

## **Appendix 20**

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### **Whale Tail Thermal Monitoring Report 2023**

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WHALE TAIL MINE

## **Thermal Monitoring Report 2023**

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

Prepared by:  
Agnico Eagle Mines Limited – Meadowbank Division

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### 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 (Project), a satellite deposit located on the Amaruq 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 84 active thermistors at the Whale Tail Mine site.

The location, installation summary, and status of all the thermistors installed within the Whale Tail Mine 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 RESULT**

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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 FACILITY**

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

Construction of the WRSF on the permafrost is expected to result in aggradation of permafrost into the pile. The permafrost under the pile 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, two years of data have now been collected. The available data indicates that the active layer did not reach the PAG waste rock.

In late 2022 and early 2023, ten new thermistors were installed in the foundation of the IVR WRSF. Data collection has only been ongoing since installation, so it is too early to assess the extent of the active layer. The 2024 Thermal Monitoring Report will assess this as two years of data will have been collected allowing enough time for the instruments to stabilize and show trends.

#### **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 are expected to freeze back progressively. Upstream of the dike, the lake bed 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 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 2023, 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 2022, in 2023 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 thermal behavior has altered, with the warming trend persisting and potentially connecting to the seepage flow at depth ( $> 0^{\circ}\text{C}$ ), possibly due to longer sustained warmer temperatures this year. New thermistors at both the East and West abutment capping indicate that the overburden and bedrock have remained frozen since the summer.

### 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 2023 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, with the exception of seasonal thawing 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.

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**

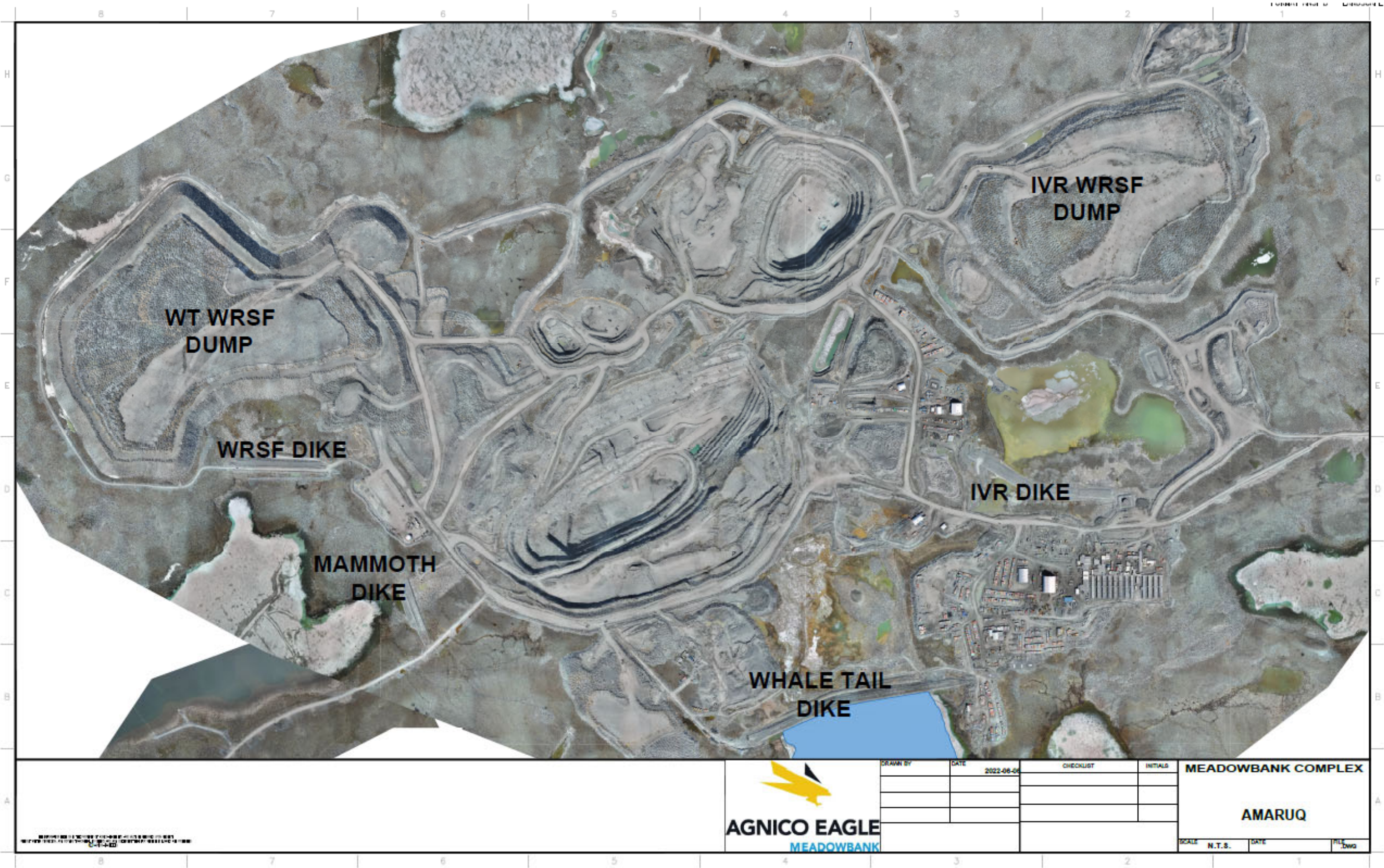


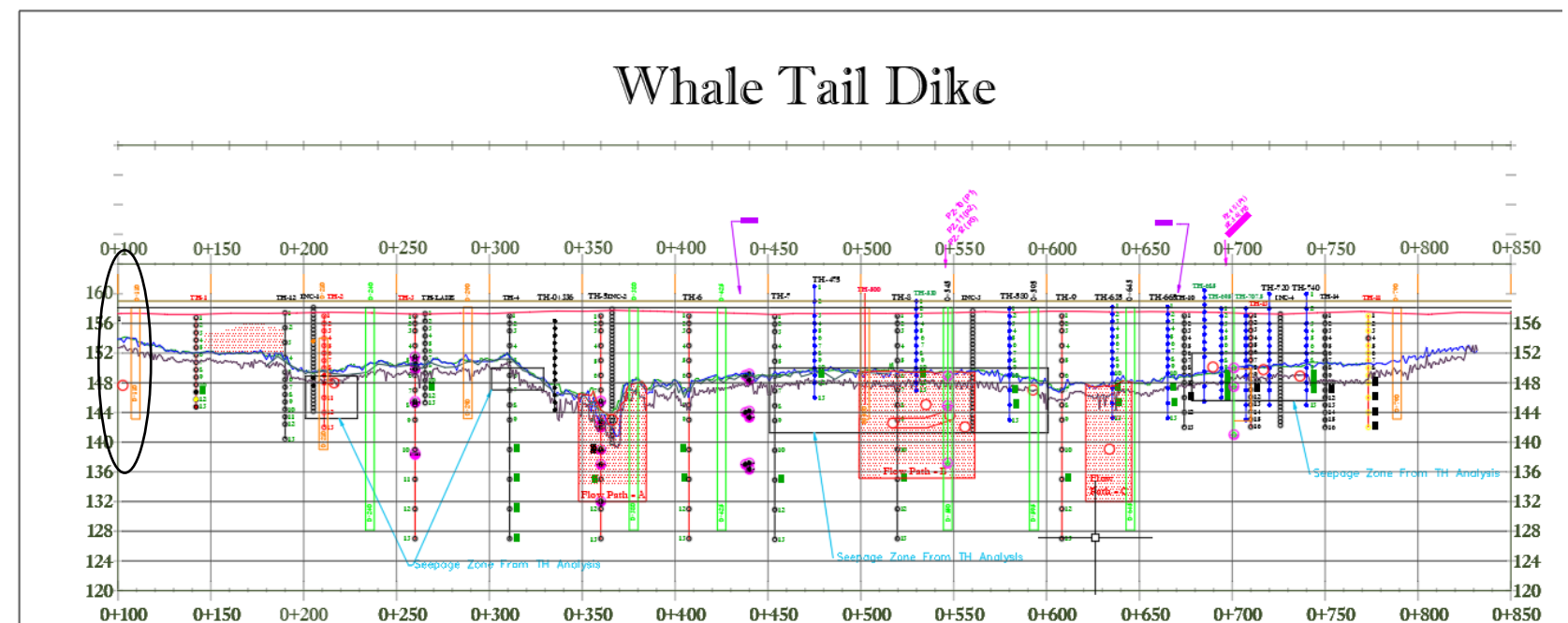
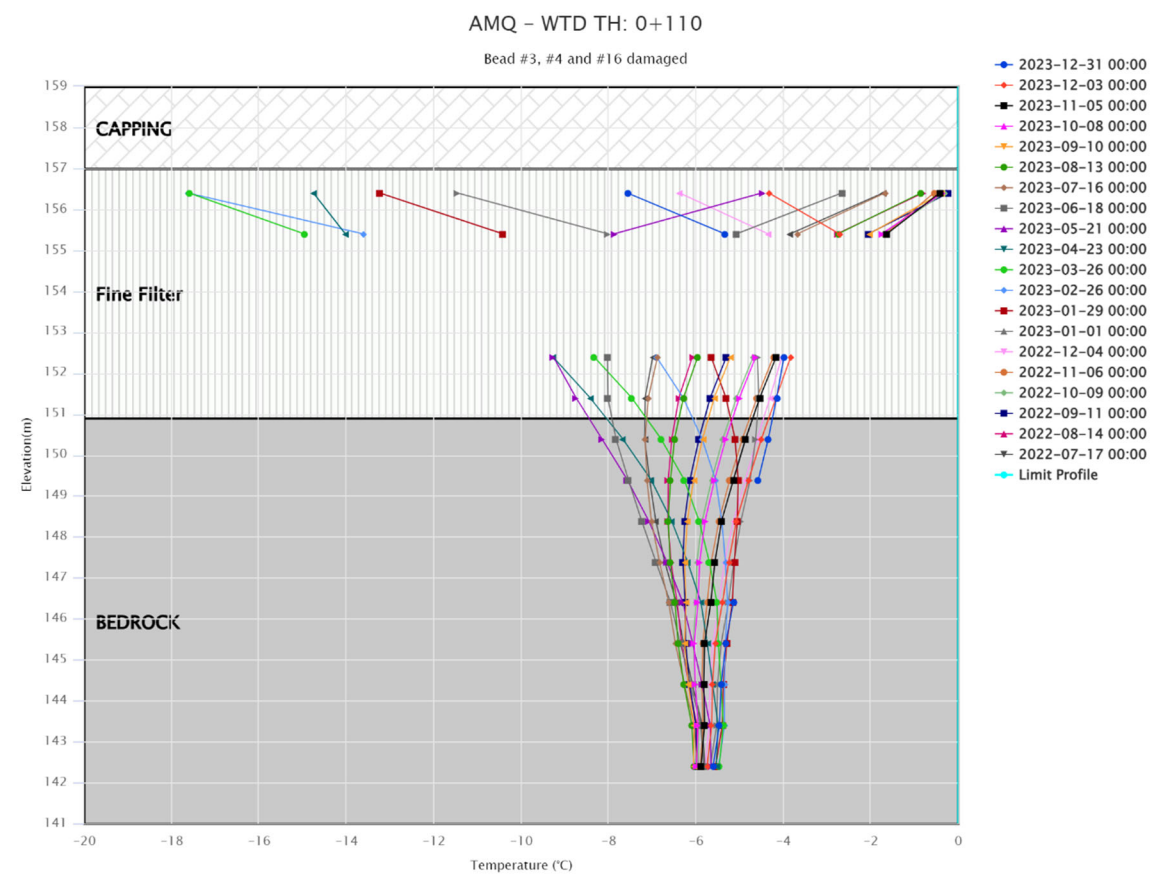
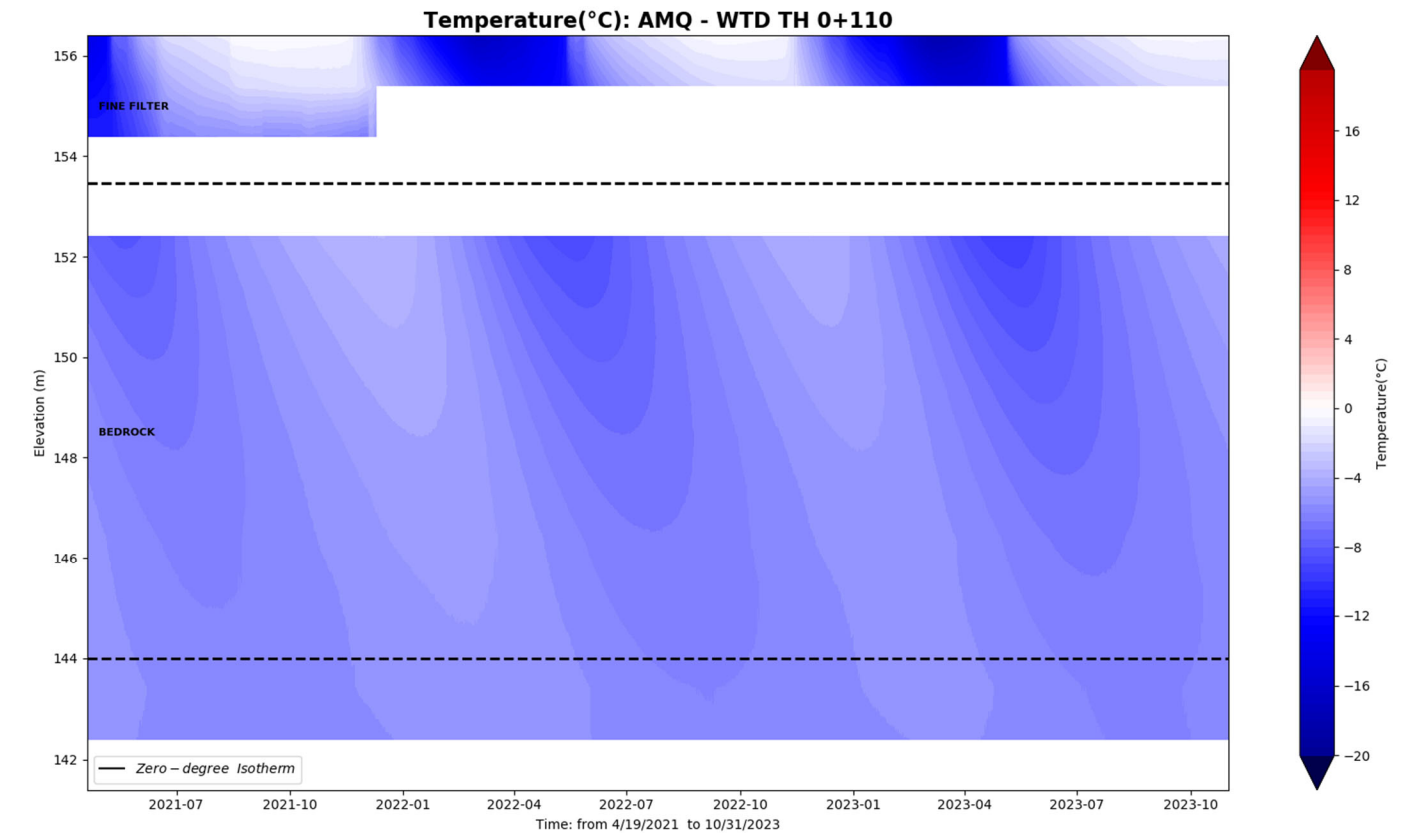
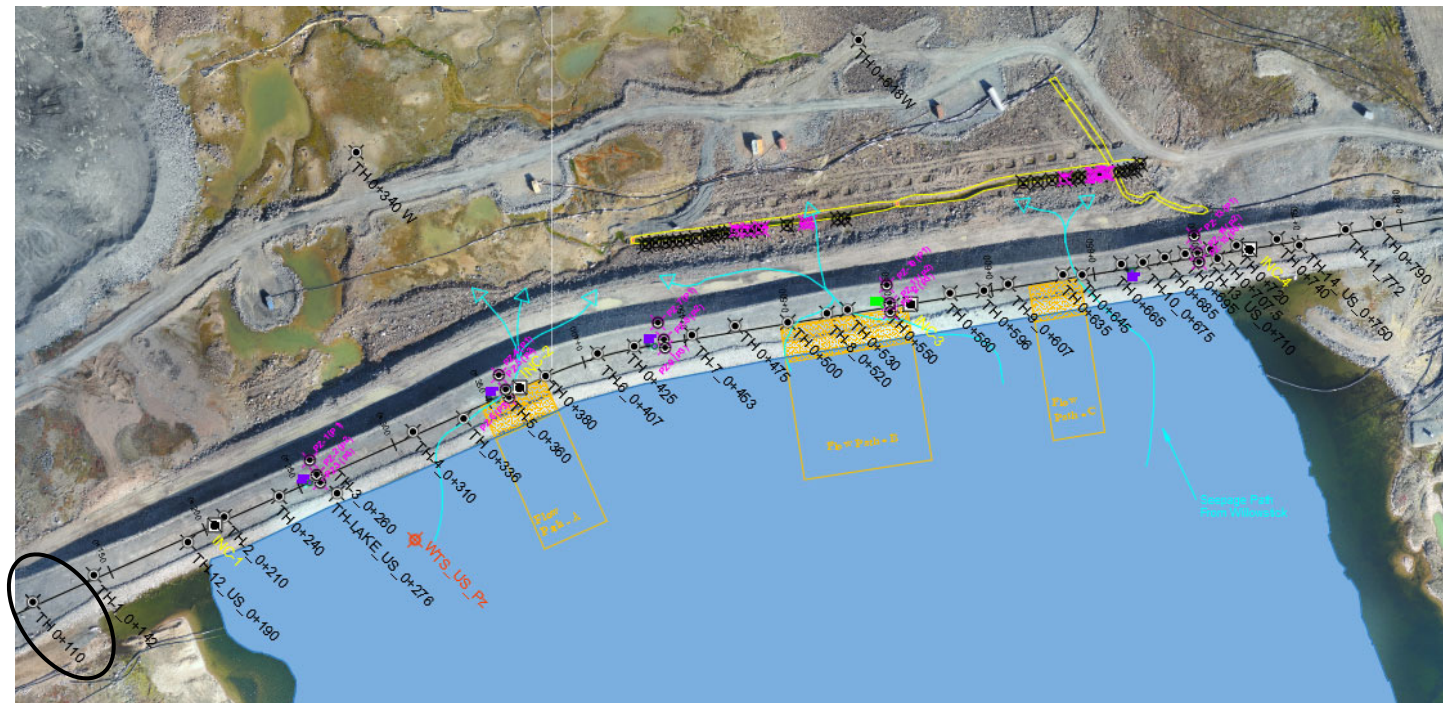
TABLE 1: Instruments Coordinates

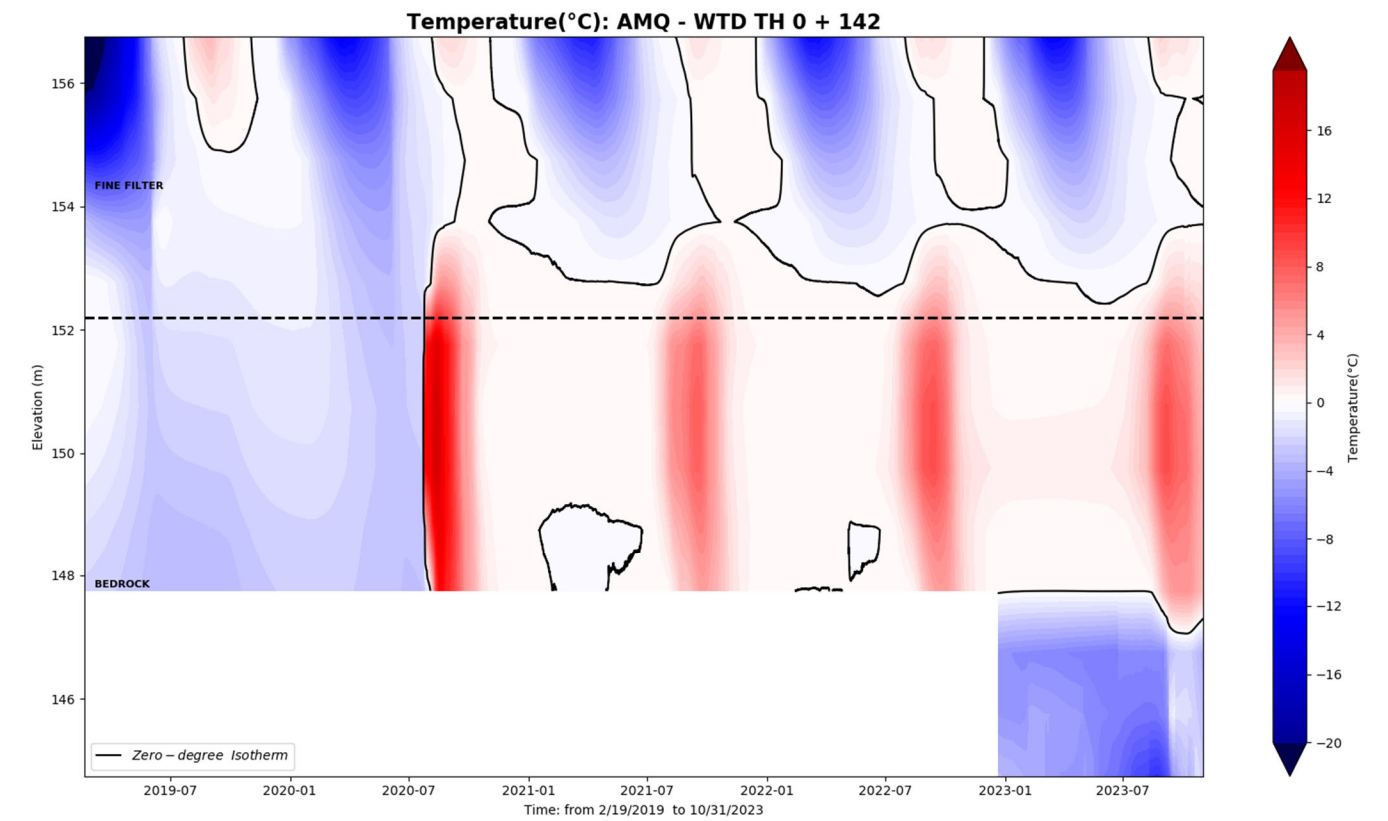
| Line # | Name              | Area | Easting (X) | Northing (Y) | Elevation (Z) | Azimuth | Dip | Installed | Active (Y) or (N) |
|--------|-------------------|------|-------------|--------------|---------------|---------|-----|-----------|-------------------|
| 1      | WTD 0+110         | WTD  | 607090.500  | 7254625.000  | 156.40        |         | -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  | 607209.40   | 7254676.80   | 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  | 607338.0    | 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  | 607408.60   | 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   | 7254766.00   | 159           |         | -90 | 2020      | Y                 |
| 20     | WTD 0+550         | WTD  | 607505.20   | 7254768.00   | 157.9         |         | -90 | 2020      | Y                 |
| 21     | WTD 0+580         | WTD  | 607533.163  | 7254773.95   | 158           |         | -90 | 2020      | Y                 |
| 22     | WTD 0+596         | WTD  | 607549.60   | 7254775.20   | 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  | 607597.30   | 7254782.8    | 158.6         |         | -90 | 2020      | Y                 |
| 27     | WTD 0+665         | WTD  | 607617.0    | 7254788.0    | 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  | 607659.0    | 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  | 607691.0    | 7254800.0    | 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  | 607740.0    | 7254807.3    | 157.2         |         | -90 | 2020      | Y (14/16) beads   |

| <i>Line #</i> | <i>Name</i>   | <i>Area</i> | <i>Easting (X)</i>        | <i>Northing (Y)</i>     | <i>Elevation (Z)</i> | <i>Azimuth</i> | <i>Dip</i> | <i>Installed</i> | <i>Active (Y) or (N)</i> |
|---------------|---------------|-------------|---------------------------|-------------------------|----------------------|----------------|------------|------------------|--------------------------|
| 38            | WTD US 0+130  | WTD         | 607110.7990               | 7254629.0290            | 159.116              |                | -90        | 2023             | Y                        |
| 39            | WTD WAC 0+130 | WTD         | 607118.5390               | 7254611.4820            | 159.250              |                | -90        | 2023             | Y                        |
| 40            | WTD EAC 0+781 | WTD         | 607736.6400               | 7254776.5960            | 158.955              |                | -90        | 2023             | Y                        |
| 41            | WT WRSF TH01  | WRSF        | 615797.25                 | 7238129.77              | 161.546              |                | -90        | 2019             | Y                        |
| 42            | WT WRSF TH02  | WRSF        | 615861.49                 | 7238133.24              | 162.053              |                | -90        | 2019             | N (since 2020)           |
| 43            | WT WRSF TH03  | WRSF        | 615814.31 to 615799.6     | 7238118.6 to 7238117    | 162.744 to 162.042   |                | 0          | 2019             | Y (9/16) beads)          |
| 44            | WT WRSF TH04  | WRSF        | 615813.38 to 615797.7     | 7238134.1to 7238132.8   | 162.138 to 161.619   |                | 0          | 2019             | Y (8/16) beads)          |
| 45            | WT WRSF TH05  | WRSF        | 615860.9 to 615800.3      | 71238133.3 to 7238126   | 162.202              |                | 0          | 2019             | Y (9/16) beads)          |
| 46            | WT WRSF TH06  | WRSF        | -                         | -                       | -                    |                | -          | 2021             | NOT INSTALLED            |
| 47            | WT WRSF TH07  | WRSF        | 14041.823/822.075(AMQ)    | 14051.510/8232.486(AMQ) | 199.6                |                | 0          | 2021             | Y                        |
| 48            | WT WRSF TH08  | WRSF        | 14029.392/14039.081(AMQ)  | 8227.543/8238.974(AMQ)  | 199.7                |                | 0          | 2021             | Y                        |
| 49            | WT WRSF TH09  | WRSF        | 14035.675/14189.86(AMQ)   | 8224.663/8407.910 (AMQ) | 200.2                |                | 0          | 2021             | Y                        |
| 50            | WT WRSF TH10  | WRSF        | 14259.183 (AMQ)           | 8479.248 (AMQ)          | 199.484-195.386      |                | -37        | 2021             | Y                        |
| 51            | WT WRSF TH11  | WRSF        | 14259.183                 | 8479.249                | 198.637-168.637      |                | 0          | 2021             | Y                        |
| 52            | WT WRSF TH12  | WRSF        | 14241.323/14231.698 (AMQ) | 8481.427/8469.988 (AMQ) | 200.2                |                | 0          | 2021             | Y                        |
| 53            | WT WRSF TH13  | WRSF        | 14521.240/14241.576 (AMQ) | 8471.614/8460.159 (AMQ) | 200.1                |                | -90        | 2021             | Y                        |
| 54            | WT WRSF TH14  | WRSF        | 14245.84/14101.278        | 8476.032/8304.453       | 200.2                |                | 0          | 2021             | Y                        |
| 55            | WT WRSF TH15  | WRSF        | 14254.017/14248.950       | 8481.414/8477.225       | 200.2                |                | -37        | 2021             | Y                        |
| 56            | WT WRSF TH16  | WRSF        | 14259.183                 | 8479.248                | 167.637-152.637      |                | -90        | 2021             | Y                        |
| 57            | IVR WRSF TH01 | IVR WRSF    | 608314.124                | 7256135.152             | 203.547              |                | -90        | 2023             | Y                        |
| 58            | IVR WRSF TH02 | IVR WRSF    | 594598.883/594599.565     | 7257568.182/7257583.178 | 204.064              |                | 0          | 2022             | Y                        |
| 59            | IVR WRSF TH03 | IVR WRSF    | 594612.906/594613.468     | 7257567.520/7257582.555 | 204.061              |                | 0          | 2022             | Y                        |
| 60            | IVR WRSF TH04 | IVR WRSF    | 594605.898/594612.305     | 7257567.947/7257718.148 | 203.972              |                | 0          | 2022             | Y                        |
| 61            | IVR WRSF TH05 | IVR WRSF    | 608314.201                | 7256135.534             | 203.489              |                | -90        | 2023             | Y                        |
| 62            | IVR WRSF TH06 | IVR WRSF    | 608391.937                | 7256721.531             | 204.298              |                | -90        | 2023             | Y                        |
| 63            | IVR WRSF TH07 | IVR WRSF    | 608395.025/608399.173     | 7256707.151/7256692.531 | 204.924              |                | 0          | 2022             | Y                        |
| 64            | IVR WRSF TH08 | IVR WRSF    | 608408.682/608412.721     | 7256710.367/7256695.844 | 204.936              |                | 0          | 2022             | Y                        |
| 65            | IVR WRSF TH09 | IVR WRSF    | 608401.559/608440.755     | 7256708.91/7256564.158  | 204.761              |                | 0          | 2022             | Y                        |
| 66            | IVR WRSF TH10 | IVR WRSF    | 7256721.5310              | 726721.5310             | 204.298              |                | -90        | 2023             | Y                        |
| 67            | MD-TH01       | MD          | Slope                     | Slope                   | -                    |                | Slope      | 2019             | Y                        |
| 68            | MD-TH02       | MD          | 605926.19                 | 7255102.52              | 154.9                |                | -90        | 2019             | Y                        |
| 69            | MD-TH03       | MD          | 605926.74                 | 7255102.6               | 154.9                |                | -90        | 2019             | Y                        |
| 70            | WRSFD TH01    | WRSF Dike   | Slope                     | Slope                   | -                    |                | Slope      | 2019             | Y                        |

| <i>Line #</i> | <i>Name</i> | <i>Area</i>    | <i>Easting (X)</i> | <i>Northing (Y)</i> | <i>Elevation (Z)</i> | <i>Azimuth</i> | <i>Dip</i> | <i>Installed</i> | <i>Active (Y) or (N)</i> |
|---------------|-------------|----------------|--------------------|---------------------|----------------------|----------------|------------|------------------|--------------------------|
| 71            | WRSFD TH02  | WRSF Dike      | 605416.44          | 7255526.7           | 159.07               |                | -90        | 2019             | Y                        |
| 72            | WRSFD TH03  | WRSF Dike      | 605414.98          | 7255545.01          | 155.29               |                | -90        | 2019             | Y                        |
| 73            | WRSFD TH04  | WRSF Dike      | 605387.14          | 7255524.47          | 158.15               |                | -90        | 2019             | Y                        |
| 74            | WRSFD TH05  | WRSF Dike      | 605428.59          | 7255566.21          | 153.63               |                | -90        | 2019             | Y                        |
| 75            | WRSFD TH06  | WRSF Dike      | 605435.56          | 7255544.29          | 155.35               |                | -90        | 2019             | Y                        |
| 76            | WRSFD TH07  | WRSF Dike      | 605466.94          | 7255541.78          | 155.13               |                | -90        | 2019             | Y                        |
| 77            | WRSFD TH08  | WRSF Dike      | 605384.991         | 7255544.818         | 159.886              |                | -90        | 2019             | Y (11/16) beads          |
| 78            | WRSFD TH09  | WRSF Dike      | 605425.1           | 7255546.038         | 160.037              |                | -90        | 2019             | Y                        |
| 79            | PSW DH2 TH  | Pit South Wall | 606998.837         | 7255127.783         | 149.02               |                | -90        | 2020             | N                        |
| 80            | PSW DH3 TH  | Pit South Wall | 607016.336         | 7255140.383         | 148.041              |                | -90        | 2020             | N                        |
| 81            | PSW DH6 TH  | Pit South Wall | 607058.391         | 7255184.293         | 148.181              |                | -90        | 2020             | N                        |
| 82            | PSW DH7 TH  | Pit South Wall | 607070.111         | 7255198.772         | 148.734              |                | -90        | 2020             | N                        |
| 83            | PSW DH10 TH | Pit South Wall | 607142.218         | 7255272.101         | 150.109              |                | -90        | 2020             | N                        |
| 84            | PSW DH11 TH | Pit South Wall | 607155.955         | 7255287.46          | 151.241              |                | -50        | 2020             | N                        |
| 85            | PSW DH12 TH | Pit South Wall | 607168.065         | 7255293.87          | 151.934              |                | -50        | 2020             | N                        |
| 86            | PSW DH13 TH | Pit South Wall | 606980.7           | 7255276.8           | 145.398              |                | -90        | 2020             | N                        |
| 87            | PSW DH14 Th | Pit South Wall | 606937.5           | 7255411.5           | 130.761              |                | -90        | 2020             | N                        |
| 88            | AMQ15-324   | WT PIT         | 606496.8           | 7254995.2           | 161.79               | 323.41         | -55.46     | 2015             | N                        |
| 89            | AMQ17-1233  | IVR            | 606778.0           | 7256254.0           | 162.0                | 252.71         | -59.06     | 2017             | N                        |
| 90            | AMQ17-1337  | IVR            | 607078.0           | 7256522.0           | x                    |                |            |                  |                          |
| 91            | V651A       | IVR            | 607624.208         | 7256122.348         | 10163.28             |                | -69        | 2019             | Y                        |
| 92            | BH-T2       | IVR            | 607850.8           | 7255563.9           | 164.303              |                | -90        | 2019             | N                        |
| 93            | BH-4        | IVR            | 608048             | 7255442             | 163.982              |                | -90        | 2019             | N                        |
| 94            | IVR D1 TH1  | IVR D1         | 607909.036         | 7255508.205         | 164.486              |                | Liner      | 2021             | Y                        |
| 95            | IVR D1 TH2  | IVR D1         | 607908.144         | 7255506.309         | 164.895              |                | -90        | 2021             | Y                        |
| 96            | IVR D1 TH3  | IVR D1         | 607912.603         | 7255515.354         | 165.1                |                | 90         | 2021             | Y                        |
| 97            | IVR D1 TH4  | IVR D1         | 607906.637         | 7255503.624         | 165.76               |                | 90         | 2021             | Y                        |
| 98            | IVR D1 TH5  | IVR D1         | 607899.06          | 7255512.94          | 159.666              |                | Key Trench | 2021             | Y                        |
| 99            | IVR D1 TH6  | IVR D1         | 607923.8           | 7255480.4           | 162.08               |                | 90         | 2021             | Y                        |
| 100           | IVR D1 TH7  | IVR D1         | 607930.032         | 7255525.355         | 162.12               |                | 90         | 2021             | Y                        |

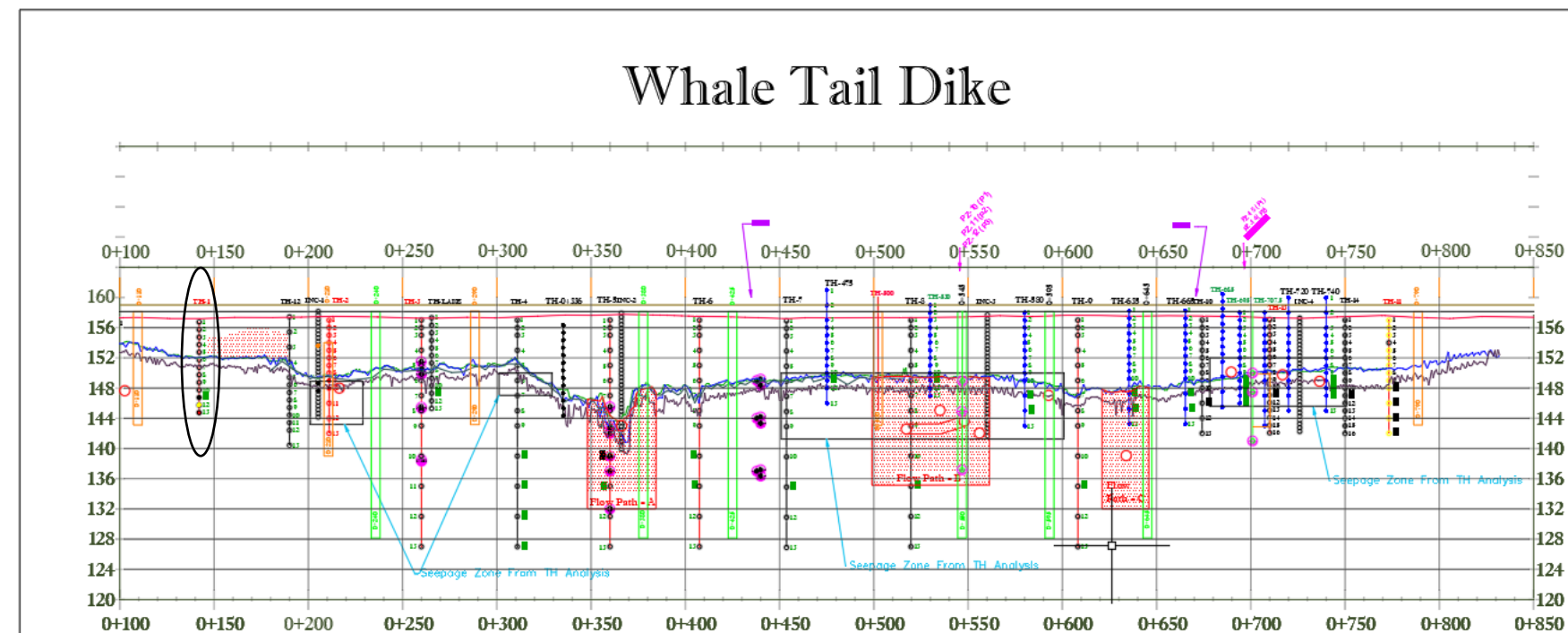
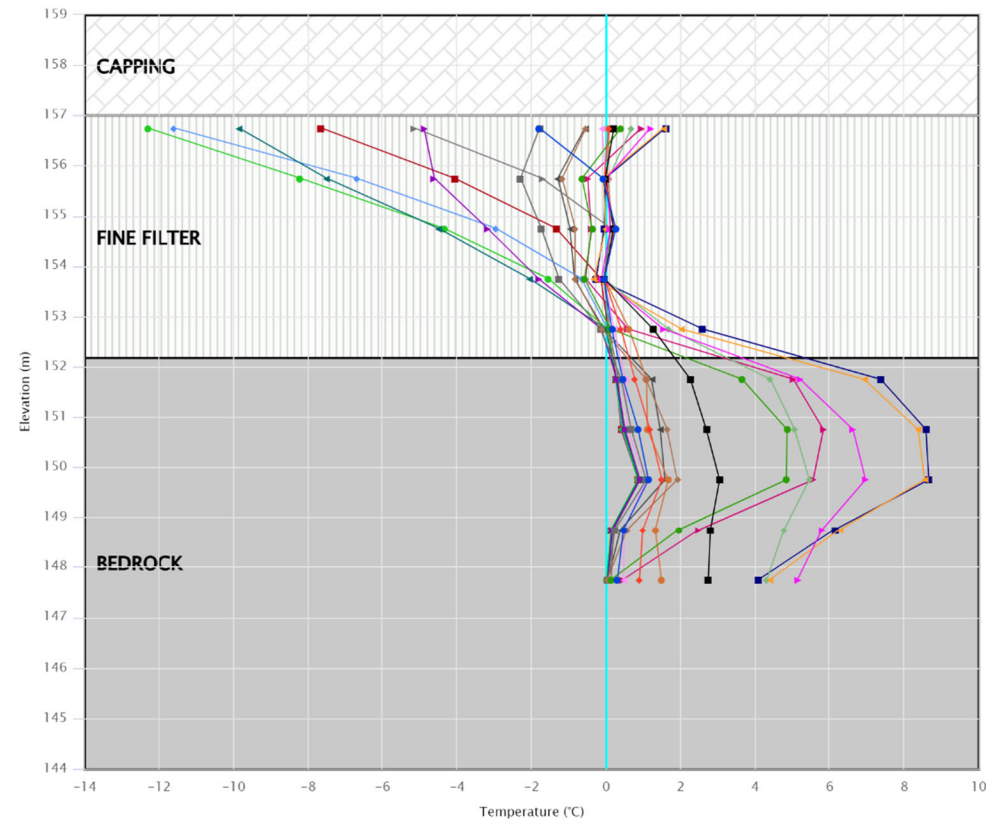
**WTD-TH 0+110**

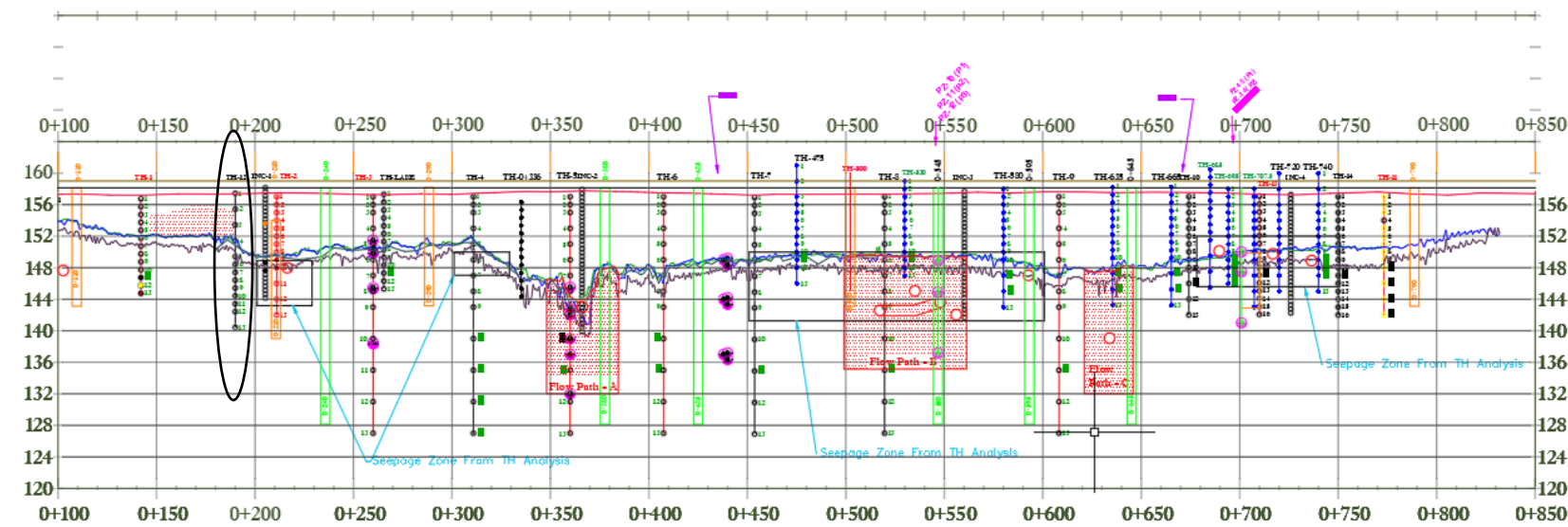
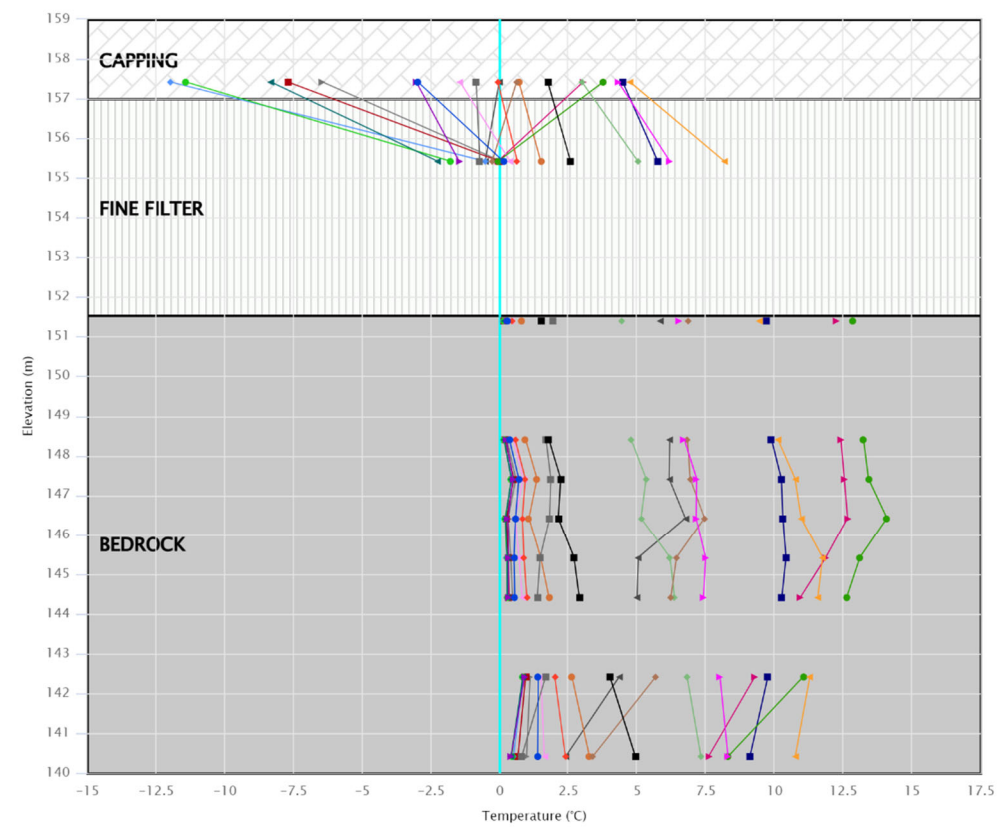




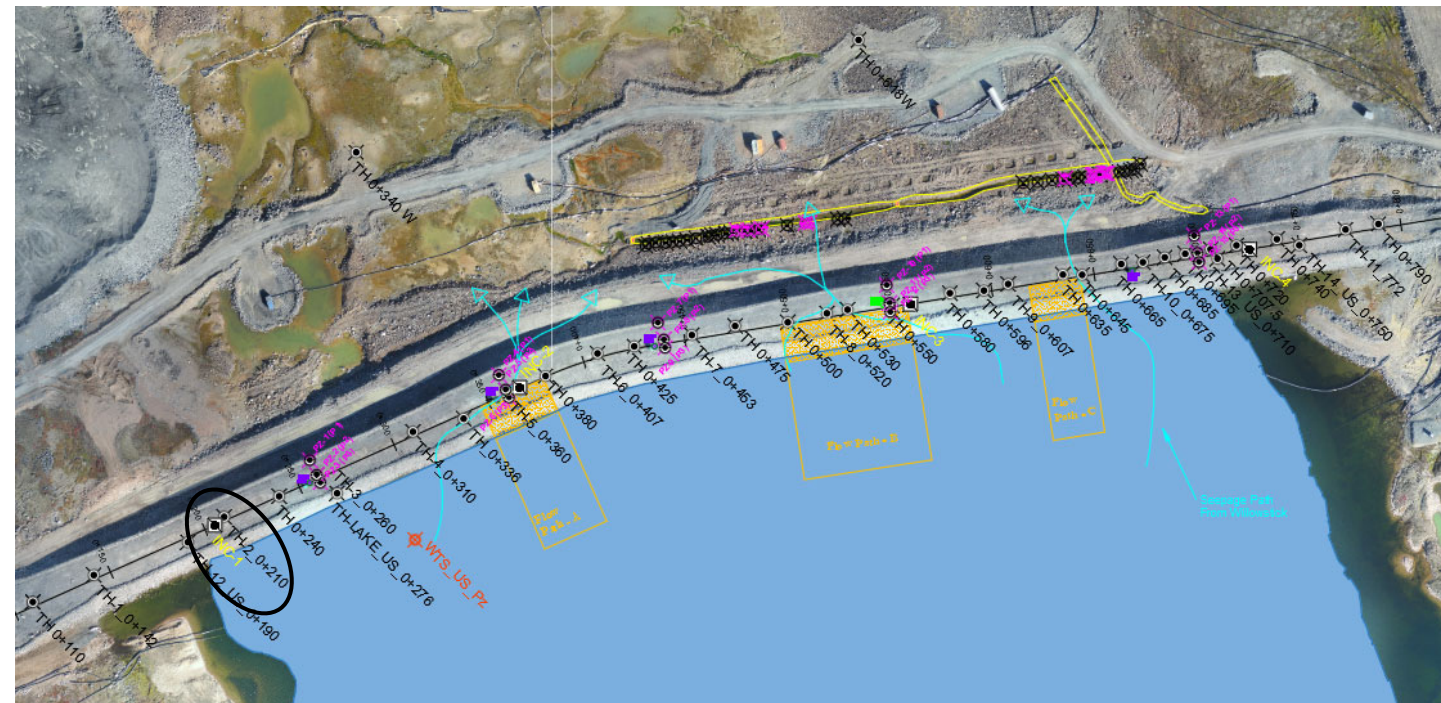
AMQ - WTD TH: 0+142

Bead #11 to #13 removed

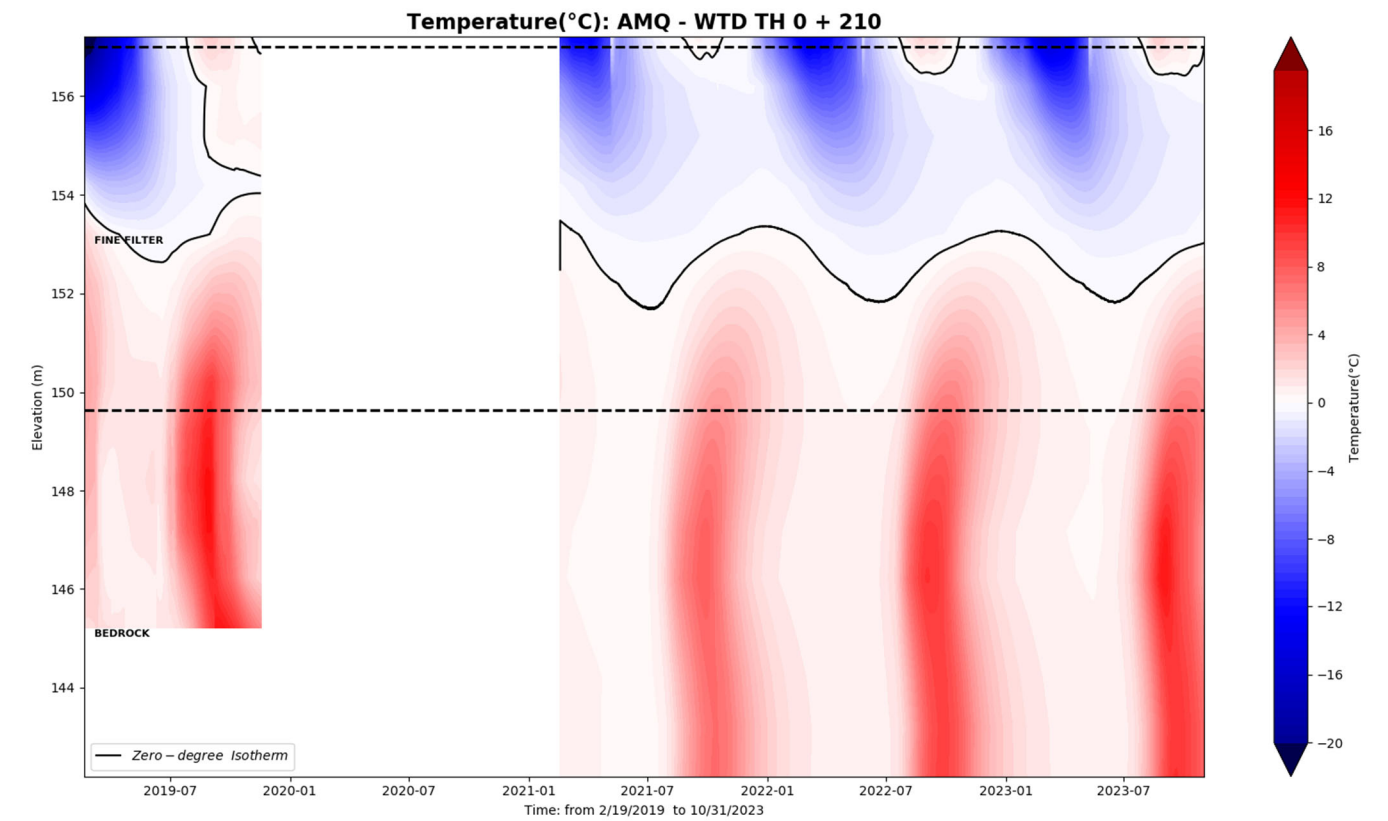
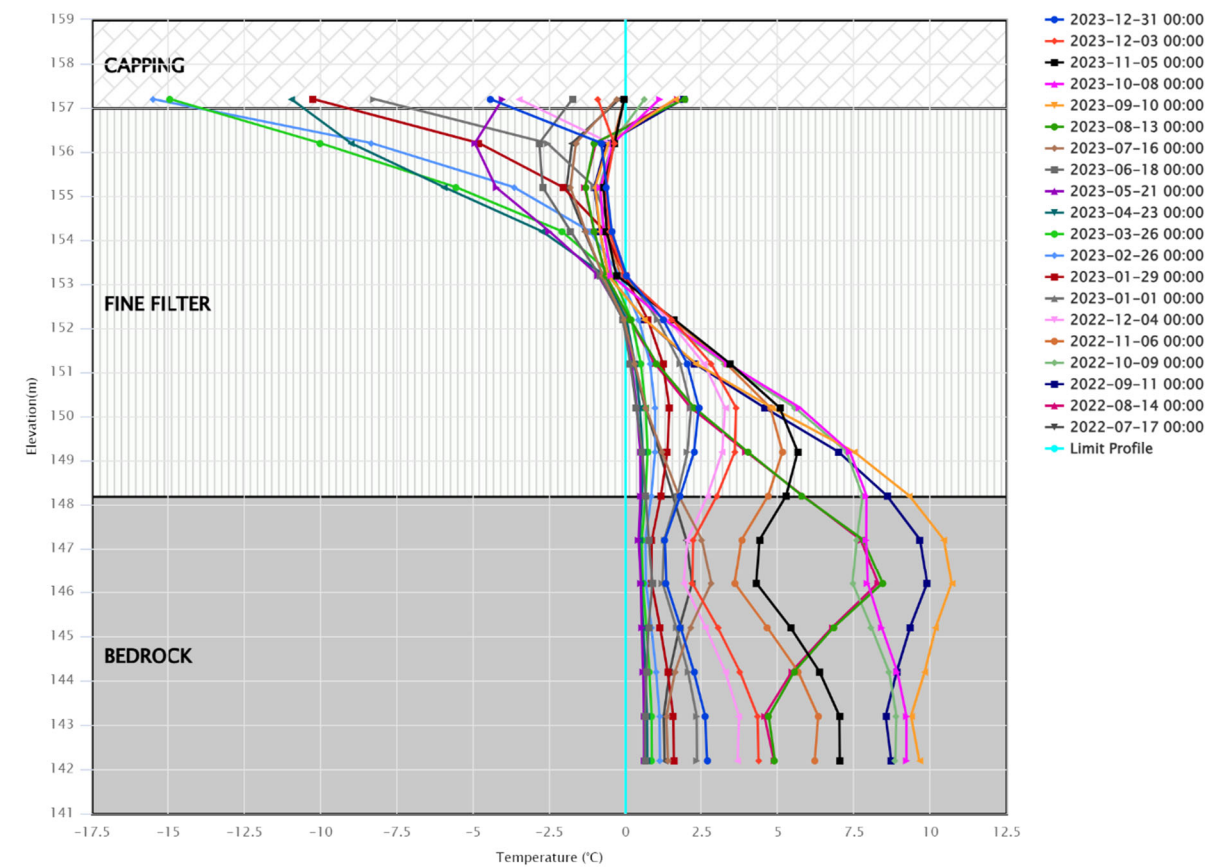




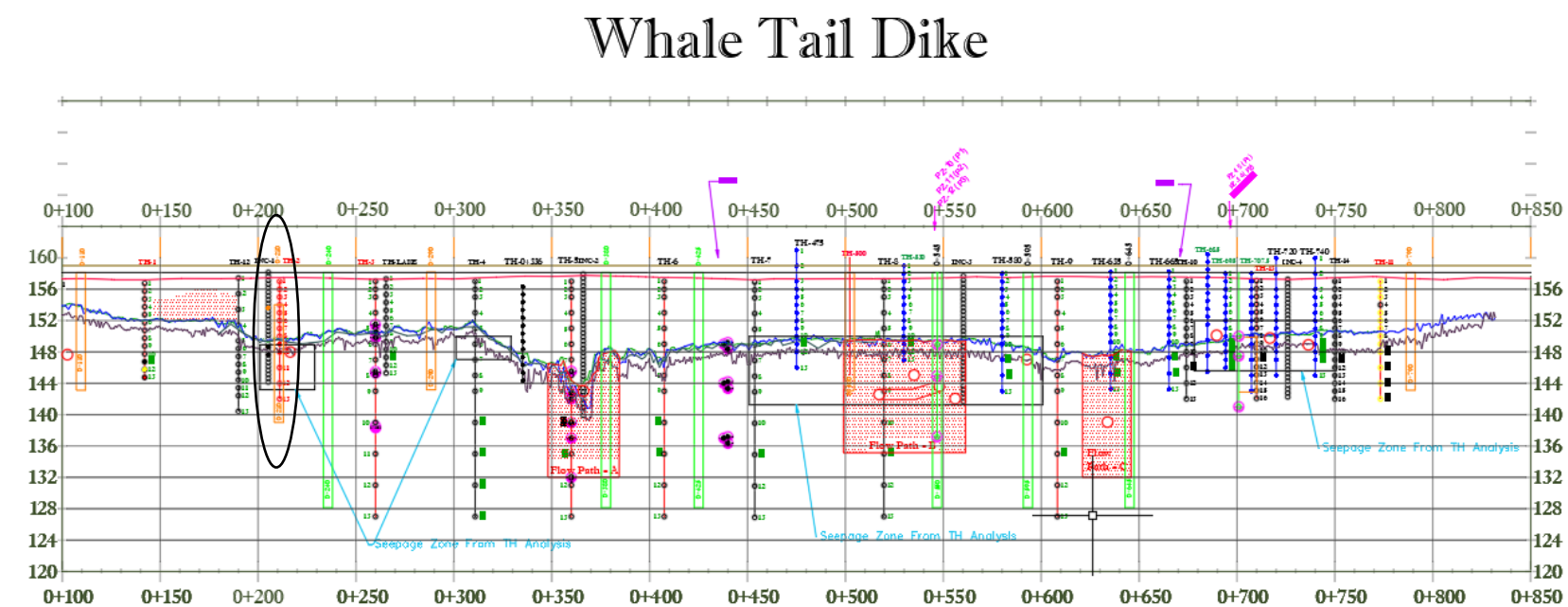
**WTD-TH 0+210**

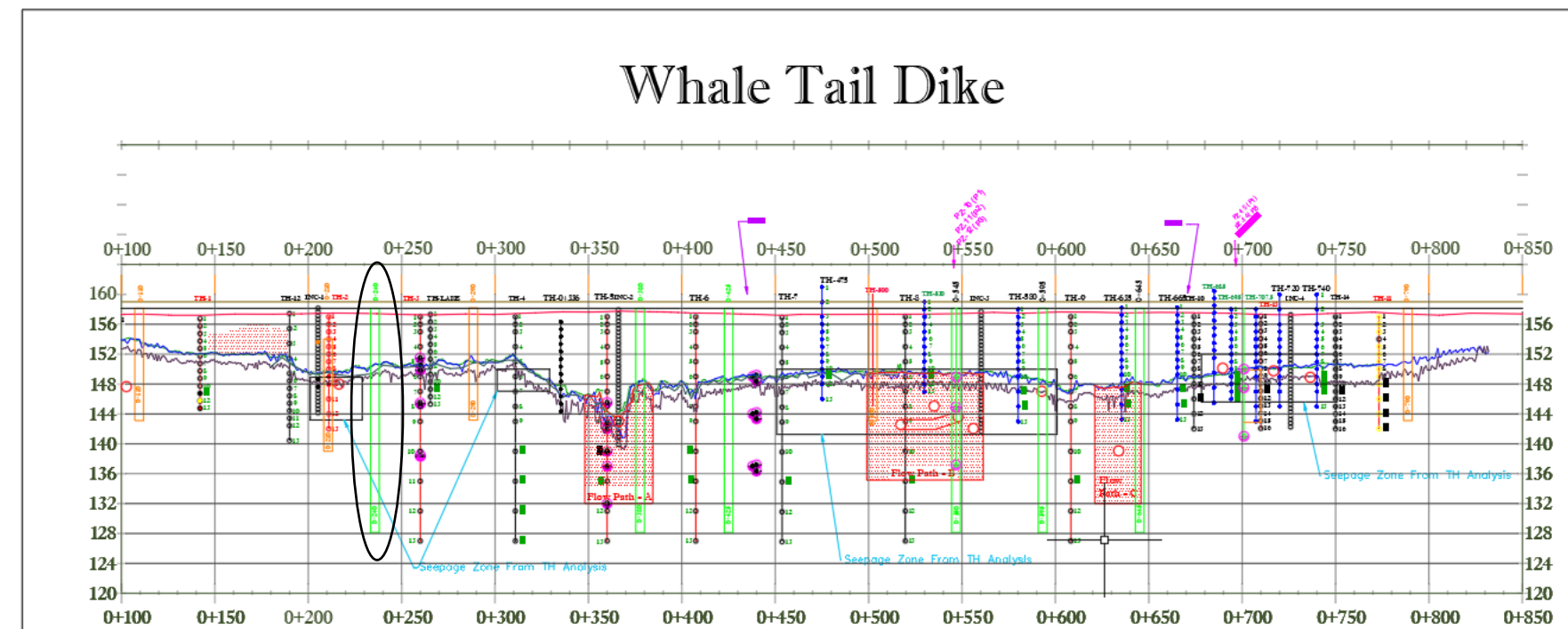
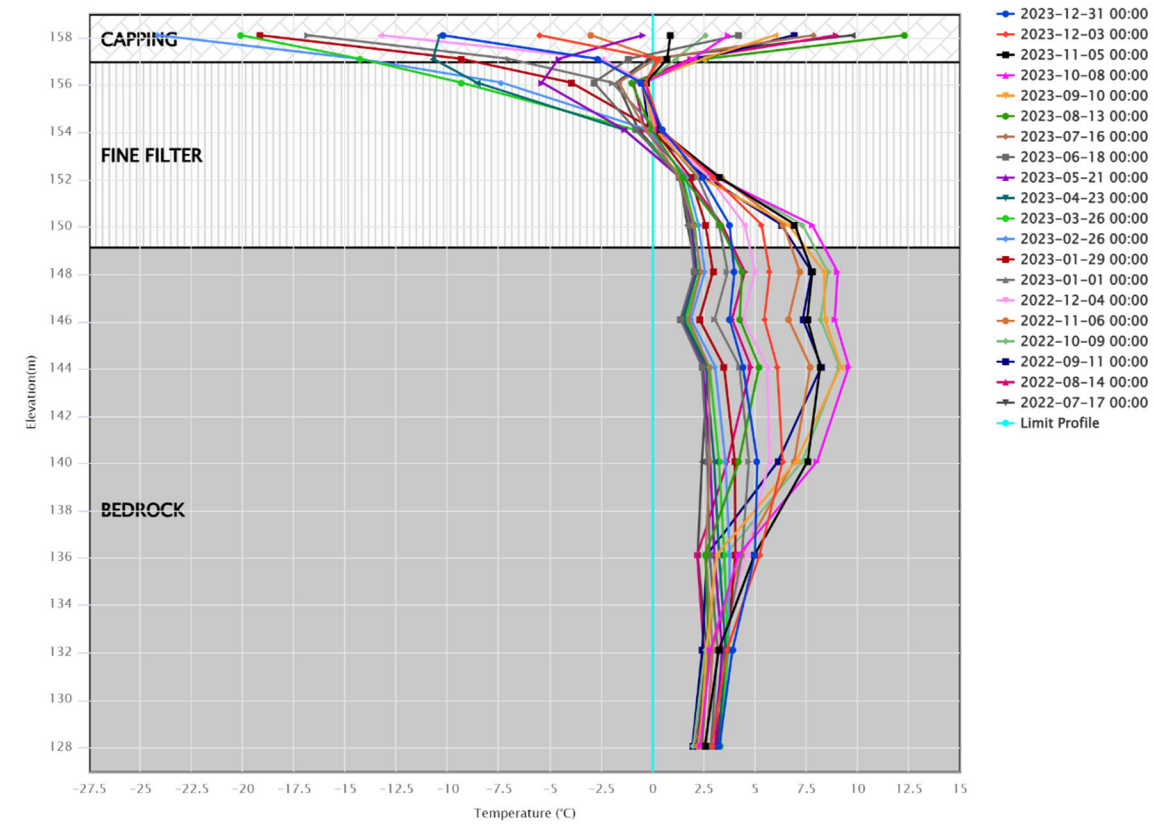


AMQ - WTD TH: 0+210\_R

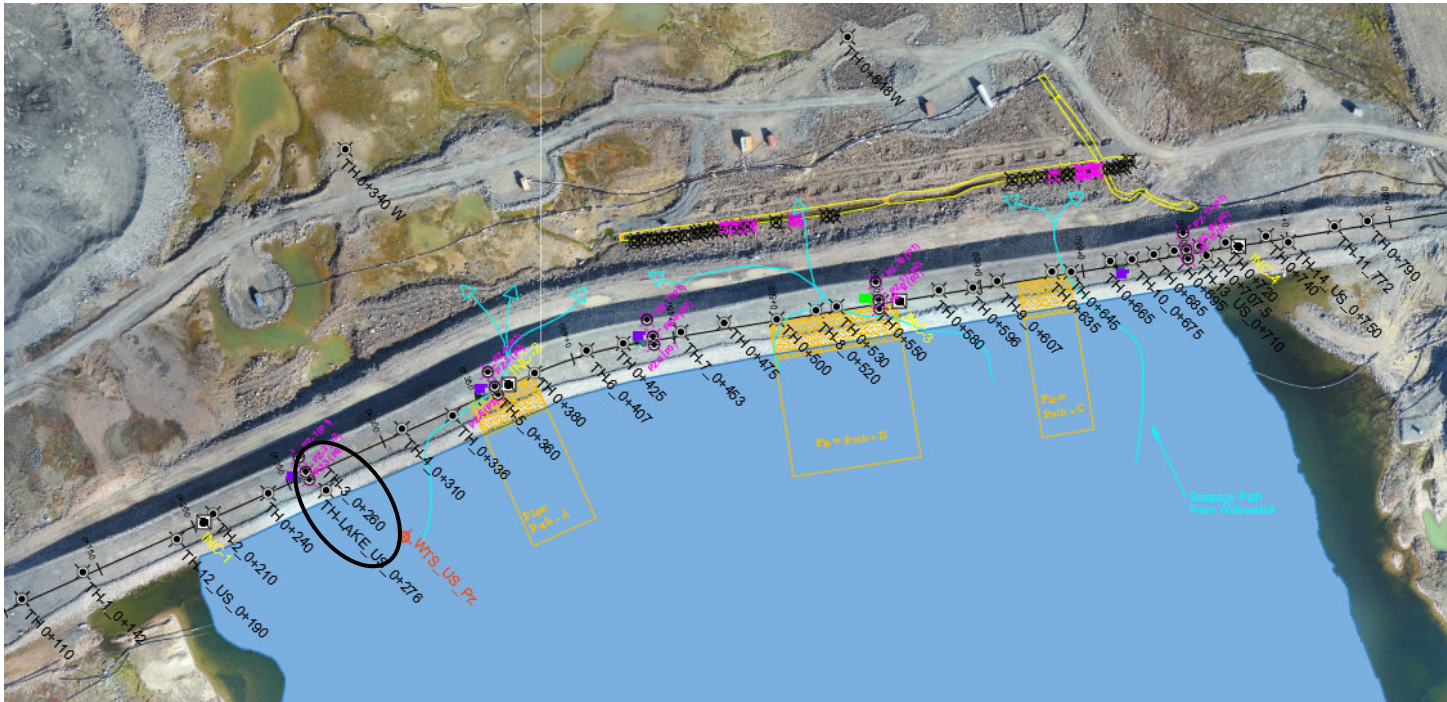


Thermistor string damaged by drilling. No dataset between Oct 2019 and February 2021. TH replaced



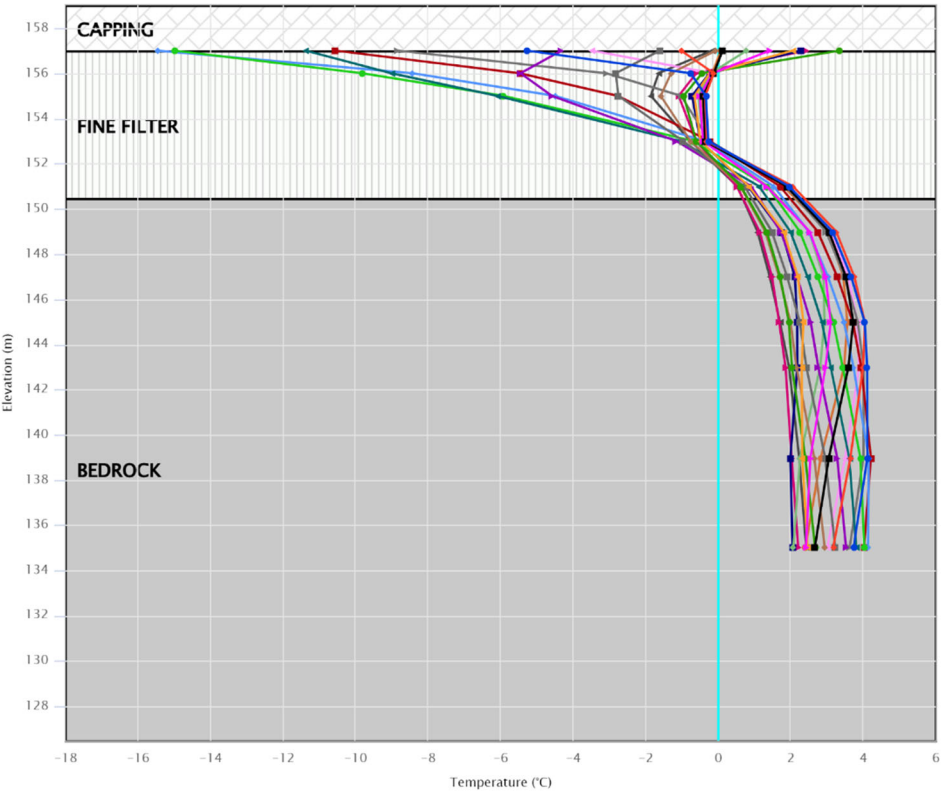


WTD-TH 0+260



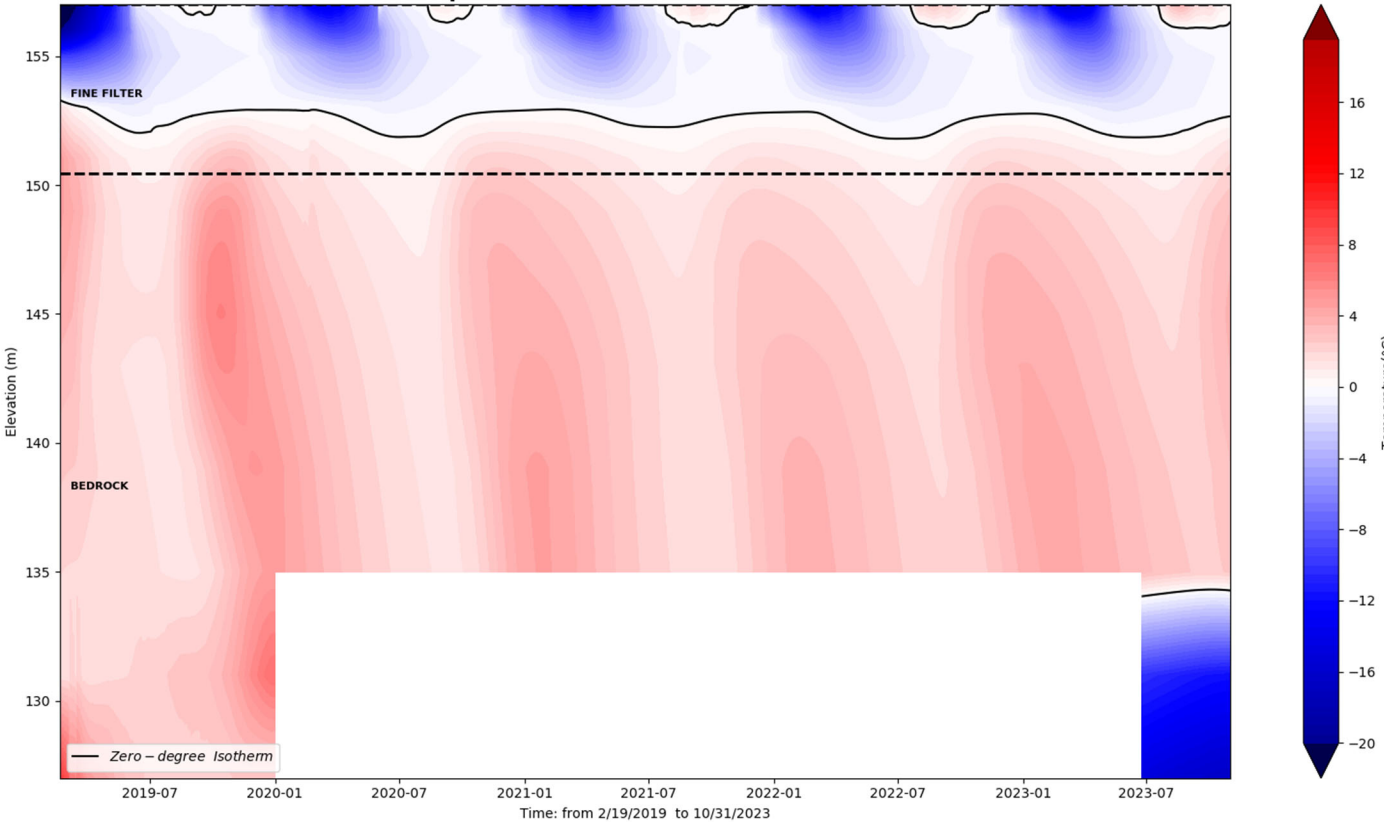
AMQ – WTD TH: 0+260

Bead #12 and #13 removed

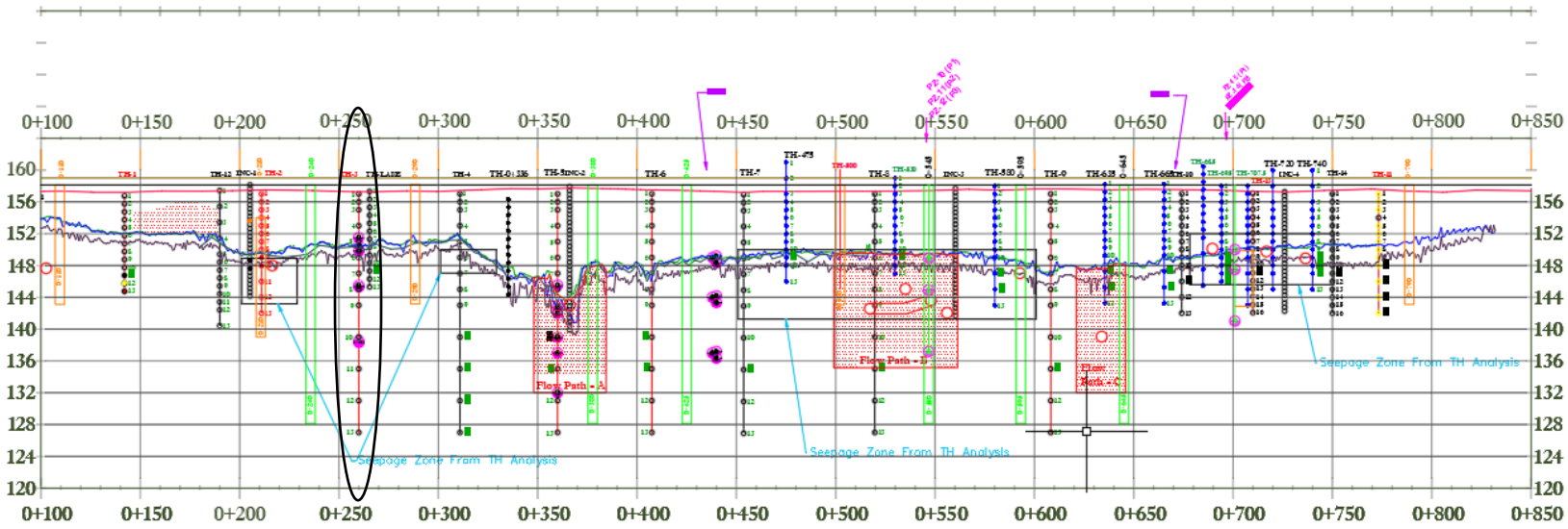


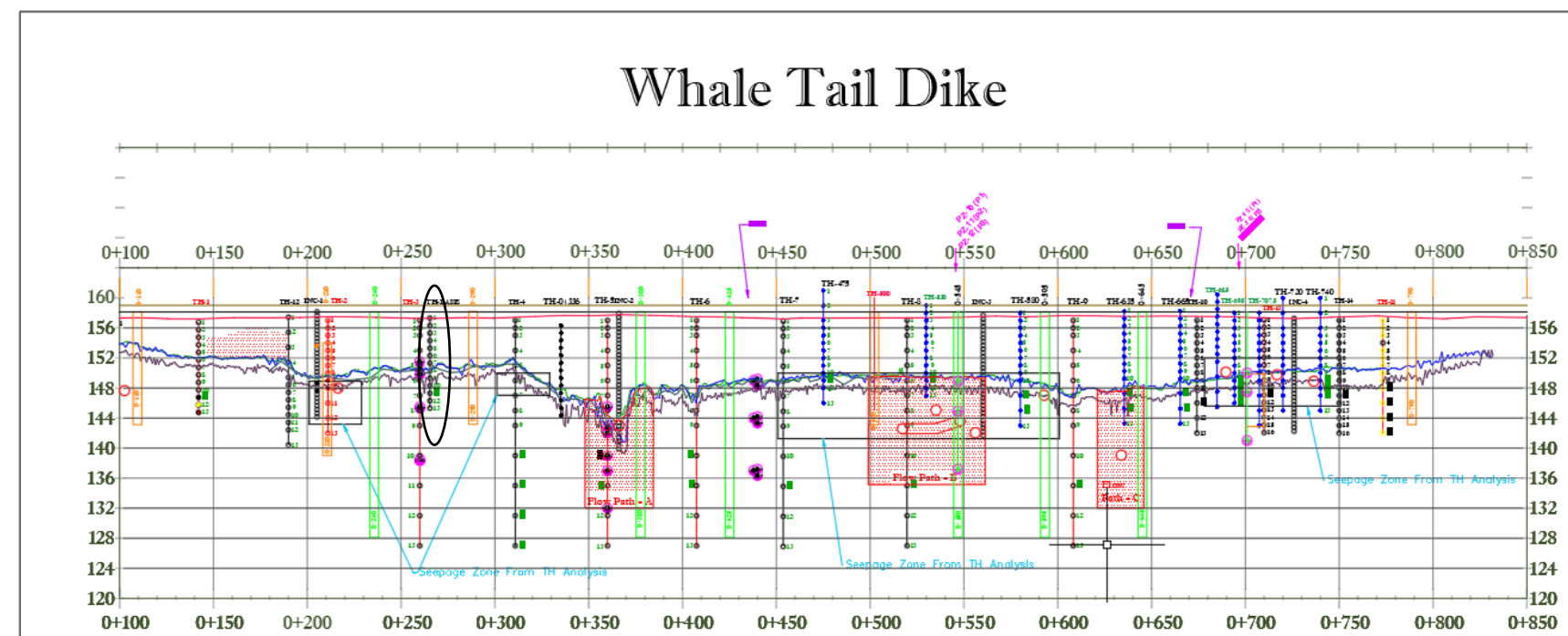
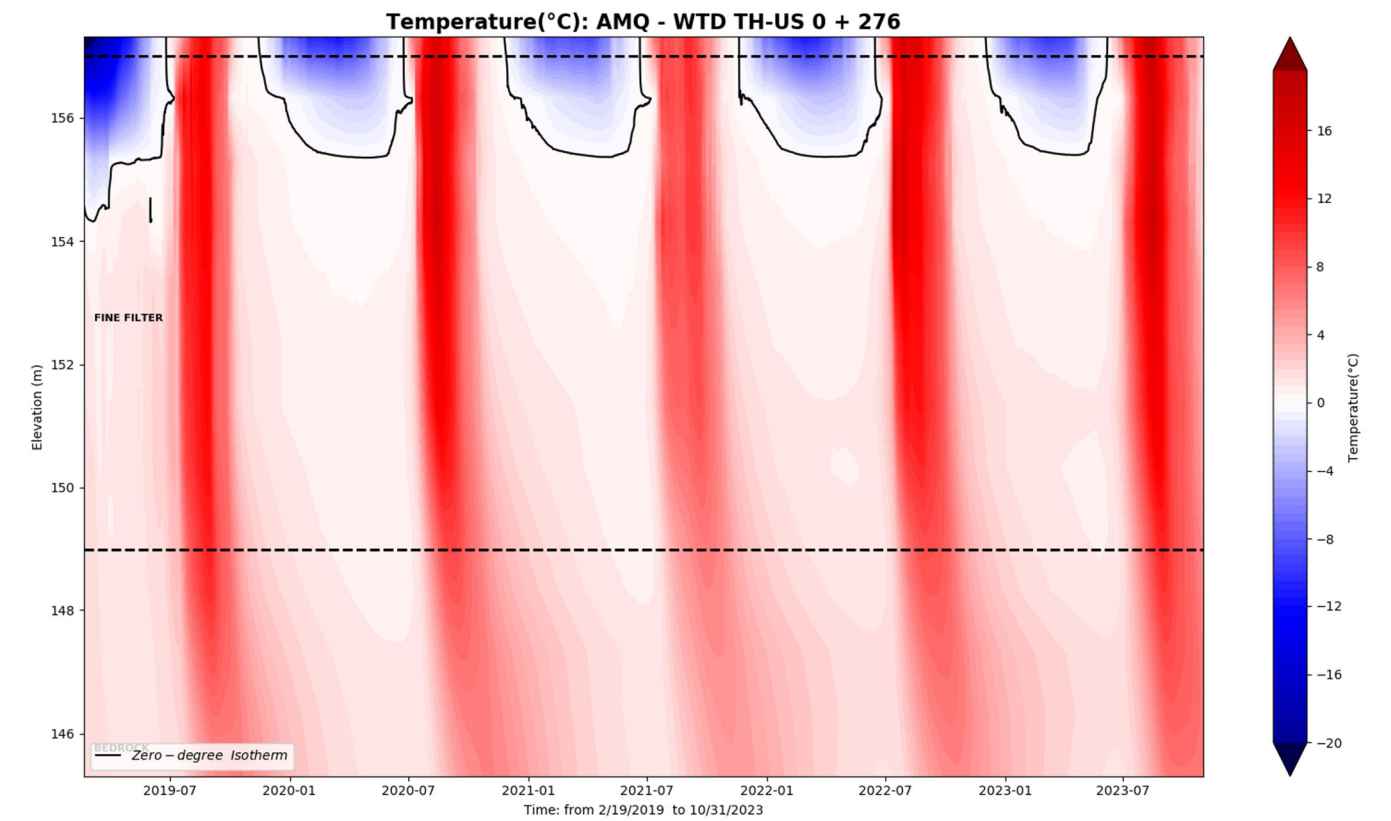
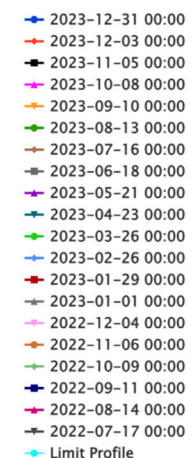
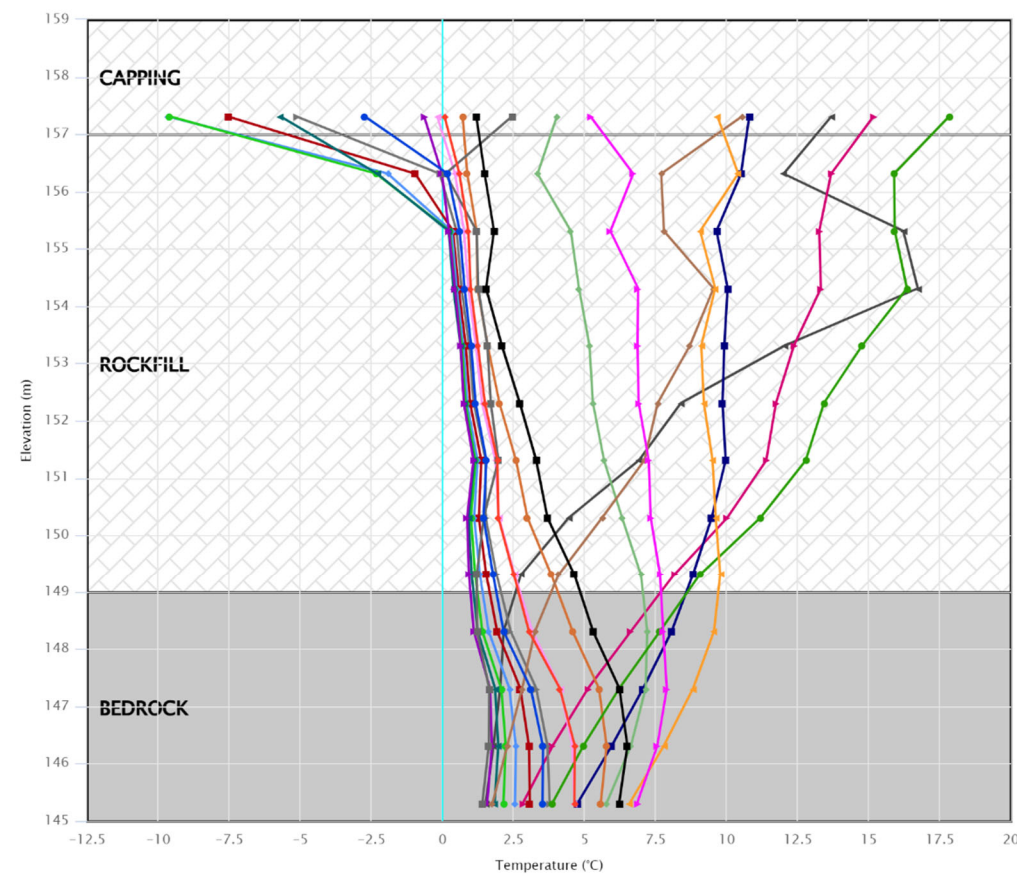
- 2023-12-31 00:00
- 2023-12-03 00:00
- 2023-11-05 00:00
- 2023-10-08 00:00
- 2023-09-10 00:00
- 2023-08-13 00:00
- 2023-07-16 00:00
- 2023-06-18 00:00
- 2023-05-21 00:00
- 2023-04-23 00:00
- 2023-03-26 00:00
- 2023-02-26 00:00
- 2023-01-29 00:00
- 2023-01-01 00:00
- 2022-12-04 00:00
- 2022-11-06 00:00
- 2022-10-09 00:00
- 2022-09-11 00:00
- 2022-08-14 00:00
- 2022-07-17 00:00
- Limit Profile

Temperature(°C): AMQ - WTD TH 0 + 260

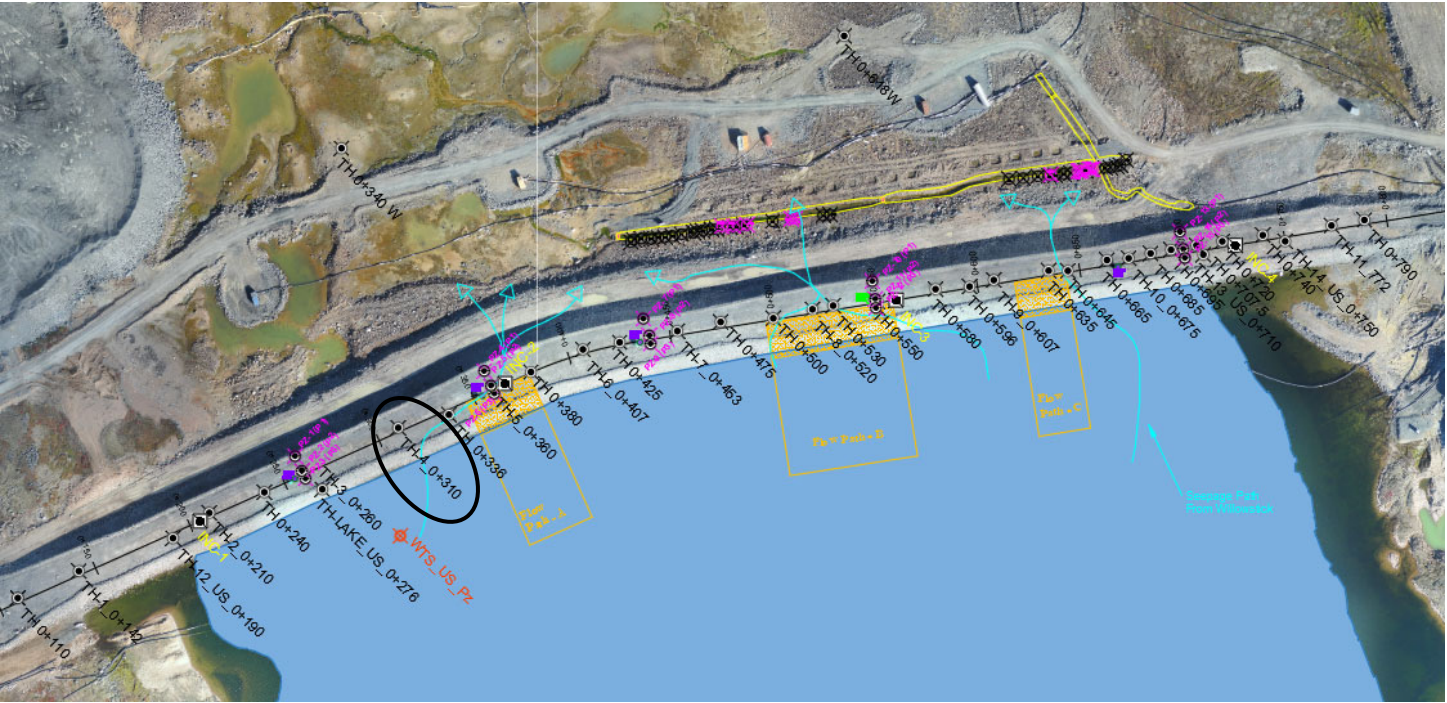


Whale Tail Dike

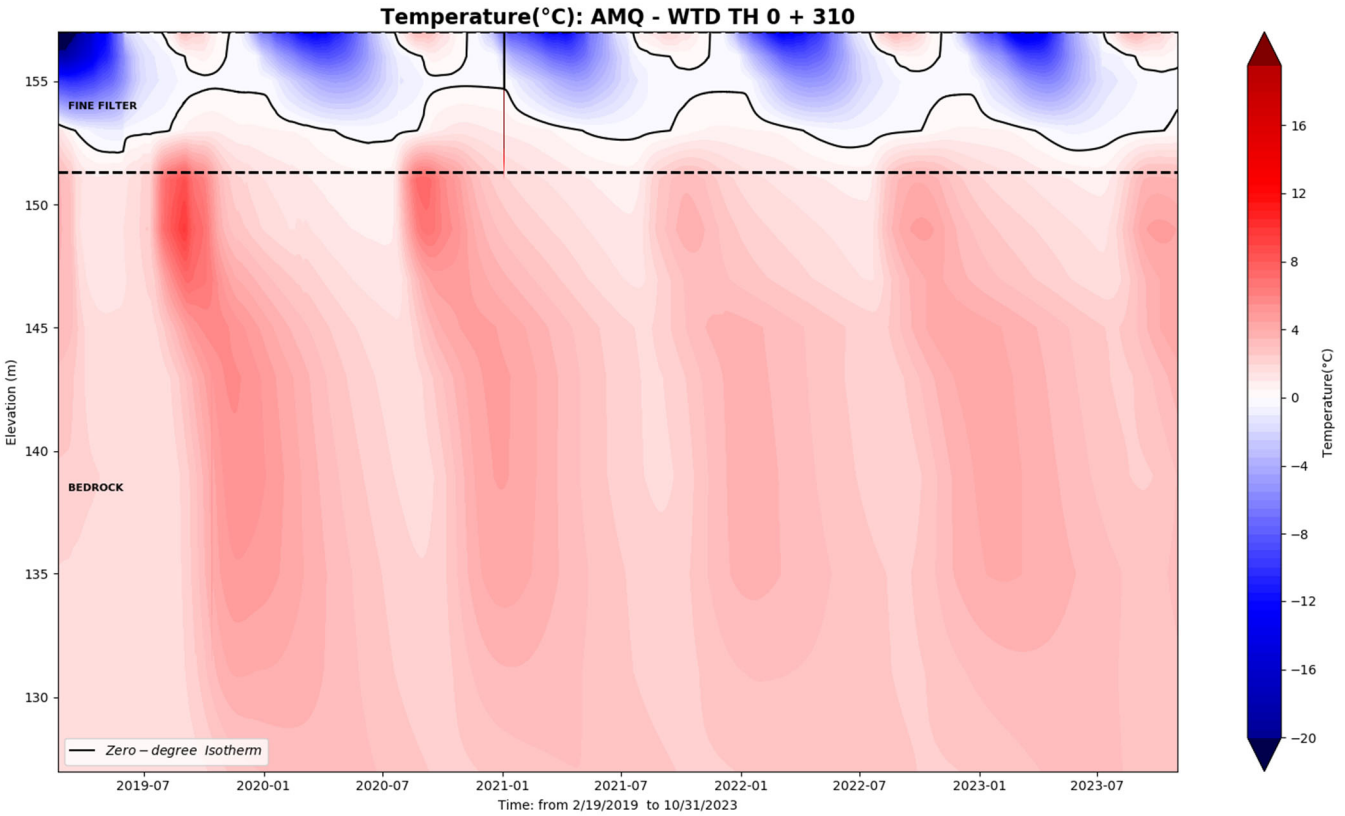
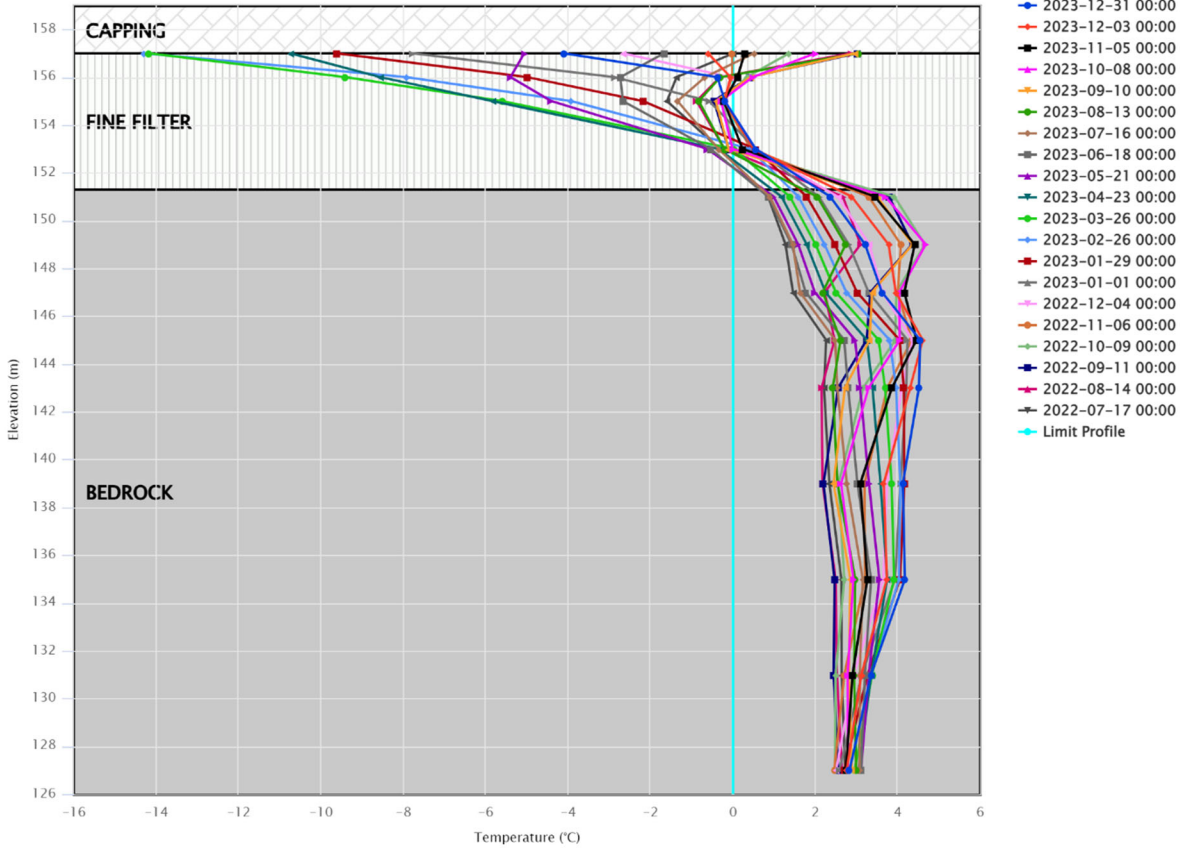




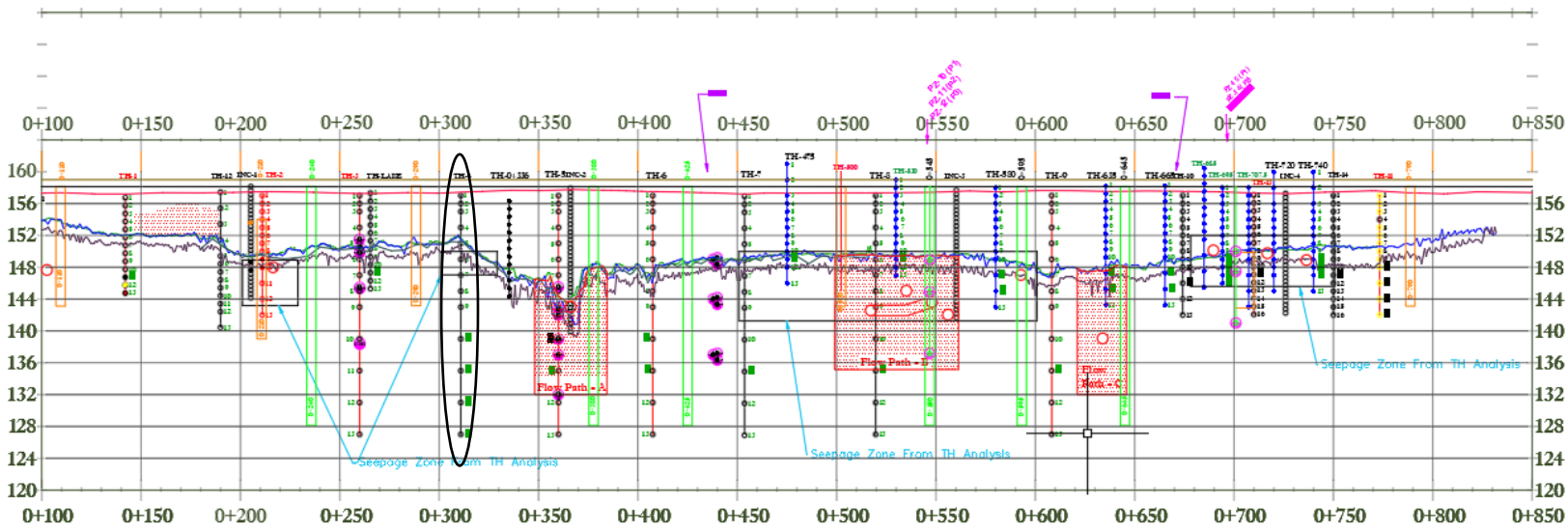
WTD-TH 0+310



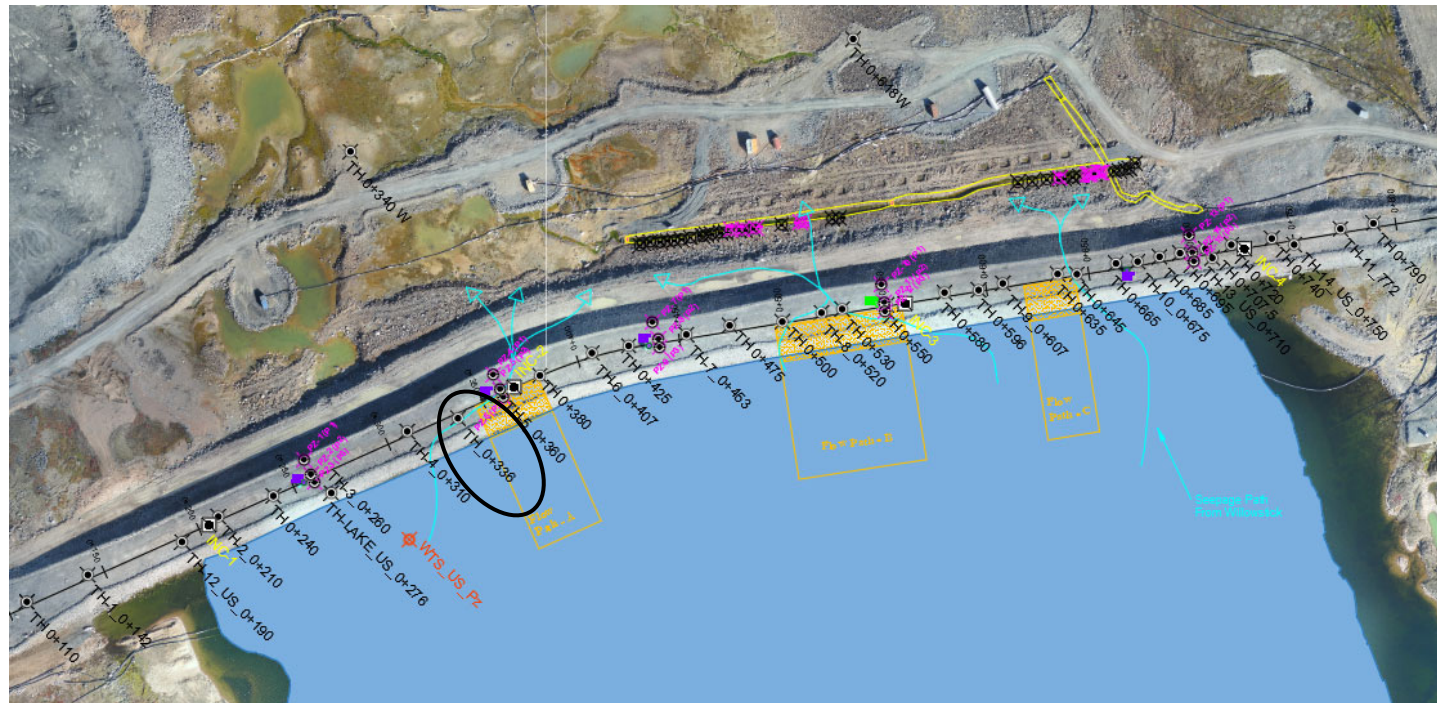
AMQ – WTD TH: 0+310



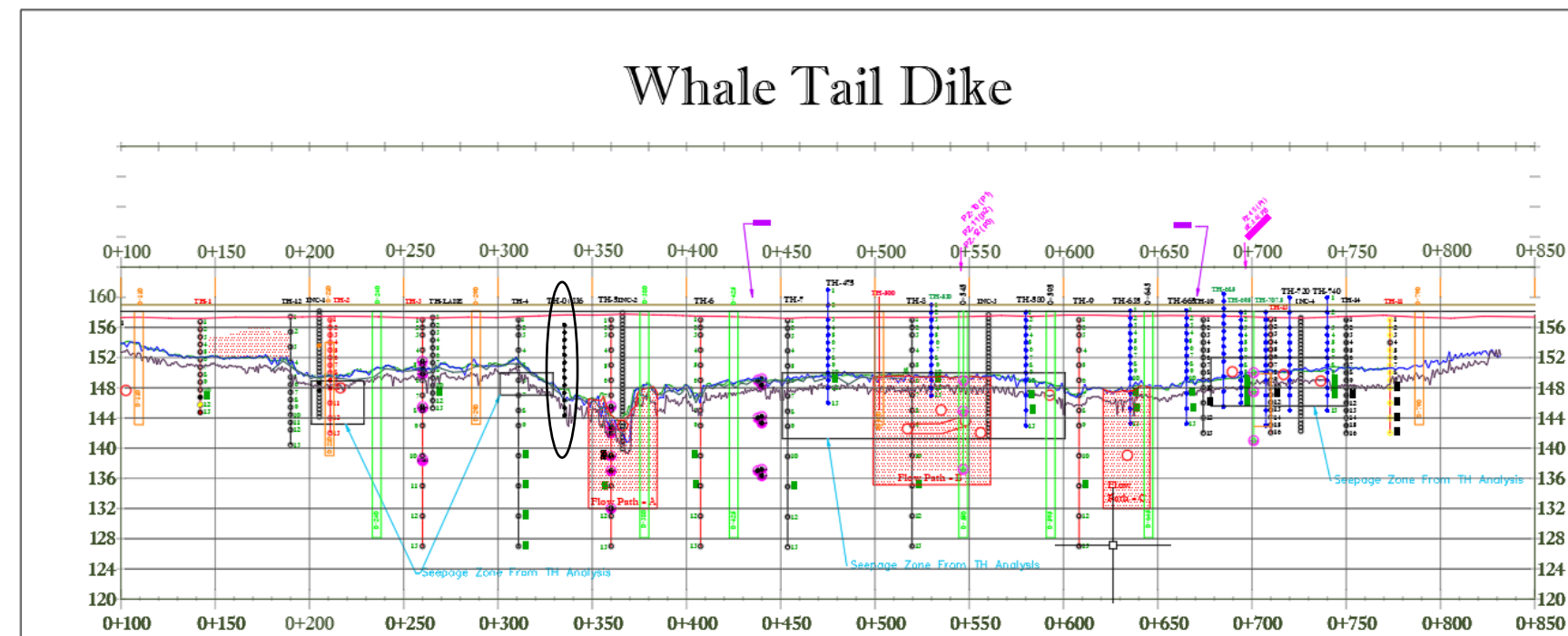
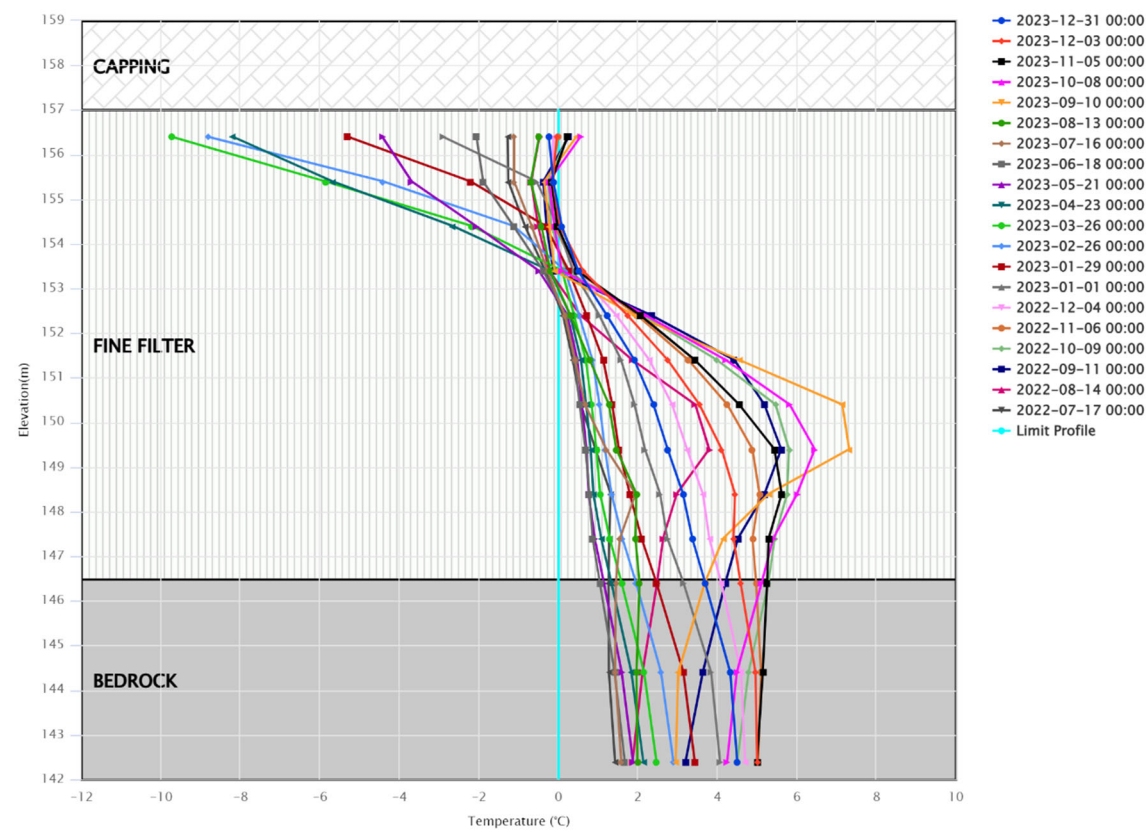
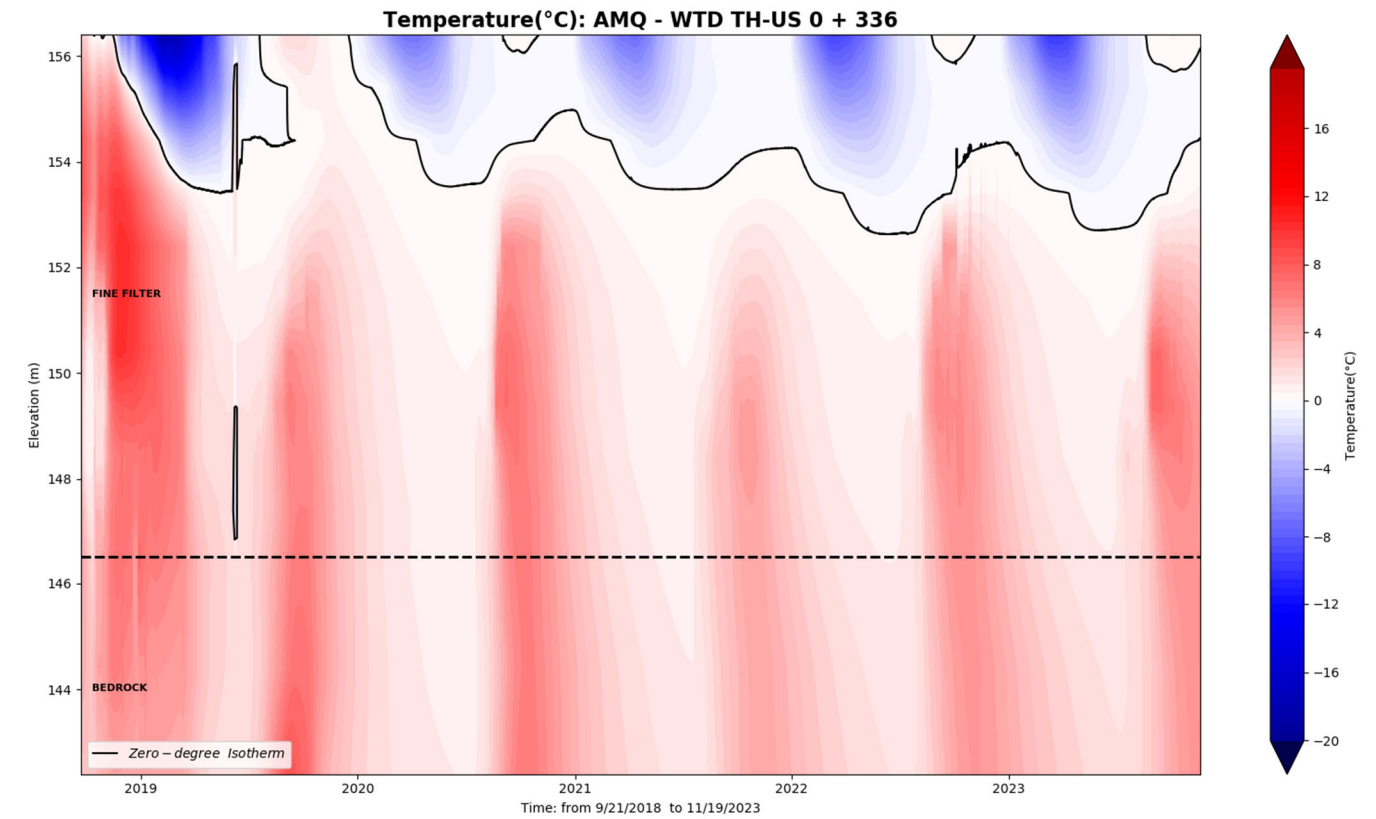
Whale Tail Dike



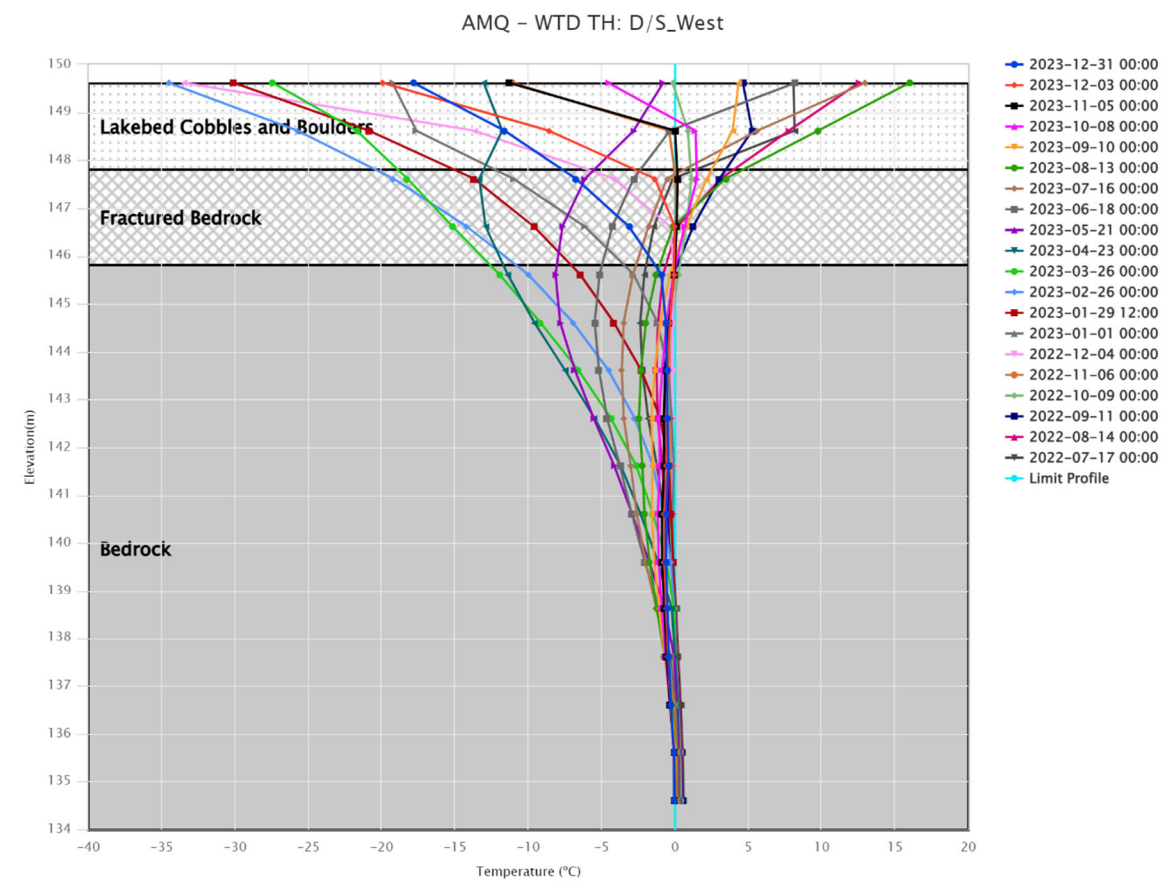
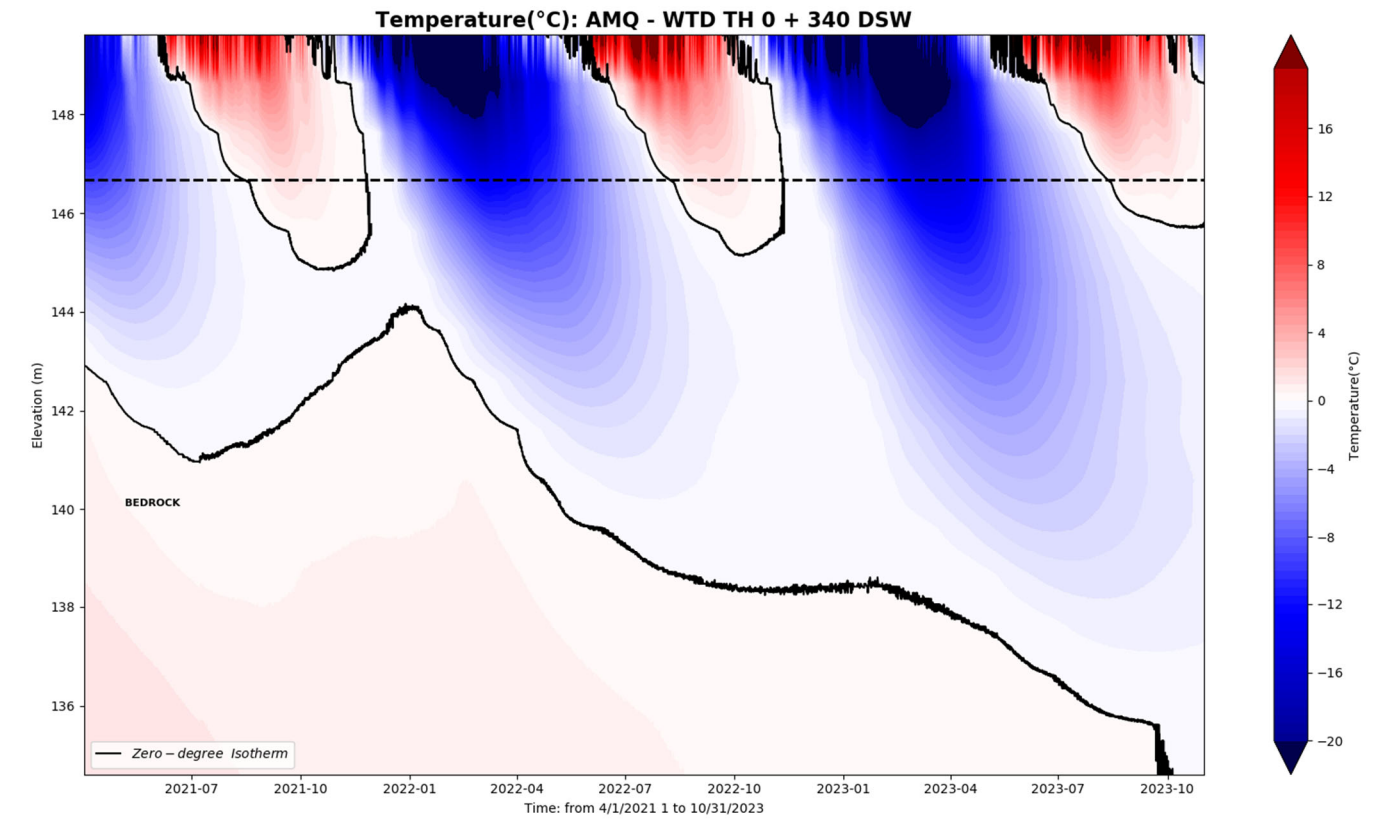
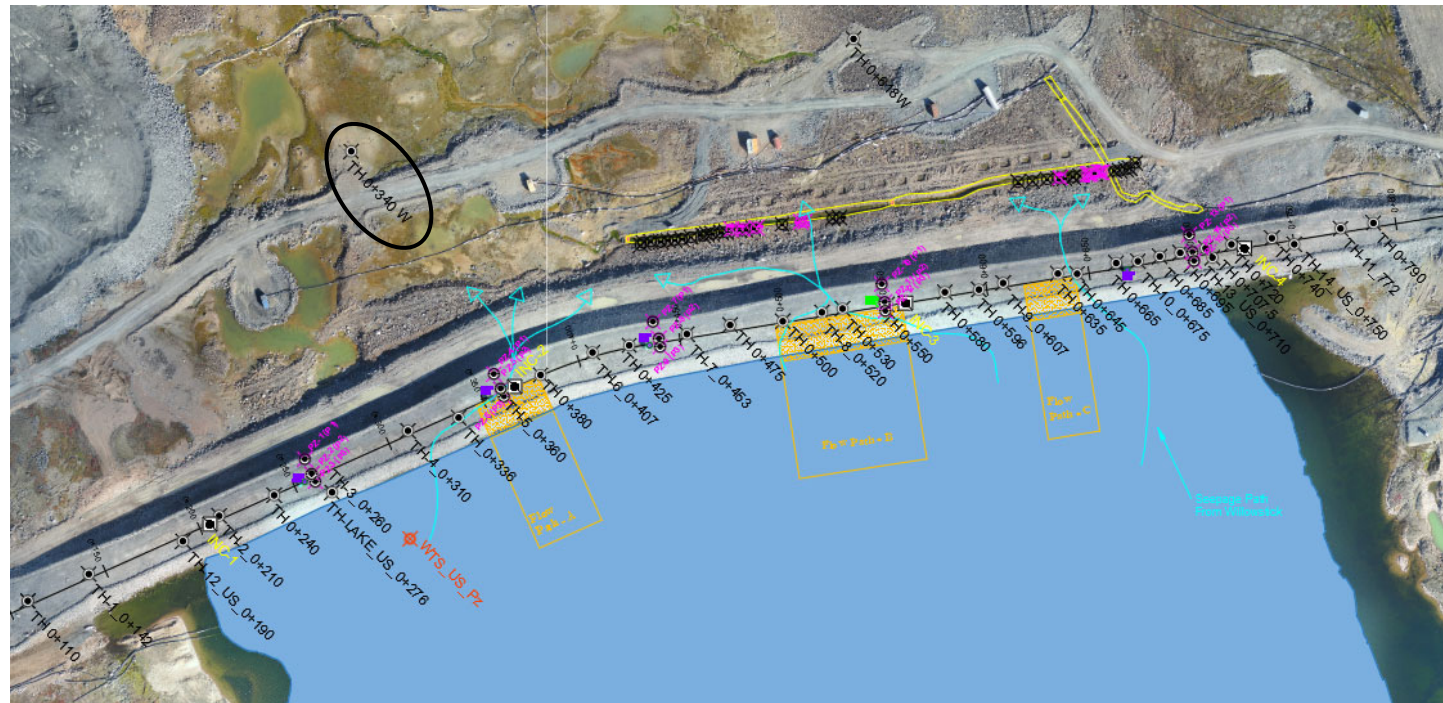
**WTD-TH 0+336 U/S**



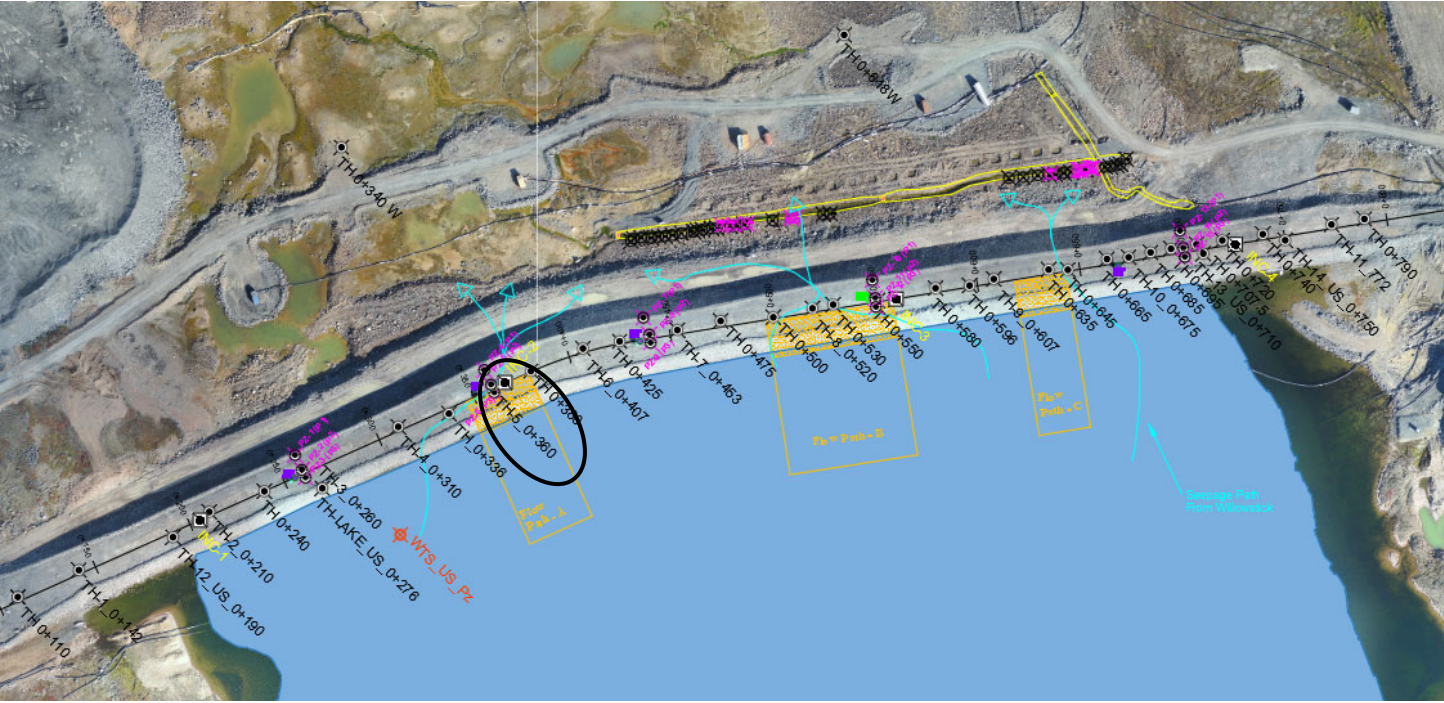
AMQ - WTD TH\_US: 0+336



**WTD-TH 0+340 DSW**

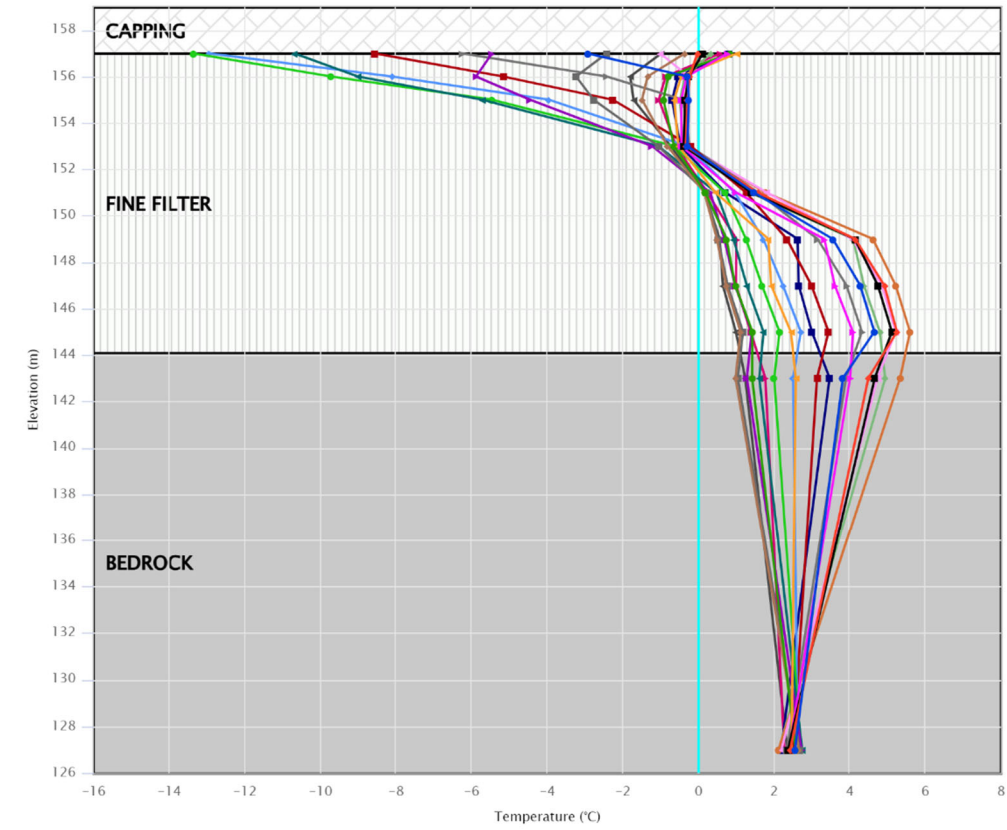


WTD-TH 0+360

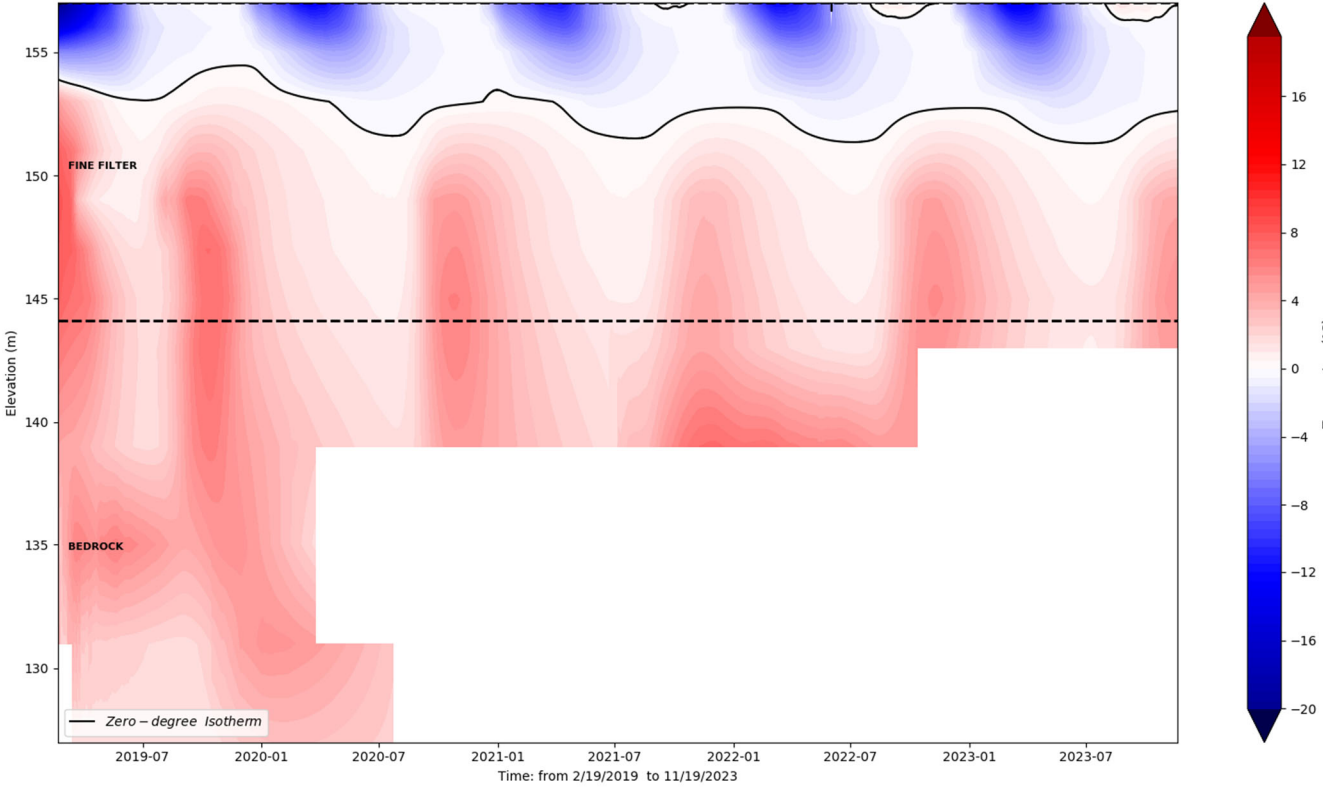


AMQ – WTD TH: 0+360

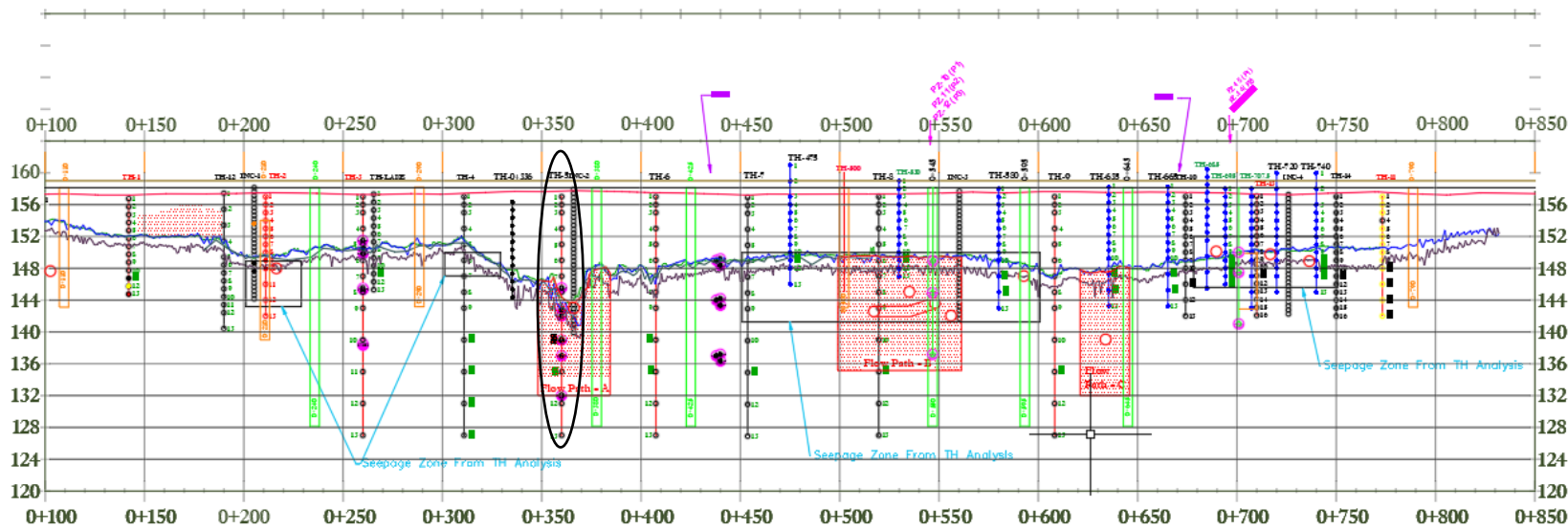
Bead #10 to #12 removed



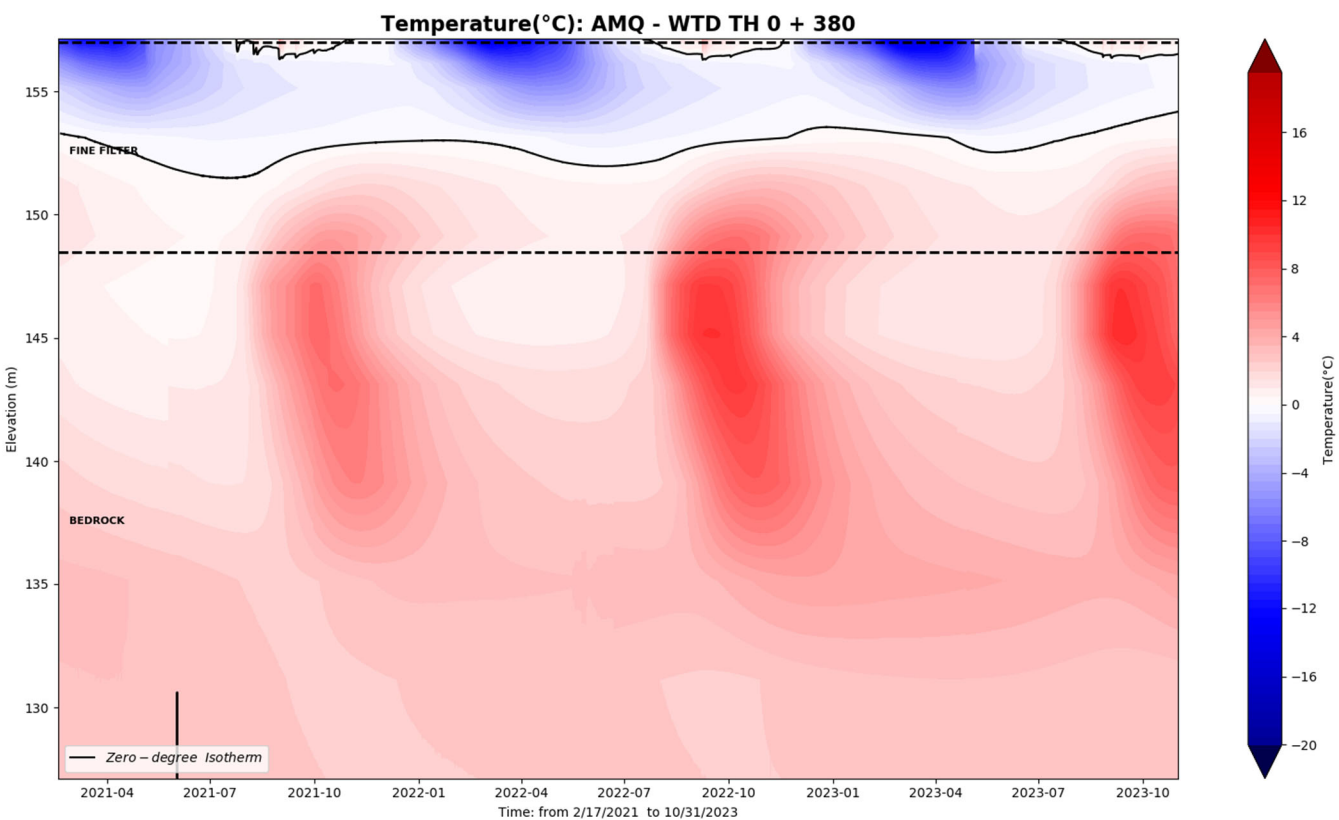
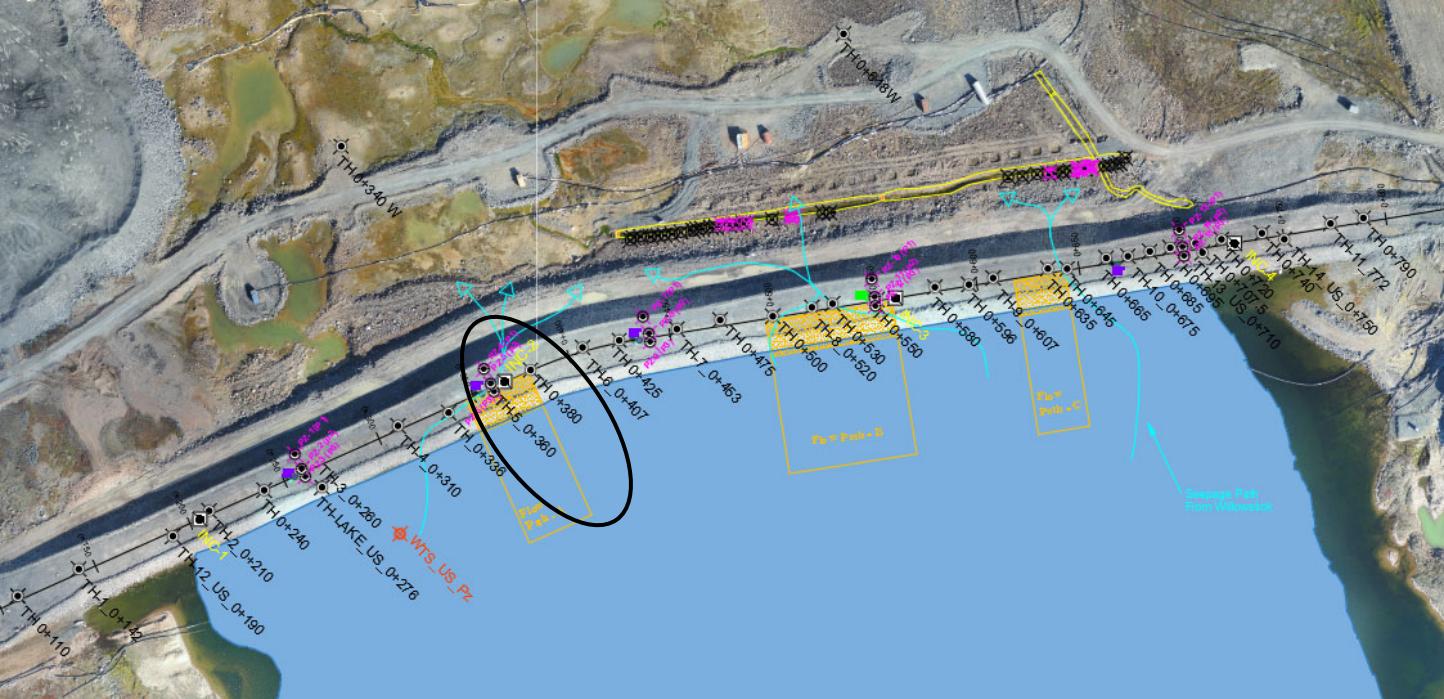
Temperature(°C): AMQ - WTD TH 0 + 360



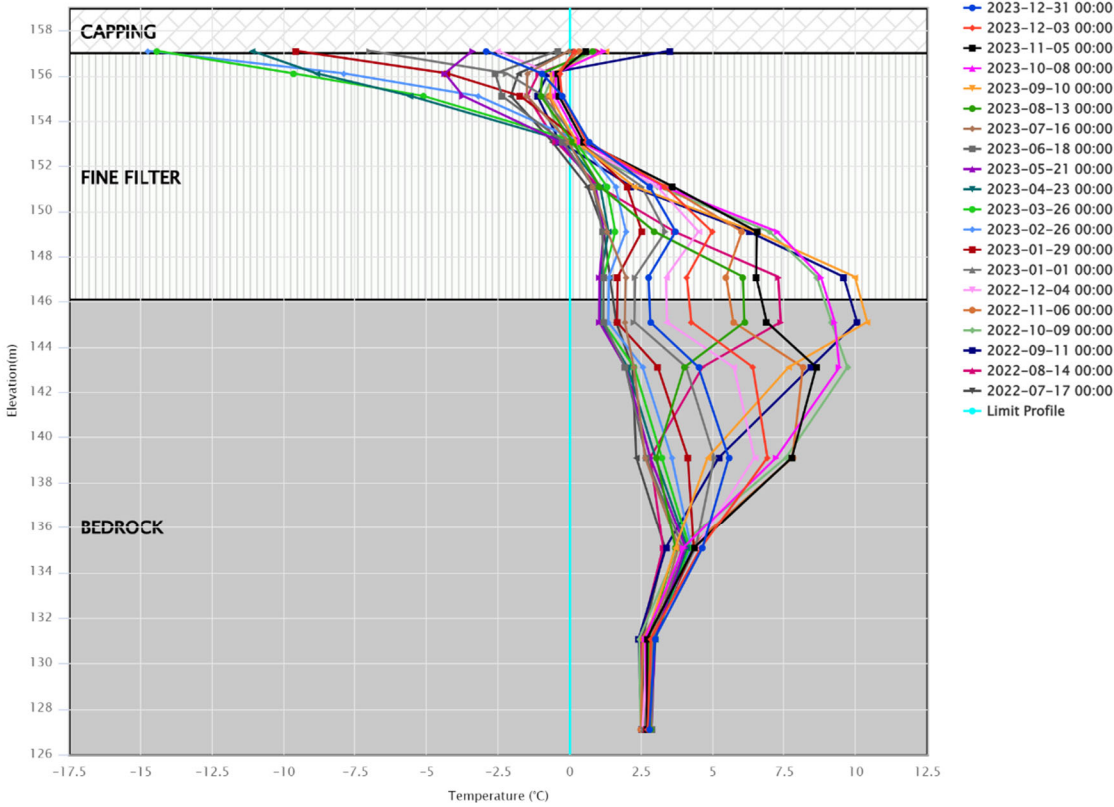
Whale Tail Dike



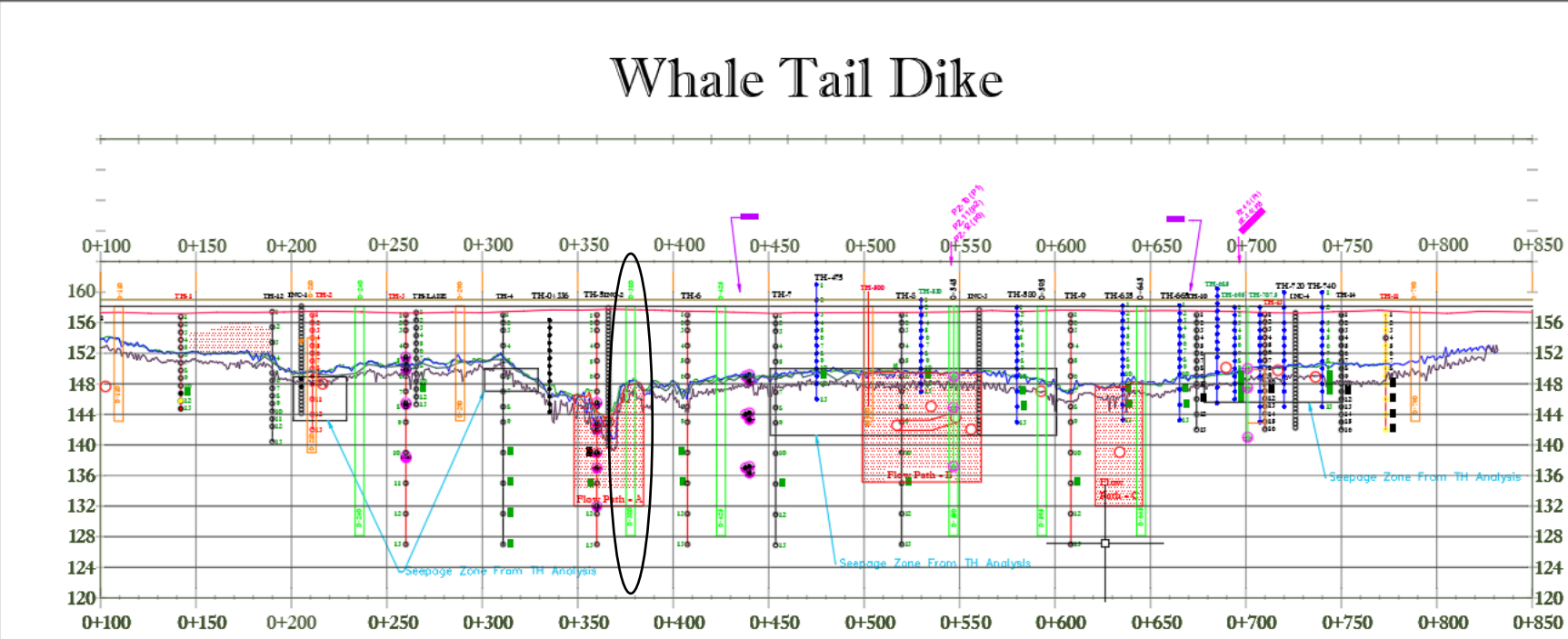
WTD-TH 0+380



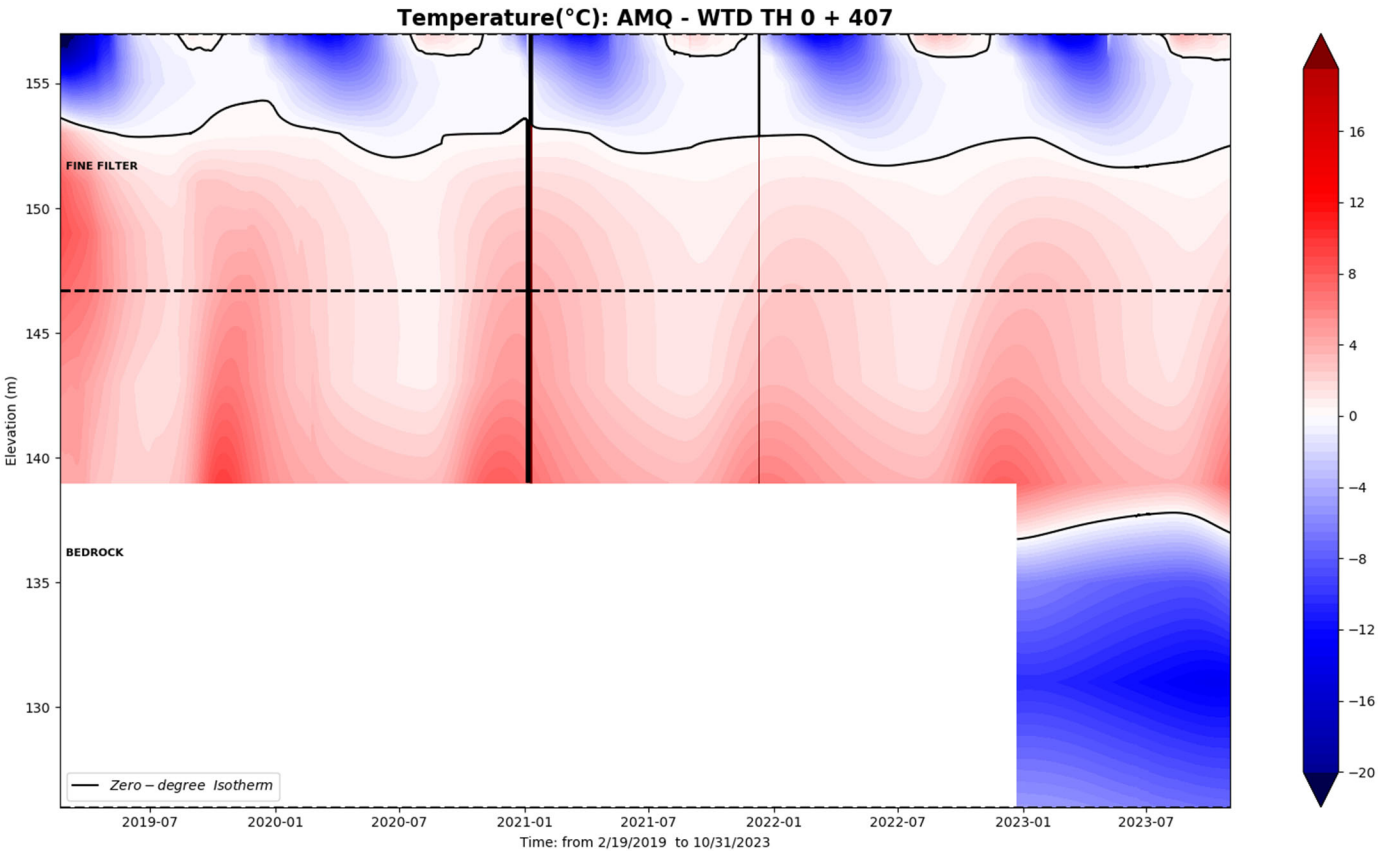
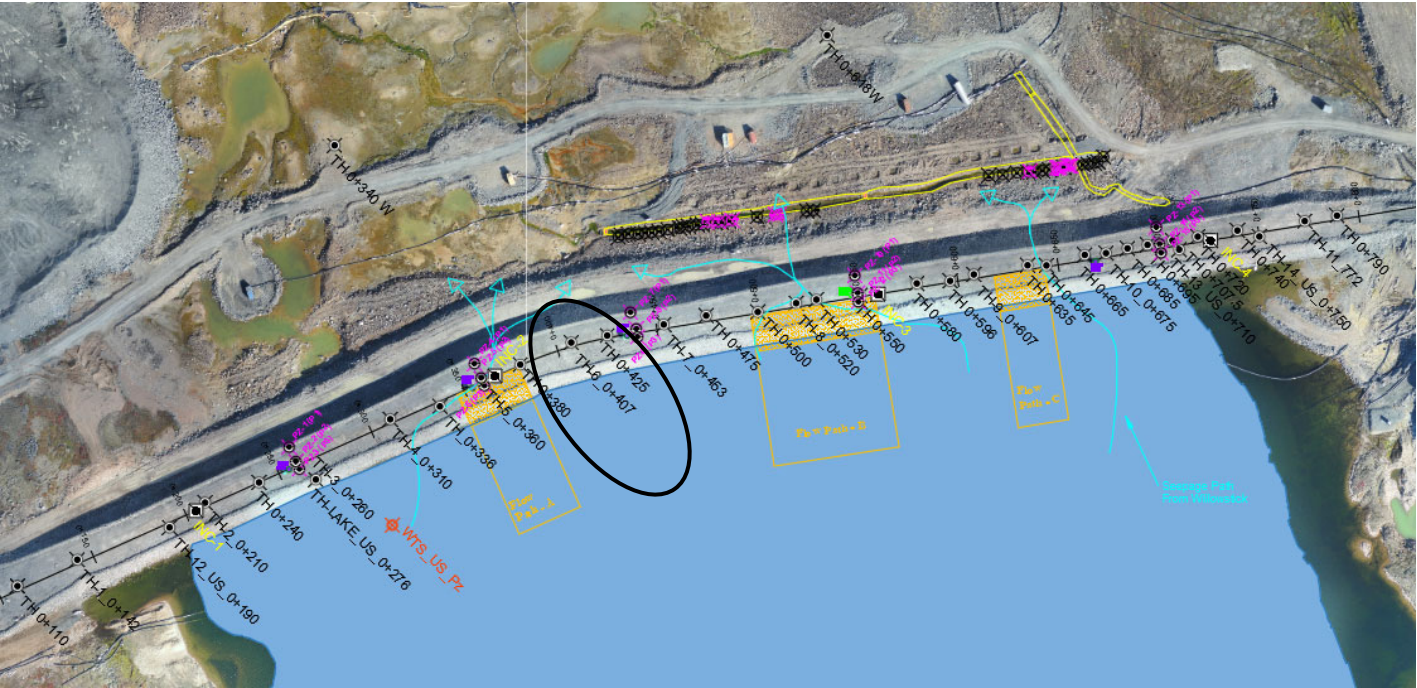
AMQ - WTD TH: 0+380



Whale Tail Dike

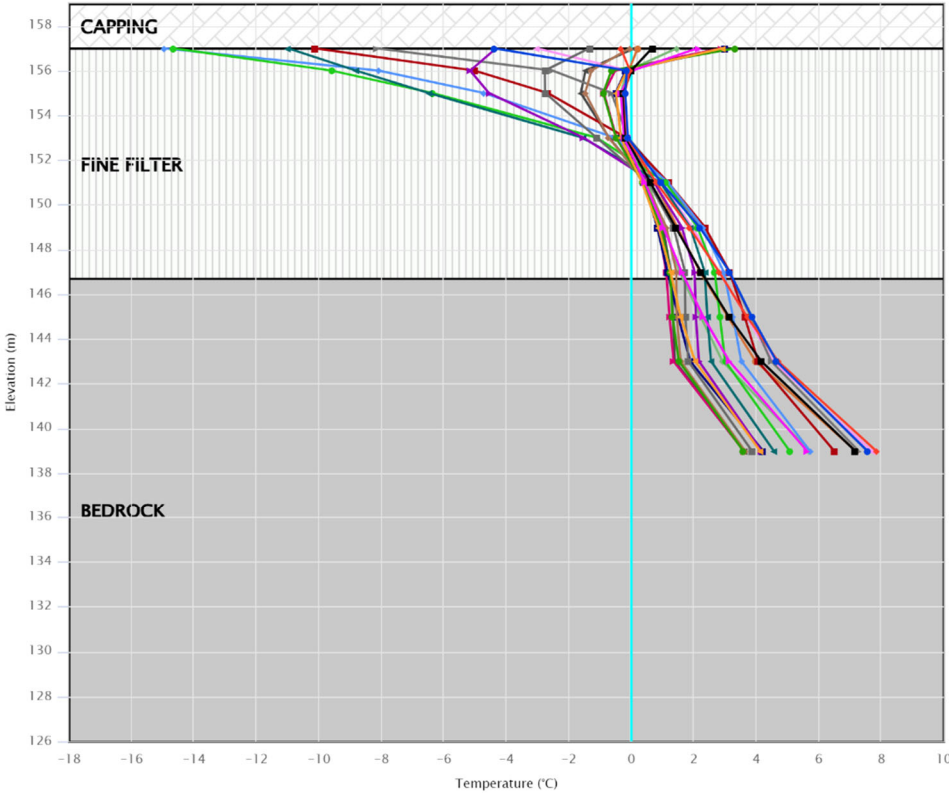


WTD-TH 0+407

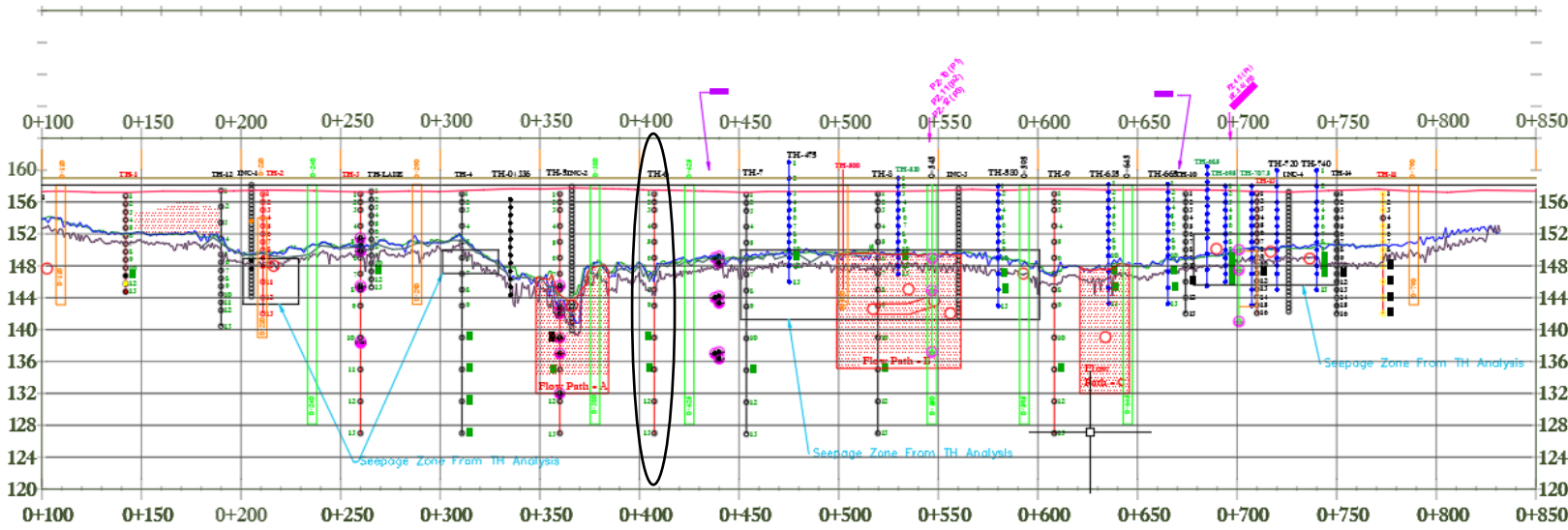


AMQ - WTD TH: 0+407

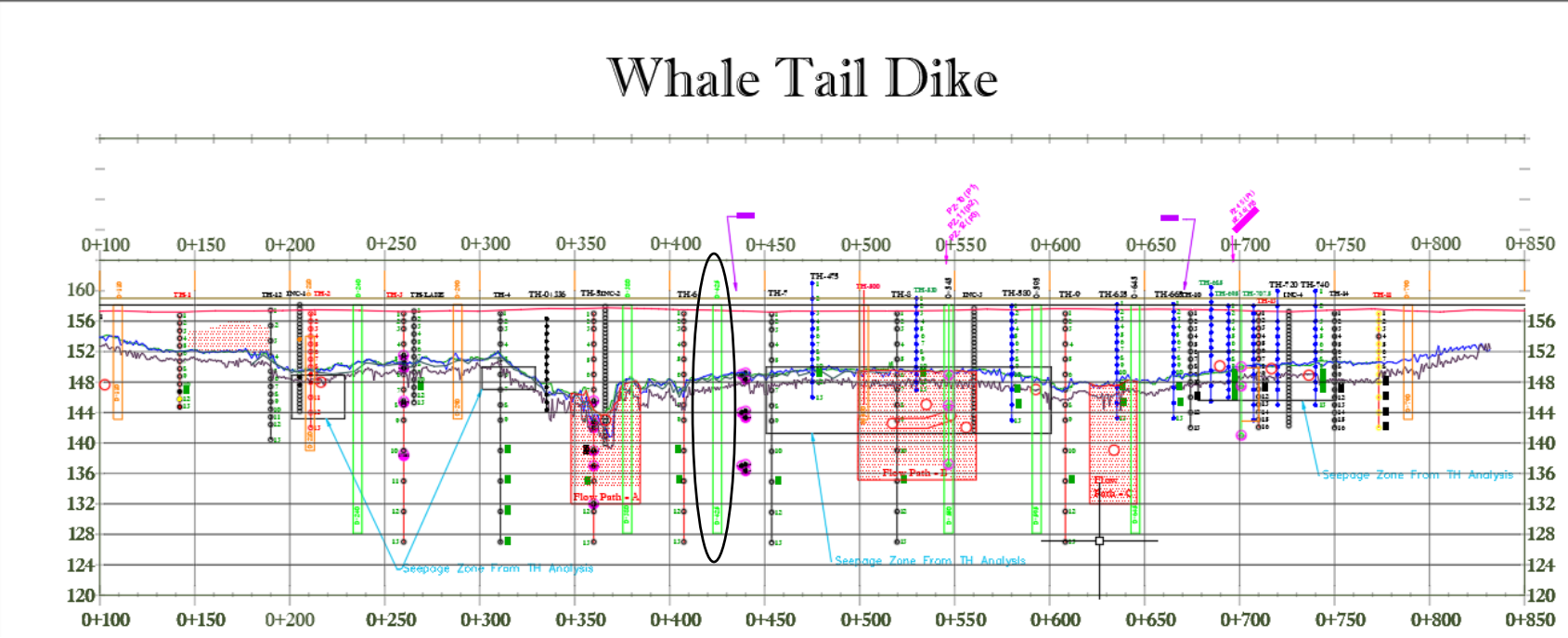
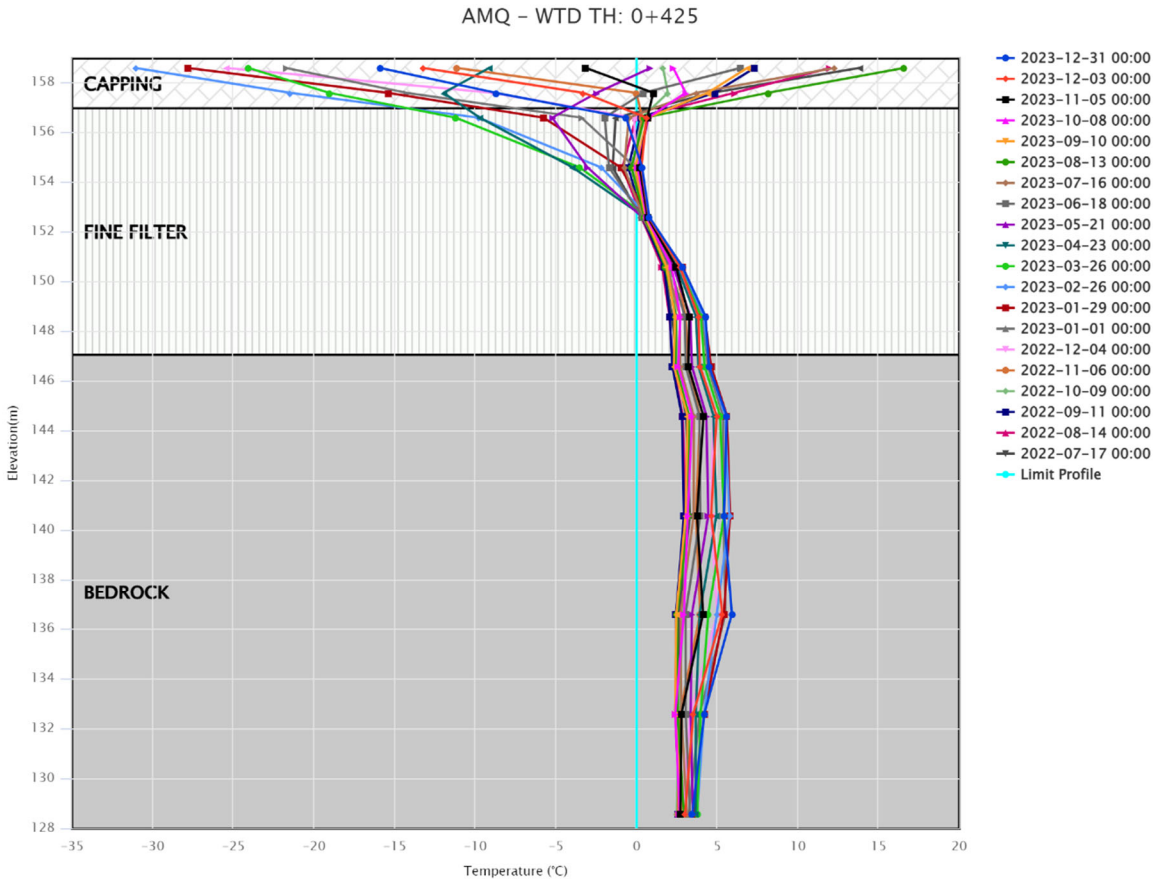
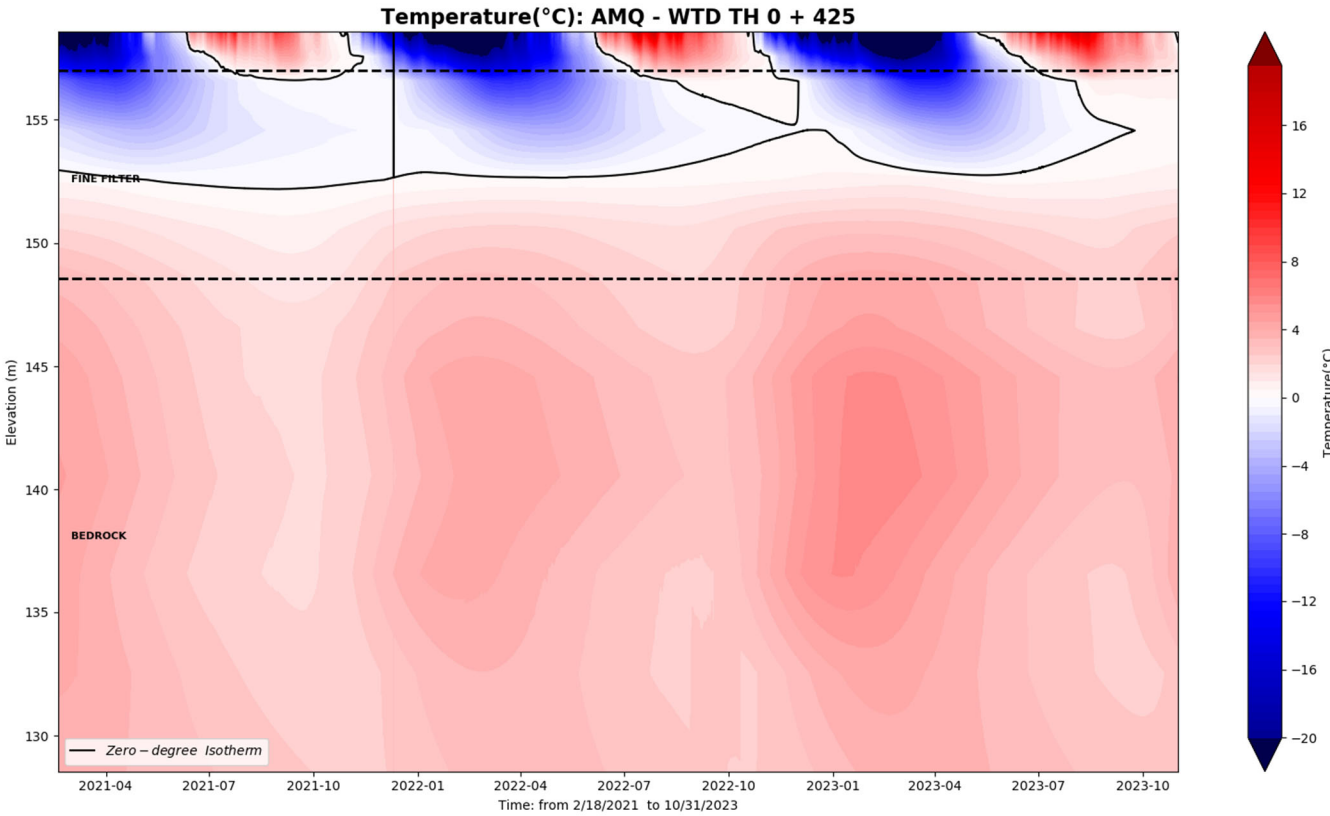
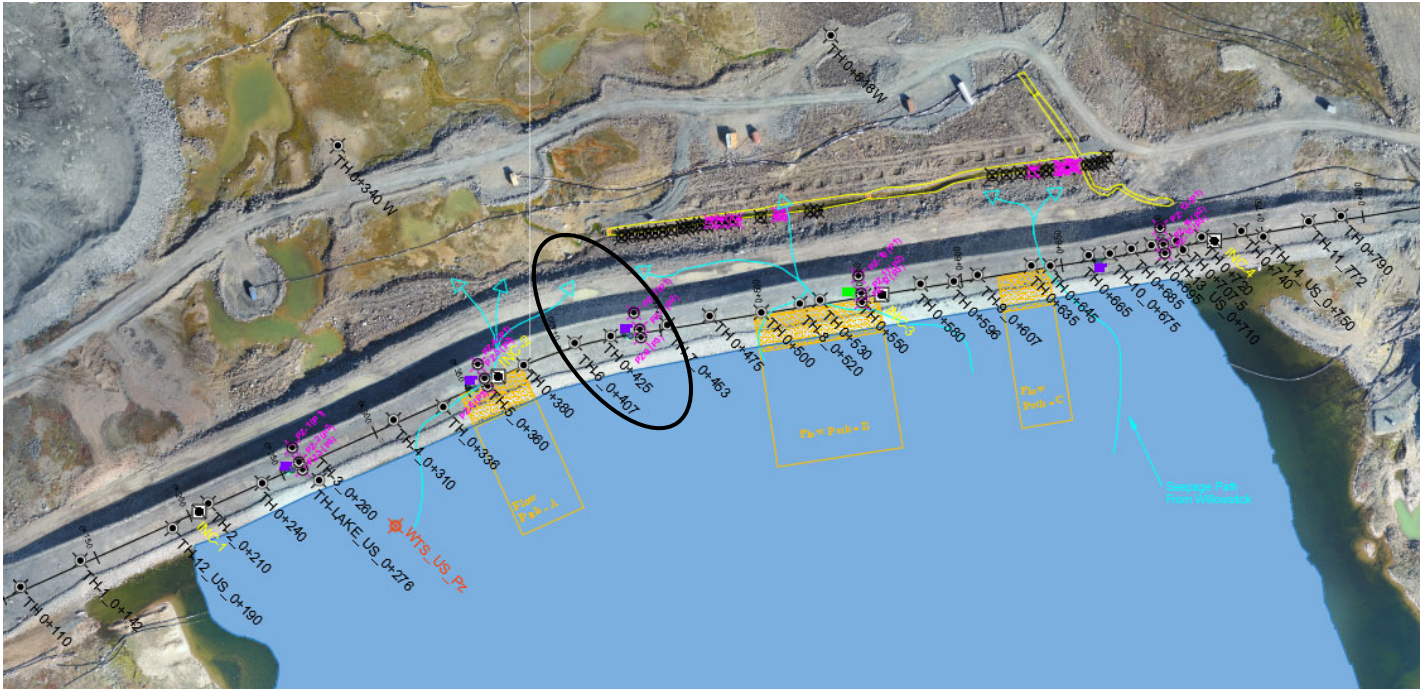
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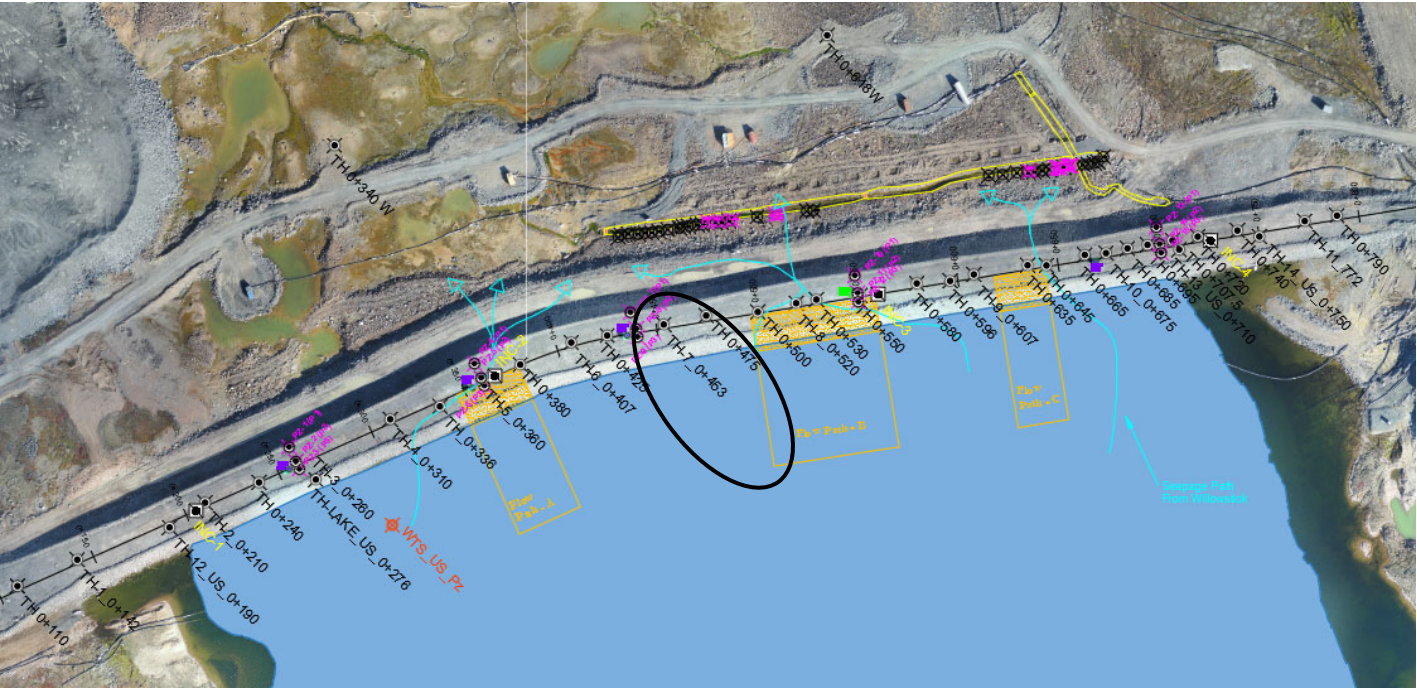
Whale Tail Dike



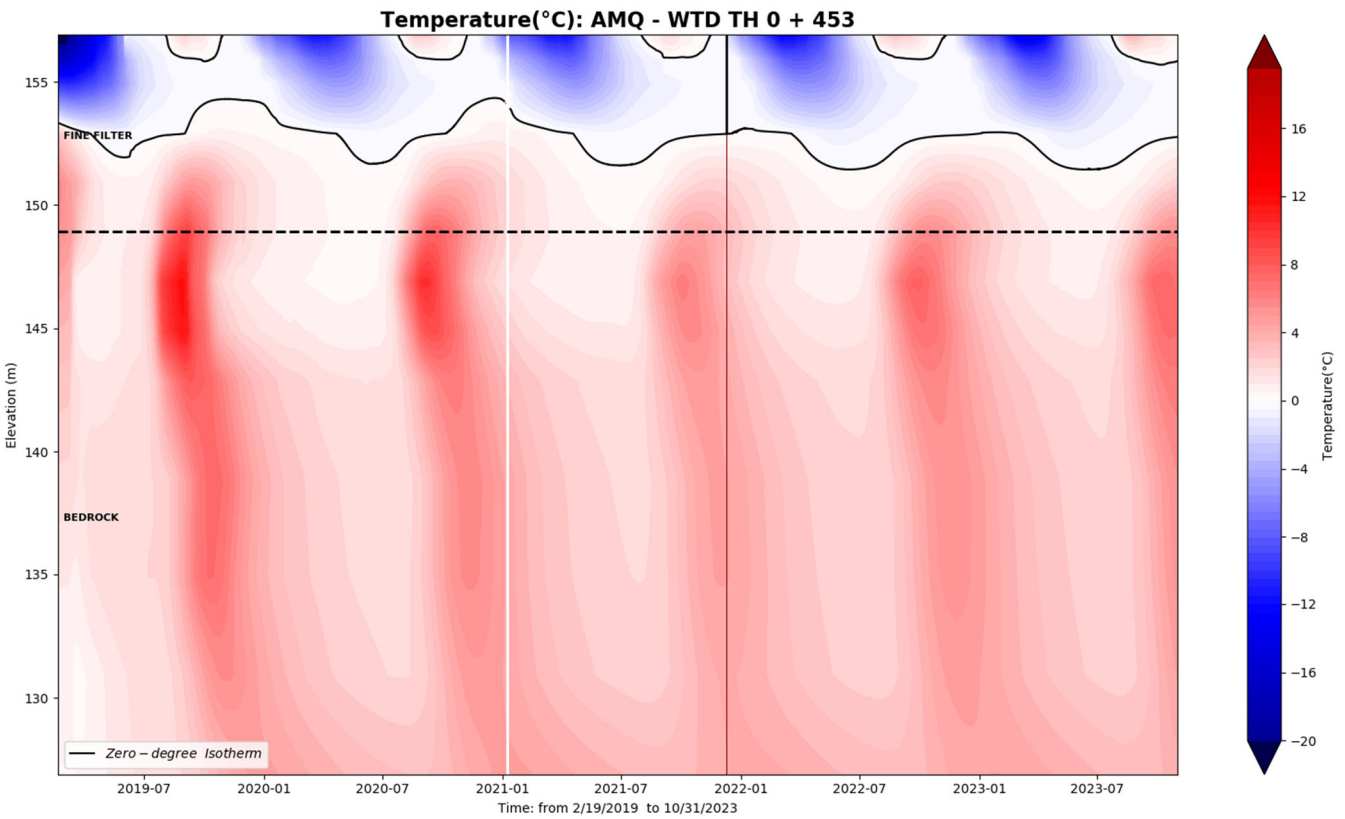
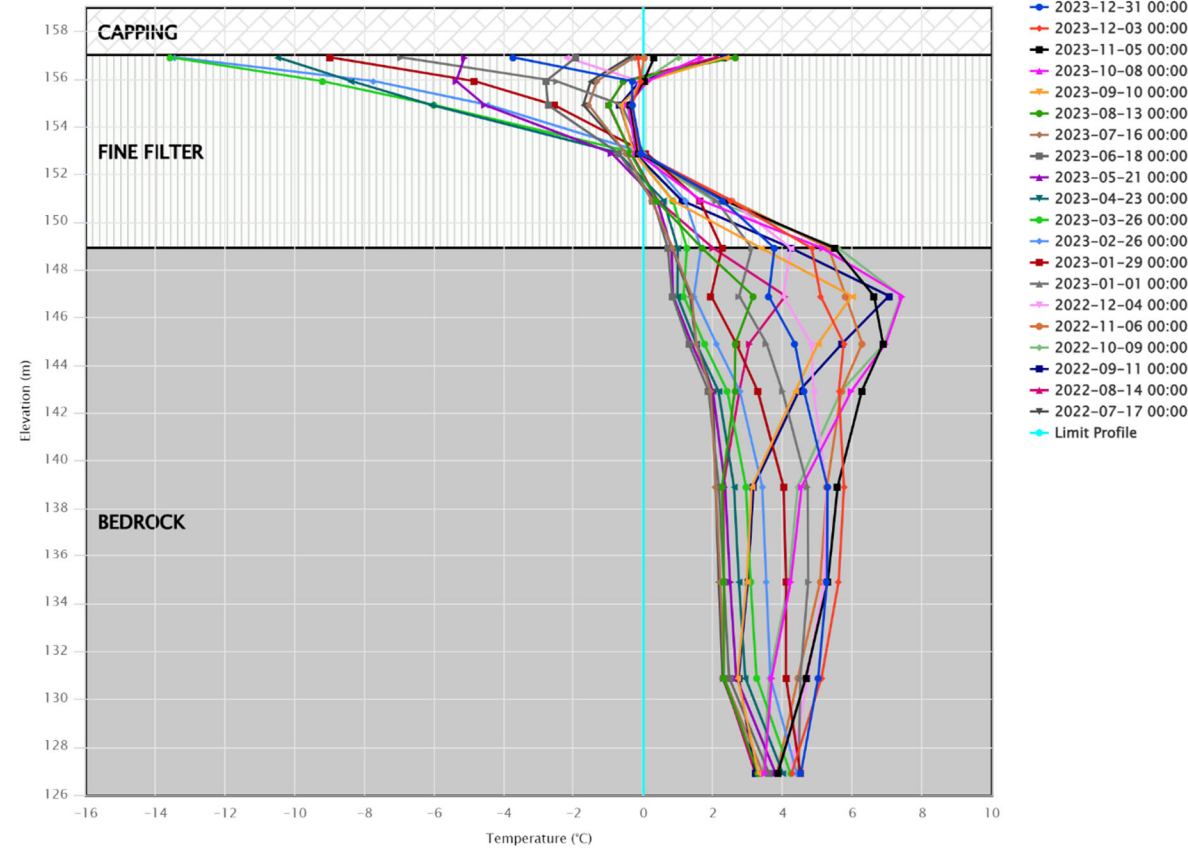
WTD-TH 0+425



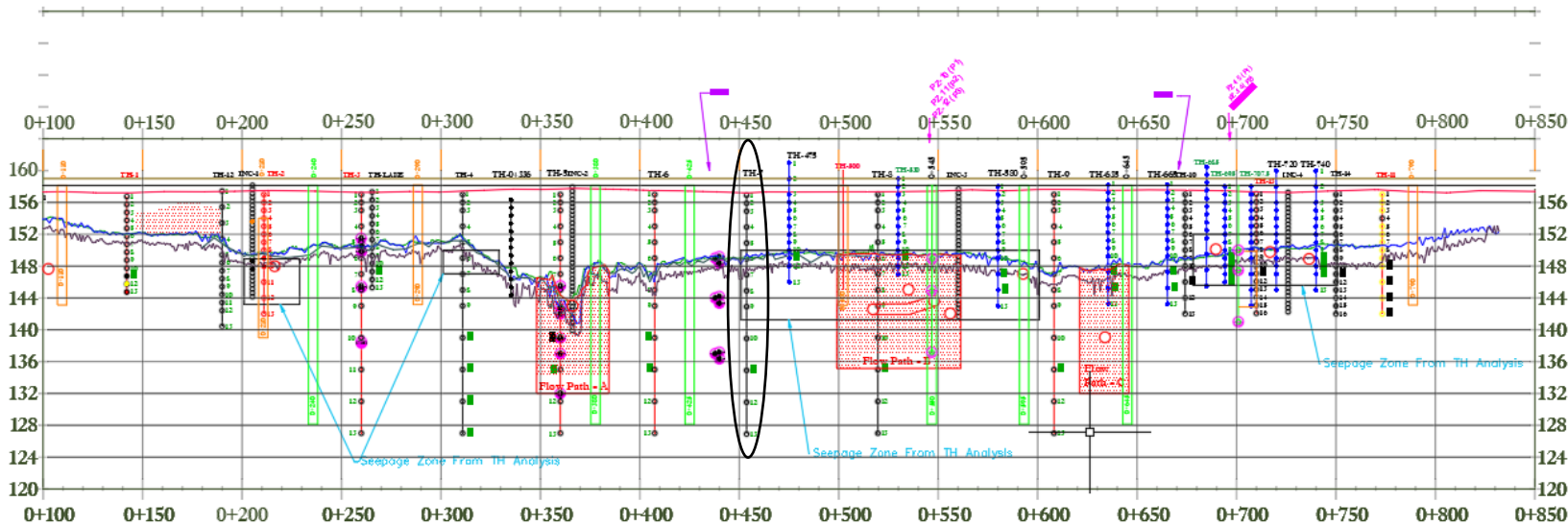
WTD-TH 0+453



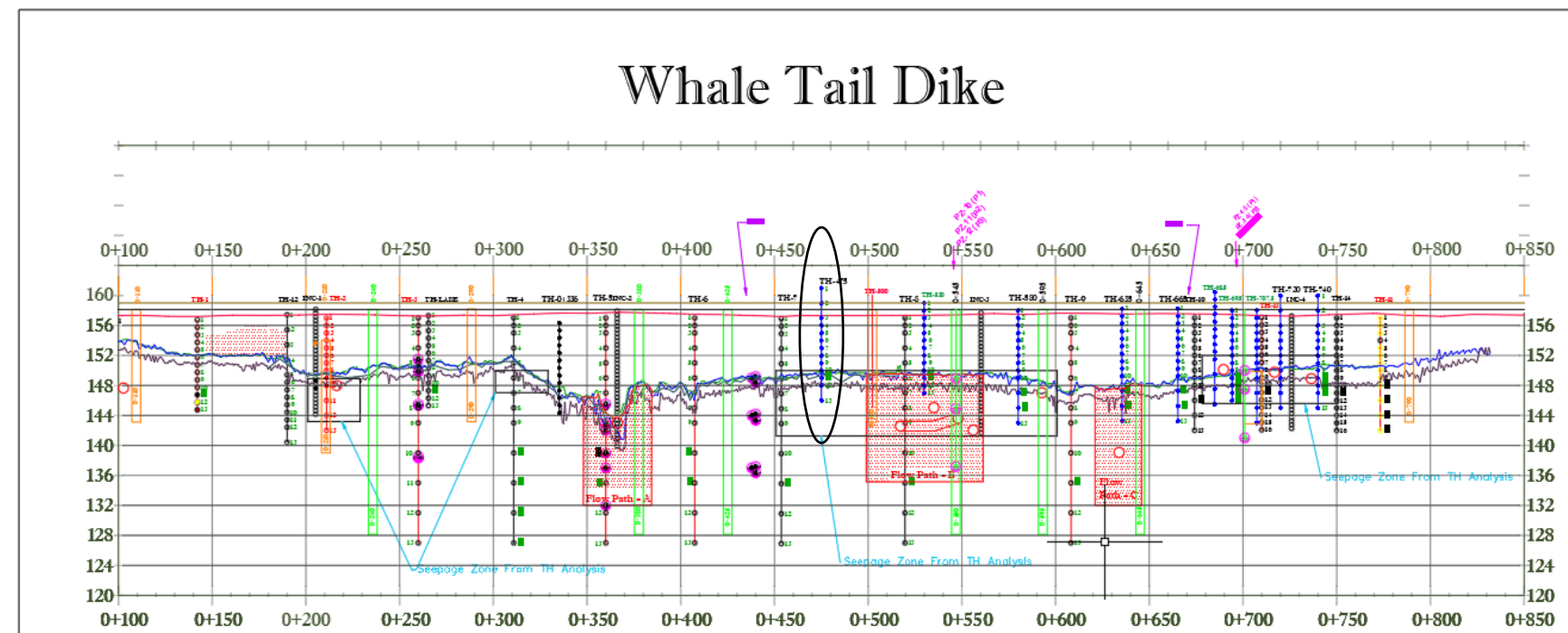
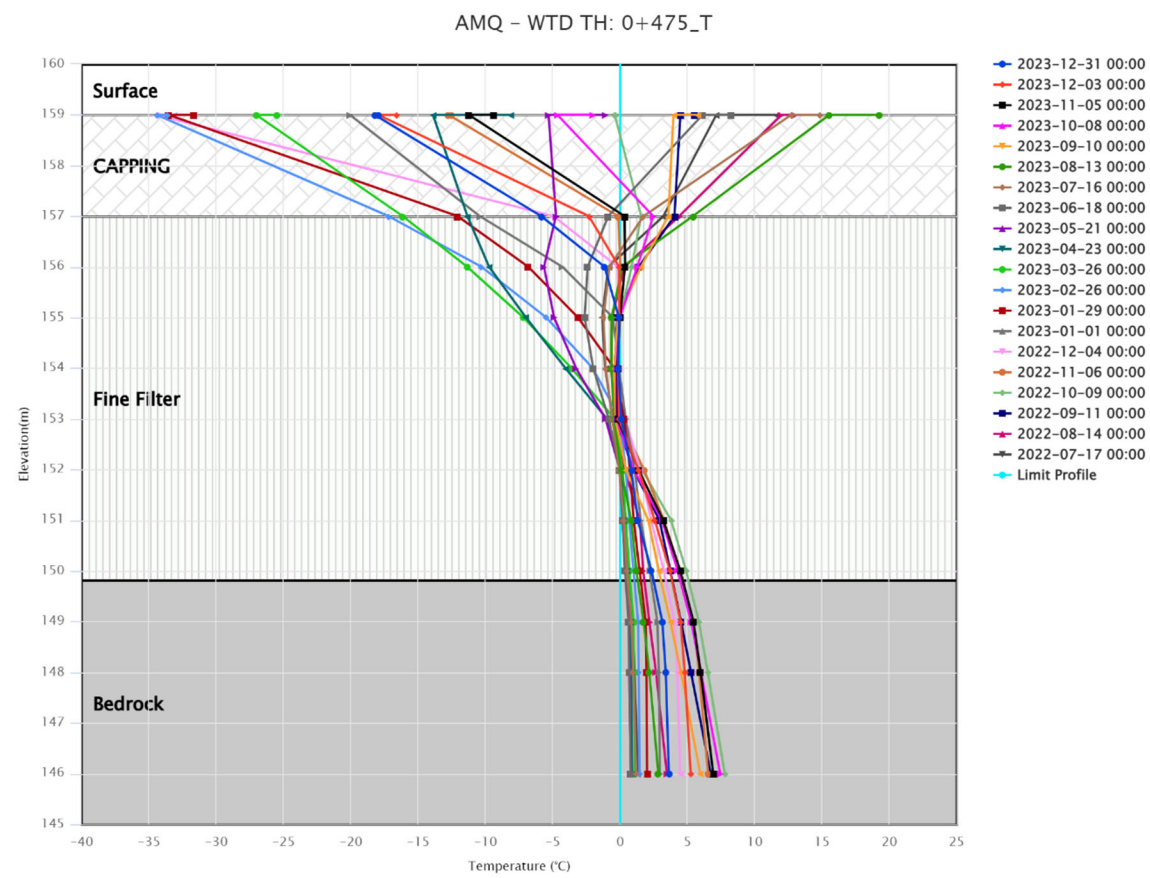
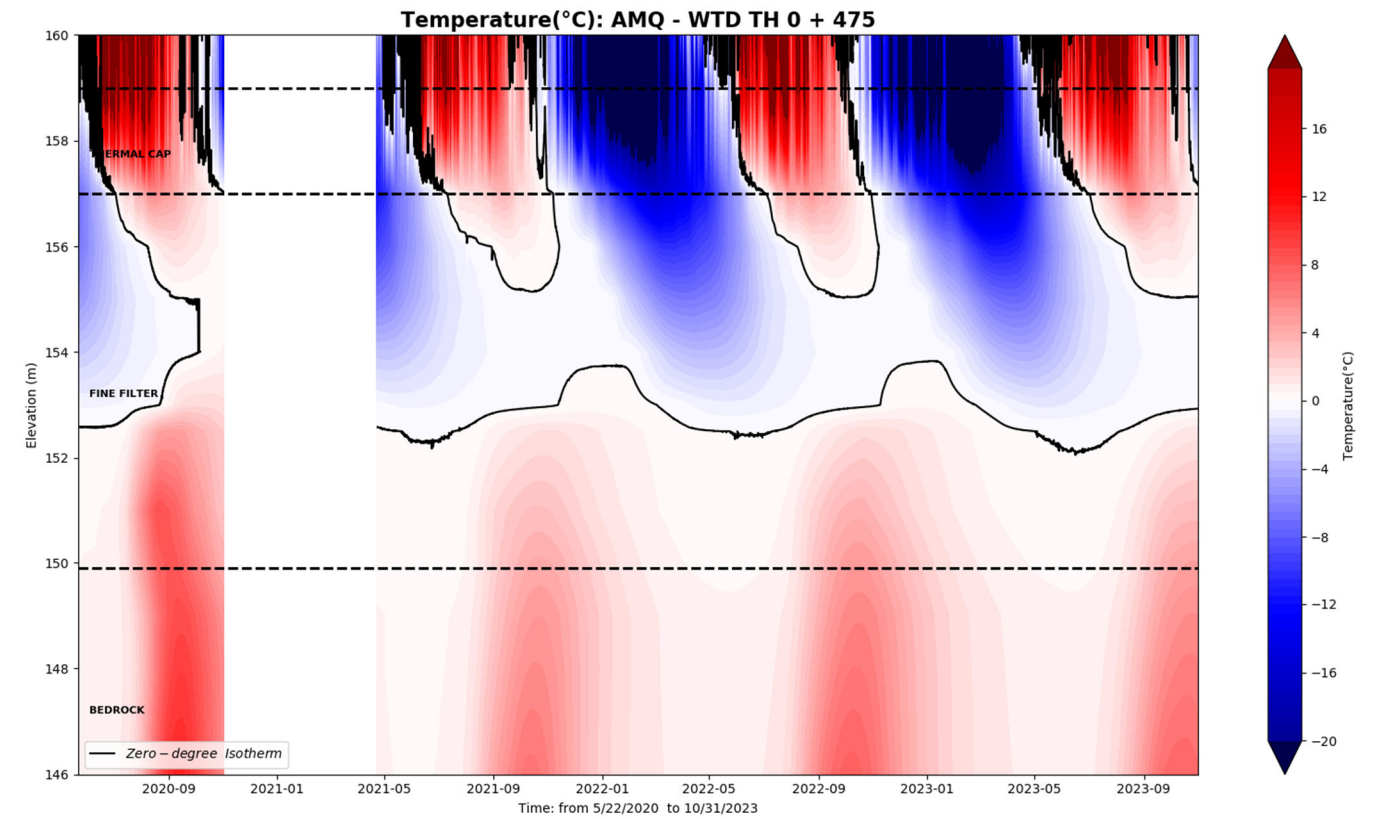
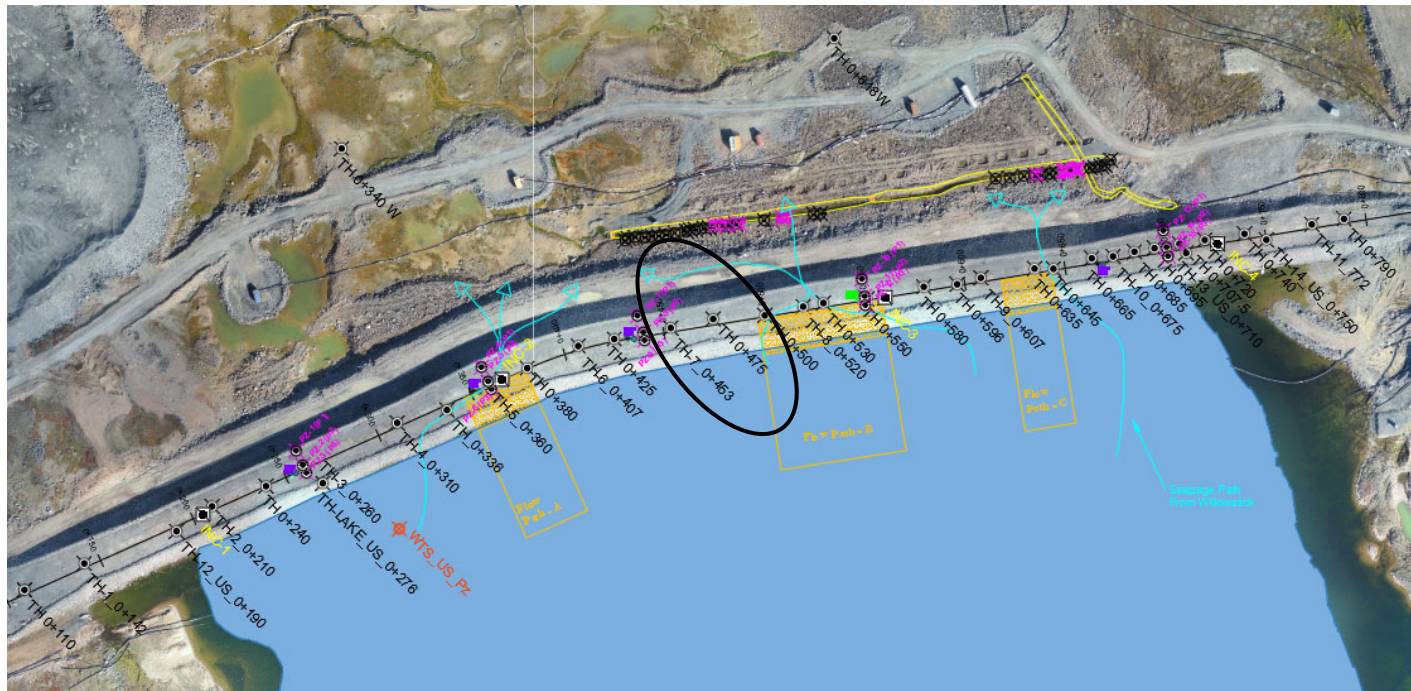
AMQ - WTD TH: 0+453

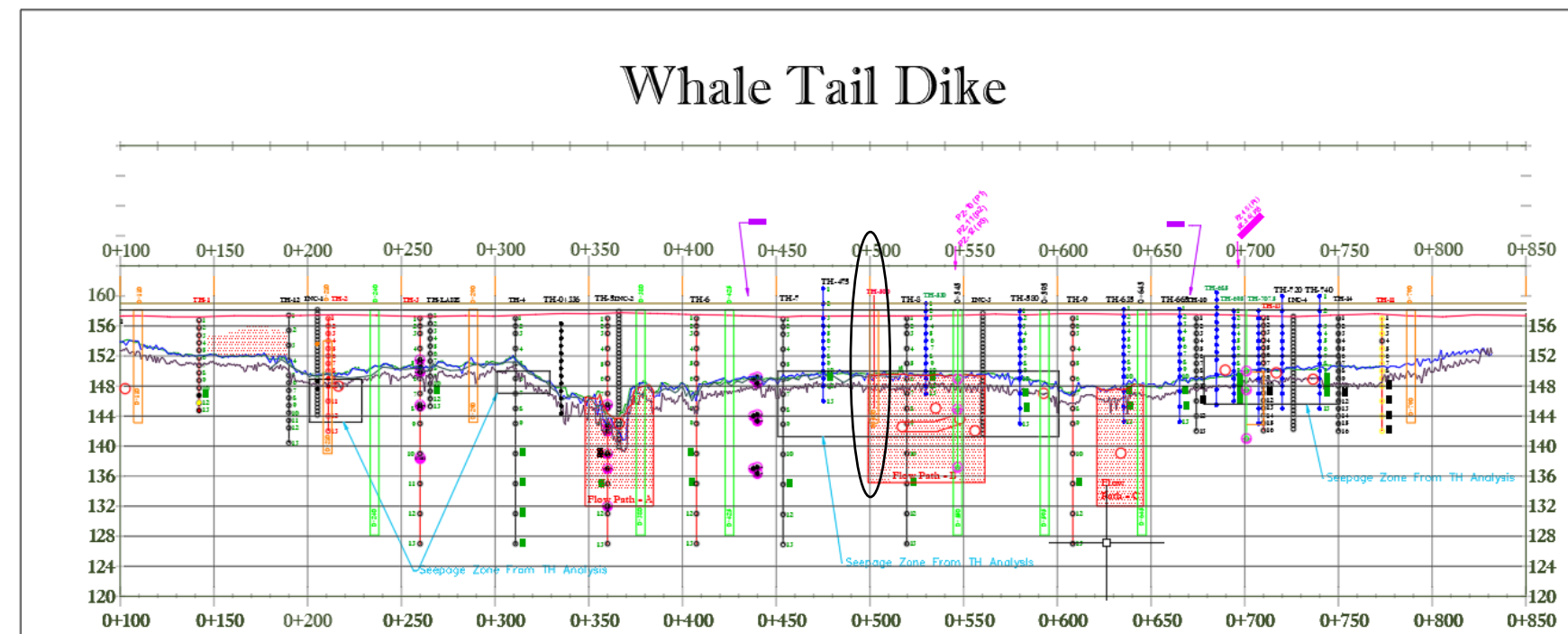


# Whale Tail Dike

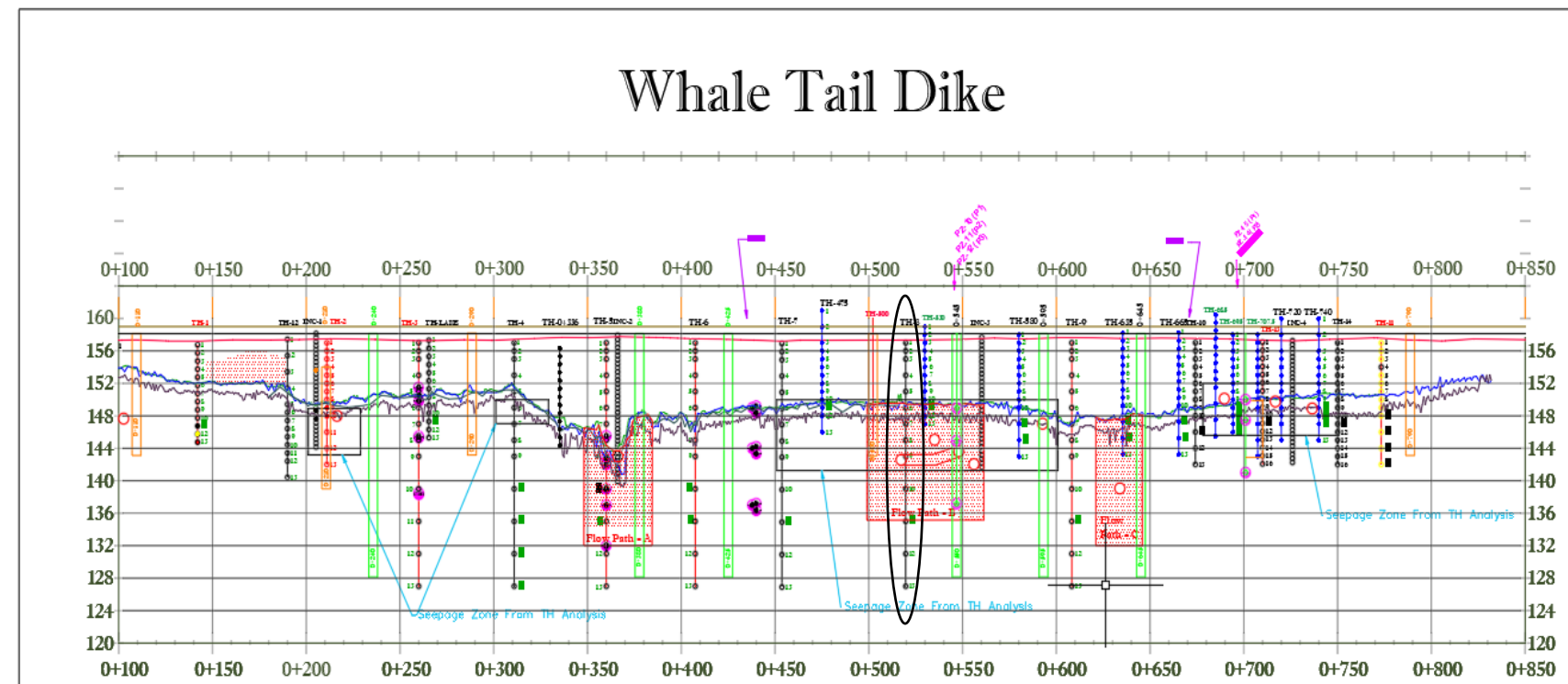
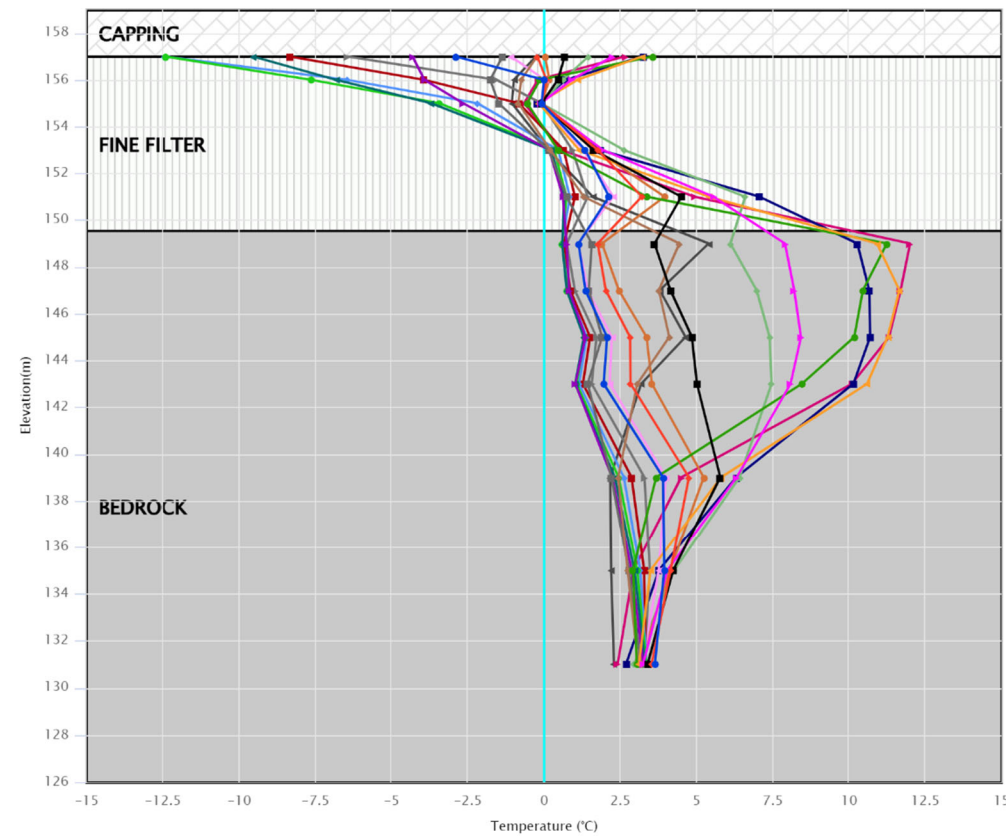
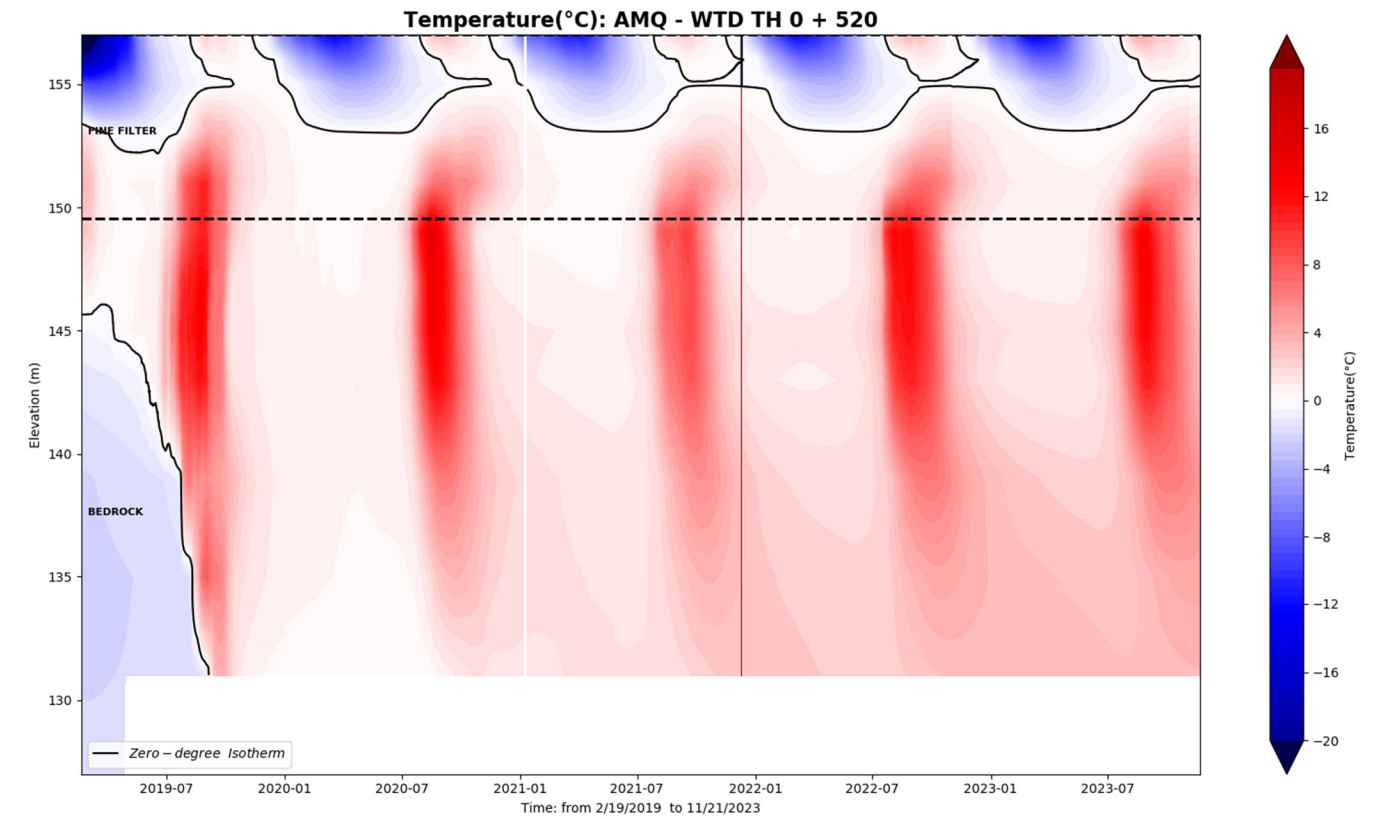


**WTD-TH 0+475**

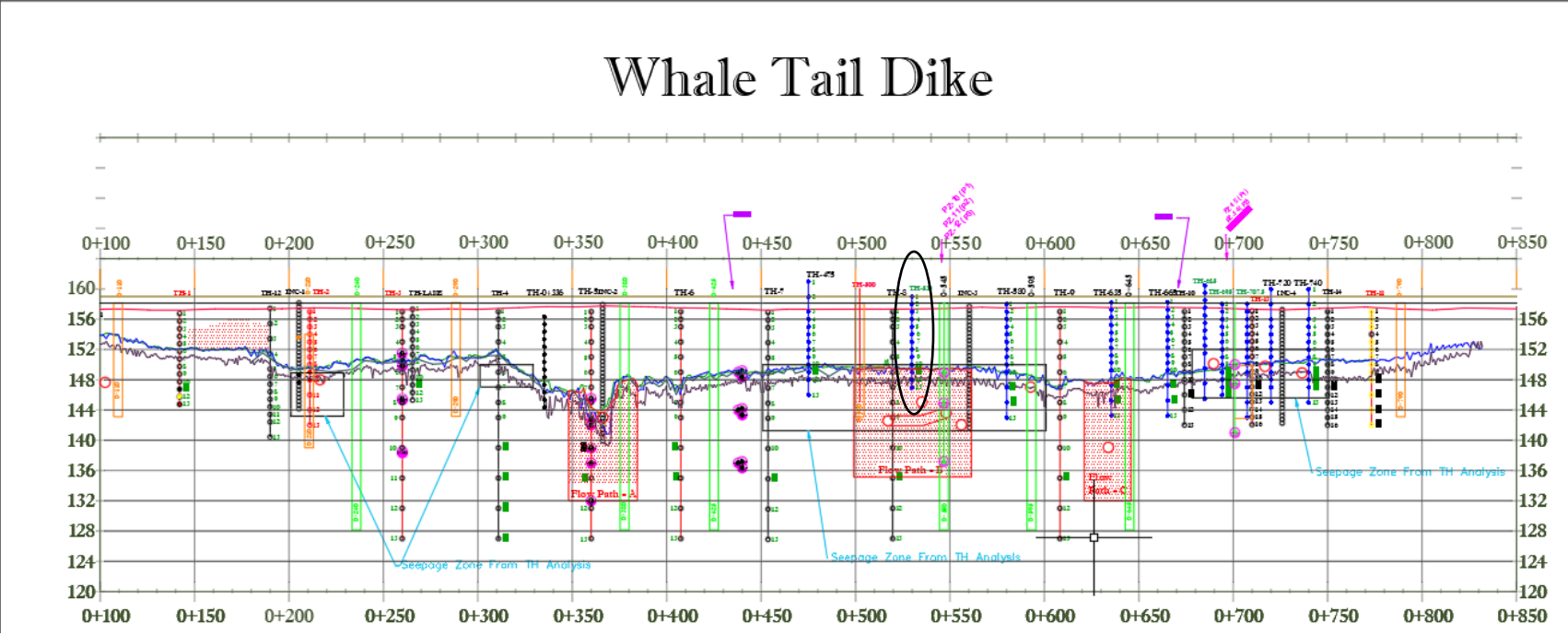
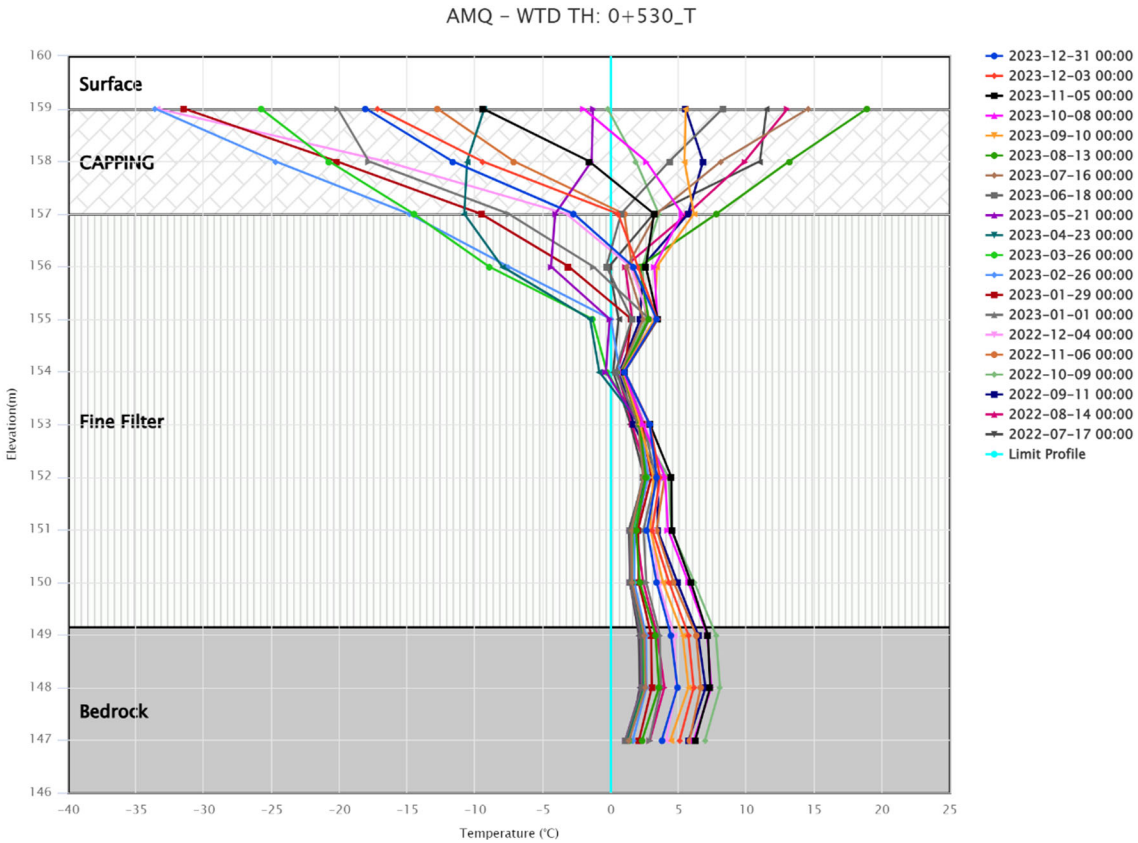
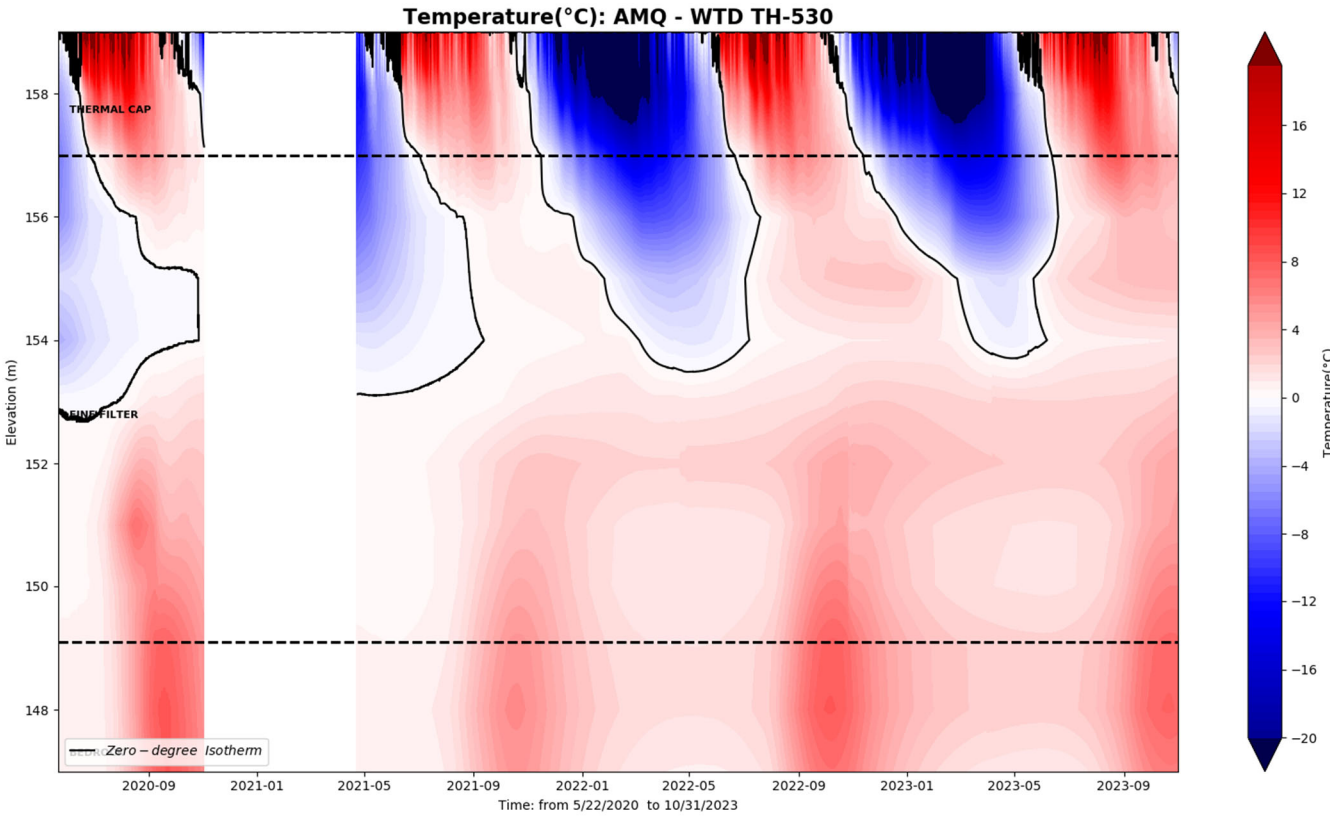
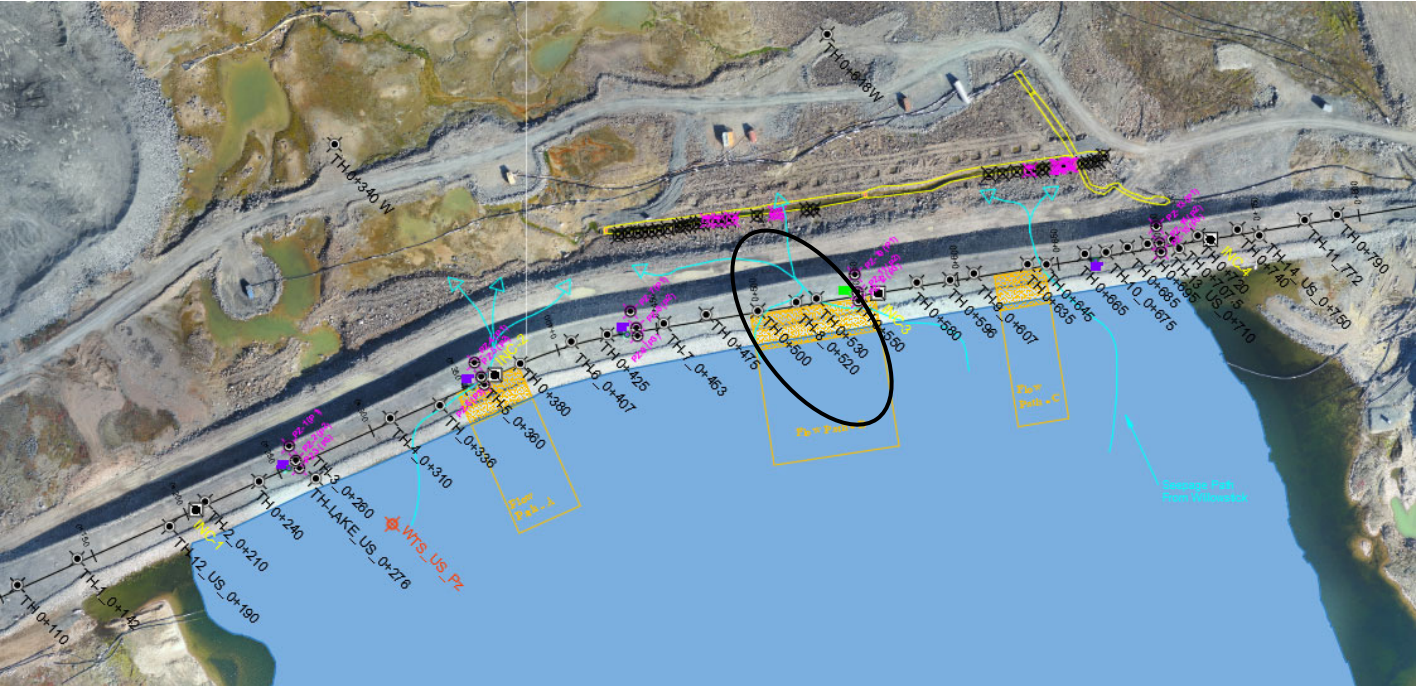




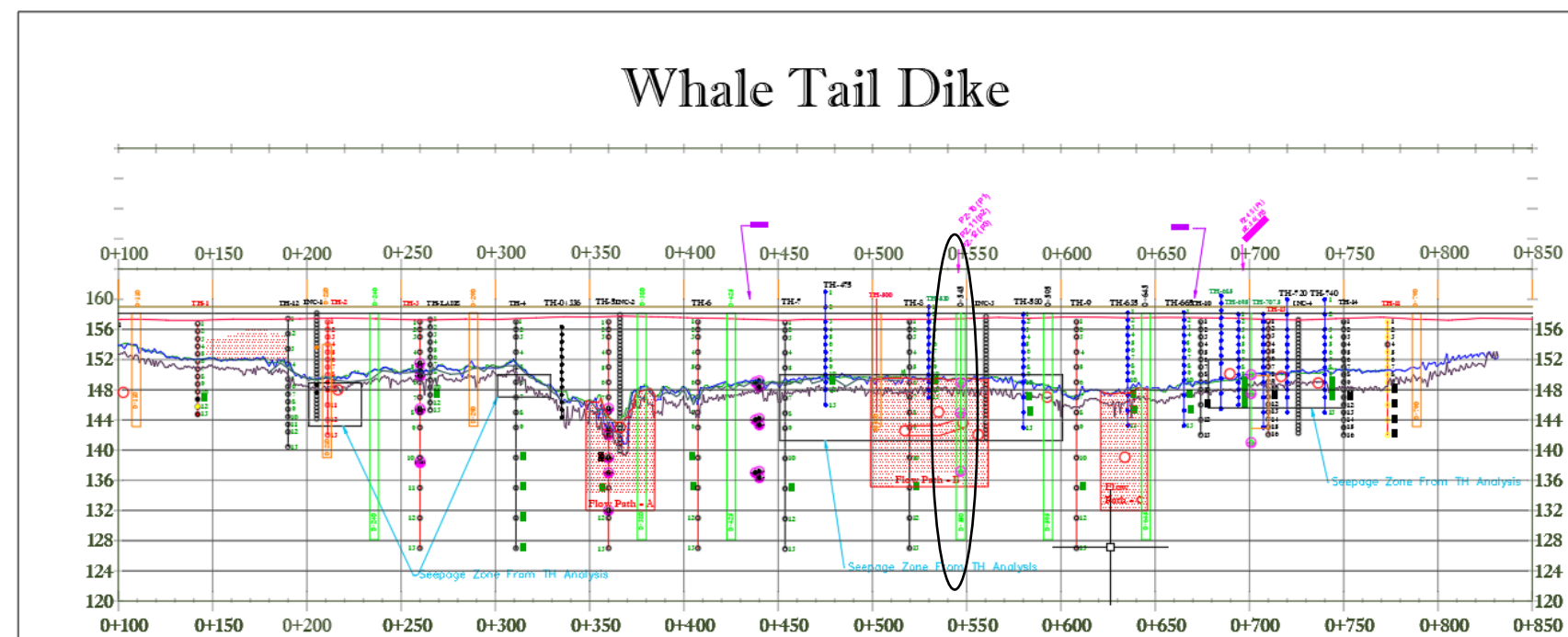
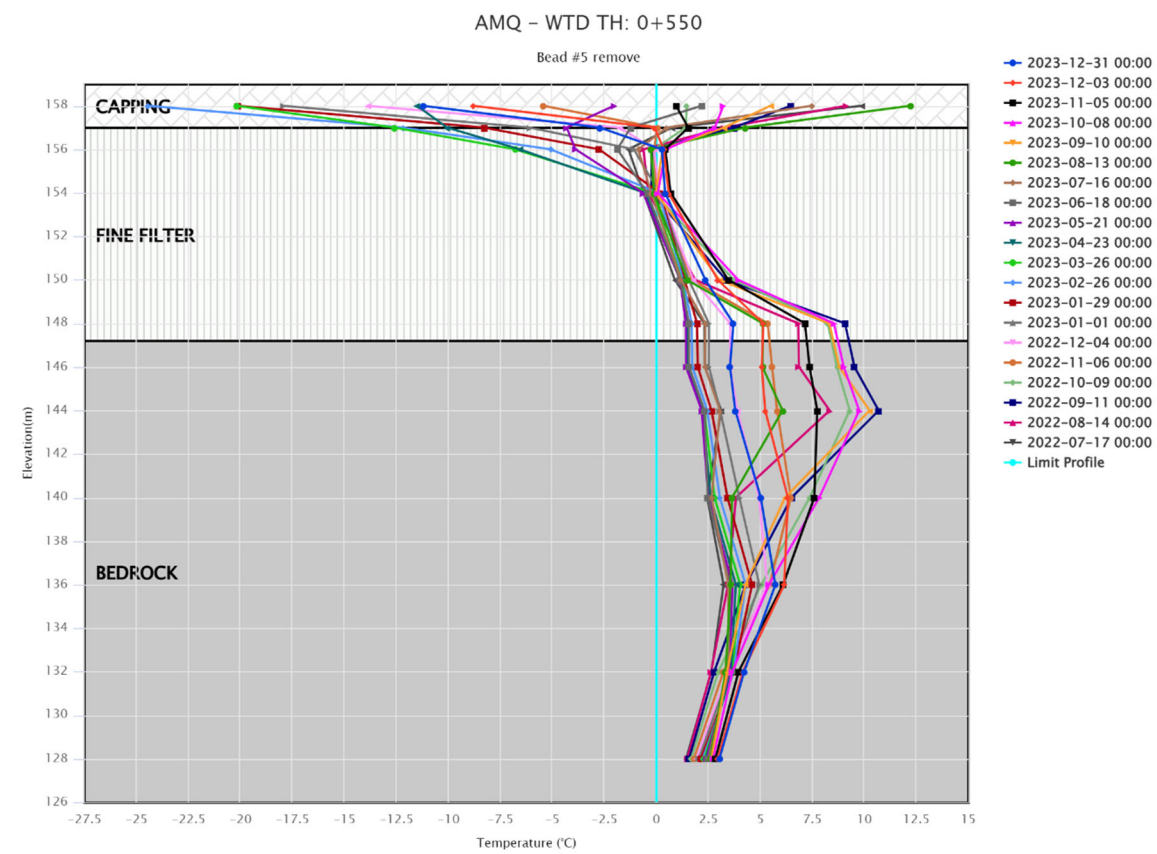
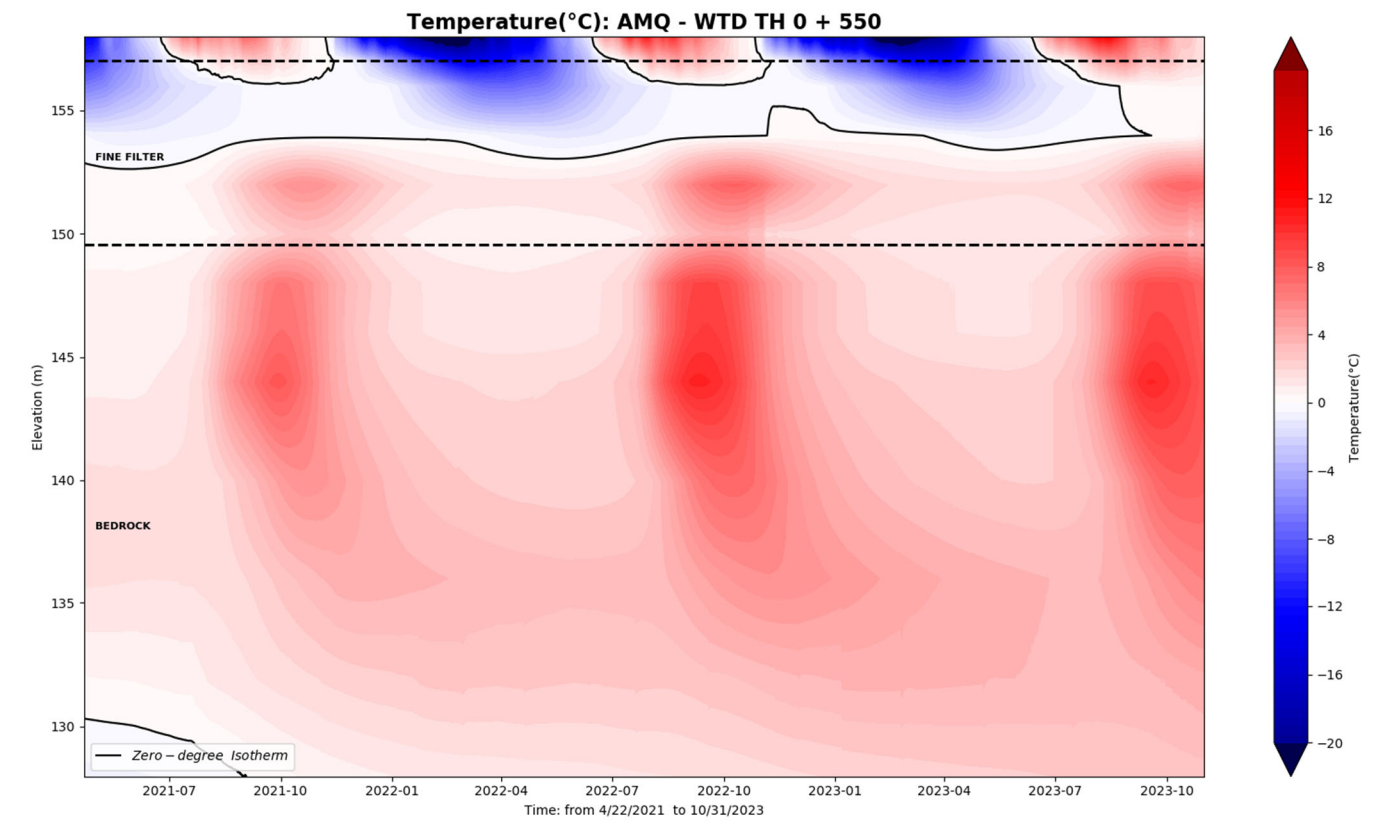
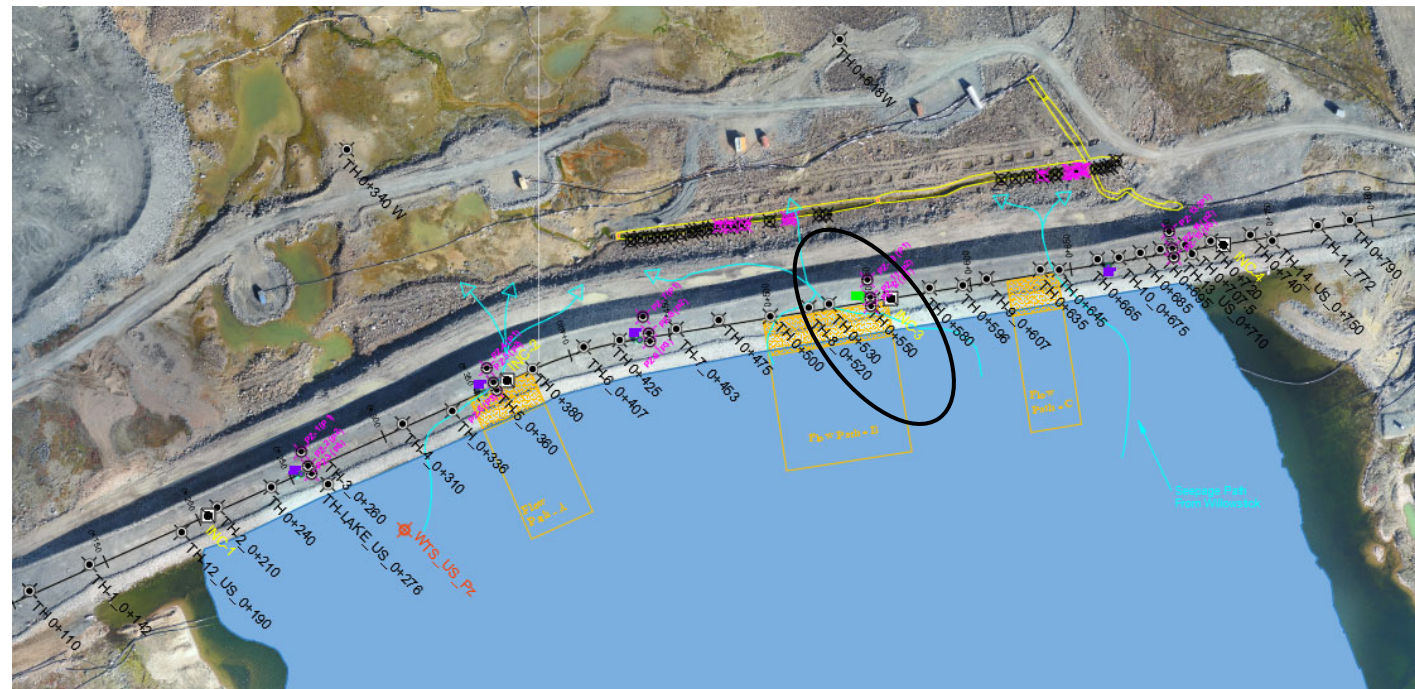
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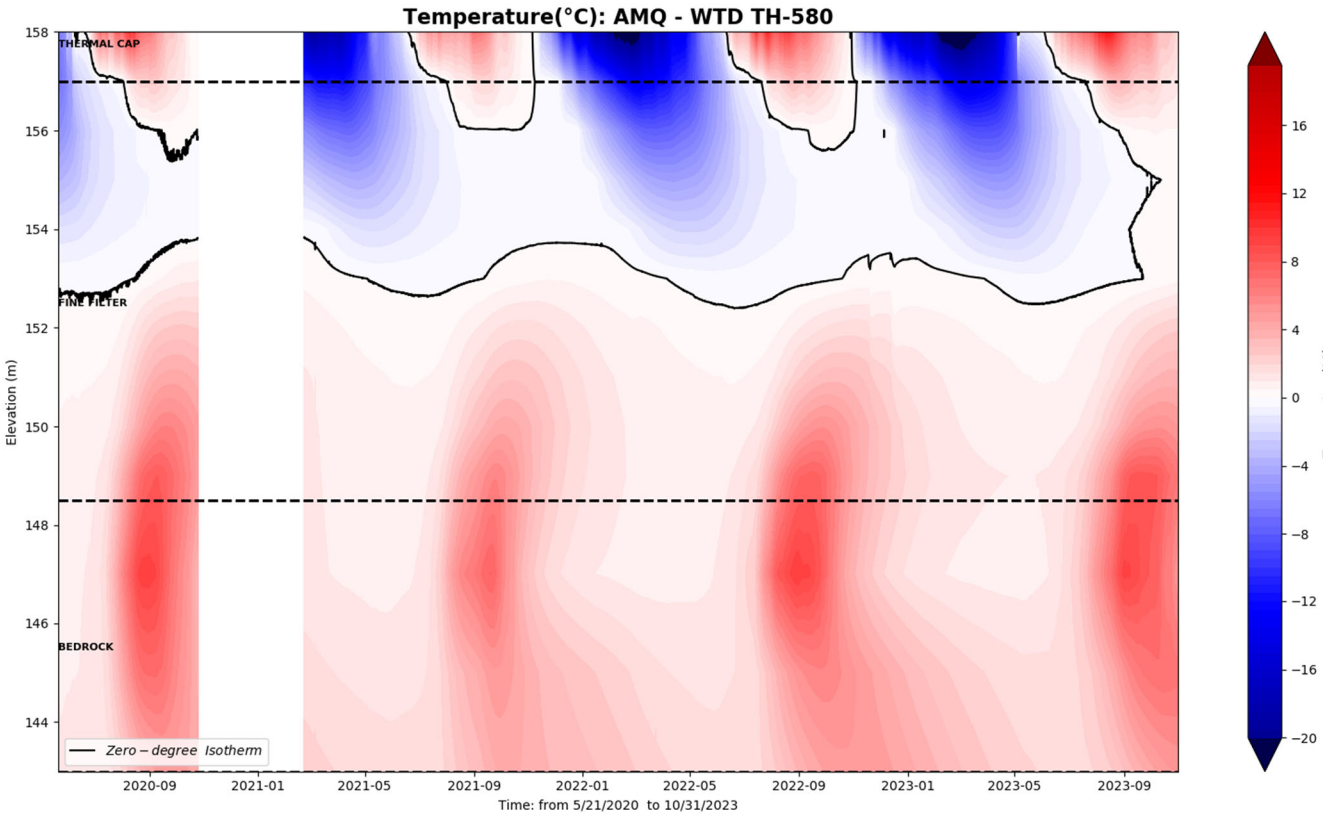
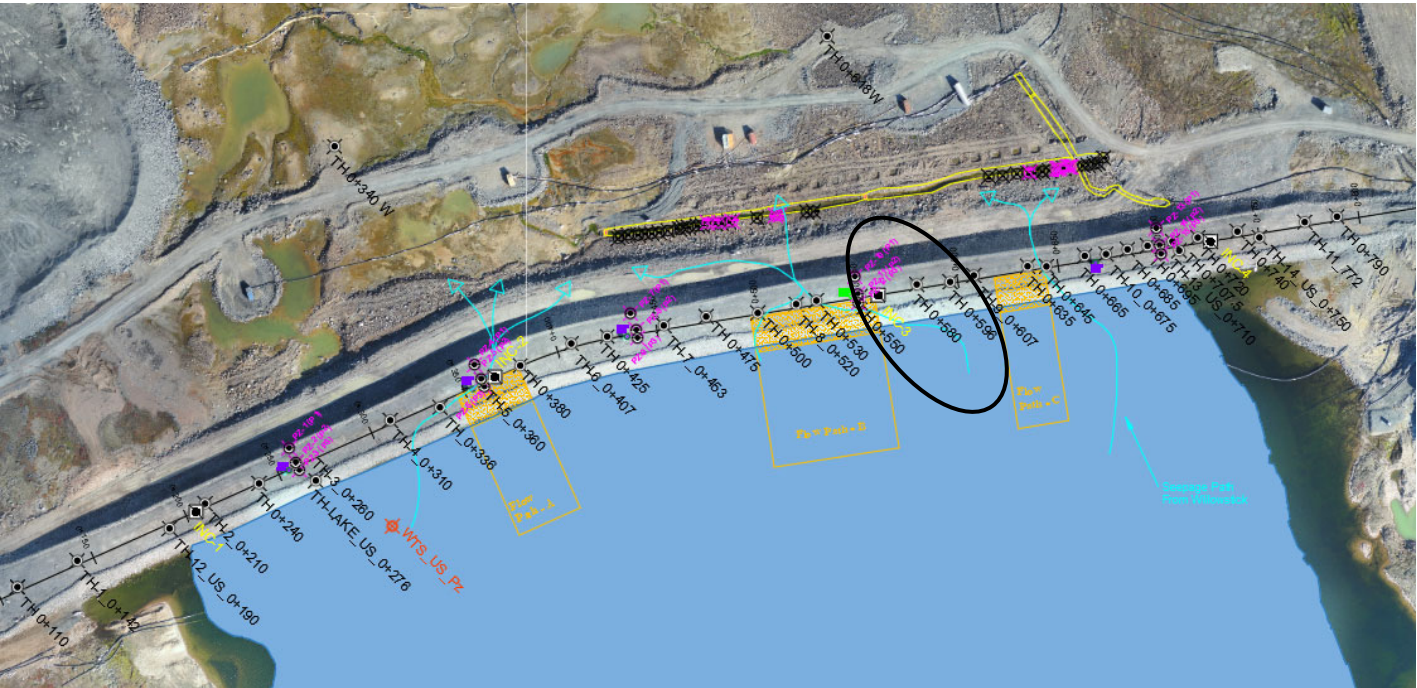
WTD-TH 0+530



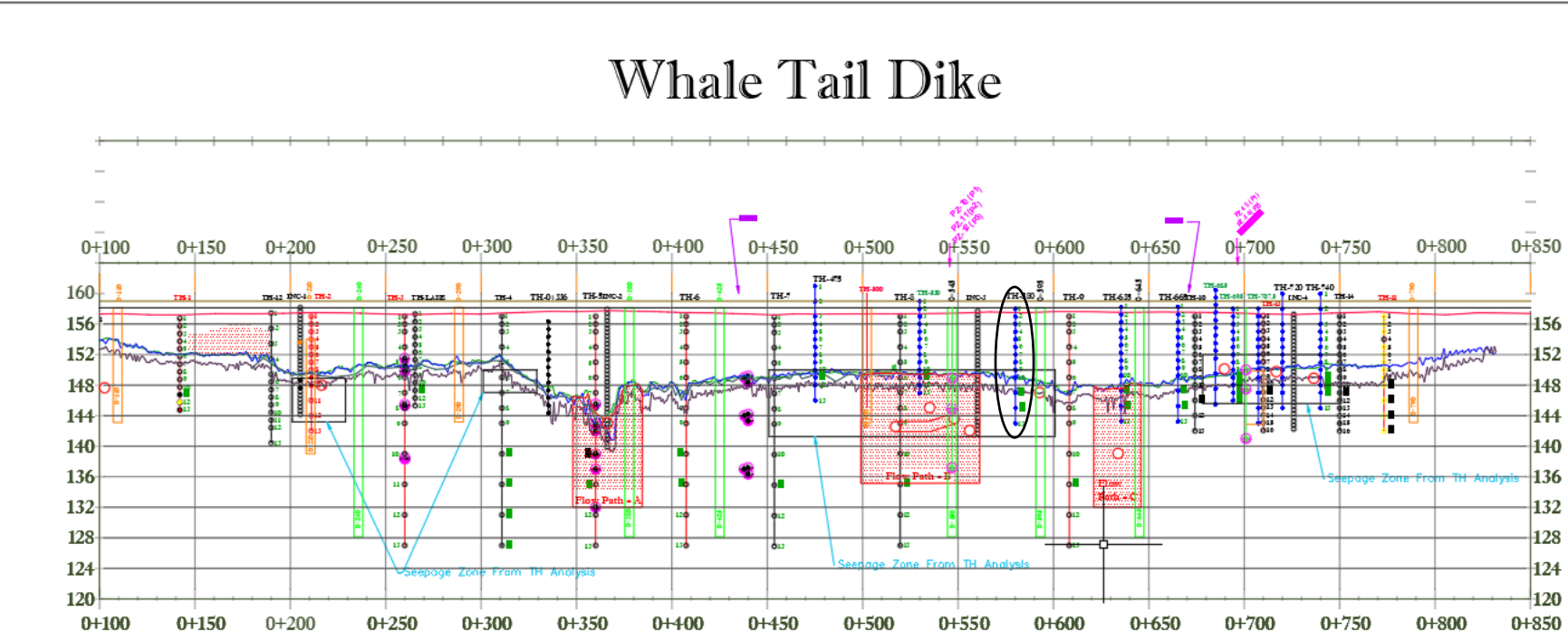
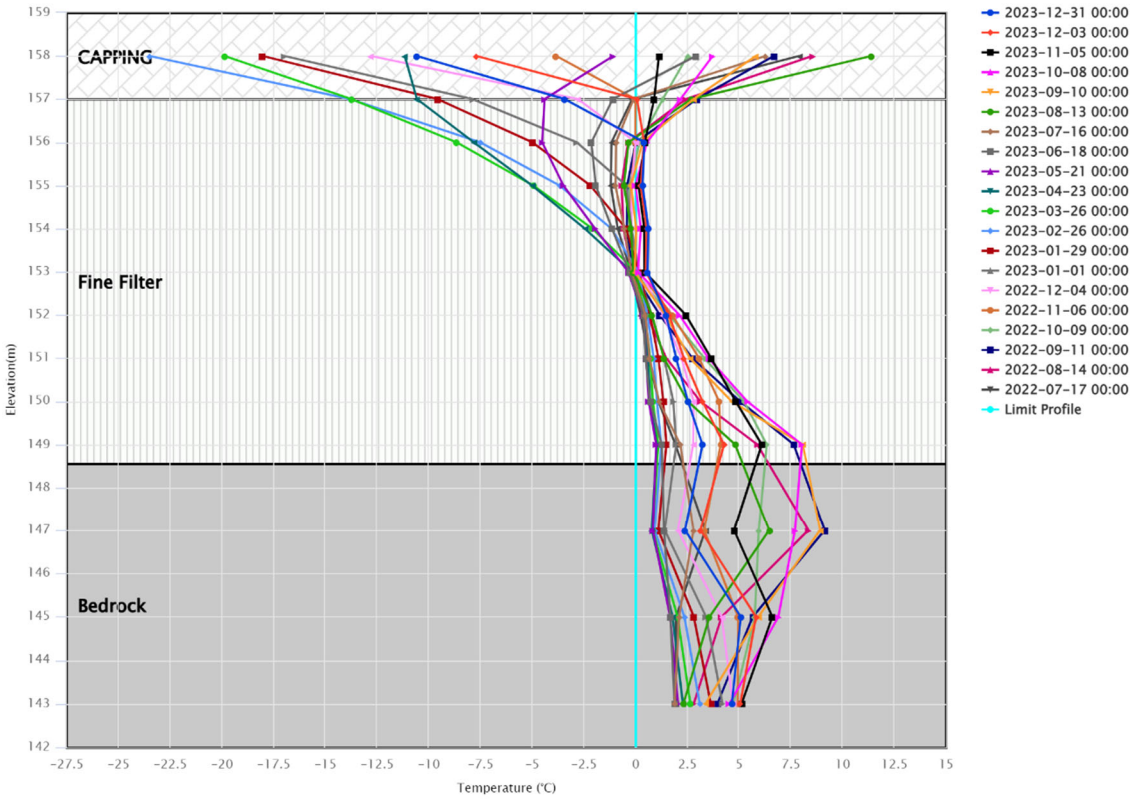
**WTD-TH 0+550**

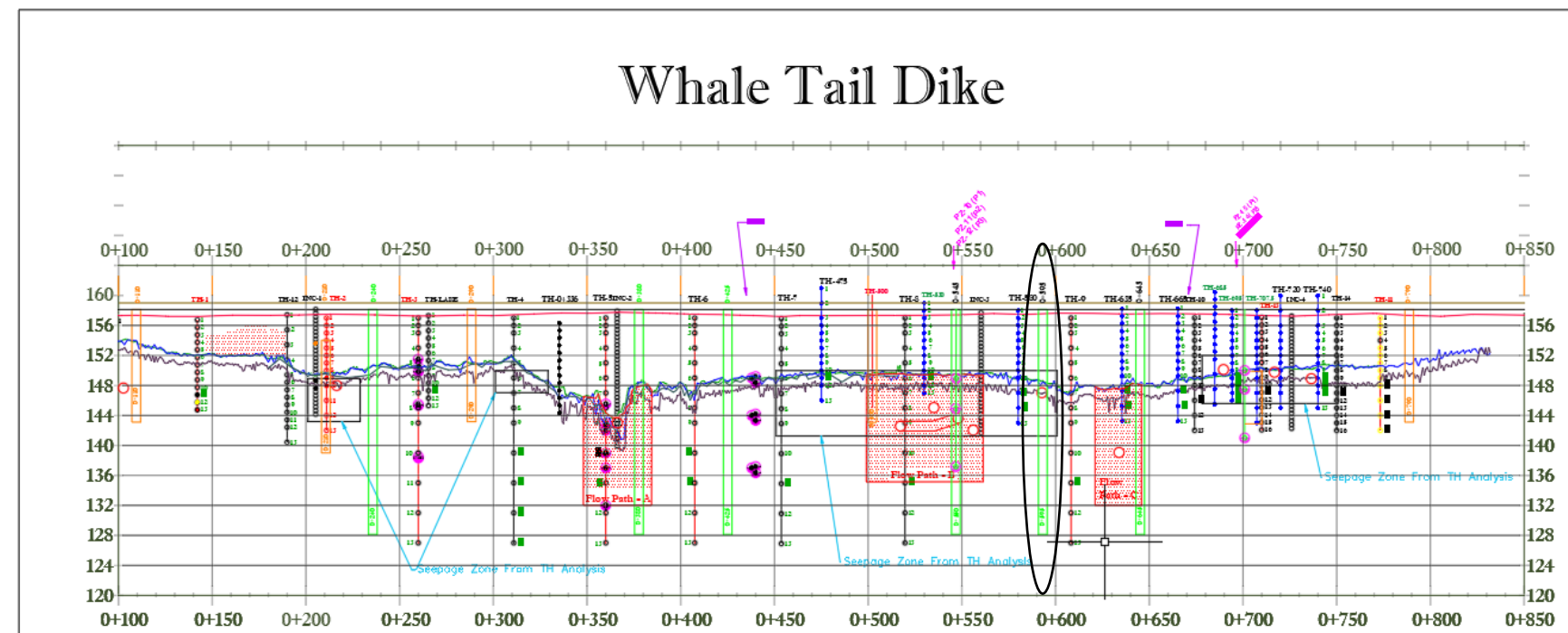
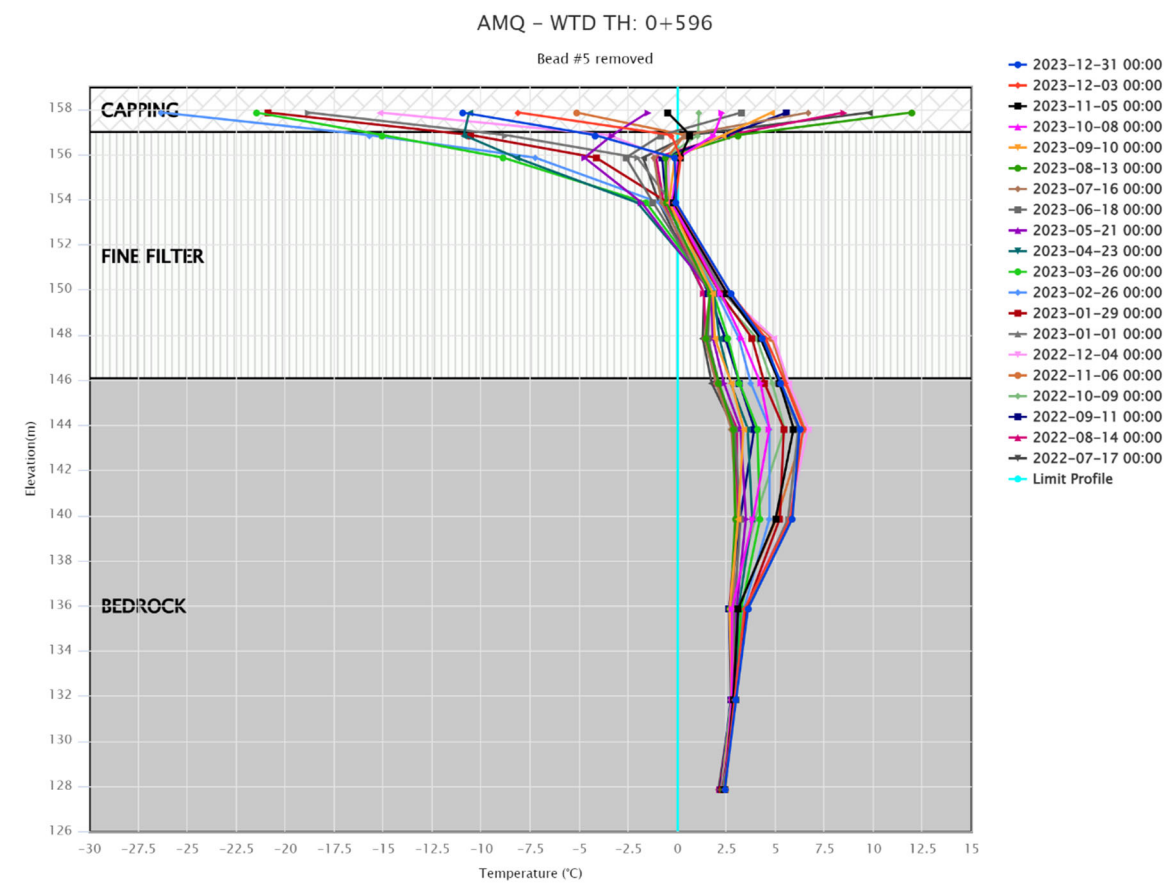
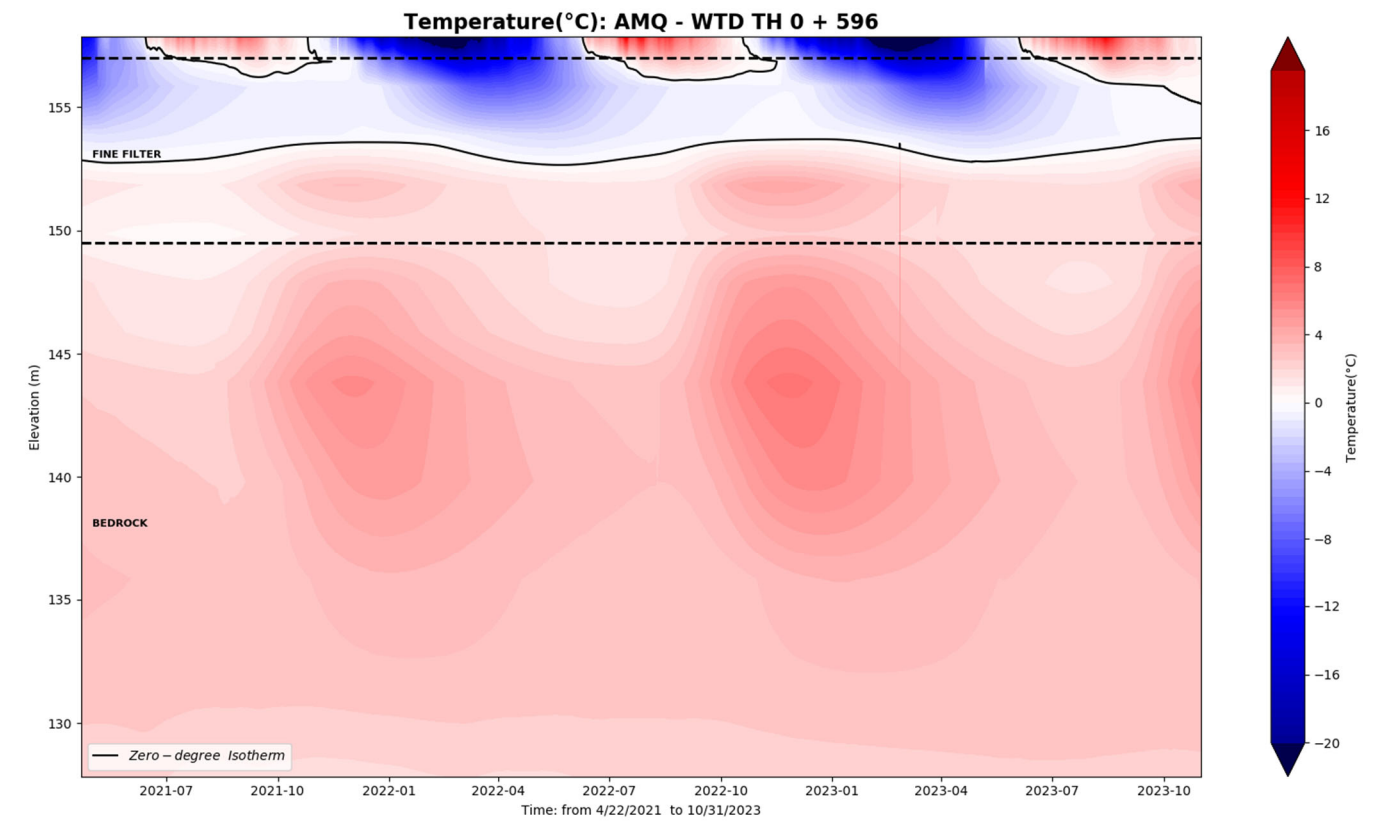


WTD-TH 0+580

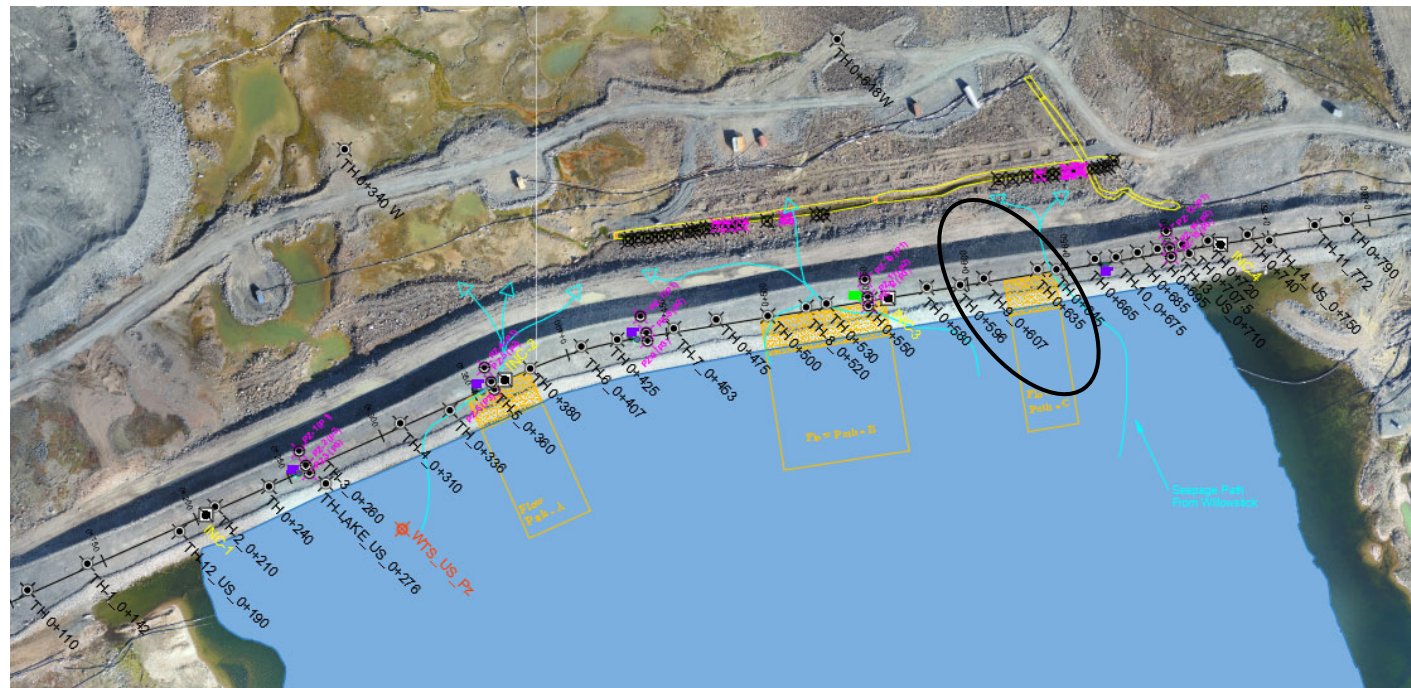


AMQ - WTD TH: 0+580\_T



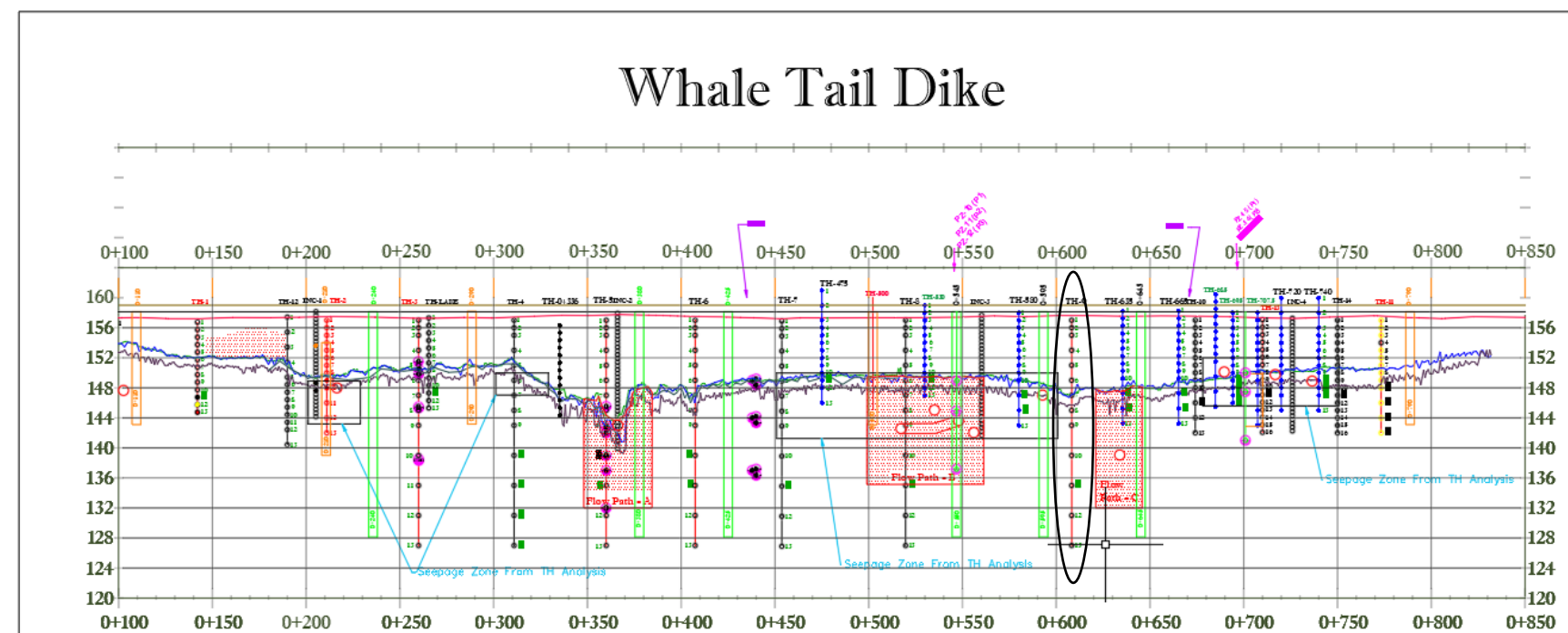
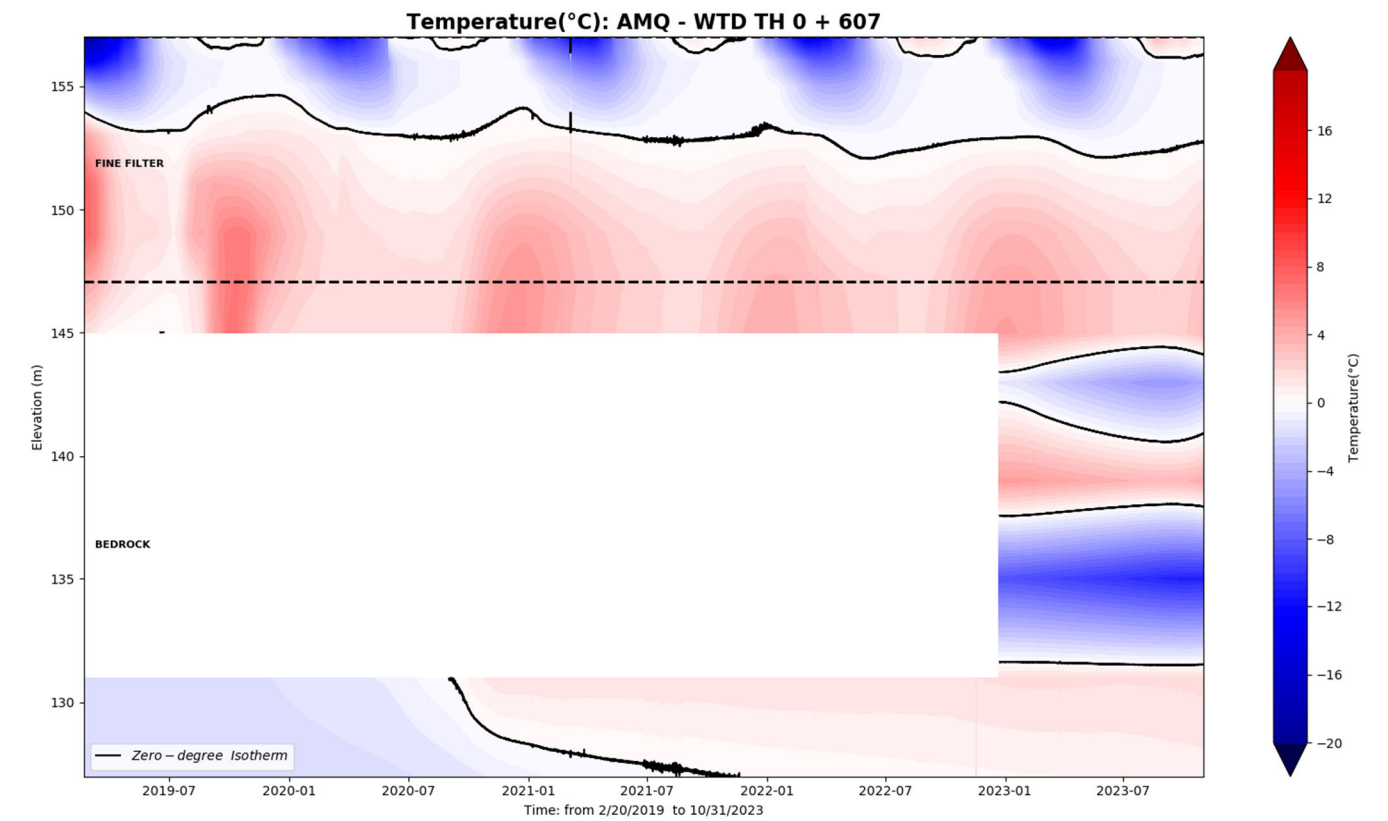
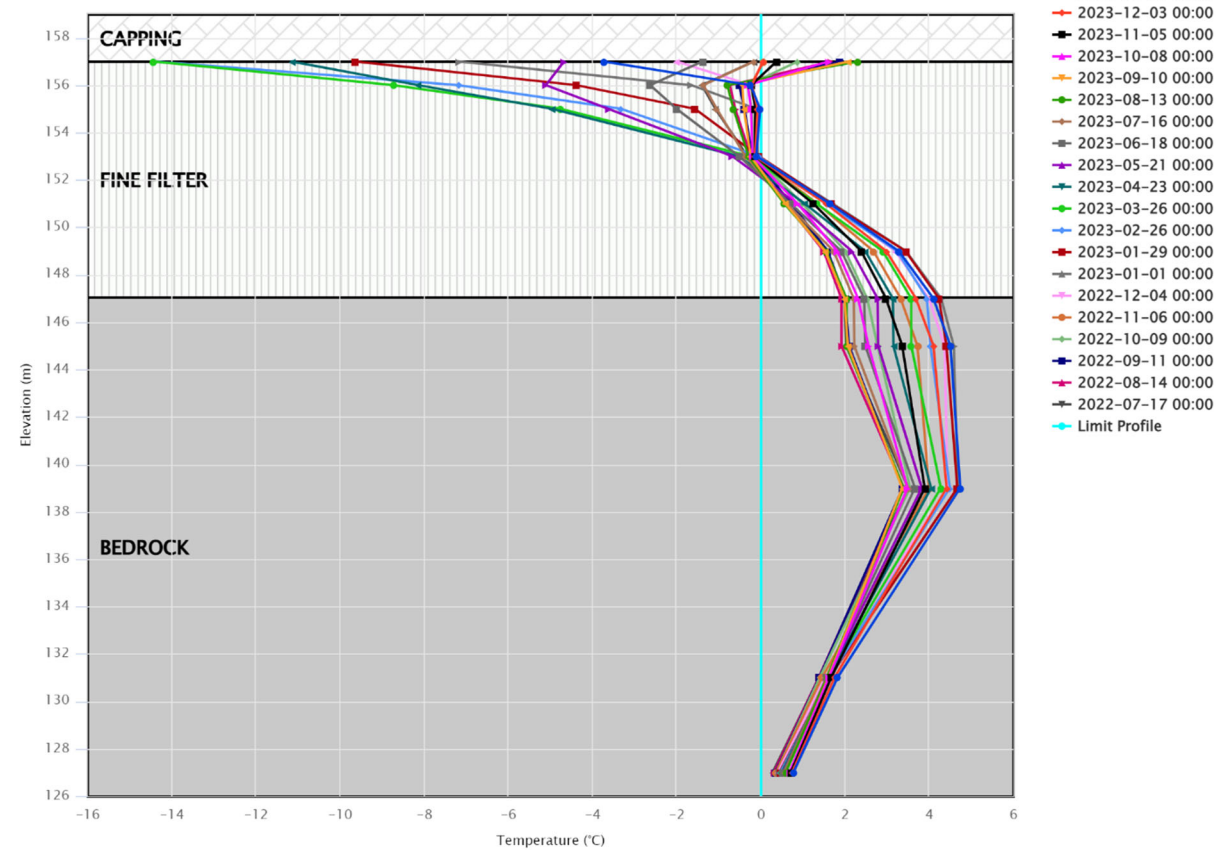


**WTD-TH 0+607**

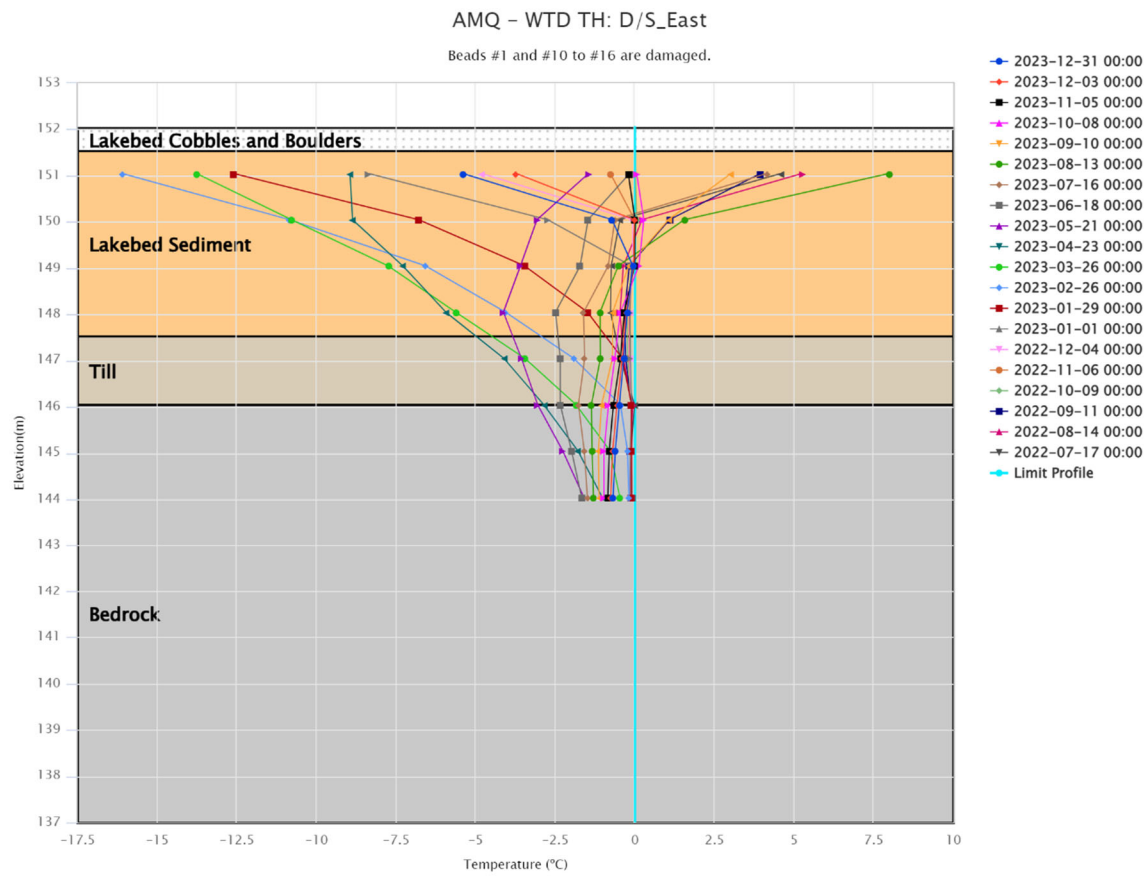
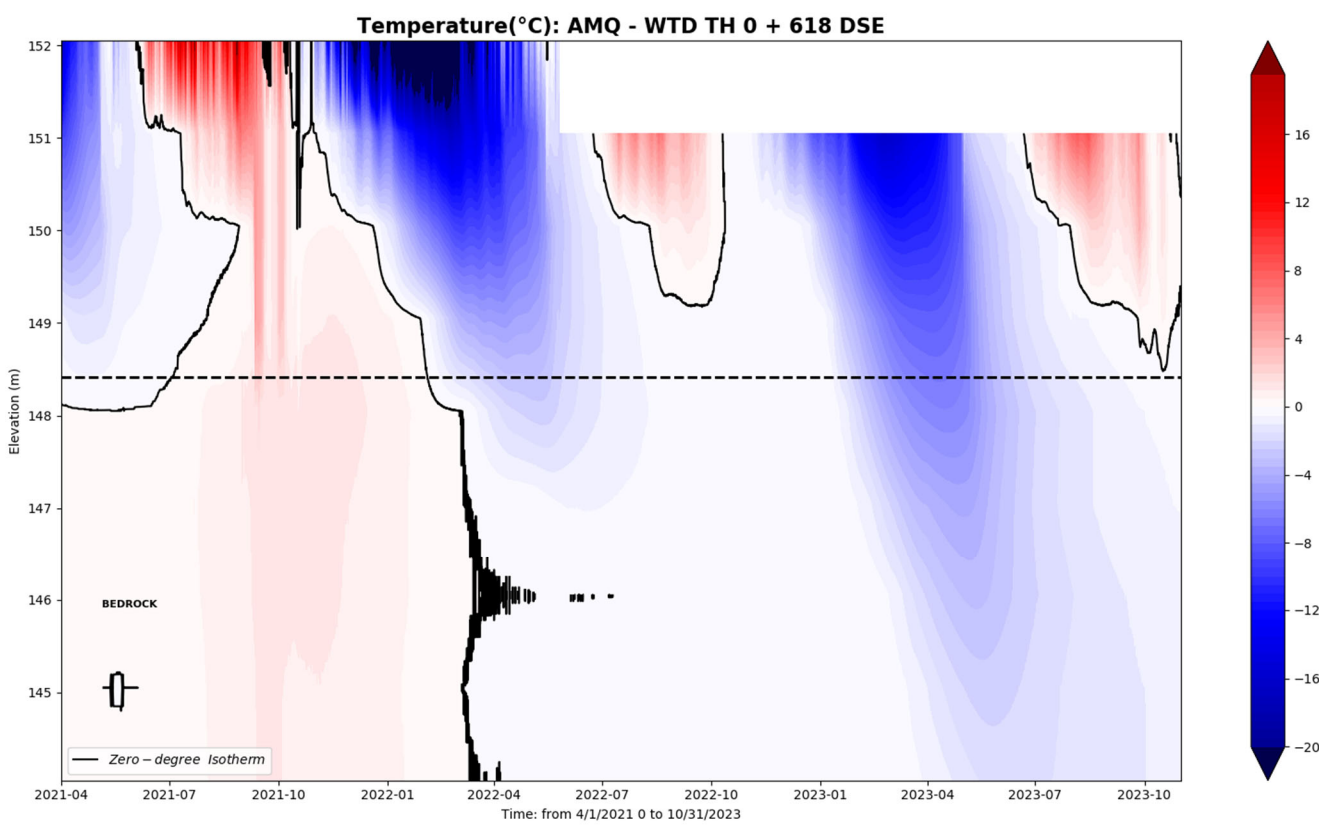
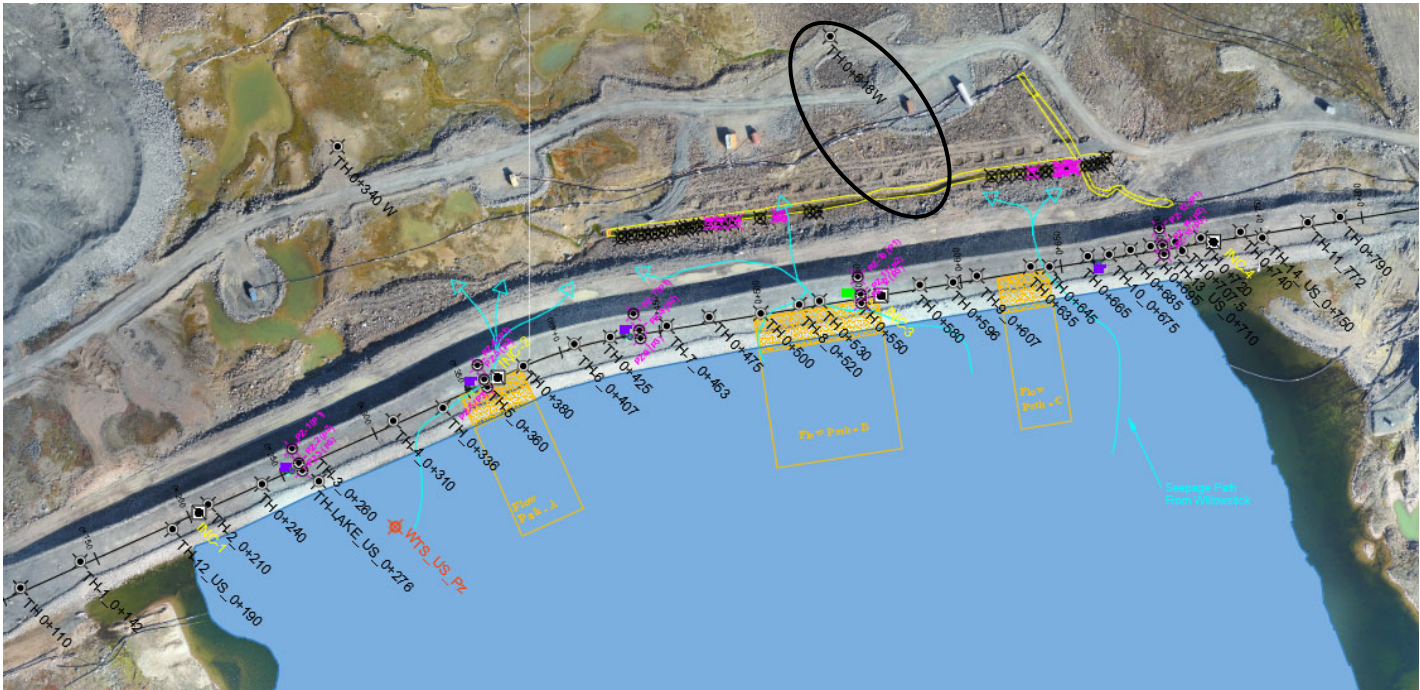


AMQ - WTD TH: 0+607

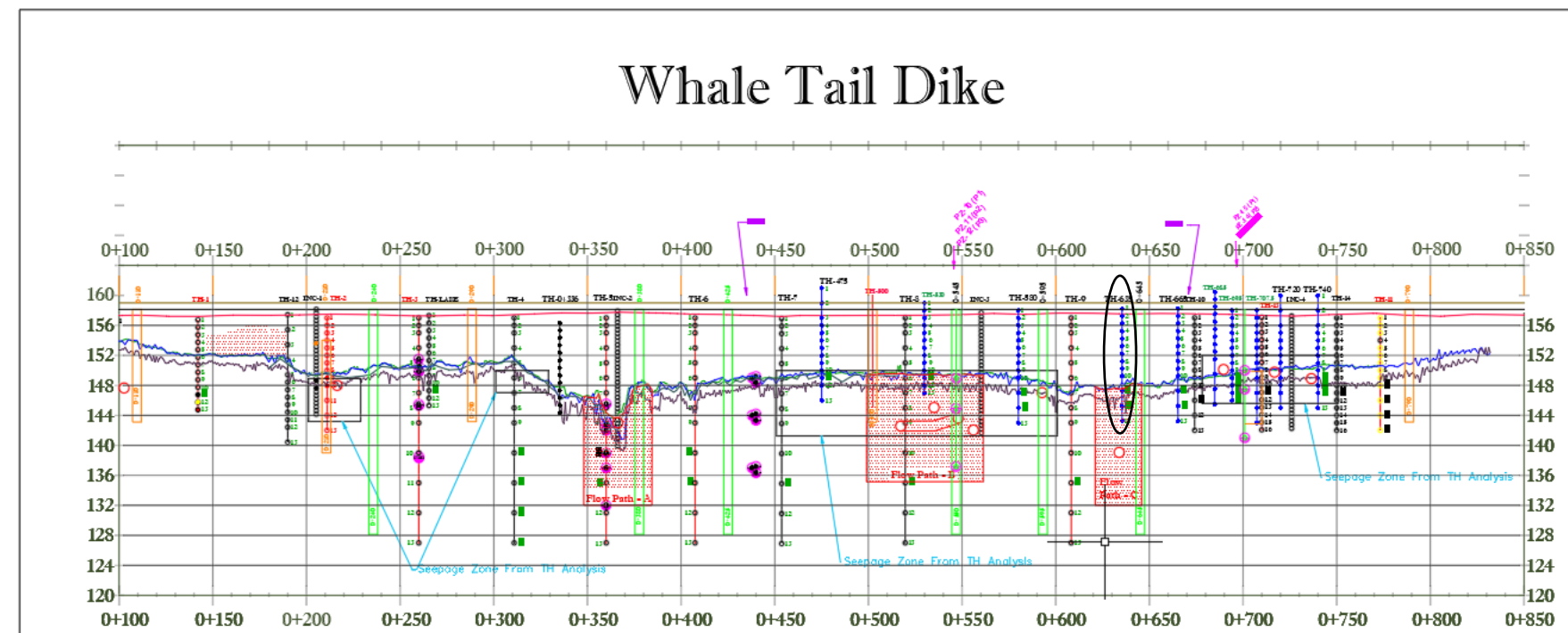
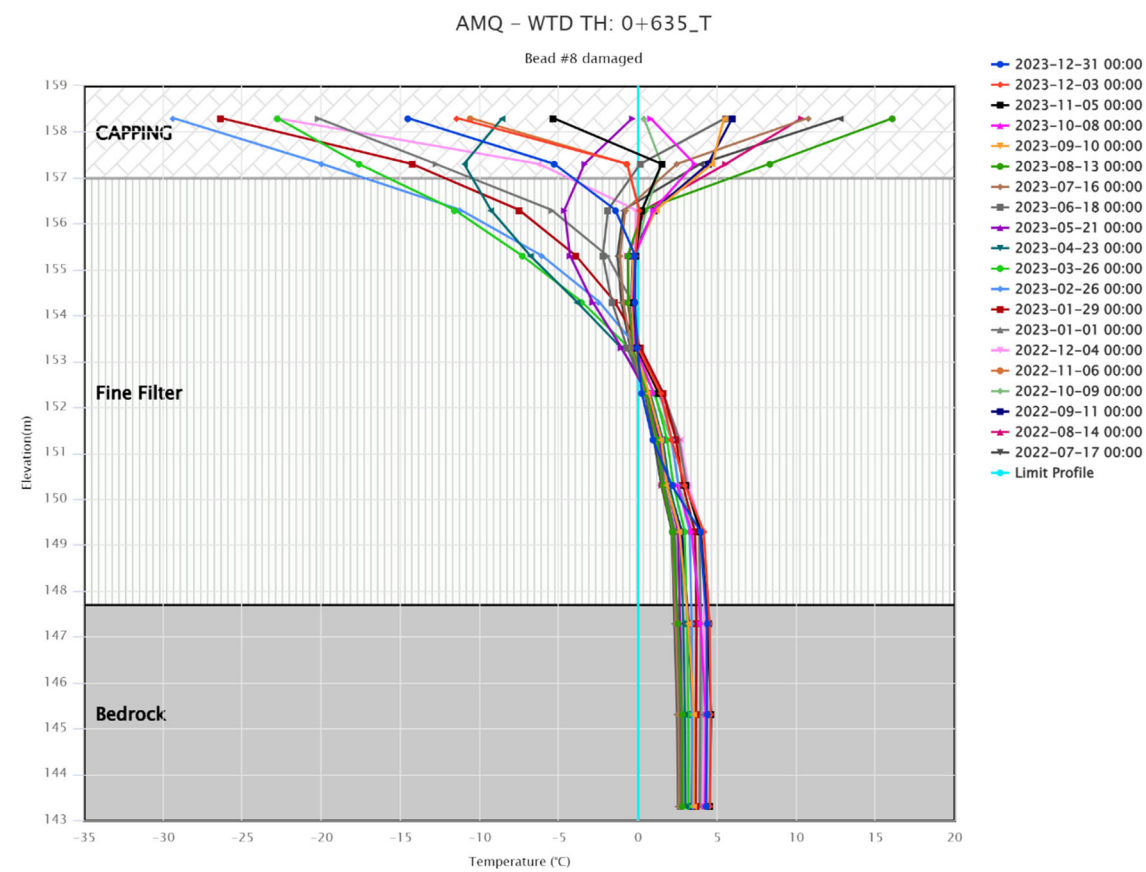
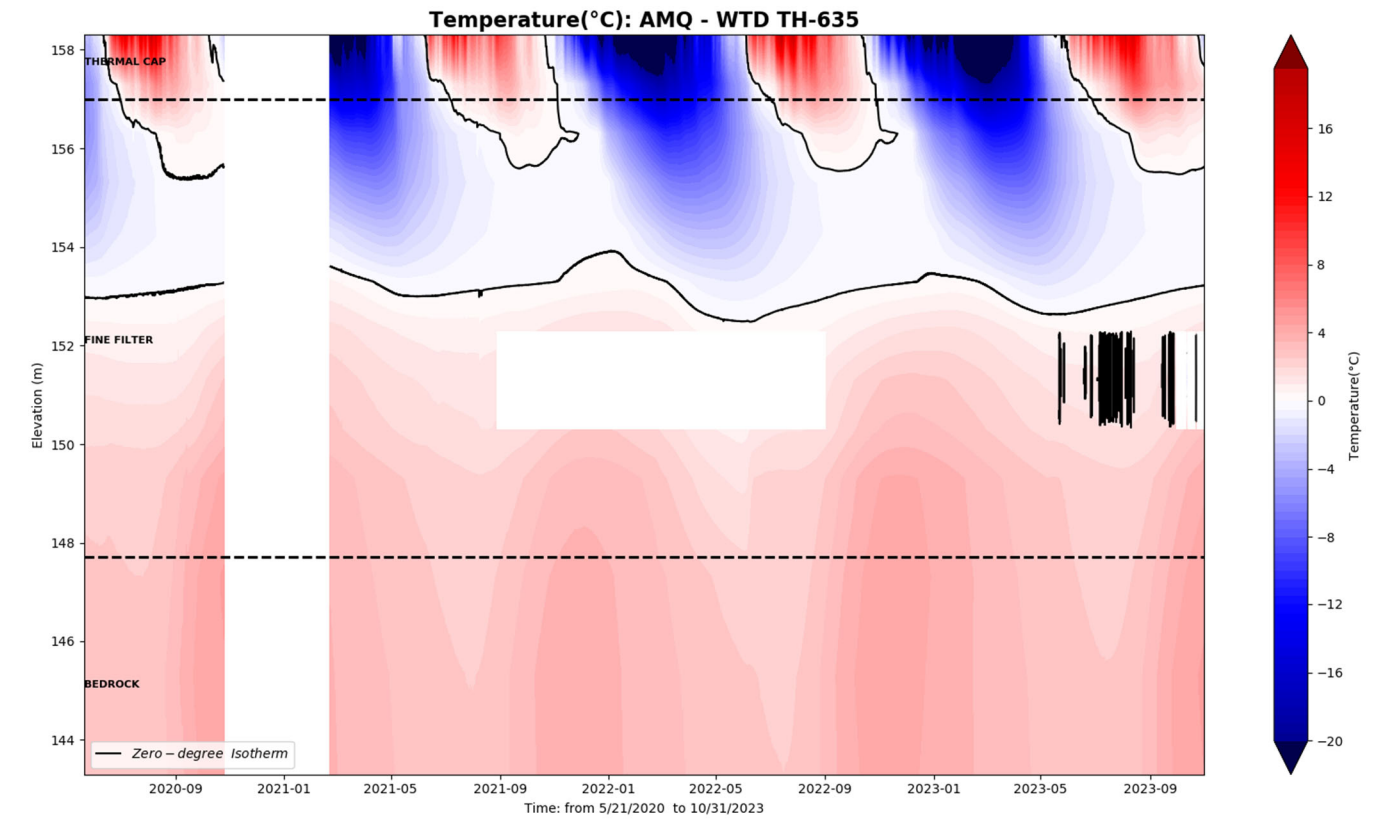
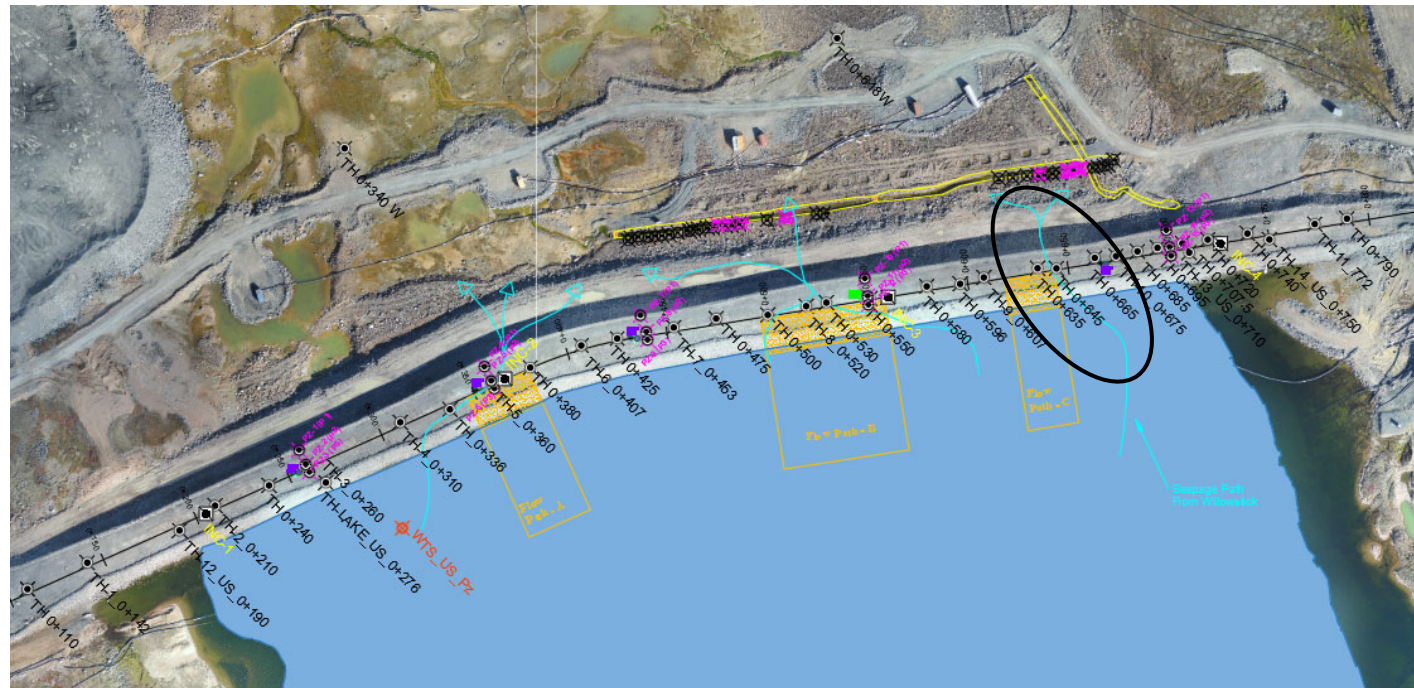
Beads # 9 and #11 removed.



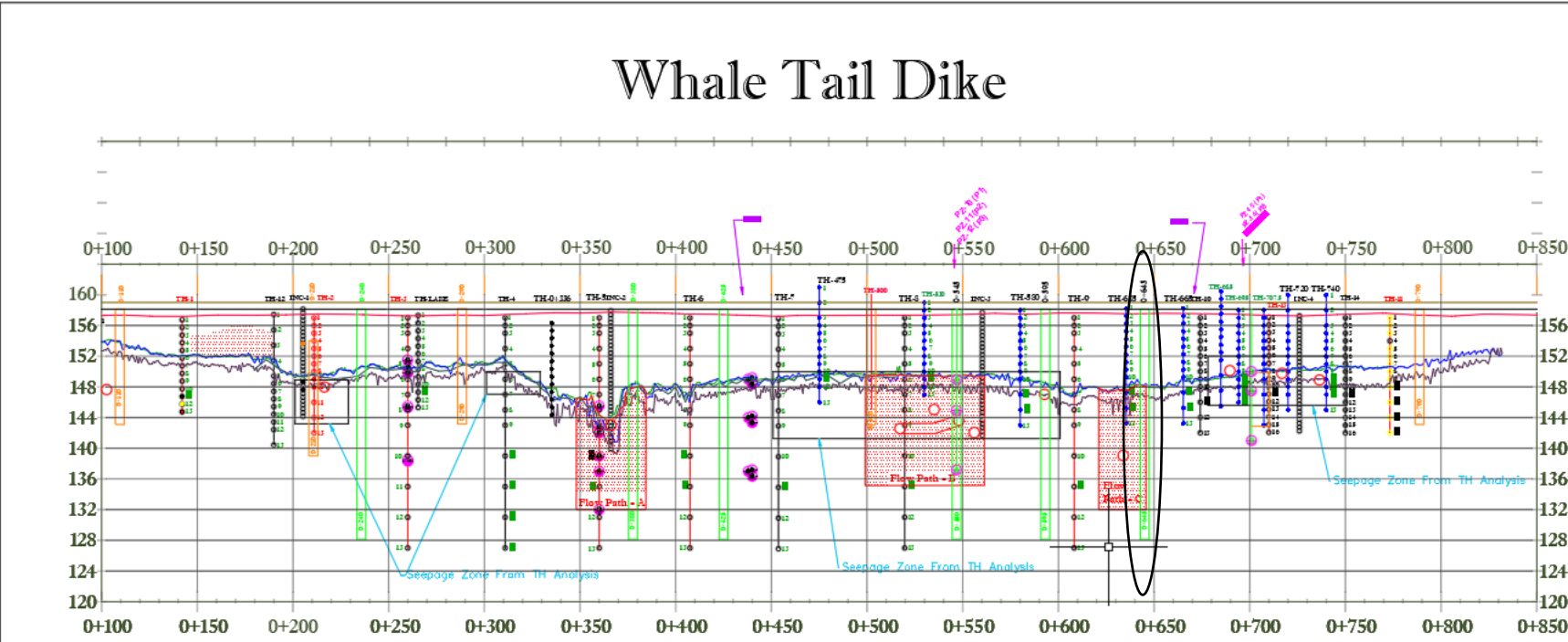
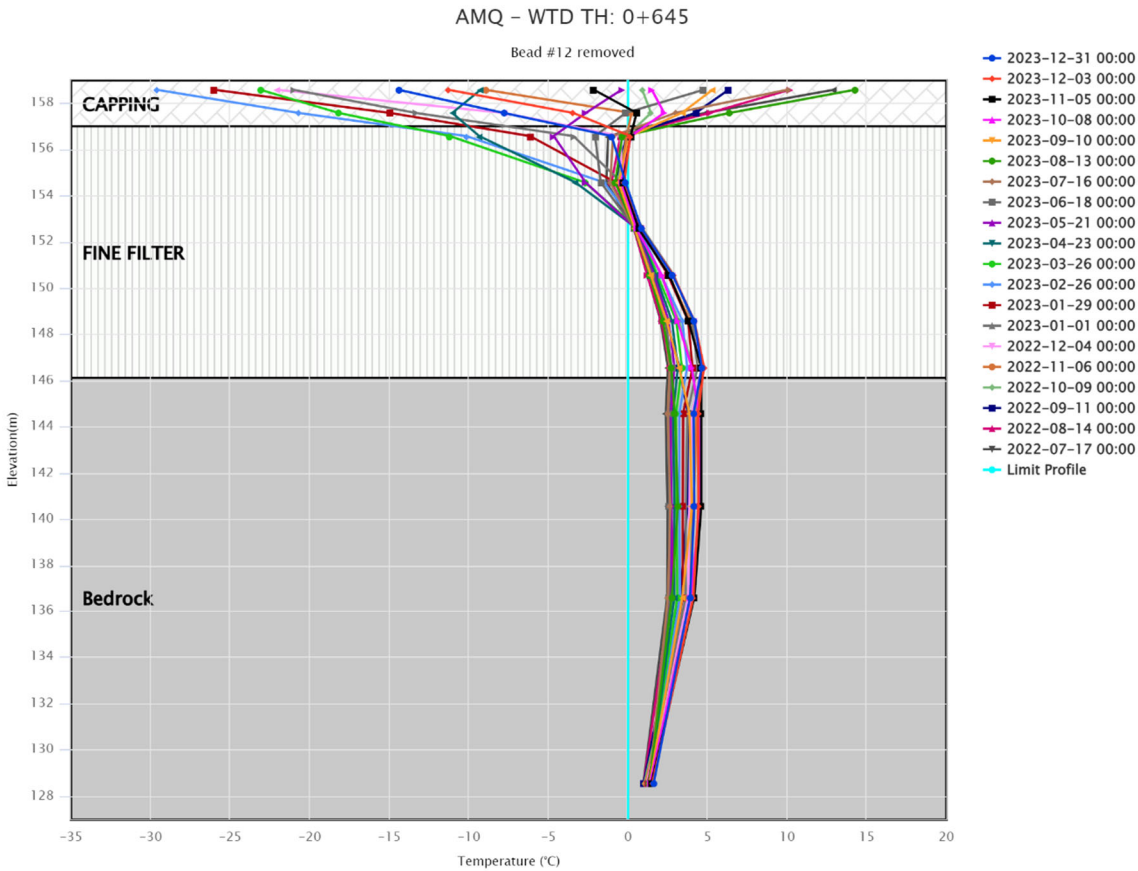
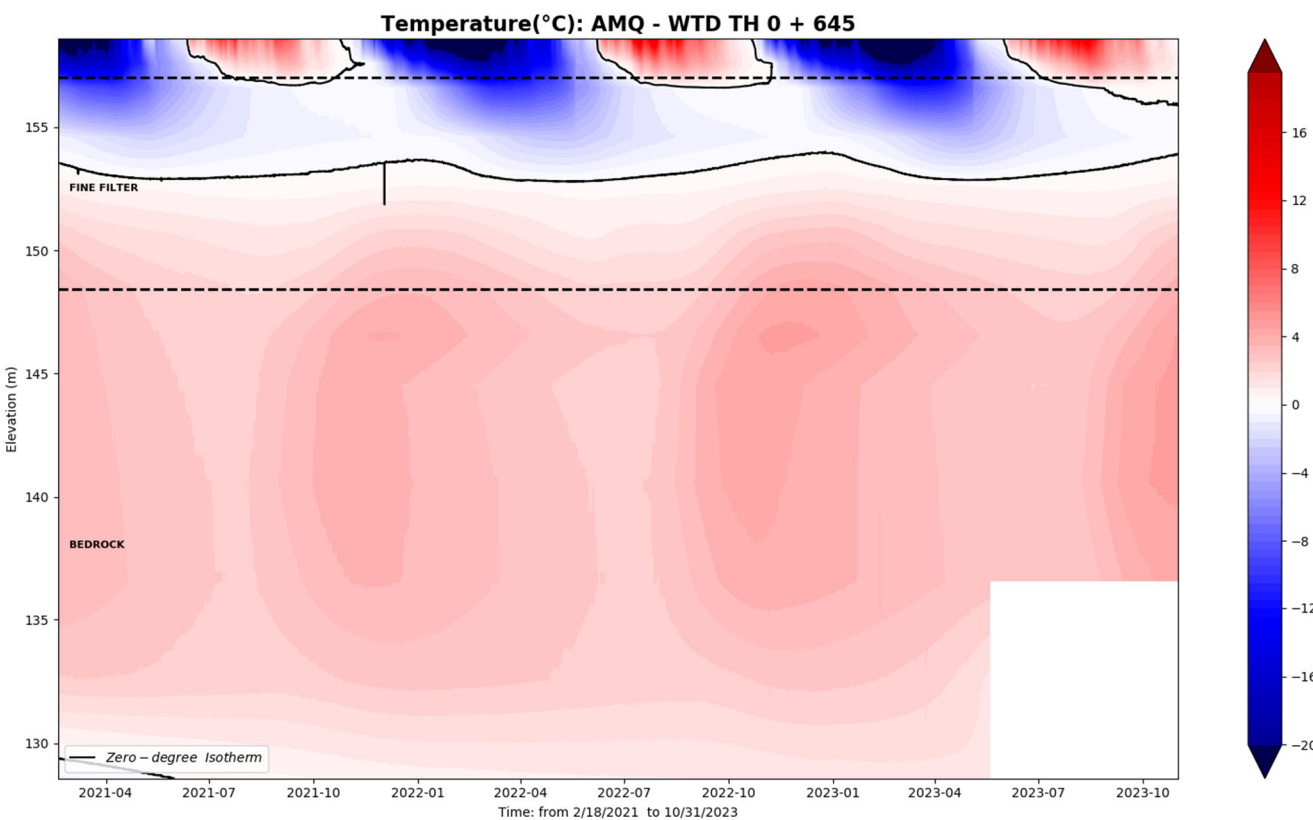
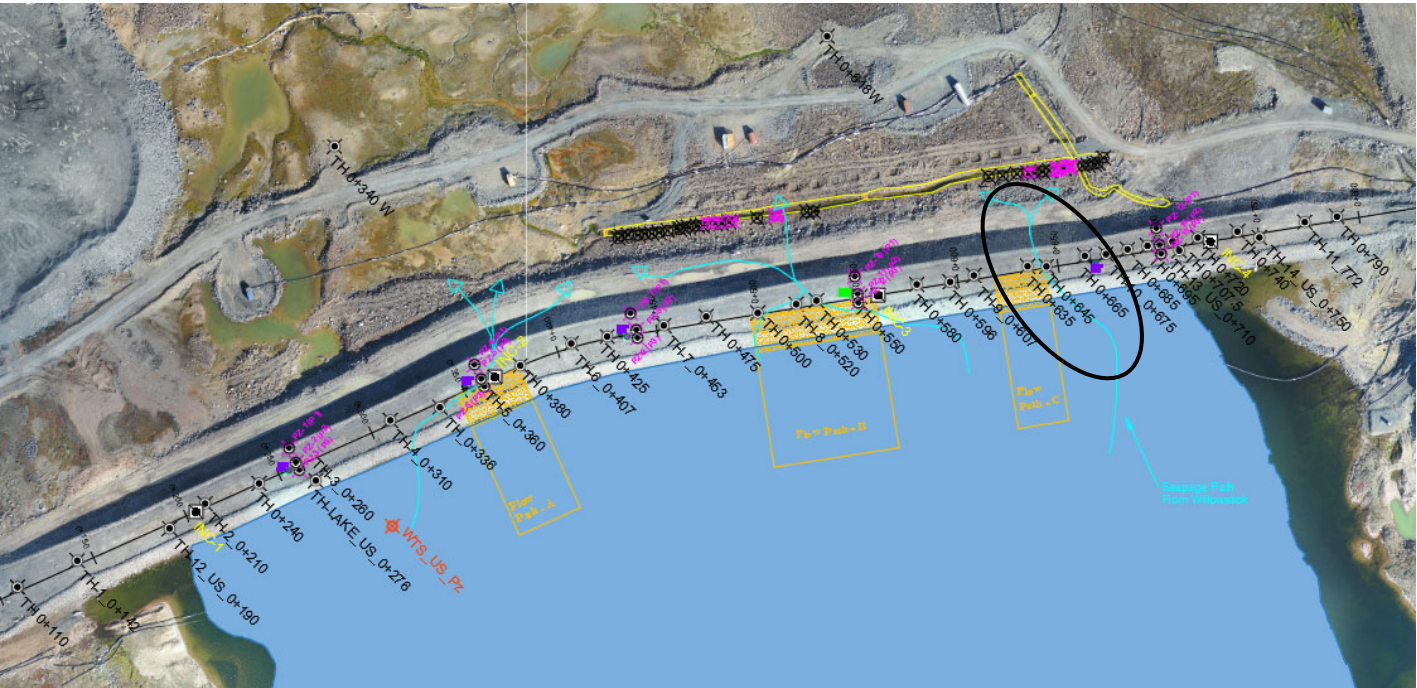
WTD-TH 0+618 DSE



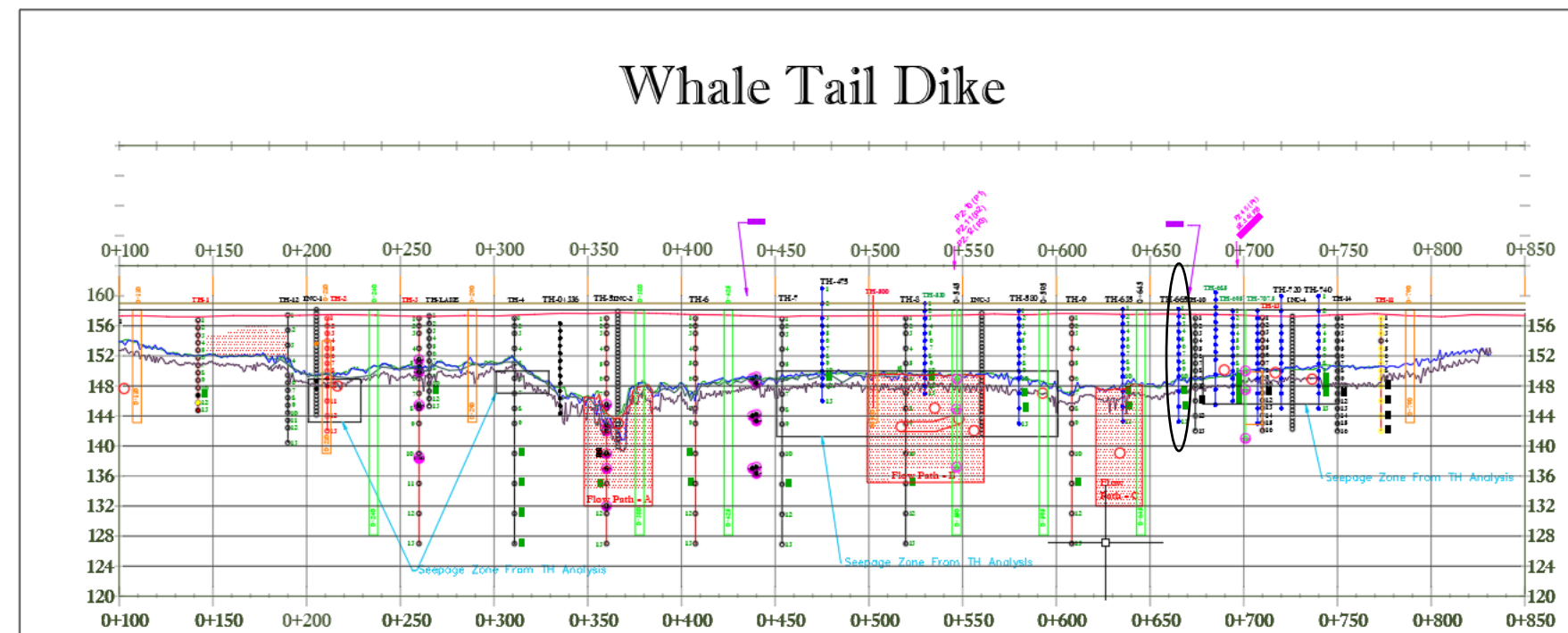
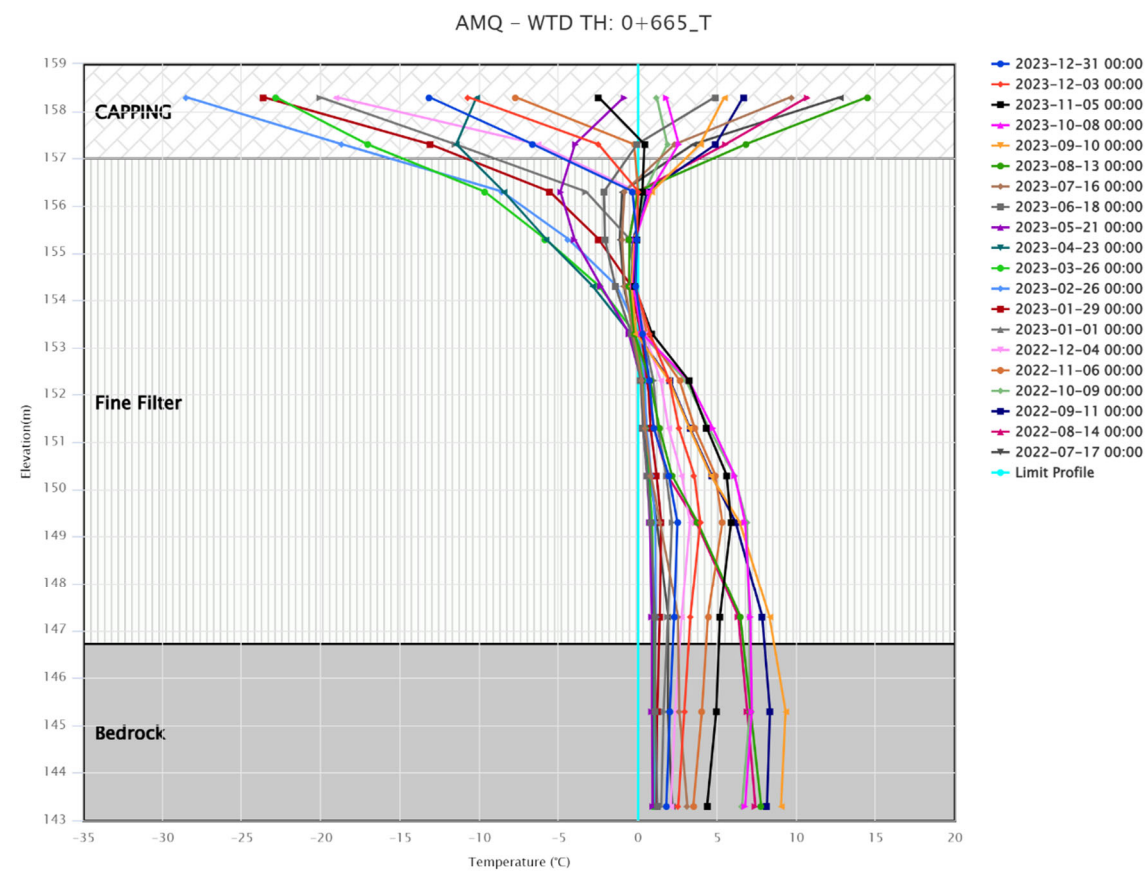
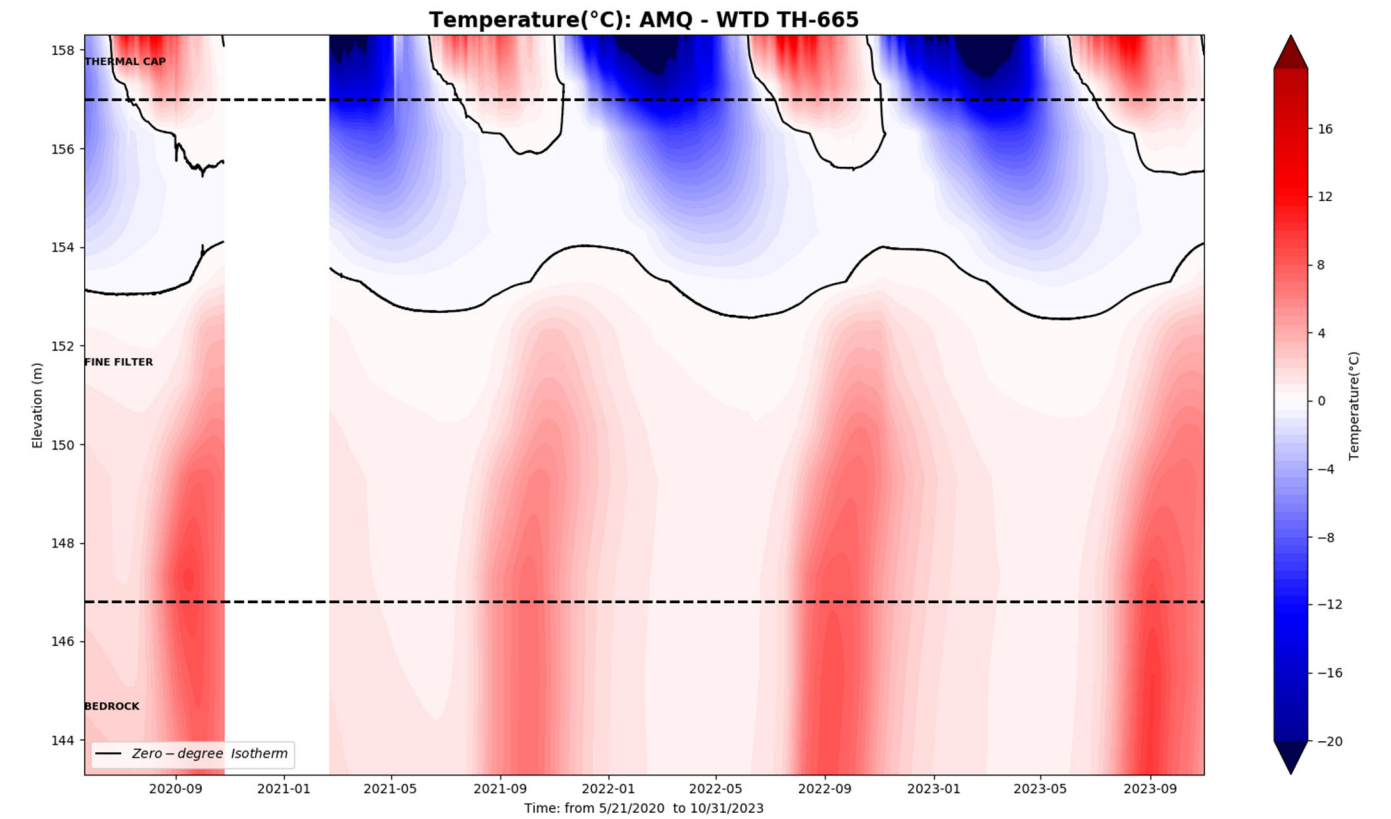
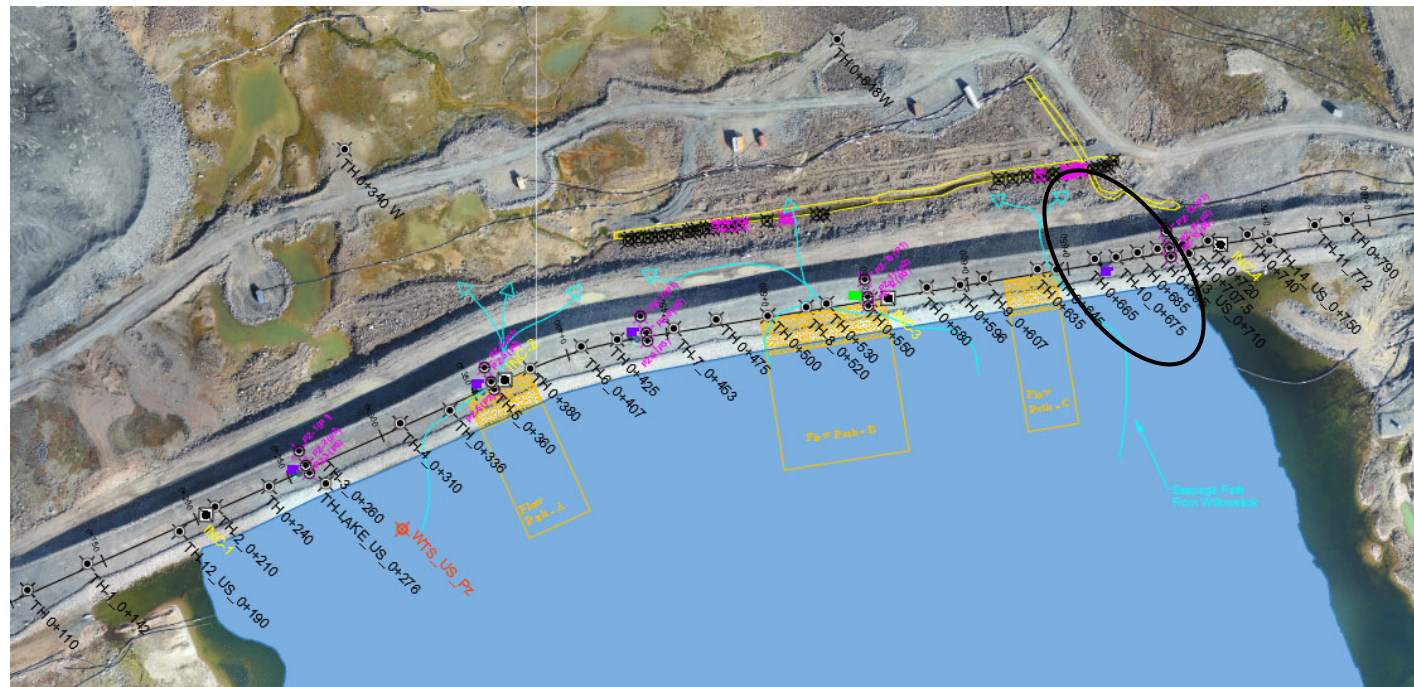
**WTD-TH 0+635**

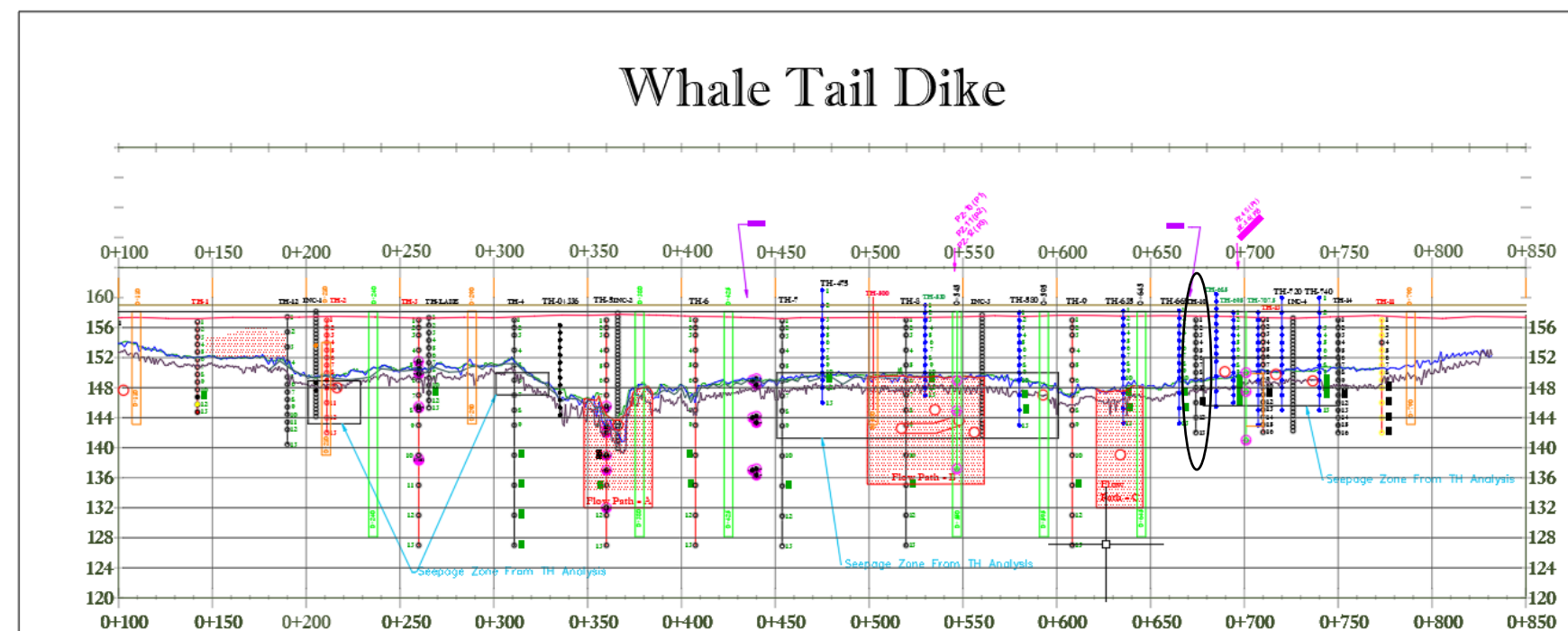
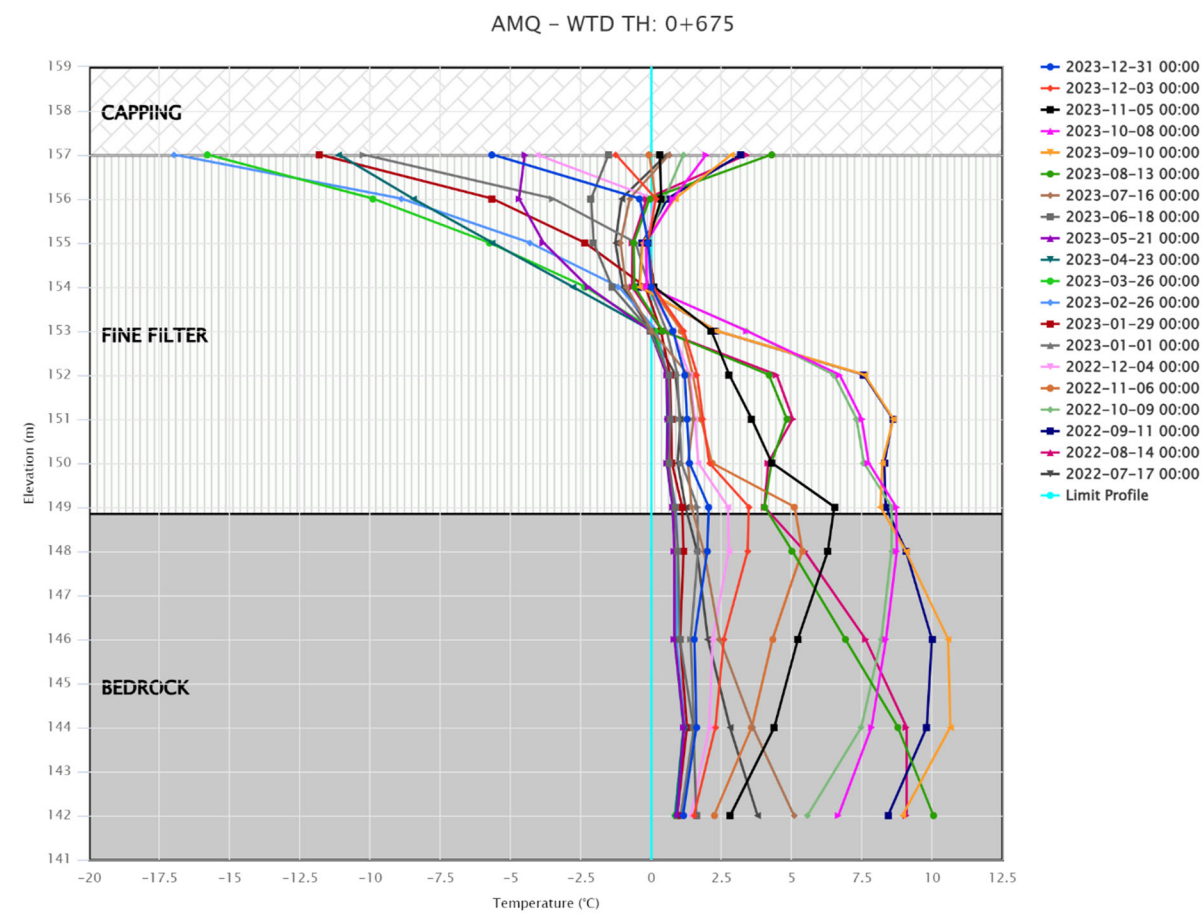
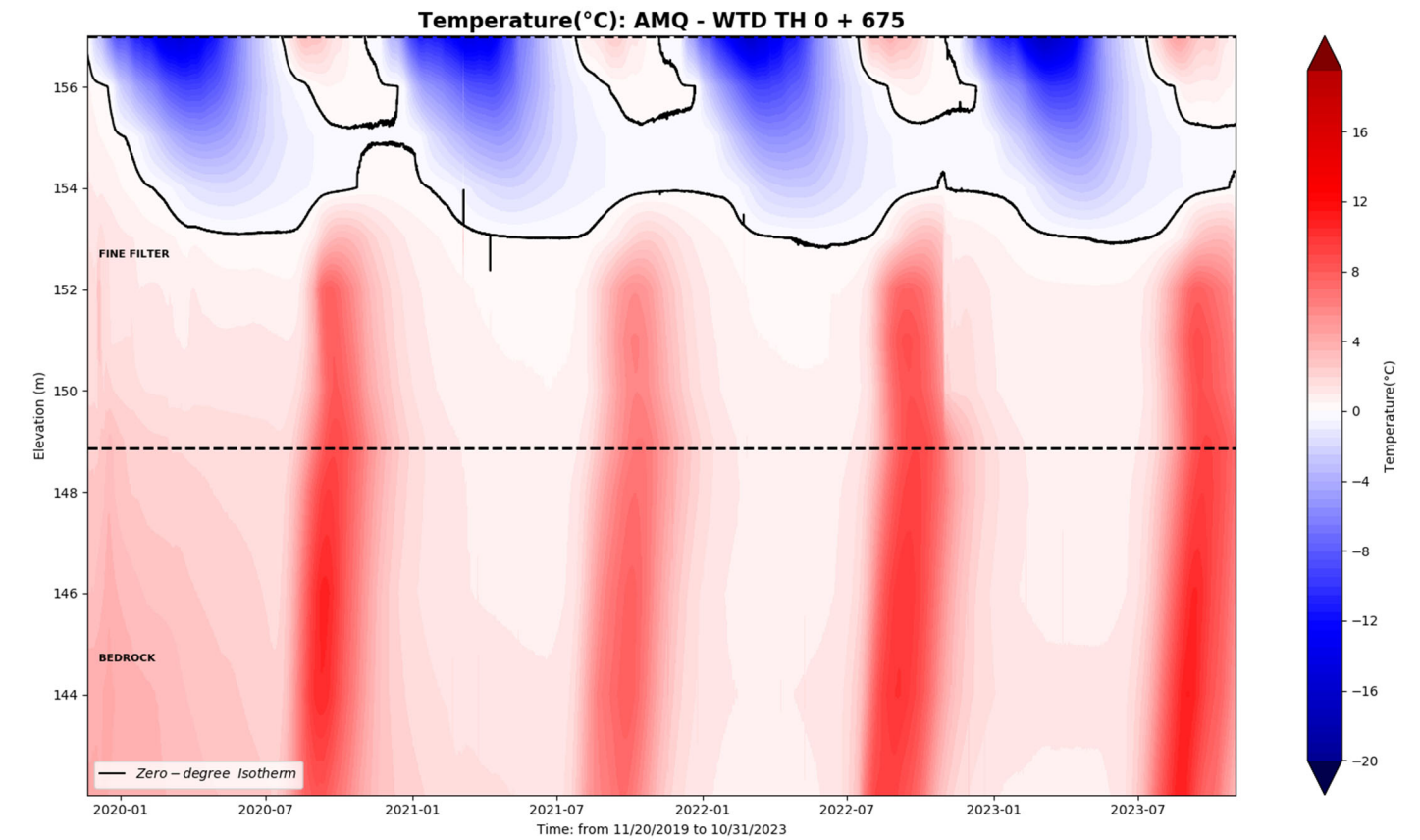


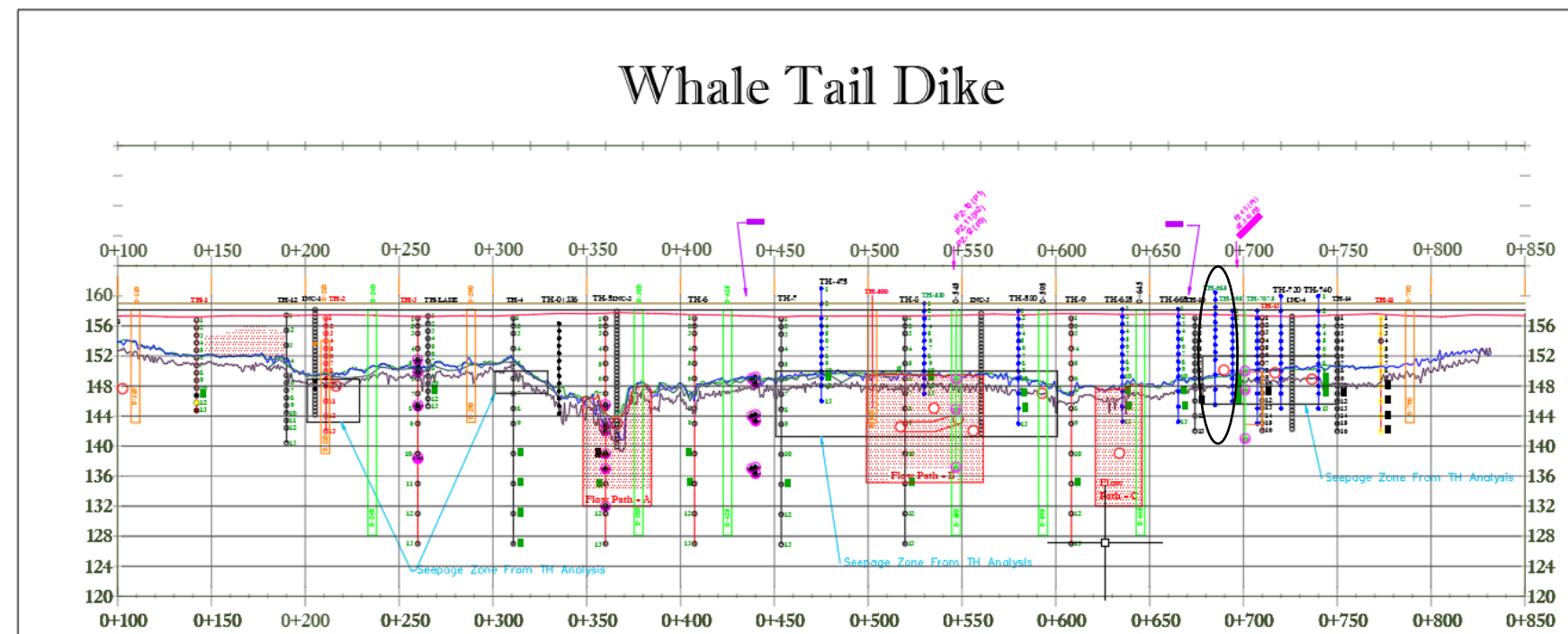
WTD-TH 0+645



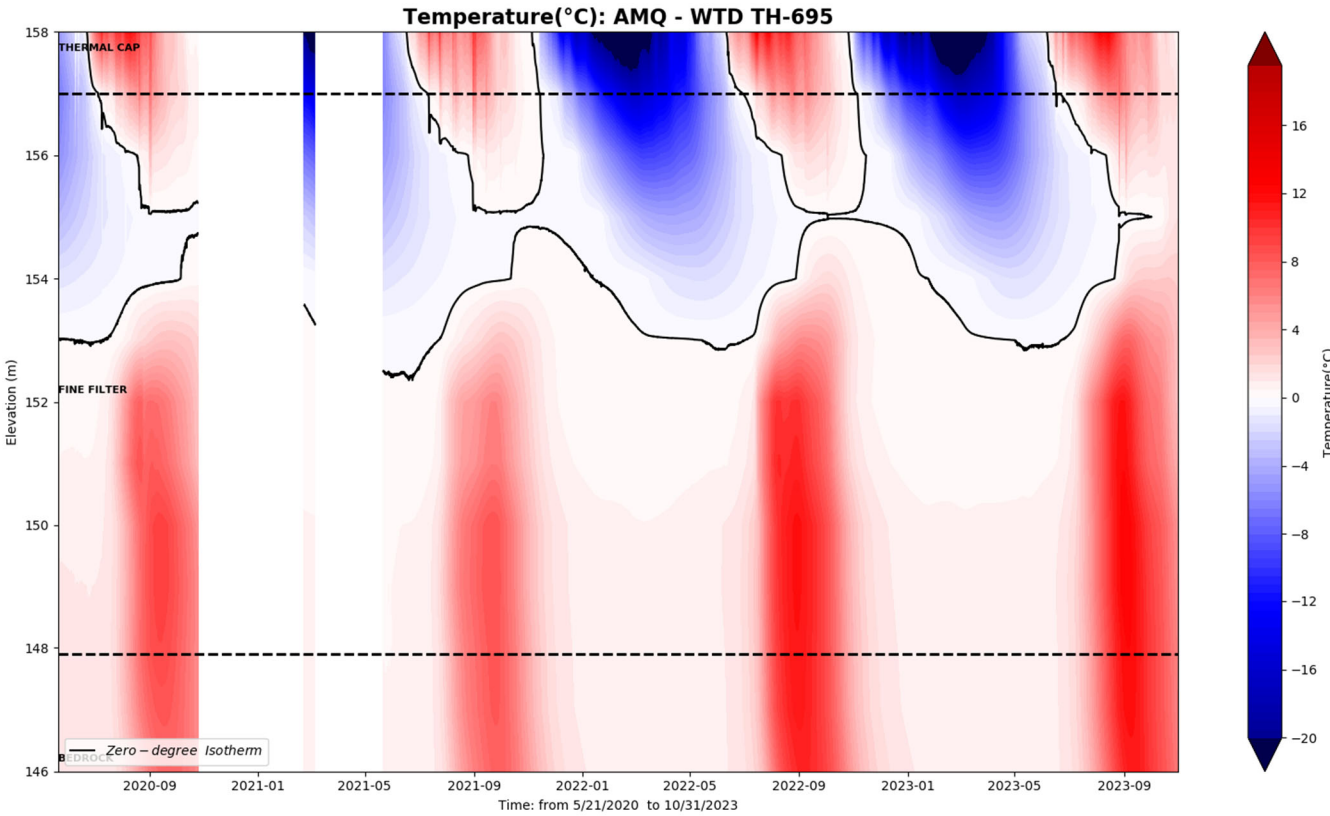
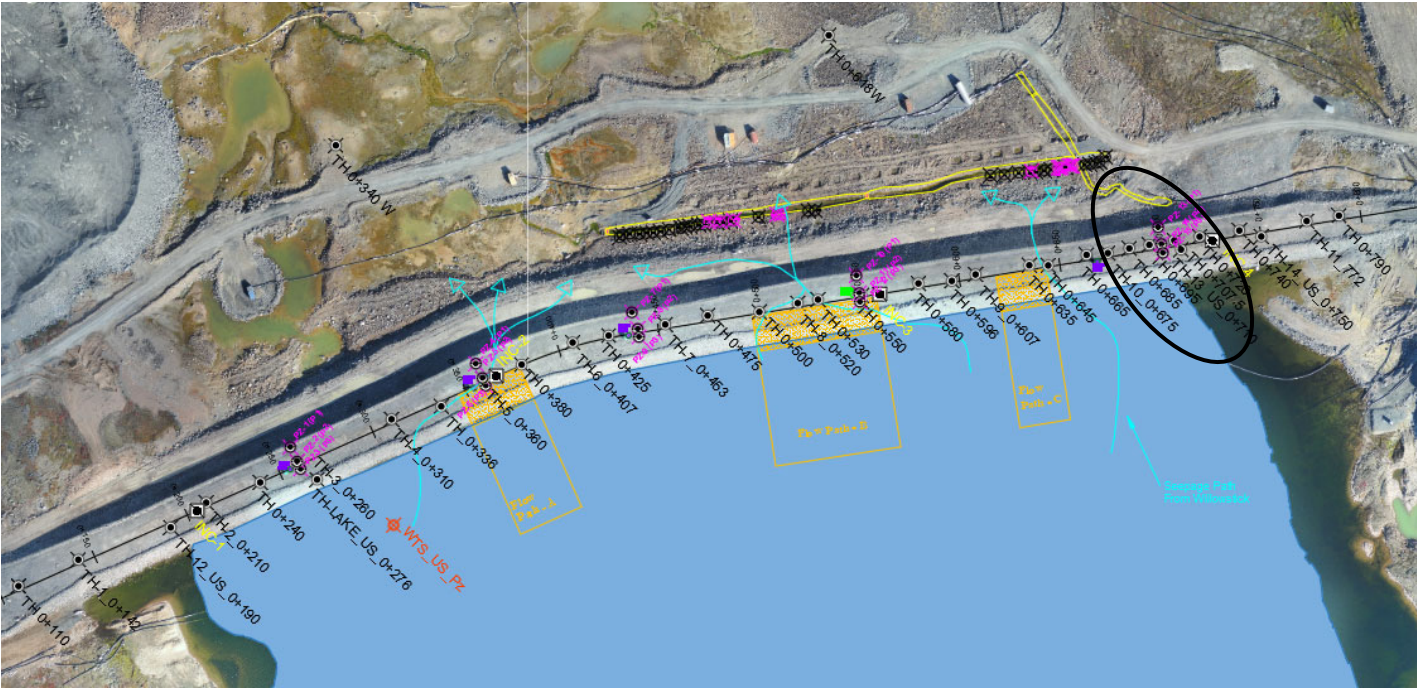
**WTD-TH 0+665**



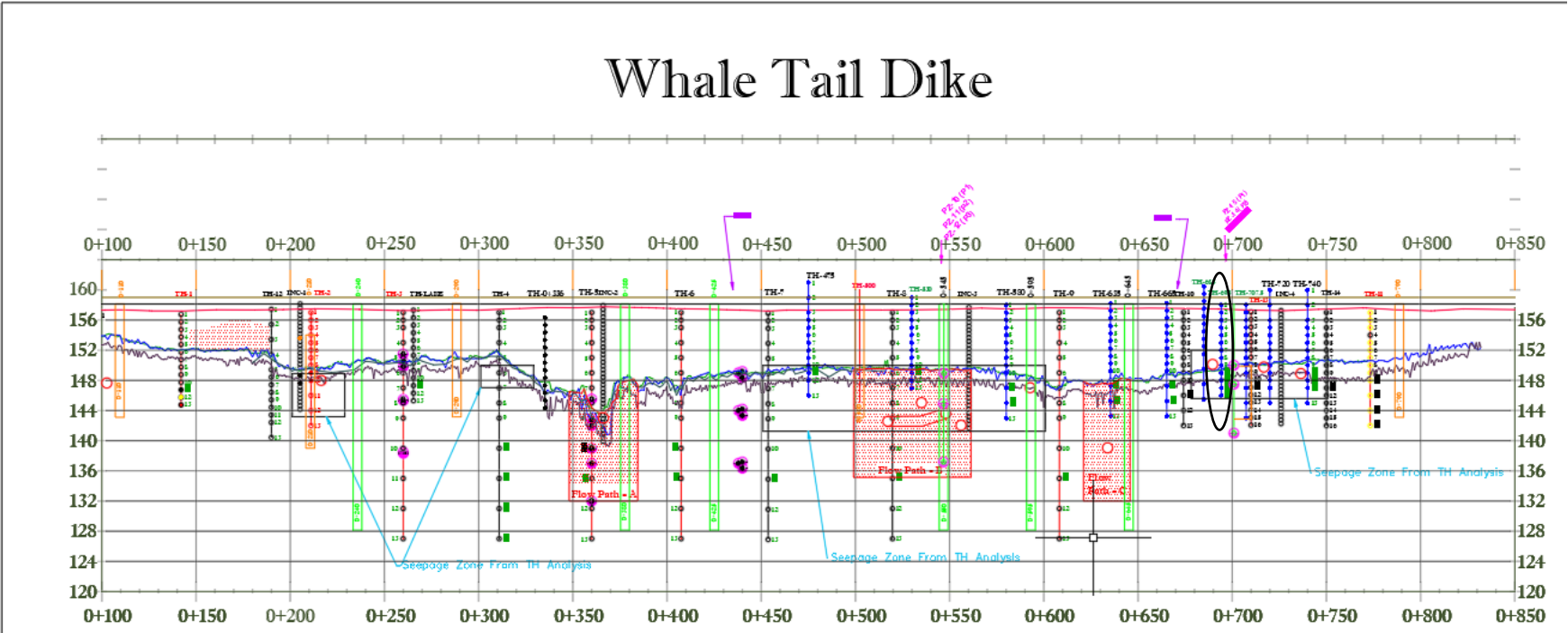
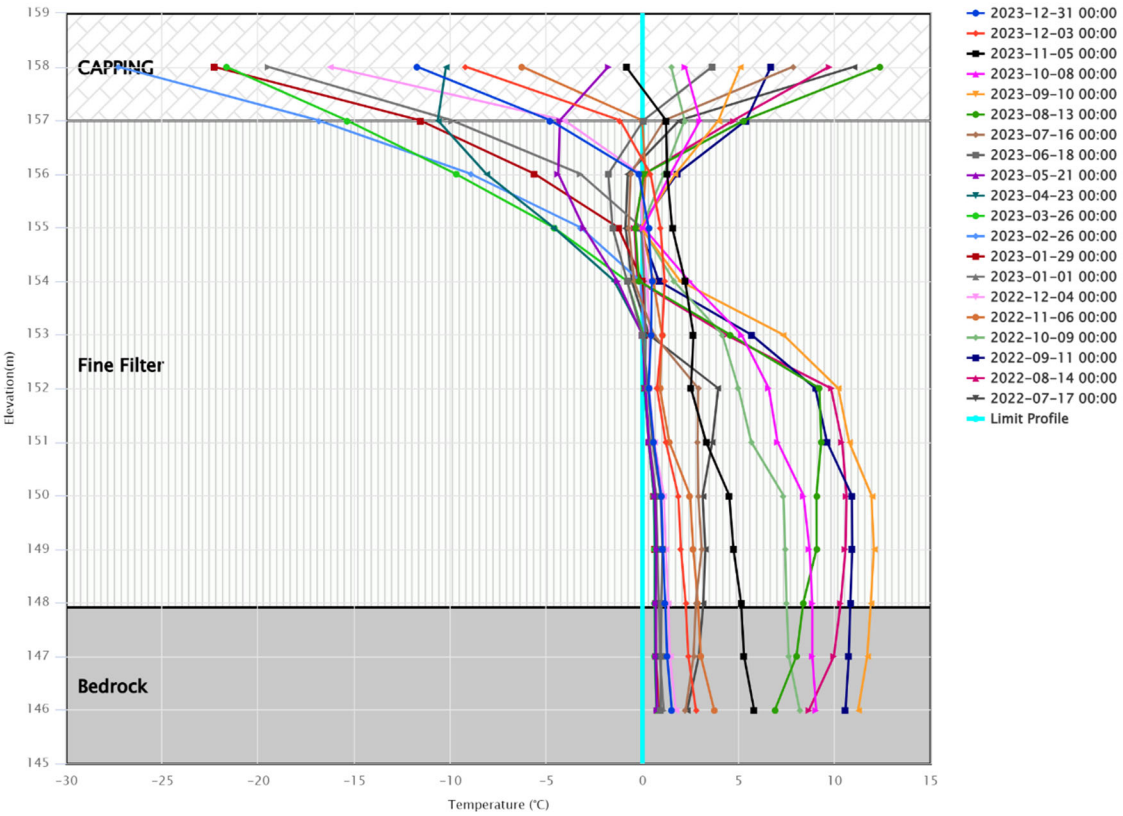




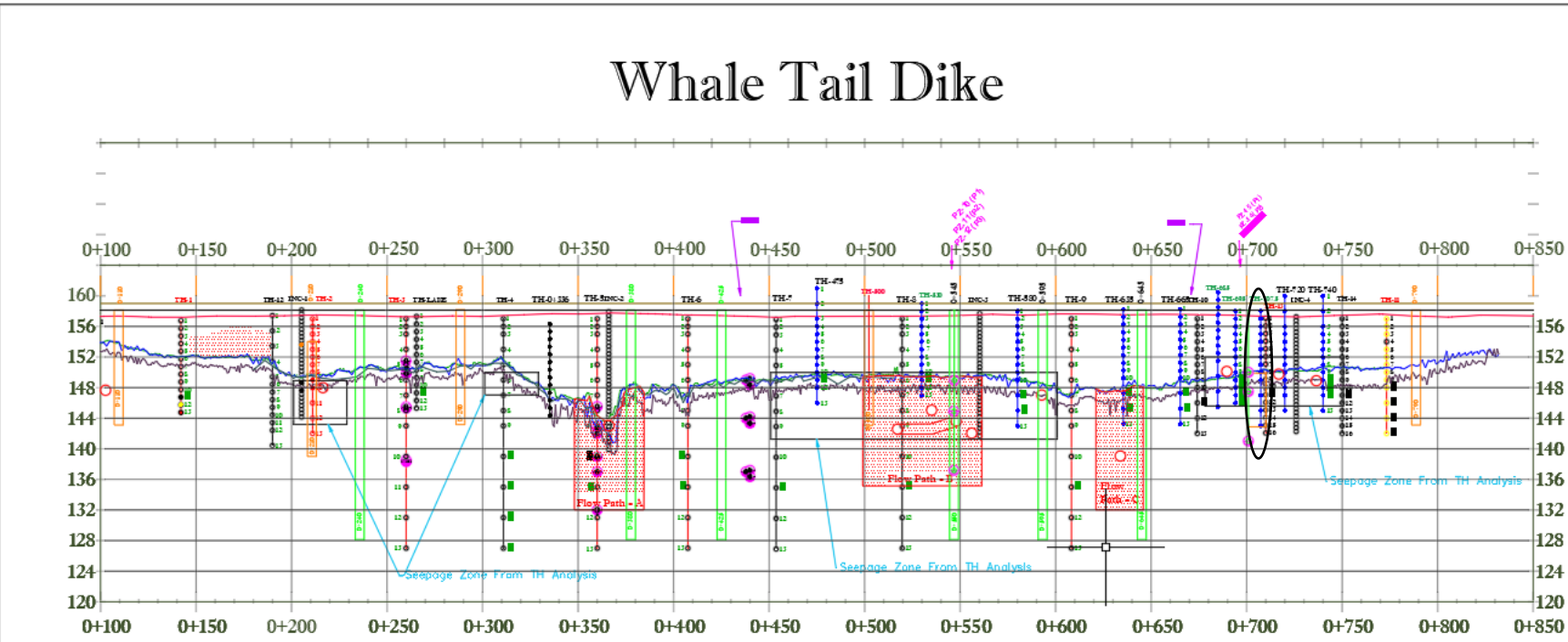
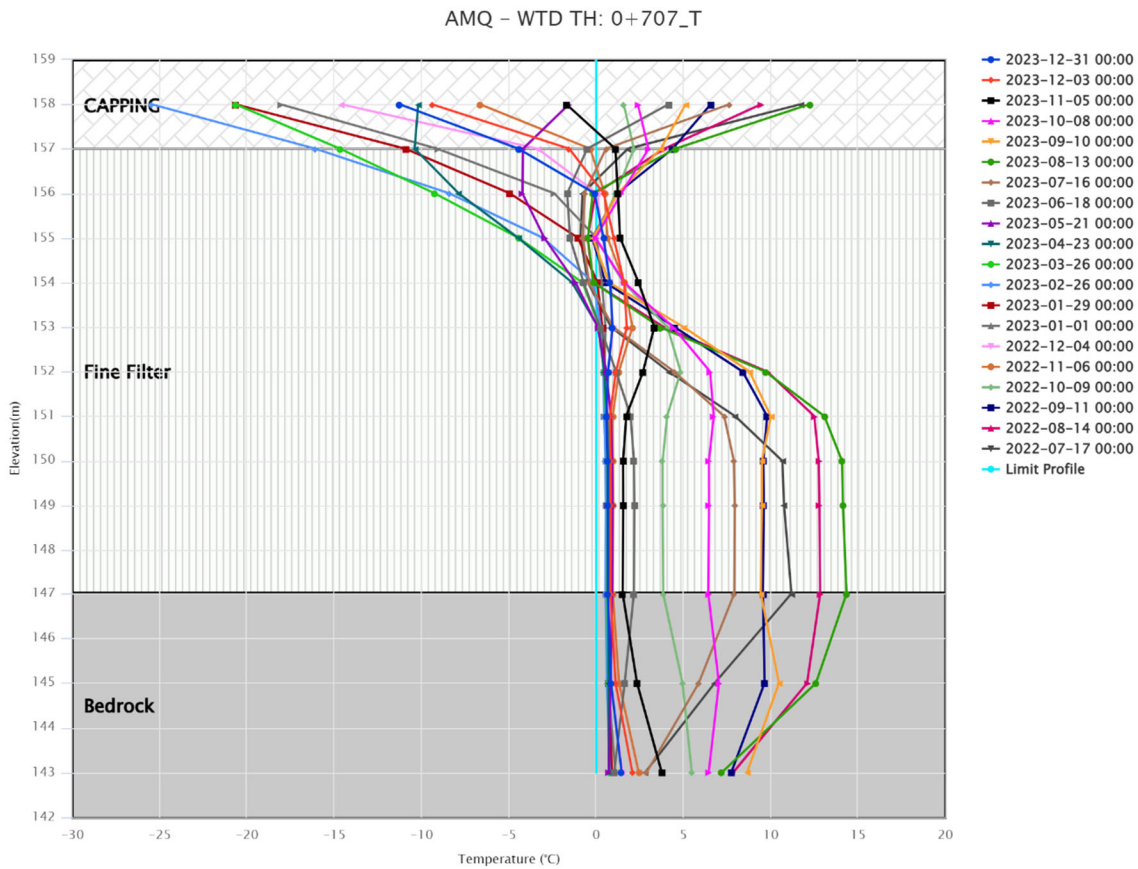
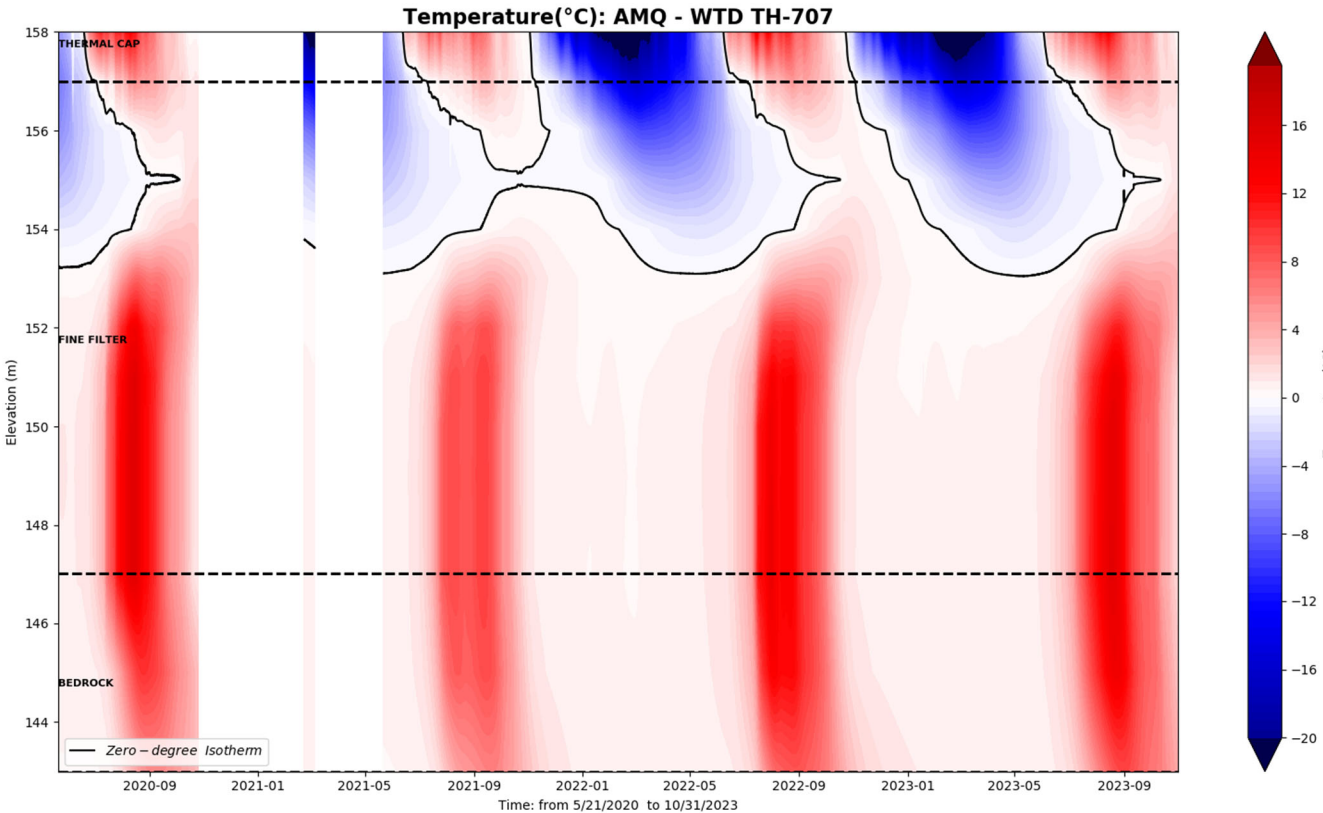
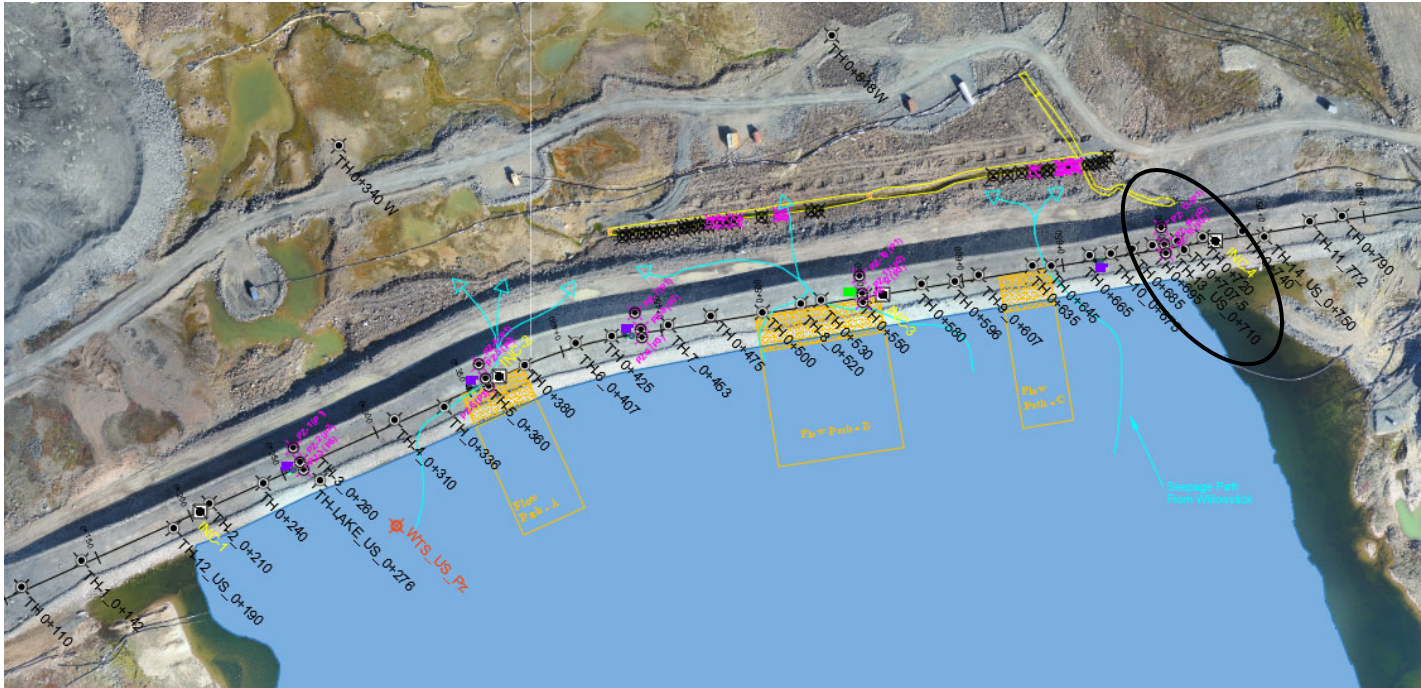
WTD-TH 0+695



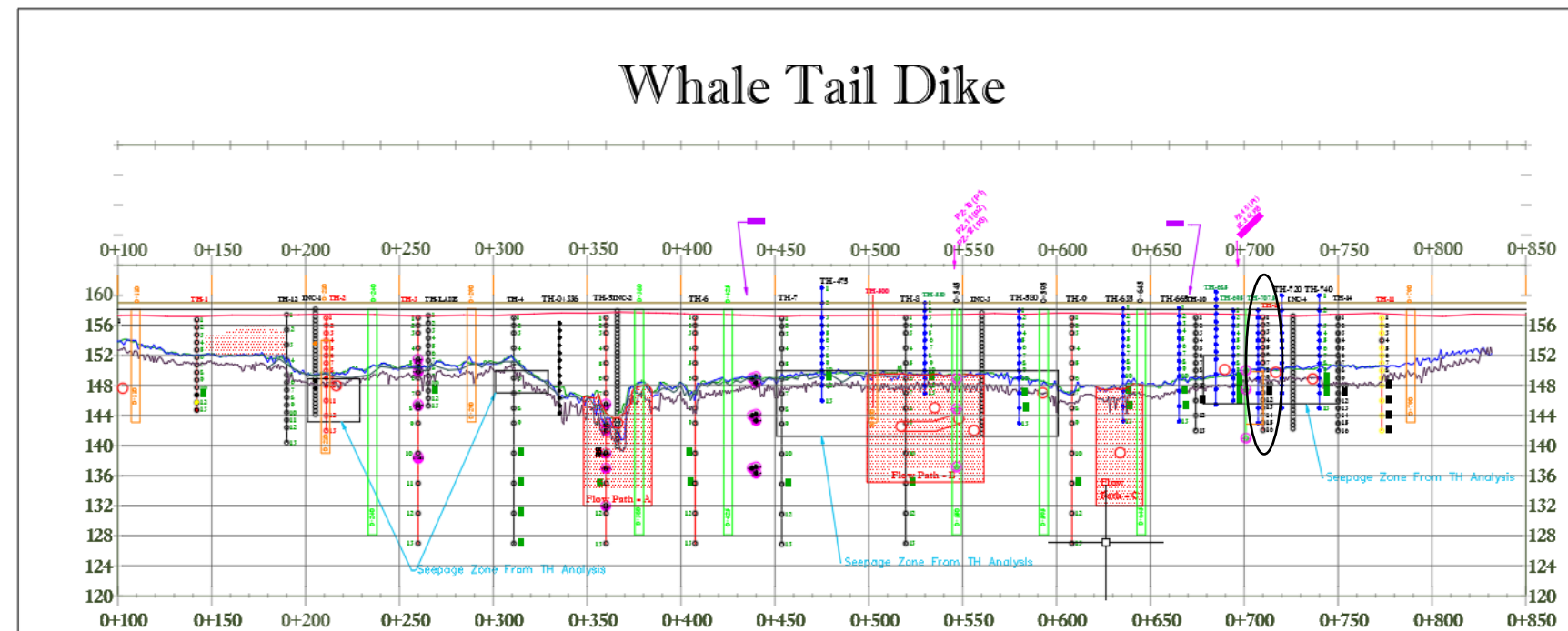
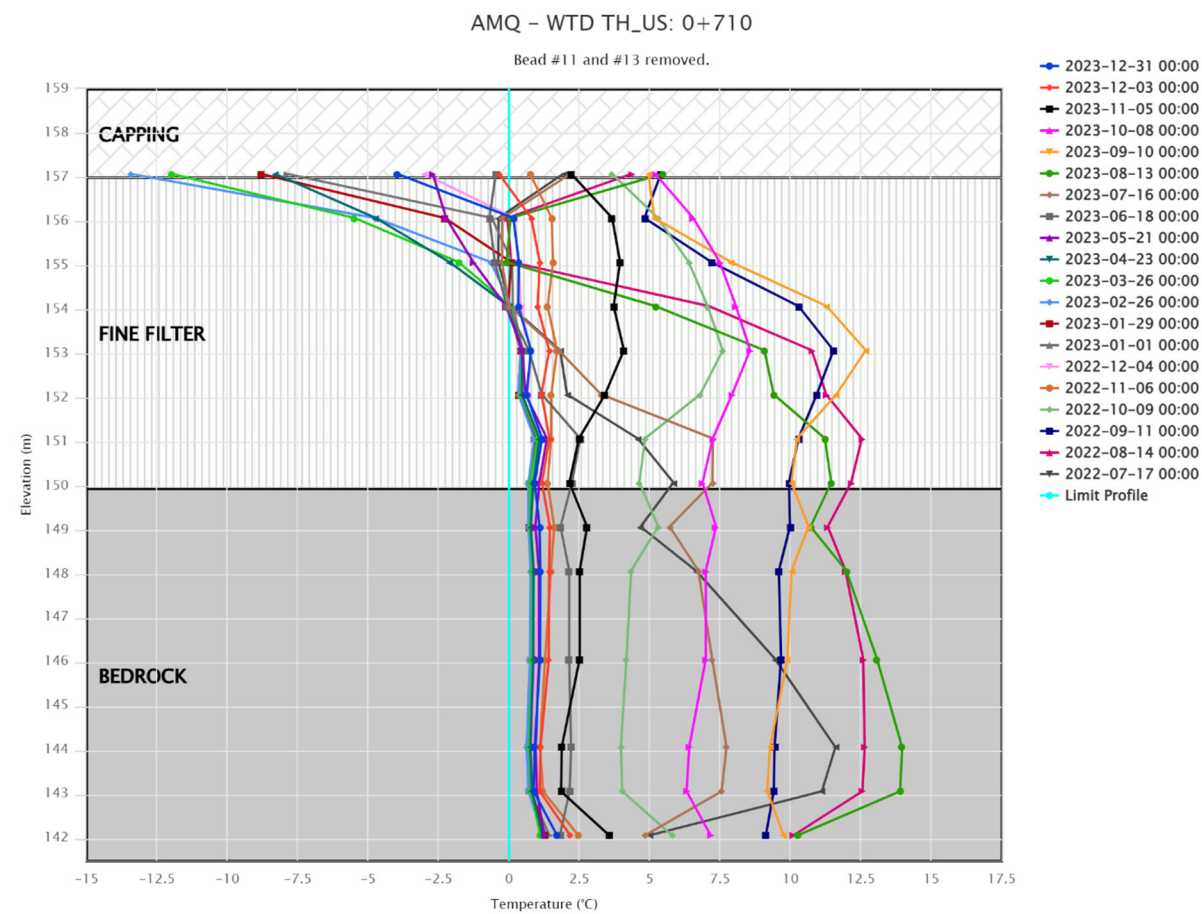
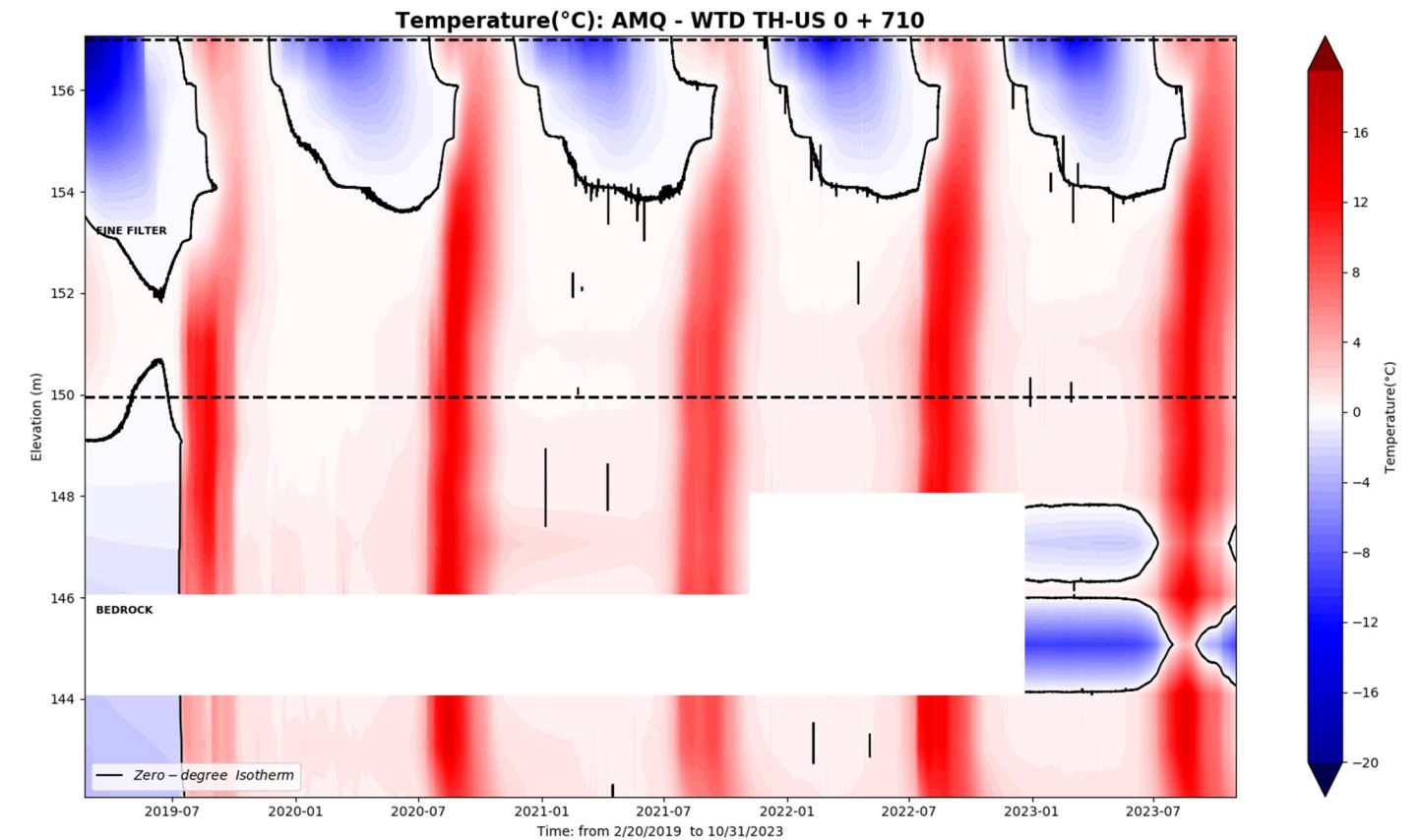
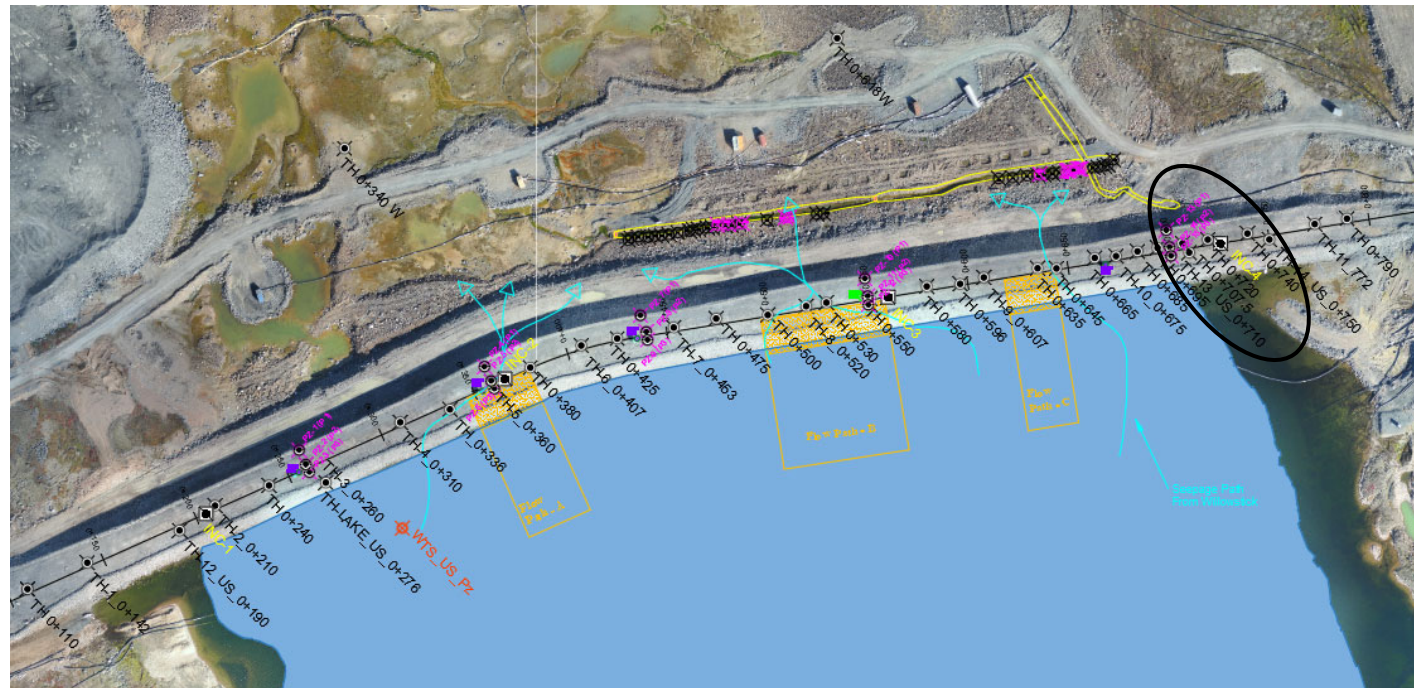
AMQ - WTD TH: 0+695\_T



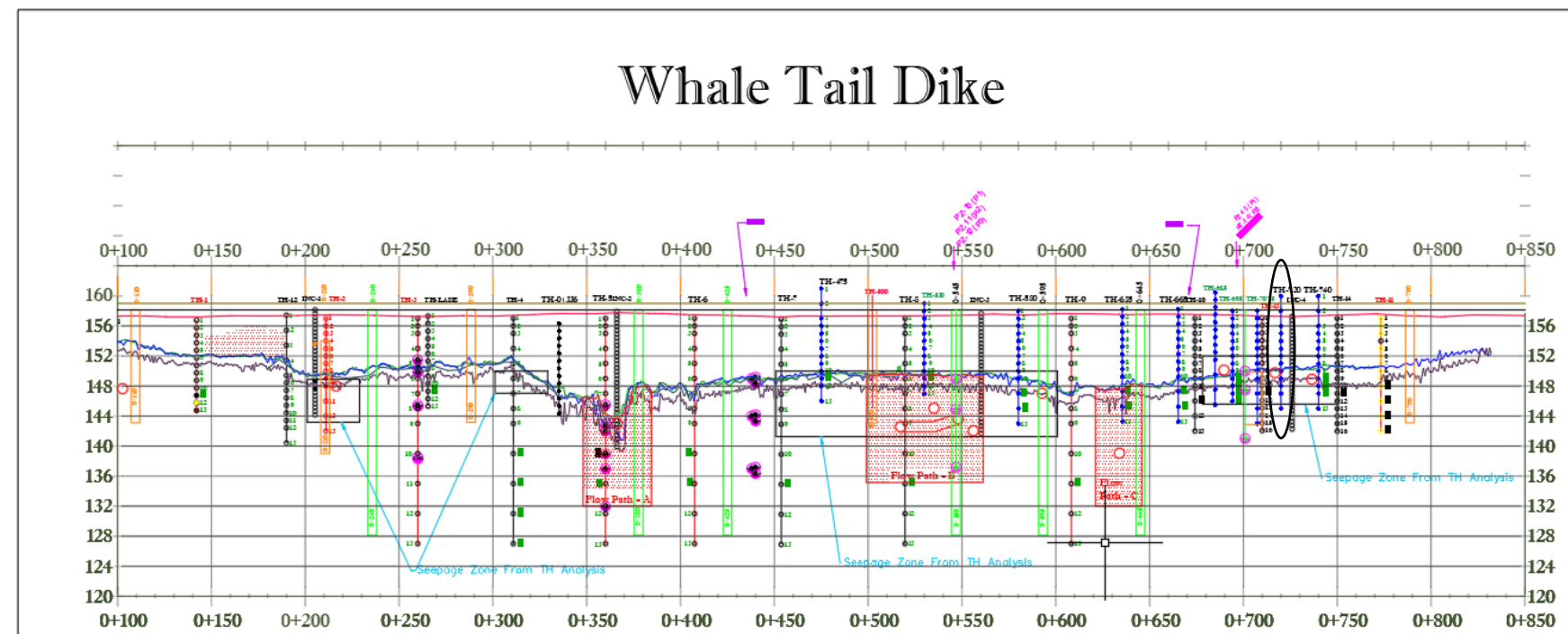
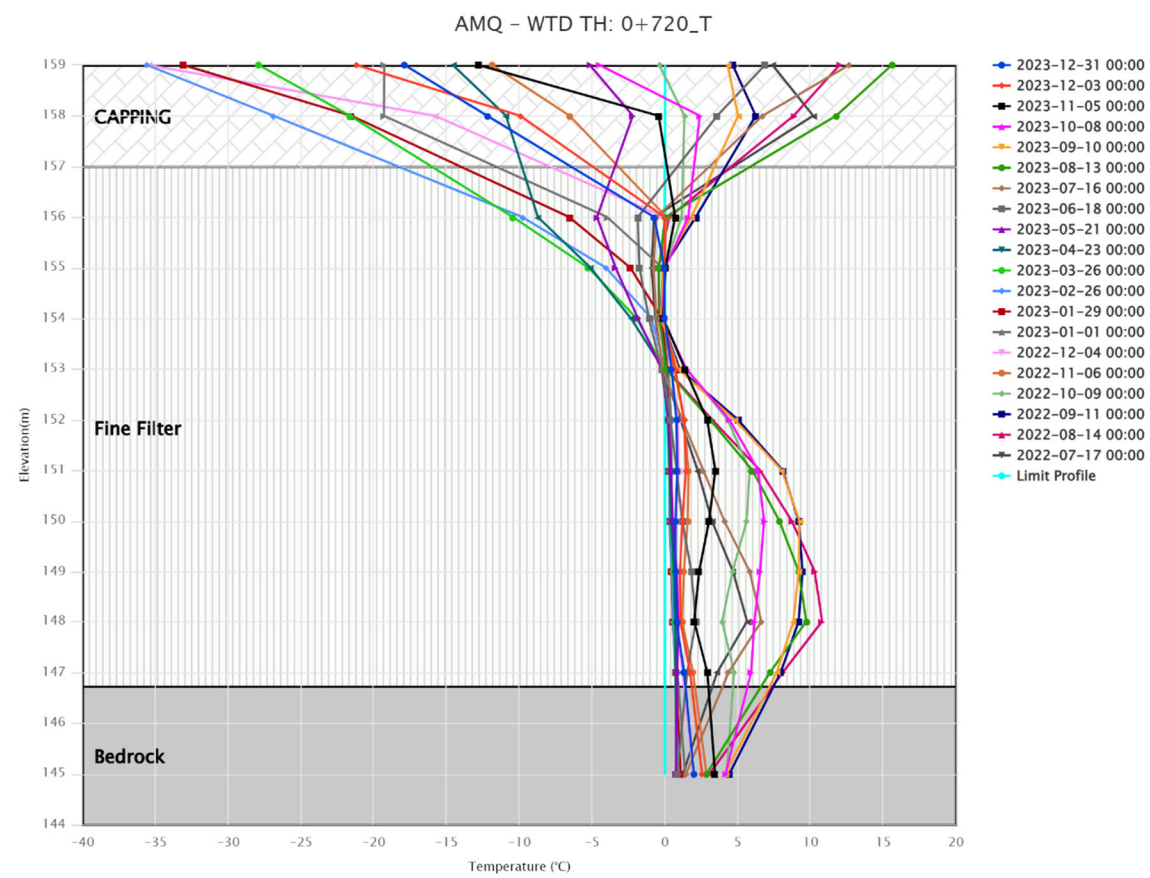
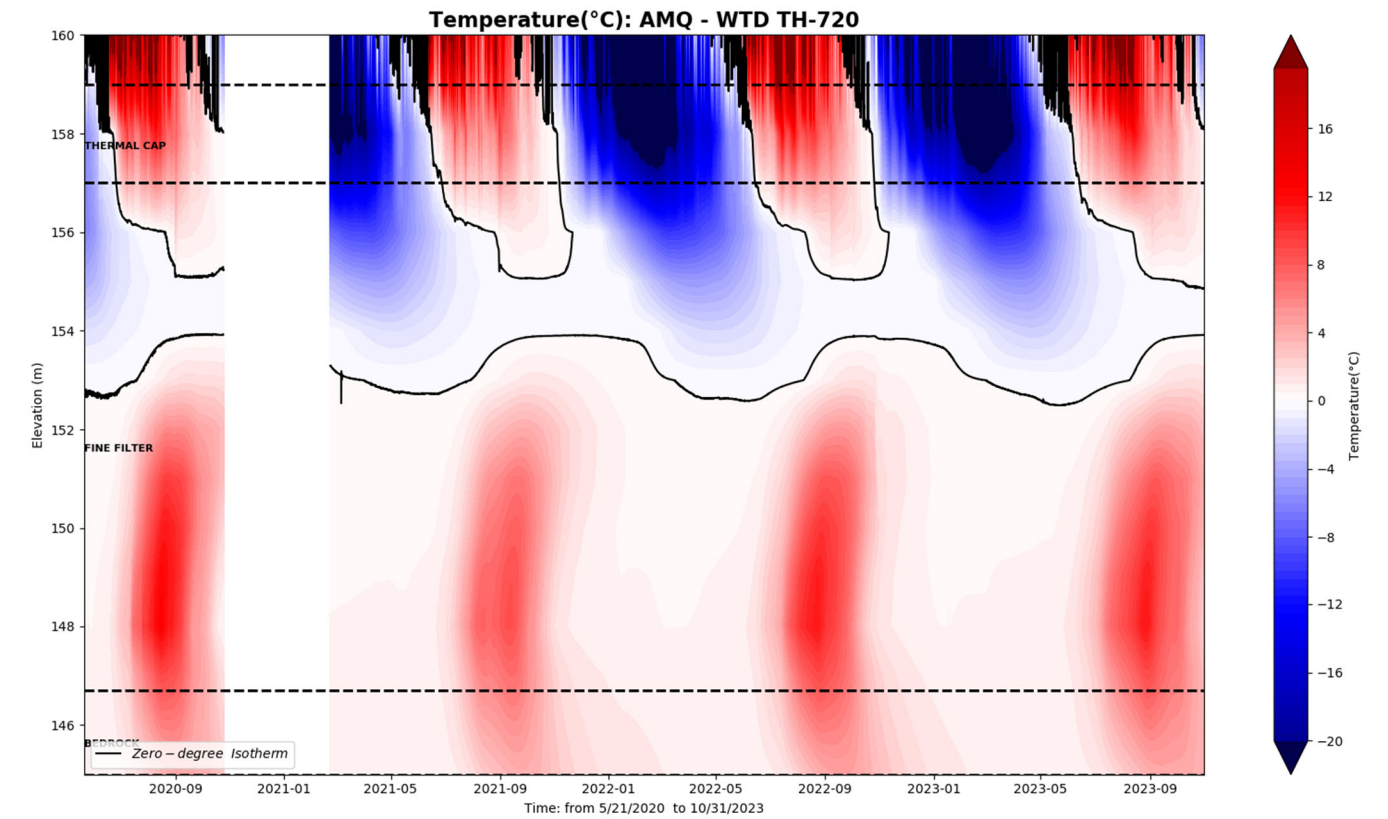
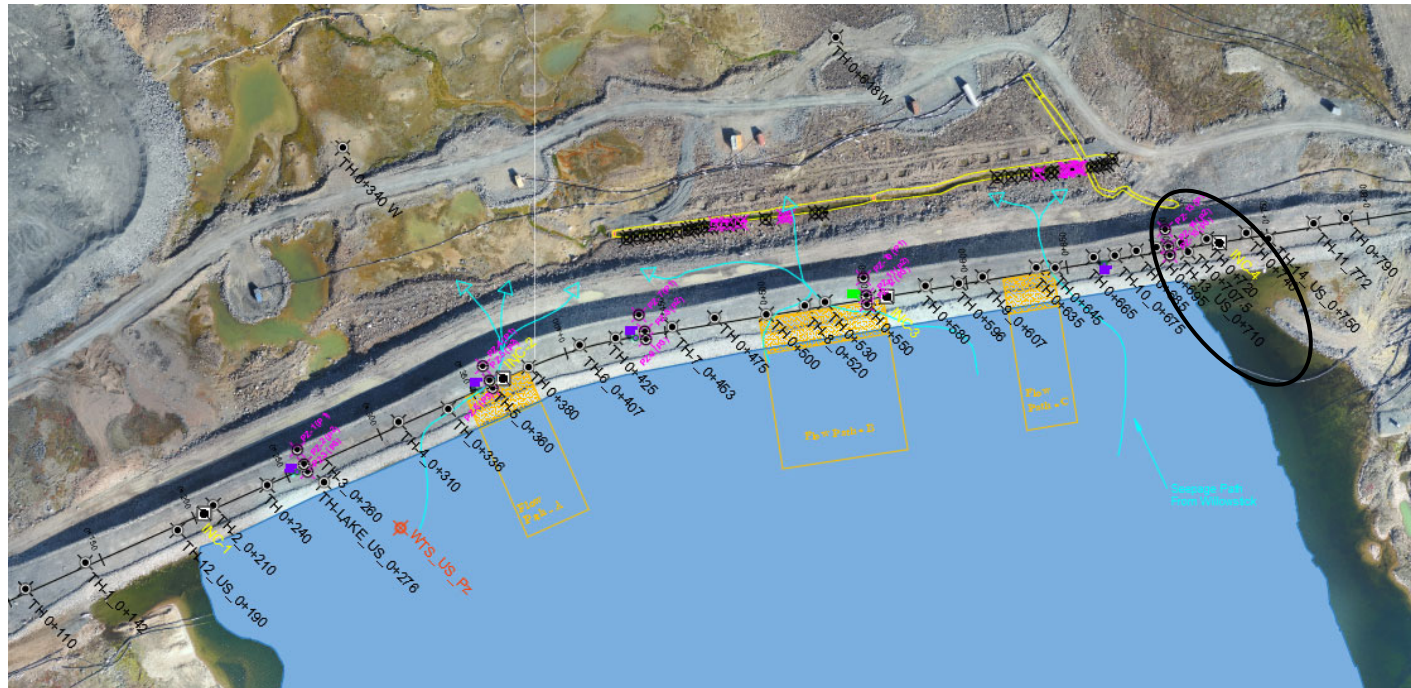
WTD-TH 0+707



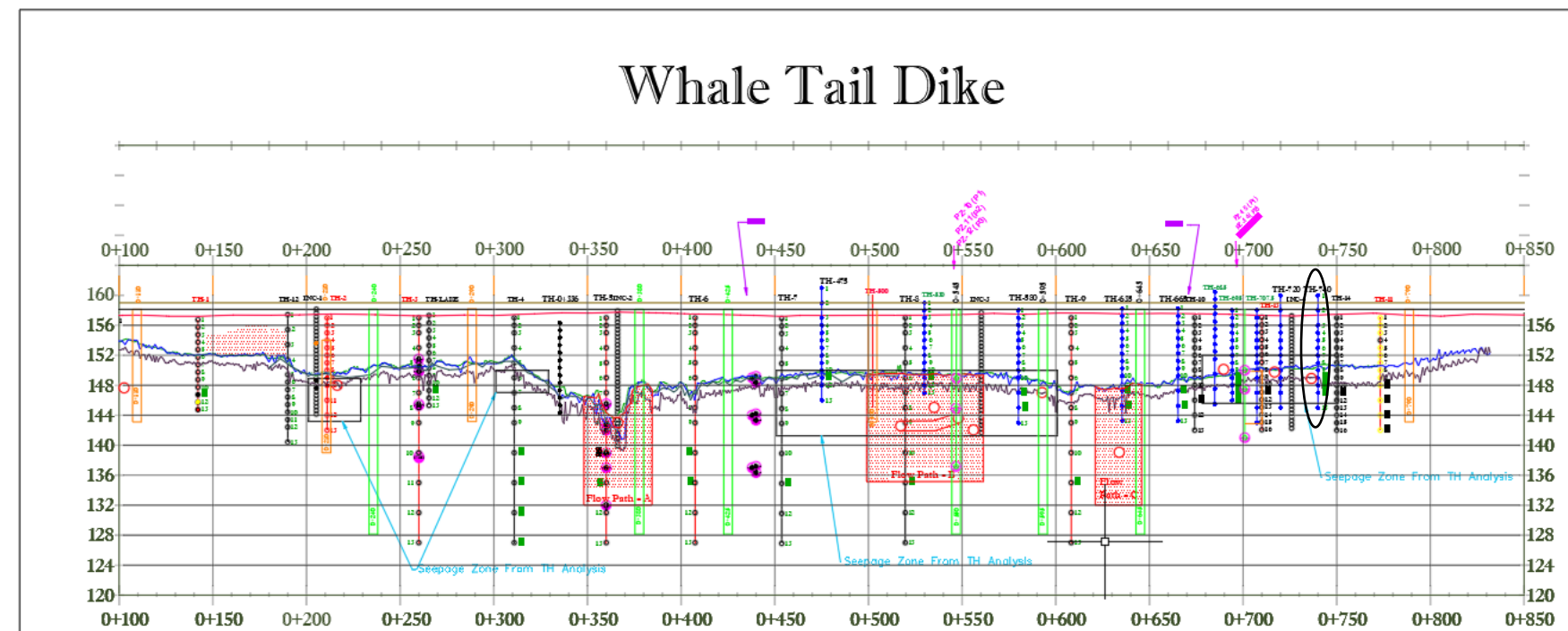
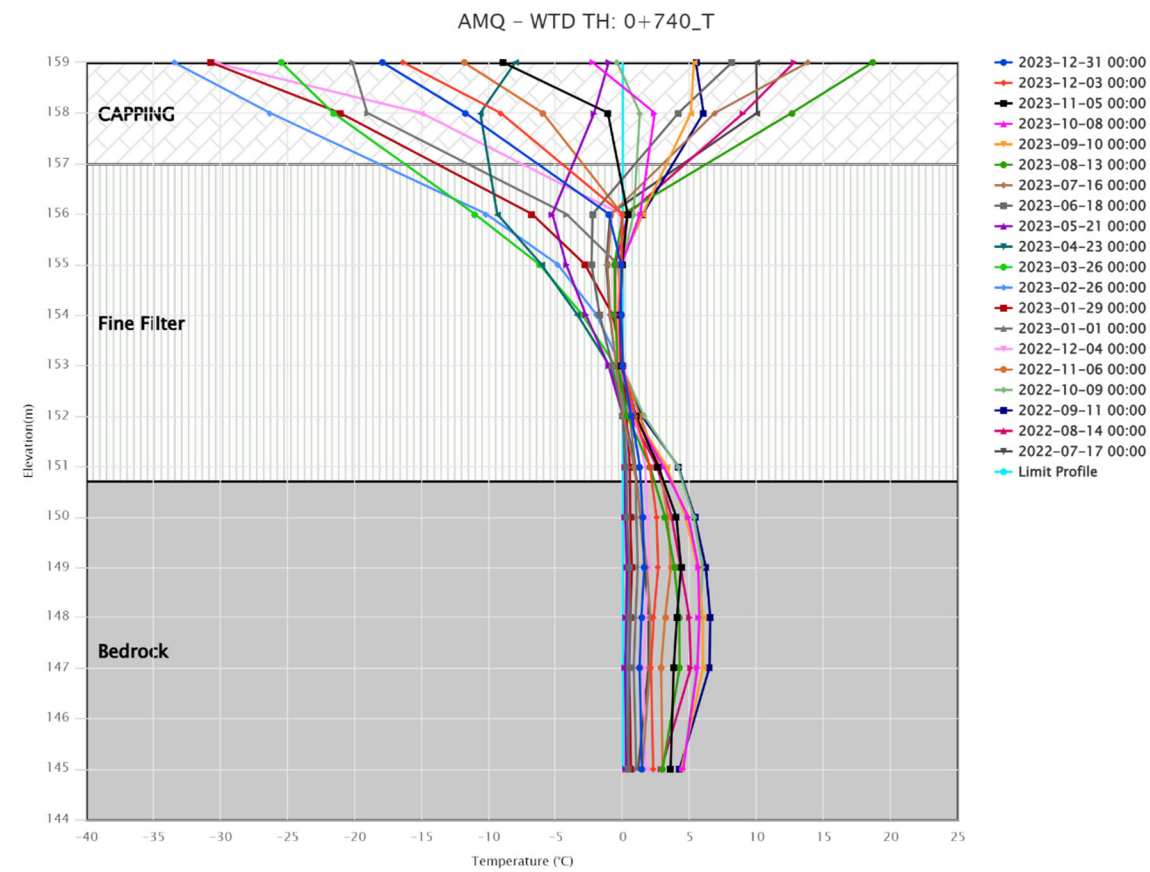
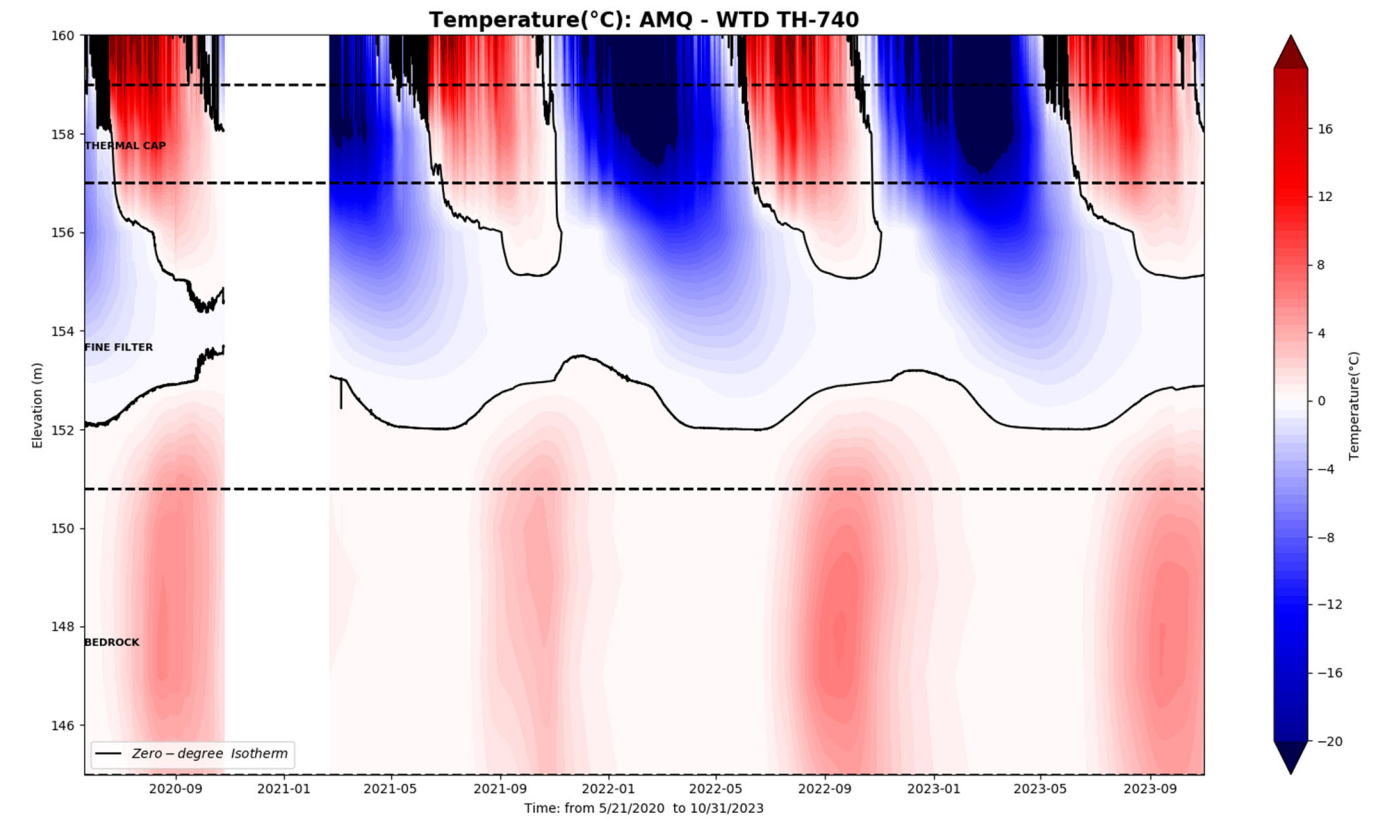
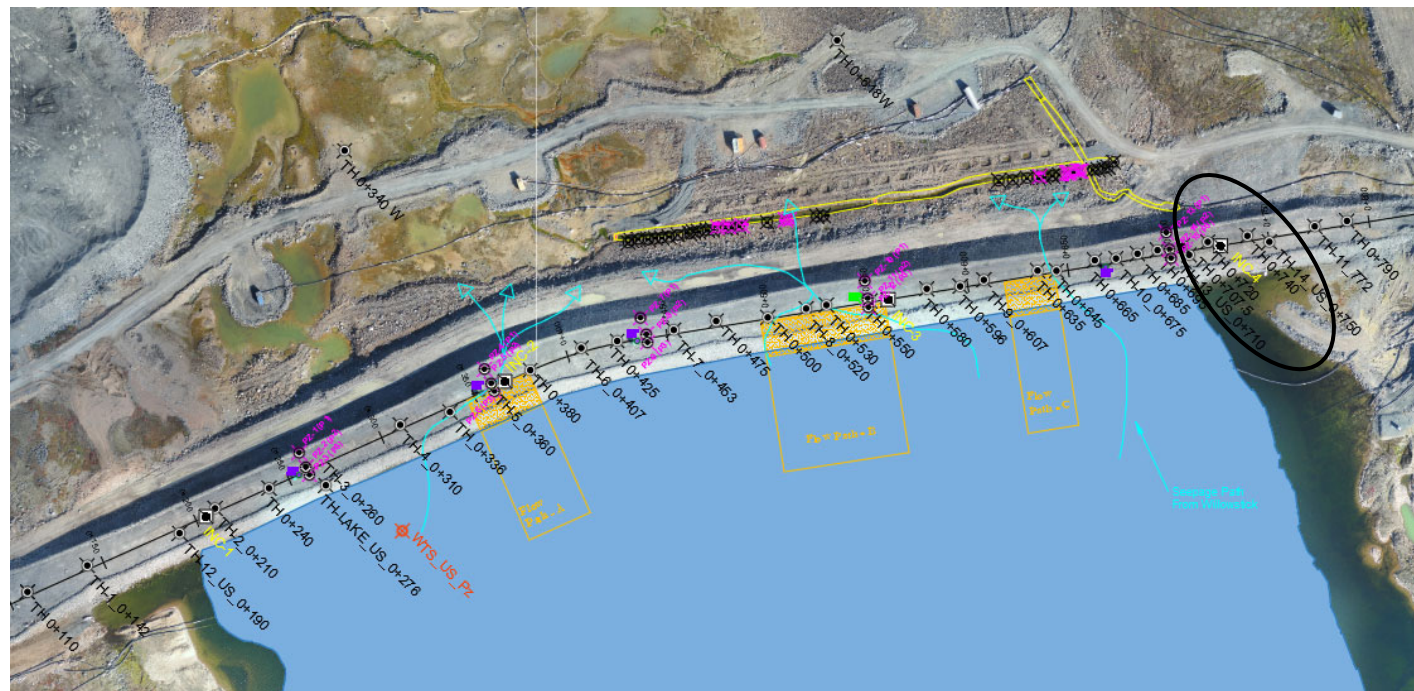
**WTD-TH 0+710 U/S**

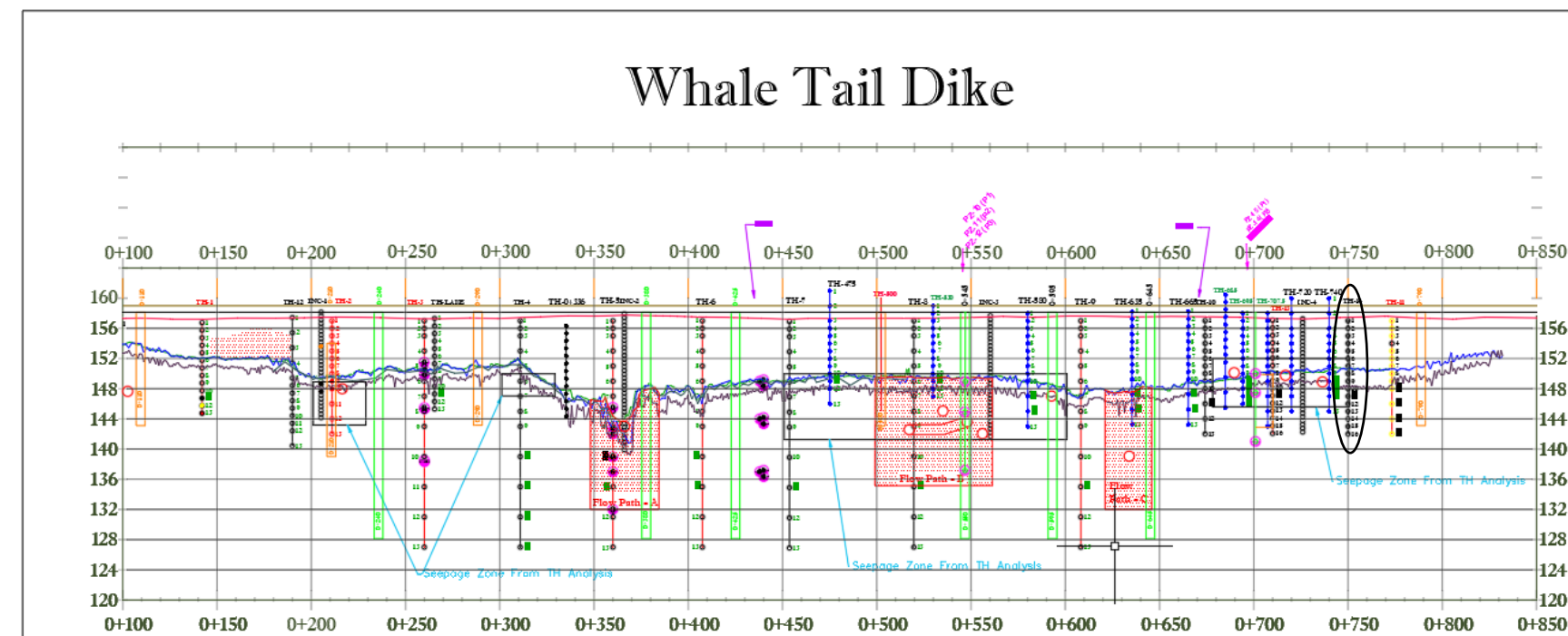
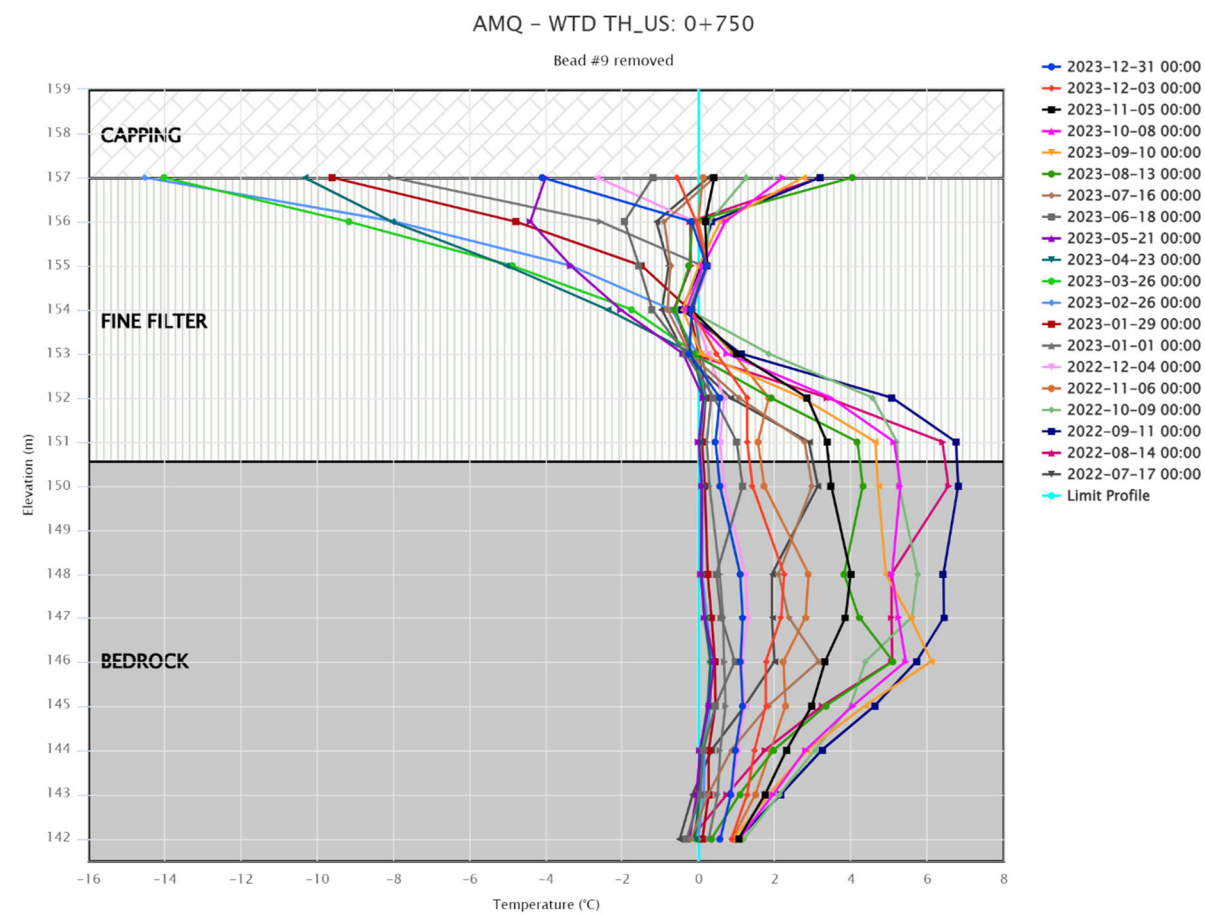
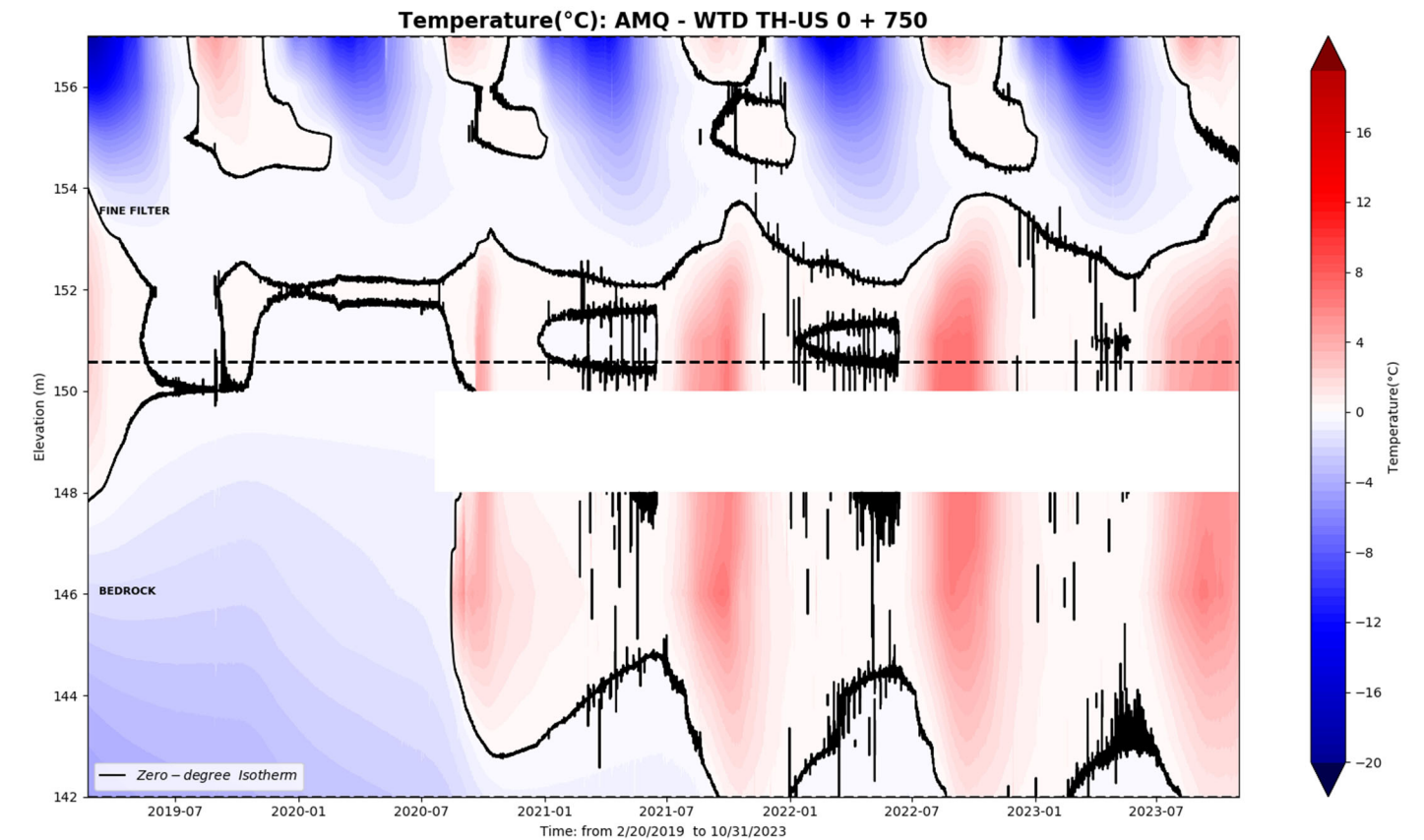


**WTD-TH 0+720**

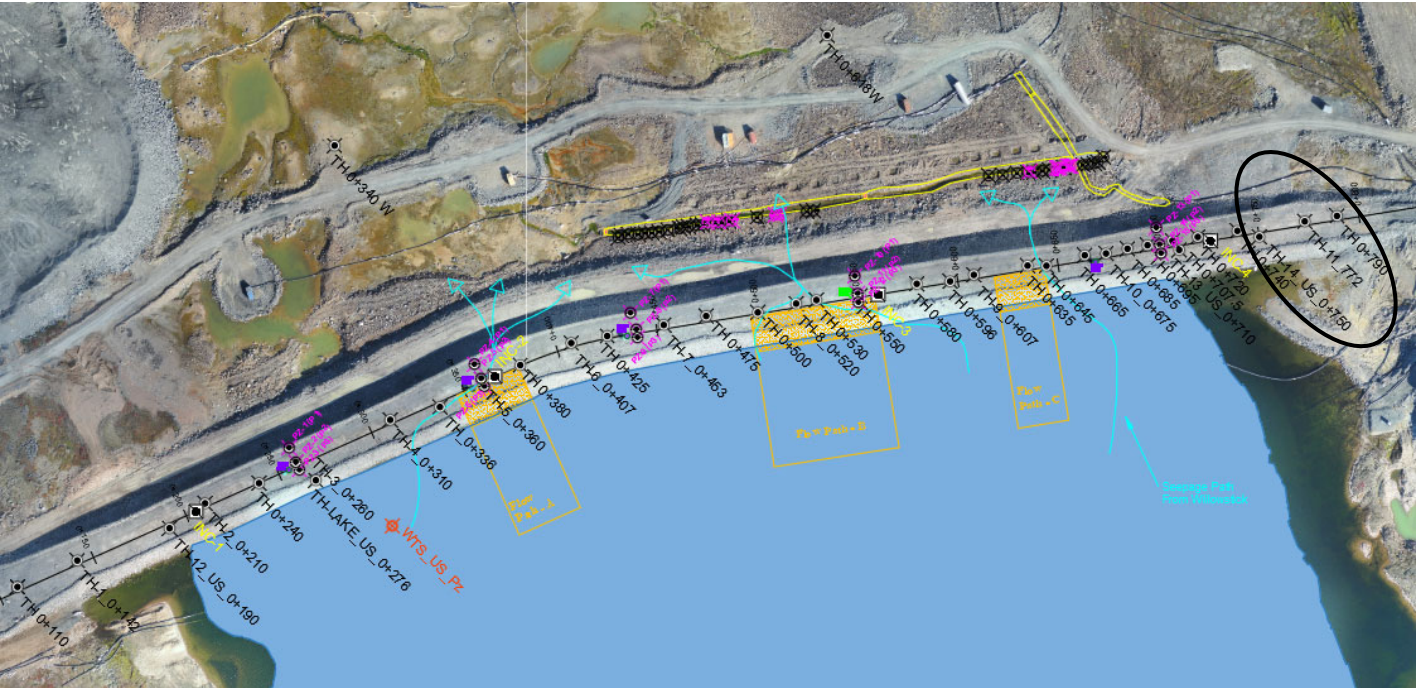


**WTD-TH 0+740**

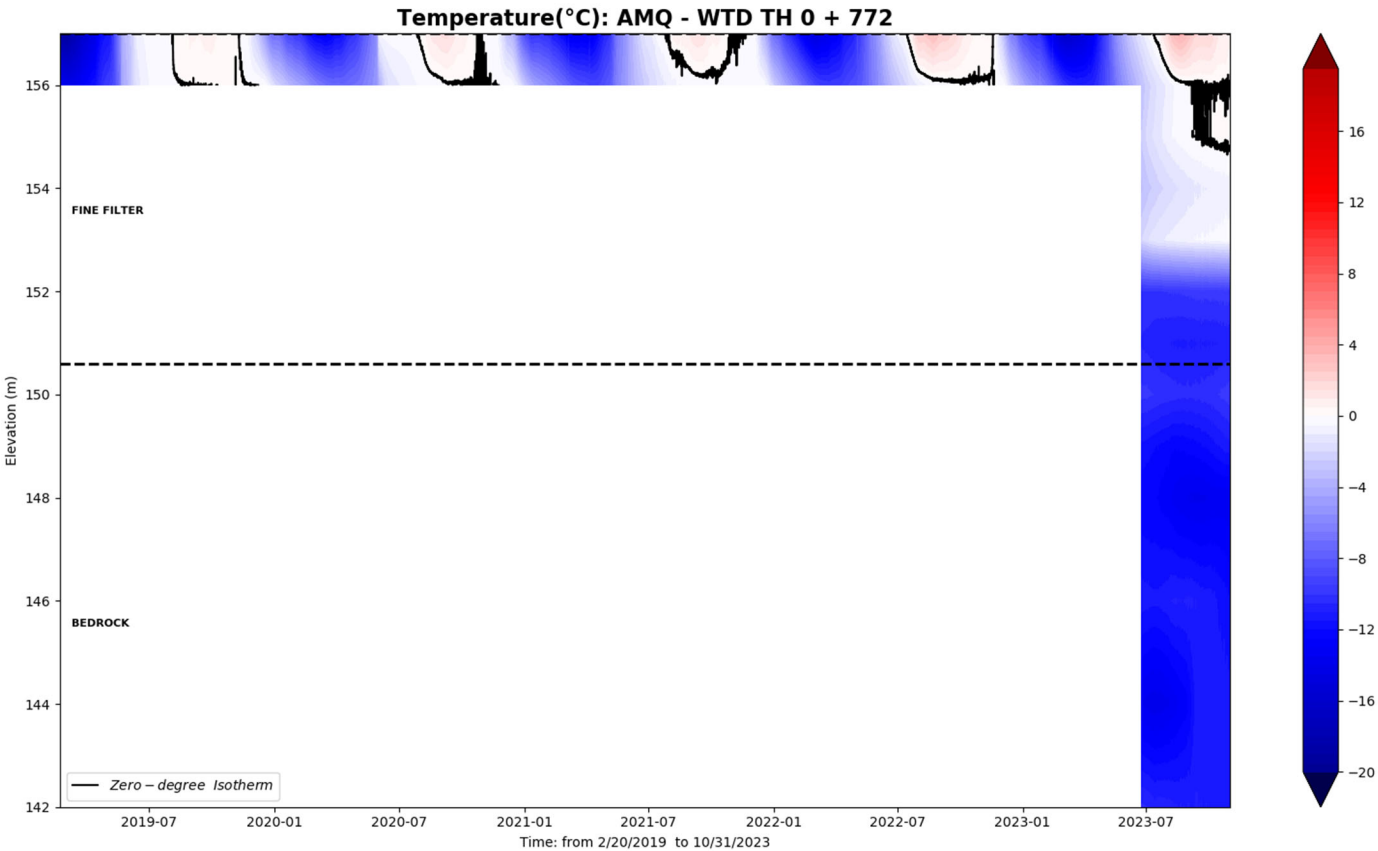
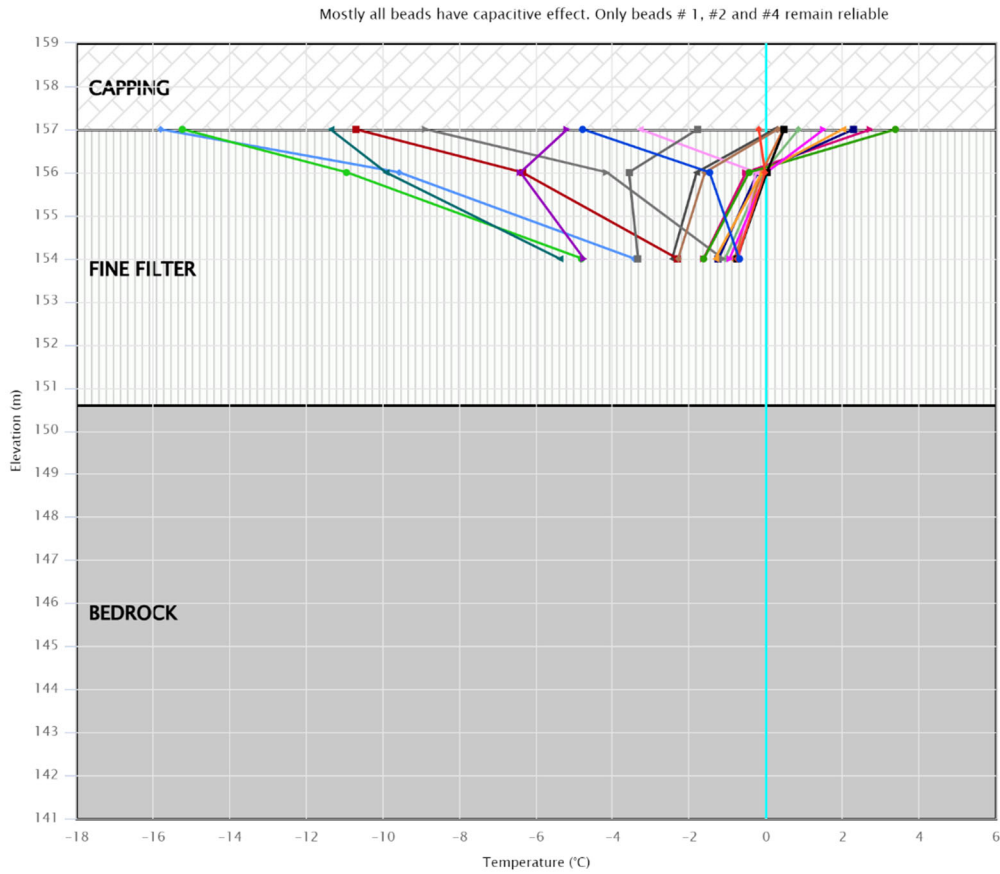




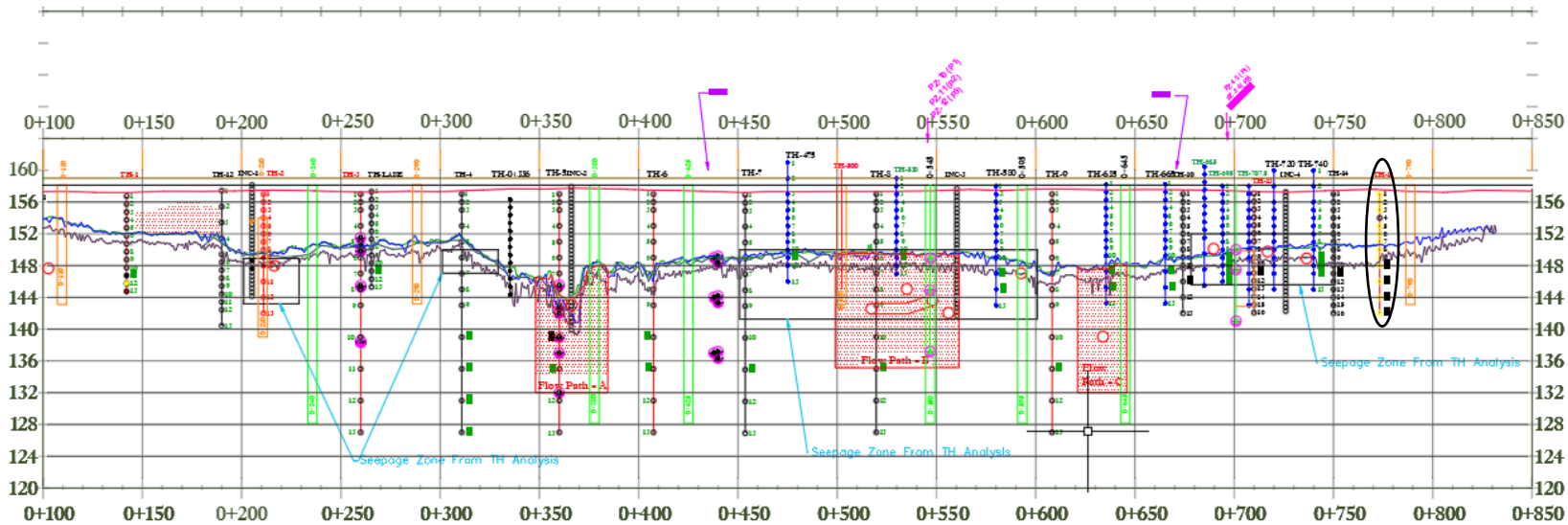
WTD-TH 0+772 U/S



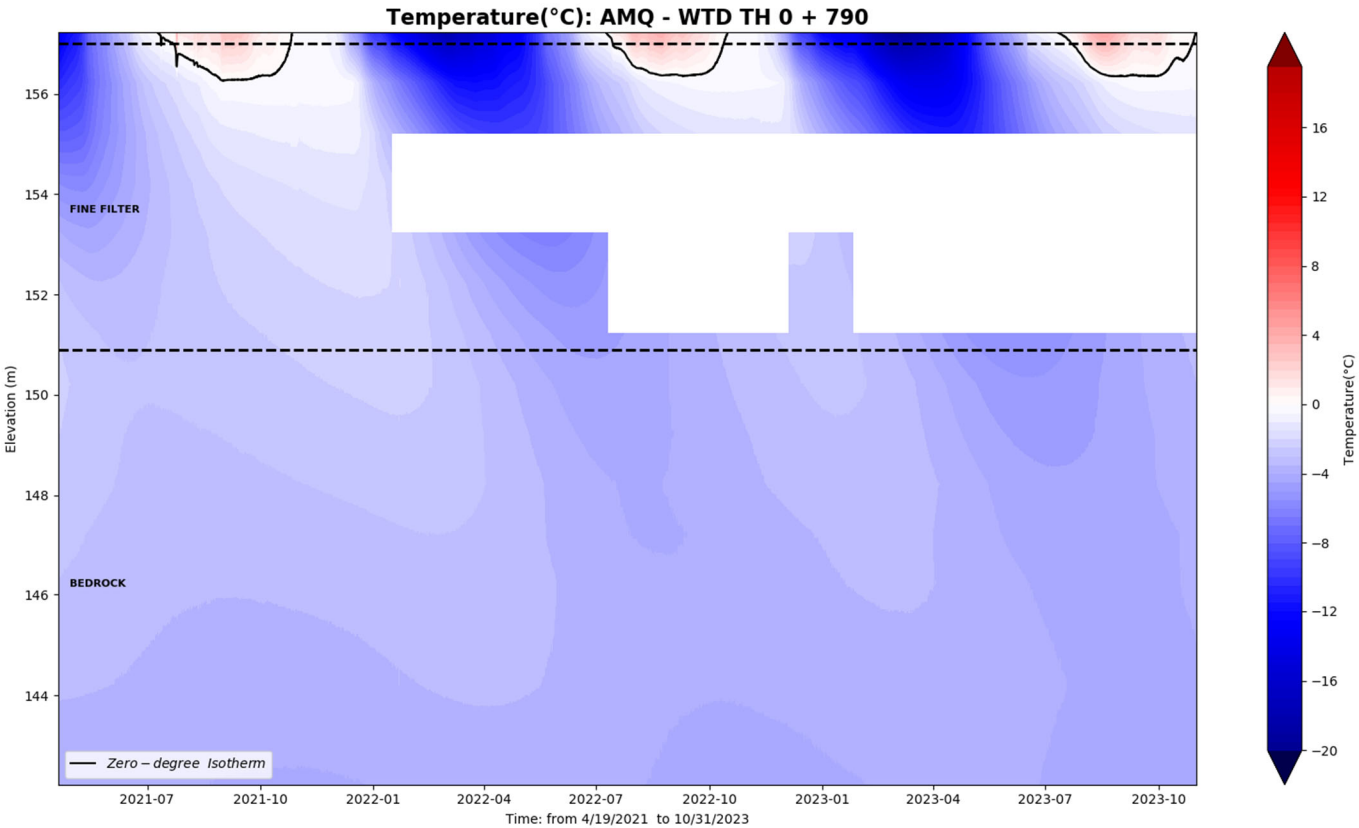
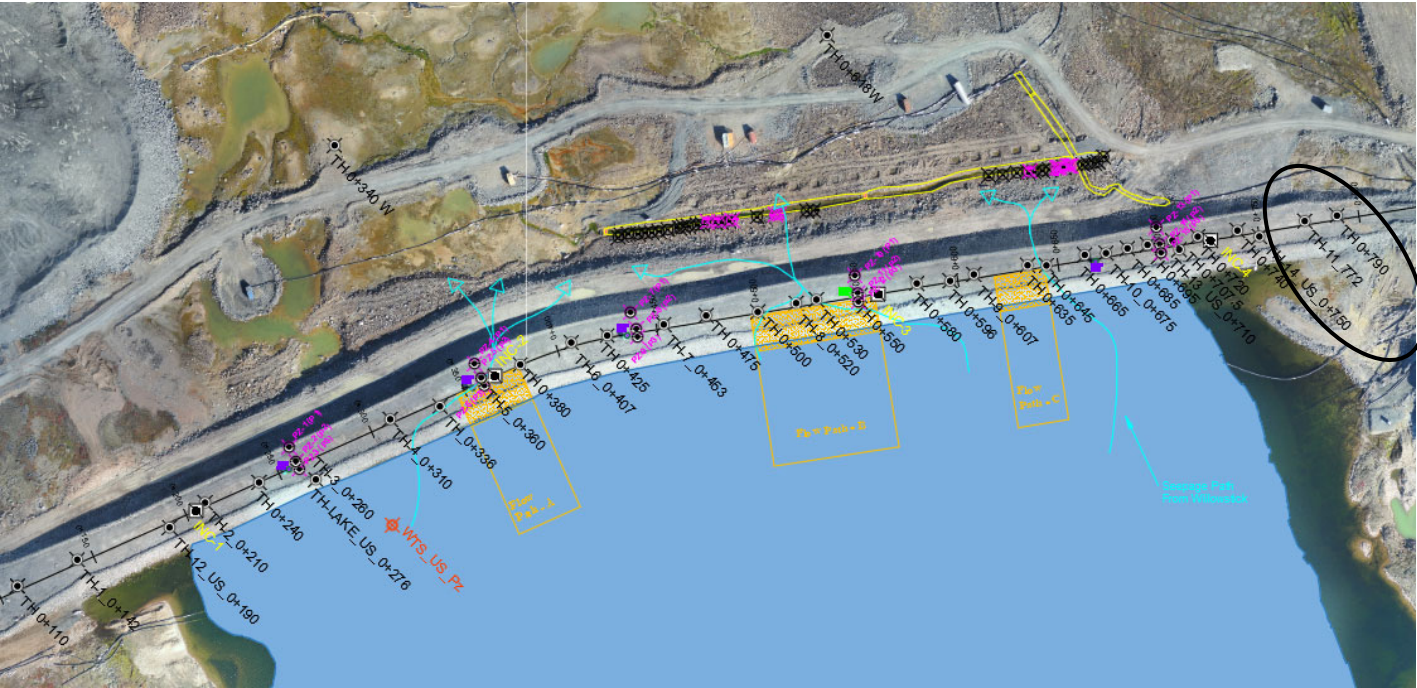
AMQ – WTD TH: 0+772



Whale Tail Dike

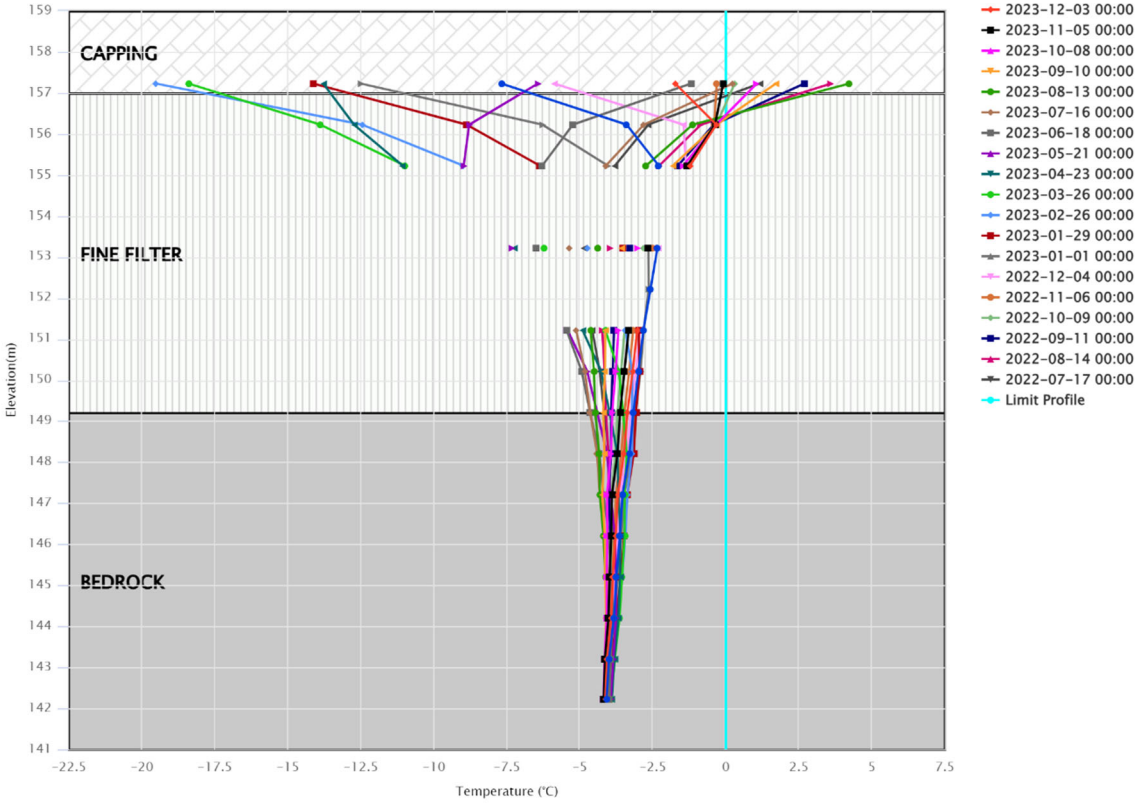


WTD-TH 0+790

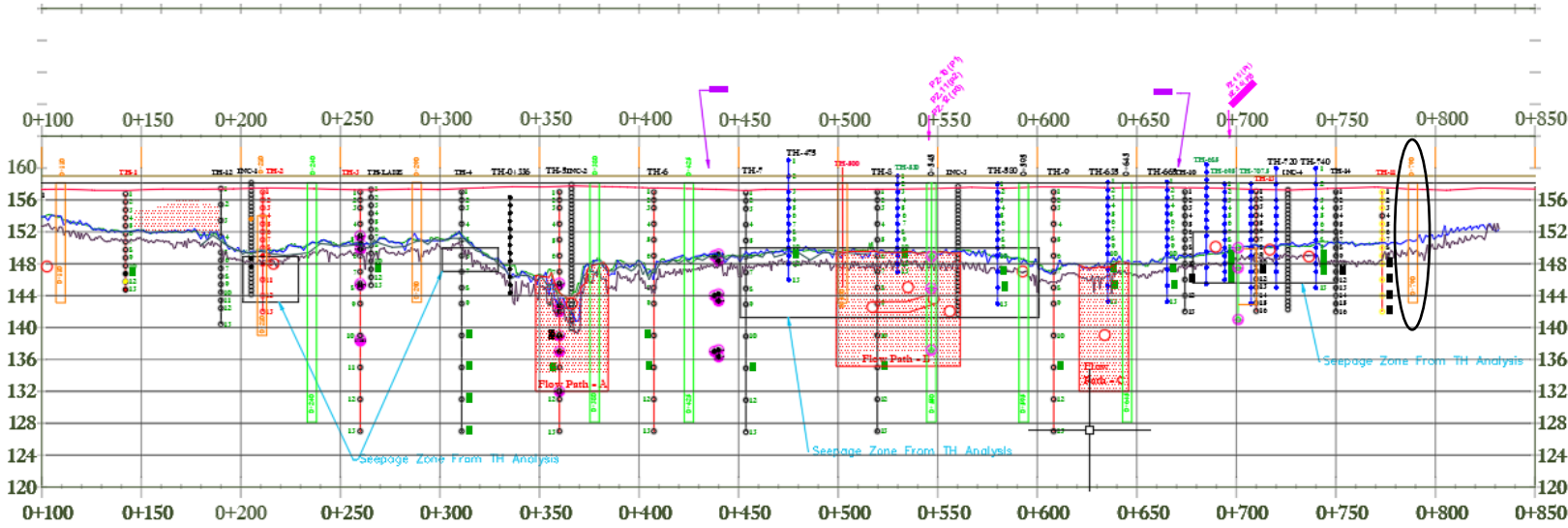


AMQ - WTD TH: 0+790

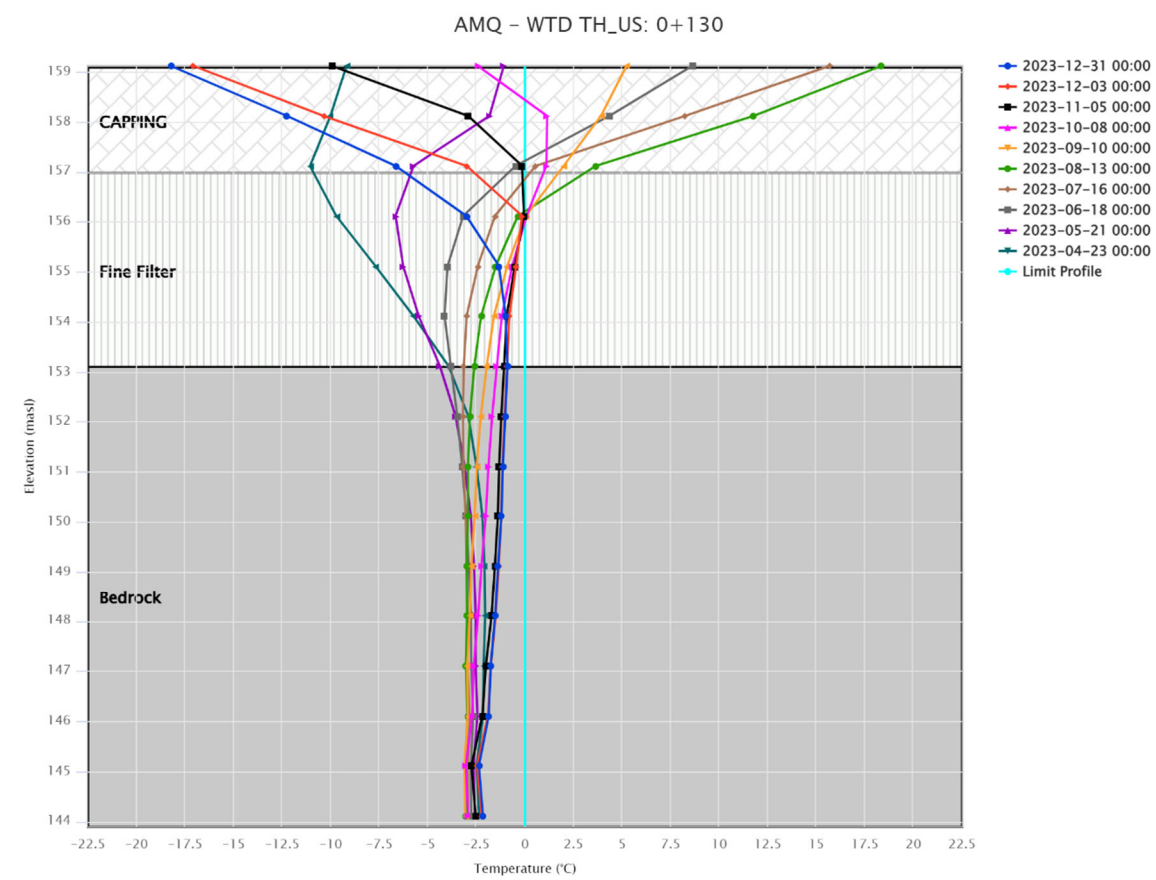
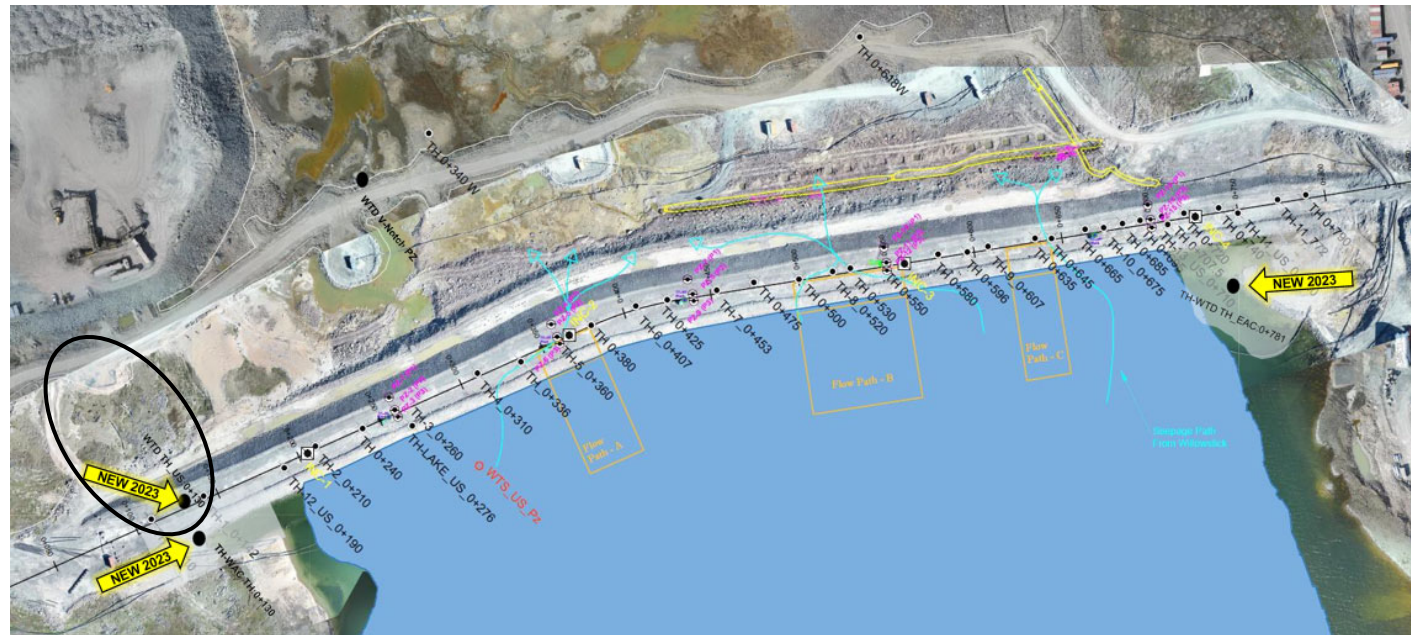
Bead #4 and #6 damaged



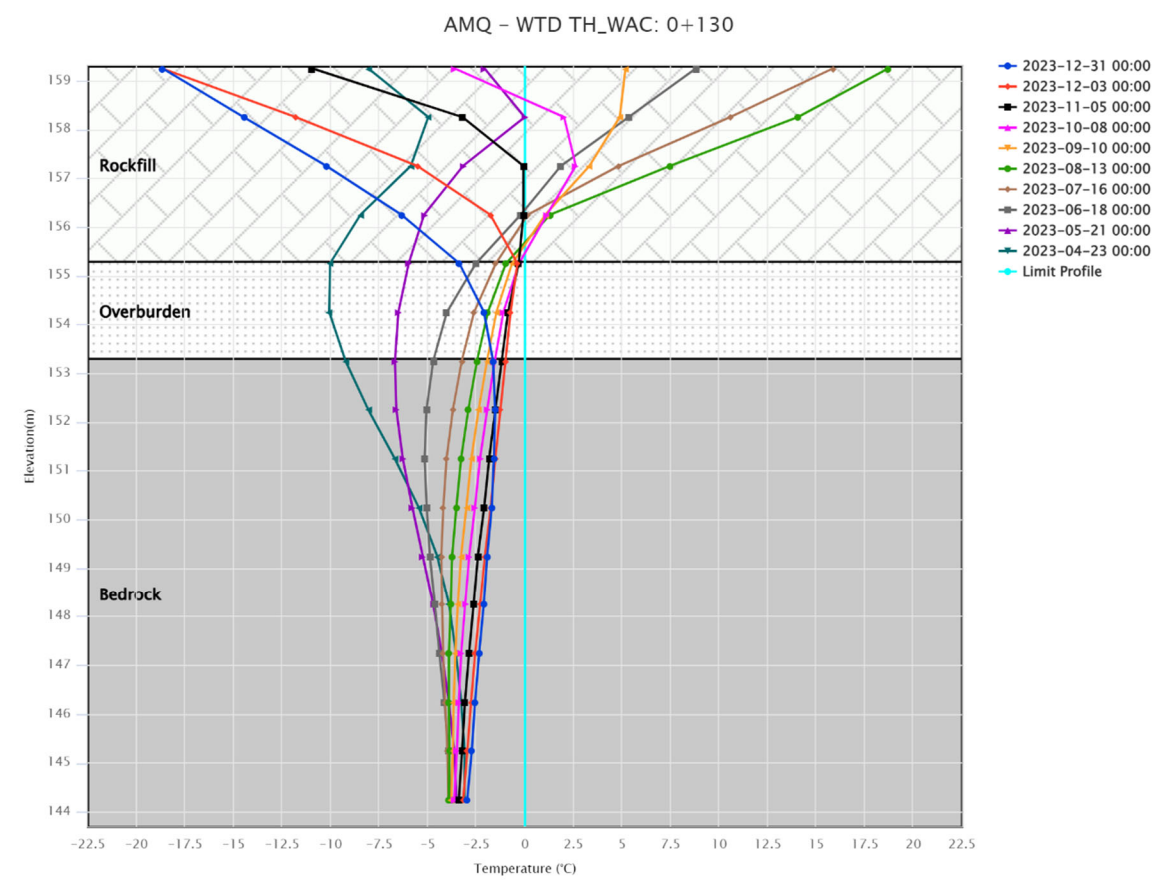
Whale Tail Dike



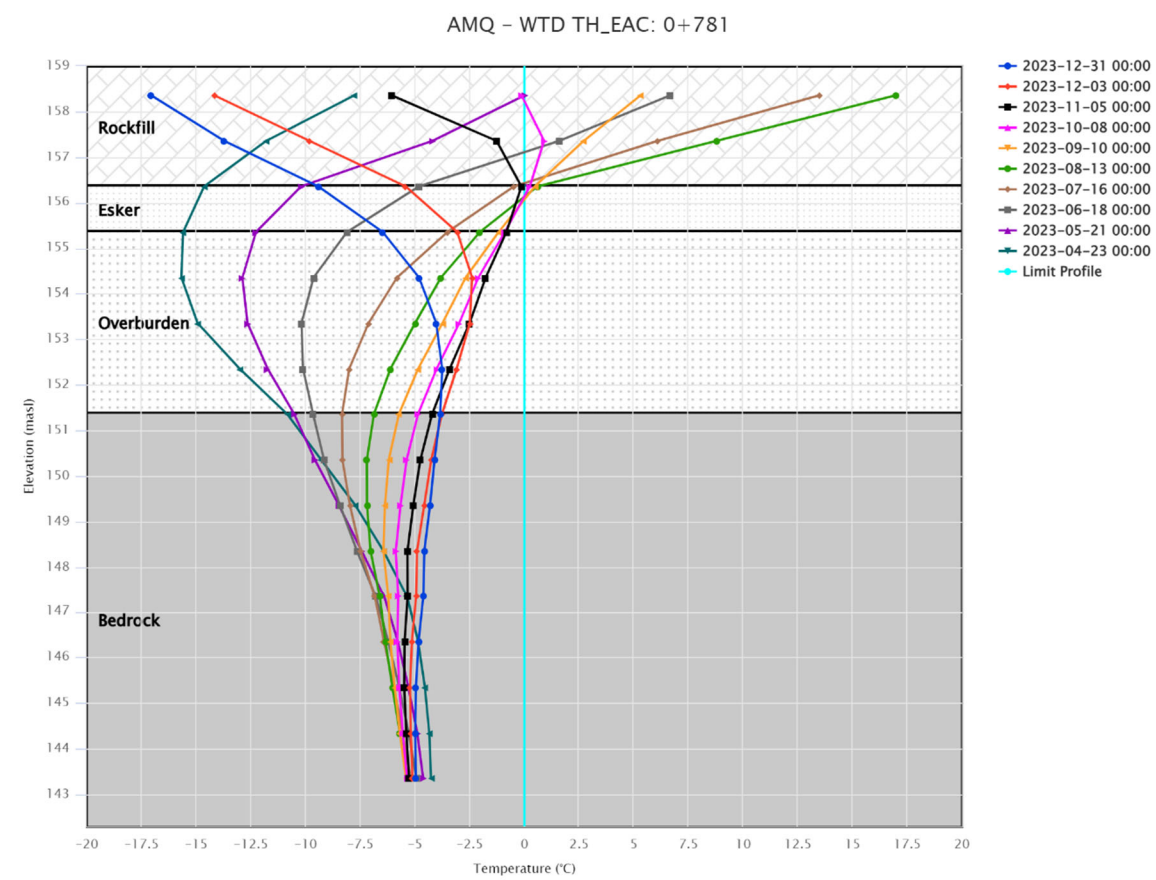
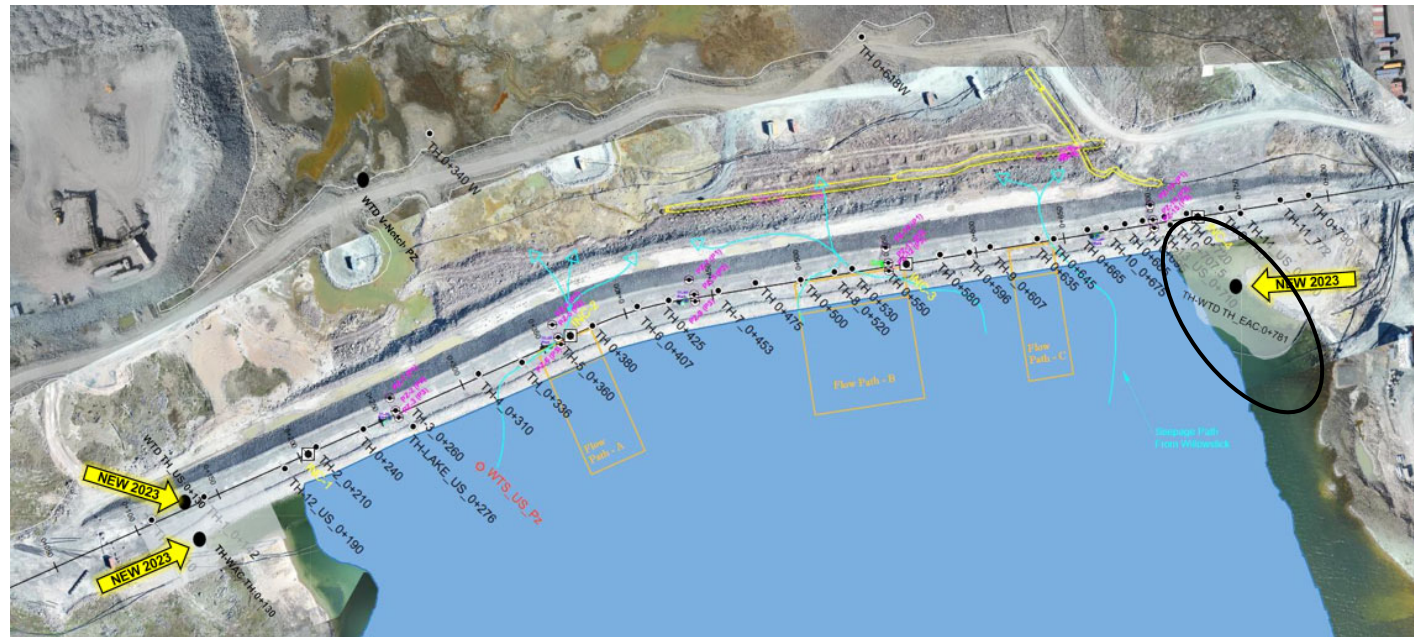
**WTD US 0+130**



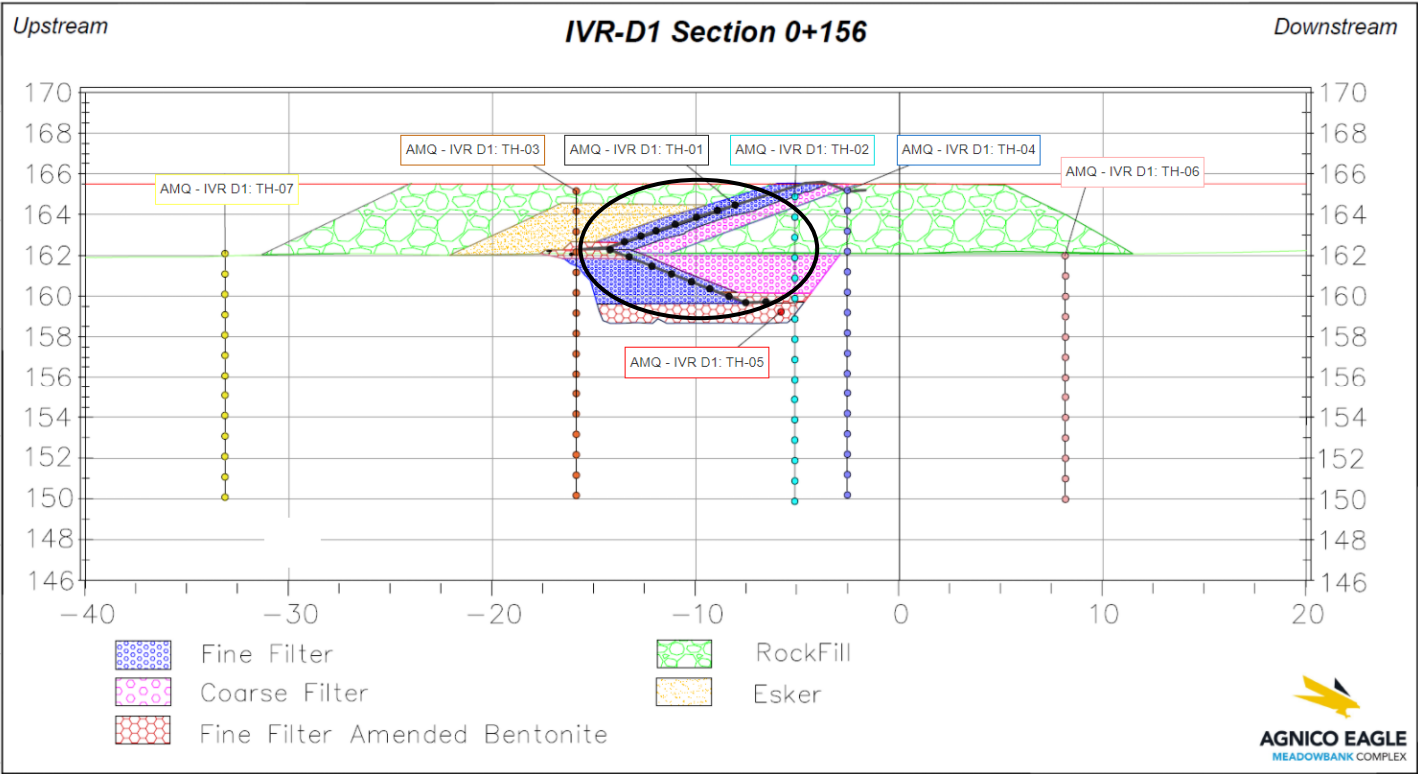
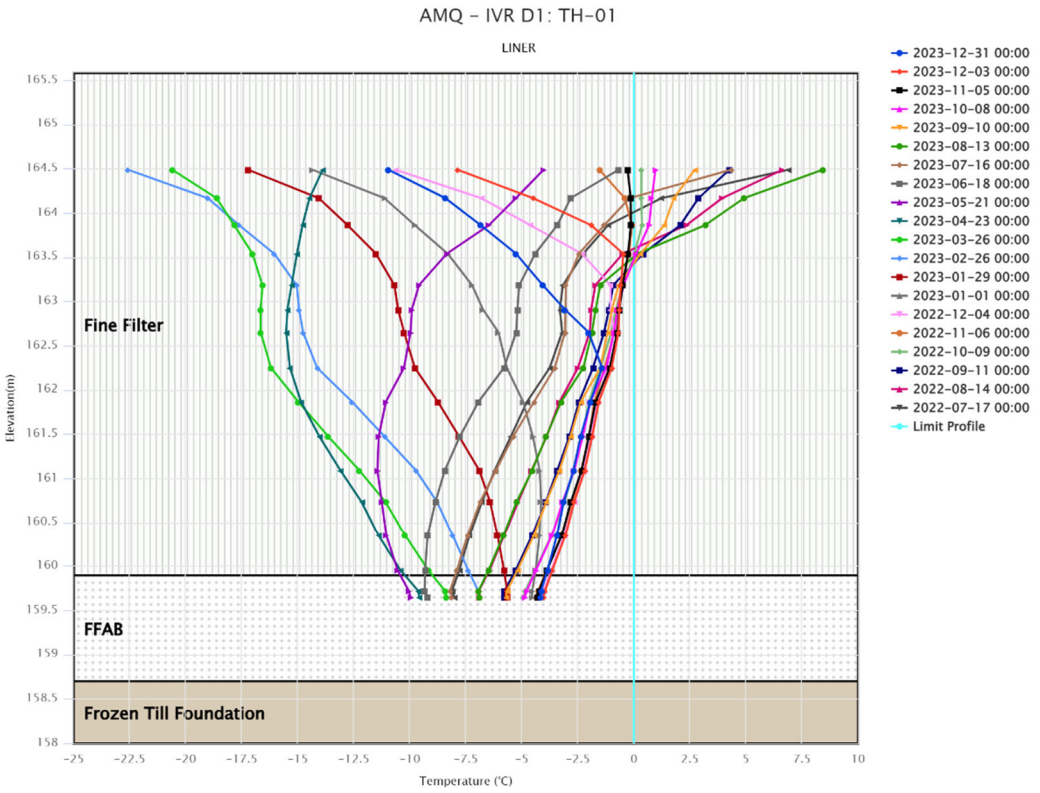
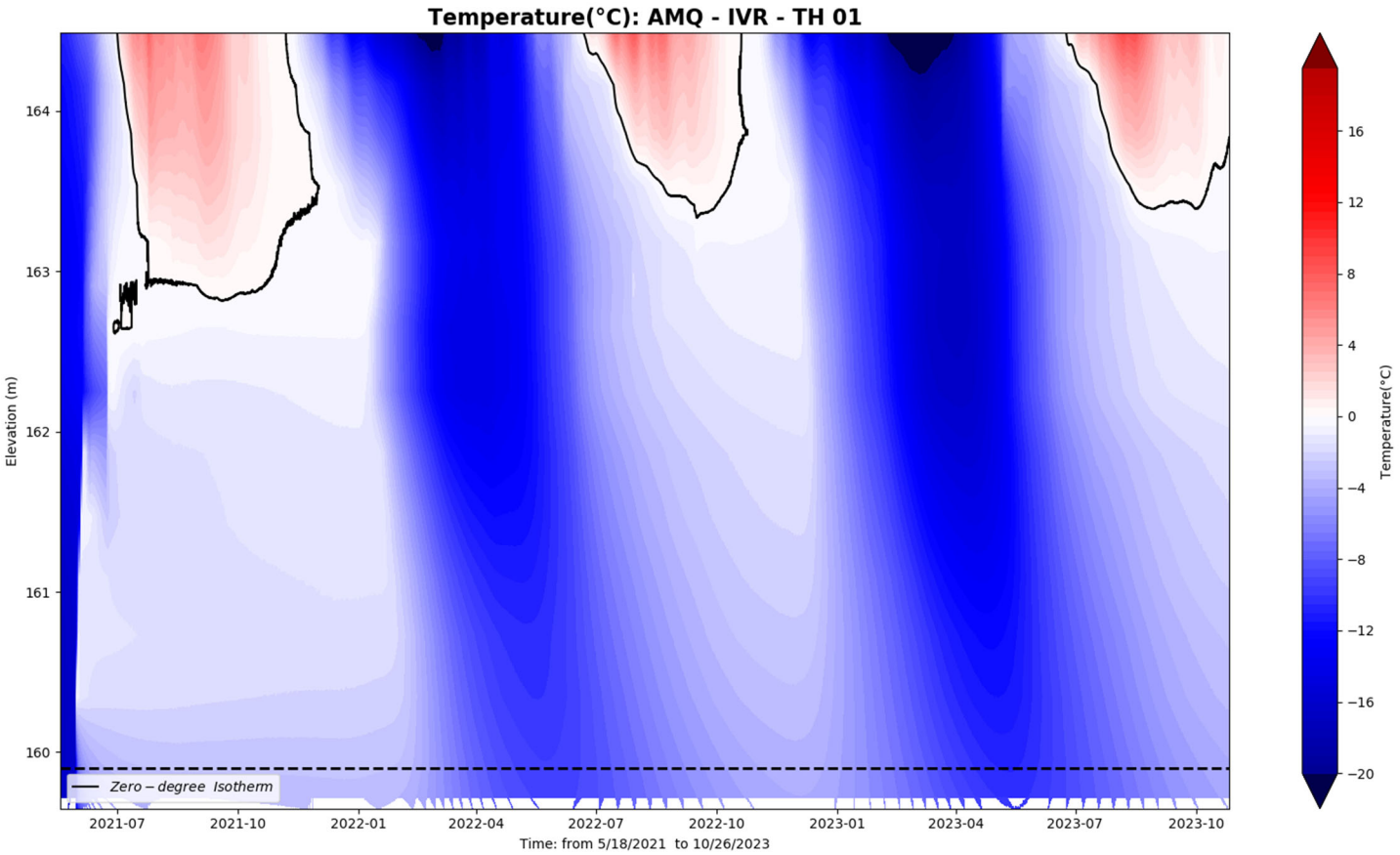
**WTD WAC 0+130**



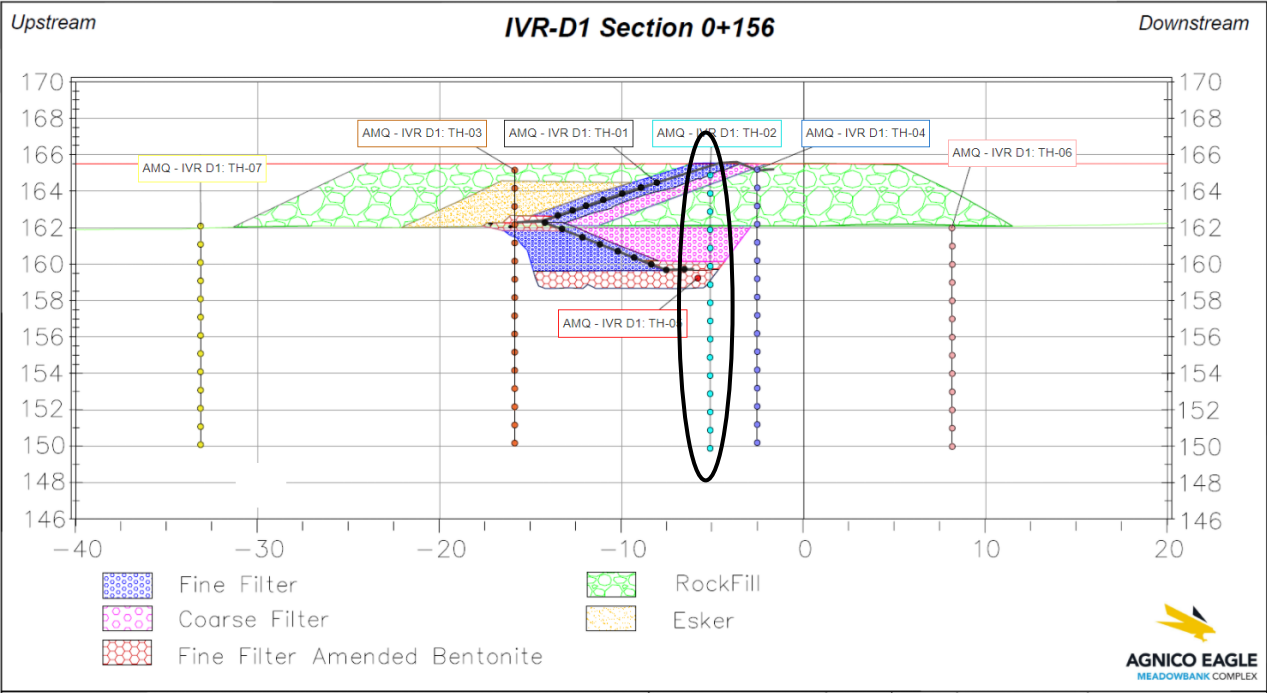
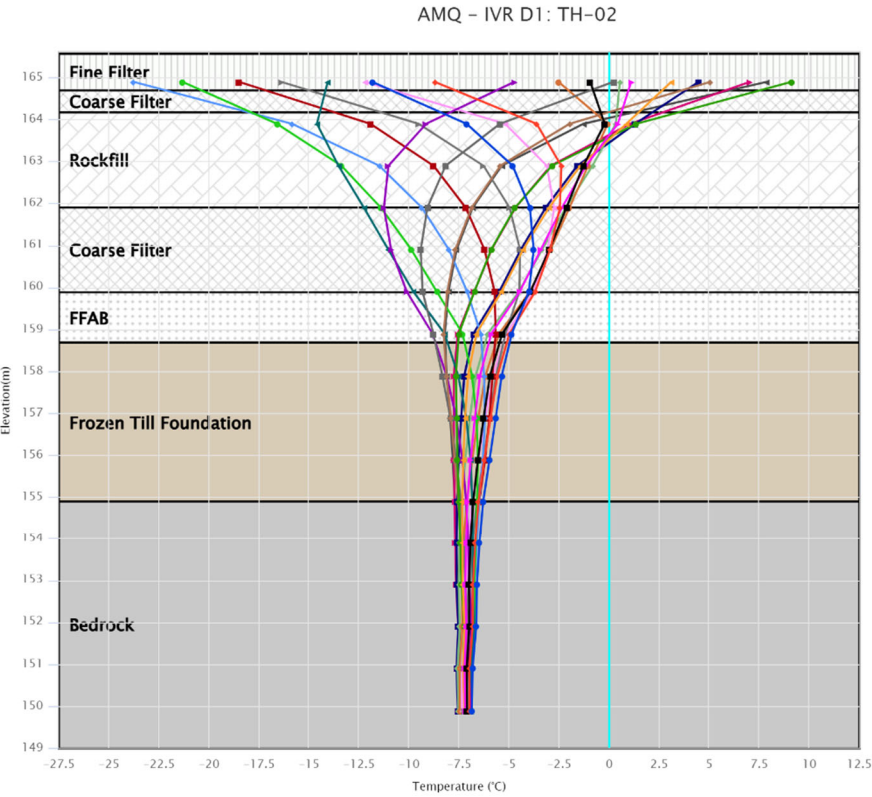
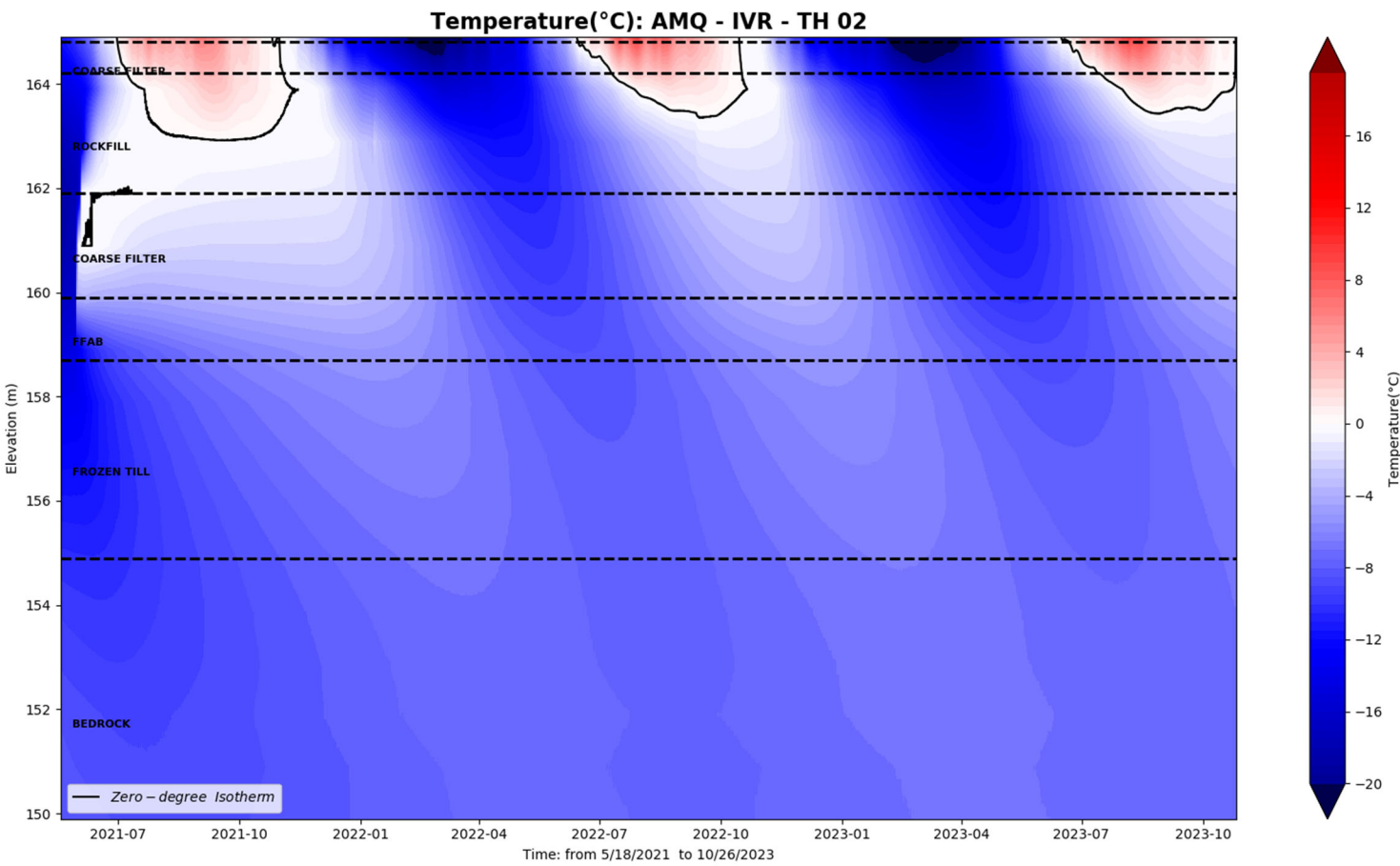
**WTD EAC 0+781**



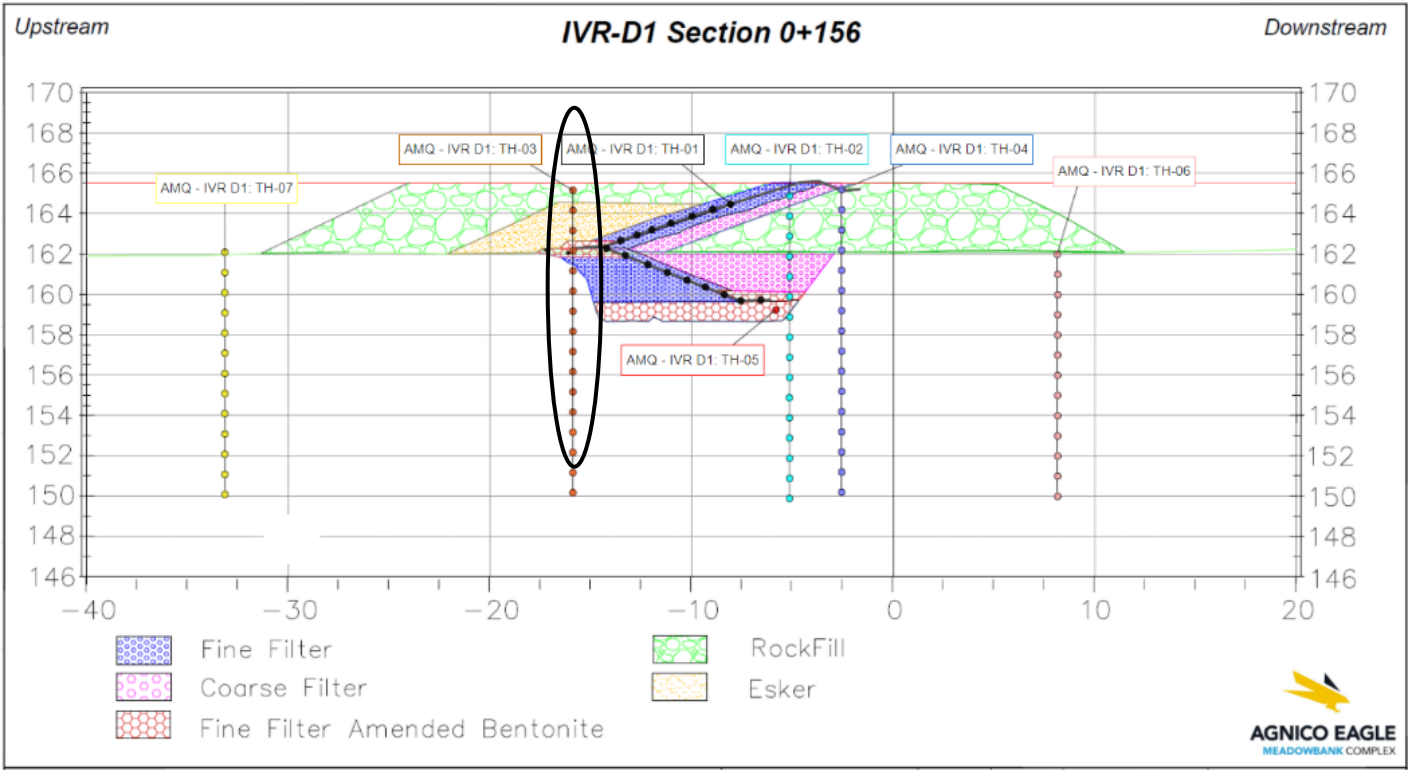
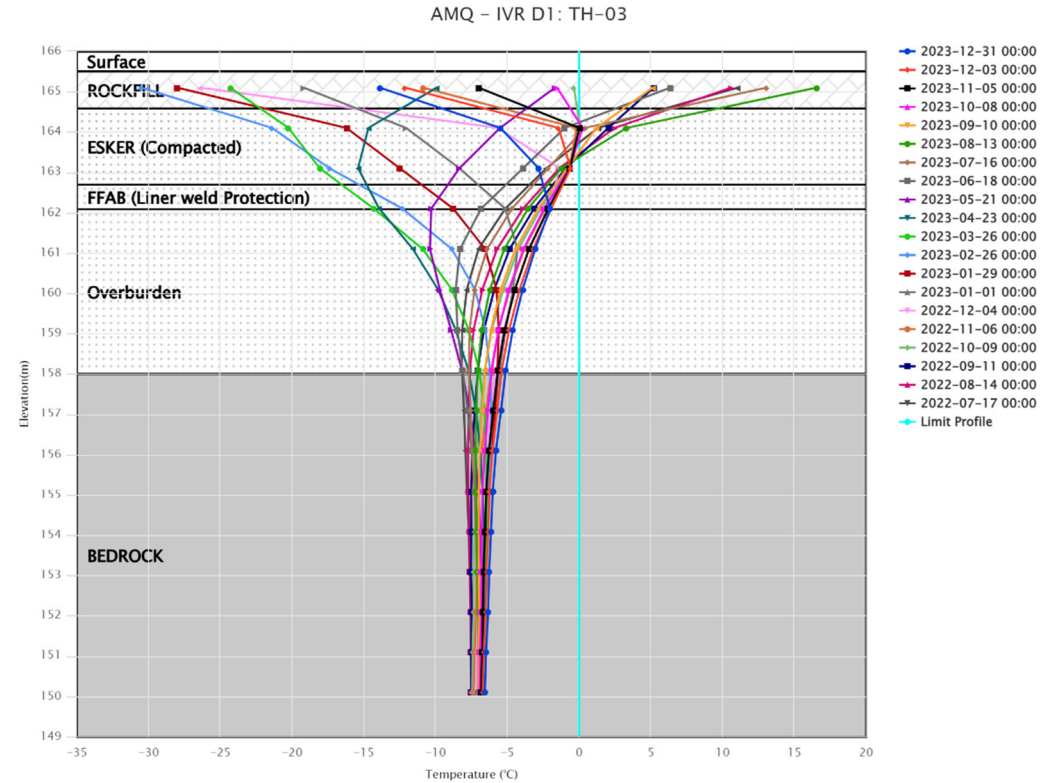
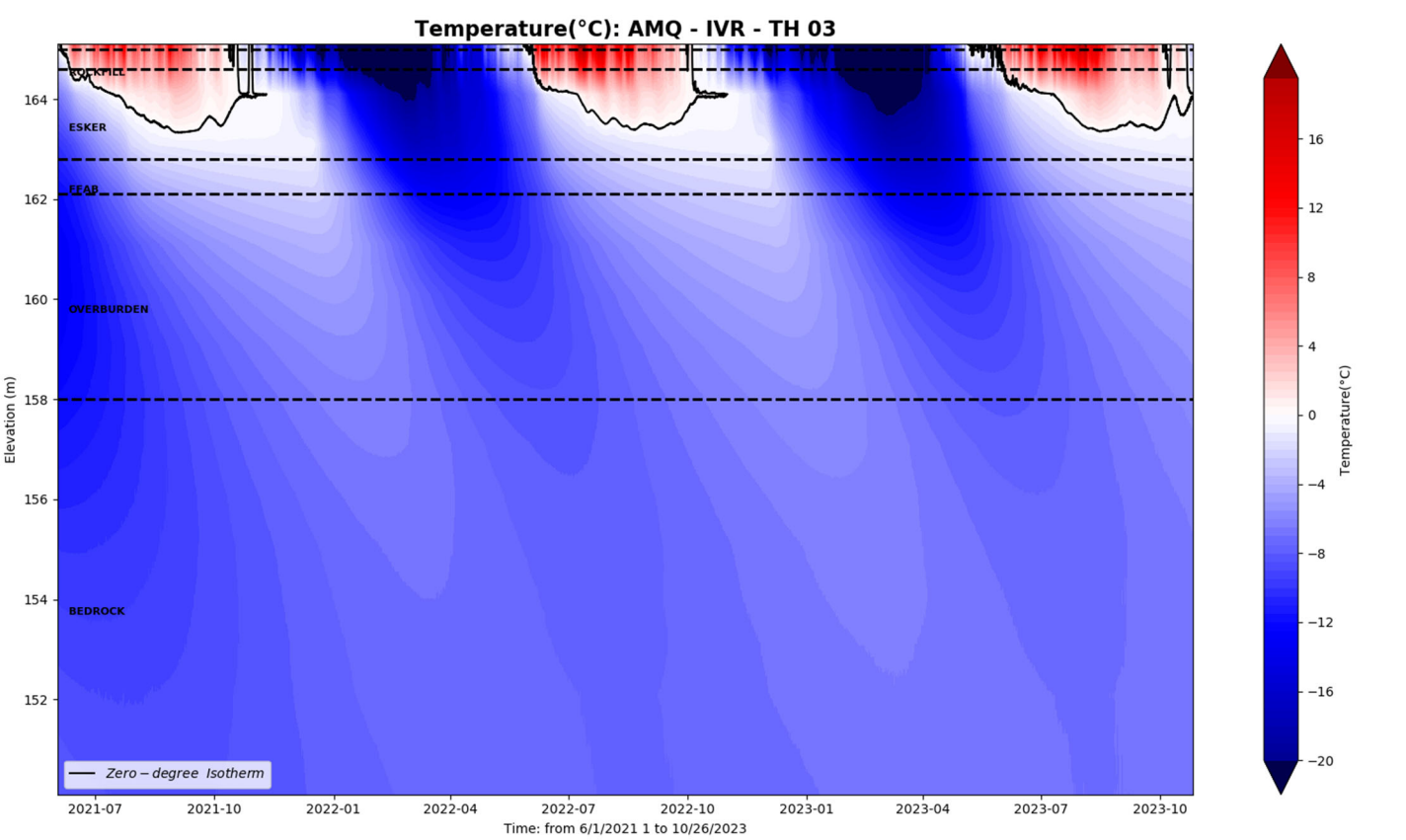
IVR-D1-TH1



IVR-D1-TH2



IVR-D1-TH3



IVR-D1-TH4

