MiHpt Investigation Report

Former Holley Automotive/ Coltec Industries Facility Water Valley, Mississippi

Bernard T. Delaney, Ph.D., P.E., BCEE

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Prepared for: Butler Snow, LLP
1020 Highland Colony Parkway, Suite 1400
Ridgeland, MS 39157

Prepared by: First Environment, Inc.
91 Fulton Street
Boonton, New Jersey 07005

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FIRST ENVIRONMENT

CERTIFICATION STATEMENT

I Bernard T. Delaney, Ph.D., P.E., BCEE certify that I am currently a registered professional engineer in the State of Mississippi and had primary direct responsibility for the implementation of the subject subsurface investigation activities. I certify that this MiHpt Report was completed in conformance with the laws and regulations of the State of Mississippi. I certify that all information and statements in this certification form are true.

11041	04/07/2017	
Mississippi Professional Engineer No.	Date	Signature

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Introduction

This report presents the results of a subsurface investigation utilizing Membrane Interface Hydraulic Profiling Tool (MiHpt) technology at the former Holley Automotive/Coltec Industries Facility, located at 600 Highway 32 East, Water Valley, Mississippi (the "Plant"). The purpose of this investigation was to assess the nature and extent of potential source areas that are believed to be contributing to a groundwater contamination plume of trichloroethene (TCE) at the Plant and the surrounding area, including the chemical nature of the contaminants, the local subsurface geology and hydrogeology, and the relative concentrations of contaminants identified. The Plant and the surrounding area where the groundwater contamination plume of TCE has been identified as the "Site" is shown on Figure 1.

On February 13 to 17, 2017, First Environment, Inc. (First Environment), on behalf of EnPro Industries, Inc. (EnPro), conducted a focused soil investigation that utilized Geoprobe Systems' direct image MiHpt technology to evaluate subsurface conditions along and immediately south of the southern wall and at an area north of the northern wall of the Plant. The direct image MiHpt technology is a technology that produces real-time data for assessing the following aquifer characteristics:

- volatile organics in soil;
- formation permeability;
- soil pore pressure; and
- soil type.

The investigation targeted the following five areas on the southern side of the Plant as depicted in Figure 2 (collectively, the "Target Areas"):

1. The former degreasers;
2. The former aboveground storage tanks (ASTs) used to store TCE;
3. Piping used to convey TCE from the loading dock to the ASTs;
4. The loading dock; and
5. A ditch south of the ASTs running parallel to the southern wall.

The former AST area and ditch area exhibited the highest soil concentrations of TCE at the Plant based on a Supplemental Assessment performed in October 2016 by R.J. Rudy, LLC (RJR) with oversight from First Environment (see RJR Supplemental Assessment Activities and Results Report, December 2016). In October 2016, soil borings GP015, GP017, and GP018 in those areas exhibited TCE concentrations of 7,260 µg/kg, 45,600 µg/kg, and 12,100 µg/kg, respectively, at the depth interval of 12.0 to 18.0 feet below ground surface (bgs).

The results of the MiHpt investigation reveal that volatile organic compounds (VOC) are concentrated in soil in the former AST area; with lesser impacts, primarily TCE, evident along the entire south wall. TCE contaminated soils in the former AST area appear to be a continuing source of TCE to the groundwater.

Initial sub-slab soil gas data suggests that there may be an additional source or sources in the Plant that may also be contributing to TCE impacts to groundwater in the former degreaser area.

MiHpt Technology

The Geoprobe® Systems engineered MiHpt probe represents the latest development for evaluating subsurface conditions and has significant capabilities with respect to the detection of total VOC contaminants in soil and groundwater using the Membrane Interface Probe (MIP) technology, combined with a Hydraulic Profiling Tool (Hpt), to determine saturated soil hydraulic conductivities. The MIP is used for in-situ screening of Chlorinated Hydrocarbons (CHC) and other VOCs in both the saturated and vadose zone. The Hpt is designed to evaluate subsurface hydraulic properties. While the probe is being advanced through the subsurface using a Geoprobe 7822 track-mounted direct push drill rig, an in-line pressure sensor in the probe being advanced measures the pressure response of the surrounding soil/groundwater. The ability for water to flow into the formation layers is dependent upon the hydraulic properties of the soil. A low-pressure response would indicate a large grain size and the ability to easily transmit water; a high-pressure response would indicate a small grain size and relative inability for the aquifer to transmit water. Pressure and flow rate are both logged versus depth. The Hpt tool can be used to identify potential contaminant migration pathways, to help to identify zones for remedial material injection, or to provide qualitative guidance on how difficult injection may be in different zones of the formation.

MIP System Overview

The MIP is commonly used for quickly determining the locations of VOC source zones and plumes. The MIP is most valuable in terms of its ability to provide “spatial correspondence,” meaning that where the MIP detector response shows peaks, there is likely to be elevated soil and groundwater concentrations. The MIP can also be used to provide valuable data to streamline subsequent investigative tasks and improve the overall efficiency and accuracy of the site investigation. Vertical profiles, cross sectional views, and three dimensional (3D) images of contaminant distribution can all be produced from the electronic data generated by the MIP logs. The unique capability of providing reliable, real-time information allows for informed and timely decision making in the field. The MIP works by heating the soils and groundwater adjacent to the probe to 120°C. This volatilizes the VOCs and allows the VOCs to transfer through a Teflon membrane via a combination of concentration and pressure gradients. These VOCs are then swept into a nitrogen gas loop that carries them to a series of detectors housed at the surface. Continuous chemical profiles are generated from each hole. Electrical conductivity of the soil is also measured and logged. These logs can be compared to the chemical logs to better understand the relationship between the lithology and the contaminant distribution. The MIP technology is only appropriate for VOCs.

The following section discusses the various detection systems that are commonly used with the MIP system.

Detector Overview

- ECD – Electron Capture Detector uses a radioactive Beta emitter (electrons) to ionize some of the carrier gas and produce a current between a biased pair of electrodes. When organic molecules contain electronegative functional groups, such as halogens, phosphorous, and nitro groups and pass by the detector, they capture some of the electrons and reduce the current measured between the electrodes.
- XSD – (XSD™) Halogenated Specific Detector (Manufacturer is OI Analytical). The Halogen Specific Detector converts compounds containing halogens to their oxidation

products and free halogen atoms by oxidative pyrolysis. These halogen atoms are adsorbed onto the activated platinum surface of the detector probe assembly resulting in an increased thermionic emission. This emission current provides a corresponding voltage that is measured via an electrometer circuit in the detector controller.

- PID – Photo Ionization Detector sample stream flows through the detector's reaction chamber where it is continuously irradiated with high energy ultraviolet light. When compounds are present that have a lower ionization potential than that of the irradiation energy (10.2 electron volts with standard lamp), they are ionized. The ions formed are collected in an electrical field, producing an ion current that is proportional to compound concentration. The ion current is amplified and output by the gas chromatograph's electrometer.
- FID – Flame Ionization Detector consists of a hydrogen/air flame and a collector plate. The effluent from the GC (trunkline) passes through the flame, which breaks down organic molecules and produces ions. The ions are collected on a biased electrode and produce an electric signal.

MIP Data Collection

- Depth - Data is collected every 0.05 feet, or 20 points per foot.
- Electrical Conductivity - Electrical Conductivity data is measured/collected in milli-siemens per Meter (ms/M). The conductivity of soils is different for each type of media. Finer grained sediments, such as silts or clays, will typically have a higher EC signal. While coarser grained sediments, sands and gravel, will typically have a lower EC signal.
- Rate of Penetration - Rate of penetration (ROP) is measured/collected in feet per minute for adequate heating of the MIP tooling. The MIP's ROP should not exceed one foot per minute.
- Temperature - Temperature data is measured/collected in degrees Celsius. Temperature is an indication of the physical temperature of the MIP block. Minimum and Maximum temperature is collected at each vertical interval. Temperature protocol indicates that the MIP probe temperature shall maintain a minimum temperature of 90°C.
- Pressure - Pressure data is measured/collected in psi. The pressure readings represent the pressure being delivered to the MIP's nitrogen gas line. Deviations greater than 1.5 psi outside of the starting pressure indicate a system leak or obstruction is present.
- Detector (XSD, ECD, PID, FID) - Detector responses are measured/collected in micro Volts (uV). Detector responses are an indication of relative contaminant responses. Minimum and Maximum detector responses are collected at each vertical interval.

HPT System Overview

The HPT system is designed to evaluate the hydraulic behavior of unconsolidated materials. As the probe is pushed or hammered at 2cm/s, clean water is injected through a screen on the side of the HPT probe at a flow rate usually less than 300 mL/min. The injection pressure, which is monitored and plotted with depth, is an indication of the hydraulic properties of the soil. A relatively low pressure response indicates a relatively large grain size and the ability to easily transmit water. A relatively high pressure response indicates a relatively small grain size, which correlates with the inability to transmit water.

HPT Data Collection

The HPT system collects depth, electrical conductivity, advancement rate, hydraulic pressure, and flow information. Additional detail regarding each of these parameters is provided below.

- Depth - Data is collected every 0.05 feet, or 20 points per foot.
- Electrical Conductivity - Electrical Conductivity (EC) data is collected in milli-siemens per meter (ms/M). The conductivity of soils is different for each type of media. Finer grained sediments, such as silts or clays, will typically have a higher EC signal. Coarser grained sediments, sands and gravel, will typically have a lower EC signal.
- Rate of penetration (ROP) – ROP is collected in units of feet per minute (ft./min). ROP of the HPT probe can vary due to operator advancement and soil types encountered.
- Pressure - Pressure data is collected in pounds per square inch (psi). Pressure is an indication of hydraulic pressure applied to the subsurface by the HPT system. The system collects both the minimum and maximum pressures over each vertical interval.
- Flow - Flow data is collected in milliliters per minute (mL/min). Flow is an indication of the rate water is pumped out of the membrane at the HPT probe. The system collects both the minimum and maximum flow over each vertical interval.
- Estimated Hydraulic Conductivity (est. K) – Hydraulic conductivity, symbolically represented as K, is an *in-situ* property that describes the ease with which water can move through pore spaces or fractures. It is dependent on the intrinsic permeability of the material and on the degree of saturation. With respect to the HPT system, the estimated K values are only applicable to the saturated portion of the formation. The estimated K value is calculated using the HPT pressure and flow data.

MiHpt Investigation

From February 13 to 17, 2017, First Environment's drilling subcontractor, Cascade Drilling & Technical Services, advanced 24 soil borings to define the horizontal and vertical extent of TCE impacts in soil in the Target Areas. As part of the investigation, groundwater samples were collected in the zone with the highest VOC impacts, as revealed by real-time MiHpt results. Groundwater samples for TCE were collected using SP-16 groundwater samplers at MiHpt locations 15, 23, and 24. The MiHpt locations are illustrated in Figure 3. The deepest MiHpt soil location was completed to 53.0 feet bgs. The majority of the locations were completed to between 20.0 to 40.0 feet bgs.

For the purposes of this investigation, the MiHpt system was equipped with an Electrical Conductivity (EC) probe, an Electron Capture Detector (ECD), a Photo Ionization Detector (PID), a Flame Ionization Detector (FID), and a Halogenated Specific Detector (XSD). During the advancement of each boring, the response of each detector, relative to depth, was recorded in accordance with the standard operating procedures for the MiHpt system.

Data Evaluation

By utilizing the MiHpt technology, First Environment was able to delineate the subsurface extent of halogenated VOCs with respect to the Target Areas. The Investigation also provided information regarding subsurface hydraulic characteristics in those areas.

Appendix A contains a horizontal elevation "heat map" of the relative high VOC concentrations at each one-foot vertical interval. Appendix B contains point-to-point plot profiles for each sensor used to evaluate the relative VOCs mass to the soil type and soil hydraulic character.

Soil Results

Based on the interpretation of the ECD and XSD detector results that measure halogenated volatiles (i.e., chlorinated VOCs), TCE and its breakdown products appear to be concentrated at a depth between 10.0 to 20.0 feet bgs in the former AST area and along the south wall. In the ditch, VOC impacts are evident as indicated by ECD and XDS profiles above 10.0 feet bgs at lower concentrations. The TCE impacts identified as part of the MiHpt investigation are consistent with the results of the Supplemental Assessment conducted in October 2016 and presented in the RJR's Supplemental Assessment dated December 2016.

Based on First Environment's review of the MiHpt Data Plots – Point-to-Point Comparisons for EC, the profile plots correlate to the GeoProbe (GP) soil boring logs identified in RJR's December 2016 Supplemental Assessment Report, indicating the upper 10 feet is generally silty-sand and clay (CL/ML). First Environment's interpretation of the MiHpt EC, HPT pressure and hydraulic conductivity (K) values to soil boring logs further indicates the zone from 10 to 20 feet is comprised of lenses of clay and fine to medium sand of moderate permeability. It appears this zone is a transmissive zone capable of both transporting dissolved TCE in groundwater as well as storing TCE mass adsorbed to lower permeable lenses and layers of silt-clay within the 10- to 20-foot zone.

Eight MiHpt locations exhibited the highest relative ECD and XSD, a measure of halogenated VOCs. Those locations were MiHpt-3, MiHpt-4, MiHpt-9, MiHpt-11, MiHpt-12, MiHpt-14, MiHpt-15, and MiHpt-23. Those MiHpt locations are boxed in white, illustrated in Figure 4.

The varied distribution of high VOC mass is identified from 264 to 278 feet above mean sea level (amsl), shown in Appendix A. In addition, based on the MiHpt ECD and XSD results, elevated VOC impacts traverse east-west to MiHpt-23. High VOC mass in soil does not appear to exist west of MiHpt-23 in the loading dock area. A separate TCE source is possibly related to the former piping that may have existed in the area where MiHpt-24 is located due to the identification of elevated MiHpt ECD and XSD levels in this area. The surface ground elevation in this area is 283 to 287 feet amsl.

The Figures in Appendix A illustrate the elevated halogenated VOCs mass distribution as a measure of high deflections in the ECD and XSD profiles; the greatest VOC mass is identified in the red-orange shade at 269 feet amsl (14.0 feet bgs). This area corresponds to the area where remediation activities were conducted in 1996 involving the removal of impacted soil along the southern wall to a depth of approximately 10 feet bgs. It is possible the soil delineation was never completed, explaining why this impacted soil was never removed from 10.0 to 20.0 feet bgs.

Five MiHpt locations (MiHpt 8/GP-19, MiHpt12/GP-15, MiHpt13/GP-16, MiHpt15/GP-18, and MiHpt 16/GP-12,) were advanced immediately adjacent to the previous Supplemental Assessment's (GP) soil boring locations. The Supplemental Assessment soil results and boring logs closely corresponded to MiHpt data results that identify the highest concentrations of VOCs in the 10- to 20-foot depth soil interval. MiHpt ground elevations and total depths, relative VOCs impact and interval, and hydraulic conductivity values are summarized in Table 1. MiHpt point-to-point plot profiles are located in Appendix B.

Groundwater Results

Three groundwater grab samples were collected as part of the MiHpt investigation, as a result of elevated MiHpt ECD and XSD soil results that identified high concentrations of VOCs at MiHpt-23, MiHpt-24, and MiHpt-15. Groundwater samples for TCE were collected using an SP-16 groundwater sampler at MiHpt locations 15, 23, and 24. The groundwater samples were collected at the depth interval of 10.0 to 17.0 feet bgs in the shallow sand and silt unit. The groundwater was first encountered at approximately 10.0 to 12.0 feet bgs. Groundwater samples identified TCE dissolved in groundwater at MiHpt-15, MiHpt-23, and MiHpt-24 at concentrations of 84,100 ug/l, 75,300 ug/l and 91,900 ug/l, respectively, as shown on Figure 4. (Laboratory results are presented in Appendix C.)

Conclusions

Results of the MiHpt Investigation indicate that significant VOC contamination exists in the former AST area. First Environment's interpretation of the MiHpt EC, Hpt pressure, and hydraulic conductivity (K) values to soil boring logs further indicates the zone from 10.0 to 20.0 feet bgs is comprised of lenses of clay and fine to medium sand of moderate permeability. This zone is a transmissive zone capable of both transporting dissolved TCE in groundwater as well as storing the TCE mass adsorbed to lower permeable lenses and layers within the 10- to 20-foot zone.

The highest level of TCE groundwater contamination detected at the Plant during the RJR Supplemental Assessment in October 2016 was 15,300 µg/L from a sample collected from groundwater monitoring well MW-8S. The sample location is immediately north of the northern wall of the Plant and approximately 500 feet directly downgradient of the former AST area. At MW-8S (screened at 28.0 to 33.0 feet bgs) and MW-8D (screened at 49.0 to 54.0 feet bgs), TCE was identified at a concentration of 15,300 ug/l and non-detect, respectively (MW-8S monitors the shallow zone and MW-8D monitors the deeper zone). The data seems to suggest the high TCE groundwater concentrations in the shallow zone from 10 to 17 feet bgs on the southern side of the Plant are hydraulically connected to the MW-8S downgradient of the former AST and not MW-8D.

With respect to the Target Areas evaluated during the MiHpt Investigation, TCE groundwater concentrations are approximately 300 times higher at the three shallow (10 to 17 feet bgs) groundwater sample locations than groundwater analyzed in October 2016 in the same approximate area from a deeper groundwater zone between 20.0 to 55.0 feet bgs. The wells in the deeper groundwater zone, located in the same area as the recent shallow groundwater grab samples, include MW-36 (TCE non-detect (ND) screened from 50.0 to 55.0 feet bgs), NDW-1(TCE ND screened from 20.0 to 45.0 feet bgs), and NDW-2 (TCE 268 ug/l screened from 20.0 to 45.0 feet bgs). The lower permeable layer may prevent any appreciable TCE commingling between the shallow and lower groundwater zone in this area.

TABLES

TABLE 1
MiHpt Results Summary

Former Holley Automotive/Coltec Industries Facility
600 Highway 32 East
Water Valley, Mississippi

MiHPT Soil Boring Location	Ground Elevation Feet Above Mean Sea Level	Total Depth Feet Below bgs	TCE Groundwater ug/l (10 to 17 Feet bgs)	Depth to Top of High TCE Impacted Area (Feet bgs)	Depth to Bottom of High TCE Impacted Area (Feet bgs)	Thickness of High TCE Impacted (Feet)	Average XSD for Thickness of TCE Impacted Interval	Depth of Peak TCE (XSD uV) feet bgs	High TCE Impacted Interval (XSD uV)	Average Estimated K (feet/day)
MiHpt-1	284.52	52.80	-	-	-	-	-	14.7	2.14E+04	-
MiHpt-2	284.91	34.20	-	-	-	-	-	34.5	1.94E+04	-
MiHpt-3	284.76	29.95	-	10.35	12.65	2.30	4.87E+05	11.0	5.85E+05	3
MiHpt-4	284.80	26.55	-	15.35	20.45	5.10	3.82E+05	16.0	6.75E+05	17
MiHpt-5	285.09	34.60	-	9.45	14.70	5.25	1.29E+05	10.1	1.69E+05	3
MiHpt-6	285.96	32.60	-	-	-	-	-	8.9	1.76E+04	-
MiHpt-7	285.87	34.55	-	-	-	-	-	26.6	1.85E+04	-
MiHpt-8 (GP-19)	285.39	22.40	-	-	-	-	-	10.5	4.15E+04	-
MiHpt-9	286.63	29.90	-	8	18	10.00	2.70E+05	11.8	4.24E+05	10
MiHpt-10	286.65	26.55	-	-	-	-	-	6.7	2.89E+04	-
MiHpt-11	286.65	30.55	-	12	21.95	9.95	1.81E+05	18.6	3.54E+05	20
MiHpt-12 (GP15)	287.10	34.55	84100	8	18.55	10.55	2.75E+05	13.6	6.25E+05	17
MiHpt-13 (GP16)	287.07	34.55	-	8.25	14.55	6.30	1.62E+05	12.4	2.52E+05	2
MiHpt-14	286.72	30.50	-	5.9	22.5	16.6	2.30E+05	14.5	4.36E+05	10
MiHpt-15 (GP18)	283.96	28.70	-	10.5	20.25	9.75	3.88E+05	12.1	6.10E+05	35
MiHpt-16 (GP12)	286.14	37.10	-	23	30.6	7.6	9.10E+04	29.9	8.80E+04	19
MiHpt-17	286.79	38.55	-	-	-	-	-	29.4	3.70E+04	-
MiHpt-18	286.70	42.55	-	-	-	-	-	30.6	5.36E+04	-
MiHpt-19	284.63	22.30	-	-	-	-	-	14.5	9.20E+04	-
MiHpt-20	285.03	20.55	-	-	-	-	-	9.5	4.17E+04	-
MiHpt-21	287.04	34.25	-	-	-	-	-	20.4	8.03E+04	-
MiHpt-22	285.31	26.60	-	-	-	-	-	22.2	1.43E+04	-
MiHpt-23	287.13	26.50	75300	10.1	15.8	-	4.00E+05	10.5	6.12E+05	7
MiHpt-24	286.48	34.55	91900	-	-	-	-	16.3	8.74E+04	-
Average		**31.91**	**83767**	**10.99**	**19.09**	**8.34**	**272392.59**	**16.87**	**224349.17**	**12.92**

FIGURES

Legend

Monitoring Wells

TCE Plume As of October 2016

Based on Figure 2-2 of RJRudyLLC Supplemental Assessment Acitivities and Results Report (December 2016)

0 100 200 400 Feet

1 inch = 400 feet

N W E S

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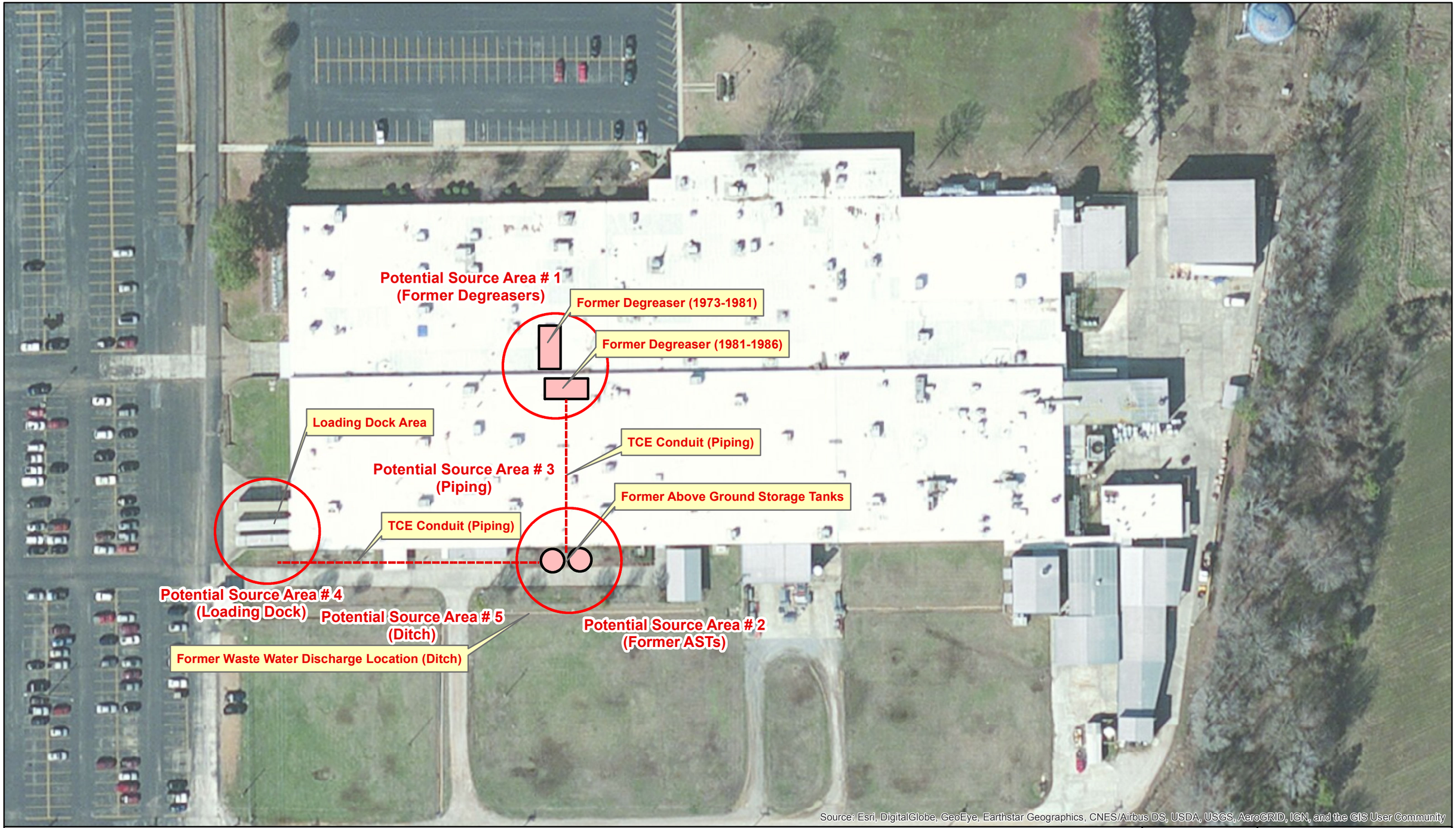
91 Fulton Street
Boonton, New Jersey 07005

FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
600 Highway 32E, Water Valley, MS
FIGURE 1
SITE LOCATION MAP

Revised	Drawn	Checked	Approved	Date
	NMT		TCB	2/28/2017



0 20 40 80 Feet

1 inch = 80 feet

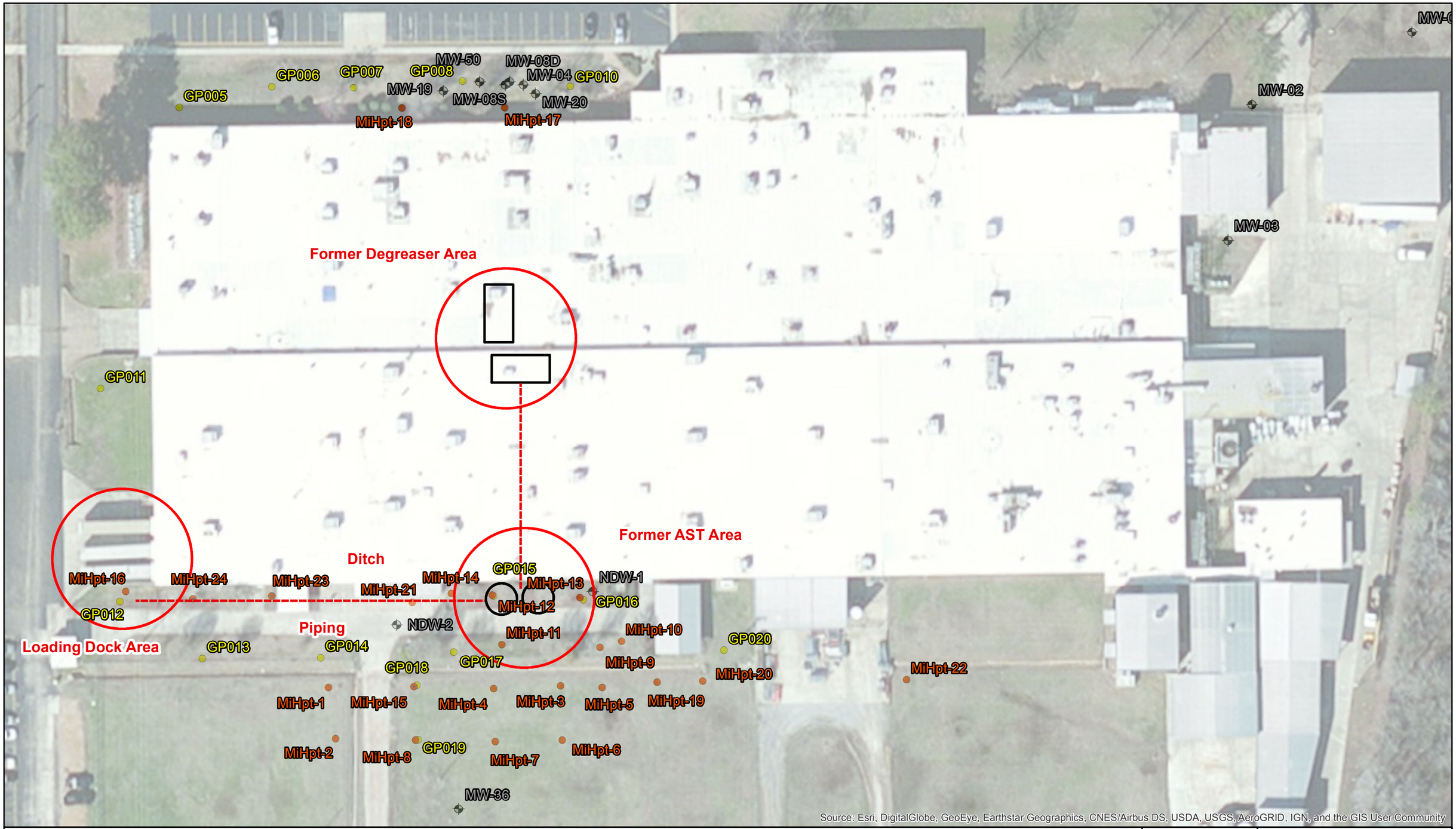
N W E S

FIRST ENVIRONMENT

91 Fulton Street
Boonton, New Jersey 07005

FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
600 Highway 32E, Water Valley, MS
FIGURE 2
POTENTIAL SOURCE AREAS

Revised	Drawn	Checked	Approved	Date
	NMT		TCB	2/22/2017



Legend

- MiHpt Feb 12-17, 2017 Locations
- RJR Geoprobe Oct 2016 Soil Sample Locations
- Groundwater Sample Locations During MiHpt Event
- Monitoring Well Locations

0 15 30 60 Feet

1 in = 60 ft

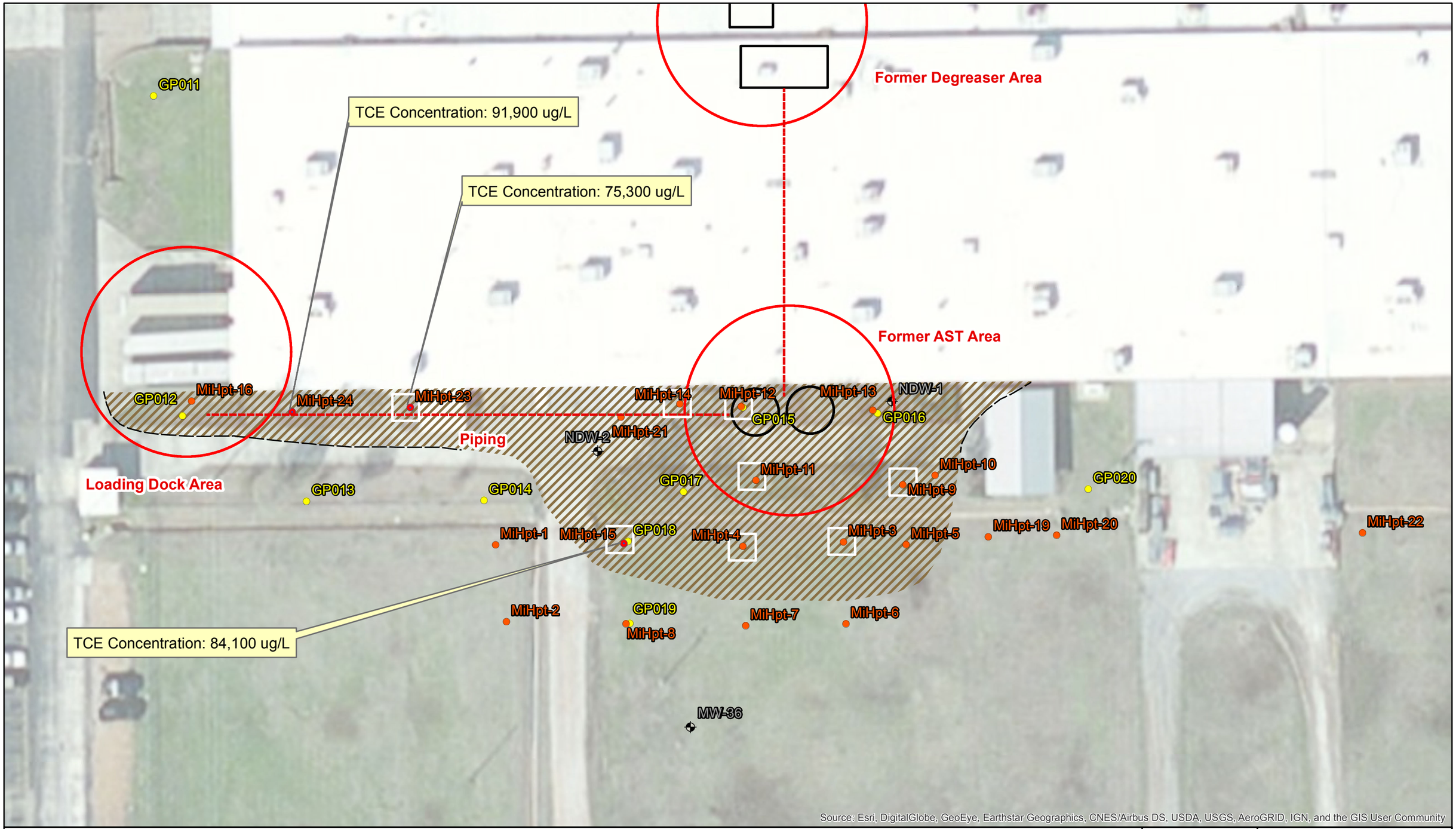
N W E S

FIRST ENVIRONMENT

91 Fulton Street
Boonton, New Jersey 07005

FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
600 Highway 32E, Water Valley, MS
FIGURE 3
MiHpt LOCATIONS MAP

Revised	Drawn	Checked	Approved	Date
	LS	SG	SG	03/01/17



Legend

- MiHpt Feb 12-17th 2017 Soil Locations
- RJR Geoprobe Oct 2016 Soil Sample Locations
- Groundwater Sample Locations
- Monitoring Well Locations
- TCE Impact Area
- Approximate Boundary
- High VOC Locations

0 10 20 40 Feet

1 in = 40 ft

A groundwater sample for TCE was collected using SP-16 groundwater sampler at locations 15, 23, and 24.
The samples were taken in the 10' to 17' bls zone, in the shallow sand unit which occurs at approximately 10' to 12' bls.

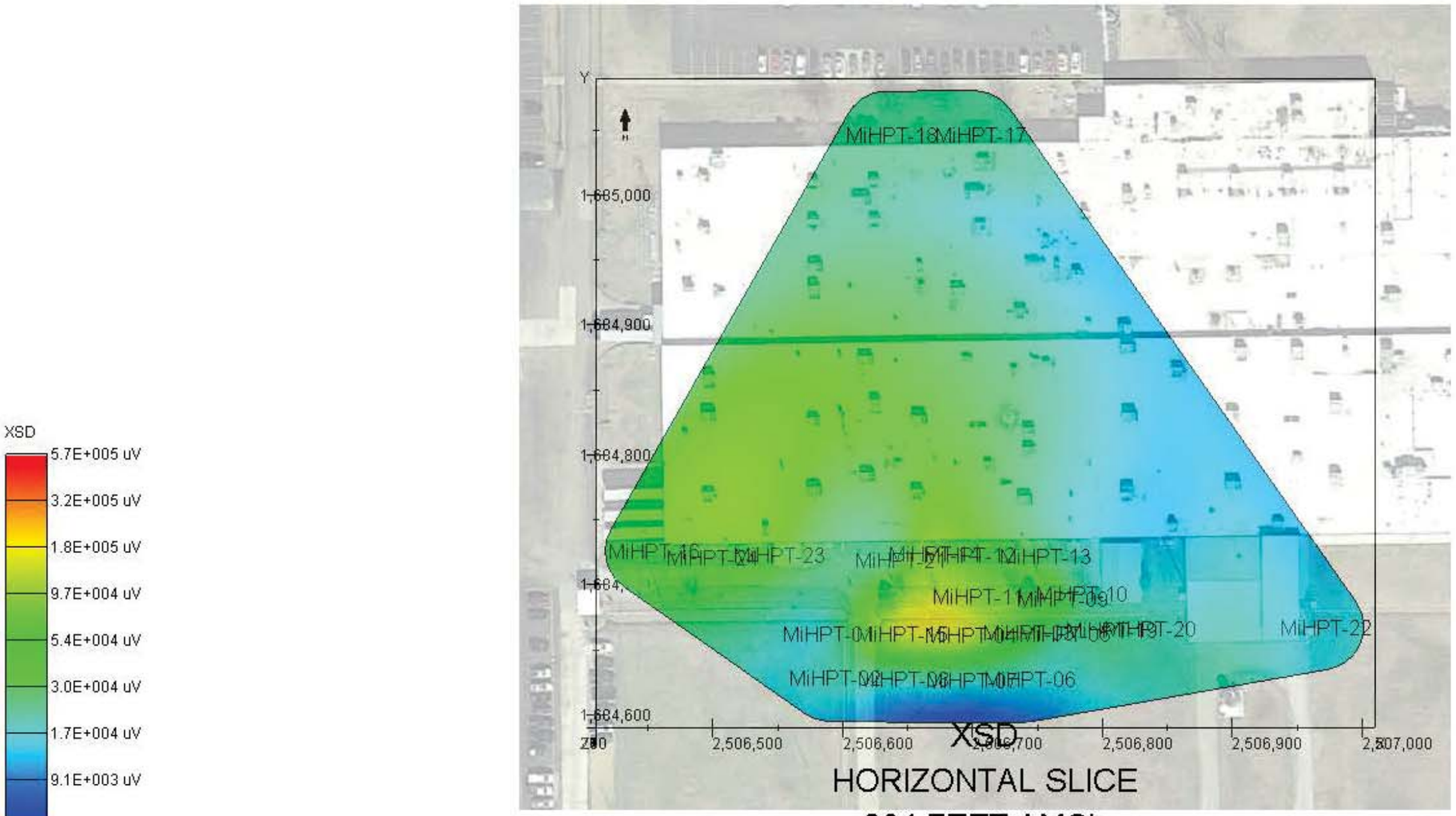
FIRST ENVIRONMENT

91 Fulton Street
Boonton, New Jersey 07005

FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
600 Highway 32E, Water Valley, MS
FIGURE 4
TCE IMPACT AREA MAP

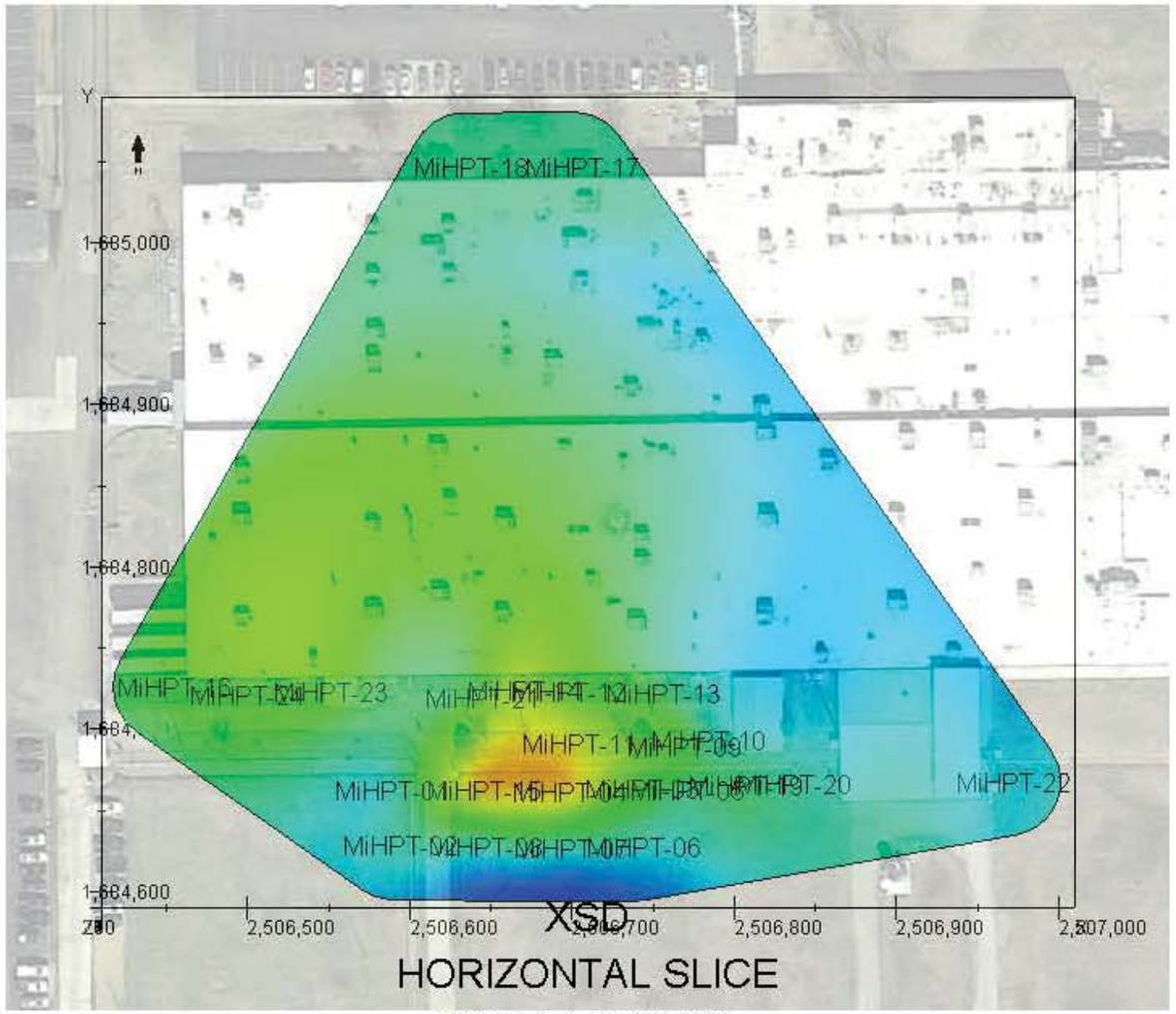
Revised	Drawn	Checked	Approved	Date
	LS	SG	SG	03/01/17

APPENDIX A



HORIZONTAL SLICE

264 FEET AMSL



XSD

5.7E+005 uV

3.2E+005 uV

1.8E+005 uV

9.7E+004 uV

5.4E+004 uV

3.0E+004 uV

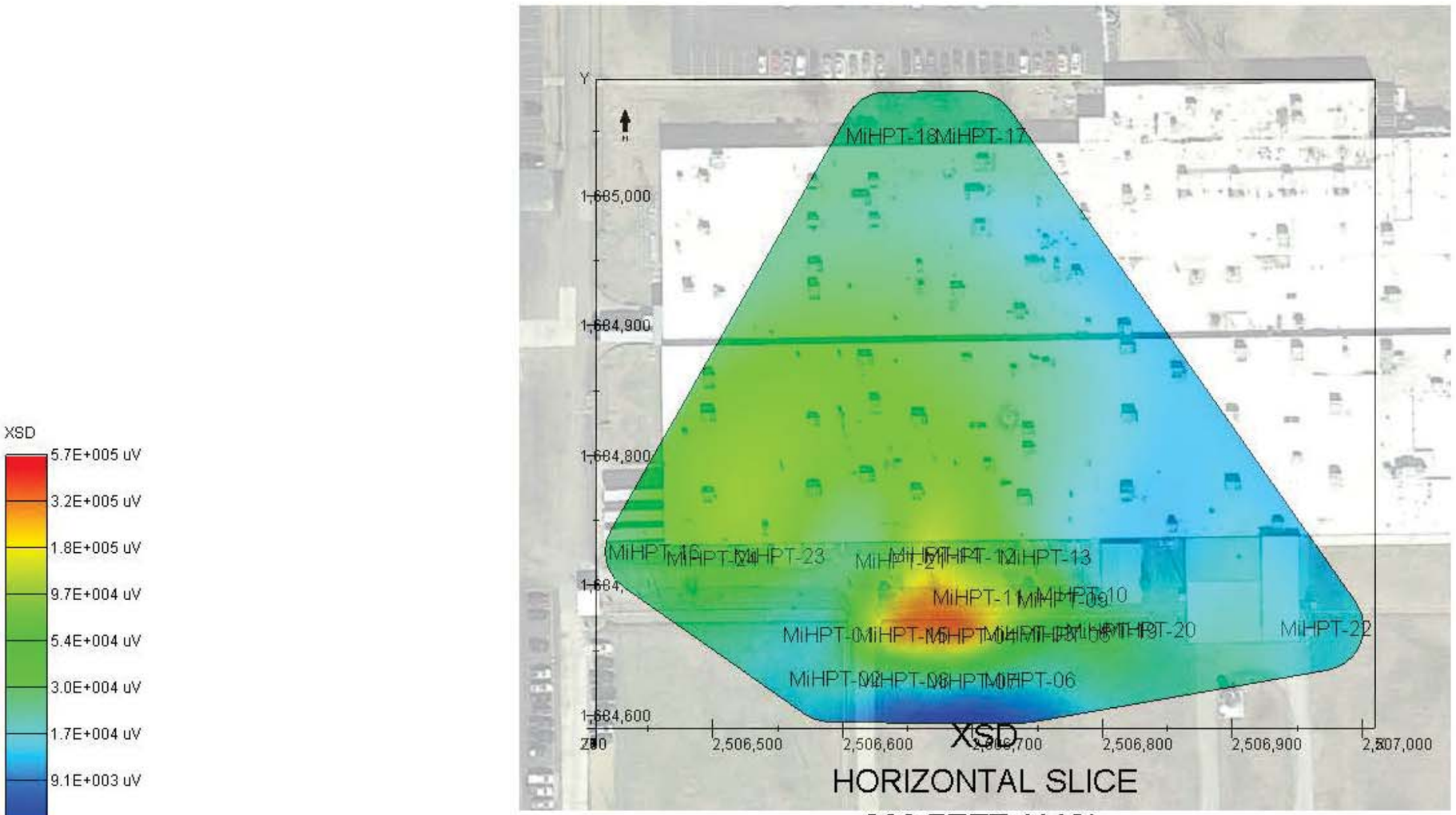
1.7E+004 uV

9.1E+003 uV

5.1E+003 uV

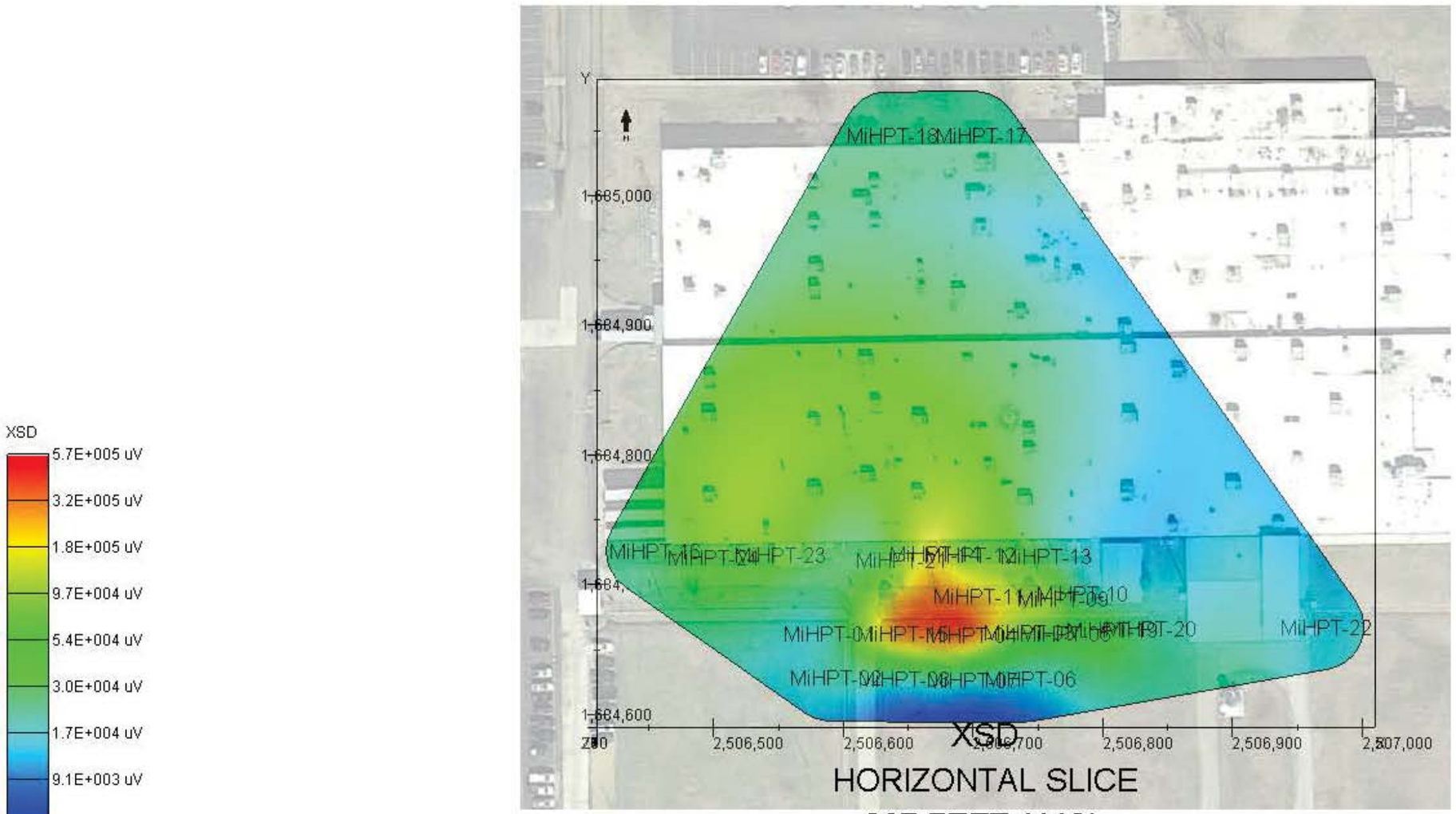
HORIZONTAL SLICE

265 FEET AMSL



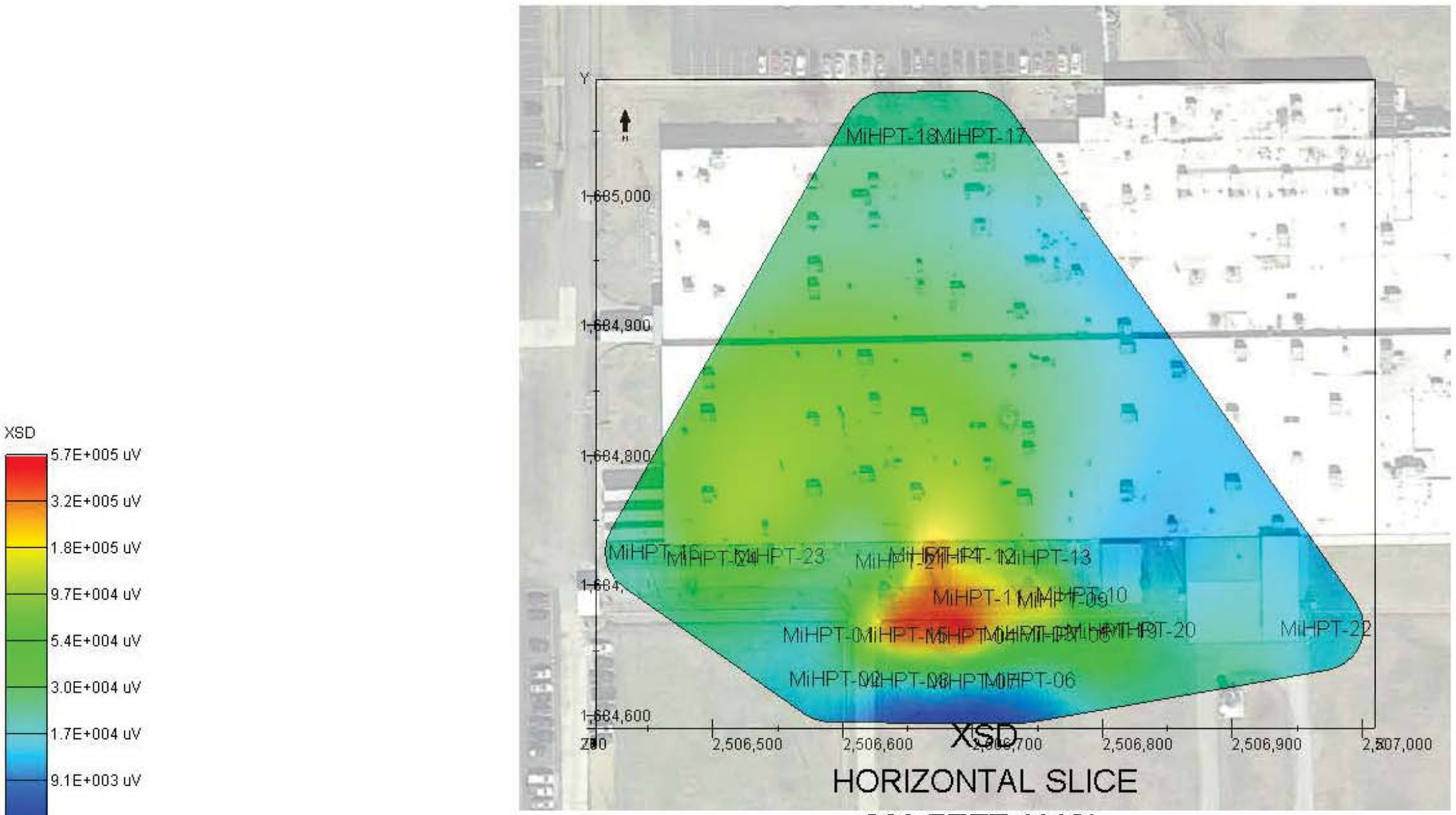
HORIZONTAL SLICE

266 FEET AMSL



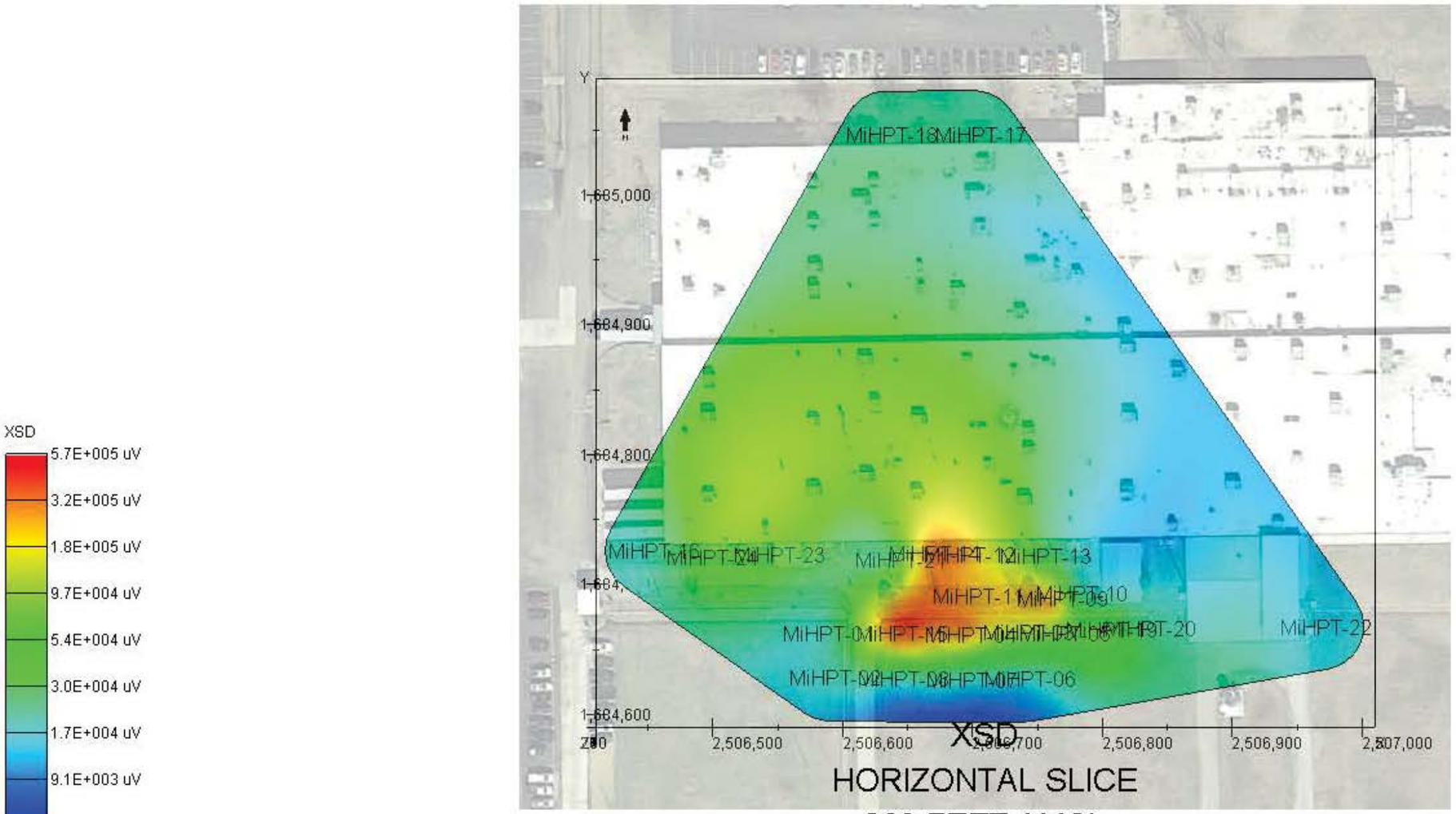
HORIZONTAL SLICE

267 FEET AMSL



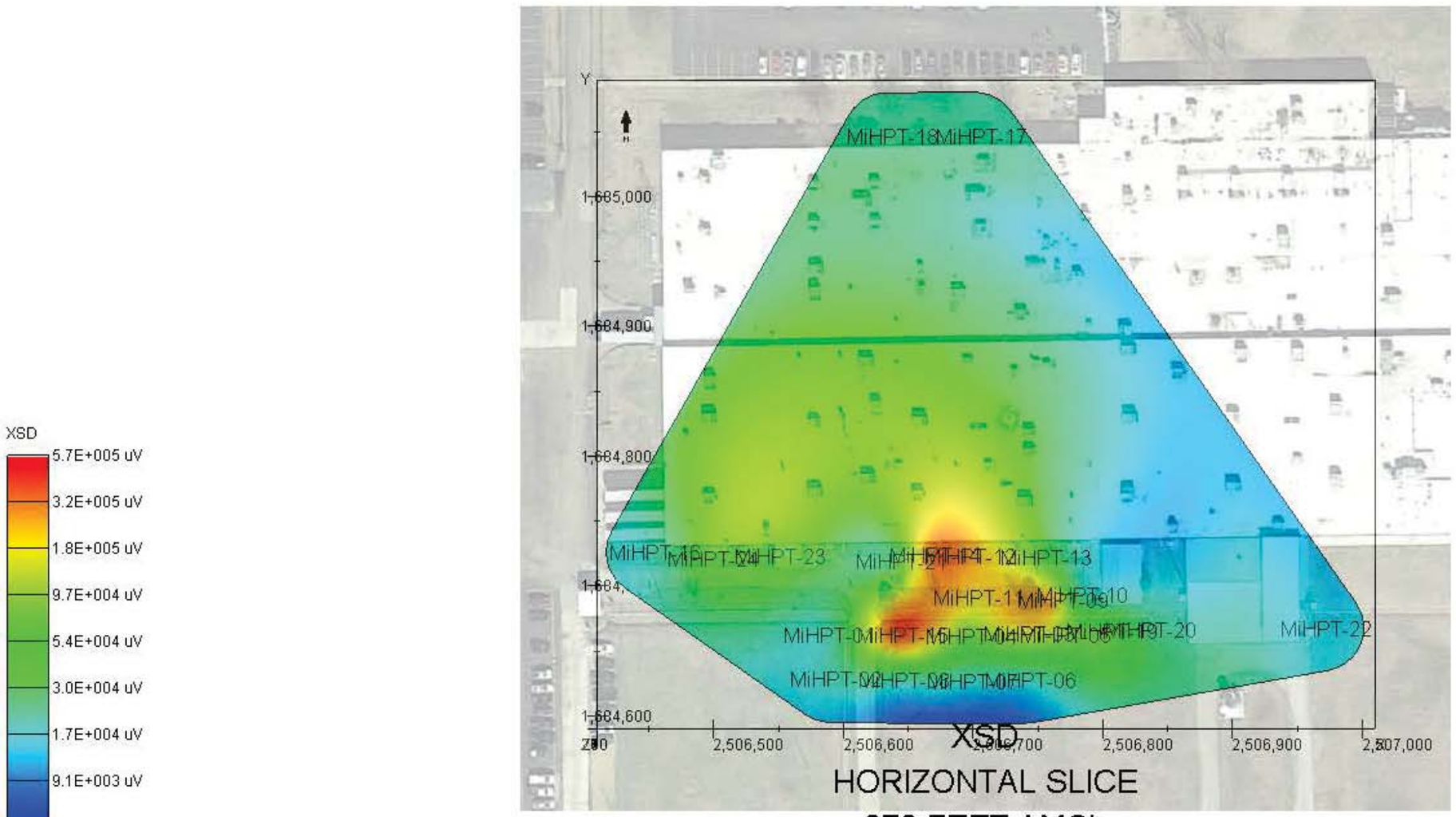
HORIZONTAL SLICE

268 FEET AMSL



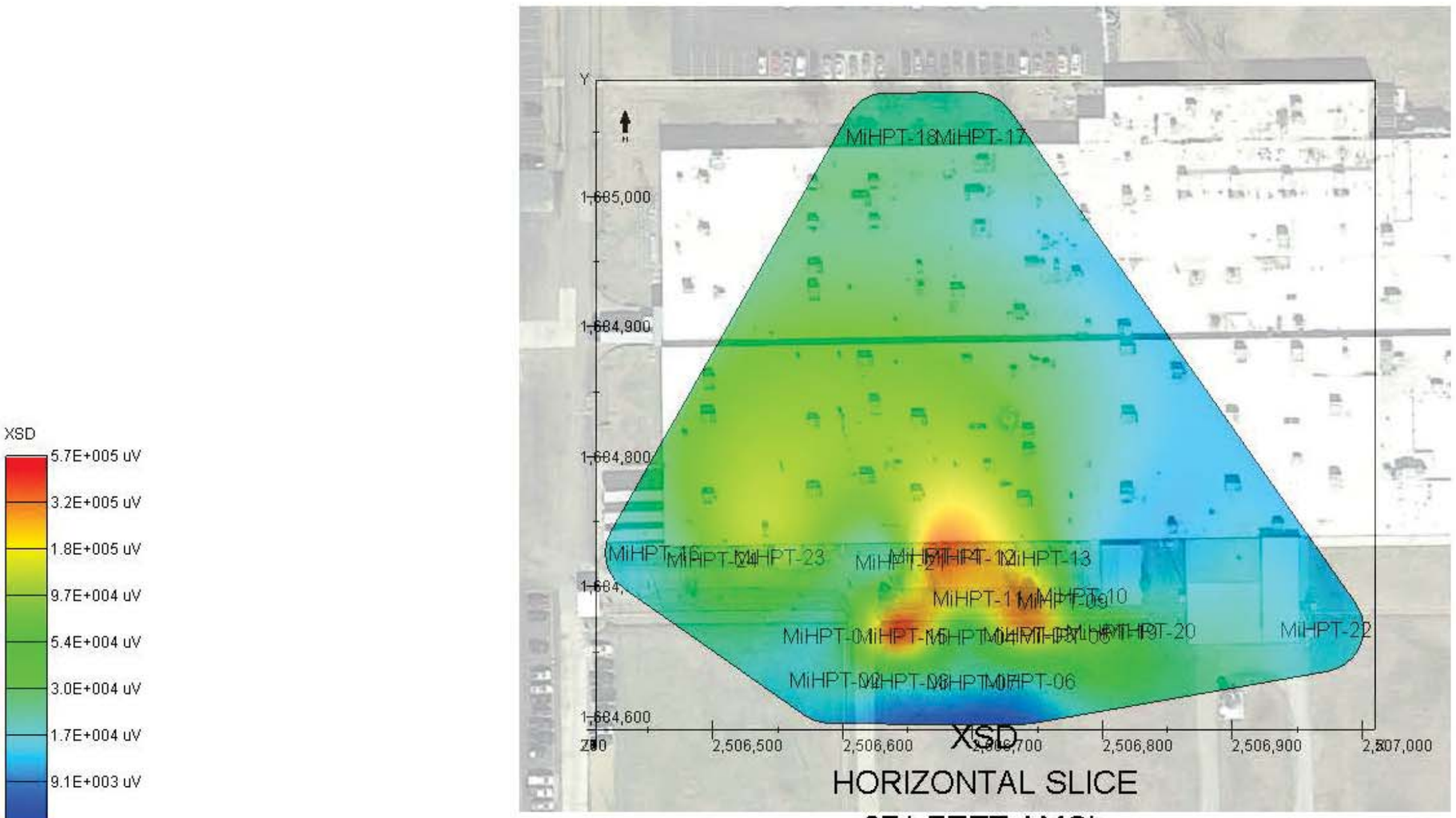
HORIZONTAL SLICE

269 FEET AMSL



HORIZONTAL SLICE

270 FEET AMSL



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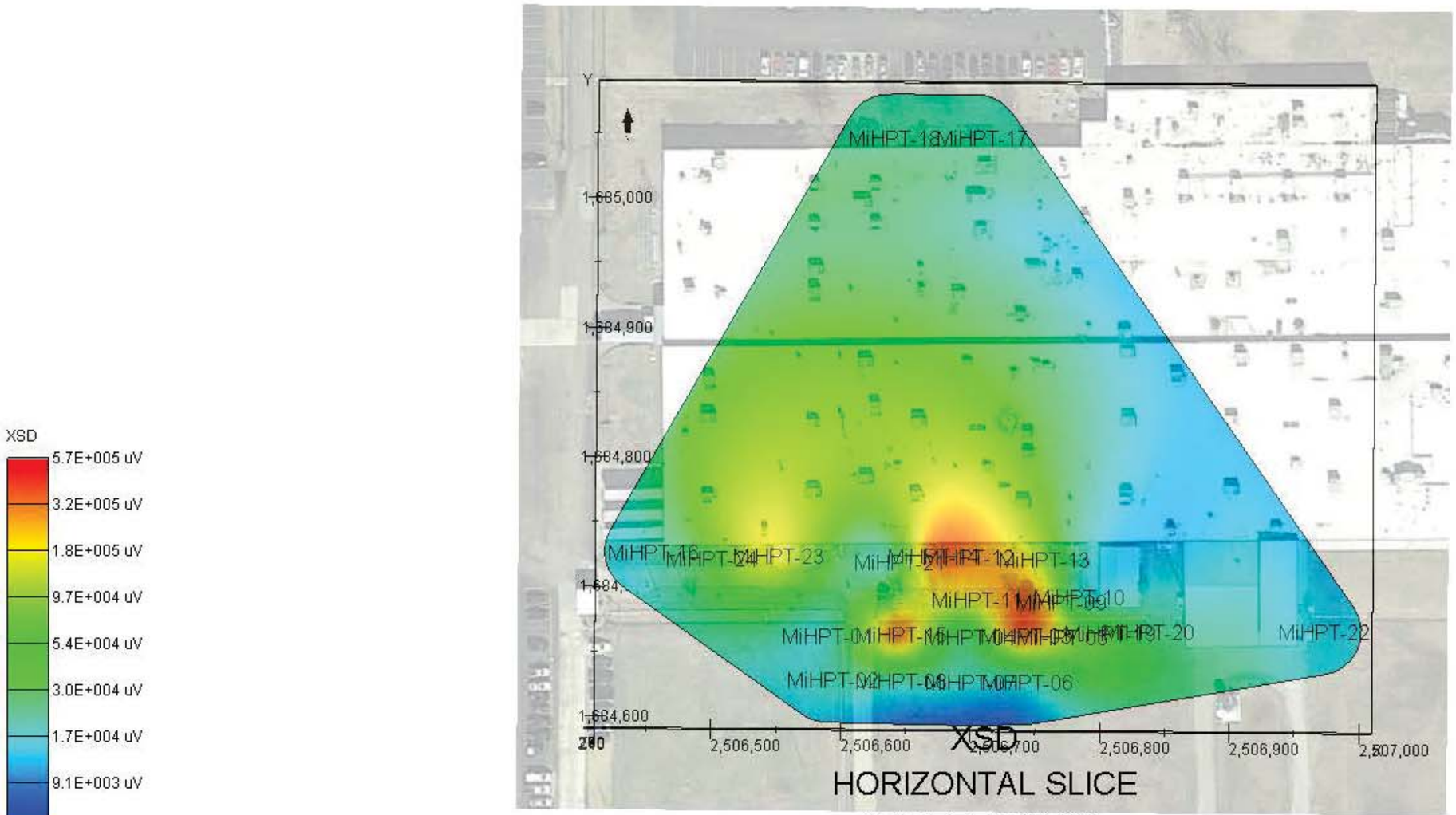
271 FEET AMSL



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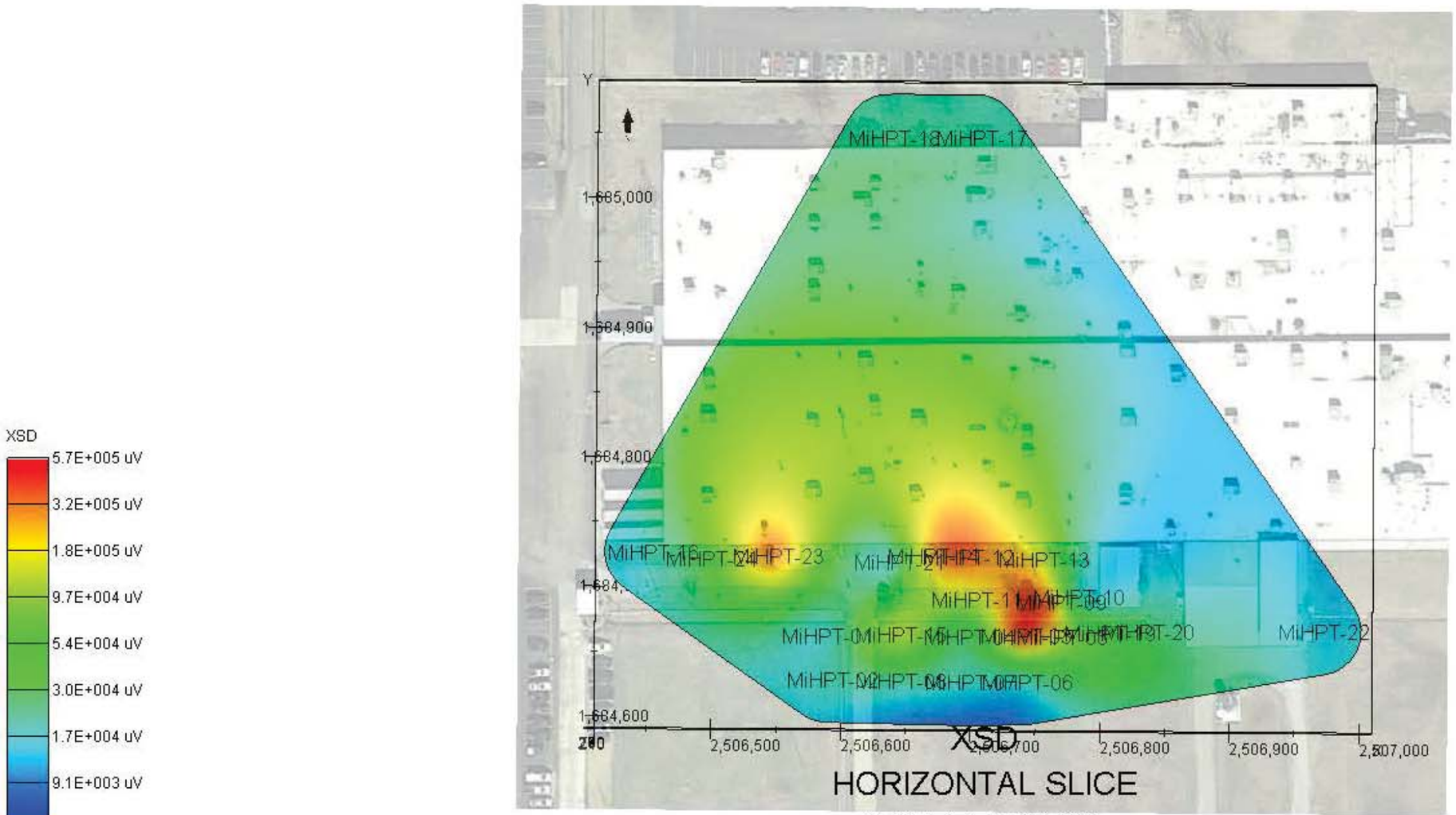

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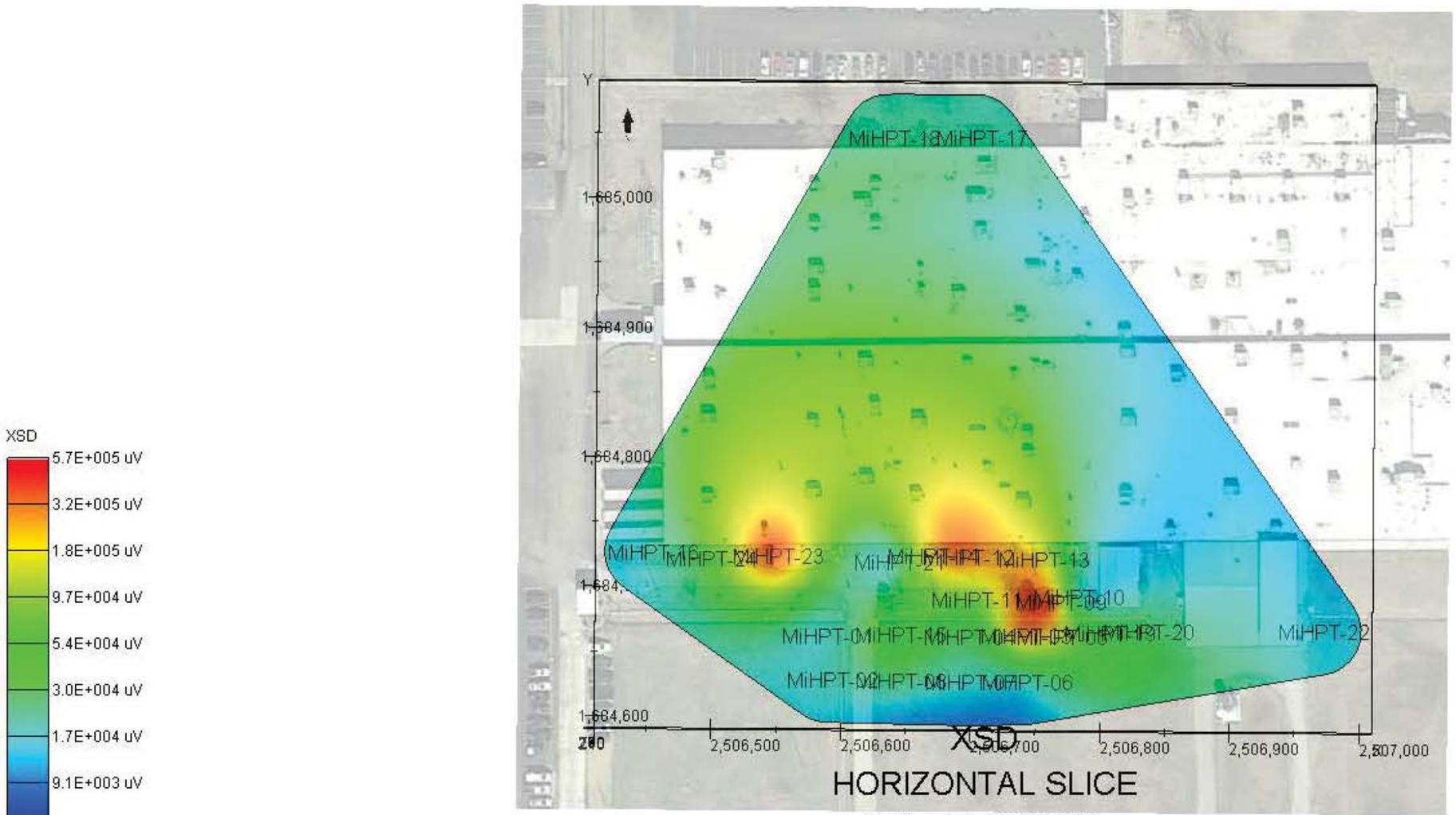

HORIZONTAL SLICE

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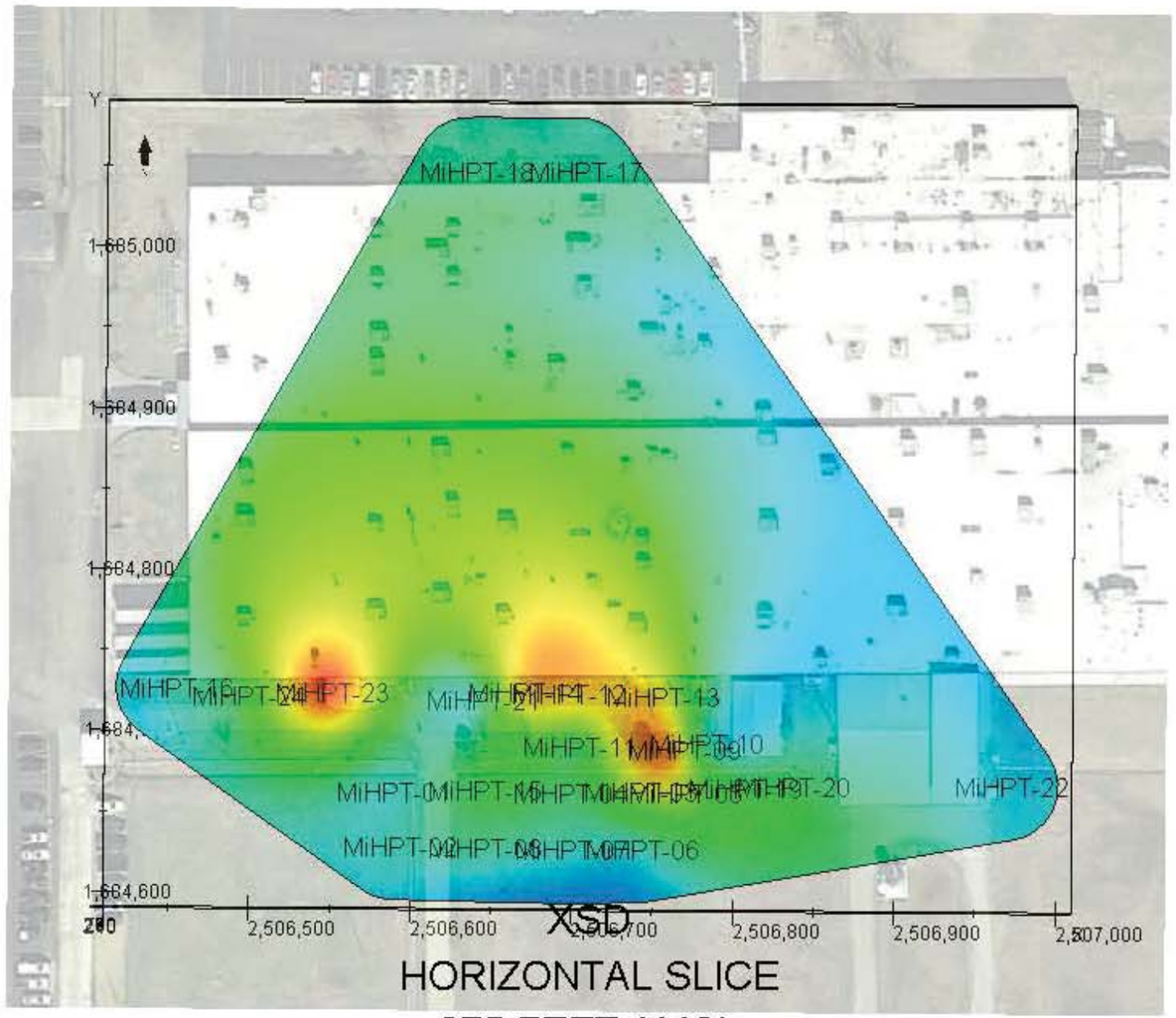


XSD

5.7E+005 uV

3.2E+005 uV

1.8E+005 uV

9.7E+004 uV

5.4E+004 uV

3.0E+004 uV

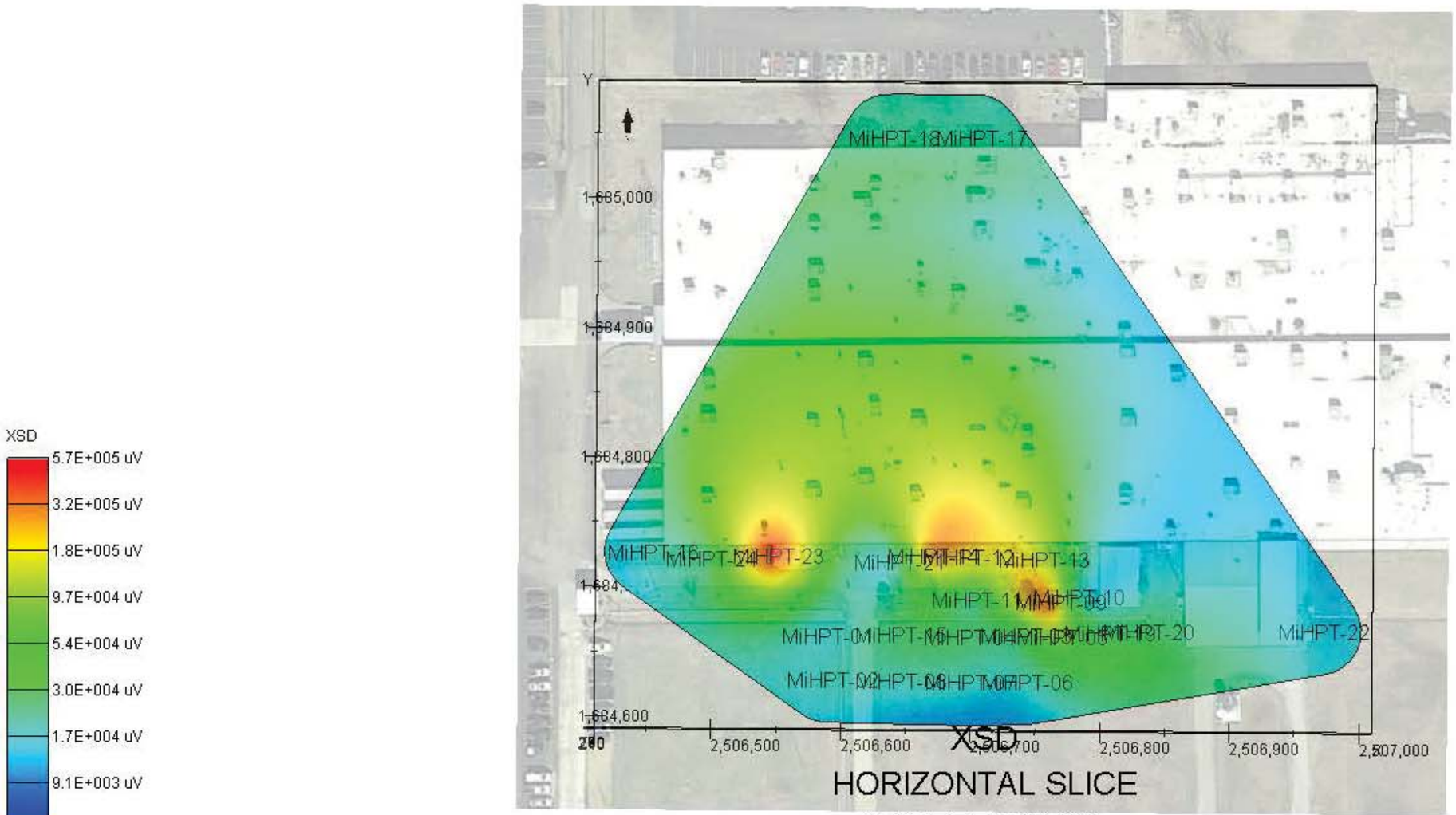
1.7E+004 uV

9.1E+003 uV

5.1E+003 uV

HORIZONTAL SLICE

275 FEET AMSL



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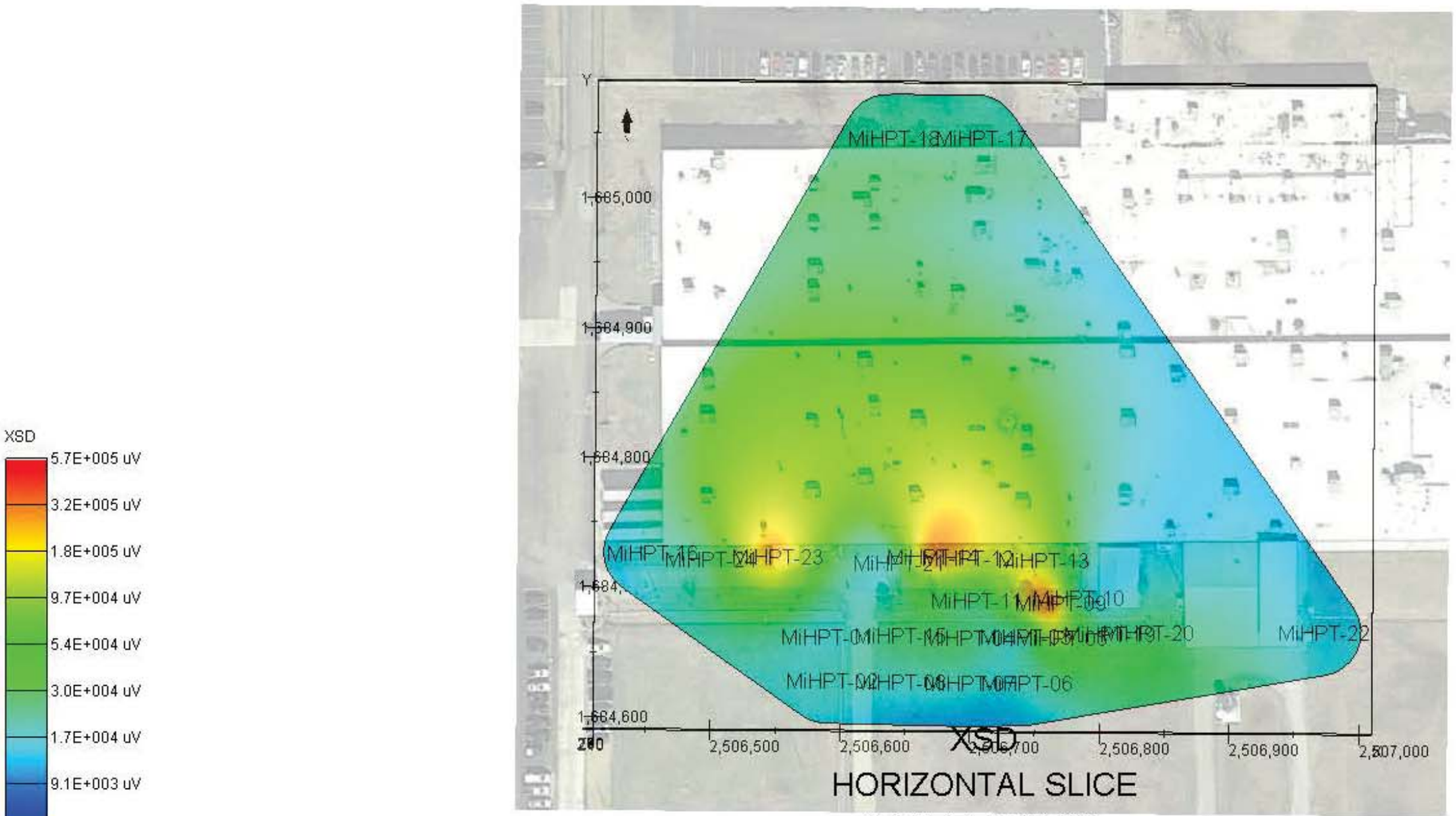
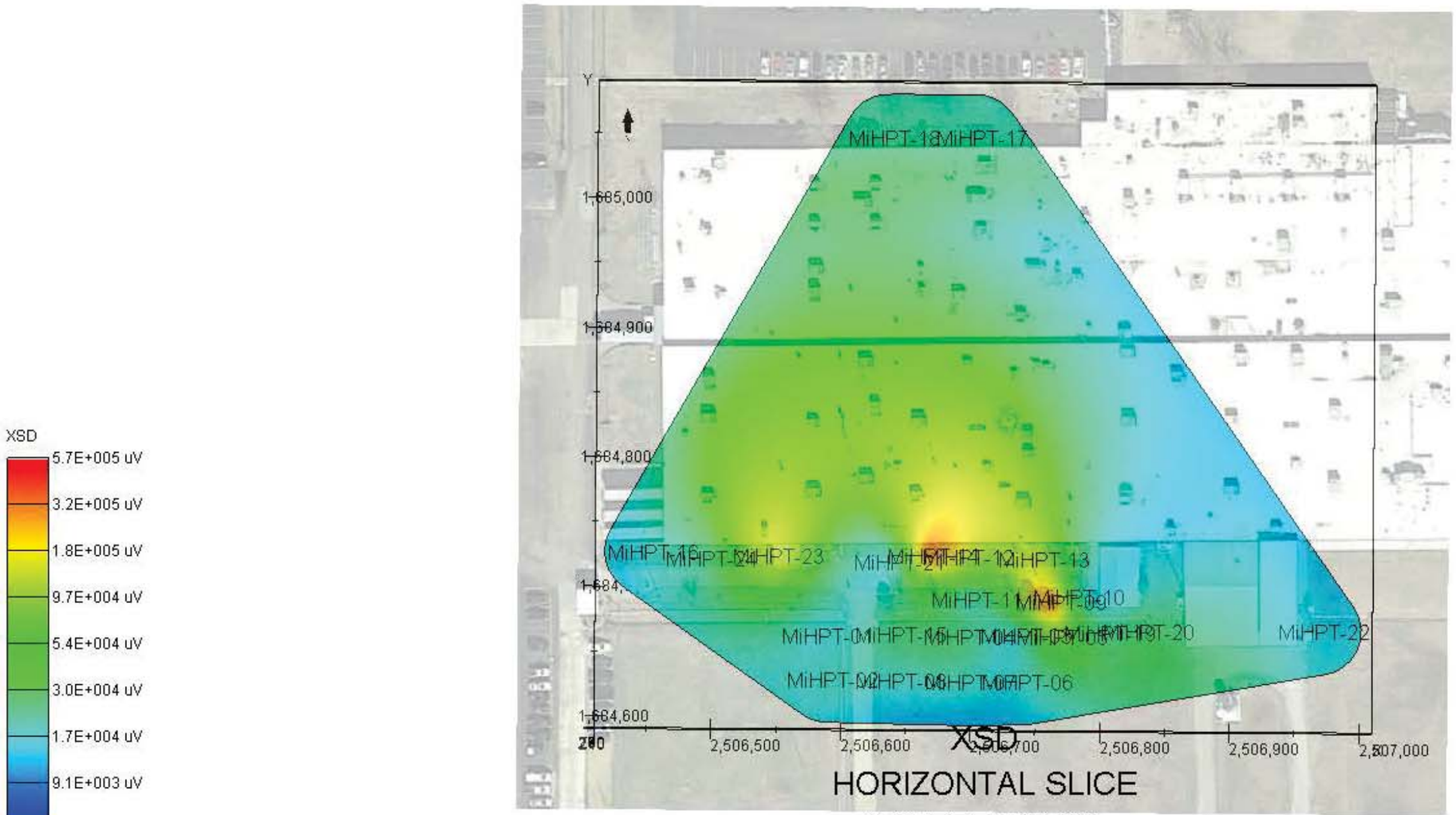


HORIZONTAL SLICE

277 FEET AMSL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9.1E+003 uV
5.1E+003 uV
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MiHPT-17
MiHPT-16
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MiHPT-12
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MiHPT-10
MiHPT-20
MiHPT-22
MiHPT-06
2,506,500
2,506,600
2,506,700
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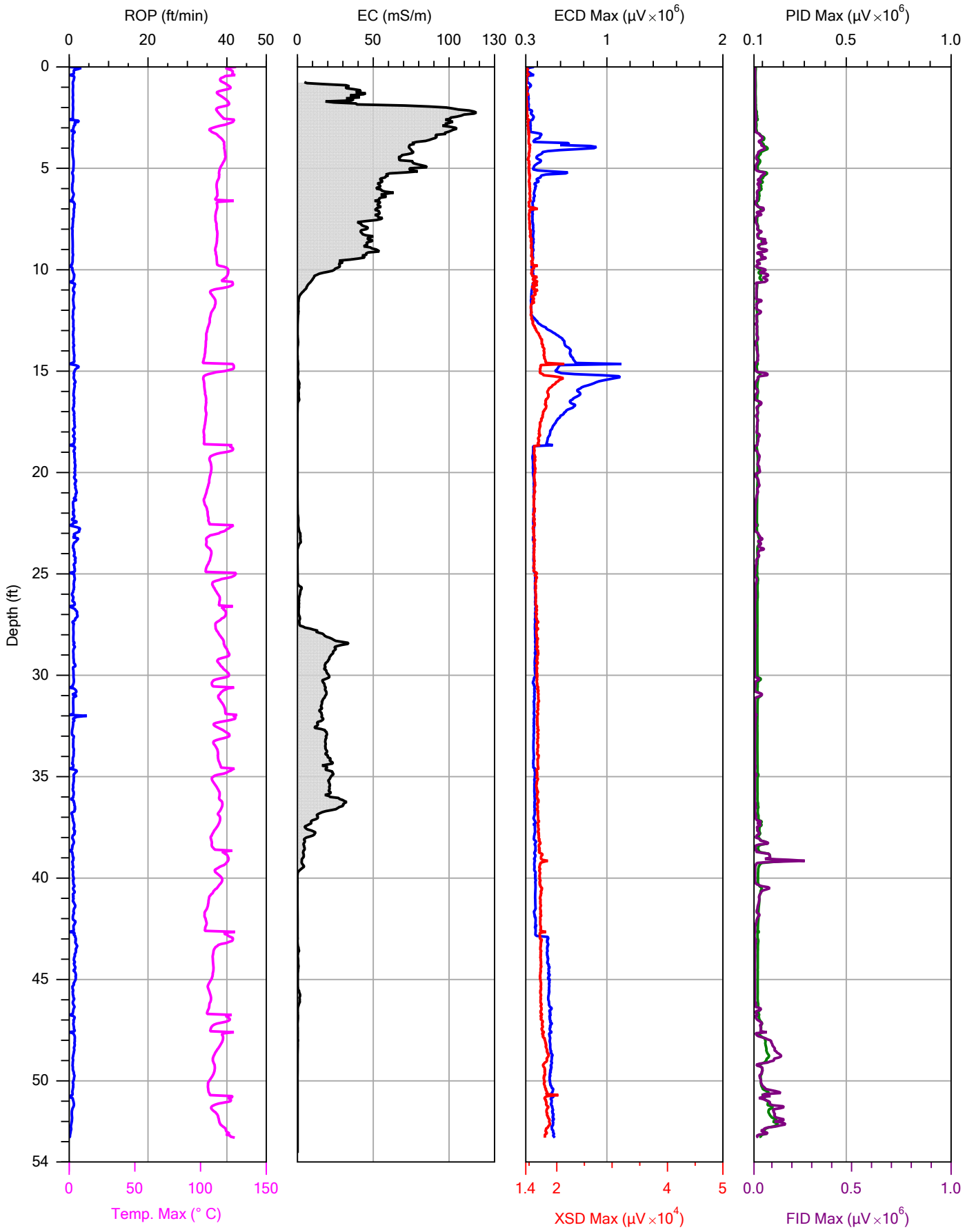
XSD
HORIZONTAL SLICE
278 FEET AMSL

APPENDIX B

Membrane Interface – Hydraulic Profiling Tool Data Plots – Common Scales



CASCADE
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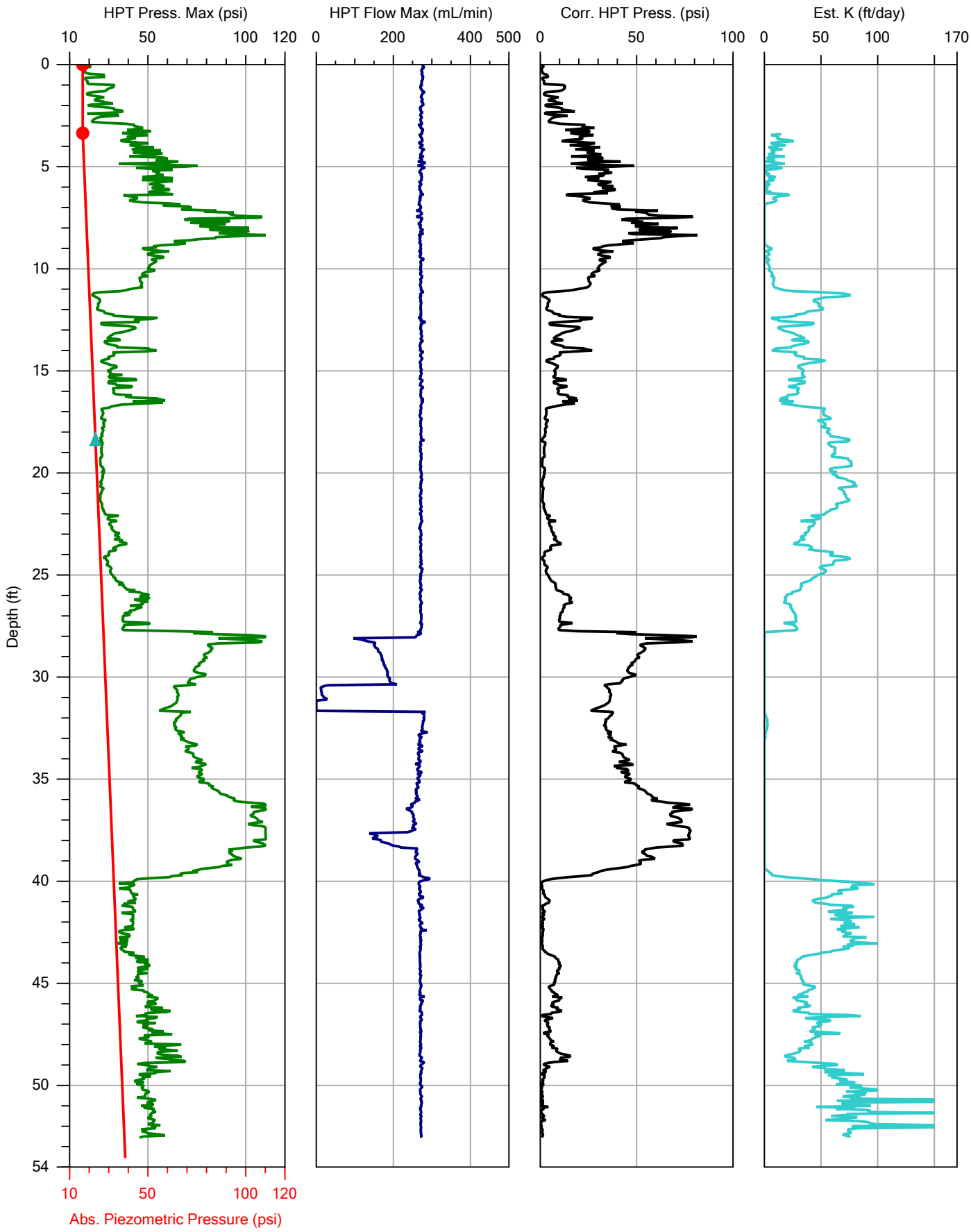
Project ID: 30517171007	Client: First Environmental	Location:



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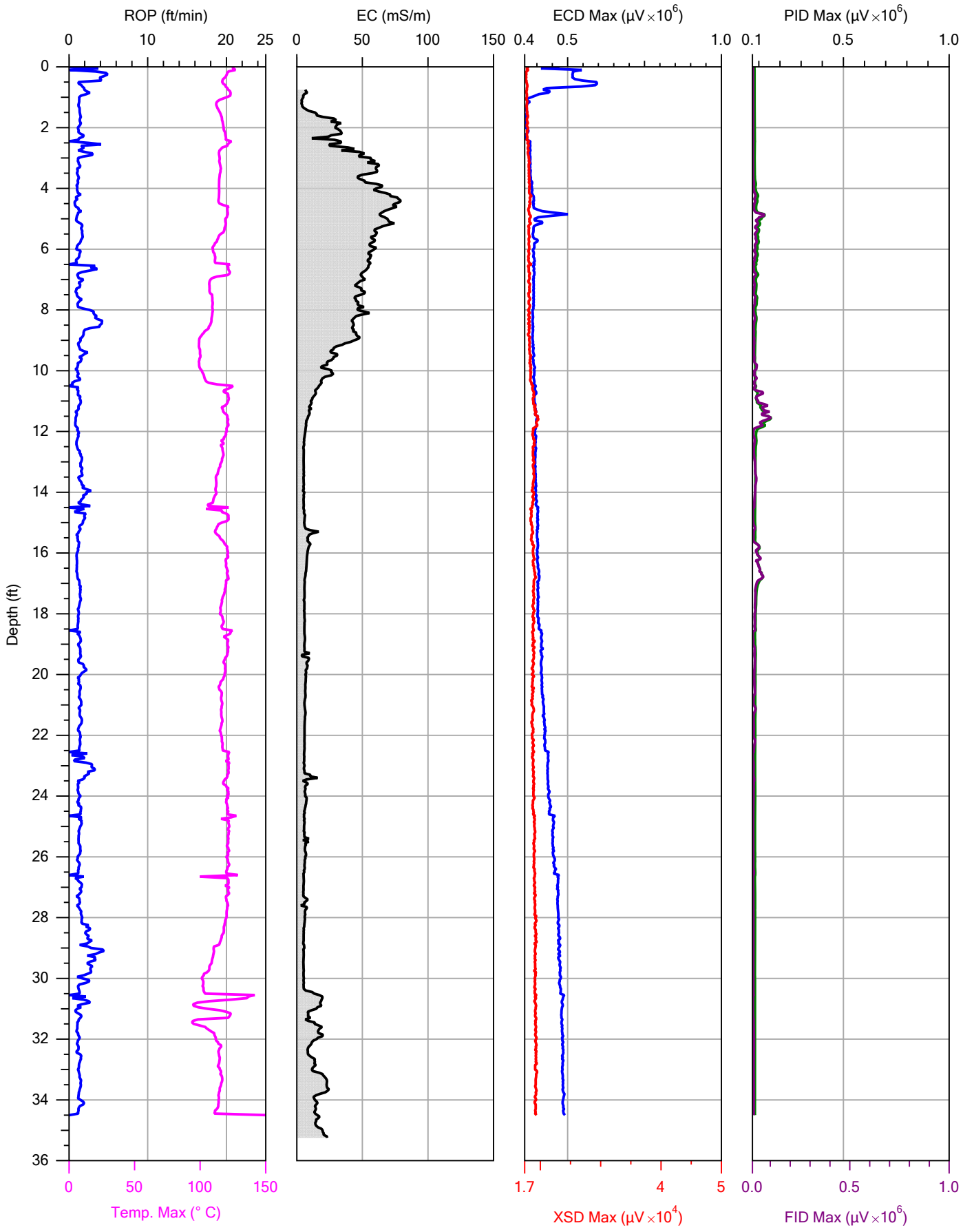

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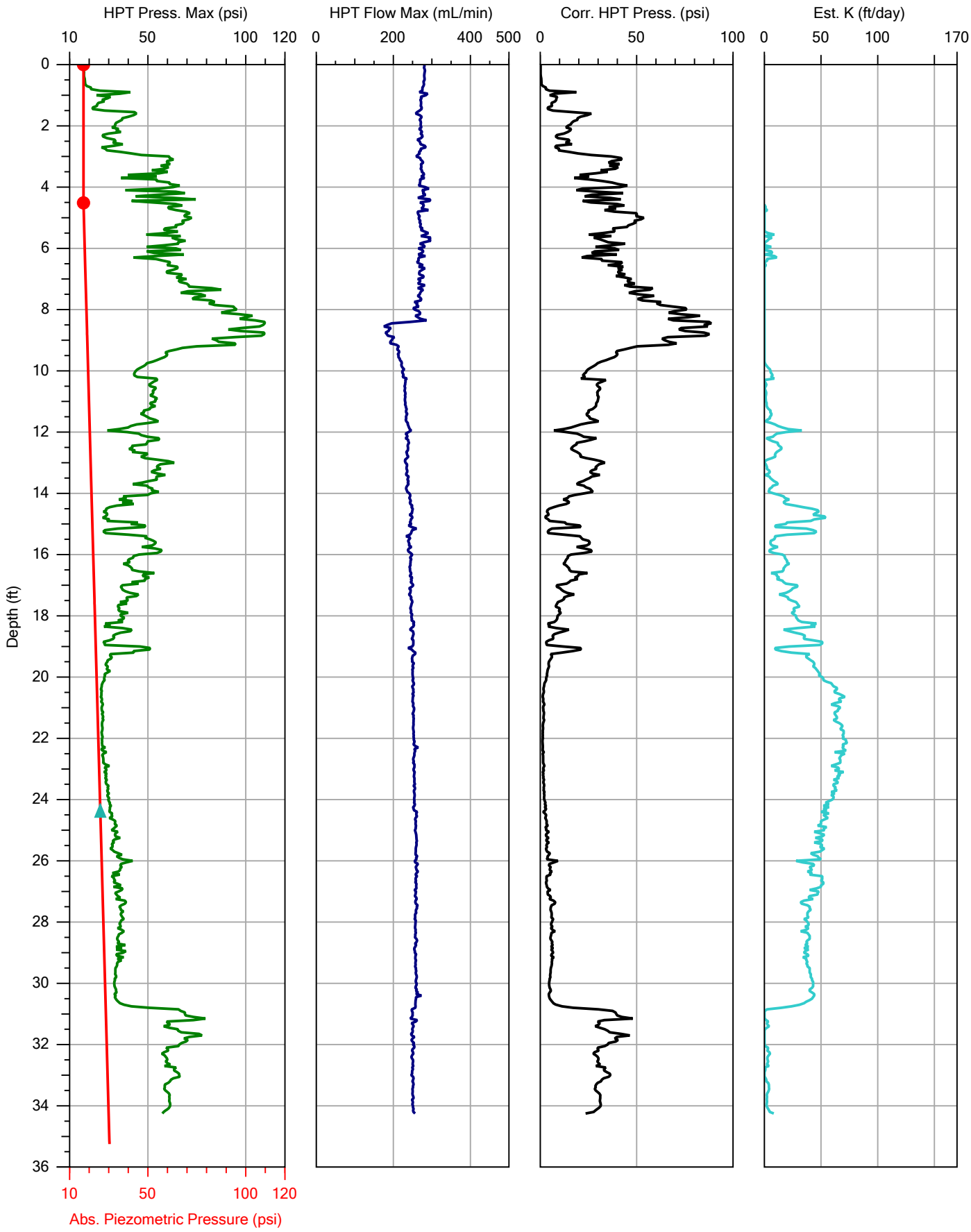

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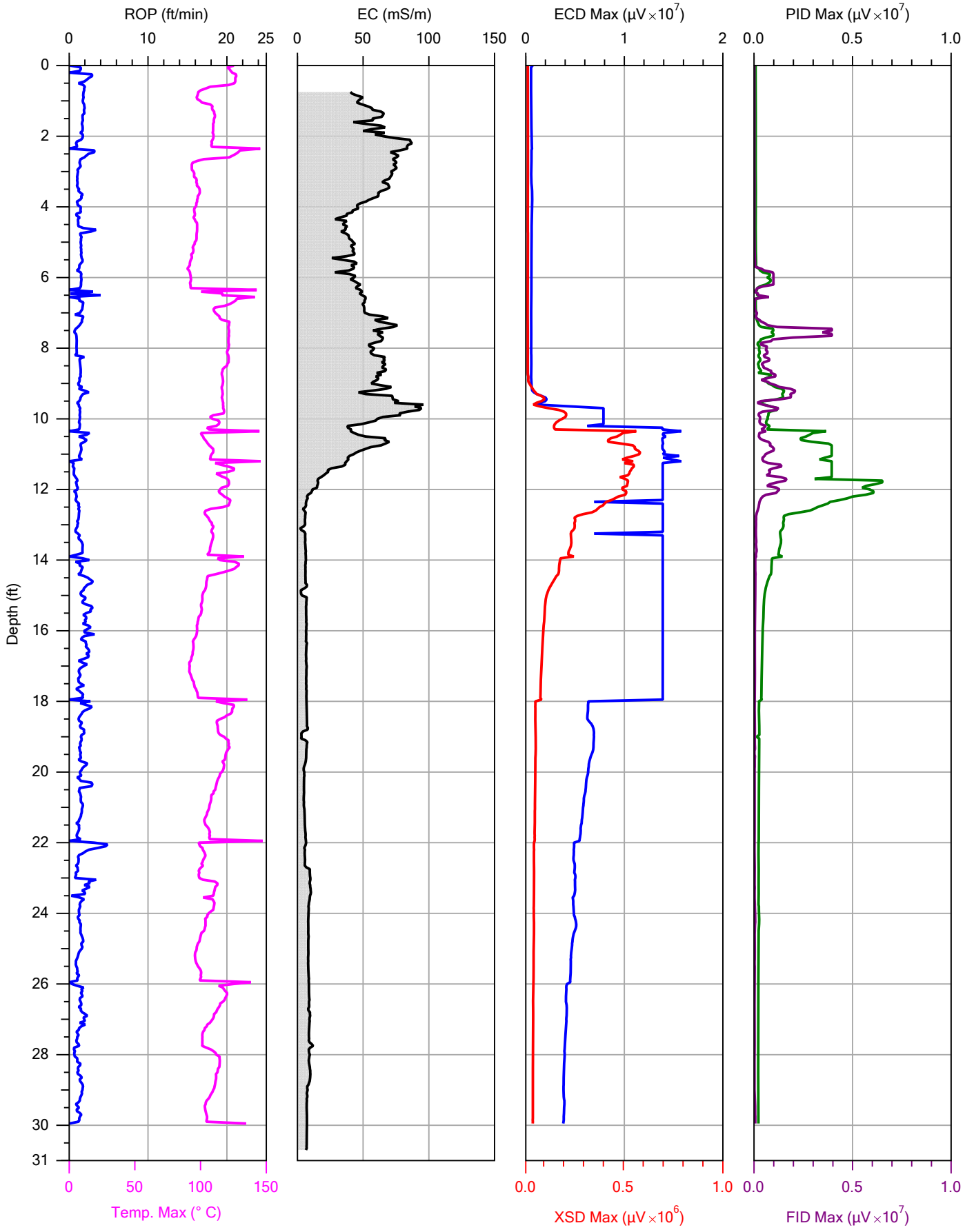

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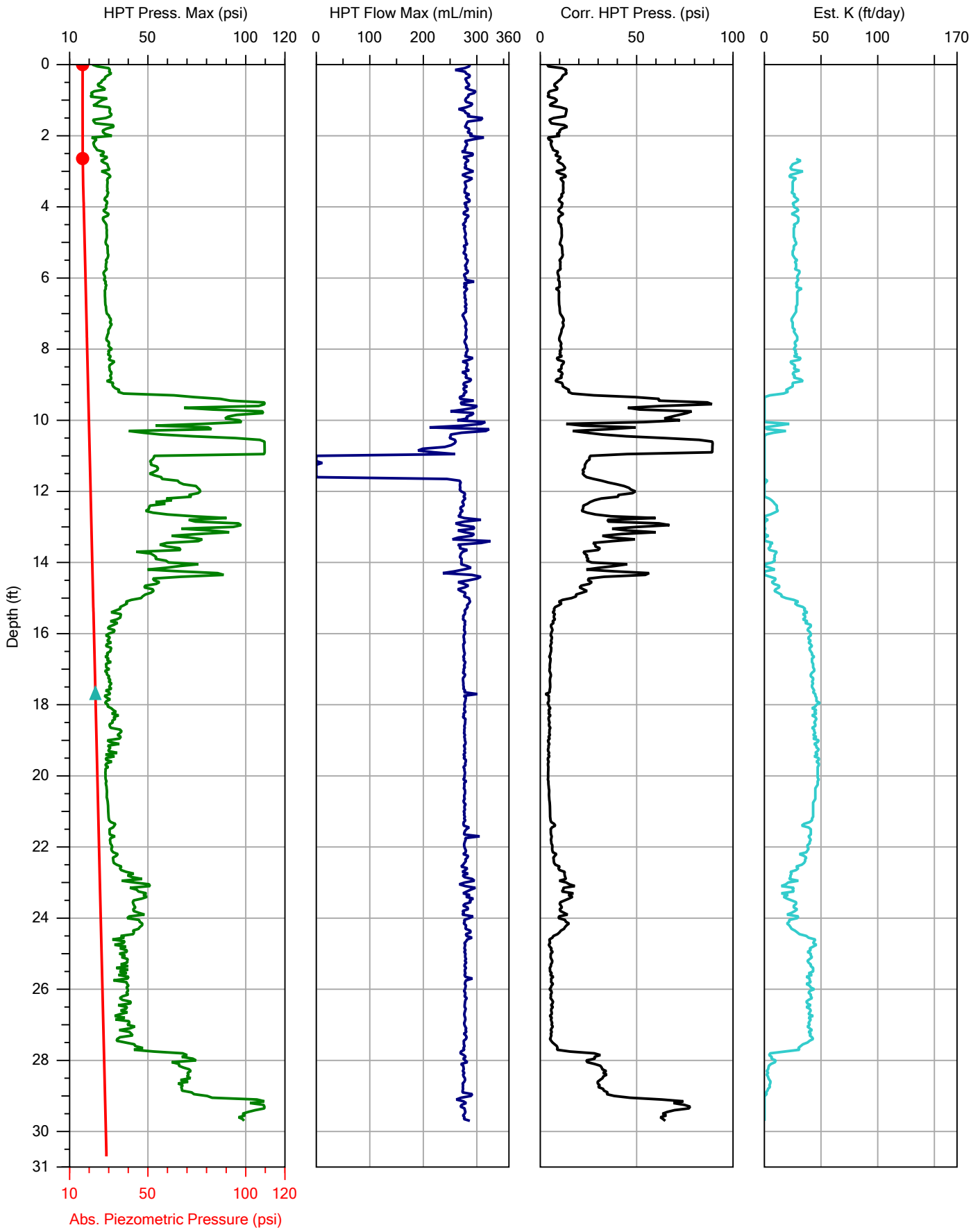

CASCADE
DRILLING | TECHNICAL SERVICES

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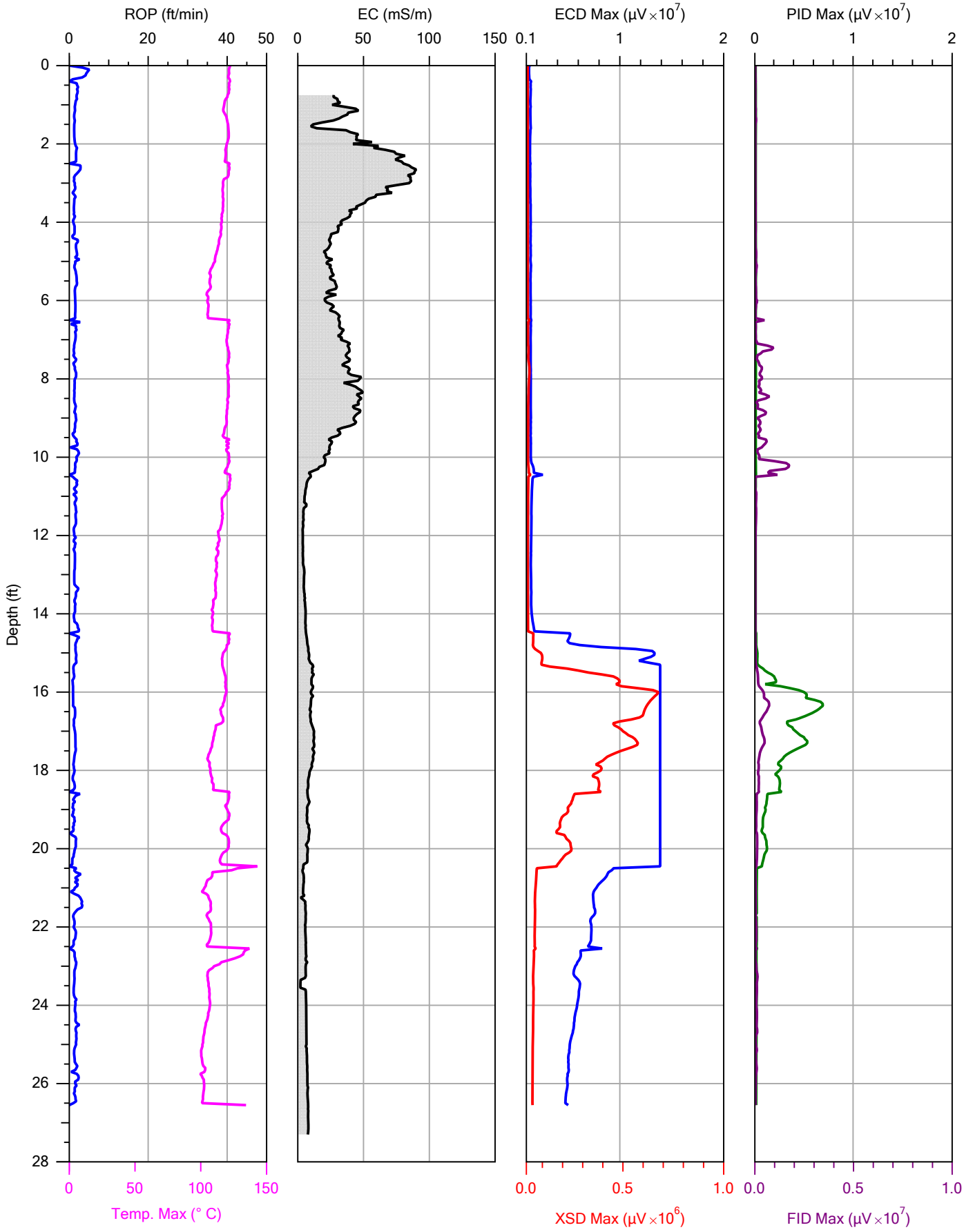

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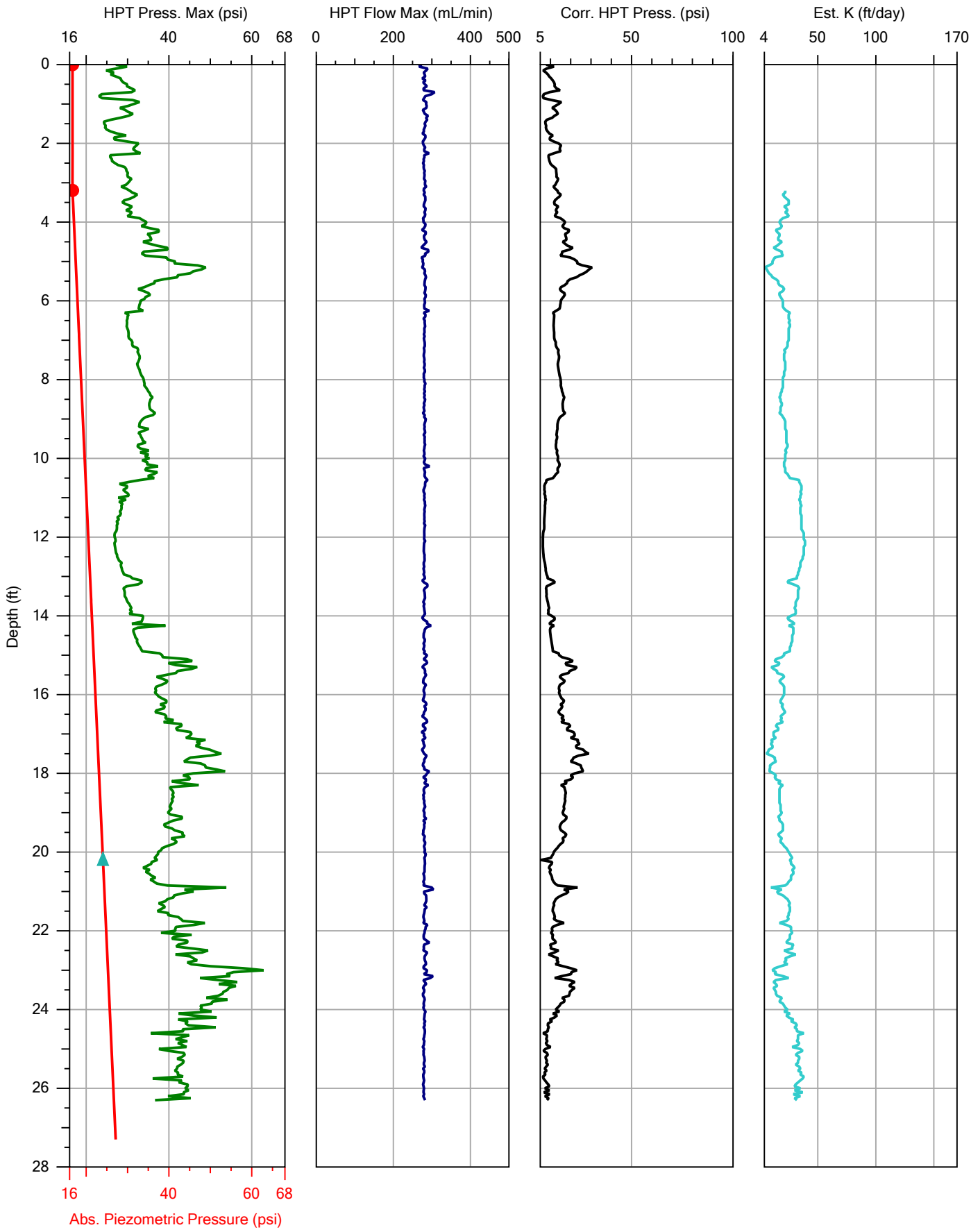

CASCADE
DRILLING | TECHNICAL SERVICES

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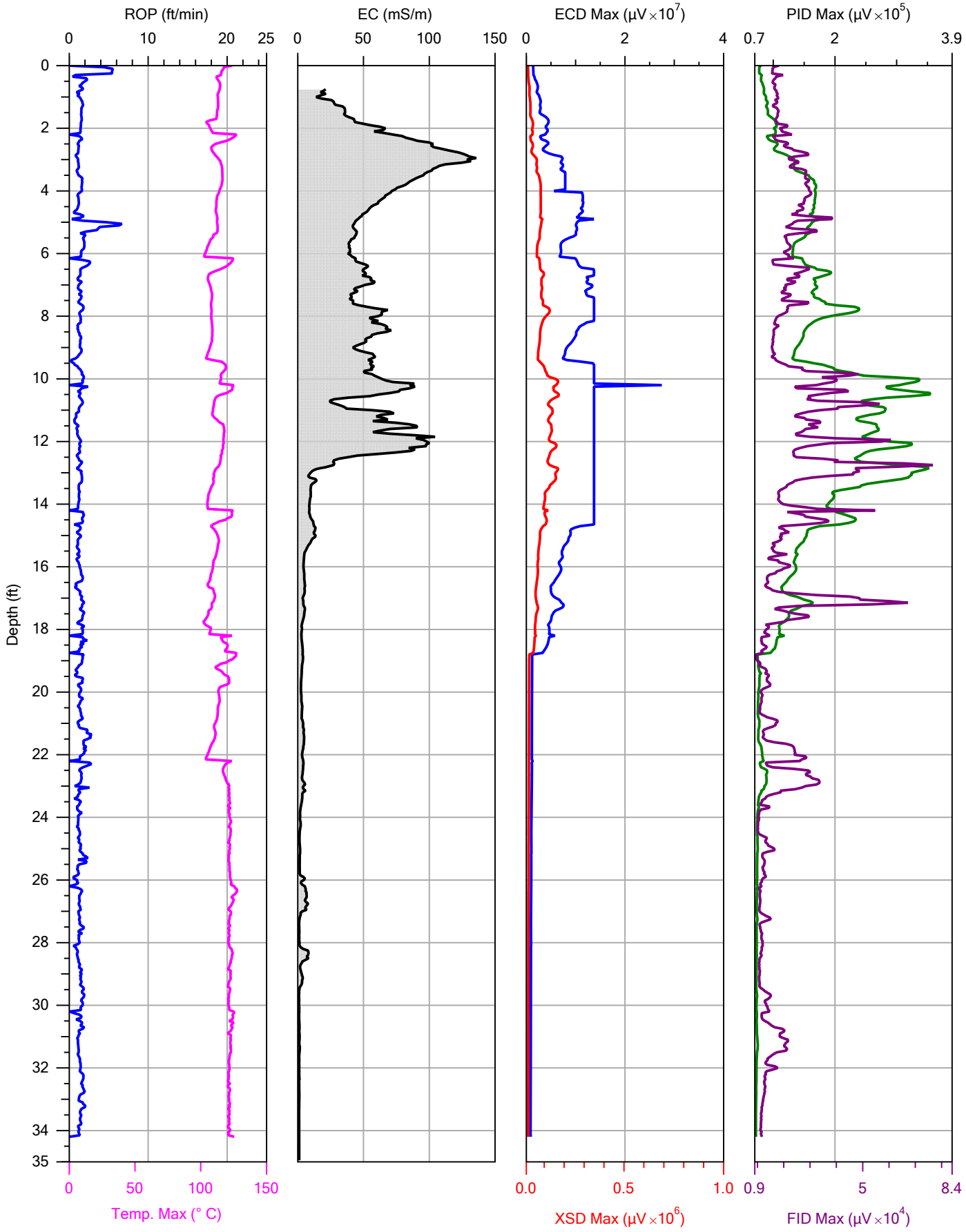

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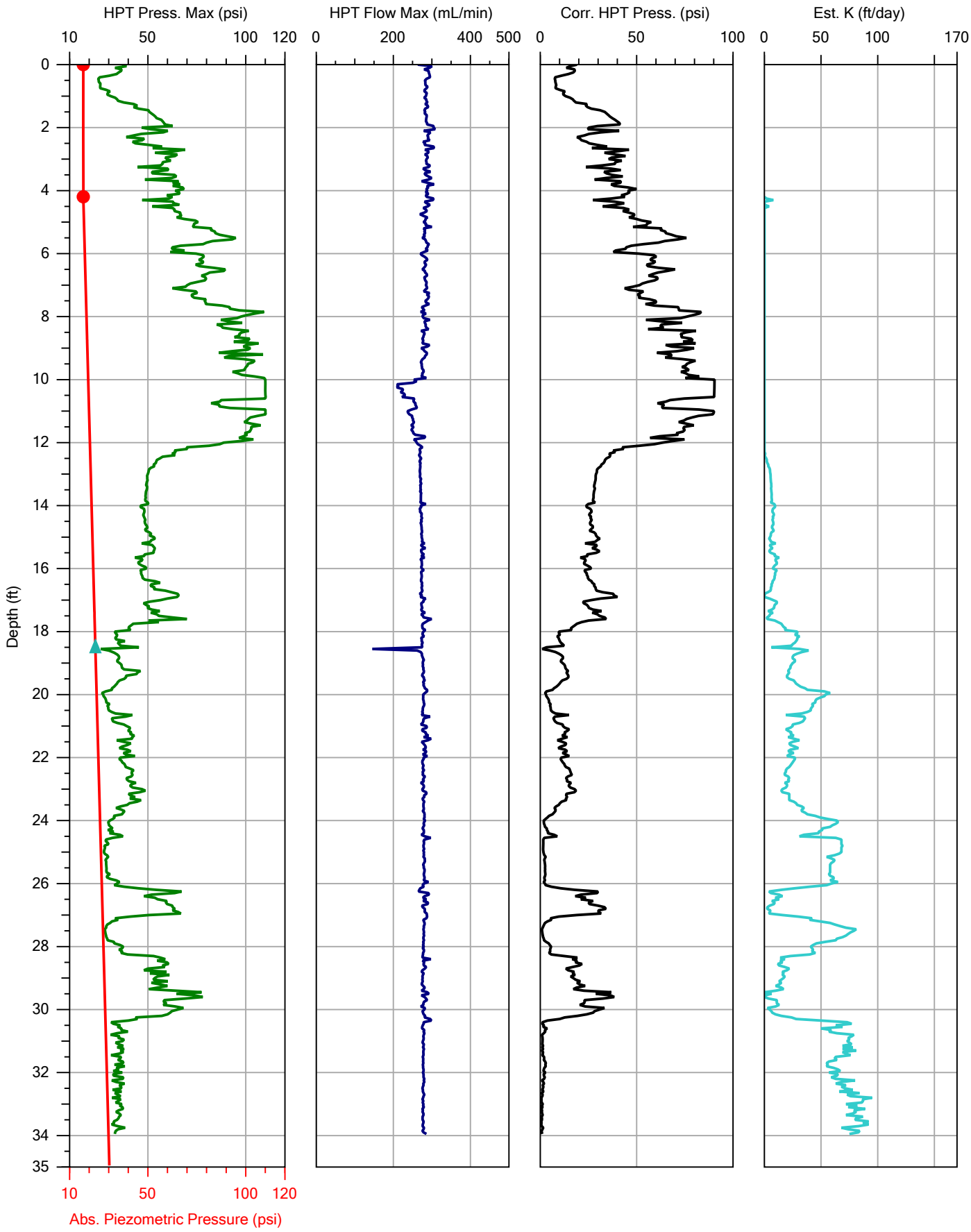

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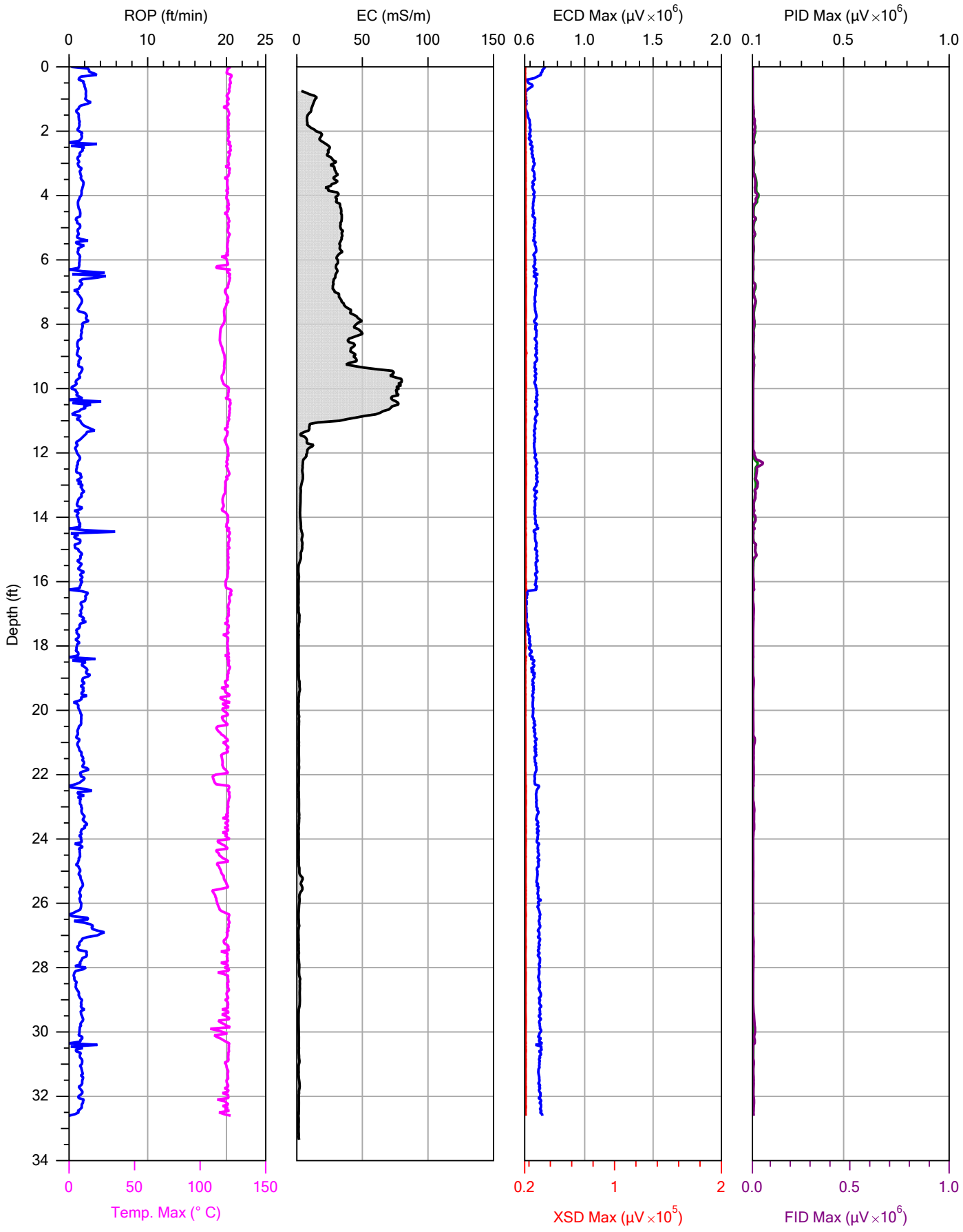

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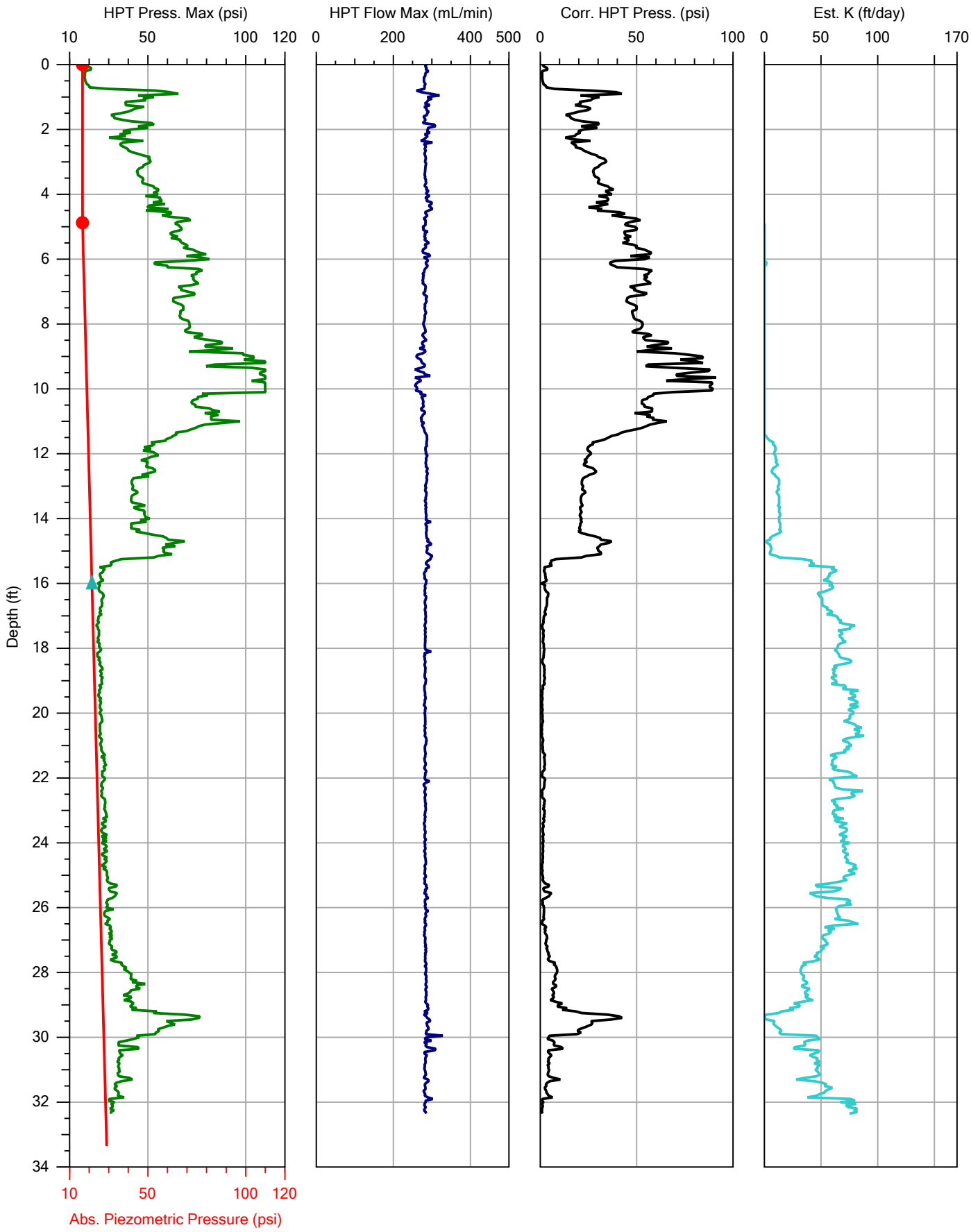

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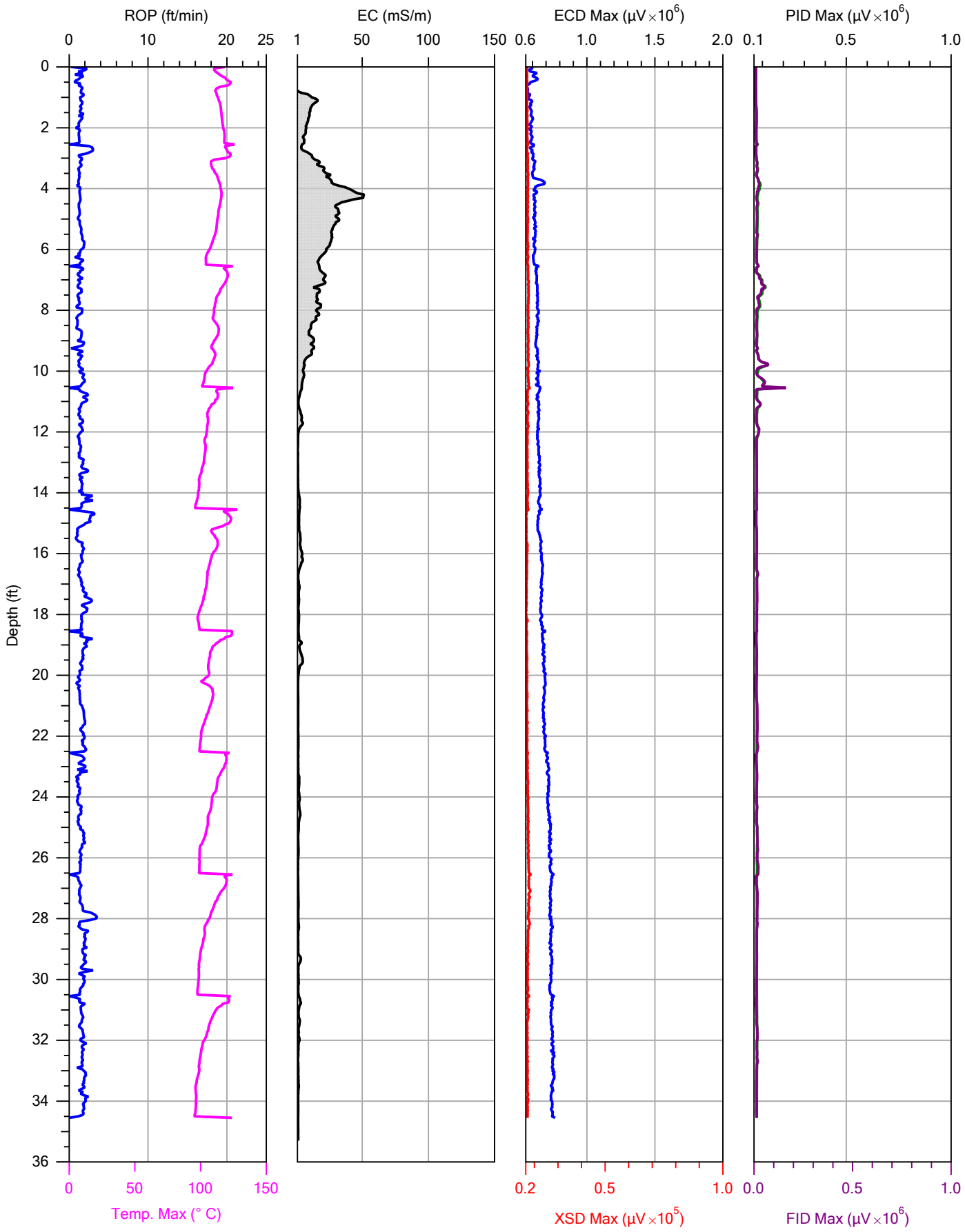

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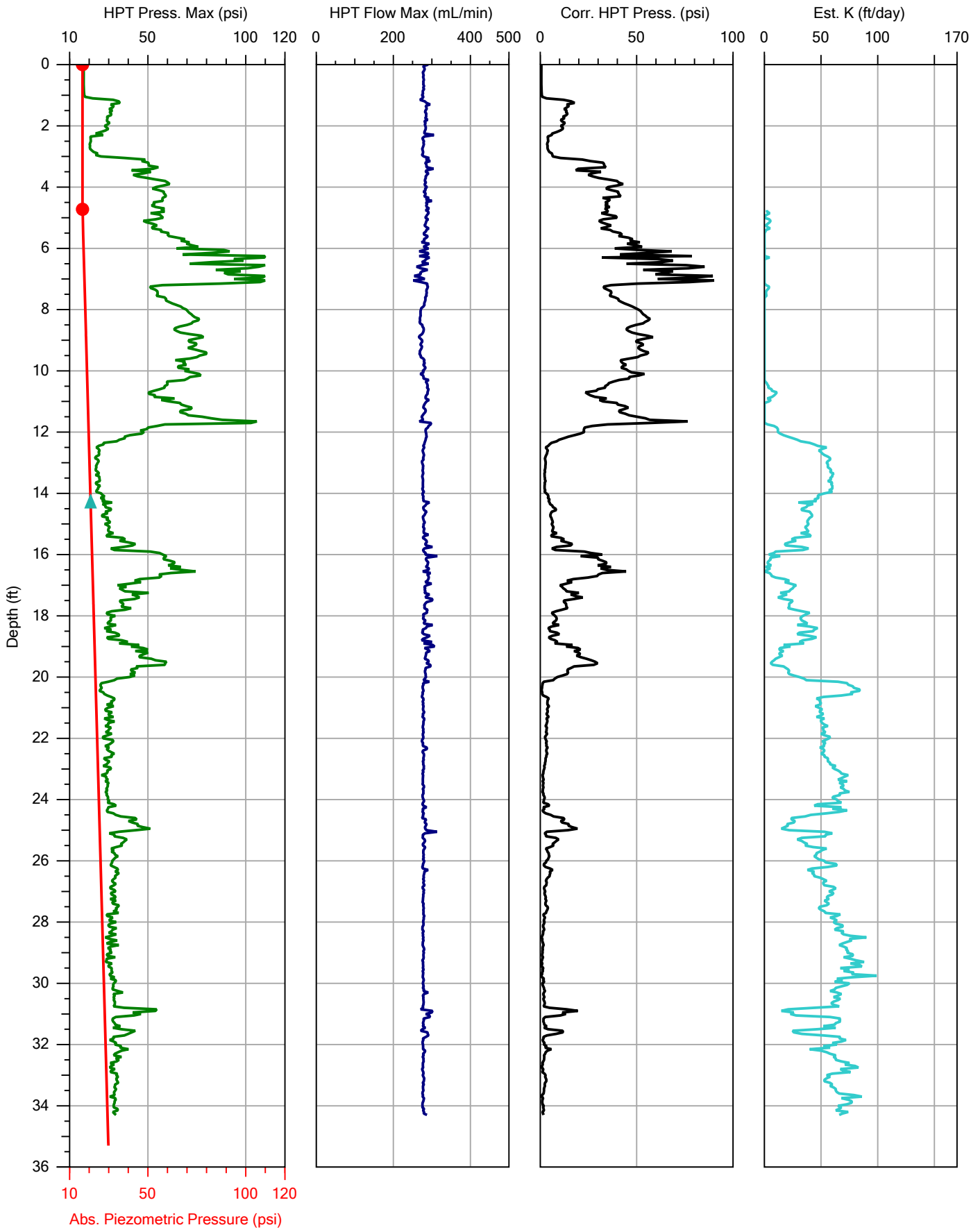

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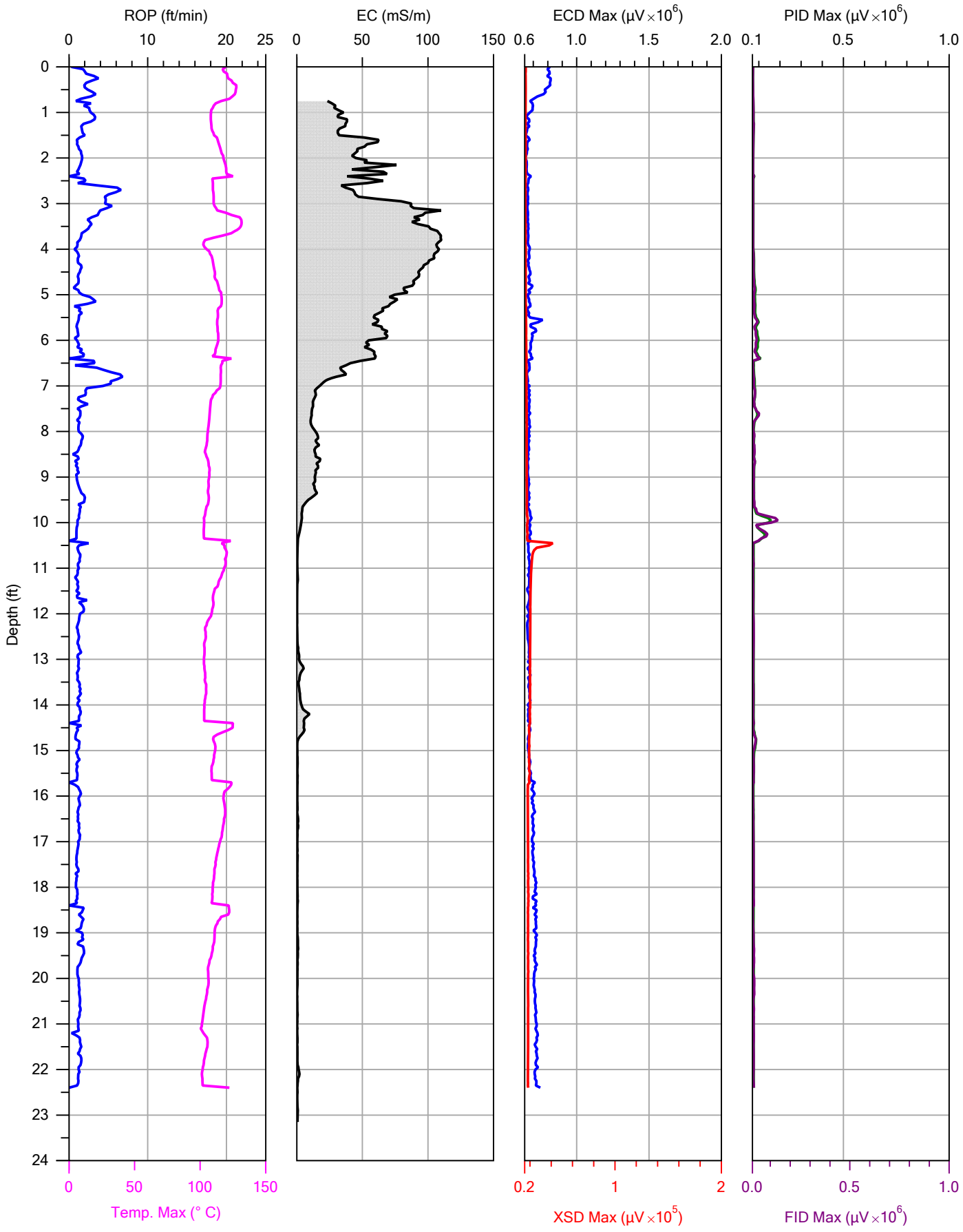

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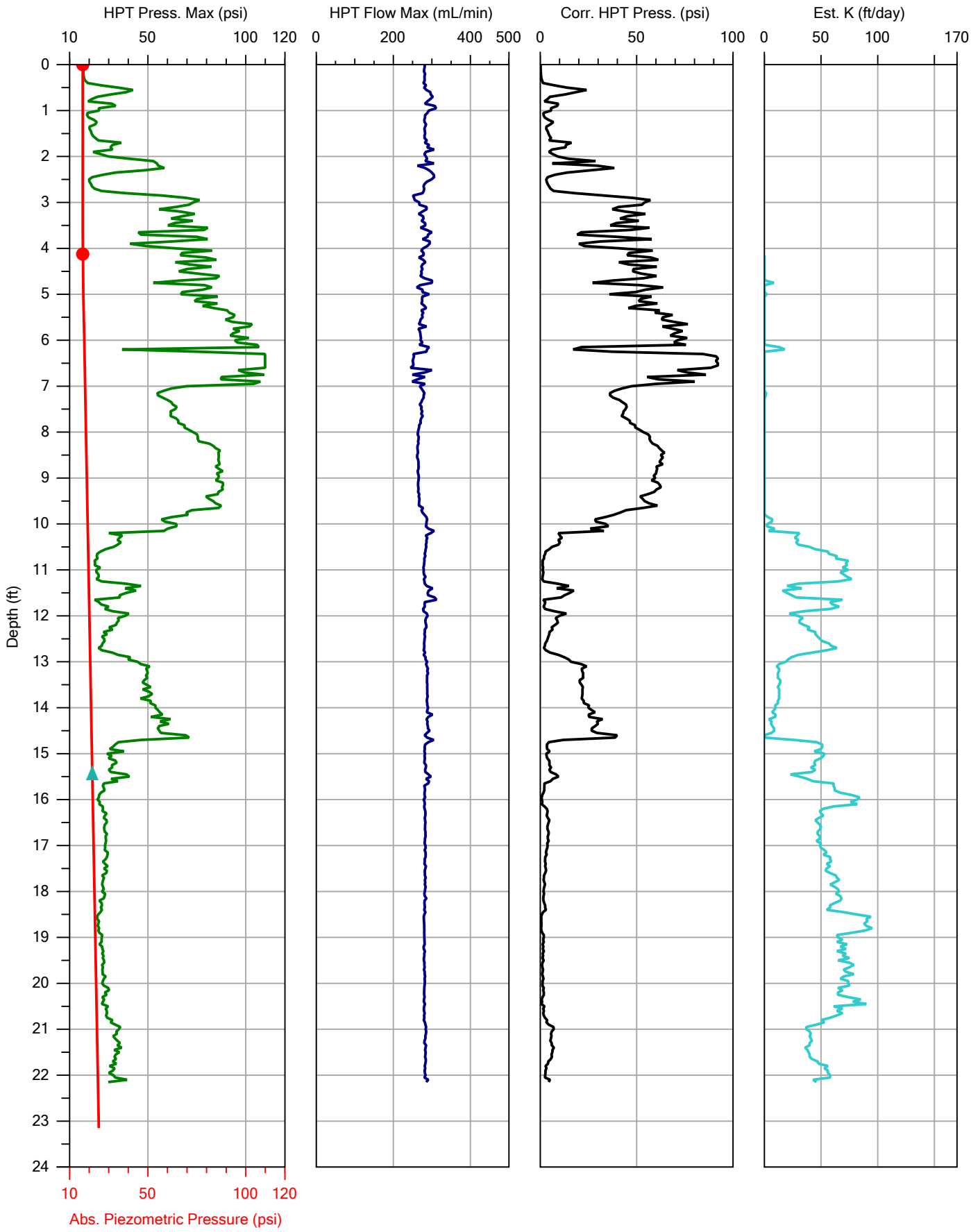

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DRILLING | TECHNICAL SERVICES

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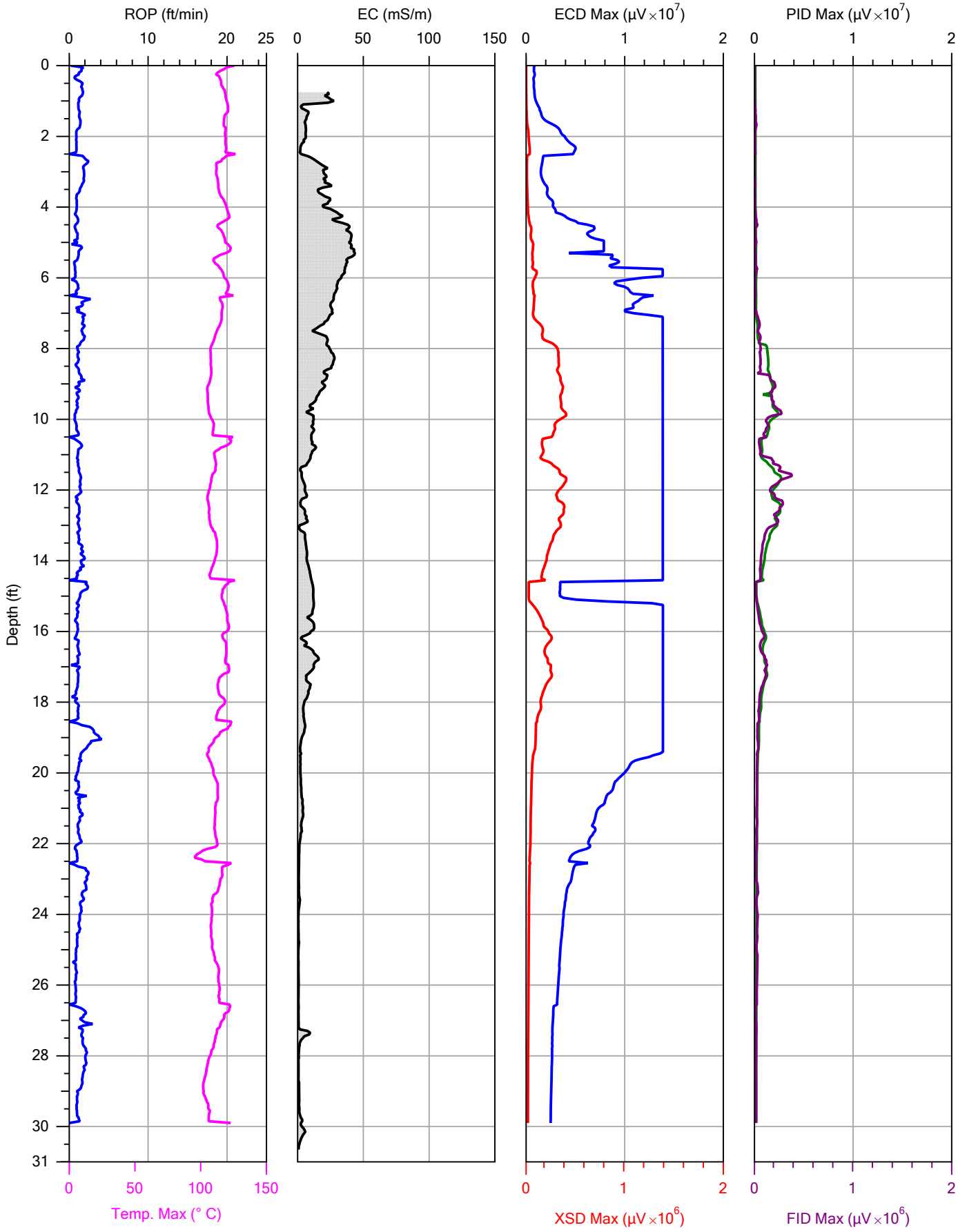

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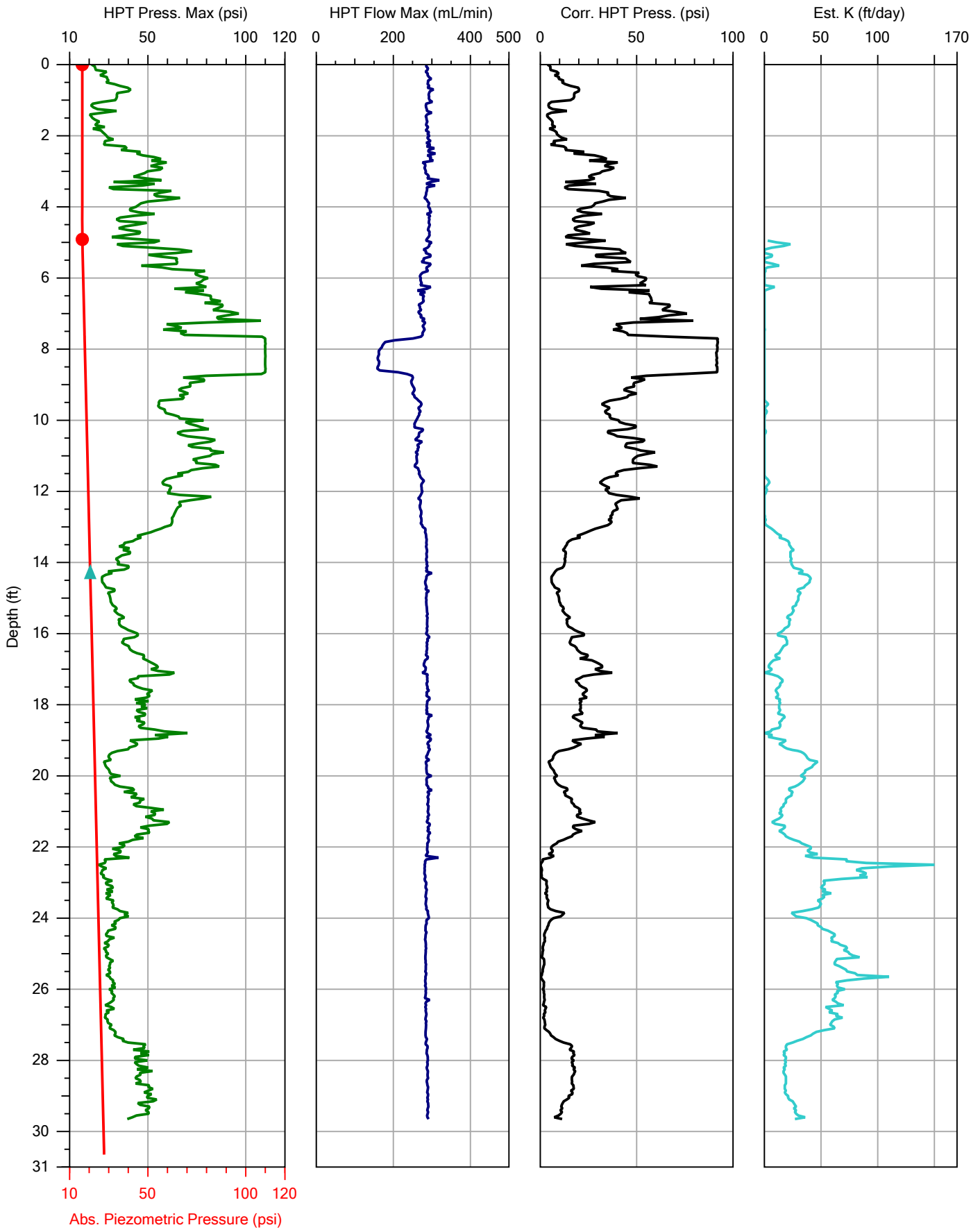

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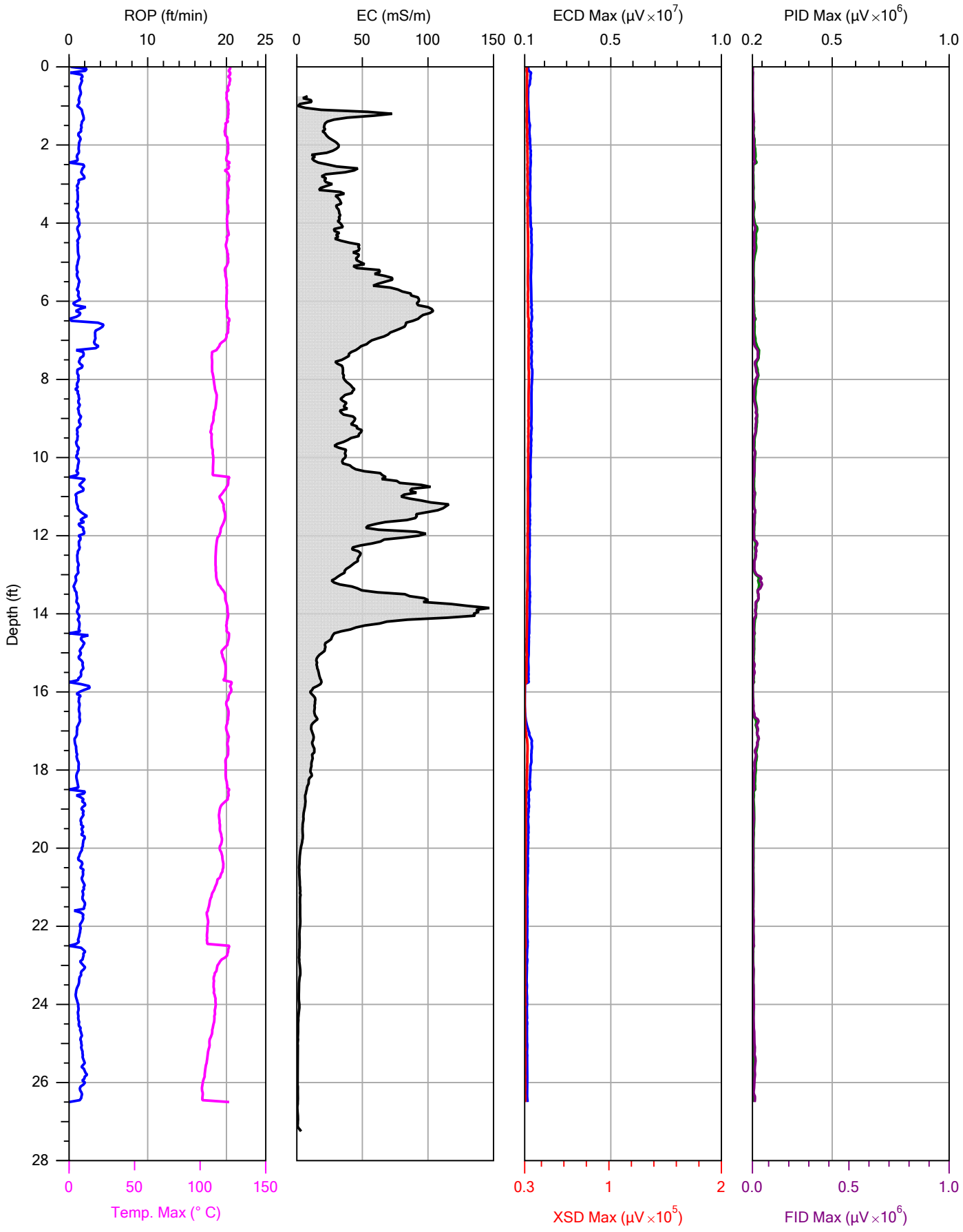

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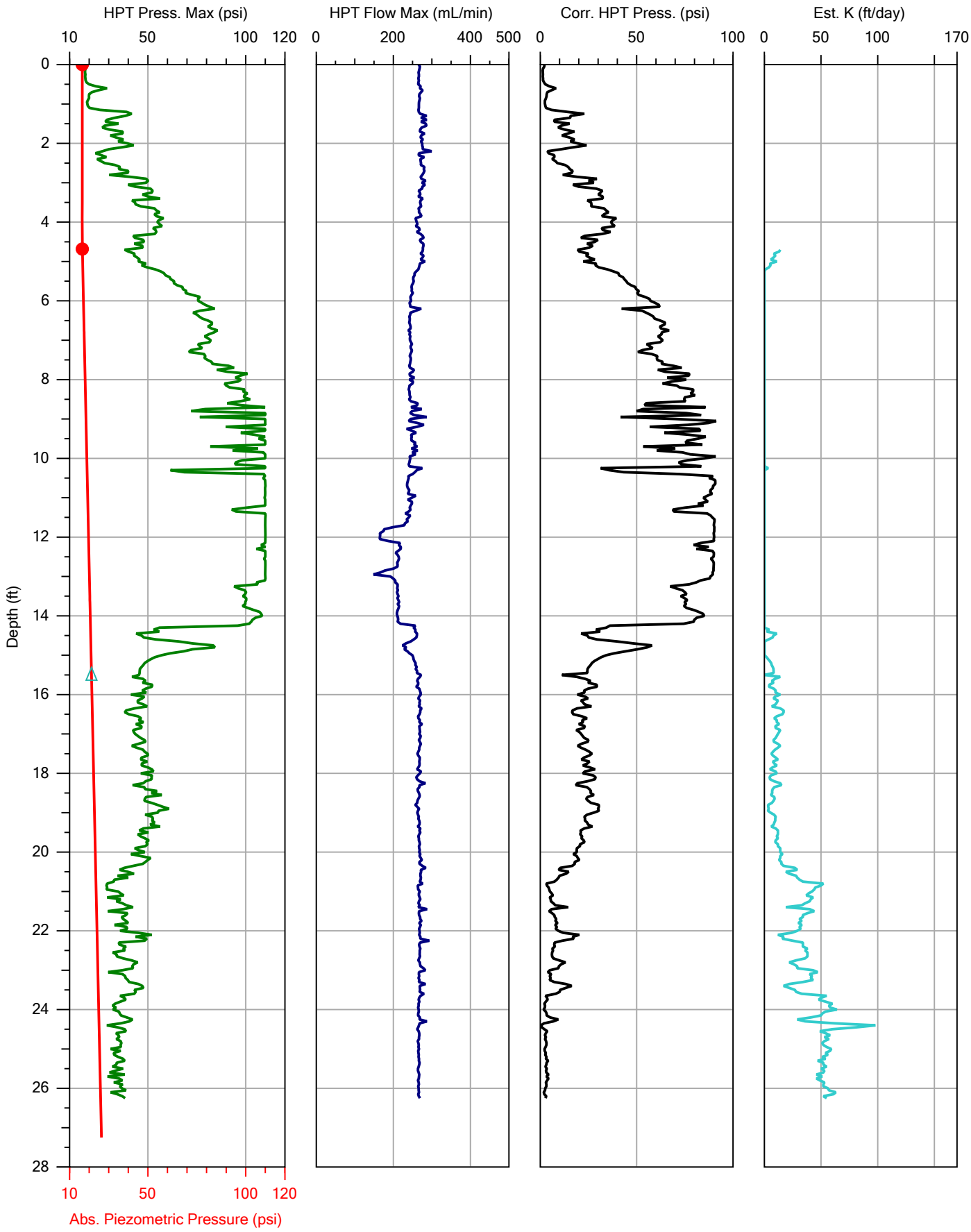

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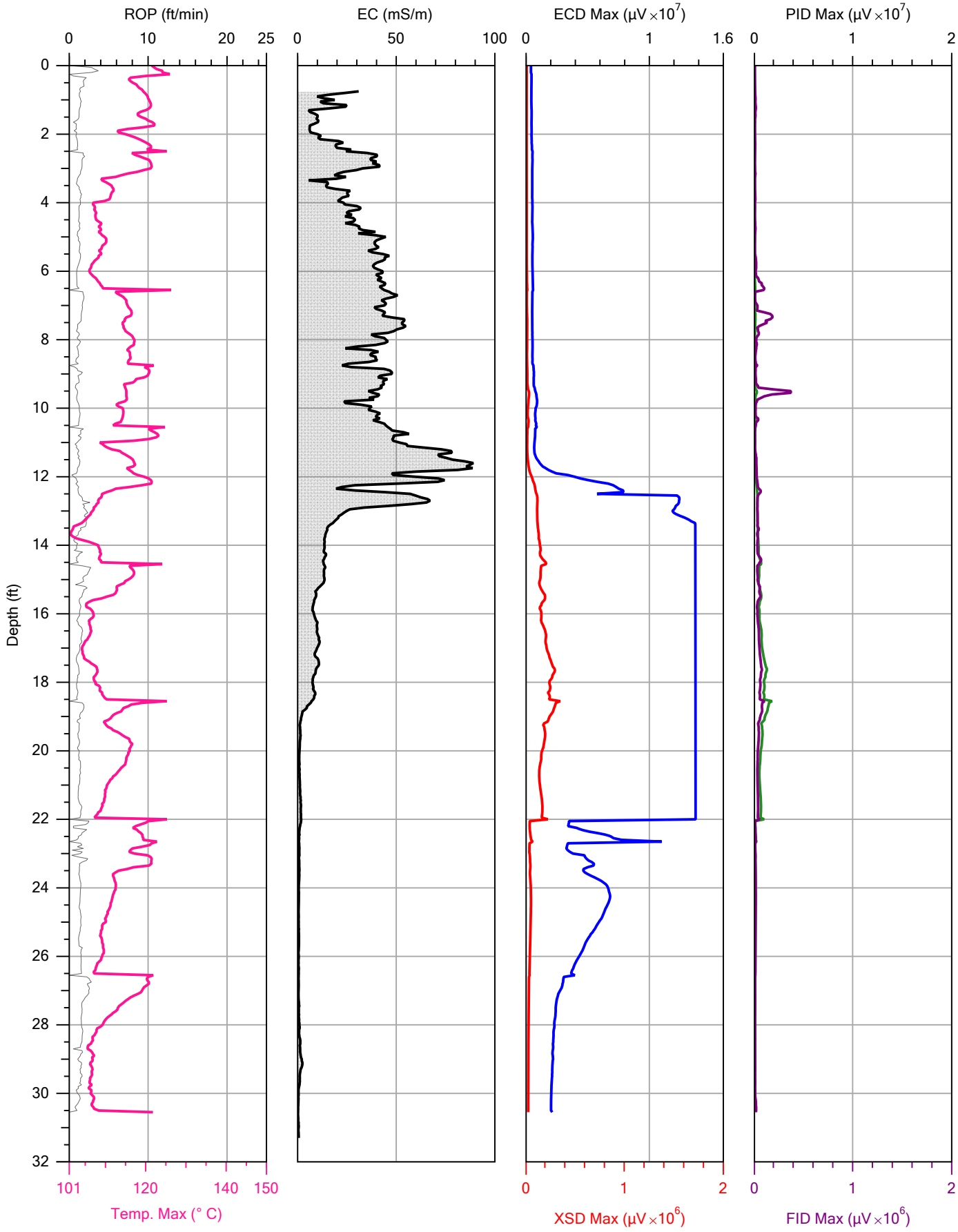

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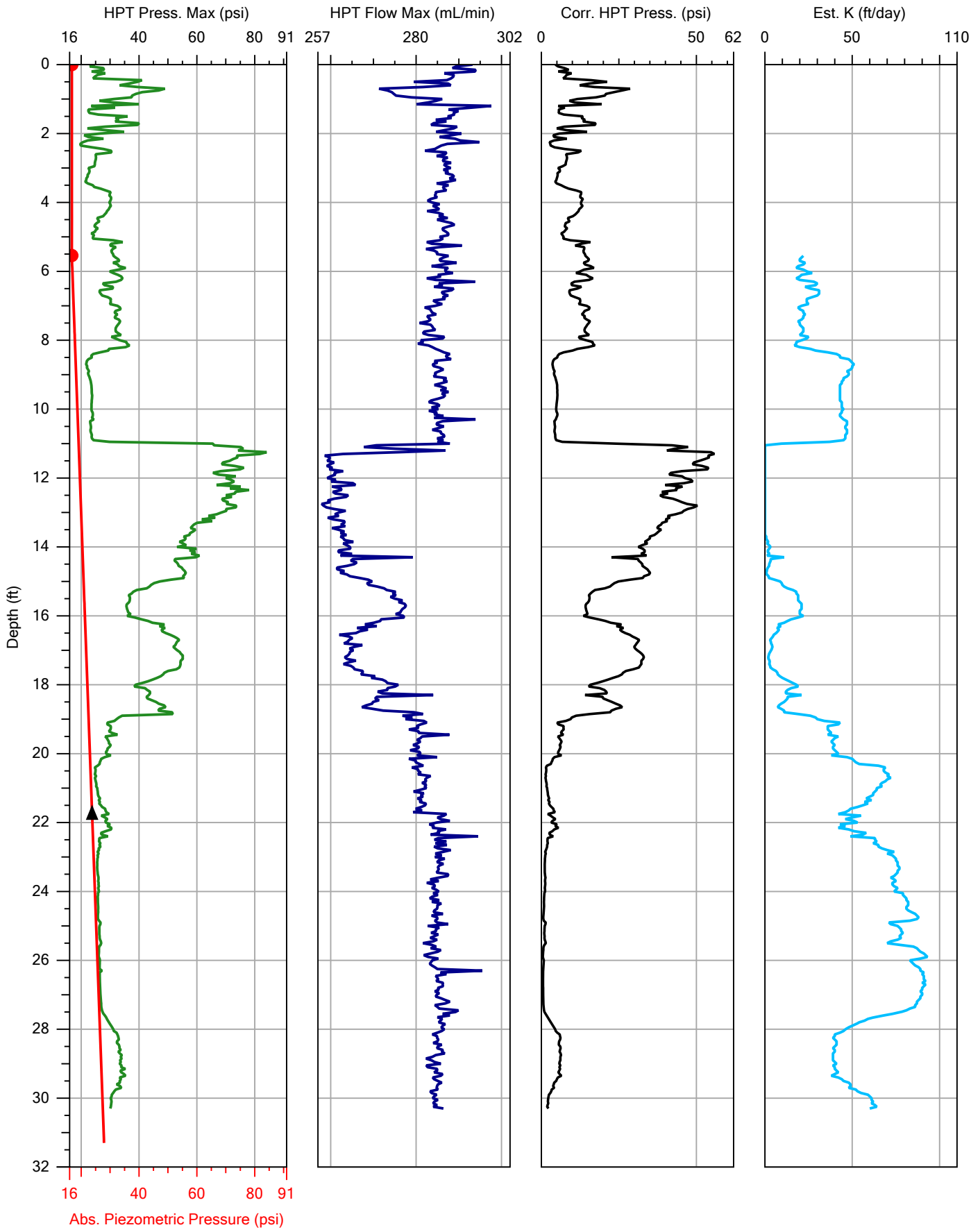

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DRILLING | TECHNICAL SERVICES
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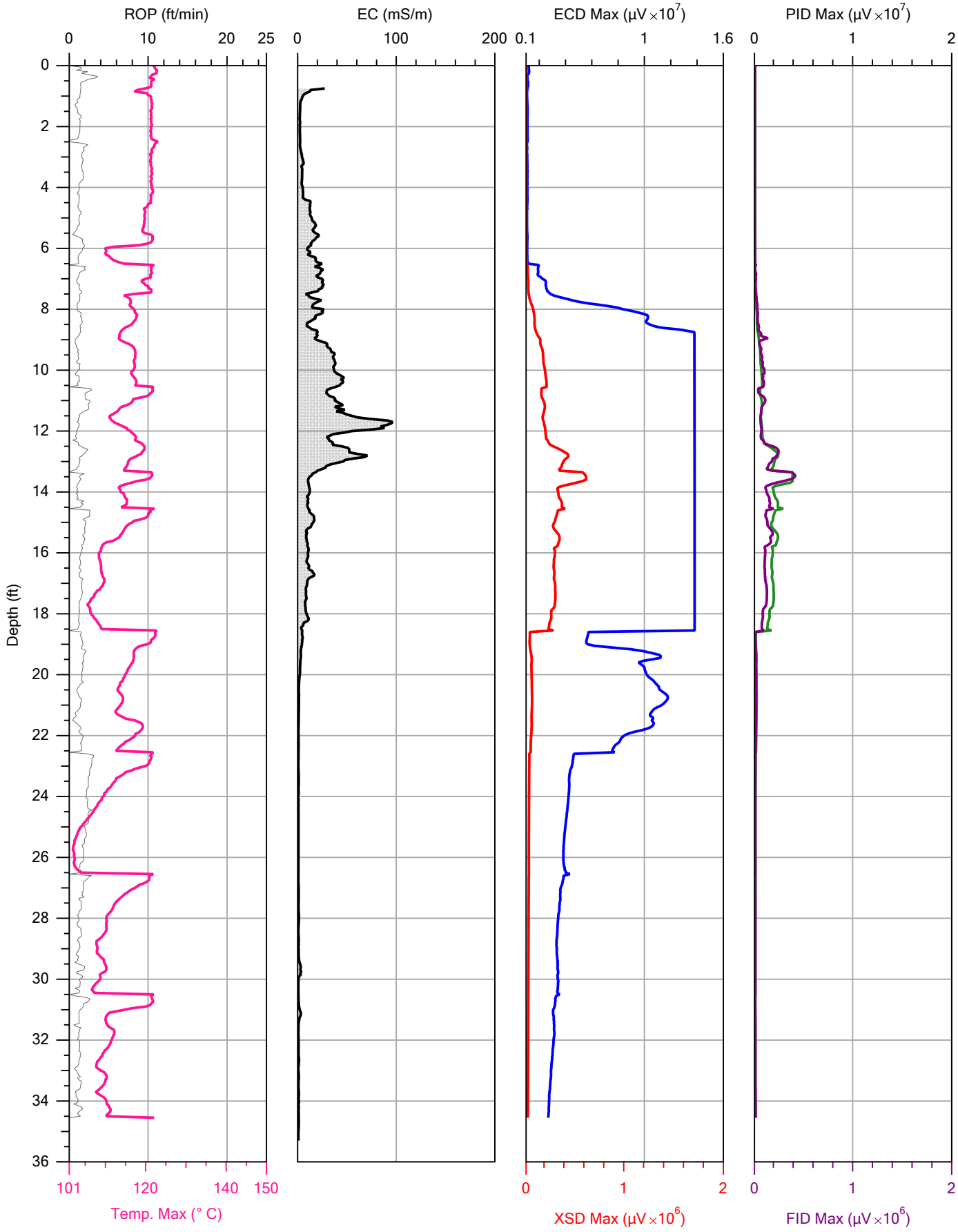

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DRILLING | TECHNICAL SERVICES
EXCELLENCE ON EVERY LEVEL™

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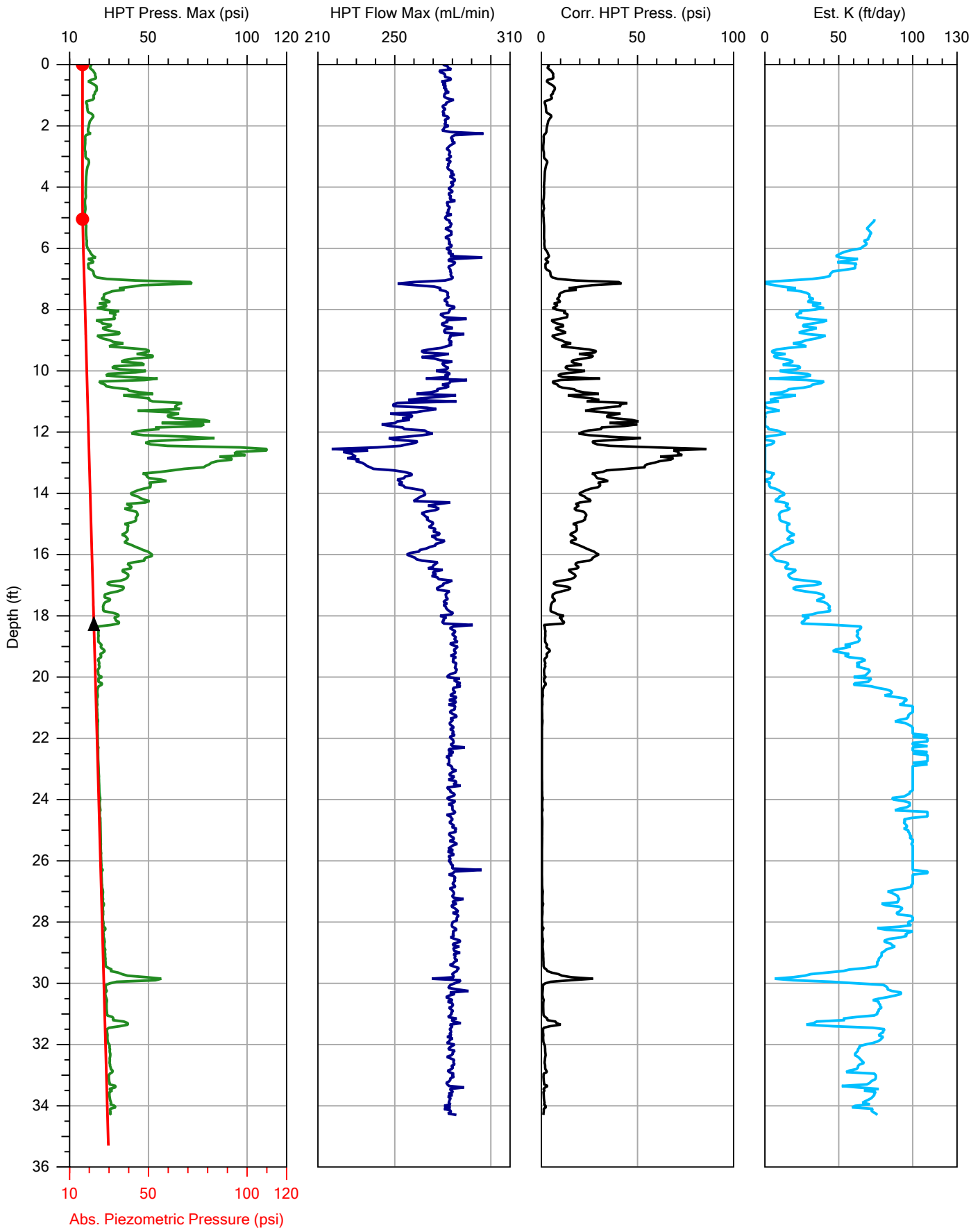

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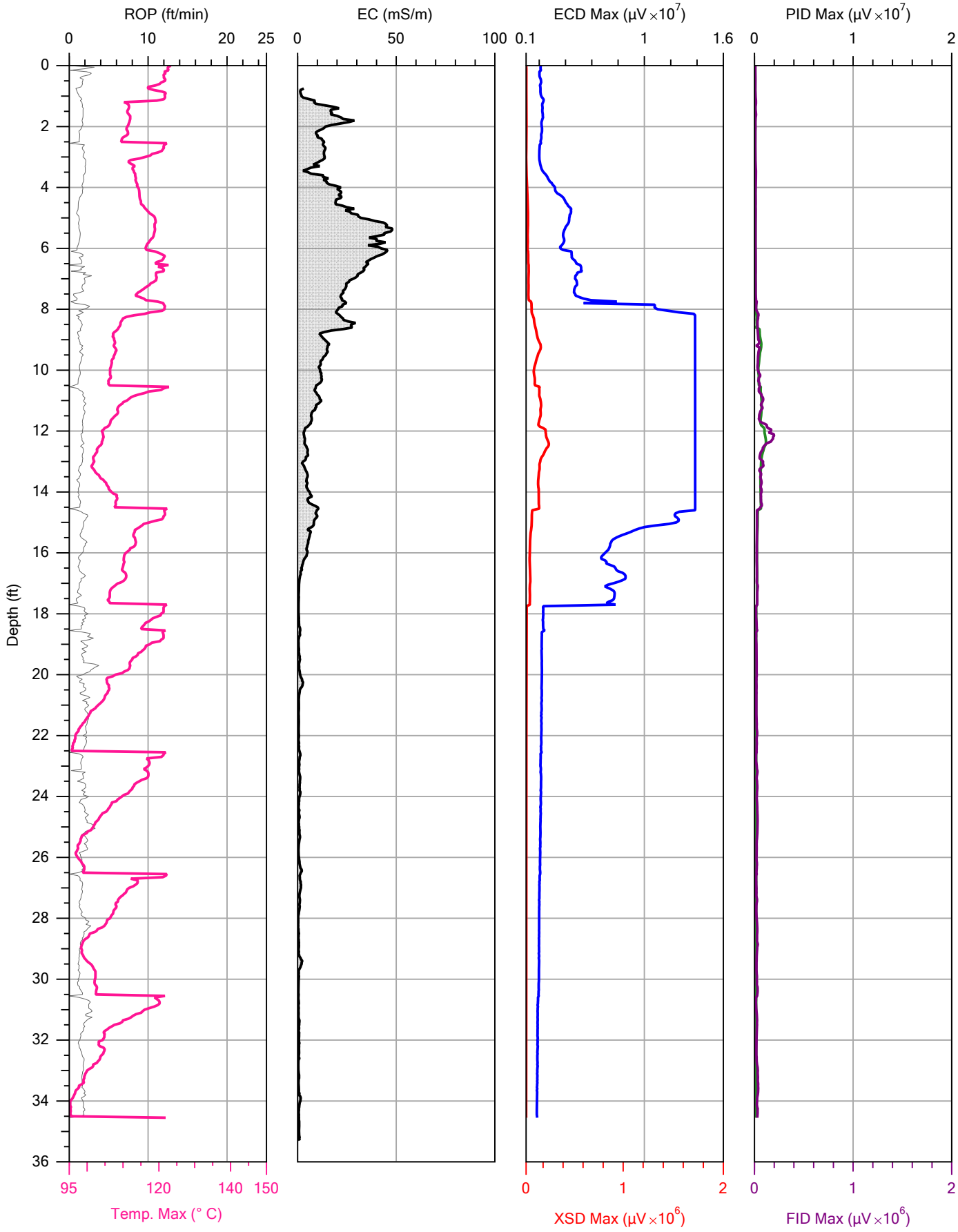

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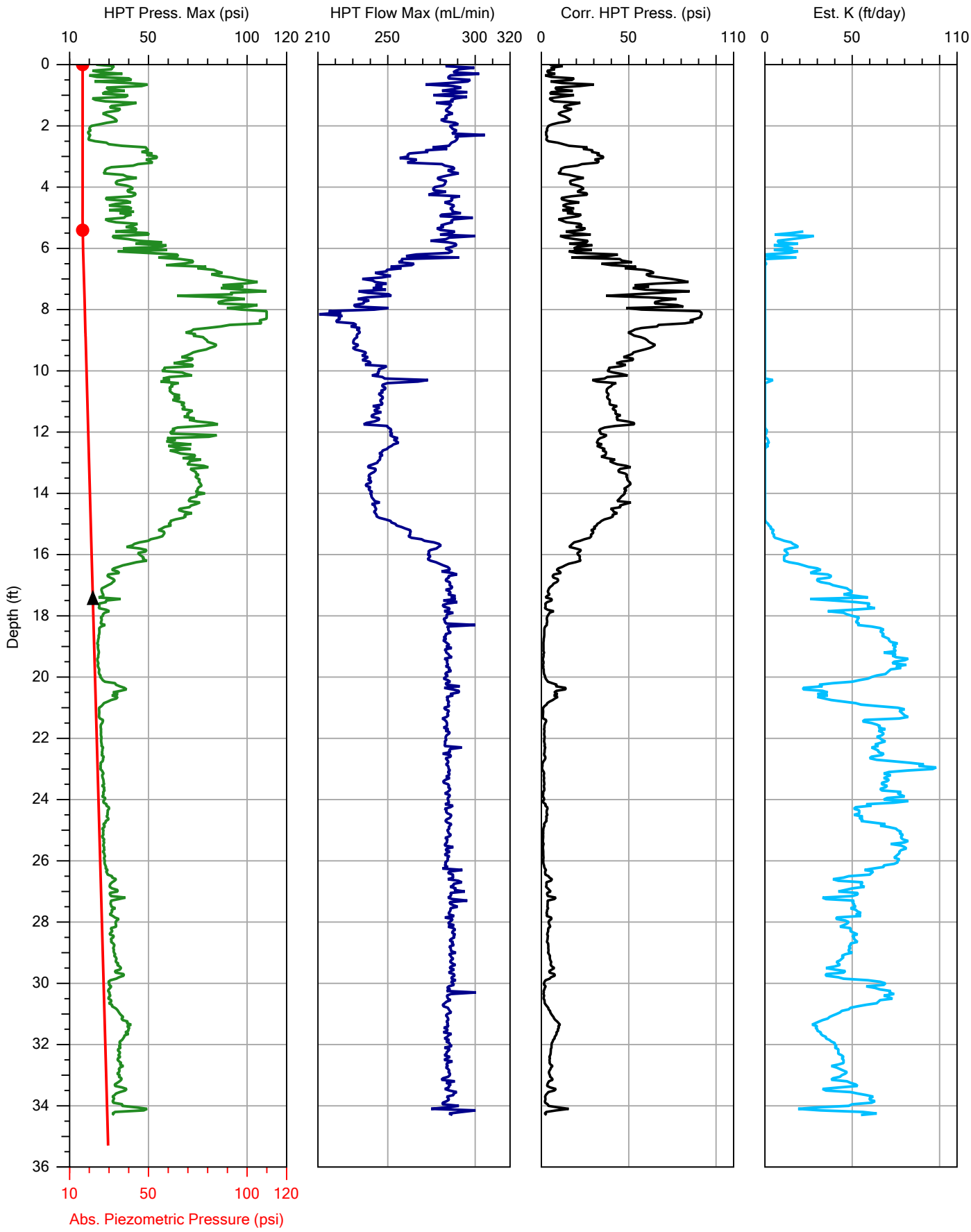

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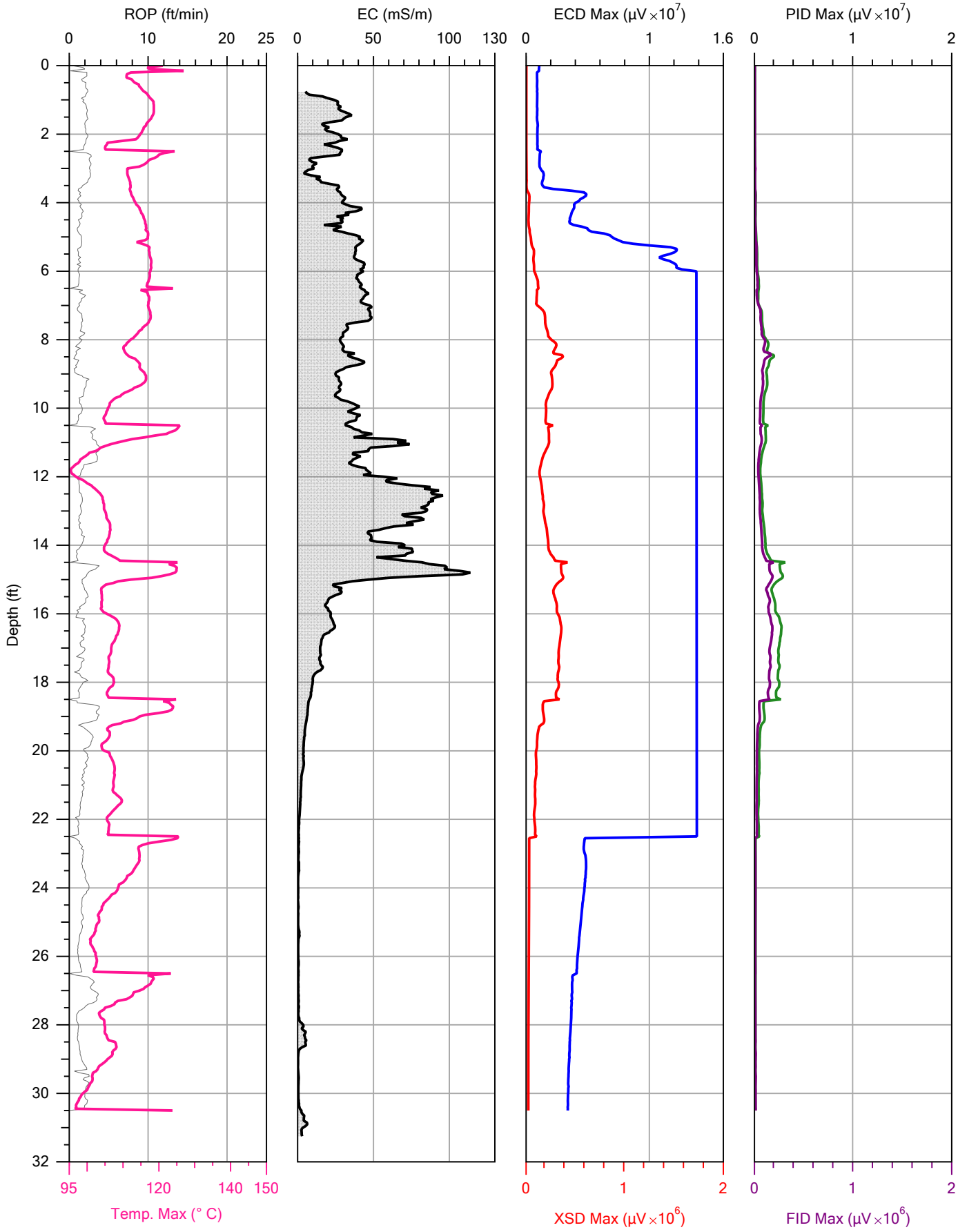

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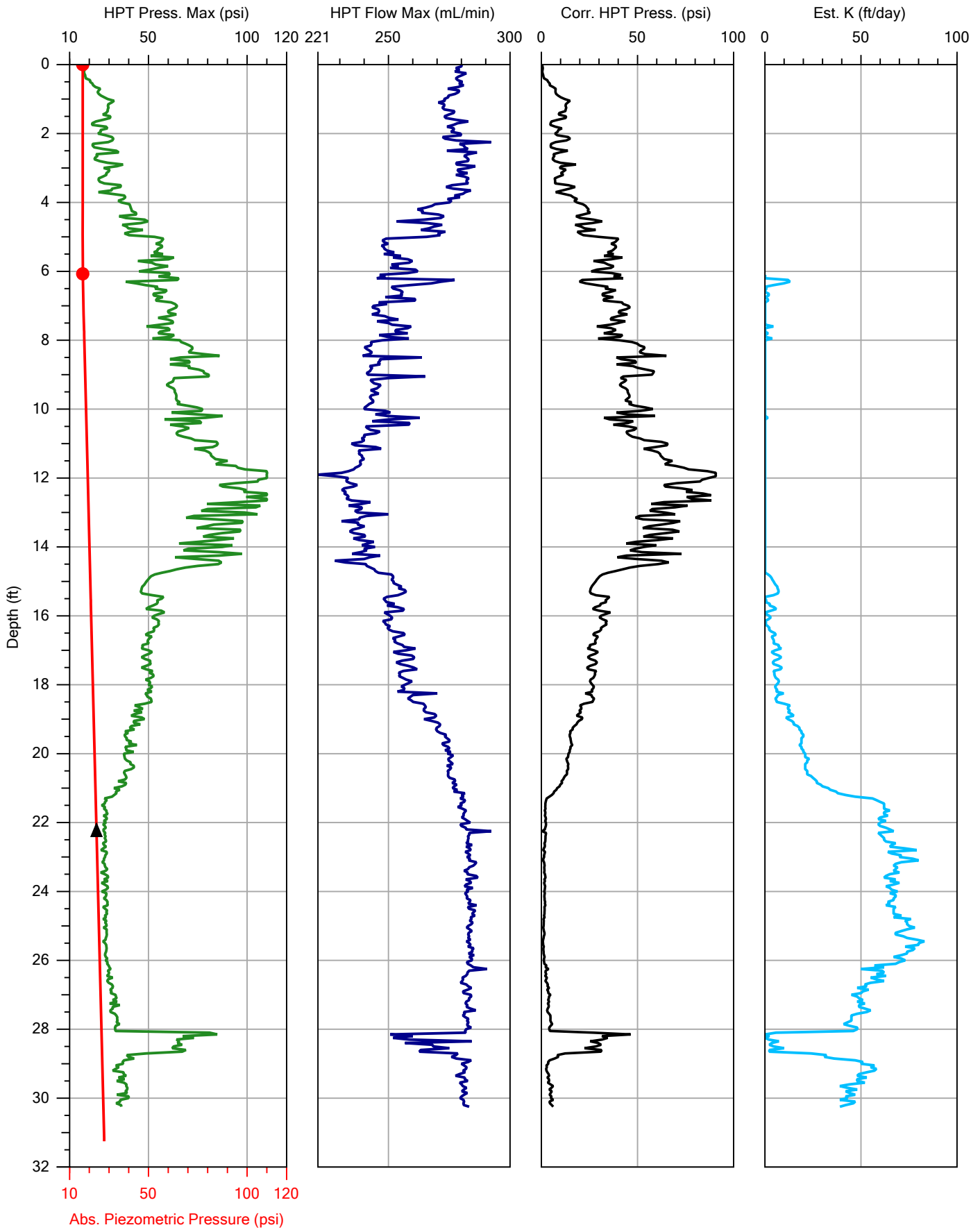

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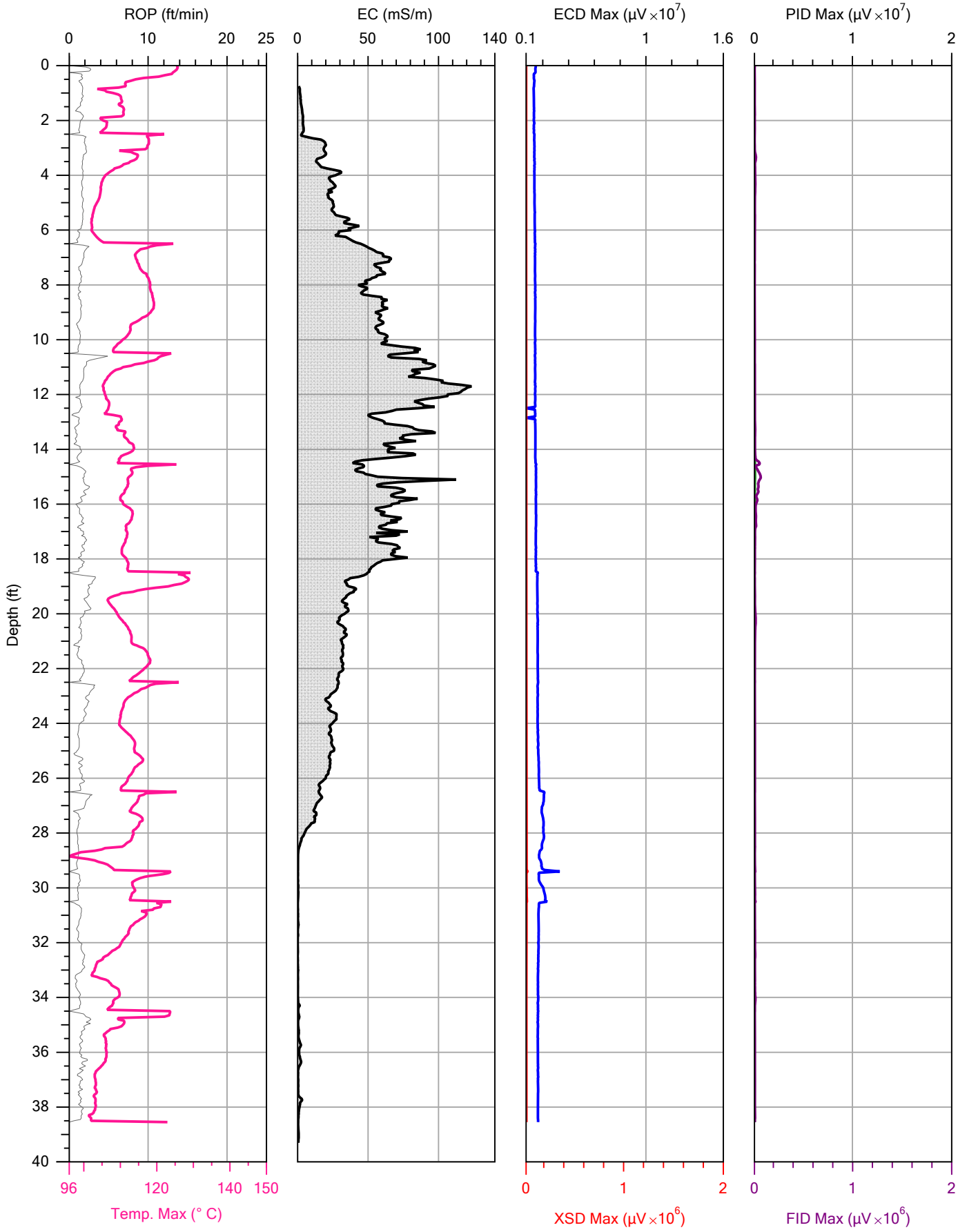

CASCADE
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EXCELLENCE ON EVERY LEVEL™

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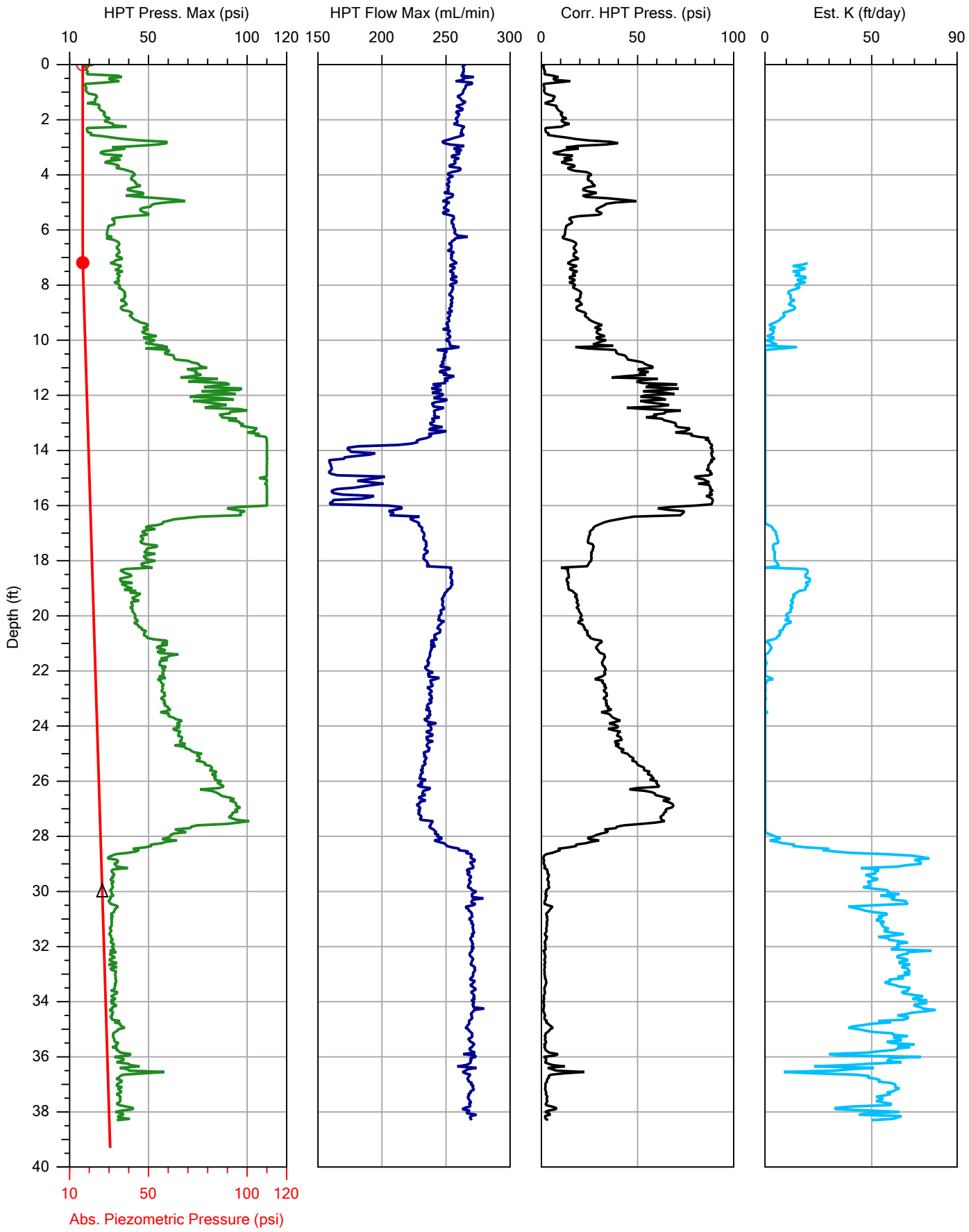

CASCADE
DRILLING | TECHNICAL SERVICES
EXCELLENCE ON EVERY LEVEL™

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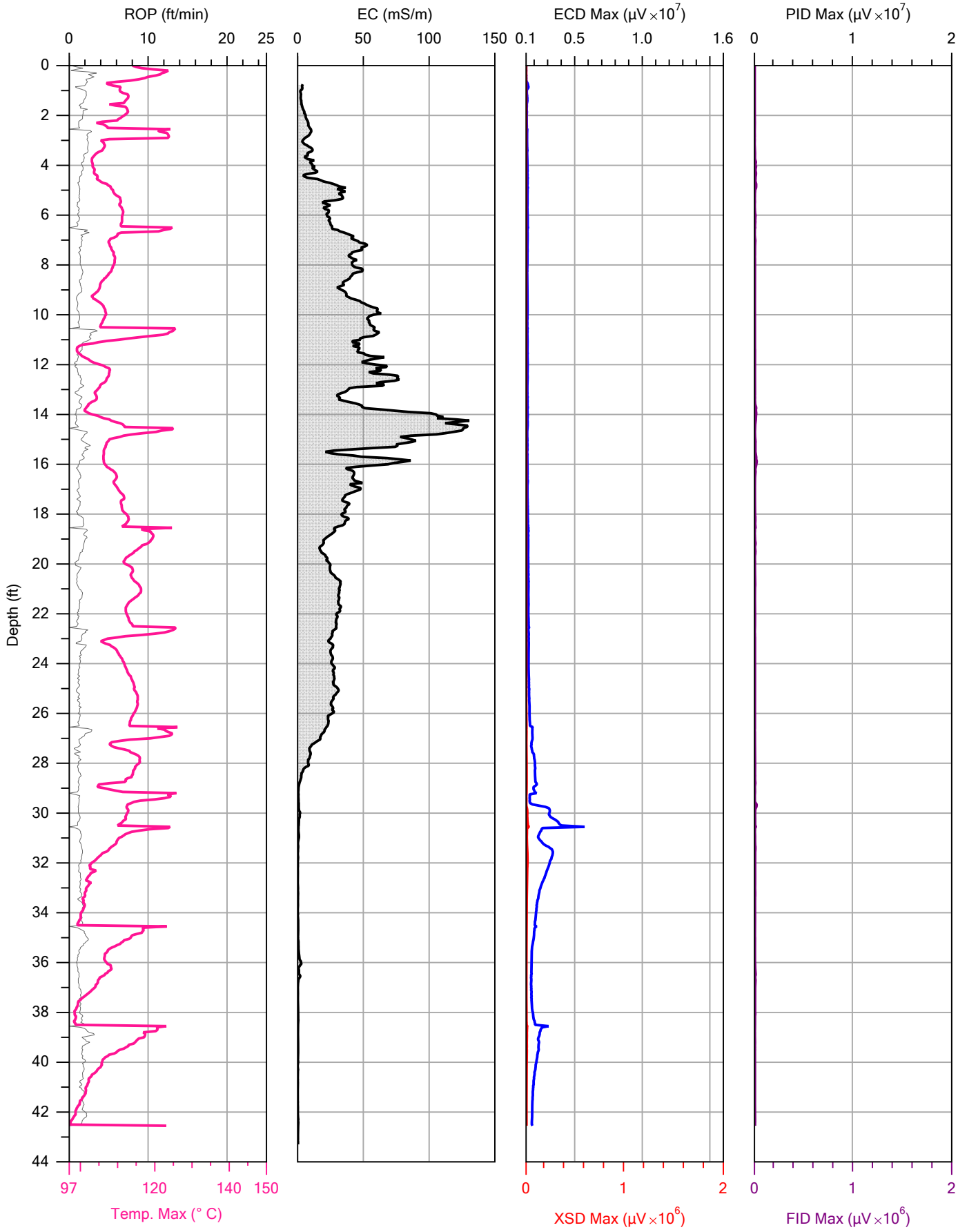

CASCADE
DRILLING | TECHNICAL SERVICES
EXCELLENCE ON EVERY LEVEL™

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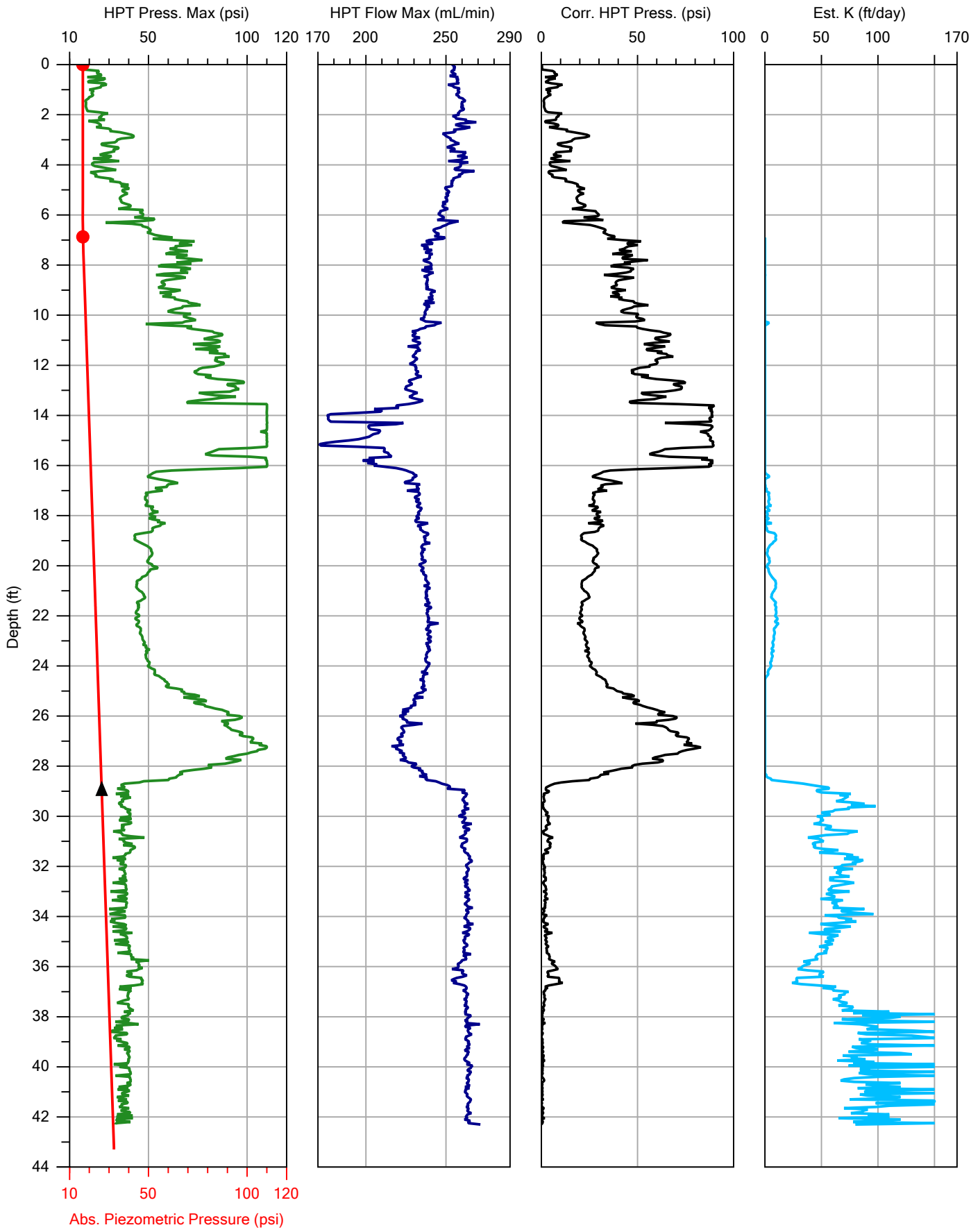

CASCADE
DRILLING | TECHNICAL SERVICES
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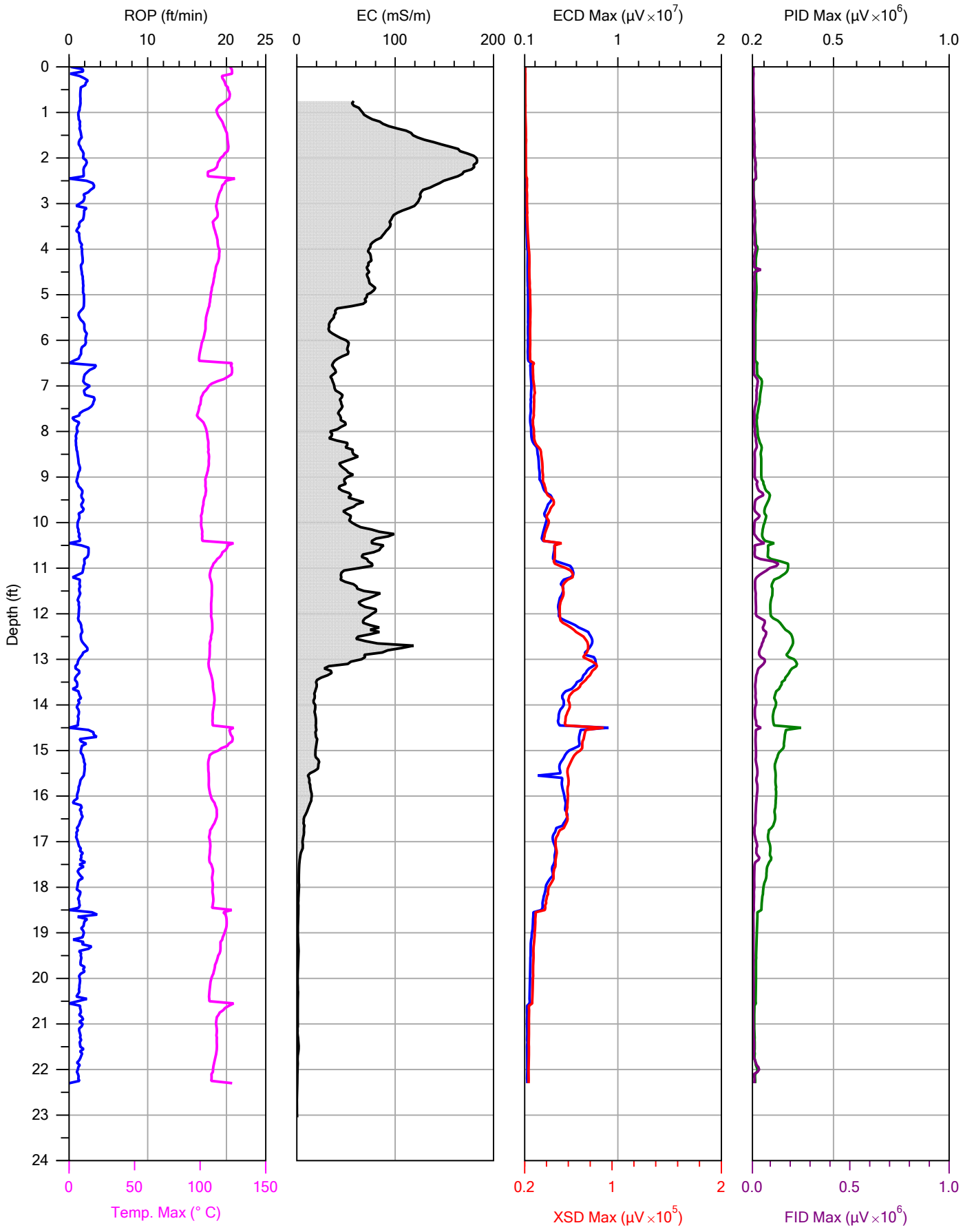
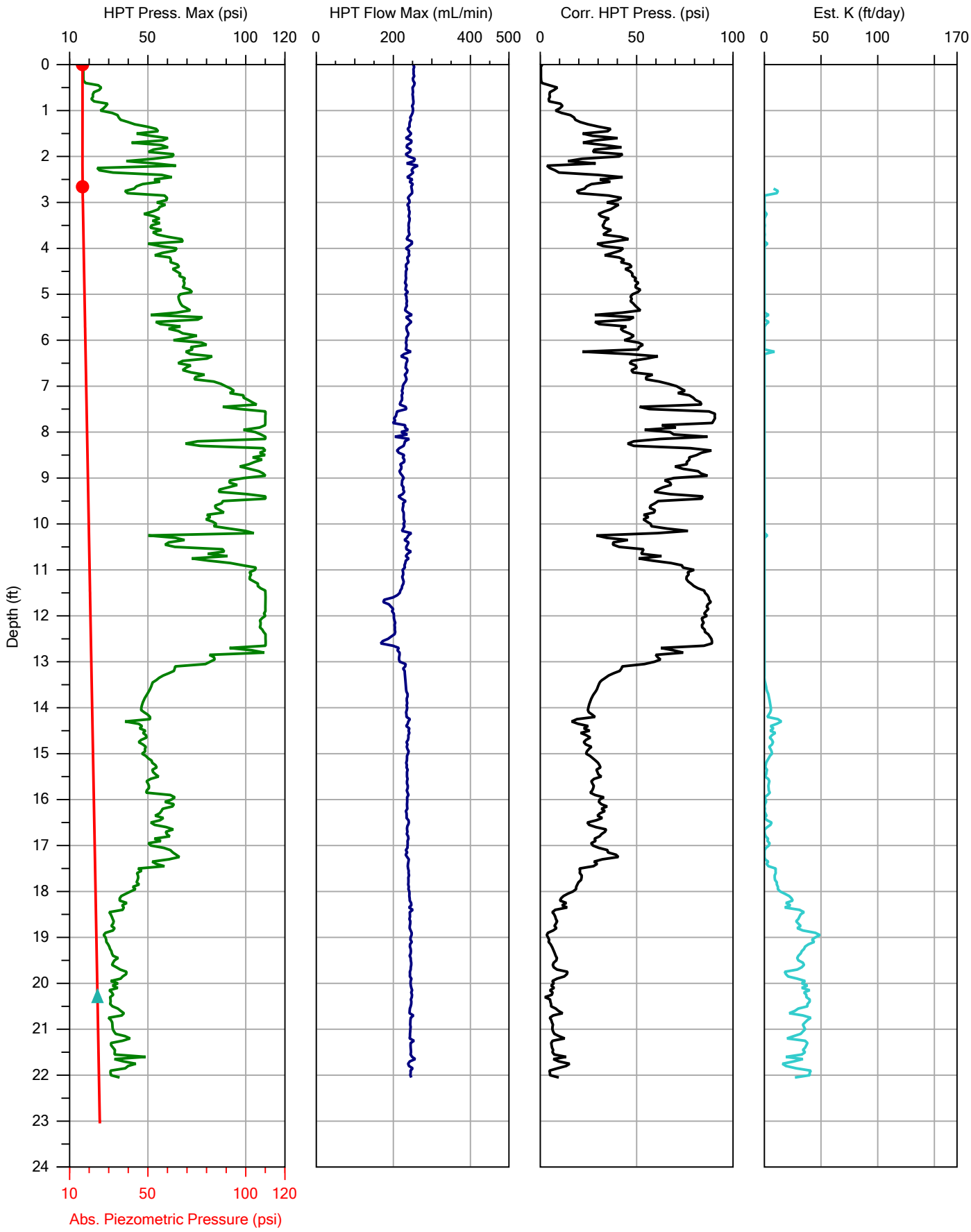
Company: Cascade Techical Services	Operator: C. Mew	Date: 2/16/2017
Project ID: 30517171007	Client: First Environmental	Location:



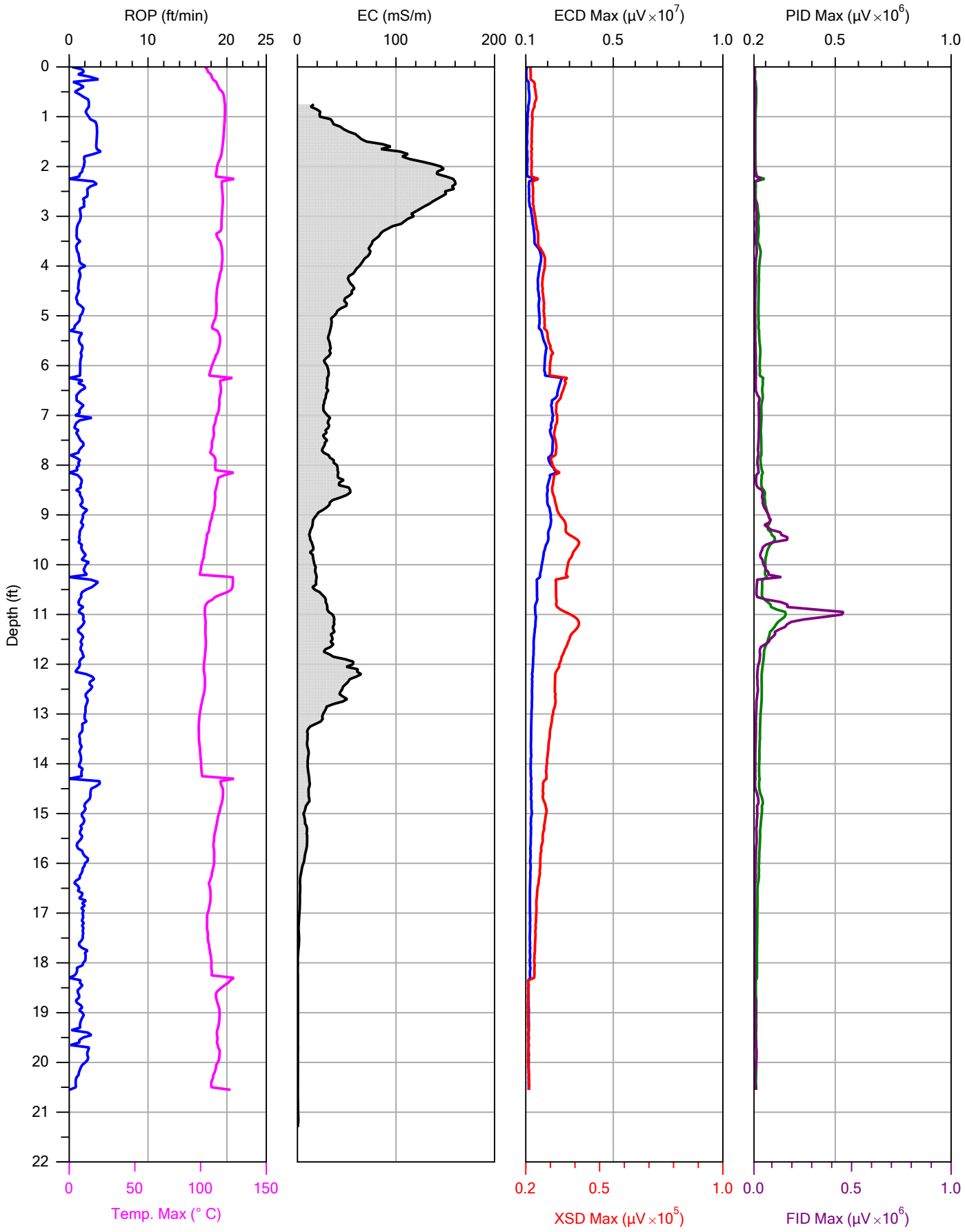
CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-19.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



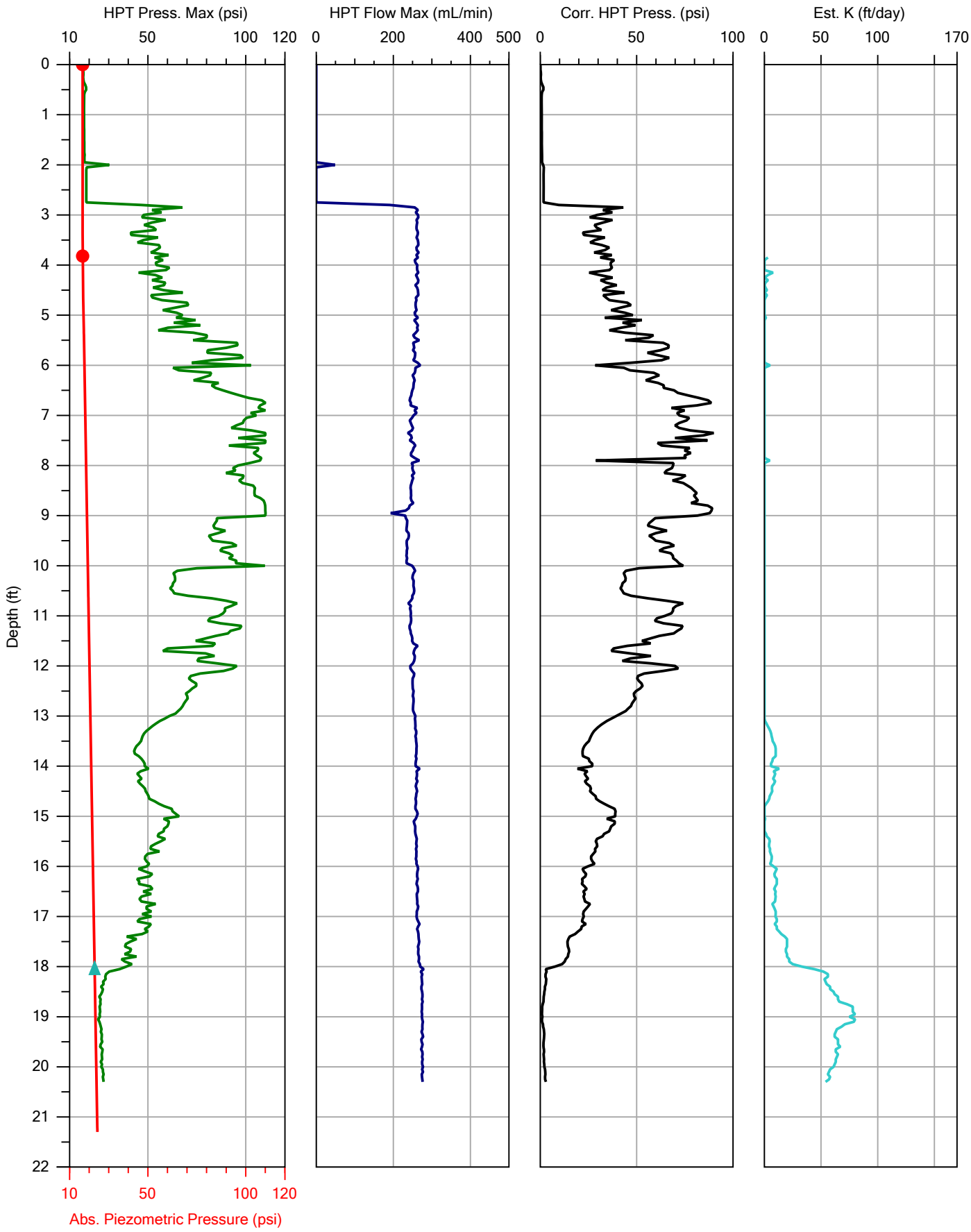
CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-19.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



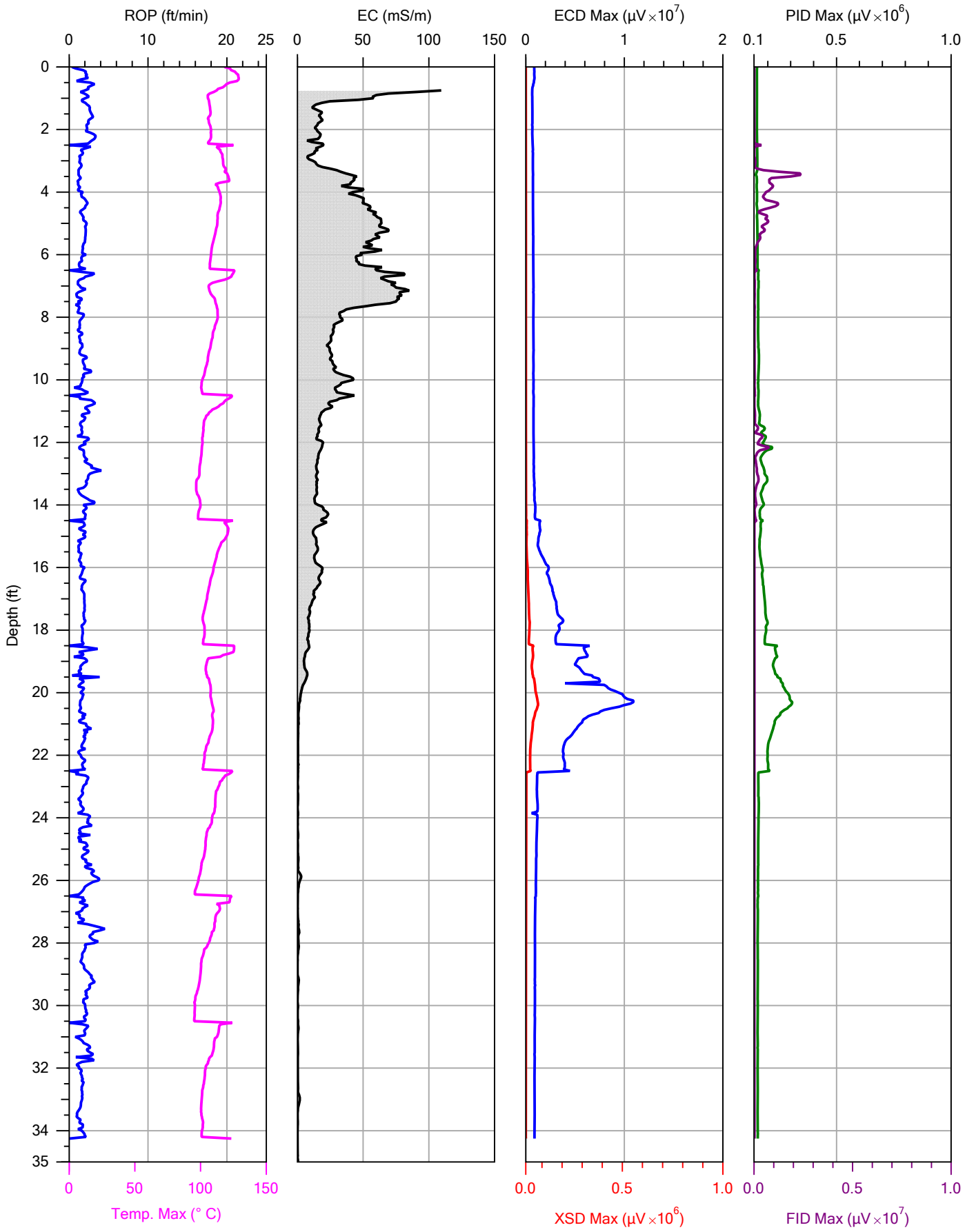
CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-20.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



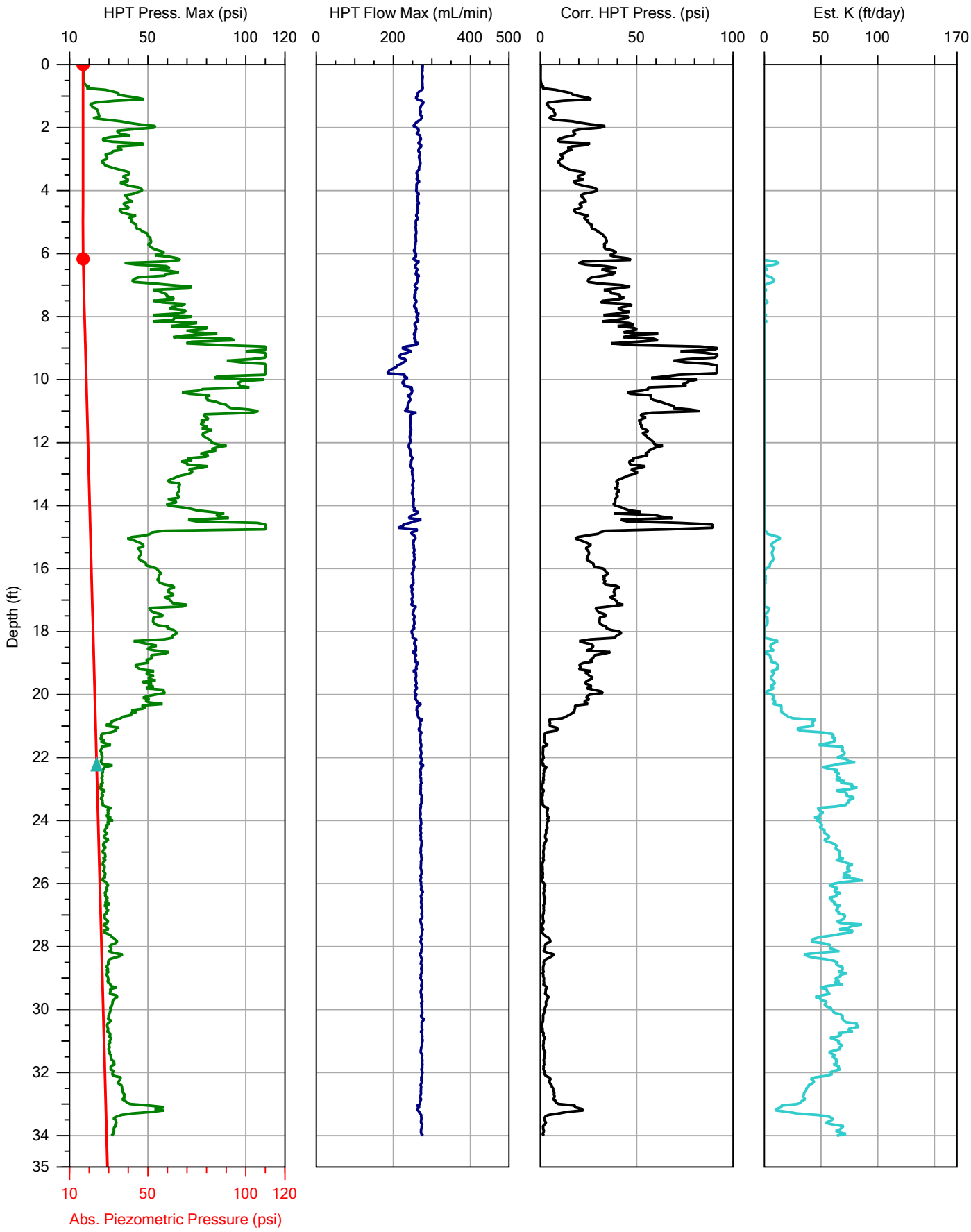
CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-20.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-21.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

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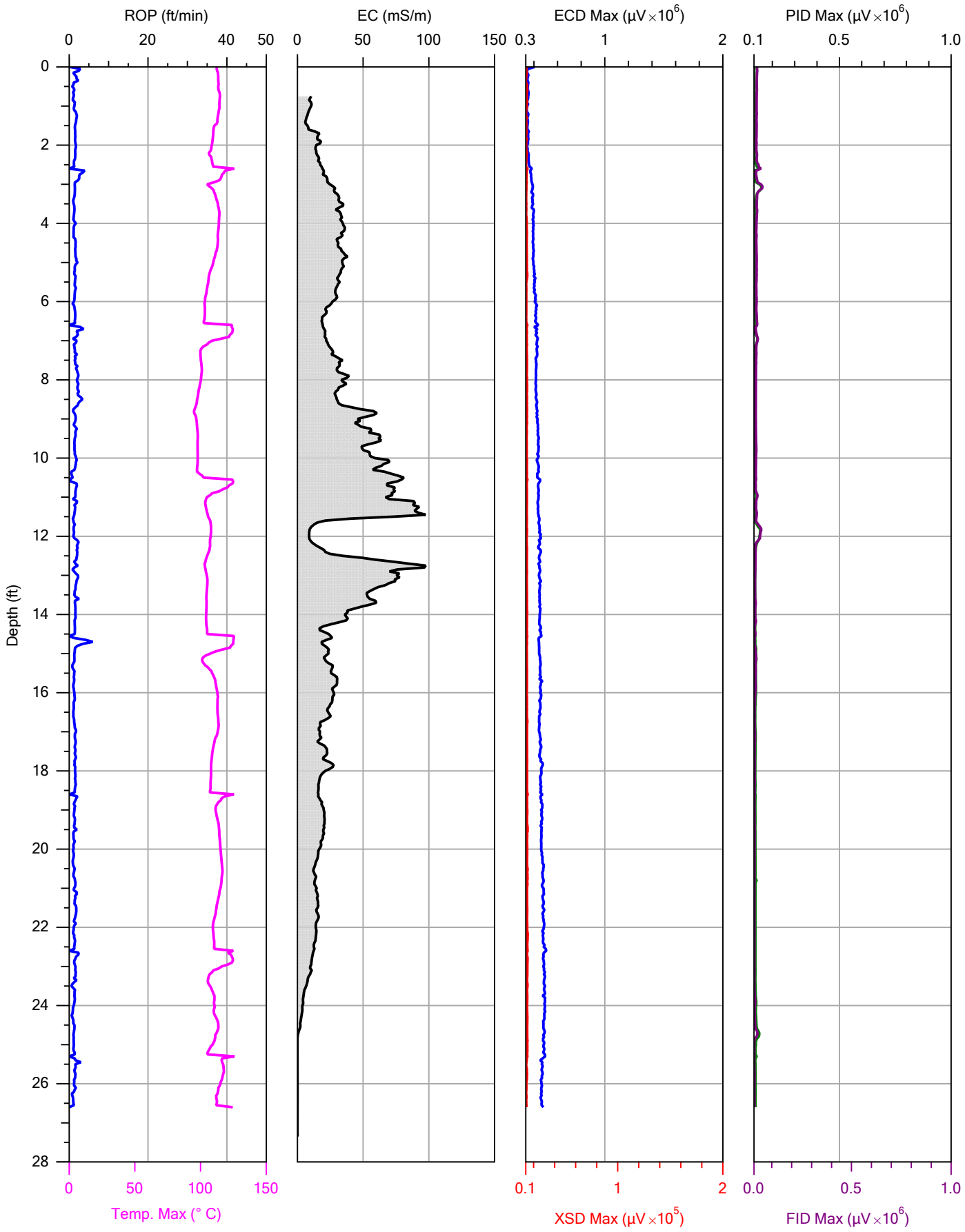
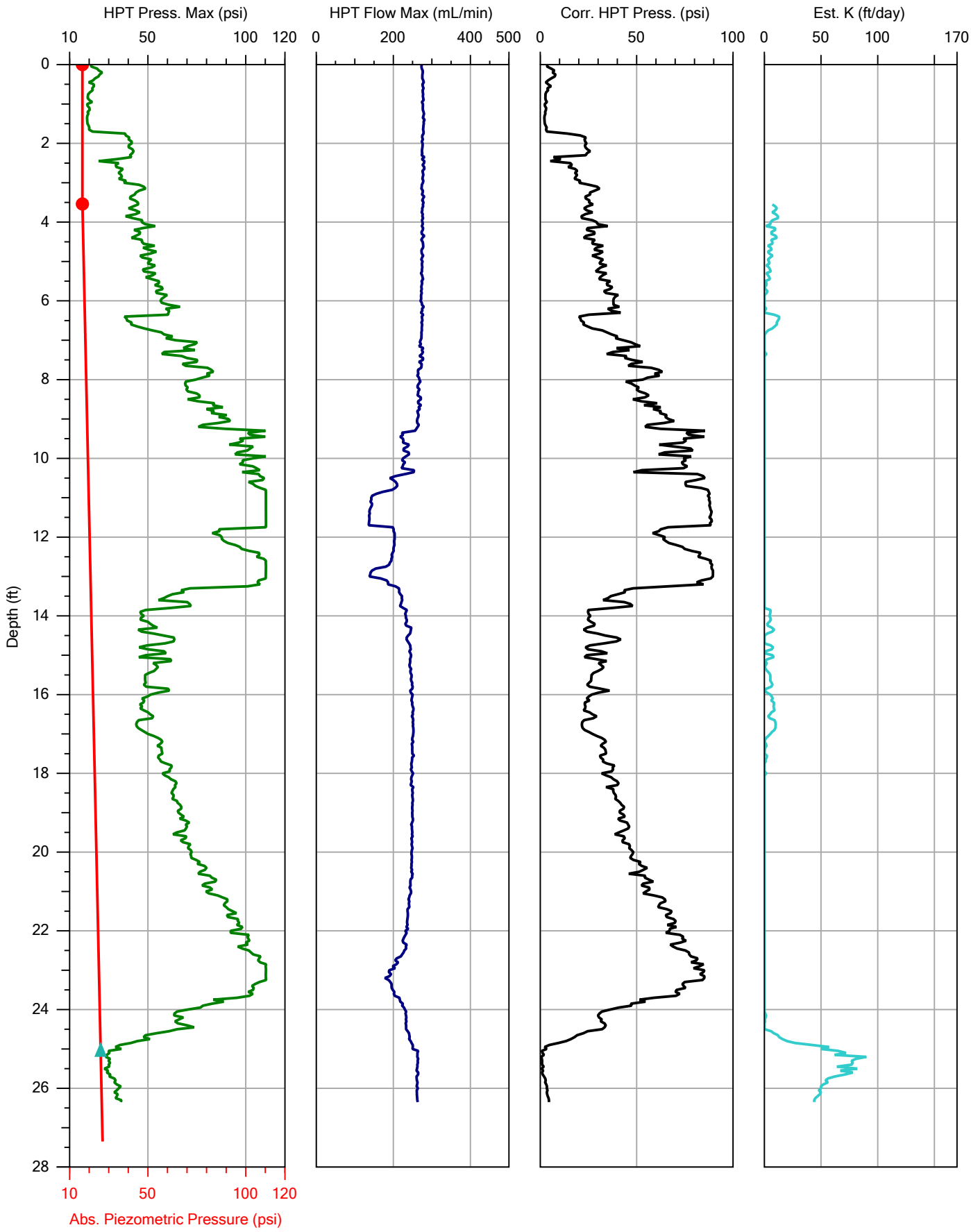
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/16/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-22.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

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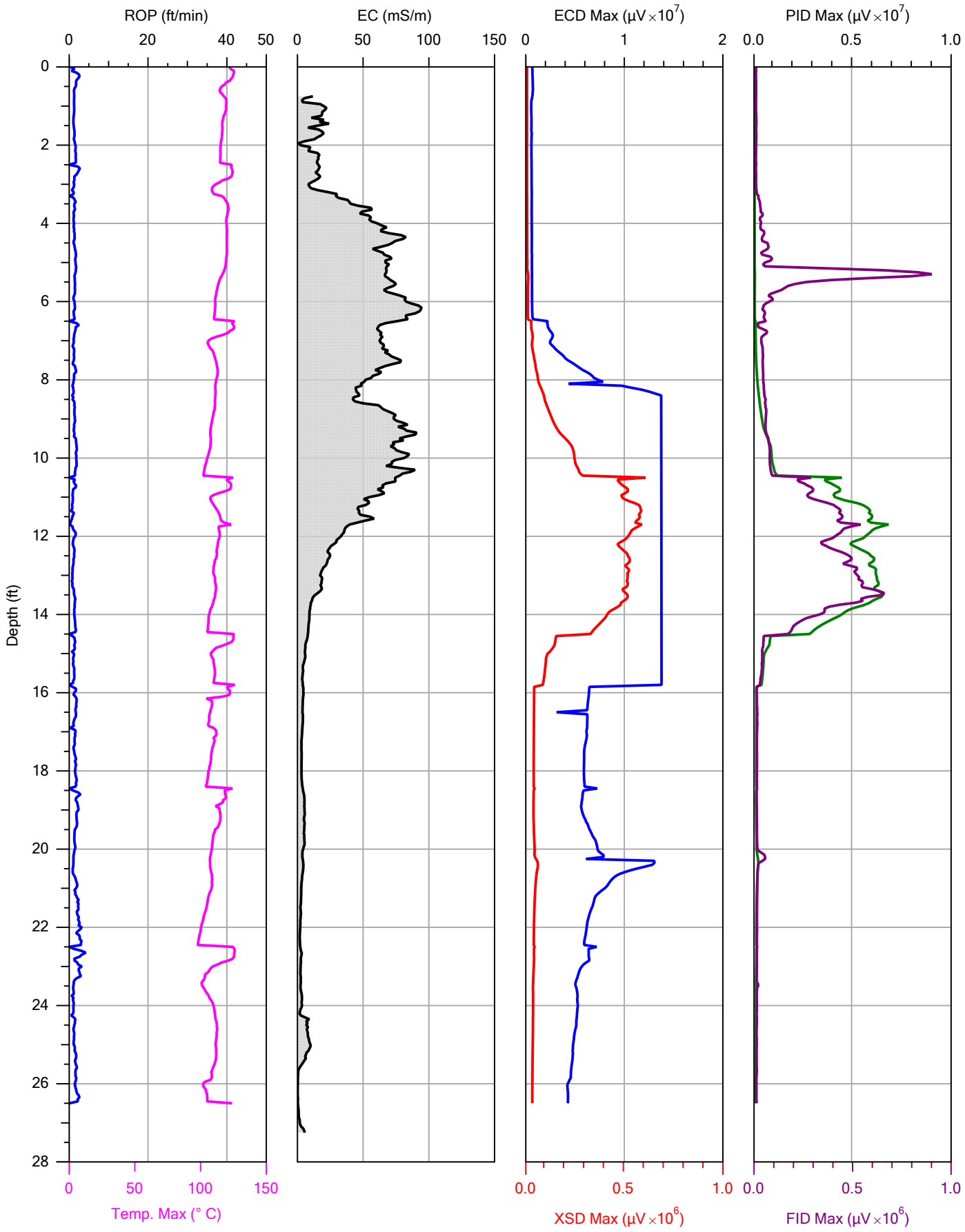
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

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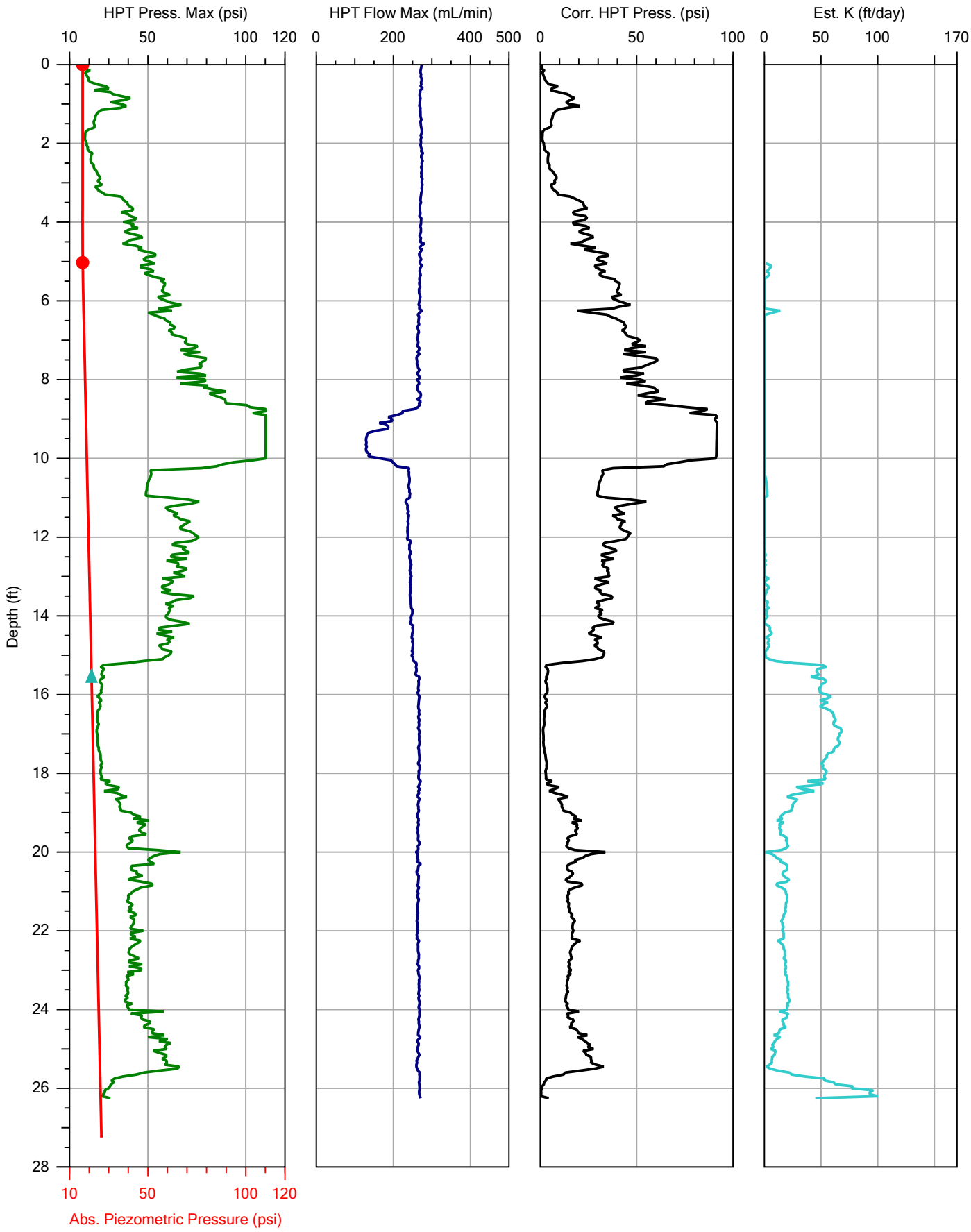
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

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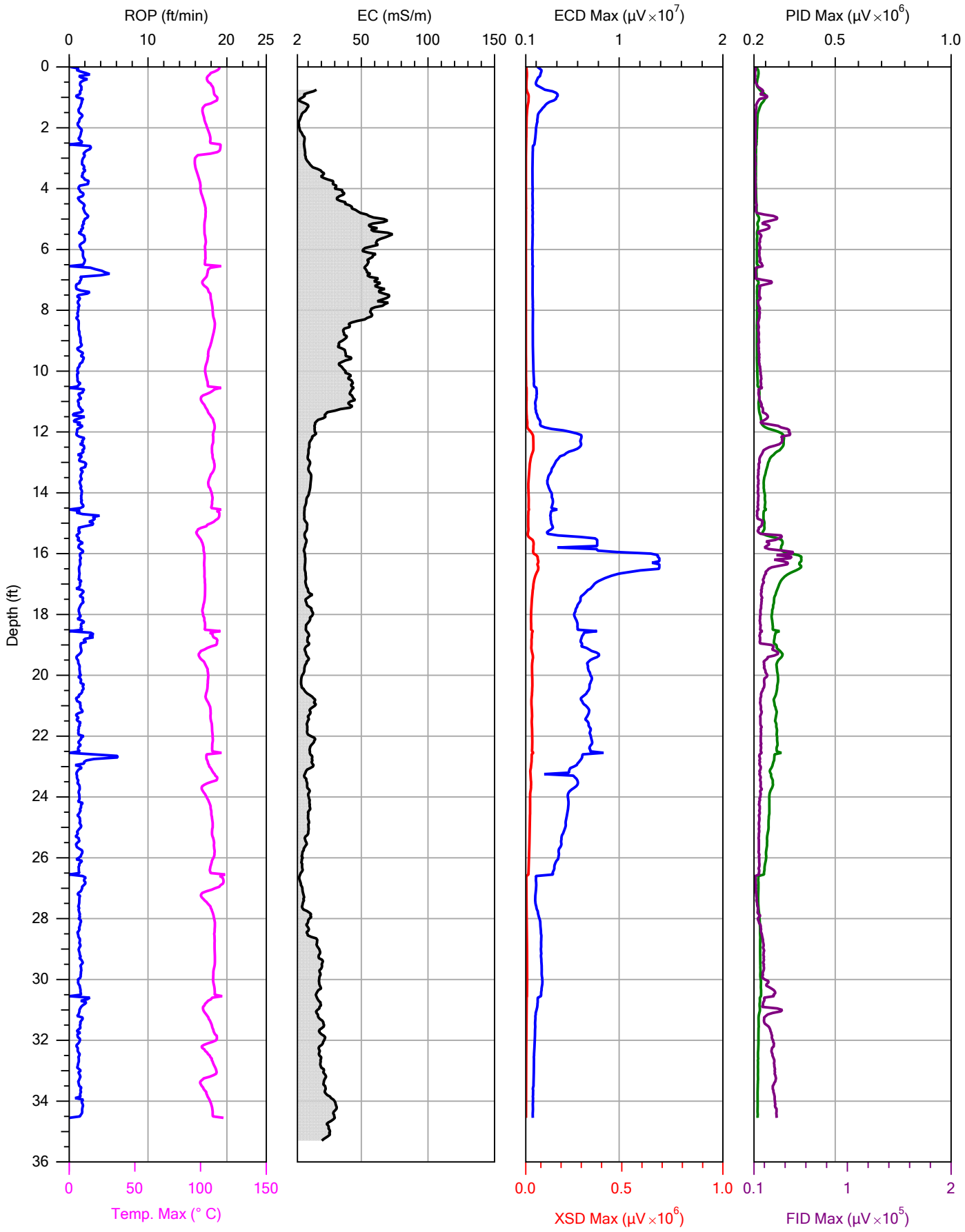
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

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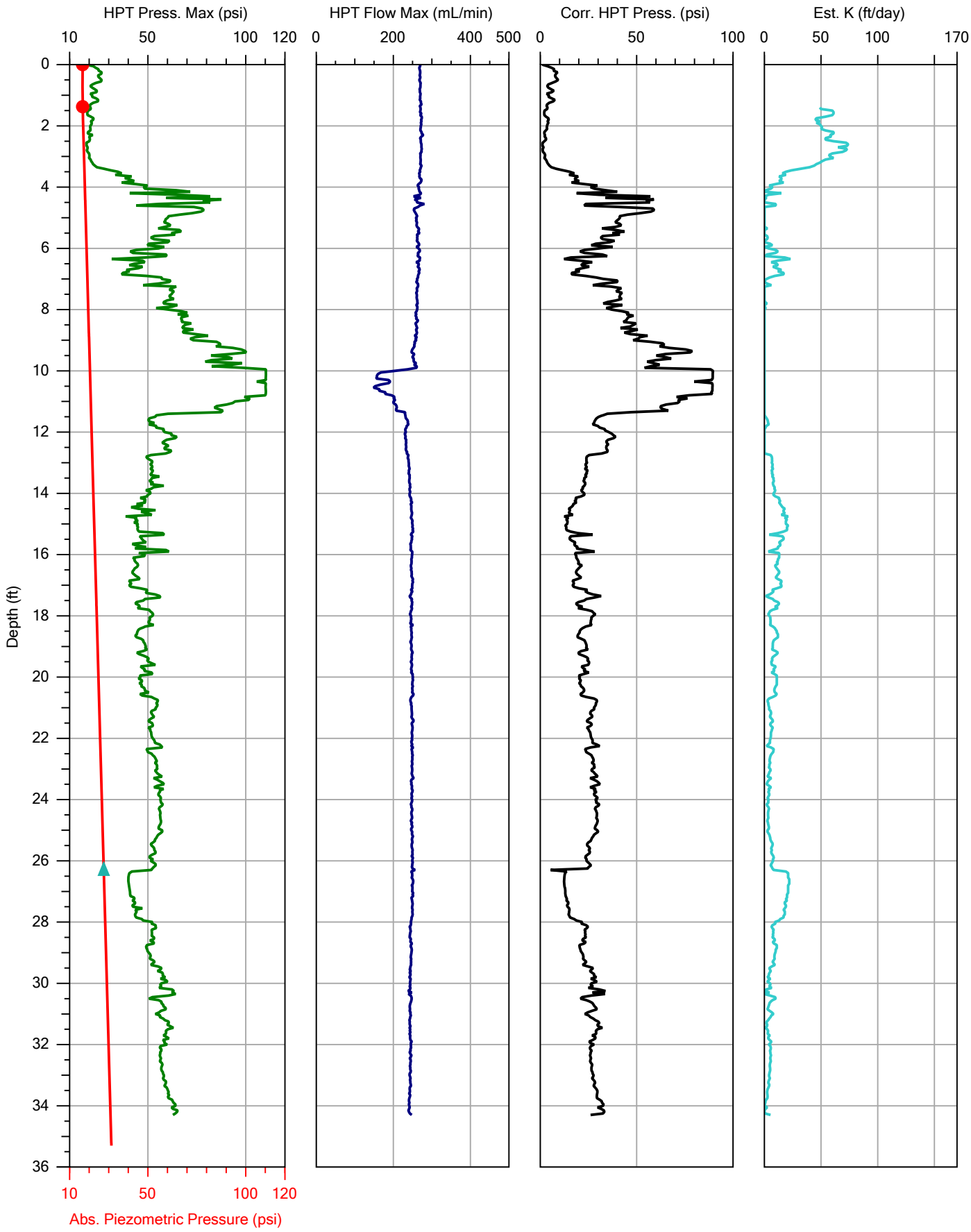
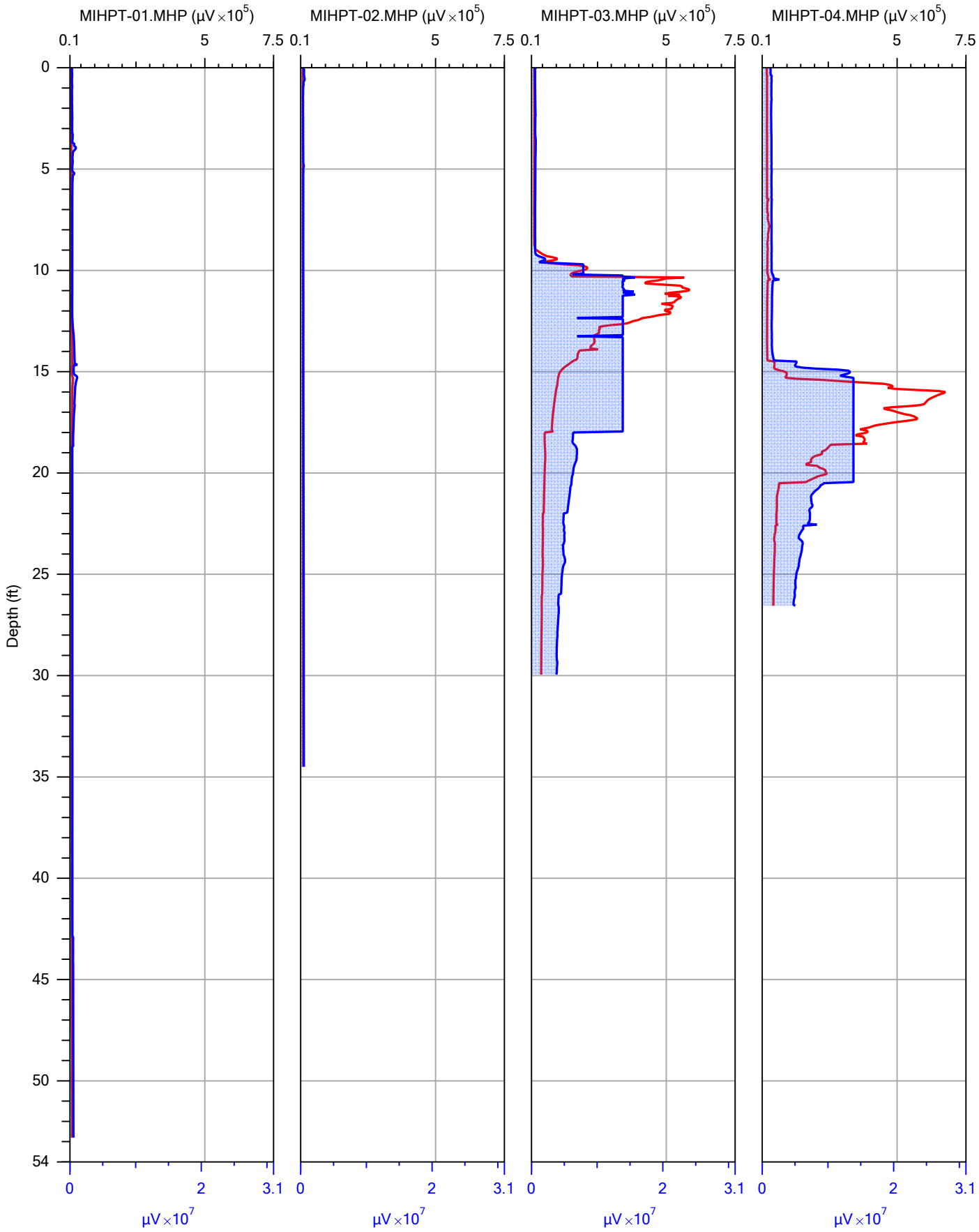
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:



CASCADE
DRILLING | TECHNICAL SERVICES

		File: MIHPT-24.MHP
Company: Cascade Techical Services	Operator: C. Mew	Date: 02/17/17
Project ID: 30517171007	Client: First Environmental	Location:

Membrane Interface – Hydraulic Profiling Tool Data Plots – Point to Point Comparisons

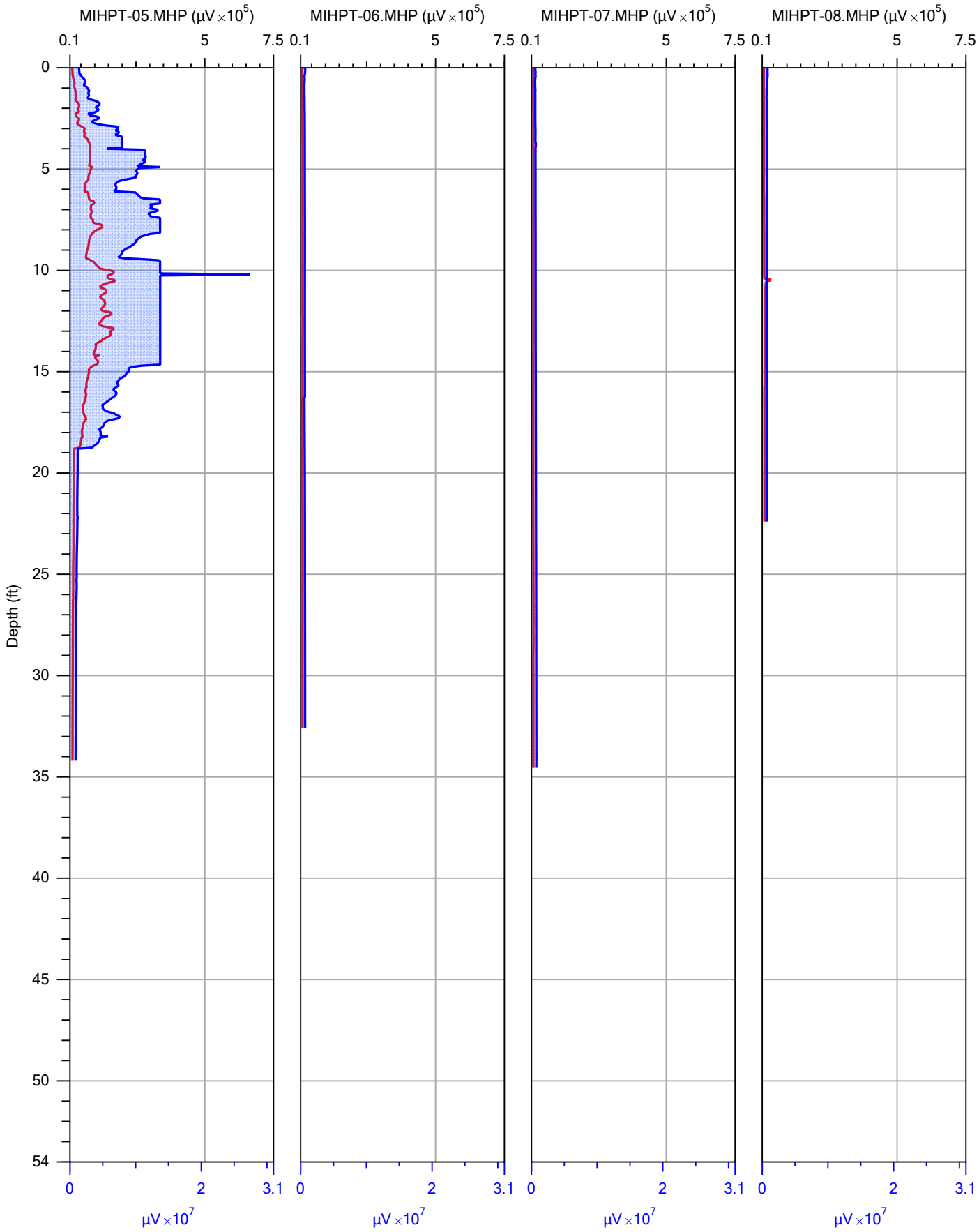


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-01.MHP	02/13/17
MIHPT-02.MHP	02/14/17
MIHPT-03.MHP	02/14/17
MIHPT-04.MHP	02/14/17

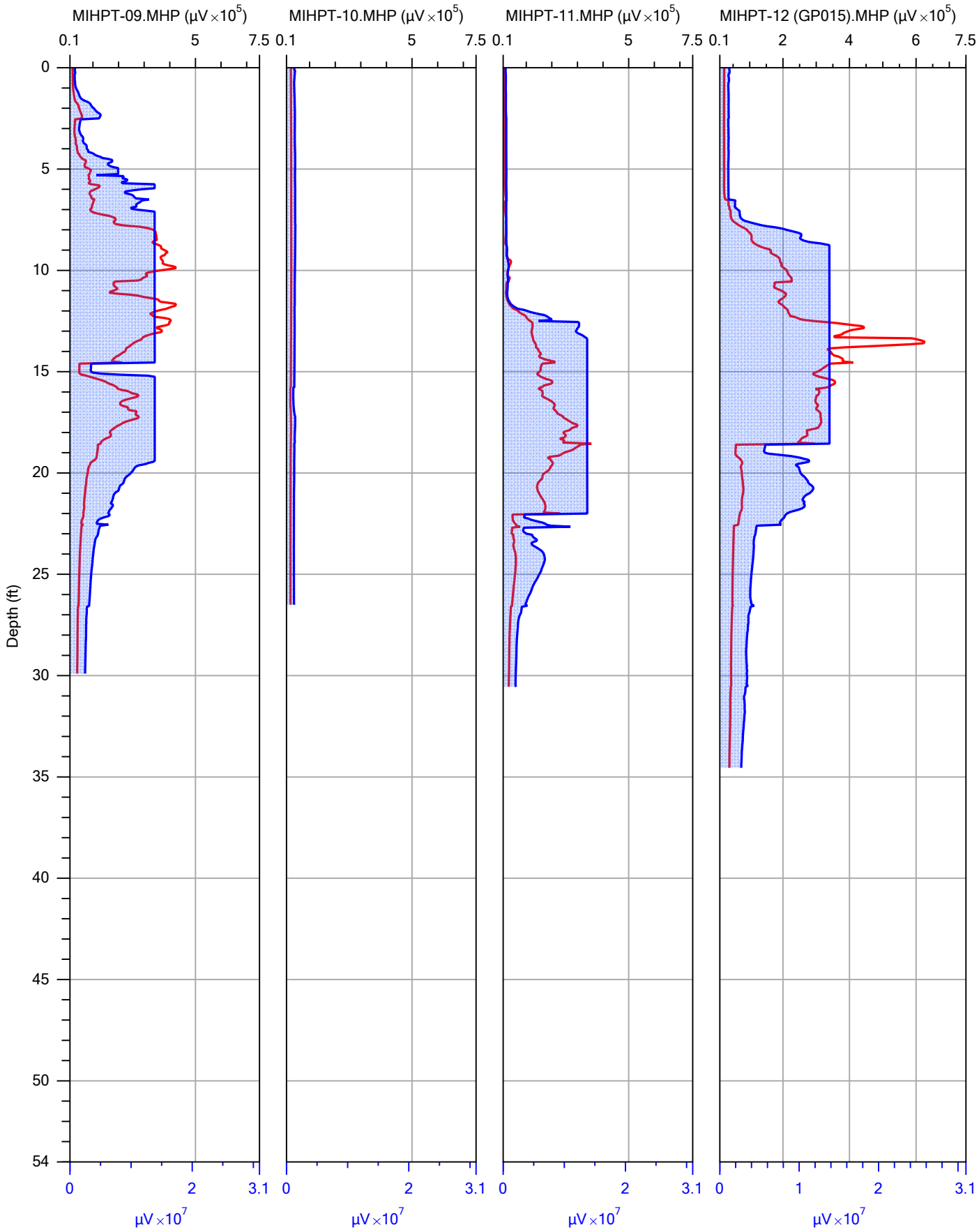


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-05.MHP	02/14/17
MIHPT-06.MHP	02/14/17
MIHPT-07.MHP	02/14/17
MIHPT-08.MHP	02/14/17

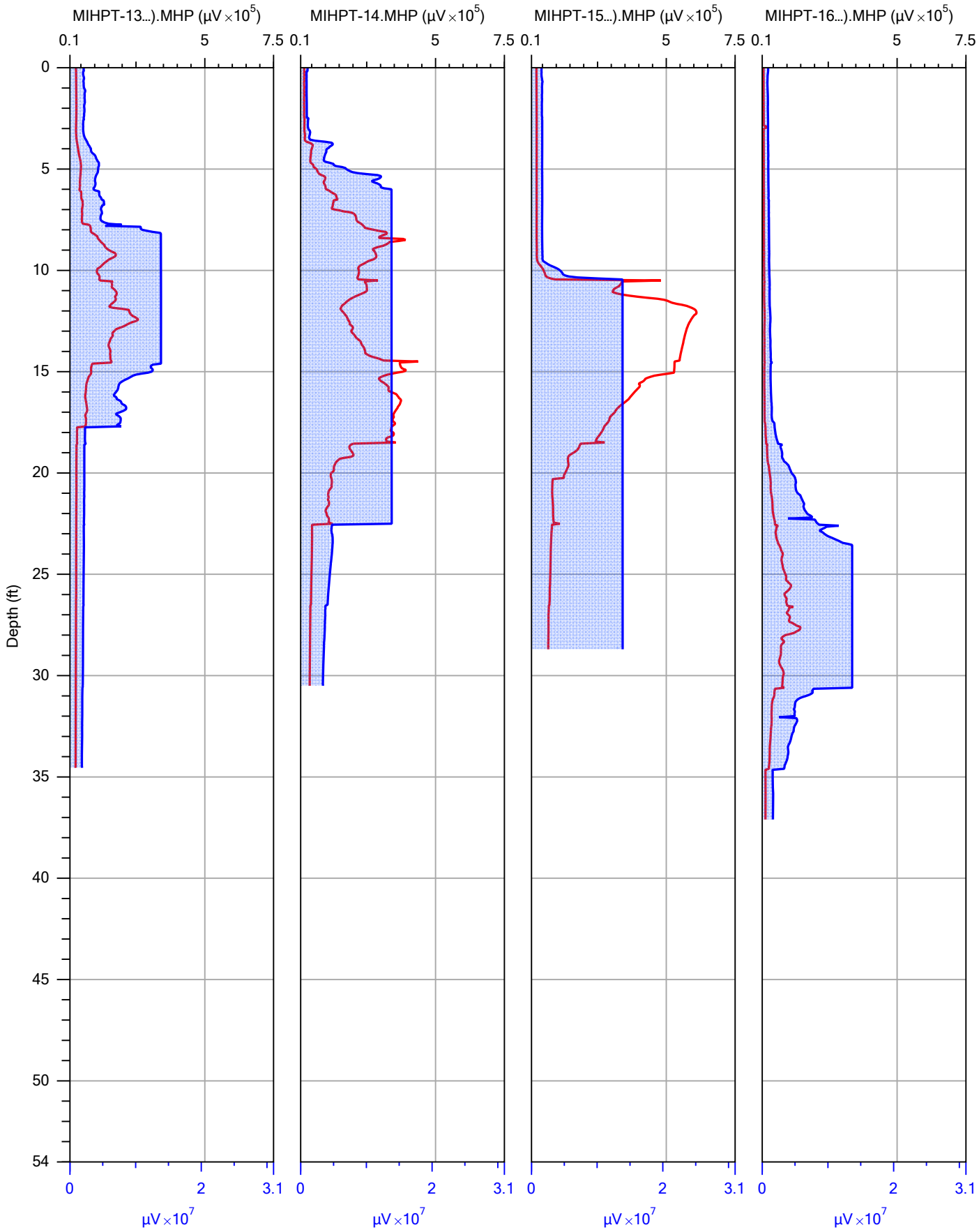


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-09.MHP	02/14/17
MIHPT-10.MHP	02/14/17
MIHPT-11.MHP	02/15/17
MIHPT-12 (GP015).MHP	02/15/17

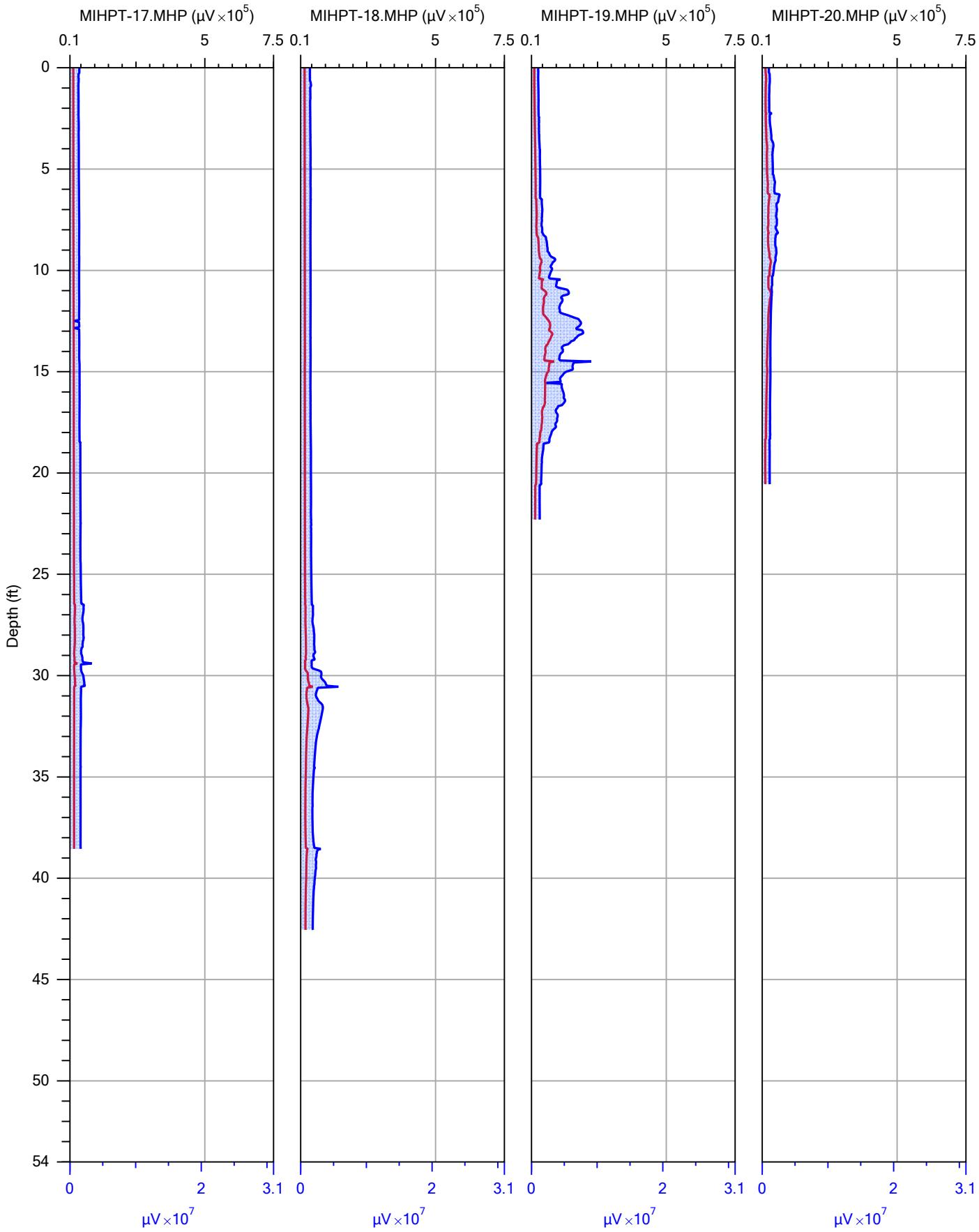


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-13 (GP016).MHP	02/15/17
MIHPT-14.MHP	02/15/17
MIHPT-15 (GP018).MHP	02/15/17
MIHPT-16 (GP012).MHP	02/16/17

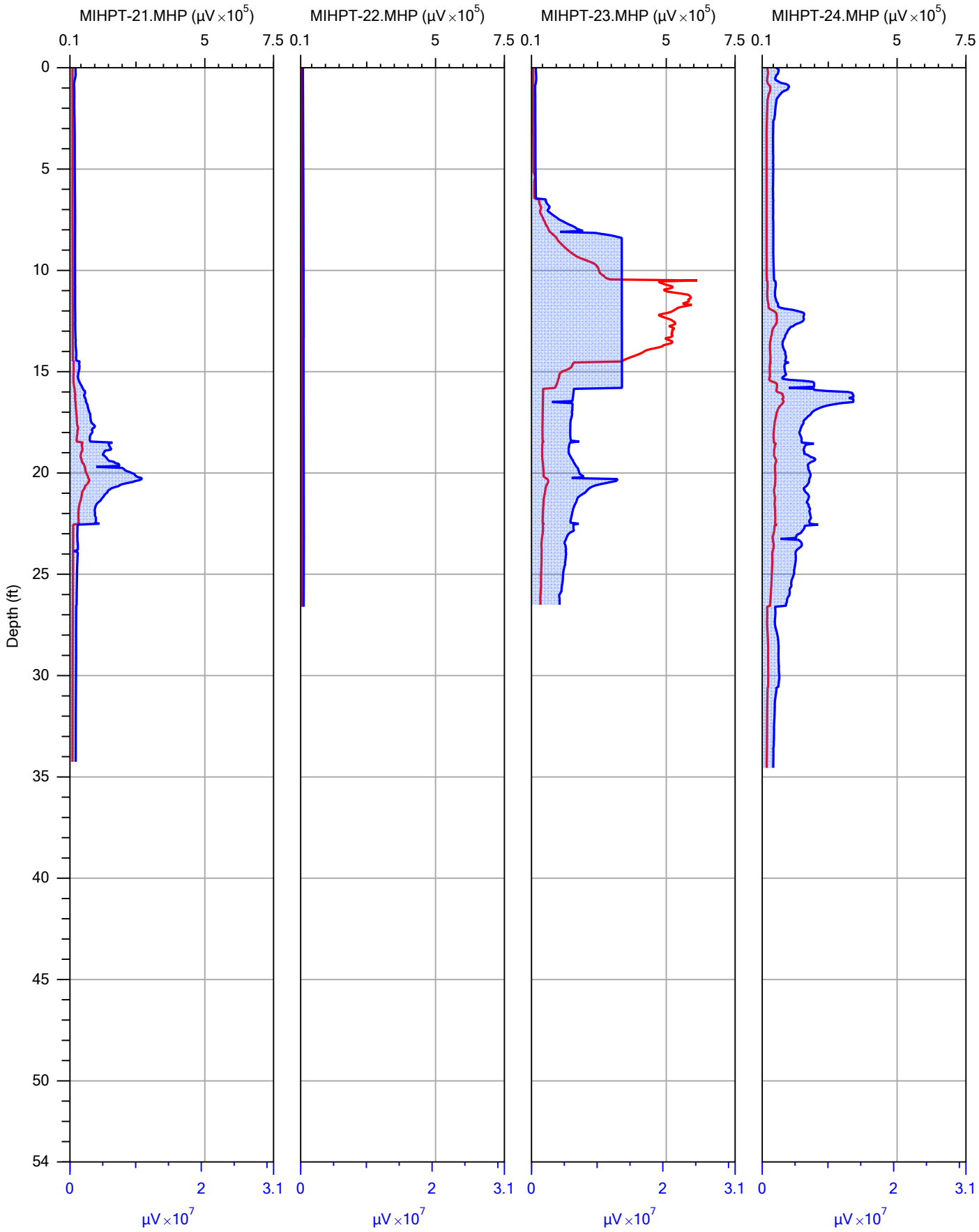


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-17.MHP	02/16/17
MIHPT-18.MHP	02/16/17
MIHPT-19.MHP	02/16/17
MIHPT-20.MHP	02/16/17

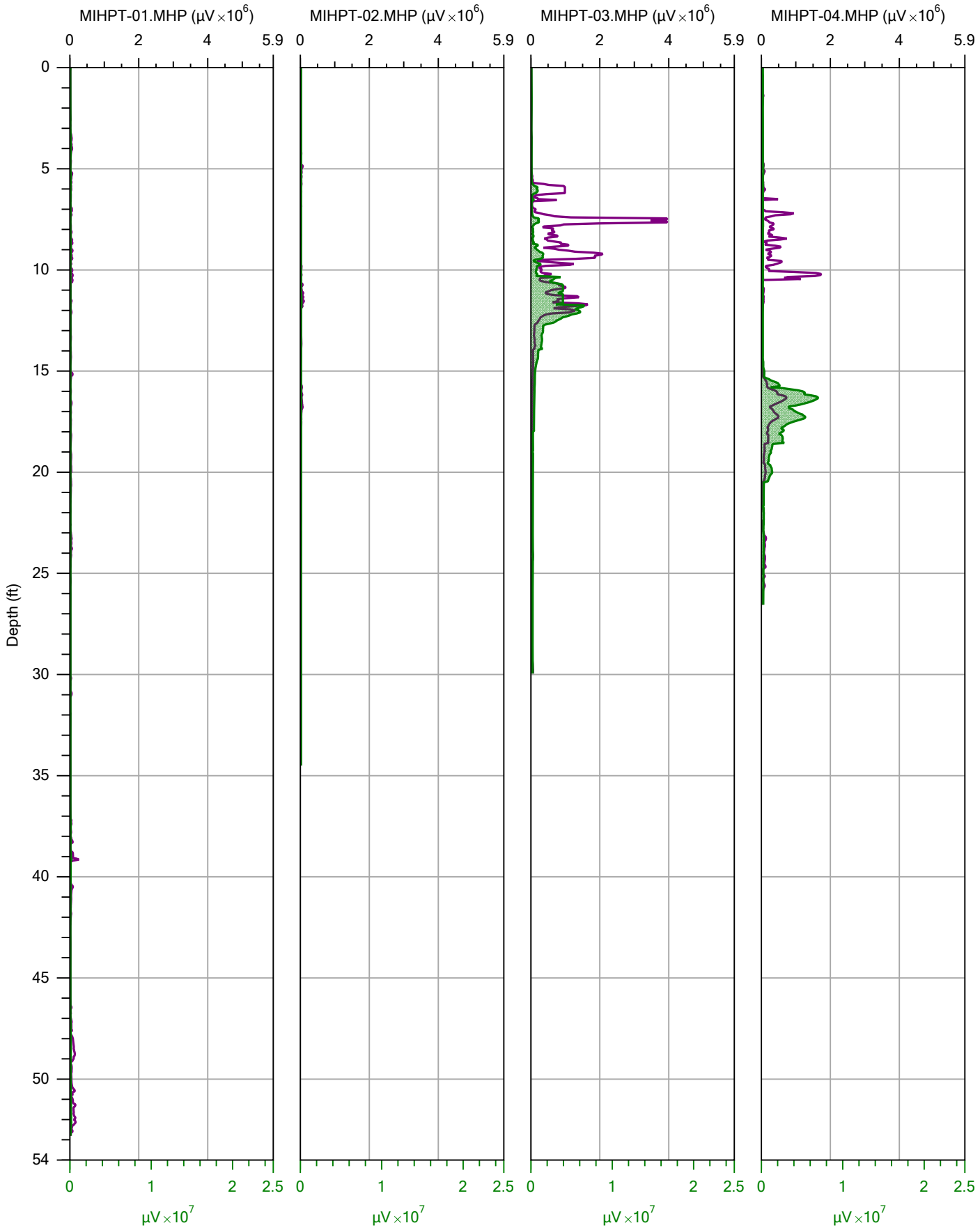


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-21.MHP	02/16/17
MIHPT-22.MHP	02/17/17
MIHPT-23.MHP	02/17/17
MIHPT-24.MHP	02/17/17

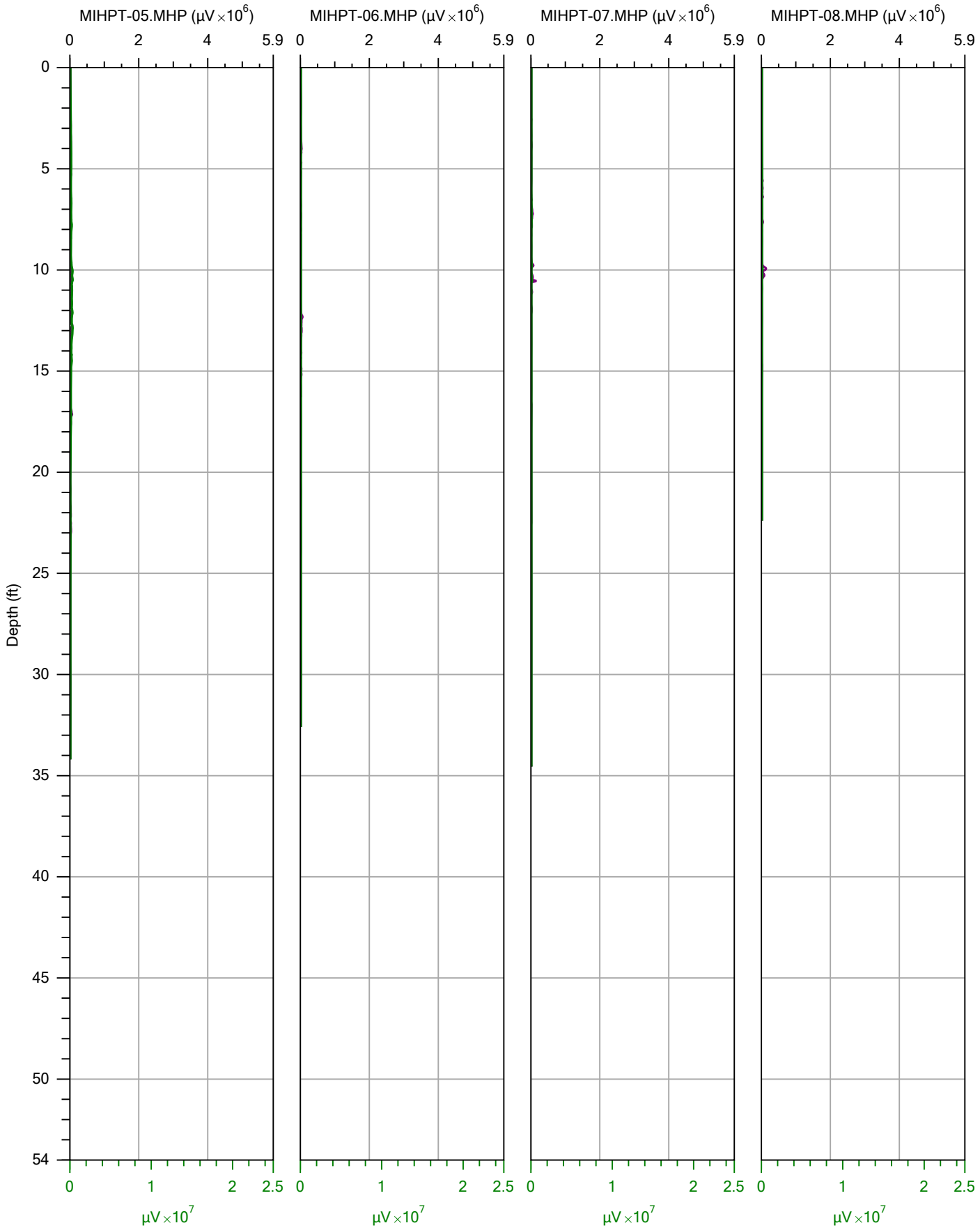


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-01.MHP	02/13/17
MIHPT-02.MHP	02/14/17
MIHPT-03.MHP	02/14/17
MIHPT-04.MHP	02/14/17

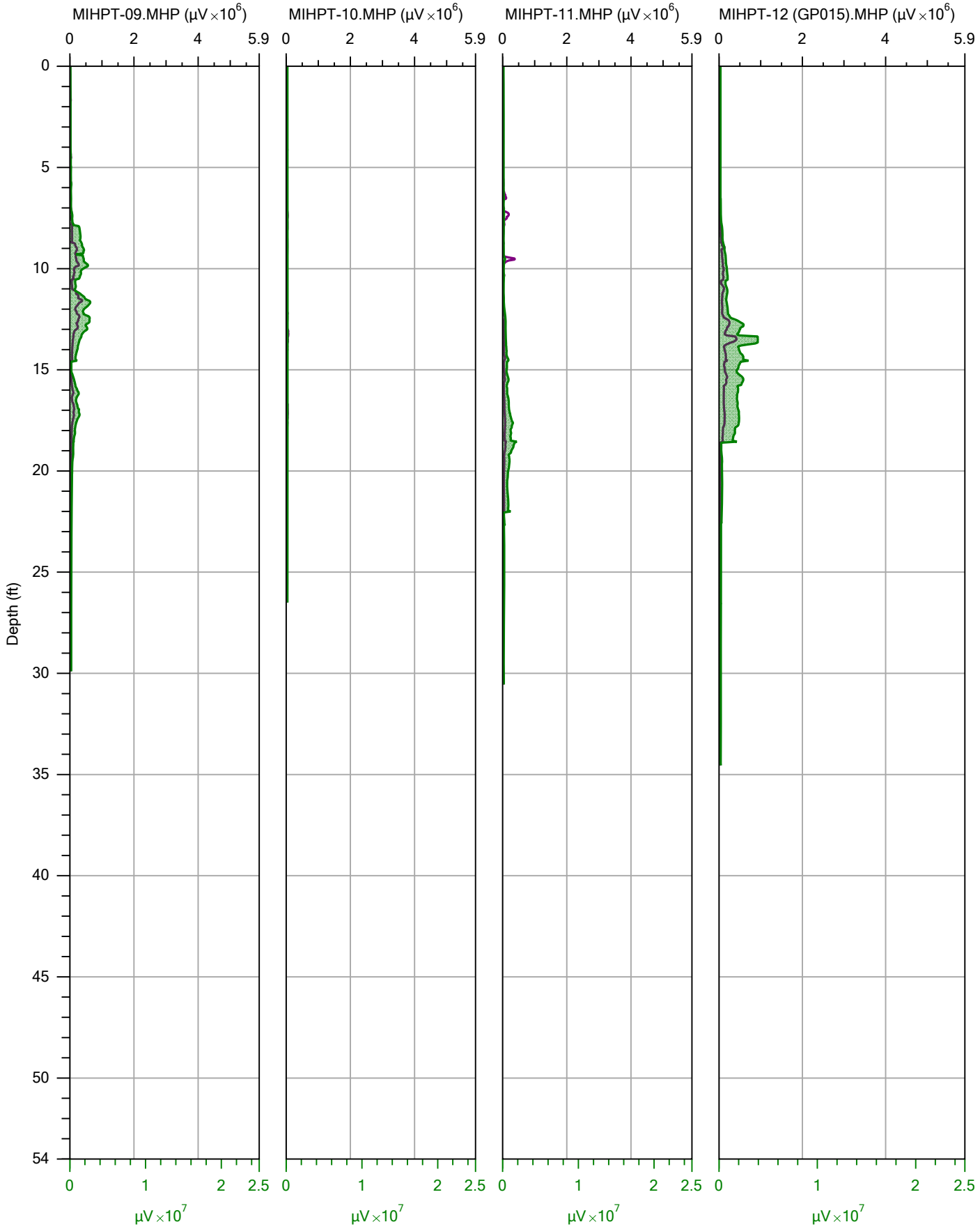


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-05.MHP	02/14/17
MIHPT-06.MHP	02/14/17
MIHPT-07.MHP	02/14/17
MIHPT-08.MHP	02/14/17

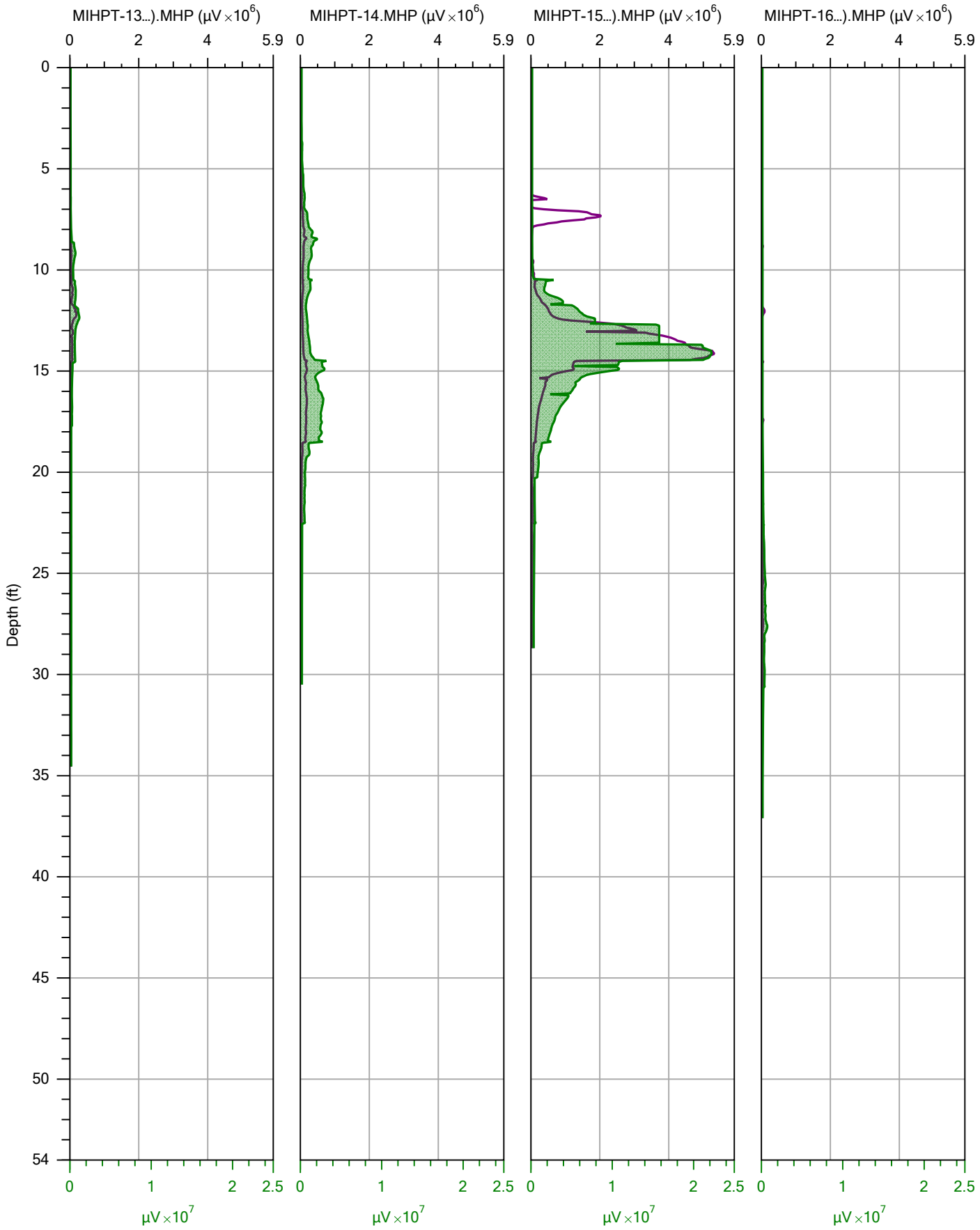


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-09.MHP	02/14/17
MIHPT-10.MHP	02/14/17
MIHPT-11.MHP	02/15/17
MIHPT-12 (GP015).MHP	02/15/17

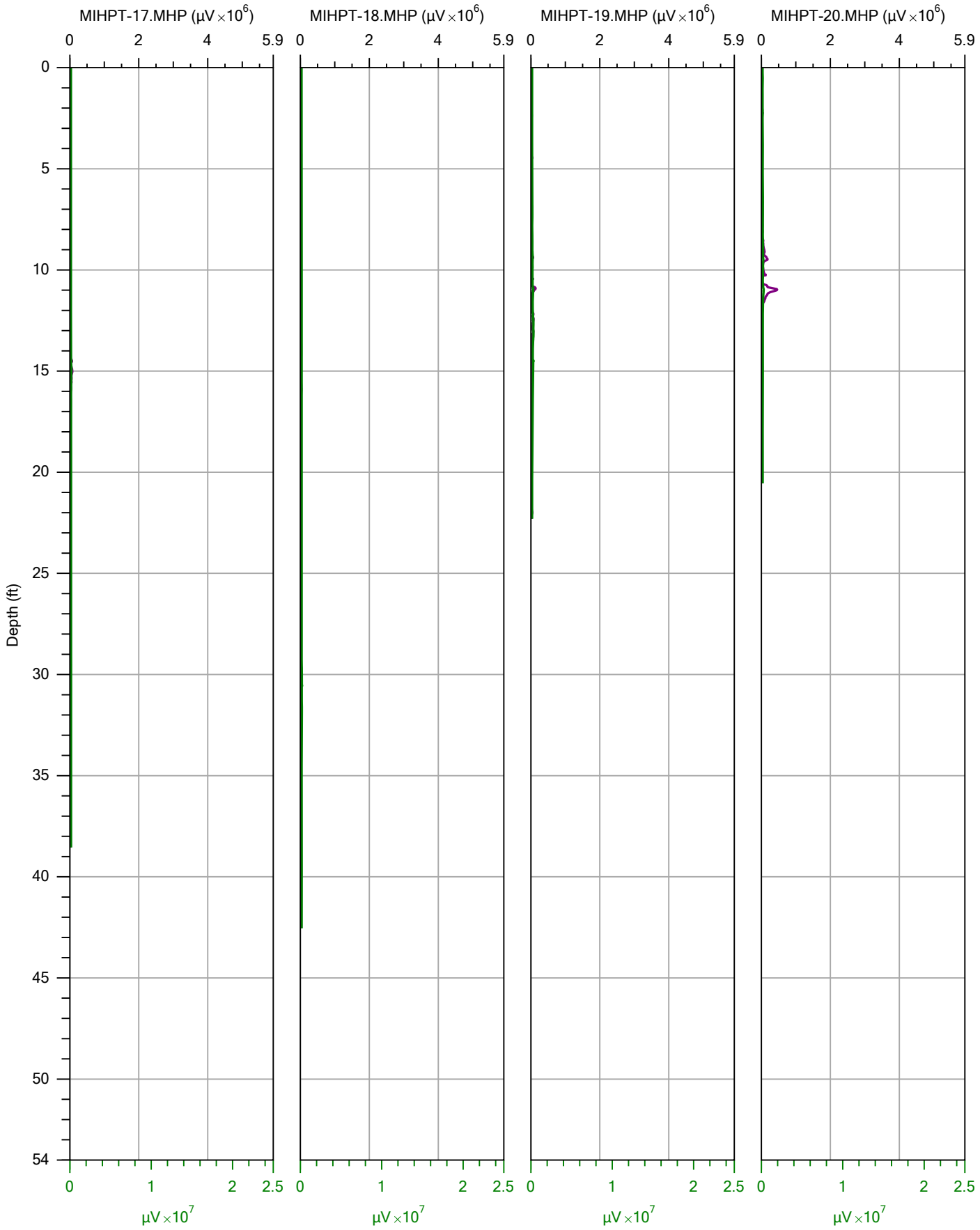


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-13 (GP016).MHP	02/15/17
MIHPT-14.MHP	02/15/17
MIHPT-15 (GP018).MHP	02/15/17
MIHPT-16 (GP012).MHP	02/16/17

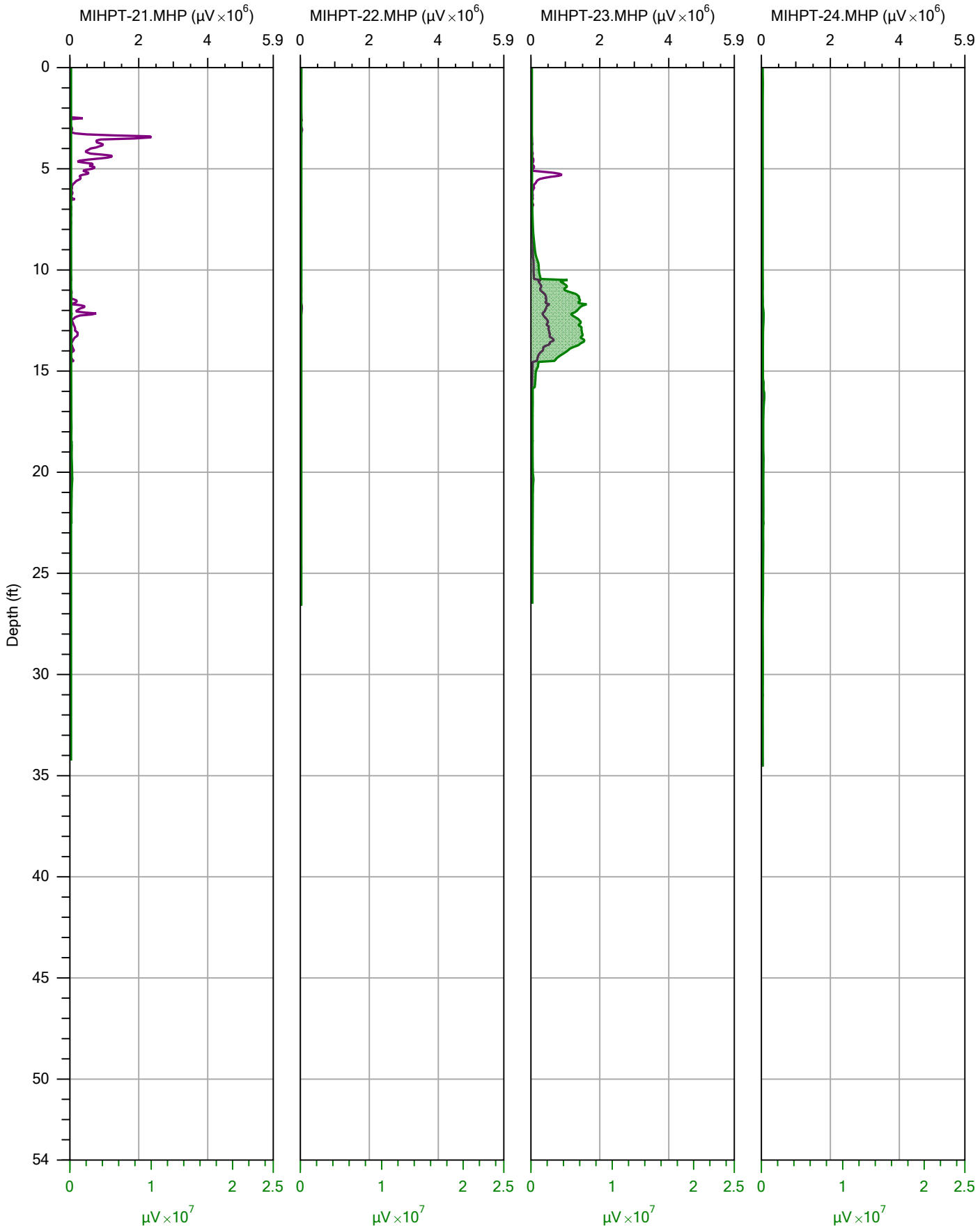


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-17.MHP	02/16/17
MIHPT-18.MHP	02/16/17
MIHPT-19.MHP	02/16/17
MIHPT-20.MHP	02/16/17

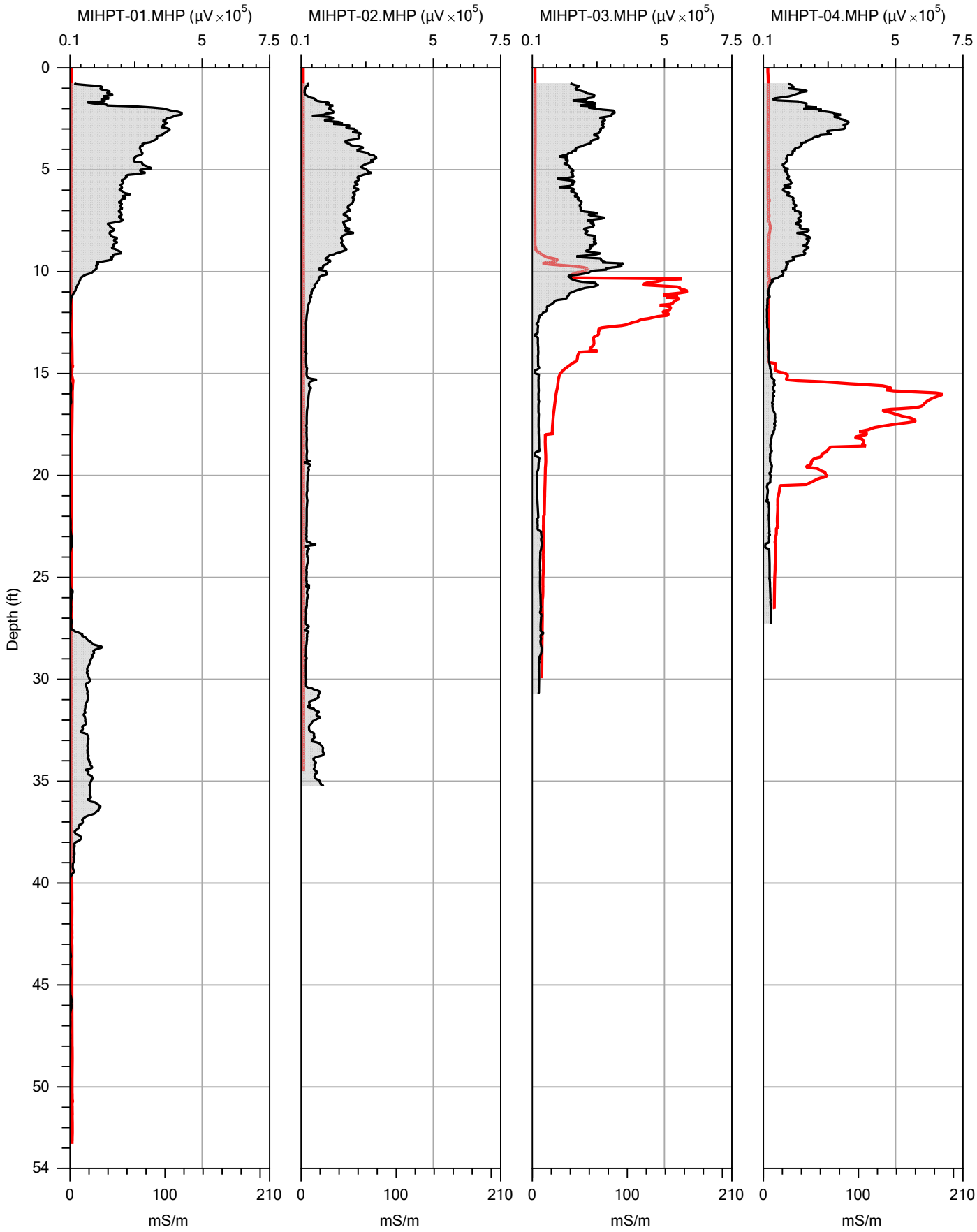


CASCADE
DRILLING | TECHNICAL SERVICES

FID Max / PID Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-21.MHP	02/16/17
MIHPT-22.MHP	02/17/17
MIHPT-23.MHP	02/17/17
MIHPT-24.MHP	02/17/17

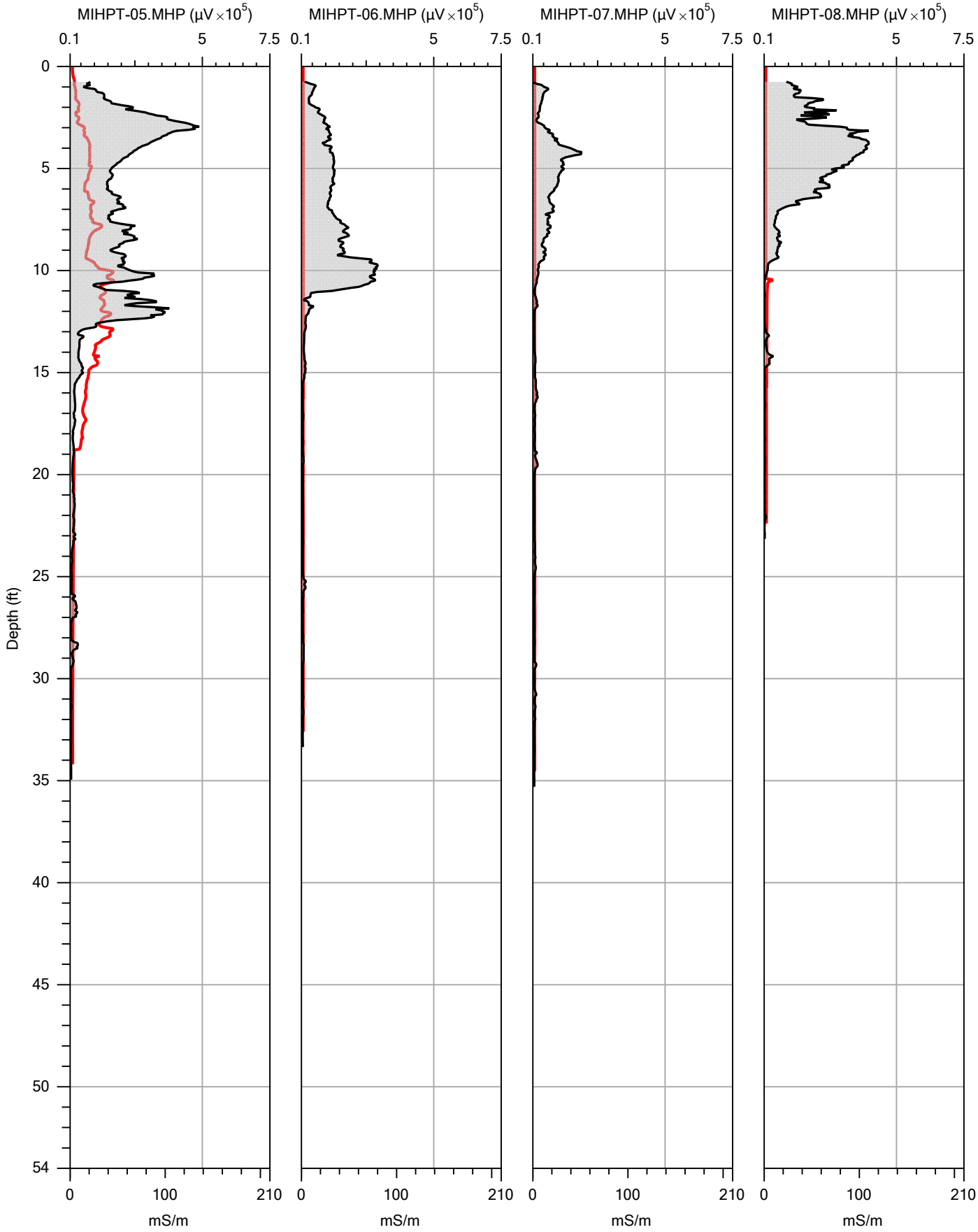


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-01.MHP	02/13/17
MIHPT-02.MHP	02/14/17
MIHPT-03.MHP	02/14/17
MIHPT-04.MHP	02/14/17

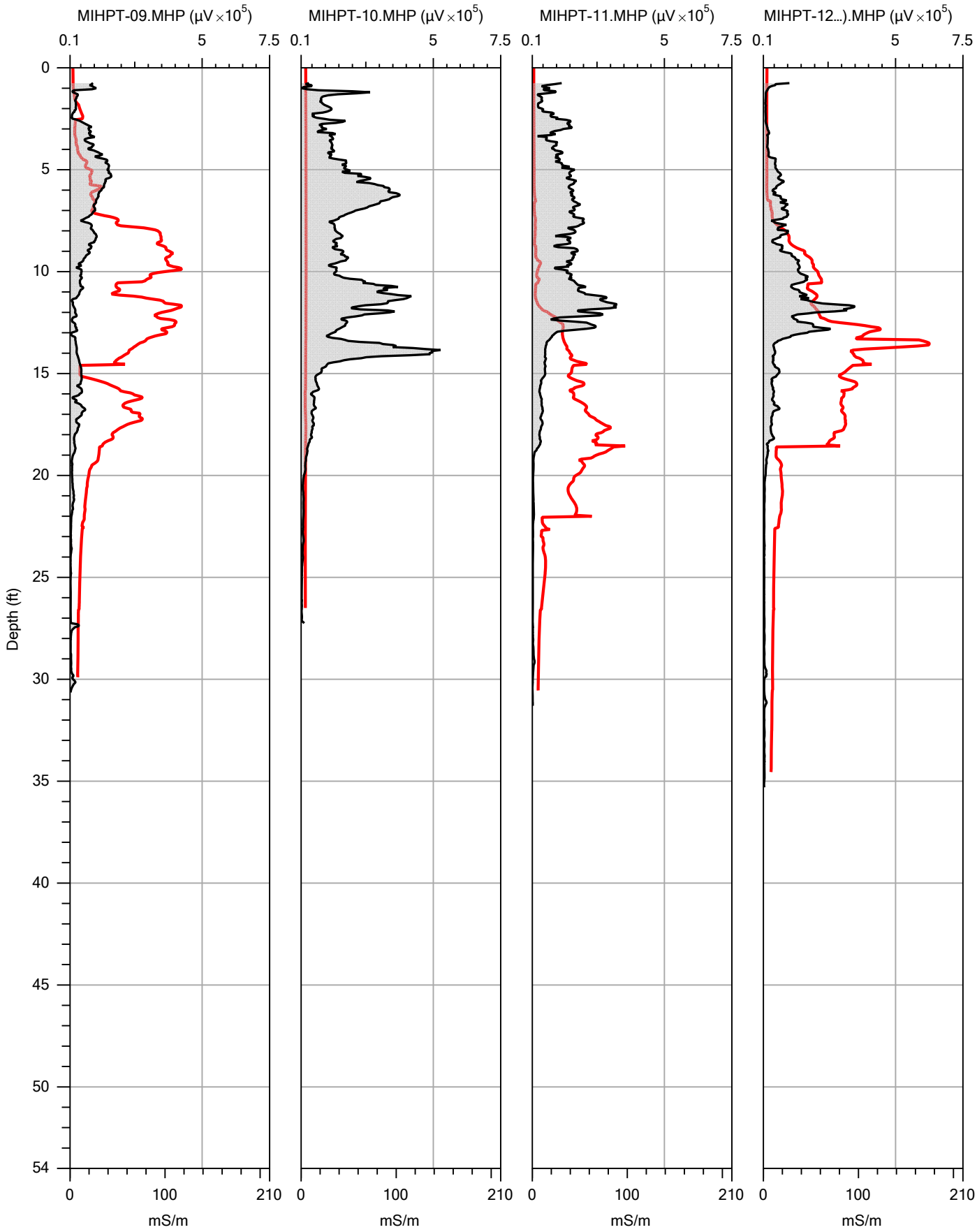


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-05.MHP	02/14/17
MIHPT-06.MHP	02/14/17
MIHPT-07.MHP	02/14/17
MIHPT-08.MHP	02/14/17

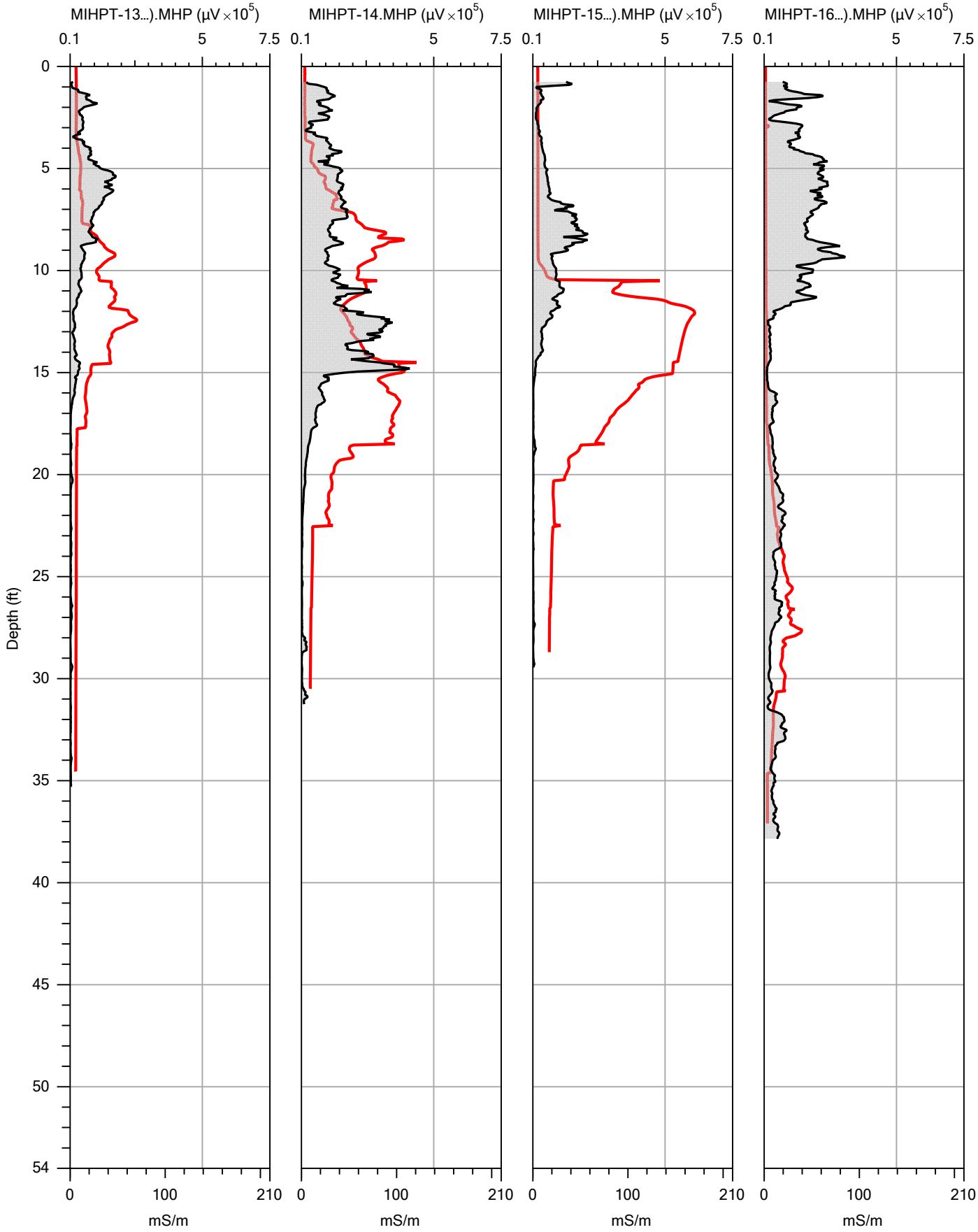


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-09.MHP	02/14/17
MIHPT-10.MHP	02/14/17
MIHPT-11.MHP	02/15/17
MIHPT-12 (GP015).MHP	02/15/17

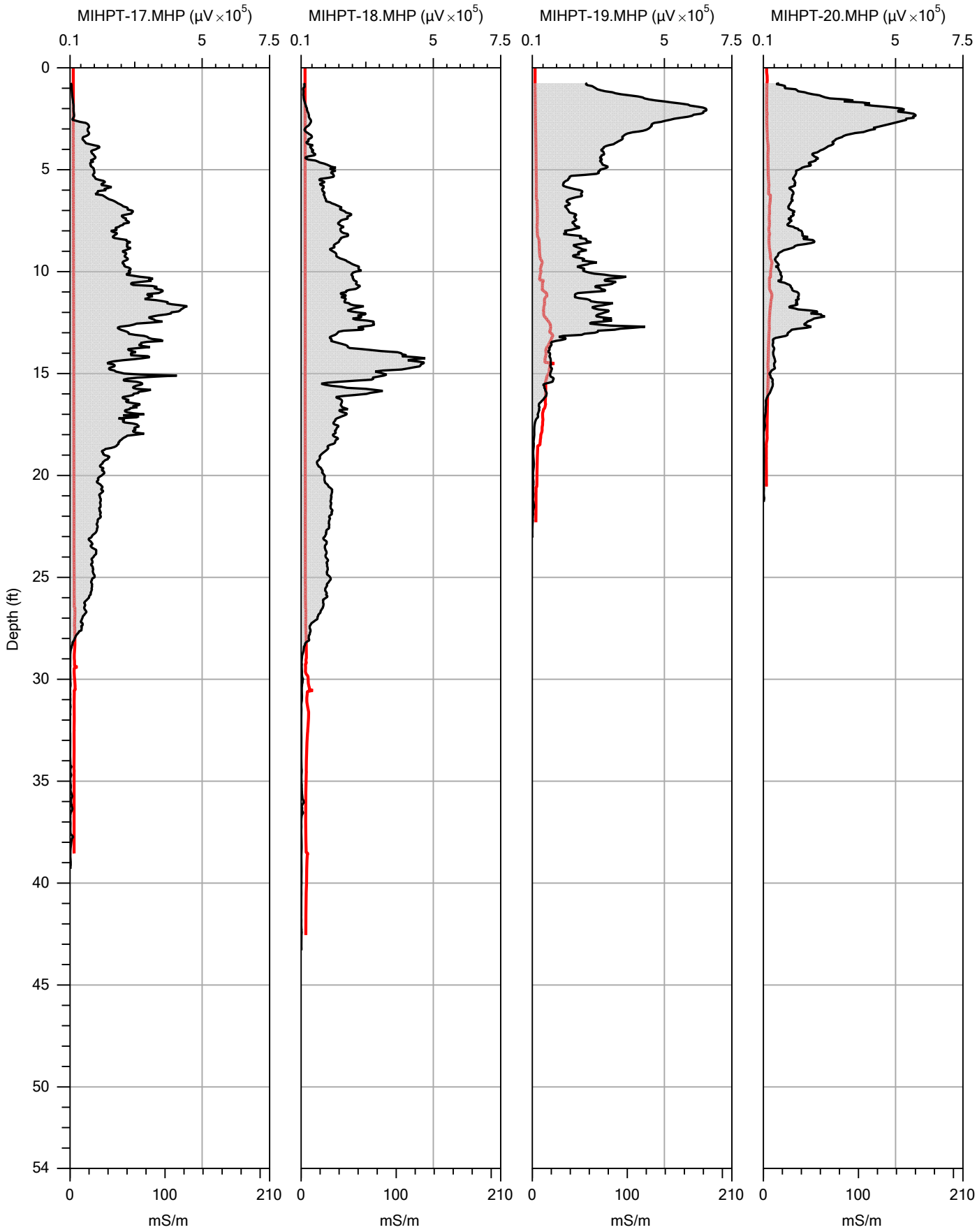


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-13 (GP016).MHP	02/15/17
MIHPT-14.MHP	02/15/17
MIHPT-15 (GP018).MHP	02/15/17
MIHPT-16 (GP012).MHP	02/16/17

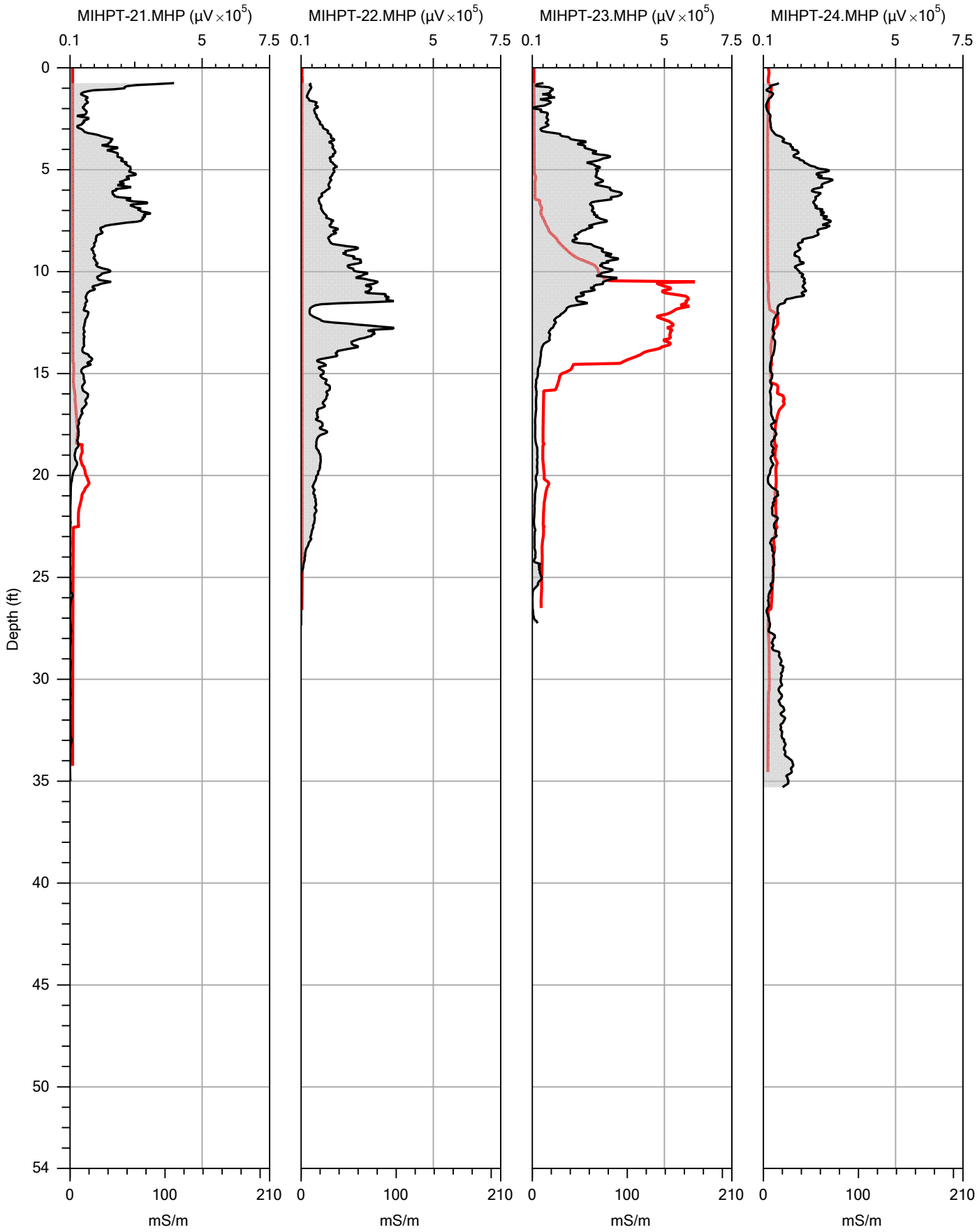


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-17.MHP	02/16/17
MIHPT-18.MHP	02/16/17
MIHPT-19.MHP	02/16/17
MIHPT-20.MHP	02/16/17

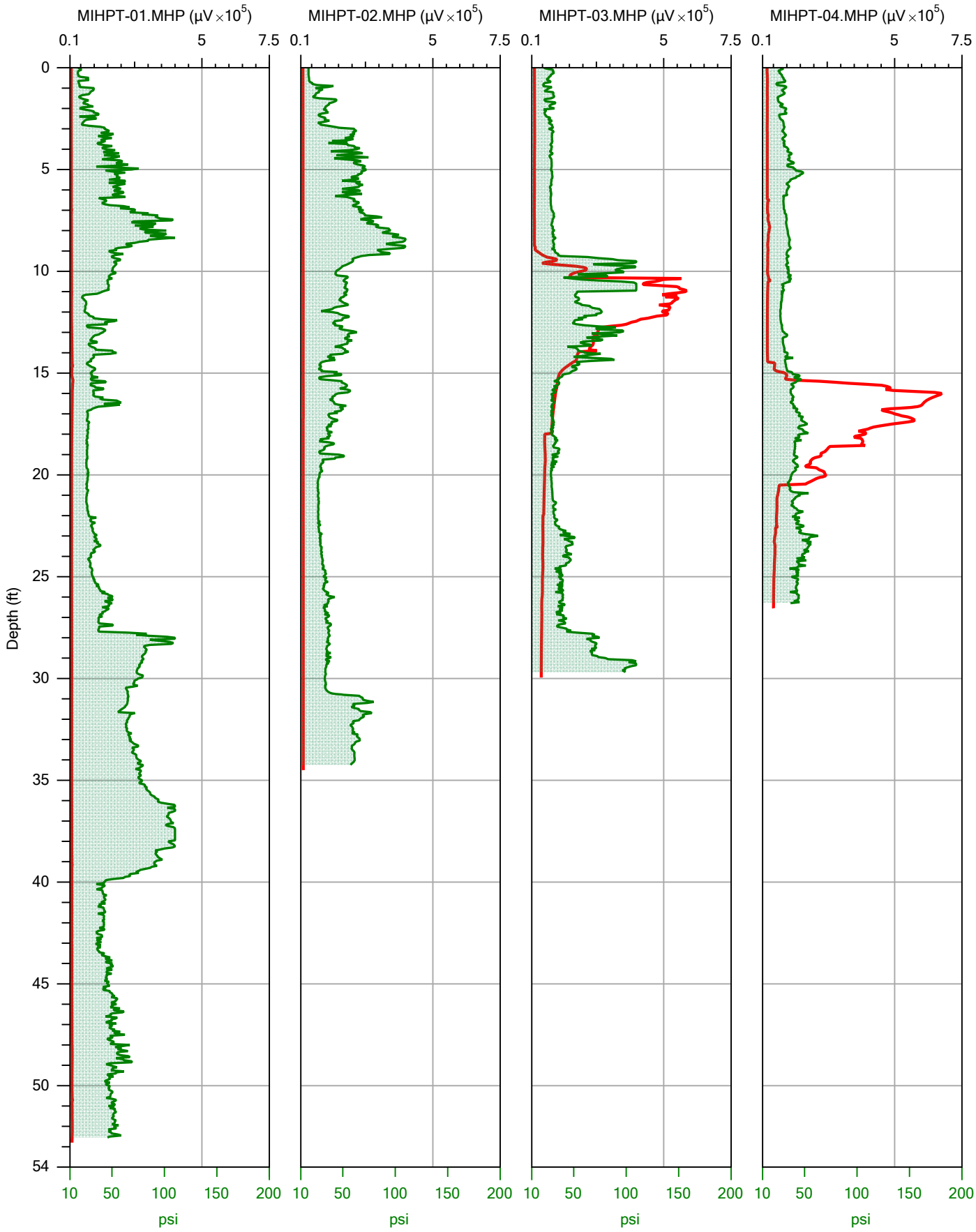


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / EC

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-21.MHP	02/16/17
MIHPT-22.MHP	02/17/17
MIHPT-23.MHP	02/17/17
MIHPT-24.MHP	02/17/17

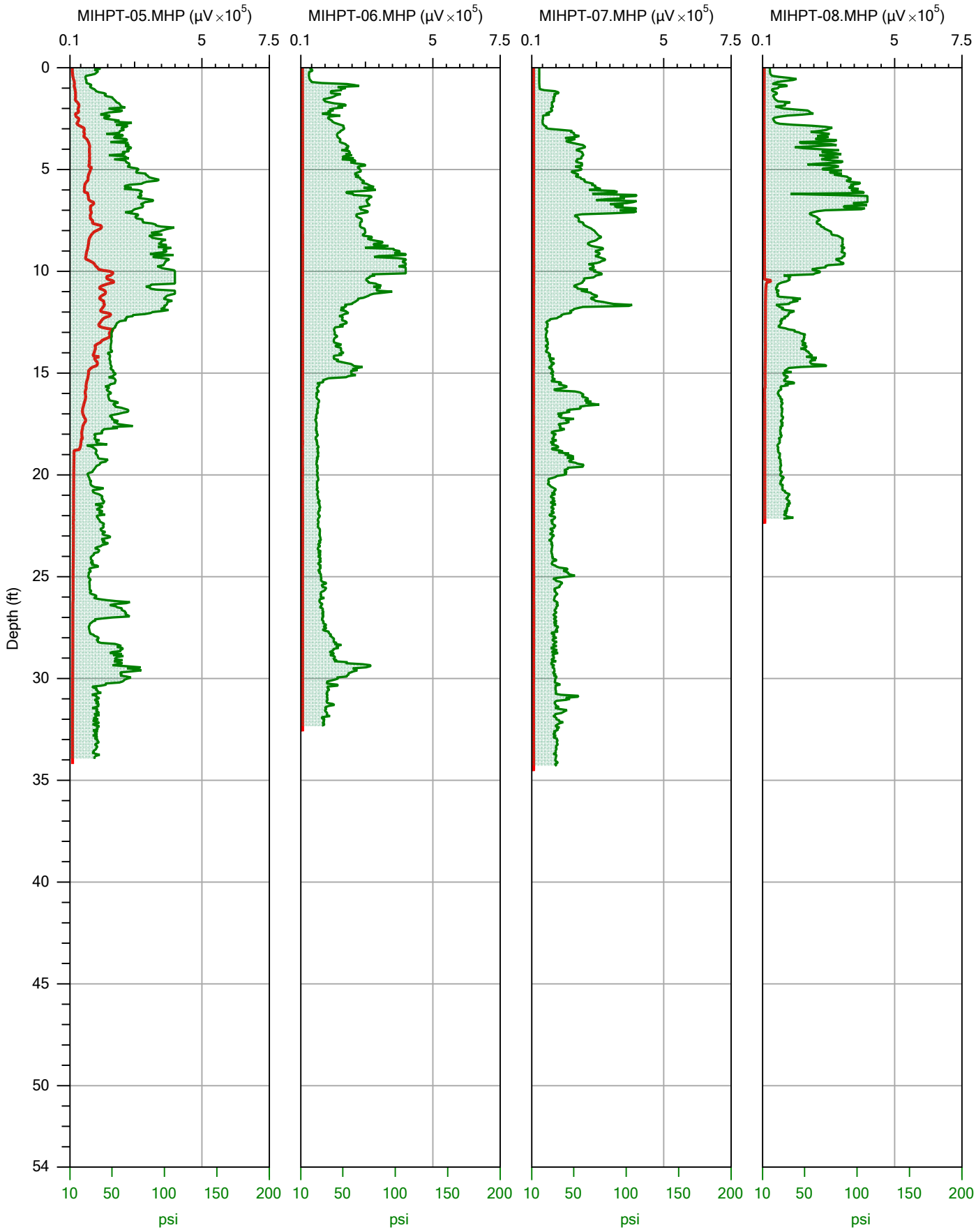


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-01.MHP	02/13/17
MIHPT-02.MHP	02/14/17
MIHPT-03.MHP	02/14/17
MIHPT-04.MHP	02/14/17

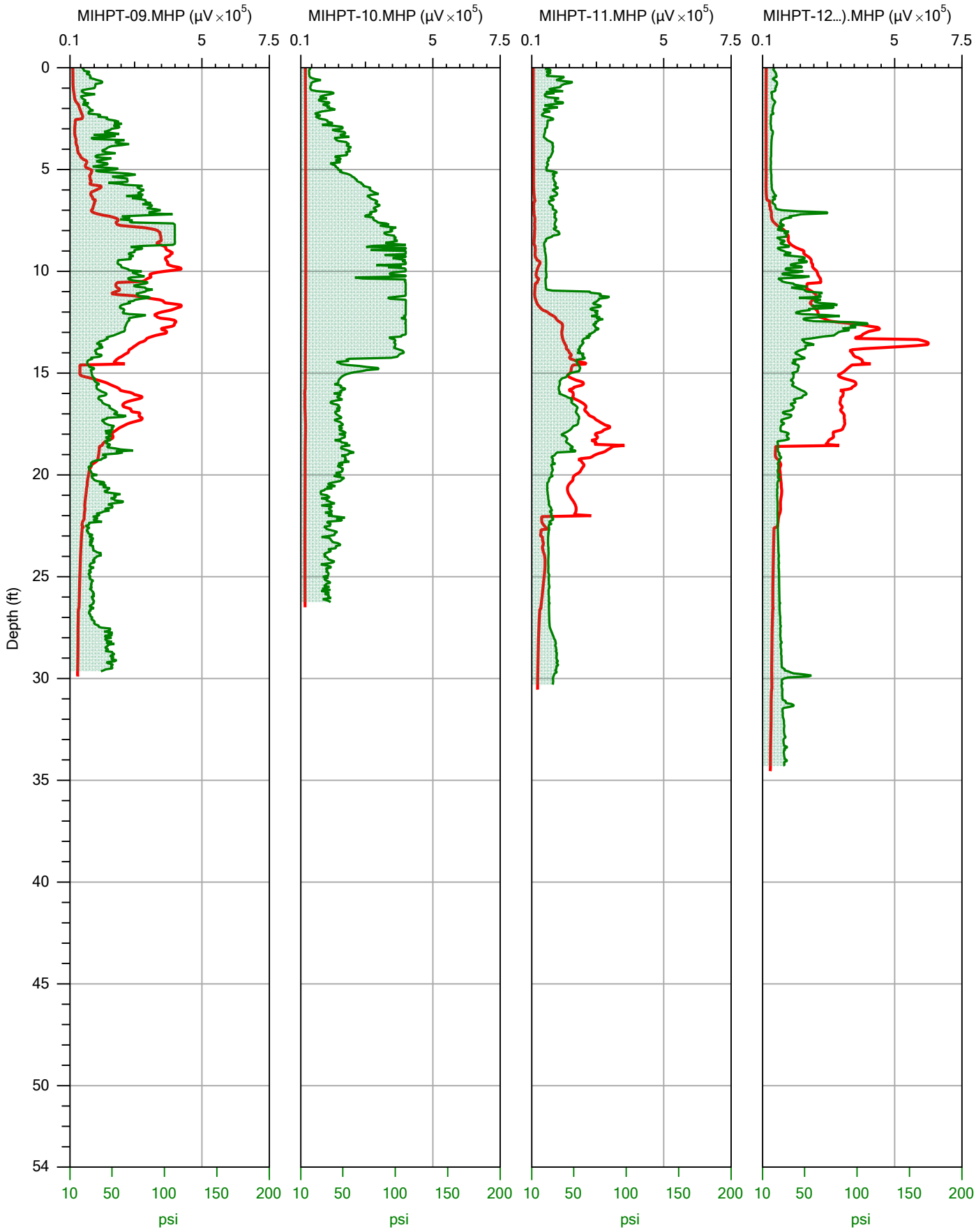


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-05.MHP	02/14/17
MIHPT-06.MHP	02/14/17
MIHPT-07.MHP	02/14/17
MIHPT-08.MHP	02/14/17

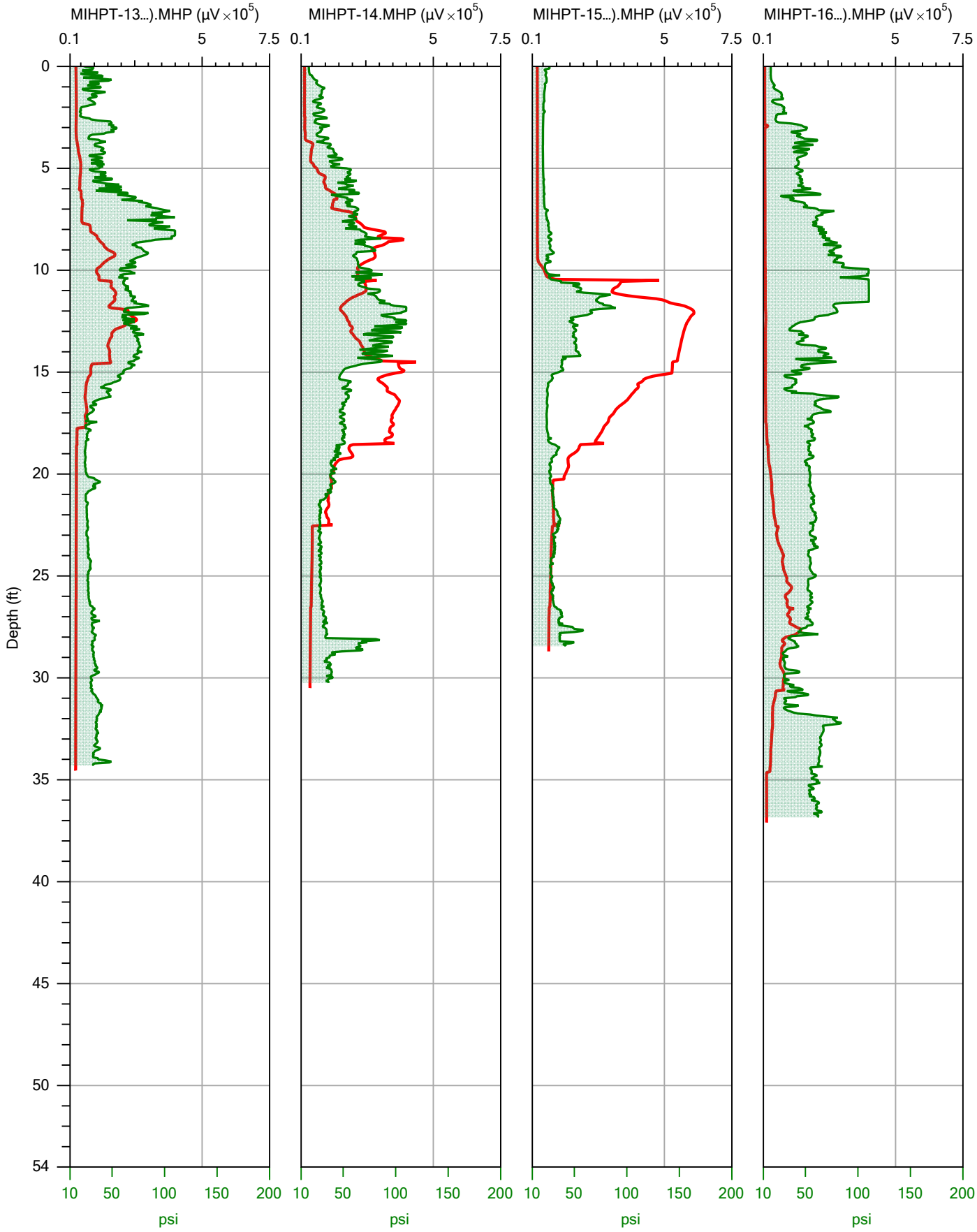


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-09.MHP	02/14/17
MIHPT-10.MHP	02/14/17
MIHPT-11.MHP	02/15/17
MIHPT-12 (GP015).MHP	02/15/17

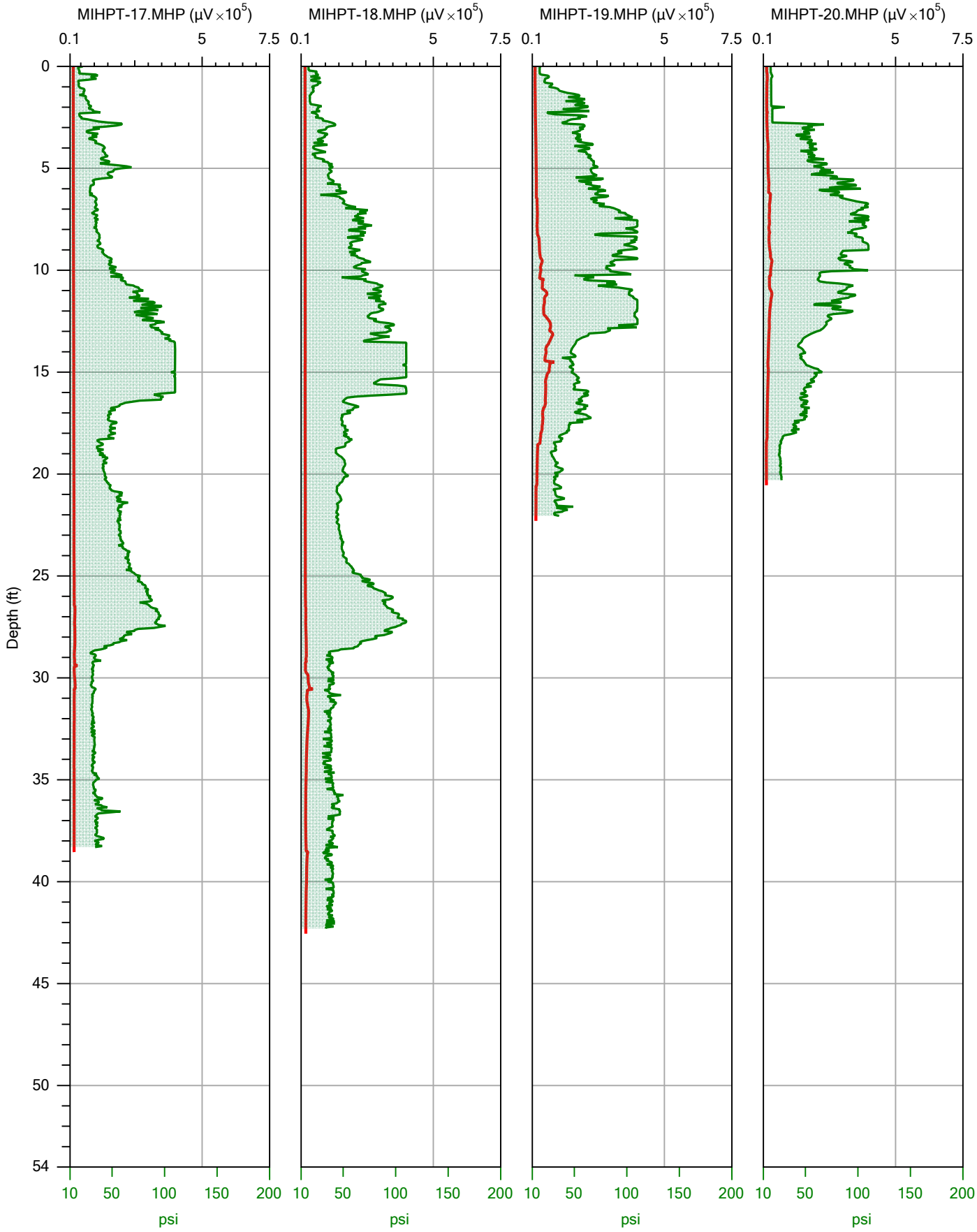


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-13 (GP016).MHP	02/15/17
MIHPT-14.MHP	02/15/17
MIHPT-15 (GP018).MHP	02/15/17
MIHPT-16 (GP012).MHP	02/16/17

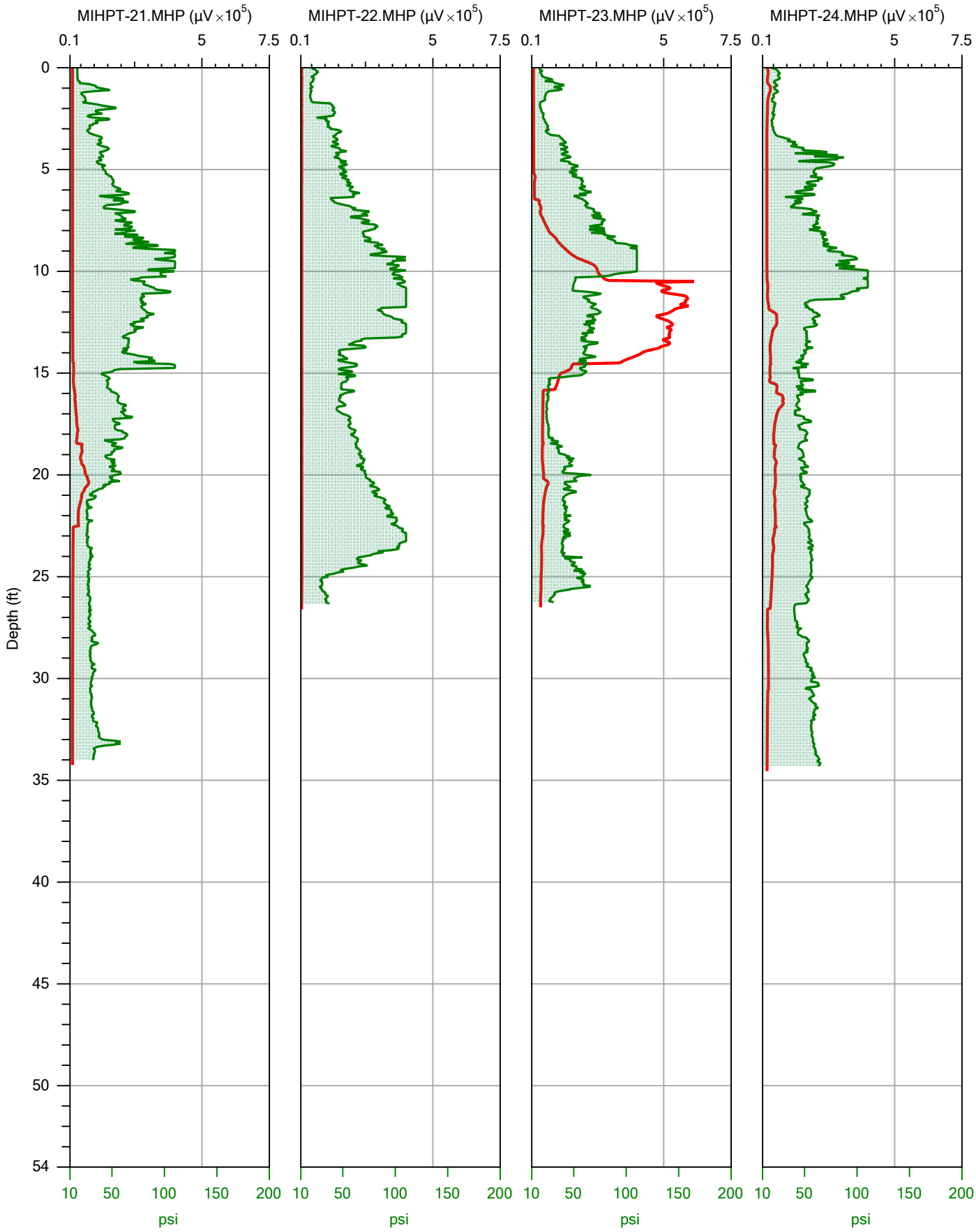


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-17.MHP	02/16/17
MIHPT-18.MHP	02/16/17
MIHPT-19.MHP	02/16/17
MIHPT-20.MHP	02/16/17

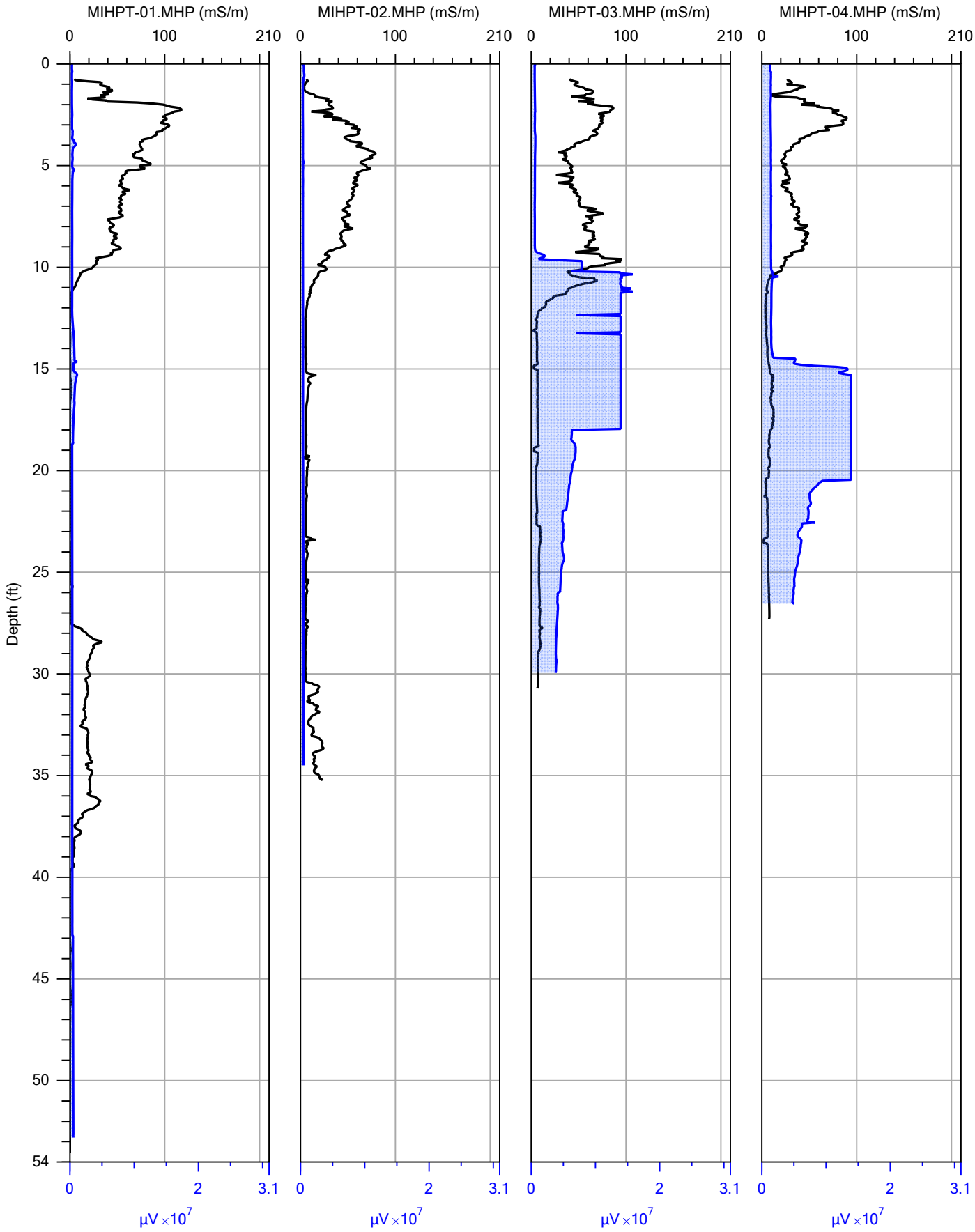


CASCADE
DRILLING | TECHNICAL SERVICES

XSD Max / HPT Press. Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-21.MHP	02/16/17
MIHPT-22.MHP	02/17/17
MIHPT-23.MHP	02/17/17
MIHPT-24.MHP	02/17/17

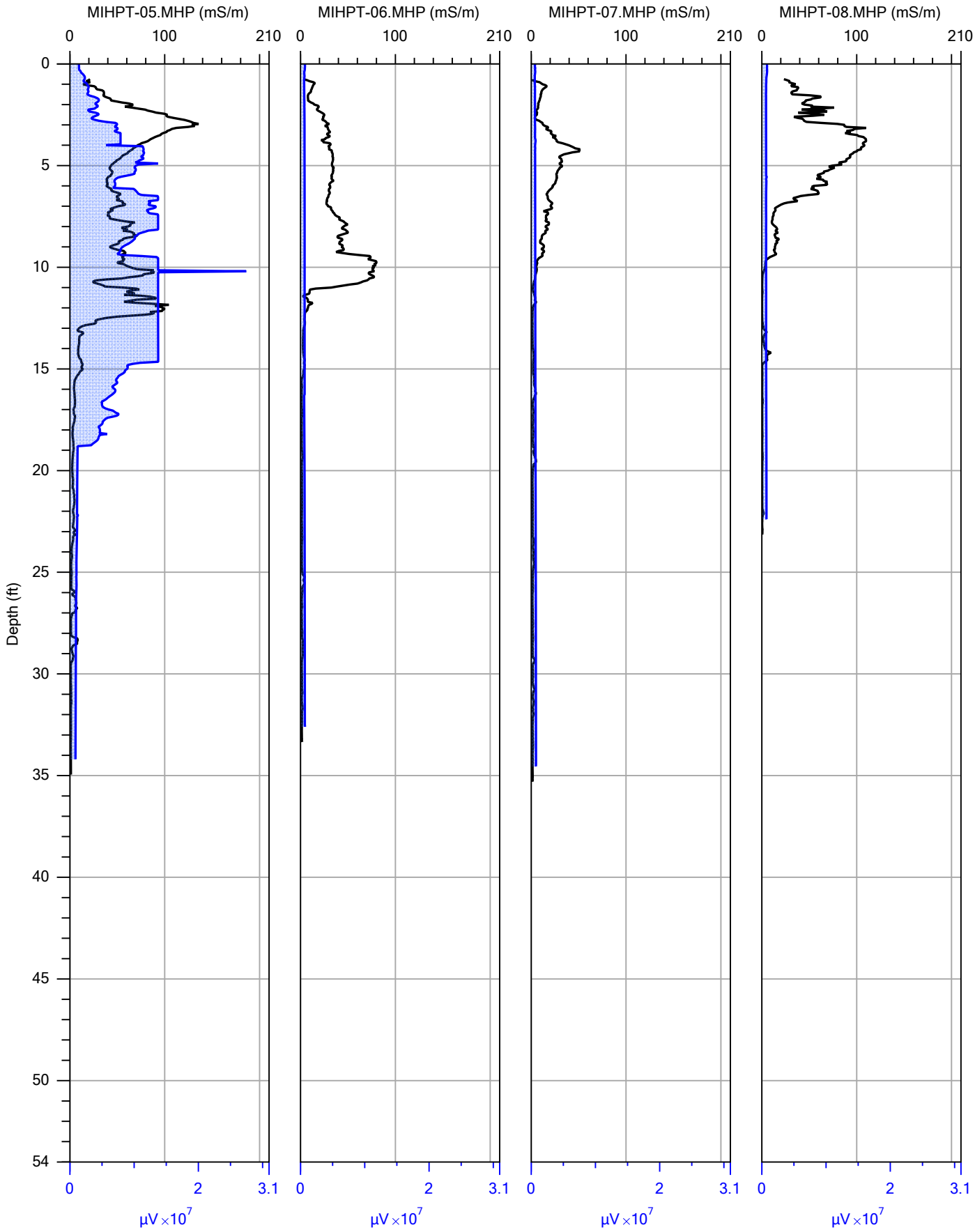


CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-01.MHP	02/13/17
MIHPT-02.MHP	02/14/17
MIHPT-03.MHP	02/14/17
MIHPT-04.MHP	02/14/17

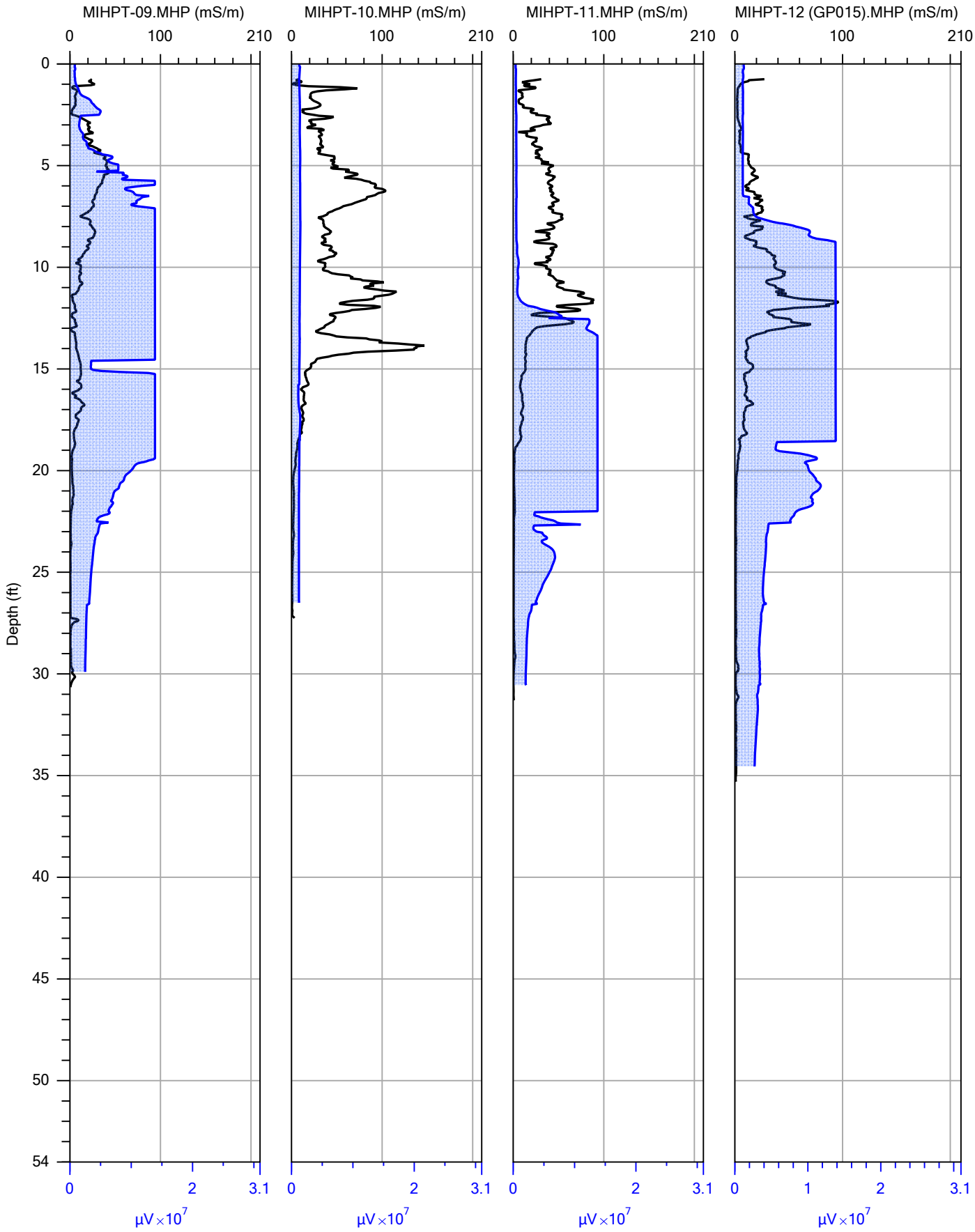


CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-05.MHP	02/14/17
MIHPT-06.MHP	02/14/17
MIHPT-07.MHP	02/14/17
MIHPT-08.MHP	02/14/17

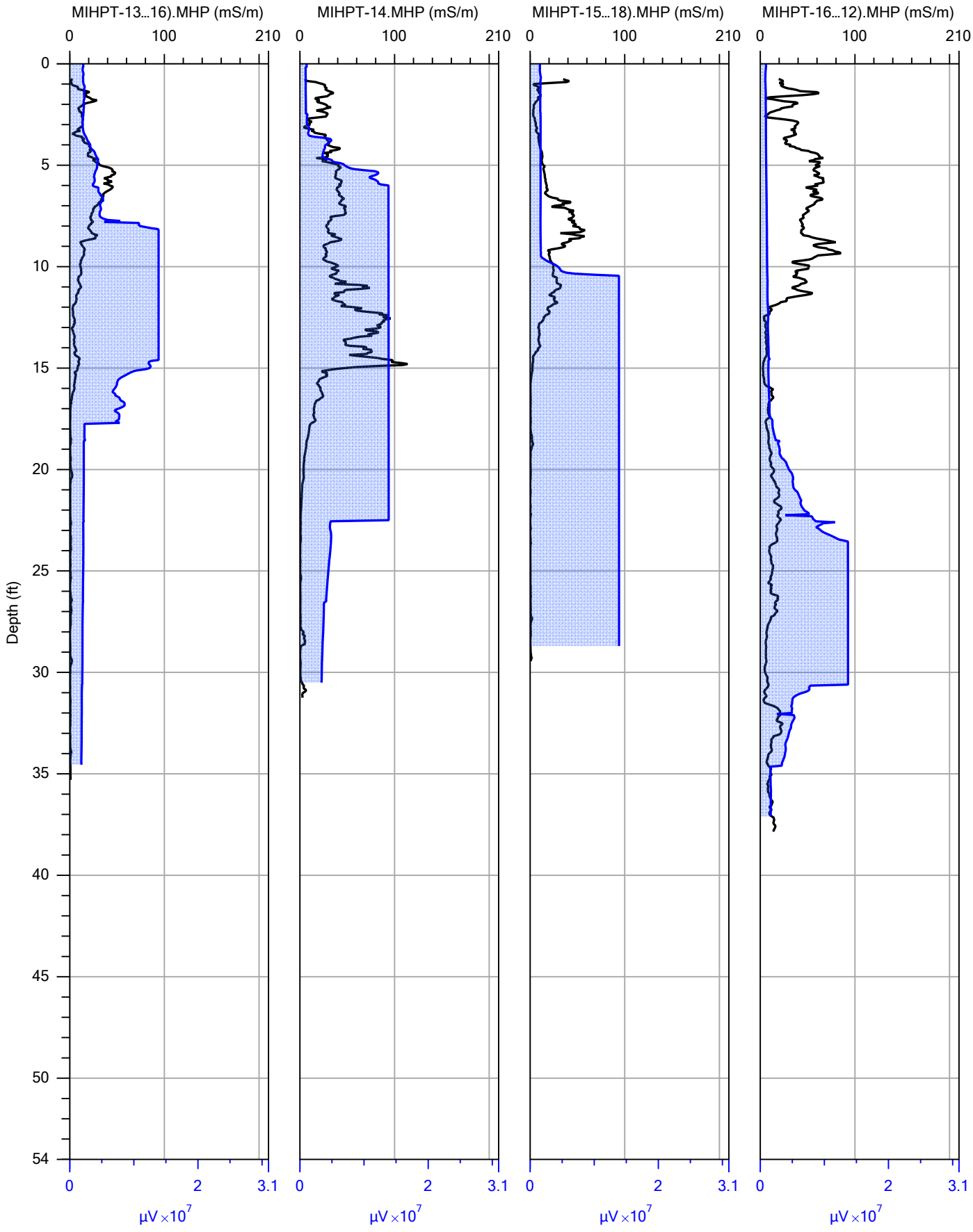


CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-09.MHP	02/14/17
MIHPT-10.MHP	02/14/17
MIHPT-11.MHP	02/15/17
MIHPT-12 (GP015).MHP	02/15/17

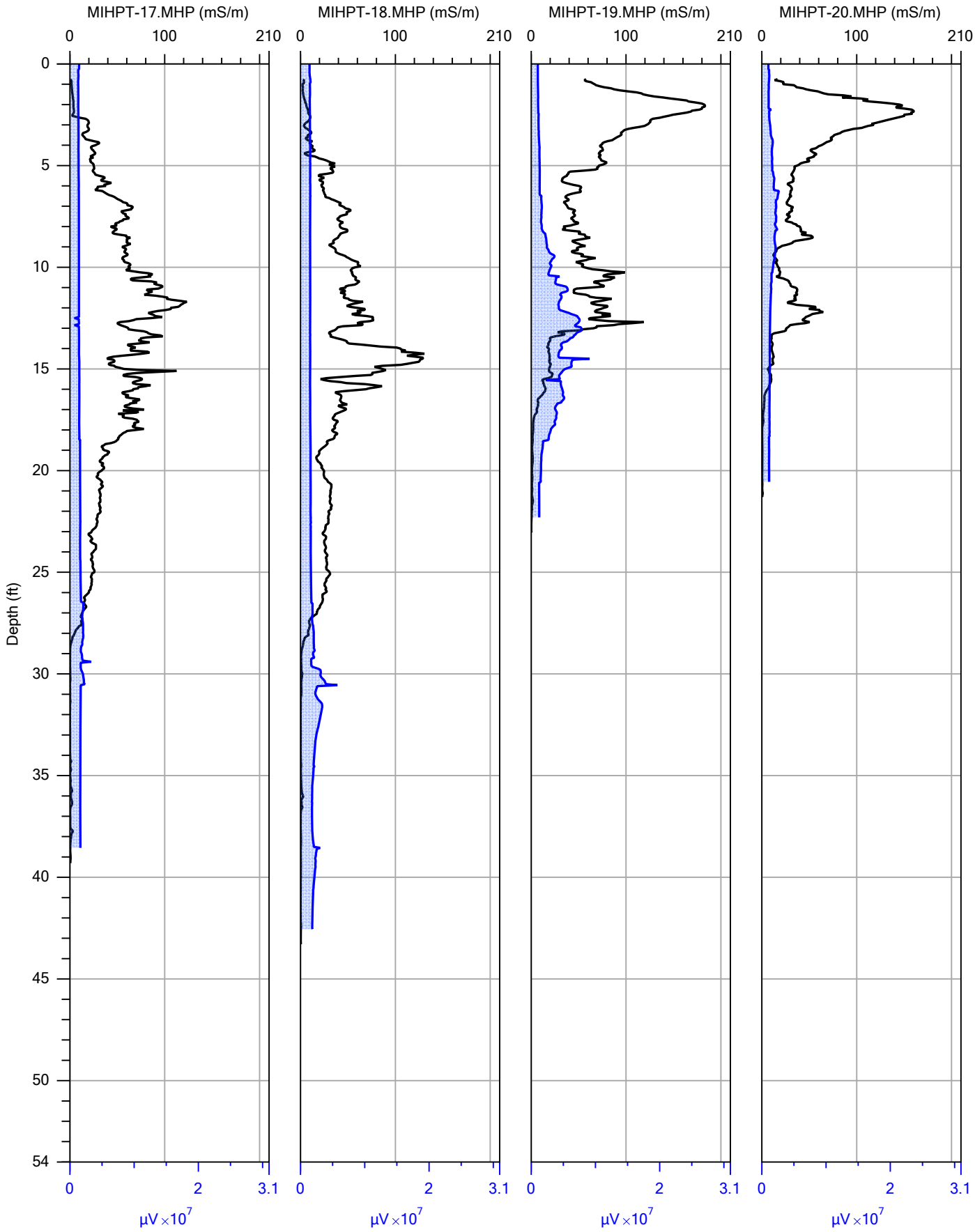


CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-13 (GP016).MHP	02/15/17
MIHPT-14.MHP	02/15/17
MIHPT-15 (GP018).MHP	02/15/17
MIHPT-16 (GP012).MHP	02/16/17

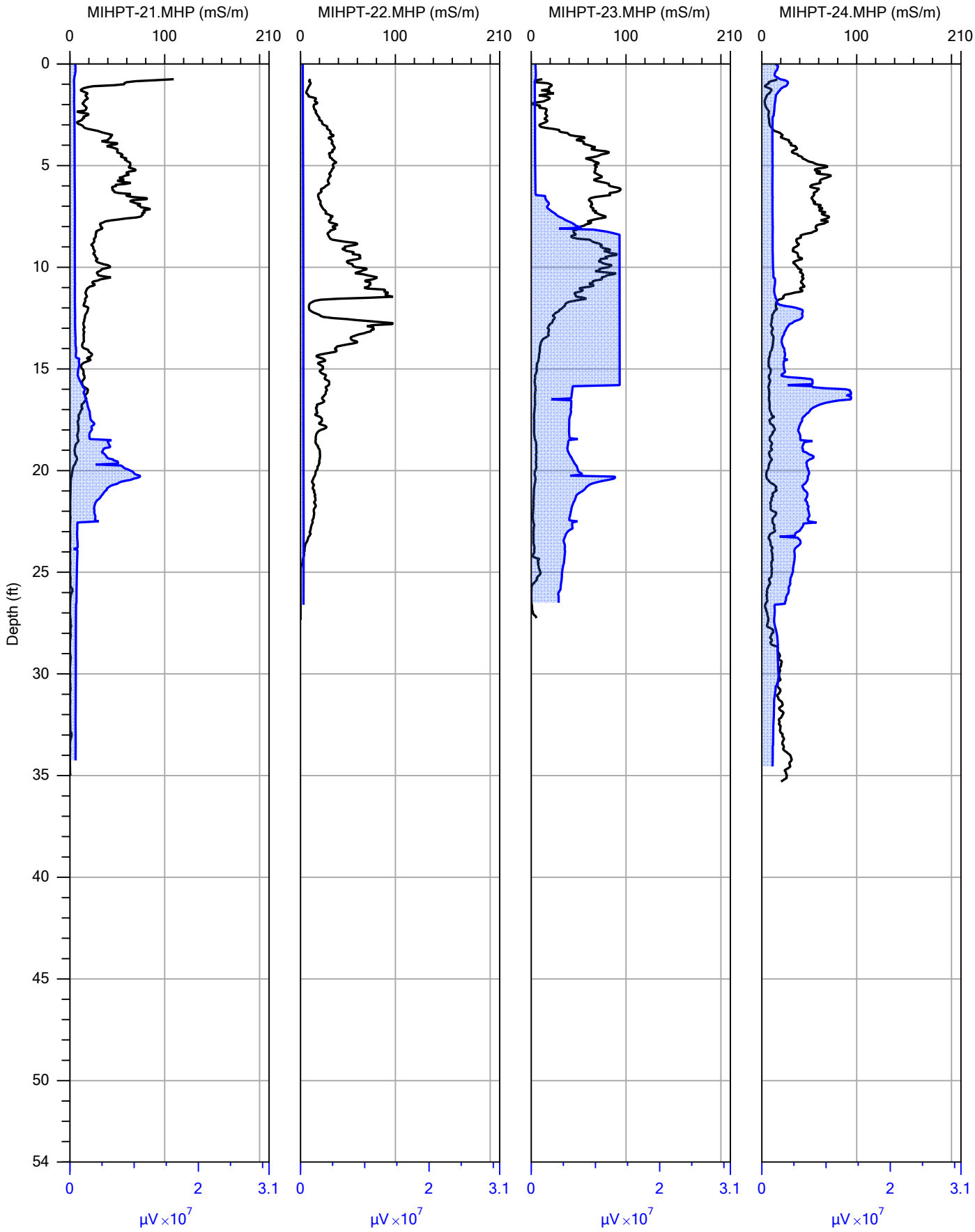


CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-17.MHP	02/16/17
MIHPT-18.MHP	02/16/17
MIHPT-19.MHP	02/16/17
MIHPT-20.MHP	02/16/17



CASCADE
DRILLING | TECHNICAL SERVICES

EC / ECD Max

Company: Cascade Techical Services	Operator: C. Mew
Project ID: 30517171007	Client: First Environmental

MIHPT-21.MHP	02/16/17
MIHPT-22.MHP	02/17/17
MIHPT-23.MHP	02/17/17
MIHPT-24.MHP	02/17/17

APPENDIX C

Waypoint ANALYTICAL

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Main 601-957-2676 ° Fax 601-957-1887
www.waypointanalytical.com

2/22/2017

First Environment
Mr. Michael Slack
1000 Highland Colony Parkway
Suite 203
Ridgeland, MS, 39157

Ref: Analytical Testing
Lab Report Number: 17-051-0203
Client Project Description: Borg Warner Facility

Dear Mr. Michael Slack:
Waypoint Analytical Mississippi, Inc. received sample(s) on 2/20/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Brian Herrington
Technical Director

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Louisiana #04023

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Main 601-957-2676 º Fax 601-957-1887
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Sample Summary Table

Report Number: **17-051-0203**

Client Project Description: **Borg Warner Facility**

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
91243	MiHpt - 24	Aqueous	02/17/2017 14:05	02/20/2017	8260B	WTN
91244	MiHpt - 23	Aqueous	02/17/2017 14:45	02/20/2017	8260B	WTN
91245	MiHpt - 15	Aqueous	02/17/2017 15:55	02/20/2017	8260B	WTN

WTN: Waypoint Analytical - TN, Memphis, TN, Certification: E-10396

Waypoint ANALYTICAL

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01061
First Environment
Mr. Michael Slack
1000 Highland Colony Parkway
Suite 203
Ridgeland , MS 39157

Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91243**
Sample ID : **MiHpt - 24**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:05**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	<2000	µg/L	2000	100	02/21/17 18:21	LAT	L322613
Acetonitrile	<5000	µg/L	5000	100	02/21/17 18:21	LAT	L322613
Acrolein	<2000	µg/L	2000	100	02/21/17 18:21	LAT	L322613
Acrylonitrile	<2000	µg/L	2000	100	02/21/17 18:21	LAT	L322613
Benzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Bromobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Bromochloromethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Bromodichloromethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Bromoform	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Bromomethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Methyl Ethyl Ketone (MEK)	<2000	µg/L	2000	100	02/21/17 18:21	LAT	L322613
n-Butylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
sec-Butyl benzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
tert-Butyl benzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Carbon Disulfide	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Carbon Tetrachloride	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Chlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Chlorodibromomethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Chloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
2-Chloroethylvinyl Ether	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
Chloroform	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Chloromethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Main 601-957-2676 º Fax 601-957-1887
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01061
First Environment
Mr. Michael Slack
1000 Highland Colony Parkway
Suite 203
Ridgeland , MS 39157

Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91243**
Sample ID : **MiHpt - 24**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:05**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
2-Chlorotoluene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
4-Chlorotoluene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2-Dibromo-3-Chloropropane	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
1,2-Dibromoethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Dibromomethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2-Dichlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,3-Dichlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,4-Dichlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Dichlorodifluoromethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1-Dichloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2-Dichloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1-Dichloroethene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
cis-1,2-Dichloroethene	**5160**	µg/L	100	100	02/21/17 18:21	LAT	L322613
trans-1,2-Dichloroethene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2-Dichloroethene (Total)	**5160**	µg/L	100	100	02/21/17 18:21		L322613
1,2-Dichloropropane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,3-Dichloropropane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
2,2-Dichloropropane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1-Dichloropropene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
cis-1,3-Dichloropropene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
trans-1,3-Dichloropropene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Ethylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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First Environment
Mr. Michael Slack
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Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91243**
Sample ID : **MiHpt - 24**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:05**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Hexachlorobutadiene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
2-Hexanone	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
Iodomethane	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
Isopropylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
4-Isopropyl toluene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Methyl tert-butyl ether (MTBE)	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
4-Methyl-2-Pentanone	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
Methylene Chloride	**666**	µg/L	500	100	02/21/17 18:21	LAT	L322613
Naphthalene	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
n-Propylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Styrene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1,1,2-Tetrachloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1,2,2-Tetrachloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Tetrachloroethene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Toluene	<500	µg/L	500	100	02/21/17 18:21	LAT	L322613
1,2,3-Trichlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2,4-Trichlorobenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1,1-Trichloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,1,2-Trichloroethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Trichloroethene	**91900**	µg/L	1000	1000	02/21/17 18:53	LAT	L322613
Trichlorofluoromethane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,2,3-Trichloropropane	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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First Environment
Mr. Michael Slack
1000 Highland Colony Parkway
Suite 203
Ridgeland , MS 39157

Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91243**
Sample ID : **MiHpt - 24**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:05**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2,4-Trimethylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
1,3,5-Trimethylbenzene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
Vinyl Acetate	<1000	µg/L	1000	100	02/21/17 18:21	LAT	L322613
Vinyl Chloride	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
o-Xylene	<100	µg/L	100	100	02/21/17 18:21	LAT	L322613
m,p-Xylene	<200	µg/L	200	100	02/21/17 18:21	LAT	L322613
Xylene (Total)	<100	µg/L	100	100	02/21/17 18:21		L322613
Surrogate: 4-Bromofluorobenzene	89.4		Limits: 71-137%	100	02/21/17 18:21	LAT	L322613
Surrogate: Dibromofluoromethane	92.2		Limits: 70-128%	100	02/21/17 18:21	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	96.6		Limits: 63-136%	100	02/21/17 18:21	LAT	L322613
Surrogate: Toluene-d8	99.0		Limits: 70-130%	100	02/21/17 18:21	LAT	L322613
Surrogate: 4-Bromofluorobenzene	91.8		Limits: 71-137%	1000	02/21/17 18:53	LAT	L322613
Surrogate: Dibromofluoromethane	99.6		Limits: 70-128%	1000	02/21/17 18:53	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	105		Limits: 63-136%	1000	02/21/17 18:53	LAT	L322613
Surrogate: Toluene-d8	106		Limits: 70-130%	1000	02/21/17 18:53	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91244**
Sample ID : **MiHpt - 23**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:45**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	<1000	µg/L	1000	50	02/21/17 19:26	LAT	L322613
Acetonitrile	<2500	µg/L	2500	50	02/21/17 19:26	LAT	L322613
Acrolein	<1000	µg/L	1000	50	02/21/17 19:26	LAT	L322613
Acrylonitrile	<1000	µg/L	1000	50	02/21/17 19:26	LAT	L322613
Benzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Bromobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Bromochloromethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Bromodichloromethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Bromoform	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Bromomethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Methyl Ethyl Ketone (MEK)	<1000	µg/L	1000	50	02/21/17 19:26	LAT	L322613
n-Butylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
sec-Butyl benzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
tert-Butyl benzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Carbon Disulfide	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Carbon Tetrachloride	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Chlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Chlorodibromomethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Chloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
2-Chloroethylvinyl Ether	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
Chloroform	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Chloromethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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01061
First Environment
Mr. Michael Slack
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Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91244**
Sample ID : **MiHpt - 23**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:45**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
2-Chlorotoluene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
4-Chlorotoluene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2-Dibromo-3-Chloropropane	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
1,2-Dibromoethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Dibromomethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2-Dichlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,3-Dichlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,4-Dichlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Dichlorodifluoromethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1-Dichloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2-Dichloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1-Dichloroethene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
cis-1,2-Dichloroethene	**1280**	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
trans-1,2-Dichloroethene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2-Dichloroethene (Total)	**1280**	µg/L	50.0	50	02/21/17 19:26		L322613
1,2-Dichloropropane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,3-Dichloropropane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
2,2-Dichloropropane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1-Dichloropropene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
cis-1,3-Dichloropropene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
trans-1,3-Dichloropropene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Ethylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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01061
First Environment
Mr. Michael Slack
1000 Highland Colony Parkway
Suite 203
Ridgeland , MS 39157

Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91244**
Sample ID : **MiHpt - 23**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:45**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Hexachlorobutadiene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
2-Hexanone	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
Iodomethane	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
Isopropylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
4-Isopropyl toluene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Methyl tert-butyl ether (MTBE)	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
4-Methyl-2-Pentanone	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
Methylene Chloride	**352**	µg/L	250	50	02/21/17 19:26	LAT	L322613
Naphthalene	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
n-Propylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Styrene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1,1,2-Tetrachloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1,2,2-Tetrachloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Tetrachloroethene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Toluene	<250	µg/L	250	50	02/21/17 19:26	LAT	L322613
1,2,3-Trichlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2,4-Trichlorobenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1,1-Trichloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,1,2-Trichloroethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Trichloroethene	**75300**	µg/L	500	500	02/21/17 19:58	LAT	L322613
Trichlorofluoromethane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,2,3-Trichloropropane	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91244**
Sample ID : **MiHpt - 23**

Matrix: **Aqueous**
Sampled: **2/17/2017 14:45**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2,4-Trimethylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
1,3,5-Trimethylbenzene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
Vinyl Acetate	<500	µg/L	500	50	02/21/17 19:26	LAT	L322613
Vinyl Chloride	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
o-Xylene	<50.0	µg/L	50.0	50	02/21/17 19:26	LAT	L322613
m,p-Xylene	<100	µg/L	100	50	02/21/17 19:26	LAT	L322613
Xylene (Total)	<50.0	µg/L	50.0	50	02/21/17 19:26		L322613
Surrogate: 4-Bromofluorobenzene	95.0		Limits: 71-137%	50	02/21/17 19:26	LAT	L322613
Surrogate: Dibromofluoromethane	102		Limits: 70-128%	50	02/21/17 19:26	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	106		Limits: 63-136%	50	02/21/17 19:26	LAT	L322613
Surrogate: Toluene-d8	105		Limits: 70-130%	50	02/21/17 19:26	LAT	L322613
Surrogate: 4-Bromofluorobenzene	82.2		Limits: 71-137%	500	02/21/17 19:58	LAT	L322613
Surrogate: Dibromofluoromethane	90.0		Limits: 70-128%	500	02/21/17 19:58	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	94.0		Limits: 63-136%	500	02/21/17 19:58	LAT	L322613
Surrogate: Toluene-d8	94.2		Limits: 70-130%	500	02/21/17 19:58	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91245**
Sample ID : **MiHpt - 15**

Matrix: **Aqueous**
Sampled: **2/17/2017 15:55**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	<2000	µg/L	2000	100	02/21/17 20:30	LAT	L322613
Acetonitrile	<5000	µg/L	5000	100	02/21/17 20:30	LAT	L322613
Acrolein	<2000	µg/L	2000	100	02/21/17 20:30	LAT	L322613
Acrylonitrile	<2000	µg/L	2000	100	02/21/17 20:30	LAT	L322613
Benzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Bromobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Bromochloromethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Bromodichloromethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Bromoform	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Bromomethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Methyl Ethyl Ketone (MEK)	<2000	µg/L	2000	100	02/21/17 20:30	LAT	L322613
n-Butylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
sec-Butyl benzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
tert-Butyl benzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Carbon Disulfide	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Carbon Tetrachloride	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Chlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Chlorodibromomethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Chloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
2-Chloroethylvinyl Ether	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
Chloroform	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Chloromethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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01061
First Environment
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1000 Highland Colony Parkway
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Project Information : Borg Warner Facility

Report Date : 02/22/2017
Received : 2/20/2017

Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91245**
Sample ID : **MiHpt - 15**

Matrix: **Aqueous**
Sampled: **2/17/2017 15:55**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
2-Chlorotoluene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
4-Chlorotoluene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2-Dibromo-3-Chloropropane	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
1,2-Dibromoethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Dibromomethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2-Dichlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,3-Dichlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,4-Dichlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Dichlorodifluoromethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1-Dichloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2-Dichloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1-Dichloroethene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
cis-1,2-Dichloroethene	**10400**	µg/L	100	100	02/21/17 20:30	LAT	L322613
trans-1,2-Dichloroethene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2-Dichloroethene (Total)	**10400**	µg/L	100	100	02/21/17 20:30		L322613
1,2-Dichloropropane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,3-Dichloropropane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
2,2-Dichloropropane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1-Dichloropropene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
cis-1,3-Dichloropropene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
trans-1,3-Dichloropropene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Ethylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91245**
Sample ID : **MiHpt - 15**

Matrix: **Aqueous**
Sampled: **2/17/2017 15:55**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Hexachlorobutadiene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
2-Hexanone	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
Iodomethane	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
Isopropylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
4-Isopropyl toluene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Methyl tert-butyl ether (MTBE)	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
4-Methyl-2-Pentanone	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
Methylene Chloride	**717**	µg/L	500	100	02/21/17 20:30	LAT	L322613
Naphthalene	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
n-Propylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Styrene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1,1,2-Tetrachloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1,2,2-Tetrachloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Tetrachloroethene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Toluene	<500	µg/L	500	100	02/21/17 20:30	LAT	L322613
1,2,3-Trichlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2,4-Trichlorobenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1,1-Trichloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,1,2-Trichloroethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Trichloroethene	**84100**	µg/L	1000	1000	02/21/17 21:02	LAT	L322613
Trichlorofluoromethane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,2,3-Trichloropropane	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Report Date : 02/22/2017
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Report Number : **17-051-0203**

REPORT OF ANALYSIS

Brian Herrington
Technical Director

Lab No : **91245**
Sample ID : **MiHpt - 15**

Matrix: **Aqueous**
Sampled: **2/17/2017 15:55**

Analytical Method: 8260B **Prep Batch(es):** **L322596** 02/21/17 09:20
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2,4-Trimethylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
1,3,5-Trimethylbenzene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
Vinyl Acetate	<1000	µg/L	1000	100	02/21/17 20:30	LAT	L322613
Vinyl Chloride	**4400**	µg/L	100	100	02/21/17 20:30	LAT	L322613
o-Xylene	<100	µg/L	100	100	02/21/17 20:30	LAT	L322613
m,p-Xylene	<200	µg/L	200	100	02/21/17 20:30	LAT	L322613
Xylene (Total)	<100	µg/L	100	100	02/21/17 20:30		L322613
Surrogate: 4-Bromofluorobenzene	91.2		Limits: 71-137%	100	02/21/17 20:30	LAT	L322613
Surrogate: Dibromofluoromethane	101		Limits: 70-128%	100	02/21/17 20:30	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	106		Limits: 63-136%	100	02/21/17 20:30	LAT	L322613
Surrogate: Toluene-d8	101		Limits: 70-130%	100	02/21/17 20:30	LAT	L322613
Surrogate: 4-Bromofluorobenzene	90.0		Limits: 71-137%	1000	02/21/17 21:02	LAT	L322613
Surrogate: Dibromofluoromethane	98.4		Limits: 70-128%	1000	02/21/17 21:02	LAT	L322613
Surrogate: 1,2-Dichloroethane - d4	102		Limits: 63-136%	1000	02/21/17 21:02	LAT	L322613
Surrogate: Toluene-d8	104		Limits: 70-130%	1000	02/21/17 21:02	LAT	L322613

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Cooler Receipt Form

Customer Number: **01061**
Customer Name: **First Environment**
Report Number: **17-051-0203**

Shipping Method

○ Fed Ex	○ US Postal	○ Lab	○ Other :	
○ UPS	● Client	○ Courier	Thermometer ID:	IR Gun #1

Shipping container/cooler uncompromised?	● Yes	○ No	
Number of coolers received	1		
Custody seals intact on shipping container/cooler?	○ Yes	○ No	● Not Required
Custody seals intact on sample bottles?	○ Yes	○ No	● Not Required
Chain of Custody (COC) present?	● Yes	○ No	
COC agrees with sample label(s)?	● Yes	○ No	
COC properly completed	● Yes	○ No	
Samples in proper containers?	● Yes	○ No	
Sample containers intact?	● Yes	○ No	
Sufficient sample volume for indicated test(s)?	● Yes	○ No	
All samples received within holding time?	● Yes	○ No	
Cooler temperature in compliance?	● Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	● Yes	○ No	
Water - Sample containers properly preserved	● Yes	○ No	○ N/A
Water - VOA vials free of headspace	● Yes	○ No	○ N/A
Trip Blanks received with VOAs	○ Yes	● No	○ N/A
Soil VOA method 5035 – compliance criteria met	○ Yes	○ No	● N/A

☐ High concentration container (48 hr)
☐ Low concentration EnCore samplers (48 hr)
☐ High concentration pre-weighed (methanol -14 d)
☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included?	○ Yes	● No

Comments:

Any regulatory non-compliance issues will be recorded on non-compliance report.

Signature: Karen Denney Date & Time: 02/20/2017 09:26:40

17-051-0203
01061
02-20-2017
First Environment
09:23:15
Borg Warner Facility

Client Name/Address	Client Project Manager/Contact	Billing Information
FIRST ENVIRONMENT 1000 HIGHLAND COLONY PARKWAY SUITE 5203 RIDGELAND, MS 39157	~~NICOLE~~ MICHAEL SLACK FIRST ENVIRONMENT MSLACK@FIRSTENVIRONMENT.COM	FIRST ENVIRONMENT, INC. 91 FULTON STREET BOONTON, NJ 07005 ATTN: NICOLE GIANNETTI 973-334-003 EXT 253

Project Description	Project/Site Location (City/State)		Method of Shipr
MiHpt INVESTIGATION	ENPRO - BORG WARNER PLANT WATER VALLEY, MS	☒ RUSH – Additional charges apply ☐ Special Detection Limit(s) Date Results Needed 2.24.17	☐ Fed Ex ☐ ☐ Courier ☒ Client Drop Off Other

DW – Drinking Water S – Soil /Solid O – Oil
P - Product M - Misc

Project Number	Project Manager Phone #	Project Manager Email	Purchase Order Number	Site/Facility ID #
~~ENPRO 002-A~~	MICHAEL SLACK 601-497-8104	MSLACK@FIRSTENVIRONMENT.COM	—	BORG WARNER FACILITY

Waypoint ANALYTICAL
235 Highpoint Drive
Ridgeland, MS 39157
601-957-2676

Unless noted, all containers per Table II of 40 CFR Part 136.

A Cool < 10C Na2S2O3 (Micro Only)
B Cool <= 6C
C H2SO4 pH<2
D None Required
E NaOH pH>10
F HNO3 pH<2
G HCL pH<2
H H3PO4 pH<2
I Cool <= 6C NA2S2O3

Date	Time	Sample Identification	Number of Containers	Matrix (Refer to Key)	(G)rab or (C)omposite	VOCs (8260) DRINKING WATER STANDARDS (HCL)	Comments/Notes
2/17/17	14:05	MiHpt-24(GW)	3	GW	G	✓	WELL SCREEN SET @ 13'-17' BLS
2/17/17	14:45	MiHpt-23(GW)	3	GW	G	✓	WELL SCREEN SET @ 11'-15 BLS
2/17/17	15:55	MiHpt-15(GW)	3	GW	G	✓	WELL SCREEN SET @ 10'-14' BLS

Required Analysis / Preservative

For Laboratory Use Only

Ice	Custody Seals	Lab Comments
(Y)/N	Y/(N)	

Blank/Cooler Temp: 4.1C

Sampled by (Name – Print): MICHAEL SLACK – FIRST ENVIRONMENT

Client Remarks/Comments: PLEASE EMAIL RESULTS TO MSLACK@FIRSTENVIRONMENT.COM

Relinquished by: (SIGNATURE)	Date	Time	Received by: (SIGNATURE)	Date	Time
MJS	2/20/17	09:15	Karen Denney	2.20.17	9:15
Relinquished by: (SIGNATURE)	Date	Time	Received by: (SIGNATURE)	Date	Time
Relinquished by: (SIGNATURE)	Date	Time	Received by: (SIGNATURE)	Date	Time

Safeguard LITHO USA Form No. 811-2/E15CS000387 07/15

CORPORATE HEADQUARTERS
91 Fulton Street
Boonton, NJ 07005
P: 973.334.0003
F: 973.334.0928

CALIFORNIA
770 L Street, Suite 950
Sacramento, CA 95814
P: 916.492.6080
F: 916.492.6089

CANADA
720-999 West Broadway
Vancouver, BC V5Z IK5
P: 778.374.3496
F: 778.374.3498

GEORGIA
1275 Shiloh Road NW, Suite 2110
Kennesaw, GA 30144
P: 770.424.3344
F: 770.424.3399

ILLINOIS
730 W Lake Street, Suite 164
Chicago, IL 60661
P: 630.299.3190

MISSISSIPPI
1020 W. 4th Street
Wesson, MS 39191
P: 601.643.9997
F: 601.643.9995

1000 Highland Colony Parkway
Suite 5203
Ridgeland, MS 39157
P: 601.427.4757

NEW YORK
79 Madison Avenue, 2nd Floor
New York, NY 10016
P: 646.873.6781

PUERTO RICO
PO Box 195365
San Juan, PR 00919
P: 787.767.0838
F: 787.763.9597

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www.firstenvironment.com