

## **Appendix 20**

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### **Whale Tail Thermal Monitoring Report 2024**

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WHALE TAIL MINE

## **Thermal Monitoring Report 2024**

In Accordance with  
Project Certificate No. 008, T&C 14

Prepared by:  
Agnico Eagle Mines Limited – Meadowbank Division

February 2025

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## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2</b>	<b>AVAILABLE DATA.....</b>	<b>2</b>
<b>3</b>	<b>THERMAL MONITORING RESULTS .....</b>	<b>3</b>
3.1	Waste Rock Storage Facilities .....	3
3.1.1	Expected Thermal Effects on Permafrost.....	3
3.1.2	Thermal Monitoring Results .....	3
3.2	Water Management Facilities .....	4
3.2.1	Expected Thermal Effects on Permafrost.....	4
3.2.2	Thermal Monitoring Results .....	4
3.3	Open Pit .....	5
3.3.1	Expected Effects on Permafrost.....	5
3.3.2	Thermal Monitoring Results .....	5
<b>4</b>	<b>REFERENCES.....</b>	<b>6</b>

### APPENDIX A: WHALE TAIL THERMAL MONITORING DATA

## **1 INTRODUCTION**

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Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is developing the Whale Tail Mine (Piquganiq), a satellite deposit located on the Amaruq Property (geological property), to continue mine operations and milling at Meadowbank Mine.

This document presents the Thermal Monitoring Report including the following mine facilities and natural locations as described in the Thermal Monitoring Plan:

- Whale Tail Waste Rock Storage Facility (WRSF) and IVR WRSF
- Water management facilities including Whale Tail Dike, Mammoth Dike, IVR Dike, WRSF Dike, and the Whale Tail and IVR Attenuation Ponds
- Whale Tail Pit and IVR Pit

The Thermal Monitoring Report provides the instrumentation data and their interpretation. Refer to the Thermal Monitoring Plan for a general description of the different facilities, the anticipated impact of operation of the facilities on the permafrost, and the general guidelines that are used to define instrumentation needs for each facility.



## **2 AVAILABLE DATA**

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There are currently 98 active thermistors at the Whale Tail Mine (Piquganiq) site.

The location, installation summary, and status of all the thermistors installed within the Whale Tail Mine (Piquganiq) site are presented in the table in Appendix A. Figure 1 shows locations of active thermistors. Data are collected from the thermistors by data loggers every three hours or by using manual readout units.

Results of active thermistors are presented in Appendix A.

### **3 THERMAL MONITORING RESULTS**

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This section presents a summary of the expected thermal effects as well as interpretation of the instrumentation data gathered for the reporting period.

#### **3.1 WASTE ROCK STORAGE FACILITIES**

##### **3.1.1 Expected Thermal Effects on Permafrost**

Construction of the WRSFs on permafrost is expected to result in aggradation of permafrost into the pile. The permafrost under the piles would remain, but temperatures in the upper permafrost zone are expected to evolve towards a thermal equilibrium established with the active layer and zero-amplitude zone moving upwards within the waste rock pile. Convective cooling is common in waste rock material and is expected to promote freeze-back within the pile.

The waste rock pile itself is expected to freeze back with time and have an active layer formed in the upper portion (O’Kane, 2021). Climate change in the long term is expected to extend the depth of the active layer in the pile, but the thick waste rock pile will constitute a protection to the underlying permafrost. If heat generation occurs from the oxidation of sulphide-bearing minerals within the pile, the freeze-back process would be delayed. Depending on the location of the heat generation source, the upper portion of the permafrost foundation could be impacted.

##### **3.1.2 Thermal Monitoring Results**

For the thermistors installed in the foundation of the Whale Tail WRSF, the instrumentation data is showing thermal behaviour along the expected trend (permafrost aggradation).

The instruments installed at mid-elevation in the PAG of the first bench are covered in waste rock and lots of beads have been lost especially in the NPAG. The available data indicate that the active layer did not reach the PAG waste rock.

For the instruments located in the second instrumented cross section installed at 40 m above the ground elevation on top of the second bench, the available data indicates that for most instruments the active layer did not reach the PAG waste rock and year over year is experiencing a cooler trend.

In summer 2024, five new thermistors were installed in two new instrumented cross sections installed at 60 m above the ground elevation on top of the third bench of the Whale Tail WRSF. Data collection has only been ongoing since installation, so it is too early to assess the extent of the active layer. The 2026 Thermal Monitoring Report will re-assess this as two years of data will have been collected, allowing more time for the instruments to stabilize and show trends.

In late 2022 and early 2023, ten new thermistors were installed in the foundation of the IVR WRSF. Two years of data have now been collected. The available data indicates thermal behaviour along the expected trend (permafrost aggradation).

## **3.2 WATER MANAGEMENT FACILITIES**

### **3.2.1 Expected Thermal Effects on Permafrost**

The Whale Tail Dike is constructed within a lake, overlaying an open talik. The construction of the Whale Tail Dike is expected to have a cooling effect on the underlying ground due to exposure to lower temperature than lake water. Minimal effects to the permafrost at the abutment areas are expected.

Following lake dewatering and the beginning of operations, natural ground in the downstream of the Whale Tail Dike is expected to freeze back progressively. Upstream of the dike, the lakebed and underlying talik is expected to remain unfrozen.

After the dike is breached in the final stages of closure, the Whale Tail Lake will be restored, causing frozen zones located downstream of the dike to thaw, progressively restoring the original lake talik.

The other dewatering dike areas are expected to have similar thermal impacts on the permafrost associated with construction, operation, and closure of the dikes.

The WRSF Dike will periodically contain a pond formed from runoff water flowing at the toe of the Whale Tail WRSF facility. Depending on pond conditions (volume, temperature, duration before pumping) there would be possible thawing of a shallow upper permafrost zone underlying the pond. However, due to the small pond size and the low operational level, this issue is unlikely.

The talik zone under the Whale Tail Attenuation Pond would remain. The areas surrounding the pond are expected to freeze back progressively after dewatering but would restore to talik conditions after breaching of the dewatering dikes and flooding of the area.

As for the IVR Attenuation Pond, with the maximum water elevation of the pond above the former lake elevation, some minor localized thawing of the permafrost is expected to occur outside of the original lake footprint.

### **3.2.2 Thermal Monitoring Results**

#### **Mammoth Dike**

The instrumentation data are showing thermal behaviour along the expected trend at Mammoth Dike. The active layer is contained in the rockfill shell. The foundation and key trench are in permafrost condition.

#### **WRSF Dike**

A degradation of the thermal conditions in the key trench of WRSF Dike was observed in the summer of 2019 leading to seepage. In 2024, the instrument data show that the foundation and key trench remained frozen all year long with signs of permafrost aggradation. This indicates that the mitigation measures implemented in 2020 continue to be successful. The active layer is contained within the rockfill and upstream thermal capping.

### Whale Tail Dike

Similar to 2023, in 2024 the thermistors at Whale Tail Dike are showing cyclical trends associated with seasonal lake water temperature. The West abutment at 0+110 is frozen, and the East abutment is frozen at 0+790. The remaining thermistors remain primarily unfrozen below the active layer. On the East abutment the active layer warming trend persists and potentially connects to the seepage flow at depth ( $> 0^{\circ}\text{C}$ ). New thermistors at both the East and West abutment capping indicate that the overburden and bedrock have remained frozen.

### IVR Dike D-1

The thermistors installed in IVR Dike D-1 show that there is a 2m active layer contained within the rockfill portion or in the overburden, while the key trench, filters system, and bedrock remained in permafrost for the entire 2024 period.

## **3.3 OPEN PIT**

### **3.3.1 Expected Effects on Permafrost**

Whale Tail Pit will be excavated through an upper closed talik zone and underlying permafrost. During operations of the pit, the talik zone is expected to freeze back progressively. The permafrost surrounding the pit shell is expected to undergo cooling from air temperature exposure, apart from seasonal thawing of a shallow active zone adjacent to the walls.

Upon closure and subsequent flooding of the Whale Tail Pit, permafrost areas underneath the pit lake are expected to gradually thaw. Thermal assessments have indicated this process would take hundreds of years. The pit lake would eventually reduce the permafrost depth in the pit surrounding ground, but this process could take significantly longer time (in the order of 10,000 years) to complete.

IVR Pit is excavated through permafrost. Mining activities will cause a similar effect than for Whale Tail Pit: seasonal warming against the pit walls during operation and warming after operations due to the closure pit lake.

### **3.3.2 Thermal Monitoring Results**

Thermistors were installed in 2020 in the closed talik zone near the south wall of the Whale Tail Pit. Through the year 2021 until their dismantling in August 2021 it was possible to observe a freeze back of the upper bedrock area.

Three thermistors are currently active in the Whale Tail Pit. The thermistors are showing expected trends of seasonal variation close to surface and close to pit walls, with a thermal response in the south wall driven by the talik conditions. The previous thermistors installed in the IVR area are no longer functioning due to mining activity in the sector but were showing permafrost conditions until the instrument was decommissioned. A deep thermistor has been installed in 2020 in that area (IVR long TH) and shows permafrost conditions down to 500 m below ground surface, to El. 9600 m (mining datum).

## **4 REFERENCES**

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1. O'Kane Consultants Inc. (O'Kane), 2021. Whale Tail Project - Thermal Modelling of the Whale Tail and IVR WRSFs. January 8, 2021.

## **APPENDIX A – WHALE TAIL THERMAL MONITORING DATA**







TABLE 1: Instruments Coordinates

Line #	Name	Area	Easting (X)	Northing (Y)	Elevation (Z)	Azimuth	Dip	Installed	Active (Y) or (N)
1	WTD 0+110	WTD	607090.5	7254625	156.4	--	-90	2020	Y (13/16) beads)
2	WTD 0+142	WTD	607119.94	7254637.98	156.75	--	-90	2018	Y (10/13) beads
3	WTD 0+190 U/S	WTD	607165.34	7254653.83	157.42	--	-90	2018	Y (10/13) beads)
4	WTD 0+210	WTD	607182.85	7254666.19	157	--	-90	2018	Y
5	WTD 0+240	WTD	607209.4	7254676.8	158.1	--	-90	2020	Y
6	WTD 0+260	WTD	607227.51	7254686.28	157	--	-90	2018	Y (11/13) beads
7	WTD 0+276 U/S	WTD	607237.2	7254677.3	157	--	-90	2018	Y
8	WTD 0+310	WTD	607237.98	7254707.09	157	--	-90	2018	Y
9	WTD 0+336 U/S	WTD	607298.44	7254713.45	157	--	-90	2018	Y
10	WTD 0+340 DS West	WTD	607246.597	7254841.993	149.6	--	-90	2020	Y
11	WTD 0+360	WTD	607318.81	7254727.15	157	--	-90	2018	Y (10/13) beads
12	WTD-0+380	WTD	607338	7254734.4	157.1	--	-90	2020	Y
13	WTD 0+407	WTD	607363.08	7254744.86	157	--	-90	2018	Y (11/13) beads
14	WTD-0+425	WTD	607380.8	7254380.8	158.5	--	-90	2020	Y
15	WTD 0+453	WTD	607408.6	7254753.72	157	--	-90	2018	Y (12/13) beads
16	WTD 0+475	WTD	607429.5	7254758.2	161	--	-90	2020	Y
17	WTD 0+500	WTD	607454.9	7254759.9	157.1	--	-90	2020	Y
18	WTD 0+520	WTD	607473.78	7254764.22	157	--	-90	2018	Y (12/13) beads
19	WTD 0+530	WTD	607483.77	7254766	159	--	-90	2020	Y
20	WTD 0+550	WTD	607505.2	7254768	157.9	--	-90	2020	Y
21	WTD 0+580	WTD	607533.163	7254773.95	158	--	-90	2020	Y
22	WTD 0+596	WTD	607549.6	7254775.2	157.8	--	-90	2020	Y
23	WTD 0+607	WTD	607561.24	7254778.35	157	--	-90	2018	Y (9/13) beads
24	WTD 0+618 DS East	WTD	607548.9	7254905.6	152.1	--	-90	2020	Y (9/16) beads
25	WTD 0+635	WTD	607587.7	7254782.9	158.3	--	-90	2020	Y
26	WTD 0+645	WTD	607597.3	7254782.8	158.6	--	-90	2020	Y
27	WTD 0+665	WTD	607617	7254788	158.3	--	-90	2020	Y
28	WTD 0+675	WTD	607262.31	7254788.86	157	--	-90	2018	Y
29	WTD 0+685	WTD	607636.9	7254791.2	160.5	--	-90	2020	Y
30	WTD 0+695	WTD	607646.7	7254792.9	157.5	--	-90	2020	Y
31	WTD 0+707.5	WTD	607659	7254795.1	158	--	-90	2020	Y
32	WTD 0+710 U/S	WTD	607662.32	7254790.63	157	--	-90	2018	Y (15/16) beads
33	WTD 0+720	WTD	607671.5	7254797.1	160	--	-90	2020	Y
34	WTD 0+740	WTD	607691	7254800	160	--	-90	2020	Y
35	WTD 0+750	WTD	607701.81	7254797.04	157	--	-90	2018	Y (15/16) beads
36	WTD 0+772 U/S	WTD	607724.15	7254804.63	157	--	-90	2018	Y (3/13) beads
37	WTD 0+790	WTD	607740	7254807.3	157.2	--	-90	2020	Y (14/16) beads
38	WTD US 0+130	WTD	607110.799	7254629.029	159.116	--	-90	2023	Y
39	WTD WAC 0+130	WTD	607118.539	7254611.482	159.25	--	-90	2023	Y
40	WTD EAC 0+781	WTD	607736.64	7254776.596	158.955	--	-90	2023	Y

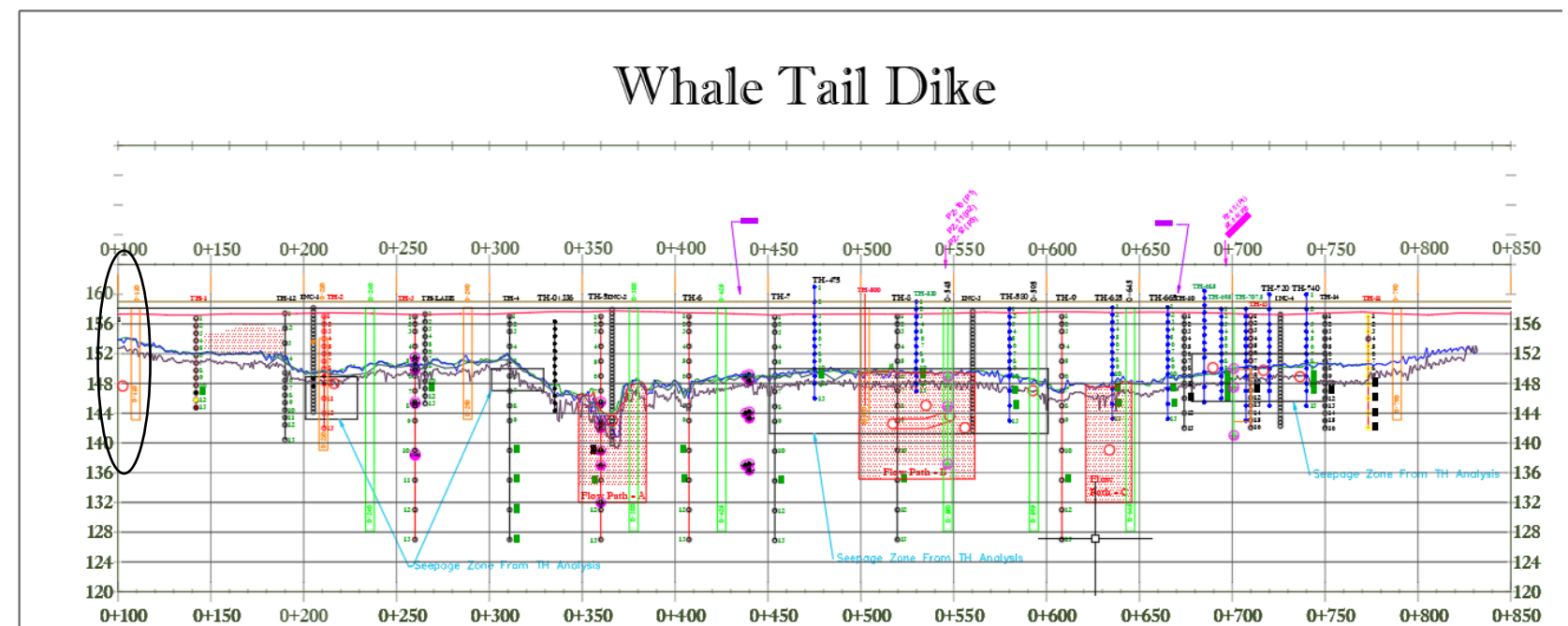
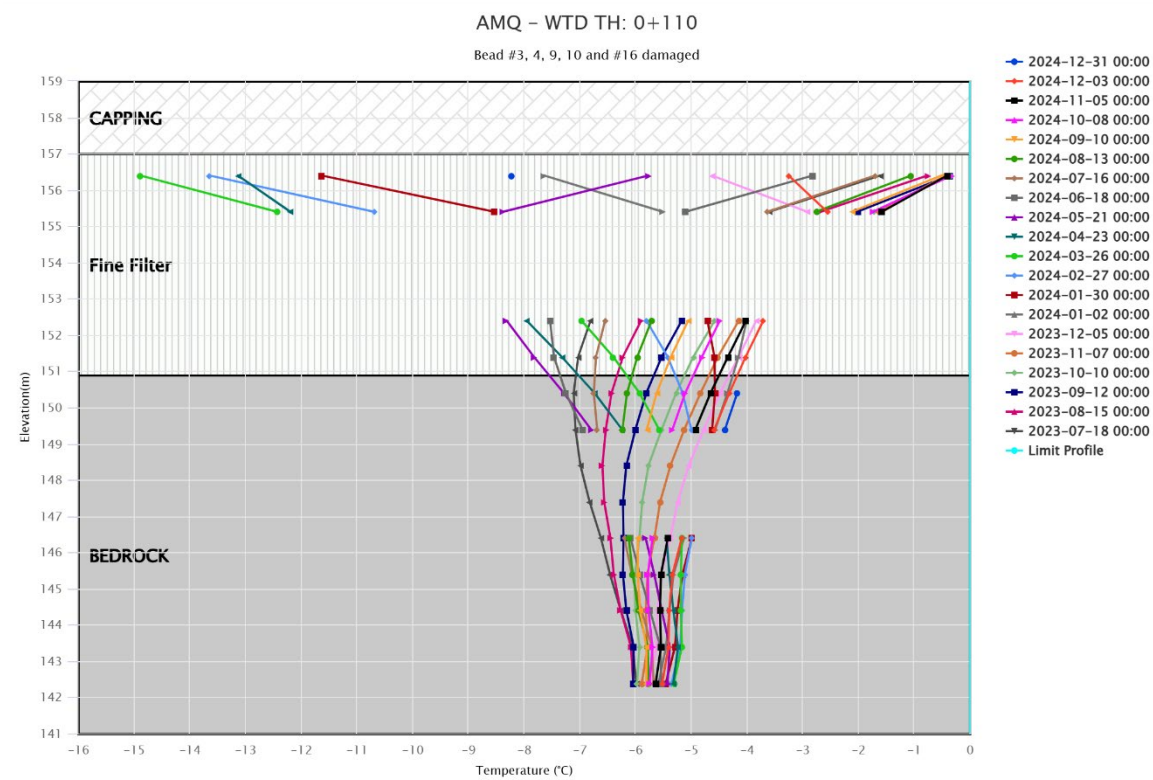
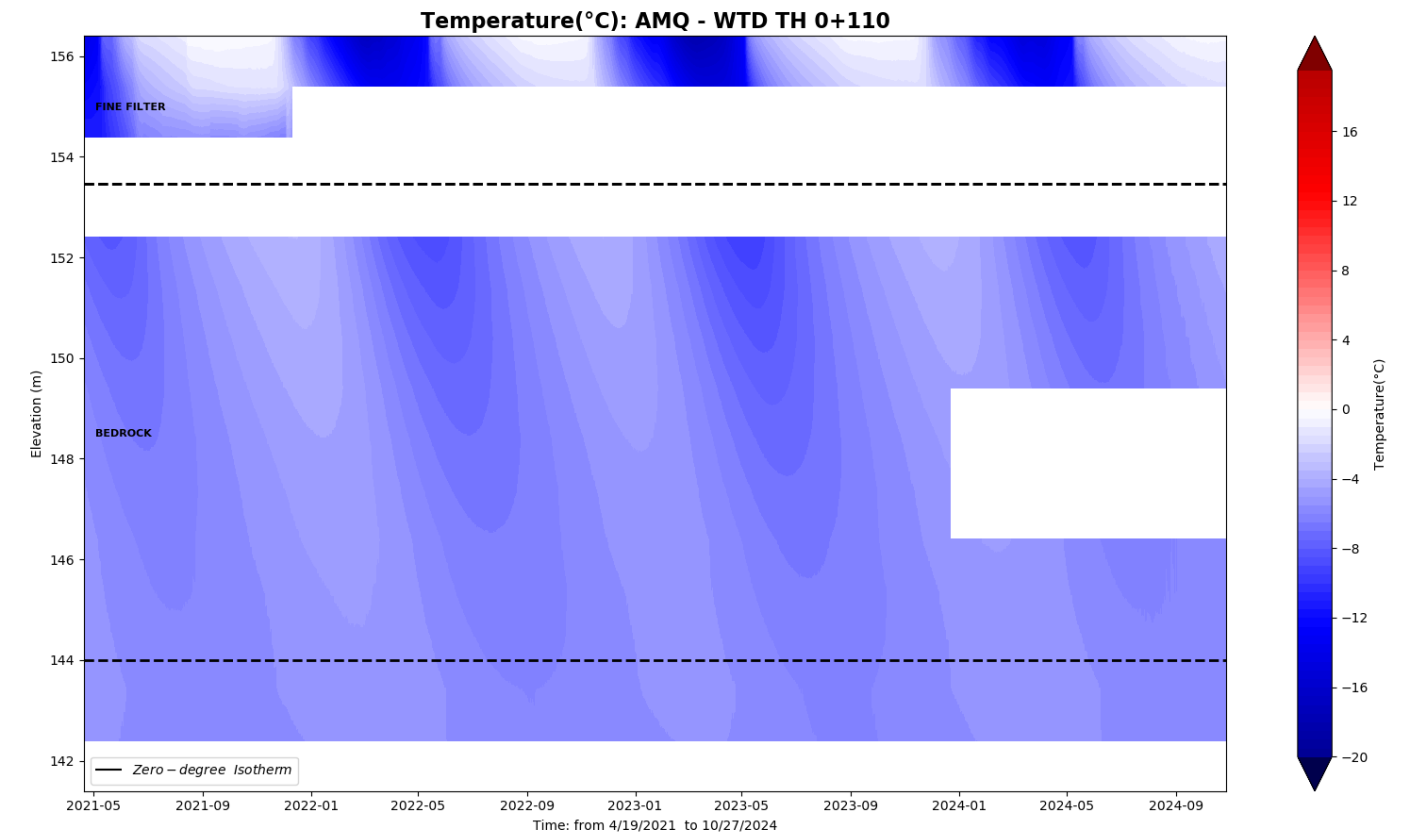


Line #	Name	Area	Easting (X)	Northing (Y)	Elevation (Z)	Azimuth	Dip	Installed	Active (Y) or (N)
41	WT WRSF TH01	WT-WRSF-1S	615797.25	7238129.77	161.546	--	-90	2019	Y
42	WT WRSF TH02	WT-WRSF-1S	615861.49	7238133.24	162.053	--	-90	2019	N (since 2020)
43	WT WRSF TH03	WT-WRSF-1S	615814.31 to 615799.6	7238118.6 to 7238117	162.744 to 162.042	9	0	2019	Y (9/16) beads)
44	WT WRSF TH04	WT-WRSF-1S	615813.38 to 615797.7	7238134.1to 7238132.8	162.138 to 161.619	9	0	2019	Y (8/16) beads)
45	WT WRSF TH05	WT-WRSF-1S	615860.9 to 615800.3	71238133.3 to 7238126	162.202	9	0	2019	Y (9/16) beads)
46	WT WRSF TH06	WT-WRSF-2S	-	-	-	-	-	2021	NOT INSTALLED
47	WT WRSF TH07	WT-WRSF-2S	14041.823/822.075(AMQ)	14051.510/8232.486(AMQ)	199.6	1	0	2021	Y
48	WT WRSF TH08	WT-WRSF-2S	14029.392/14039.081(AMQ)	8227.543/8238.974(AMQ)	199.7	1	0	2021	Y
49	WT WRSF TH09	WT-WRSF-2S	14035.675/14189.86(AMQ)	8224.663/8407.910 (AMQ)	200.2	1	0	2021	Y
50	WT WRSF TH10	WT-WRSF-2S	14259.183 (AMQ)	8479.248 (AMQ)	199.484-195.386	1	-37	2021	Y
51	WT WRSF TH11	WT-WRSF-1N	14259.183	8479.249	198.637-168.637	--	-90	2021	Y
52	WT WRSF TH12	WT-WRSF-1N	14241.323/14231.698 (AMQ)	8481.427/8469.988 (AMQ)	200.2	181	0	2021	Y
53	WT WRSF TH13	WT-WRSF-1N	14521.240/14241.576 (AMQ)	8471.614/8460.159 (AMQ)	200.1	181	0	2021	Y
54	WT WRSF TH14	WT-WRSF-1N	14245.84/14101.278	8476.032/8304.453	200.2	181	0	2021	Y
55	WT WRSF TH15	WT-WRSF-1N	14254.017/14248.950	8481.414/8477.225	200.2	181	-37	2021	Y
56	WT WRSF TH16	WT-WRSF-1N	14259.183	8479.248	167.637-152.637	--	-90	2021	Y
57	WT WRSF TH17	WT-WRSF-3S	605484.55 / 605484.022	7255898.343 / 7255913.32	220	358	0	2024	Y
58	WT WRSF TH18	WT-WRSF-3S	-	-	-		-	2024	NOT INSTALLED
59	WT WRSF TH19	WT-WRSF-2N	605491.669 / 605491.175	7256118.973 / 7256103.959	220.4	183	0	2024	Y
60	WT WRSF TH20	WT-WRSF-2N	605492.629 / 605489.486	7256118.957 / 7256014.102	219.7	183	0	2024	Y
61	WT WRSF TH21	WT-WRSF-2N	605491.973 / 605490.441	7256134.912 / 7256128.586	219.56	183	-37	2024	Y
62	IVR WRSF TH01	IVR-WRSF-1S	608314.124	7256135.152	203.547	--	-90	2023	Y
63	IVR WRSF TH02	IVR-WRSF-1S	594598.883/594599.565	7257568.182/7257583.178	204.064	9	0	2022	Y
64	IVR WRSF TH03	IVR-WRSF-1S	594612.906/594613.468	7257567.520/7257582.555	204.061	9	0	2022	Y
65	IVR WRSF TH04	IVR-WRSF-1S	594605.898/594612.305	7257567.947/7257718.148	203.972	9	0	2022	Y
66	IVR WRSF TH05	IVR-WRSF-1S	608314.201	7256135.534	203.489	--	-90	2023	y
67	IVR WRSF TH06	IVR-WRSF-1N	608391.937	7256721.531	204.298	--	-90	2023	Y
68	IVR WRSF TH07	IVR-WRSF-1N	608395.025/608399.173	7256707.151/7256692.531	204.924	164	0	2022	Y
69	IVR WRSF TH08	IVR-WRSF-1N	608408.682/608412.721	7256710.367/7256695.844	204.936	164	0	2022	Y

Line #	Name	Area	Easting (X)	Northing (Y)	Elevation (Z)	Azimuth	Dip	Installed	Active (Y) or (N)
70	IVR WRSF TH09	IVR-WRSF-1N	608401.559/608440.755	7256708.91/7256564.158	204.761	164	0	2022	Y
71	IVR WRSF TH10	IVR-WRSF-1N	7256721.531	726721.531	204.298	--	-90	2023	Y
72	MD-TH01	MD	605924.66 / 605914.18	7255102.638 / 7255097.264	149.9 / 153.5	243	Slope	2019	Y
73	MD-TH02	MD	605926.19	7255102.52	154.9	--	-90	2019	Y
74	MD-TH03	MD	605926.74	7255102.6	154.9	--	-90	2019	Y
75	WRSFD TH01	WRSF Dike	605414.509 / 605415.086	7255528.273 / 7255545.692	157.9 / 151.6	346	Slope	2019	Y
76	WRSFD TH02	WRSF Dike	605416.44	7255526.7	159.07	--	-90	2019	Y
77	WRSFD TH03	WRSF Dike	605414.98	7255545.01	155.29	--	-90	2019	Y
78	WRSFD TH04	WRSF Dike	605387.14	7255524.47	158.15	--	-90	2019	Y
79	WRSFD TH05	WRSF Dike	605428.59	7255566.21	153.63	--	-90	2019	Y
80	WRSFD TH06	WRSF Dike	605435.56	7255544.29	155.35	--	-90	2019	Y
81	WRSFD TH07	WRSF Dike	605466.94	7255541.78	155.13	--	-90	2019	Y
82	WRSFD TH08	WRSF Dike	605384.991	7255544.818	159.886	--	-90	2019	Y (11/16) beads
83	WRSFD TH09	WRSF Dike	605425.1	7255546.038	160.037	--	-90	2019	Y
84	PSW DH2 TH	Pit South Wall	606998.837	7255127.783	149.02	--	-90	2020	N
85	PSW DH3 TH	Pit South Wall	607016.336	7255140.383	148.041	--	-90	2020	N
86	PSW DH6 TH	Pit South Wall	607058.391	7255184.293	148.181	--	-90	2020	N
87	PSW DH7 TH	Pit South Wall	607070.111	7255198.772	148.734	--	-90	2020	N
88	PSW DH10 TH	Pit South Wall	607142.218	7255272.101	150.109	--	-90	2020	N
89	PSW DH11 TH	Pit South Wall	607155.955	7255287.46	151.241	250	-50	2020	N
90	PSW DH12 TH	Pit South Wall	607168.065	7255293.87	151.934	250	-50	2020	N
91	PSW DH13 TH	Pit South Wall	606980.7	7255276.8	145.398	--	-90	2020	N
92	PSW DH14 Th	Pit South Wall	606937.5	7255411.5	130.761	--	-90	2020	N
93	AMQ15-324	WT PIT	606496.8	7254995.2	161.79	323.41	-55.46	2015	N
94	AMQ – WT2_NW_TH	WT PIT	14373.989	7324.655	109.248	350	-10	2023	Y
95	PSW_Ramp_TH	WT PIT	14837.534	6898.047	31.3	--	-90	2024	Y
96	AMQ – PSW3 – DDH1_TH	WT PIT	607078.57	7255209.62	149.8	318.22	-47.7	2022	Y
97	AMQ17-1233	IVR	606778	7256254	162	252.71	-59.06	2017	N
98	AMQ17-1337	IVR	607078	7256522	155	260.37	-59.62	2017	N
99	V651A	IVR	607624.208	7256122.348	10163.28	333	-69	2019	Y
100	BH-T2	IVR D1	607850.8	7255563.9	164.303	--	-90	2019	N
101	BH-4	IVR D1	608048	7255442	163.982	--	-90	2019	N

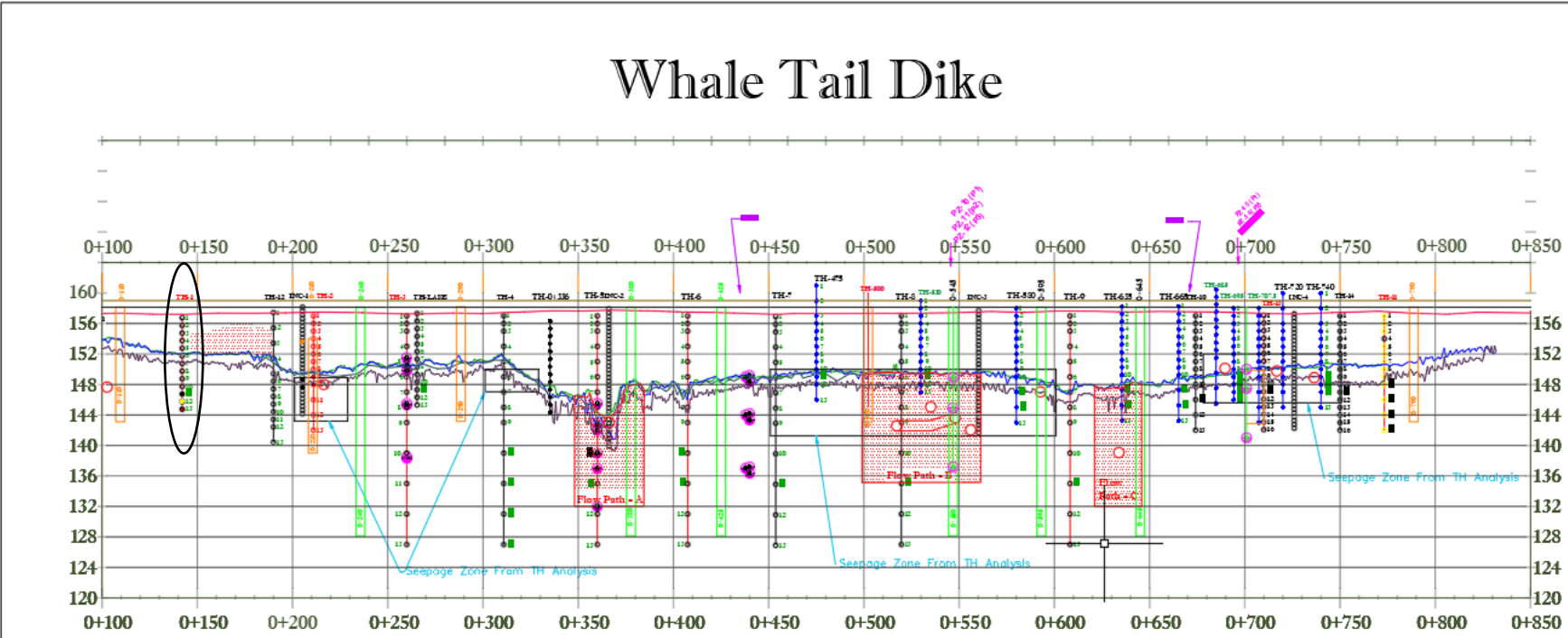
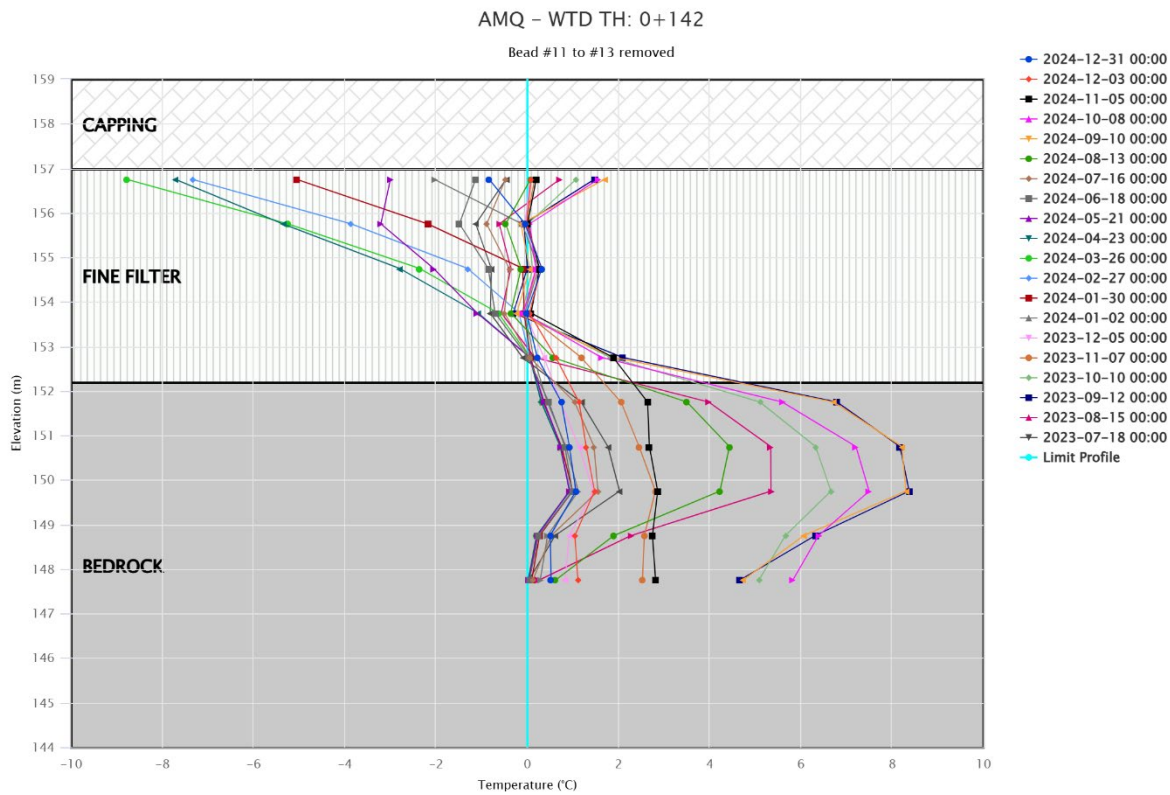
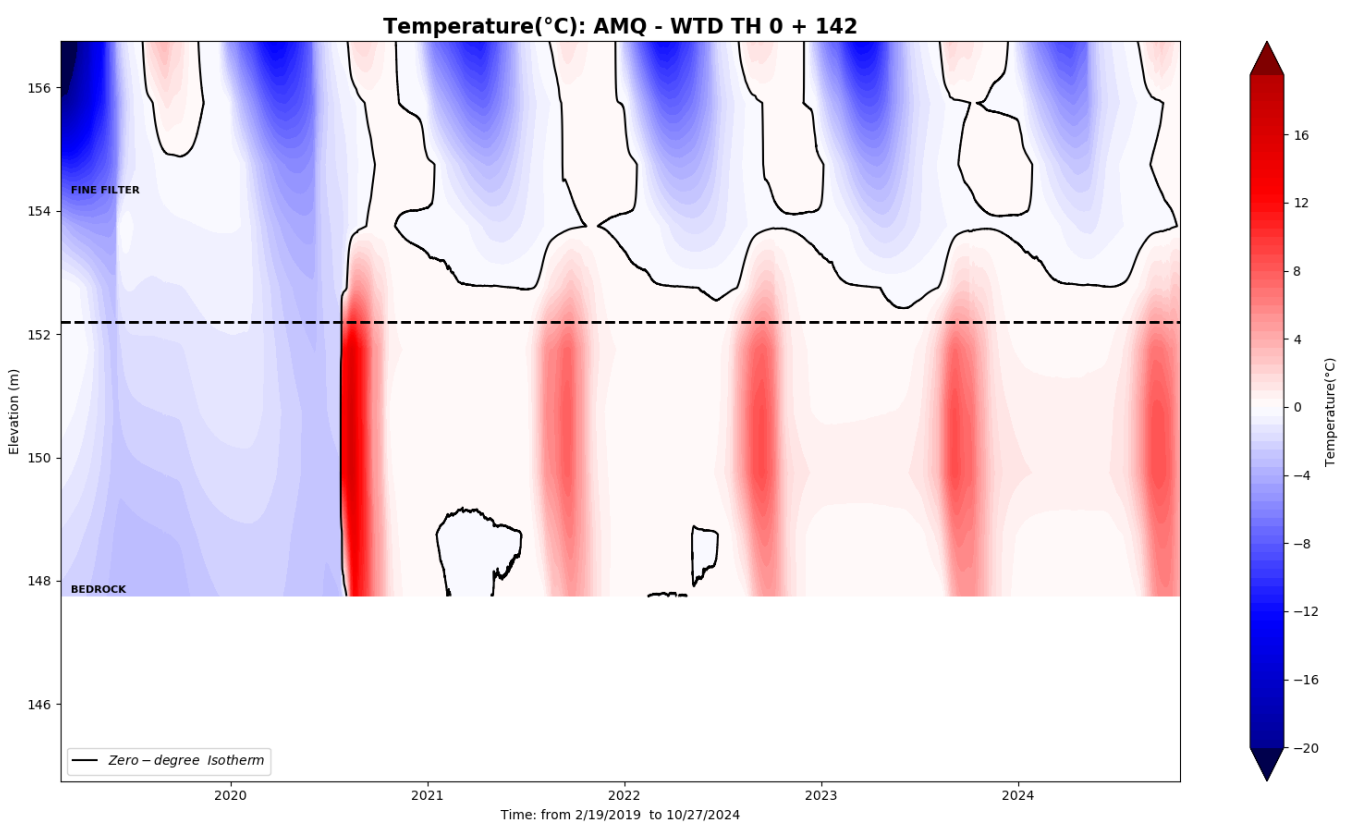
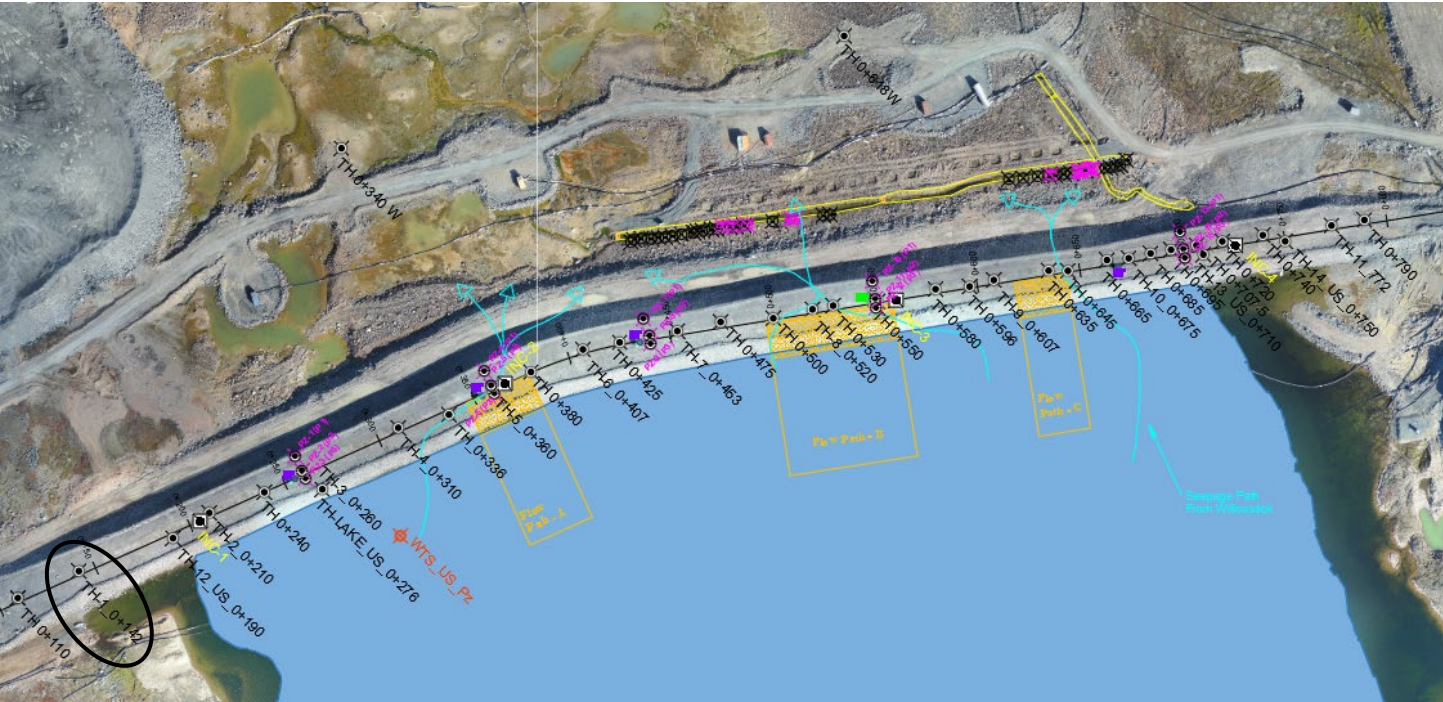
Line #	Name	Area	Easting (X)	Northing (Y)	Elevation (Z)	Azimuth	Dip	Installed	Active (Y) or (N)
102	IVR D1 TH1	IVR D1	607909.036	7255508.205	164.486	30 / 210	Liner	2021	Y
103	IVR D1 TH2	IVR D1	607908.144	7255506.309	164.895	--	-90	2021	Y
104	IVR D1 TH3	IVR D1	607912.603	7255515.354	165.1	--	-90	2021	Y
105	IVR D1 TH4	IVR D1	607906.637	7255503.624	165.76	--	-90	2021	Y
106	IVR D1 TH5	IVR D1	607899.06	7255512.94	159.666	120	Key Trench	2021	Y
107	IVR D1 TH6	IVR D1	607923.8	7255480.4	162.08	--	-90	2021	Y
108	IVR D1 TH7	IVR D1	607930.032	7255525.355	162.12	--	-90	2021	Y
109	AMQ21-2577A (M003)	Mammoth	605586.328	7254641.908	10156.648	336.1	-53.9	2021	Y
110	AMQ22-2762 (Long TH)	Mammoth	605363.6	7254674.8	5153.826	336	-65	2022	Y
111	AMQ22-2761 (Long TH)	Whale Tail	606073.6	7255502	5160.646	131.7	-61.8	2022	Y
112	AMQ22-2760 (Long TH)	IVR	607679.3	7256022.9	5164.106	193	-74	2022	Y
113	BH23-01 (MD-2_TH-01)	Mammoth	604737.917	7254814.747	153.835	--	-90	2023	Y
114	BH23-03 (MD-2_TH-02)	Mammoth	604788.98	7254682.294	152.661	--	-90	2023	Y
115	BH23-06 (MD-2_TH-03)	Mammoth	604867.121	7254511.269	153.441	--	-90	2023	Y
116	THERM01_243	Underground	607003.969	7255410.001	9926.9	339	-65	2020	N
117	THERM02_275	Underground	606861.274	7255309.315	9911.05	38	-50	2020	N
118	THERM03_380	Underground	607209.94	7255592.8	9968.536	352	-59	2020	N
119	THERM04_310	Underground	607009.0001	7255407.6	9926.9	35	-50	2020	N
120	AMQ15-294	WT Pit	607073.2	7255676.1	155.93	322.67	-45.18	2015	N
121	AMQ15-349 A	WT Pit	607064.9	7255627.5	155.3	204.41	-45.32	2015	N
122	AMQ15-421	WT Pit	607098.3	7255490.8	155.09	273.93	-51.31	2015	N
123	AMQ15-306	WT Pit	606714.8	7255363.8	154.92	96.3	-45.41	2015	N
124	AMQ15-452	WT Pit	606627.2	7255687.9	156.16	159.5	-49.98	2015	N
125	AMQ17-1159	WTD	607580.2	7254827.6	152.56	--	-90	2017	N
126	AMQ17-1188	WTD	607209.9	7254681.3	151.76	--	-90	2017	N
127	AMQ17-1265 A (2 TH,Lake)	WT Pit	606950	7255414	140	196.03	-79.99	2017	N
128	AMQ17-1277 A	WT Pit	606911	7255964	153	193.06	-60.17	2017	N
129	AMQ17-1164A	WTD	607415.60	7254779.33	151.57	--	-90	2017	N
130	MD-02-2015	MD	605906.1	7255094.5	152.269	--	-90	2015	N
131	WTD-2015-03	WTD	607311.61	7254712.18	151.81	--	-90	2015	N
132	Stkd100 (West Shore)	WTD	607138.63	7254644.04	156.52	--	-90	2017	N
133	Stkd101	WTD	607157.76	7254651.69	156.84	--	-90	2017	N
134	Stkd102	WTD	607173.06	7254659.34	154.12	--	-90	2017	N
135	Stkd311	WTD	607497.51	7254774.35	153.41	--	-90	2017	N
136	310	WTD	607520.46	7254789.65	154.51	--	-90	2017	N
137	309A	WTD	607547.20	7254811.60	154.72	--	-90	2017	N
138	TMRCK1	WTD	607576.28	7254869.75	153.87	--	-90	2017	N
139	TMRCK2	WTD	607606.88	7254888.11	153.92	--	-90	2017	N
140	TMRCK3 (East Shore)	WTD	607638.25	7254906.47	154.73	--	-90	2017	N
141	Stkd298	WTD	607705.24	7254760.58	154.42	--	-90	2017	N
142	Stkd299 (East Shore)	WTD	607689.94	7254751.01	153.74	--	-90	2017	N

Line #	Name	Area	Easting (X)	Northing (Y)	Elevation (Z)	Azimuth	Dip	Installed	Active (Y) or (N)
143	Stkd301	WTD	607683.05	7254741.83	153.39	--	-90	2017	N



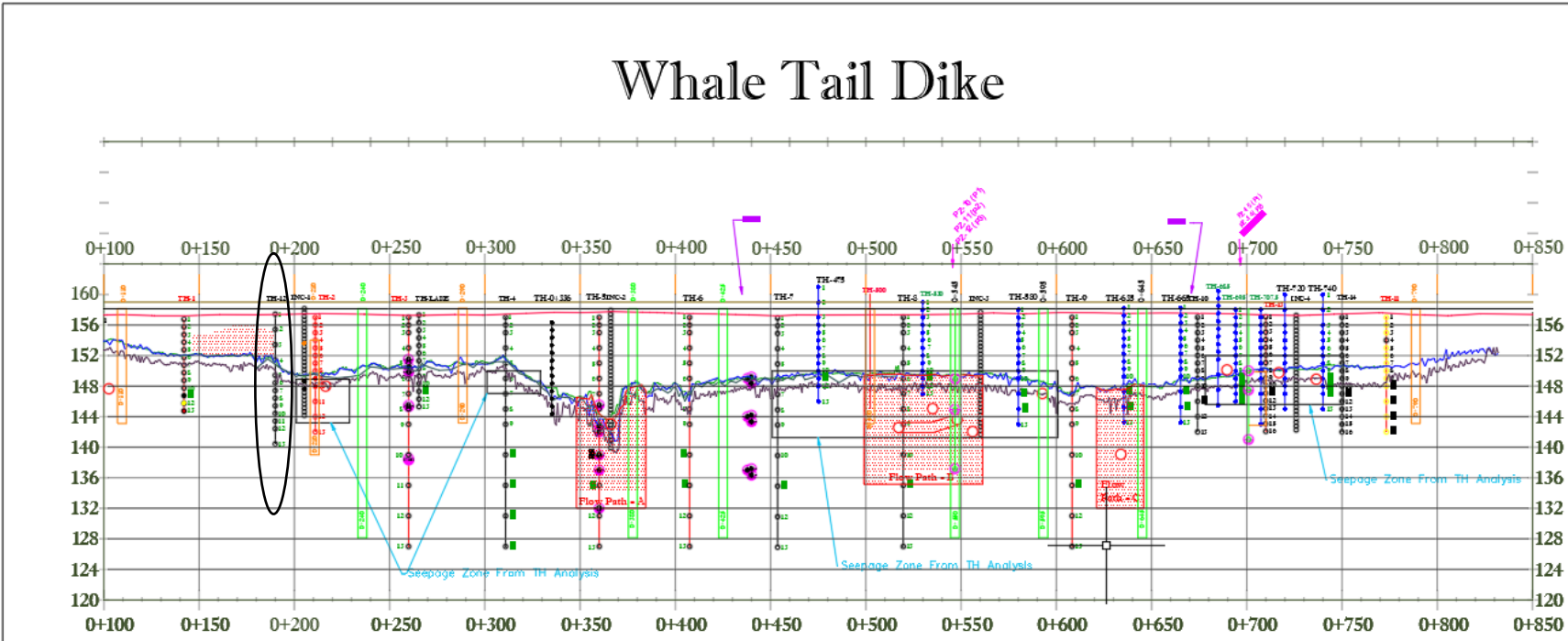
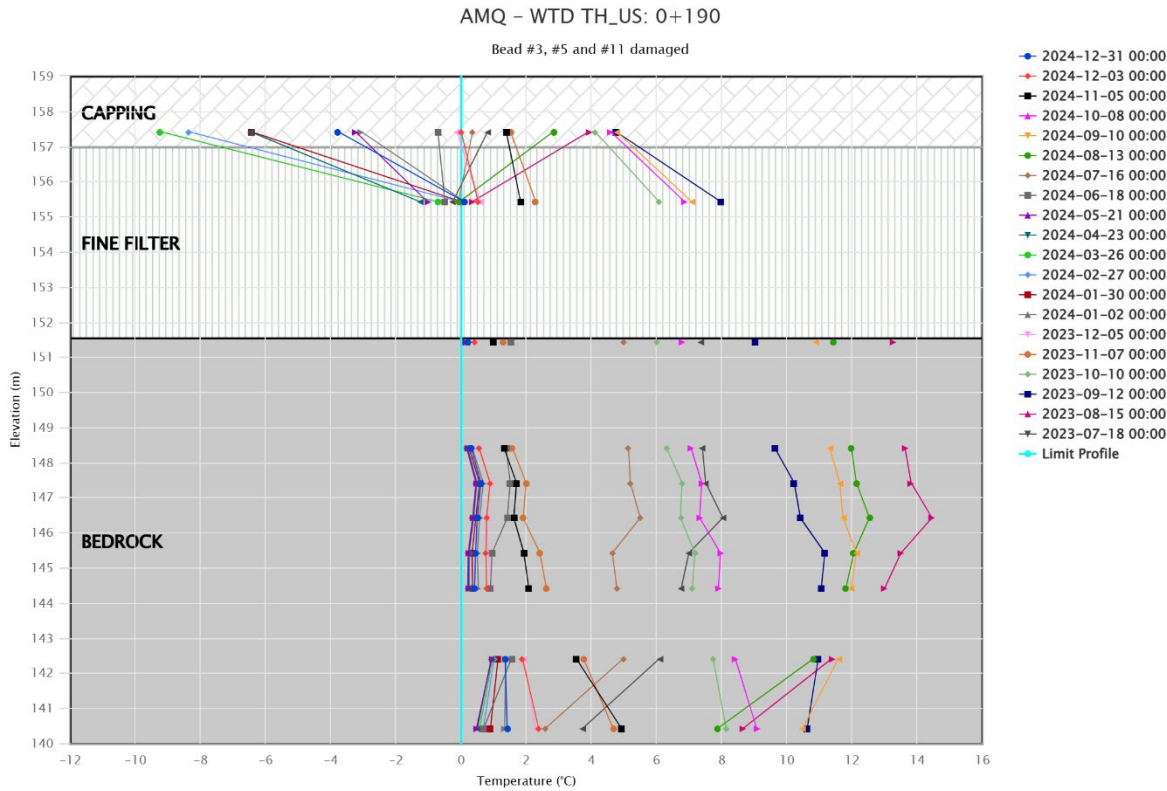
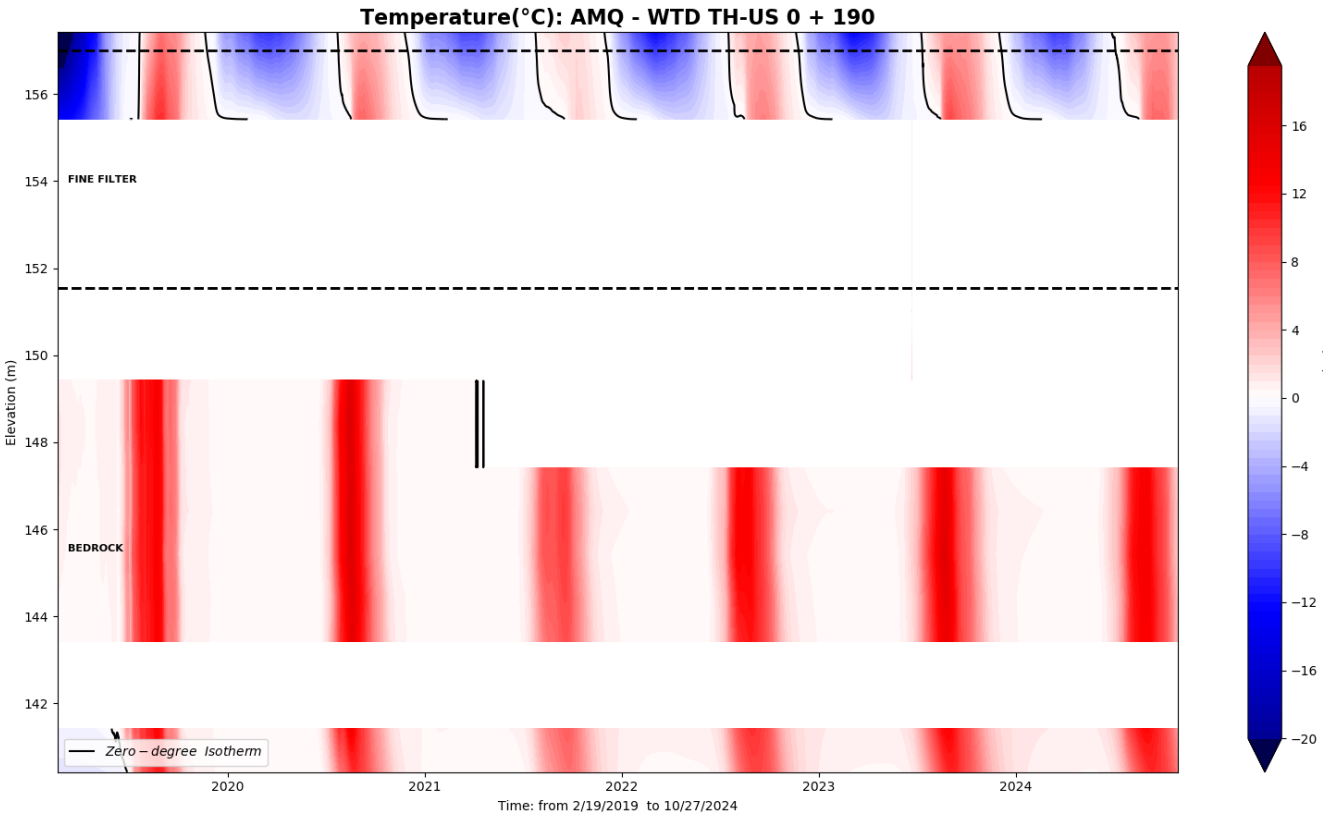
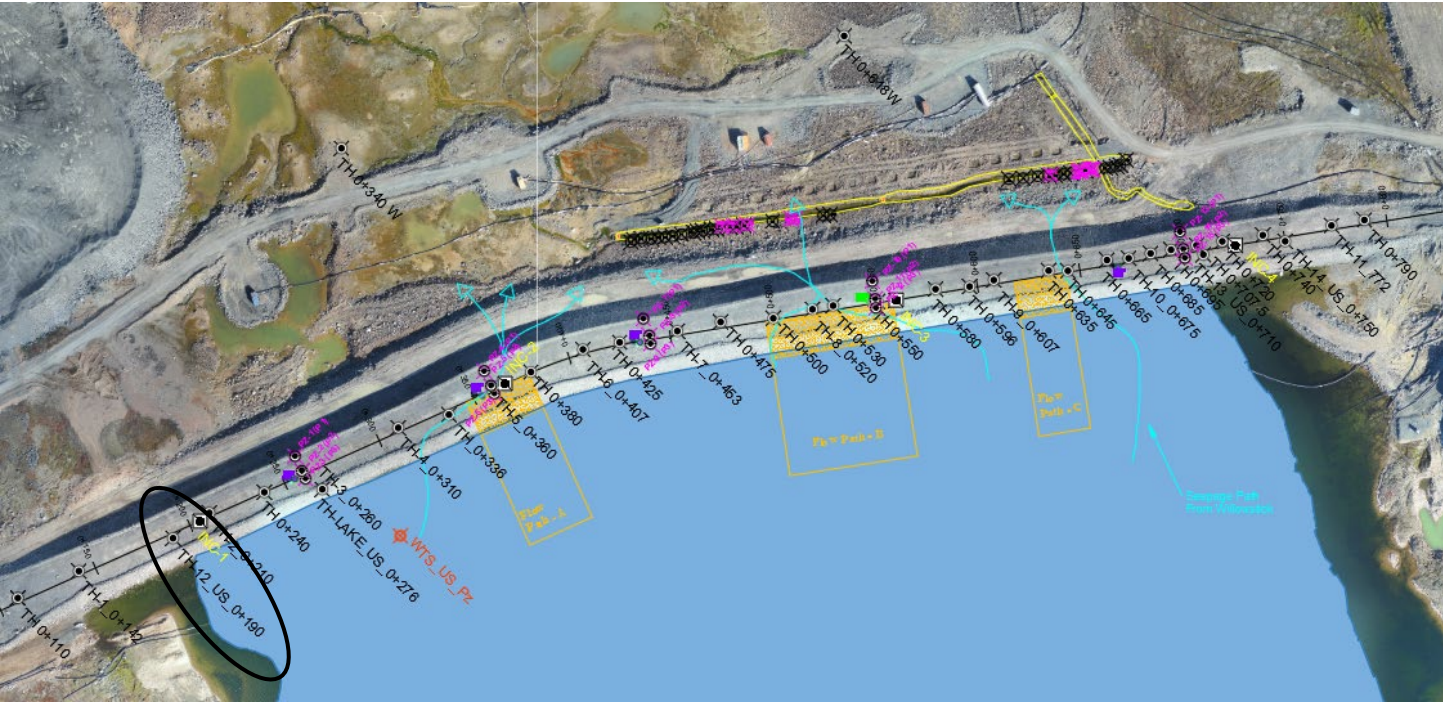


WTD-TH 0+142

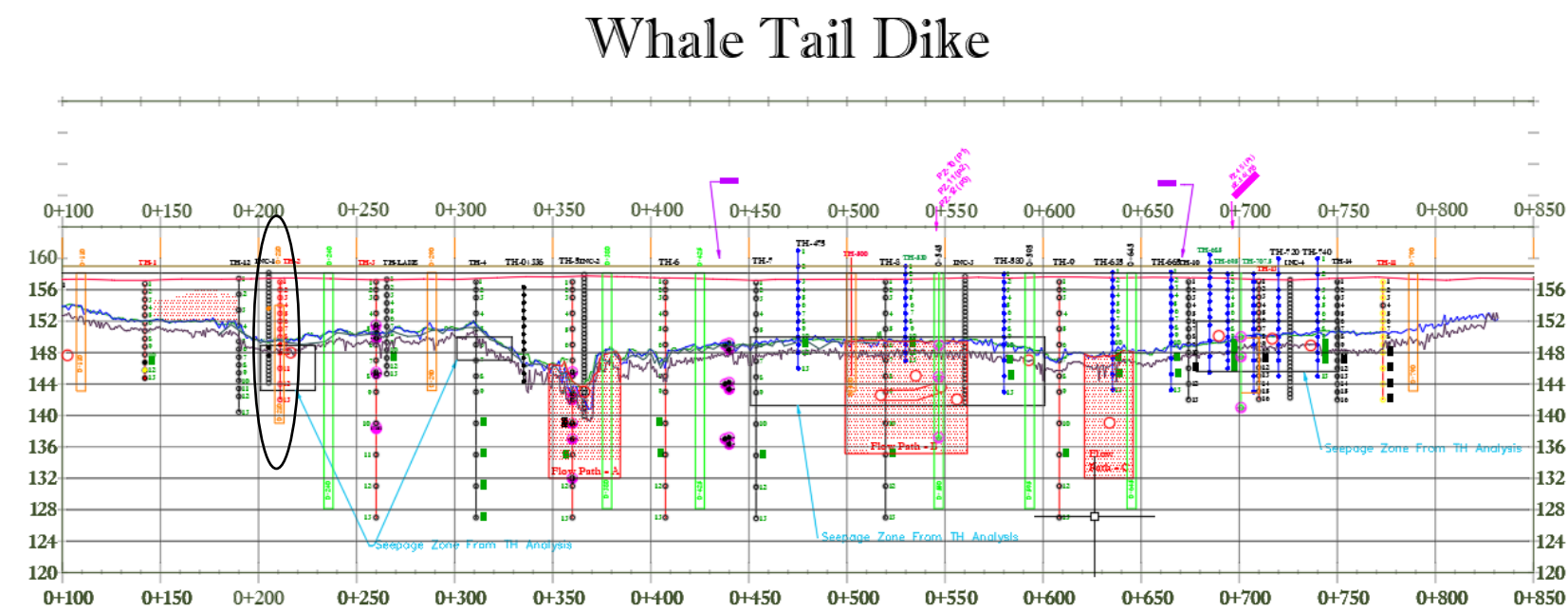
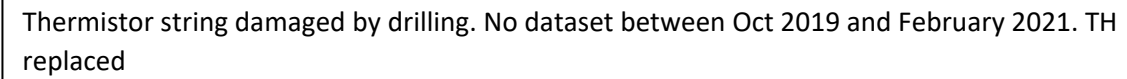
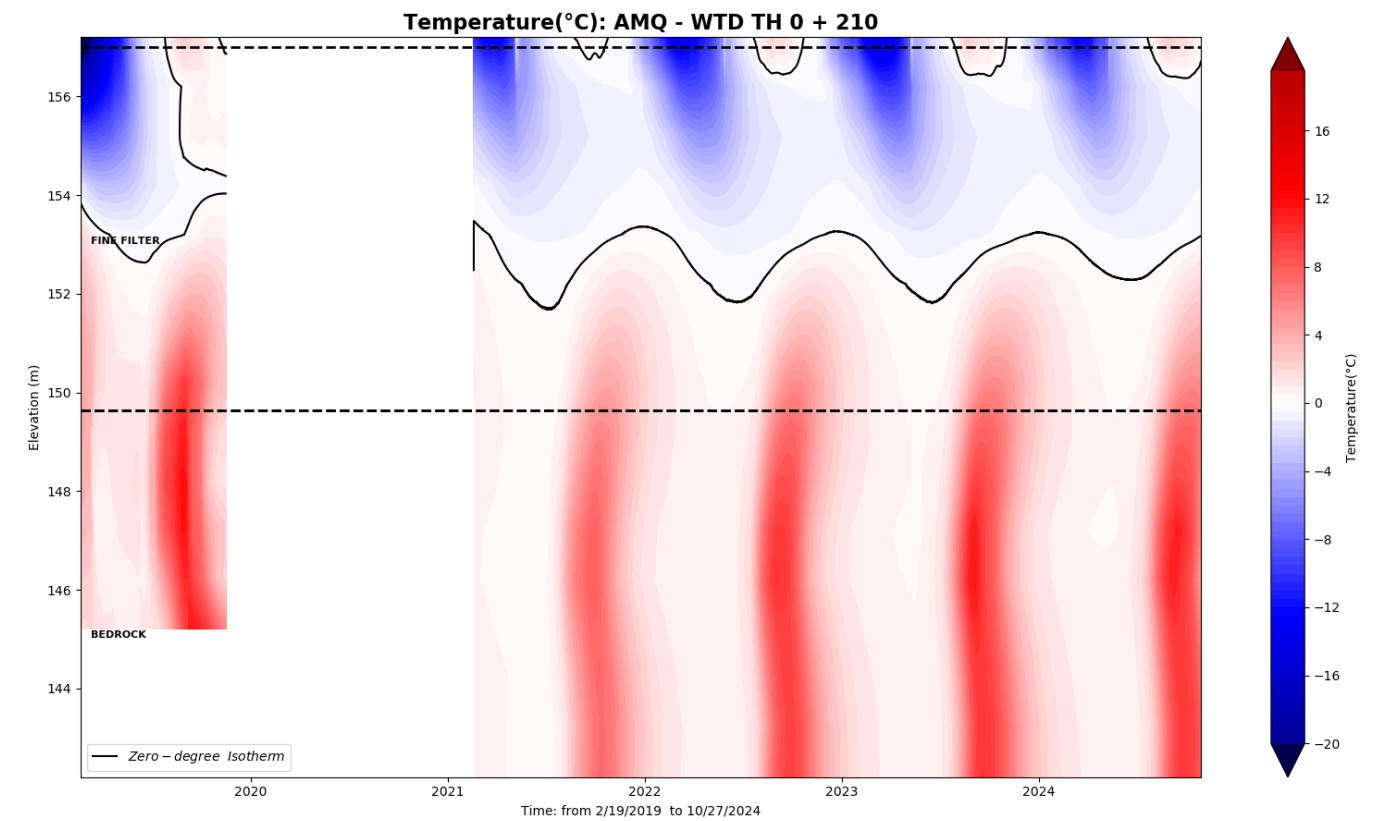




WTD-TH 0+190 U/S

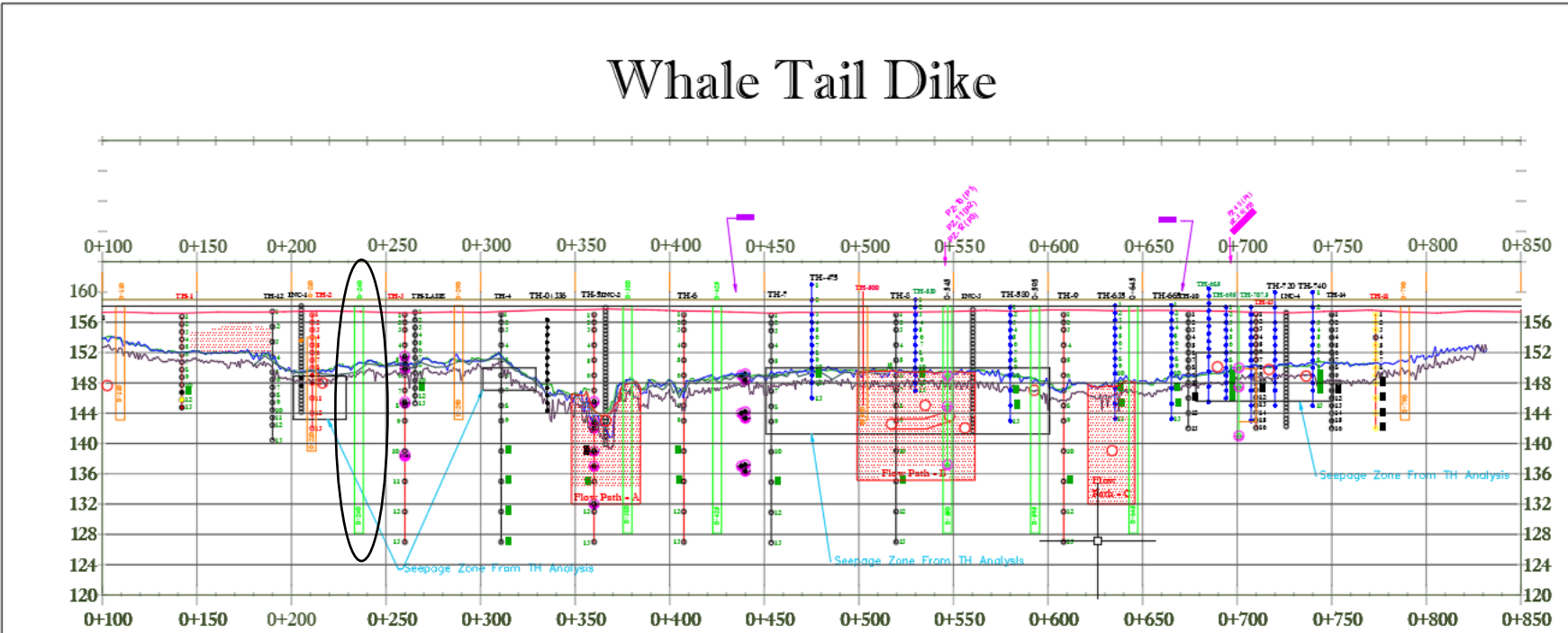
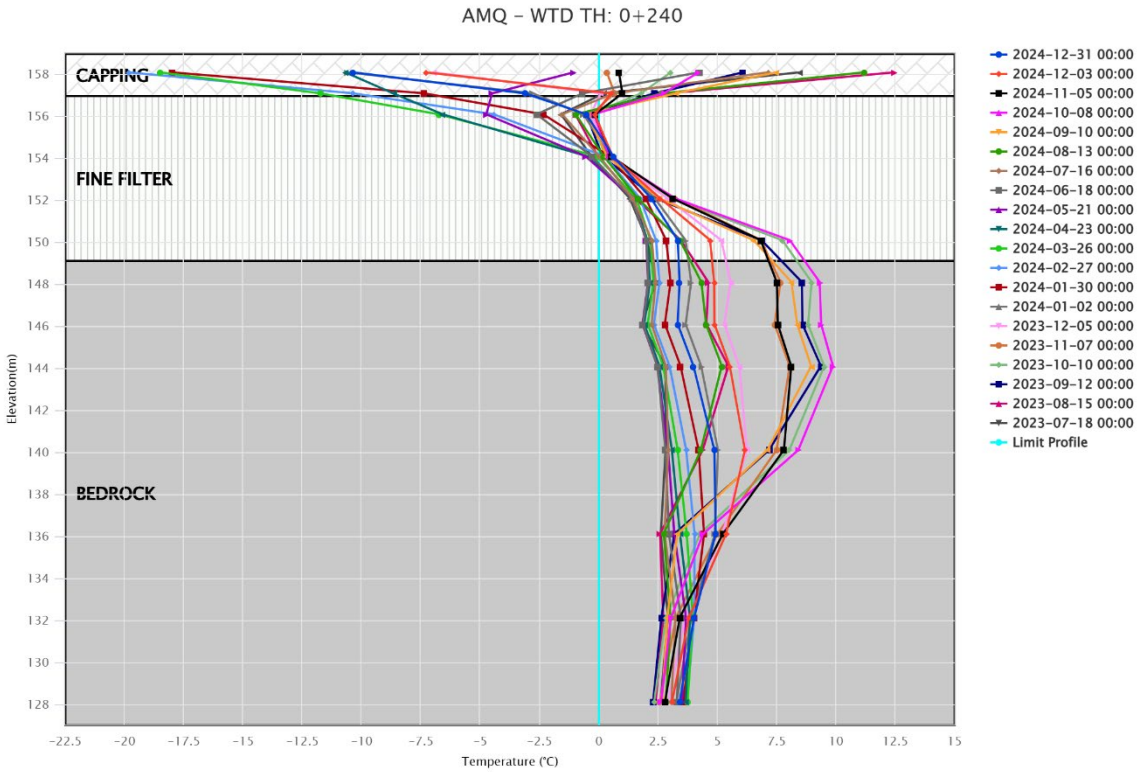
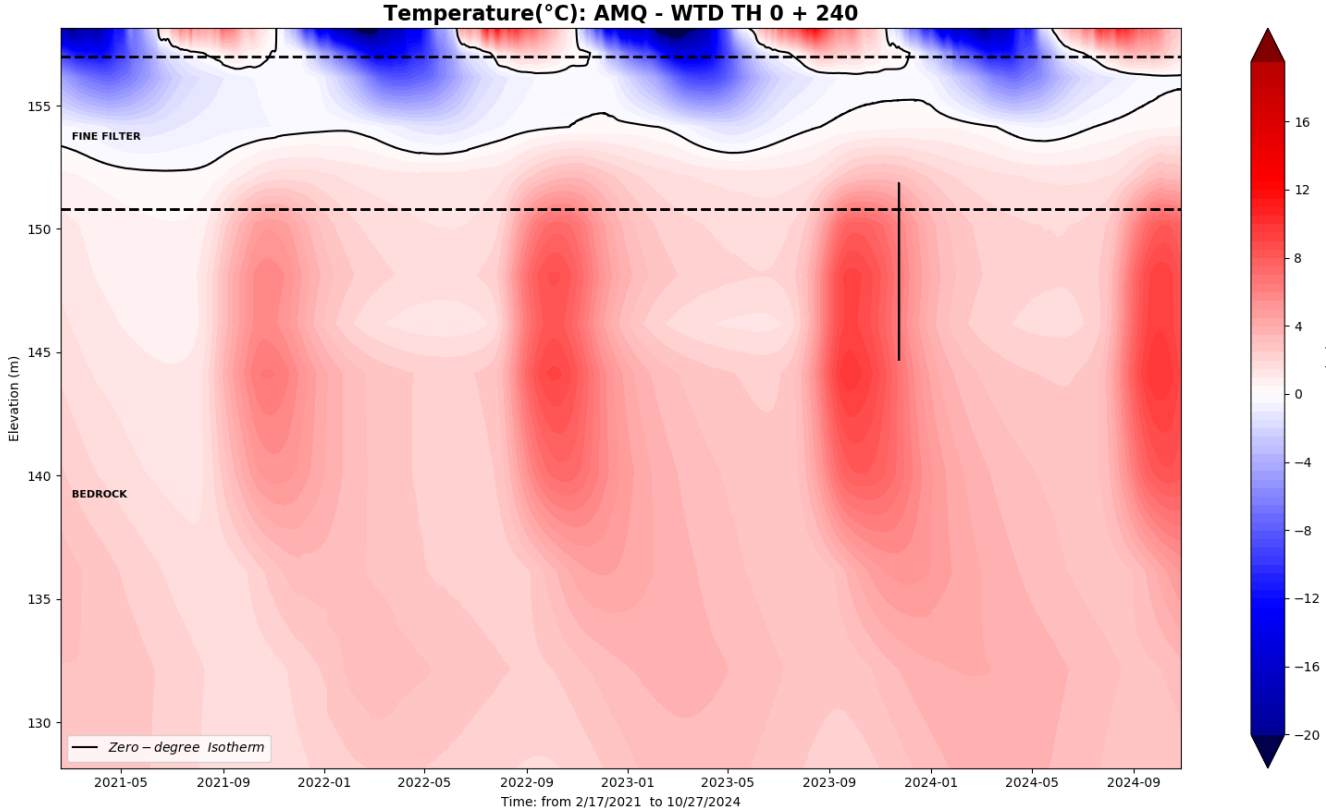
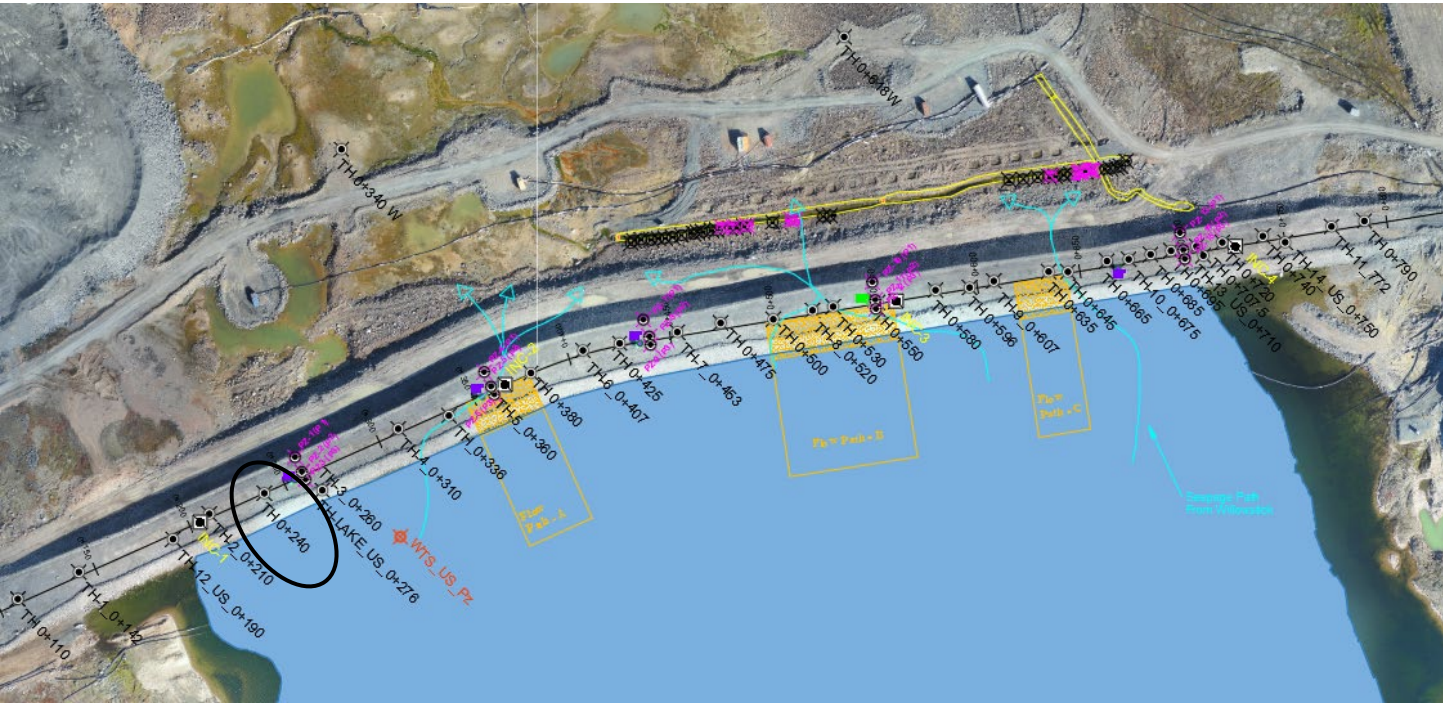






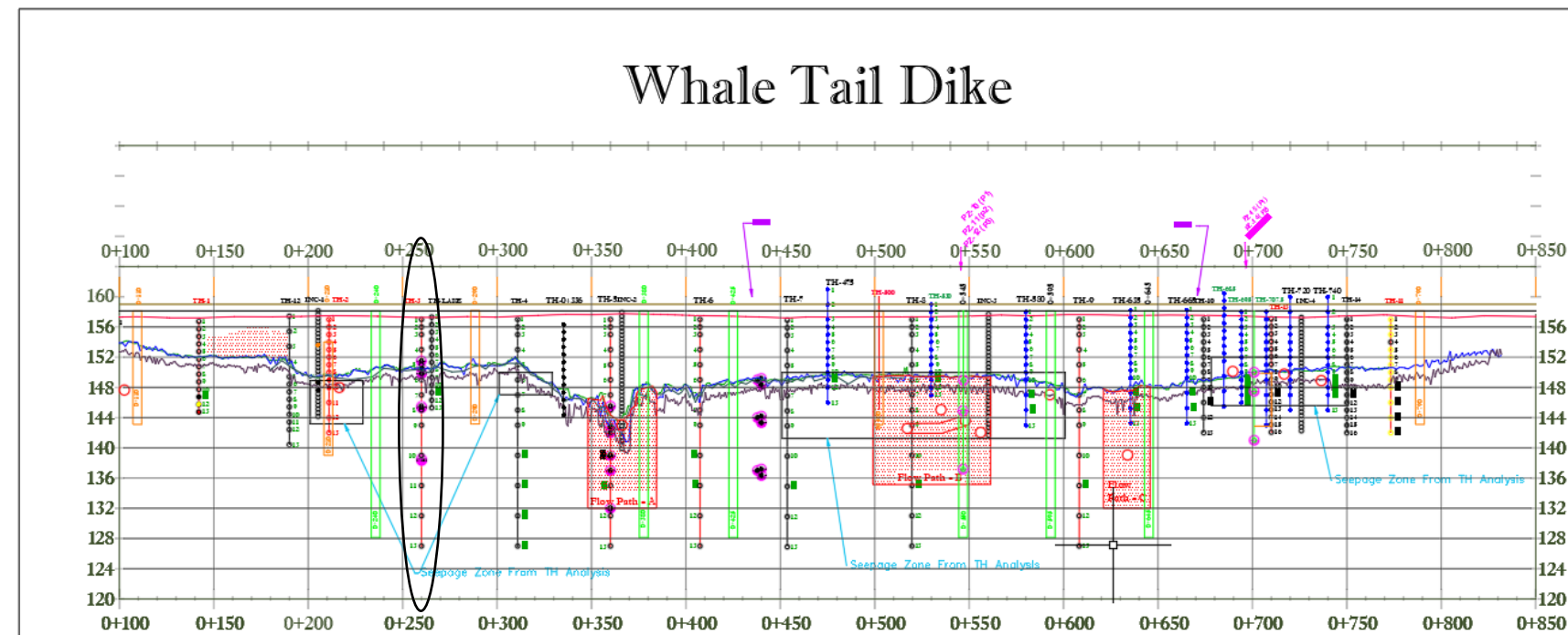
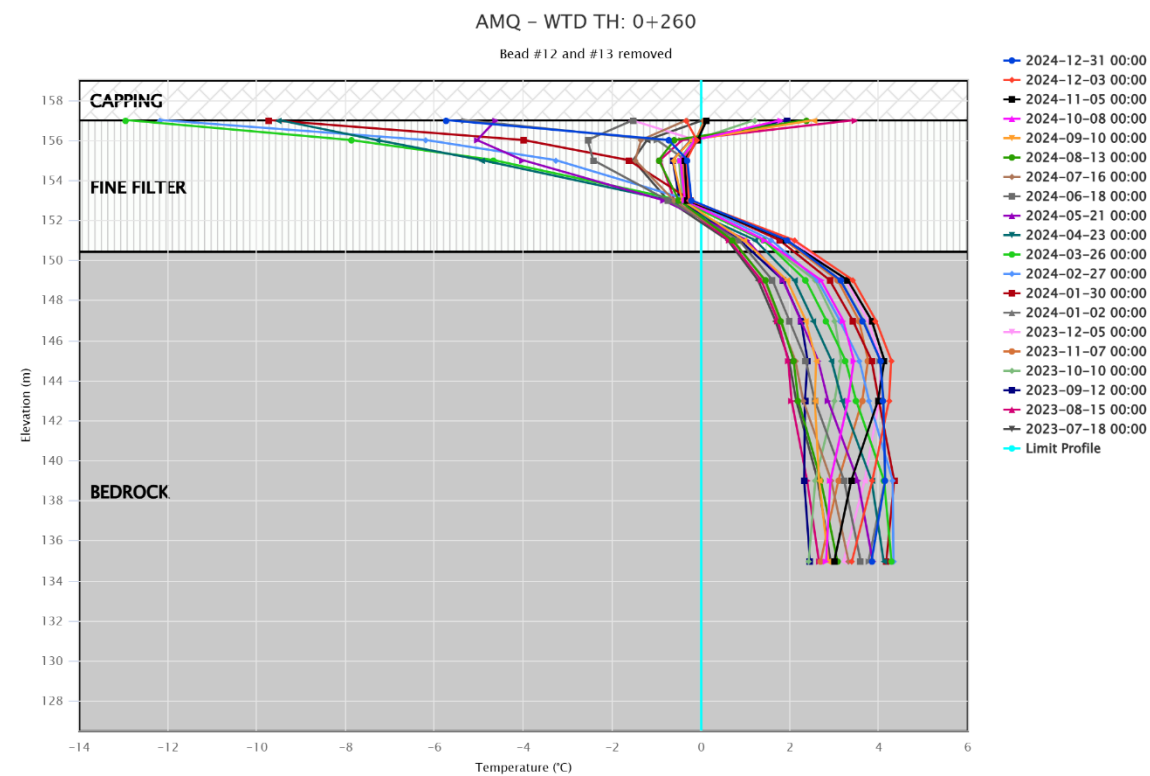
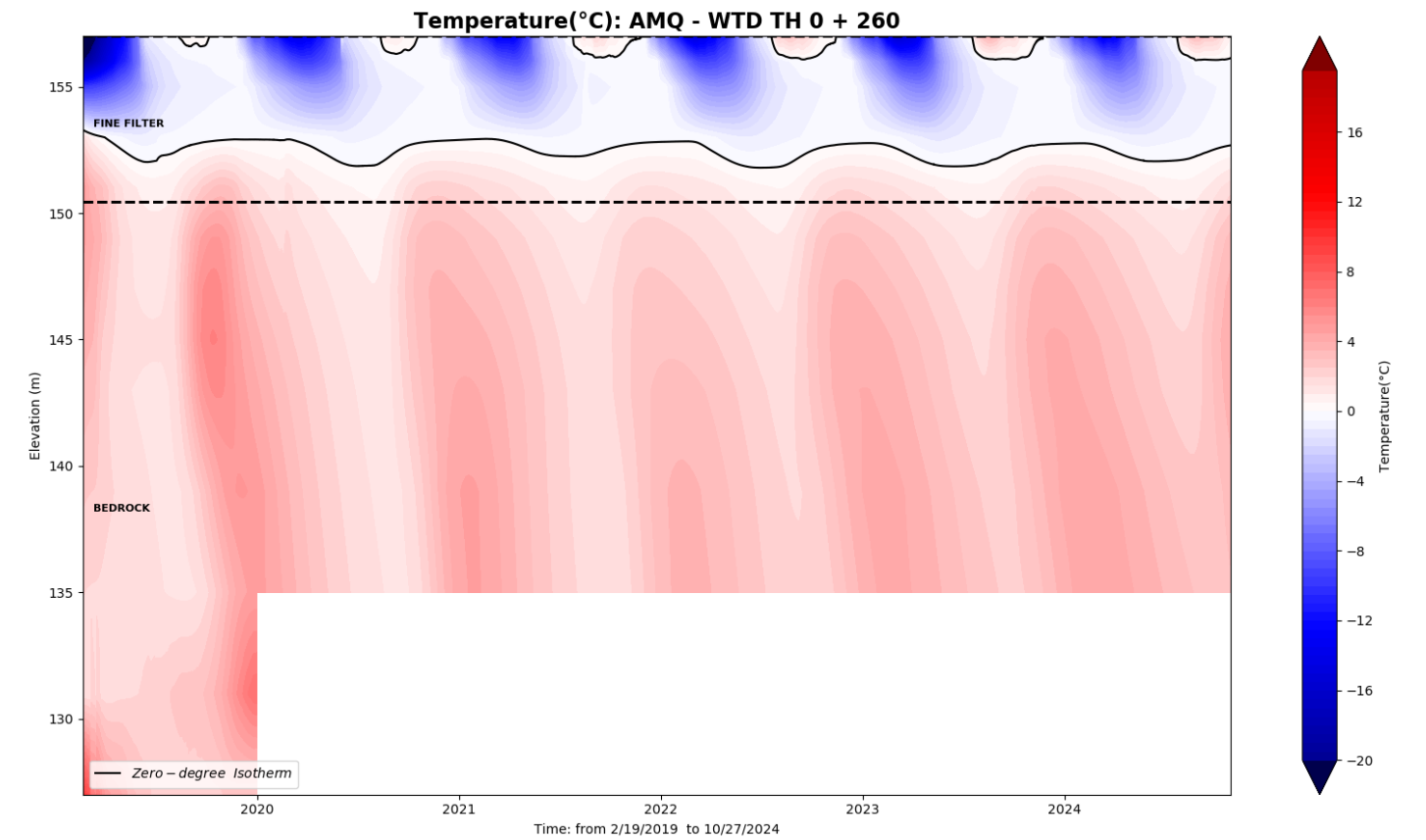
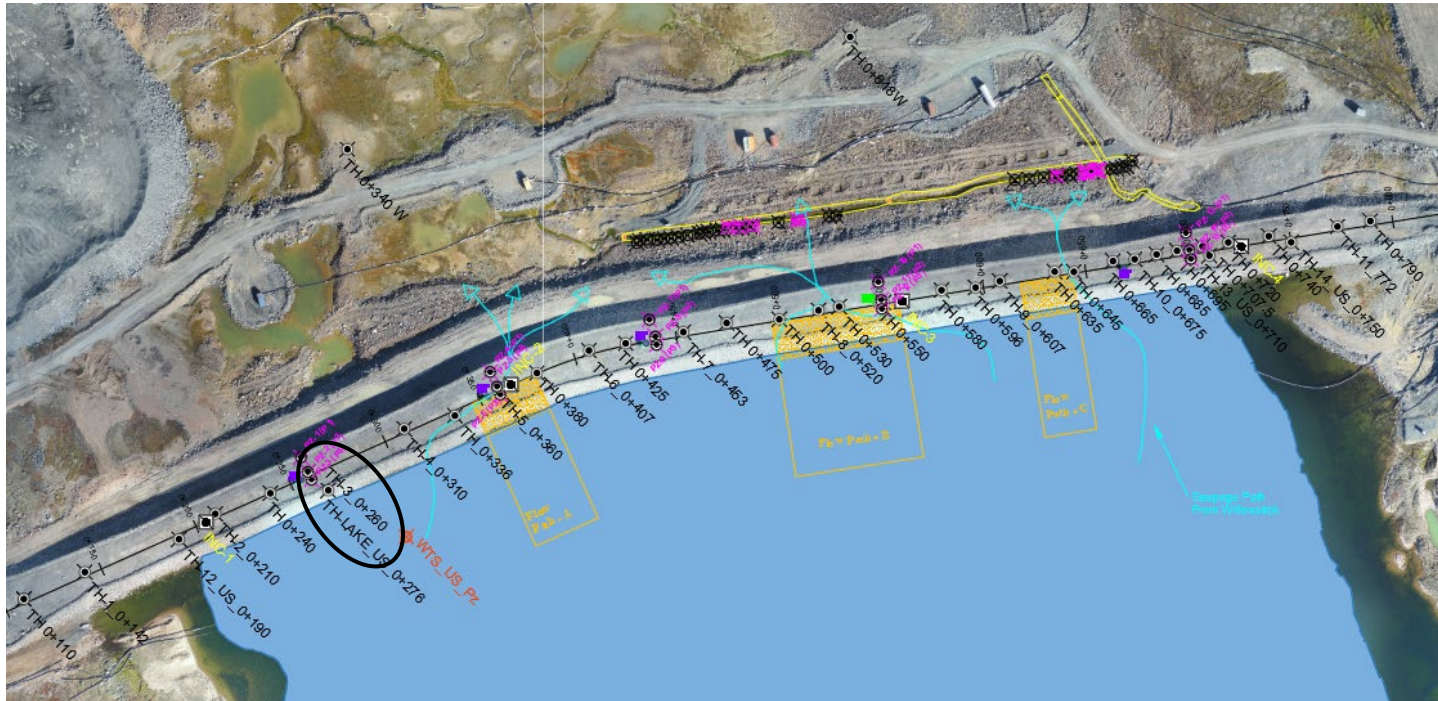


**WTD-TH 0+240**



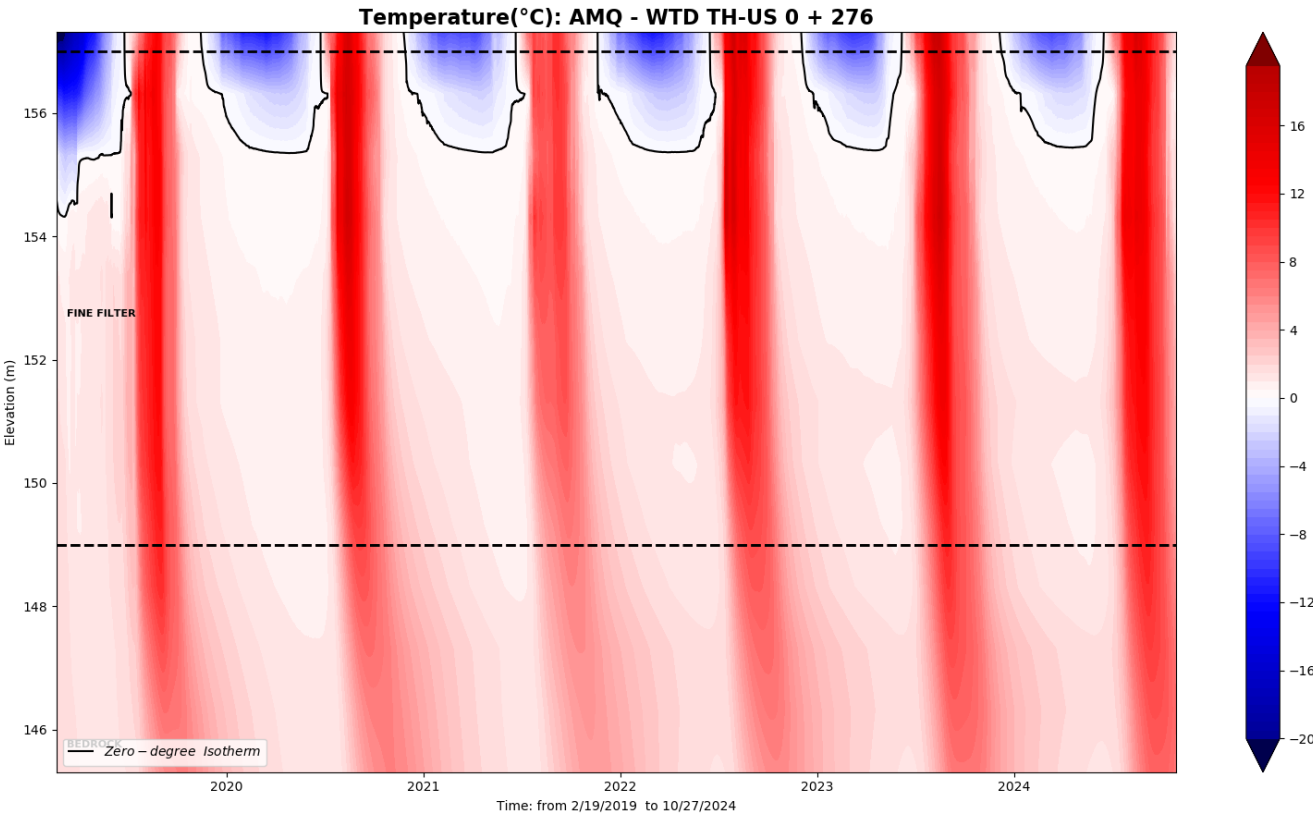
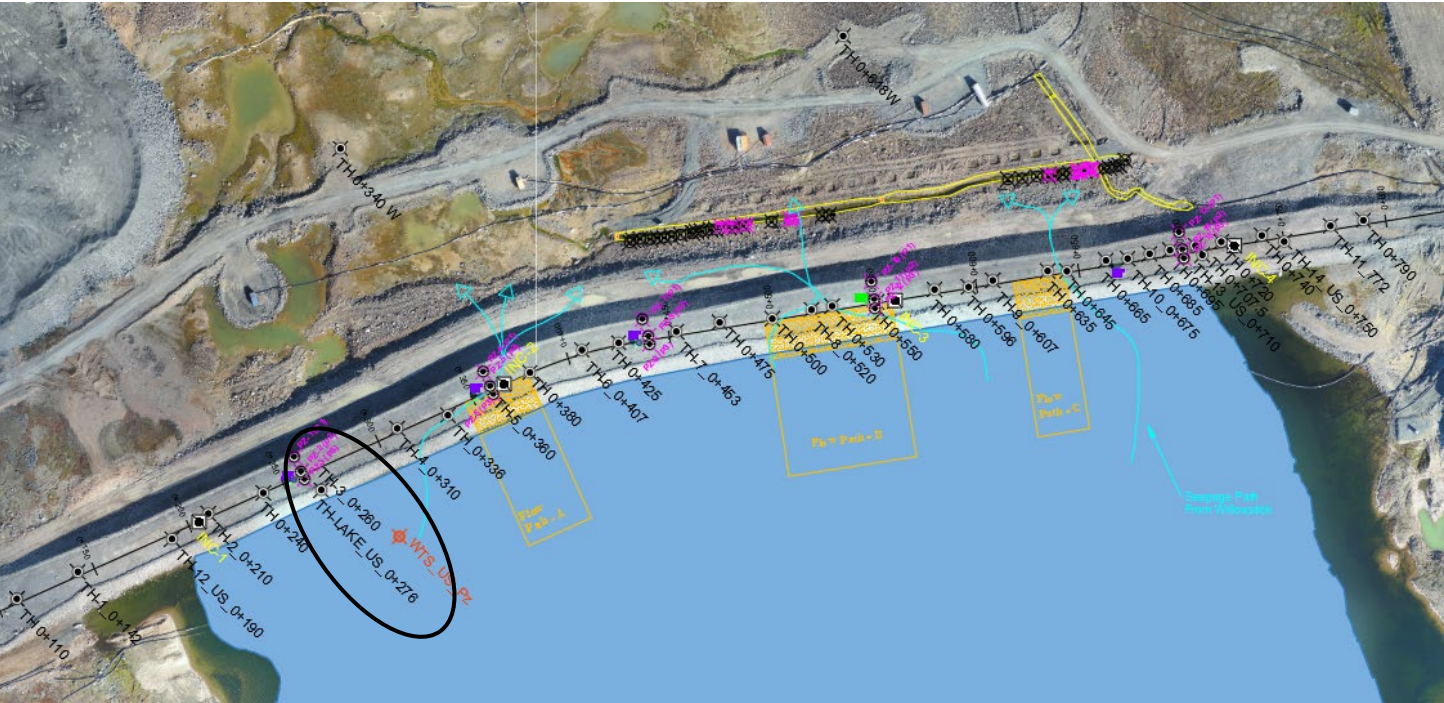


**WTD-TH 0+260**

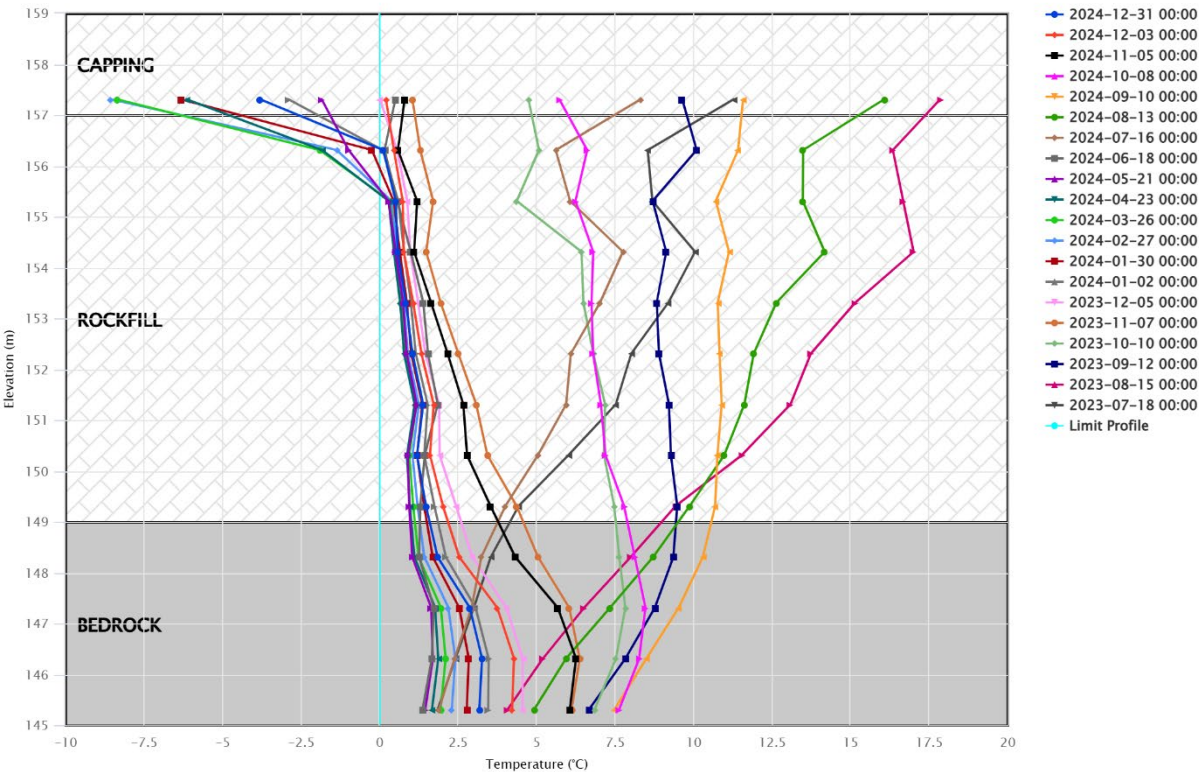




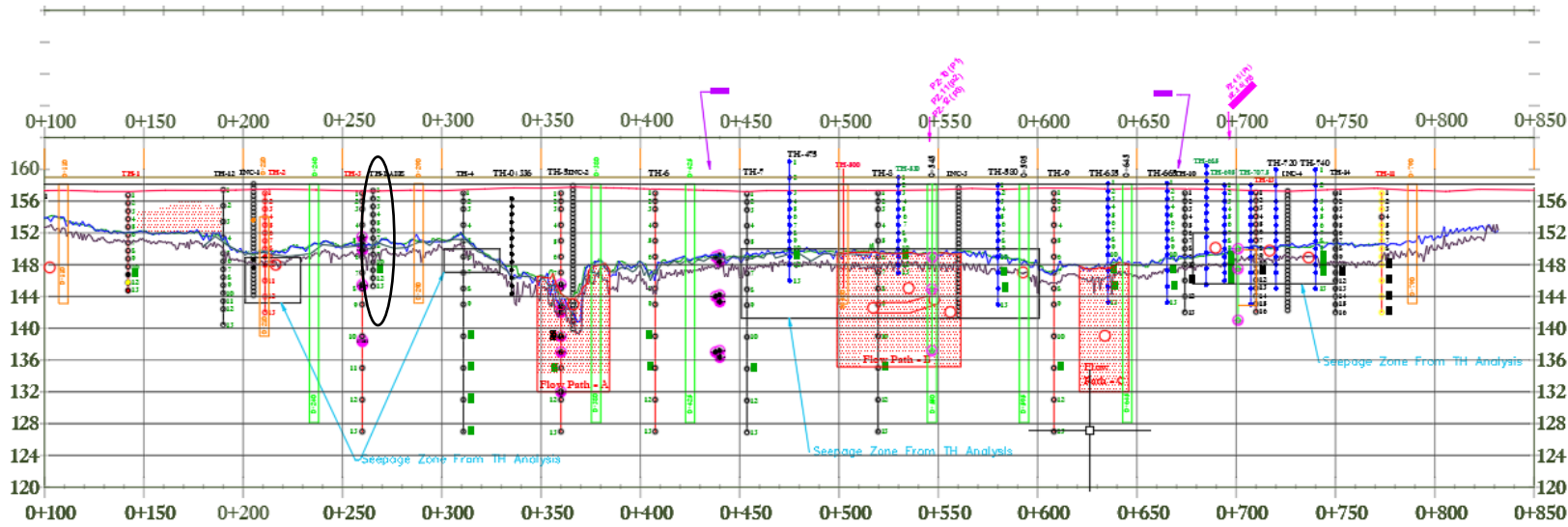
WTD-TH 0+276 U/S



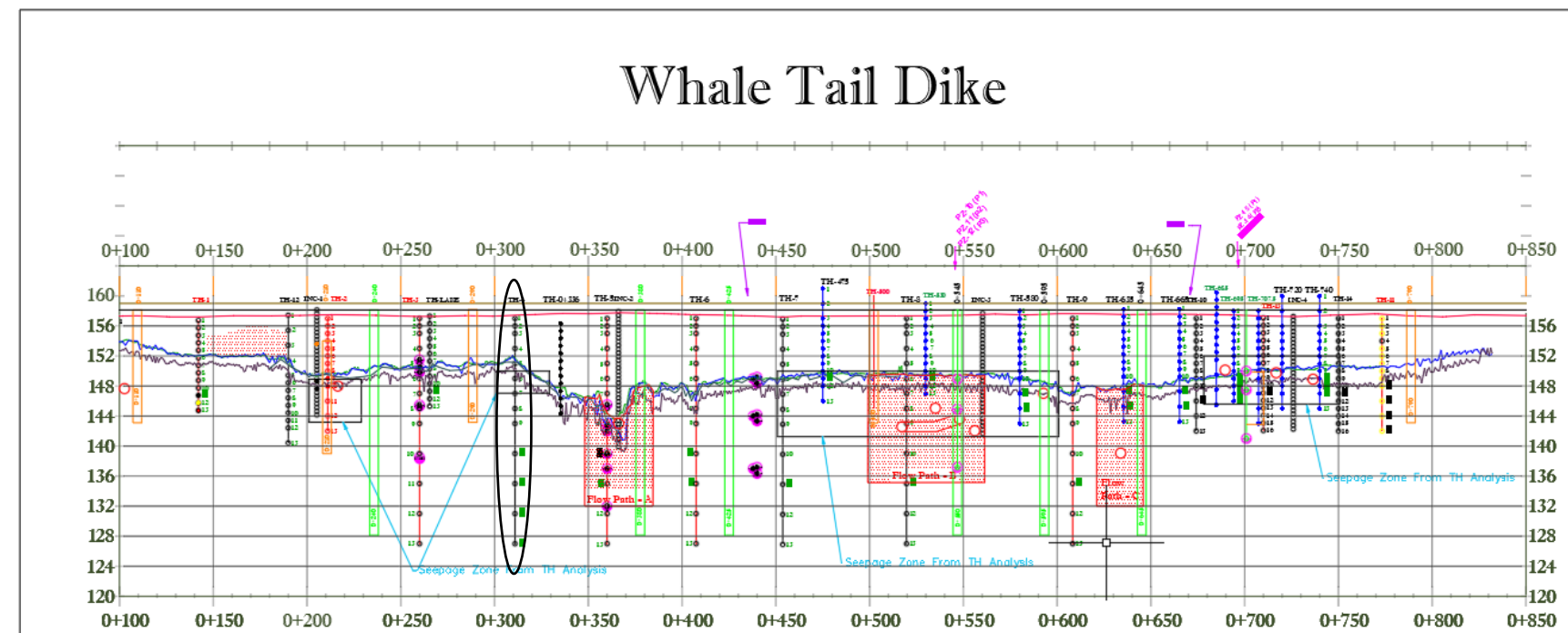
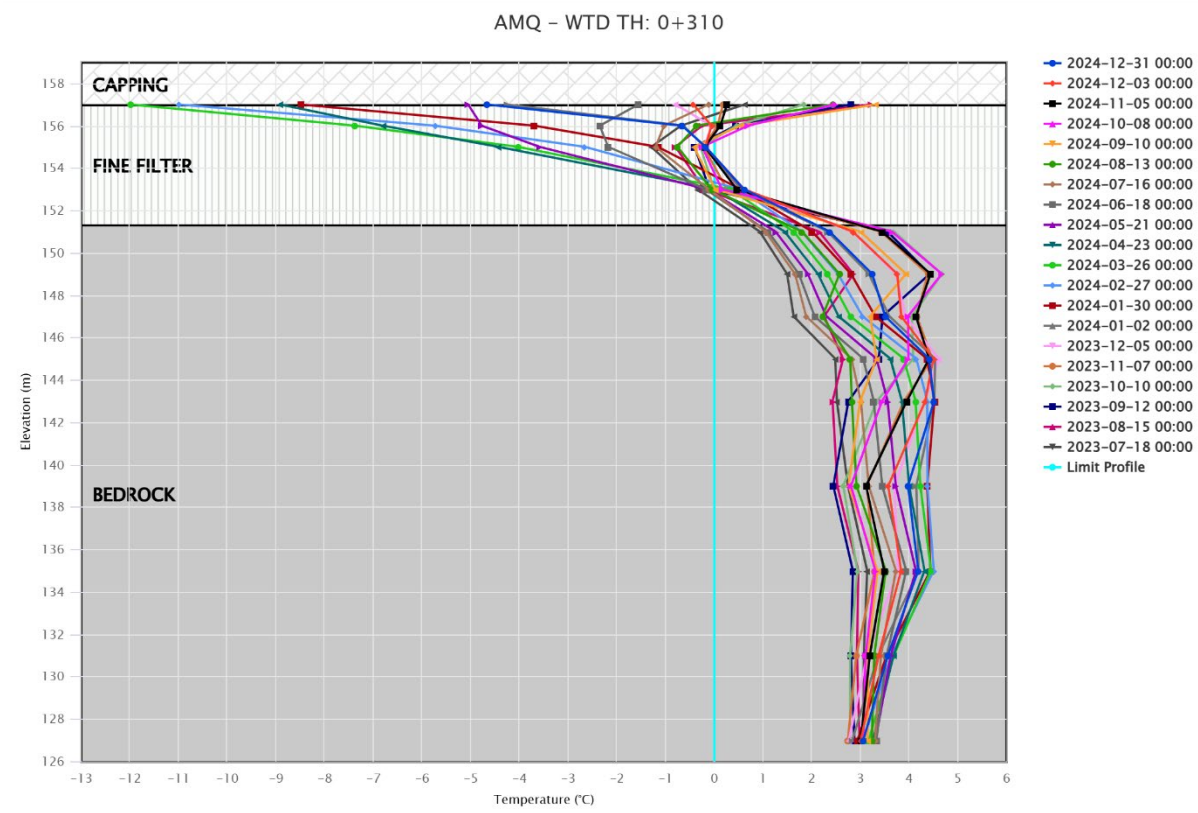
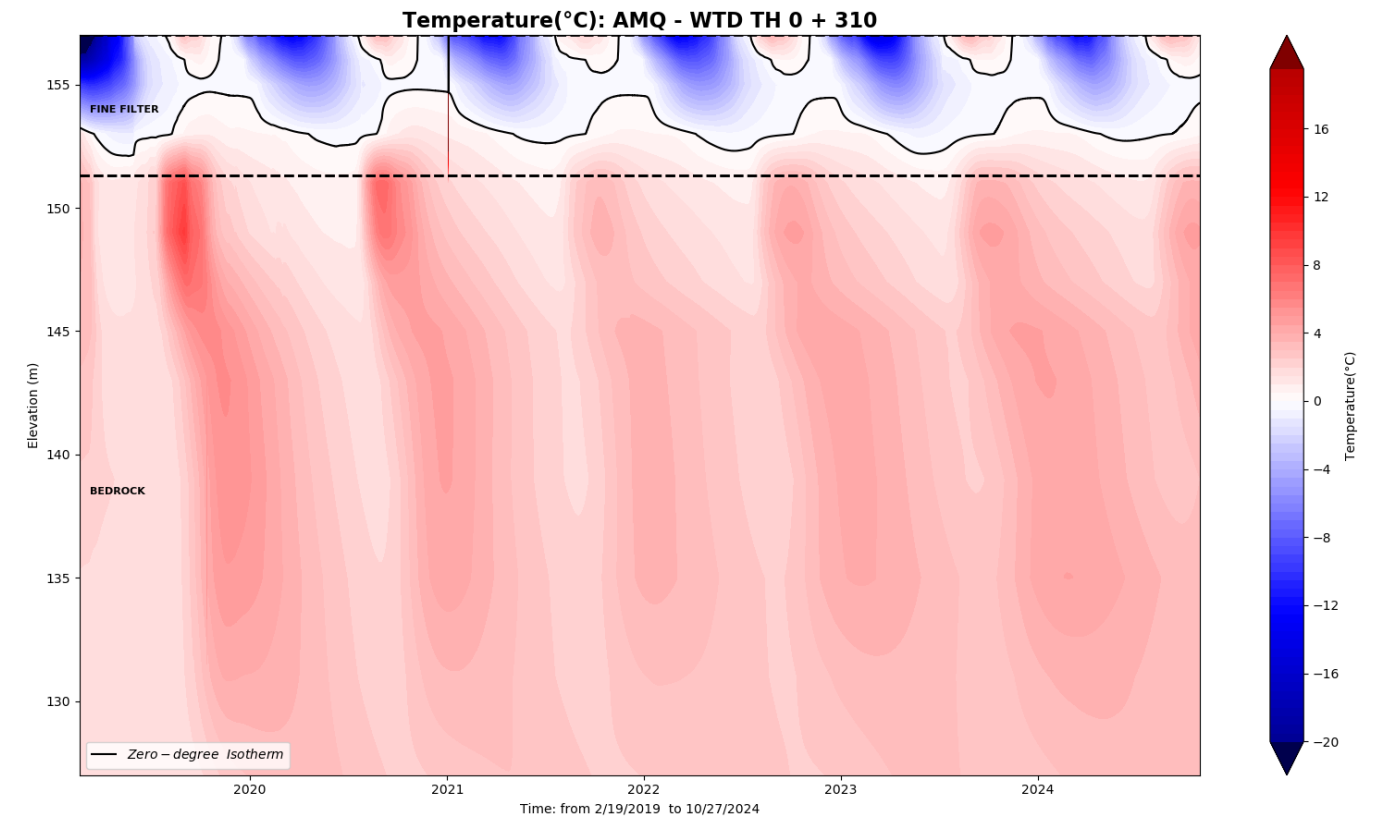
AMQ - WTD TH\_US: 0+276



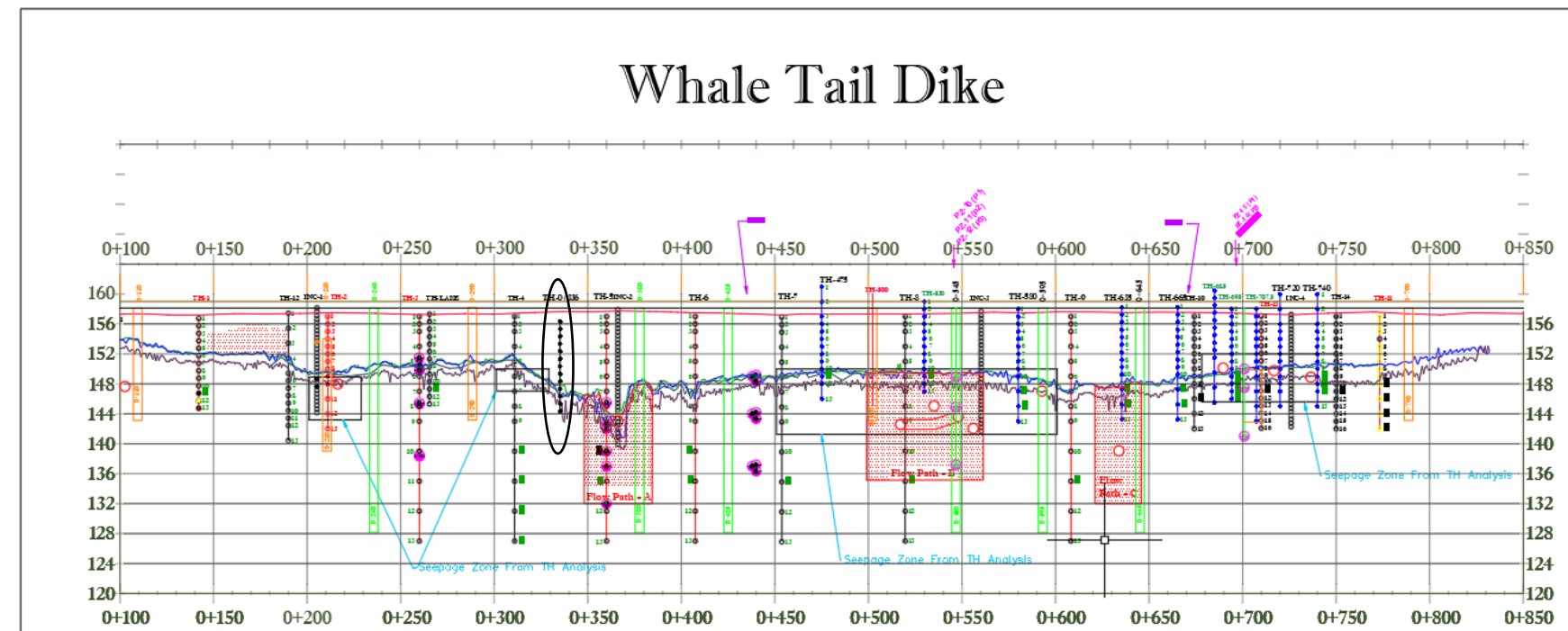
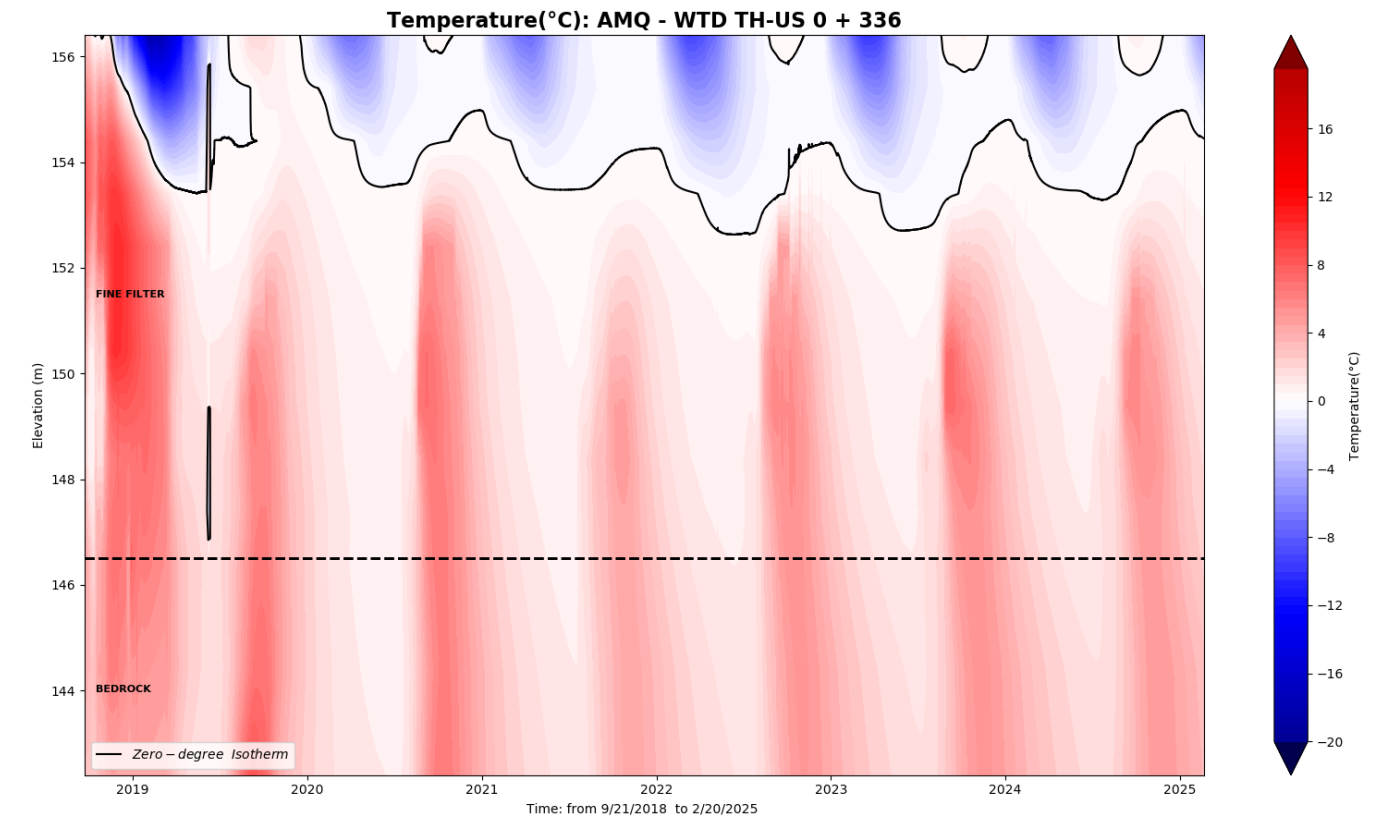
Whale Tail Dike





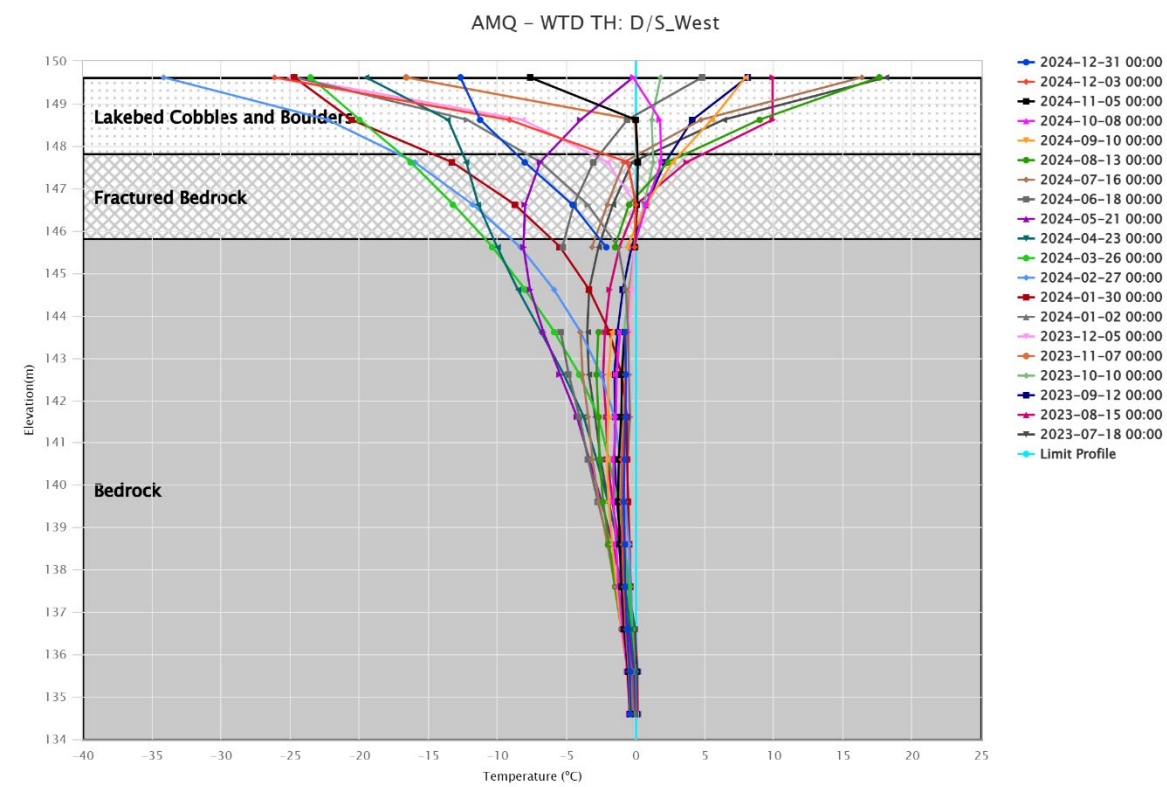
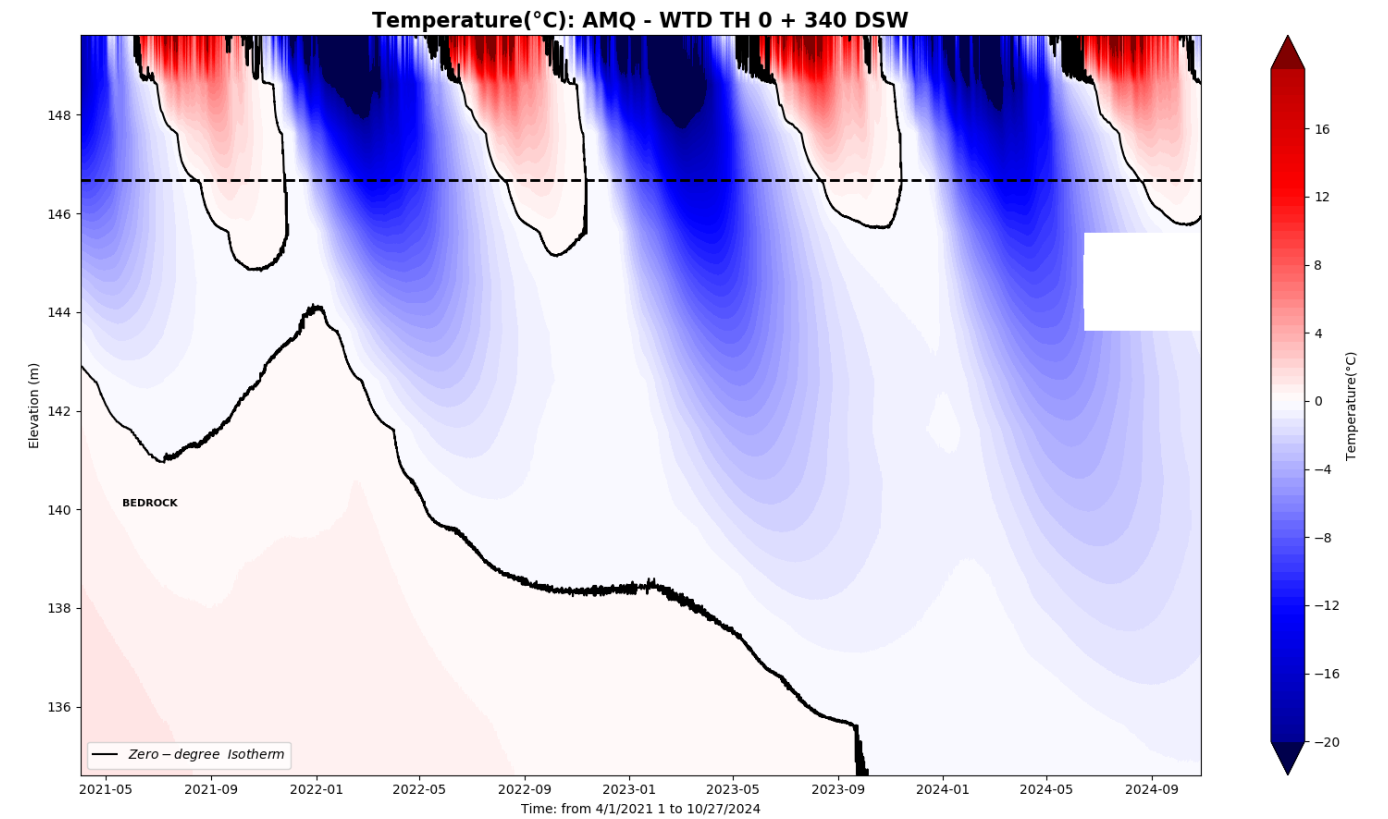
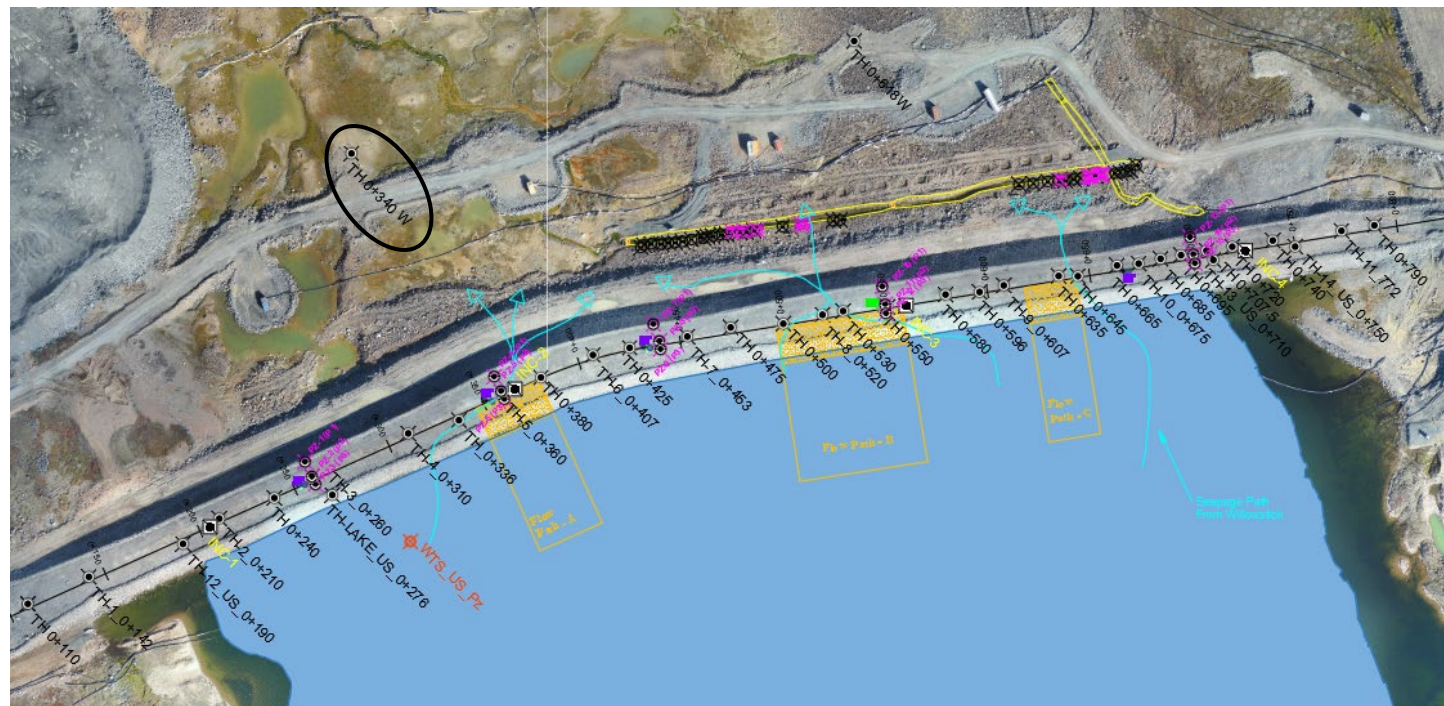




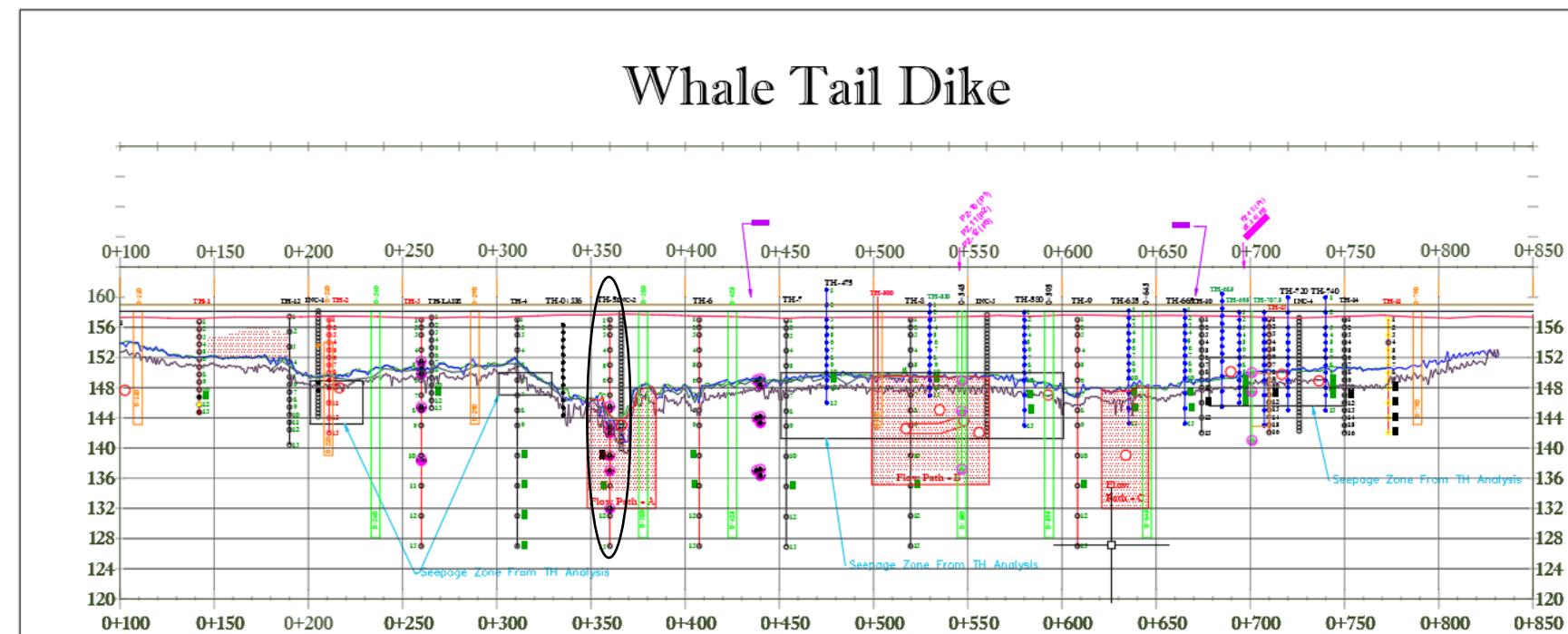
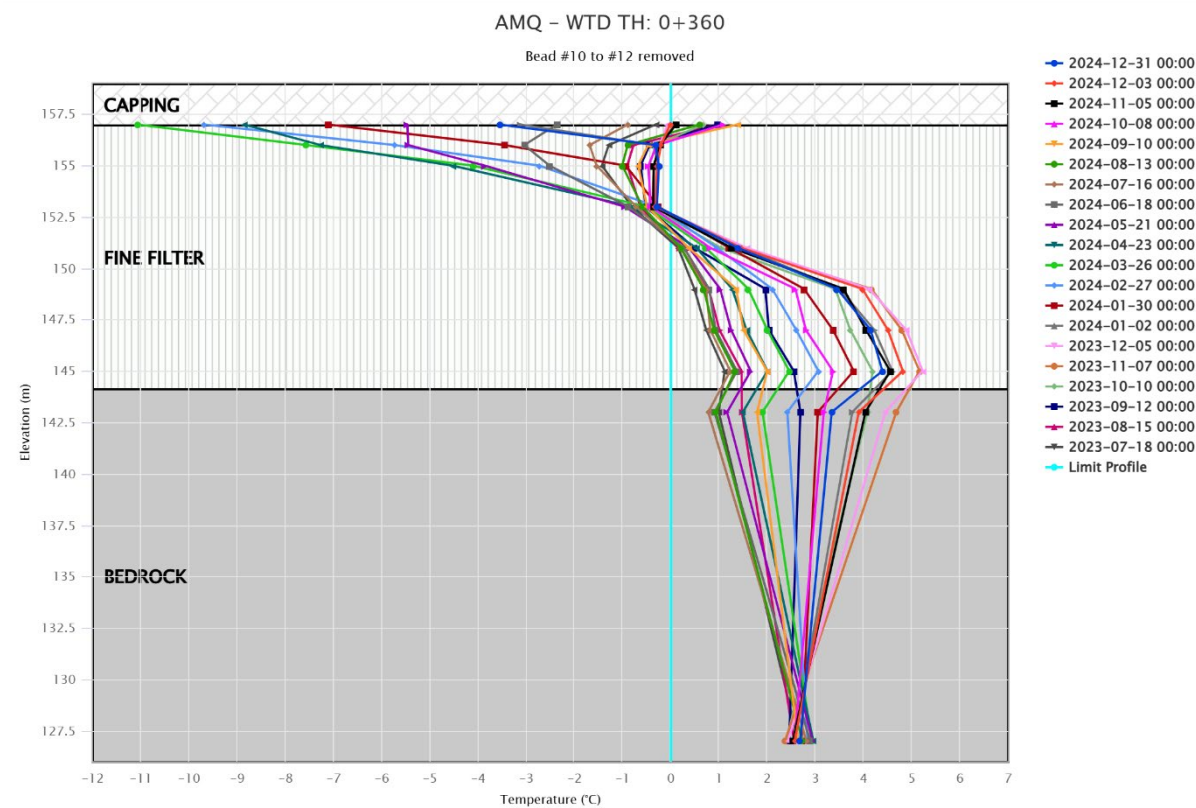
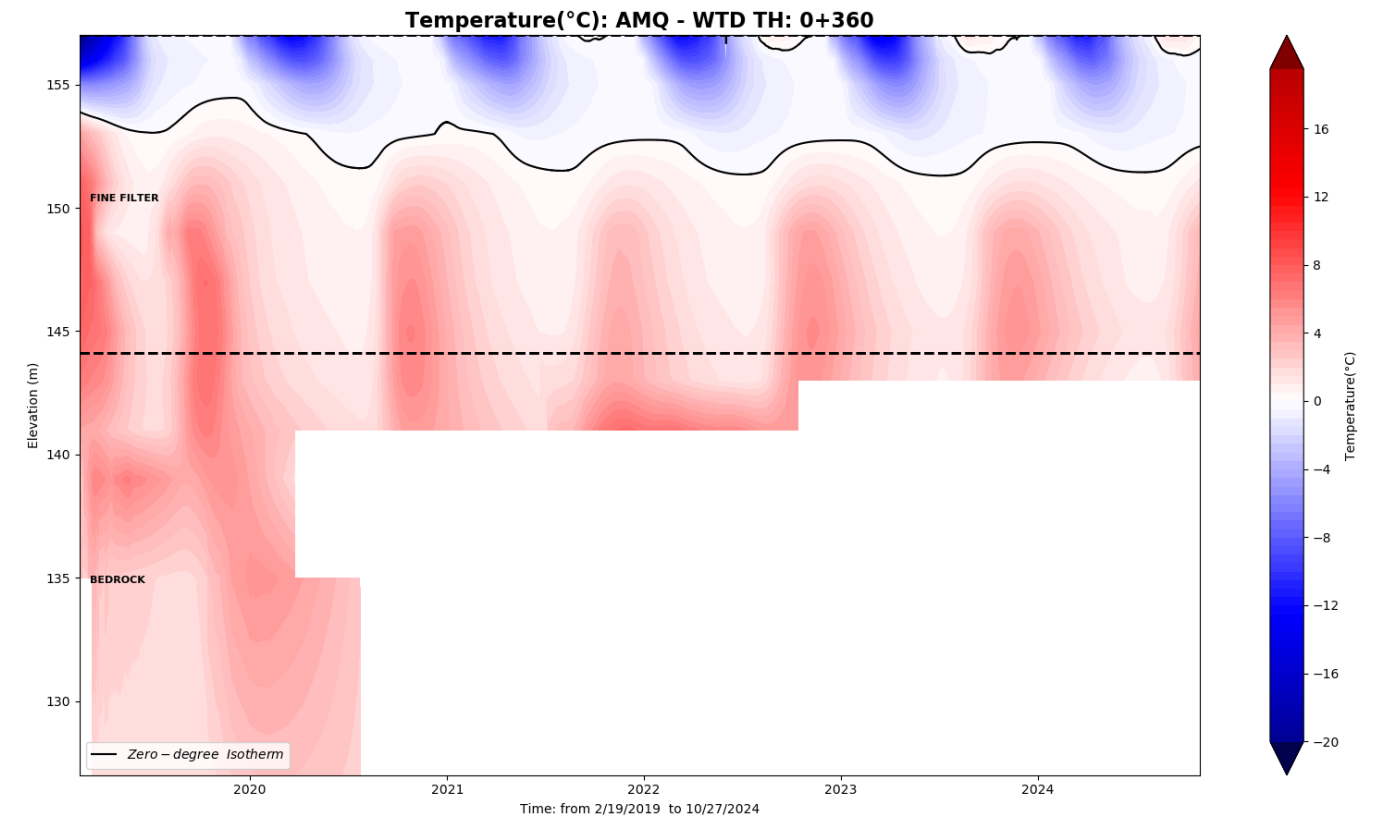




**WTD-TH 0+340 DSW**

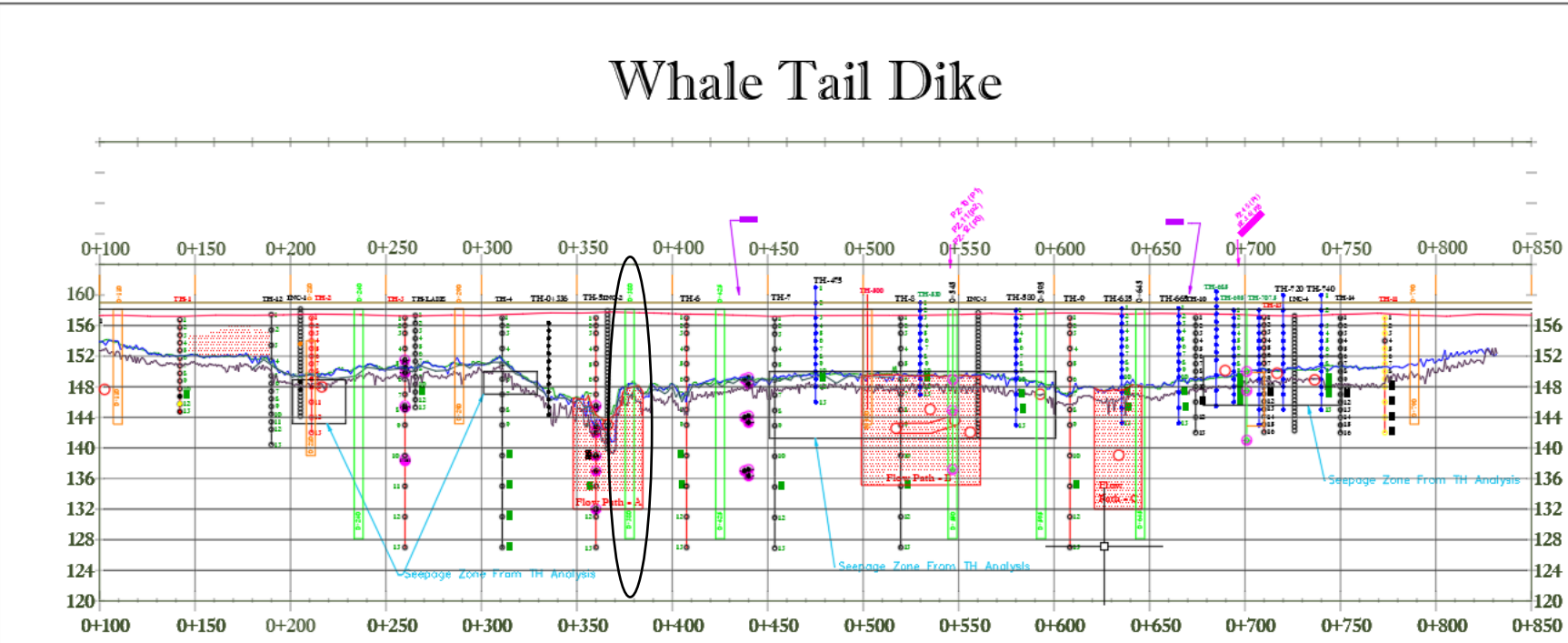
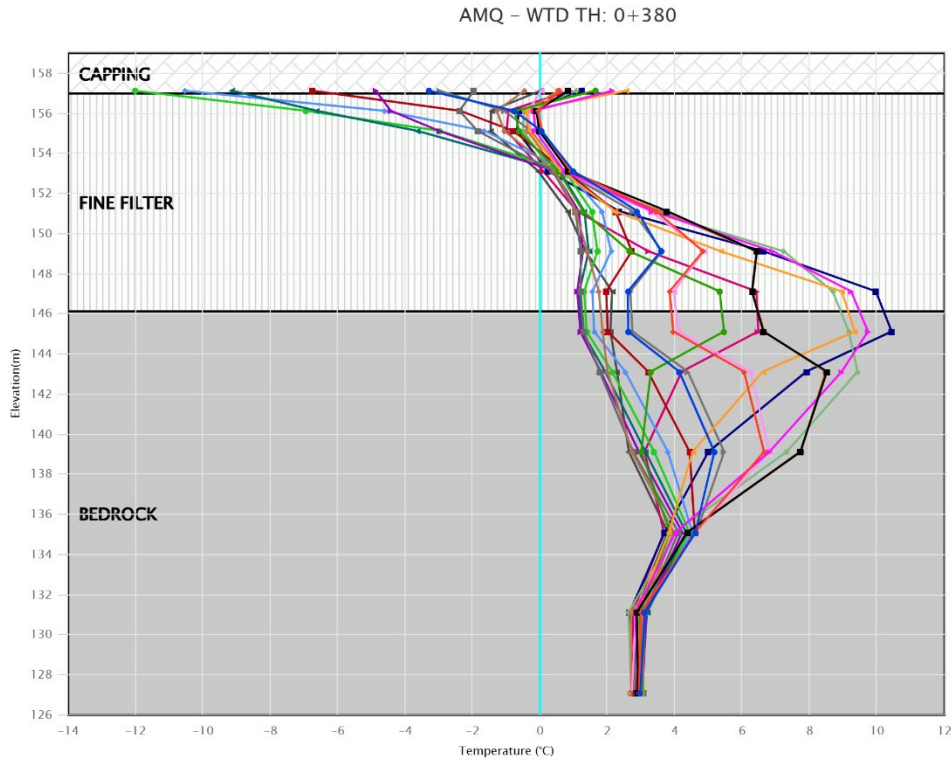
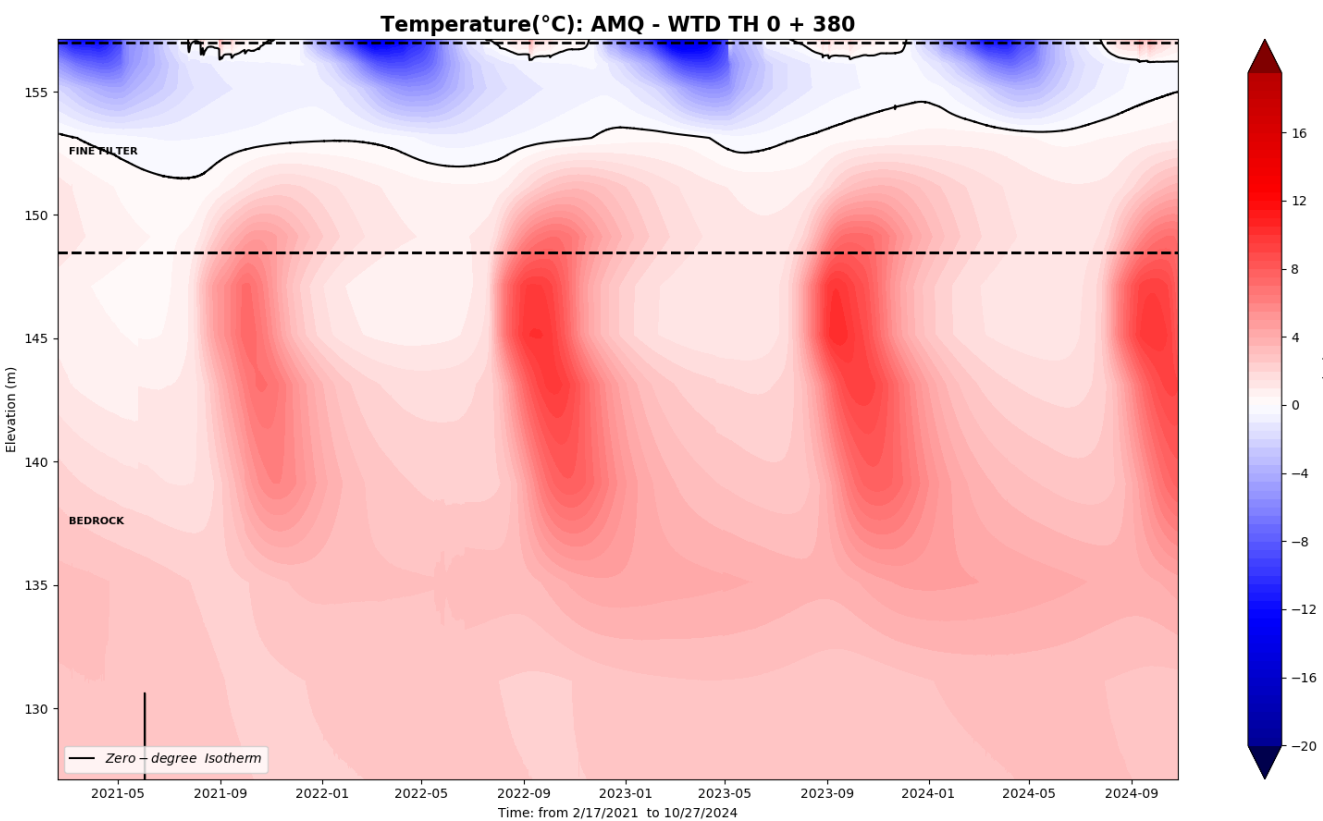
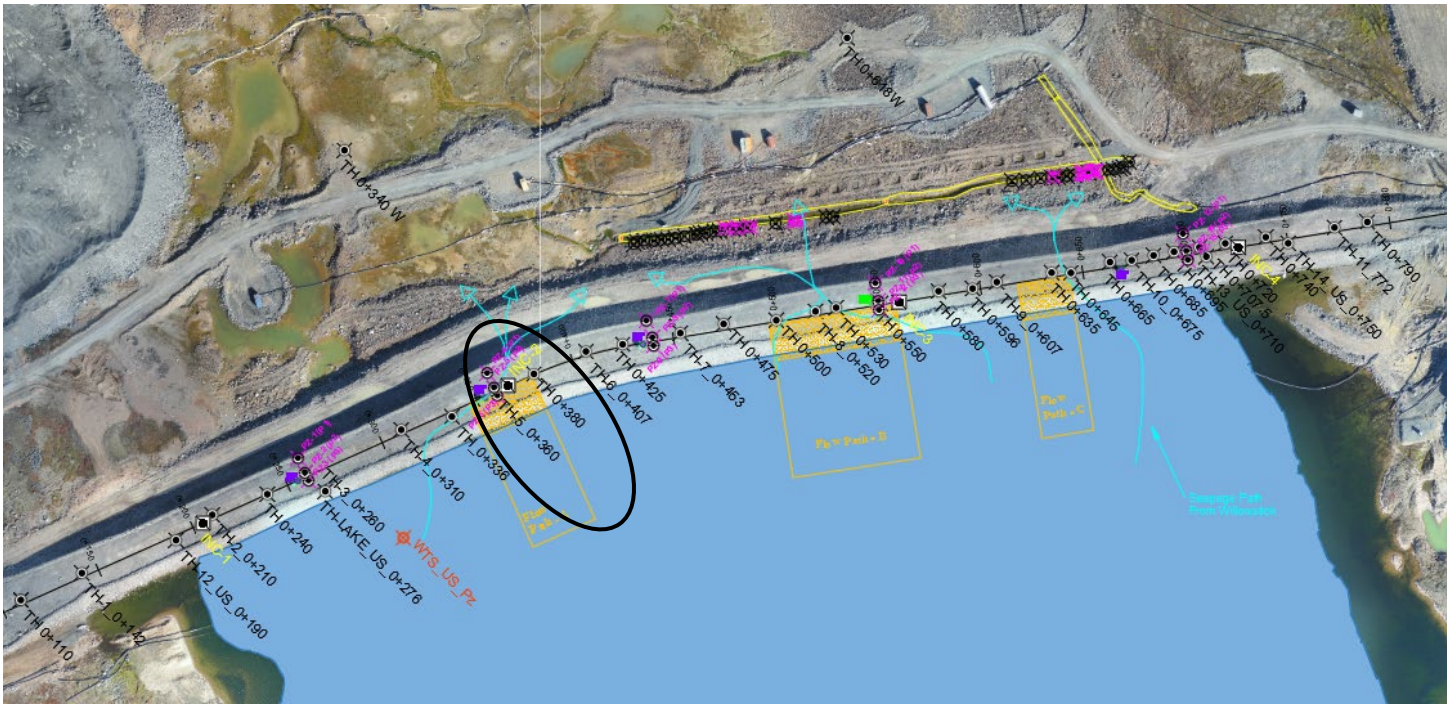






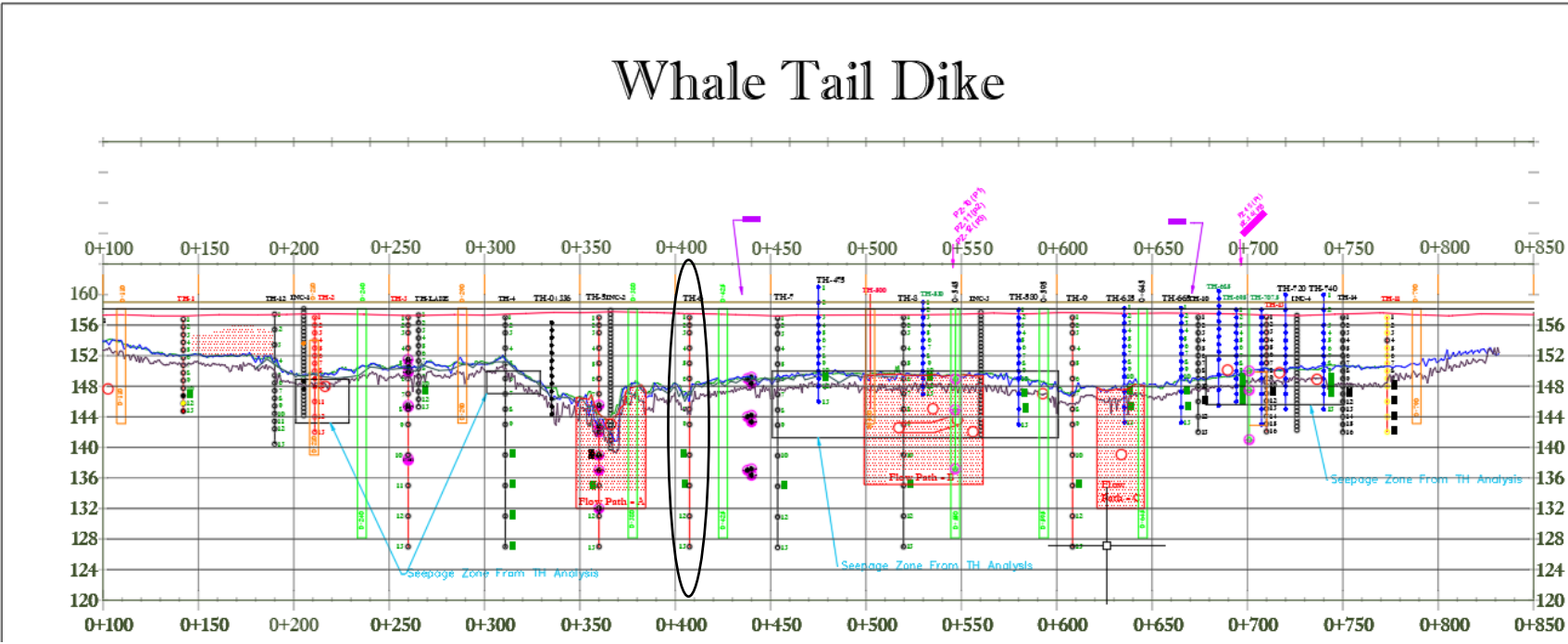
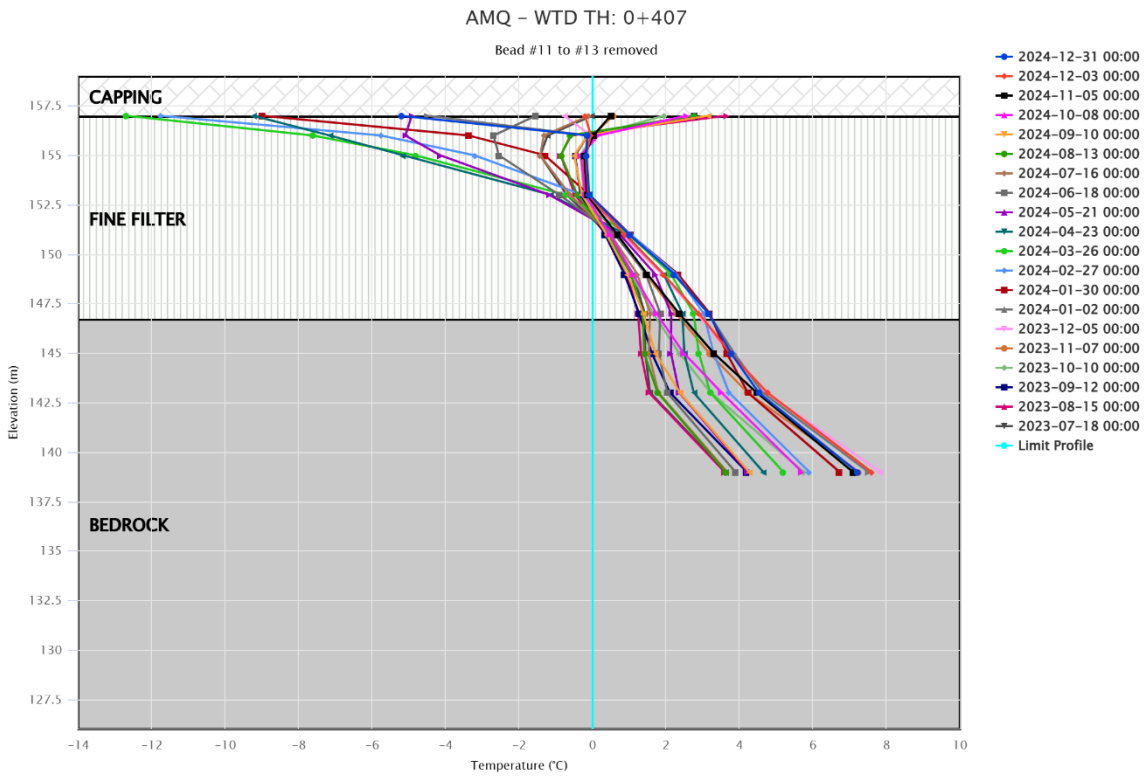
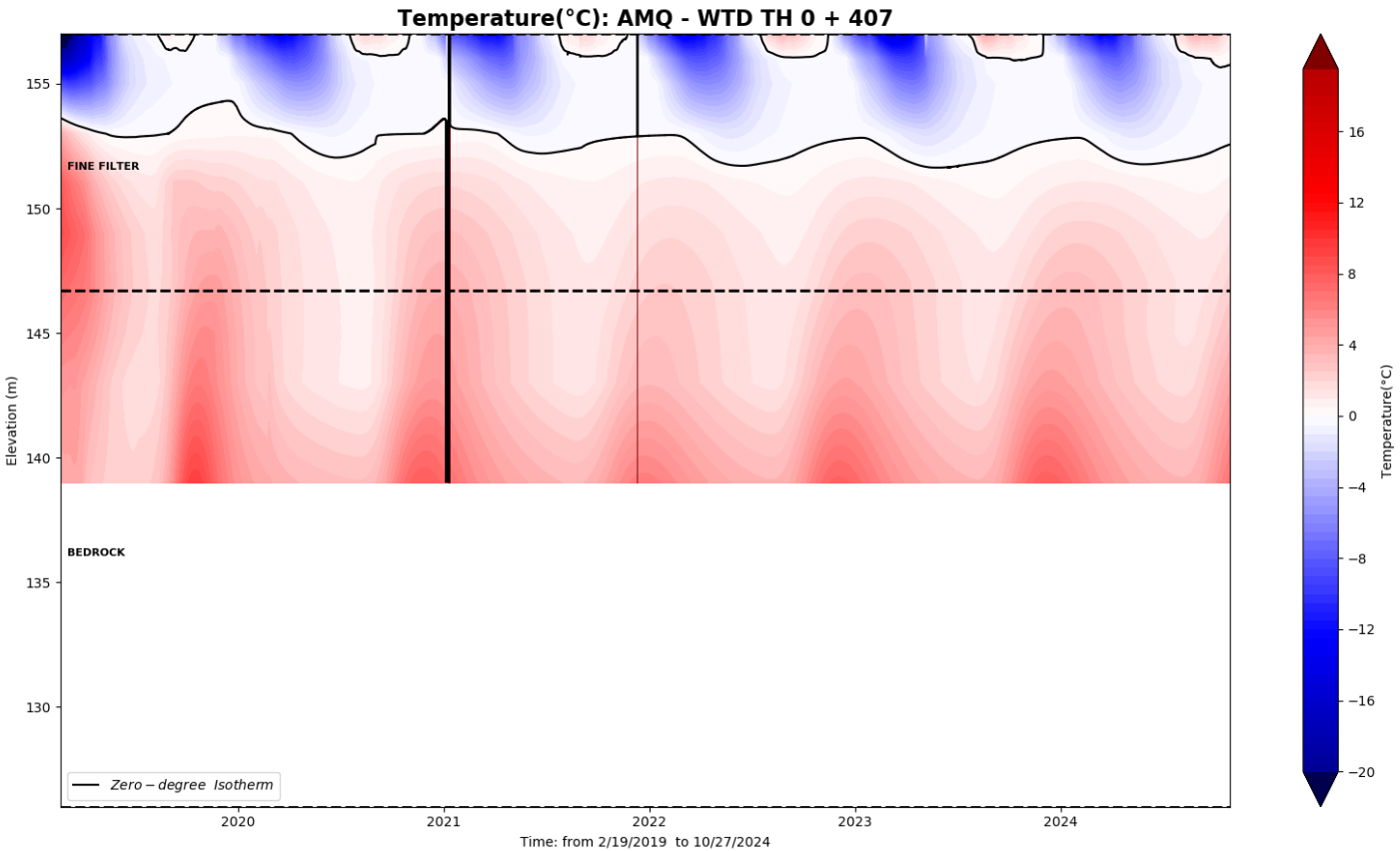
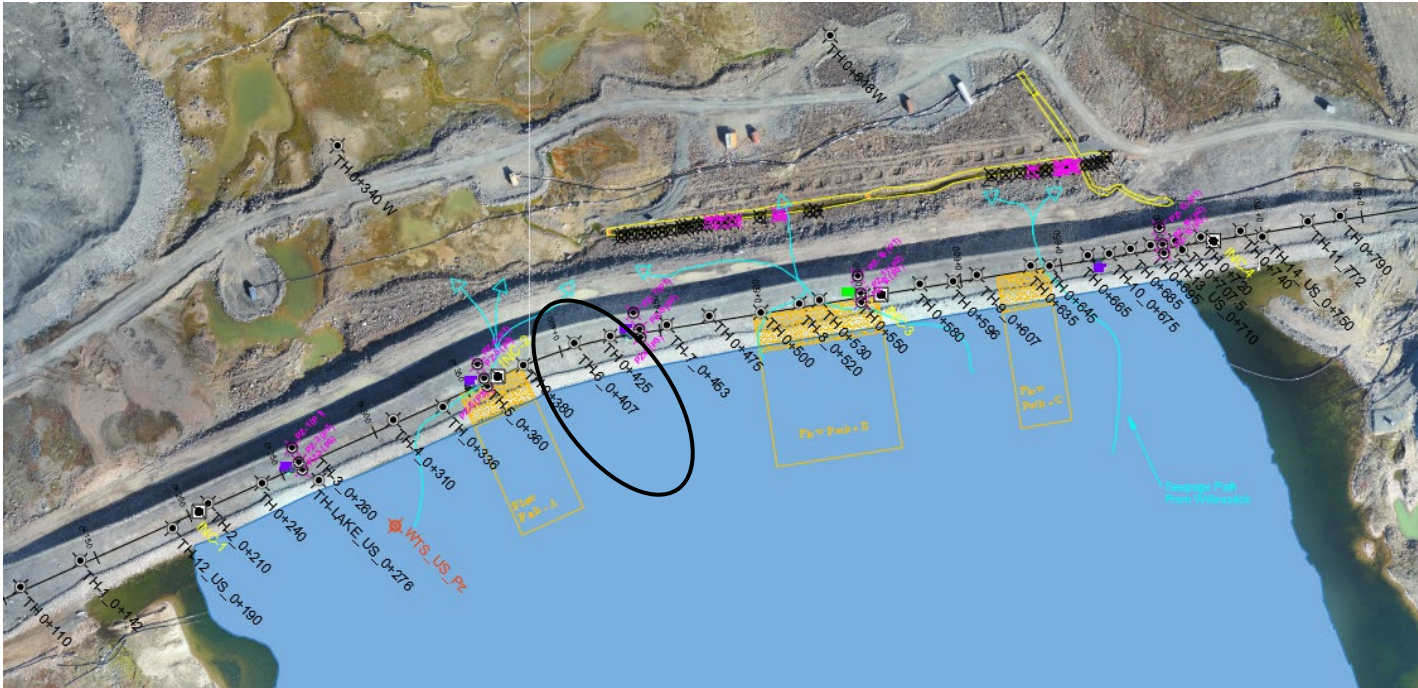


WTD-TH 0+380



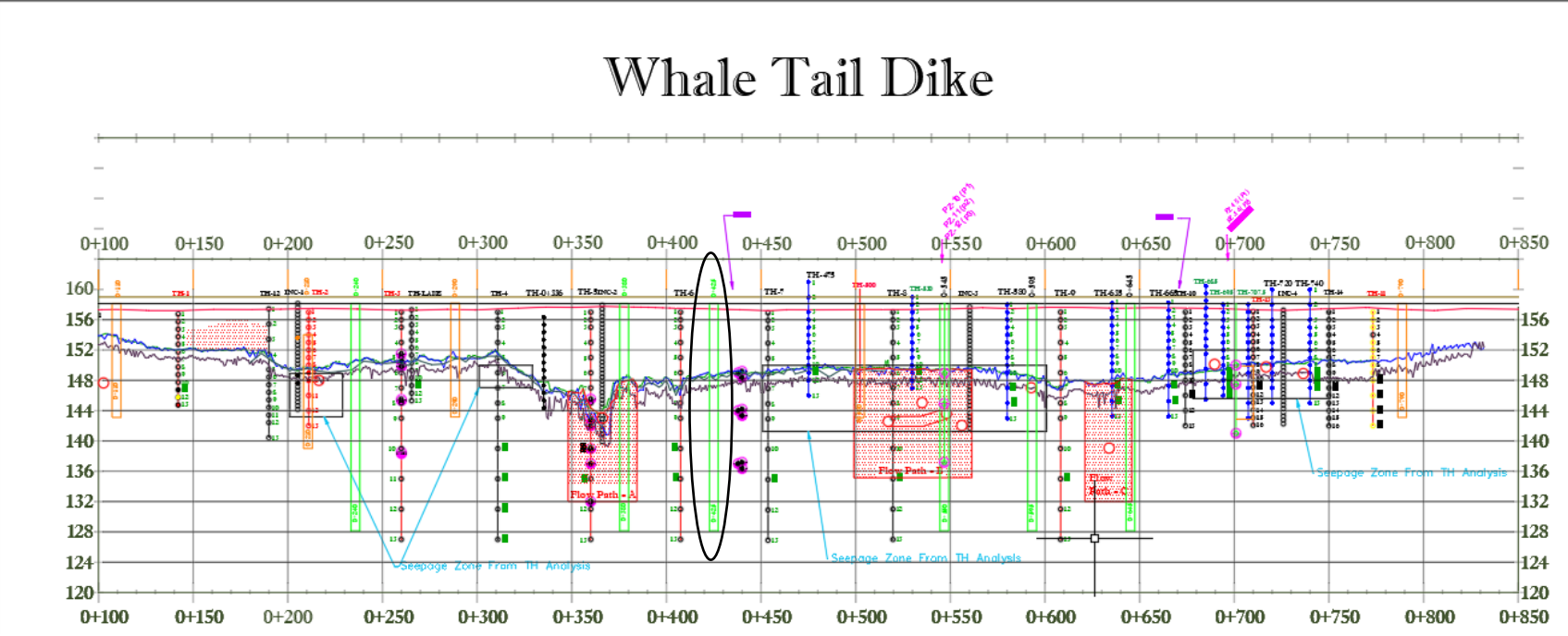
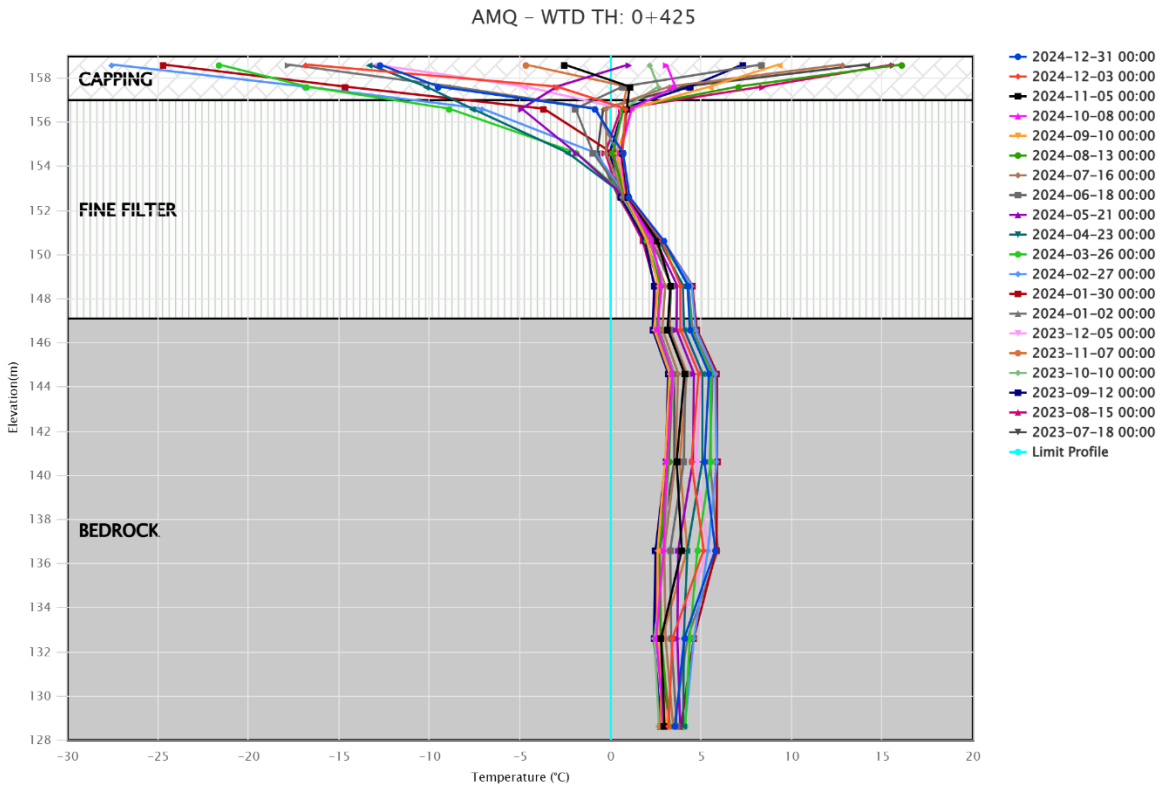
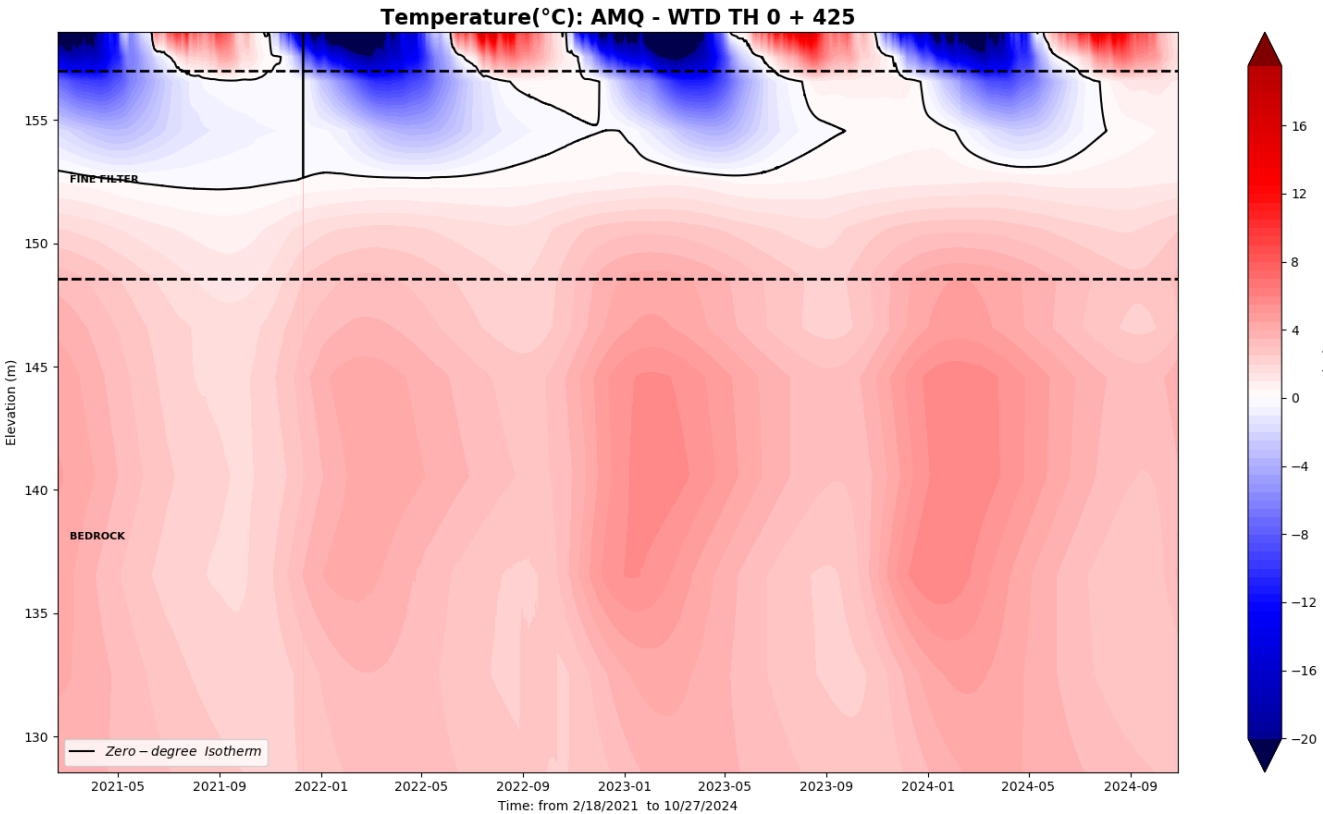
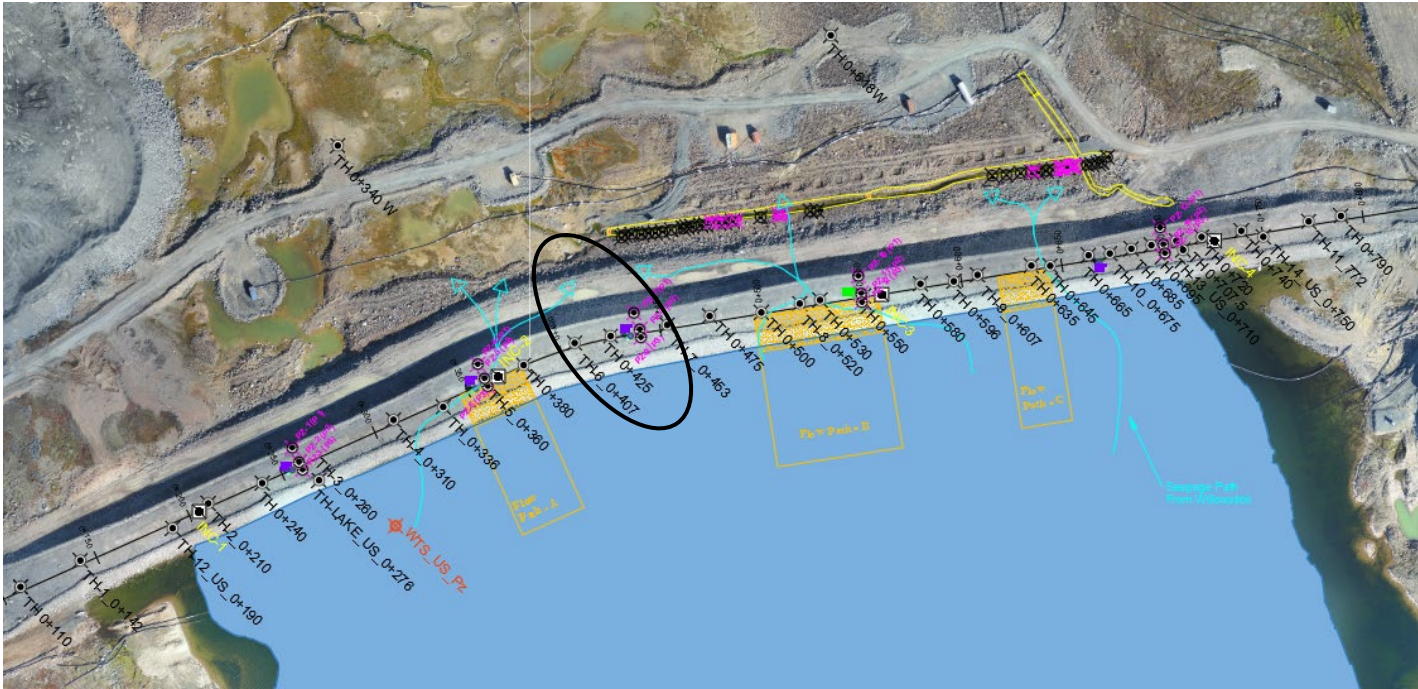


WTD-TH 0+407



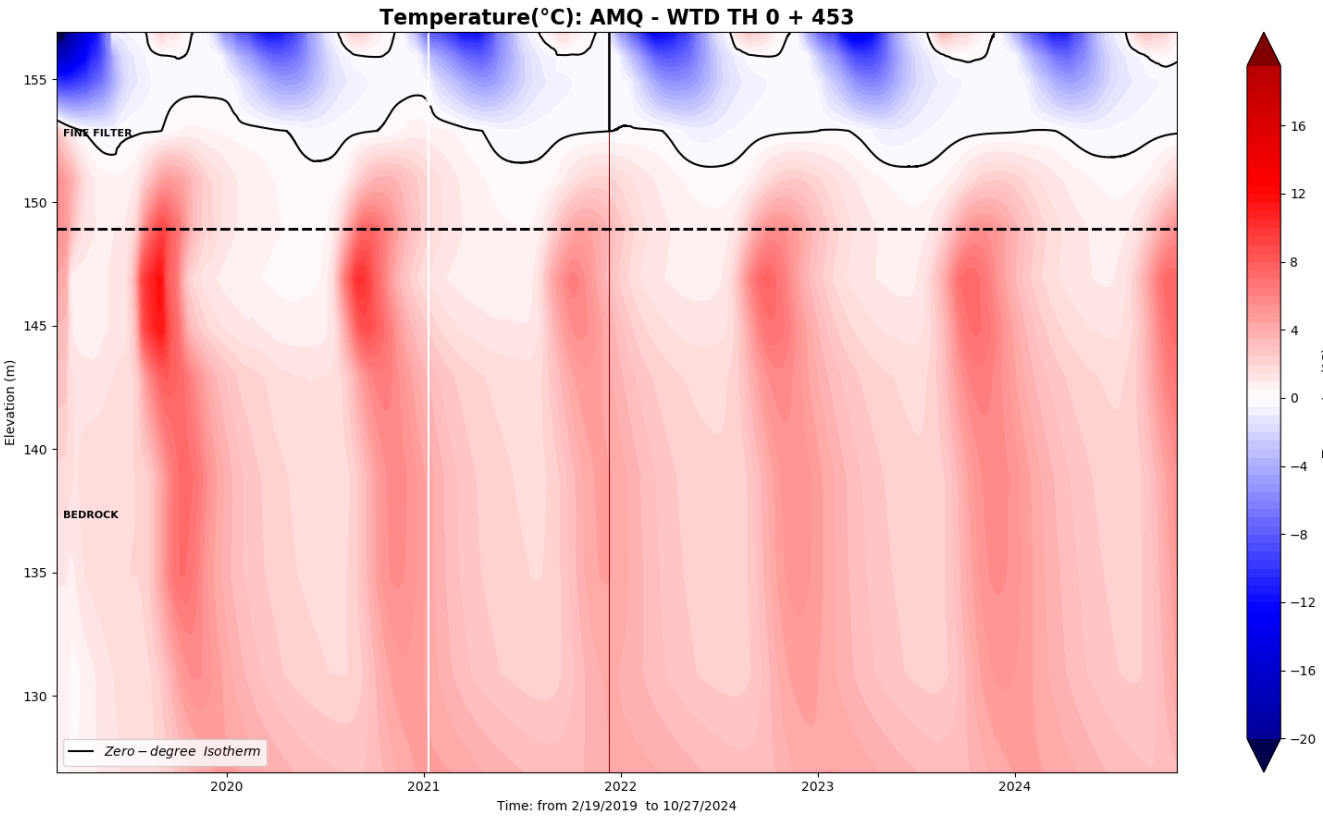
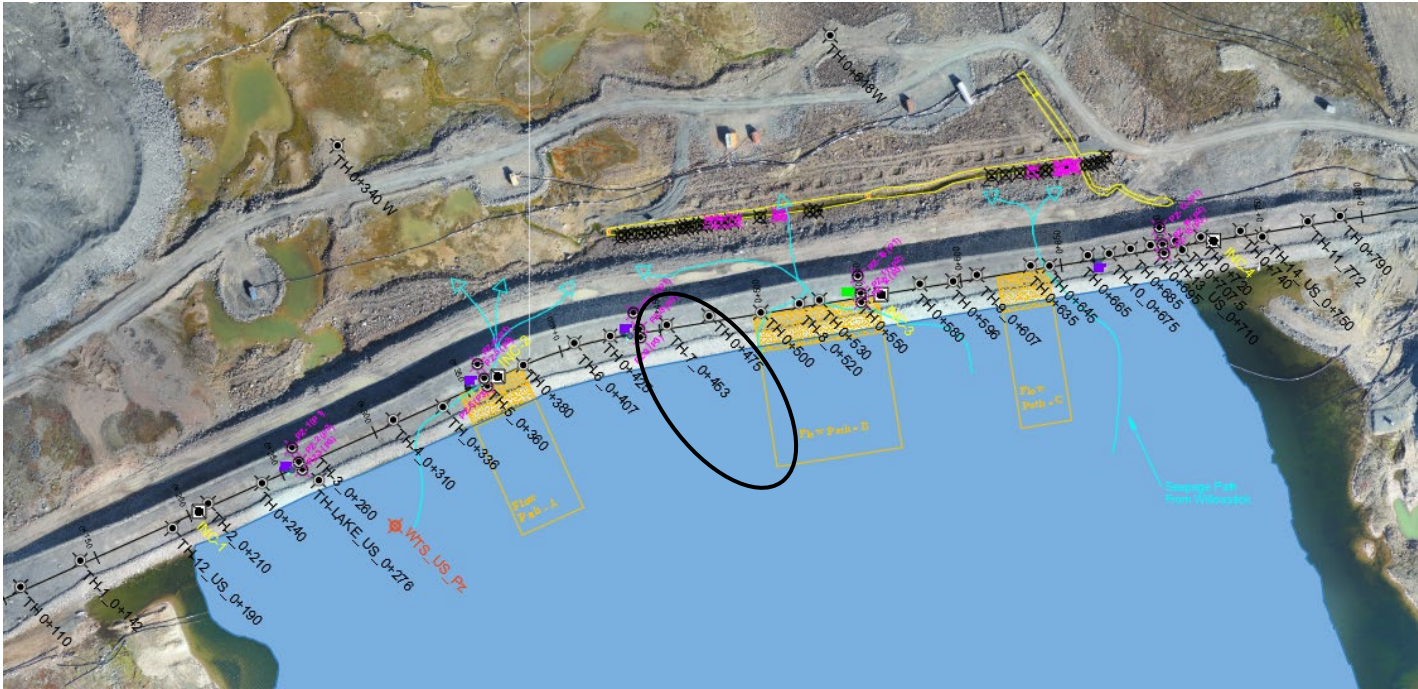


WTD-TH 0+425

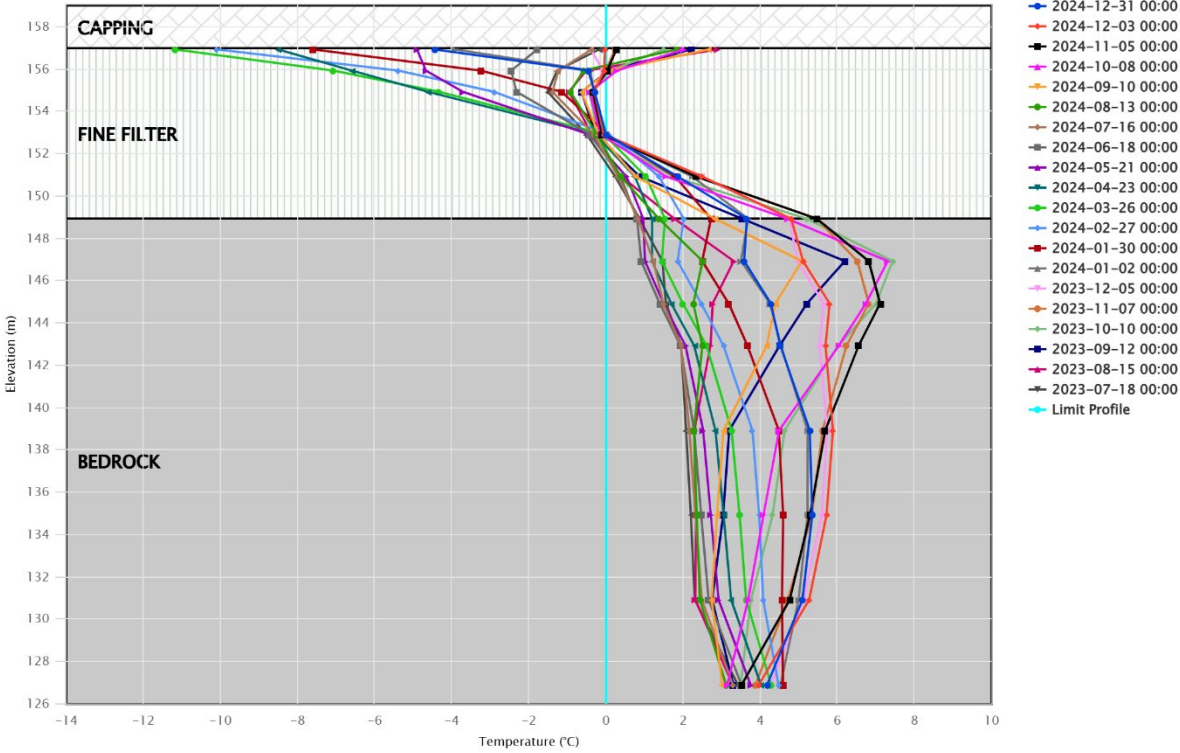




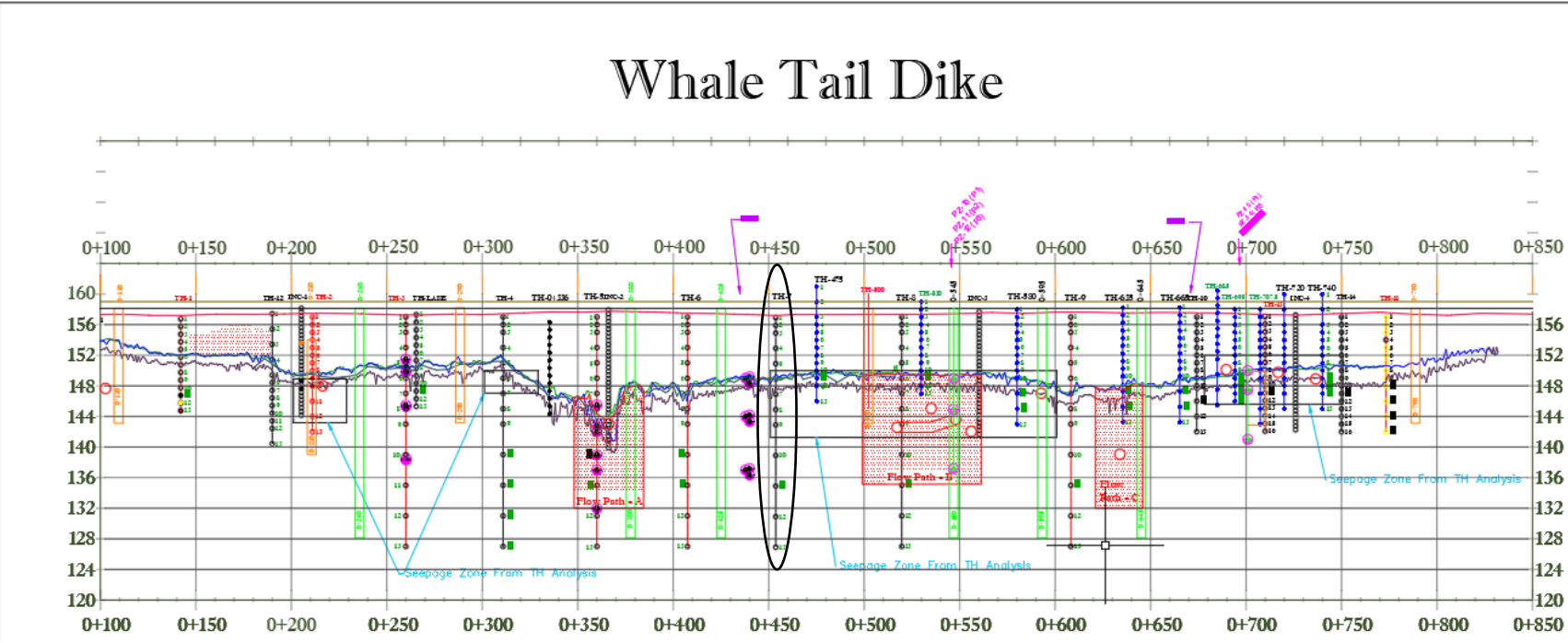
WTD-TH 0+453



AMQ - WTD TH: 0+453

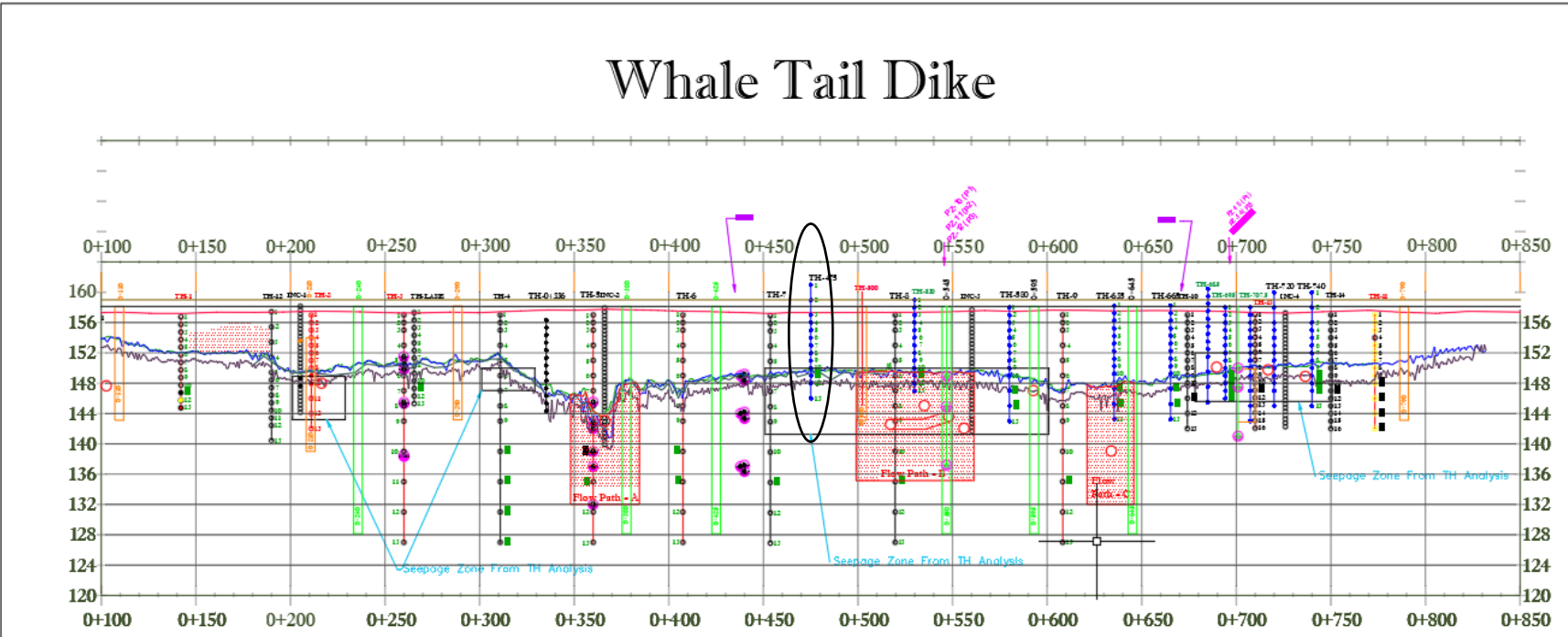
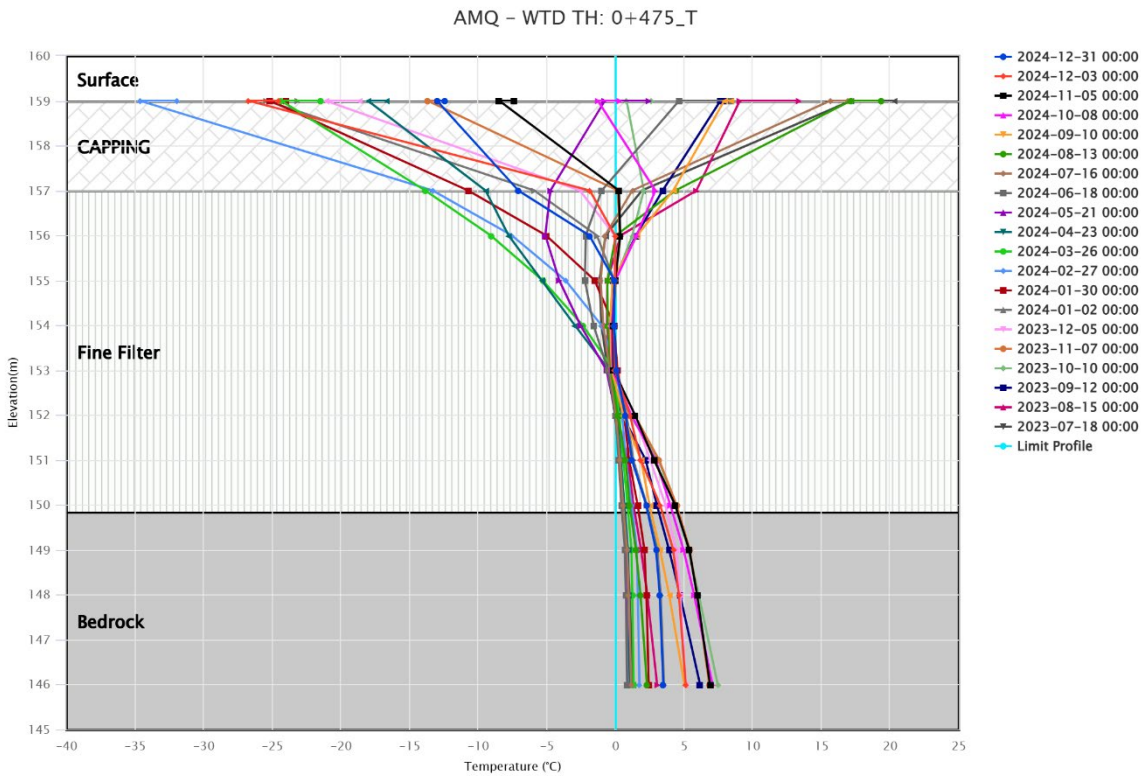
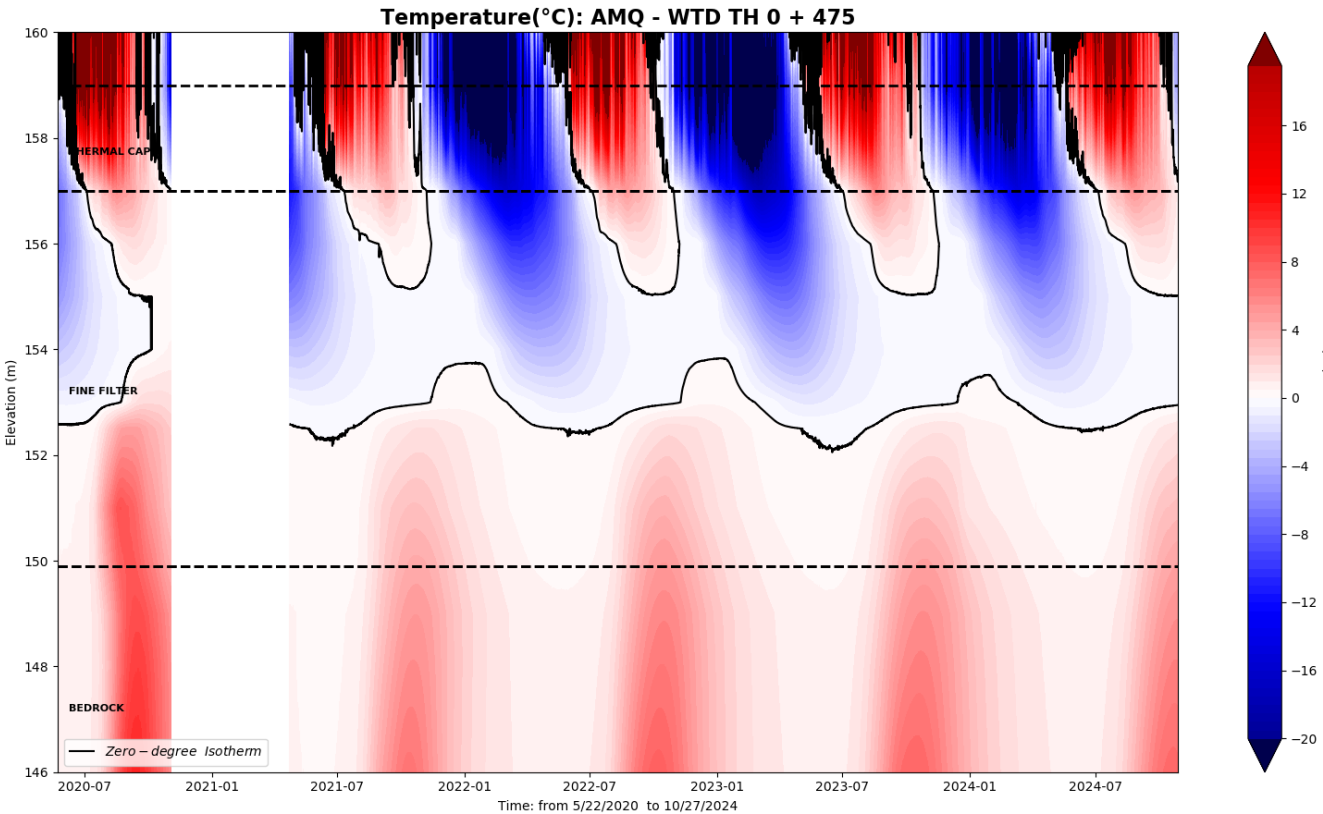
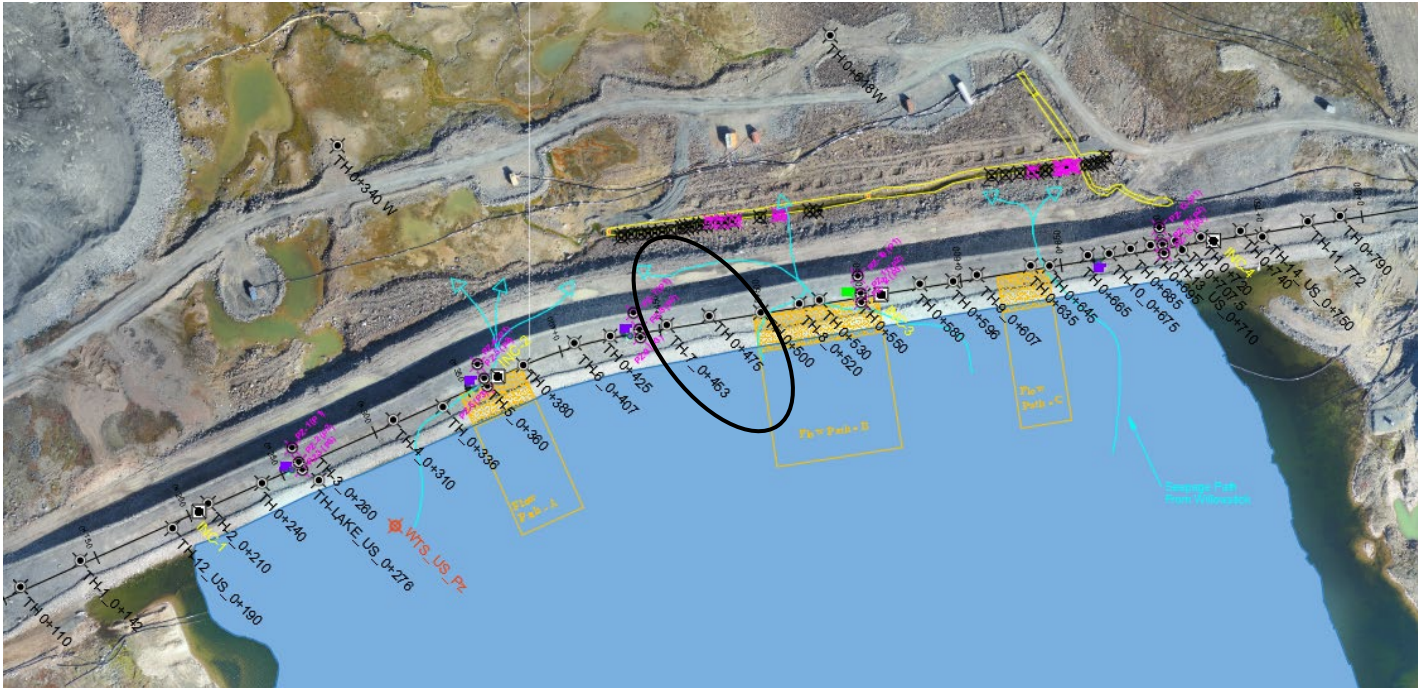


Whale Tail Dike



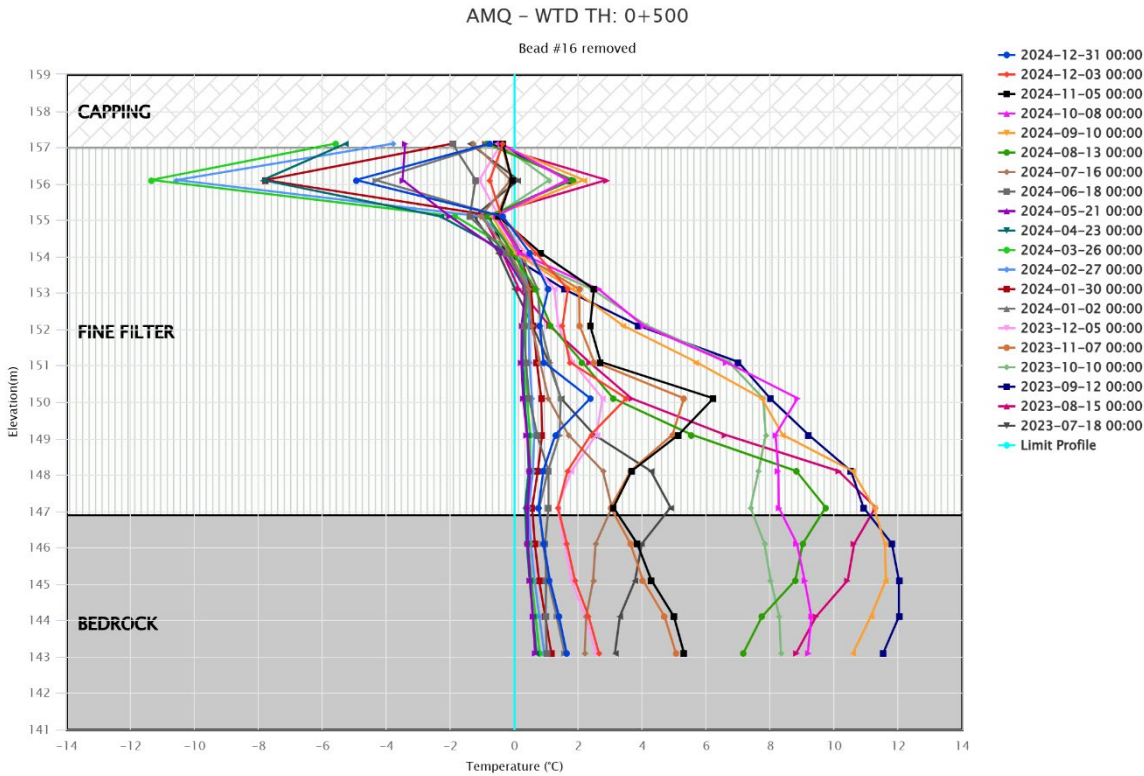
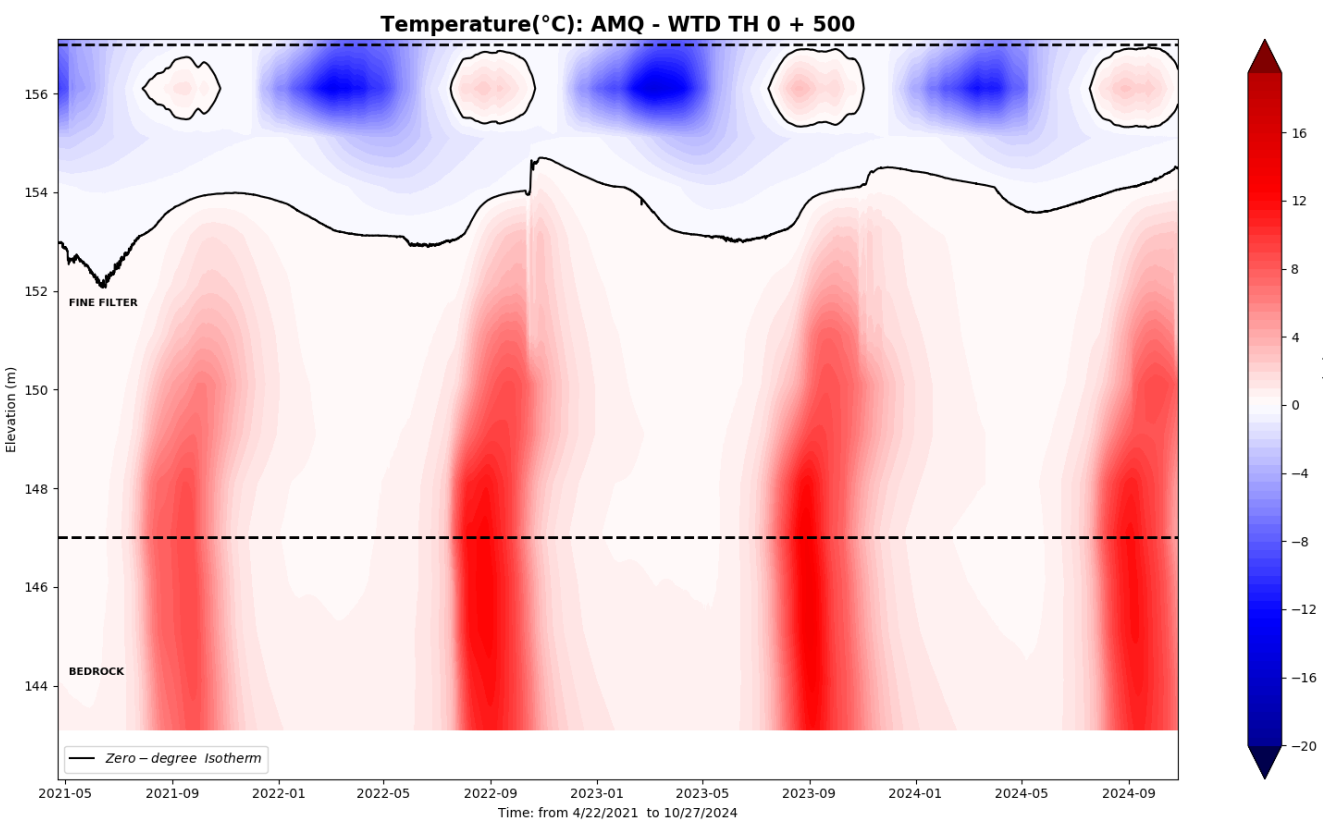


WTD-TH 0+475

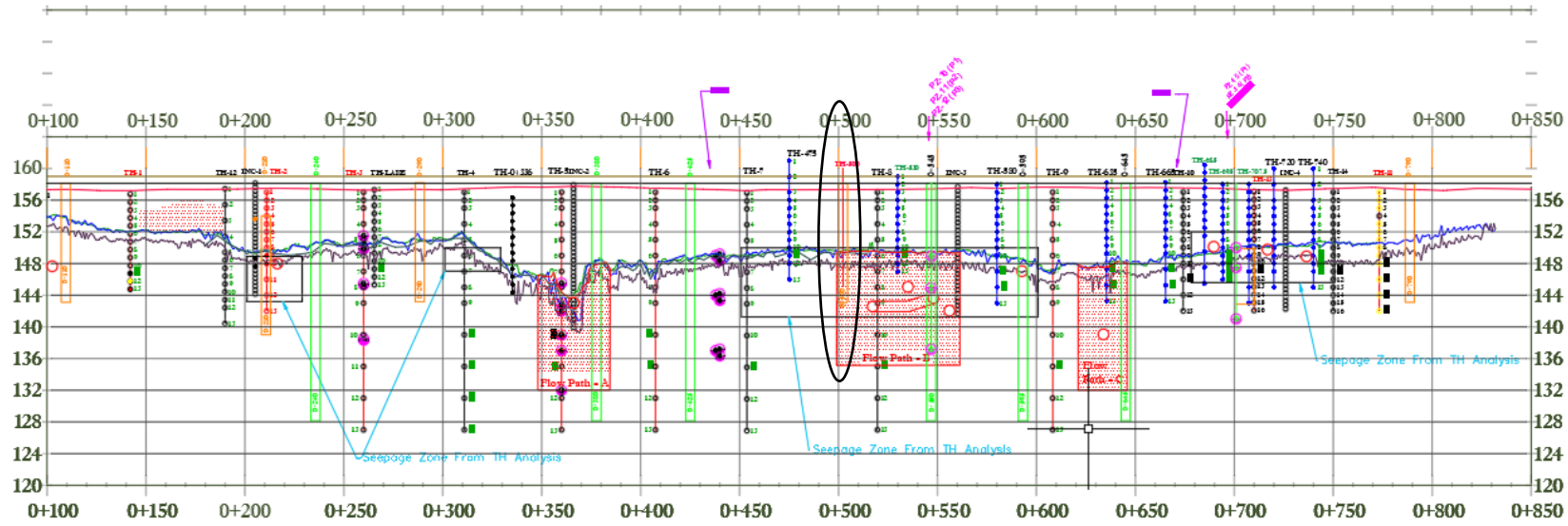




WTD-TH 0+500

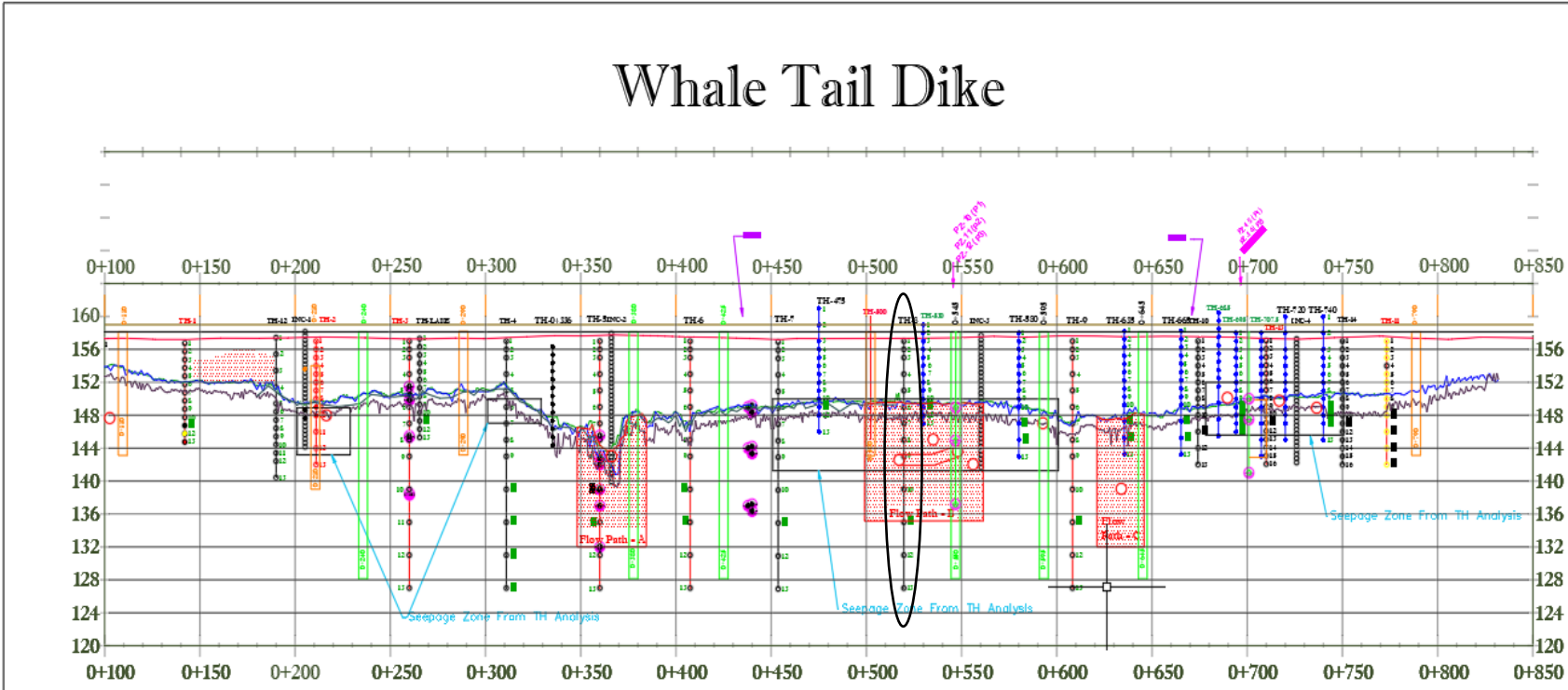
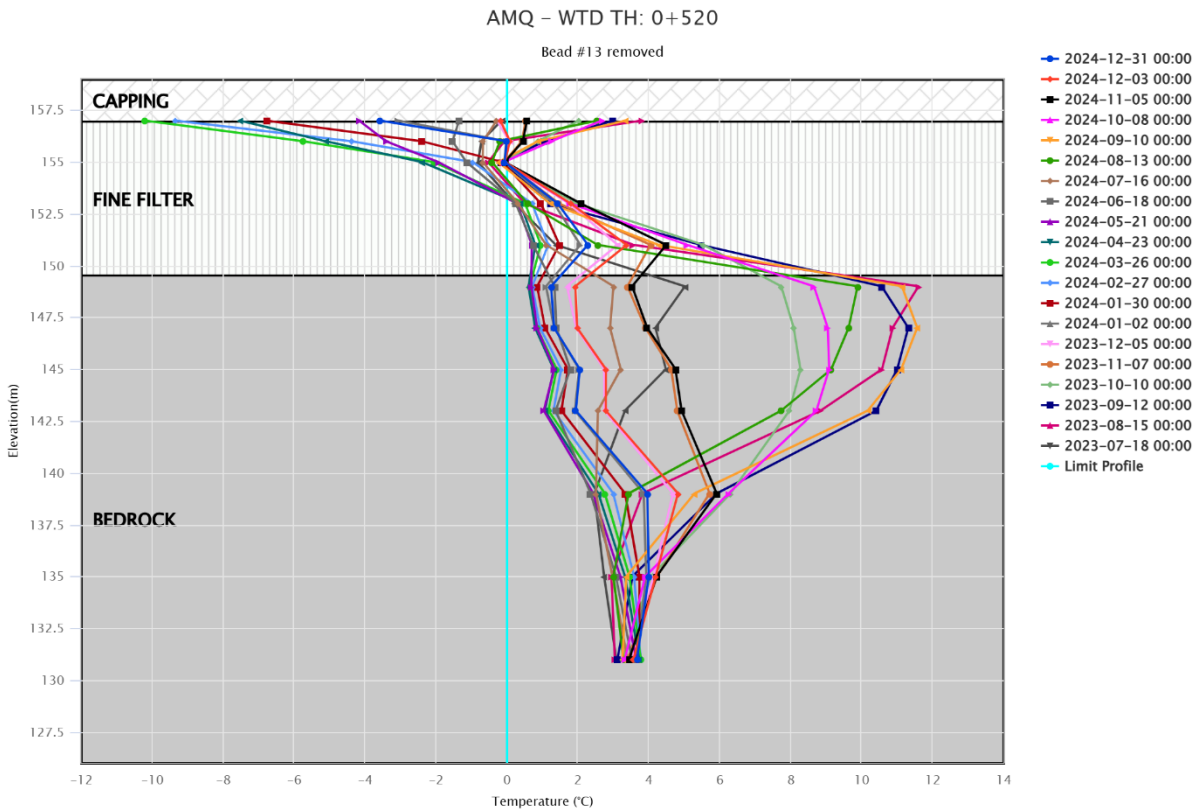
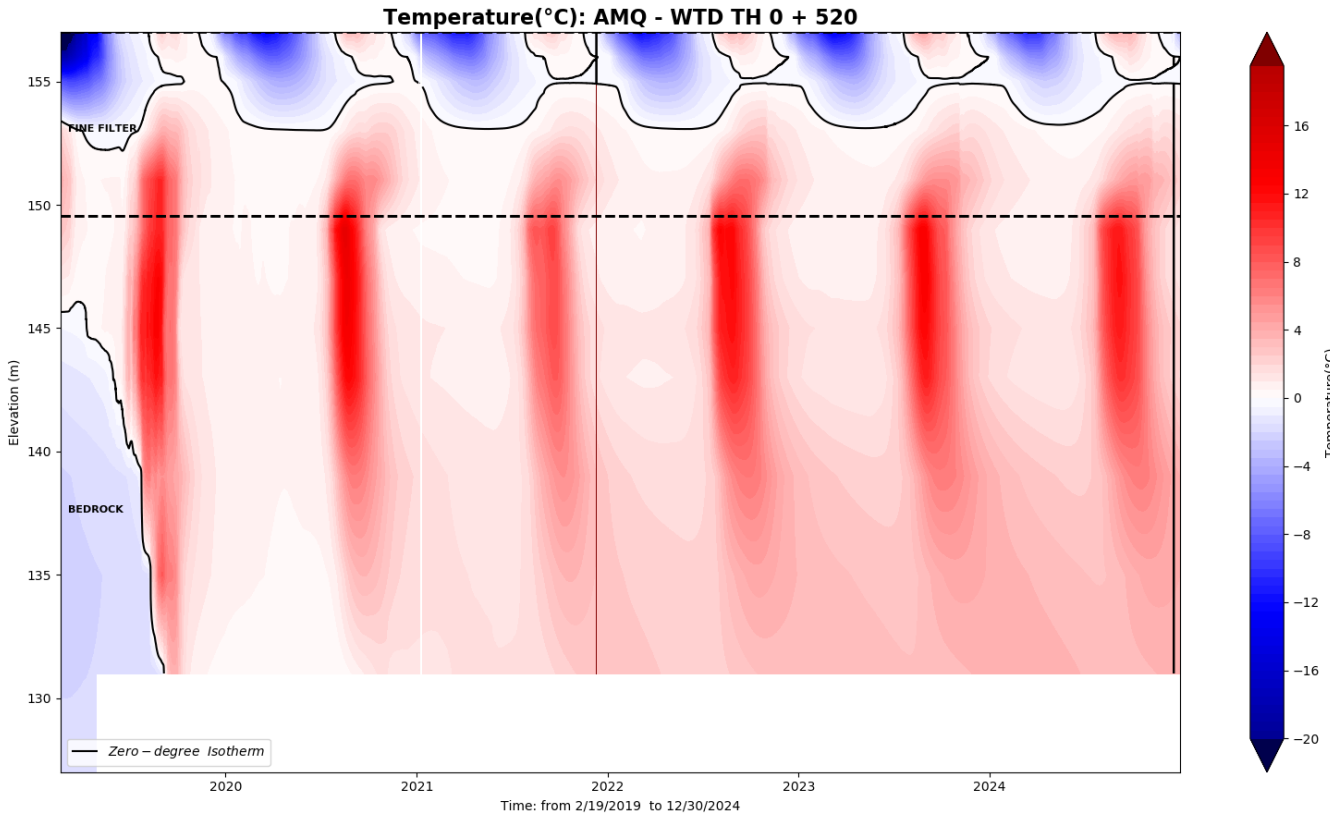
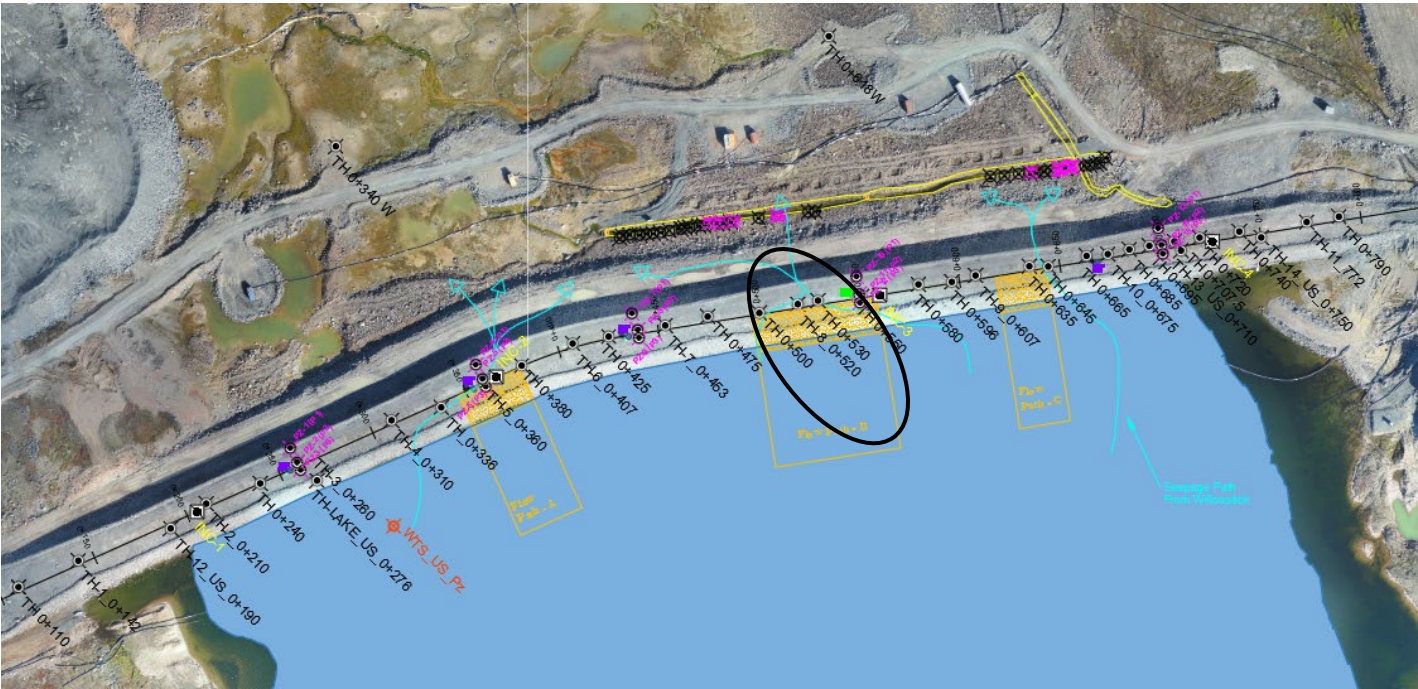


Whale Tail Dike



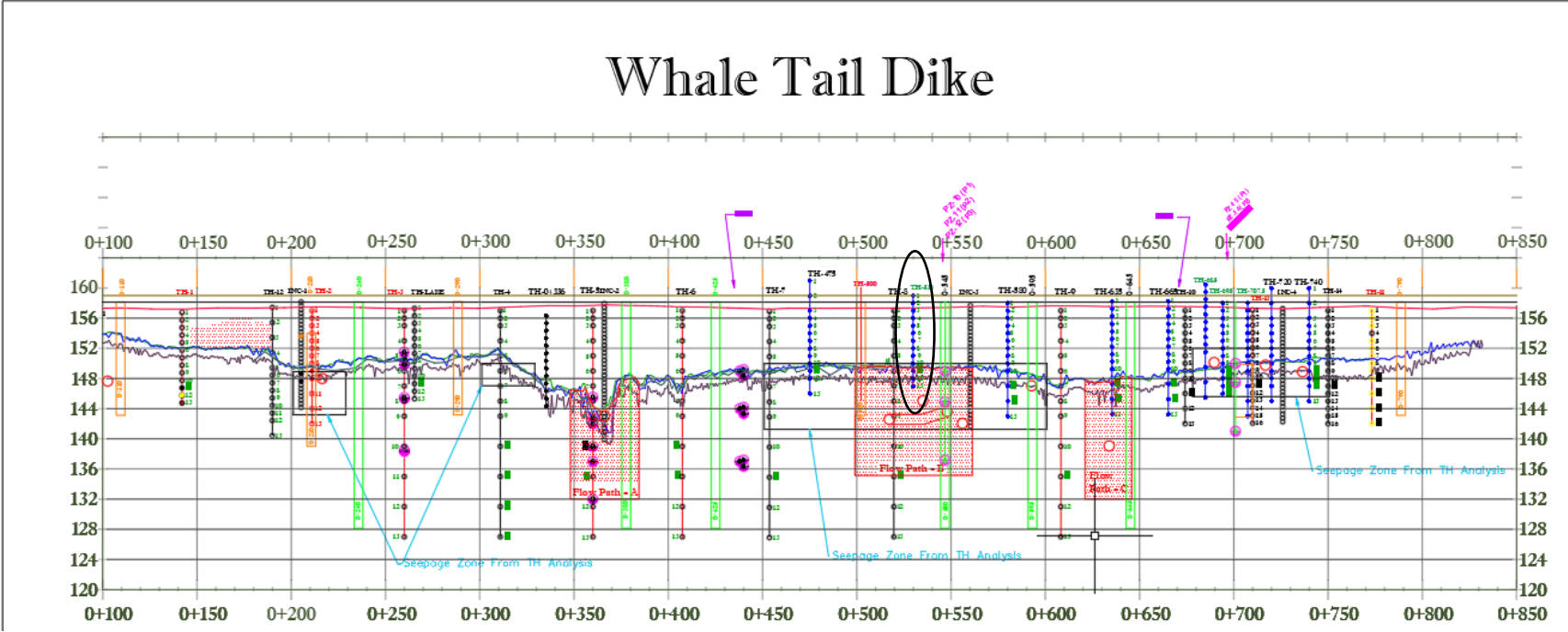
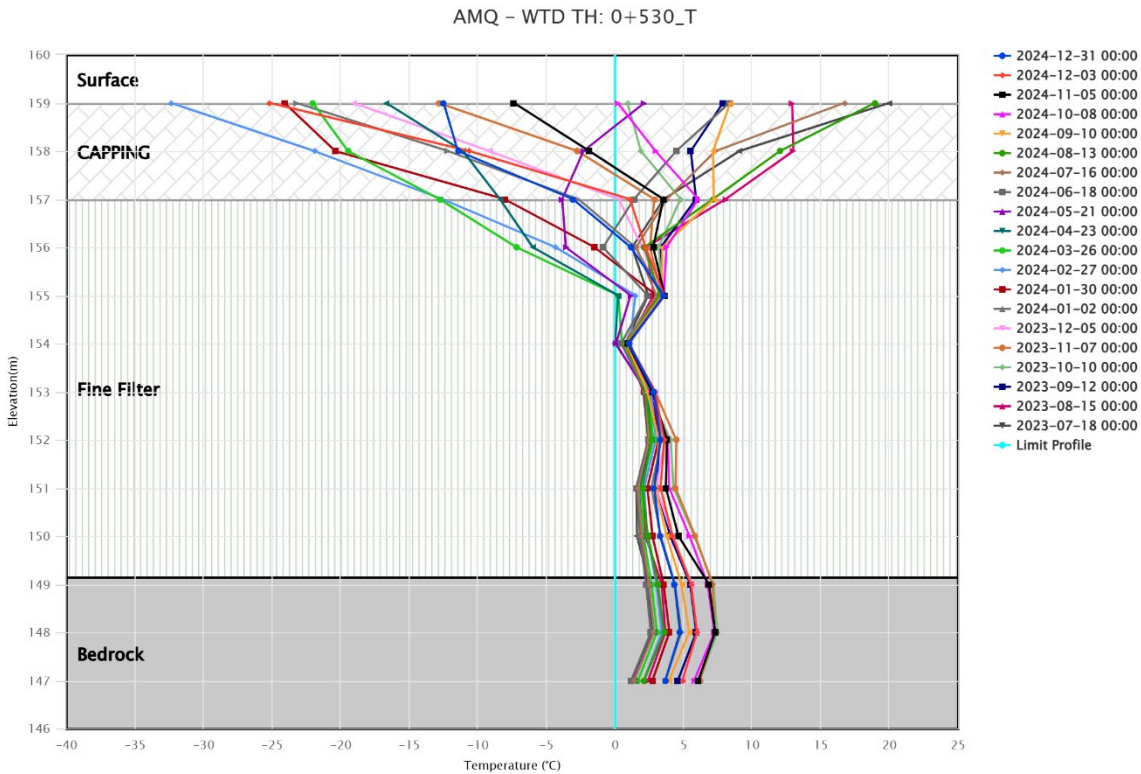
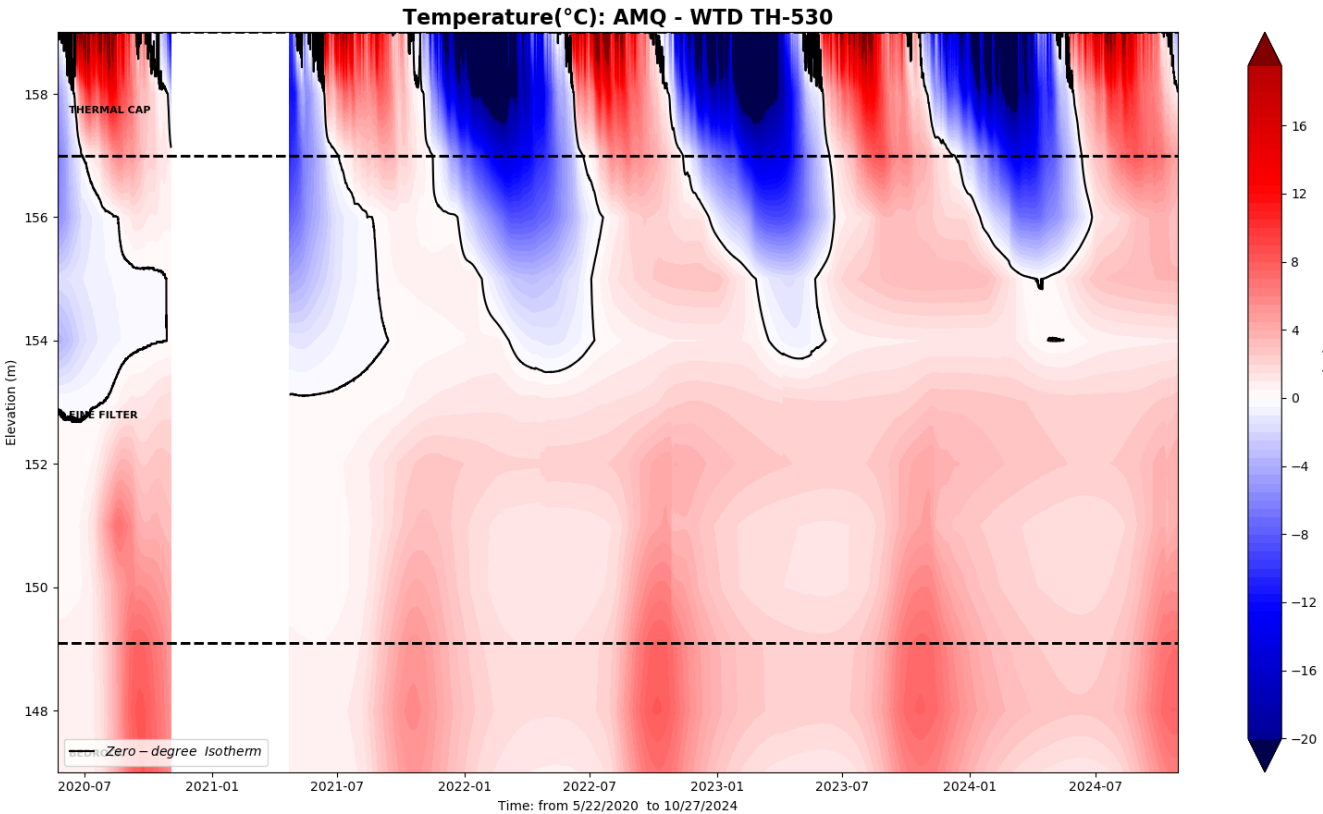
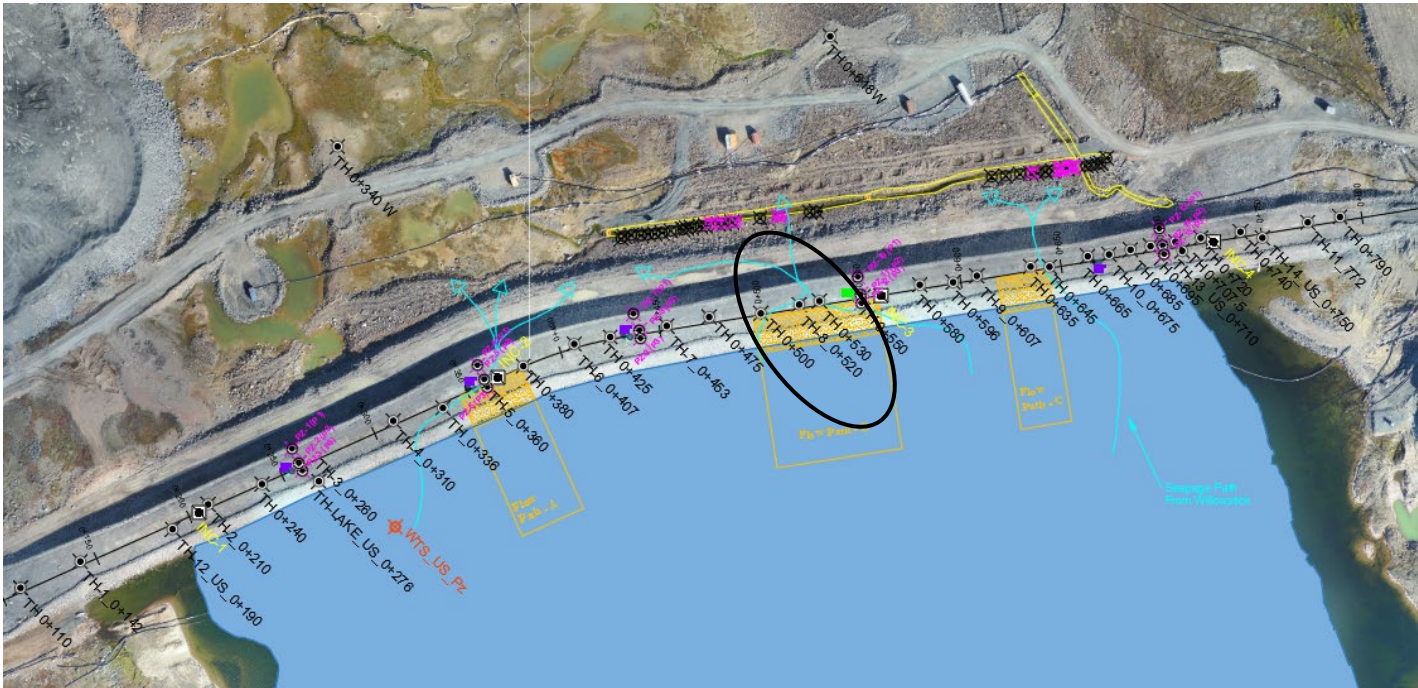


WTD-TH 0+520



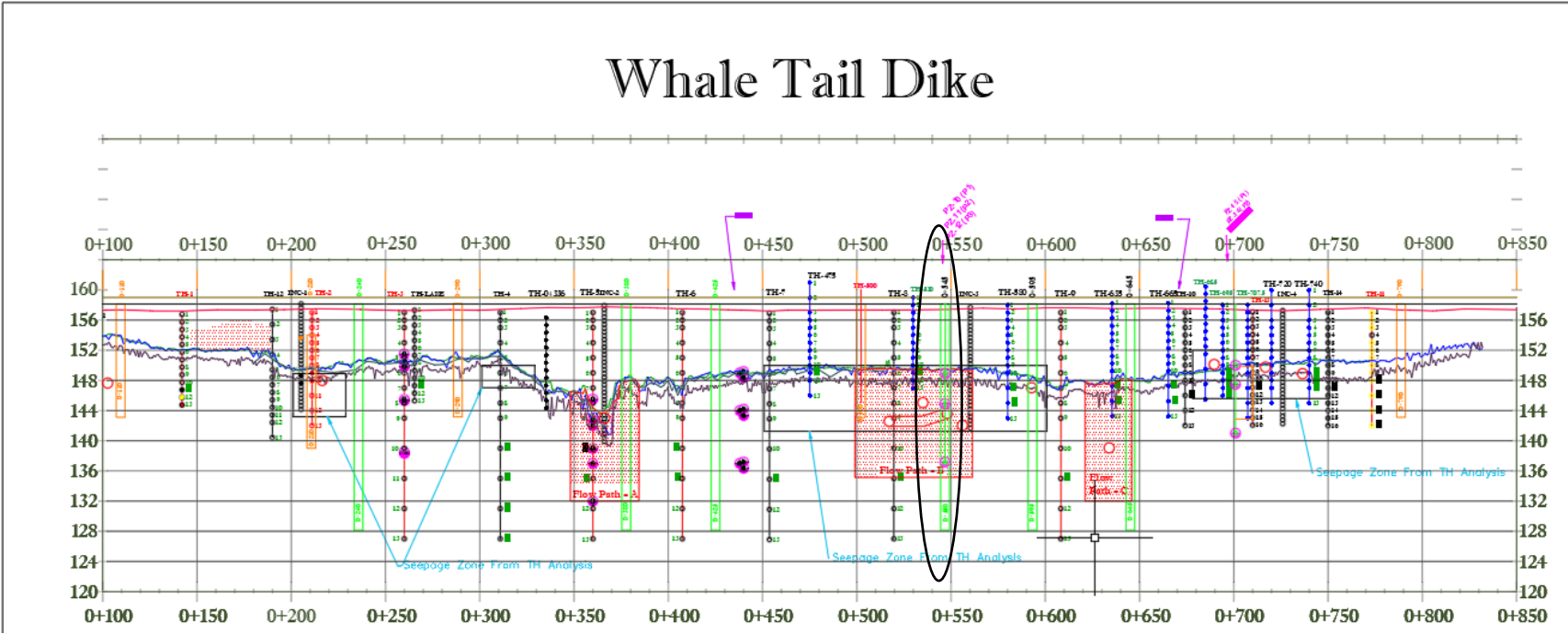
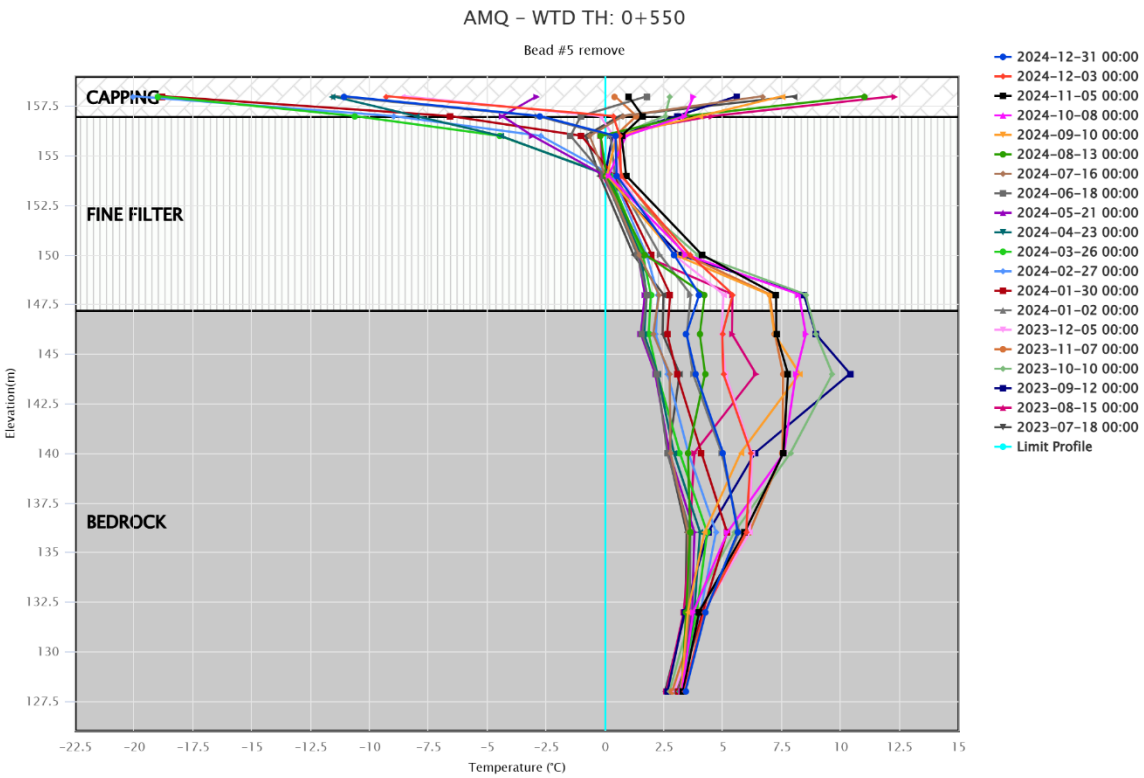
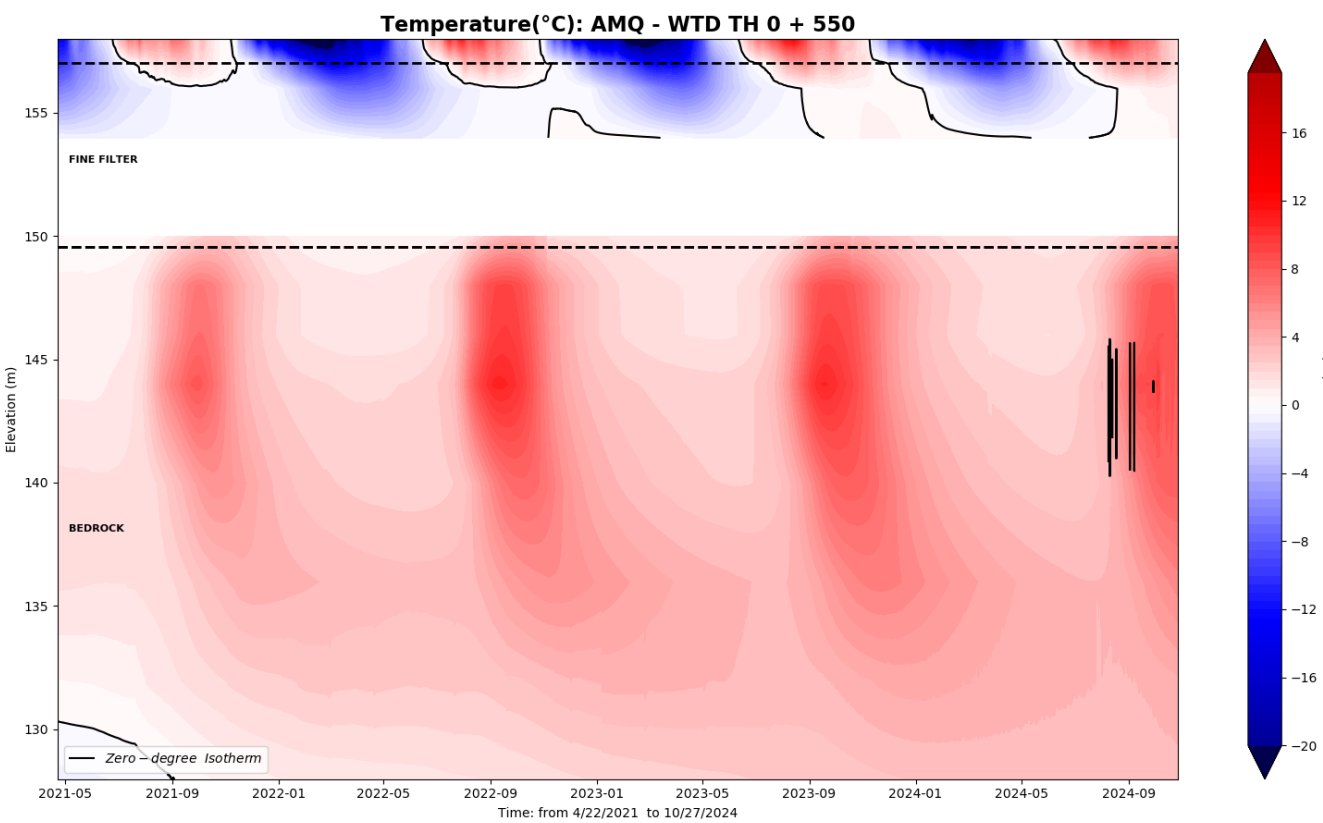
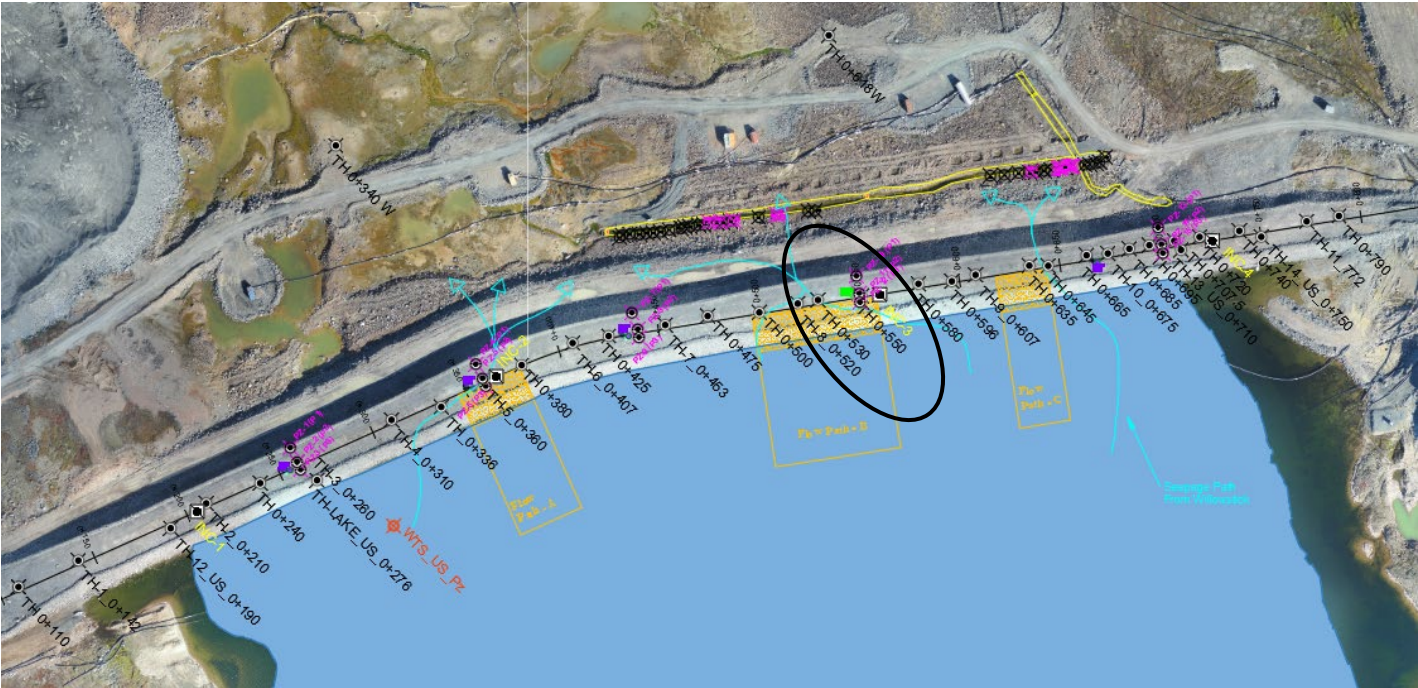


WTD-TH 0+530



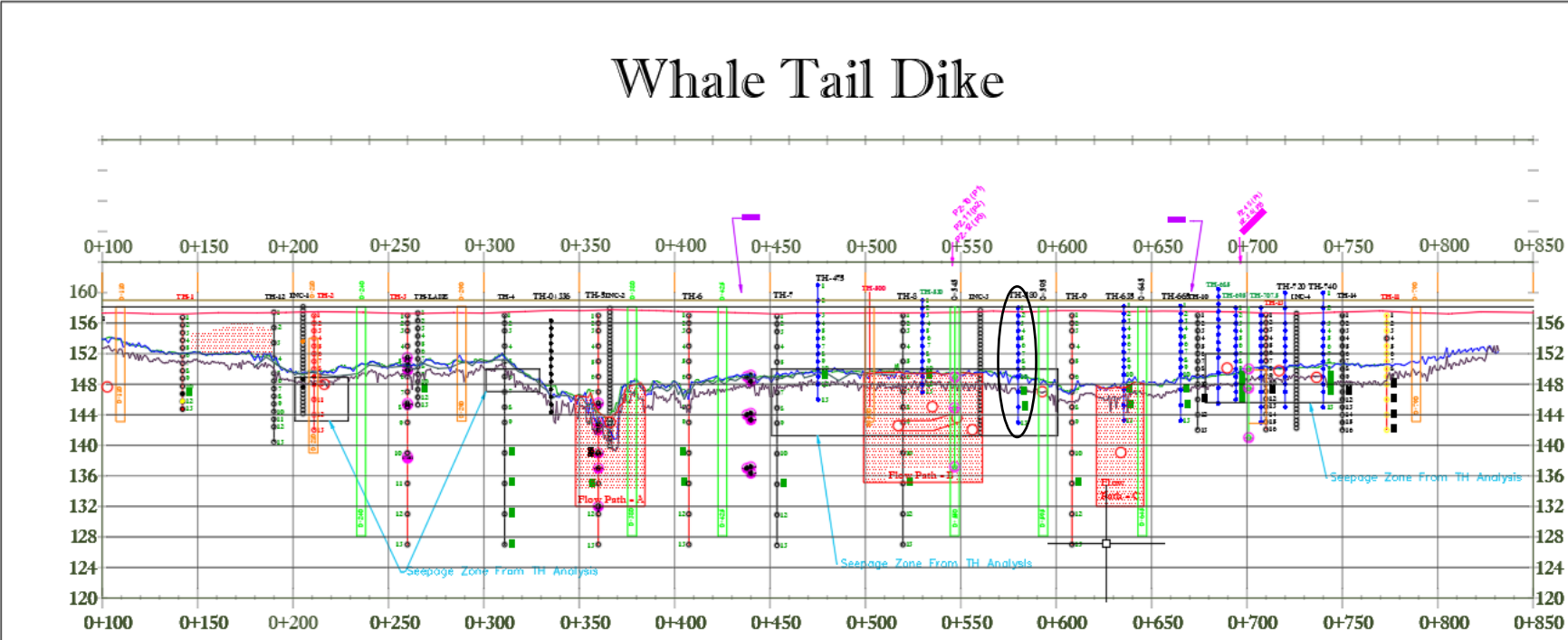
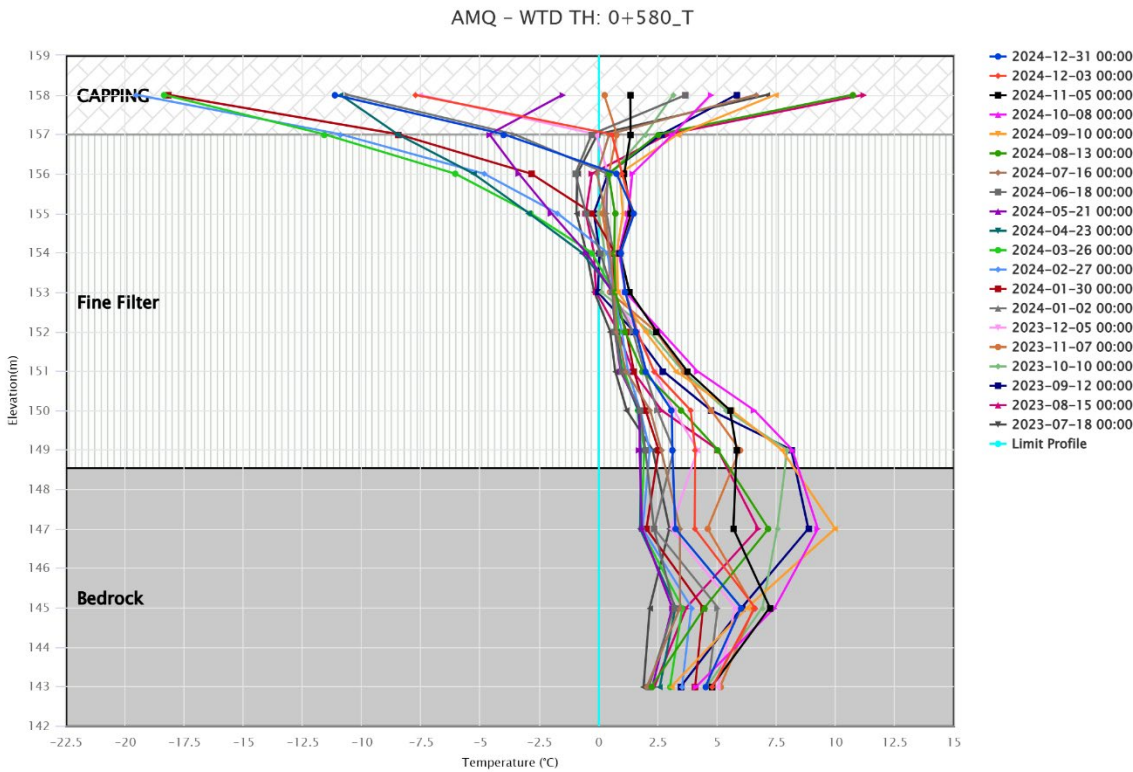
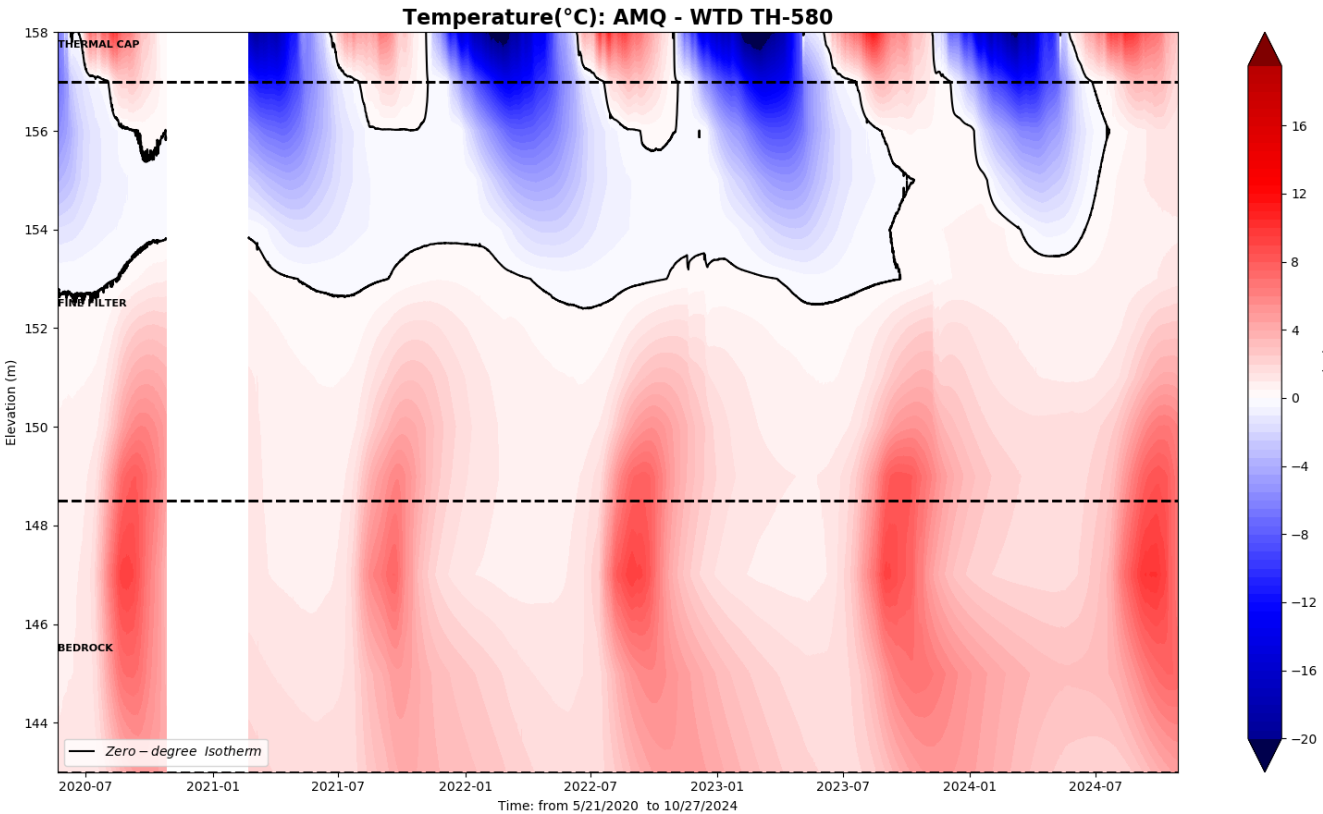
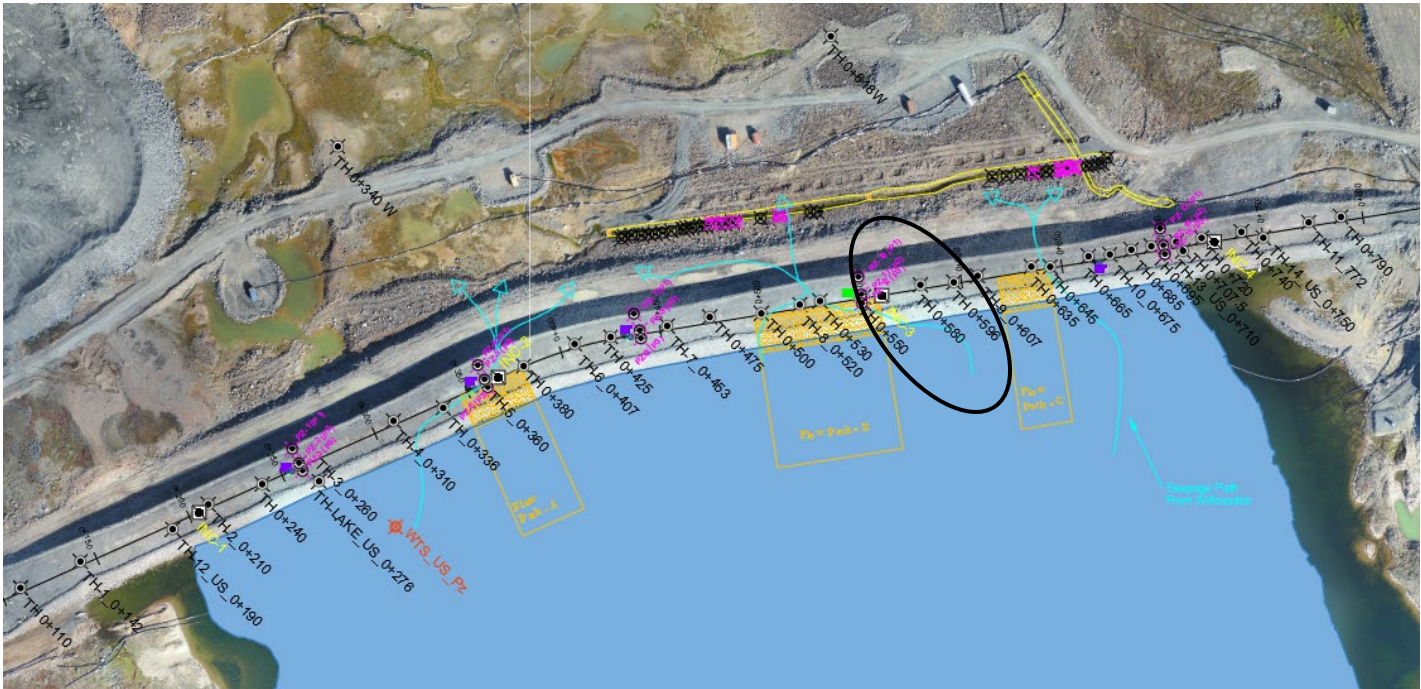


WTD-TH 0+550



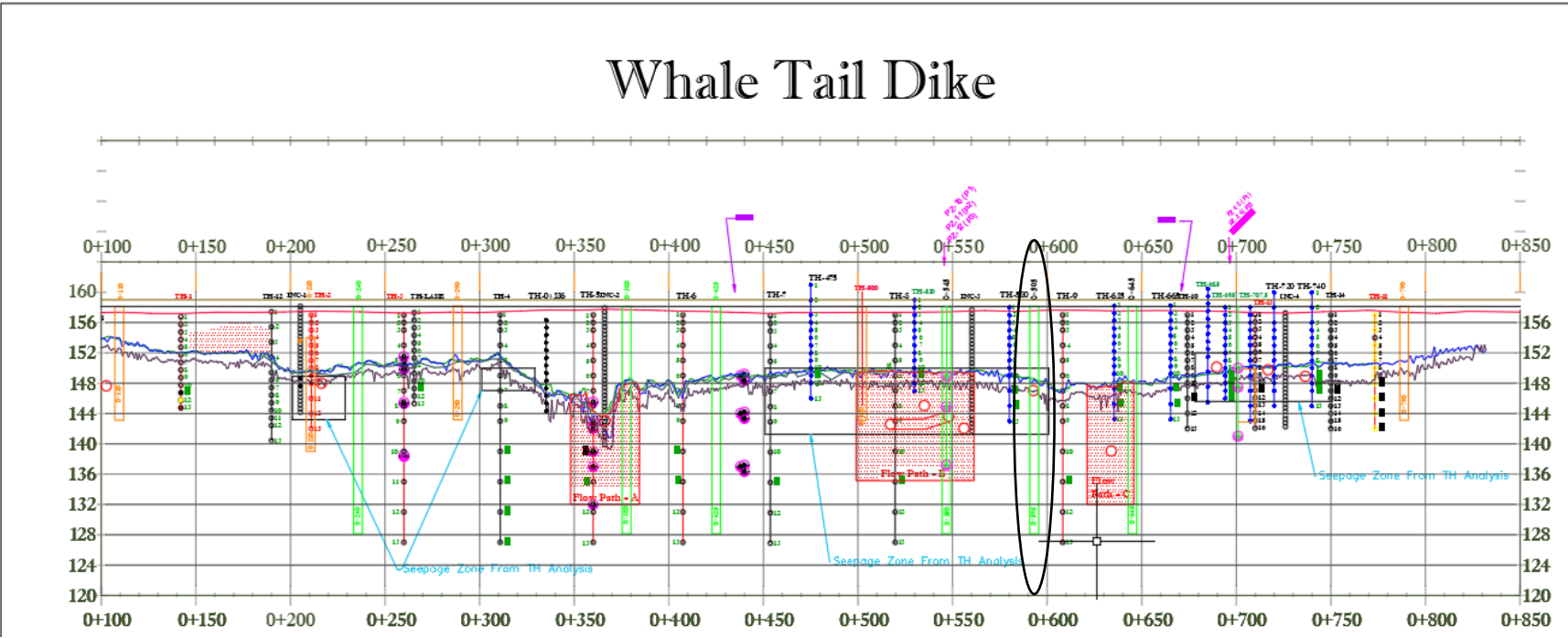
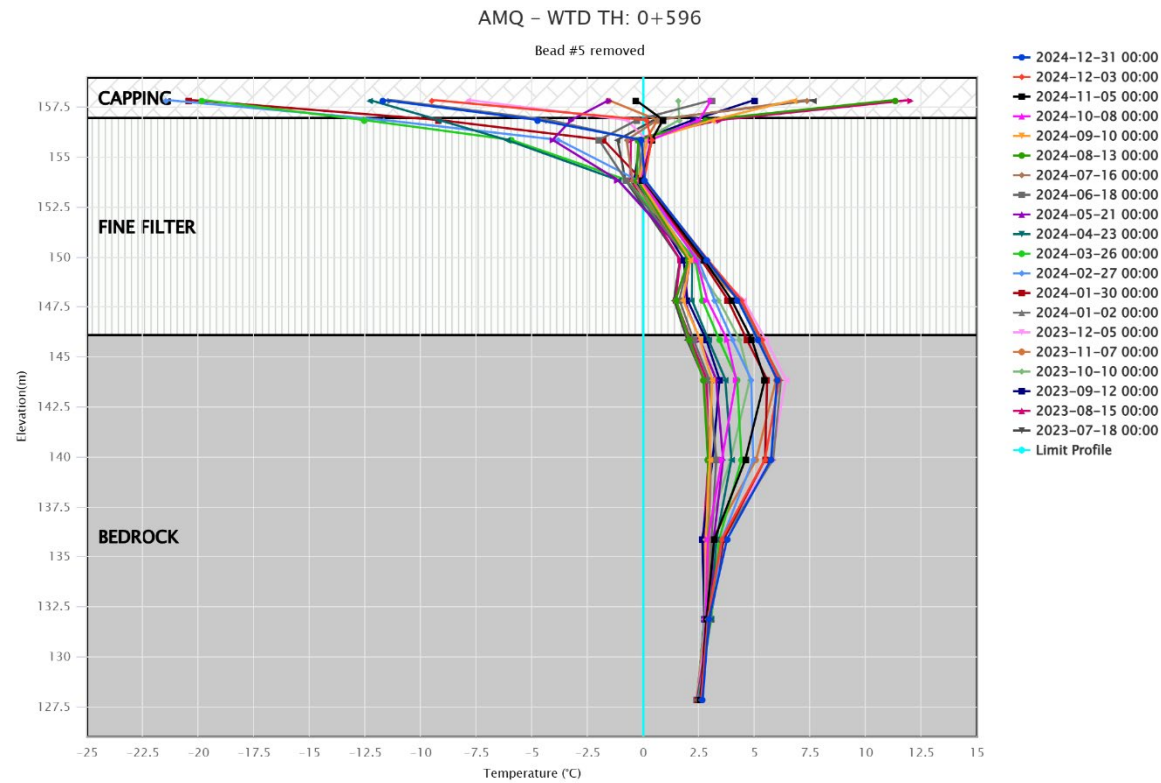
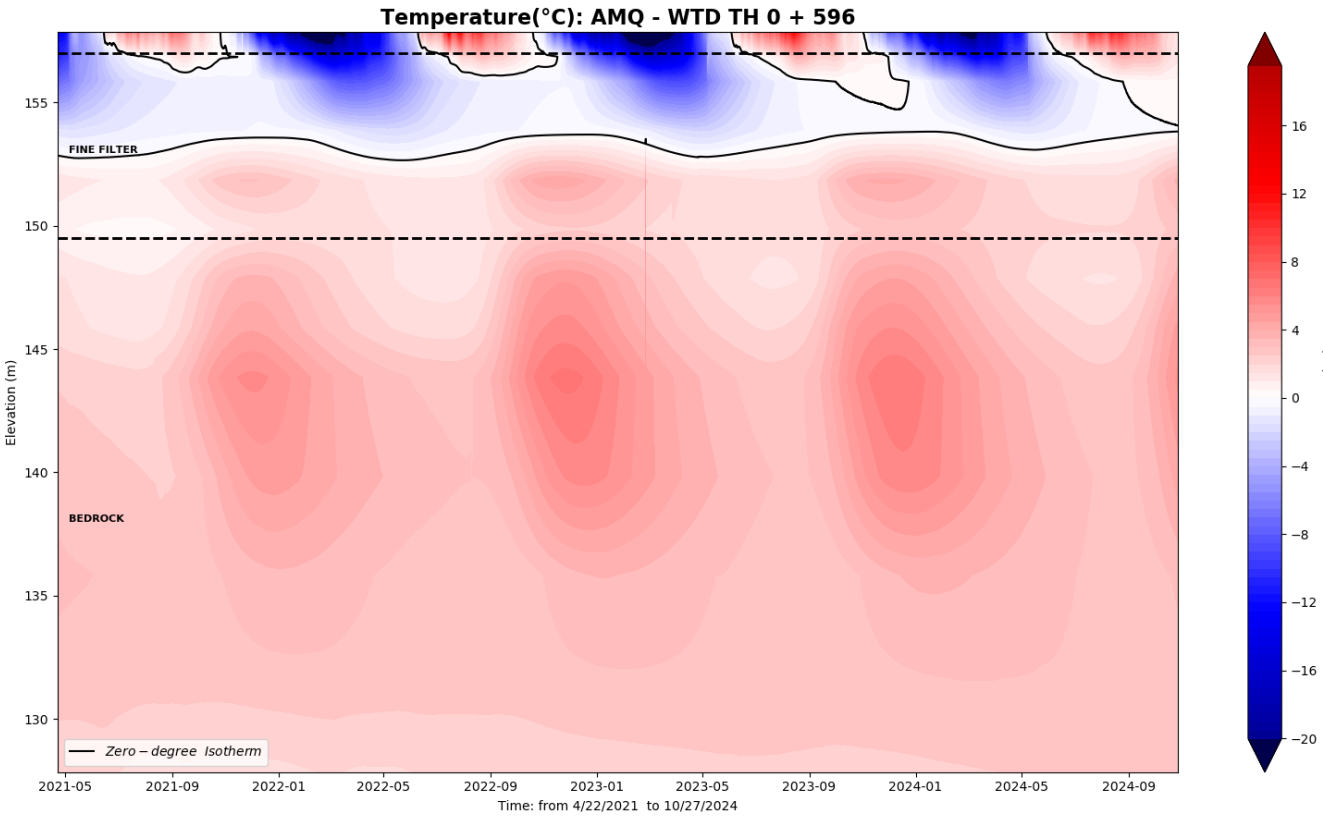
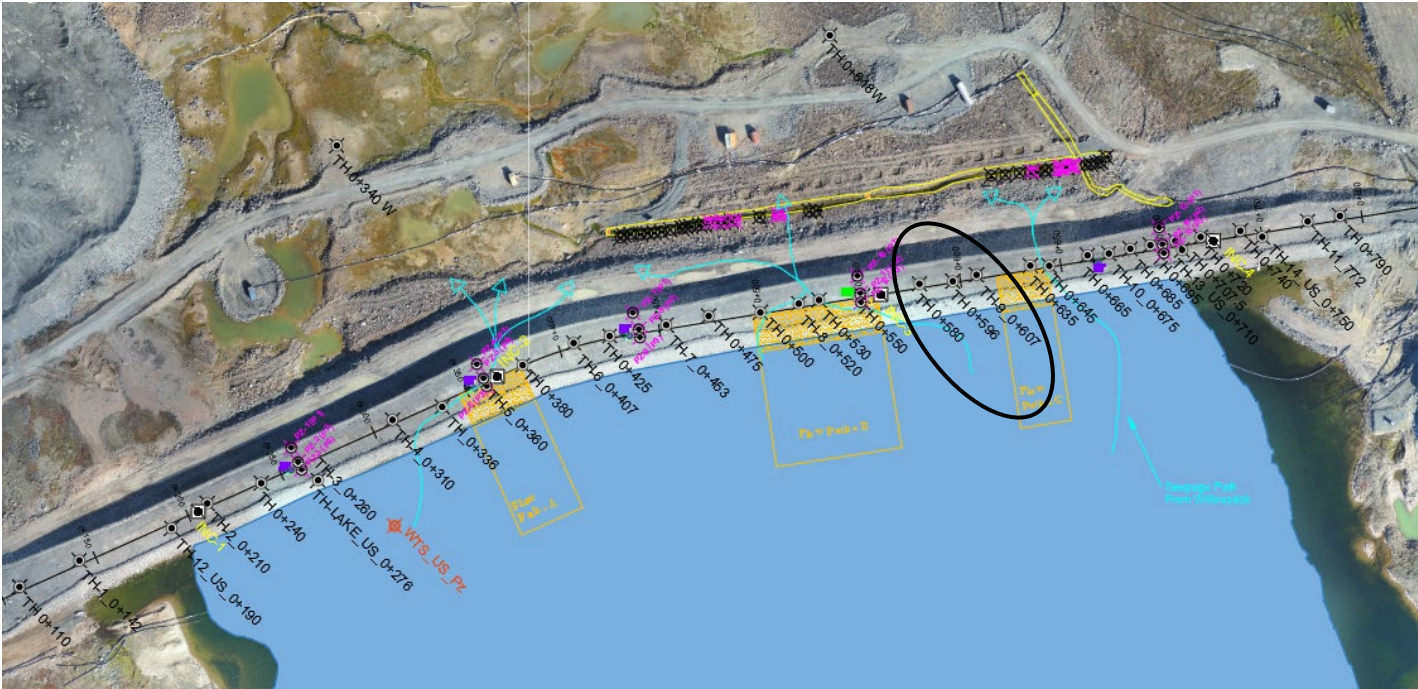


WTD-TH 0+580



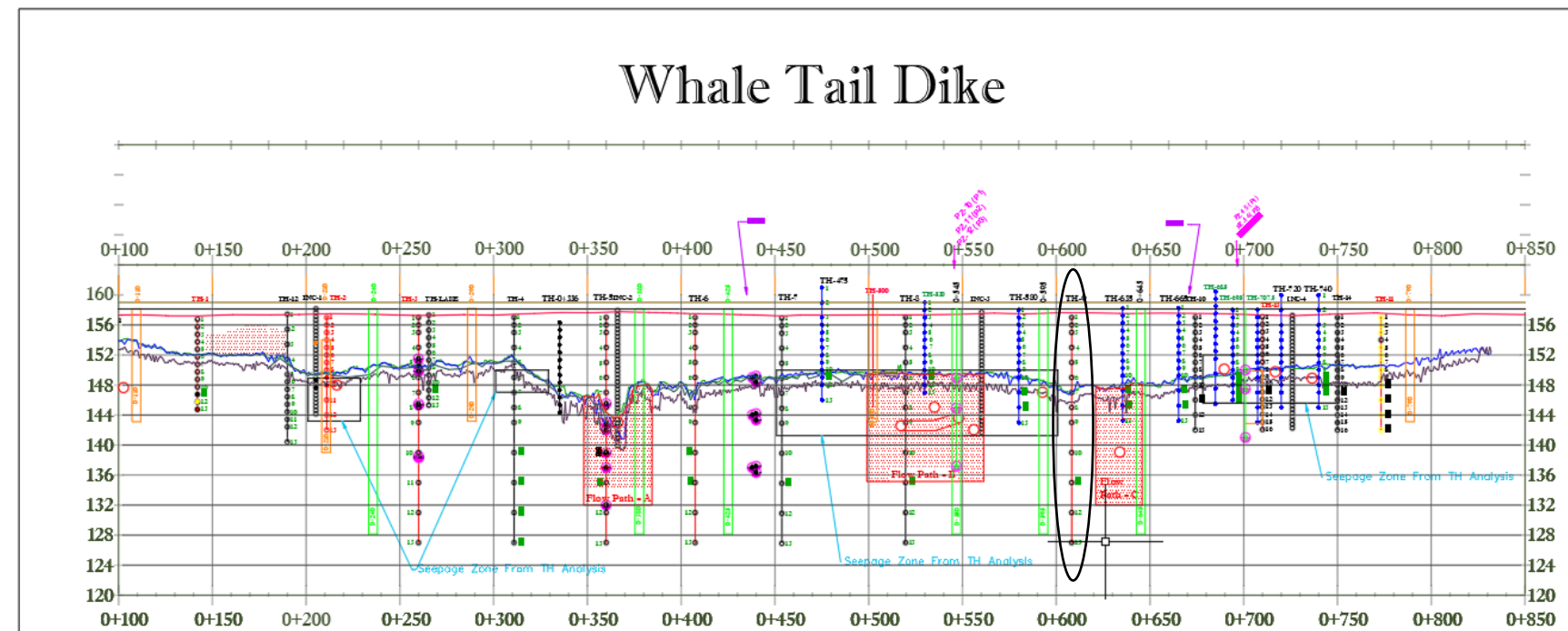
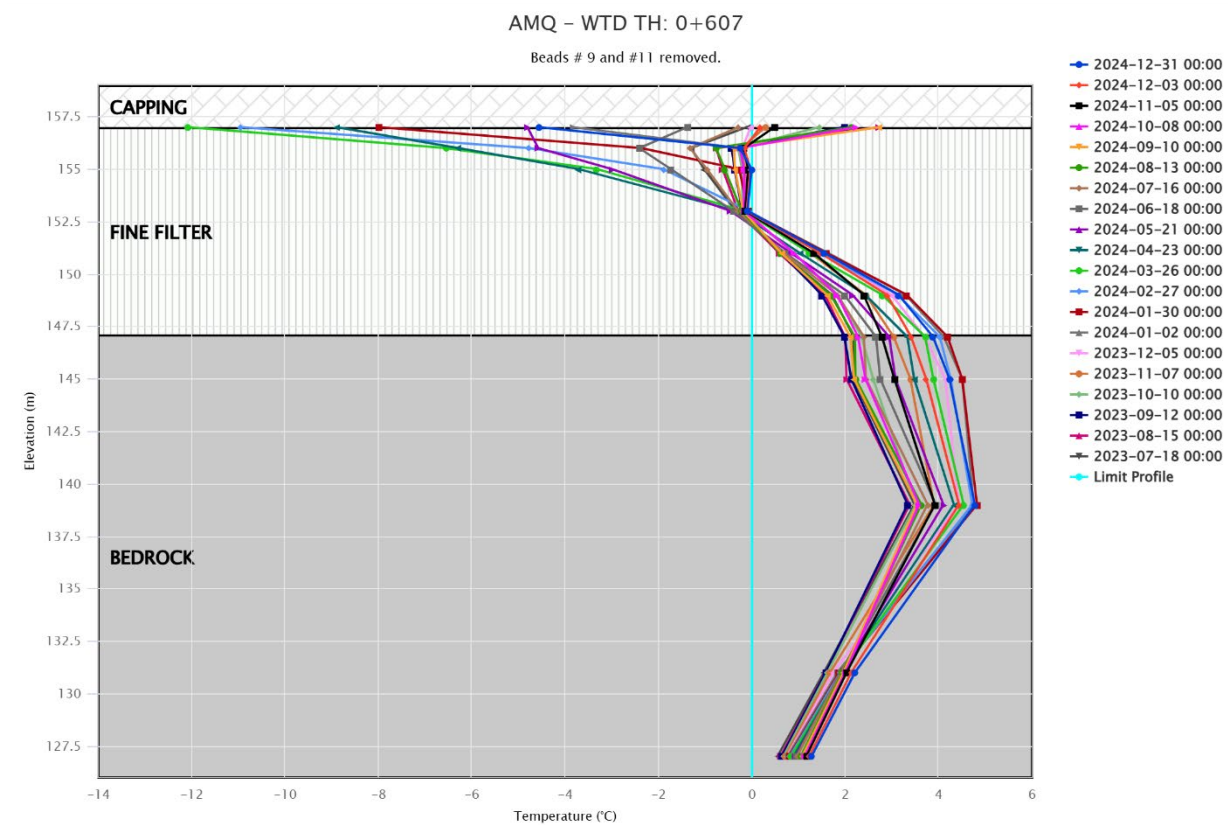
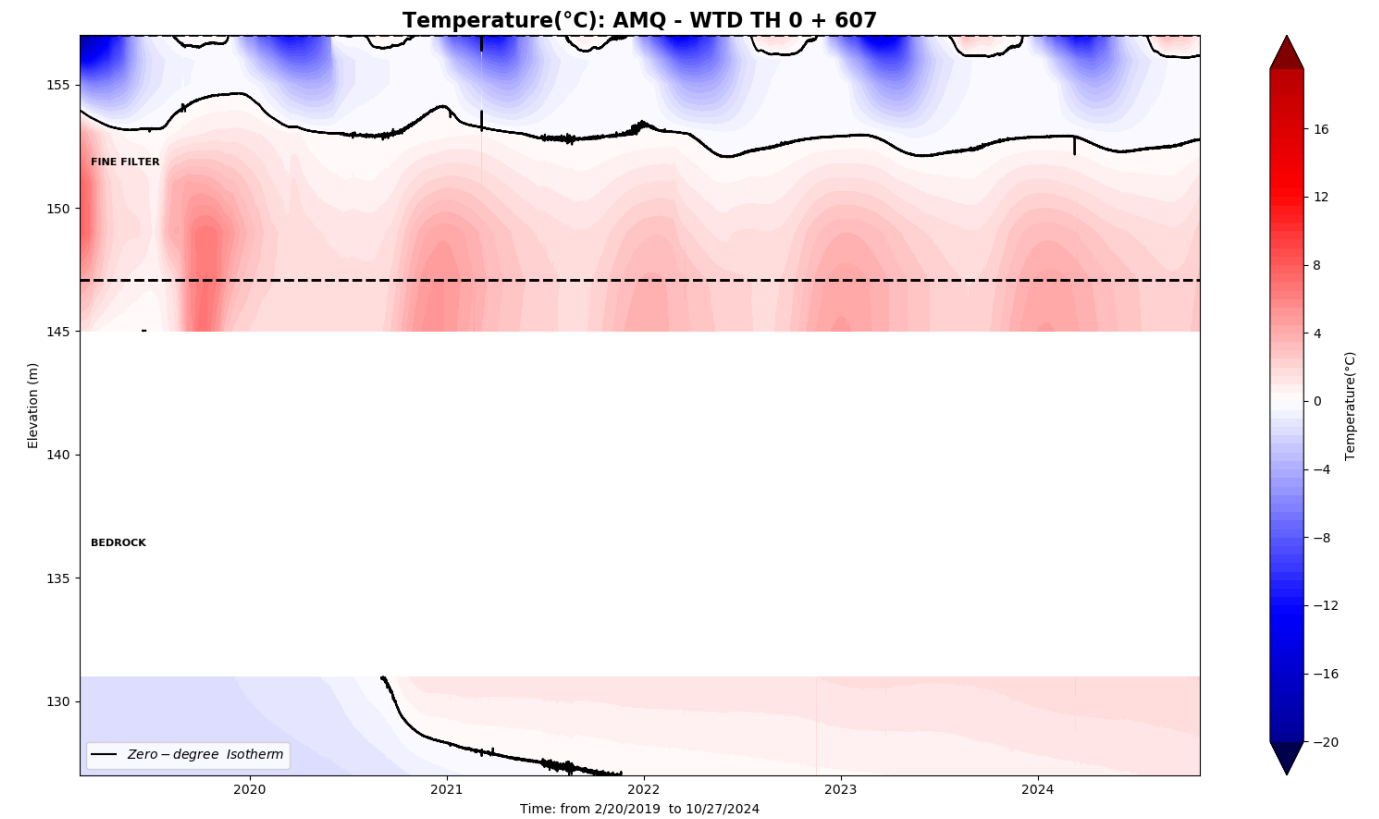
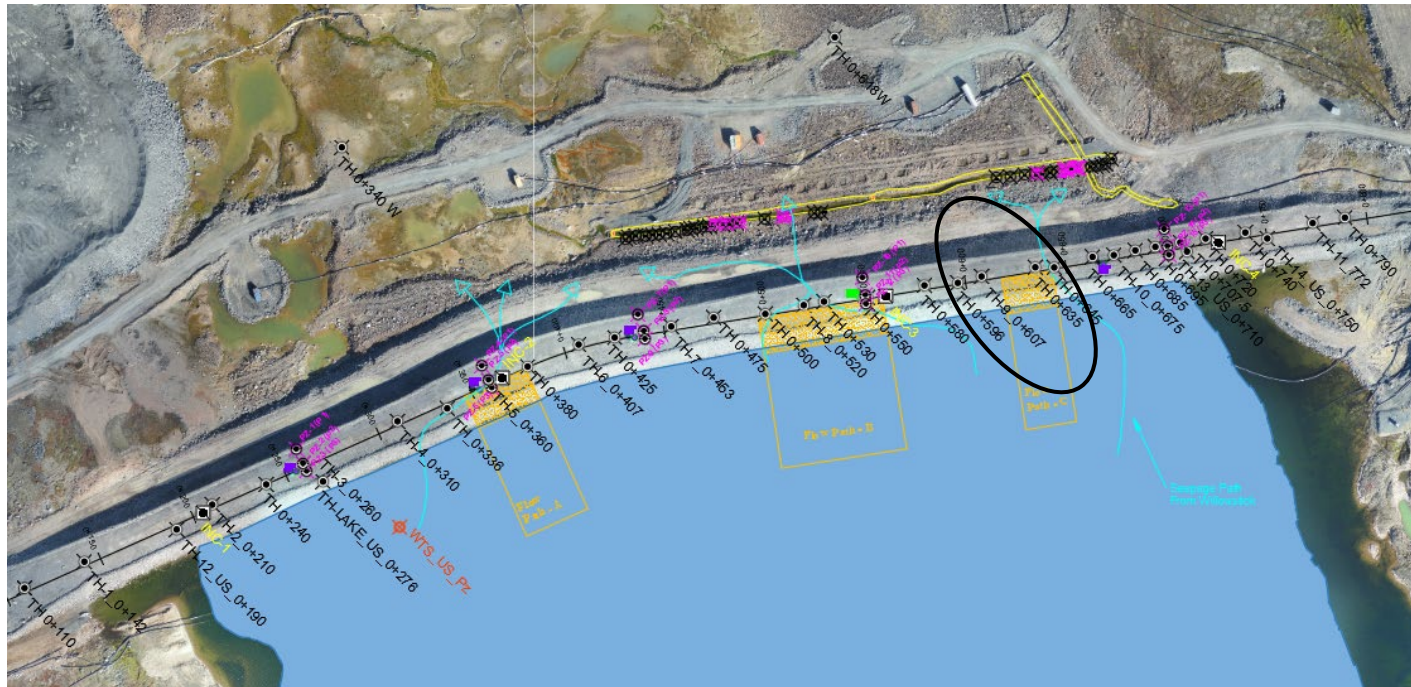


WTD-TH 0+596



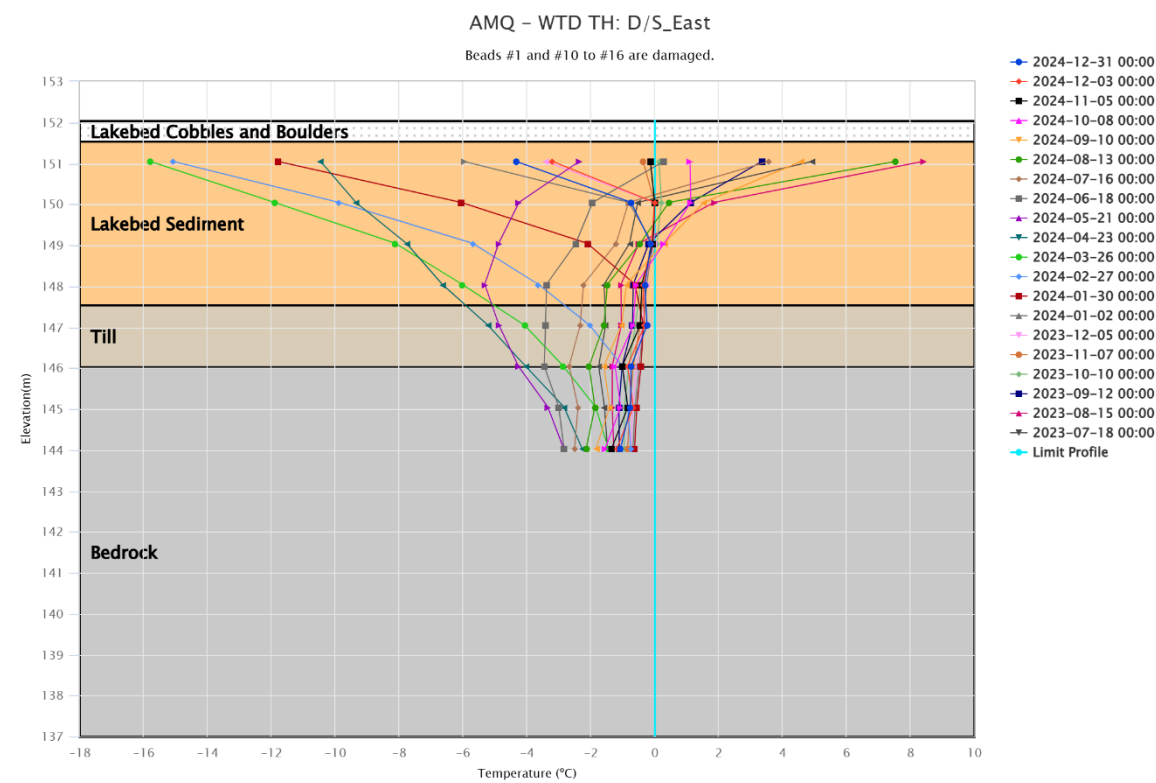
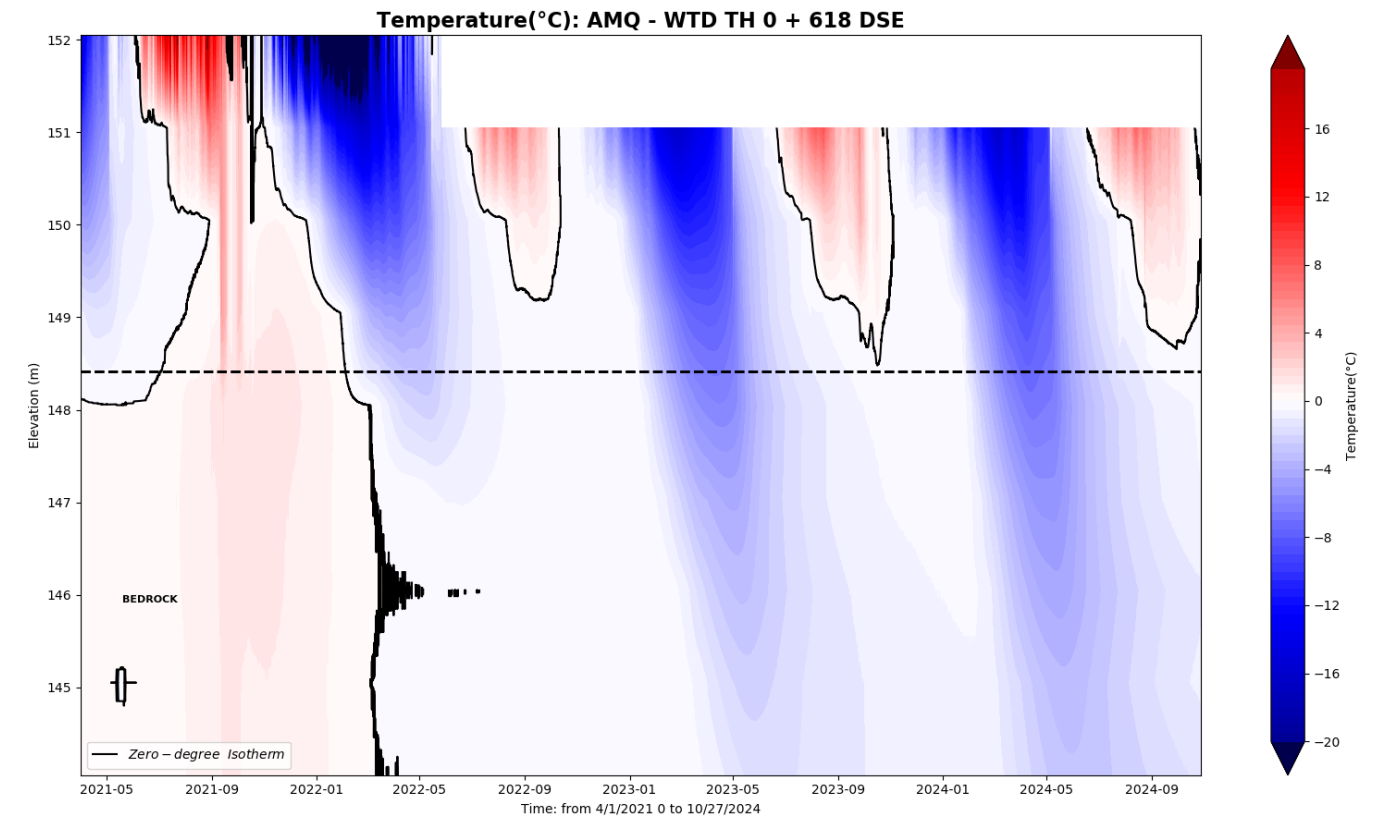
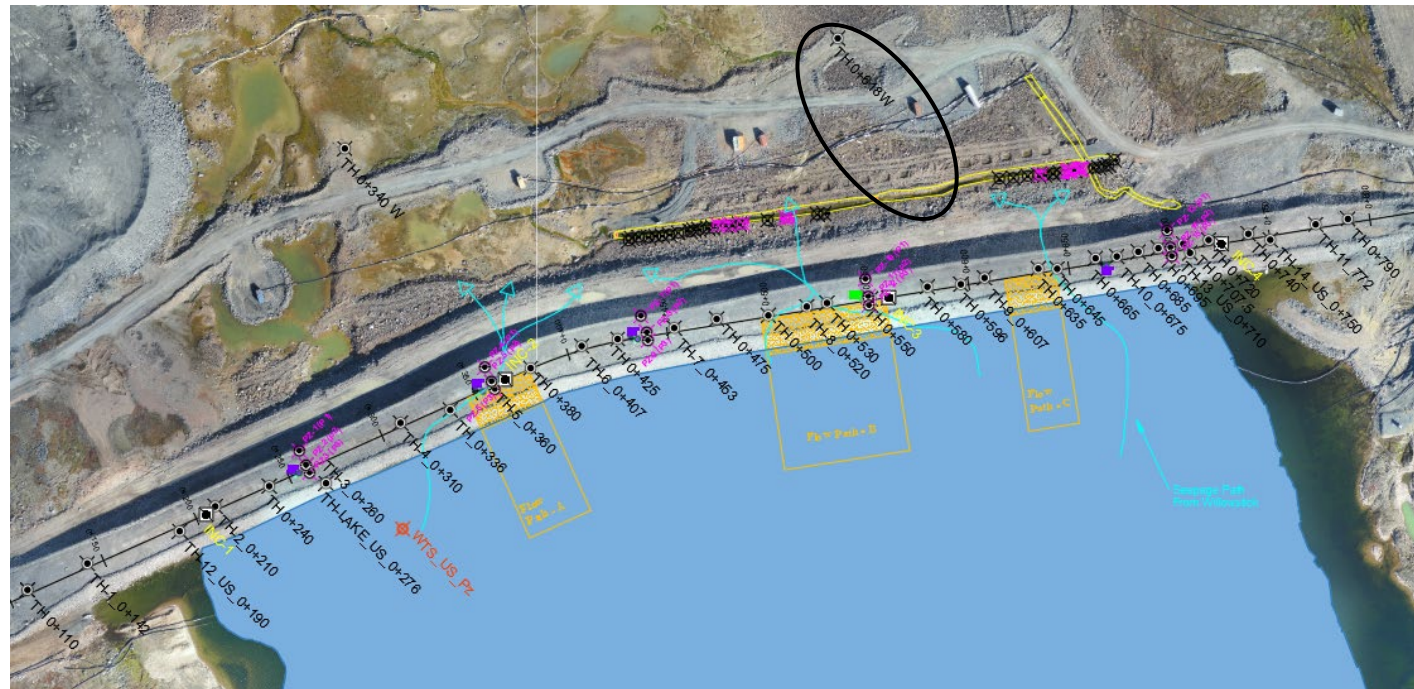


**WTD-TH 0+607**



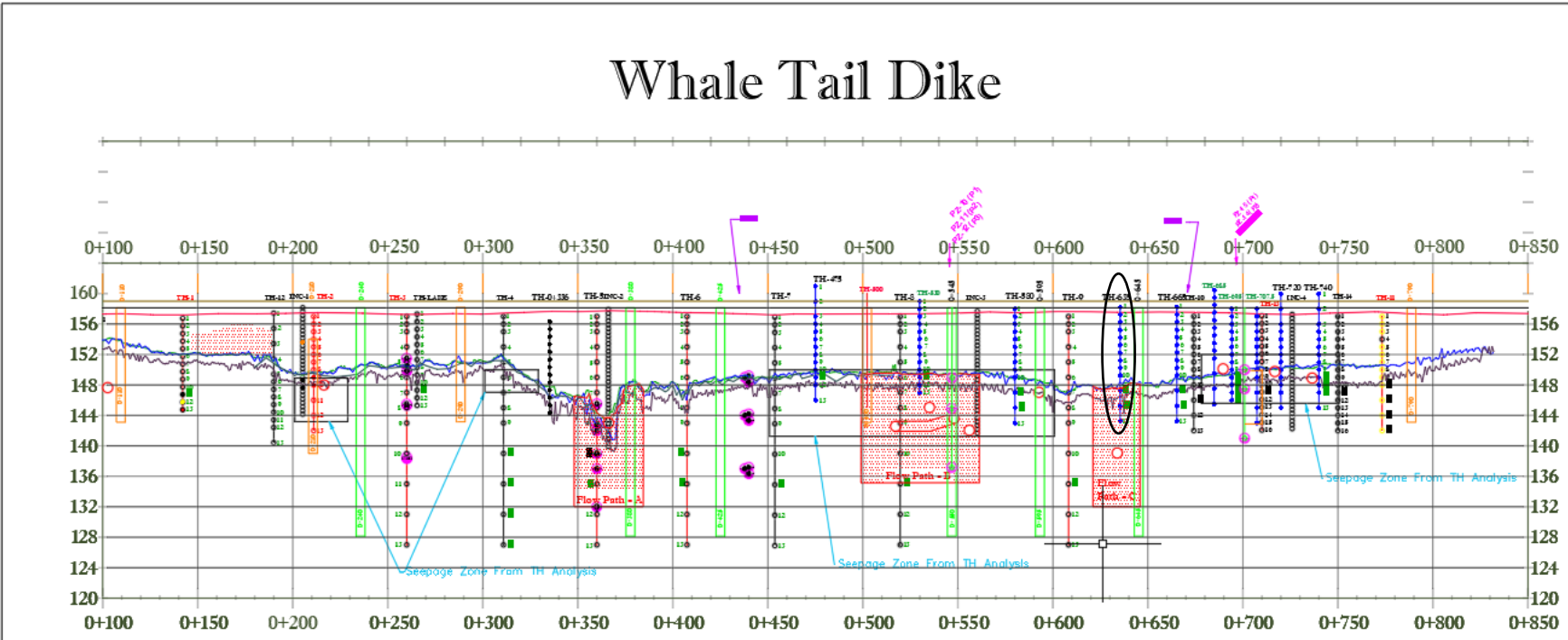
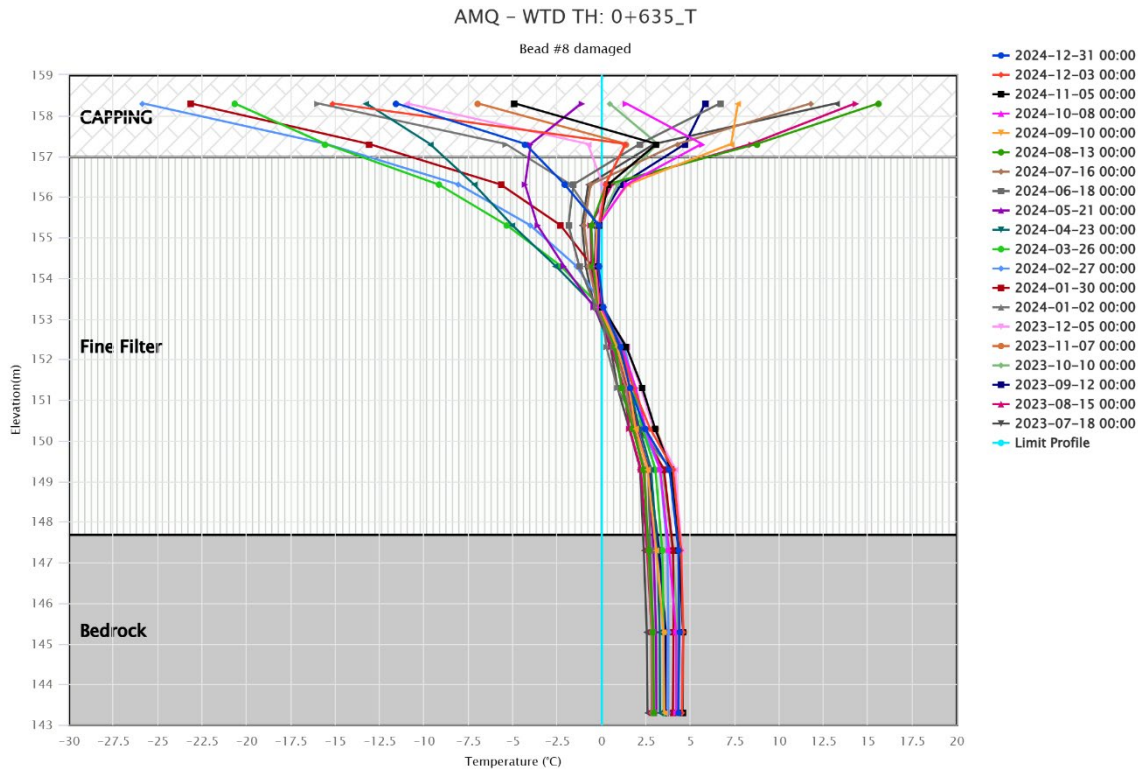
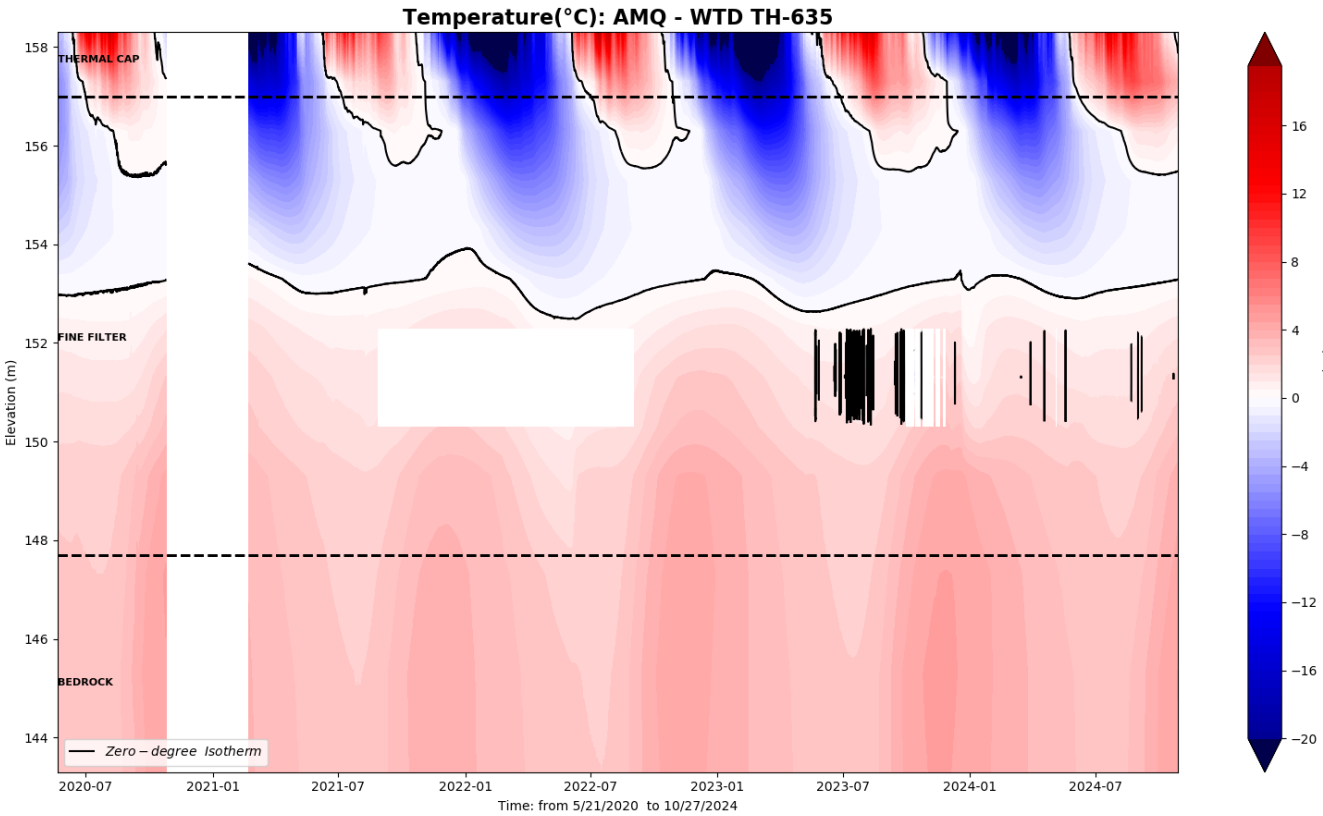
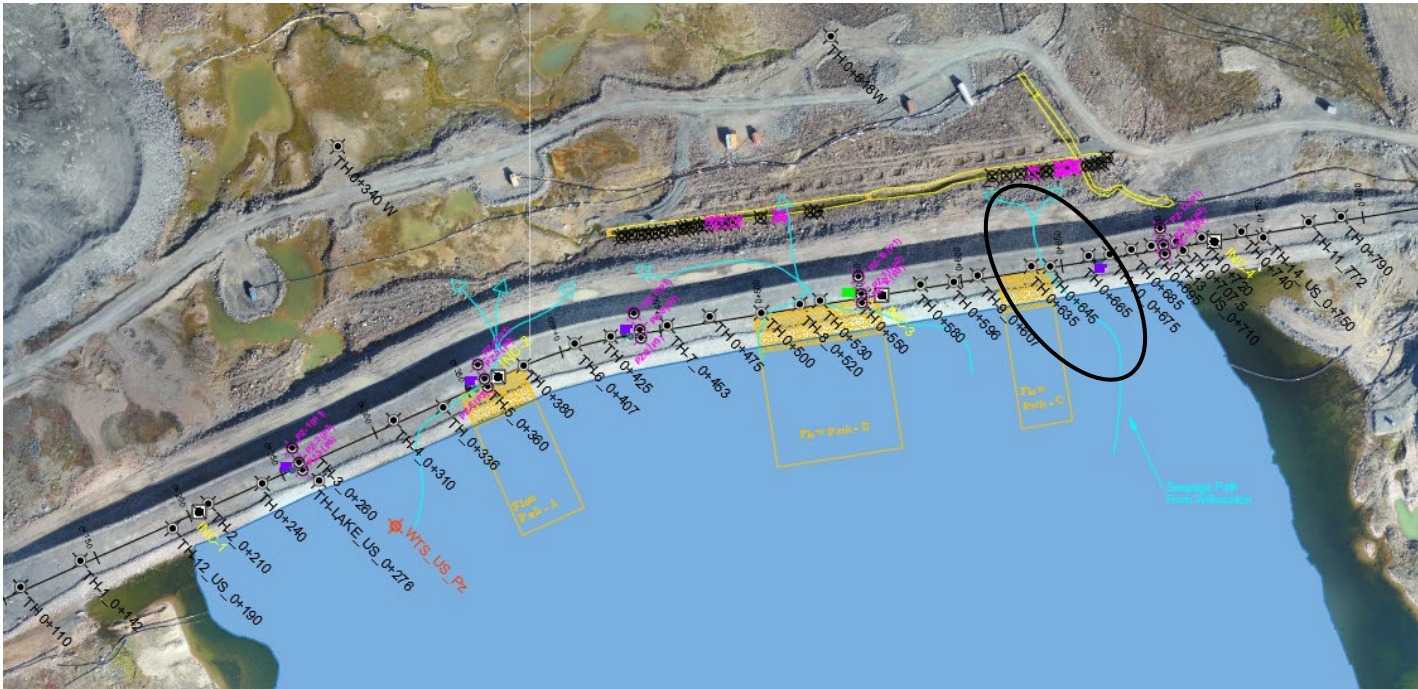


**WTD-TH 0+618 DSE**



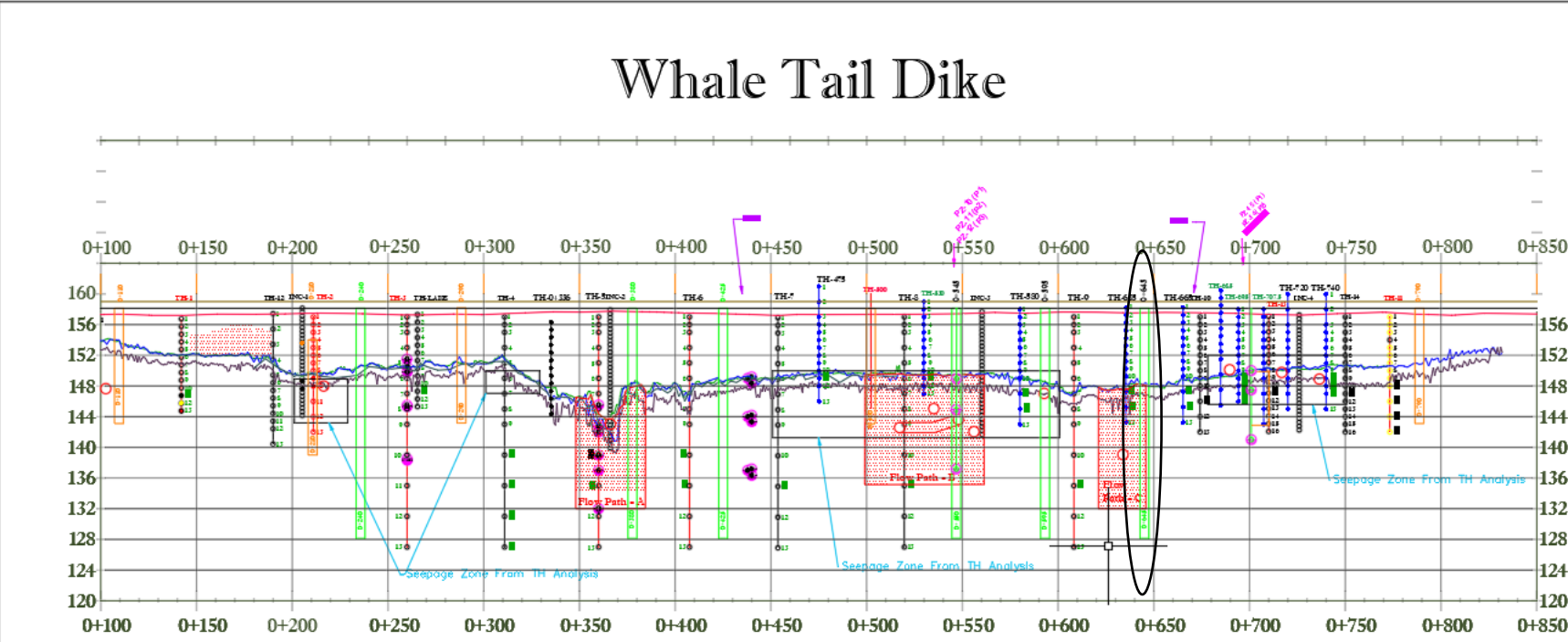
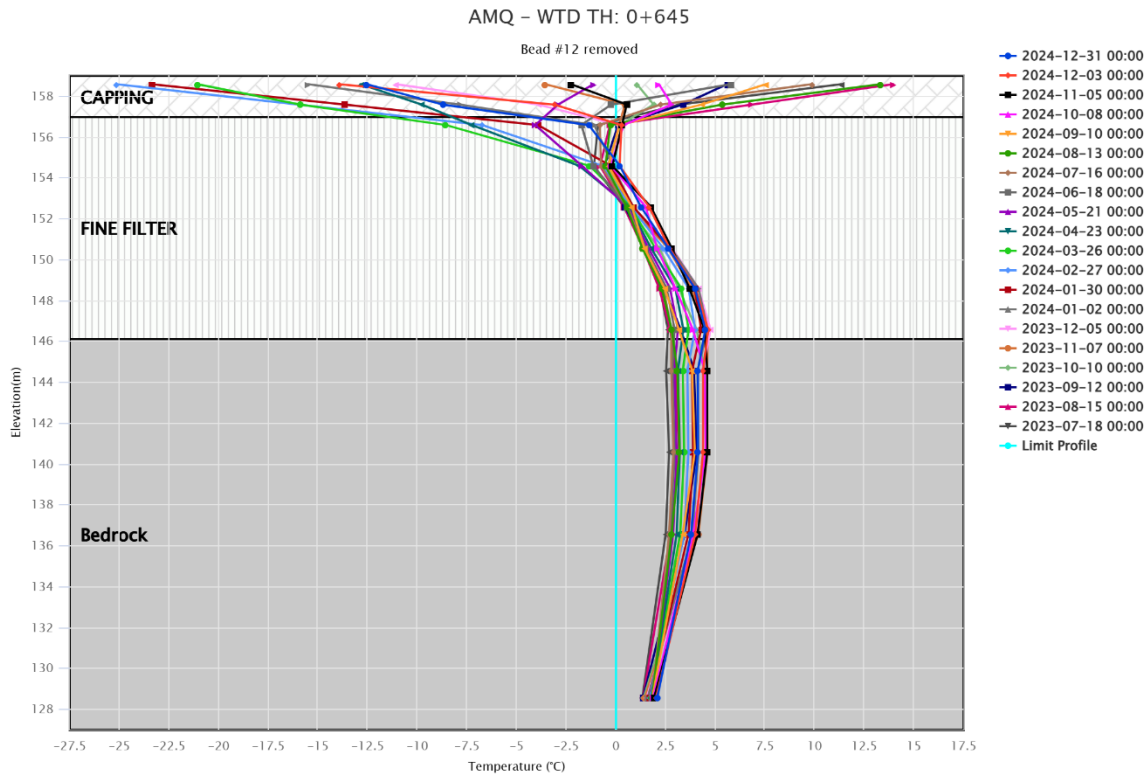
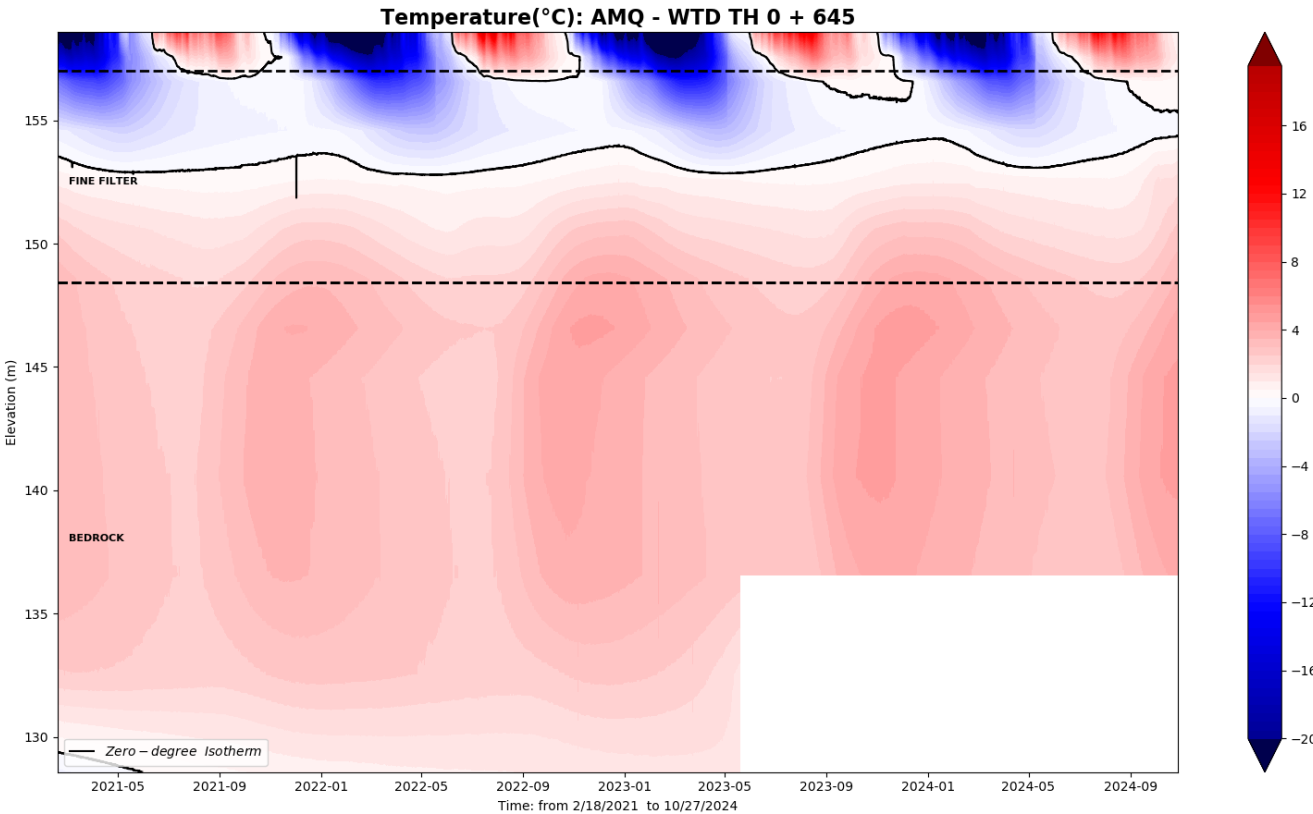
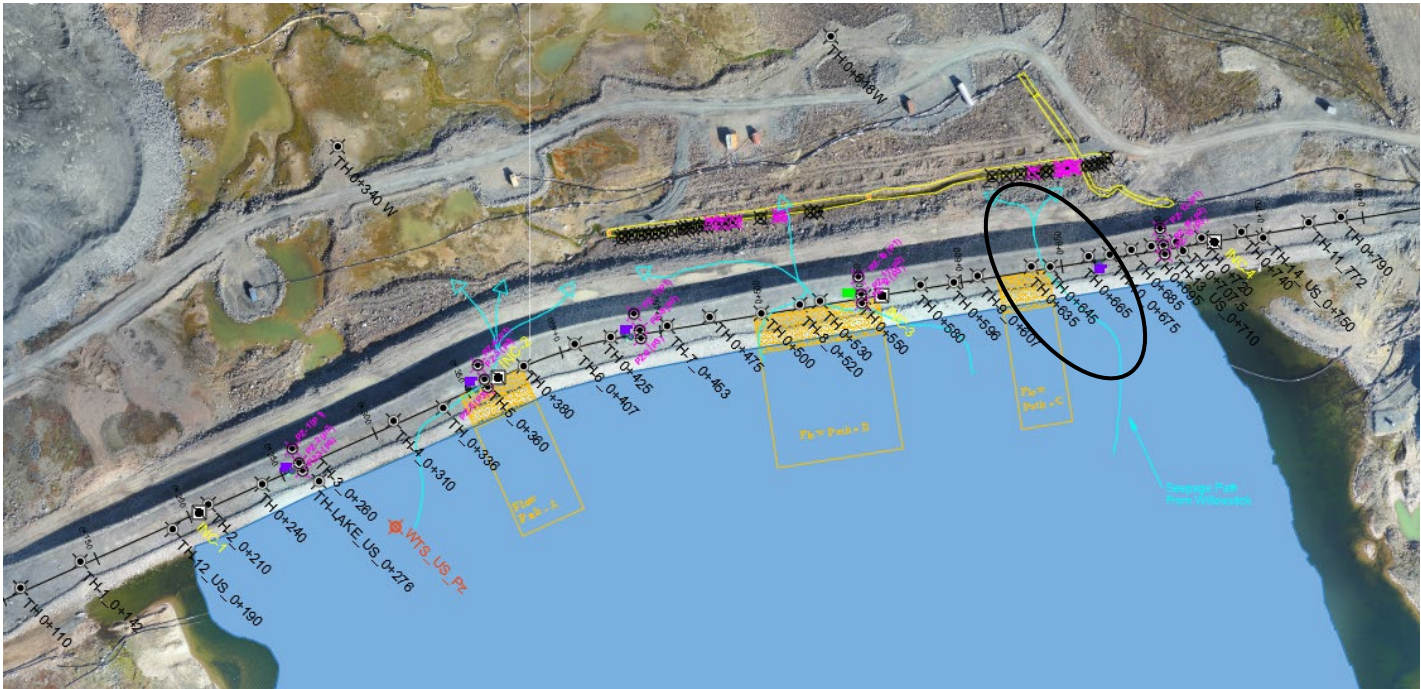


WTD-TH 0+635



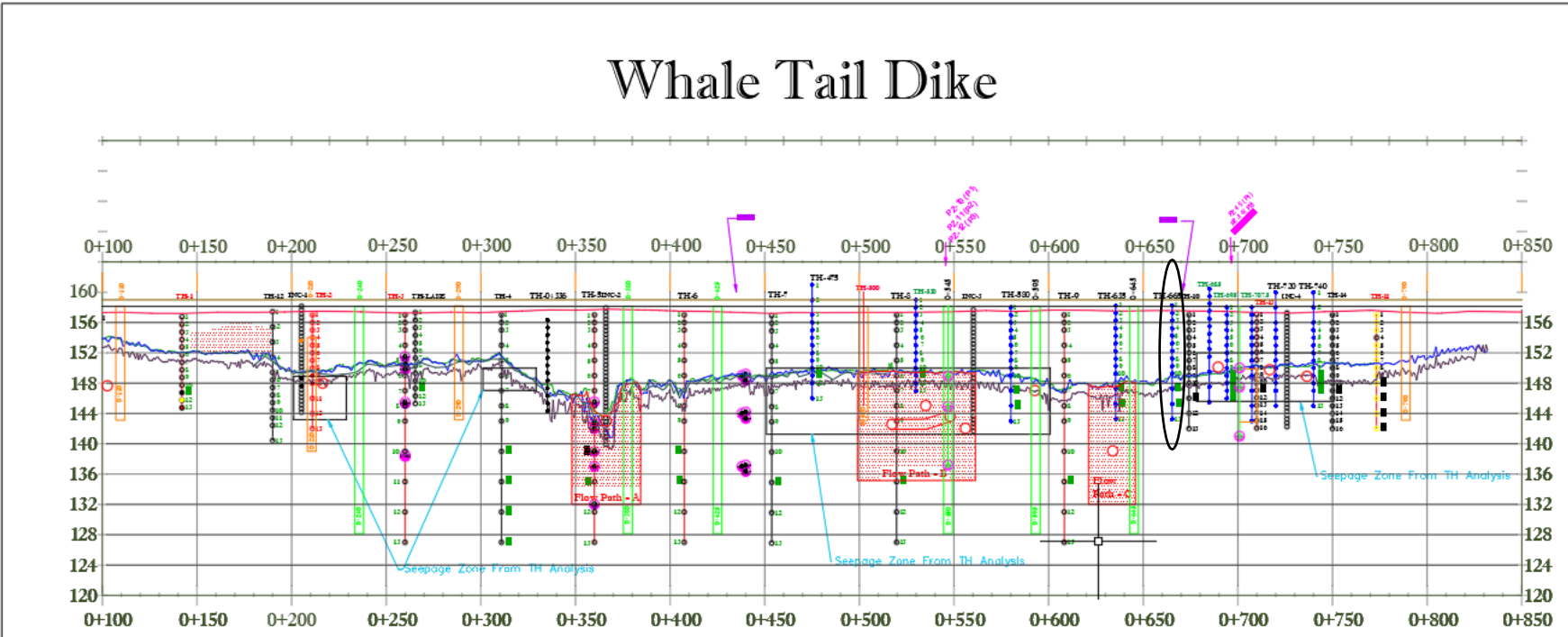
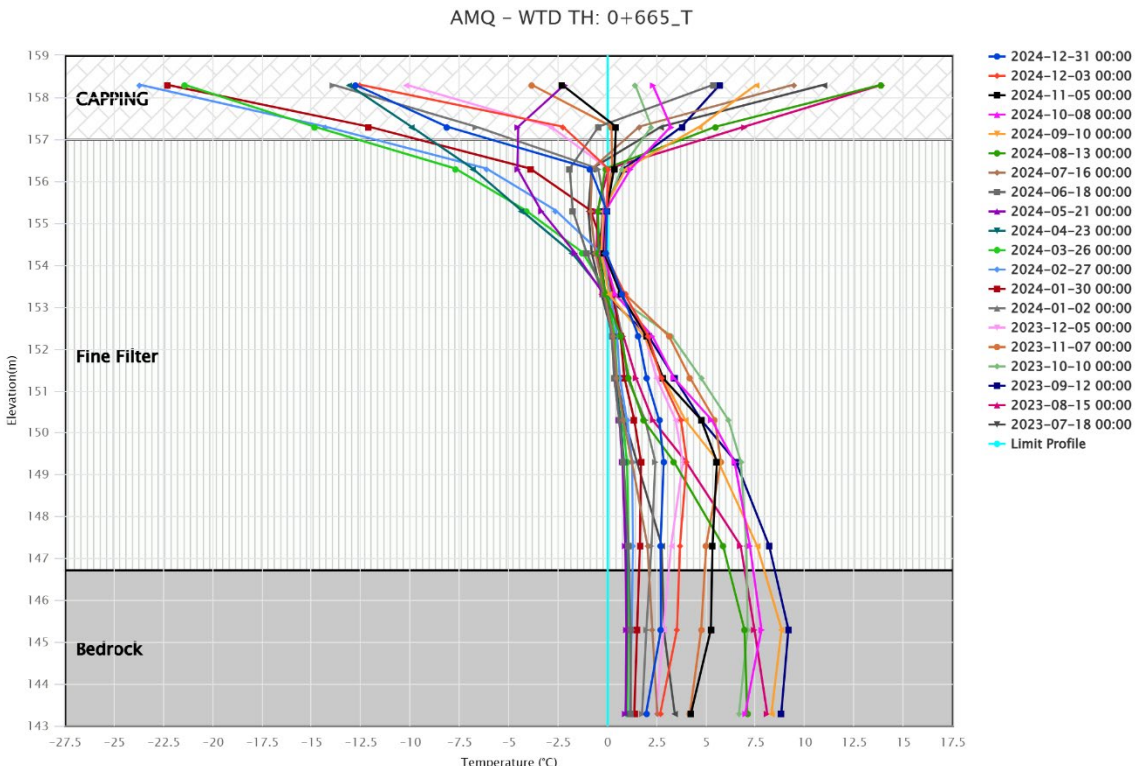
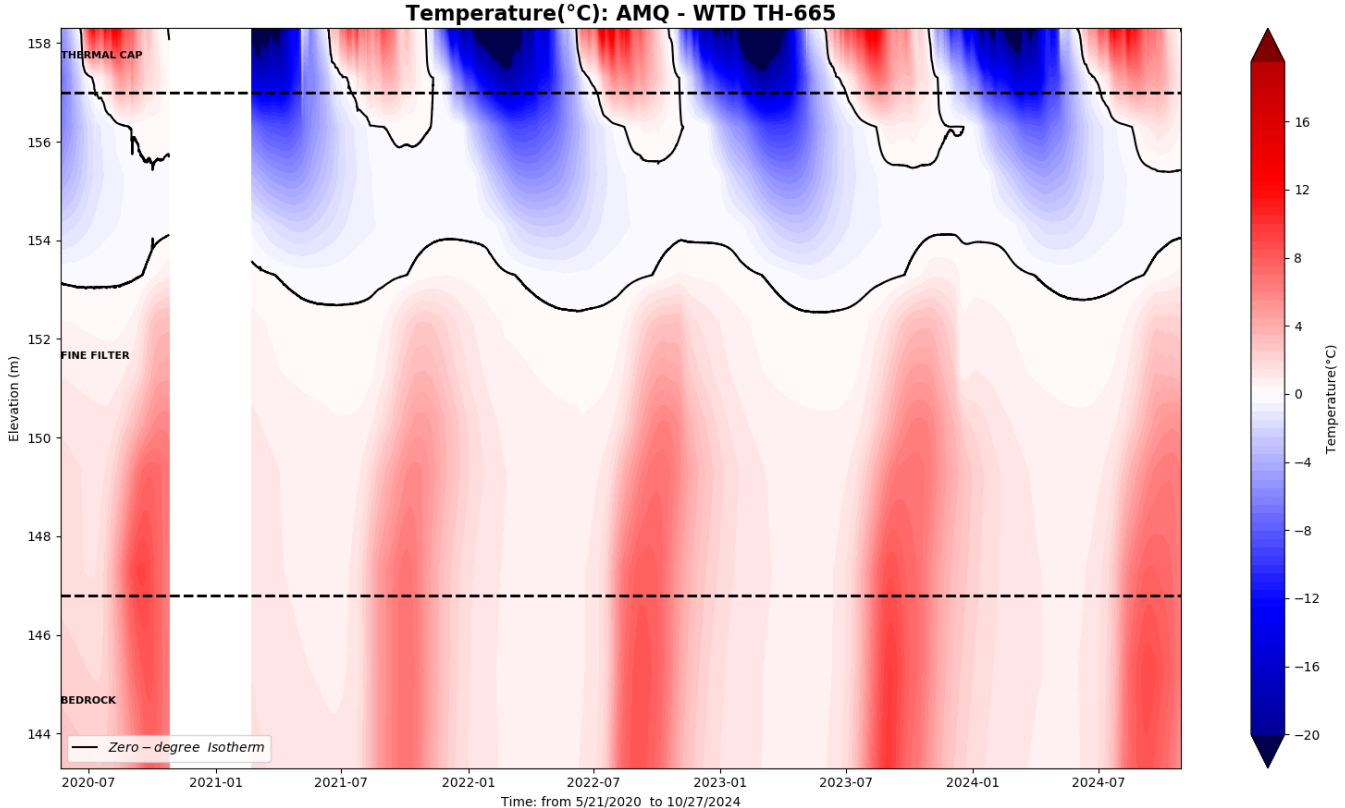


WTD-TH 0+645



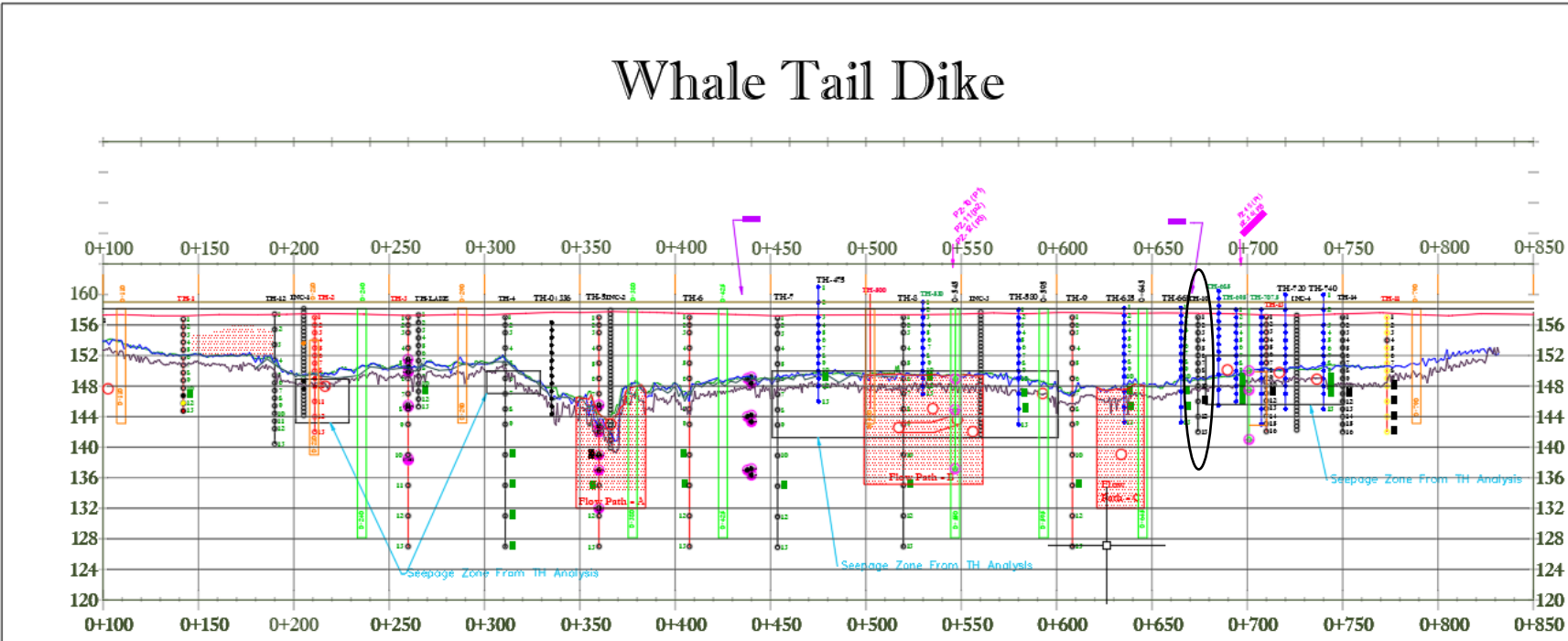
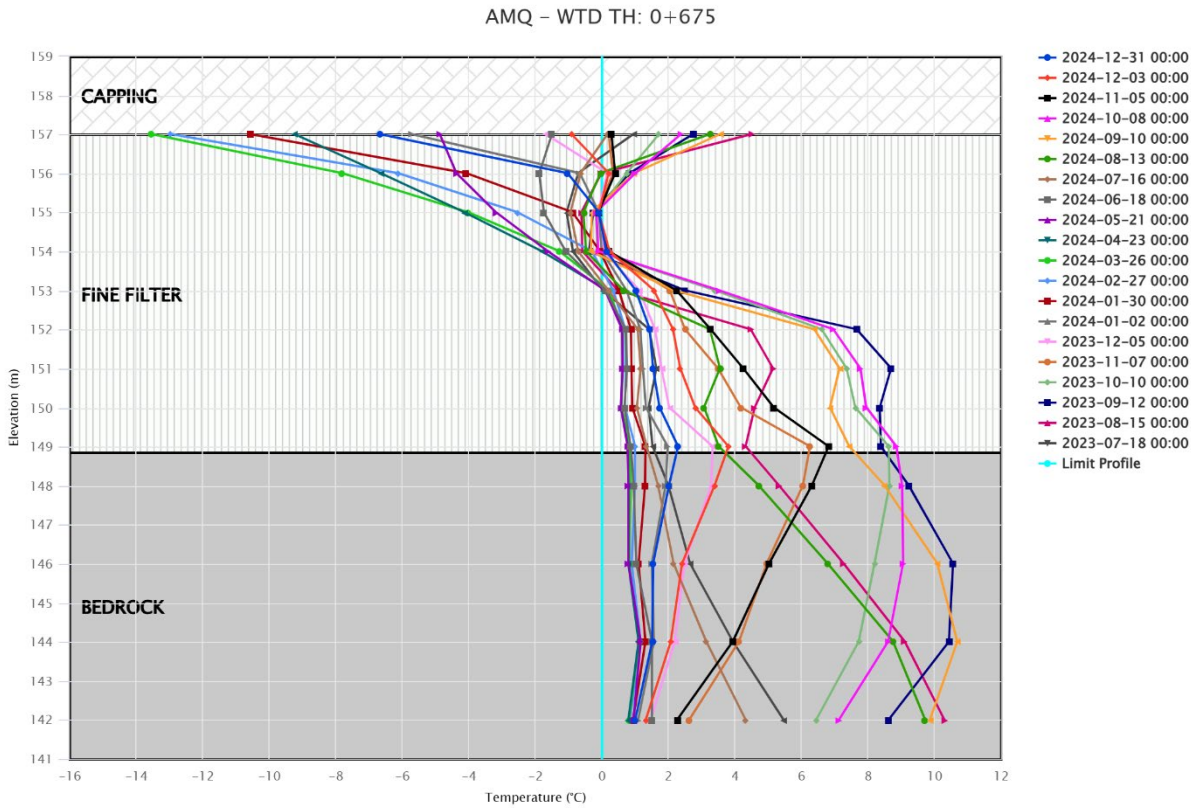
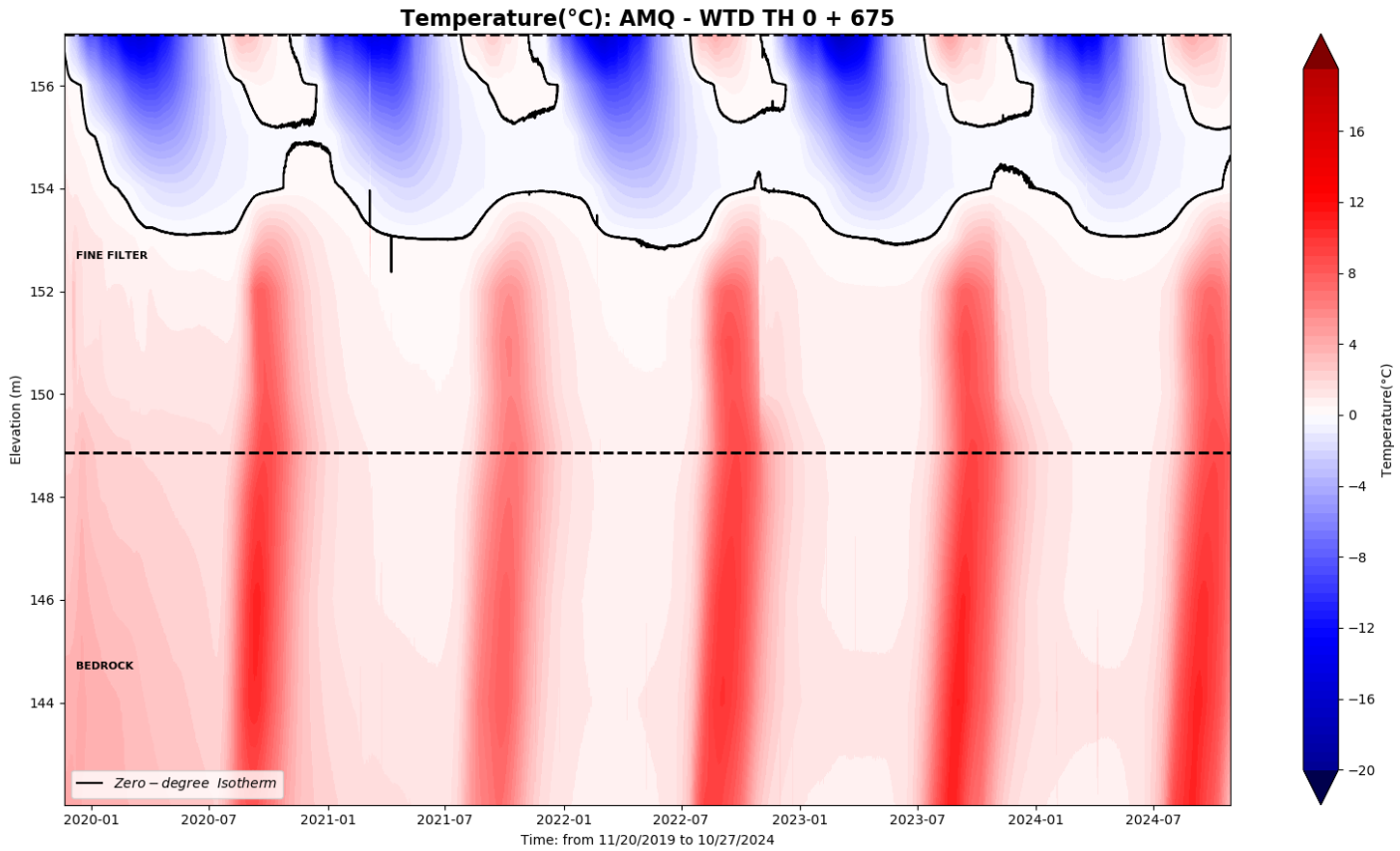
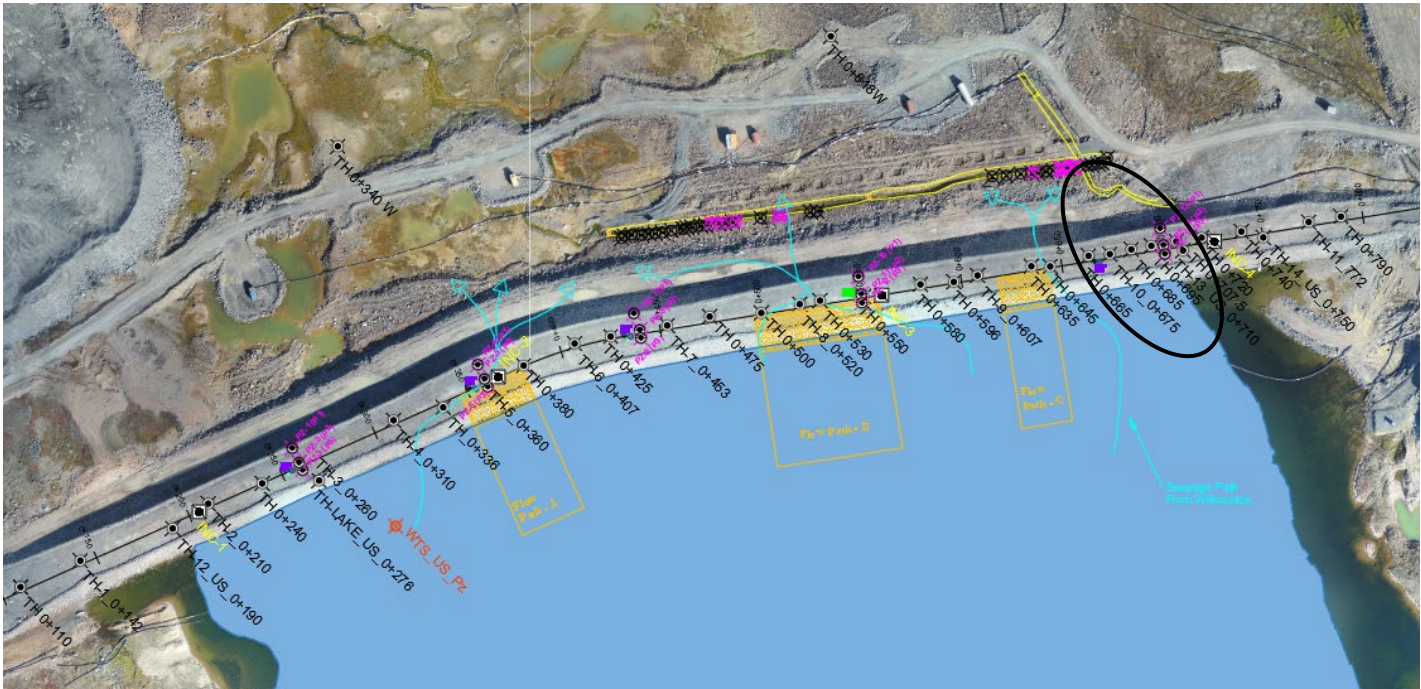


**WTD-TH 0+665**



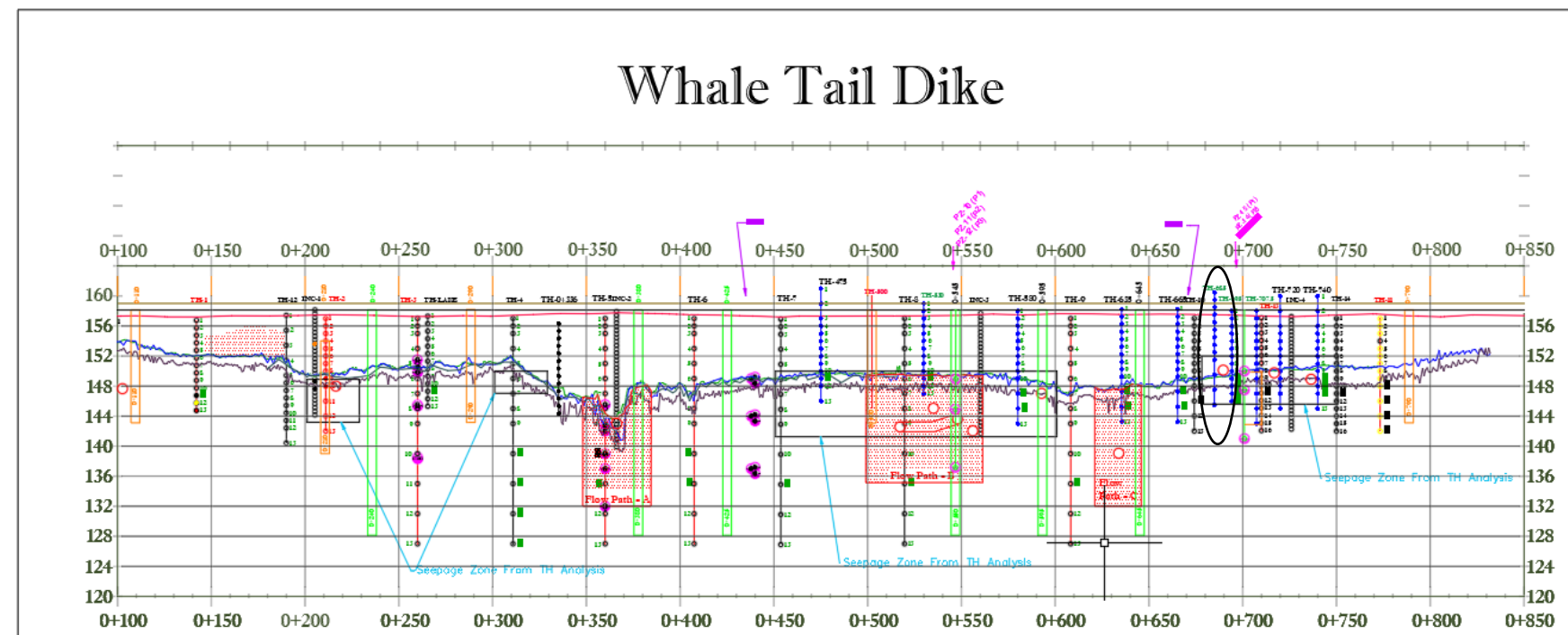
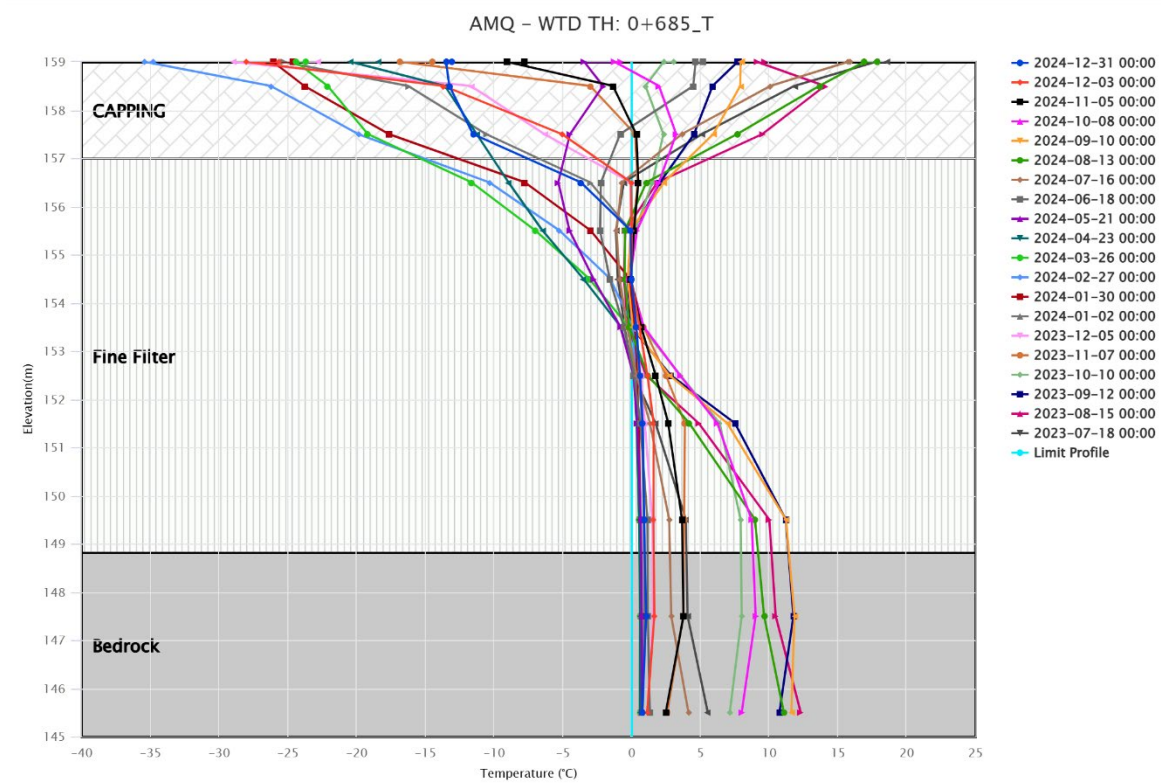
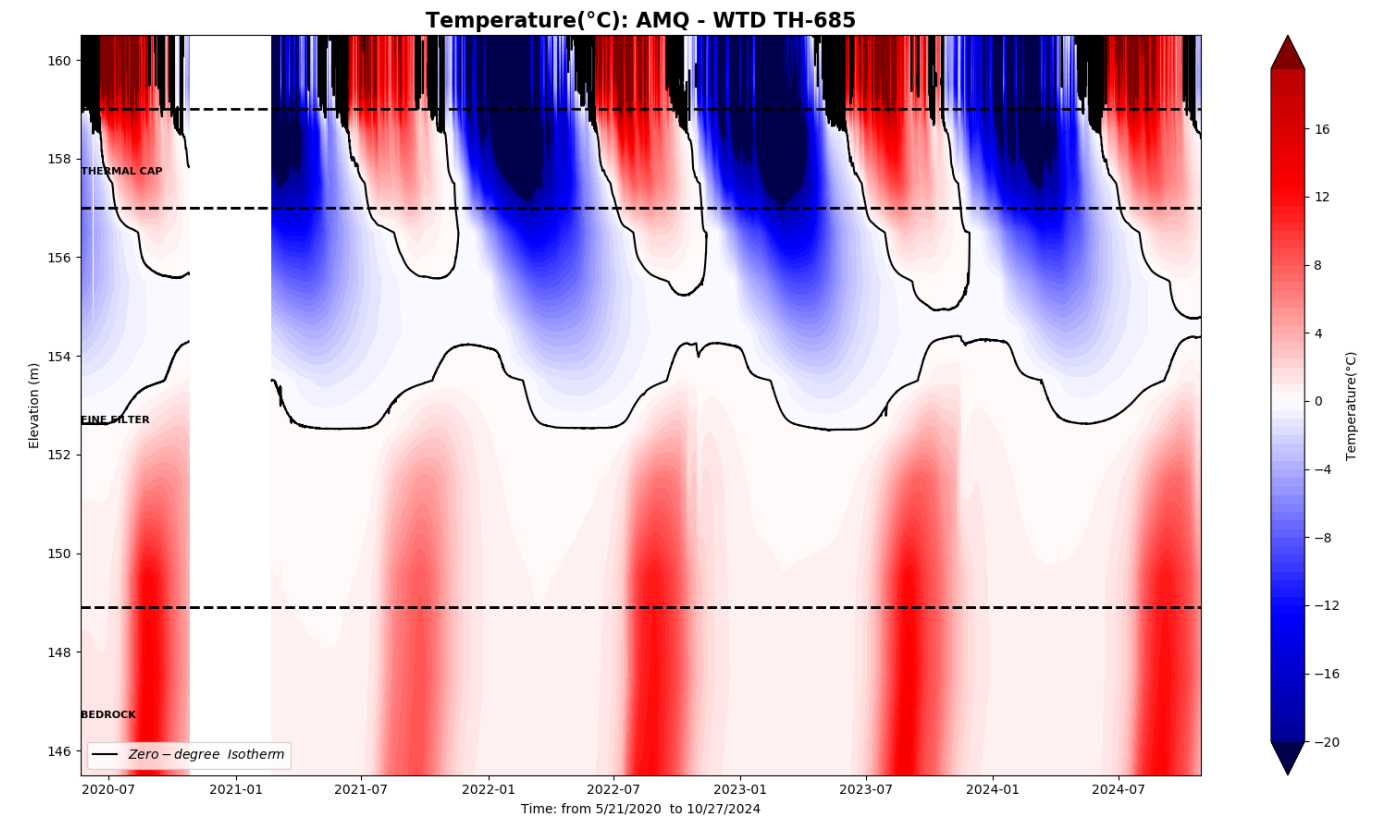
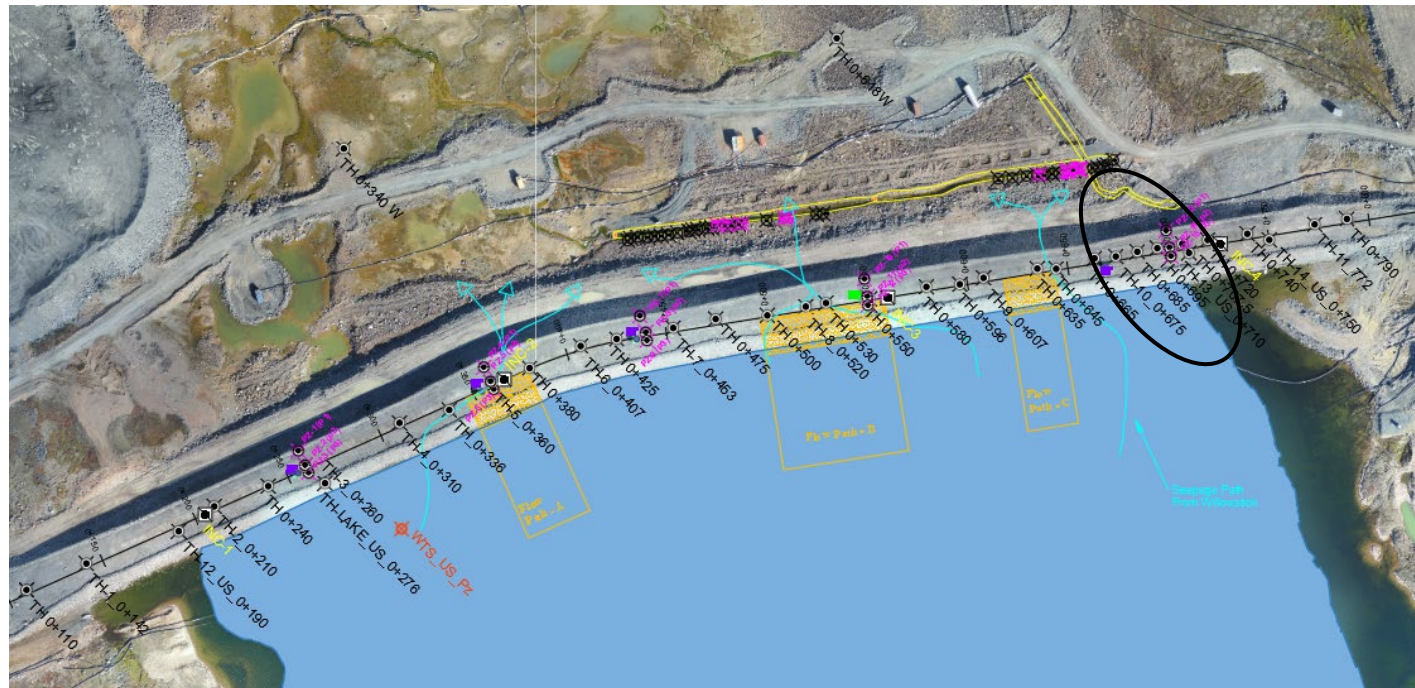


WTD-TH 0+675





**WTD-TH 0+685**

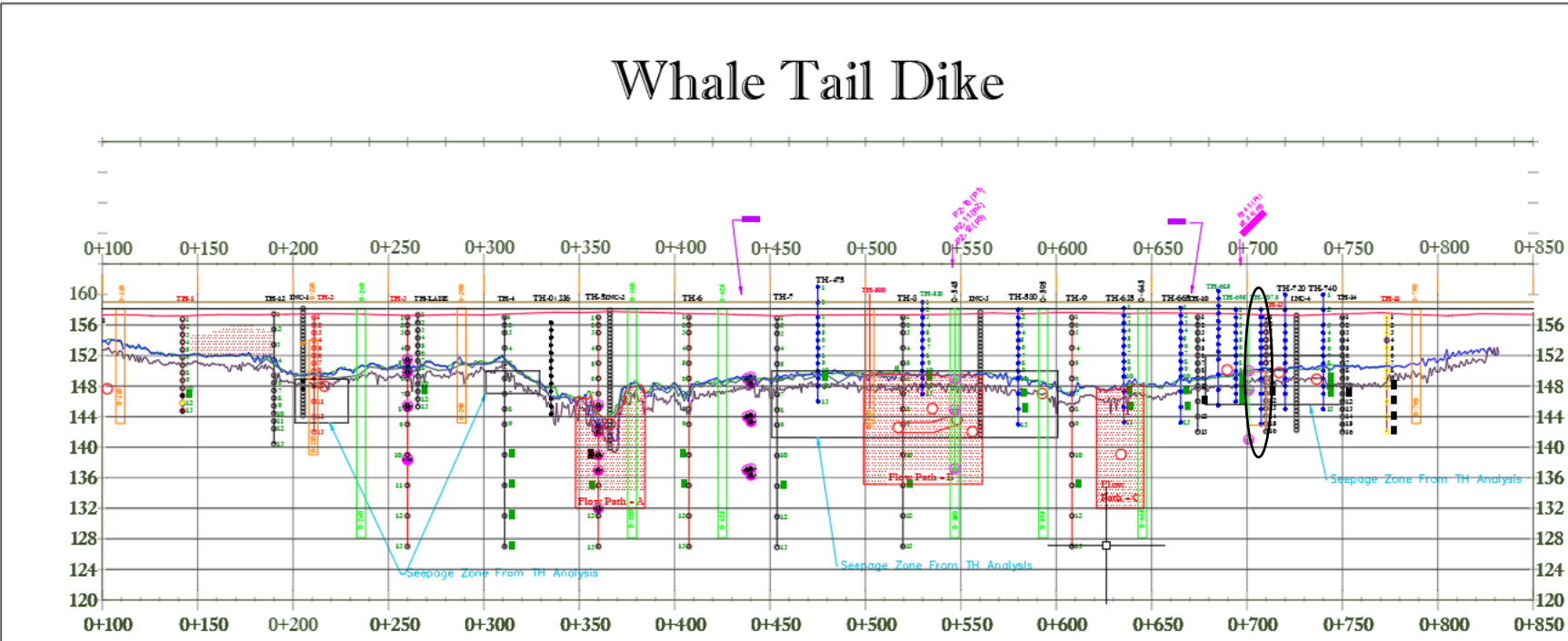
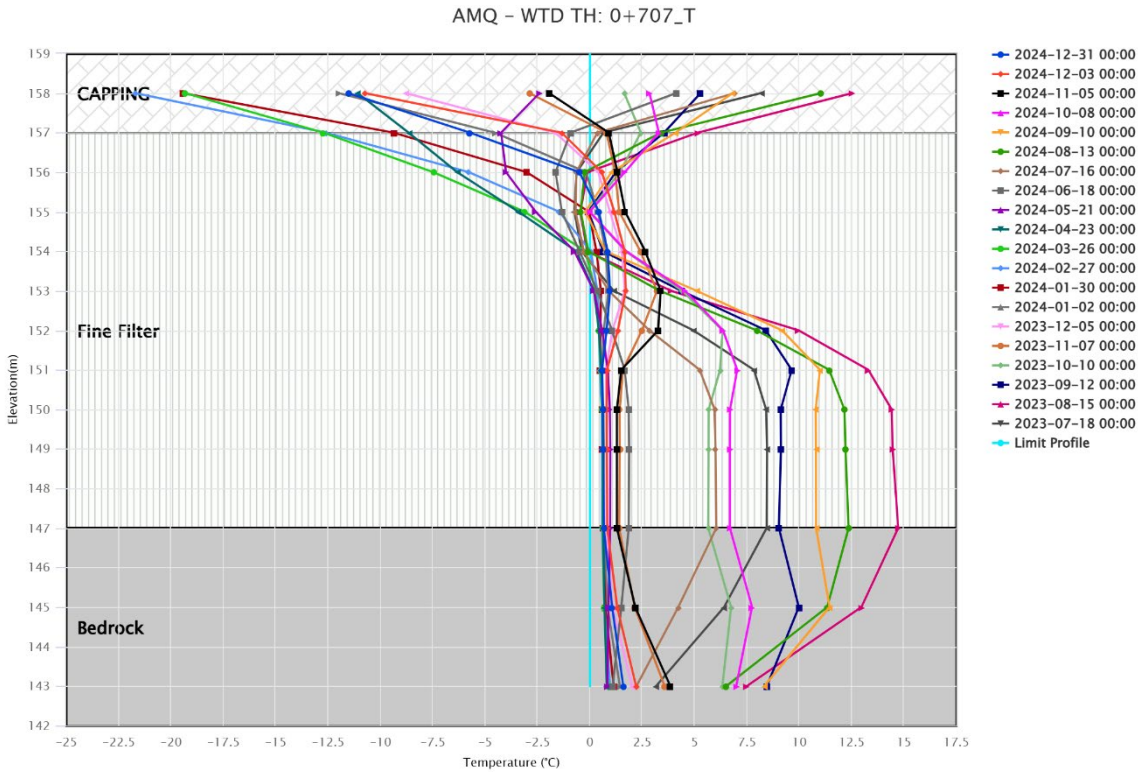
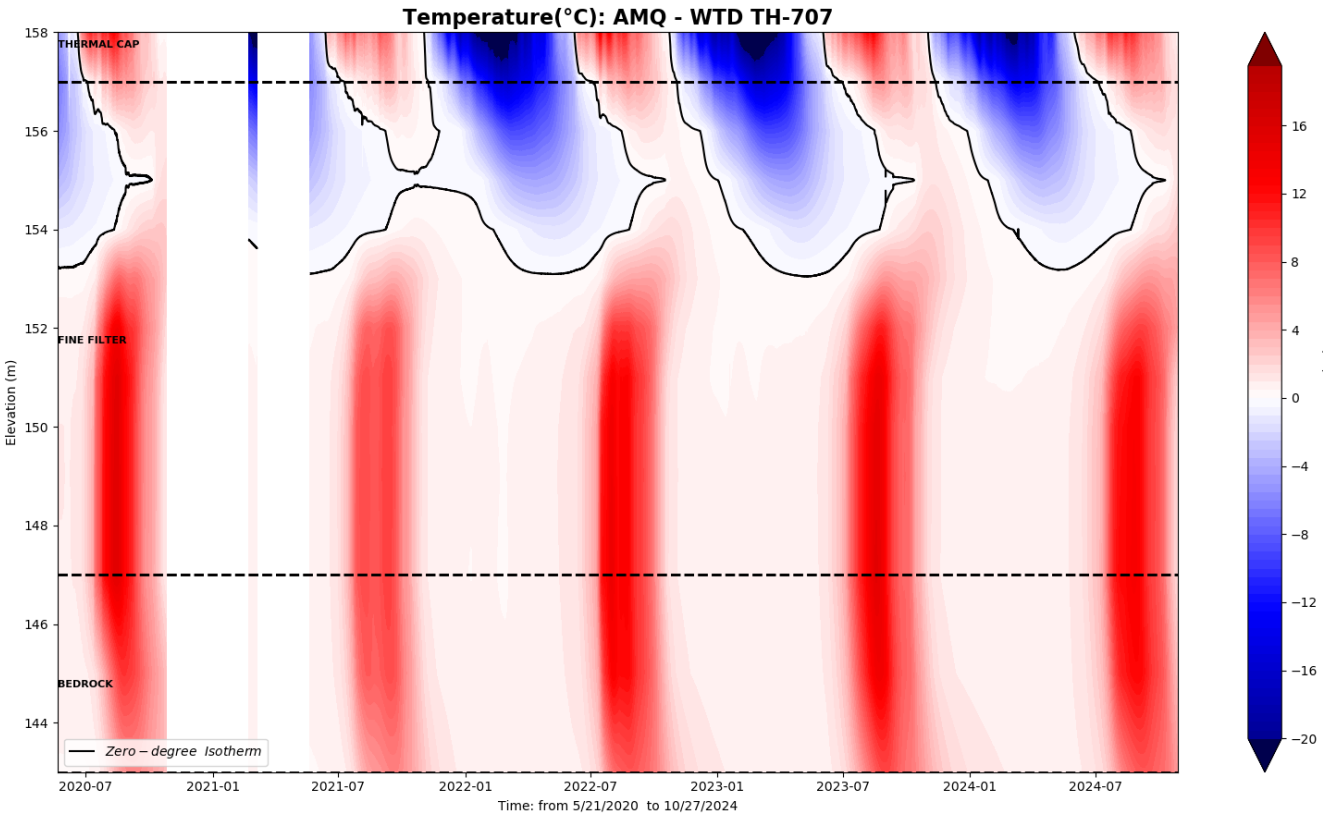
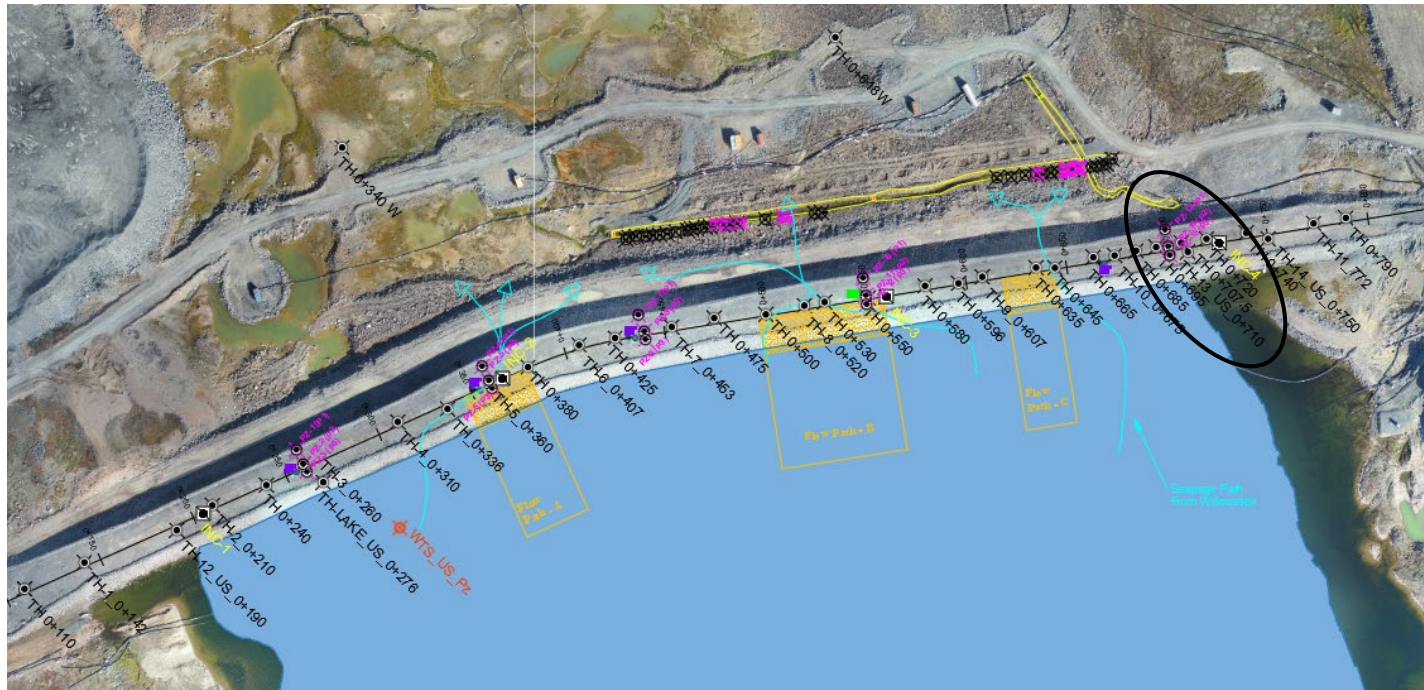




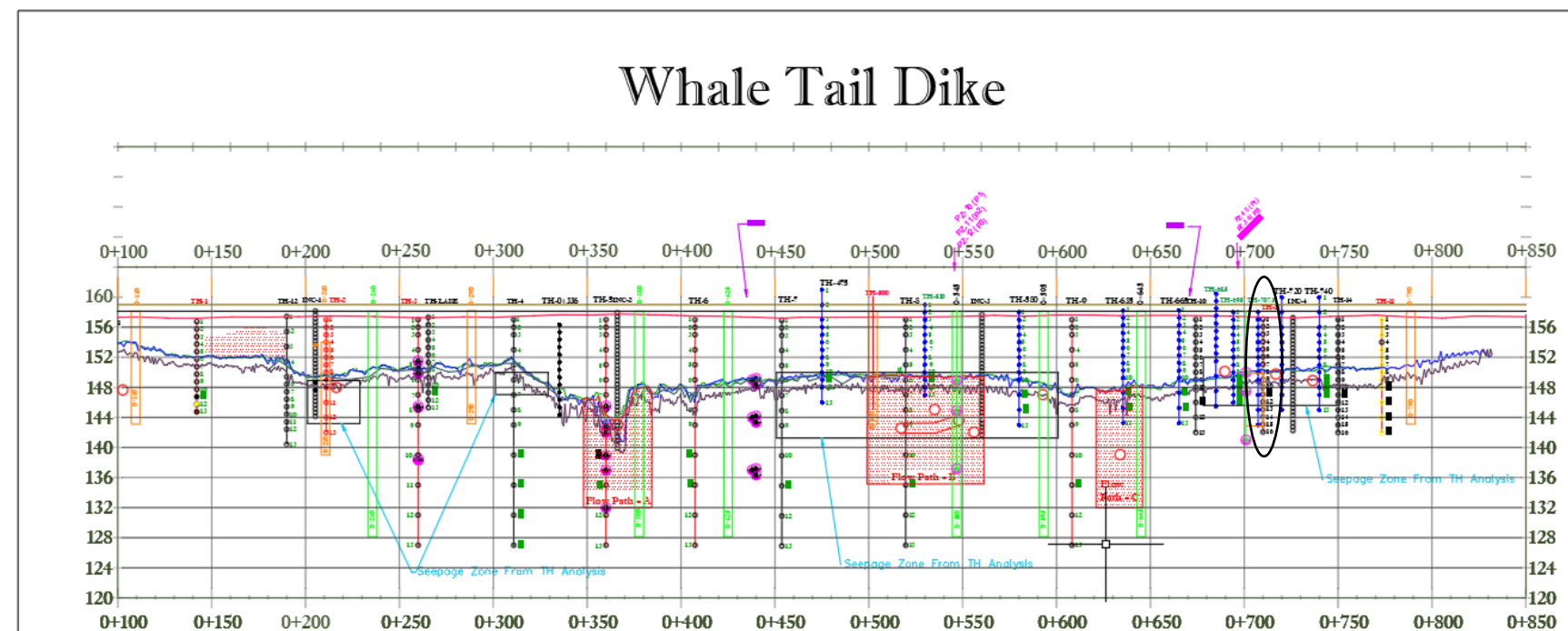
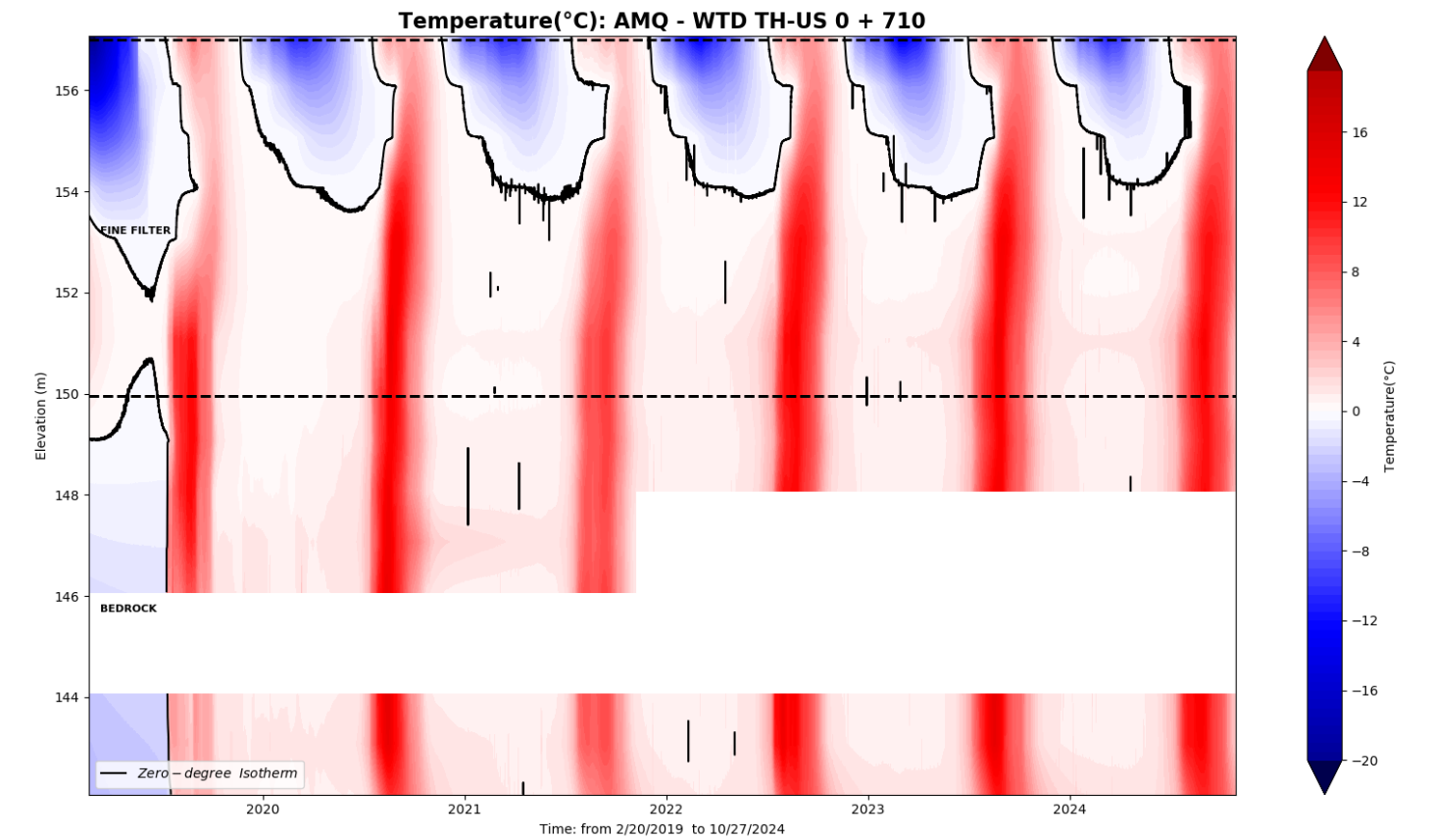




WTD-TH 0+707

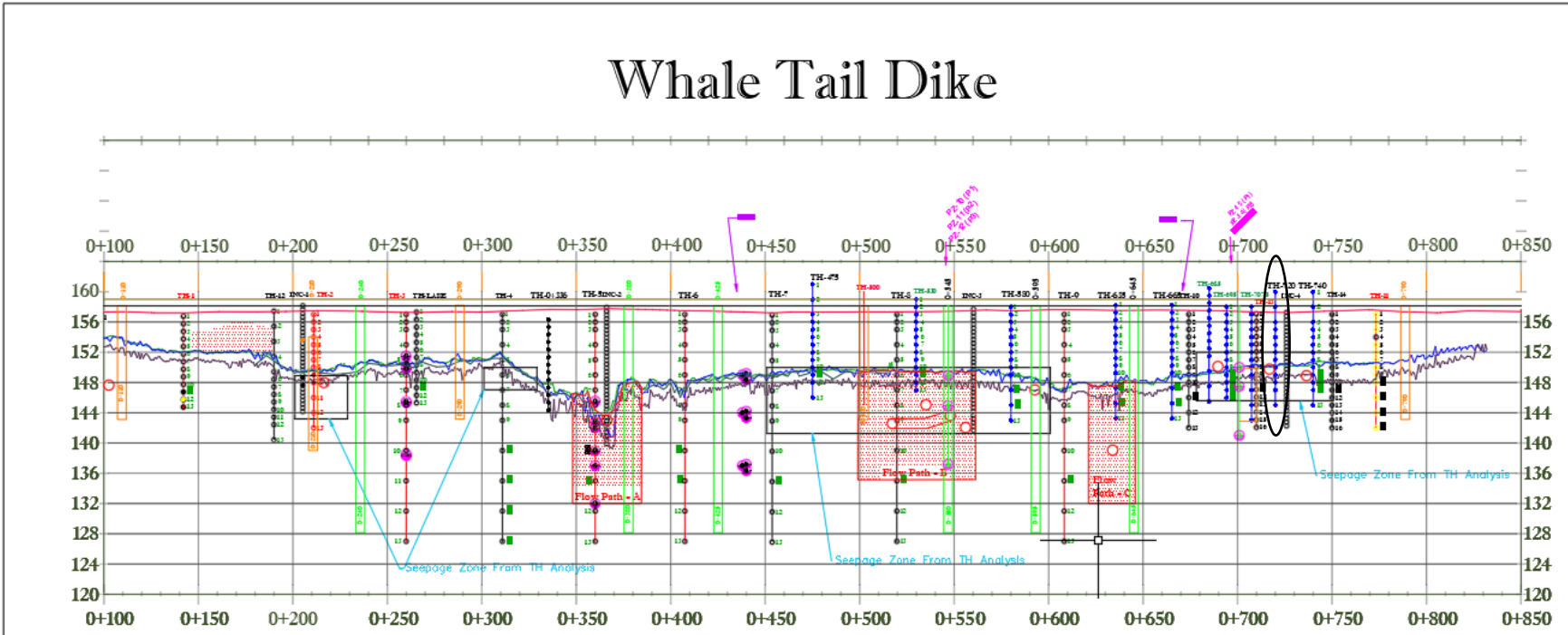
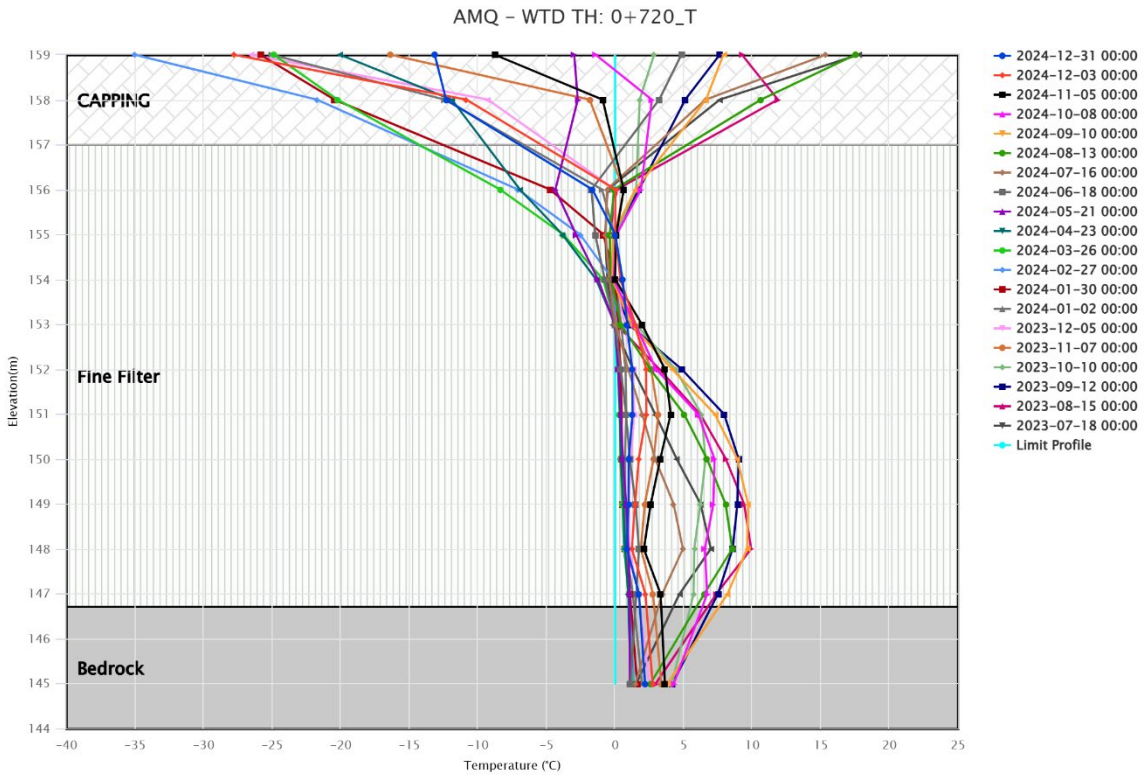
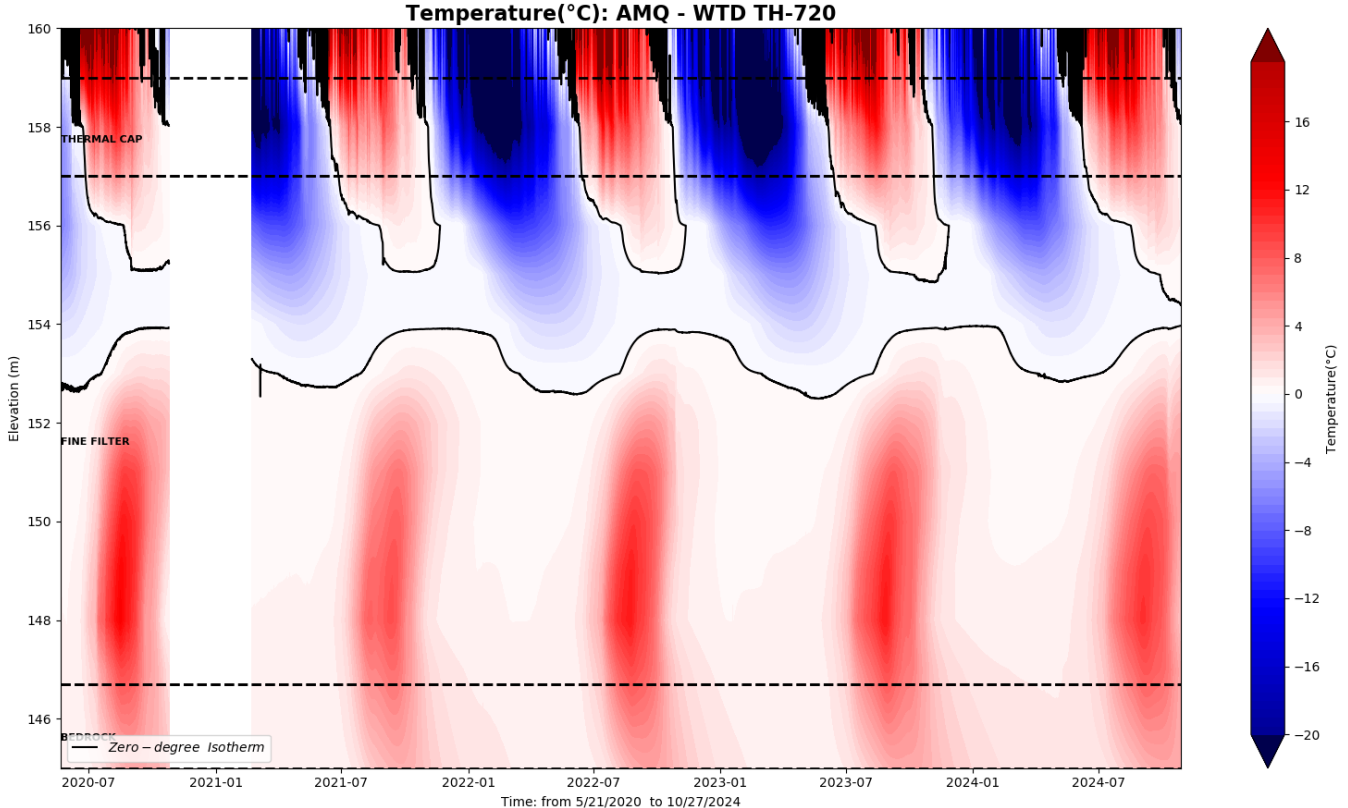
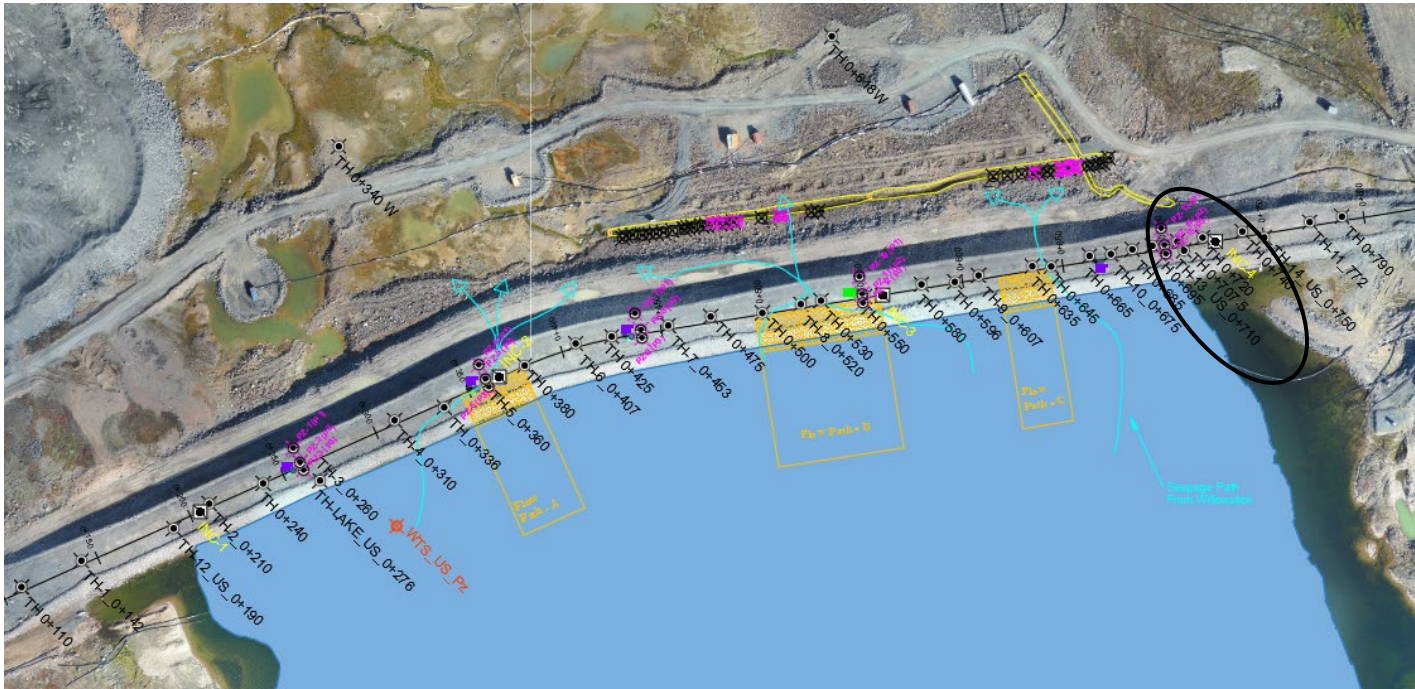




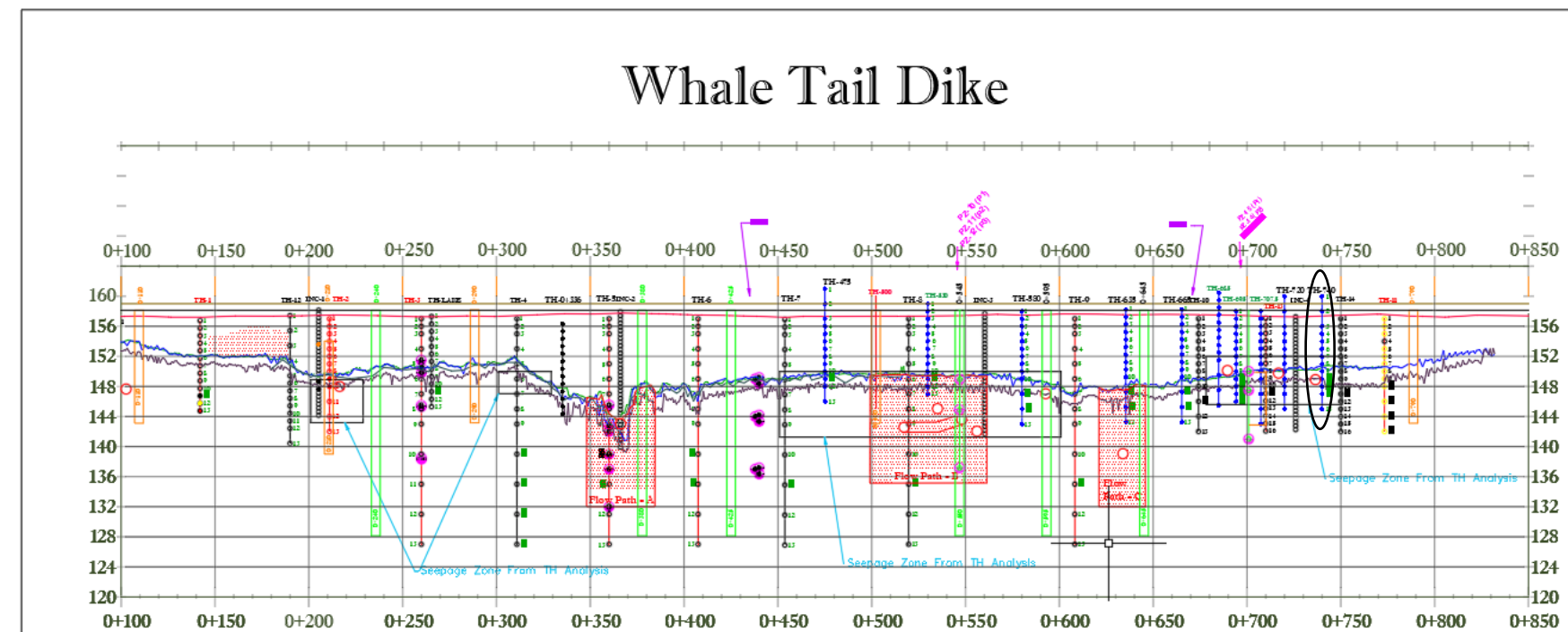
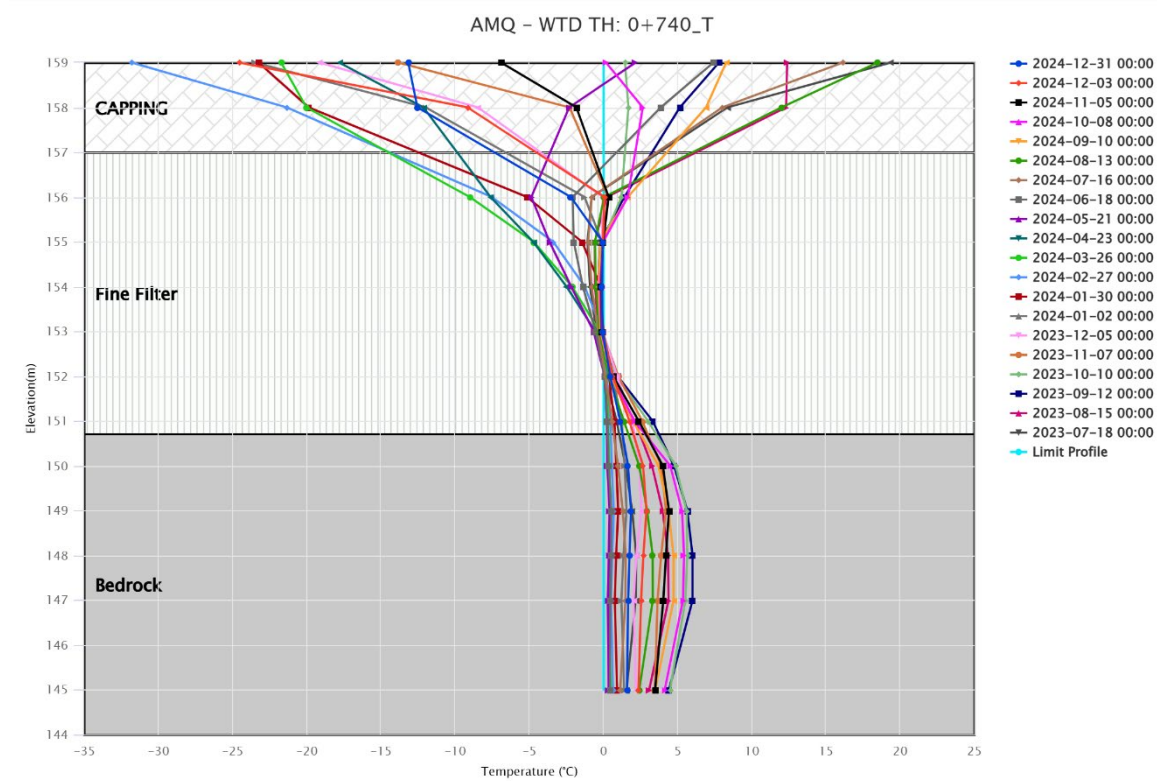
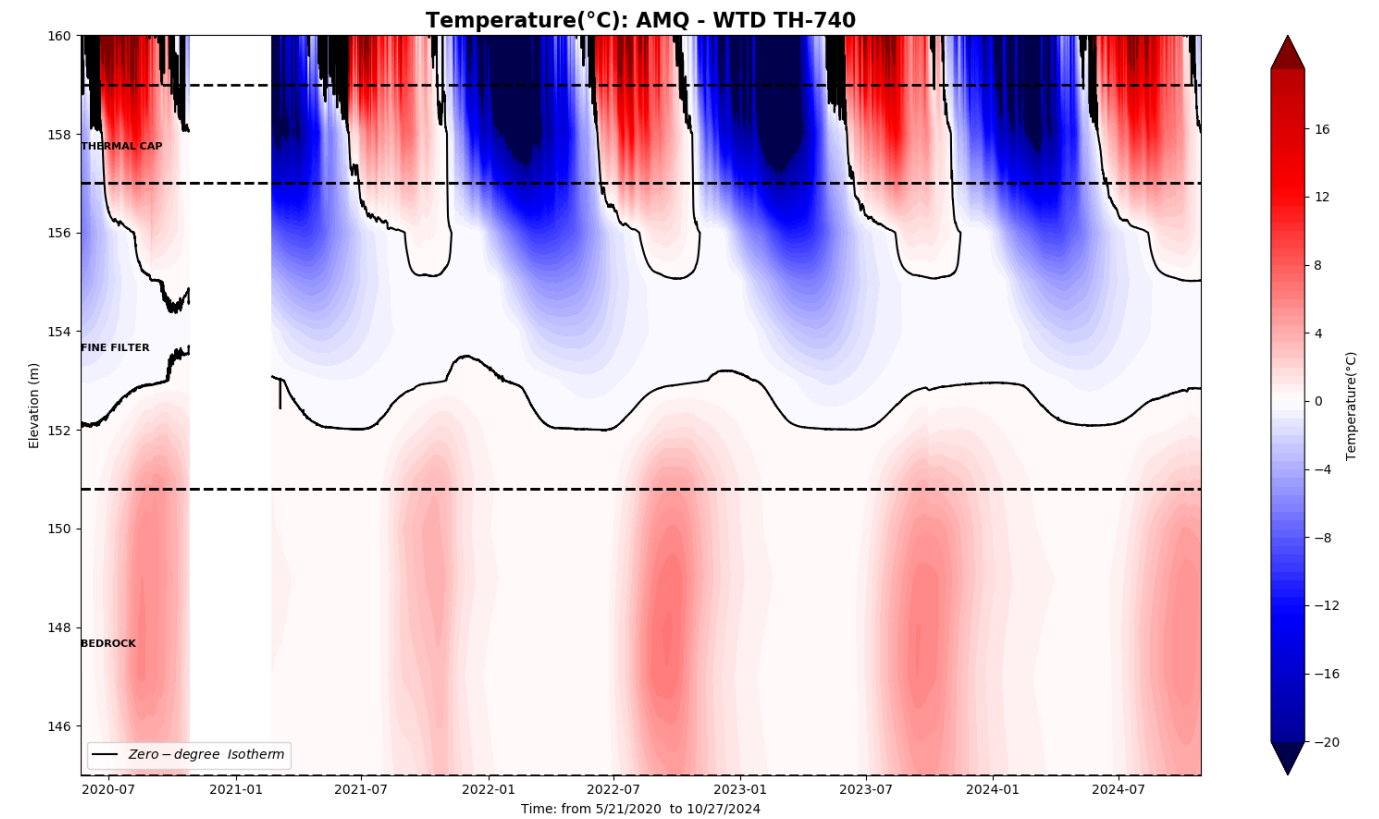




**WTD-TH 0+720**

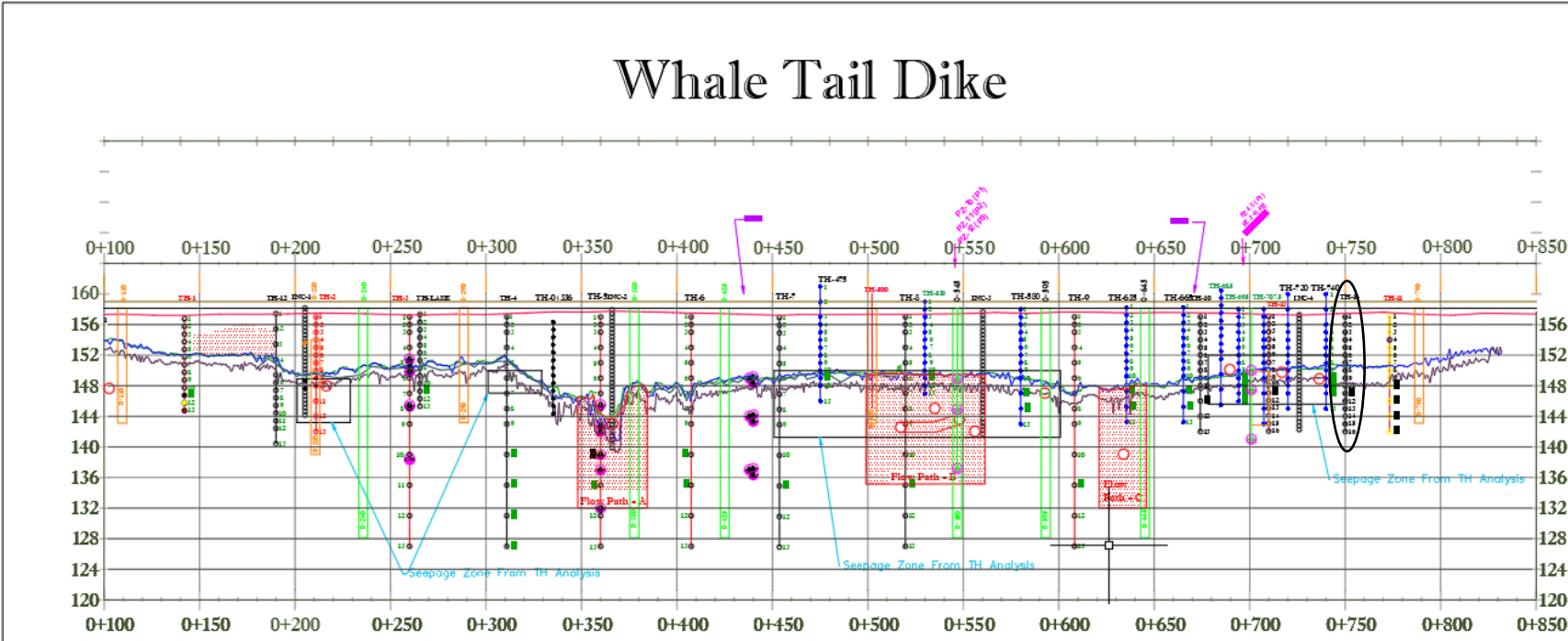
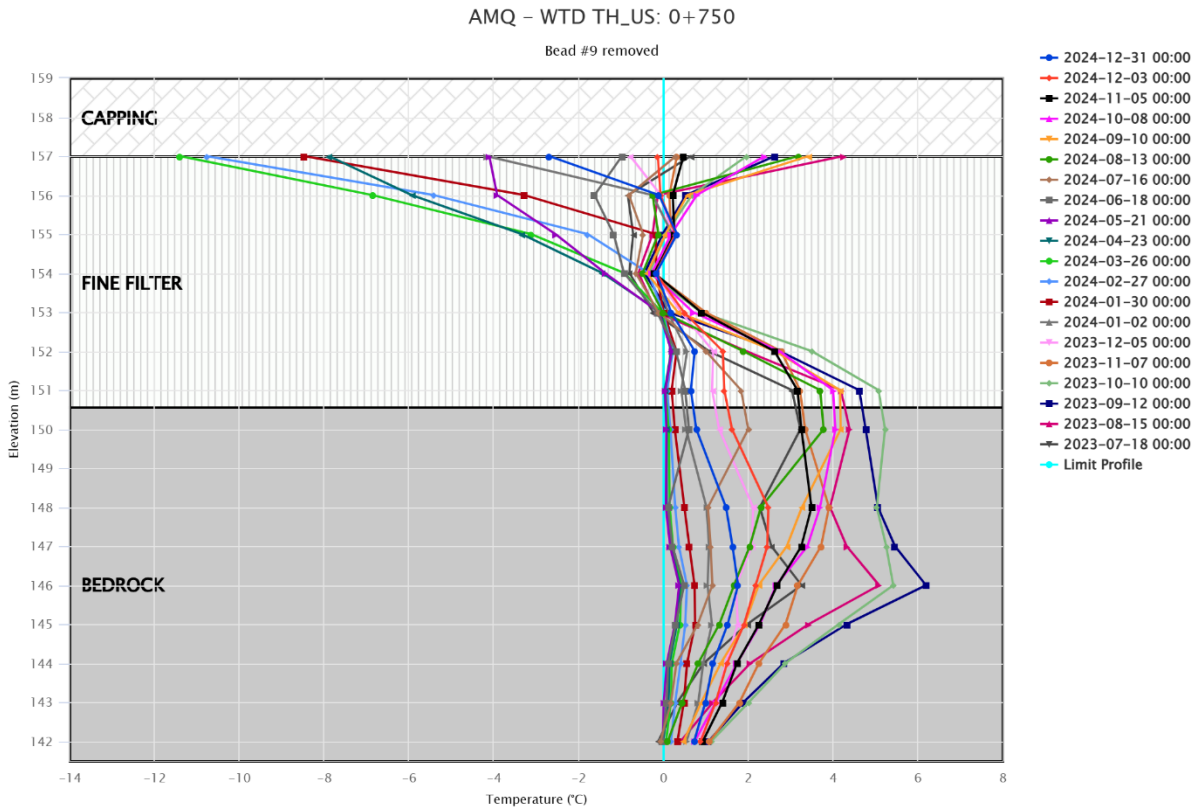
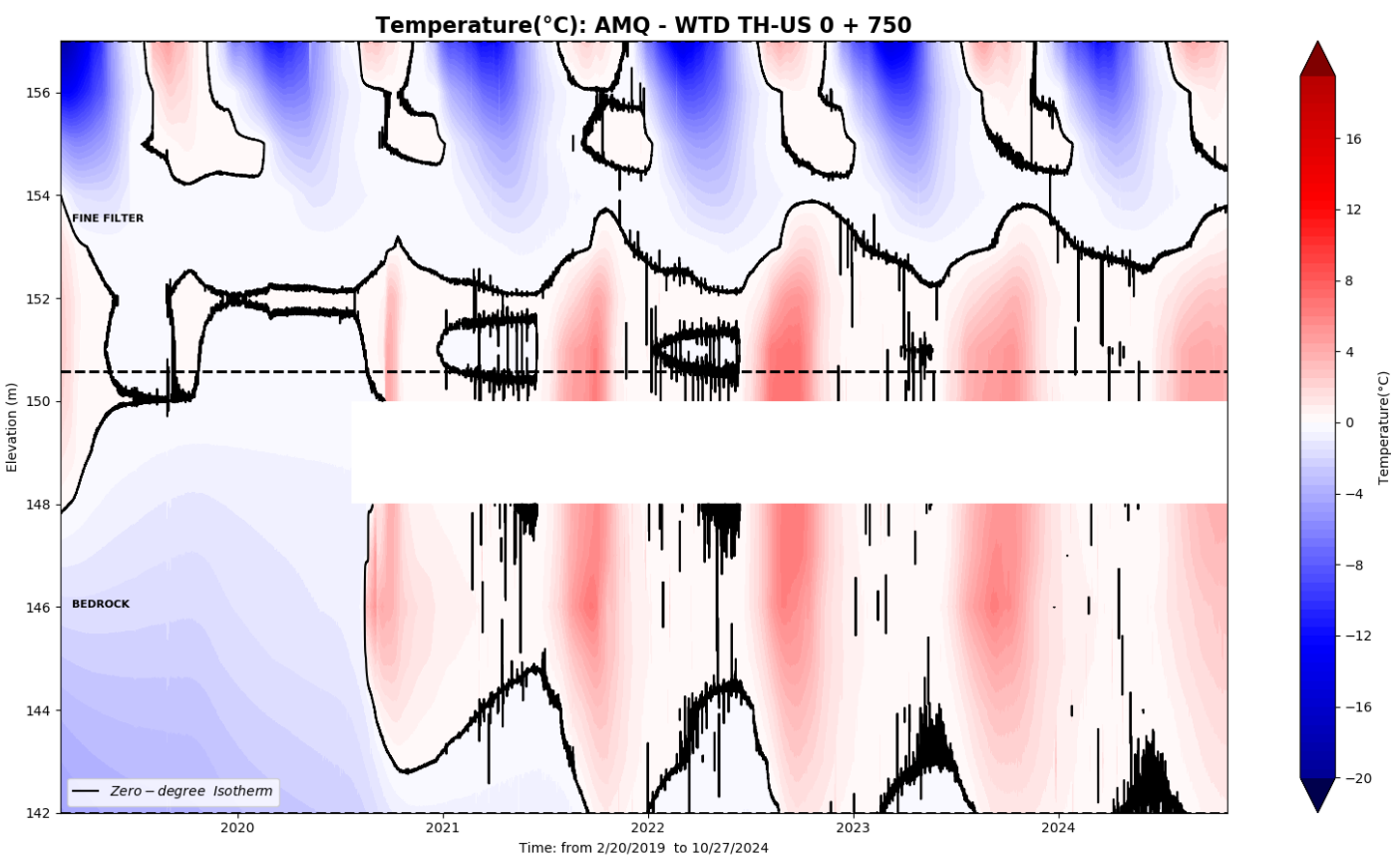
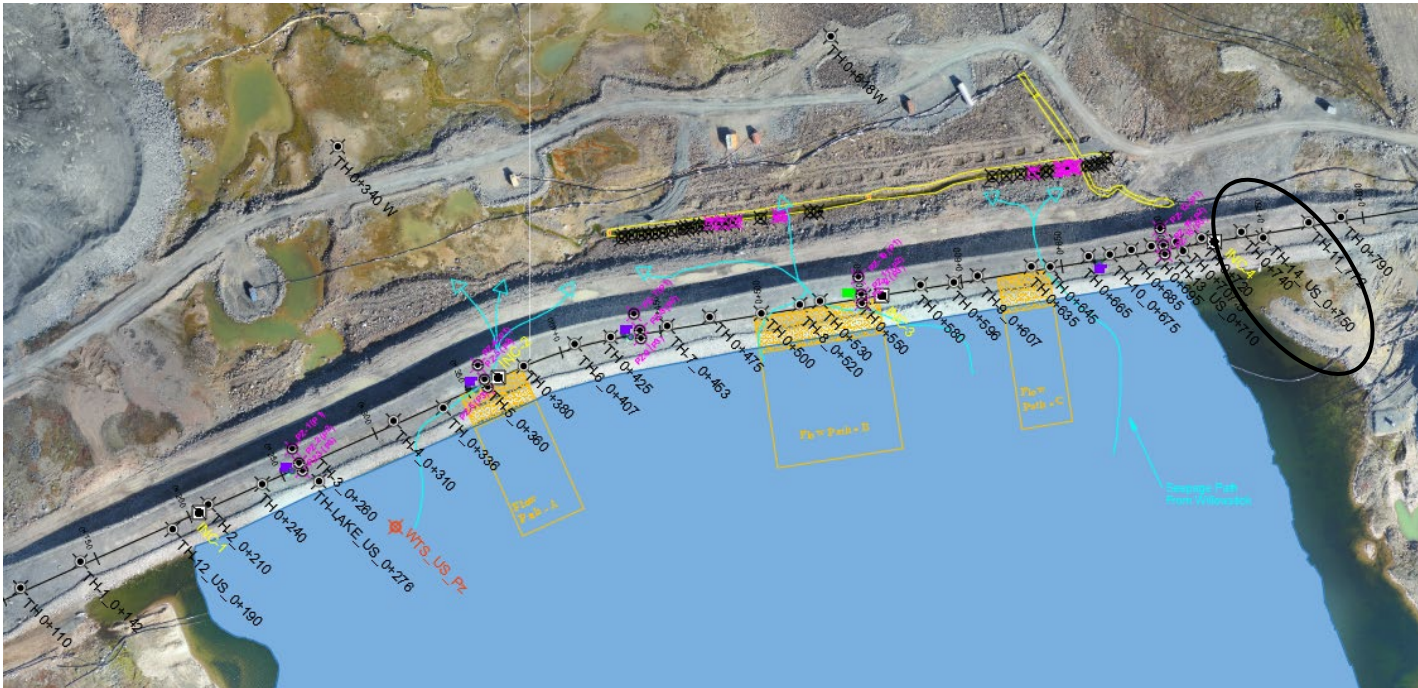






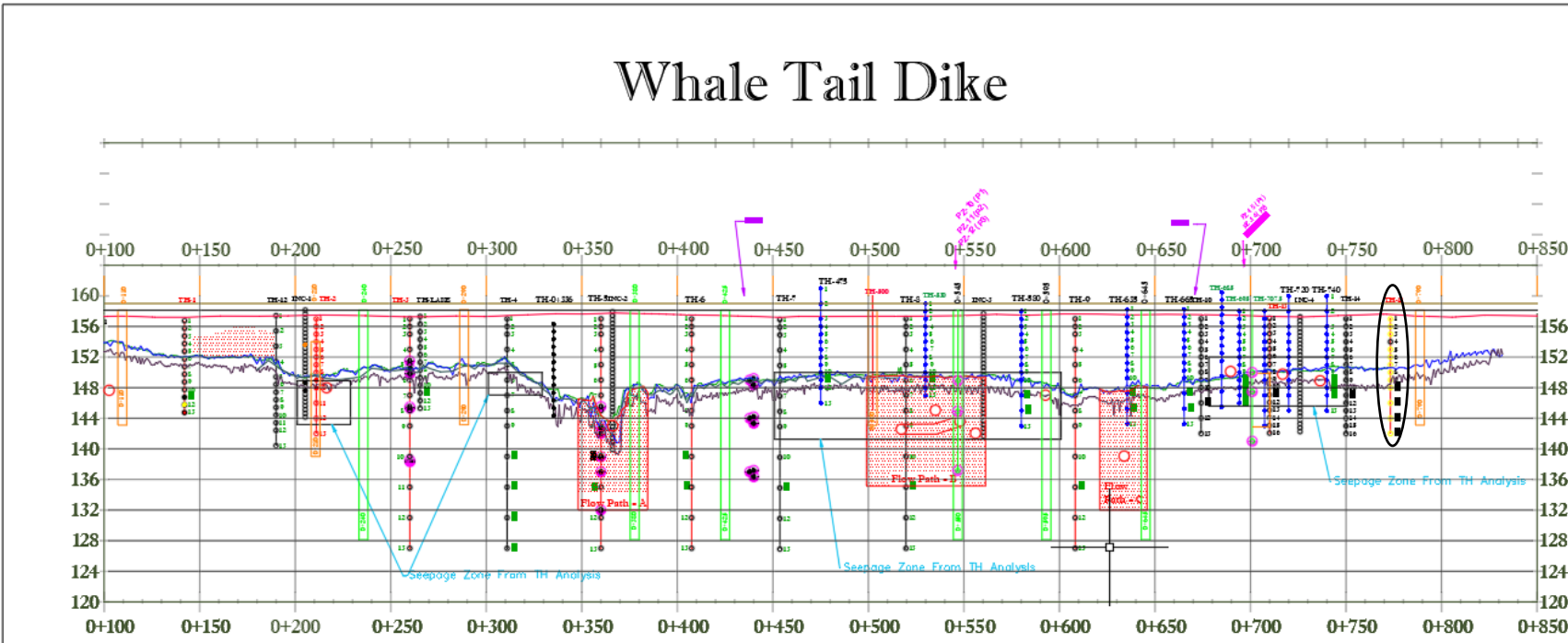
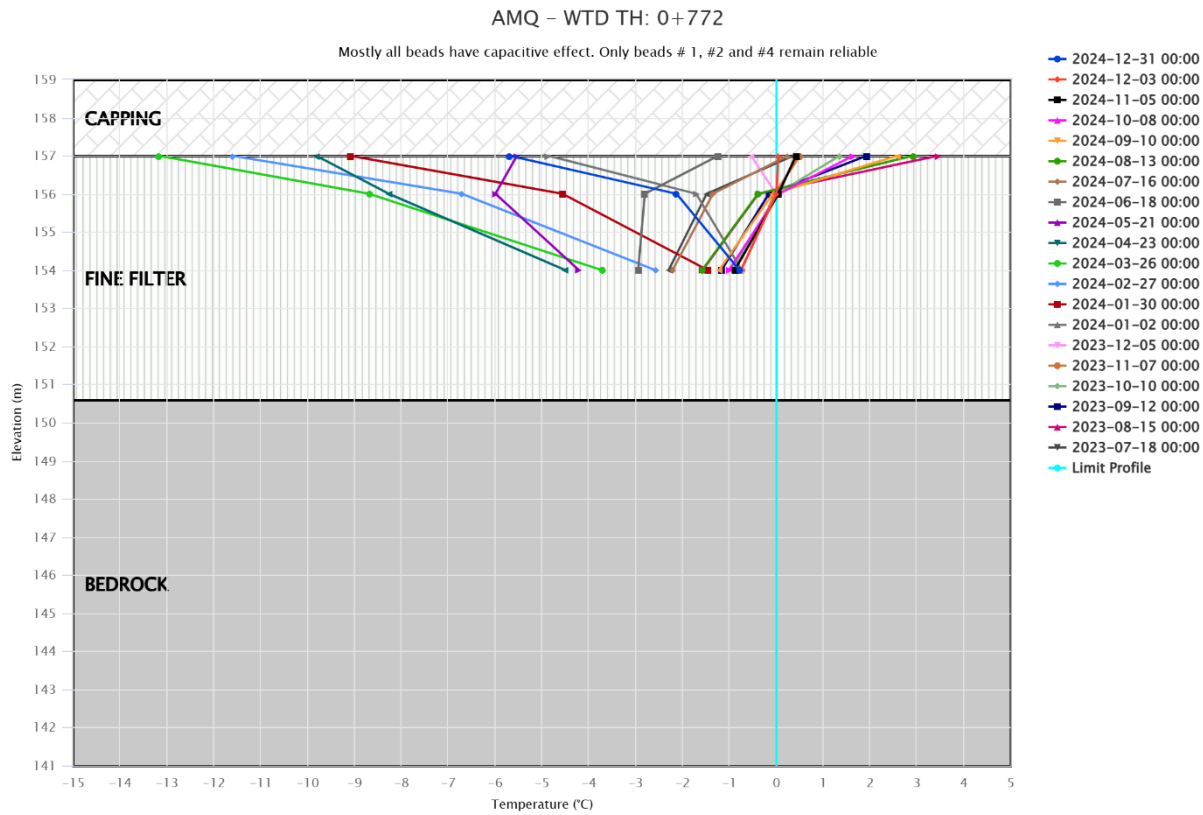
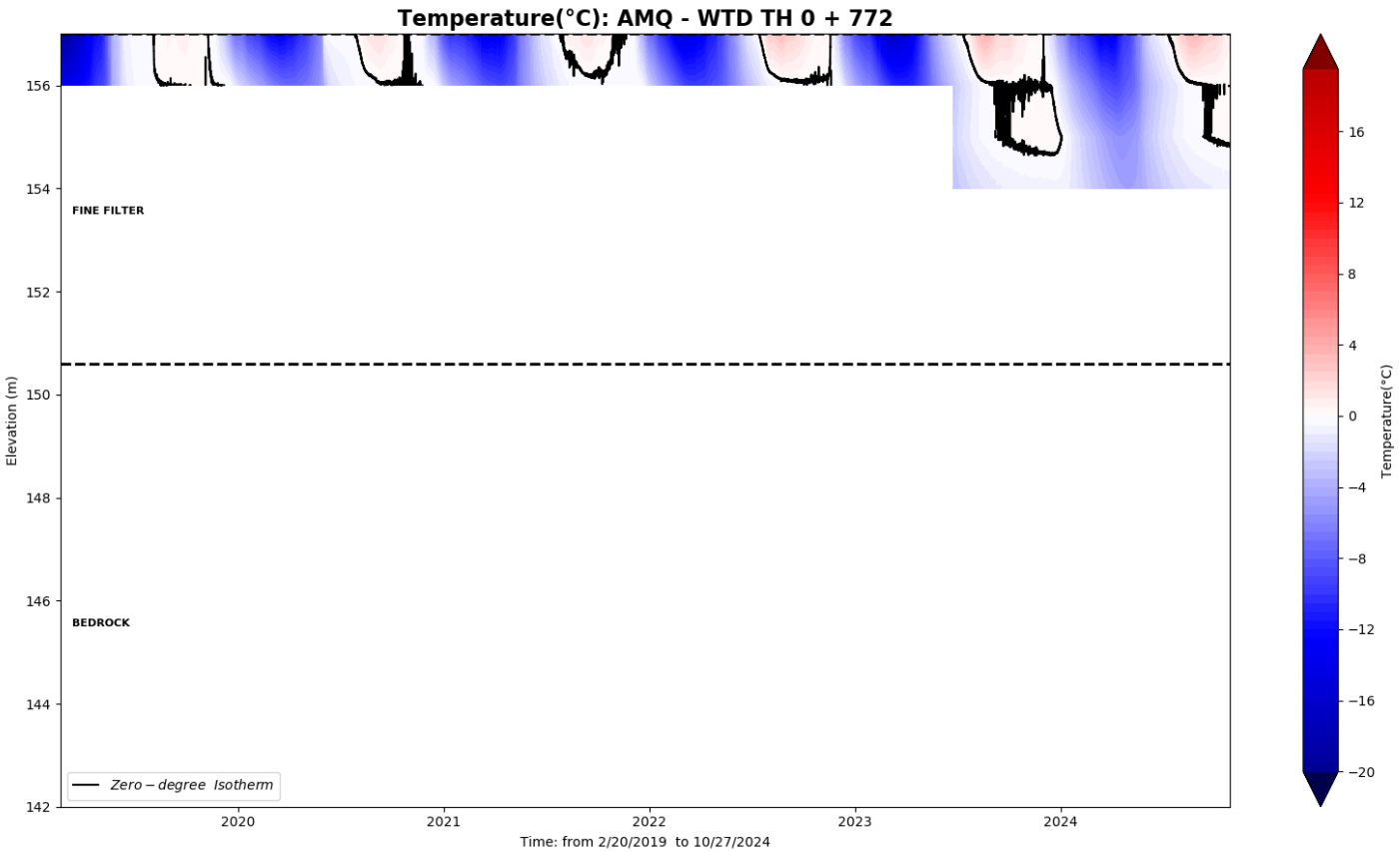
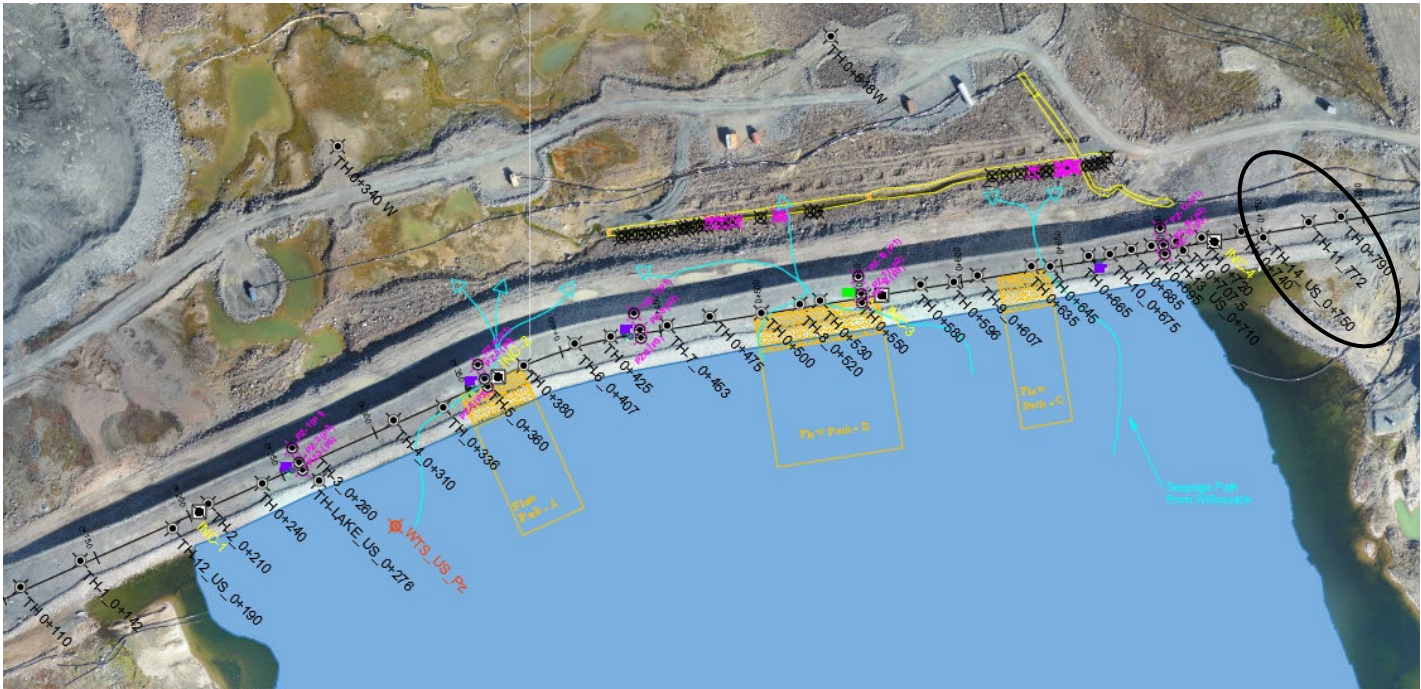


WTD-TH 0+750



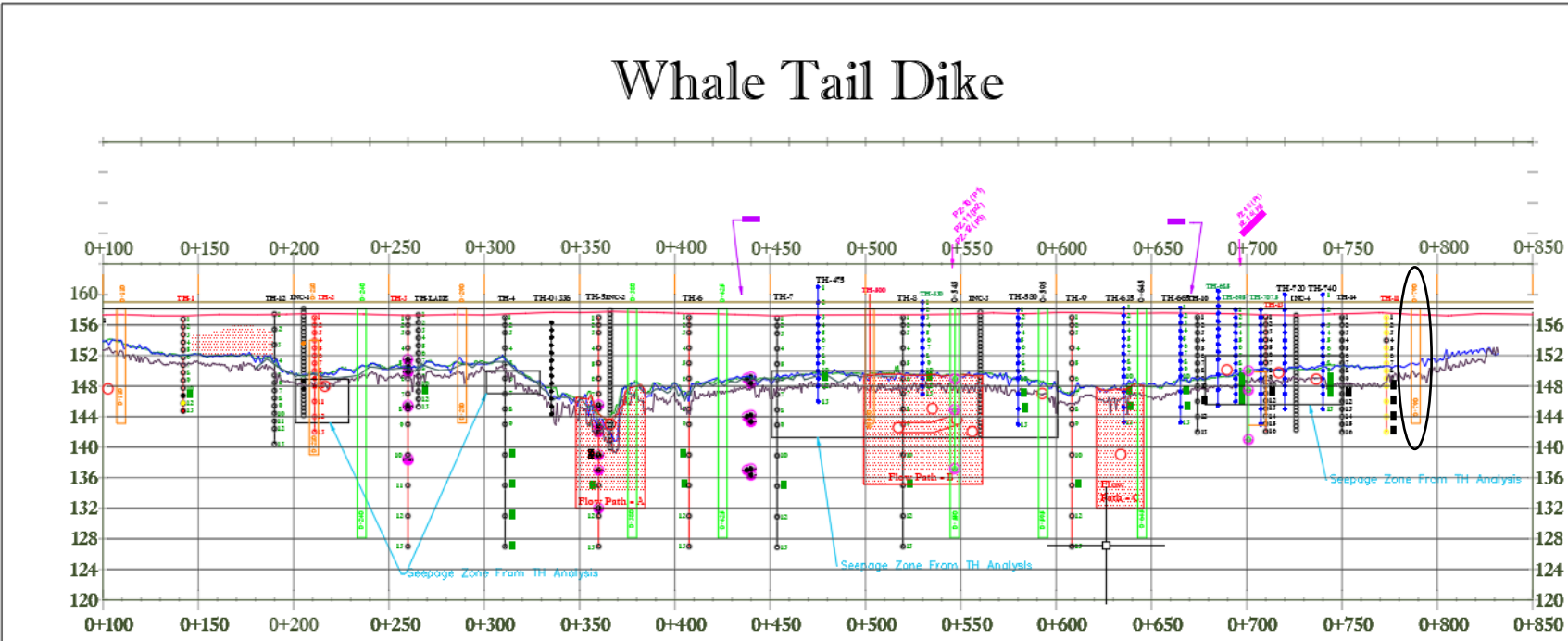
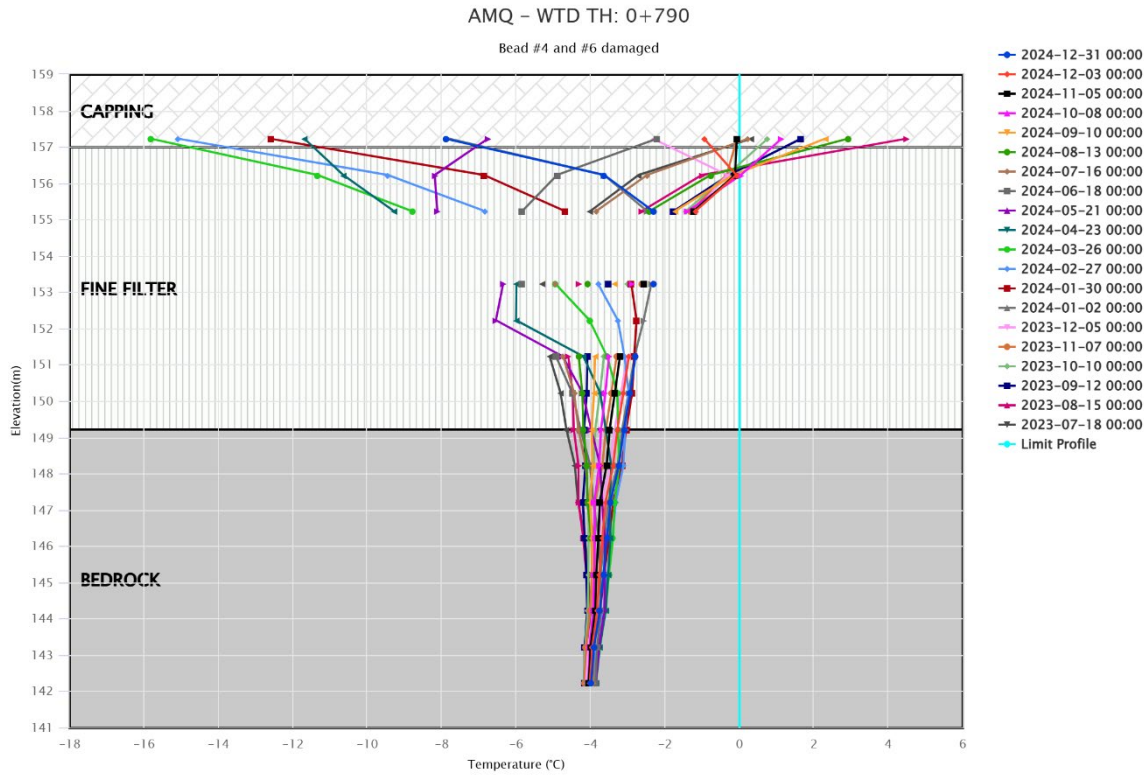
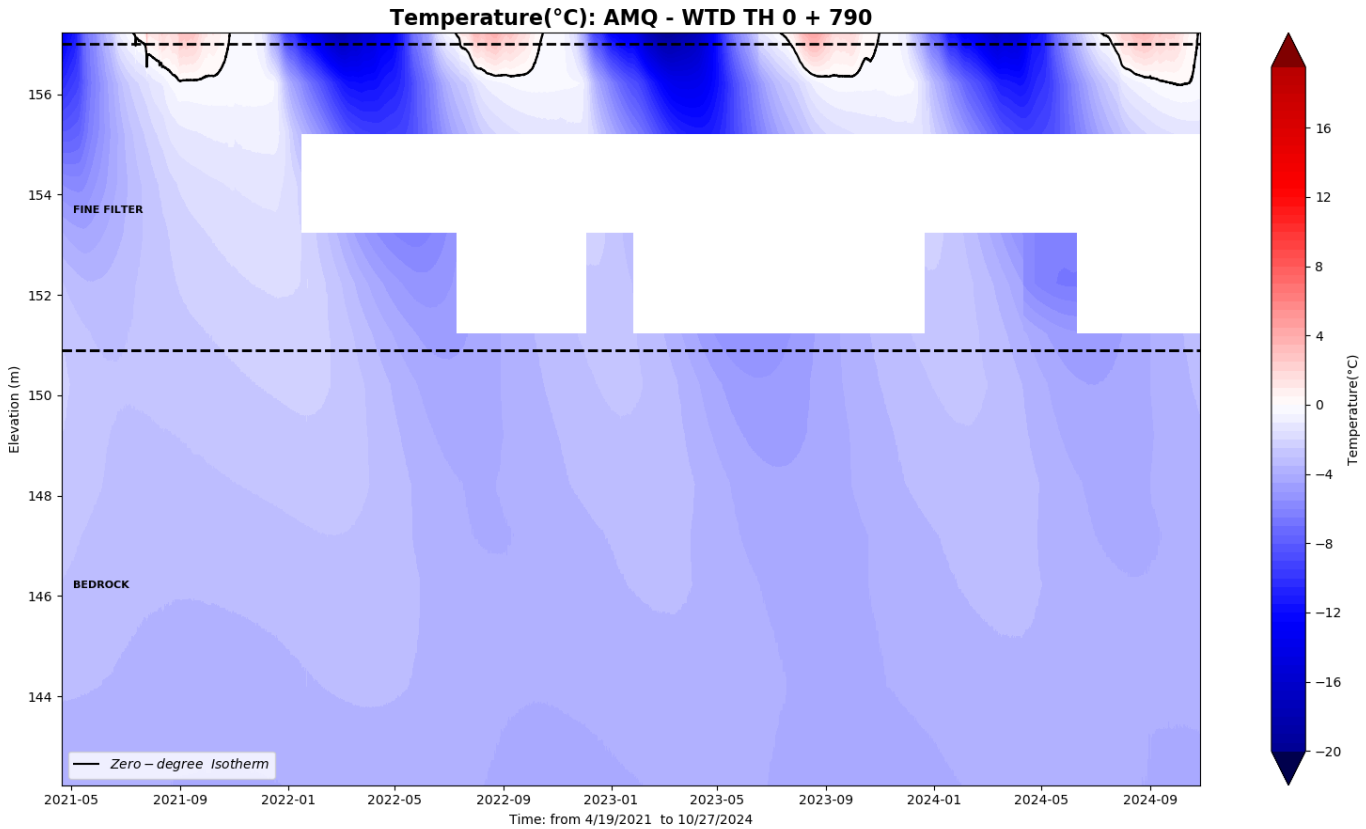
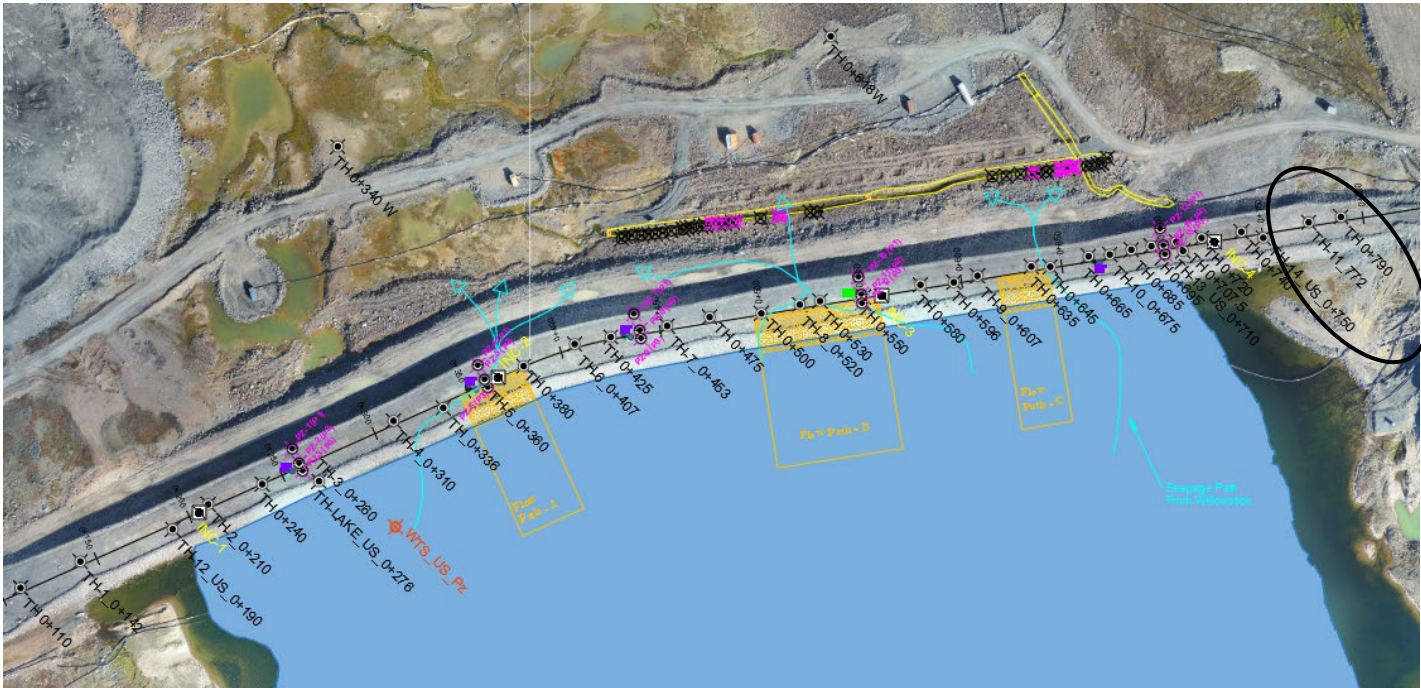


WTD-TH 0+772 U/S



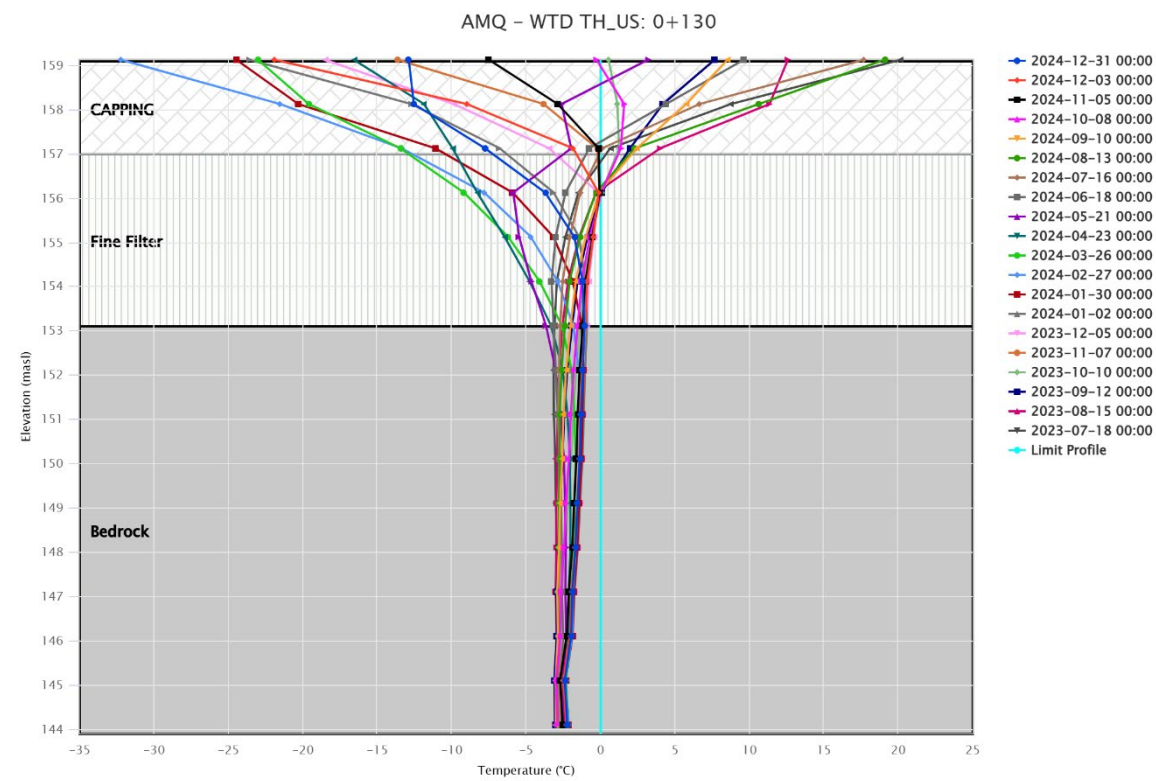
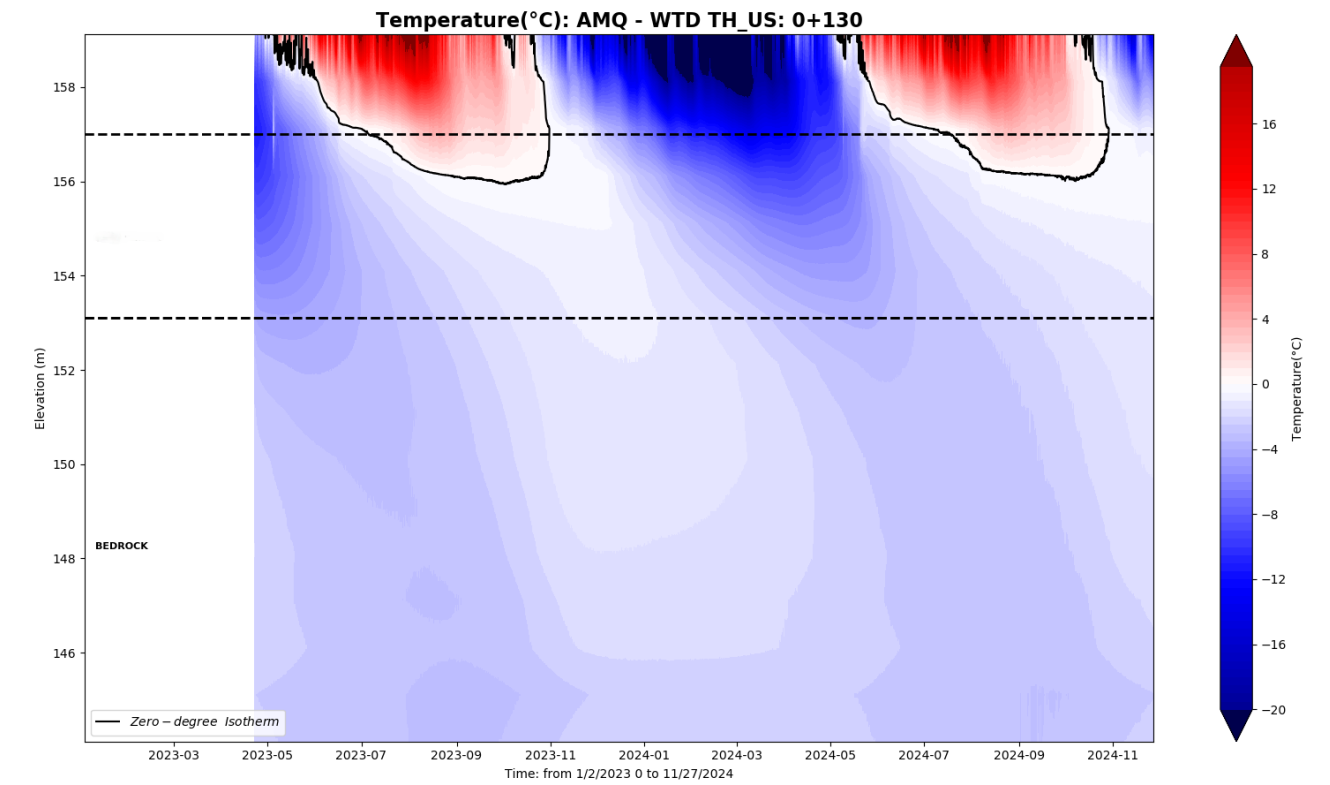
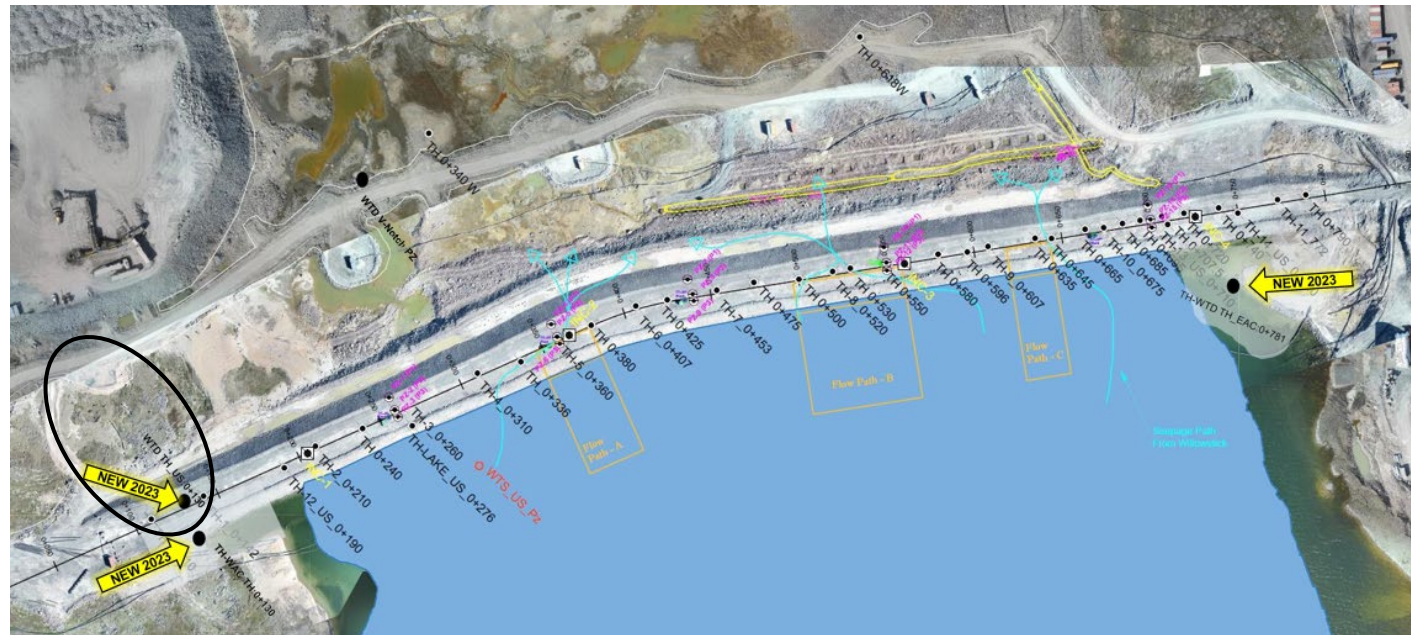


WTD-TH 0+790

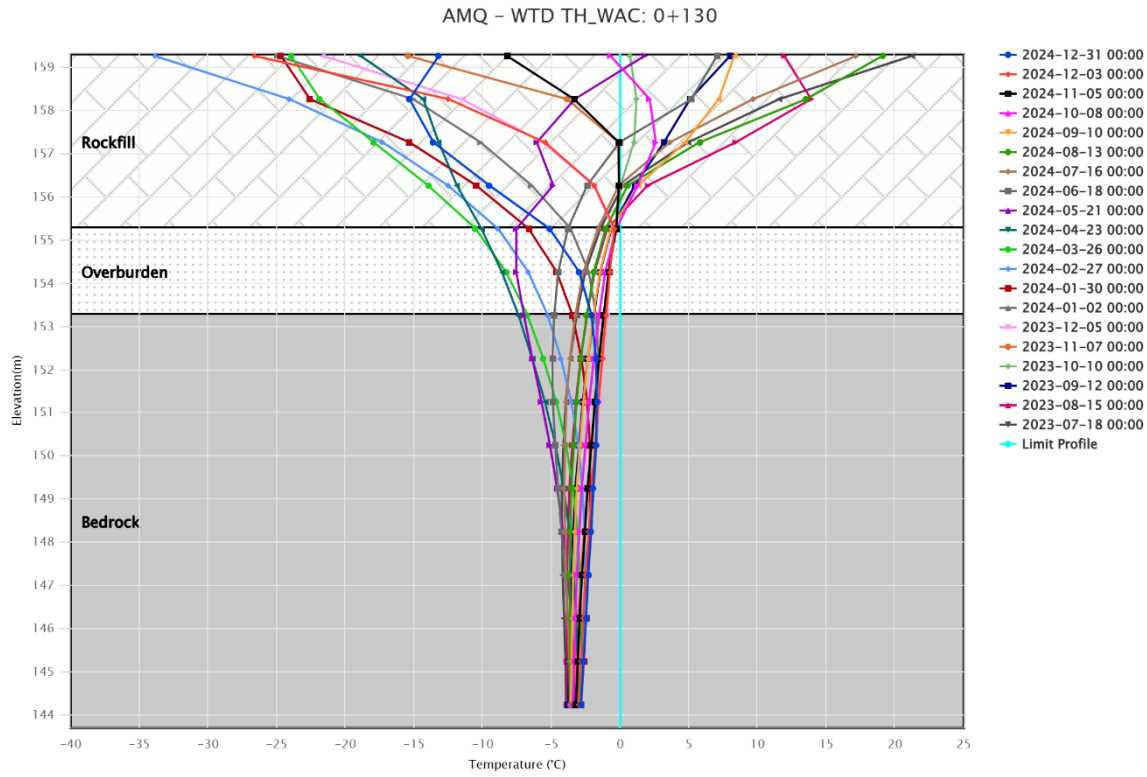
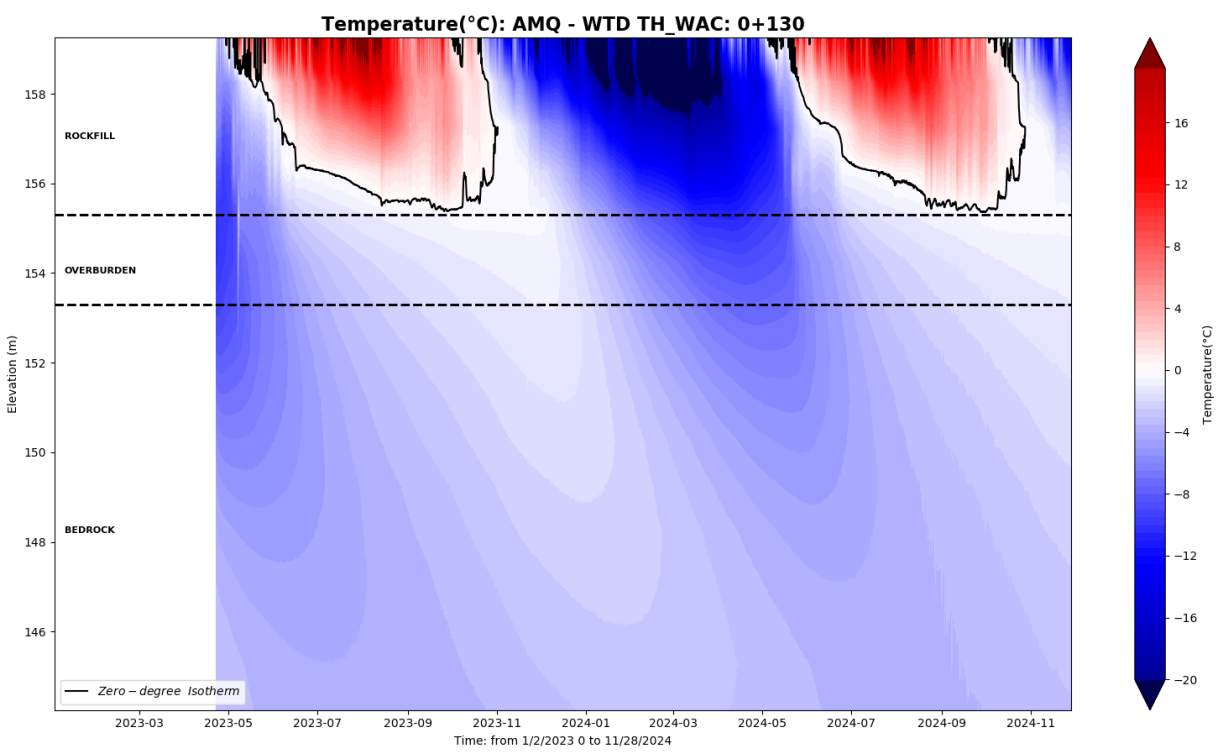
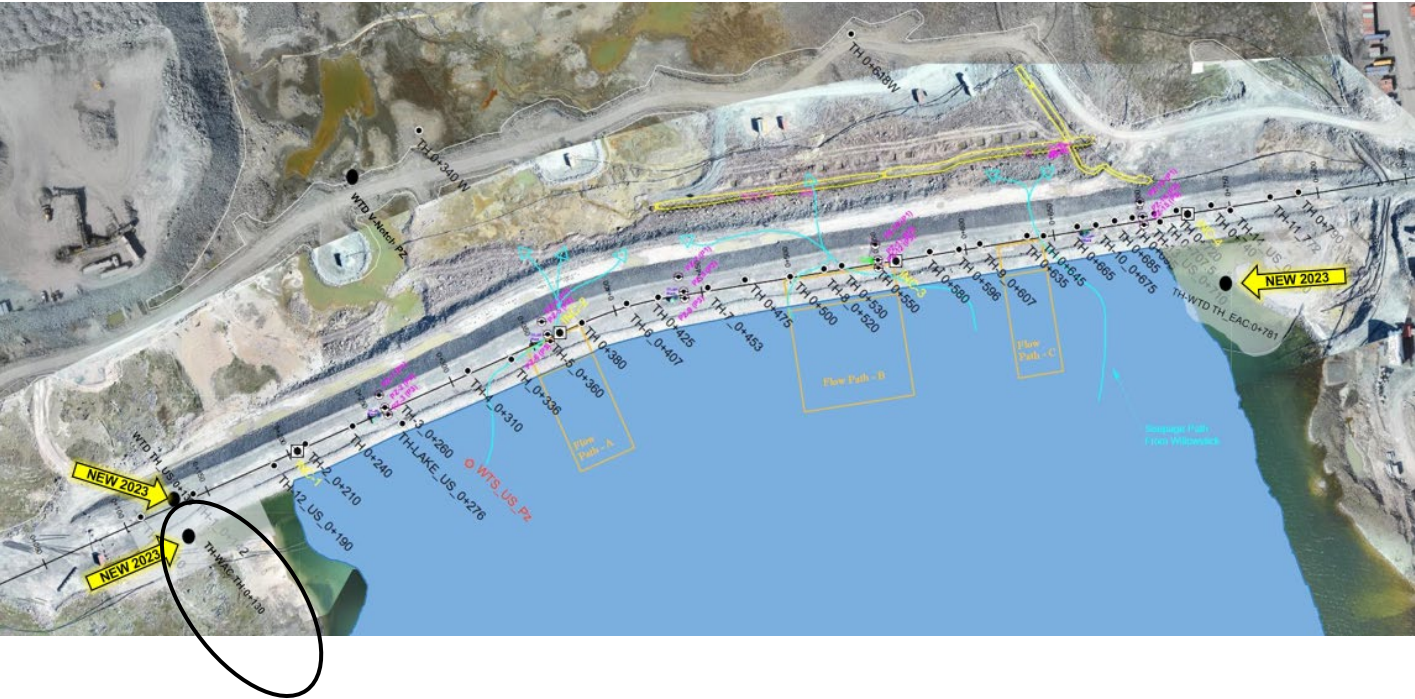




**WTD US 0+130**

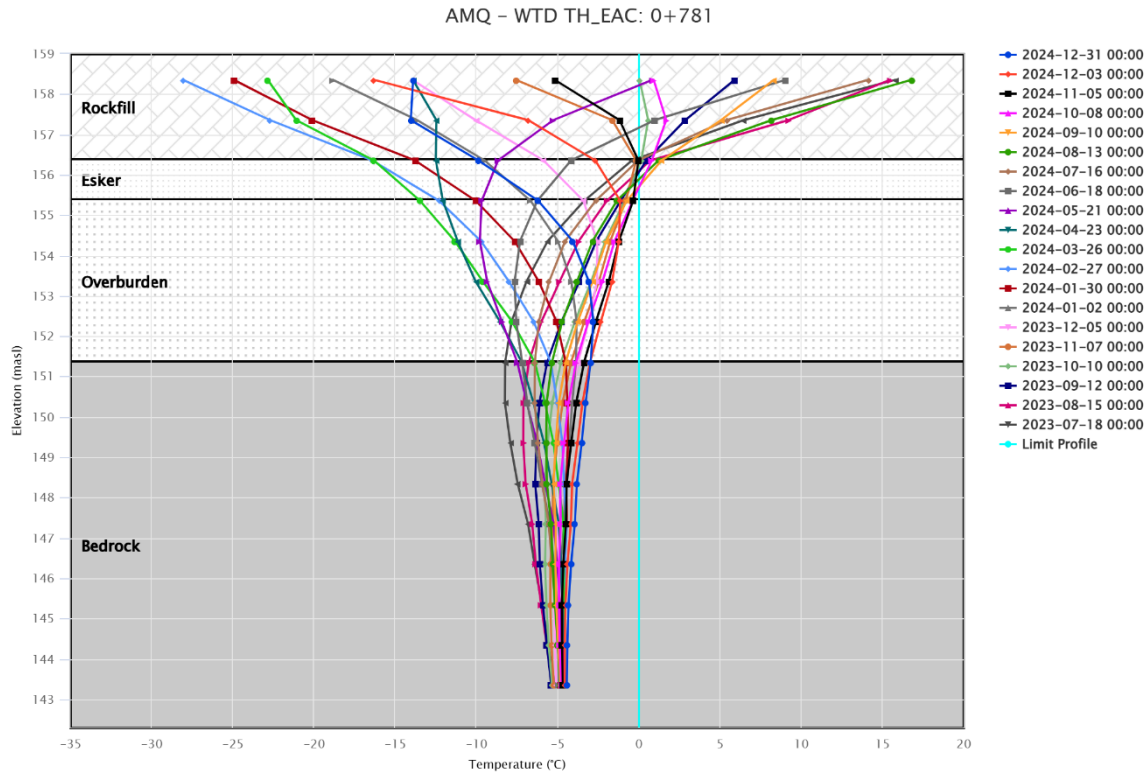
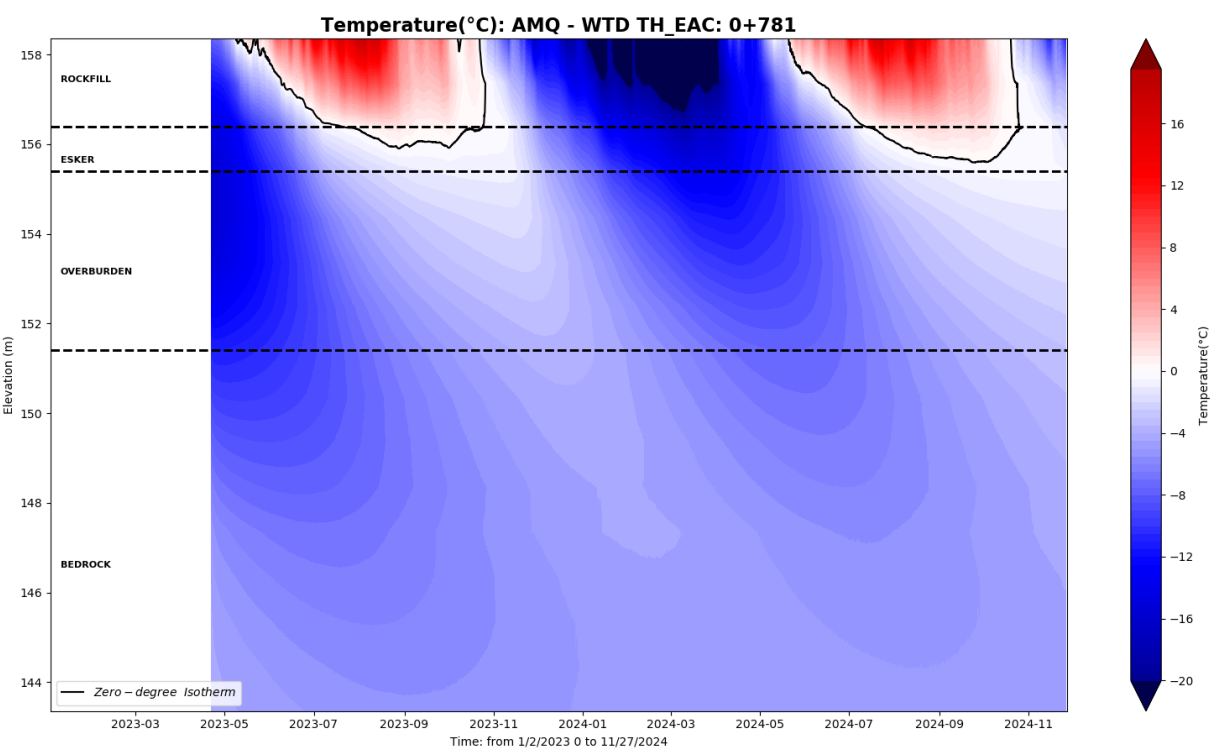


WTD WAC 0+130

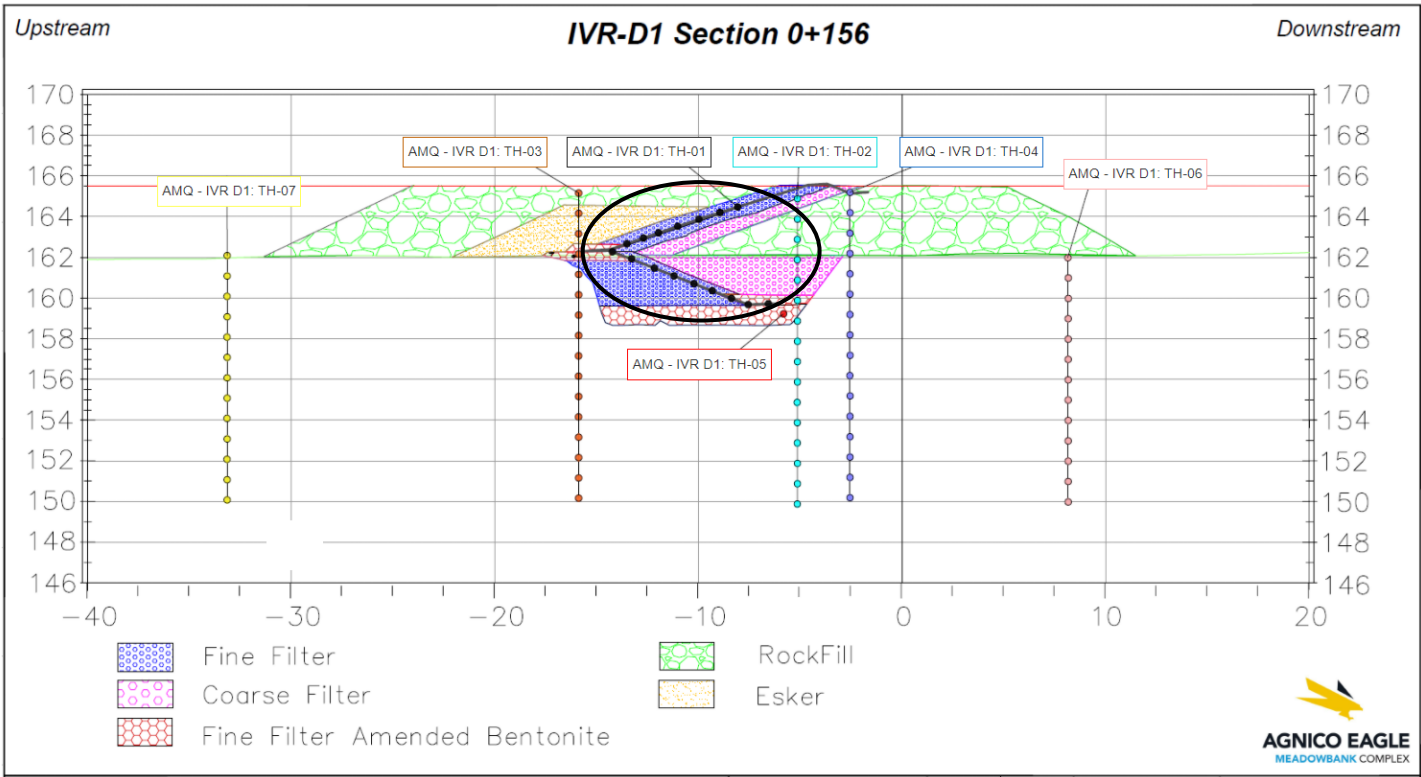
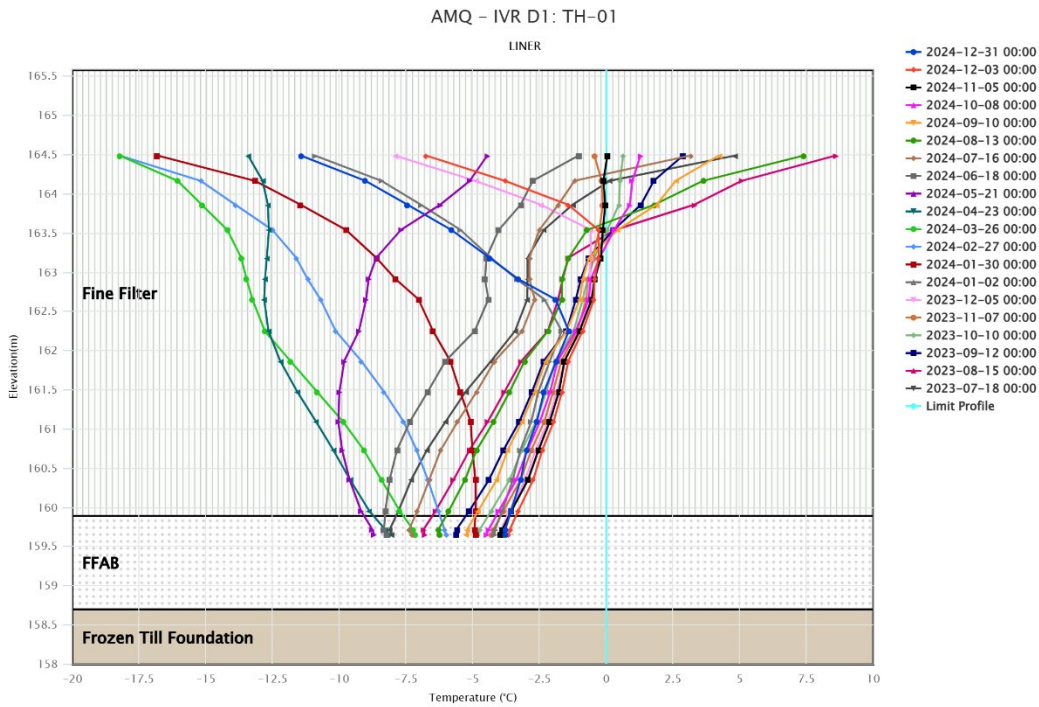
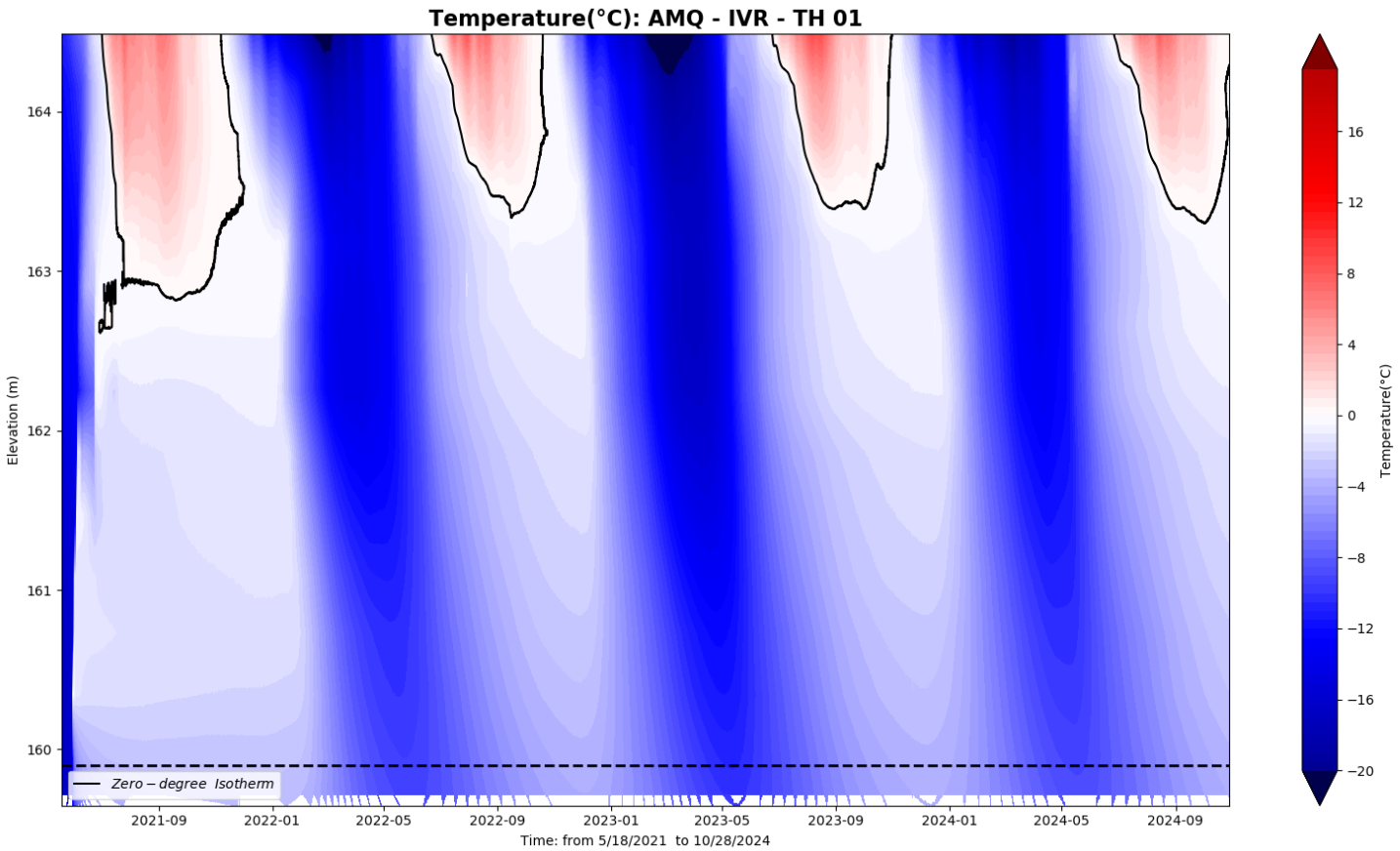




WTD EAC 0+781

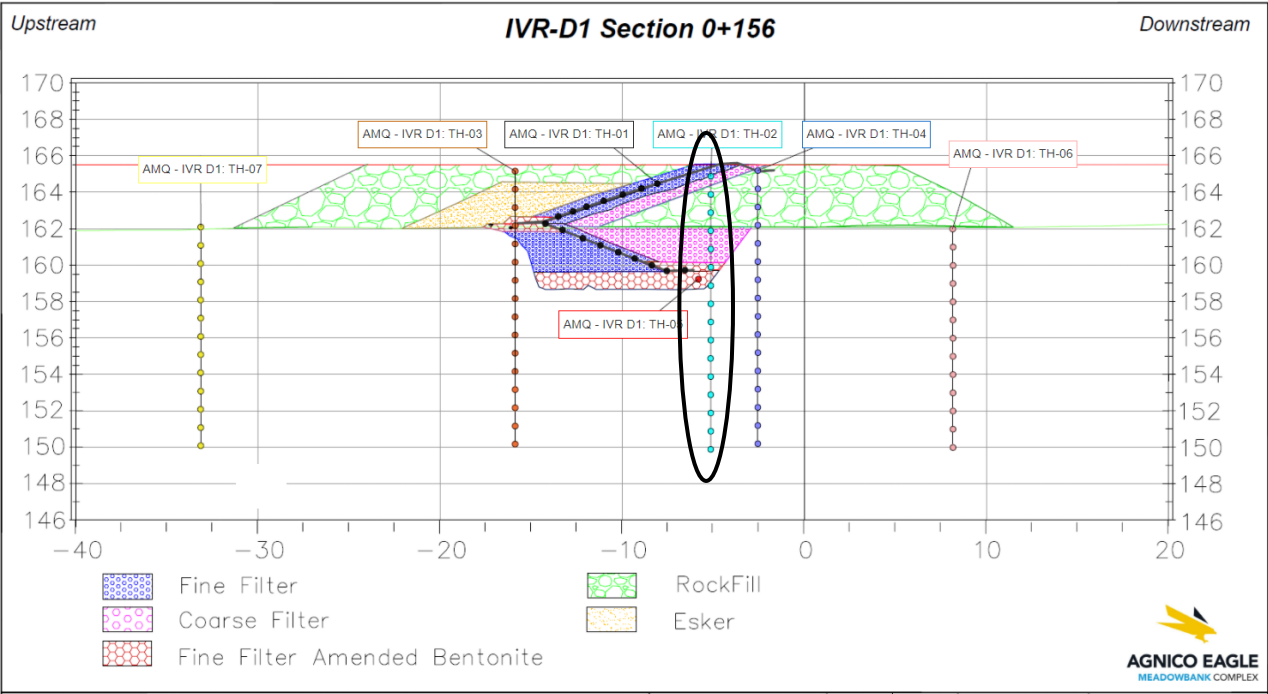
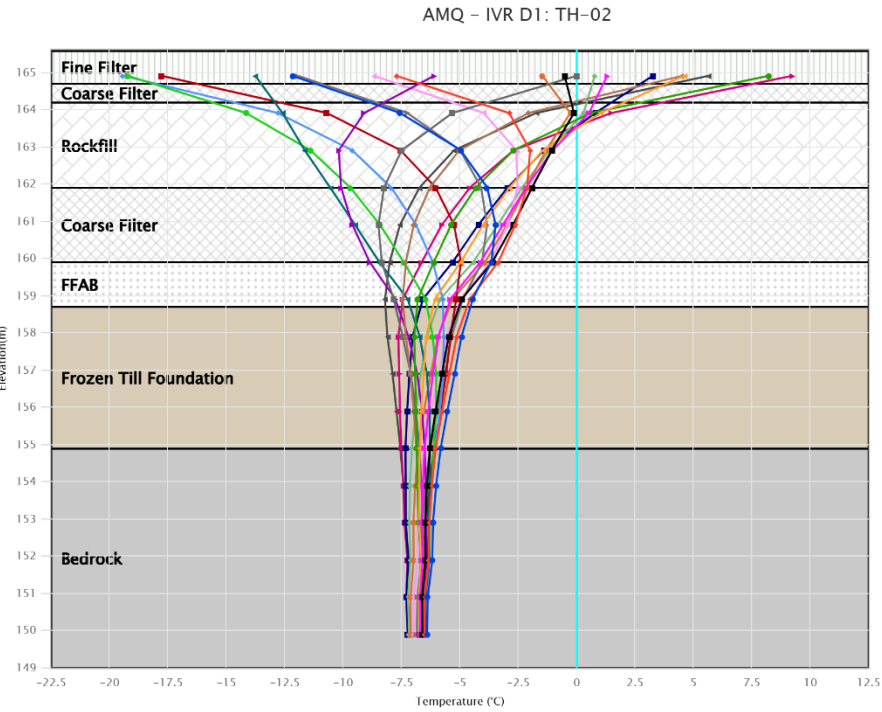
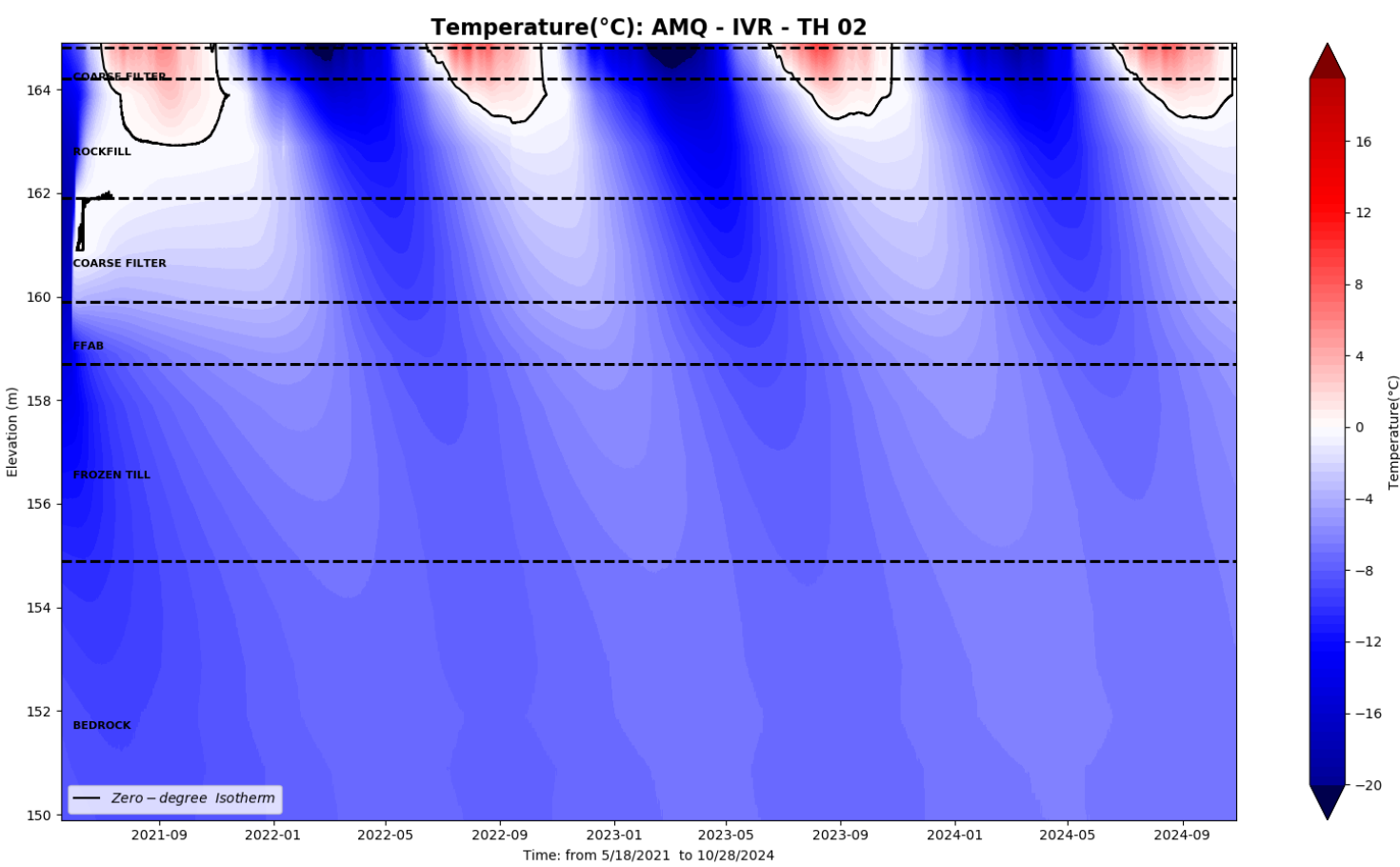


IVR-D1-TH1

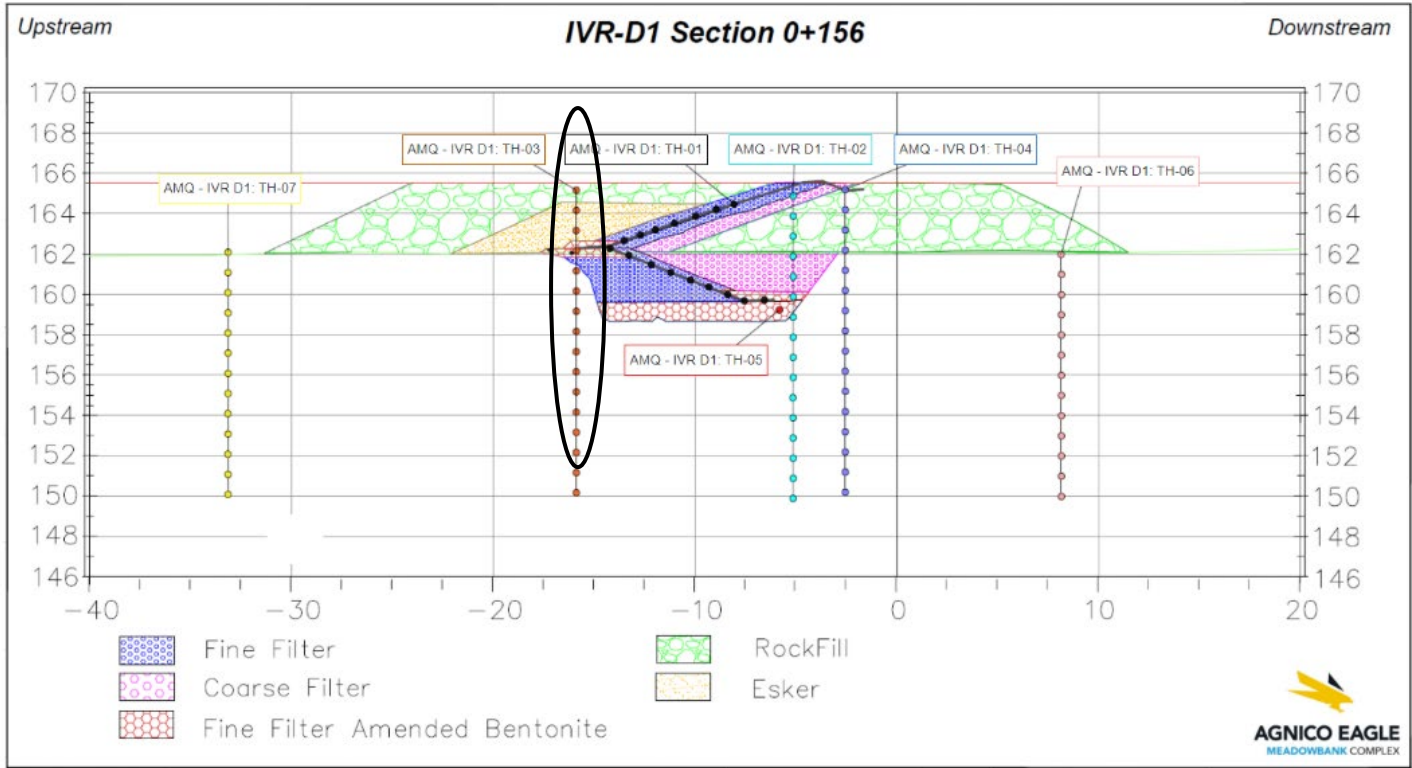
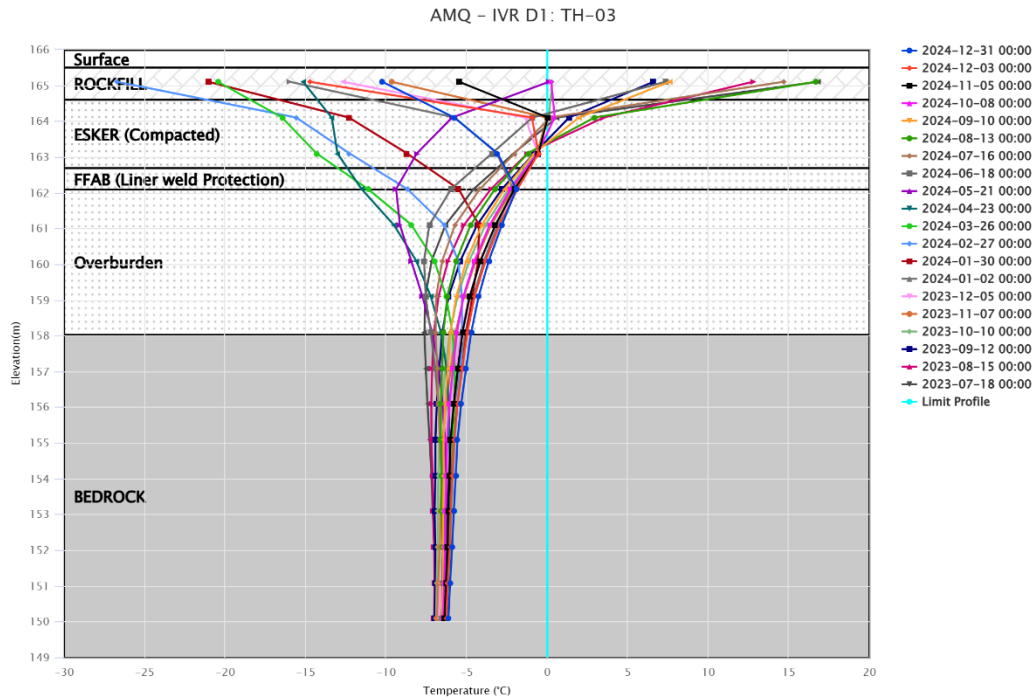
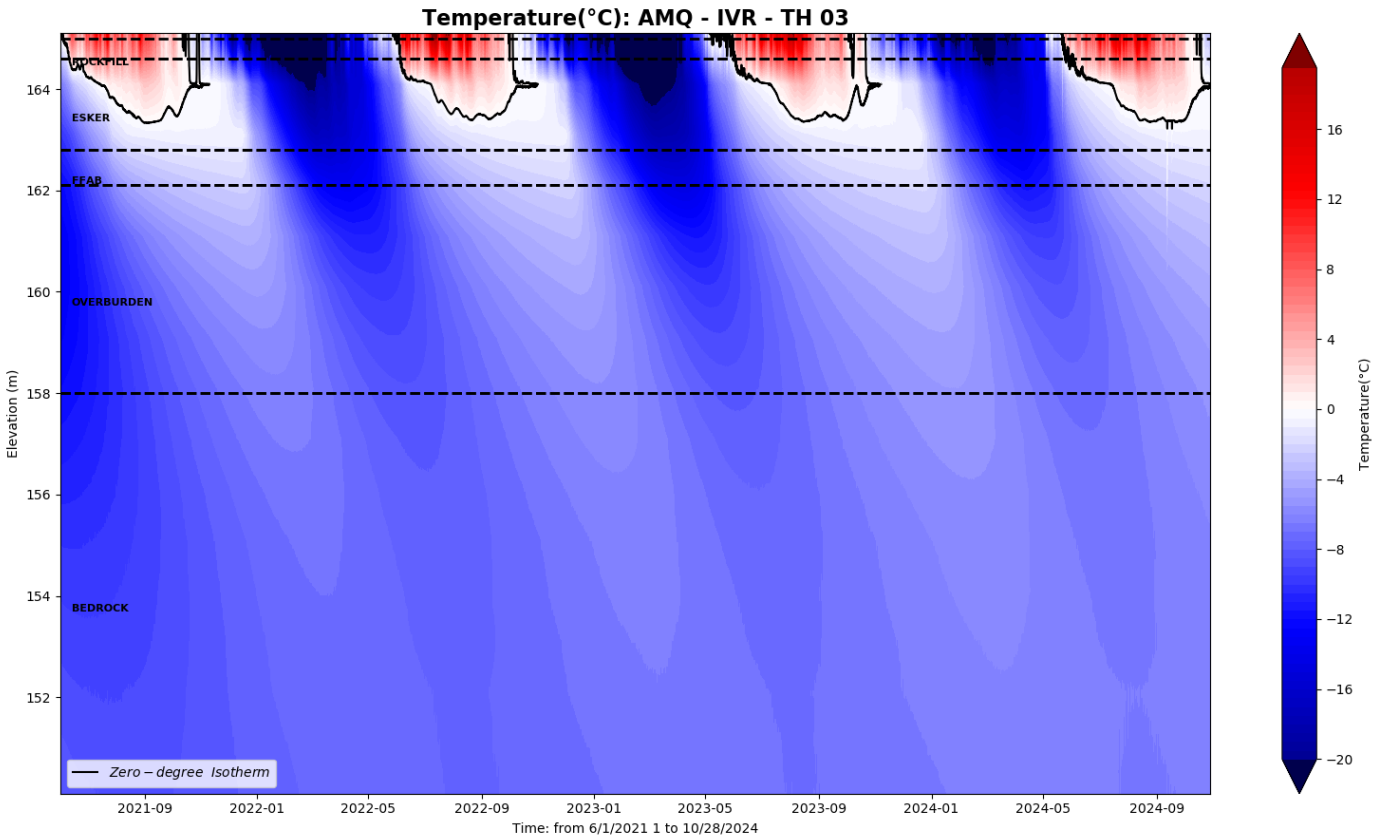




IVR-D1-TH2

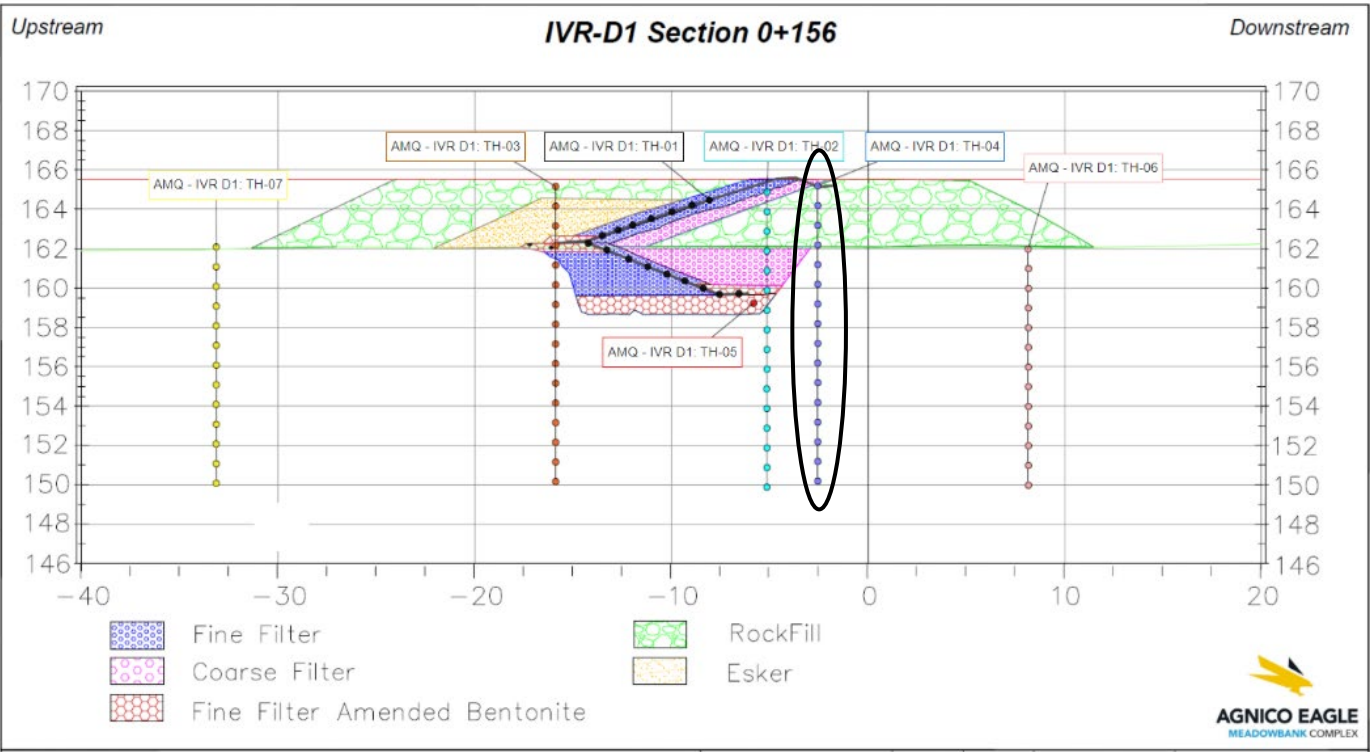
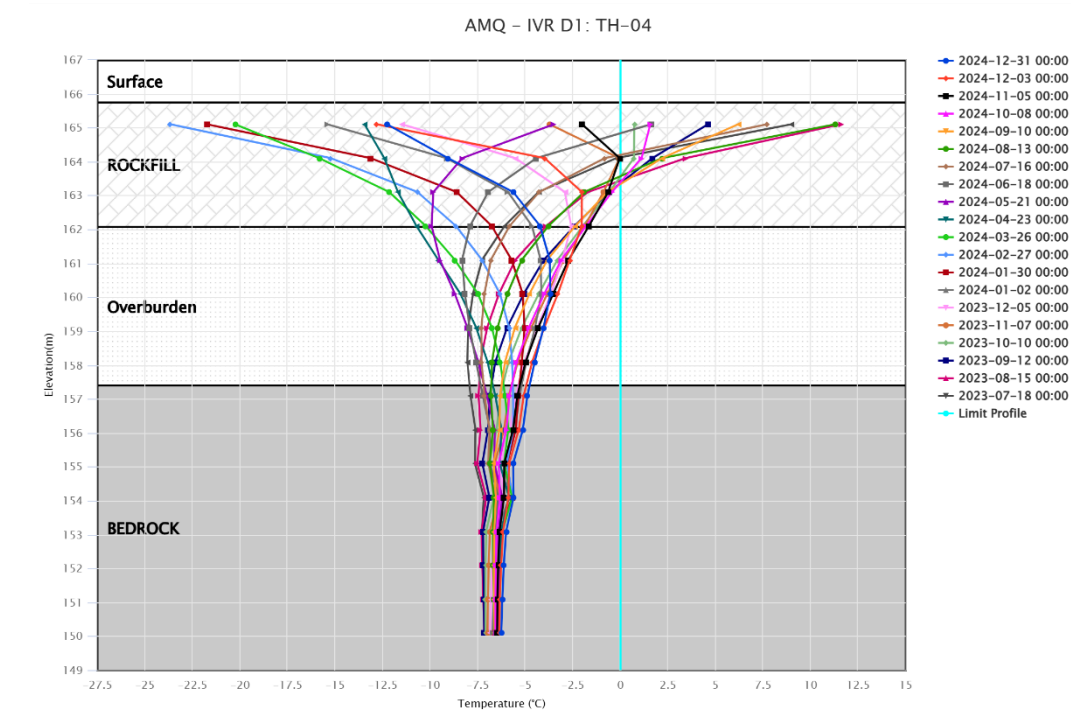
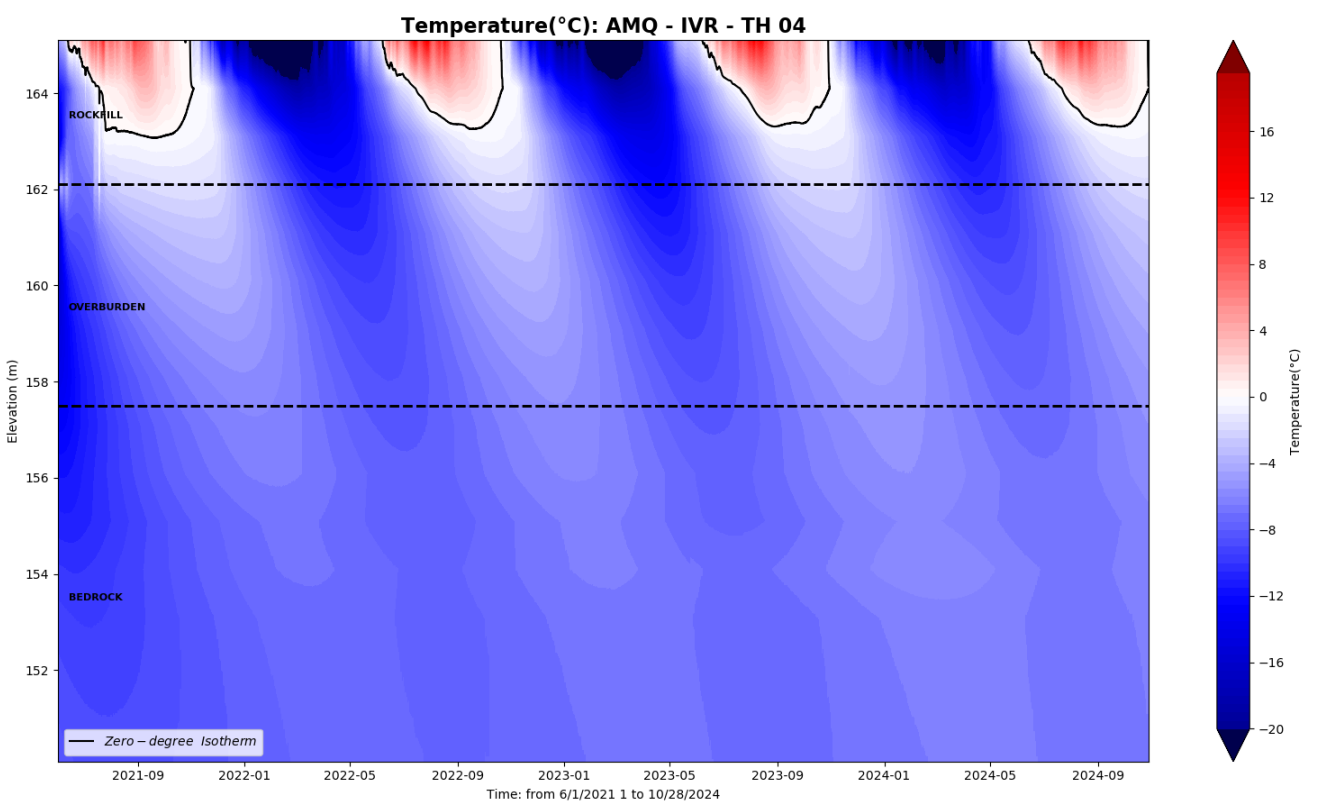


IVR-D1-TH3



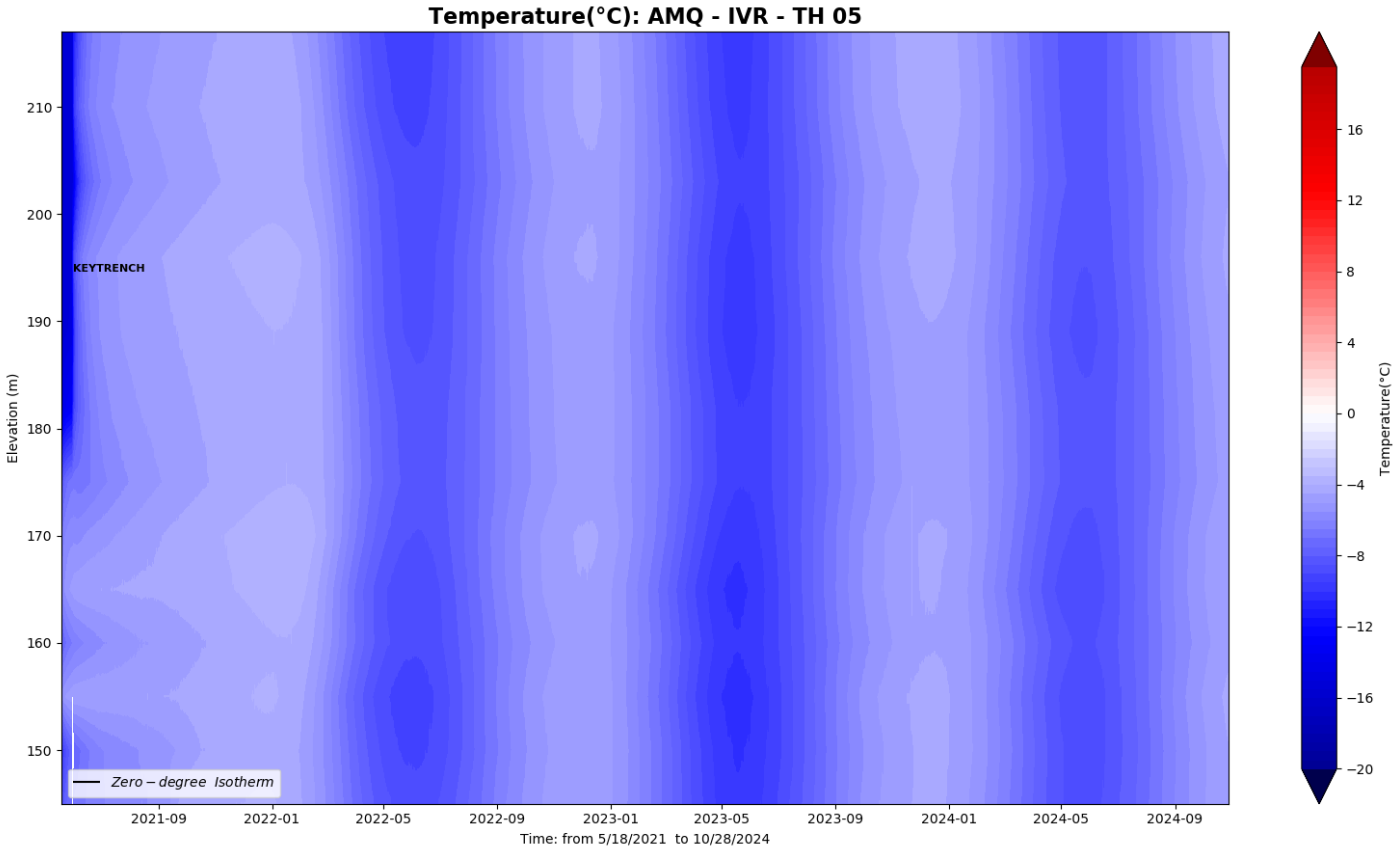


IVR-D1-TH4

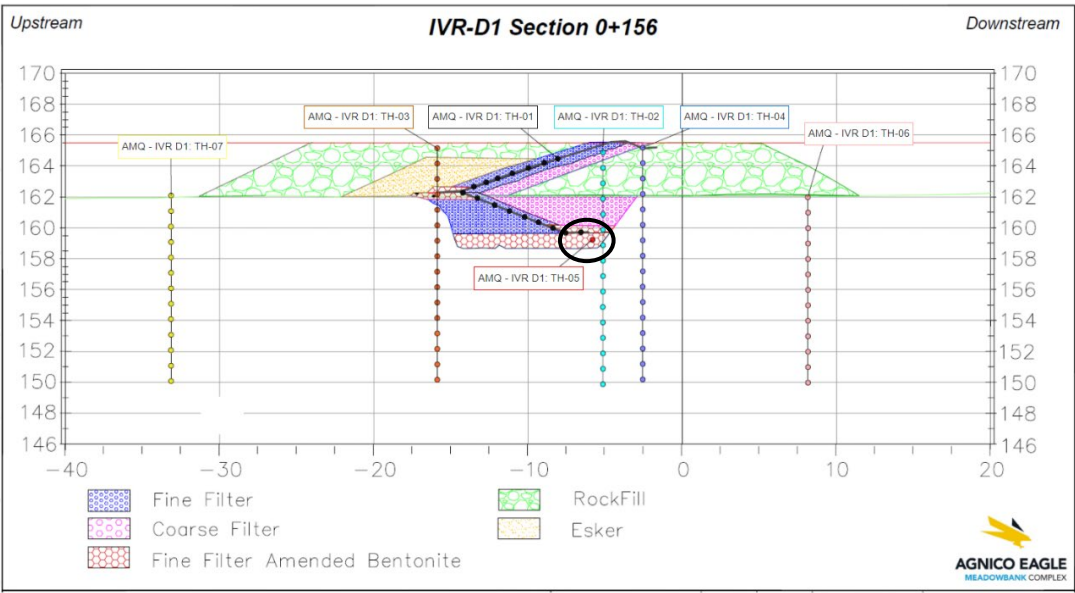
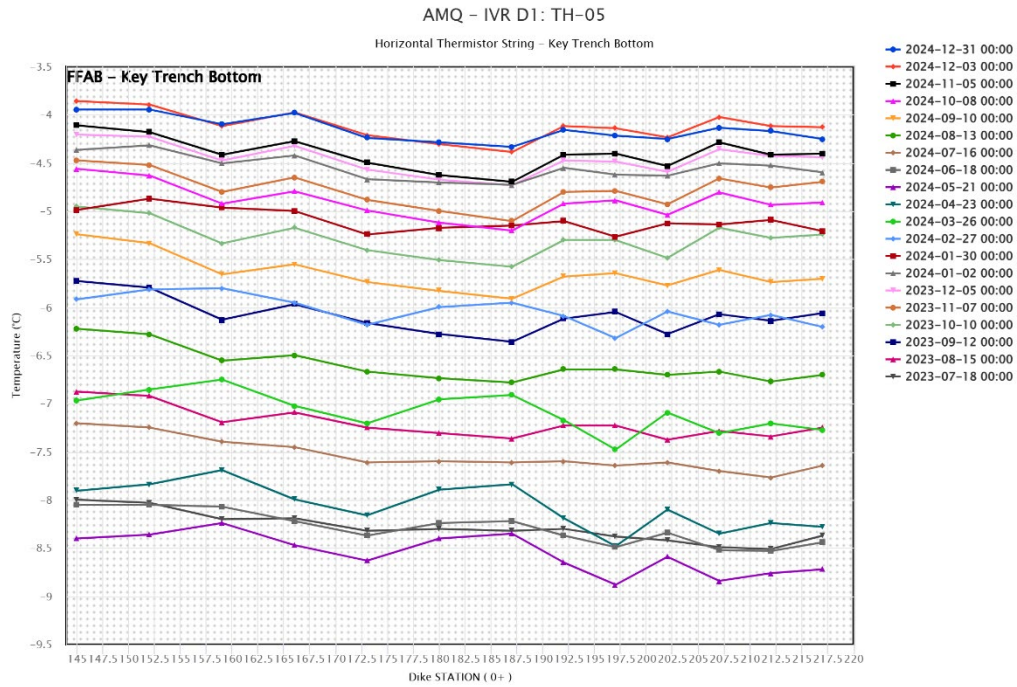




IVR-D1-TH5

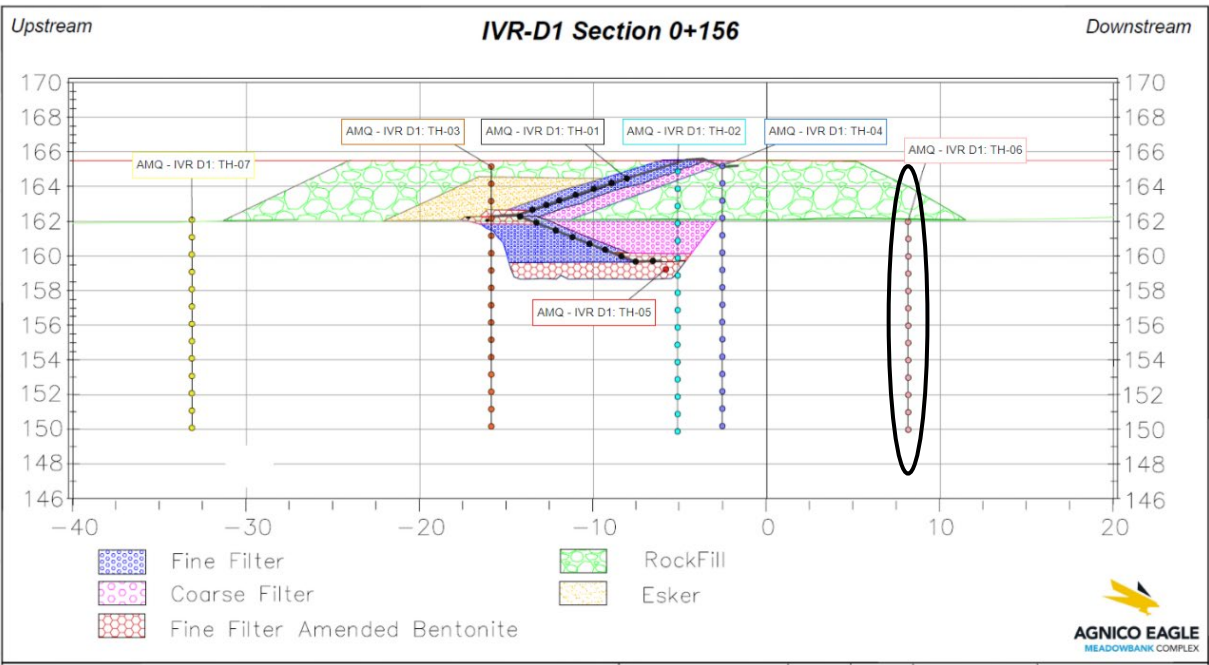
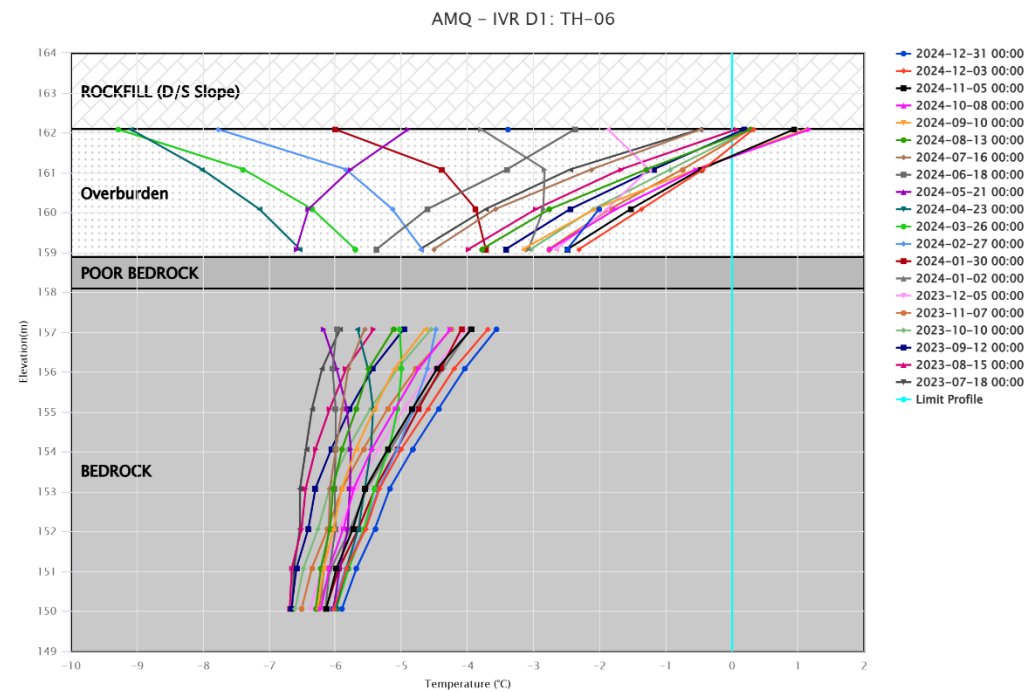
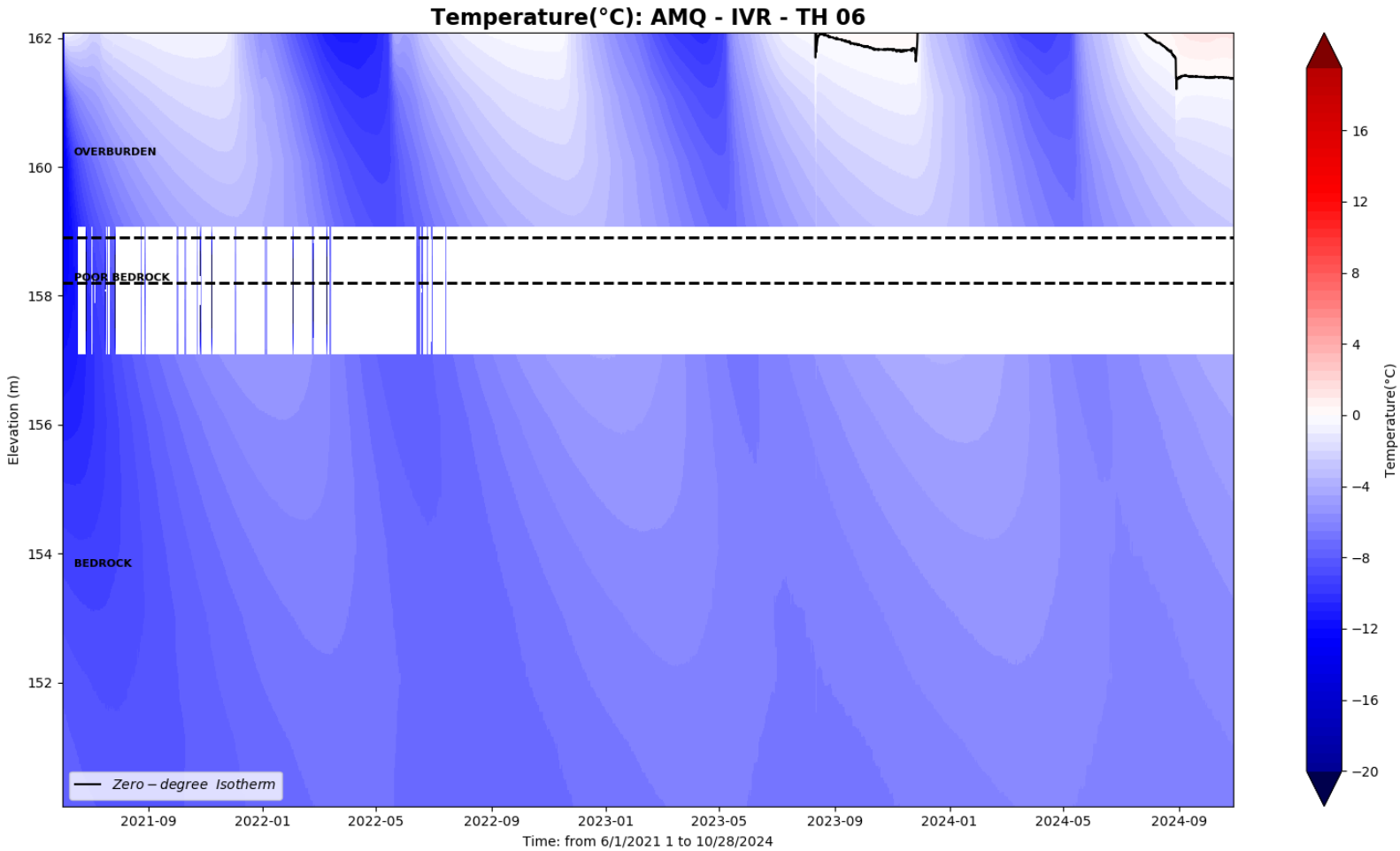


NOTE: This TH is horizontal and in Keytrench and must be reflected this way when reading the thermal graph





IVR-D1-TH6



IVR-D1-TH7

