warm	3	0.05196	1.52	716.83	22	2018-10-25			
CB-WTD-037	2018-10-03	MIX A	38-50-54	Warm	4	0.05212	1.97	923.35	28	2018-10-31			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	1	0.05174	0.25	118.90	2	2018-10-06			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	2	0.05121	0.68	330.15	11	2018-10-15			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	3	0.05162	0.69	329.70	11	2018-10-15			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	4	0.05216	1.25	584.99	28	2018-11-01			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	5	0.05194	1.18	556.91	28	2018-11-01			
CB-WTD-038	2018-10-04	MIX A	175-183	Warm	6	0.05202	1.14	536.38	28	2018-11-01			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	1	0.05212	0.90	421.84	5	2018-10-09			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	2	0.05171	0.84	399.98	5	2018-10-09			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	3	0.05184	1.09	516.42	10	2018-10-14			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	4	0.05197	1.84	867.41	28	2018-11-01			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	5	0.05204	1.52	714.63	28	2018-11-01			
CB-WTD-039	2018-10-04	MIX A	223-235	Warm	6	0.05187	1.72	813.97	28	2018-11-01			
CB-WTD-040	2018-10-04	MIX A	155	Warm	1	0.05178	0.26	123.47	2	2018-10-06			
CB-WTD-040	2018-10-04	MIX A	155	Warm	2	0.05159	0.70	334.87	8	2018-10-12			
CB-WTD-040	2018-10-04	MIX A	155	Warm	3	0.05156	0.78	373.58	10	2018-10-14			
CB-WTD-040	2018-10-04	MIX A	155	Warm	4	0.05215	1.37	641.39	28	2018-11-01			
CB-WTD-040	2018-10-04	MIX A	155	Warm	5	0.05194	1.38	651.31	28	2018-11-01			
CB-WTD-041	2018-10-05	MIX A	273-277	Warm	1	0.0517	0.95	452.54	7	2018-10-12			
CB-WTD-041	2018-10-05	MIX A	273-277	Warm	2	0.05181	0.83	393.70	7	2018-10-12			
CB-WTD-041	2018-10-05	MIX A	273-277	Warm	3	0.05151	0.91	436.69	9	2018-10-14			
CB-WTD-041	2018-10-05	MIX A	273-277	Warm	4	0.05192	1.39	656.53	28	2018-11-02			
CB-WTD-041	2018-10-05	MIX A	273-277	Warm	5	0.05178	1.34	636.34	28	2018-11-02			

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CB-WTD-041	2018-10-05	MIX A	273-277	Warm	6	0.05191	1.35	637.88	28	2018-11-02			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	1	0.05187	1.00	473.24	7	2018-10-13			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	2	0.05175	1.06	503.96	7	2018-10-13			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	3	0.05177	0.93	441.81	7	2018-10-13			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	4	0.05204	1.46	686.42	28	2018-11-03			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	5	0.05182	1.64	777.61	28	2018-11-03			
CB-WTD-042	2018-10-06	MIX A	231-227	Warm	6	0.05204	1.46	686.42	28	2018-11-03			
CB-WTD-043	2018-10-07	MIX A	211-273-277-	Warm	1	0.0519	1.06	501.05	2	2018-10-09			
CB-WTD-043	2018-10-07	MIX A	211-273-277-	Warm	2	0.05191	0.99	467.78	2	2018-10-09			
CB-WTD-043	2018-10-07	MIX A	211-273-277-	Warm	3	0.05191	1.75	826.89	7	2018-10-14			
CB-WTD-043	2018-10-07	MIX A	211-273-277-	Warm	4	0.05161	1.65	788.73	7	2018-10-14			
CB-WTD-043	2018-10-07	MIX A	211-273-277-	Warm	5	0.05169	2.3	1096.04	28	2018-11-04			
CB-WTD-043	2018-10-07	MIX A	211-273-277-		6								
CB-WTD-043	2018-10-07	MIX A	211-273-277-		7								
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	1	0.0516	1.03	492.55	9	2018-10-16			
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	2	0.05191	1.05	496.13	9	2018-10-16			
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	3	0.05197	1.00	471.42	9	2018-10-16			
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	4	0.05196	1.56	735.69	28	2018-11-04			
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	5	0.05212	1.67	782.74	28	2018-11-04			
CB-WTD-044	2018-10-07	MIX A	118-114	Warm	6	0.05200	1.59	748.69	28	2018-11-04			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	1	0.0519	0.77	363.97	8	2018-10-16			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	2	0.05191	0.69	326.03	8	2018-10-16			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	3	0.05195	0.62	292.50	8	2018-10-16			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	4	0.05222	1.19	555.63	29	2018-11-06			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	5	0.05209	1.3	610.02	29	2018-11-06			
CB-WTD-045	2018-10-08	MIX A	301-305	Warm	6	0.05185	1.58	748.29	29	2018-11-06			
CB-WTD-046	2018-10-08	MIX A		Warm	1	0.05185	0.8	378.88	9	2018-10-17			
CB-WTD-046	2018-10-08	MIX A		Warm	2	0.05173	0.84	399.67	9	2018-10-17			
CB-WTD-046	2018-10-08	MIX A		Warm	3	0.05185	0.77	364.67	9	2018-10-17			
CB-WTD-046	2018-10-08	MIX A		Warm	4	0.05168	1.46	696.01	29	2018-11-06			
CB-WTD-046	2018-10-08	MIX A		Warm	5	0.05193	1.45	684.61	29	2018-11-06			
CB-WTD-046	2018-10-08	MIX A		Warm	6	0.05161	1.25	597.52	29	2018-11-06			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	1	0.0516	0.6	286.92	2	2018-10-11			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	2	0.05186	0.53	250.91	2	2018-10-11			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	3	0.05227	1.04	484.66	8	2018-10-17			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	4	0.05196	1.56	735.69	28	2018-11-06			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	5	0.0518	1.6	759.23	28	2018-11-06			
CB-WTD-047	2018-10-09	MIX A	136-152 (top132-128)	Warm	6	0.05173	1.56	742.25	28	2018-11-06			
CB-WTD-048	2018-10-09	MIX C	215-255	Warm	1	0.05197	0.6	282.85	2	2018-10-11			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-048	2018-10-09	MIX C	215-255	Warm	2	0.05197	0.48	226.28	2	2018-10-11			
CB-WTD-048	2018-10-09	MIX C	215-255	Warm	3	0.05195	1.19	561.42	8	2018-10-17			
CB-WTD-048	2018-10-09	MIX C	215-255	Warm	4	0.05178	1.04	493.88	8	2018-10-17			
CB-WTD-048	2018-10-09	MIX C	215-255	Warm	5	0.05201	1.92	903.73	29	2018-11-07			
CB-WTD-048	2018-10-09	MIX C	215-255		6								
CB-WTD-048	2018-10-09	MIX C	215-255		7								
CB-WTD-049	2018-10-10	MIX C	166-162	Warm	1	0.05175	0.66	313.79	2	2018-10-12			
CB-WTD-049	2018-10-10	MIX C	166-162	Warm	2	0.05188	0.93	439.94	7	2018-10-17			
CB-WTD-049	2018-10-10	MIX C	166-162	Warm	3	0.05192	1	472.32	7	2018-10-17			
CB-WTD-049	2018-10-10	MIX C	166-162	Warm	4	0.05214	1.74	814.92	28	2018-11-07			
CB-WTD-049	2018-10-10	MIX C	166-162	Warm	5	0.0518	1.73	820.91	28	2018-11-07			
CB-WTD-049	2018-10-10	MIX C	166-162		6								
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	1	0.05177	1.04	494.07	7	2018-10-17			
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	2	0.05197	1.07	504.42	7	2018-10-17			
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	3	0.05197	1.04	490.27	7	2018-10-17			
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	4	0.05191	1.86	878.86	28	2018-11-07			
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	5	0.05195	1.85	872.79	28	2018-11-07			
CB-WTD-050	2018-10-10	MIX C	198 - 329 - 333	Warm	6	0.05214	1.66	777.46	28	2018-11-07			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	1	0.05166	0.73	348.28	5	2018-10-17			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	2	0.05211	0.81	379.80	7	2018-10-19			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	3	0.05163	0.84	401.22	7	2018-10-19			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	4	0.05166	1.29	615.45	28	2018-11-09			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	5	0.05176	1.15	546.54	28	2018-11-09			
CB-WTD-051	2018-10-12	MIX C	349-361-242	Warm	6	0.05196	1.08	509.33	28	2018-11-09			
CB-WTD-052	2018-10-13	MIX C	311-214-315	Cold	1	0.05121	0.06	29.13	3	2018-10-16	2018-10-16	Non-Dispersive (ND1)	3 days old / Cold cure
CB-WTD-052	2018-10-13	MIX C	311-214-315	Cold	2	0.05175	0.09	42.79	4	2018-10-17			
CB-WTD-052	2018-10-13	MIX C	311-214-315	Warm	3	0.05265	0.28	128.61	4	2018-10-17			
CB-WTD-052	2018-10-13	MIX C	311-214-315	Warm	4	0.0516	0.31	148.24	7	2018-10-20			
CB-WTD-052	2018-10-13	MIX C	311-214-315	Warm	5	0.05199	0.47	221.40	7	2018-10-20			
CB-WTD-052	2018-10-13	MIX C	311-214-315		6								
CB-WTD-052	2018-10-13	MIX C	311-214-315		7								
CB-WTD-052	2018-10-13	MIX C	311-214-315		8								
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	1	0.05203	0.27	126.99	2	2018-10-17			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	2	0.05184	0.57	270.06	7	2018-10-22			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	3	0.05157	0.47	225.02	7	2018-10-22			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	4	0.05187	0.55	260.28	7	2018-10-22			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Cold	5	0.05181	0.7	332.03	26	2018-11-10			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	6	0.0519	1.08	510.50	29	2018-11-13			
CB-WTD-053	2018-10-15	MIX C	369 & 373	Warm	7	0.05208	1.11	521.06	29	2018-11-13			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-054	2018-10-17	MIX C	228-355	Cold	1	0.05177	0.36	171.02	5	2018-10-22			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	2	0.05177	0.36	171.02	5	2018-10-22			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	3	0.05178	0.38	180.46	5	2018-10-22			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	4	0.05156	0.65	311.31	7	2018-10-24			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	5	0.05195	0.62	292.50	7	2018-10-24			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	6	0.05158	0.52	248.86	7	2018-10-24			
CB-WTD-054	2018-10-17	MIX C	228-355	Cold	7	0.05181	0.7	332.03	25	2018-11-11			
CB-WTD-054	2018-10-17	MIX C	228-355	Warm	8	0.05133	1.02	492.91	28	2018-11-14			
CB-WTD-055	2018-10-20	MIX C	413	Warm	1	0.05142	0.25	120.39	2	2018-10-22	2018-10-22	Non-Dispersive (ND1)	2 days old / Warm cure
CB-WTD-055	2018-10-20	MIX C	413	Warm	2	0.05185	0.71	336.26	7	2018-10-27			
CB-WTD-055	2018-10-20	MIX C	413	Warm	3	0.05185	0.68	322.05	7	2018-10-27			
CB-WTD-055	2018-10-20	MIX C	413	Warm	4	0.05193	0.58	273.84	7	2018-10-27			
CB-WTD-055	2018-10-20	MIX C	413	Warm	5	0.05186	1.21	572.84	28	2018-11-17			
CB-WTD-055	2018-10-20	MIX C	413		6								
CB-WTD-056	2018-10-27	MIX C	248-302	Warm	1	0.0515	0.13	62.41	2	2018-10-29			
CB-WTD-056	2018-10-27	MIX C	248-302	Warm	2	0.05159	0.37	177.00	7	2018-11-03			
CB-WTD-056	2018-10-27	MIX C	248-302	Warm	3	0.05151	0.34	163.16	7	2018-11-03			
CB-WTD-056	2018-10-27	MIX C	248-302		4								
CB-WTD-056	2018-10-27	MIX C	248-302		5								
CB-WTD-056	2018-10-27	MIX C	248-302		6								
CB-WTD-057	2018-10-27	MIX C	367-379	Warm	1	0.05135	0.12	57.94	2	2018-10-29			
CB-WTD-057	2018-10-27	MIX C	367-379	Warm	2	0.051616	0.26	124.26	3	2018-10-30			
CB-WTD-057	2018-10-27	MIX C	367-379	Warm	3	0.05201	0.36	169.45	7	2018-11-03			
CB-WTD-057	2018-10-27	MIX C	367-379	Warm	4	0.05145	0.38	182.78	7	2018-11-03			
CB-WTD-057	2018-10-27	MIX C	367-379	Warm	5	0.05158	0.37	177.07	7	2018-11-03			
CB-WTD-057	2018-10-27	MIX C	367-379		6								
CB-WTD-058	2018-10-28	MIX C	415	Warm	1	0.05183	0.42	199.07	2	2018-10-30			
CB-WTD-058	2018-10-28	MIX C	415	Warm	2	0.05507	0.3	125.95	2	2018-10-30			
CB-WTD-058	2018-10-28	MIX C	415	Warm	3	0.05213	1.08	506.01	7	2018-11-04			
CB-WTD-058	2018-10-28	MIX C	415	Warm	4	0.05156	2	957.89	28	2018-11-25			
CB-WTD-058	2018-10-28	MIX C	415		5	0.05193	2.32	1095.37	28	2018-11-25			
CB-WTD-058	2018-10-28	MIX C	415		6								
CB-WTD-059	2018-10-29	MIX C	415-429	Warm	1	0.05131	0.61	295.01	8	2018-11-06			
CB-WTD-059	2018-10-29	MIX C	415-429	Warm	2	0.05165	0.62	295.91	8	2018-11-06			
CB-WTD-059	2018-10-29	MIX C	415-429	Warm	3	0.05179	0.63	299.06	8	2018-11-06			
CB-WTD-059	2018-10-29	MIX C	415-429		4								
CB-WTD-059	2018-10-29	MIX C	415-429		5								
CB-WTD-059	2018-10-29	MIX C	415-429		6								
CB-WTD-060	2018-10-29	MIX C	372-360	Warm	1	0.05122	0.47	228.10	8	2018-11-06	2018-11-01	Non-Dispersive (ND2)	3 days old / Warm cure

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-060	2018-10-29	MIX C	372-360	Warm	2	0.05163	0.47	224.49	10	2018-11-08			
CB-WTD-060	2018-10-29	MIX C	372-360		3								
CB-WTD-060	2018-10-29	MIX C	372-360		4								
CB-WTD-060	2018-10-29	MIX C	372-360		5								
CB-WTD-060	2018-10-29	MIX C	372-360		6								
CB-WTD-061	2018-10-29	MIX C	403-407	Warm	1	0.05189	0.18	85.12	2	2018-10-31			
CB-WTD-061	2018-10-29	MIX C	403-407	Warm	2	0.05171	0.57	271.42	8	2018-11-06			
CB-WTD-061	2018-10-29	MIX C	403-407	Warm	3	0.05184	0.53	251.11	10	2018-11-08			
CB-WTD-061	2018-10-29	MIX C	403-407		4								
CB-WTD-061	2018-10-29	MIX C	403-407		5								
CB-WTD-061	2018-10-29	MIX C	403-407		6								
CB-WTD-062	2018-10-30	MIX C	380-445	Warm	1	0.05191	0.27	127.58	2	2018-11-01			
CB-WTD-062	2018-10-30	MIX C	380-445	Warm	2	0.05176	0.4	190.10	7	2018-11-06			
CB-WTD-062	2018-10-30	MIX C	380-445	Warm	3	0.05196	0.37	174.49	9	2018-11-08			
CB-WTD-062	2018-10-30	MIX C	380-445		4	0.05163	0.79	377.34	28	2018-11-27			
CB-WTD-062	2018-10-30	MIX C	380-445		5								
CB-WTD-062	2018-10-30	MIX C	380-445		6								
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	1	0.0514	0.24	115.66	2	2018-11-02			
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	2	0.05205	0.73	343.08	7	2018-11-07			
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	3	0.05189	0.57	269.54	7	2018-11-07			
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	4	0.05201	0.98	461.28	29	2018-11-29			
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	5	0.05217	1.17	547.34	30	2018-11-30			
CB-WTD-063	2018-10-31	MIX C	449-427	Warm	6	0.05187	1.1	520.56	30	2018-11-30			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	1	0.05152	0.4	191.88	7	2018-11-07			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	2	0.05185	0.53	251.01	7	2018-11-07			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	3	0.0518	0.51	242.00	7	2018-11-07			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	4	0.05178	0.7	332.42	30	2018-11-30			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	5	0.05178	0.76	360.91	30	2018-11-30			
CB-WTD-064	2018-10-31	MIX C	501-505	Warm	6	0.0518	0.8		30	2018-11-30			
CB-WTD-065	2018-11-01	MIX C	517-513	Warm	1	0.05191	0.23	108.68	2	2018-11-03			
CB-WTD-065	2018-11-01	MIX C	517-513	Warm	2	0.05195	0.51	240.61	7	2018-11-08			
CB-WTD-065	2018-11-01	MIX C	517-513	Warm	3	0.0516	0.48	229.54	7	2018-11-08			
CB-WTD-065	2018-11-01	MIX C	517-513		4	0.05215	0.73	341.76	28	2018-11-29			
CB-WTD-065	2018-11-01	MIX C	517-513		5	0.05172	0.76	361.75	28	2018-11-29			
CB-WTD-065	2018-11-01	MIX C	517-513		6								
CB-WTD-066	2018-10-30	MIX E	Tests HE mix	Warm	1	0.05187	0.26	123.04	2	2018-11-01			
CB-WTD-066	2018-10-30	MIX E	Tests HE mix	Warm	2	0.05197	0.23	108.43	2	2018-11-01			
CB-WTD-066	2018-10-30	MIX E	Tests HE mix	Warm	3	0.05217	0.41	191.80	7	2018-11-06			
CB-WTD-066	2018-10-30	MIX E	Tests HE mix	Warm	4	0.05159	0.46	220.06	9	2018-11-08			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-066	2018-10-30	MIX E	Tests HE mix		5								
CB-WTD-066	2018-10-30	MIX E	Tests HE mix		6								
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	1	0.05169	0.22	104.84	2	2018-11-01			
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	2	0.05156	0.22	105.37	2	2018-11-01			
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	3	0.05132	0.47	227.21	7	2018-11-06			
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	4	0.05156	0.5	239.47	9	2018-11-08			
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	5	0.05217	1.13	528.62	28	2018-11-27			
CB-WTD-067	2018-10-30	MIX E	Tests HE mix	Warm	6	0.05138	1.26	607.70	28	2018-11-27			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	1	0.05125	0.11	53.32	2	2018-11-02			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	2	0.05163	0.15	71.65	2	2018-11-02			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	3	0.05195	0.34	160.41	7	2018-11-07			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	4	0.05168	0.38	181.15	7	2018-11-07			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	5	0.0517	0.48	228.65	30	2018-11-30			
CB-WTD-068	2018-10-31	MIX D	Tests GU mix	Warm	6	0.05181	0.54	256.14	30	2018-11-30			
CB-WTD-069	2018-11-01	MIX C	390-400	Warm	1	0.05187	0.29	137.24	2	2018-11-03			
CB-WTD-069	2018-11-01	MIX C	390-400	Warm	2	0.05173	0.75	356.85	7	2018-11-08			
CB-WTD-069	2018-11-01	MIX C	390-400	Warm	3	0.05162	0.72	344.04	7	2018-11-08			
CB-WTD-069	2018-11-01	MIX C	390-400	Warm	4	0.052	0.74	348.45	7	2018-11-08			
CB-WTD-069	2018-11-01	MIX C	390-400		5	0.05218	0.93	434.90	28	2018-11-29			
CB-WTD-069	2018-11-01	MIX C	390-400		6	0.05192	0.94	443.99	28	2018-11-29			
CB-WTD-069	2018-11-01	MIX C	390-400			0.05195	1.01	476.50	28	2018-11-29			
CB-WTD-070	2018-11-01	MIX C	328	Warm	1	0.05161	0.92	439.77	7	2018-11-08			
CB-WTD-070	2018-11-01	MIX C	328	Warm	2	0.05154	0.71	340.31	7	2018-11-08			
CB-WTD-070	2018-11-01	MIX C	328	Warm	3	0.05172	0.86	409.35	7	2018-11-08			
CB-WTD-070	2018-11-01	MIX C	328		4	0.05215	1.23	575.85	28	2018-11-29			
CB-WTD-070	2018-11-01	MIX C	328		5	0.05149	1.15	552.28	28	2018-11-29			
CB-WTD-070	2018-11-01	MIX C	328		6	0.05222	1.23	574.30	28	2018-11-29			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	1	0.05169	0.61	290.69	7	2018-11-09			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	2	0.05176	0.61	289.90	7	2018-11-09			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	3	0.05197	0.52	245.14	7	2018-11-09			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	4	0.05163	0.94	448.99	28	2018-11-30			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	5	0.05207	0.94	441.43	28	2018-11-30			
CB-WTD-071	2018-11-02	MIX C	561-557	Warm	6	0.05196	0.98	462.17	28	2018-11-30			
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565	Warm	1	0.05207	0.7	328.73	7	2018-11-10			
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565	Warm	2	0.05162	0.71	339.26	7	2018-11-10			
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565	Warm	3	0.05185	0.64	303.10	7	2018-11-10			
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565	Cold	4	0.05172	0.38	180.87	7	2018-11-10			
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565		5								
CB-WTD-072	2018-11-03	MIX C	Top # 464-483-595-549-553-557-561-565		6								

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	1	0.0518	0.6	284.71	7	2018-11-10			
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	2	0.05162	0.59	281.92	7	2018-11-10			
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	3	0.0513	0.72	348.34	7	2018-11-10			
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	4	0.05196	1.38	650.81	28	2018-12-01			
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	5	0.05181	1.52	720.99	28	2018-12-01			
CB-WTD-073	2018-11-03	MIX C	523-519	Warm	6	0.05209	1.5	703.87	28	2018-12-01			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	1	0.05199	0.44	207.26	2	2018-11-06	2018-11-08	Non-Dispersive (ND1)	4 days old / Warm cure
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	2	0.05184	0.86	407.45	7	2018-11-11			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	3	0.05168	0.85	405.21	7	2018-11-11			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	4	0.05162	0.84	401.38	7	2018-11-11			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	5	0.05177	1.26	598.58	28	2018-12-02			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	6	0.05198	1.2	565.48	28	2018-12-02			
CB-WTD-074	2018-11-04	MIX C	362-366	Warm	7	0.05211	1.23	576.73	28	2018-12-02			
CB-WTD-075	2018-11-04	MIX C	424	Warm	1	0.05188	0.48	227.07	2	2018-11-06			
CB-WTD-075	2018-11-04	MIX C	424	Warm	2	0.05156	0.73	349.63	7	2018-11-11			
CB-WTD-075	2018-11-04	MIX C	424	Warm	3	0.05194	0.62	292.62	7	2018-11-11			
CB-WTD-075	2018-11-04	MIX C	424	Warm	4	0.05158	0.65	311.07	7	2018-11-11			
CB-WTD-075	2018-11-04	MIX C	424	Warm	5	0.0519	1.18	557.77	28	2018-12-02			
CB-WTD-075	2018-11-04	MIX C	424	Warm	6	0.05185	1.11	525.70	28	2018-12-02			
CB-WTD-075	2018-11-04	MIX C	424	Warm	7	0.05158	1.16	555.14	28	2018-12-02			
CB-WTD-075	2018-11-04	MIX C	424		8								
CB-WTD-076	2018-11-05	MIX C	369-373	Warm	1	0.05148	0.76	365.13	8	2018-11-13			
CB-WTD-076	2018-11-05	MIX C	369-373	Warm	2	0.05173	0.71	337.82	8	2018-11-13			
CB-WTD-076	2018-11-05	MIX C	369-373	Warm	3	0.05205	1	469.97	28	2018-12-03			
CB-WTD-076	2018-11-05	MIX C	369-373		4								
CB-WTD-076	2018-11-05	MIX C	369-373		5								
CB-WTD-076	2018-11-05	MIX C	369-373		6								
CB-WTD-077	2018-11-05	MIX C	585	Warm	1	0.05194	0.8	377.57	8	2018-11-13	2018-11-07	Non-Dispersive (ND1)	2 days old / Warm cure
CB-WTD-077	2018-11-05	MIX C	585	Warm	2	0.0519	0.78	368.70	8	2018-11-13			
CB-WTD-077	2018-11-05	MIX C	585	Warm	3	0.05182	0.77	365.10	8	2018-11-13			
CB-WTD-077	2018-11-05	MIX C	585	Warm	4	0.05176	1.01	480.00	29	2018-12-04			
CB-WTD-077	2018-11-05	MIX C	585	Warm	5	0.05156	1.1	526.84	29	2018-12-04			
CB-WTD-077	2018-11-05	MIX C	585	Warm	6	0.05184	1.12	530.64	29	2018-12-04			
CB-WTD-077	2018-11-05	MIX C	585		7								
CB-WTD-077	2018-11-05	MIX C	585		8								
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472	Warm	1	0.0513	0.39	188.69	2	2018-11-08			
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472	Warm	2	0.05191	0.6	283.50	4	2018-11-10			
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472	Warm	3	0.05156	0.91	435.84	8	2018-11-14			
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472	Warm	4	0.05194	0.8	377.57	8	2018-11-14			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472	Warm	5	0.05175	0.92	437.40	8	2018-11-14			
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472		6								
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472		7								
CB-WTD-078	2018-11-06	MIX C	547 Top #585-589-609-621-625-472		8								
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	1	0.05174	0.29	137.93	2	2018-11-08			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	2	0.05165	0.41	195.68	4	2018-11-10			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	3	0.05164	0.74	353.32	8	2018-11-14			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	4	0.05181	0.69	327.29	8	2018-11-14			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	5	0.0515	0.68	326.44	8	2018-11-14			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	6	0.05208	1.01	474.12	28	2018-12-04			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	7	0.05174	1.09	518.42	28	2018-12-04			
CB-WTD-079	2018-11-06	MIX C	406 & top #402 & 386	Warm	8	0.05208	1.15	539.84	28	2018-12-04			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	1	0.05163	0.35	167.18	4	2018-11-10			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	2	0.0516	0.61	291.70	8	2018-11-14			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	3	0.05196	0.73	344.27	8	2018-11-14			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	4	0.05158	0.62	296.71	8	2018-11-14			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	5	0.05184	1.06	502.21	28	2018-12-04			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	6	0.05185	1.1	520.96	28	2018-12-04			
CB-WTD-080	2018-11-06	MIX C	617 and top #418,422,436	Warm	7	0.05185	1.03	487.81	28	2018-12-04			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	warm	1	0.05134	0.09	43.48	2	2018-11-09			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	2	0.05199	0.1	47.11	2	2018-11-09			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	3	0.05165	0.23	109.77	3	2018-11-10			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	4	0.05143	0.68	327.33	7	2018-11-14			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	5	0.05162	0.58	277.14	7	2018-11-14			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	6	0.0515	0.61	292.84	7	2018-11-14			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	7	0.0517	1.16	552.57	28	2018-12-05			
CB-WTD-081	2018-11-07	MIX C	top # 448-452-476-500-504-605-681-685-689-444	Warm	8	0.05178	1.17	555.61	28	2018-12-05			
CB-WTD-082	2018-11-08	MIX C	288	Warm	1	0.05178	0.3	142.46	3	2018-11-11			
CB-WTD-082	2018-11-08	MIX C	288	Warm	2	0.05155	0.35	167.70	3	2018-11-11			
CB-WTD-082	2018-11-08	MIX C	288	Warm	3	0.05195	0.64	301.94	7	2018-11-15			
CB-WTD-082	2018-11-08	MIX C	288	Warm	4	0.05198	0.65	306.30	7	2018-11-15			
CB-WTD-082	2018-11-08	MIX C	288	Warm	5	0.05145	0.65	312.65	7	2018-11-15			
CB-WTD-082	2018-11-08	MIX C	288	Warm	6	0.05203	0.95	446.81	28	2018-12-06			
CB-WTD-082	2018-11-08	MIX C	288	Warm	7	0.05174	1.17	556.47	28	2018-12-06			
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	1	0.05151	0.39	187.15	2	2018-11-11			
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	2	0.05163	0.79	377.34	7	2018-11-16			
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	3	0.05186	0.86	407.14	7	2018-11-16			
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	4	0.05192	0.88	415.65	7	2018-11-16			
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	5	0.052	1.41	663.93	28	2018-12-07			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-083	2018-11-09	MIX C HALF ARBO	536520	Warm	6	0.05204	1.32	620.60	28	2018-12-07			
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474	Warm	1	0.05178	0.63	299.18	7	2018-11-17			
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474	Warm	2	0.05171	0.58	276.18	7	2018-11-17			
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474	Warm	3	0.05207	0.58	272.37	7	2018-11-17			
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474		4								
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474		5								
CB-WTD-084	2018-11-10	MIX C HALF ARBO	631 top # 470,466,456,520,474		6								
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	1	0.05163	0.32	152.85	2	2018-11-13			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	2	0.05168	0.29	138.25	2	2018-11-13			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	3	0.05172	0.6	285.59	7	2018-11-18			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	4	0.05158	0.61	291.93	7	2018-11-18			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	5	0.05161	0.61	291.59	7	2018-11-18			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	6	0.0519	0.96	453.78	28	2018-12-09			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	7	0.05148	0.86	413.17	28	2018-12-09			
CB-WTD-085	2018-11-11	MIX C HALF ARBO	502-512	Warm	8	0.05201	0.97	456.57	28	2018-12-09			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	1	0.05174	0.22	104.64	2	2018-11-13			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	2	0.05165	0.21	100.23	2	2018-11-13			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	3	0.05169	0.4	190.61	7	2018-11-18			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	4	0.05145	0.44	211.64	7	2018-11-18			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	5	0.05167	0.4	190.76	7	2018-11-18			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	6	0.0515	0.61	292.84	28	2018-12-09			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	7	0.0513	0.65	314.48	28	2018-12-09			
CB-WTD-086	2018-11-11	MIX C HALF ARBO	725-721	Warm	8	0.0516	0.63	301.27	28	2018-12-09			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	1	0.05176	0.58	275.64	6	2018-11-17			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	2	0.05153	0.6	287.70	7	2018-11-18			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	3	0.05154	0.61	292.38	7	2018-11-18			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	4	0.05164	0.55	262.60	7	2018-11-18			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	5	0.05154	0.96	460.14	28	2018-12-09			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	6	0.05172	0.94	447.43	28	2018-12-09			
CB-WTD-087	2018-11-11	MIX C HALF ARBO	603-607 & top. 721-725	Warm	7	0.05184	0.93	440.62	28	2018-12-09			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	1	0.0516	0.38	181.72	6	2018-11-17			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	2	0.05156	0.36	172.42	7	2018-11-18			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	3	0.05149	0.38	182.49	7	2018-11-18			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	4	0.05109	0.39	190.24	7	2018-11-18			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	warm	5	0.05161	0.59	282.03	28	2018-12-09			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	6	UNMOLDABLE		-	28	2018-12-09			
CB-WTD-088	2018-11-11	MIX C HALF ARBO	582-579	Warm	7	UNMOLDABLE		-	28	2018-12-09			
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773	warm	1	0.05165	1.18	563.19	8	2018-11-20			
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773	warm	2	0.05194	1.18	556.91	8	2018-11-20			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773	Warm	3	0.05197	1.18	556.27	8	2018-11-20			
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773		4								
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773		5								
CB-WTD-089	2018-11-12	MIX C HALF ARBO	809 & top 757-769-773		6								
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	1	0.05176	0.67	318.42	7	2018-11-20			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	2	0.05137	0.64	308.80	7	2018-11-20			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	3	0.05165	0.62	295.91	7	2018-11-20			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	4	0.05128	0.96	464.82	51	2019-01-03			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	5	0.05159	0.94	449.68	51	2019-01-03			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705	Warm	6	0.05146	0.98	471.19	51	2019-01-03			
CB-WTD-090	2018-11-13	MIX C HALF ARBO	669 &705		7								
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821	Warm	1	0.05134	0.2	96.61	2	2018-11-15			
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821	Warm	2	0.0514	0.49	236.15	7	2018-11-20			
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821	Warm	3	0.05188	0.49	231.80	7	2018-11-20			
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821	Warm	4	0.05179	0.43	204.12	7	2018-11-20			
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821		5								
CB-WTD-091	2018-11-13	MIX C HALF ARBO	821		6								
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	1	0.0518	0.45	213.53	7	2018-11-21			
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	2	0.05184	0.44	208.46	7	2018-11-21			
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	3	0.05176	0.39	185.35	7	2018-11-21			
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	4	0.05141	0.74	356.49	50	2019-01-03			
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	5	0.05179	0.7	332.29	50	2019-01-03			
CB-WTD-092	2018-11-14	MIX C HALF ARBO	857, 853 & 849	Warm	6	0.05167	0.69	329.07	50	2019-01-03			
CB-WTD-093	2018-11-14	MIX C HALF ARBO	667 & 659	Warm	1	0.05164	0.34	162.34	3	2018-11-17			
CB-WTD-093	2018-11-14	MIX C HALF ARBO	667 & 659	Warm	2	0.05172	0.48	228.47	6	2018-11-20			
CB-WTD-093	2018-11-14	MIX C HALF ARBO	667 & 659	Warm	3	0.05205	0.53	249.08	7	2018-11-21			
CB-WTD-093	2018-11-14	MIX C HALF ARBO	667 & 659	Warm	4	0.05181	0.52	246.65	7	2018-11-21			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	1	0.05149	0.21	100.85	1	2018-11-16	2018-11-16	Non-Dispersive (ND1)	1 day old / warm cure
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	2	0.05195	0.68	320.81	7	2018-11-22			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	3	0.052	0.56	263.69	7	2018-11-22			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	4	0.05201	0.64	301.24	7	2018-11-22			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	5	0.0517	0.97	462.06	50	2019-01-04			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	6	0.05165	0.97	462.96	50	2019-01-04			
CB-WTD-094	2018-11-15	MIX C HALF ARBO	763	Warm	7	0.05186	1.03	487.62	50	2019-01-04			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	1	0.05147	0.53	254.73	5	2018-11-20			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	2	0.05135	0.54	260.75	7	2018-11-22			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	3	0.05135	0.63	304.21	7	2018-11-22			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	4	0.05129	0.54	261.36	7	2018-11-22			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	5	0.05182	0.86	407.77	52	2019-01-06			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	6	0.05147	0.86	413.33	52	2019-01-06			
CB-WTD-095	2018-11-15	MIX C HALF ARBO	695, 691 & 679	Warm	7	0.05192	0.81	382.58	52	2019-01-06			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783	Warm	1	0.05107	0.47	229.44	2	2018-11-18			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783	Warm	2	0.05179	0.44	208.87	2	2018-11-18			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783	Warm	3	0.05149	0.46	220.91	2	2018-11-18			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783	Warm	4	0.05181	0.69	327.29	7	2018-11-23			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783	Warm	5	0.05191	0.75	354.38	7	2018-11-23			
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783										
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783										
CB-WTD-096	2018-11-16	MIX C HALF ARBO	775 & 783										
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	1	0.05173	0.29	137.98	2	2018-11-18			
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	2	0.05148	0.29	139.33	2	2018-11-18			
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	3	0.05159	0.31	148.30	2	2018-11-18			
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	4	0.05159	0.56	267.90	7	2018-11-23			
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	5	0.05198	0.62	292.17	7	2018-11-23			
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	6								
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	7								
CB-WTD-097	2018-11-16	MIX C HALF ARBO	795, 791 & 787	Warm	8								
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	Warm	1	0.05151	0.62	297.52	7	2018-11-24			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	Warm	2	0.05177	0.66	313.54	7	2018-11-24			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	Warm	3	0.05152	0.61	292.61	7	2018-11-24			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	warm	4	0.05176	0.94	446.73	50	2019-01-06			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	Warm	5	0.05182	0.96	455.18	50	2019-01-06			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827	Warm	6	0.05172	0.95	452.19	50	2019-01-06			
CB-WTD-098	2018-11-17	MIX C HALF ARBO	831 & 827		7								
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751	Warm	1	0.05183	0.63	298.60	7	2018-11-24			
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751	Warm	2	0.05211	0.63	295.40	7	2018-11-24			
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751	Warm	3	0.05183	0.91	431.31	50	2019-01-06			
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751	Warm	4	0.05167	0.83	395.83	50	2019-01-06			
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751	Warm	5	0.05173	0.82	390.16	50	2019-01-06			
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751		6								
CB-WTD-099	2018-11-17	MIX C HALF ARBO	743 & 751		7								
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522	Warm	1	0.05198	0.61	287.45	7	2018-11-25			
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522	Warm	2	0.05192	0.59	278.67	7	2018-11-25			
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522	Warm	3	0.05182	0.62	293.97	7	2018-11-25			
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522		4								
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522		5								
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522		6								
CB-WTD-100	2018-11-18	MIX C HALF ARBO	526-522		7								

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	1	0.05162	0.29	138.57	2	2018-11-20			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	2	0.05192	0.53	250.33	7	2018-11-25			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	3	0.052	0.56	263.69	7	2018-11-25			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	4	0.05196	0.62	292.39	7	2018-11-25			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	5	0.05189	0.88	416.13	49	2019-01-06			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	6	0.05187	0.85	402.25	49	2019-01-06			
CB-WTD-101	2018-11-18	MIX C HALF ARBO	586	Warm	7	0.05154	0.83	397.83	49	2019-01-06			
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562	Warm	1	0.05181	0.33	156.53	2	2018-11-21			
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562	Warm	2	0.05221	0.59	275.58	10	2018-11-29			
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562	Warm	3	0.05217	0.59	276.01	10	2018-11-29			
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562		4								
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562		5								
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562		6								
CB-WTD-102	2018-11-19	MIX C HALF ARBO	562		7								
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598	Warm	1	0.05184	0.61	289.01	11	2018-11-30			
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598	Warm	2	0.05227	0.62	288.93	11	2018-11-30			
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598	Warm	3	0.05181	0.95	450.62	50	2019-01-08			
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598	Warm	4	0.0518	0.91	431.81	50	2019-01-08			
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598	Warm	5	0.05182	0.94	445.70	50	2019-01-08			
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598		6								
CB-WTD-103	2018-11-19	MIX C HALF ARBO	602-598		7								
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971	Warm	1	0.05169	0.26	123.90	2	2018-11-21			
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971	Warm	2	0.05226	0.67	312.35	12	2018-12-01			
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971	Warm	3	0.05191	0.75	354.38	12	2018-12-01			
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971	Warm	4	0.05186	0.91	430.81	51	2019-01-09			
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971	Warm	5	0.05187	0.89	421.18	51	2019-01-09			
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971		6								
CB-WTD-104	2018-11-19	MIX C HALF ARBO	975-973-971		7								
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	1	0.0517	0.22	104.80	2	2018-11-21			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	2	0.05181	0.59	279.86	11	2018-11-30			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	3	0.05185	0.58	274.69	11	2018-11-30			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	4	0.05194	0.6	283.18	29	2018-12-18			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	5	0.05191	0.56	264.60	29	2018-12-18			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967	Warm	6	0.05177	0.57	270.79	29	2018-12-18			
CB-WTD-105	2018-11-19	MIX C HALF ARBO	971-969-967		7								
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	warm	1	0.0516	0.28	133.90	2	2018-11-22			
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	warm	2	0.05183	0.48	227.50	7	2018-11-27			
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	warm	3	0.05195	0.45	212.30	7	2018-11-27			
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	warm	4	0.05203	0.52	244.57	7	2018-11-27			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	Warm	5	0.05214	0.69	323.16	28	2018-12-18			
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506	Warm	6	0.05156	0.72	344.84	28	2018-12-18			
CB-WTD-106	2018-11-20	MIX C HALF ARBO	618-510-506		7								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		1						2018-11-23	Non-Dispersive (ND1)	3 days old / Warm cure
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		2								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		3								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		4								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		5								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		6								
CB-WTD-107	2018-11-20	MIX C HALF ARBO	454-446 NO GOOD		7								
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	1	0.05183	0.32	151.67	2	2018-11-23			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	2	0.05174	0.53	252.08	8	2018-11-29			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	3	0.05184	0.5	236.89	8	2018-11-29			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	4	0.05175	0.51	242.47	8	2018-11-29			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	5	0.05174	0.71	337.69	28	2018-12-19			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	6	0.05205	0.59	277.28	28	2018-12-19			
CB-WTD-108	2018-11-21	MIX C HALF ARBO	726-722	Warm	7	0.05184	0.74	350.60	28	2018-12-19			
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718	Warm	1	0.05195	0.57	268.91	8	2018-11-29			
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718	Warm	2	0.05182	0.69	327.16	8	2018-11-29			
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718	Warm	3	0.05164	0.7	334.22	8	2018-11-29			
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718		4								
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718		5								
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718		6								
CB-WTD-109	2018-11-21	MIX C HALF ARBO	718		7								
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	1	0.05191	0.46	217.35	7	2018-11-29			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	2	0.05185	0.64	303.10	7	2018-11-29			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	3	0.05193	0.61	288.01	7	2018-11-29			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	4	0.05214	0.86	402.78	30	2018-12-22			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	5	0.05199	0.87	409.82	30	2018-12-22			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568	Warm	6	0.05189	0.93	439.77	30	2018-12-22			
CB-WTD-110	2018-11-22	MIX C HALF ARBO	572-568		7								
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698	Warm	1	0.05179	0.33	156.65	2	2018-11-25			
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698	Warm	2	0.05203	0.54	253.98	7	2018-11-30			
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698	Warm	3	0.05183	0.51	241.72	7	2018-11-30			
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698		4								
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698		5								
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698		6								
CB-WTD-111	2018-11-23	MIX C HALF ARBO	698		7								
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674	Warm	1	0.05197	1.04	490.27	7	2018-11-30			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674	Warm	2	0.05204	0.97	456.04	7	2018-11-30			
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674	Warm	3	0.05167	1.49	710.59	31	2018-12-24			
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674	Warm	4	0.05172	1.45	690.18	31	2018-12-24			
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674	Warm	5	0.05204	1.48	695.82	31	2018-12-24			
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674		6								
CB-WTD-112	2018-11-23	MIX C HALF ARBO	674		7								
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	warm	1	0.05168	0.54	257.43	7	2018-12-01			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	warm	2	0.05224	0.59	275.27	7	2018-12-01			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	warm	3	0.0522	0.58	271.02	7	2018-12-01			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	warm	4	0.05158	0.59	282.36	28	2018-12-22			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	warm	5	0.05208	0.63	295.74	28	2018-12-22			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556	Warm	6	0.0518	0.63	298.94	28	2018-12-22			
CB-WTD-113	2018-11-24	MIX C HALF ARBO	608-556		7								
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	1	0.05177	0.96	456.06	7	2018-12-02			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	2	0.05209	0.98	459.86	7	2018-12-02			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	3	0.05198	0.89	419.40	7	2018-12-02			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	4	0.05189	1.31	619.46	45	2019-01-09			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	5	0.05191	1.31	618.98	45	2019-01-09			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692	Warm	6	0.05198	1.33	626.74	45	2019-01-09			
CB-WTD-114	2018-11-25	MIX C HALF ARBO	706-692		7								
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648	Warm	1	0.05206	0.59	277.17	7	2018-12-02			
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648	Warm	2	0.05212	0.61	285.91	7	2018-12-02			
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648	Warm	3	0.05204	0.64	300.90	7	2018-12-02			
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648		4								
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648		5								
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648		6								
CB-WTD-115	2018-11-25	MIX C HALF ARBO	616-648		7								
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881	Warm	1	0.05195	0.66	311.37	7	2018-12-02			
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881	Warm	2	0.05124	0.57	276.42	7	2018-12-02			
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881	Warm	3	0.05208	0.65	305.13	7	2018-12-02			
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881		4								
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881		5								
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881		6								
CB-WTD-116	2018-11-25	MIX C HALF ARBO	881		7								
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684	Warm	1	0.05196	0.59	278.24	8	2018-12-04			
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684	Warm	2	0.05142	0.7	337.09	8	2018-12-04			
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684	Warm	3	0.05169	1.09	519.43	43	2019-01-08			
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684	Warm	4	0.05191	1.22	576.46	43	2019-01-08			
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684	Warm	5	0.05178	1.17	555.61	43	2019-01-08			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684		6								
CB-WTD-117	2018-11-26	MIX C HALF ARBO	660-684		7								
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748	Warm	1	0.05173	0.55	261.69	7	2018-12-04			
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748	Warm	2	0.05198	0.53	249.75	7	2018-12-04			
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748	Warm	3	0.05181	0.97	460.10	41	2019-01-07			
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748	Warm	4	0.05183	0.96	455.01	41	2019-01-07			
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748	Warm	5	0.05184	0.91	431.14	41	2019-01-07			
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748		6								
CB-WTD-118	2018-11-27	MIX C HALF ARBO	748		7								
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732	Warm	1	0.05186	0.31	146.76	2	2018-11-29			
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732	Warm	2	0.05178	0.83	394.15	7	2018-12-04			
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732	Warm	3	0.05156	0.56	268.21	7	2018-12-04			
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732	warm	4	0.05177	0.66	313.54	7	2018-12-04			
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732		5								
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732		6								
CB-WTD-119	2018-11-27	MIX C HALF ARBO	736-732		7								
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	1	0.05186	0.82	388.20	7	2018-12-05			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	2	0.05204	0.83	390.22	7	2018-12-05			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	3	0.05168	0.78	371.84	7	2018-12-05			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	4	0.05162	1.12	535.17	39	2019-01-06			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	5	0.05182	1.14	540.53	39	2019-01-06			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879	warm	6	0.05179	1.19	564.89	39	2019-01-06			
CB-WTD-120	2018-11-28	MIX C HALF ARBO	879		7								
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871	Warm	1	0.05248	0.33	152.56	2	2018-11-30			
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871	warm	2	0.05206	0.35	164.43	2	2018-11-30			
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871	Warm	3	0.05212	0.82	384.34	7	2018-12-05			
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871	Warm	4	0.05179	0.82	389.25	7	2018-12-05			
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871	Warm	5	0.05194	0.78	368.13	7	2018-12-05			
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871		6								
CB-WTD-121	2018-11-28	MIX C HALF ARBO	937-871		7								
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	1	0.05194	0.88	415.33	7	2018-12-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	2	0.05188	0.82	387.90	7	2018-12-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	3	0.05193	0.89	420.21	7	2018-12-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	4	0.05171	1.36	647.59	38	2019-01-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	5	0.05161	1.35	645.32	38	2019-01-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931	Warm	6	0.05179	1.39	659.83	38	2019-01-06			
CB-WTD-122	2018-11-29	MIX C HALF ARBO	907-931		7								

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	1	0.05196	0.32	150.91	2	2018-12-01			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	2	0.0518	0.63	298.94	7	2018-12-06			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	3	0.05168	0.62	295.57	7	2018-12-06			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	4	0.05185	0.57	269.95	7	2018-12-06			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	5	0.05202	0.96	451.69	28	2018-12-27			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	6	0.05192	0.95	448.71	28	2018-12-27			
CB-WTD-123	2018-11-29	MIX C HALF ARBO	891-830	Warm	7	0.05185	0.95	449.92	28	2018-12-27			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806	Warm	1	0.05187	0.37	175.10	2	2018-12-02			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806	Warm	2	0.05183	0.38	180.11	2	2018-12-02			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806	Warm	3	0.05174	0.59	280.61	7	2018-12-07			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806	Warm	4	0.05188	0.6	283.83	7	2018-12-07			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806	Warm	5	0.05147	0.59	283.57	7	2018-12-07			
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806		6								
CB-WTD-124	2018-11-30	MIX C HALF ARBO	810-806		7								
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	1	0.05184	0.65	307.96	7	2018-12-07			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	2	0.05196	0.67	315.97	7	2018-12-07			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	3	0.05173	0.66	314.03	7	2018-12-07			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	4	0.05185	0.82	388.35	28	2018-12-28			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	5	0.05192	0.84	396.75	28	2018-12-28			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947	Warm	6	0.05201	0.73	343.60	28	2018-12-28			
CB-WTD-125	2018-11-30	MIX C HALF ARBO	947		7								
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	Warm	1	0.0518	0.3	142.35	1	2018-12-02			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	Warm	2	0.05187	0.78	369.12	7	2018-12-08			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	Warm	3	0.05182	0.74	350.87	7	2018-12-08			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	Warm	4	0.05173	0.77	366.37	7	2018-12-08			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	warm	5	0.05187	1.32	624.67	36	2019-01-06			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	warm	6	0.05185	1.3	615.68	36	2019-01-06			
CB-WTD-126	2018-12-01	TRANSITION MIX C TO E	668B-816	warm	7	0.05174	1.31	623.06	36	2019-01-06			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	Warm	1	0.05208	0.32	150.22	1	2018-12-02			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	warm	2	0.05208	0.93	436.57	7	2018-12-08			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	warm	3	0.05198	0.95	447.67	7	2018-12-08			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	warm	4	0.05167	0.94	448.29	7	2018-12-08			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	Warm	5	0.05176	1.74	826.93	36	2019-01-06			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	Warm	6	0.05172	1.76	837.73	36	2019-01-06			
CB-WTD-127	2018-12-01	MIX E HALF ARBO	816-820	Warm	7	0.05174	1.71	813.30	36	2019-01-06			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	1	0.05166	0.27	128.81	1	2018-12-02			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	2	0.05162	0.87	415.71	7	2018-12-08			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	3	0.05146	0.82	394.26	7	2018-12-08			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	4	0.05195	0.87	410.45	7	2018-12-08			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	5	0.05184	1.06	502.21	28	2018-12-29			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	6	0.05153	1.36	652.12	28	2018-12-29			
CB-WTD-128	2018-12-01	MIX E HALF ARBO	910-906-922	Warm	7	0.05183	1.18	559.28	28	2018-12-29			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	1	0.05164	1.34	639.80	7	2018-12-09			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	2	0.05148	1.25	600.54	7	2018-12-09			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	3	0.05181	1.32	626.12	7	2018-12-09			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	4	0.05299	2.17	983.97	35	2019-01-06			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	5	0.05167	2.1	1001.50	35	2019-01-06			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B	Warm	6	0.0519	2.09	987.92	35	2019-01-06			
CB-WTD-129	2018-12-02	MIX E HALF ARBO	792-680-678B		7								
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	1	0.05158	1.07	512.07	7	2018-12-09			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	2	0.05166	1.07	510.49	7	2018-12-09			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	3	0.05177	1.01	479.82	7	2018-12-09			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	4	0.05193	1.36	642.11	28	2018-12-30			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	5	0.05208	1.32	619.64	28	2018-12-30			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796	Warm	6	0.05216	1.42	664.54	28	2018-12-30			
CB-WTD-130	2018-12-02	MIX E HALF ARBO	top. 918-902-898-890-874-856-800 & 796		7								
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908	Warm	1	0.05185	1.76	833.54	32	2019-01-04			
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908	Warm	2	0.05178	1.96	930.77	32	2019-01-04			
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908	Warm	3	0.05157	1.9	909.64	32	2019-01-04			
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908		4								
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908		5								
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908		6								
CB-WTD-131	2018-12-03	MIX E HALF ARBO	912-908		7								
CB-WTD-132	2018-12-03	MIX E	958-900	Warm	1	0.05187	2.19	1036.39	31	2019-01-03			
CB-WTD-132	2018-12-03	MIX E	958-900	Warm	2	0.05193	2.1	991.50	31	2019-01-03			
CB-WTD-132	2018-12-03	MIX E	958-900	Warm	3	0.05157	2.1	1005.39	31	2019-01-03			
CB-WTD-132	2018-12-03	MIX E	958-900		4								
CB-WTD-132	2018-12-03	MIX E	958-900		5								
CB-WTD-132	2018-12-03	MIX E	958-900		6								
CB-WTD-132	2018-12-03	MIX E	958-900		7								
CB-WTD-133	2018-12-04	MIX E	888-940-936	Warm	1	0.05195	2.18	1028.48	29	2019-01-02			
CB-WTD-133	2018-12-04	MIX E	888-940-936	Warm	2	0.05194	2.12	1000.56	29	2019-01-02			

SAMPLING NUMBER	Sampling date	Type of Mix	Pile Number	Cure	UCS test #	Average Diameter W (m)	Load W (KN)	Strength (kPa)	Curing days	Date of UCS test	Pinhole test date	Pinhole test result	Pinhole remarks
CB-WTD-133	2018-12-04	MIX E	888-940-936	Warm	3	0.05181	2.22	1053.02	29	2019-01-02			
CB-WTD-133	2018-12-04	MIX E	888-940-936		4								
CB-WTD-133	2018-12-04	MIX E	888-940-936		5								
CB-WTD-133	2018-12-04	MIX E	888-940-936		6								
CB-WTD-133	2018-12-04	MIX E	888-940-936		7								
CB-WTD-134	2018-12-04	MIX E	882	Warm	1	0.05188	1.74	823.11	29	2019-01-02	2018-12-05	Non-Dispersive (ND4)	1 day old / warm cure
CB-WTD-134	2018-12-04	MIX E	882	Warm	2	0.05195	1.7	802.03	29	2019-01-02			
CB-WTD-134	2018-12-04	MIX E	882	Warm	3	0.0519	1.61	761.03	29	2019-01-02			
CB-WTD-134	2018-12-04	MIX E	882		4								
CB-WTD-134	2018-12-04	MIX E	882		5								
CB-WTD-134	2018-12-04	MIX E	882		6								
CB-WTD-134	2018-12-04	MIX E	882		7								
Cold joint test #2	2018-10-20			Warm	1	0.05202	0.49	230.55	9	2018-10-29			

Appendix G-4

Permeability Tests

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SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE :	CB-WTD-002
PROJECT : Permeability test		SAMPLING DATE :	2018-09-10
LOCATION :		LOCALISATION :	Slurry wall
FILE : 657993		TEST Nr :	SK - 01

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.13	mm
Length	Le	102.00	mm
Cross-sectional area	Ae	21.34	cm^2
Total volume	Ve	217.7	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	275.50	g
Total dry mass	Ms	99.44	g
Water volume	Vw	176.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.3	cm^3
Degree of saturation	S	97.4	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.00	mm
Diameter	Do	52.13	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		294.16
Mass tare + dry specimen		115.12
Tare no.		10
Mass of tare		15.68
Water content (%)		180.05

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.83 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 8.75E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		217.7	217.7		216.8	217.6	
Volume of water	Vw	(cm^3)		176.6	176.6		180.3	180.9	
Volume of voids	Vv	(cm^3)		181.4	181.4		180.4	181.3	
Water content	W	(%)		177.05	177.05		180.76	181.36	
Dry mass density	ρ_s	(kg/m^3)		457	457		459	457	
Void ratio	e	(1/1)		4.992	4.992		4.966	4.988	
Porosity	n	(1/1)		0.833	0.833		0.832	0.833	
Degree of saturation	S	(%)		97.4	97.4		99.9	99.8	
Units strains	ε_v	(%)		0.00	0.00		0.42	0.05	
since the trimming	ε_1	(%)		0.00	0.00		0.17	0.08	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-22 (42 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-10-29

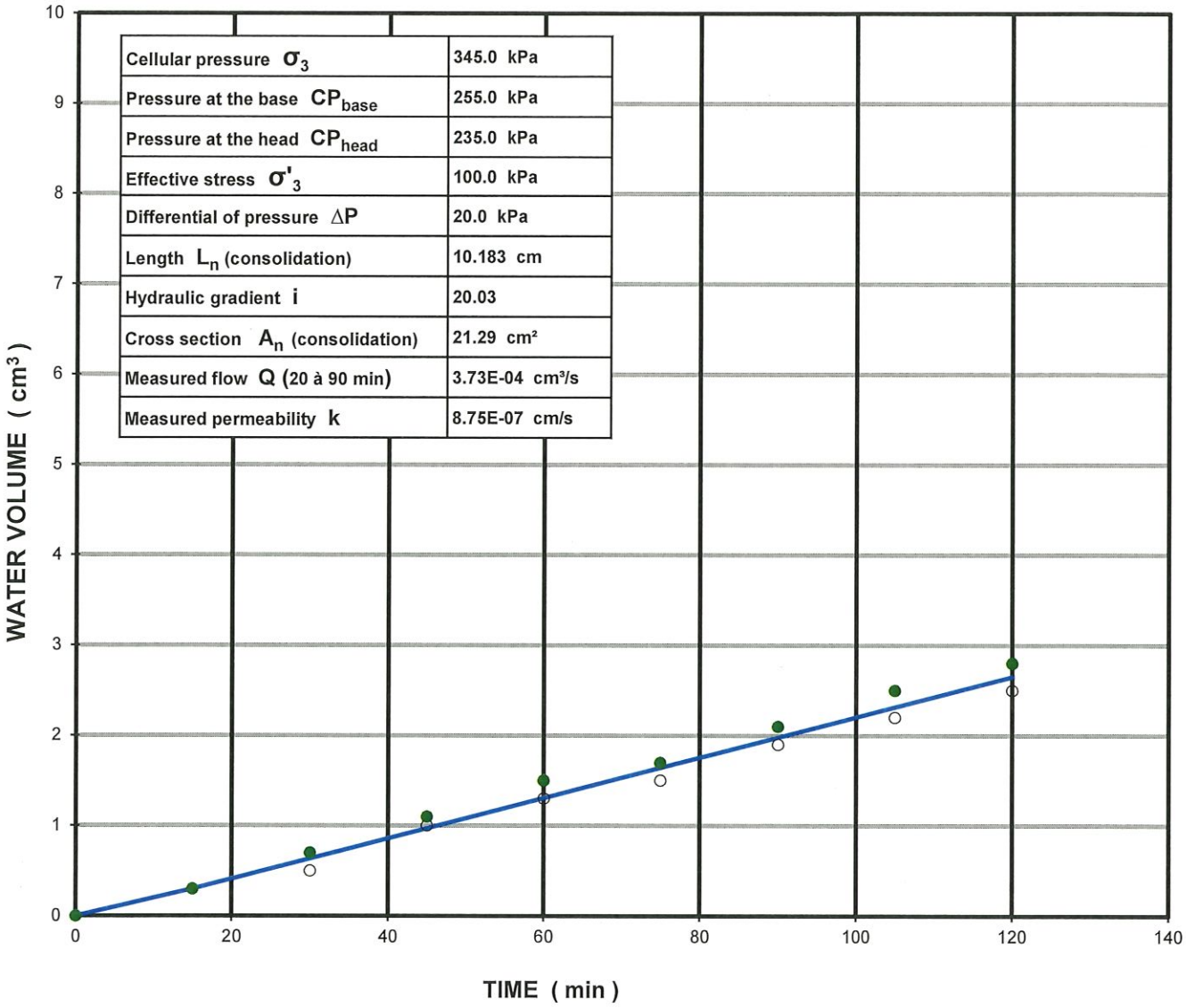
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-002
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-10
LOCATION	:	**LOCALISATION**	: Slurry wall
DOSSIER	: 659773	**TEST Nr**	: **SK-01**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.183 cm
Hydraulic gradient i	20.03
Cross section A_n (consolidation)	21.29 cm²
Measured flow Q (20 à 90 min)	3.73E-04 cm³/s
Measured permeability k	8.75E-07 cm/s



REMARK : Date of test : 2018-10-22 (42 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE :	CB-WTD-002
PROJECT : Permeability test		SAMPLING DATE :	2018-09-10
LOCATION :		LOCALISATION :	Slurry wall
FILE : 657993		TEST Nr :	SK - 02

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.85	mm
Length	Le	102.12	mm
Cross-sectional area	Ae	21.11	cm^2
Total volume	Ve	215.6	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	274.85	g
Total dry mass	Ms	99.09	g
Water volume	Vw	176.3	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.2	cm^3
Degree of saturation	S	98.3	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.12	mm
Diameter	Do	51.85	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

Mass tare + moist specimen		292.79
Mass tare + dry specimen		114.85
Tare no.		23
Mass of tare		15.76
Water content (%)		179.57

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.67 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

AUXILIARY

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 5.25E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.6	215.6		214.9	215.6	
Volume of water	Vw	(cm^3)		176.3	176.3		179.8	180.5	
Volume of voids	Vv	(cm^3)		179.4	179.4		178.7	179.4	
Water content	W	(%)		177.37	177.37		180.90	181.60	
Dry mass density	ρ_s	(kg/m^3)		460	460		461	460	
Void ratio	e	(1/1)		4.955	4.955		4.935	4.955	
Porosity	n	(1/1)		0.832	0.832		0.832	0.832	
Degree of saturation	S	(%)		98.3	98.3		100.6		
Units strains	ε_v	(%)		0.00	0.00		0.33	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.18	0.07	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-26 (46 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-10-29

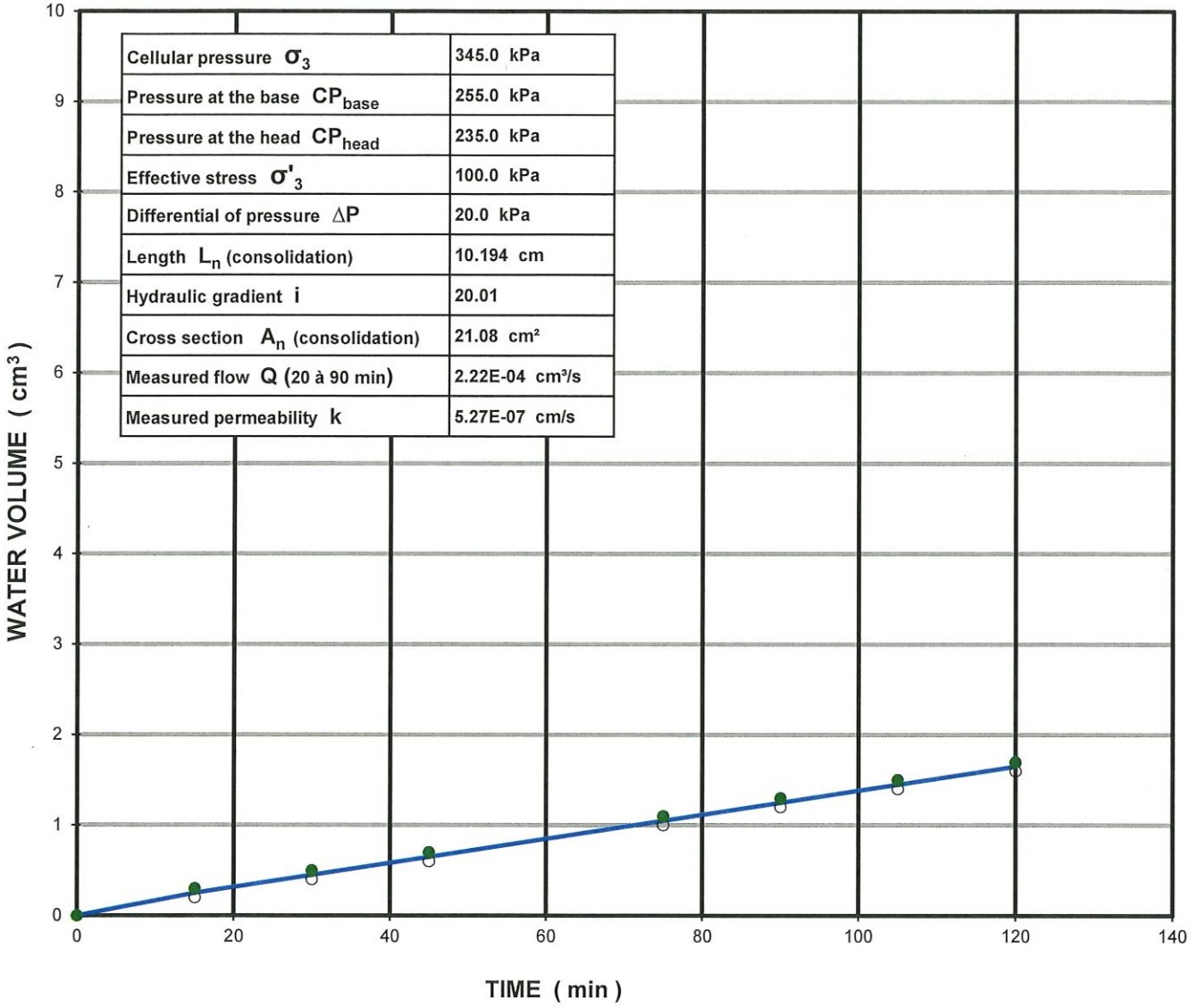
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-002
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-10
LOCATION	:	**LOCALISATION**	: Slurry wall
DOSSIER	: 659773	**TEST Nr**	: **SK-02**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.194 cm
Hydraulic gradient i	20.01
Cross section A_n (consolidation)	21.08 cm²
Measured flow Q (20 à 90 min)	2.22E-04 cm³/s
Measured permeability k	5.27E-07 cm/s



REMARK : Date of test : 2018-10-26 (46 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

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SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE :	CB-WTD-007
PROJECT : Permeability test		SAMPLING DATE :	2018-09-16
LOCATION :		LOCALISATION :	Pile 41
FILE : 657993		TEST Nr :	SK - 03

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.01	mm
Length	Le	101.26	mm
Cross-sectional area	Ae	21.25	cm^2
Total volume	Ve	215.1	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	274.25	g
Total dry mass	Ms	98.86	g
Water volume	Vw	175.9	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.1	cm^3
Degree of saturation	S	98.3	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.26	mm
Diameter	Do	52.01	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		289.31
Mass tare + dry specimen		112.39
Tare no.		100
Mass of tare		13.53
Water content (%)		178.96

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.94 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.87E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.1	215.1		214.2	215.1	
Volume of water	Vw	(cm^3)		175.9	175.9		178.5	179.4	
Volume of voids	Vv	(cm^3)		179.0	179.0		178.1	179.0	
Water content	W	(%)		177.41	177.41		180.03	180.94	
Dry mass density	ρ_s	(kg/m^3)		460	460		462	460	
Void ratio	e	(1/1)		4.956	4.956		4.930	4.955	
Porosity	n	(1/1)		0.832	0.832		0.831	0.832	
Degree of saturation	S	(%)		98.3	98.3		100.2	100.2	
Units strains	ε_v	(%)		0.00	0.00		0.44	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.25	0.12	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-24 (38 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-10-29

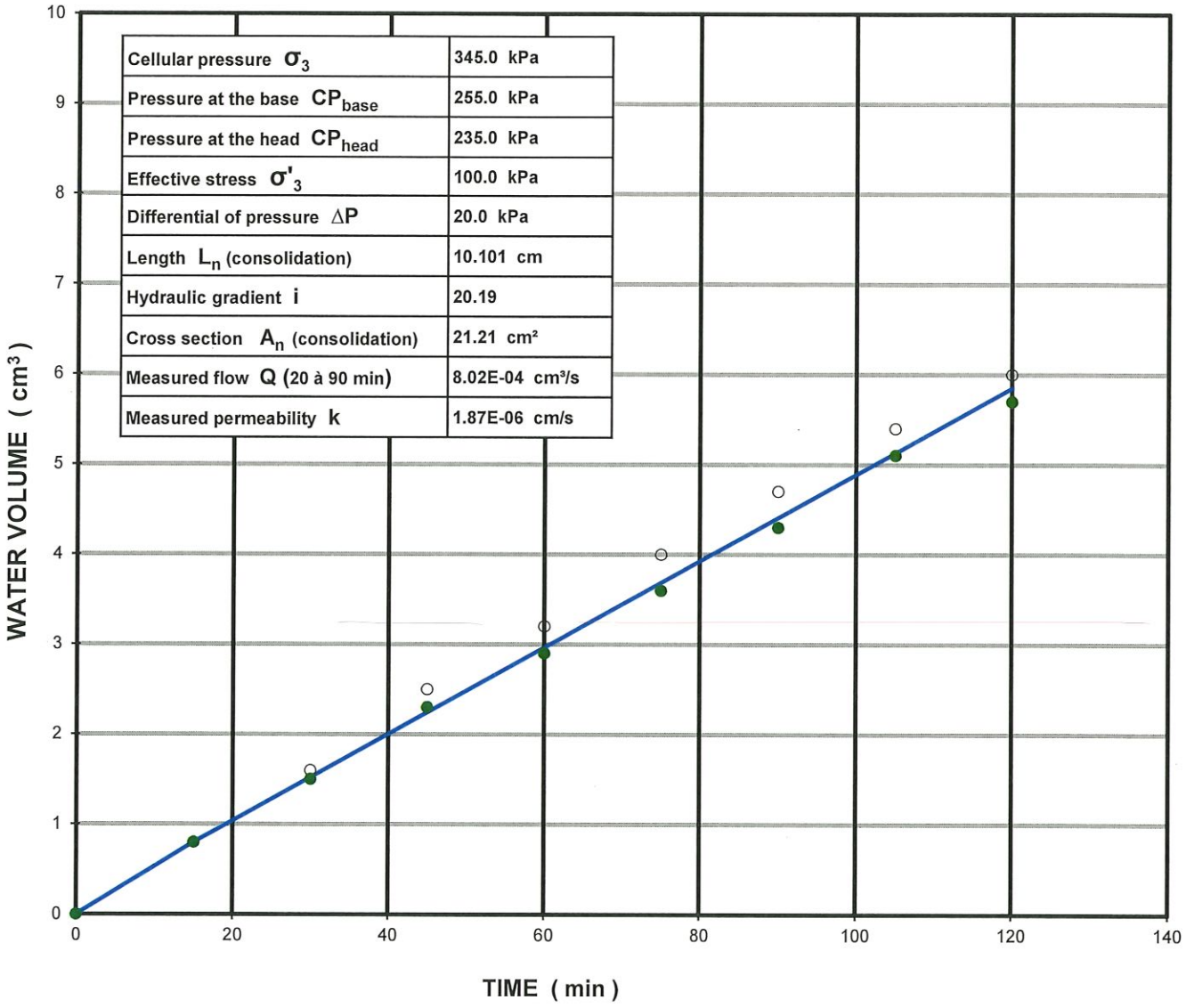
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-007
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-16
LOCATION	:	**LOCALISATION**	: Pile 41
DOSSIER	: 659773	**TEST Nr**	: SK-03

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.101 cm
Hydraulic gradient i	20.19
Cross section A_n (consolidation)	21.21 cm²
Measured flow Q (20 à 90 min)	8.02E-04 cm³/s
Measured permeability k	1.87E-06 cm/s



REMARK : Date of test : 2018-10-24 (38 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-007
PROJECT :	Permeability test	SAMPLING DATE :	2018-09-16
LOCATION :		LOCALISATION :	Pile 41
FILE :	657993	TEST Nr :	SK - 04

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.34	mm
Length	Le	100.88	mm
Cross-sectional area	Ae	21.52	cm^2
Total volume	Ve	217.1	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	271.76	g
Total dry mass	Ms	97.90	g
Water volume	Vw	174.4	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.8	cm^3
Degree of saturation	S	96.2	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	100.88	mm
Diameter	Do	52.34	mm
Measured Ovality			%

Cell nr : GE-190
Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		287.01
Mass tare + dry specimen		111.48
Tare no.		7
Mass of tare		13.58
Water content (%)		179.30

MEMBRANE OF LATEX

Dm : 0.30 mm
Cm : 153.00 mm
Lm : 104.88 mm
Correction.: N

E : Homogeneous elastic
H : Horizontals creasings
V : Verticals creasings
P : Plane of failure
N : No correction

CONDITIONS OF DRAINAGE

Loading: N
Dissipation: HB
Shearing: N

H : Top
B : Base
R : Radial
N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane
σ_r : radial correction of membrane
σ_α : correction for plan of failure

k : 2.86E-06 cm/s
C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		217.1	217.1		216.5	217.0	
Volume of water	Vw	(cm^3)		174.4	174.4		179.2	179.8	
Volume of voids	Vv	(cm^3)		181.3	181.3		180.7	181.3	
Water content	W	(%)		177.59	177.59		182.48	183.09	
Dry mass density	ρ_s	(kg/m^3)		451	451		452	451	
Void ratio	e	(1/1)		5.068	5.068		5.051	5.067	
Porosity	n	(1/1)		0.835	0.835		0.835	0.835	
Degree of saturation	S	(%)		96.2	96.2		99.2	99.2	
Units strains	ε_v	(%)		0.00	0.00		0.27	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.22	0.07	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-24 (38 days curing)

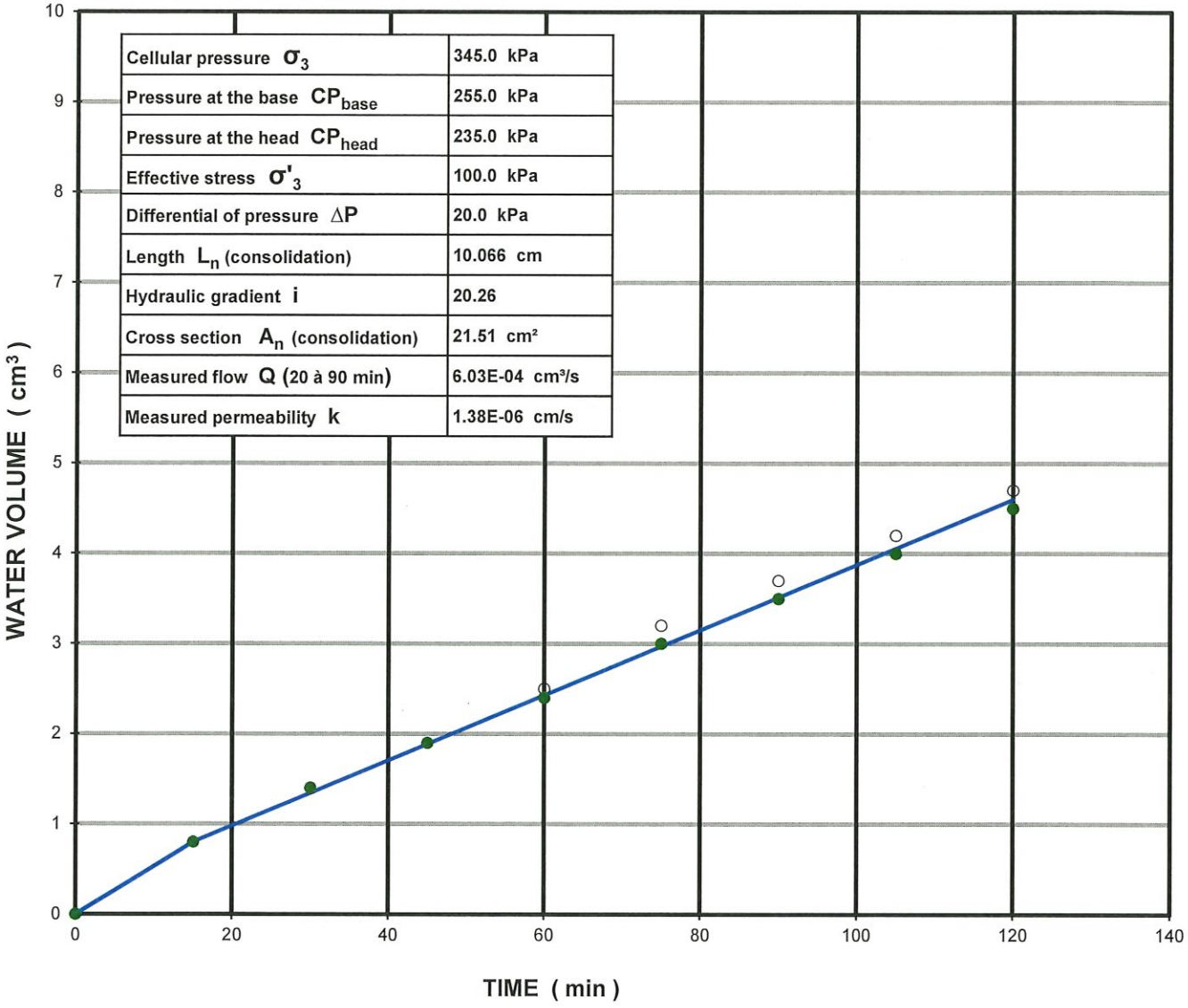
Prepared by: Richard Courchesne (100736) Date: 2018-10-29
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-007
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-16
LOCATION	:	**LOCALISATION**	: Pile 41
DOSSIER	: 659773	**TEST Nr**	: **SK-04**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.066 cm
Hydraulic gradient i	20.26
Cross section A_n (consolidation)	21.51 cm²
Measured flow Q (20 à 90 min)	6.03E-04 cm³/s
Measured permeability k	1.38E-06 cm/s



REMARK : Date of test : 2018-10-24 (38 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

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SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE : CB-WTD-013	
PROJECT : Permeability test		SAMPLING DATE : 2018-09-18	
LOCATION :		LOCALISATION : Pile 93	
FILE : 657993		TEST Nr : SK - 05	

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.07	mm
Length	Le	101.41	mm
Cross-sectional area	Ae	21.29	cm^2
Total volume	Ve	215.9	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	274.07	g
Total dry mass	Ms	97.36	g
Water volume	Vw	177.2	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.6	cm^3
Degree of saturation	S	98.3	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.41	mm
Diameter	Do	52.07	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		291.15
Mass tare + dry specimen		113.33
Tare no.		133
Mass of tare		15.97
Water content (%)		182.64

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.16 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 9.07E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.9	215.9		215.2	215.9	
Volume of water	Vw	(cm^3)		177.2	177.2		180.0	180.6	
Volume of voids	Vv	(cm^3)		180.4	180.4		179.6	180.4	
Water content	W	(%)		181.50	181.50		184.37	184.98	
Dry mass density	ρ_s	(kg/m^3)		451	451		452	451	
Void ratio	e	(1/1)		5.070	5.070		5.050	5.070	
Porosity	n	(1/1)		0.835	0.835		0.835	0.835	
Degree of saturation	S	(%)		98.3	98.3		100.2	100.2	
Units strains	ε_v	(%)		0.00	0.00		0.34	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.21	0.11	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	46

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-25 (37 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-10-29

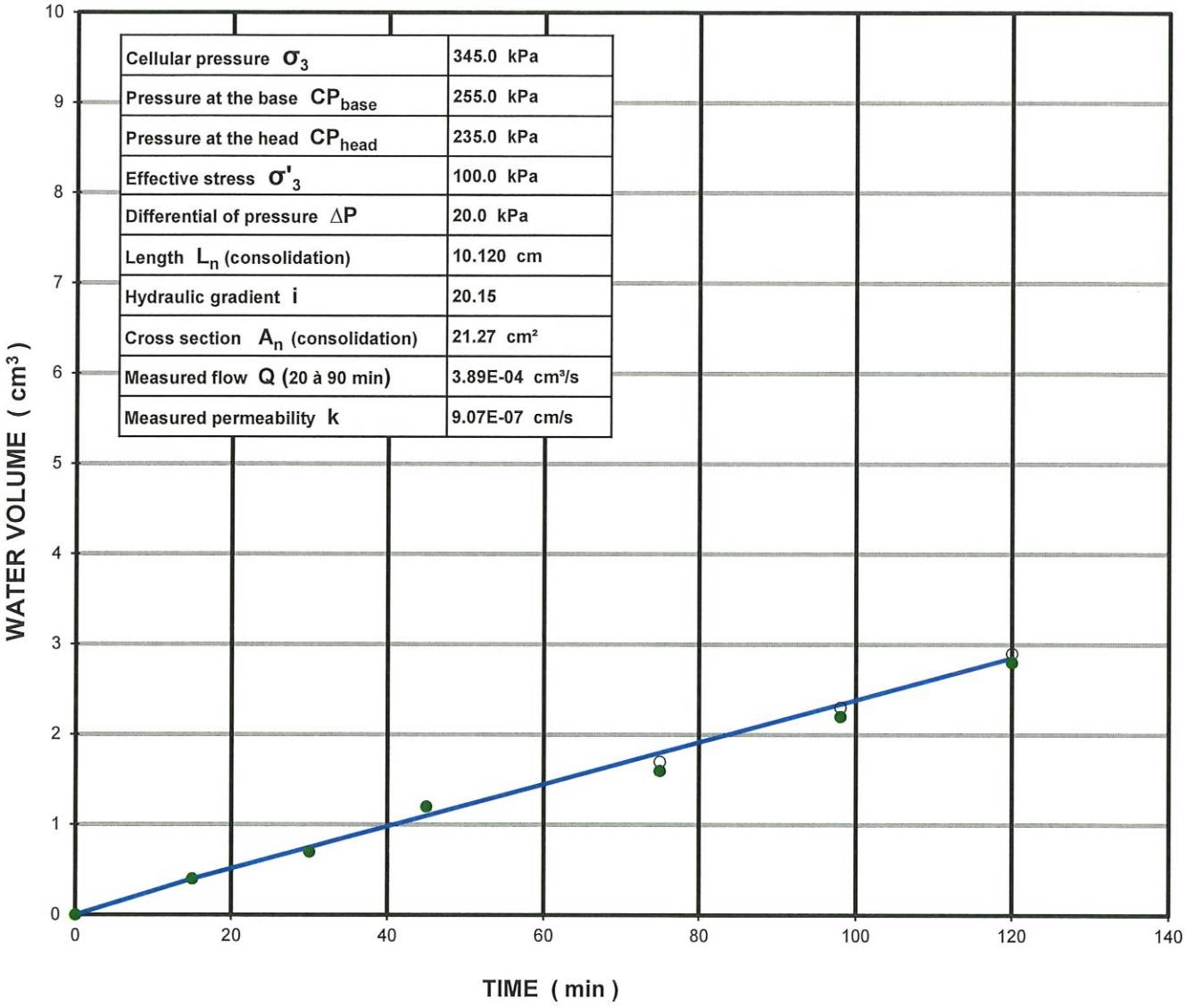
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-013
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-18
LOCATION	:	**LOCALISATION**	: Pile 93
DOSSIER	: 659773	**TEST Nr**	: **SK-05**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.120 cm
Hydraulic gradient i	20.15
Cross section A_n (consolidation)	21.27 cm²
Measured flow Q (20 à 90 min)	3.89E-04 cm³/s
Measured permeability k	9.07E-07 cm/s



REMARK : Date of test : 2018-10-25 (37 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-013
PROJECT :	Permeability test	SAMPLING DATE :	2018-09-18
LOCATION :		LOCALISATION :	Pile 93
FILE :	657993	TEST Nr :	SK - 06

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.20	mm
Length	Le	101.62	mm
Cross-sectional area	Ae	21.40	cm^2
Total volume	Ve	217.5	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	275.38	g
Total dry mass	Ms	97.89	g
Water volume	Vw	178.0	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.8	cm^3
Degree of saturation	S	98.0	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.62	mm
Diameter	Do	52.20	mm
Measured Ovality			%

Cell nr : GE-190

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		289.78
Mass tare + dry specimen		111.08
Tare no.		2
Mass of tare		13.19
Water content (%)		182.55

MEMBRANE OF LATEX

Dm : 0.30 mm
Cm : 153.00 mm
Lm : 105.51 mm
Correction.: N

E : Homogeneous elastic
H : Horizontals creasings
V : Verticals creasings
P : Plane of failure
N : No correction

CONDITIONS OF DRAINAGE

Loading: N
Dissipation: HB
Shearing: N

H : Top
B : Base
R : Radial
N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.05E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		217.5	217.5		216.7	217.5	
Volume of water	Vw	(cm^3)		178.0	178.0		179.3	180.1	
Volume of voids	Vv	(cm^3)		181.7	181.7		180.9	181.8	
Water content	W	(%)		181.32	181.32		182.64	183.45	
Dry mass density	ρ_s	(kg/m^3)		450	450		452	450	
Void ratio	e	(1/1)		5.080	5.080		5.058	5.082	
Porosity	n	(1/1)		0.836	0.836		0.835	0.836	
Degree of saturation	S	(%)		98.0	98.0		99.1	99.1	
Units strains	ε_v	(%)		0.00	0.00		0.37	-0.03	
since the trimming	ε_1	(%)		0.00	0.00		0.28	0.15	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-25 (37 days curing)

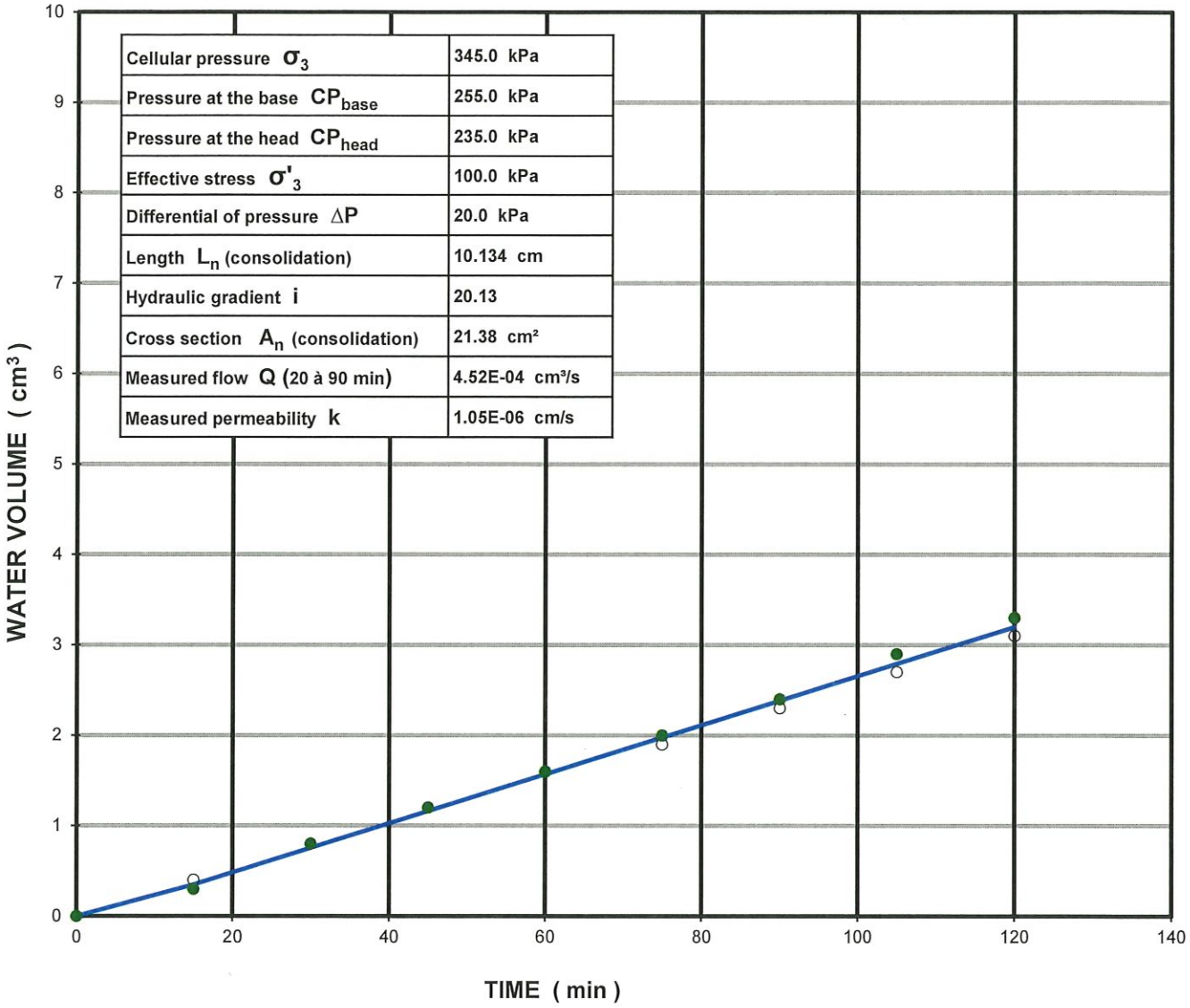
Prepared by: Richard Courchesne (100736) Date: 2018-10-29
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-013
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-18
LOCATION	:	**LOCALISATION**	: Pile 93
DOSSIER	: 659773	**TEST Nr**	: **SK-06**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.134 cm
Hydraulic gradient i	20.13
Cross section A_n (consolidation)	21.38 cm²
Measured flow Q (20 à 90 min)	4.52E-04 cm³/s
Measured permeability k	1.05E-06 cm/s



REMARK : Date of test : 2018-10-25 (37 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC•LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-015
PROJECT	: Permeability test	SAMPLING DATE	: 2018-09-24
LOCATION	:	LOCALISATION	: Pile 101
FILE	: 657993	TEST Nr	: SK - 07

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.03	mm
Length	Le	101.31	mm
Cross-sectional area	Ae	21.26	cm^2
Total volume	Ve	215.4	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	273.18	g
Total dry mass	Ms	96.12	g
Water volume	Vw	177.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.1	cm^3
Degree of saturation	S	98.5	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.31	mm
Diameter	Do	52.03	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		290.32
Mass tare + dry specimen		111.99
Tare no.		23
Mass of tare		15.87
Water content (%)		185.53

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.02 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 5.37E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.4	215.4		214.7	215.4	
Volume of water	Vw	(cm^3)		177.6	177.6		179.4	180.4	
Volume of voids	Vv	(cm^3)		180.3	180.3		179.5	180.3	
Water content	W	(%)		184.21	184.21		186.07	187.11	
Dry mass density	ρ_s	(kg/m^3)		446	446		448	446	
Void ratio	e	(1/1)		5.133	5.133		5.112	5.133	
Porosity	n	(1/1)		0.837	0.837		0.836	0.837	
Degree of saturation	S	(%)		98.5	98.5		99.9	100.1	
Units strains	ε_v	(%)		0.00	0.00		0.34	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.28	0.08	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-31 (37 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-05

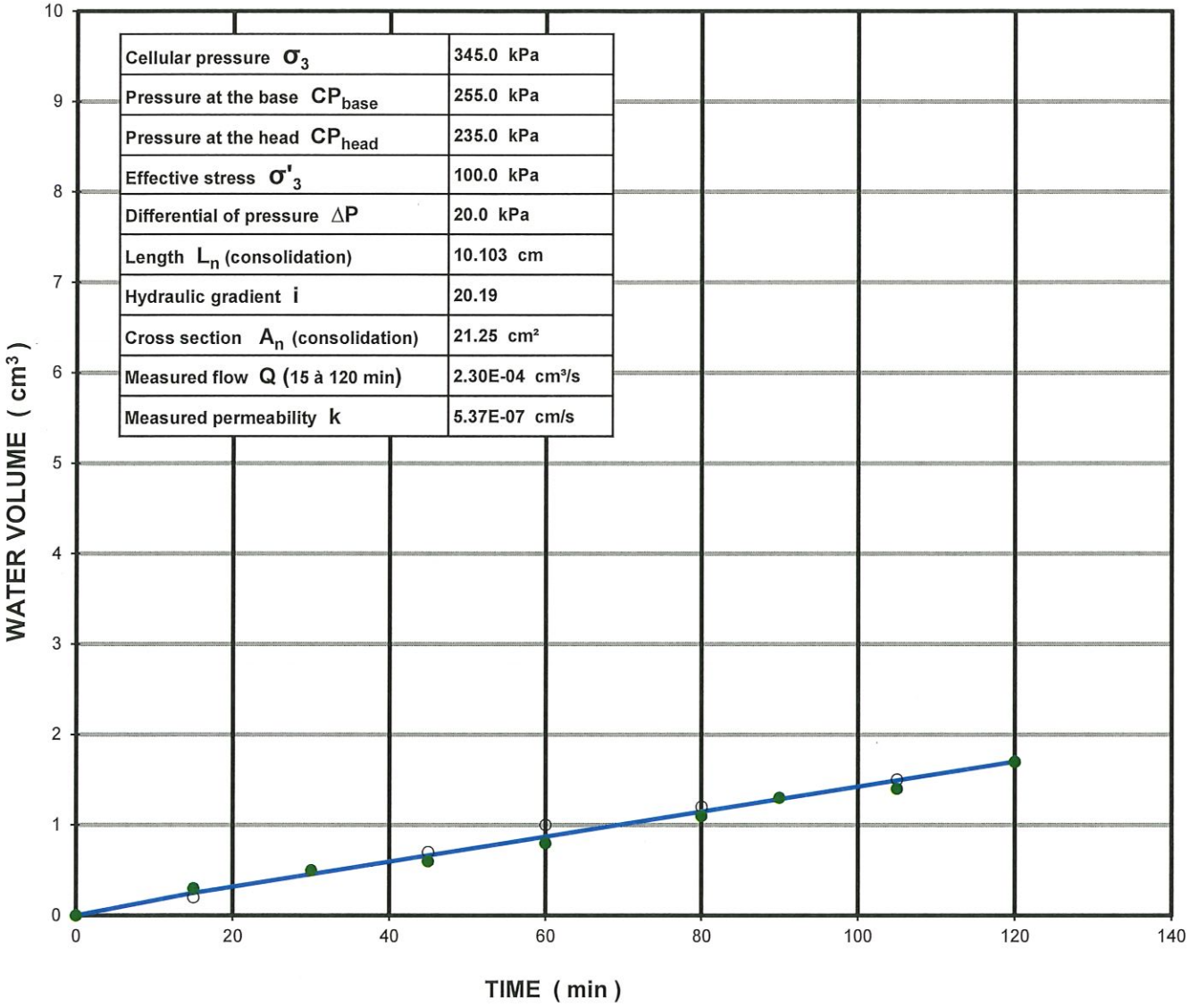
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-015
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-24
LOCATION	:	**LOCALISATION**	: Pile 101
DOSSIER	: 659773	**TEST Nr**	: SK-07

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.103 cm
Hydraulic gradient i	20.19
Cross section A_n (consolidation)	21.25 cm²
Measured flow Q (15 à 120 min)	2.30E-04 cm³/s
Measured permeability k	5.37E-07 cm/s



REMARK : Date of test : 2018-10-31 (37 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-023
PROJECT :	Permeability test	SAMPLING DATE :	2018-09-27
LOCATION :		LOCALISATION :	Piles 99 & 103
FILE :	657993	TEST Nr :	SK - 08

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.88	mm
Length	Le	102.05	mm
Cross-sectional area	Ae	21.14	cm^2
Total volume	Ve	215.7	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	271.86	g
Total dry mass	Ms	93.05	g
Water volume	Vw	179.3	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.0	cm^3
Degree of saturation	S	98.7	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.05	mm
Diameter	Do	51.88	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		286.43
Mass tare + dry specimen		106.25
Tare no.		2
Mass of tare		13.20
Water content (%)		193.64

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.63 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 3.15E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.7	215.7		215.1	215.7	
Volume of water	Vw	(cm^3)		179.3	179.3		182.4	183.1	
Volume of voids	Vv	(cm^3)		181.7	181.7		181.1	181.7	
Water content	W	(%)		192.17	192.17		195.49	196.24	
Dry mass density	ρ_s	(kg/m^3)		431	431		433	431	
Void ratio	e	(1/1)		5.345	5.345		5.327	5.344	
Porosity	n	(1/1)		0.842	0.842		0.842	0.842	
Degree of saturation	S	(%)		98.7	98.7		100.7	100.8	
Units strains	ε_v	(%)		0.00	0.00		0.29	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.18	0.07	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-10-31 (34 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-05

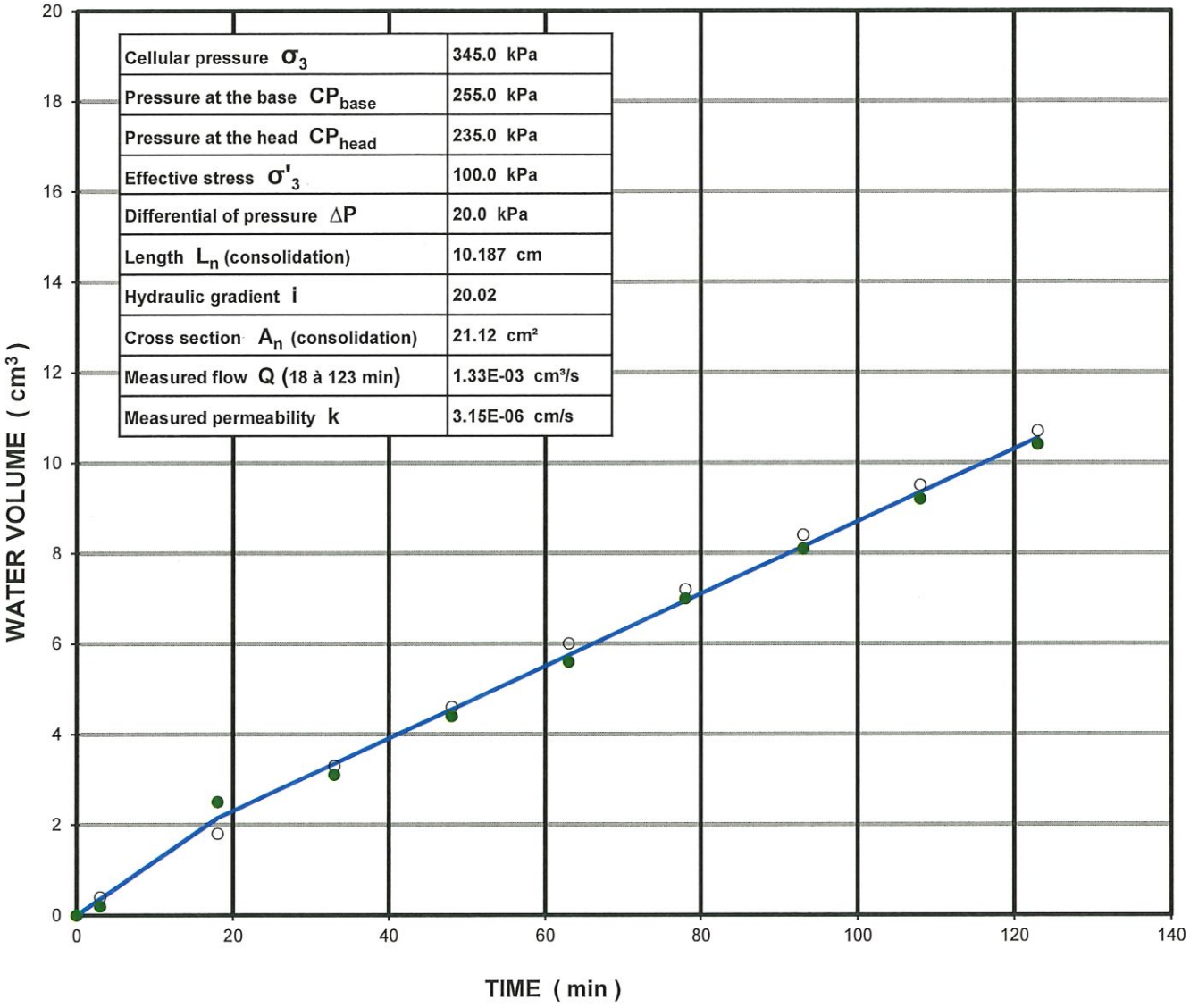
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-023
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-27
LOCATION	:	**LOCALISATION**	: Piles 99 & 103
DOSSIER	: 659773	**TEST Nr**	: SK-08

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.187 cm
Hydraulic gradient i	20.02
Cross section A_n (consolidation)	21.12 cm²
Measured flow Q (18 à 123 min)	1.33E-03 cm³/s
Measured permeability k	3.15E-06 cm/s



REMARK : Date of test : 2018-10-31 (34 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC•LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-028
PROJECT :	Permeability test	SAMPLING DATE :	2018-09-30
LOCATION :		LOCALISATION :	Pile 229
FILE :	657993	TEST Nr :	SK - 09

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.94	mm
Length	Le	102.10	mm
Cross-sectional area	Ae	21.19	cm^2
Total volume	Ve	216.3	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	277.75	g
Total dry mass	Ms	100.79	g
Water volume	Vw	177.5	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.8	cm^3
Degree of saturation	S	98.9	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.10	mm
Diameter	Do	51.94	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		294.56
Mass tare + dry specimen		116.22
Tare no.		173
Mass of tare		15.43
Water content (%)		176.94

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.74 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 5.80E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		216.3	216.3		216.0	216.3	
Volume of water	Vw	(cm^3)		177.5	177.5		179.6	180.3	
Volume of voids	Vv	(cm^3)		179.5	179.5		179.2	179.5	
Water content	W	(%)		175.57	175.57		177.65	178.34	
Dry mass density	ρ_s	(kg/m^3)		466	466		467	466	
Void ratio	e	(1/1)		4.874	4.874		4.865	4.874	
Porosity	n	(1/1)		0.830	0.830		0.830	0.830	
Degree of saturation	S	(%)		98.9	98.9		100.2	100.4	
Units strains	ε_v	(%)		0.00	0.00		0.15	0.00	
since the trimming	ε_1	(%)		0.00	0.00		0.18	0.05	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-01 (32 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-05

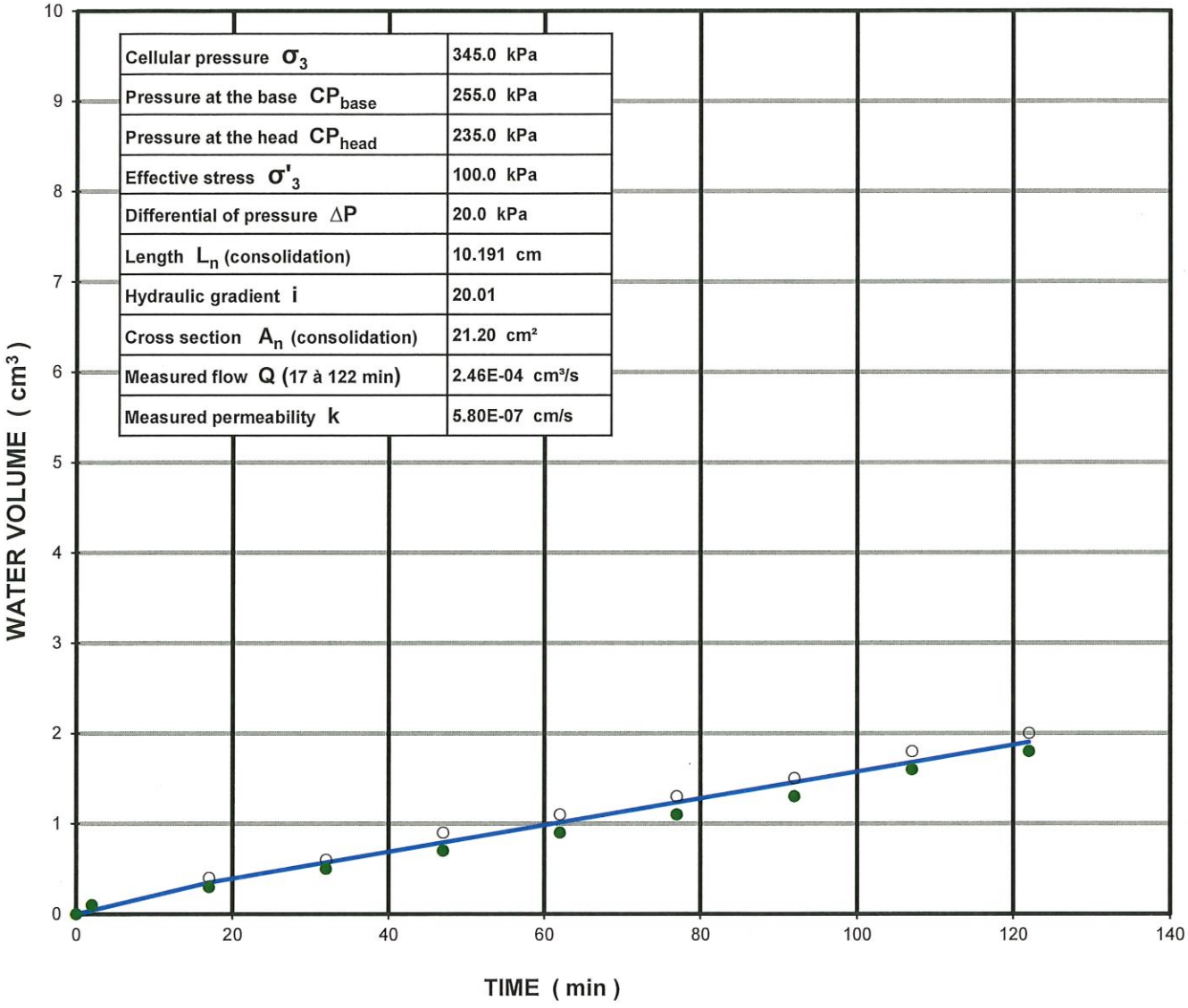
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-028
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-09-30
LOCATION	:	**LOCALISATION**	: Pile 229
DOSSIER	: 659773	**TEST Nr**	: **SK-09**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.191 cm
Hydraulic gradient i	20.01
Cross section A_n (consolidation)	21.20 cm²
Measured flow Q (17 à 122 min)	2.46E-04 cm³/s
Measured permeability k	5.80E-07 cm/s



REMARK : Date of test : 2018-11-01 (32 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC•LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-037
PROJECT :	Permeability test	SAMPLING DATE :	2018-10-03
LOCATION :		LOCALISATION :	Piles 38-50-54
FILE :	657993	TEST Nr :	SK - 10

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.97	mm
Length	Le	100.63	mm
Cross-sectional area	Ae	21.21	cm^2
Total volume	Ve	213.5	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	272.51	g
Total dry mass	Ms	98.79	g
Water volume	Vw	174.2	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.1	cm^3
Degree of saturation	S	98.2	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.05	mm
Diameter	Do	51.88	mm
Measured Ovality			%

Cell nr : GE-190

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		287.70
Mass tare + dry specimen		112.33
Tare no.		5
Mass of tare		13.54
Water content (%)		177.52

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.25 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 5.90E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		213.5	213.5		212.8	213.4	
Volume of water	Vw	(cm^3)		174.2	174.2		177.6	178.2	
Volume of voids	Vv	(cm^3)		177.4	177.4		176.7	177.3	
Water content	W	(%)		175.85	175.85		179.28	179.88	
Dry mass density	ρ_s	(kg/m^3)		463	463		464	463	
Void ratio	e	(1/1)		4.914	4.914		4.894	4.913	
Porosity	n	(1/1)		0.831	0.831		0.830	0.831	
Degree of saturation	S	(%)		98.2	98.2		100.5	100.5	
Units strains	ε_v	(%)		0.00	0.00		0.32	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.24	0.11	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-01 (29 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-05

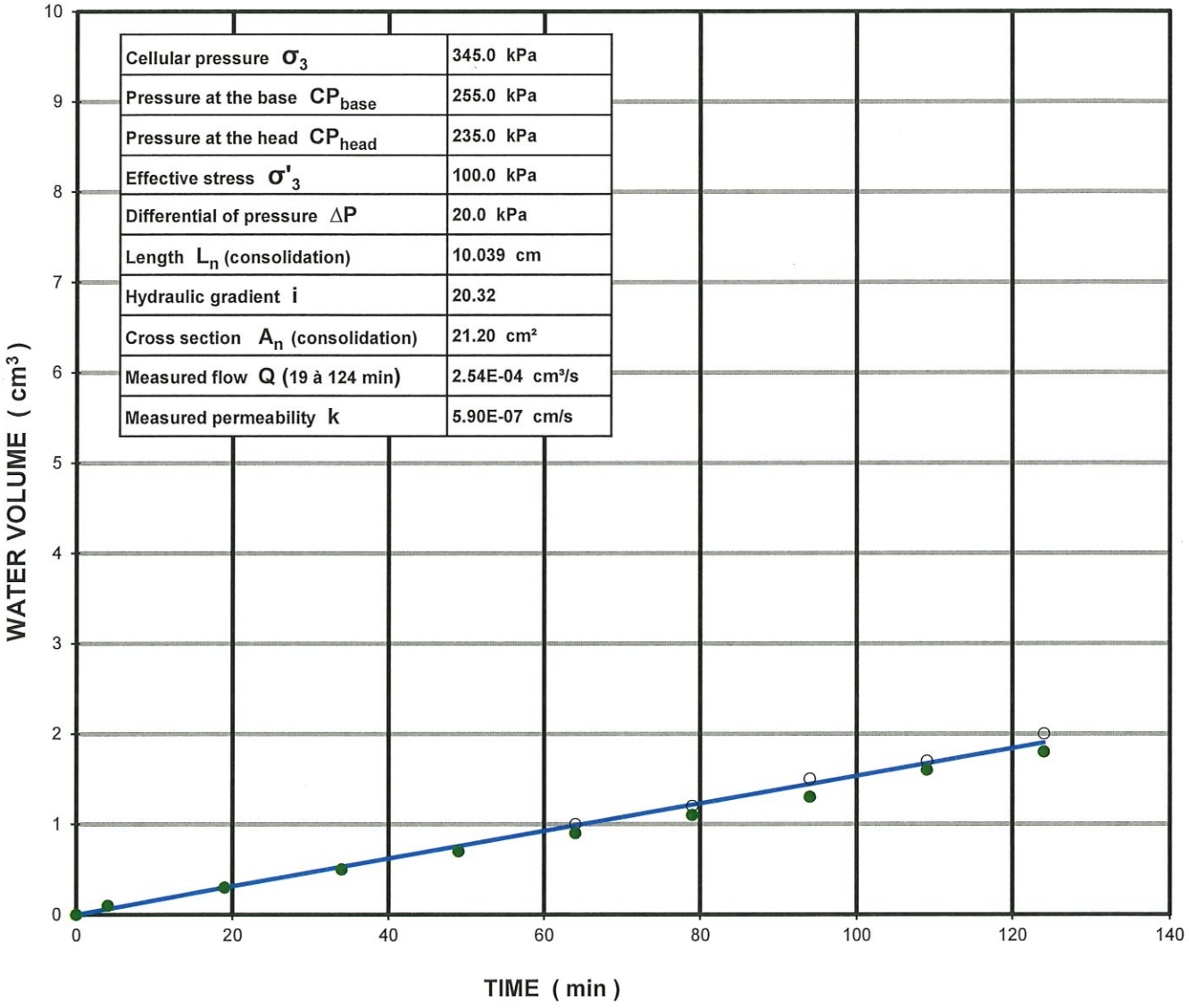
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-037
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-03
LOCATION	:	**LOCALISATION**	: Piles 38-50-54
DOSSIER	: 659773	**TEST Nr**	: **SK-10**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.039 cm
Hydraulic gradient i	20.32
Cross section A_n (consolidation)	21.20 cm²
Measured flow Q (19 à 124 min)	2.54E-04 cm³/s
Measured permeability k	5.90E-07 cm/s



REMARK : Date of test : 2018-11-01 (29 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-041
PROJECT :	Permeability test	SAMPLING DATE :	2018-10-05
LOCATION :		LOCALISATION :	Piles 273-277
FILE :	657993	TEST Nr :	SK - 11

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.08	mm
Length	Le	102.14	mm
Cross-sectional area	Ae	21.30	cm^2
Total volume	Ve	217.6	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	273.94	g
Total dry mass	Ms	96.66	g
Water volume	Vw	177.8	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.3	cm^3
Degree of saturation	S	97.6	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.14	mm
Diameter	Do	52.04	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		289.09
Mass tare + dry specimen		110.11
Tare no.		2M
Mass of tare		13.45
Water content (%)		185.16

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.97 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 7.08E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		217.3	217.6		217.0	217.6	
Volume of water	Vw	(cm^3)		177.8	177.8		181.9	182.7	
Volume of voids	Vv	(cm^3)		181.9	182.3		181.6	182.2	
Water content	W	(%)		183.41	183.41		187.63	188.46	
Dry mass density	ρ_s	(kg/m^3)		445	444		446	444	
Void ratio	e	(1/1)		5.151	5.161		5.143	5.160	
Porosity	n	(1/1)		0.837	0.838		0.837	0.838	
Degree of saturation	S	(%)		97.7	97.6		100.2	100.3	
Units strains	ε_v	(%)		0.00	-0.15		0.13	-0.15	
since the trimming	ε_1	(%)		0.00	0.00		0.21	0.08	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-02 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-05

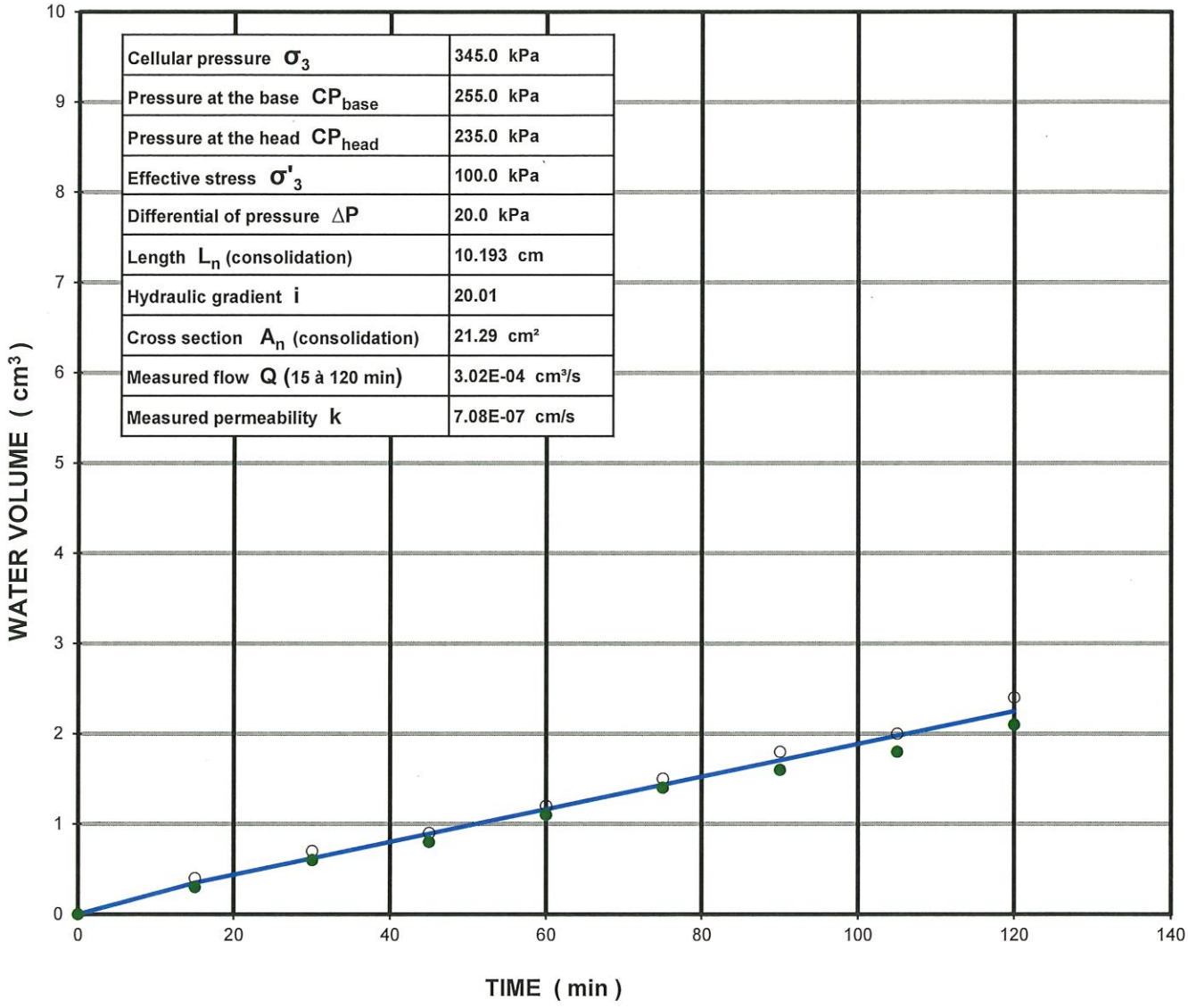
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-041
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-05
LOCATION	:	**LOCALISATION**	: Piles 273-277
DOSSIER	: 659773	**TEST Nr**	: **SK-11**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.193 cm
Hydraulic gradient i	20.01
Cross section A_n (consolidation)	21.29 cm²
Measured flow Q (15 à 120 min)	3.02E-04 cm³/s
Measured permeability k	7.08E-07 cm/s



REMARK : Date of test : 2018-11-02 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC•LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	**SAMPLE** :	CB-WTD-044
PROJECT :	Permeability test	**SAMPLING DATE** :	2018-10-07
LOCATION :		**LOCALISATION** :	Piles 118-114
FILE :	659773	**TEST Nr** :	SK - 12

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52,04	mm
Length	Le	102,04	mm
Cross-sectional area	Ae	21,27	cm^2
Total volume	Ve	217,0	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	282,13	g
Total dry mass	Ms	106,46	g
Water volume	Vw	176,2	cm^3
Specific gravity (est.)	Gs	2,745	
Solids volume	Vs	38,9	cm^3
Degree of saturation	S	98,9	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102,04	mm
Diameter	Do	52,04	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		295,97
Mass tare + dry specimen		120,04
Tare no.		21
Mass of tare		13,58
Water content (%)		165,25

MEMBRANE OF LATEX

Dm : 0,30 mm

Cm : 153,00 mm

Lm : 105,78 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1,13E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	**Trimming**	**Initial**		**Dissipation**	**Saturation**	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		217,0	217,0		217,6	217,0	
Volume of water	Vw	(cm^3)		176,2	176,2		178,7	179,3	
Volume of voids	Vv	(cm^3)		178,1	178,1		178,7	178,1	
Water content	W	(%)		165,01	165,01		167,35	167,91	
Dry mass density	ρ_s	(kg/m^3)		491	491		489	491	
Void ratio	e	(1/1)		4,579	4,579		4,594	4,579	
Porosity	n	(1/1)		0,821	0,821		0,821	0,821	
Degree of saturation	S	(%)		98,9	98,9		100,0	100,7	
Units strains	ε_v	(%)		0,00	0,00		-0,27	0,01	
since the trimming	ε_1	(%)		0,00	0,00		0,18	0,07	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-05 (29 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-07

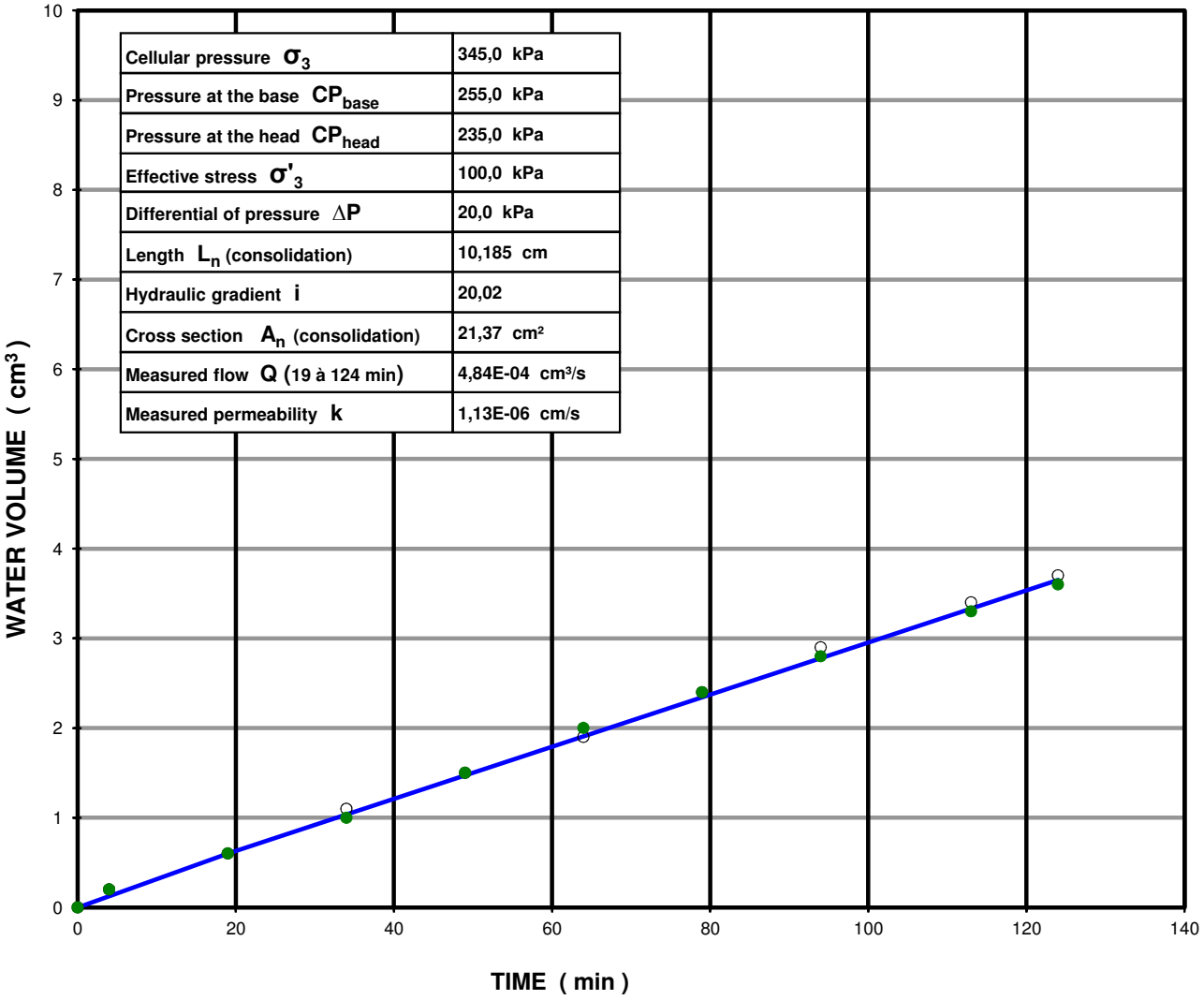
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-044
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-07
LOCATION	:	**LOCALISATION**	: Piles 118-114
DOSSIER	: 659773	**TEST Nr**	: **SK-12**

Cellular pressure σ_3	345,0 kPa
Pressure at the base CP_{base}	255,0 kPa
Pressure at the head CP_{head}	235,0 kPa
Effective stress σ'_3	100,0 kPa
Differential of pressure ΔP	20,0 kPa
Length L_n (consolidation)	10,185 cm
Hydraulic gradient i	20,02
Cross section A_n (consolidation)	21,37 cm²
Measured flow Q (19 à 124 min)	4,84E-04 cm³/s
Measured permeability k	1,13E-06 cm/s



REMARK : Date of test : 2018-11-05 (29 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-050
PROJECT	: Permeability test	SAMPLING DATE	: 2018-10-10
LOCATION	:	LOCALISATION	: Piles 198-329-333
FILE	: 659773	TEST Nr	: SK - 13

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.04	mm
Length	Le	102.66	mm
Cross-sectional area	Ae	21.27	cm^2
Total volume	Ve	218.4	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	277.90	g
Total dry mass	Ms	99.44	g
Water volume	Vw	179.0	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.3	cm^3
Degree of saturation	S	98.3	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.66	mm
Diameter	Do	52.04	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		291.89
Mass tare + dry specimen		112.66
Tare no.		2
Mass of tare		13.22
Water content (%)		180.24

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 106.43 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 4.67E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		218.4	218.4		218.8	218.3	
Volume of water	Vw	(cm^3)		179.0	179.0		181.7	182.5	
Volume of voids	Vv	(cm^3)		182.0	182.0		182.5	182.0	
Water content	W	(%)		179.47	179.47		182.17	182.97	
Dry mass density	ρ_s	(kg/m^3)		455	455		454	455	
Void ratio	e	(1/1)		5.010	5.010		5.023	5.009	
Porosity	n	(1/1)		0.834	0.834		0.834	0.834	
Degree of saturation	S	(%)		98.3	98.3		99.6	100.3	
Units strains	ε_v	(%)		0.00	0.00		-0.22	0.00	
since the trimming	ε_1	(%)		0.00	0.00		0.17	0.04	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-09 (30 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-12

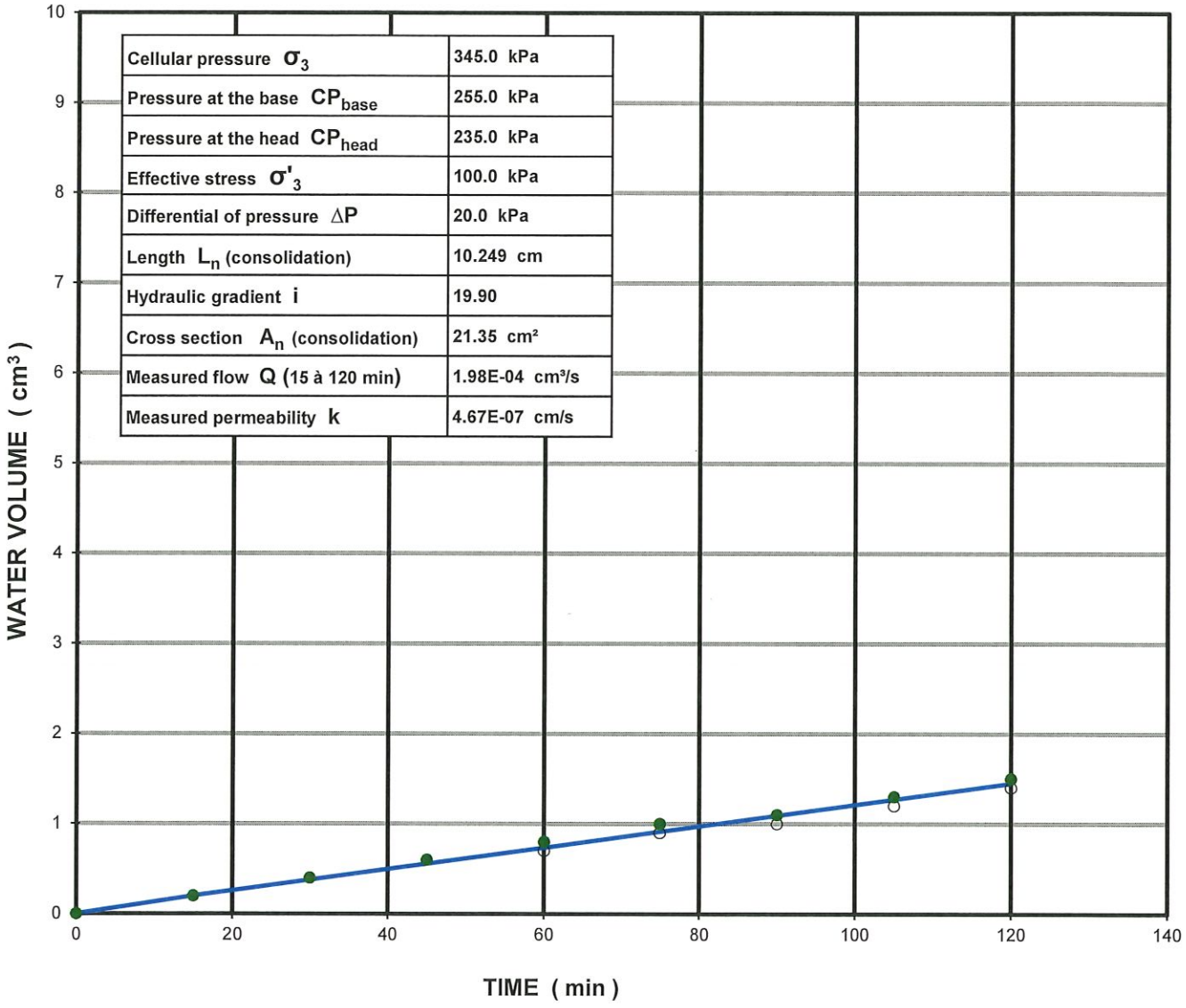
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-050
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-10
LOCATION	:	**LOCALISATION**	: Piles 198-329-333
DOSSIER	: 659773	**TEST Nr**	: **SK-13**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.249 cm
Hydraulic gradient i	19.90
Cross section A_n (consolidation)	21.35 cm²
Measured flow Q (15 à 120 min)	1.98E-04 cm³/s
Measured permeability k	4.67E-07 cm/s



REMARK : Date of test : 2018-11-09 (30 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE :	CB-WTD-066
PROJECT : Permeability test		SAMPLING DATE :	2018-10-30
LOCATION :		LOCALISATION :	Tests HE mix
FILE : 659773		TEST Nr :	SK - 14

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.64	mm
Length	Le	100.37	mm
Cross-sectional area	Ae	20.94	cm^2
Total volume	Ve	210.2	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	268.68	g
Total dry mass	Ms	94.65	g
Water volume	Vw	174.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.6	cm^3
Degree of saturation	S	99.4	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	100.37	mm
Diameter	Do	51.64	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		284.86
Mass tare + dry specimen		110.12
Tare no.		195
Mass of tare		15.47
Water content (%)		184.62

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 103.65 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 9.10E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		210.2	210.2		208.7	210.2	
Volume of water	Vw	(cm^3)		174.6	174.6		175.8	177.3	
Volume of voids	Vv	(cm^3)		175.6	175.6		174.1	175.6	
Water content	W	(%)		183.87	183.87		185.13	186.71	
Dry mass density	ρ_s	(kg/m^3)		450	450		454	450	
Void ratio	e	(1/1)		5.077	5.077		5.034	5.076	
Porosity	n	(1/1)		0.835	0.835		0.834	0.835	
Degree of saturation	S	(%)		99.4	99.4		101.0	101.0	
Units strains	ε_v	(%)		0.00	0.00		0.72	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.57	0.15	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-22 (23 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-26

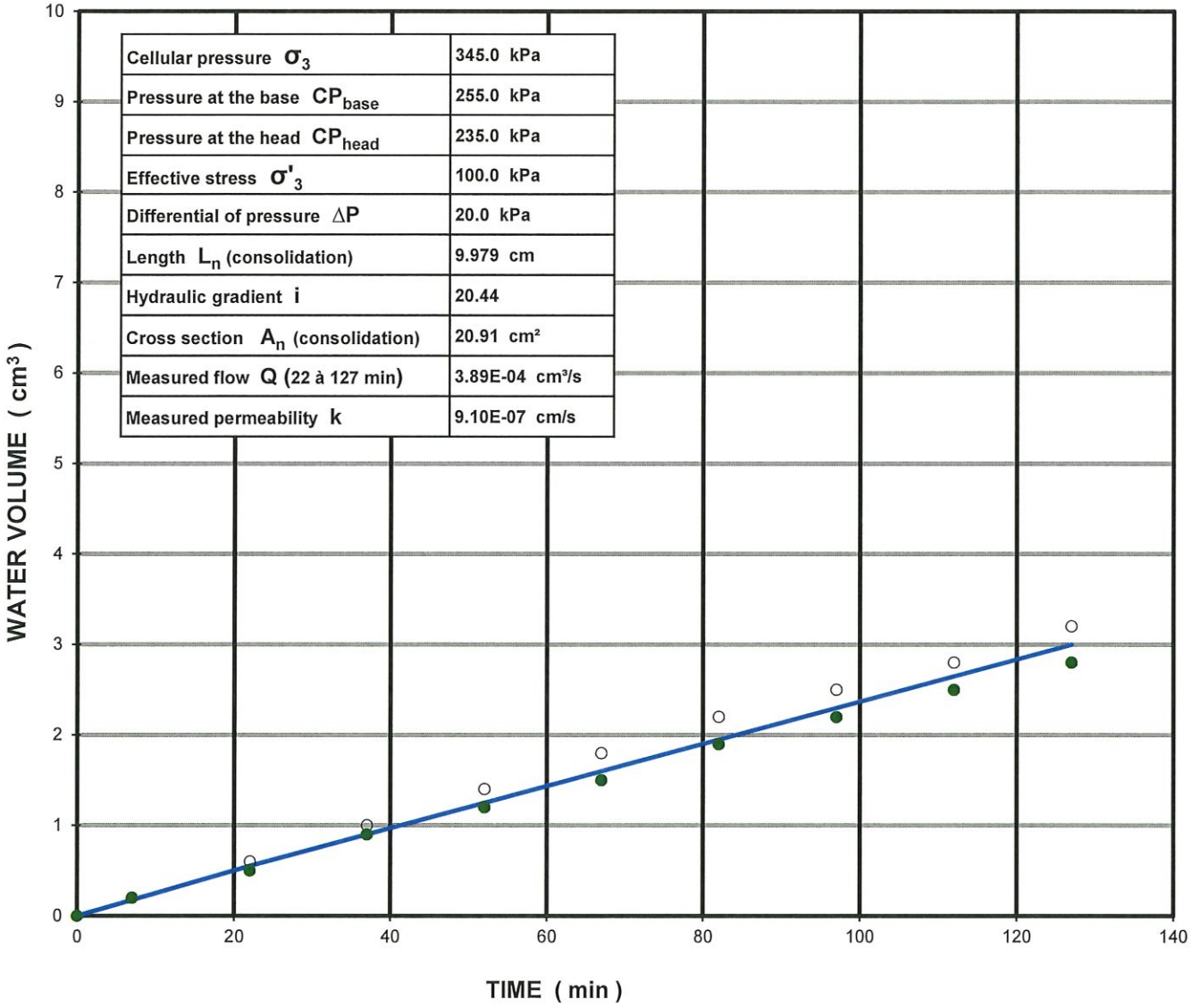
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-066
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-30
LOCATION	:	**LOCALISATION**	: Tests HE mix
DOSSIER	: 659773	**TEST Nr**	: **SK-14**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	9.979 cm
Hydraulic gradient i	20.44
Cross section A_n (consolidation)	20.91 cm²
Measured flow Q (22 à 127 min)	3.89E-04 cm³/s
Measured permeability k	9.10E-07 cm/s



REMARK : Date of test : 2018-11-22 (23 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-067
PROJECT :	Permeability test	SAMPLING DATE :	2018-10-30
LOCATION :		LOCALISATION :	Tests HE mix
FILE :	659773	TEST Nr :	SK - 15

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.93	mm
Length	Le	101.71	mm
Cross-sectional area	Ae	21.18	cm^2
Total volume	Ve	215.4	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	275.75	g
Total dry mass	Ms	97.64	g
Water volume	Vw	178.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	35.7	cm^3
Degree of saturation	S	99.4	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.71	mm
Diameter	Do	51.93	mm
Measured Ovality			%

Cell nr : GE-190

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		290.48
Mass tare + dry specimen		111.22
Tare no.		24
Mass of tare		13.58
Water content (%)		183.59

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.33 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 7.88E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.4	215.4		213.4	214.4	
Volume of water	Vw	(cm^3)		178.6	178.6		179.7	180.9	
Volume of voids	Vv	(cm^3)		179.7	179.7		177.7	178.7	
Water content	W	(%)		182.41	182.41		183.54	184.76	
Dry mass density	ρ_s	(kg/m^3)		453	453		458	455	
Void ratio	e	(1/1)		5.038	5.038		4.982	5.009	
Porosity	n	(1/1)		0.834	0.834		0.833	0.834	
Degree of saturation	S	(%)		99.4	99.4		101.1	101.3	
Units strains	ε_v	(%)		0.00	0.00		0.93	0.48	
since the trimming	ε_1	(%)		0.00	0.00		0.26	0.13	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-22 (23 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-26

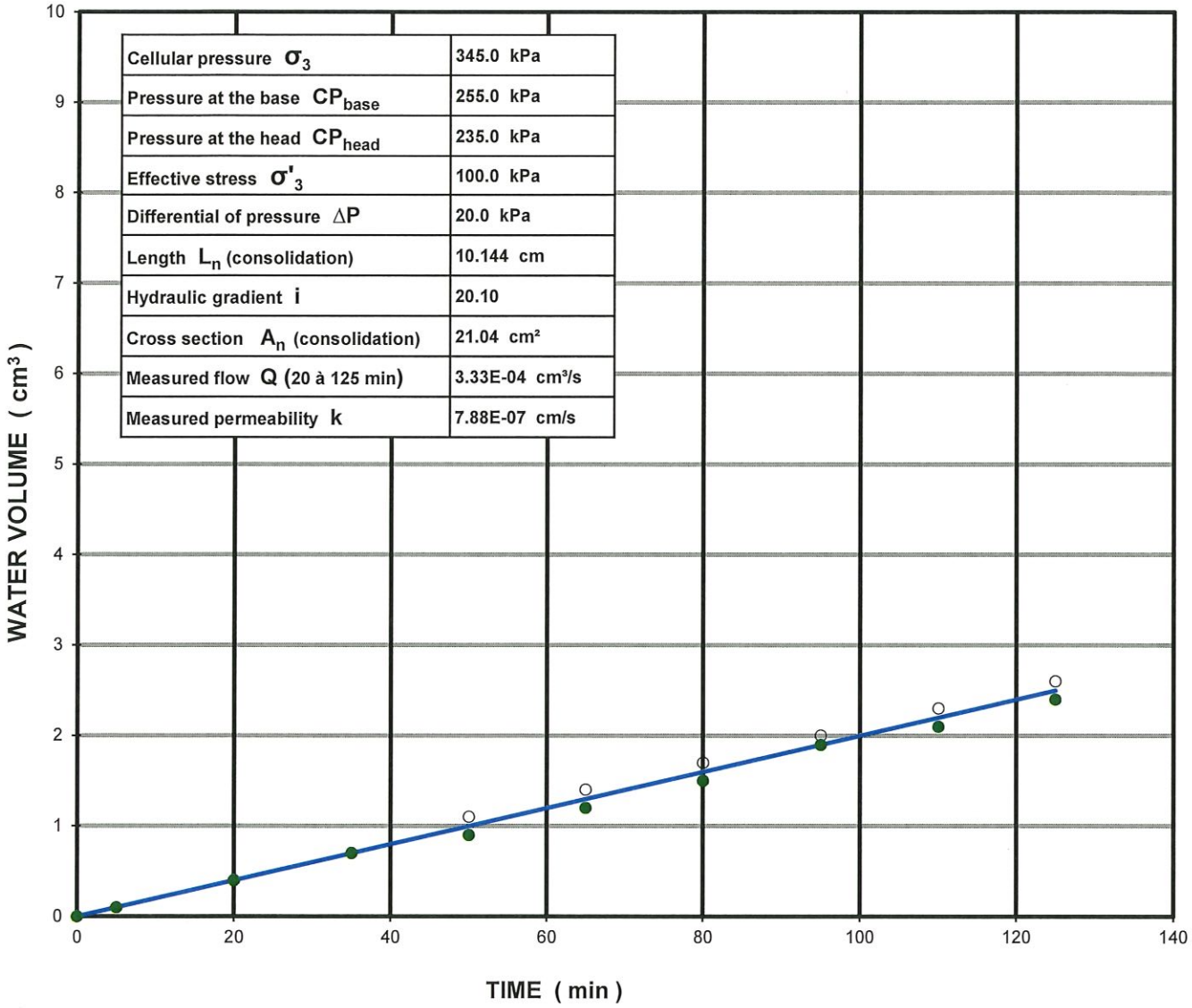
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-067
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-30
LOCATION	:	**LOCALISATION**	: Tests HE mix
DOSSIER	: 659773	**TEST Nr**	: **SK-15**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.144 cm
Hydraulic gradient i	20.10
Cross section A_n (consolidation)	21.04 cm²
Measured flow Q (20 à 125 min)	3.33E-04 cm³/s
Measured permeability k	7.88E-07 cm/s



REMARK : Date of test : 2018-11-22 (23 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	**SAMPLE** :	CB-WTD-057
PROJECT :	Permeability test	**SAMPLING DATE** :	2018-10-27
LOCATION :		**LOCALISATION** :	Piles 367-369
FILE :	659773	**TEST Nr** :	SK - 16

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51,91	mm
Length	Le	102,58	mm
Cross-sectional area	Ae	21,17	cm^2
Total volume	Ve	217,1	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	270,10	g
Total dry mass	Ms	87,44	g
Water volume	Vw	183,2	cm^3
Specific gravity (est.)	Gs	2,745	
Solids volume	Vs	32,0	cm^3
Degree of saturation	S	98,9	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102,58	mm
Diameter	Do	51,91	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

Mass tare + moist specimen		283,35
Mass tare + dry specimen		100,80
Tare no.		201
Mass of tare		13,36
Water content (%)		208,77

MEMBRANE OF LATEX

Dm : 0,30 mm

Cm : 153,00 mm

Lm : 106,21 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1,24E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		217,1	217,1		215,5	217,1	
Volume of water	Vw	(cm^3)		183,2	183,2		184,6	186,1	
Volume of voids	Vv	(cm^3)		185,2	185,2		183,6	185,1	
Water content	W	(%)		208,90	208,90		210,49	212,20	
Dry mass density	ρ_s	(kg/m^3)		403	403		406	403	
Void ratio	e	(1/1)		5,796	5,796		5,746	5,795	
Porosity	n	(1/1)		0,853	0,853		0,852	0,853	
Degree of saturation	S	(%)		98,9	98,9		100,6	100,5	
Units strains	ε_v	(%)		0,00	0,00		0,73	0,01	
since the trimming	ε_1	(%)		0,00	0,00		0,46	0,14	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	49

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-26 (30 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-28

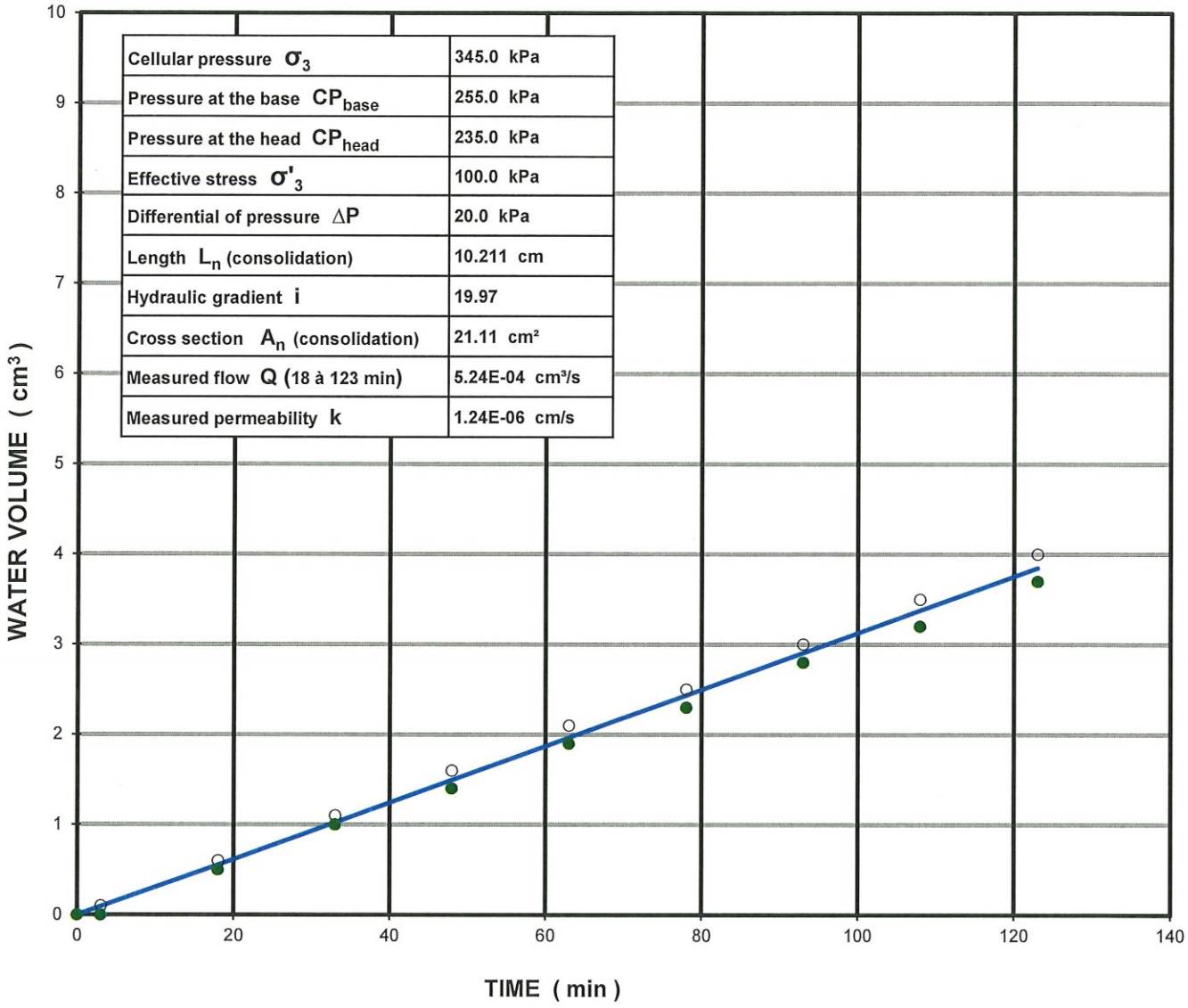
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-057
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-27
LOCATION	:	**LOCALISATION**	: Piles 367-379
DOSSIER	: 659773	**TEST Nr**	: **SK-16**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.211 cm
Hydraulic gradient i	19.97
Cross section A_n (consolidation)	21.11 cm²
Measured flow Q (18 à 123 min)	5.24E-04 cm³/s
Measured permeability k	1.24E-06 cm/s



REMARK : Date of test : 2018-11-26 (30 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-063
PROJECT	: Permeability test	SAMPLING DATE	: 2018-10-31
LOCATION	:	LOCALISATION	: Piles 449-427
FILE	: 659773	TEST Nr	: SK - 17

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.01	mm
Length	Le	101.57	mm
Cross-sectional area	Ae	21.25	cm^2
Total volume	Ve	215.8	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	272.53	g
Total dry mass	Ms	93.65	g
Water volume	Vw	179.4	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.2	cm^3
Degree of saturation	S	98.8	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.57	mm
Diameter	Do	52.01	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		287.32
Mass tare + dry specimen		107.23
Tare no.		24
Mass of tare		13.58
Water content (%)		192.30

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.27 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 7.60E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.8	215.8		214.8	215.8	
Volume of water	Vw	(cm^3)		179.4	179.4		182.4	183.3	
Volume of voids	Vv	(cm^3)		181.6	181.6		180.6	181.6	
Water content	W	(%)		191.01	191.01		194.20	195.16	
Dry mass density	ρ_s	(kg/m^3)		434	434		436	434	
Void ratio	e	(1/1)		5.307	5.307		5.276	5.306	
Porosity	n	(1/1)		0.841	0.841		0.841	0.841	
Degree of saturation	S	(%)		98.8	98.8		101.0	101.0	
Units strains	ε_v	(%)		0.00	0.00		0.48	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.23	0.08	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-28 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-30

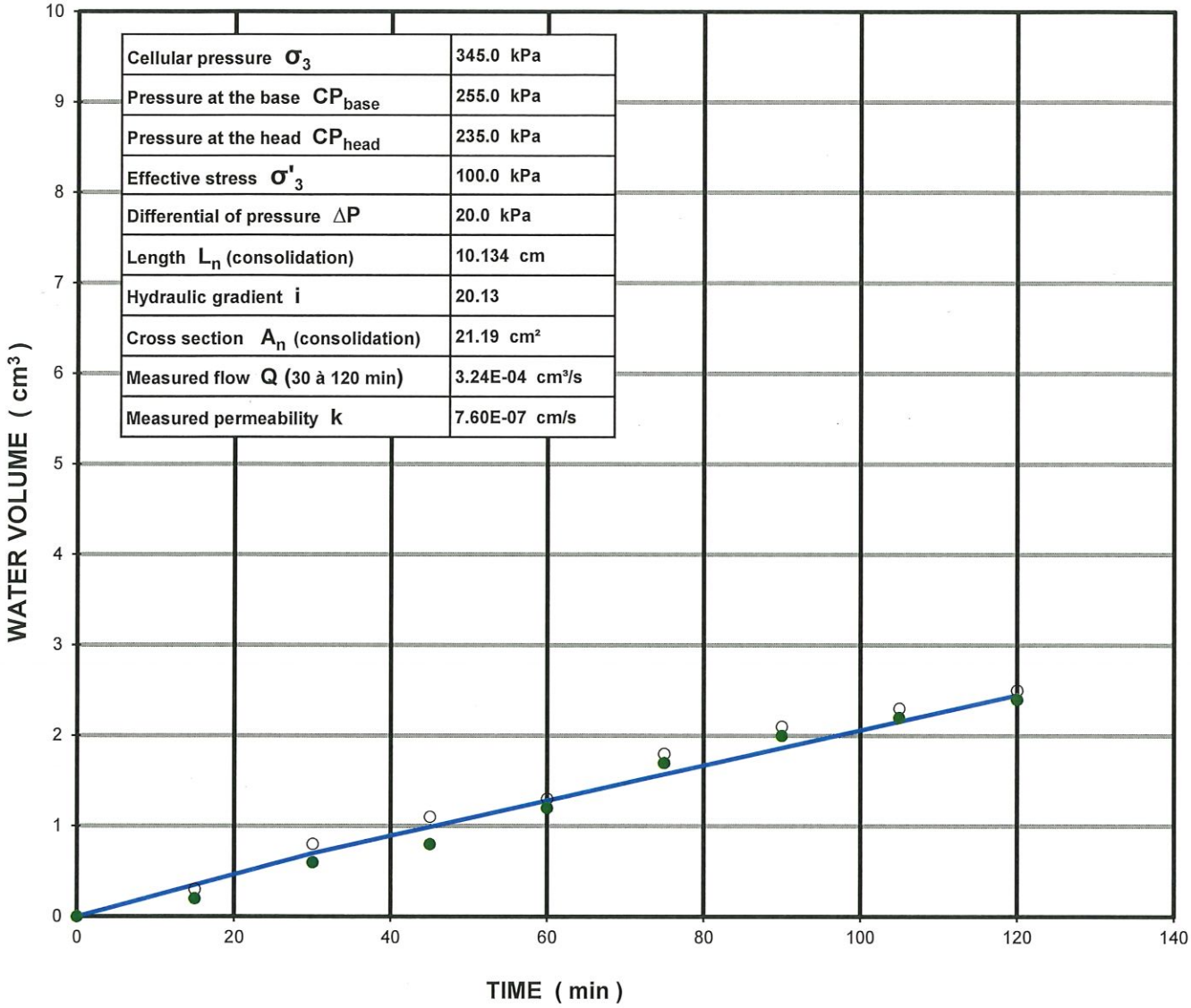
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-063
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-31
LOCATION	:	**LOCALISATION**	: Piles 449-427
DOSSIER	: 659773	**TEST Nr**	: **SK-17**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.134 cm
Hydraulic gradient i	20.13
Cross section A_n (consolidation)	21.19 cm²
Measured flow Q (30 à 120 min)	3.24E-04 cm³/s
Measured permeability k	7.60E-07 cm/s



REMARK : Date of test : 2018-11-28 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-068
PROJECT	: Permeability test	SAMPLING DATE	: 2018-10-31
LOCATION	:	LOCALISATION	: Test GU mix
FILE	: 659773	TEST Nr	: SK - 18

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.02	mm
Length	Le	100.03	mm
Cross-sectional area	Ae	21.26	cm^2
Total volume	Ve	212.6	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	260.59	g
Total dry mass	Ms	78.51	g
Water volume	Vw	182.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	28.7	cm^3
Degree of saturation	S	99.3	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	100.04	mm
Diameter	Do	52.02	mm
Measured Ovality			%

Cell nr : GE-190

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		276.00
Mass tare + dry specimen		93.96
Tare no.		192
Mass of tare		15.45
Water content (%)		231.87

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 103.68 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 2.13E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		212.6	212.6		210.6	212.7	
Volume of water	Vw	(cm^3)		182.6	182.6		183.3	185.6	
Volume of voids	Vv	(cm^3)		183.9	183.9		182.0	184.0	
Water content	W	(%)		231.92	231.92		232.81	235.73	
Dry mass density	ρ_s	(kg/m^3)		369	369		373	369	
Void ratio	e	(1/1)		6.412	6.411		6.343	6.414	
Porosity	n	(1/1)		0.865	0.865		0.864	0.865	
Degree of saturation	S	(%)		99.3	99.3		100.8	100.9	
Units strains	ε_v	(%)		0.00	0.01		0.94	-0.02	
since the trimming	ε_1	(%)		0.00	0.01		0.68	0.20	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-11-28 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-11-30

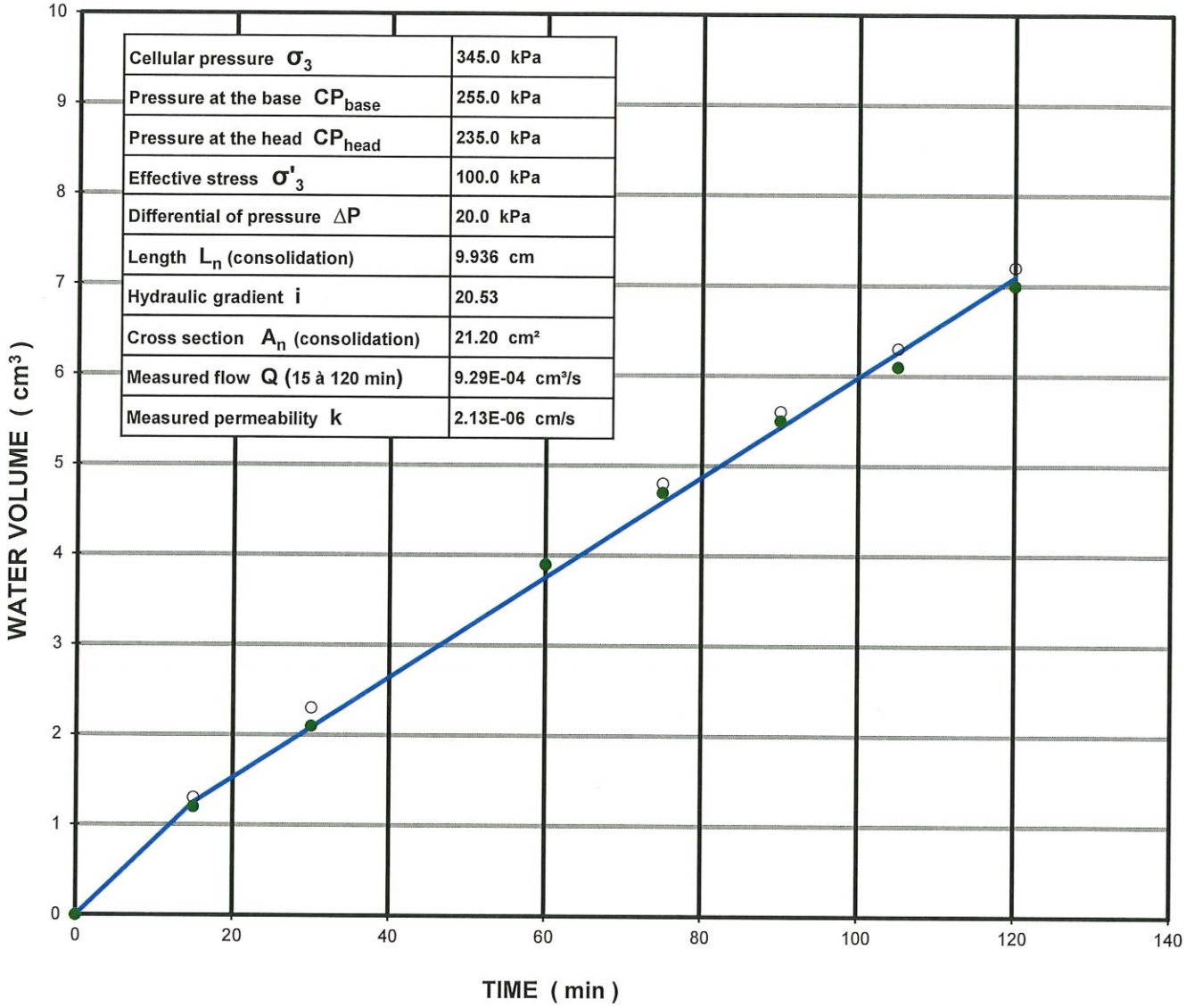
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-068
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-10-31
LOCATION	:	**LOCALISATION**	: Test GU mix
DOSSIER	: 659773	**TEST Nr**	: SK-18

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	9.936 cm
Hydraulic gradient i	20.53
Cross section A_n (consolidation)	21.20 cm²
Measured flow Q (15 à 120 min)	9.29E-04 cm³/s
Measured permeability k	2.13E-06 cm/s



REMARK : Date of test : 2018-11-28 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-075
PROJECT	: Permeability test	SAMPLING DATE	: 2018-11-04
LOCATION	:	LOCALISATION	: Pile 424
FILE	: 659773	TEST Nr	: SK - 19

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.03	mm
Length	Le	101.48	mm
Cross-sectional area	Ae	21.26	cm^2
Total volume	Ve	215.8	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	273.48	g
Total dry mass	Ms	95.07	g
Water volume	Vw	178.9	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.7	cm^3
Degree of saturation	S	98.9	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.48	mm
Diameter	Do	52.03	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		287.82
Mass tare + dry specimen		108.43
Tare no.		201
Mass of tare		13.36
Water content (%)		188.69

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.19 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.00E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.8	215.8		214.8	215.7	
Volume of water	Vw	(cm^3)		178.9	178.9		181.6	182.5	
Volume of voids	Vv	(cm^3)		181.0	181.0		180.1	181.0	
Water content	W	(%)		187.66	187.66		190.49	191.44	
Dry mass density	ρ_s	(kg/m^3)		441	441		443	441	
Void ratio	e	(1/1)		5.211	5.211		5.184	5.211	
Porosity	n	(1/1)		0.839	0.839		0.838	0.839	
Degree of saturation	S	(%)		98.9	98.9		100.9	100.9	
Units strains	ε_v	(%)		0.00	0.00		0.44	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.30	0.10	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-12-03 (29 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-12-05

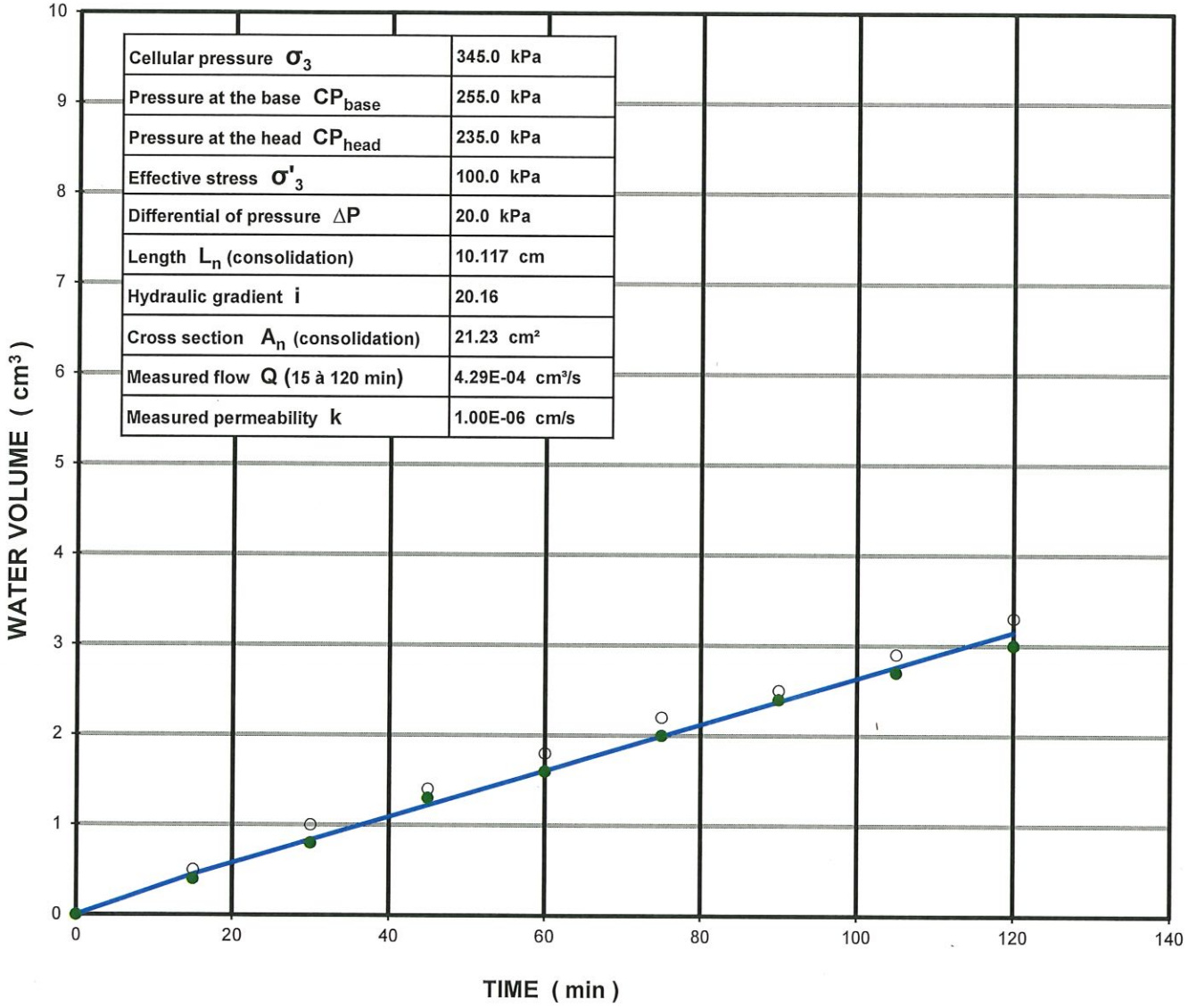
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-075
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-04
LOCATION	:	**LOCALISATION**	: Pile 424
DOSSIER	: 659773	**TEST Nr**	: SK-19

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.117 cm
Hydraulic gradient i	20.16
Cross section A_n (consolidation)	21.23 cm²
Measured flow Q (15 à 120 min)	4.29E-04 cm³/s
Measured permeability k	1.00E-06 cm/s



REMARK : Date of test : 2018-12-03 (29 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-077
PROJECT :	Permeability test	SAMPLING DATE :	2018-11-05
LOCATION :		LOCALISATION :	Pile 585
FILE :	659773	TEST Nr :	SK - 20

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.02	mm
Length	Le	101.28	mm
Cross-sectional area	Ae	21.26	cm^2
Total volume	Ve	215.3	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	270.25	g
Total dry mass	Ms	93.16	g
Water volume	Vw	177.6	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.0	cm^3
Degree of saturation	S	98.0	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.28	mm
Diameter	Do	52.02	mm
Measured Ovality			%

Cell nr : GE-190

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		287.38
Mass tare + dry specimen		108.63
Tare no.		192
Mass of tare		15.47
Water content (%)		191.87

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.98 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 7.40E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		39	28	
Volume of specimen	Vx	(cm^3)		215.3	215.3		214.5	215.3	
Volume of water	Vw	(cm^3)		177.6	177.6		180.5	181.5	
Volume of voids	Vv	(cm^3)		181.2	181.2		180.4	181.2	
Water content	W	(%)		190.09	190.09		193.20	194.27	
Dry mass density	ρ_s	(kg/m^3)		433	433		434	433	
Void ratio	e	(1/1)		5.324	5.324		5.301	5.324	
Porosity	n	(1/1)		0.842	0.842		0.841	0.842	
Degree of saturation	S	(%)		98.0	98.0		100.0	100.2	
Units strains	ε_v	(%)		0.00	0.00		0.37	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.29	0.13	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	39
KC	Permeability constant head - method A	40	48

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-12-03 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-12-05

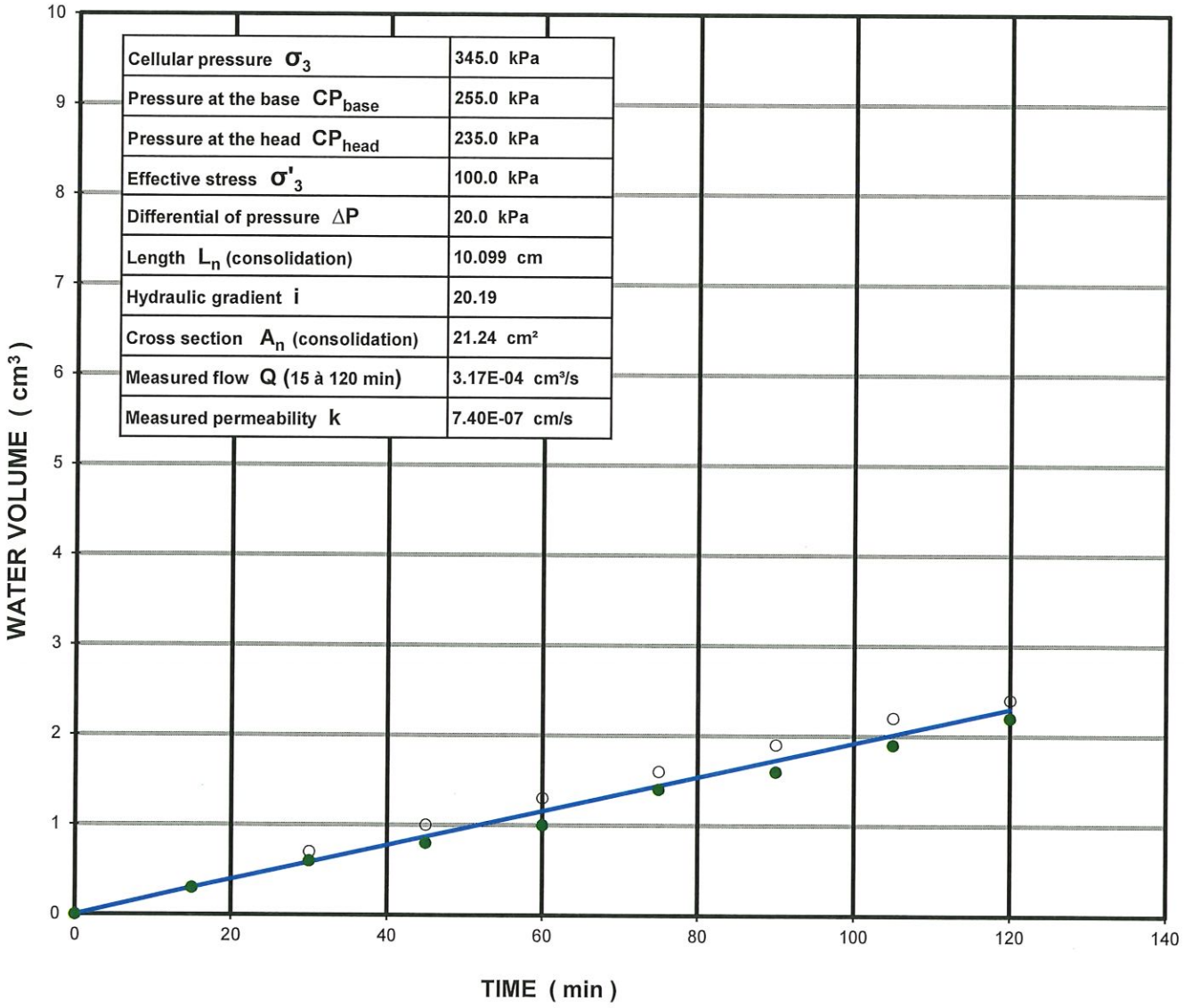
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-077
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-05
LOCATION	:	**LOCALISATION**	: Pile 585
DOSSIER	: 659773	**TEST Nr**	: SK-20

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.099 cm
Hydraulic gradient i	20.19
Cross section A_n (consolidation)	21.24 cm²
Measured flow Q (15 à 120 min)	3.17E-04 cm³/s
Measured permeability k	7.40E-07 cm/s



REMARK : Date of test : 2018-12-03 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC•LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-082
PROJECT :	Permeability test	SAMPLING DATE :	2018-11-08
LOCATION :		LOCALISATION :	Pile 288
FILE :	659773	TEST Nr :	SK - 21

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.85	mm
Length	Le	101.24	mm
Cross-sectional area	Ae	21.11	cm^2
Total volume	Ve	213.8	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	272.74	g
Total dry mass	Ms	94.16	g
Water volume	Vw	179.1	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	34.4	cm^3
Degree of saturation	S	99.9	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.24	mm
Diameter	Do	51.85	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		286.42
Mass tare + dry specimen		107.75
Tare no.		24
Mass of tare		13.59
Water content (%)		189.75

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.76 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.72E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		213.8	213.8		213.0	213.7	
Volume of water	Vw	(cm^3)		179.1	179.1		180.2	181.1	
Volume of voids	Vv	(cm^3)		179.4	179.4		178.6	179.3	
Water content	W	(%)		189.66	189.66		190.82	191.77	
Dry mass density	ρ_s	(kg/m^3)		441	441		442	441	
Void ratio	e	(1/1)		5.213	5.213		5.192	5.213	
Porosity	n	(1/1)		0.839	0.839		0.838	0.839	
Degree of saturation	S	(%)		99.9	99.9		100.9	101.0	
Units strains	ε_v	(%)		0.00	0.00		0.34	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.21	0.06	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-12-06 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-12-10

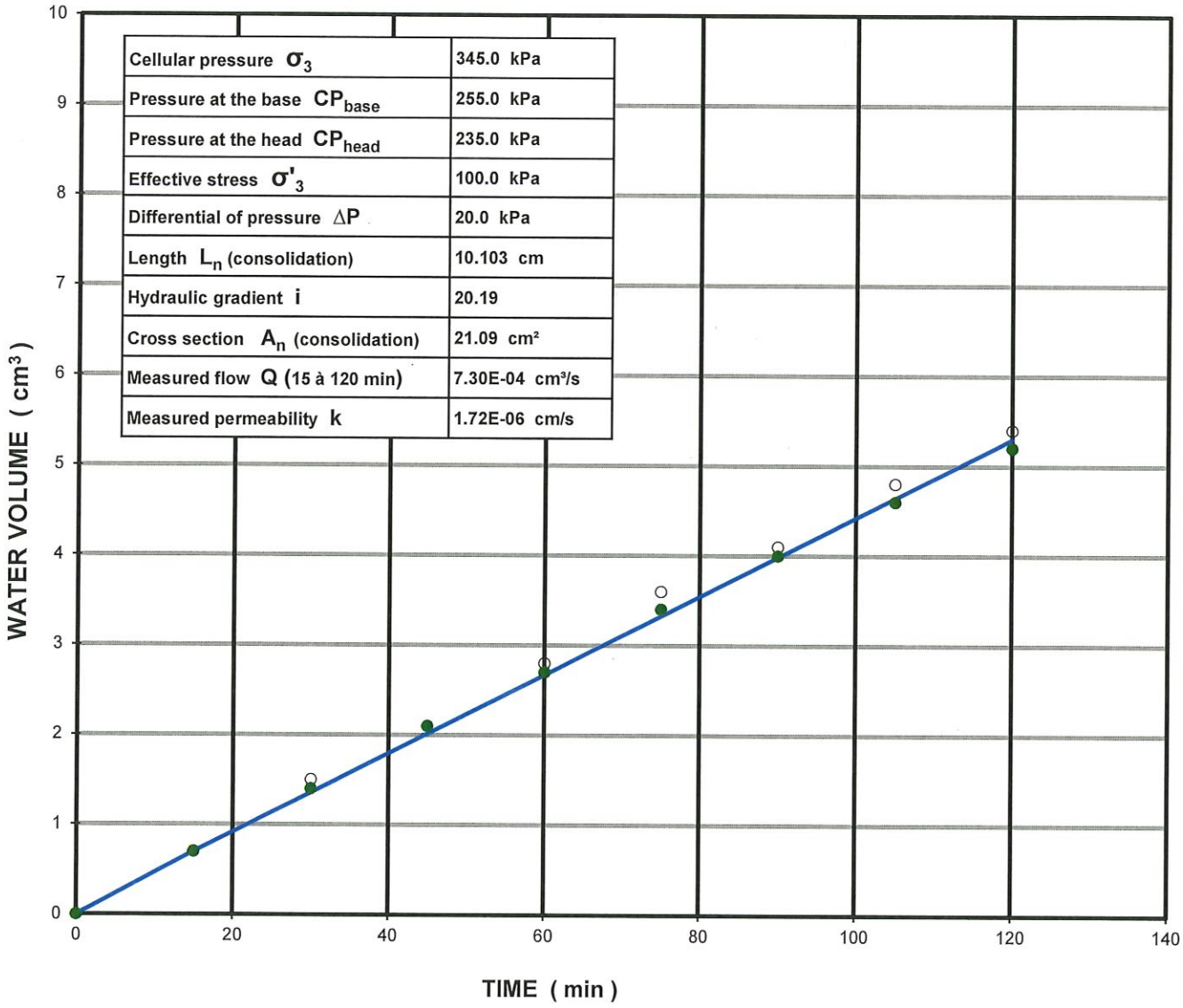
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-082
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-08
LOCATION	:	**LOCALISATION**	: Pile 288
DOSSIER	: 659773	**TEST Nr**	: SK-21

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.103 cm
Hydraulic gradient i	20.19
Cross section A_n (consolidation)	21.09 cm²
Measured flow Q (15 à 120 min)	7.30E-04 cm³/s
Measured permeability k	1.72E-06 cm/s



REMARK : Date of test : 2018-12-06 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-095
PROJECT	: Permeability test	SAMPLING DATE	: 2018-11-15
LOCATION	:	LOCALISATION	: Pile 695-691-679
FILE	: 659773	TEST Nr	: SK - 22

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.68	mm
Length	Le	101.16	mm
Cross-sectional area	Ae	20.98	cm^2
Total volume	Ve	212.2	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	262.75	g
Total dry mass	Ms	80.59	g
Water volume	Vw	182.7	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	29.4	cm^3
Degree of saturation	S	100.0	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.16	mm
Diameter	Do	51.68	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		278.07
Mass tare + dry specimen		95.97
Tare no.		84
Mass of tare		15.38
Water content (%)		225.96

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.51 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 3.27E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		212.2	212.2		211.2	212.2	
Volume of water	Vw	(cm^3)		182.7	182.7		183.5	184.5	
Volume of voids	Vv	(cm^3)		182.8	182.8		181.7	182.8	
Water content	W	(%)		226.03	226.03		227.02	228.26	
Dry mass density	ρ_s	(kg/m^3)		380	380		382	380	
Void ratio	e	(1/1)		6.207	6.207		6.172	6.207	
Porosity	n	(1/1)		0.861	0.861		0.861	0.861	
Degree of saturation	S	(%)		100.0	100.0		101.0	101.0	
Units strains	ε_v	(%)		0.00	0.00		0.49	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.23	0.06	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-12-13 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-12-17

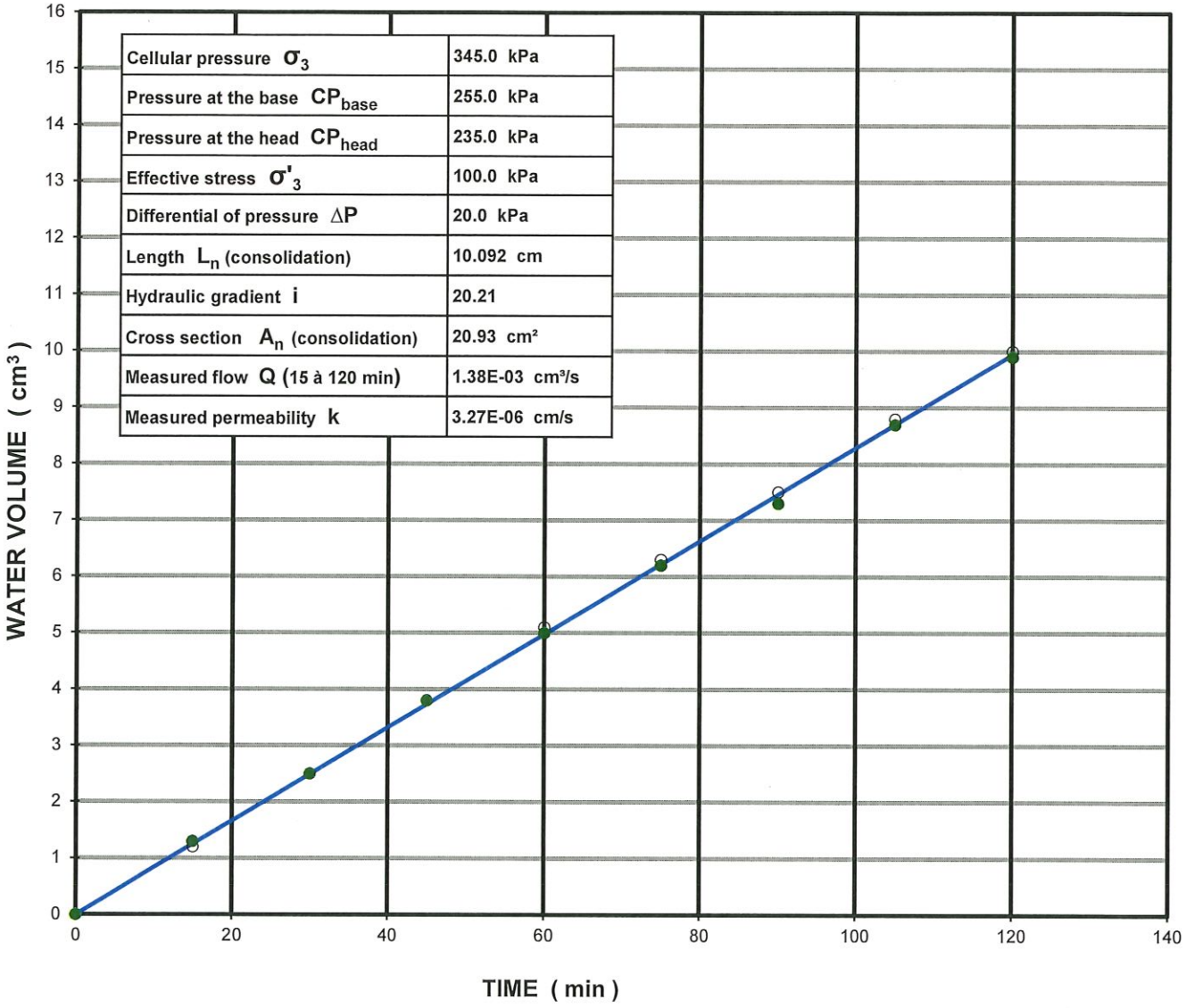
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-095
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-15
LOCATION	:	**LOCALISATION**	: Pile 695-691-679
DOSSIER	: 659773	**TEST Nr**	: SK-22

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.092 cm
Hydraulic gradient i	20.21
Cross section A_n (consolidation)	20.93 cm²
Measured flow Q (15 à 120 min)	1.38E-03 cm³/s
Measured permeability k	3.27E-06 cm/s



REMARK : Date of test : 2018-12-13 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT : GHD		SAMPLE : CB-WTD-108	
PROJECT : Permeability test		SAMPLING DATE : 2018-11-21	
LOCATION :		LOCALISATION :	
FILE : 659773		TEST Nr : SK - 23	

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.70	mm
Length	Le	101.19	mm
Cross-sectional area	Ae	21.00	cm^2
Total volume	Ve	212.5	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	262.93	g
Total dry mass	Ms	81.44	g
Water volume	Vw	182.0	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	29.8	cm^3
Degree of saturation	S	99.6	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.19	mm
Diameter	Do	51.70	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		278.31
Mass tare + dry specimen		96.92
Tare no.		192
Mass of tare		15.48
Water content (%)		222.73

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 104.56 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.88E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		212.5	212.5		210.8	211.8	
Volume of water	Vw	(cm^3)		182.0	182.0		182.7	183.7	
Volume of voids	Vv	(cm^3)		182.7	182.7		181.1	182.1	
Water content	W	(%)		222.85	222.85		223.71	224.93	
Dry mass density	ρ_s	(kg/m^3)		383	383		386	384	
Void ratio	e	(1/1)		6.139	6.139		6.085	6.119	
Porosity	n	(1/1)		0.860	0.860		0.859	0.860	
Degree of saturation	S	(%)		99.6	99.6		100.9	100.9	
Units strains	ε_v	(%)		0.00	0.00		0.77	0.29	
since the trimming	ε_1	(%)		0.00	0.00		0.18	0.04	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2018-12-19 (28 days curing)

Prepared by: Richard Courchesne (100736) Date: 2018-12-21

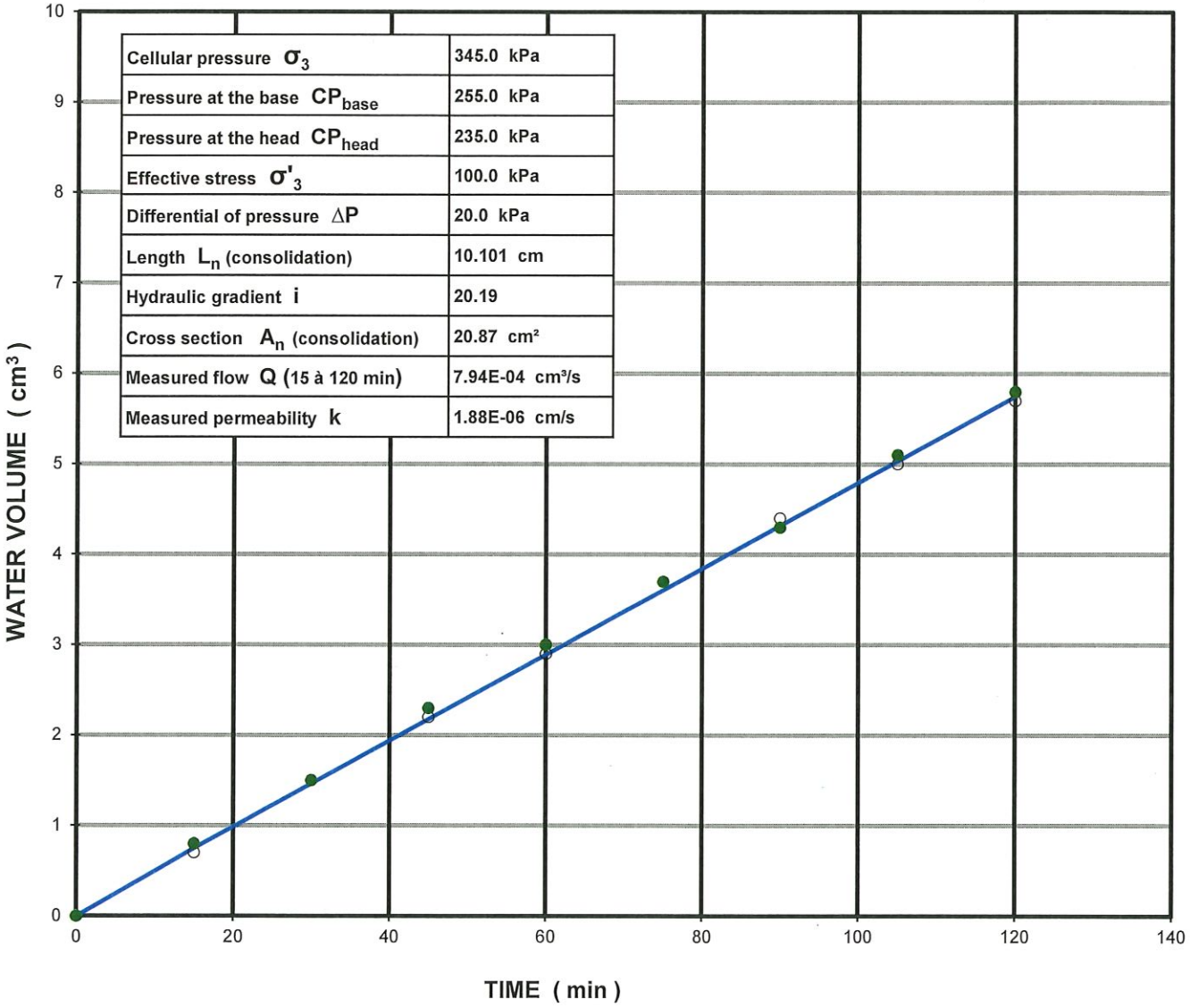
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-108
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-21
LOCATION	:	**LOCALISATION**	:
DOSSIER	: 659773	**TEST Nr**	: **SK-23**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.101 cm
Hydraulic gradient i	20.19
Cross section A_n (consolidation)	20.87 cm²
Measured flow Q (15 à 120 min)	7.94E-04 cm³/s
Measured permeability k	1.88E-06 cm/s



REMARK : Date of test : 2018-12-19 (28 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-115
PROJECT	: Permeability test	SAMPLING DATE	: 2018-11-25
LOCATION	:	LOCALISATION	:
FILE	: 659773	TEST Nr	: SK - 24

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.97	mm
Length	Le	102.92	mm
Cross-sectional area	Ae	21.22	cm^2
Total volume	Ve	218.3	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	274.85	g
Total dry mass	Ms	90.56	g
Water volume	Vw	184.8	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	33.1	cm^3
Degree of saturation	S	99.8	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.92	mm
Diameter	Do	51.97	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		290.18
Mass tare + dry specimen		105.92
Tare no.		84
Mass of tare		15.36
Water content (%)		203.47

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 106.63 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 1.28E-06 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		218.3	218.3		217.4	218.3	
Volume of water	Vw	(cm^3)		184.8	184.8		185.9	186.7	
Volume of voids	Vv	(cm^3)		185.3	185.3		184.3	185.2	
Water content	W	(%)		203.50	203.50		204.71	205.59	
Dry mass density	ρ_s	(kg/m^3)		415	415		417	415	
Void ratio	e	(1/1)		5.599	5.599		5.571	5.598	
Porosity	n	(1/1)		0.848	0.848		0.848	0.848	
Degree of saturation	S	(%)		99.8	99.8		100.9	100.8	
Units strains	ε_v	(%)		0.00	0.00		0.42	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.20	0.06	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2019-01-07 (43 days curing)

Prepared by: Richard Courchesne (100736) Date: 2019-01-09

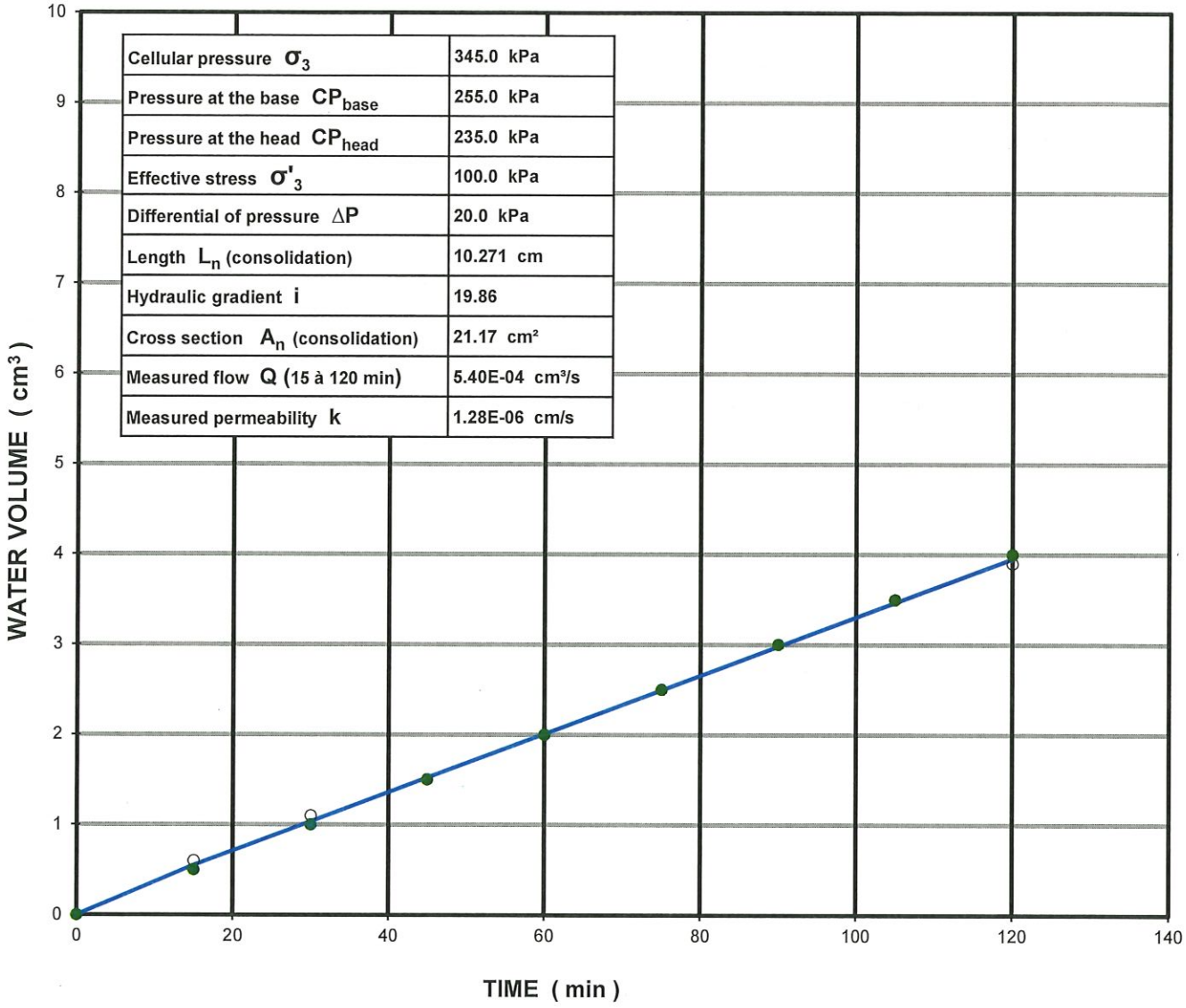
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-115
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-25
LOCATION	:	**LOCALISATION**	:
DOSSIER	: 659773	**TEST Nr**	: **SK-24**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.271 cm
Hydraulic gradient i	19.86
Cross section A_n (consolidation)	21.17 cm²
Measured flow Q (15 à 120 min)	5.40E-04 cm³/s
Measured permeability k	1.28E-06 cm/s



REMARK : Date of test : 2019-01-07 (43 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT :	GHD	SAMPLE :	CB-WTD-122
PROJECT :	Permeability test	SAMPLING DATE :	2018-11-29
LOCATION :		LOCALISATION :	
FILE :	659773	TEST Nr :	SK - 25

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	51.60	mm
Length	Le	101.96	mm
Cross-sectional area	Ae	20.91	cm^2
Total volume	Ve	213.2	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	268.23	g
Total dry mass	Ms	90.26	g
Water volume	Vw	178.5	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	33.0	cm^3
Degree of saturation	S	99.0	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	101.96	mm
Diameter	Do	51.60	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

Mass tare + moist specimen		284.27
Mass tare + dry specimen		105.74
Tare no.		192
Mass of tare		15.48
Water content (%)		197.80

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 105.26 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

AUXILIARY

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 8.52E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

Code		IO	IN	CI	DU	SP	ZD
Step		Trimming	Initial		Dissipation	Saturation	
Line			1		38	28	
Volume of specimen	Vx	(cm^3)	213.2	213.2		212.7	213.2	
Volume of water	Vw	(cm^3)	178.5	178.5		180.0	180.9	
Volume of voids	Vv	(cm^3)	180.2	180.2		179.7	180.2	
Water content	W	(%)	197.17	197.17		198.83	199.83	
Dry mass density	ρ_s	(kg/m^3)	423	423		424	423	
Void ratio	e	(1/1)	5.465	5.465		5.449	5.464	
Porosity	n	(1/1)	0.845	0.845		0.845	0.845	
Degree of saturation	S	(%)	99.0	99.0		100.2	100.4	
Units strains	ε_v	(%)	0.00	0.00		0.25	0.01	
since the trimming	ε_1	(%)	0.00	0.00		0.21	0.07	
Effective stresses	σ'_3	(kPa)		5		100	5	
	σ'_1	(kPa)		10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2019-01-08 (39 days curing)

Prepared by: Richard Courchesne (100736) Date: 2019-01-10

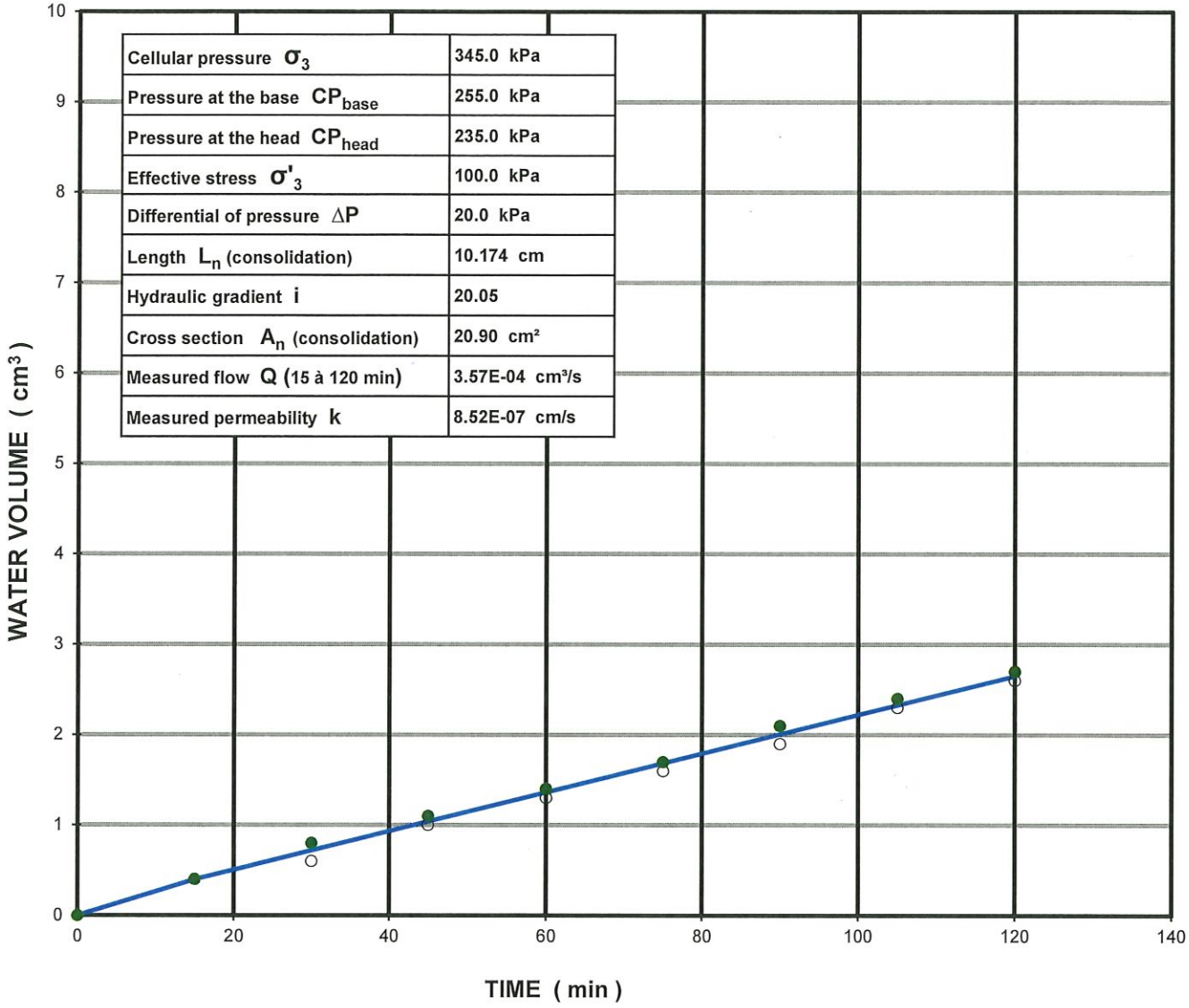
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-122
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-11-29
LOCATION	:	**LOCALISATION**	:
DOSSIER	: 659773	**TEST Nr**	: **SK-25**

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.174 cm
Hydraulic gradient i	20.05
Cross section A_n (consolidation)	20.90 cm²
Measured flow Q (15 à 120 min)	3.57E-04 cm³/s
Measured permeability k	8.52E-07 cm/s



REMARK : Date of test : 2019-01-08 (39 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

SNC·LAVALIN

SYNTHESIS REPORT - TRIAXIAL PERMEABILITY

CLIENT	: GHD	SAMPLE	: CB-WTD-127
PROJECT	: Permeability test	SAMPLING DATE	: 2018-12-01
LOCATION	:	LOCALISATION	:
FILE	: 659773	TEST Nr	: SK - 26

INITIAL MOUNTING SPECIMEN PROPERTIES

Diameter	De	52.02	mm
Length	Le	102.66	mm
Cross-sectional area	Ae	21.25	cm^2
Total volume	Ve	218.2	cm^3
Ratio L / D	Le / De		(1/1)
Total wet mass	Mh	279.64	g
Total dry mass	Ms	99.38	g
Water volume	Vw	180.8	cm^3
Specific gravity (est.)	Gs	2.745	
Solids volume	Vs	36.3	cm^3
Degree of saturation	S	99.4	%

DIMENSIONS OF TRIMMED SPECIMEN

Length	Lo	102.66	mm
Diameter	Do	52.02	mm
Measured Ovality			%

Cell nr : GE-189

Rate of axial strain :

WATER CONTENT

	AUXILIARY	TOTAL
Mass tare + moist specimen		293.58
Mass tare + dry specimen		112.76
Tare no.		201
Mass of tare		13.38
Water content (%)		181.95

MEMBRANE OF LATEX

Dm : 0.30 mm

Cm : 153.00 mm

Lm : 106.41 mm

Correction.: N

E : Homogeneous elastic

H : Horizontals creasings

V : Verticals creasings

P : Plane of failure

N : No correction

CONDITIONS OF DRAINAGE

Loading: N

Dissipation: HB

Shearing: N

H : Top

B : Base

R : Radial

N : Undrained

Note: Without drains

MAIN RESULTS AT FAILURE

	Failure	Final
Line		
$\sigma_1-\sigma_3$		
σ'_1/σ'_3		
σ'_3		
ΔU_b		
A		
ε_1		
ε_v		

Failure criterion : $\sigma_1-\sigma_3$ max

CORRECTIONS OF MEMBRANE

σ_a		
σ_r		
σ_α		

σ_a : axial correction of membrane

σ_r : radial correction of membrane

σ_α : correction for plan of failure

k : 9.21E-07 cm/s

C_v :

PHYSICALS AND MECHANICALS CHARACTERISTICS IN END STEP

			Code	IO	IN	CI	DU	SP	ZD
			Step	Trimming	Initial		Dissipation	Saturation	
			Line		1		38	28	
Volume of specimen	Vx	(cm^3)		218.2	218.2		217.5	218.2	
Volume of water	Vw	(cm^3)		180.8	180.8		182.1	182.9	
Volume of voids	Vv	(cm^3)		181.9	181.9		181.2	181.9	
Water content	W	(%)		181.38	181.38		182.69	183.49	
Dry mass density	ρ_s	(kg/m^3)		455	455		457	456	
Void ratio	e	(1/1)		5.009	5.009		4.989	5.008	
Porosity	n	(1/1)		0.834	0.834		0.833	0.834	
Degree of saturation	S	(%)		99.4	99.4		100.5	100.6	
Units strains	ε_v	(%)		0.00	0.00		0.33	0.01	
since the trimming	ε_1	(%)		0.00	0.00		0.20	0.07	
Effective stresses	σ'_3	(kPa)			5		100	5	
	σ'_1	(kPa)			10		105	10	

SEQUENCE OF TEST

CODES	STEPS	Start line	End line
IN	Initial transition	0	1
SP	Back pressure saturation	2	28
CI	Isotropic loading	29	30
DU	Dissipation of excess pore pressure	31	38
KC	Permeability constant head - method A	39	47

REMARKS : 1 - SATURATION BY BACK PRESSURE, ISOTROPIC CONSOLIDATION AND PERMEABILITY TEST
2 - DESIGNATION : ASTM D2435M-11, ASTM D5084-16a

3 - Date of test : 2019-01-09 (39 days curing)

Prepared by: Richard Courchesne (100736) Date: 2019-01-11

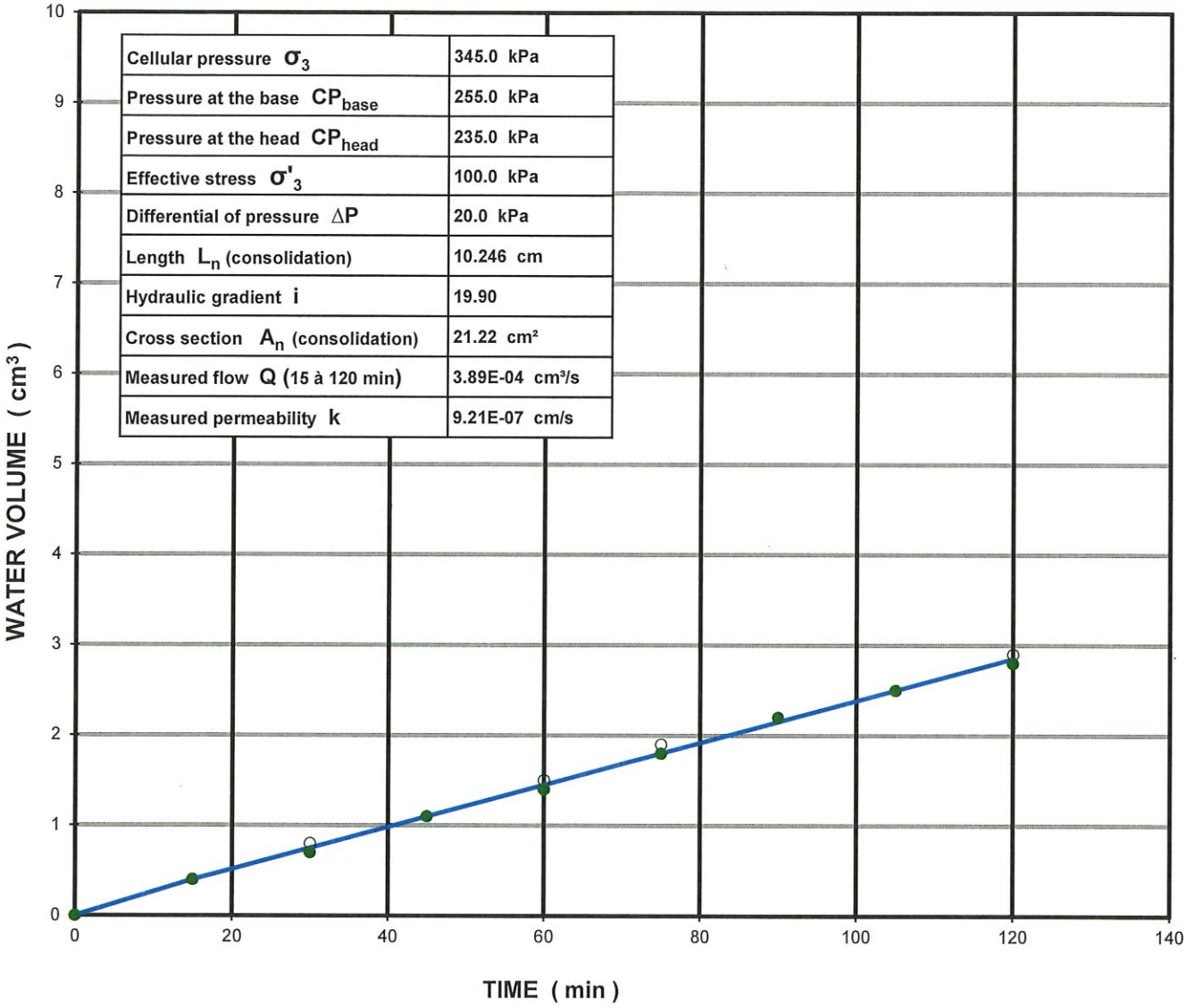
Verified by: Simon Grenier, ing., Ph.D. (123108) Date:

SNC·LAVALIN

PERMEABILITY TEST

CLIENT	: GHD	**SAMPLE**	: CB-WTD-127
PROJECT	: Permeability test	**SAMPLING DATE**	: 2018-12-01
LOCATION	:	**LOCALISATION**	:
DOSSIER	: 659773	**TEST Nr**	: SK-26

Cellular pressure σ_3	345.0 kPa
Pressure at the base CP_{base}	255.0 kPa
Pressure at the head CP_{head}	235.0 kPa
Effective stress σ'_3	100.0 kPa
Differential of pressure ΔP	20.0 kPa
Length L_n (consolidation)	10.246 cm
Hydraulic gradient i	19.90
Cross section A_n (consolidation)	21.22 cm²
Measured flow Q (15 à 120 min)	3.89E-04 cm³/s
Measured permeability k	9.21E-07 cm/s



REMARK : Date of test : 2019-01-09 (39 days curing)

Designation : permeability after consolidation ASTM D 5084-16a (constant head - method A)

Appendix G-5

Field Vane Shear Strength Tests

FIELD VANE TEST (NILCON)

CLIENT: Agnico Eagle Mines PROJECT No.: 11130315-B1

PROJECT / SITE: Amaruq SECANT PILE No.: Slurry wall

Apparatus No.: 0EP016730

Apparatus Model = BDS160-SPL

Paddle No.: Small one

Ground surface elevation: 156.50 m

Secant pile No.	Date	Hour	Depth (m)	Resistance (Cu in kPa)
1	2018-09-13	15h00	0.18m	110
2	2018-09-13	14h30	0.16m	90
3	2018-09-13	15h30	0.175m	102.5
4	2018-09-13	16h00	0.20m	117.5

Remarks / Resistance to driving:

The rod has been push down with two wrenches and the power of two men until refusal.

We also took a temperature reading by plugging a concrete thermometer inside of the CB Mix in place and the temperature varies between 14.0°C to 14.5°C

Performed by: Maxime Côté Date: 2018-09-13	Calculated by: Maxime Côté Date: 2018-09-13	Verified by: Amadou Oury Diallo Date: 2018-09-13

FIELD VANE TEST (NILCON)

CLIENT: Agnico Eagle Mines PROJECT No.: 11130315-B1

PROJECT / SITE: Amaruq SECANT PILE No.: Slurry Wall

Apparatus No.: 0EP016730

Apparatus Model = BDS160-SPL

Paddle No.: Small one

Slurry surface elevation: 156.50 m

Stations	Date	Hour	Depth (m)	Resistance (Cu en kPa)
0+088,75	2018-09-13	15h00	0.18m (156.50 to 156.32)	110
0+089,55	2018-09-13	14h30	0.16m (156.50 to 156.34)	90
0+090.35	2018-09-13	15h30	0.175m (156.5 to 156.325)	102.5
0+091.15	2018-09-13	16h00	0.20m (156.5 to 156.30)	117.5
0+090,75	2018-09-14	16h45	0.24m (156.50 to 156.26)	142.5
0+089.95	2018-09-14	16h15	0.20m (156.50 to 156.30)	135
0+089.15	2018-09-14	16h30	0.20m (156.50 to 156.30)	147.5
0+088.75	2018-09-14	15h15	0.08m (156.20 to 156.12)	Rejected*
0+084.35	2018-09-14	15h30	0.19m (156.50 to 156.31)	105
0+084.35	2018-09-14	16h00	0.16m (156.20 to 156.04)	137.5
0+082.20	2018-09-14	15h45	0.23m (156.50 to 156.27)	105

Notes : *** :** Rejected because the paddle was not deep enough due to refusal.
Each rod has been push down with two wrenches and the power of two men until refusal.
Temperature of the slurry has been take, 10.5°C (0+091.15), 17.7°C (0+084.35) and 14.7°C (0+082.20).

Performed by: Maxime Côté Date: 2018-09-14	Calculated by: Maxime Côté Date: 2018-09-14	Verified by: Denis-Jacques Coulombe Date: 2018-09-14

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	9/19/2018
Project:	Whale Tail Dike	**Shift:**	Day
Location:	Amaruq	**QC rep.:**	Max C

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL		
Paddle used:	Small one	**Ground surface elevation:**	156.5

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Temp. (Top) : **(°C)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**						
21	9/17/2018 4:50	9/19/2018 15:00	18.7	0.500	156.5 to 156.00	58.2	>160
89	9/18/2018 5:53	9/19/2018 14:30	24.7	0.500	156.5 to 156.00	32.6	>160
89	9/18/2018 5:53	9/19/2018 15:30	-	1.000	156.5 to 155.50	33.6	>160
89	9/18/2018 5:53	9/19/2018 16:00		2.000	156.5 to 154.50	34.1	>160
97	9/18/2018 11:10	9/19/2018 16:30	25.4	0.500	156.5 to 156.00	29.3	>160

Remarks / Resisting to driving :

Performed by :	Maxime Côté	Verified by :	Denis-Jacques Coulombe
Date :	9/19/2018	Date :	9/19/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	9/29/2018
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Cédrick F.T.

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	210-212
Paddle used:	Medium one	**Ground surface elevation (m):**	157.3

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
201	9/29/2018 6:00	9/29/2018 19:30	2.22	155.08	13.5	40
201	9/29/2018 6:00	9/29/2018 19:45	3.22	154.08	13.7	30
201	9/29/2018 6:00	9/29/2018 20:00	4.22	153.08	14.0	47.5
201	9/29/2018 6:00	9/29/2018 20:15	5.22	152.08	14.3	53.5
201	9/29/2018 6:00	9/29/2018 20:30	6.22	151.08	14.5	71
201	9/29/2018 6:00	9/29/2018 20:45	7.22	150.08	14.8	77.5

Remarks / Resisting to driving : Maximum Depth bedrock S.P # 201 = 149.475m

Performed by :	Cédrick Fillon Tremblay	Verified by :	Cédrick Fillon Tremblay
Date :	9/29/2018	Date :	9/29/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	10/1/2018
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Cédrick F.T.

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	242-244
Paddle used:	Medium one	**Ground surface elevation (m):**	157.2

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
217	9/30/2018 20:00	10/1/2018 19:00	2.31	154.89	23.0	160
217	9/30/2018 20:00	10/1/2018 19:10	3.26	153.94	23.2	135
217	9/30/2018 20:00	10/1/2018 19:20	3.76	153.44	23.3	157
217	9/30/2018 20:00	10/1/2018 19:30	4.26	152.94	23.5	160
217	9/30/2018 20:00	10/1/2018 19:40	4.76	152.44	23.7	160
217	9/29/2018 6:00	10/1/2018 19:50	5.26	151.94	61.8	160

Remarks / Resisting to driving : Maximum Depth bedrock S.P # 217 = 149.511m

Performed by :	Cédrick Fillon Tremblay	Verified by :	Cédrick Fillon Tremblay
Date :	10/1/2018	Date :	10/3/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	10/1/2018
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Cédrick F.T.

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	276-278
Paddle used:	Medium one	**Ground surface elevation (m):**	157

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
161	10/1/2018 2:35	10/1/2018 23:05	1.00	156.00	20.5	62.5
161	10/1/2018 2:35	10/1/2018 23:10	1.50	155.50	20.6	95
161	10/1/2018 2:35	10/1/2018 23:15	2.00	155.00	20.7	130
161	10/1/2018 2:35	10/1/2018 23:20	2.50	154.50	20.7	125
161	10/1/2018 2:35	10/1/2018 23:25	3.00	154.00	20.8	157
161	10/1/2018 2:35	10/1/2018 23:30	3.50	153.50	20.9	180
161	10/1/2018 2:35	10/1/2018 23:35	4.00	153.00	21.0	160
161	10/1/2018 2:35	10/1/2018 23:40	5.00	152.00	21.1	142
161	10/1/2018 2:35	10/1/2018 23:45	5.50	151.50	21.2	160
161	10/1/2018 2:35	10/1/2018 23:50	6.00	151.00	21.2	>160
161	10/1/2018 2:35	10/1/2018 23:55	7.00	150.00	21.3	135
161	10/1/2018 2:35	10/2/2018 0:00	7.50	149.50	21.4	145
161	10/1/2018 2:35	10/2/2018 0:05	8.00	149.00	21.5	147
161	10/1/2018 2:35	10/2/2018 0:10	8.50	148.50	21.6	60

Remarks / Resisting to driving : Maximum Depth bedrock S.P # 161 = 148.412 m

Performed by :	Cédrick Fillon Tremblay	Verified by :	Cédrick Fillon Tremblay
Date :	10/1/2018	Date :	10/3/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	2018/10/18
Project:	Whale Tail Dike	**Shift:**	day
Location:	Amaruq	**QC rep.:**	Maxime Côté

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	966-968
Paddle used:	Medium and big	**Ground surface elevation (m):**	157

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
381	10/17/2018 21:35	10/18/2018 9:30	1.00	156.00	11.9	0
381	10/17/2018 21:35	10/18/2018 9:45	2.00	155.00	12.2	10
381	10/17/2018 21:35	10/18/2018 10:00	3.00	154.00	12.4	22
381	10/16/2018 16:15	10/18/2018 10:15	4.00	153.00	42.0	>75
381	10/16/2018 16:15	10/18/2018 10:30	4.50	152.50	42.2	>120
381	10/16/2018 16:15	10/18/2018 10:45	5.00	152.00	42.5	>120
381	10/16/2018 16:15	10/18/2018 11:00	6.00	151.00	42.7	>130
381	10/16/2018 16:15	10/18/2018 11:15	7.00	150.00	43.0	>124.5
381	10/16/2018 16:15	10/18/2018 11:30	8.00	149.00	43.2	>115
381	10/16/2018 16:15	10/18/2018 11:45	9.000	148.00	43.5	>125

Remarks / Resisting to driving : s higher than the maximum of the gauge (160 Kpa). The results are the ga

Performed by :	Maxime Côté	Verified by :	Maxime Côté
Date :	10/18/2018	Date :	10/19/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	10/31/2018
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Cédrick F.T.

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	1366-1368-1370-1372
Paddle used:	Small one	**Ground surface elevation (m):**	157

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
300	10/30/2018 9:30	10/31/2018 2:00	3.00	154.00	16.5	40
300	10/30/2018 9:30	10/31/2018 2:10	4.00	153.00	16.7	60
300	10/30/2018 9:30	10/31/2018 2:20	5.00	152.00	16.8	40
300	10/30/2018 9:30	10/31/2018 2:30	6.00	151.00	17.0	45
300	10/30/2018 9:30	10/31/2018 2:40	7.00	150.00	17.2	50

Remarks / Resisting to driving : Maximum Depth bedrock S.P # 300 = 147.164.00 m

Performed by :	Cédrick Fillon Tremblay	Verified by :	Cédrick Fillon Tremblay
Date :	10/31/2018	Date :	10/31/2018

VANE SHEAR TEST (FIELD)

Client:	AEM	**Date:**	10/31/2018
Project:	Whale Tail Dike	**Shift:**	Night
Location:	Amaruq	**QC rep.:**	Cédrick F.T.

Aparratus #	0EP016730	**Grout indentification:**	Cement bentonite
Apparatus Model:	BDS160-SPL	**Grout batch:**	1434-1436
Paddle used:	Small one	**Ground surface elevation (m):**	157

Vane shear test

Secant Pile		Test hour **(mm/dd/yyyy hh:mm)**	Depth **(m)**	Elevation **(m)**	Curing time **(h)**	Shear Resistance **(kPa)**
#SP/Stations	Last batch hour **(mm/dd/yyyy hh:mm)**					
521	10/31/2018 2:30	10/31/2018 21:00	2.50	154.50	18.5	55
521	10/31/2018 2:30	10/31/2018 21:05	3.50	153.50	18.6	92
521	10/31/2018 2:30	10/31/2018 21:10	4.50	152.50	18.7	127
521	10/31/2018 2:30	10/31/2018 21:15	5.50	151.50	18.8	110
521	10/31/2018 2:30	10/31/2018 21:20	6.50	150.50	18.8	110
521	10/31/2018 2:30	10/31/2018 21:25	7.50	149.50	18.9	90
521	10/31/2018 2:30	10/31/2018 21:30	8.50	148.50	19.0	90

Remarks / Resisting to driving : Maximum Depth bedrock S.P # 521 = 148.321 m

Performed by :	Cédrick Fillon Tremblay	Verified by :	Cédrick Fillon Tremblay
Date :	10/31/2018	Date :	11/1/2018

Appendix H

Approval Certificates

Appendix H-1

Foundation and Key Trenches

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 2018
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 05/08/2018

TIME: 14:26
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+205 to 0+255	**Station:**
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock			✓		—
9. Water quality					—
10. CB slurry viscosity and density					—
11. Elevation of CB Piles					—
12. Primary piles strength (Minimum of 50 kPa UCS)					—
13. Keying between primary and secondary					—
14. Cracks on top of cutoff wall					—

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					—
16. As built survey completed					—
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

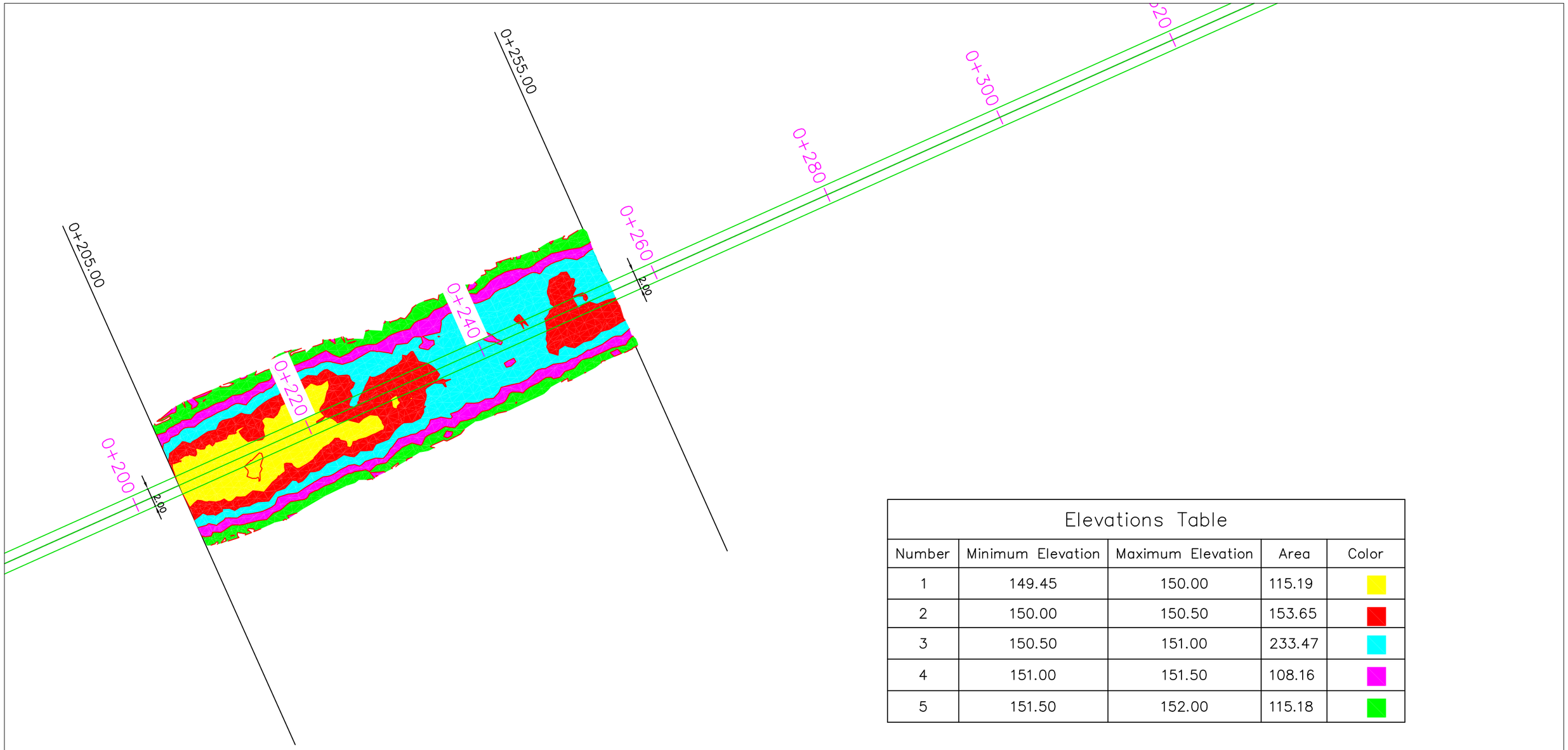
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	the keytrench excavation into bedrock was verified	✓		✓	
	by bathymetry data (see attached), by manual				
	sounding by boat (see attached) and by the				
	GPS of the excavator (visual verification on				
	site only).				
1	Information available.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		05/08/2018
QC REPRESENTATIVE	Melissa Gray		05/08/2018
OWNER'S REPRESENTATIVE	Patrice Gagnon		05/09/2018
CONTRACTOR'S REPRESENTATIVE	Jonathan Auld-Cori		05/08/2018

FND-WT-001
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	149.45	150.00	115.19	
2	150.00	150.50	153.65	
3	150.50	151.00	233.47	
4	151.00	151.50	108.16	
5	151.50	152.00	115.18	

KIVALLIQ CONTRACTORS GROUP LTD

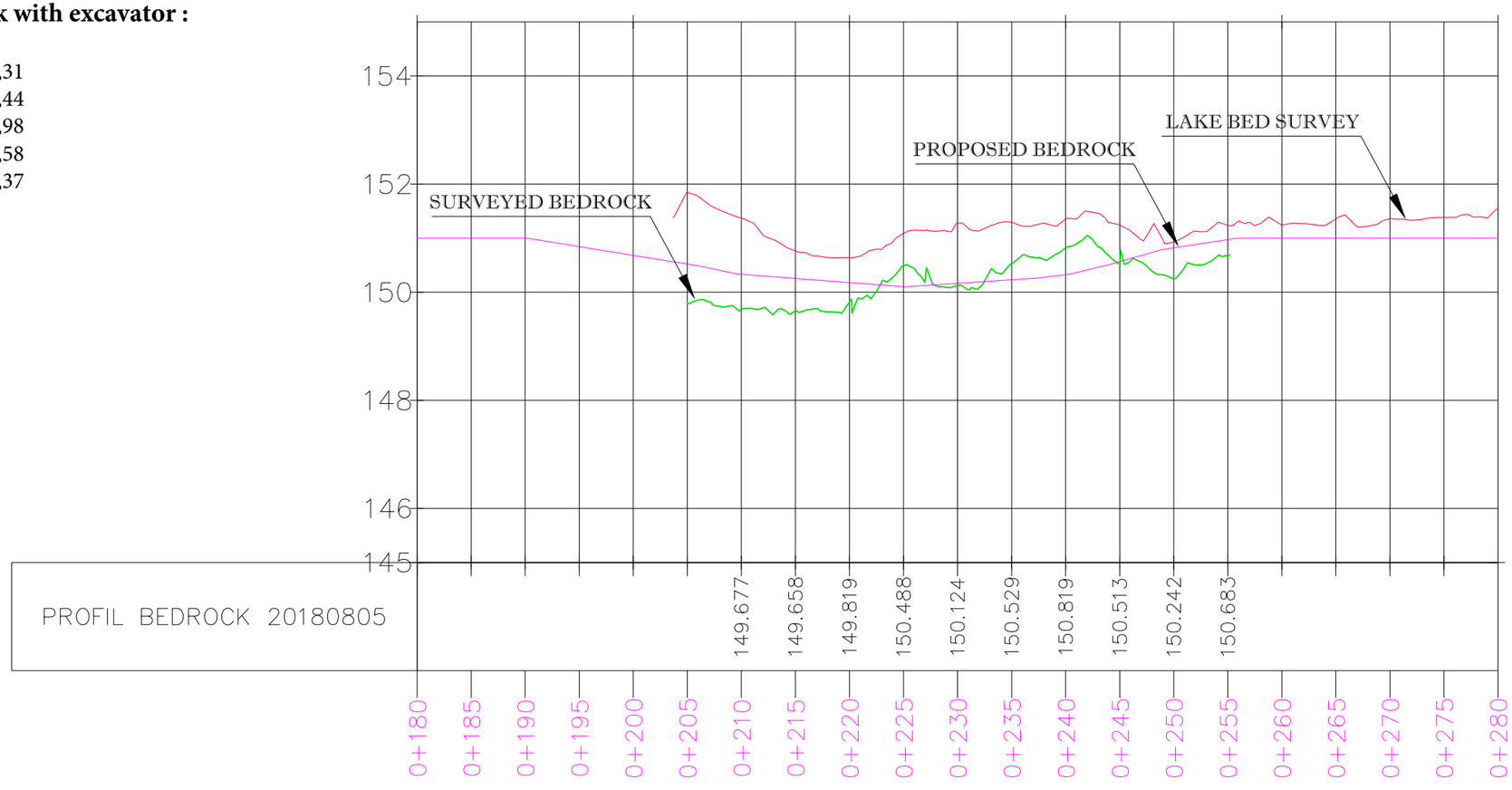
PREPARED BY : MIKAËL LÉVESQUE
DATE : 05-08-2018
CON-FD-017_FA

FND-WT-001
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY

Spots check with excavator :

0+206 - 149,31
0+209 - 149,44
0+230 - 149,98
0+241 - 150,58
0+254 - 150,37



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PREPARED BY : MIKAËL LÉVESQUE
DATE : 05-08-2018
CON-FD-017_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180806 - DS - 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 06/08/2018

TIME: 14:14
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+255 to 0+295	**Station:** 0+205 TO 0+255
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

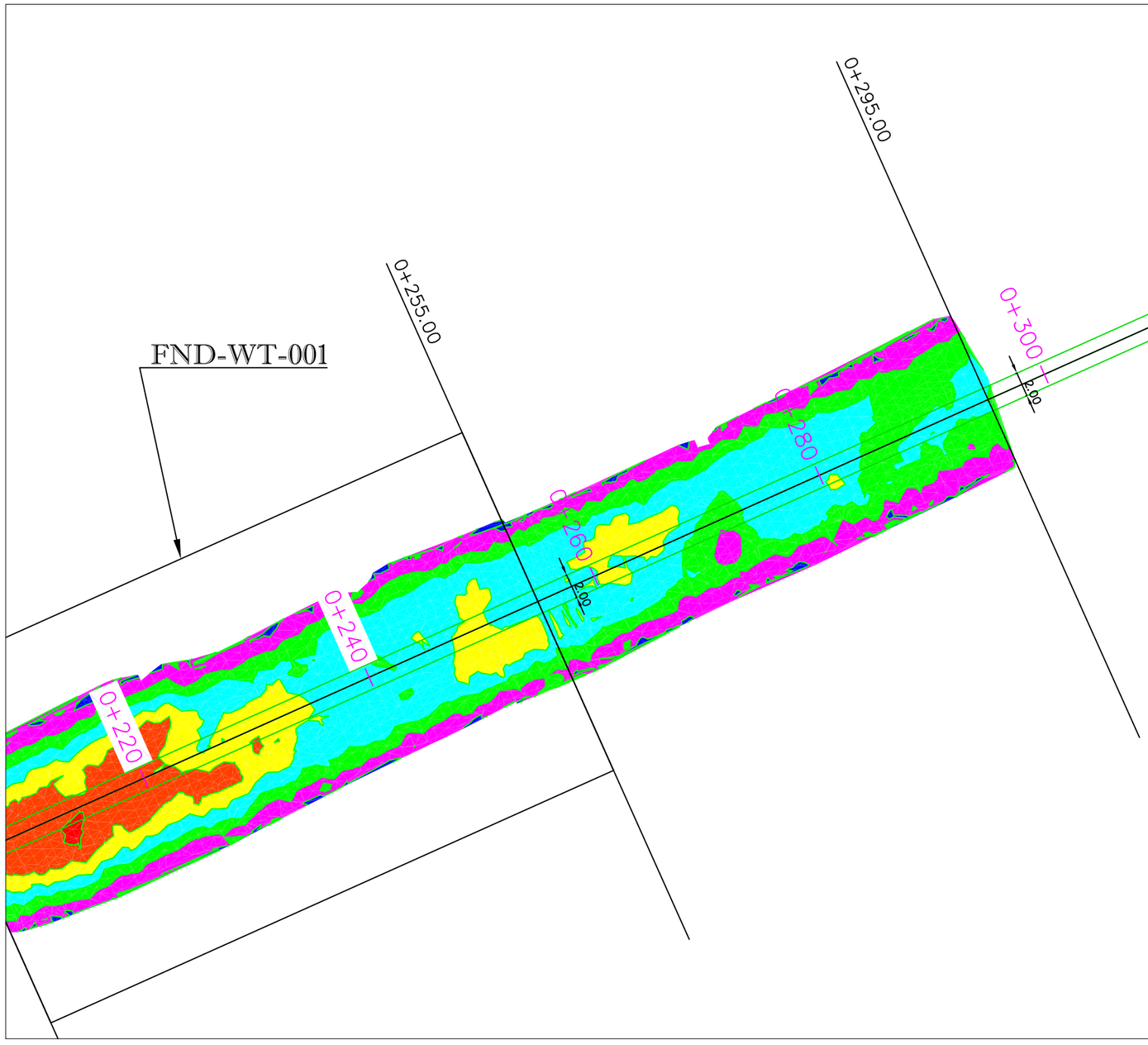
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	The key trench excavation into bedrock by	✓			
	bathymetry data (see attached) and by the				
	GPS of the excavator:				
	0+266 el. 150.40 (bathy: 150.46)				
	0+270 el. 151.41 (bathy: 151.19)				
	0+280 el. 150.72 (bathy: 150.84)				
	0+290 el. 150.9 (bathy: 150.91)				
	A verification was also made at 0+270 from				
	the C_L to the south since it appeared in the				
	bathymetry a peak at this location.				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		06/08/2018
QC REPRESENTATIVE	William Gray	William Gray	06/08/2018
OWNER'S REPRESENTATIVE	Patrice Gagnon		06/08/2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		06/08/2018

FND-WT-002
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



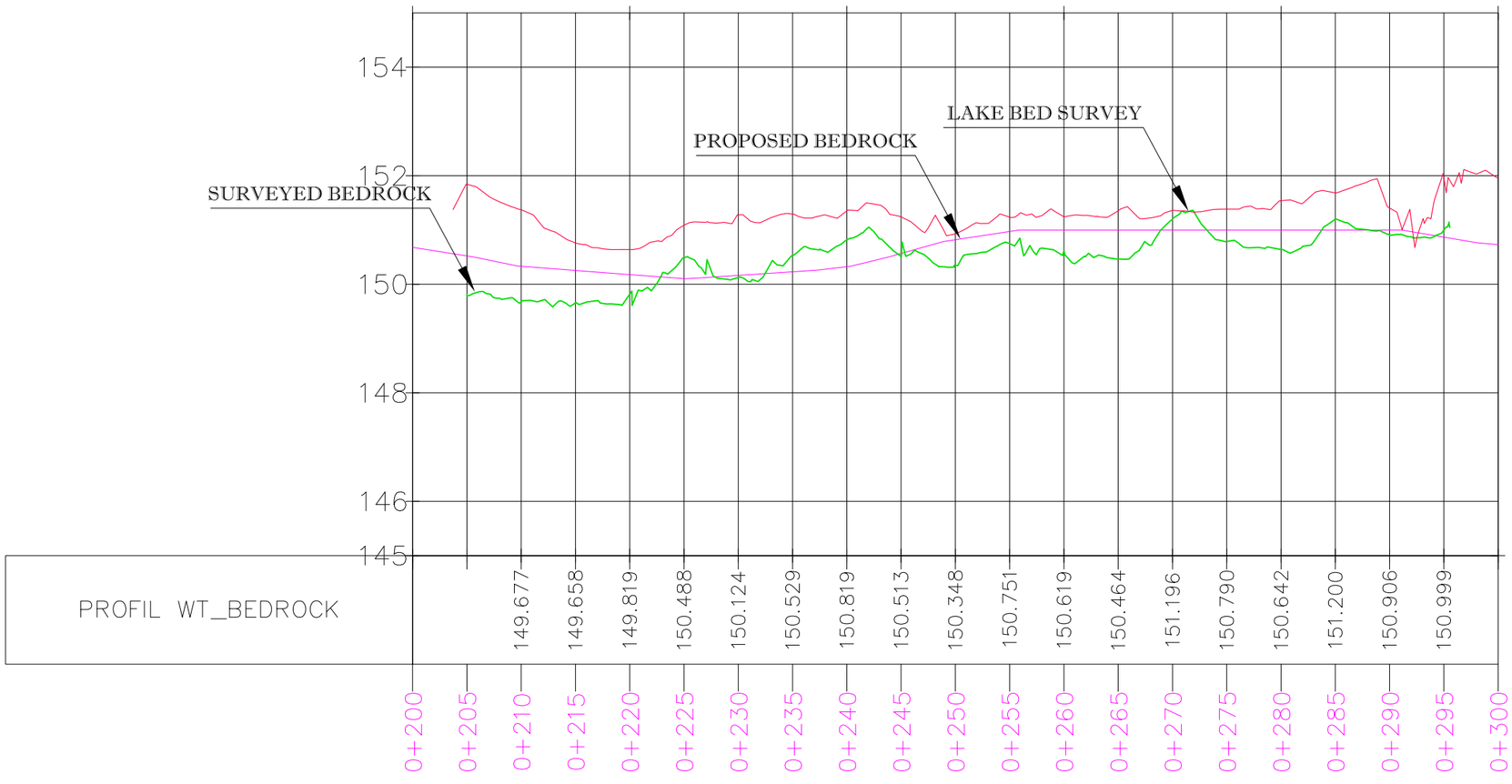
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	149.00	149.50	3.22	
2	149.50	150.00	111.93	
3	150.00	150.50	178.12	
4	150.50	151.00	444.55	
5	151.00	151.50	287.32	
6	151.50	152.00	250.12	
7	152.00	152.50	18.61	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 06-08-2018
CON-FD-018_FA

FND-WT-002
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 06-08-2018
CON-FD-018_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180807-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 07/08/2018

TIME: 18:38
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+295 to 0+328	**Station:** 0+255 to 0+295
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

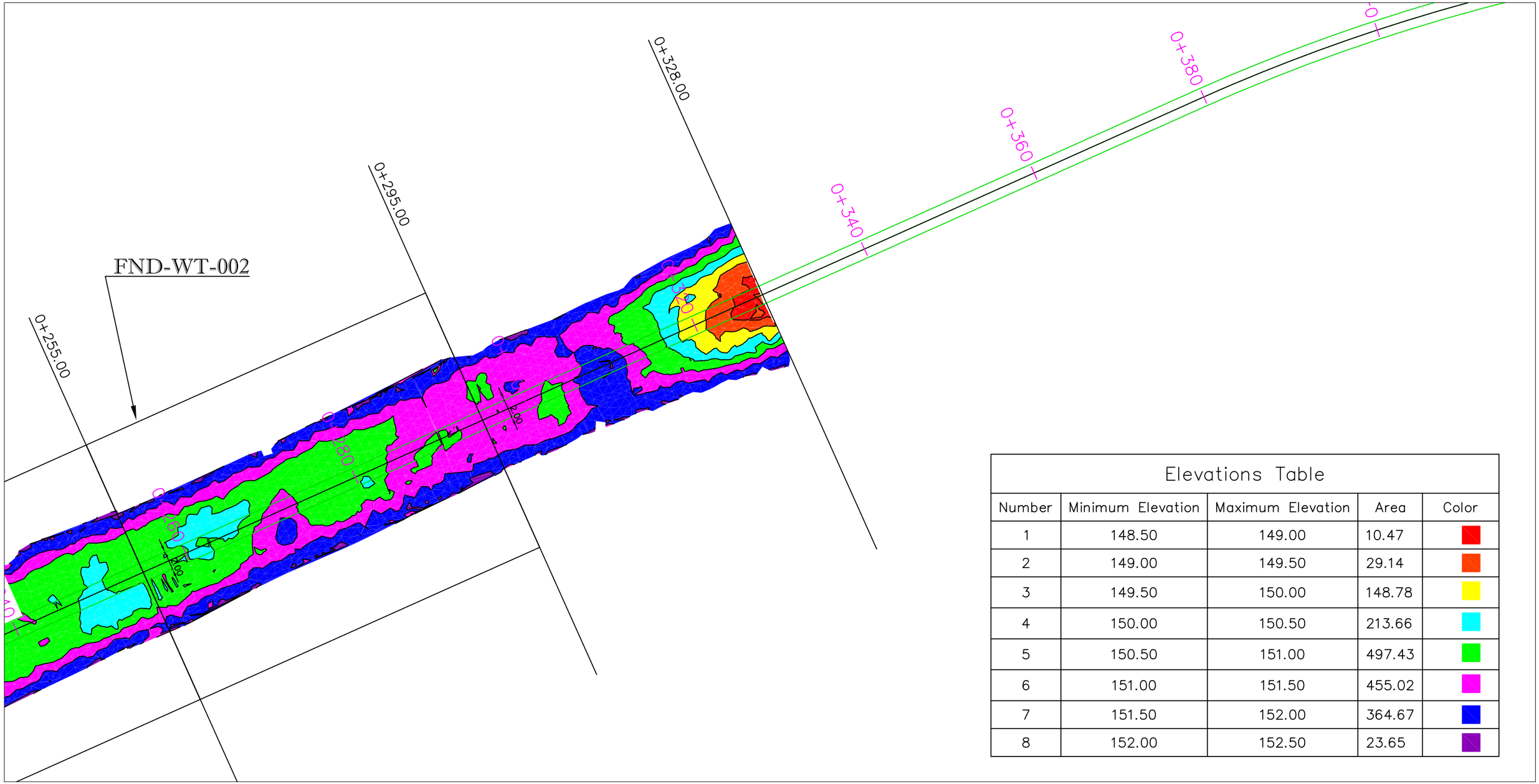
DETAILS

(Refer to list above for item #)

		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
7	The key trench excavation into bedrock was approved	✓		✓	
	by bathymetry data (see attached) and by the GPS				
	excavator:				
	0+305 el. 151.14m (bathy: 151.17 m)				
	0+315 el. 150.51m (bathy: 150.74m)				
	0+325 el. 148.62m (bathy: 148.96 m)				
	0+330 el. 148.13 (bathy did not reach but				
	seems to go close to 148.0 m).				
	All data was also compared with the theoretical model of the rock.				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		07/08/2018
QC REPRESENTATIVE	Melina Gay		07/08/2018
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		07/08/2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		07/08/2018

FND-WT-003
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



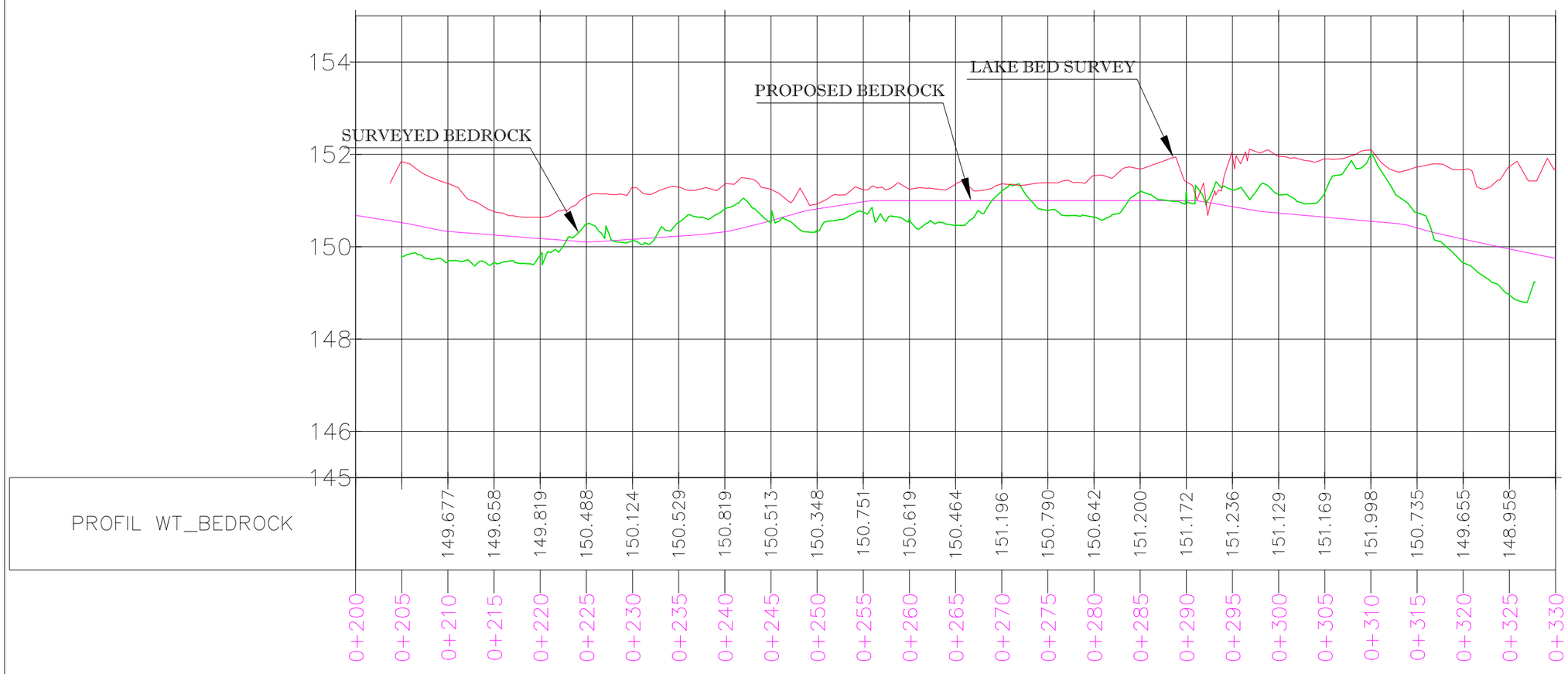
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	148.50	149.00	10.47	
2	149.00	149.50	29.14	
3	149.50	150.00	148.78	
4	150.00	150.50	213.66	
5	150.50	151.00	497.43	
6	151.00	151.50	455.02	
7	151.50	152.00	364.67	
8	152.00	152.50	23.65	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 07-08-2018
CON-FD-019_FA

FND-WT-003
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 07-08-2018
CON-FD-019_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DATE: 09-08-2018

DOCUMENT #: 20180809 - NS - 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 00h00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+328 to 0+360	**Station:** 0+295 to 0+328
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

* Was approved for placement of 0-6" that occurred from 0+328 to 0+340, however after approval, several spotchecks revealed that lakebed sediments deposited inside this approval area (0+328 - 0+360), thus, the next approval will overlap ~~this~~ a portion of this current approval.

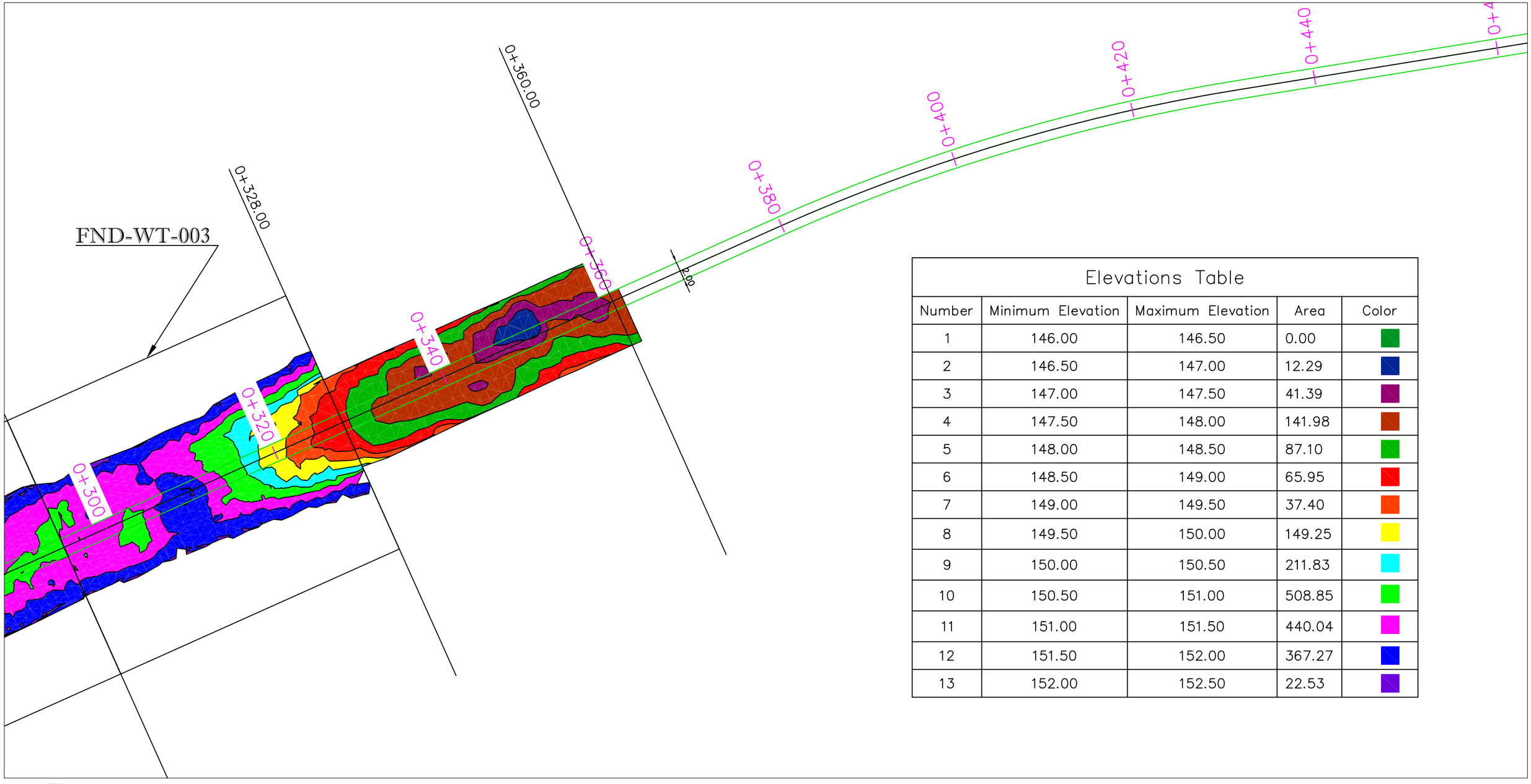
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	The key trench excavation into bedrock	✓		✓	
	was approved based on the proposed alternative				
	(P.-E. McDonald, 08-08-2018), comparing				
	GPS equipped bucket's grid with manual				
	measurements on the boat at the center line:				
	0+325 el. 148,71m (bathy: 148,75m)				
	0+330 el. 148,21m (bathy: 148,13m)				
	0+335 el. 147,91m (bathy: 147,75m)				
	0+340 el. 147,71m (bathy: 147,75m)				
	0+345 el. 147,26m (bathy: 147,38m)				
	0+350 el. 147,16m (bathy: 147,13m)				
	0+355 el. 147,61m (bathy: 147,88m)				
	0+360 el. 147,71m (bathy: 147,75m)				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Jonathan Leblanc	Jonathan Leblanc	2018-08-09
QC REPRESENTATIVE	Cédrick Fillon Tremblay	Cédrick Fillon Tremblay	2018-08-09
OWNER'S REPRESENTATIVE (see (*))	Pier-Eric McDonald		2018-08-09.
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		2018/08/09

FND-WT-004
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



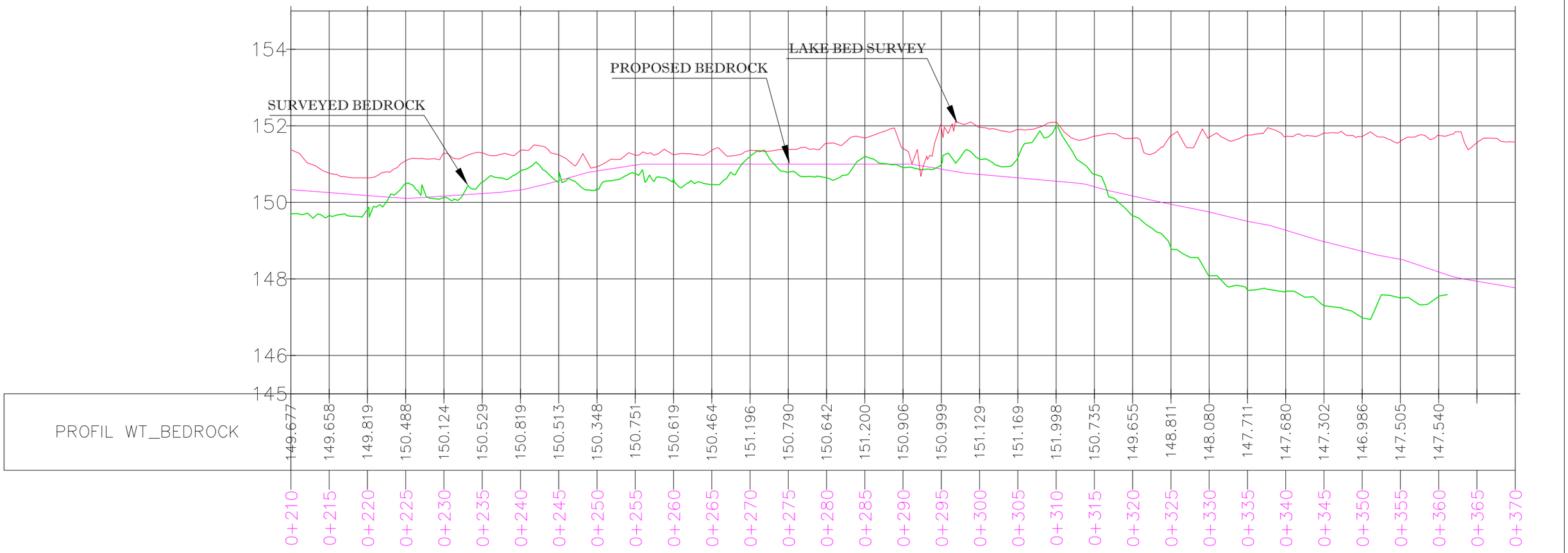
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	146.00	146.50	0.00	
2	146.50	147.00	12.29	
3	147.00	147.50	41.39	
4	147.50	148.00	141.98	
5	148.00	148.50	87.10	
6	148.50	149.00	65.95	
7	149.00	149.50	37.40	
8	149.50	150.00	149.25	
9	150.00	150.50	211.83	
10	150.50	151.00	508.85	
11	151.00	151.50	440.04	
12	151.50	152.00	367.27	
13	152.00	152.50	22.53	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 08-08-2018
CON-FD-020_FA

FND-WT-004
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 08-08-2018
CON-FD-020_FA

146-81

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APPROVAL FORM

PROJECT : WTD CONSTRUCTION

PROJECT #: 658 309

DOCUMENT #: 20180810-NS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 10-08-2018

TIME: 4h30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+328 to 0+352	**Station:**	0+328 to 0+360
Inclination:	on the south side	**Details:**	Rockfill slopes had to be modified and the key trench cleaned up again.
ELEVATION :	☒ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17. * This approval is following the earth clean up. Note that an overall final official Approval will replace this one and the one prior to cover from 0+325 to 0+355 since a lot of excavation passes/approval parts were done.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

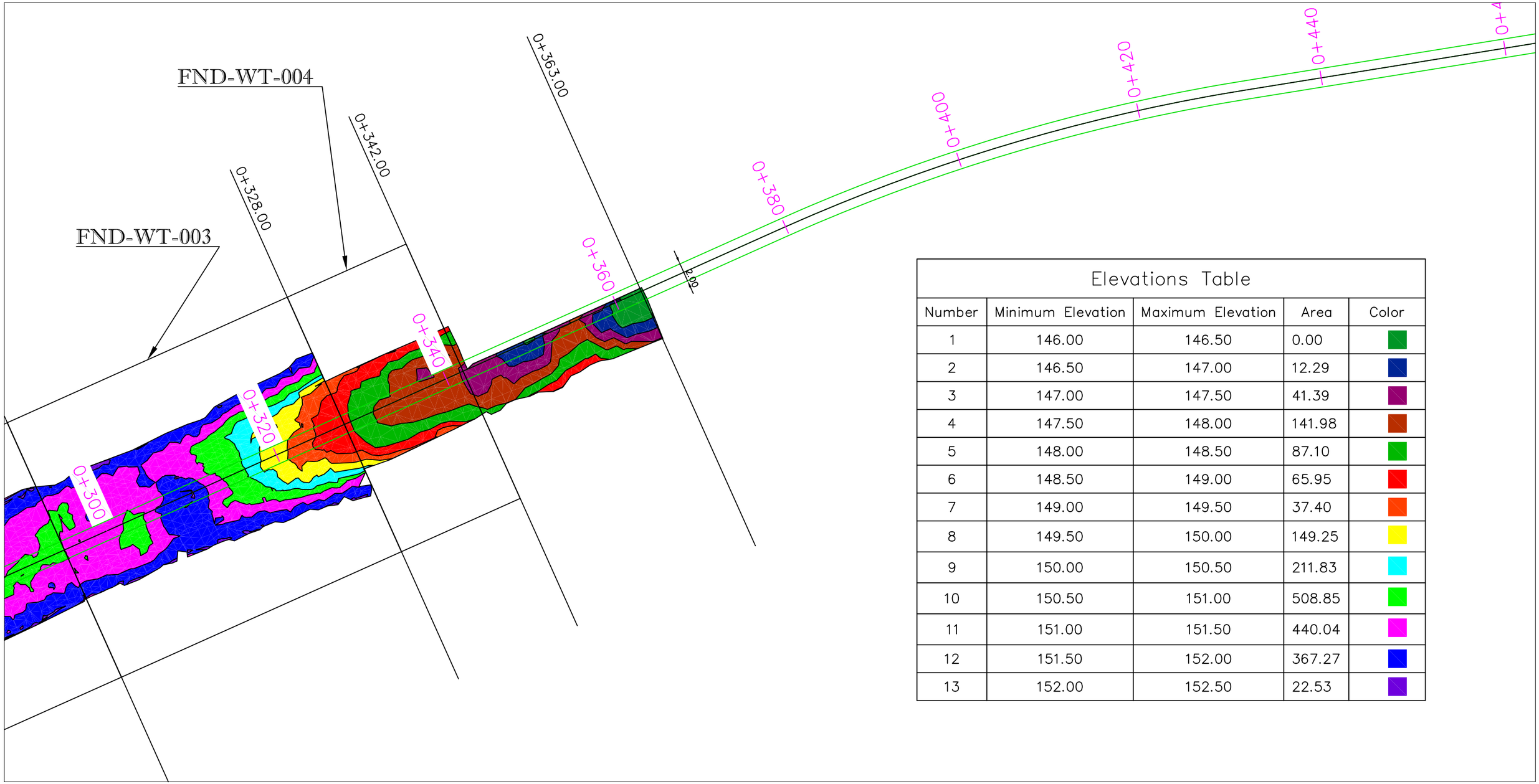
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.	Rockfill slopes have been modified with the new bedrock surface, based with bedrock elevation at the coarse filter toe.	✓		✓	
7.	The key trench excavation on bedrock was approved after rockfill slope adjustments, comparing spot checks with the GPS equipped bucket and ~~test~~ two bathymetric surveys, FND-WT-004 AND FND-WT-005: 0+330 el. 147.97m (FND-WT-004 = 148.13m ; FND-WT-005 = 147.5 to 148m) 0+340 el. 146.37m (FND-WT-004 = 147.75m; FND-WT-005 = 147 to 147.5m) 0+352 el. 146.50m (FND-WT-004 = 147m; FND-WT-005 = 146.5 to 147.5m)	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Jonathan Leblanc	Jonathan Leblanc	10-08-2018
QC REPRESENTATIVE	Cedrick Fillion Tremblay	Cedrick Fillion Tremblay	10-08-2018
See (*) ← OWNER'S REPRESENTATIVE	Pier-Eric McGrath		10-08-2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU	Audrey Bilodeau	10-08-2018

FND-WT-005
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



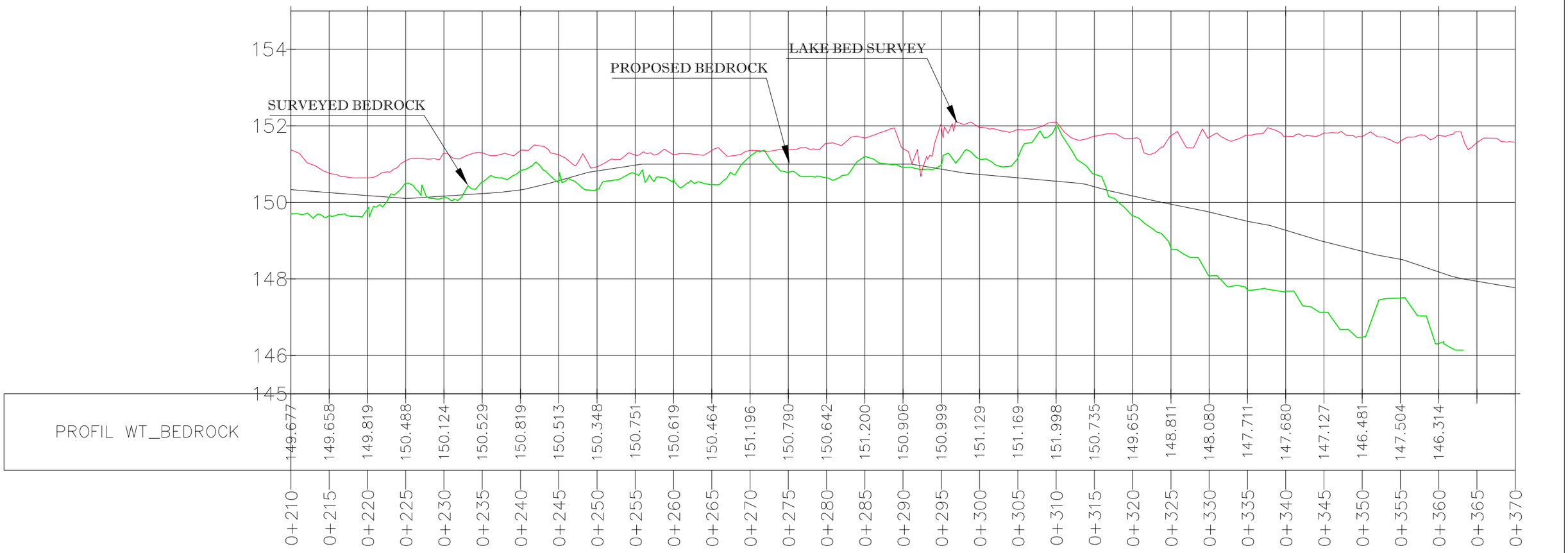
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	146.00	146.50	0.00	
2	146.50	147.00	12.29	
3	147.00	147.50	41.39	
4	147.50	148.00	141.98	
5	148.00	148.50	87.10	
6	148.50	149.00	65.95	
7	149.00	149.50	37.40	
8	149.50	150.00	149.25	
9	150.00	150.50	211.83	
10	150.50	151.00	508.85	
11	151.00	151.50	440.04	
12	151.50	152.00	367.27	
13	152.00	152.50	22.53	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 08-08-2018
CON-FD-021_FA

FND-WT-004
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 08-08-2018
CON-FD-020_FA

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APPROVAL FORM

PROJECT : WTD CONSTRUCTION

PROJECT #: 658309

DATE: 10/08/2018

DOCUMENT #: 20180810-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 14:15
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+328 TO 0+355	**Station:** 0+328 TO 0+360 and
Inclination:	~~**Details:**~~ and. 0+328 TO 0+352
ELEVATION : ☒ varies _____ m	this form replaces both.

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

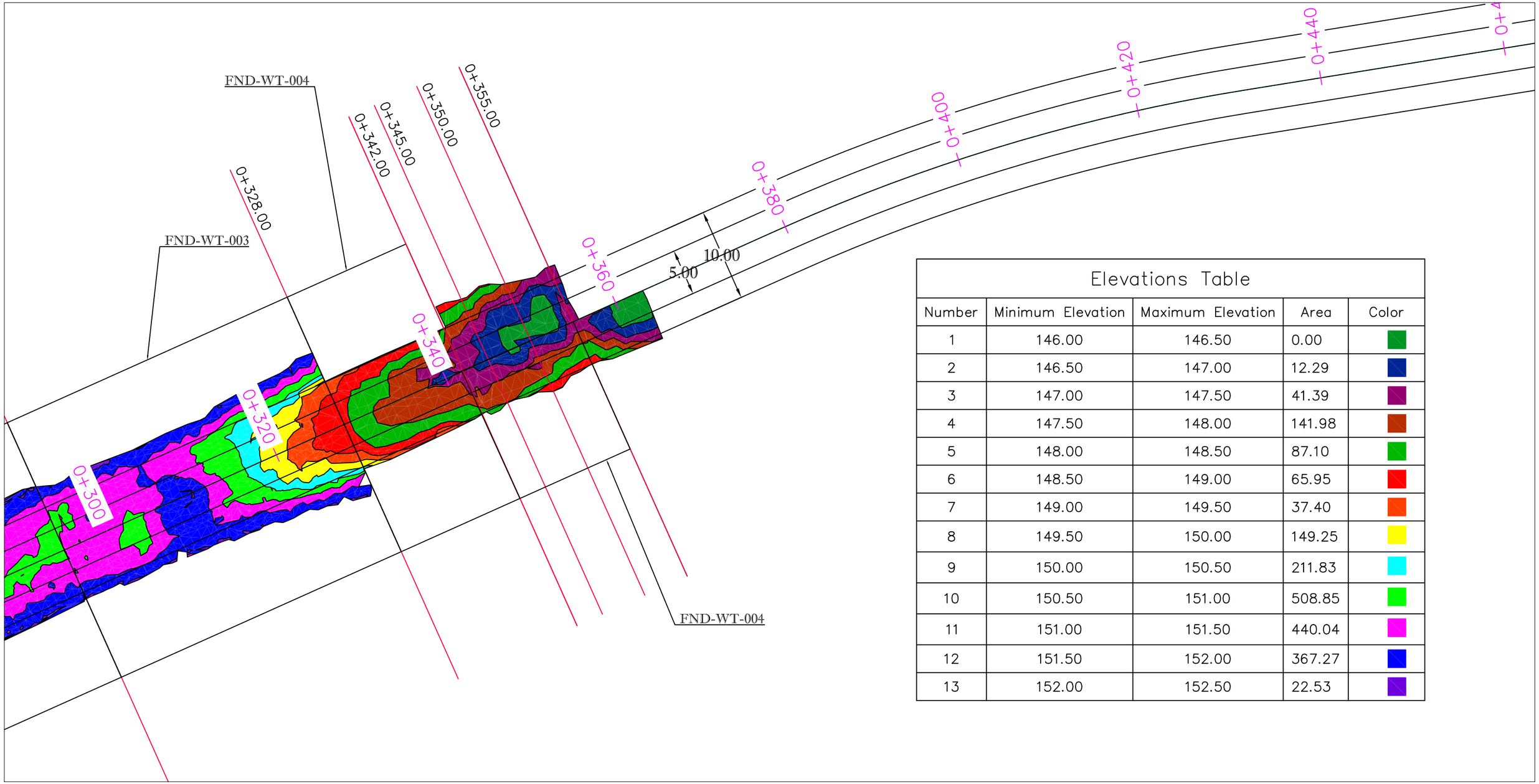
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	This form should replace forms:	✓		✓	
	• 20180809-WS-01				
	• 20180810 -WS-01				
	GPS points taken with the bucket and with				
	boat still apply except for sections around				
	0+340. New points were taken:				
	0+337 el. 147.4				
	0+339 el. 146.8				
	0+342 el. 147.0				
	and are included in the bathymetry (see Appendix)				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		10/08/2018
QC REPRESENTATIVE	Melissa Gray		10/08/2018
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		10/08/2018
CONTRACTOR'S REPRESENTATIVE	ANDREY BILOUSHKIN		10/08/2018

FND-WT-006
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



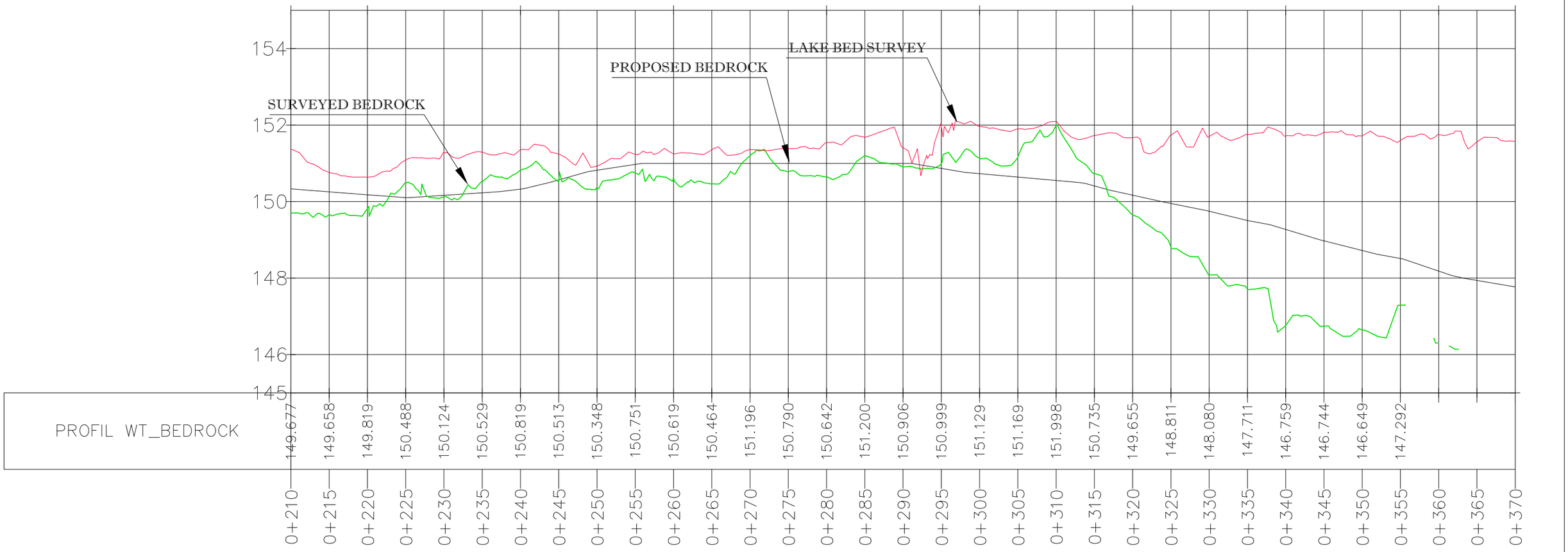
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	146.00	146.50	0.00	
2	146.50	147.00	12.29	
3	147.00	147.50	41.39	
4	147.50	148.00	141.98	
5	148.00	148.50	87.10	
6	148.50	149.00	65.95	
7	149.00	149.50	37.40	
8	149.50	150.00	149.25	
9	150.00	150.50	211.83	
10	150.50	151.00	508.85	
11	151.00	151.50	440.04	
12	151.50	152.00	367.27	
13	152.00	152.50	22.53	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 10-08-2018
CON-FD-024_FA

FND-WT-006
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 10-08-2018
CON-FD-024_FA

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1140 Maisonneuve boul. West
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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180812-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 12/08/2018

TIME: 16:45
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+180 TO 0+205	**Station:** 0+328 TO 0+355
Inclination:	**Details:** –
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed	✓		✓		
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

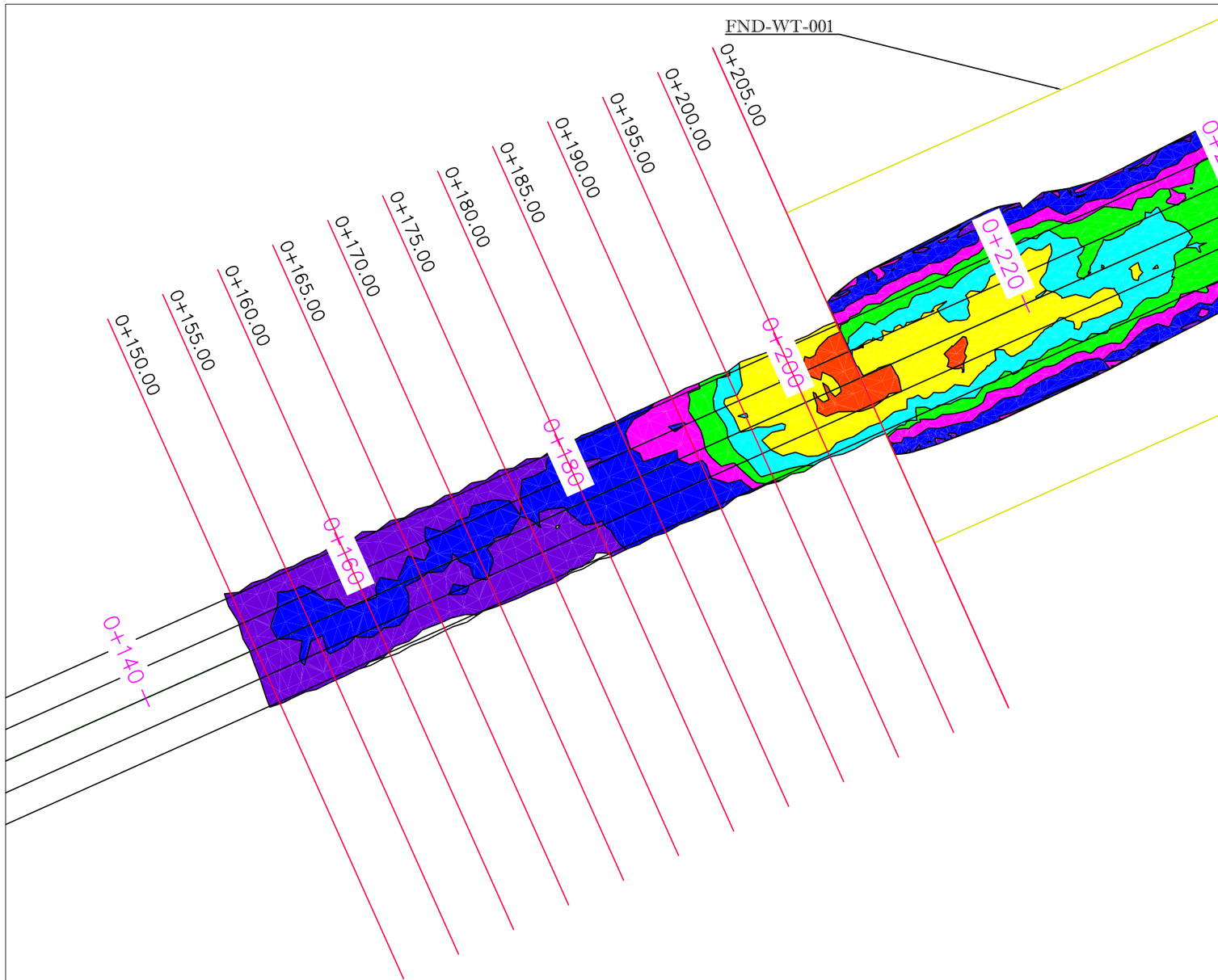
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	Foundation obedrock at the key trench	✓		✓	
	verified with bathymetry (by GPS of the				
	shovel) and with manual sounding (tape and				
	boat):				
	0+206 el. 149.6 m (bathy: 149.2 m)				
	0+180 el. 151.7 m (bathy: 151.6 m)				
	0+160 el. 152.0 m (bathy: 152.1 m)				
	See site report 20180812-DS-SR for more				
	details.				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		12/08/2018.
QC REPRESENTATIVE	Melina Gray	Melina Gray	12/08/2018
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		12/08/2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BLODEAU		12/08/2018

FND-WT-007
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



Elevations Table

Number	Minimum Elevation	Maximum Elevation	Area	Color
1	146.00	146.50	0.00	
2	146.50	147.00	12.29	
3	147.00	147.50	41.39	
4	147.50	148.00	141.98	
5	148.00	148.50	87.10	
6	148.50	149.00	65.95	
7	149.00	149.50	37.40	
8	149.50	150.00	149.25	
9	150.00	150.50	211.83	
10	150.50	151.00	508.85	
11	151.00	151.50	440.04	
12	151.50	152.00	367.27	
13	152.00	152.50	22.53	

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-027_FA

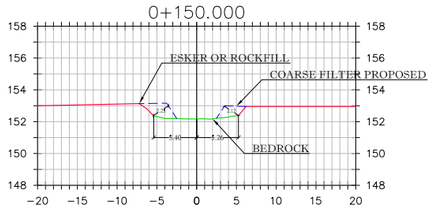
FND-WT-007
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

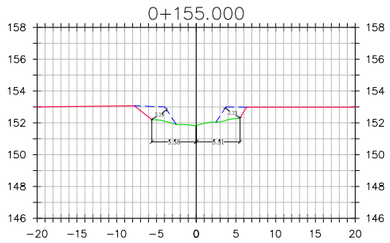
BEDROCK SURVEY

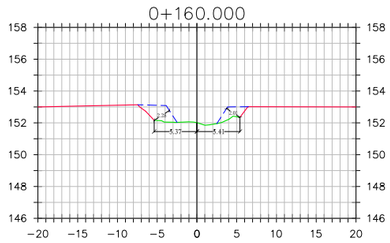
KIVALLIQ CONTRACTORS
GROUP LTD

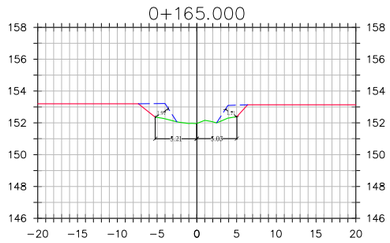
PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-027_FA

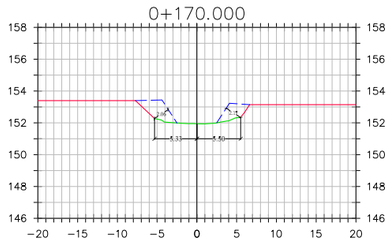
FND-WT-007
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

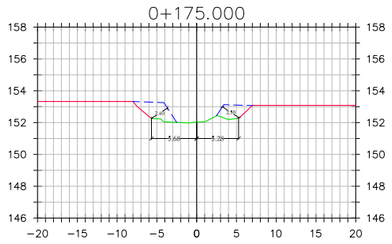


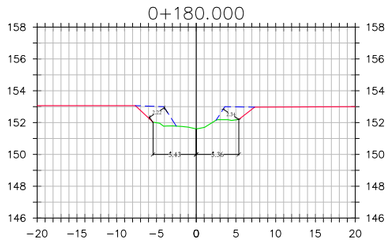


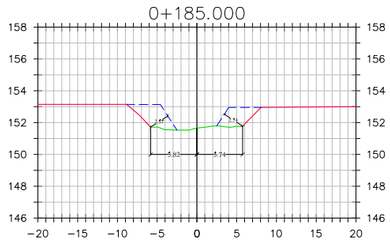


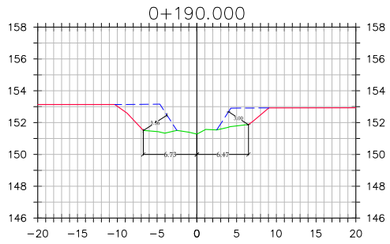


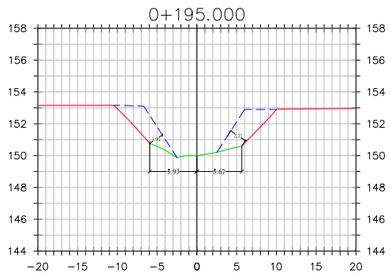


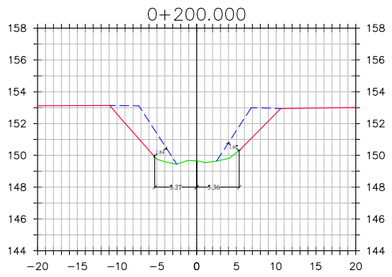












KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-027_FA

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1140 Maisonneuve boul. West
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www.snclavalin.com

APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309 **DATE:** 13/08/2018

DOCUMENT #: 20180813-NS-01 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+355 to 0+375	**Station:** 0+328 to 0+355
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

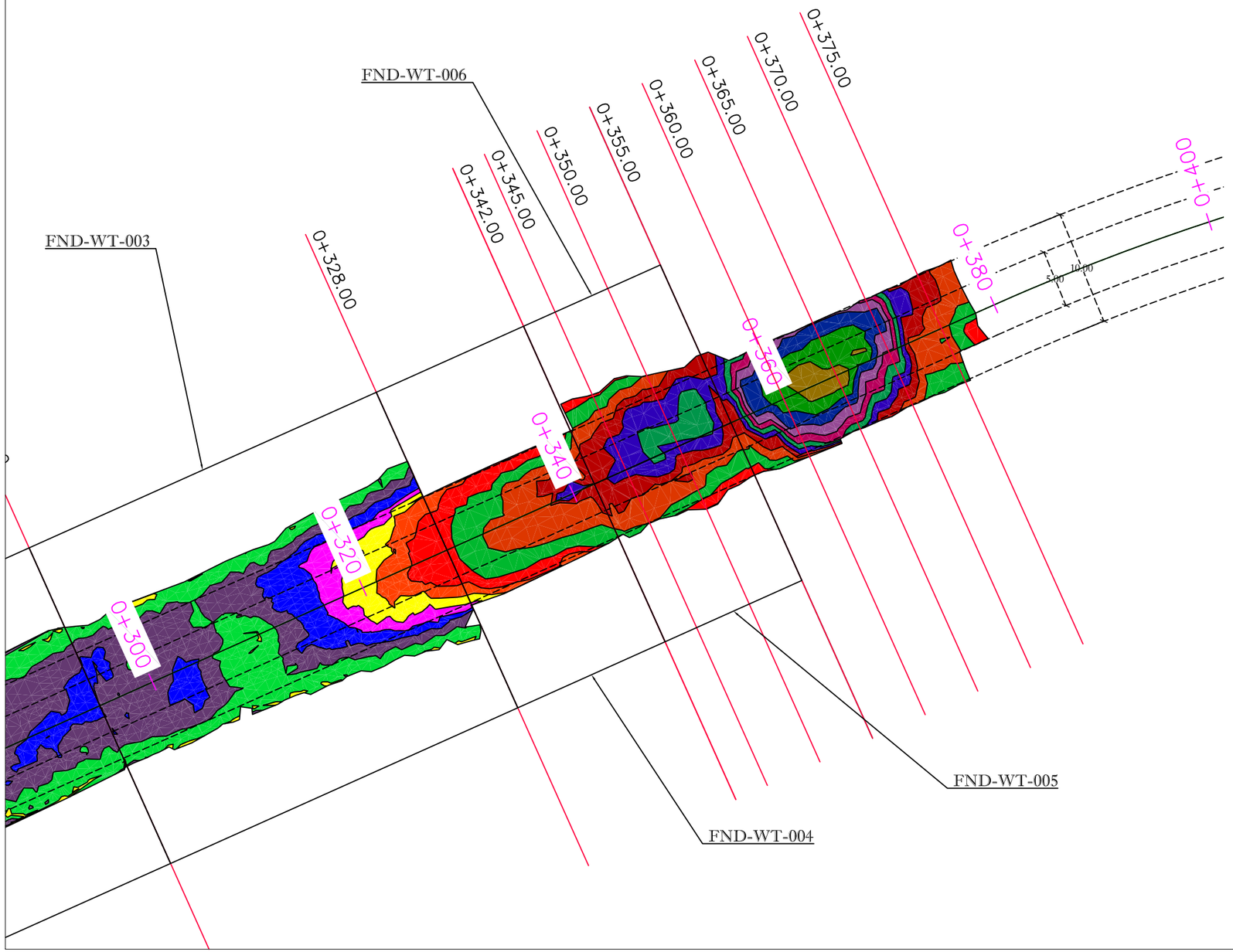
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	Foundation on bedrock at the key trench	✓		✓	
	was verified bathymetry (by GPS of the				
	shovel) on both side of trench, before				
	and after Profing the slopes of the rockfill				
	platforms.				
	0+360 el. 144 m (bathy: 144.3 m)				
	0+363 el. 143.1 m (bathy: 143.7 m)				
	0+367 el. 144.2 m (bathy: 144.6 m)				
	0+373 el. 147.1 m (bathy: 147.5 m)				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	JONATHAN LEBLANC	Jonathan Leblanc	13/08/2018
QC REPRESENTATIVE	Cédrick Fillon Tremblay	Cédrick Fillon Tremblay	13/08/2018
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		13/08/2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		13/08/2018

FND-WT-008
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



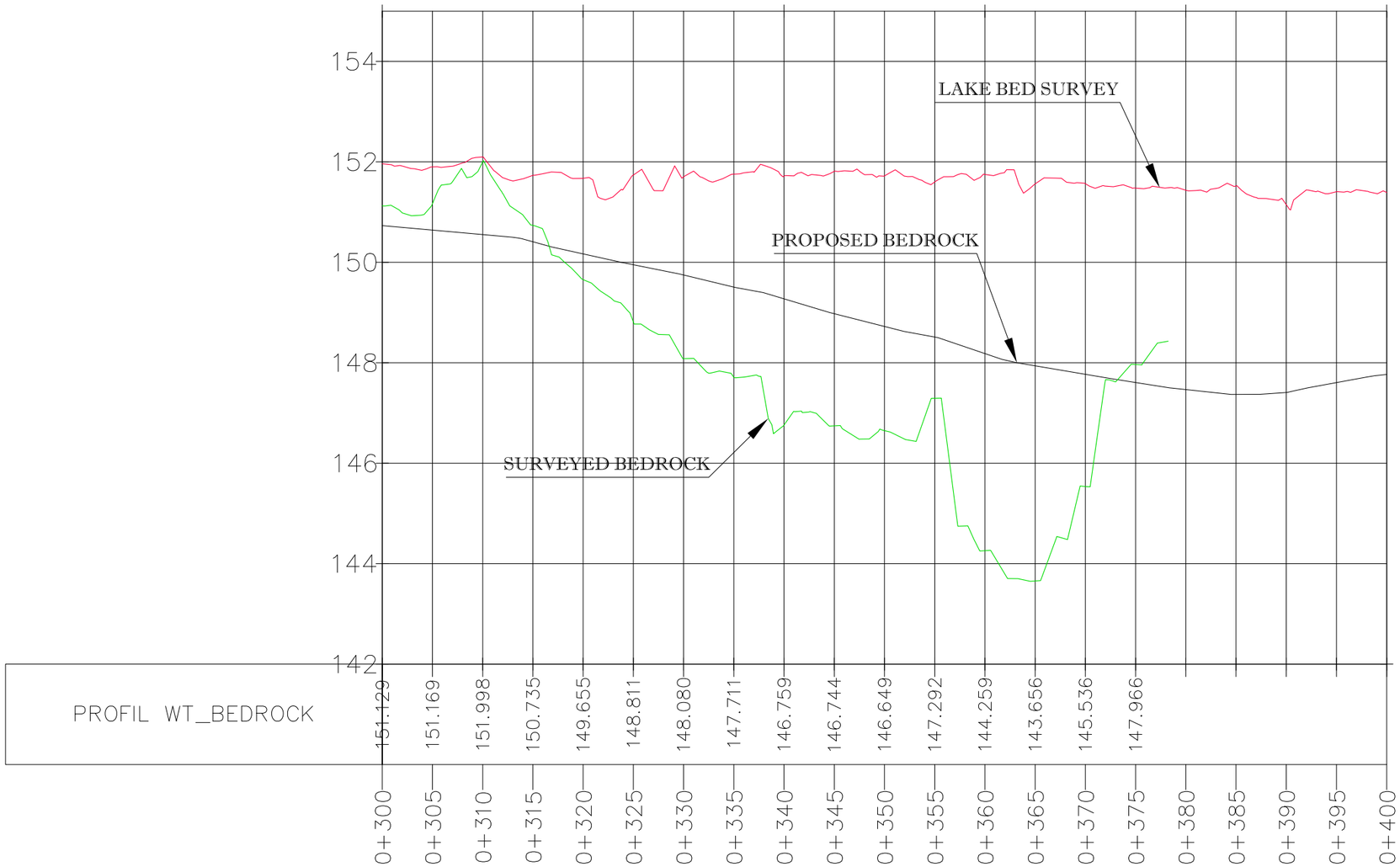
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	143.00	143.50	0.00	
2	143.50	144.00	13.07	
3	144.00	144.50	33.80	
4	144.50	145.00	32.96	
5	145.00	145.50	23.02	
6	145.50	146.00	17.15	
7	146.00	146.50	32.42	
8	146.50	147.00	59.31	
9	147.00	147.50	79.02	
10	147.50	148.00	111.96	
11	148.00	148.50	81.81	
12	148.50	149.00	60.86	
13	149.00	149.50	64.91	
14	149.50	150.00	211.36	
15	150.00	150.50	237.84	
16	150.50	151.00	525.94	
17	151.00	151.50	471.13	
18	151.50	152.00	546.99	
19	152.00	152.50	231.75	
20	152.50	153.00	6.75	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-028_FA

FND-WT-008
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

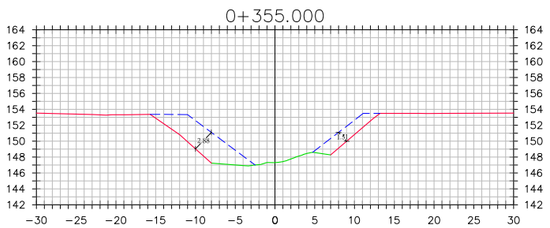
BEDROCK SURVEY

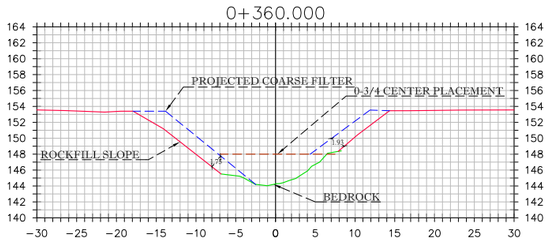


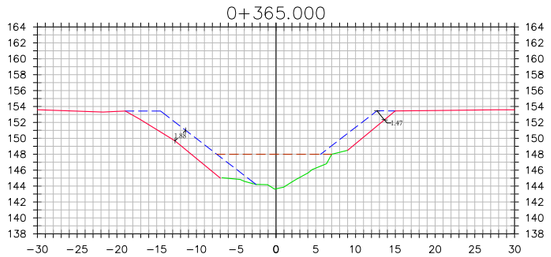
KIVALLIQ CONTRACTORS GROUP LTD

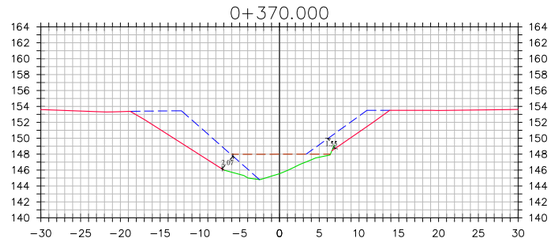
PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-028_FA

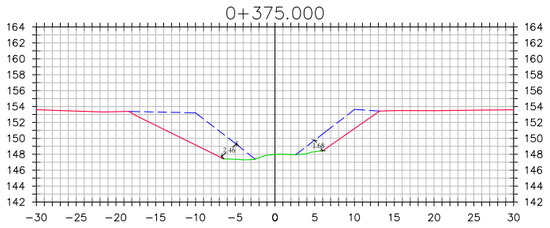
FND-WT-008
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811











KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 12-08-2018
CON-FD-028_FA

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Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DATE: 13/08/2018

DOCUMENT #: 20180813-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 17:23
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+150 to 0+130	**Station:**	0+205 to 0+150
Inclination:		**Details:**	
ELEVATION :	☒ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		QC		N/A
	Y	N	Y	N	
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

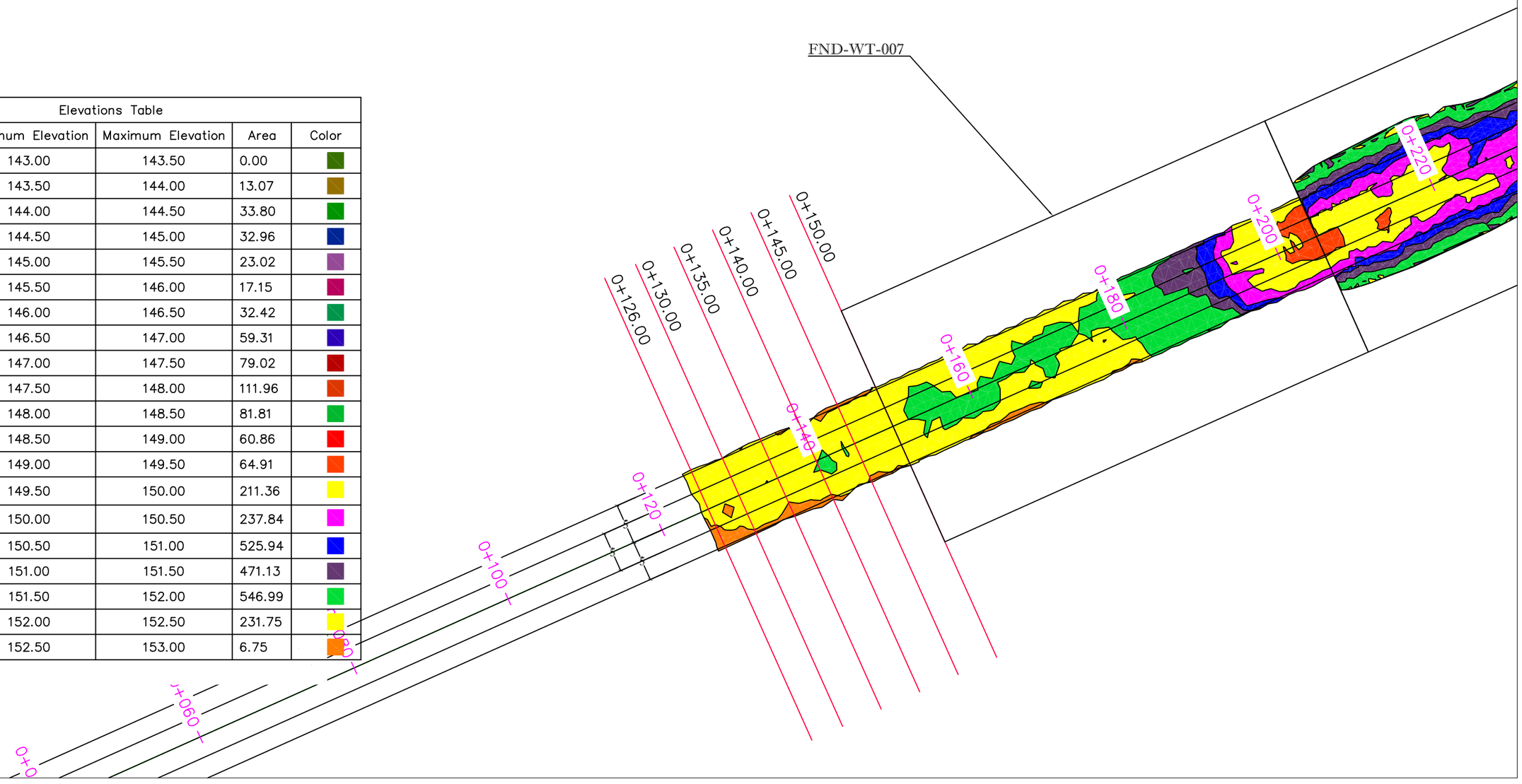
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	key trench cleaning to bedrock. Bathymetry	✓		✓	
	was done and compared with theoretical bedrock.				

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Angie Arbaiza		13/08/2018
QC REPRESENTATIVE	Daniel Roy		13/08/2018
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		13/08/2018
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		14/08/2018

FND-WT-009
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

N

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	143.00	143.50	0.00	
2	143.50	144.00	13.07	
3	144.00	144.50	33.80	
4	144.50	145.00	32.96	
5	145.00	145.50	23.02	
6	145.50	146.00	17.15	
7	146.00	146.50	32.42	
8	146.50	147.00	59.31	
9	147.00	147.50	79.02	
10	147.50	148.00	111.96	
11	148.00	148.50	81.81	
12	148.50	149.00	60.86	
13	149.00	149.50	64.91	
14	149.50	150.00	211.36	
15	150.00	150.50	237.84	
16	150.50	151.00	525.94	
17	151.00	151.50	471.13	
18	151.50	152.00	546.99	
19	152.00	152.50	231.75	
20	152.50	153.00	6.75	

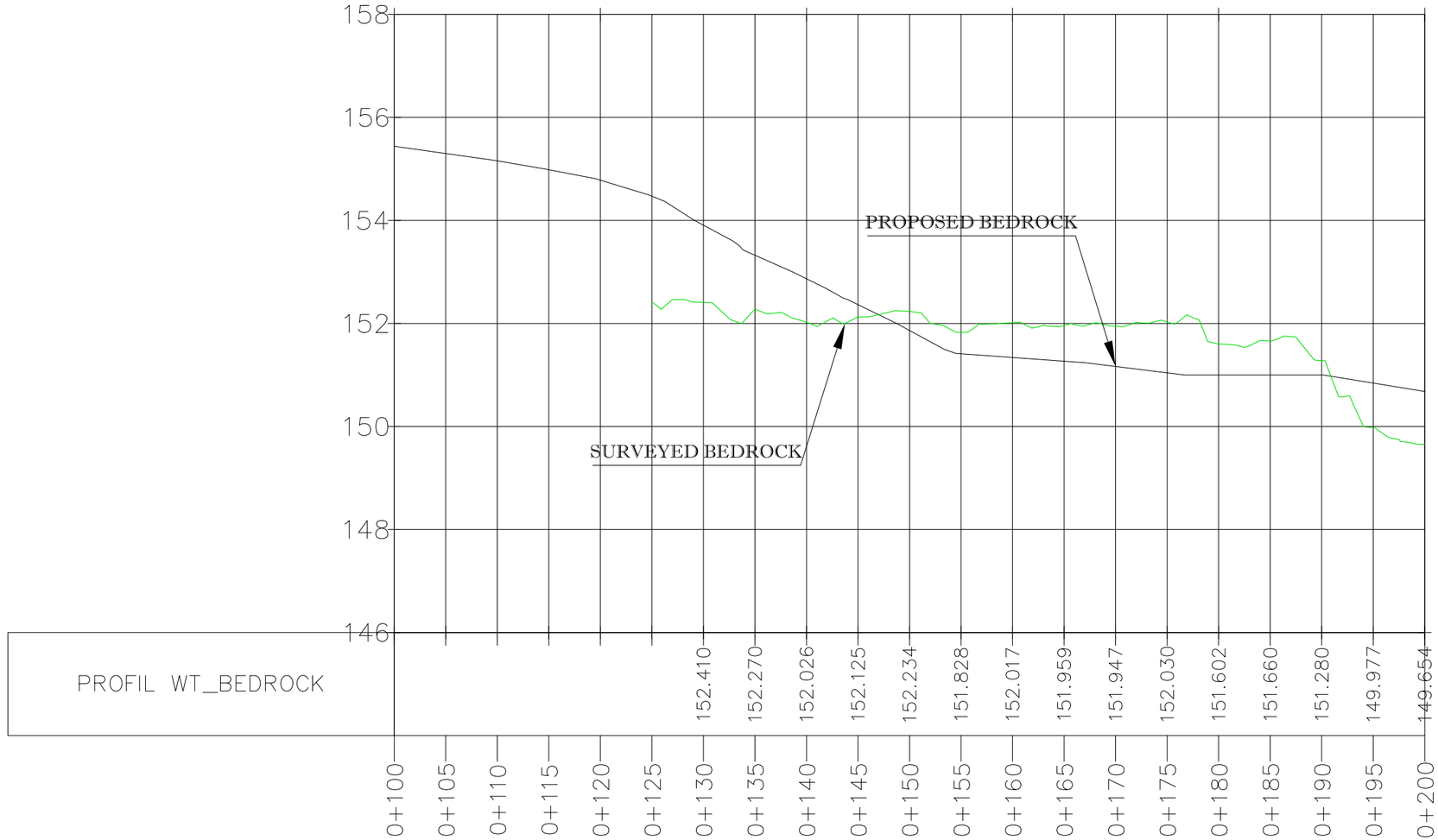


KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 13-08-2018
CON-FD-029_FA

FND-WT-009
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

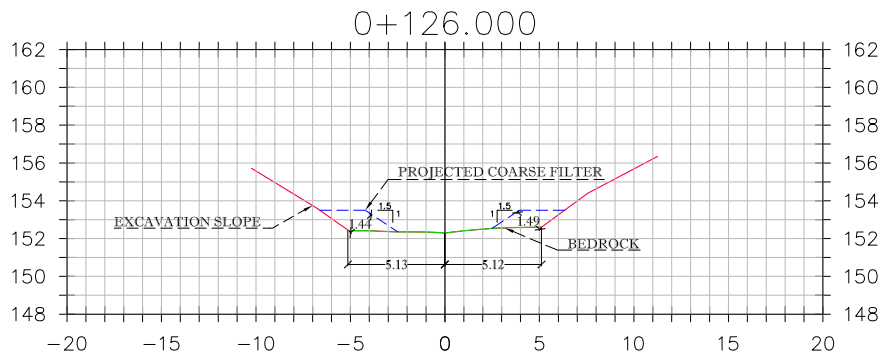
BEDROCK SURVEY

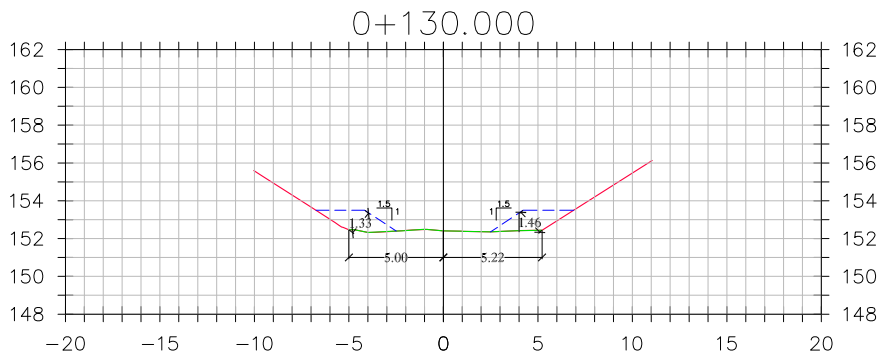


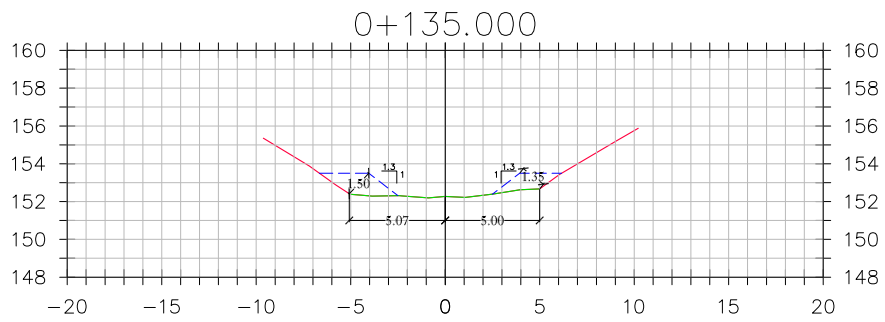
KIVALLIQ CONTRACTORS GROUP LTD

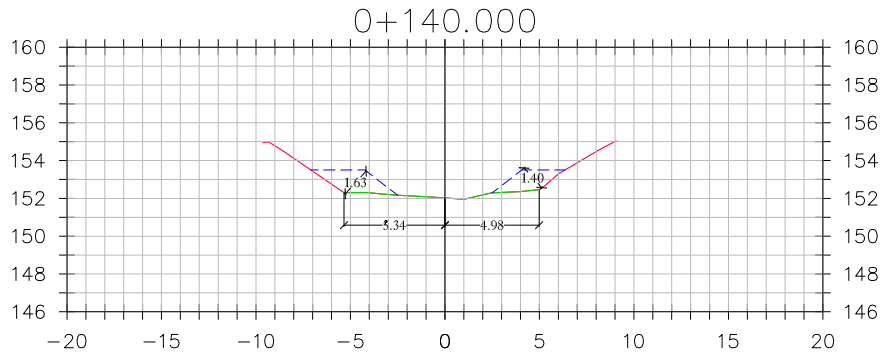
PREPARED BY : MIKAËL LÉVESQUE
DATE : 13-08-2018
CON-FD-029_FA

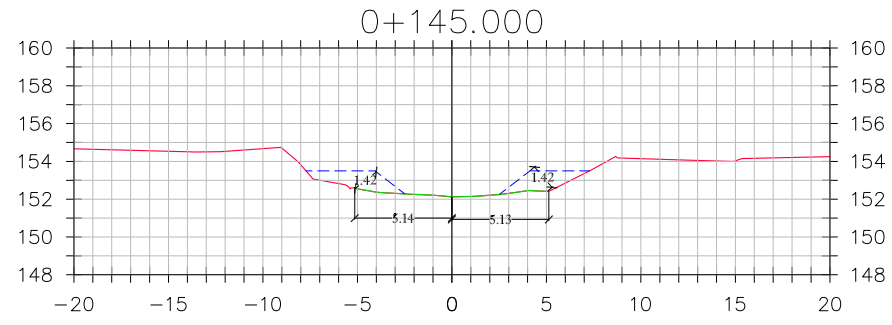
FND-WT-009
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

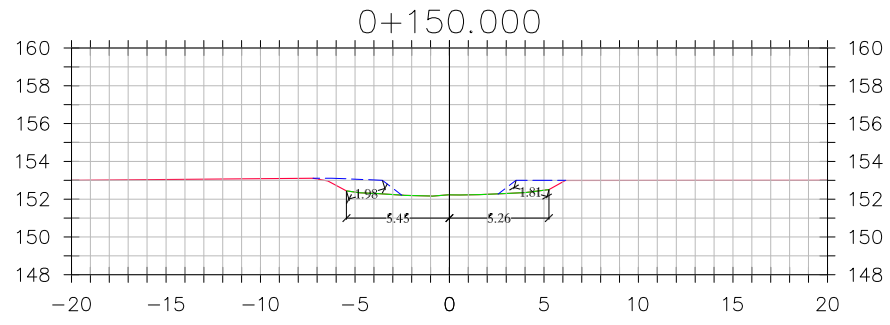












KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 13-08-2018
CON-FD-029_FA

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Montreal (Québec)
Canada H3A 1M8

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180814-NS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 13/08/2018

TIME: 21h45
(24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (footprint)
- ☐ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+060 to 0+130	**Station:**	0+150 to 0+130
Inclination:		**Details:**	
ELEVATION :	☒ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock	✓		✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

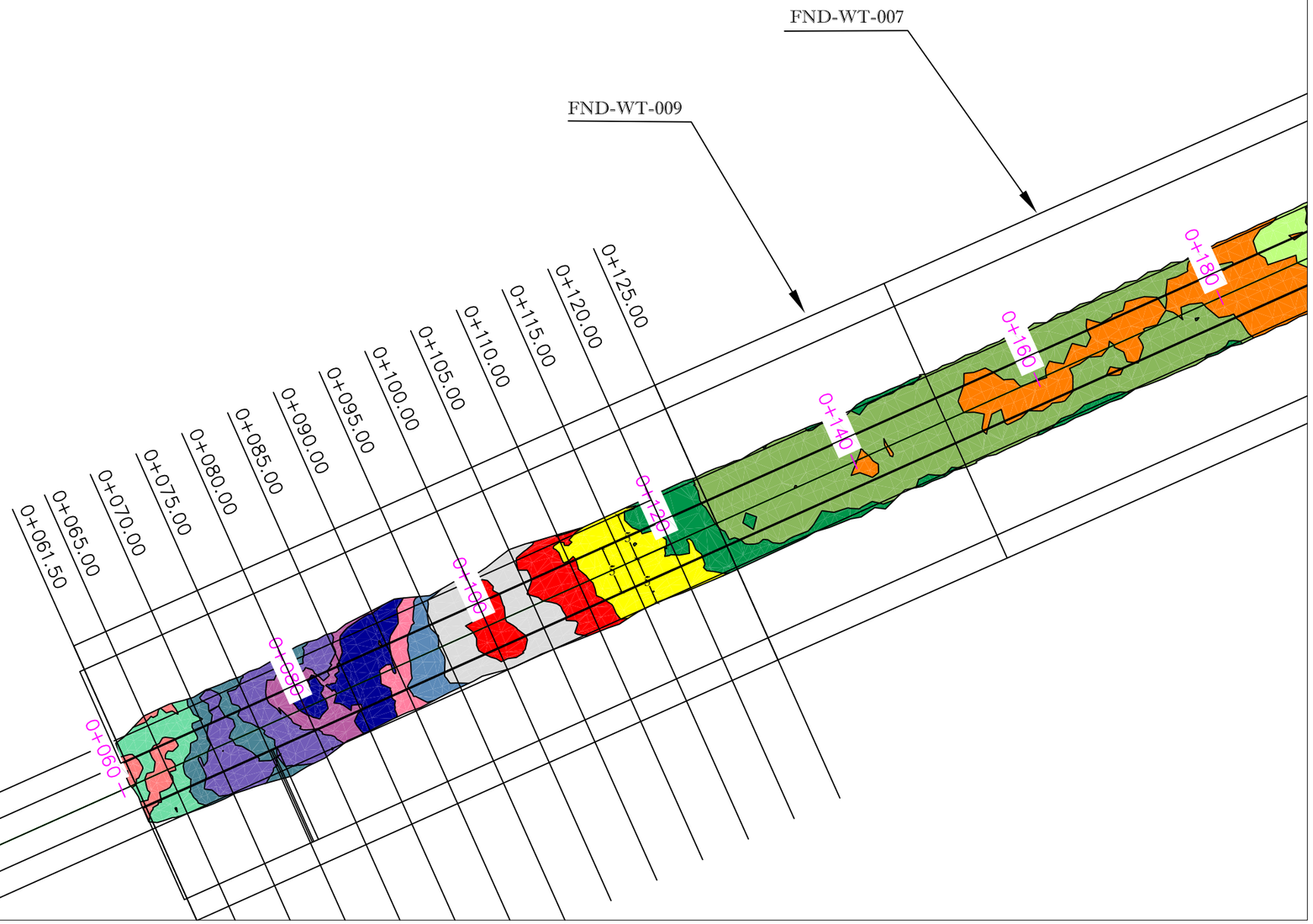
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	Footprint of the west abutment on bedrock surface after final clean-up. Survey was completed after the confirmation by QA/QC that the foundation was on bedrock.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	JONATHAN LEBLANC	Jonathan Leblanc	2018-08-13
QC REPRESENTATIVE	Denis J. Columbus		2018-08-13
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2018-08-13
CONTRACTOR'S REPRESENTATIVE	AUDREY BILODEAU		2018-08-14

FND-WT-010
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811

N

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	146.00	146.50	32.42	
2	146.50	147.00	59.31	
3	147.00	147.50	79.02	
4	147.50	148.00	111.96	
5	148.00	148.50	81.81	
6	148.50	149.00	60.86	
7	149.00	149.50	64.91	
8	149.50	150.00	211.36	
9	150.00	150.50	237.84	
10	150.50	151.00	525.94	
11	151.00	151.50	471.13	
12	151.50	152.00	551.75	
13	152.00	152.50	446.30	
14	152.50	153.00	84.47	
15	153.00	153.50	87.08	
16	153.50	154.00	75.72	
17	154.00	154.50	91.06	
18	154.50	155.00	29.35	
19	155.00	155.50	23.51	
20	155.50	156.00	53.20	
21	156.00	156.50	23.93	
22	156.50	157.00	110.03	
23	157.00	157.50	50.40	
24	157.50	158.00	46.84	
25	158.00	158.50	20.66	
26	158.50	159.00	0.10	



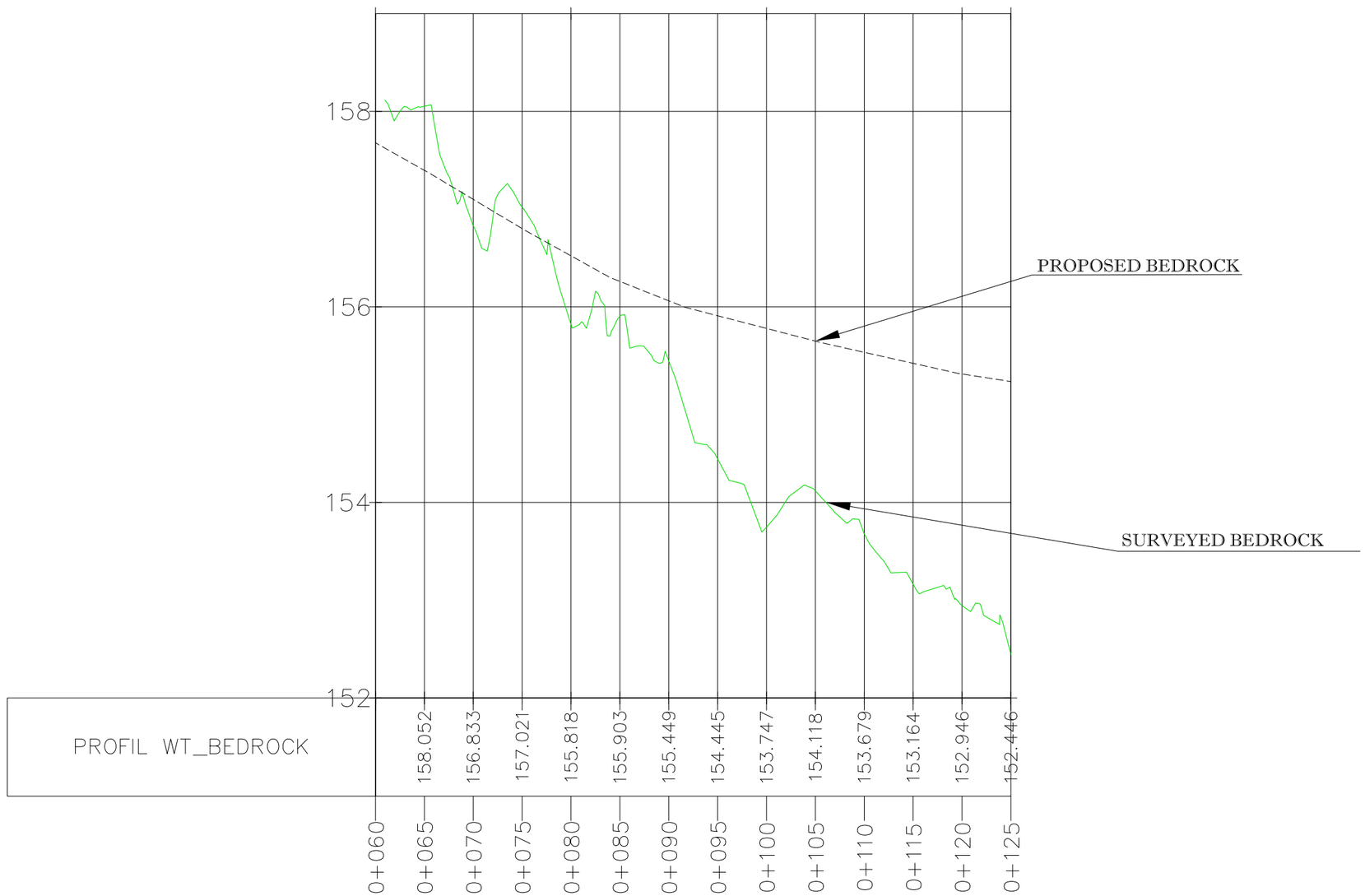
KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 18-08-2018
CON-FD-032

C:\Dropbox\Dropbox (Groupe Gilbert)_mpentage meadowbank\2018\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-032_FA.dwg

FND-WT-010
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811

BEDROCK SURVEY



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 18-08-2018
CON-FD-032

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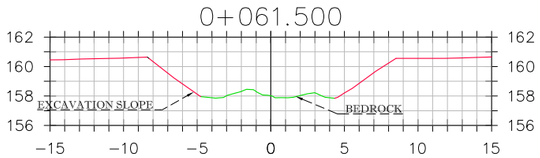
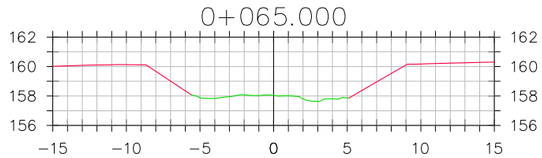
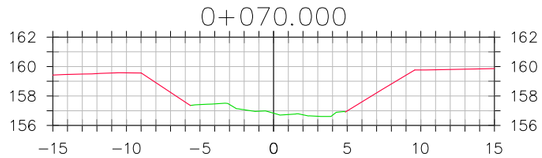
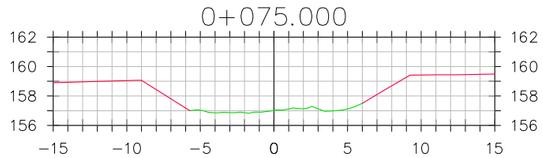
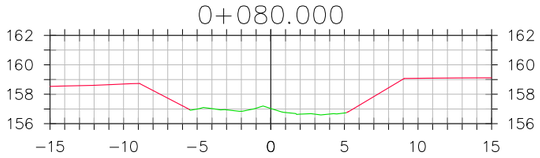
FND-WT-010
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811

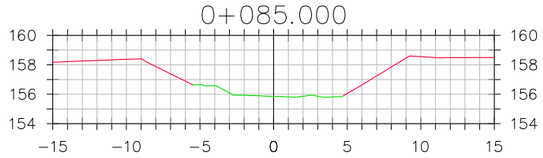


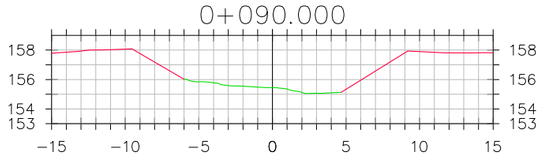


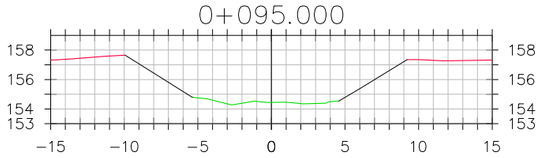


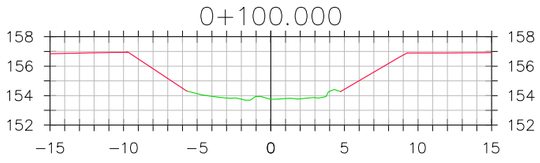


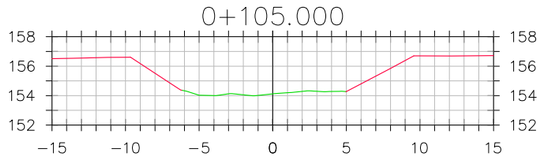


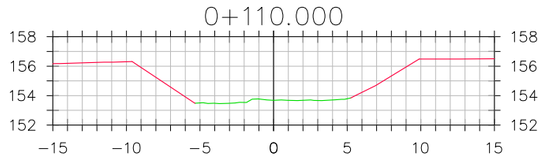


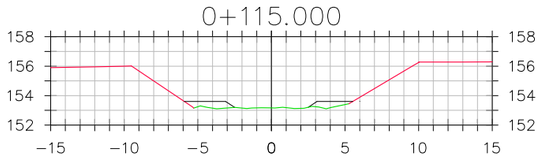


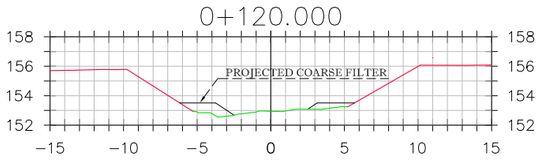


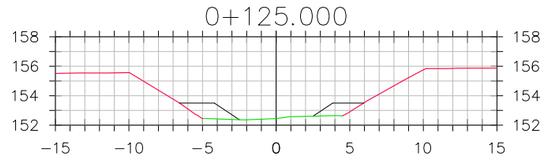










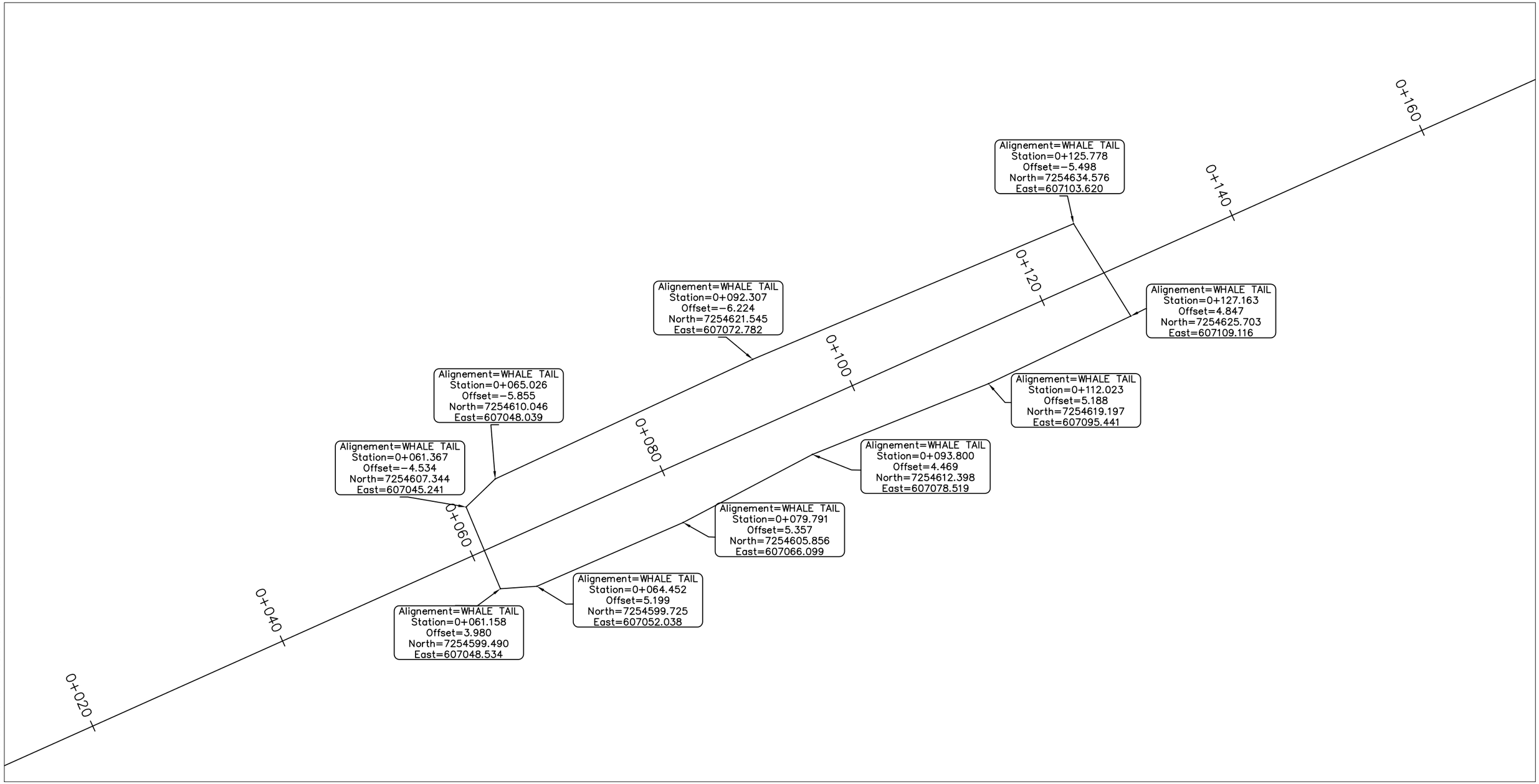


KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 18-08-2018
CON-FD-032

C:\Dropbox\Dropbox (Groupe Gilbert)__arpentage meadowbank\2018\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-032_FA.dwg

FND-WT-010
WHALE TAIL DIKE CONSTRUCTION
CONTRACT # 11-811



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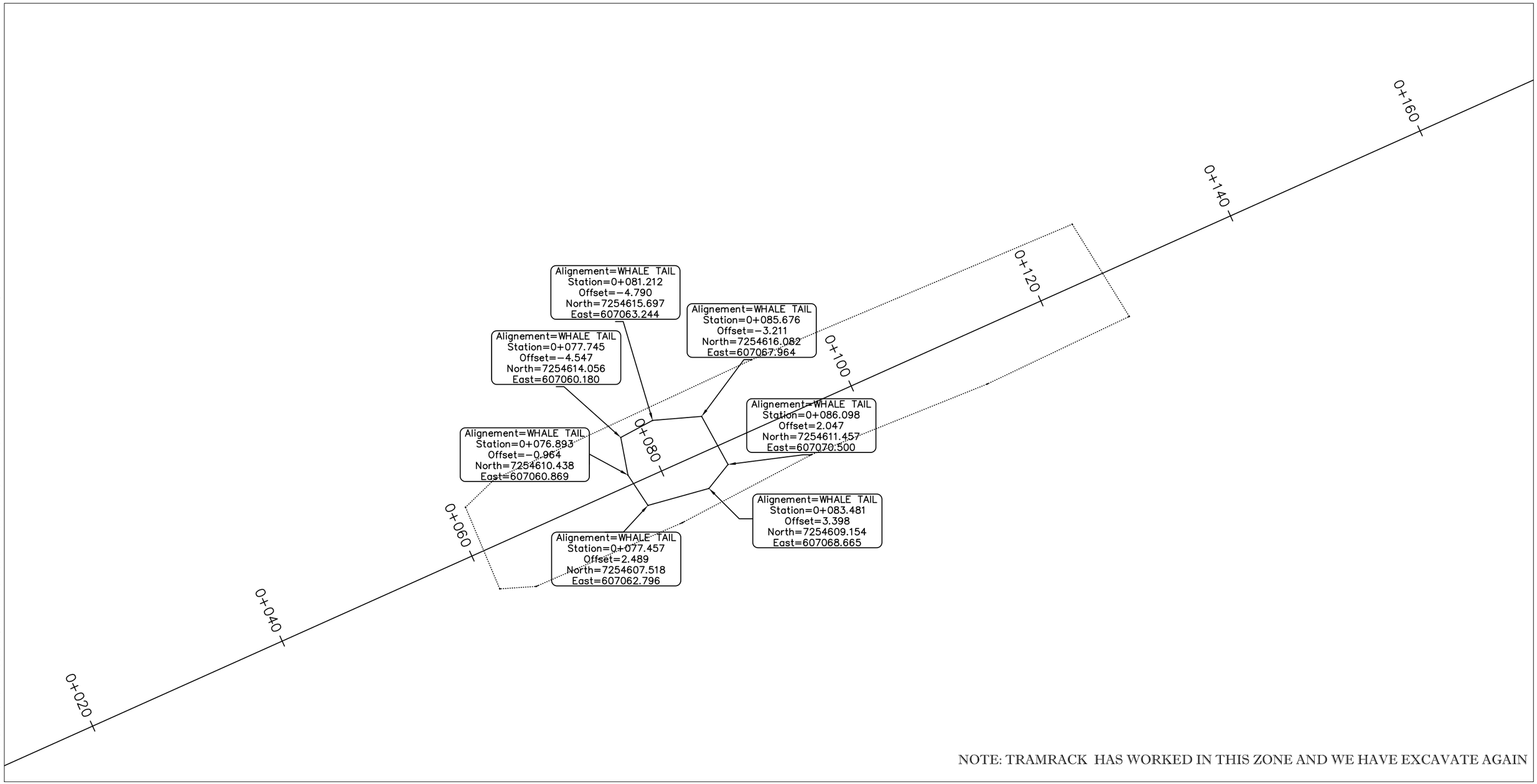
KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 15-08-2018
CON-FD-034-FA

FND-WT-010
WHALE TAIL DIKE CONSTRUCTION
CONTRACT # 11-811



NOTE: TRAMRACK HAS WORKED IN THIS ZONE AND WE HAVE EXCAVATE AGAIN

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 16-08-2018
CON-FD-037-FA

C:\Dropbox\Dropbox (Groupe Gilbert)_arpentage meadowbank\2018\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-037_FA.dwg

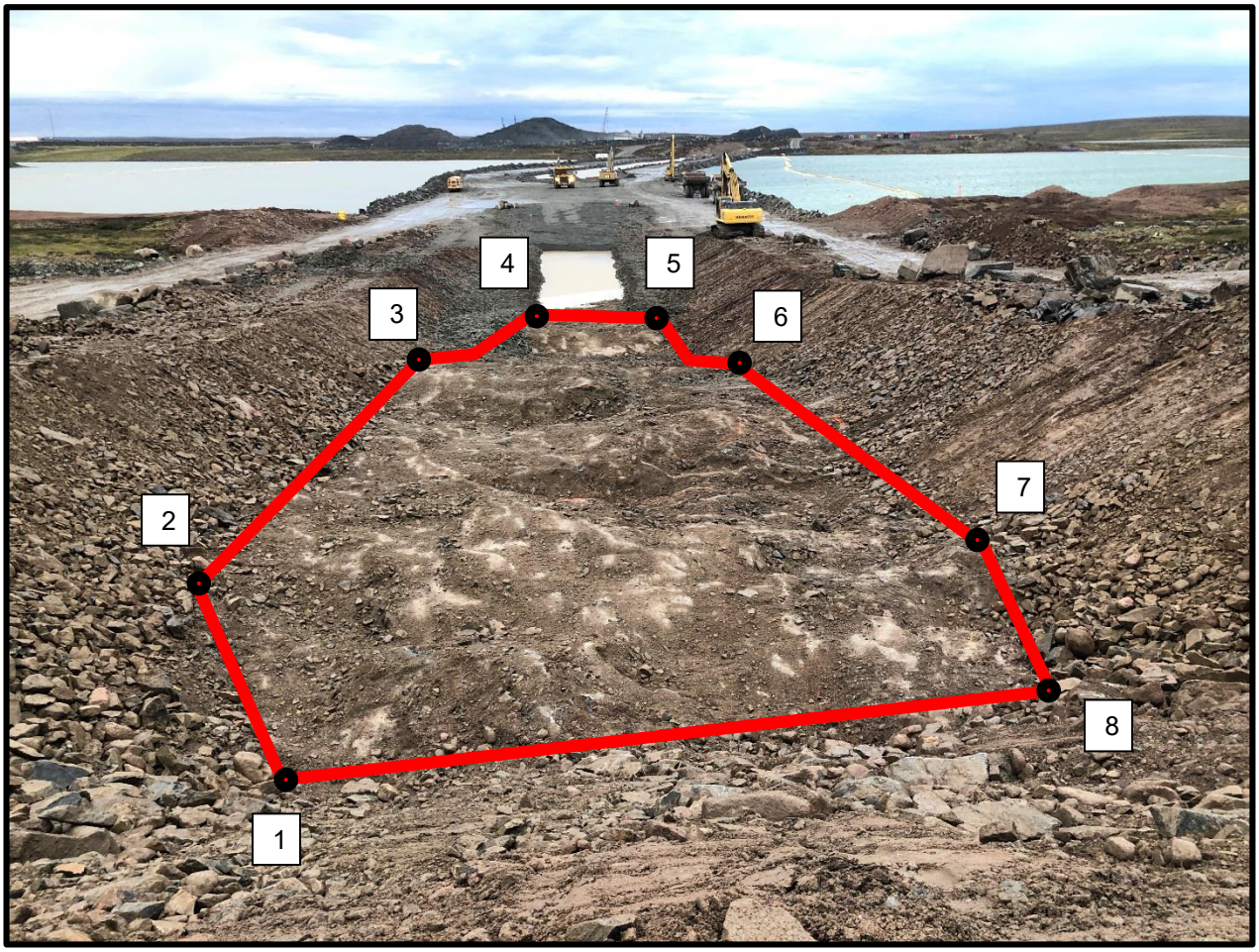
West Abutment first approval of the bedrock

1:
Alignement = Whale Tail
Station = 0+061.367
Offset = -4.534
North = 7254607.344
East = 607045.241

2:
Alignement = Whale Tail
Station = 0+065.026
Offset = -5.855
North = 7254610.046
East = 607048.039

3:
Alignement = Whale Tail
Station = 0+092.307
Offset = -6.224
North = 7254621.545
East = 607072.722

4:
Alignement = Whale Tail
Station = 0+125.778
Offset = -5.498
North = 7254634.576
East = 607103.620



5:
Alignement = Whale Tail
Station = 0+127.163
Offset = 4.847
North = 7254625.703
East = 607109.116

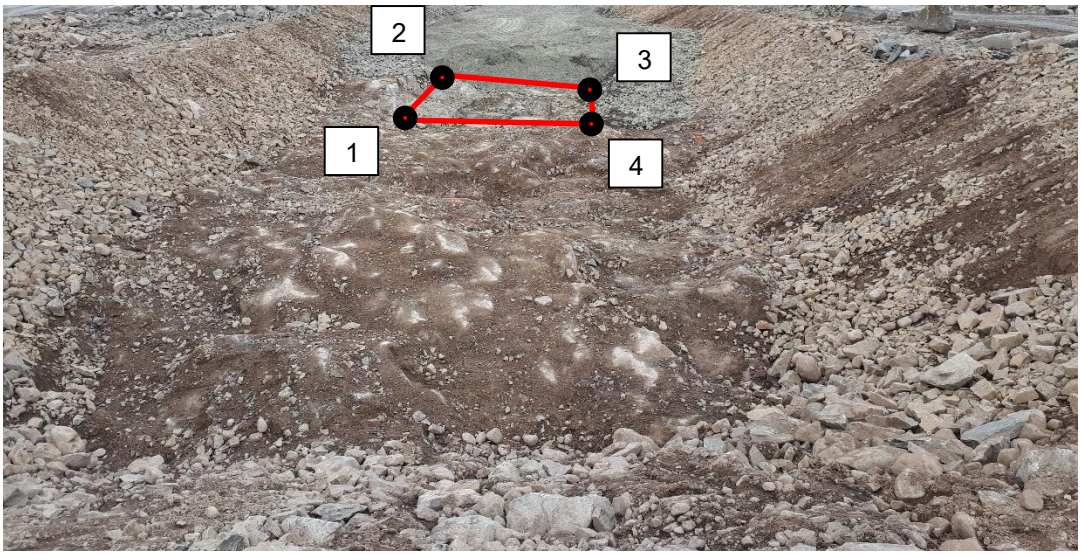
6:
Alignement = Whale Tail
Station = 0+093.800
Offset = 4.469
North = 7254612.398
East = 607078.519

7:
Alignement = Whale Tail
Station = 0+064.452
Offset = 5.199
North = 7254599.725
East = 607072.038

8:
Alignement = Whale Tail
Station = 0+061.158
Offset = 3.980
North = 7254599.490
East = 607048.534

West Abutment before Tremak work

West Abutment after Tremak work, second approval



1:
Alignement = Whale Tail
Station = 0+077.745
Offset = -4.547
North = 7254614.056
East = 607060.180

2:
Alignement = Whale Tail
Station = 0+085.676
Offset = -3.211
North = 7254616.082
East = 607067.964

3:
Alignement = Whale Tail
Station = 0+086.098
Offset = 2.047
North = 7254611.457
East = 607070.500

4:
Alignement = Whale Tail
Station = 0+077.457
Offset = 2.489
North = 7254607.518
East = 607062.796

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Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : WTP Construction

PROJECT #: 658309

DOCUMENT #: 20180815-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2018-08-15

TIME: 1045
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☒ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+375 to 0+395	**Station:** 0+355 to 0+375
Inclination:	**Details:**
ELEVATION : ☒ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades			✓		
2. Free of ice/snow/water			✓		
3. Cleaning of trench and/or pile bottom			✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock			✓		
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	Key trench cleaning to bedrock. At the stations 0+380 and 0+390, the surveyed bedrock was higher than the theoretical. Field check has been done with an excavator and yes we have a higher bedrock than expected. 0+385 is free of mud and loose rocks.			✓	

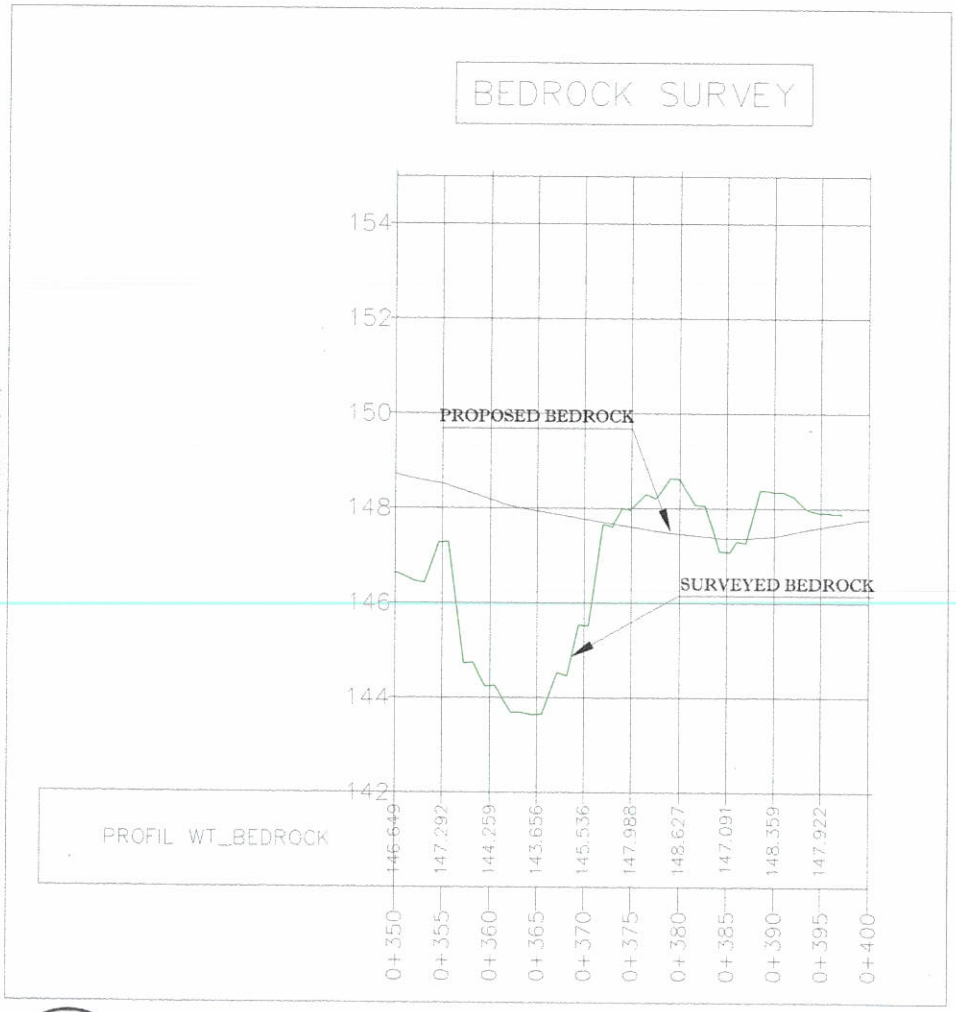
Bathymetry results	Boat measurings
0+380; ℄; 148,627m	0+380,00; +0,40m; 148,75m
0+385; ℄; 147,091m	0+385,42; +0,20m; 147,93m *
0+390; ℄; 148,359m	0+390,500; +0,10m; 148,41m

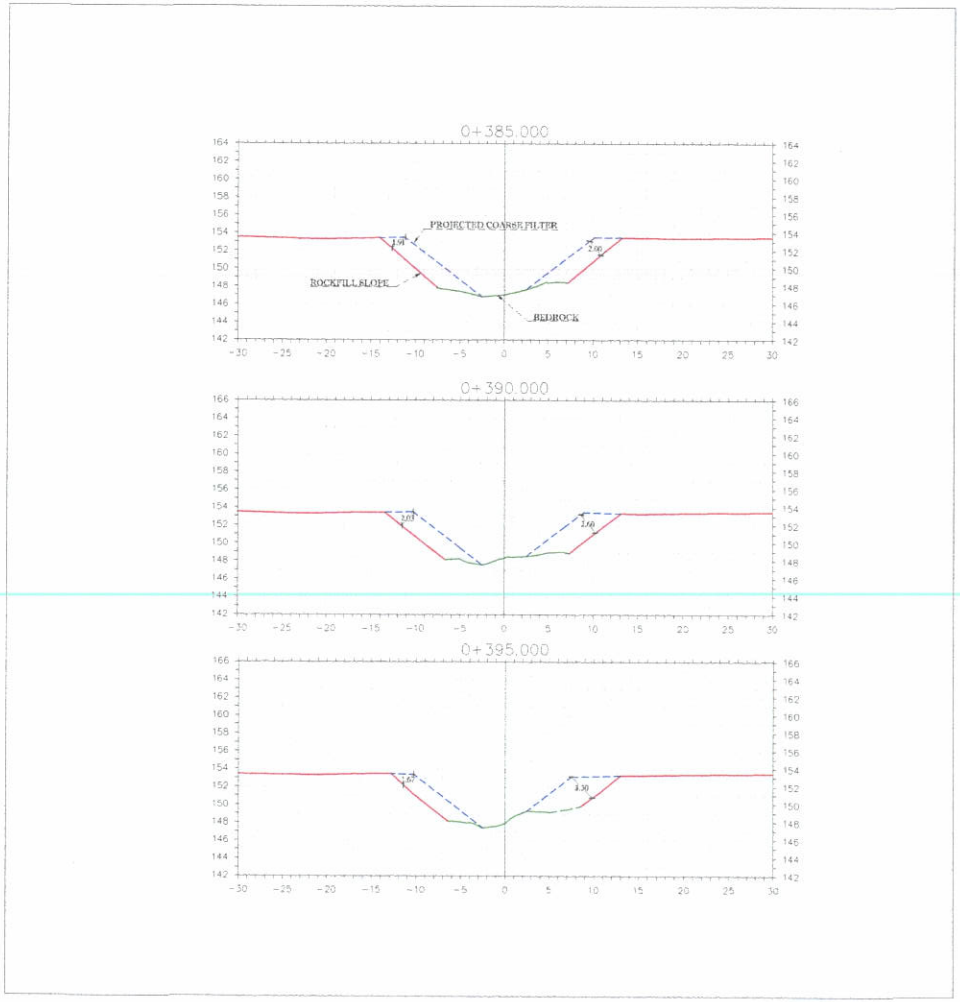
*: It make sence compair to the bathymetry graphics.

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Maxime Côté		2018-08-15
QC REPRESENTATIVE	Pier-Eric McDonald		2018-08-15
OWNER'S REPRESENTATIVE	AUDREY BILODEAU		2018/08/15

Shift change. It was agreed between QA & QC that during shift change, the other will take full responsibility of the approval. Approval validity is 8

FND-WT-011
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



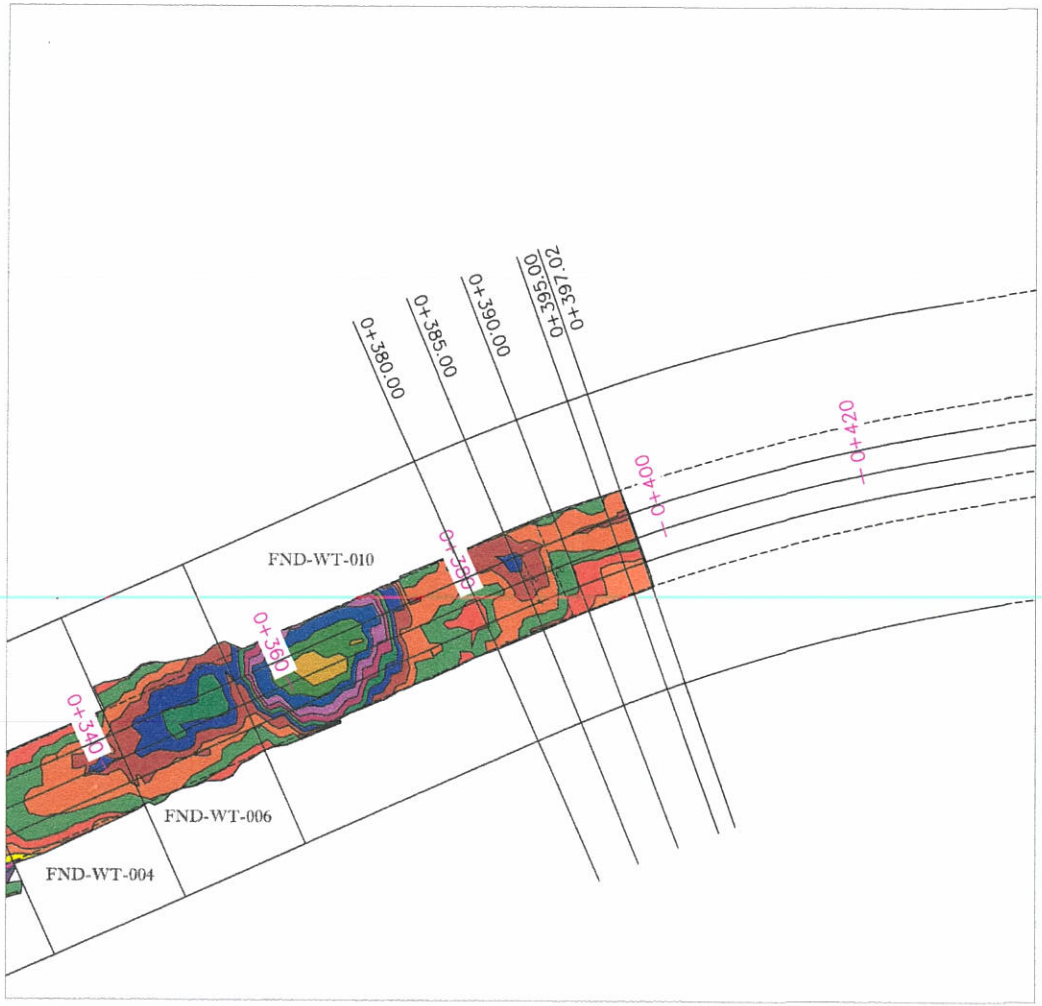


KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 14-08-2018
CON-FD-033_FA

FND-WT-011
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	143.00	143.50	0.00	
2	143.50	144.00	13.07	
3	144.00	144.50	33.80	
4	144.50	145.00	32.96	
5	145.00	145.50	23.02	
6	145.50	146.00	17.15	
7	146.00	146.50	32.42	
8	146.50	147.00	59.31	
9	147.00	147.50	79.02	
10	147.50	148.00	111.96	
11	148.00	148.50	81.81	
12	148.50	149.00	60.86	
13	149.00	149.50	64.91	
14	149.50	150.00	211.36	
15	150.00	150.50	237.84	
16	150.50	151.00	525.94	
17	151.00	151.50	471.13	
18	151.50	152.00	546.99	
19	152.00	152.50	231.75	
20	152.50	153.00	6.75	



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 14-08-2018
CON-FD-033_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180816-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 16th August, 2018

TIME: @ 9h15
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+395 @ 0+415	**Station:** 0+375 @ 0+395
Inclination:	**Details:**
ELEVATION : ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades			✓		
2. Free of ice/snow/water			✓		
3. Cleaning of trench and/or pile bottom			✓		
4. Gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. Foundation on bedrock			✓		
8. Key-in depth into bedrock					—
9. Water quality					—
10. CB slurry viscosity and density					—
11. Elevation of CB Piles					—
12. Primary piles strength (Minimum of 50 kPa UCS)					—
13. Keying between primary and secondary					—
14. Cracks on top of cutoff wall					—

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					—
16. As built survey completed					—
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

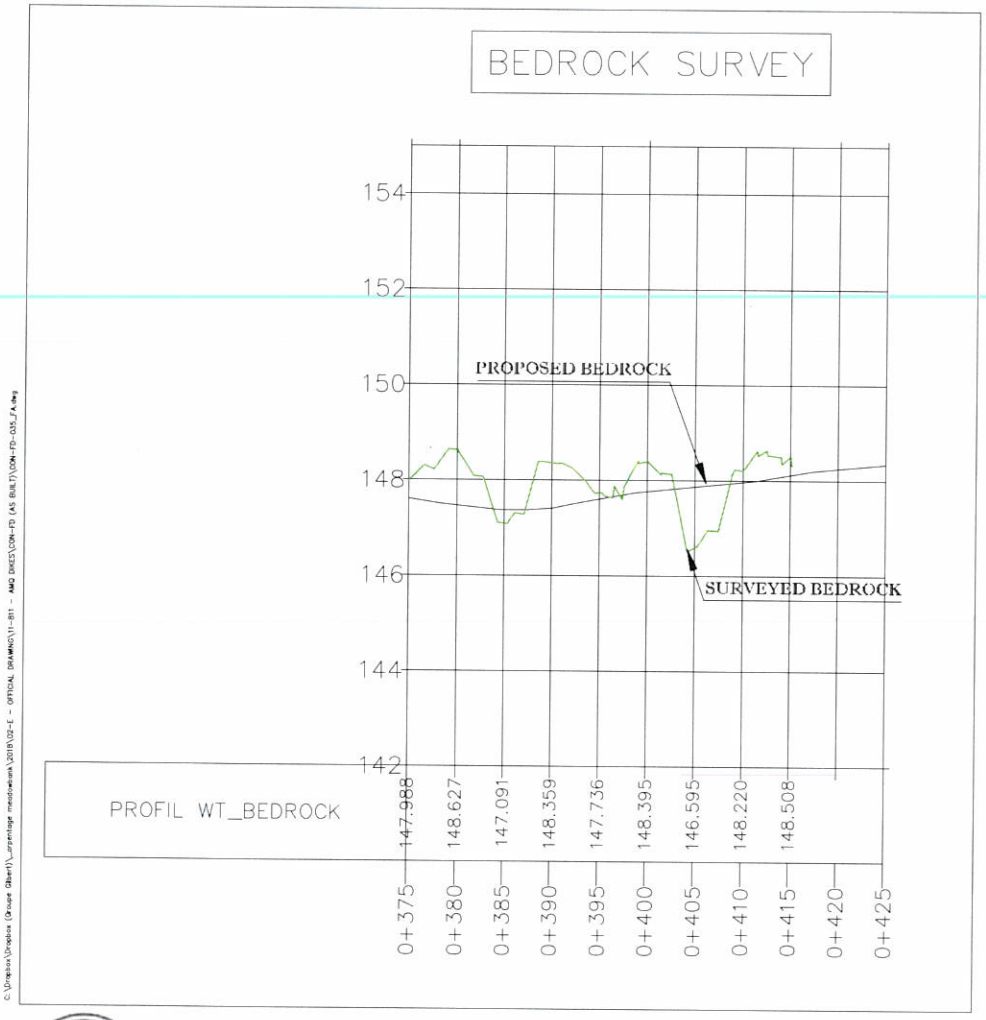
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
7	Foundation on bedrock, free of ice, mud and cobbles. The rockfill slopes are ok. Field spots check has been done by the QC. Done by scrapping the bedrock at different locations, every thing was clean. Boat measurment results:			✓	

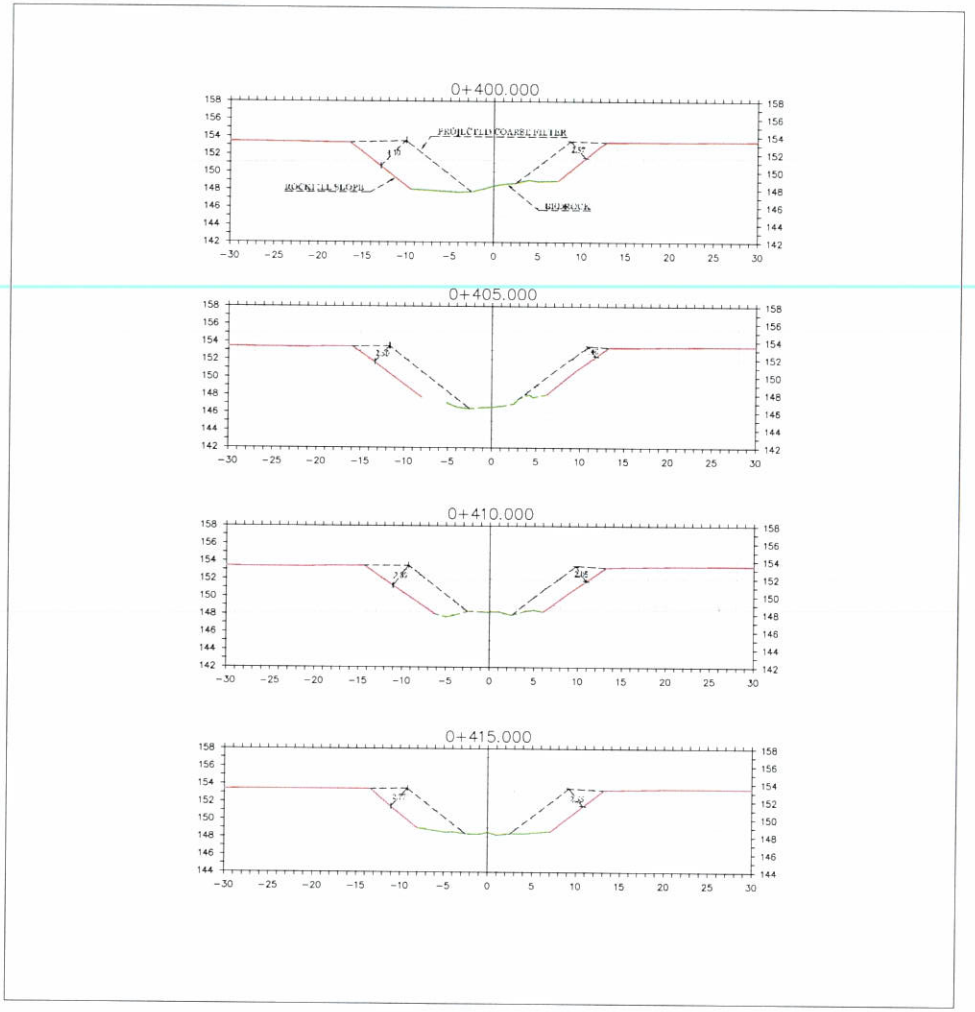
station	O/S	Elevation
0+400,00	-0,10m	148,590
0+405,70	℄	146,940
0+411,00	-0,40m	148,550
0+415,30	℄	148,420

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	[redacted]	[redacted]	[redacted]
QC REPRESENTATIVE	Maxime Côté		18-08-16
OWNER'S REPRESENTATIVE	Pierre-Eric McDonald		2018-08-16
CONSTRUCTION REP.	AUDREY BILODEAU		16/08/2018

→ arrival on 8/15 on the evening so wasn't there during trench clean up.

FND-WT-012
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811





KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 15-08-2018
CON-FD-035_FA

FND-WT-012
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	143.00	143.50	0.00	
2	143.50	144.00	13.07	
3	144.00	144.50	33.80	
4	144.50	145.00	32.96	
5	145.00	145.50	23.02	
6	145.50	146.00	17.15	
7	146.00	146.50	32.42	
8	146.50	147.00	59.31	
9	147.00	147.50	79.02	
10	147.50	148.00	111.96	
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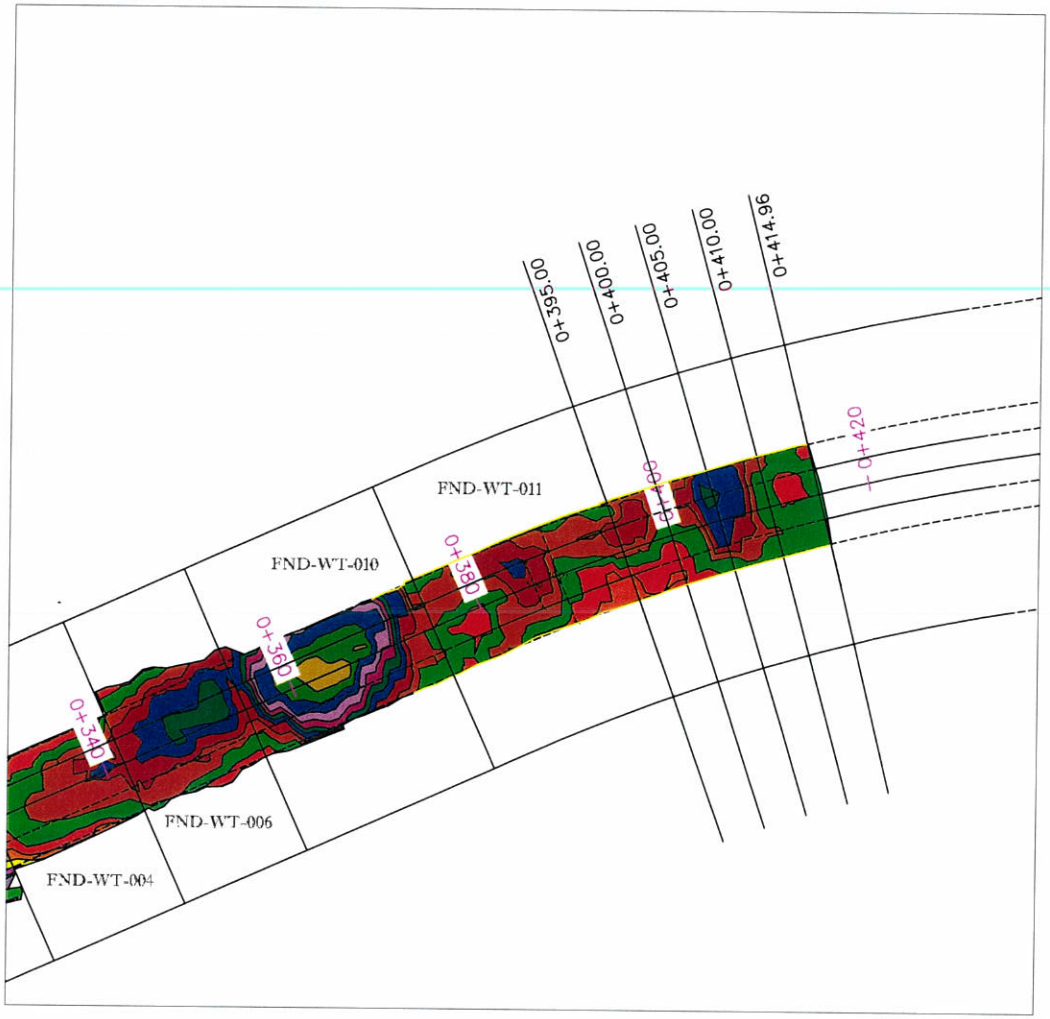
12	148.50	149.00	60.86	
13	149.00	149.50	64.91	
14	149.50	150.00	211.36	
15	150.00	150.50	237.84	
16	150.50	151.00	525.94	
17	151.00	151.50	471.13	
18	151.50	152.00	546.99	
19	152.00	152.50	231.75	
20	152.50	153.00	6.75	



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 15-08-2018
CON-FD-035_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180816-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: August 16/08/2018

TIME: 17:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (key trench)
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+415 to 0+435	**Station:** 0+395 to 0+415
Inclination:	**Details:**
ELEVATION : ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom	✓		✓		
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock					✓
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)					✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

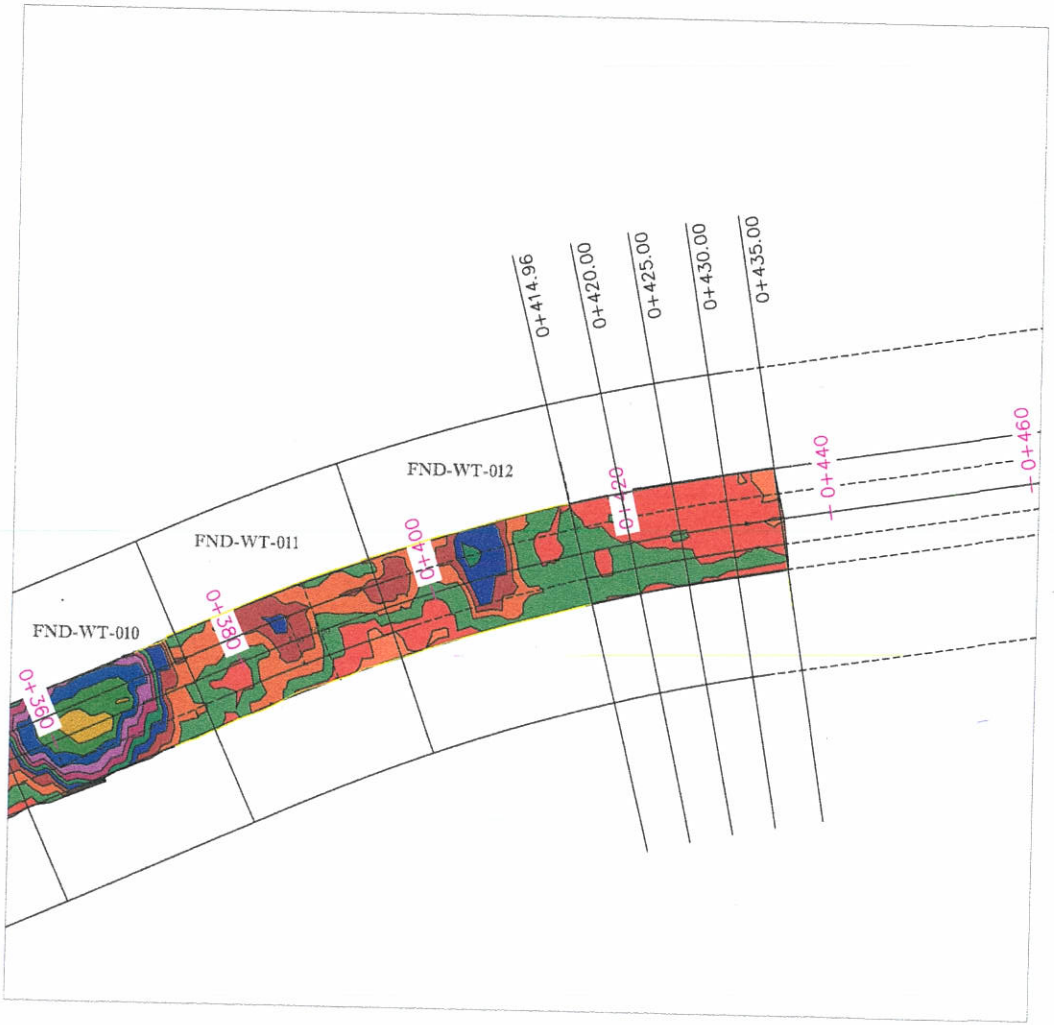
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	After the field spots check, done with the excavator, the bed rock seems to be clean and not to much broken, free of ice, mud and cobbles.	✓		✓	
	Boat measurements:				

stations	o/s	bedrock elevation
0+420,60	+0,5m	148,63m
0+425,00	℄	148,66m
0+430,60	℄	149,03m
0+435,40	℄	149,15m

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Tezera Azmatch		Aug. 16, 2018
QC REPRESENTATIVE	Maxime Côté		2018-08-16
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2018-08-16
CONSTR. REP	AUDREY BILODEAU		08/16/2018

FND-WT-013
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811

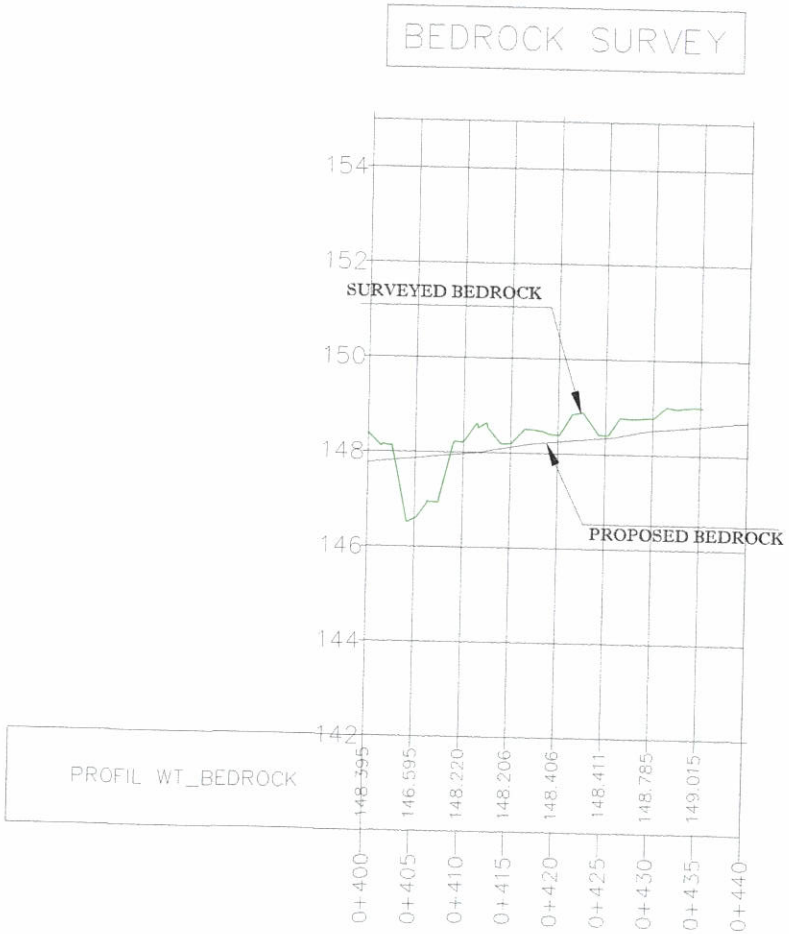
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	143.00	143.50	0.00	
2	143.50	144.00	13.07	
3	144.00	144.50	33.80	
4	144.50	145.00	32.96	
5	145.00	145.50	23.02	
6	145.50	146.00	17.15	
7	146.00	146.50	32.42	
8	146.50	147.00	59.31	
9	147.00	147.50	79.02	
10	147.50	148.00	111.96	
11	148.00	148.50	81.81	
12	148.50	149.00	60.86	
13	149.00	149.50	64.91	
14	149.50	150.00	211.36	
15	150.00	150.50	237.84	
16	150.50	151.00	525.94	
17	151.00	151.50	471.13	
18	151.50	152.00	546.99	
19	152.00	152.50	231.75	
20	152.50	153.00	6.75	



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 16-08-2018
CON-FD-036_FA

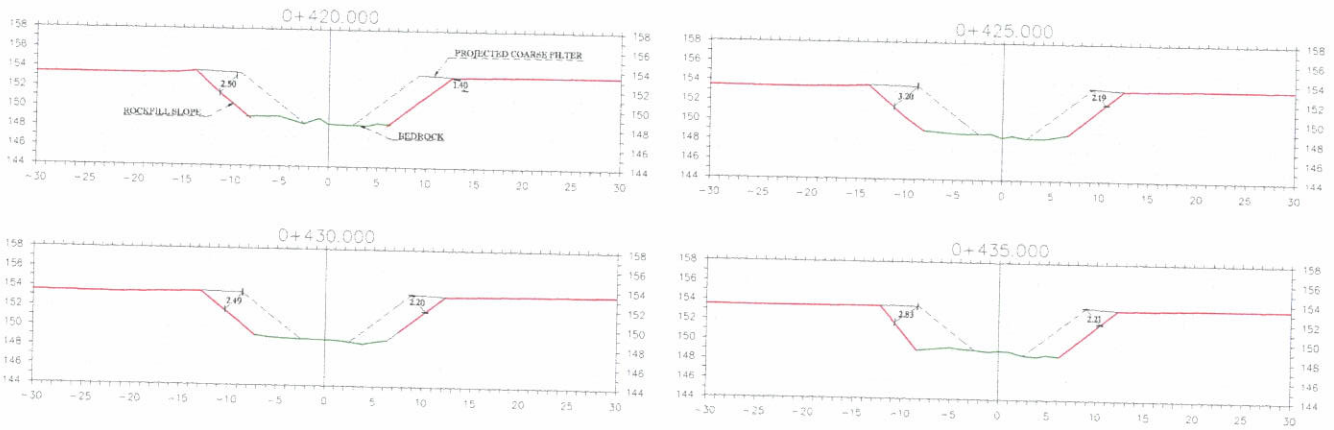
FND-WT-013
FOUNDATION APPROVAL - WHALE TAIL
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 16-08-2018
CON-FD-036_FA

FND-WT-013
FOUNDATION APRROVAL - WHALE TAIL
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 16-08-2018
CON-FD-036_FA

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APPROVAL FORM

PROJECT : WTD Construction

PROJECT #: 658309

DOCUMENT #: 20180816 – DS – 03
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: August 16, 2018

TIME: 16:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (key trench) @ East Abutment
- ☐ Fill placement: _____
- ☐ CB cutoff wall approval
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+739 to 0+772	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies ~ 150.3 m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of trench and/or pile bottom					✓
4. Gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock					✓
8. Key-in depth into bedrock					✓
9. Water quality					✓
10. CB slurry viscosity and density					✓
11. Elevation of CB Piles					✓
12. Primary piles strength (Minimum of 50 kPa UCS)					✓
13. Keying between primary and secondary					✓
14. Cracks on top of cutoff wall					✓

	QA		QC		N/A
	Y	N	Y	N	
15. CB mix/slurry tested (UCS, permeability, and pinhole tests)	✓				✓
16. As built survey completed					✓
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.	The foundation bedrock here is a highly fractured bedrock, and it was very difficult to clean it	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
QA REPRESENTATIVE	Tezera Azmeta		Aug. 16, 2018
QC REPRESENTATIVE	Maxime Côté		2018-CE-16
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2018-08-16
CONSTR. REP	AUDREY BILODEAU		16/08/2018