Aztech Technologies, Inc.

Site Characterization Report

for the

Owego Heat Treat
Inactive Hazardous Waste Disposal Site

1646 Marshland Road
Appalachin, Tioga County, New York

NYSDEC Site Number: 754011
NYSDEC Callout Number: 121757

November 20, 2013

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Region 7

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1.0 INTRODUCTION

On May 8, 2013, New York State Department of Environmental Conservation (NYSDEC) issued a callout (Callout No. 121757) to Aztech Technologies, Inc. (Aztech) for conducting a variety of investigatory tasks at the Owego Heat Treat site (the site), an inactive hazardous waste disposal site located at 1646 Marshland Road in Appalachin, Town of Owego, Tioga County, New York (**Figure 1**). The main focus of Aztech's work assignment was to supplement historic investigations previously conducted at the site with additional groundwater quality data, and, to provide information gathered via additional limited investigation requested by NYSDEC. Accomplishing these tasks would help NYSDEC evaluate existing environmental conditions and conduct remedial system optimization.

The site occupies approximately 37-acres on Marshland Road that is bounded by the Susquehanna River to the north; New York State Route 17 to the south, a golf course to the east and residential/agricultural property to the west. As shown in **Figure 2**, the site is bisected by Marshland Road. The northern portion of the site is primarily vacant land, with a residential structure in the area adjacent to Marshland Road. It appears that the residence is occasionally occupied on weekends. The southern portion of the site includes two (2) buildings and two (2) sheds associated with the former heat treating operation. One (1) residential structure (believed to currently be vacant) is also located on the southern portion of the site. The buildings and sheds associated with the former heat treating operation are generally located in the area adjacent to Marshland Road. Farther to the south, the property is undeveloped and a pond, approximately 2.0 acres in size, is present.

2.0 SITE HISTORY

Heat treating operations began at the facility in 1953 and continued until September, 2011 when the site was inundated by flooding associated with tropical storm Lee. When it was operational, the facility heat treated prefabricated metallic parts to specific temperatures and controlled the rate of cooling via oil quenching techniques. After cooling, the heat treated parts were placed in degreasing tanks for cleaning. Historically, tetrachloroethene (PCE) was used for the degreasing process. In 1992, use of PCE was discontinued in favor of an alkaline process that included 1,1,1-trichloroethane (1,1,1-TCA). Use of 1,1,1-TCA in the degreasing process was eventually phased-out in favor of environmentally safe citrus-based solvent.

According to the March 25, 1994 Record of Decision for the Owego Heat Treat Site, renovation of a former building (Building B-2), in December, 1987, revealed a strong chemical odor emanating from soil underlying a concrete floor. Inspection of a concrete lined containment pit beneath a PCE tank in the southeast corner of the building revealed standing water that was noticeably impacted. The water was removed from the pit and transferred into 55-gallon drums for disposal. A subsequent remedial excavation removed impacted soil for disposal in accordance with NYSDEC guidance. Post-excavation sampling indicated concentrations of total volatile organic compounds (VOCs) that were below 50 parts per billion (ppb) in remaining soils.

One (1) of three (3) water supply wells located on the property was also found to be impacted at that time.

Owego Heat Treat conducted several phases of investigation and remediation at the site beginning in 1988. These include:

- 1988 & 1989: groundwater and soil vapor sampling;
- June, 1989: additional groundwater and soil vapor sampling, electrical resistivity survey;
- March, 1992: construction of a groundwater extraction and treatment system (system operated almost continuously until the most recent property flooding in September 2011).
- March 1994: under a consent order with NYSDEC, continue operation of the groundwater treatment system; long-term sampling of on-site wells; and imposition of a deed restriction prohibiting use of groundwater at the site for potable use.
- January – March, 2006: investigate potential for soil vapor intrusion in on-site buildings and further evaluate off-site vapor migration. Vapor mitigation systems installed in four on-site buildings.
- June, 2006: demolish four on-site buildings following historic flooding related to extensive rains in the region. Resume heat treatment operations and operation of groundwater extraction system;
- September, 2011: Discontinue heat treatment operations after extensive flooding related to tropical storm Lee.

The findings of these investigations identified an upper saturated unit that consists of unconsolidated glacial outwash and alluvial deposits composed of silt, sand and gravel underlying the site. Within these deposits, the water table is encountered anywhere between 8.0 and 15 feet below grade and, the hydraulic conductivity is estimated at approximately 5.0 X 10^{-3} centimeters per second (cm/s), or 14.2 feet per day (ft/d). Groundwater flow within these unconsolidated deposits, which are estimated to be at least 30 to 40 feet in thickness, is generally to the north toward the Susquehanna River. The upper saturated unit is underlain by lower permeability silt and clay which serves as a confining layer for underlying saturated sand, gravel, and bedrock.

In February, 2013, Owego Heat Treat entered into an Order and Administrative Settlement (Index # R7-0803-13-01) with NYSDEC in preparation for sale of the property at auction later that month. Pursuant to the order, NYSDEC will continue to take response actions at the Site to remedy the release of hazardous substances into the environment. These actions may include restoration of the groundwater extraction and treatment system, continued groundwater monitoring, site management and/or other potential remedial actions.

To that end, NYSDEC issued callout No. 121757 to Aztech and requested the following tasks to be completed:

- Well and Water Level Surveying. Establish global positioning system (GPS) coordinates for all existing monitoring wells and verify ground surface and top of well casing (TOC) elevations to a common site datum; gauge existing monitoring wells for depth to groundwater and total depth;
- Groundwater Sampling. Conduct low flow groundwater sampling from 11 existing monitoring wells and analyze for VOCs. Also, collect water quality field parameters (WQFP's) in order to help evaluate the potential for remediation by chemical oxidation or enhanced bioremediation;
- Membrane Interface Probe (MIP) Study: Advance MIP tooling at several locations over a five (5) day period in order to evaluate the horizontal and vertical distribution of VOCs emanating from the suspected source area at the site.
- Groundwater Sampling – Suspected Source Area: Collect groundwater samples within and around the suspected source area that will help to correlate between the VOC-impacted zones, as identified via the MIP study, with analytical results via laboratory analysis.
- Reporting: Prepare a summary report describing site activities.

Aztech coordinated all aspects of the investigations described herein. This includes coordinating laboratory analysis and disposal of investigation derived wastes with an NYSDEC-contracted analytical laboratory and waste disposal contractor under separate callouts.

3.0 SITE CHARACTERIZATION

The main focus of the tasks completed under this work assignment was to supplement historic investigations previously conducted at the site with additional groundwater quality data, and, to provide information gathered via additional limited investigation requested by NYSDEC. This information will help NYSDEC evaluate existing environmental conditions and conduct remedial system optimization for the site. These tasks were completed during June & July, 2013.

3.1 Well Inventory and Water Level Measurements

Aztech's initial site visit was conducted on June 4 & 5, 2013 for the purpose of locating each well and assessing their condition. If the condition of the well was deemed to be satisfactory, depth to water and total well depth were measured and, the well was subsequently sampled. Each of the 11 wells was located. One well (MW-3) was not inspected further based on its position at the periphery of the site. Ten (10) of the 11 wells were surveyed on a later date (November 4, 2013) by Delta Engineers, Architects and Land Surveyors, PC of Vernon, New York for location and top of casing elevation.

Well depths were measured from the top of PVC casing at each location and ranged from 11.9 feet (MW-11) to 49.9 feet (MW-6). Based on the measured total depth, and screened interval

information provided by NYSDEC, the wells were sub-divided into "shallow" completions and "deep" completions. Shallow wells are generally constructed with 15-feet of well screen that is set either across the water table or, within the upper portion of the saturated sand/silt/gravel unit that overlies lower permeability silt and clay. Deep wells are generally constructed with 5.0-feet of screen set on top of the silt and clay unit that underlies the upper portion of the saturated sand/silt/gravel unit. Wells MW-1, MW-2, MW-4, MW-5, MW-10 and MW-11 are considered to be shallow completions; wells MW-6, MW-7, MW-8 and MW-9 are considered to be deep completions. Although both the shallow and deep wells are completed within the same stratigraphic unit, groundwater elevations from each completion type are evaluated independently. Well specifications are included in **Table 1** below.

Table 1
Monitoring Well Specifications

Well ID	Elevation		Screened Interval[+]	Total Depth[++]	Bottom Elevation	Completion[+++]
	TOC	Ground Surface				
MW-1	809.71	808.16	9.0 – 24	25.28	784.43	Shallow
MW-2	812.26	810.55	15 – 30	31.55	780.71	Shallow
MW-3	NS	NS	8.0 – 23	NA	NA	NA
MW-4	817.25	814.67	14.5 – 29.5	27.32	789.93	Shallow
MW-5	811.02	808.37	11.5 – 24.5	24.92	786.10	Shallow
MW-6	809.15	809.62	39.5 – 49.5	49.91	759.24	DEEP
MW-7	812.98*	810.54	33.5 – 38.5	41.13	771.85	DEEP
MW-8	806.84	804.94	40.5 – 45.5	47.38	759.46	DEEP
MW-9	814.00	812.16	? – 45.5	49.33	764.67	DEEP
MW-10	815.28	812.45	? – 28.2	30.97	784.31	Shallow
MW-11	809.73	809.53	? – 11.7	11.91	797.82	Shallow

NOTES:
All measurements/elevations in feet
TOC = Top of PVC Casing
NS – Not Surveyed
NA – Not Available
+ Screened interval in feet below ground surface.
++ Measured from TOC
+++ Shallow wells screened near water table; Deep wells screened on top of till
* - Top of Steel Casing

Depth to water measurements were obtained by opening each well and allowing sufficient time for the water levels to equilibrate with atmospheric conditions. After equilibration, measurements were obtained by recording the depth to water from the top of the PVC well casing using an electronic water level tape calibrated in 0.01-foot increments. The depth to water measurement for each well was subtracted from the surveyed top of well casing elevation in order to determine the groundwater elevation for each well.

The groundwater elevations from two (2) dates (June 4, 2013 and November 4, 2013) were used to prepare the groundwater contour maps presented in **Figure 3A** and **Figure 4A** (for the shallow wells) and **Figure 3B** and **Figure 4B** (for the deep wells). As shown on Figure 3A and Figure 4A, shallow groundwater flow is toward the northwest at a hydraulic gradient (a dimensionless number that represents the difference in groundwater elevation between two contour lines divided by the length of the flow line separating the contours), as determined between wells MW-1 and MW-4, of 0.003 (June 4, 2013) and 0.005 (November 4, 2013). It is

important to note that the groundwater elevations recorded on both dates in well MW-11 are approximately 3.0 feet higher than those recorded in the other shallow wells on the site. Aztech believes that these apparently erroneous groundwater elevations are related to the fact that well MW-11, completed at a total depth of 11.9 feet below grade, is considerably shallower than the other shallow wells on the site (completed at approximately 25 feet below grade). The shallow depth of well MW-11 and, its proximity to site building B-2, may reflect a local feature related to the foundation for that building.

Groundwater elevation contours for the deep wells are presented in Figure 3B and Figure 4B. As indicated thereon, deep groundwater flow is interpreted to be toward the north at a hydraulic gradient (as determined between wells MW-6 and MW-8) of 0.004 on both dates. Depth to water and groundwater elevations obtained on June 4, 2013 and November 11, 2013 are included below on **Table 2**.

Table 2
Groundwater Elevations
June 4, 2013 & November 4, 2013

Well ID	Elevation		June 4, 2013		November 4, 2013		Completion++
	TOC	Ground Surface	Depth to Water+	Groundwater Elevation	Depth to Water+	Groundwater Elevation	
MW-1	809.71	808.16	11.42	798.29	13.11	796.60	Shallow
MW-2	812.26	810.55	14.23	798.03	15.75	796.51	Shallow
MW-3	NS	NS	NM	NM	NM	NM	NA
MW-4	817.25	814.67	20.05	797.20	22.18	795.07	Shallow
MW-5	811.02	808.37	13.58	797.44	15.86	795.16	Shallow
MW-6	809.15	809.62	11.23	797.92	13.18	795.97	DEEP
MW-7	812.98*	810.54	15.84	797.14	19.73	793.25	DEEP
MW-8	806.84	804.94	12.50	794.34	13.96	792.88	DEEP
MW-9	814.00	812.16	16.22	797.78	18.19	795.81	DEEP
MW-10	815.28	812.45	18.63	796.55	20.83	794.45	Shallow
MW-11	809.73	809.53	8.20	801.65	9.02	800.71	Shallow

NOTES:
All measurements/elevations in feet
NS – Not Surveyed
NA – Not Available
NM – Not Measured
+ TOC = Top of PVC Casing Measured from TOC.
++ Shallow wells screened near water table; Deep wells screened on top of till
* Top of Steel Casing

3.2 Groundwater Sampling

After completing acquisition of depth to water data and total depth information from each well on June 4, 2013, Aztech commenced with low flow groundwater sampling. The low flow groundwater sampling was conducted in accordance with USEPA low-flow guidelines. During the pre-sampling purging of the well, water is withdrawn at a sustainable rate that limits drawdown to a maximum of 0.3 feet. When this maximum drawdown cannot be attained, purging continues at a rate that minimizes drawdown to the extent practical. Monitoring wells were purged using a peristaltic pump with dedicated polyethylene and silicone tubing until the water quality field parameters (temperature, pH, specific conductance, oxidation/reduction potential and dissolved oxygen) stabilized and the turbidity of the extracted groundwater reached a clarity that is below 50 nephelometric turbidity units (NTU's). Water Quality Field

Parameters (WQFPs) were analyzed in the field using a Horiba U52 water quality meter, outfitted with a flow thru cell. The Horiba U52 has the capability of simultaneously measuring each of the WQFPs via a single, multi-function probe. WQFPs were measured in real time and recorded throughout the well purging process.

Drawdown was able to be maintained below 0.3 feet at eight of the 10 locations purged in preparation for sampling. At two (2) locations, drawdown exceeded the target drawdown. This includes well MW-8, where approximately 15 feet of drawdown were required to facilitate groundwater sampling, and; well MW-11, where approximately 0.7 feet of drawdown were required to facilitate groundwater sampling. All wells satisfied the criteria for stabilization of WQFPs; two (2) wells did not achieve clarity below 50 NTUs. This includes well MW-8 (76.6 NTU) and well MW-2 (64.2 NTU). The final water quality parameter readings for each well, prior to sample collection, are detailed below in **Table 3**. The field sampling records and water quality parameters collected during purging of each well are included in **Appendix A**.

Table 3
Water Quality Field Parameters Prior to Sampling
June 4 & 5, 2013

Well ID	Temperature (^{O}C)	pH	Specific Conductance (ms/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
MW-1	13.65	5.29	0.159	221	3.92	28.1
MW-2	12.99	6.20	0.334	53	0.27	62.4
MW-3	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	14.95	6.70	0.588	175	1.75	38.4
MW-5	15.62	4.95	0.089	245	8.63	2.5
MW-6	13.42	7.29	0.582	86	0.00	1.0
MW-7	13.75	7.17	0.691	106	0.00	22.8
MW-8	11.64	7.32	0.269	201	9.27	76.6
MW-9	12.25	6.96	0.594	34	0.74	24.9
MW-10	11.65	7.44	0.534	182	0.00	1.9
MW-11	16.92	6.54	0.247	26	0.50	9.3

Groundwater samples were collected subsequent to purging. Samples were transferred into appropriately preserved laboratory supplied containers and stored on ice. Samples were returned to Aztech's office in Ballston Spa, New York for temporary storage until they were shipped by laboratory courier to Test America's analytical laboratory located in Buffalo, New York (NELAC – NY455). Each of the samples was analyzed for the full list of VOCs via EPA analytical method 8260. Samples from selected wells (MW-1, MW-2, MW-6, MW-9 and MW-10) were also analyzed for dissolved iron (Fe) and manganese (Mn) via EPA analytical method 6010; total alkalinity (via EPA Method 2320B); sulfate (via EPA method 300.0) and nitrate (via EPA method 353.2) at the request of NYSDEC.

The analytical results indicate that detectable concentrations of VOCs were not identified in seven (7) of the 10 wells sampled (**Figure 5**). Where detected, the VOCs identified were the solvents tetrachloroethene (PCE), trichloroethene (TCE) and degradation by-products 1,1-

dichloroethene (DCE), cis-1,2-DCE, trans-1,2-DCE and vinyl chloride (VC). VOCs were confirmed in two (2) shallow wells (MW-2 and MW-10) and one (1) deep well (MW-7). The highest concentrations of VOCs were identified in well MW-10, which is located across Marshland Road from the source area adjacent-to and east-of the large drainage feature. VOCs were not detected in deep well MW-6, which is the nearest hydraulically downgradient well to the source area but, were detected in shallow well MW-2, which is the nearest shallow well located hydraulically downgradient of the suspected source area. Deep well MW-7, located farther in a hydraulically downgradient direction and across Marshland Road from the site, also identified concentrations of VOCs. A summary of the groundwater analytical results for the June 4 & 5, 2013 sampling event is presented below in **Table 4**; a historic summary of available groundwater analytical results is included in **Appendix B**.

Table 4
Summary of Groundwater Analytical Results
June 4 & 5, 2013

Compound	GW STND	MW-1 (Sh)	MW-2 (Sh)	MW-4 (Sh)	MW-5 (Sh)	MW-6 (Deep)	MW-7 (Deep)	MW-8 (Deep)	MW-9 (Deep)	MW-10 (Sh)	MW-11 (Sh)
1,1-DCE	5.0	-	1.1	-	-	-	-	-	-	0.75 J	-
cis-1,2-DCE	5.0	-	**240**	-	-	-	-	-	-	**200**	-
trans-1,2-DCE	5.0	-	3.7	-	-	-	-	-	-	**5.2**	-
PCE	5.0	-	**200**	-	-	-	2.8	-	-	**1,100**	-
TCE	5.0	-	**260**	-	-	-	4.1	-	-	**430**	-
VC	2.0	-	**4.0**	-	-	-	-	-	-	-	-
Fe	300	NA	220 B	NA	NA	-	NA	NA	**390 JB**	-	NA
Mn	300	NA	**1,600**	NA	NA	4.5	NA	NA	250	9.1 J	NA
Sulfate	250,000	NA	17,600	NA	NA	18,900	NA	NA	22,100	22,500	NA
Alkalinity	None	NA	120,000	NA	NA	322,000	NA	NA	349,000	252,000	NA
Nitrate	10,000	NA	850	NA	NA	2,100	NA	NA	2,000	250	NA

NOTES:
Concentrations in micrograms per liter (ug/l)
- Compound was not detected
Groundwater Standard from NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1
None = There is no NYS or Federal Groundwater Standard established for Alkalinity
Sh = Shallow completion
Deep = Deep completion
Concentrations in Bold exceed Groundwater Standard
J = Estimated Concentration
B = Detected in laboratory blank at a similar concentration
NA = Not Analyzed

The presence of TCE and the DCE compounds (in wells MW-2 and MW-10) and VC (in well MW-2) provide an indication that natural biological processes are underway that are anaerobically degrading the PCE source material. An additional line of evidence supporting anaerobic degradation is the reduced concentration of nitrate in the two most impacted wells (MW-2 and MW-10). The reduced nitrate concentrations in these impacted wells (850 ug/l and 250 ug/l, respectively) are compared to wells not impacted by VOCs (MW-6 and MW-9), where nitrate concentrations were 2,100 ug/l and 2,000 ug/l, respectively.

3.3 MIP Study

The MIP investigation was conducted by Columbia Technologies, LLC, of Baltimore Maryland (Columbia) during the period between July 15th and 19th, 2013. The purpose of the MIP investigation was to delineate the depth and lateral distribution of PCE, and other related

compounds, emanating away from the suspected source area. The investigation consisted of advancing soil borings at 18 locations from which the dissolved, vapor and sorbed phases of VOCs could be evaluated. Soil electrical conductivity, which gives an indication of soil composition and permeability, was also measured during the MIP investigation. Soil borings were advanced to depths ranging from 25.5 feet to 34.35 feet below grade via direct push tooling. Locations of the MIP borings included in the study are presented in **Figure 6**; Columbia's MIP investigation report is included in its entirety in **Appendix C**.

The MIP system consists of a heated probe that is slowly advanced into the subsurface. The heat from the probe is transferred to the adjacent soil and VOCs present within the soil column are volatilized. Volatilized compounds pass through a semi-permeable membrane contained within the probe and, are carried via inert nitrogen carrier gas to a variety of detectors at the surface. The carrier gas is conveyed through transfer tubing (located within the direct-push tooling) that sweeps across the back of a semi-permeable membrane that is integrated within the heated probe. It takes approximately 60 seconds for the nitrogen carrier gas to travel through 150 feet of transfer tubing and reach the detectors.

Three (3) detectors are utilized in the MIP system for the detection of VOCs. These include a Photo Ionization Detector (PID), a Flame Ionization Detector (FID) and, an Electron Capture Detector (ECD). The first detector in line is the PID. This is because the PID provides a non-destructive analysis via a 10.2 electron volt (eV) ultra-violet lamp that ionizes most aromatics such as benzene, toluene, xylene. The PID also ionizes compounds (including hydrogen sulfide, hexane, and ethanol) whose ionization potential is below 10.2 eV. The FID utilizes a hydrogen flame to combust VOCs in the carrier gas and responds to any molecule with a carbon-hydrogen bond. The FID provides a linear response over several orders of magnitude, and is very stable from day to day, but, responds poorly to compounds such as hydrogen sulfide, carbon tetrachloride, or ammonia. The ECD consists of a sealed stainless steel cylinder containing radioactive Nickel-63. The Nickel-63 emits electrons that collide with the carrier gas molecules and ionizes them. The ECD provides for extremely sensitive detection of common chlorinated compounds (such as PCE and TCE) typically in the 100 part per billion (ppb) to 200 ppb range. However, because the ECD has a relatively small linear range (as compared to the PID and FID) it reaches its maximum response early. Additionally, the ECD response varies considerably for different compounds and, as such, performance testing for the compounds of interest is critical to understanding the system response to in-situ chemical distributions. **Figure 7** presents a typical data plot, which also includes the electrical conductivity and temperature plots, generated via the MIP tooling.

While advancing the MIP tooling, the depth of the tooling is measured and recorded using a precision potentiometer. The potentiometer is mounted onto the mast of the rig and, a counter-weight is anchored to the foot of the rig. The depth reported for each individual boring is established by "zeroing" the data logger when the semi-permeable membrane on the heated

probe is aligned with the ground surface. Depth measurements are recorded on the down stroke (i.e. as the tooling is advanced into the subsurface) and are accurate to within one-tenth (0.1) of an inch.

The findings of the MIP investigation indicate that all locations exhibited a response suggesting the presence of chlorinated solvents. At 15 of the 18 MIP borings, chlorinated compounds were present at concentrations sufficient to saturate (or, "flat-line") the ECD. This includes ECD responses as shallow as 1.5 feet below grade (MIP15) and, flat line responses (extending to 30 feet below grade or more) at several other locations. Flat line ECD responses generally occurred between 7.0 feet below grade and 31 feet below grade. Because the PID is sensitive to chlorinated solvents (and aromatics) over a larger linear range than that of the ECD, evaluating the PID response helps to further identify zones containing elevated concentrations of chlorinated solvents.

Elevated PID responses (encompassing several vertical feet below grade) occurred at several MIP borings located in proximity to the suspected source area in the central portion of the property (MIP-01, MIP-02, MIP-04, MIP-06, MIP-07 & MIP-12). The two easternmost of these locations (MIP-02 & MIP-07) exhibited PID responses at 8.0 feet and 9.5 feet below grade (respectively) and, likely correspond to the source area. MIP borings moving toward the west from the source area indicated that the depth of the first PID response was deepening as distance from the source area increased in the downgradient direction. This suggests that the zone of impact is sinking with distance downgradient from the suspected source area.

Several MIP locations also exhibited FID and ECD responses that both occurred at corresponding depths. Columbia believes that the corresponding FID and ECD responses at these locations are likely related to detection of the same compound. Shallow FID responses were also noted beneath asphalted parking areas or site roadways west of the suspected source area. The FID responses at these locations are an indication of compounds with combustible carbon-hydrogen bonds (such as methane or vinyl chloride) and suggest that the asphalt is acting as a cap to trap soil vapors.

Figure 8 and **Figure 9** are east-west and north-south oriented transects (respectively) that graphically illustrate the findings of the MIP investigation. As shown in Figure 8, the depth of impact appears to deepen from the source area in a westerly direction. The highest impacts are denoted by a central core (depicted in yellow) of impacted soil surrounded by soils impacted by lower-level impacts (as depicted by the lighter green "halo"). Figure 8 clearly illustrates the deepening zone of impact moving toward the west from the source area. The north-south transect presented in Figure 9 indicates a central core of source area soil that extends vertically from approximately 10 feet to 20 feet below grade and, is surrounded by a halo of less impacted soil.

3.4 Groundwater Sampling – Suspected Source Area

During the course of conducting the MIP investigation, groundwater samples were collected at selected locations. These samples were collected via the MIP borings after the MIP tooling was extracted from the borehole. The purpose of the sampling was to correlate observations made via the MIP study with quantifiable VOC concentrations in groundwater as determined by laboratory analysis. Sample locations were selected in the field where elevated VOC concentrations were suspected (based on the instantaneous results of the MIP investigation). A total of three (3) groundwater samples were collected as part of this effort (MIP-02, MIP-05 and MIP-12).

After extracting the MIP tooling, 20 feet of 1.0-inch inside diameter PVC screen (No. 10 slot) and sufficient riser pipe were temporarily installed until a groundwater sample could be obtained. Groundwater samples were collected, generally from the 10-to-20 foot below grade interval, after purging a sufficient volume of groundwater from the temporary well using a dedicated, disposable bailer. Each of the samples was transferred to laboratory supplied glassware, stored on ice and analyzed by Test America for the full list of VOCs via EPA analytical method 8260. Laboratory analytical reports are included in **Appendix D**; analytical results are summarized in **Table 5** below.

Table 5
Summary of Groundwater Analytical Results – Suspected Source Area
Samples Collected July 18, 2013

Compound	GW STND	MIP-02	MIP-05	MIP-12
1,1-DCE	5.0	**-**	-	-
cis-1,2-DCE	5.0	**42**	**42**	**41**
trans-1,2-DCE	5.0	**-**	-	-
MCH	NI	**-**	**1.4 J**	**-**
PCE	5.0	**360**	**390**	**230**
Toluene	5.0	**-**	**9.3**	**-**
TCE	5.0	**14**	**67**	**21**
VC	2.0	**-**	**-**	**7.1**
TCFM	5.0	**27**	-	-
	Total VOC:	**443**	**510**	**299**
MIP Observation – PID:		**Maximum (9' – 19')**	**Slight (4' – TD)**	**Strong (18' – 25')**
MIP Observation – FID:		**Moderate (9' – 18')**	**Strong (3' - 8') Moderate (8' – 13') Slight (13' – TD)**	**Moderate (19') Slight/Moderate (20' – 29')**
MIP Observation – ECD:		**Maximum (8' – 31')**	**Maximum (7' – 32')**	**Maximum (16' – TD)**

NOTES:
Concentrations in micrograms per liter (ug/l)
- Compound was not detected
Groundwater Standard from NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1
Concentrations in Bold exceed Groundwater Standard
NI – Groundwater Standard Not Identified
J = Estimated Concentration
B = Detected in laboratory blank at a similar concentration
MCH = Methylcyclohexane
TCFM = Trichlorofluoromethane

Table 6 compares the groundwater analytical results for the three monitoring wells where VOCs were identified (MW-2, MW-7 and MW-10) with the VOC concentrations identified in the three temporary MIP wells. Table 6 also includes the relative percentage of PCE, TCE and cis-

1,2-DCE to the total VOC concentration identified in each sample. It is interesting to note that the samples collected in proximity to the suspected source area contain the highest percentage of PCE in the groundwater whereas a lower percentage of PCE is present in the monitoring wells located farther downgradient from the suspected source area. These lower percentages of PCE parent product in samples collected at greater distances from the suspected source area provide additional support to the conclusion that natural attenuation processes are active at the site. The percentages of PCE, TCE and DCE to the total VOC concentration are shown on **Figure 10**.

Table 6
Comparison of Groundwater Analytical Results - Suspected Source Area with Downgradient Monitoring Wells

Compound	MIP-02		MIP-05		MIP-12		MW-2		MW-7		MW-10	
	Conc.	%	Conc.	%	Conc.	%	Conc.	%	Conc.	%	Conc.	%
1,1-DCE	-	-	-	-	-	-	1.1	-	-	-	0.75 J	-
cis-1,2-DCE	42	9.5	42	8.2	41	14	240	33	-	-	200	12
trans-1,2-DCE	-	-	-	-	-	-	3.7	-	-	-	5.2	-
MCH	-	-	1.4 J	-	-	-	-	-	-	-	-	-
PCE	360	81	390	76	230	77	200	28	2.8	41	1,100	63
Toluene	-	-	9.3	0.2	-	-	-	-	-	-	-	-
TCE	14	3.2	67	13	21	7.0	260	36	4.1	59	430	25
VC	-	-	-	-	7.1	0.1	4.0	-	-	-	-	-
TCFM	27	6.1	-	-	-	-	-	-	-	-	-	-
Total VOC:	**443**		**510**		**299**		**719**		**6.9**		**1,736**	

NOTES:
Concentrations in micrograms per liter (ug/l)
- Compound was not detected
MCH = Methylcyclohexane
TCFM = Trichlorofluoromethane

4.0 SUMMARY

Owego Heat Treat conducted several phases of investigation and remediation at the site beginning in 1988. These include subsurface investigations, groundwater sampling events, soil vapor studies and operation of a groundwater extraction and treatment system. The findings of these investigations identified a 30 to 40 foot thick sequence of alluvial deposits composed of silt, sand and gravel underlying the site. The water table is encountered within this material anywhere between 8.0 and 15 feet below grade and groundwater flow is to the north toward the Susquehanna River. Hydraulic conductivity is estimated at 0.005 cm/s (14.2 ft/d). The upper saturated unit is underlain by lower permeability silt and clay which serves as a confining layer for underlying saturated sand, gravel, and bedrock.

Owego Heat Treat entered into an Order and Administrative Settlement (Index # R7-0803-13-01) with NYSDEC in February, 2013. Pursuant to the order, NYSDEC will continue to take response actions at the Site to remedy the release of hazardous substances into the environment. NYSDEC subsequently retained Aztech (under Callout No. 121757) to evaluate the current conditions at the site and, to conduct supplemental investigations to help further assess the horizontal and vertical distribution of site related compounds emanating from the suspected source area. These included an inventory and assessment of the condition of

existing site monitoring wells; verify top of well casing elevations for existing wells; collect groundwater samples from existing wells; conduct a MIP study within and around the suspected source area and, collect groundwater samples from selected MIP borings. NYSDEC also requested Aztech to prepare a report of findings that summarizes the work completed and, to make recommendations (as appropriate) for additional investigations at the site.

The primary findings of the investigations reported herein are that the suspected source area is located beneath former building B-2. Source soil in this area is present in the depth range of 10 feet to 20 feet below grade and is generally bounded by MIP borings MIP-03, MIP-05, MIP-06 and MIP-07. Groundwater moving through this source area (and impacted by concentrations of VOCs) appears to be undergoing natural attenuation processes as groundwater movement continues generally toward the north, away from the source area. This is supported by the presence of the PCE degradation by-products TCE, DCE and VC in groundwater. Additionally, the relative percentage of PCE to the total VOC concentration appears to decline with distance from the source area. This is demonstrated by comparing the groundwater analytical results of samples collected from the MIP borings (located within the source area) with the analytical results of samples collected from monitoring wells located downgradient of the source area.

5.0 RECOMMENDATIONS

The findings of the MIP investigation have identified a central core of VOC impacted source area soil surrounded by a “halo” of less VOC impacted soil. The central core of VOC impacted source area soil appears to be bounded by MIP borehole locations MIP-03, MIP-05, MIP-06 and MIP-07. Based on the fact that soil samples were not obtained to quantify the concentrations of VOCs within the source area, Aztech is recommending that soil borings be advanced within and around the source area as shown on Figure 10. The purpose of the soil borings will be to characterize the composition of soil within and around the source area with respect to soil type and grain size, as well as to screen the soil headspace for total VOC concentration via a photoionization detector. Information gathered via this effort will help to verify the findings of the MIP investigation. Additionally, analytical results of soil samples will help to identify the horizontal and vertical limits of soil quality with respect to the soil cleanup objectives in accordance with NYSDEC policy. Data collected as part of this effort will help in evaluating remedial alternatives within the remedial system optimization process.

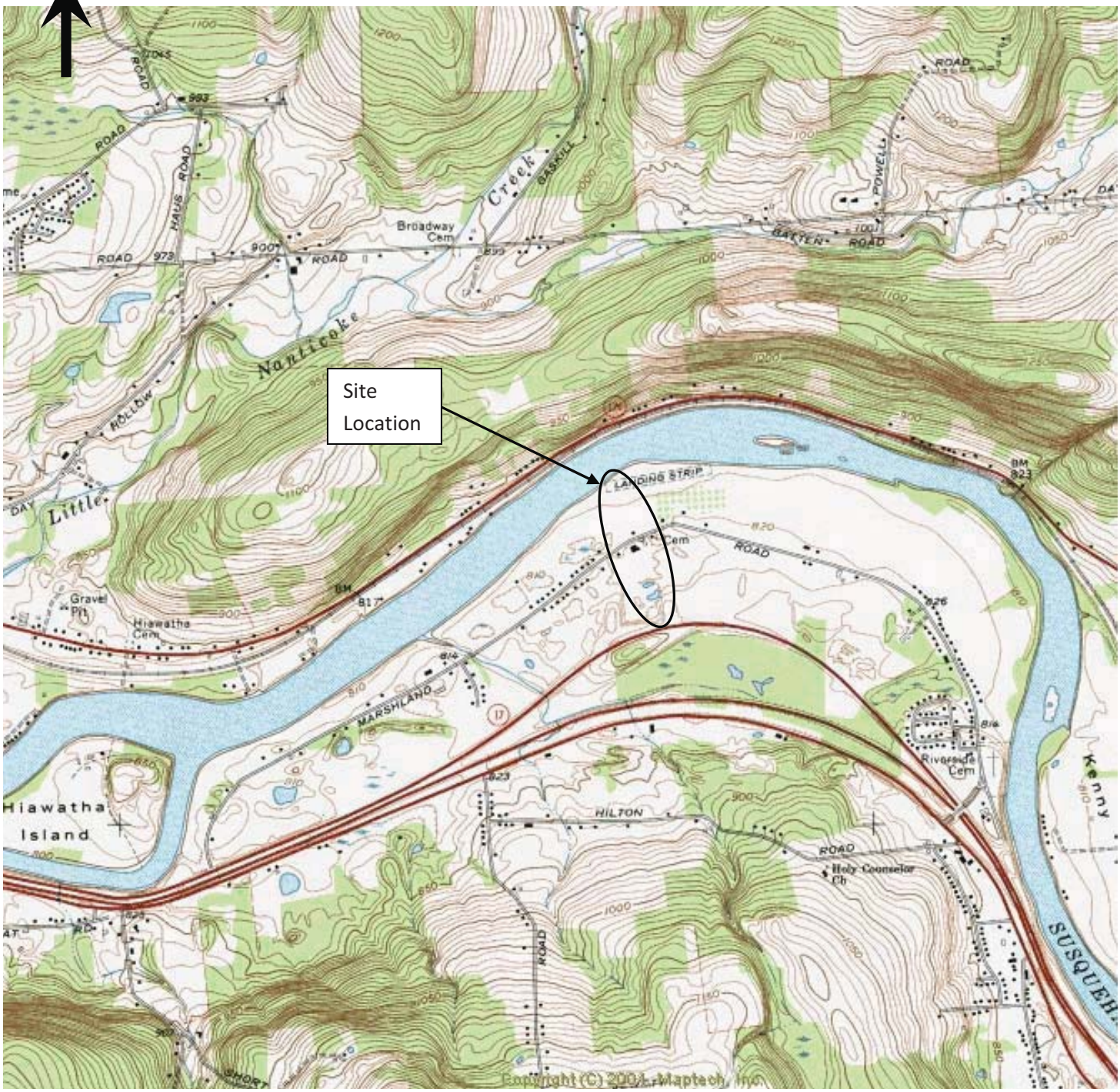
Aztech is also proposing to convert a minimum of three (3) soil borings into temporary monitoring/application wells from which additional testing may be conducted in the future. The screened interval and construction specifications of the temporary monitoring/application wells should be based on the stratigraphy and distribution of VOC impact at the selected locations. In particular, well screens should be set within the vertical interval that is most impacted within each borehole. Consideration for well screen placement should also be given to zones of expected high (or, low) permeability. The temporary monitoring/application wells proposed for installation are to be constructed of 1.0-inch inside diameter machine-slotted

schedule 40 PVC screen and riser pipe. Well depth and screened interval will be determined based on field conditions but, are anticipated to be 20 to 25 feet in depth.

The temporary monitoring wells can be used for multiple purposes based on their completion depth and location relative to the source area. These include:

- Collection of groundwater samples. Analysis of groundwater from these wells will help to establish VOC concentrations within the source area.
- Placement of Bio-Traps®. Data provided by Bio-Traps® will help to evaluate the potential for reductive dechlorination via naturally-occurring microbial populations.
- Reverse pump test. The purpose for a reverse pump test would be to evaluate the volume and rate at which water-based reagents can be added to the subsurface. This information will be useful in helping to determine if application of a substrate for enhancing natural attenuation will be an appropriate remedial option for the site. Aztech proposes acquisition of this data via injection of chlorine free potable water into the subsurface while monitoring flow rate, wellhead pressure and observing water levels in nearby wells.

FIGURES



USGS Topographic Quadrangle Map - Appalachin, NY

Approximate Scale 1" = 4,000'

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Woman Owned Business

Remediation Environmental Drilling

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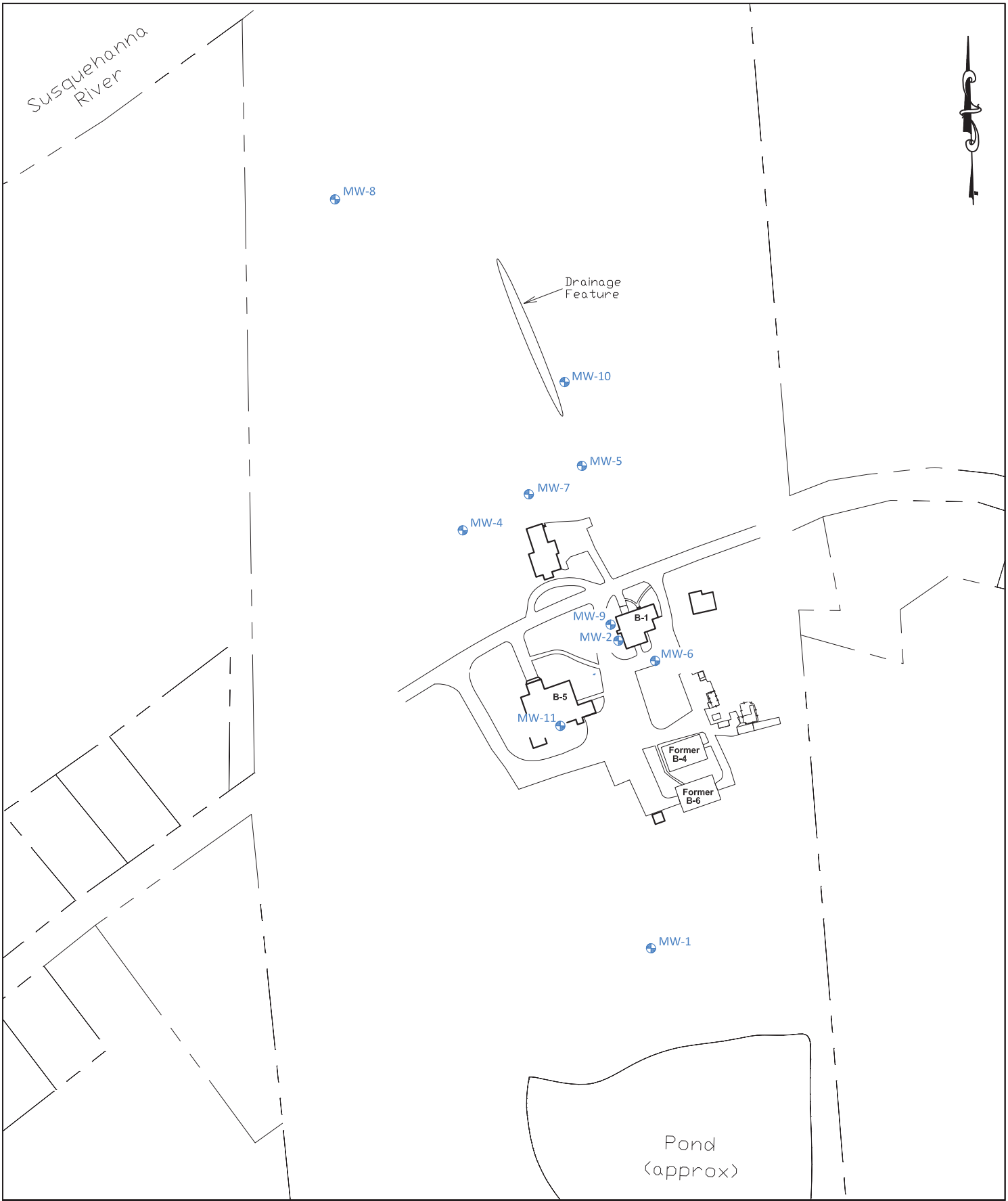
SITE: NYSDEC – Site # 754011
Owego Heat Treat
1646 Marshland Road
Appalachin, New York

FIGURE 1

Site Location Map



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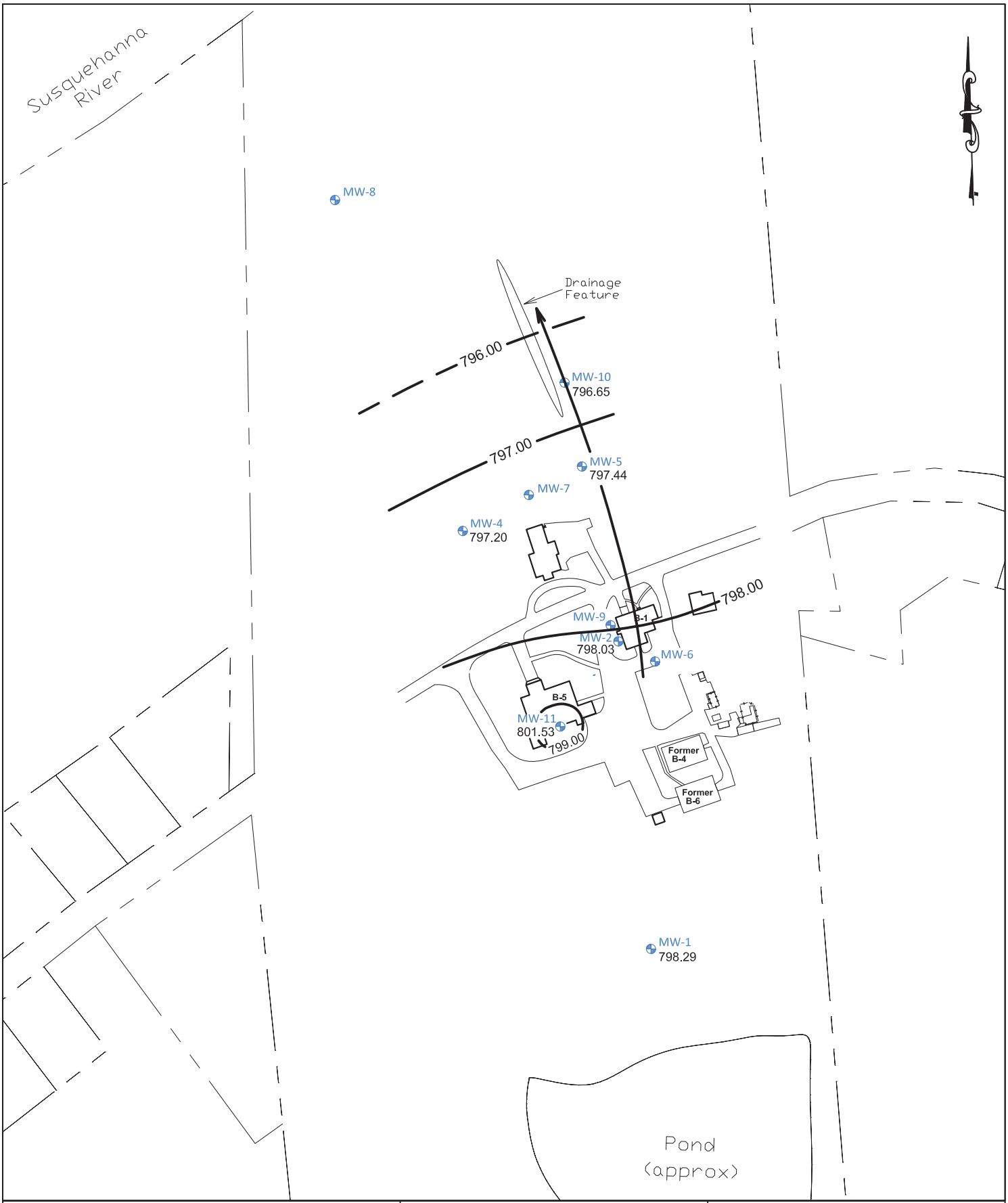
SITE: **NYSDEC Site # 754011**
Owego Heat Treat
1646 Marshland Road
Appalachin, New York

Figure 2

DATE: May, 2013 | Approximate Scale: 1" = 200'

Site Map
Owego Heat Treat



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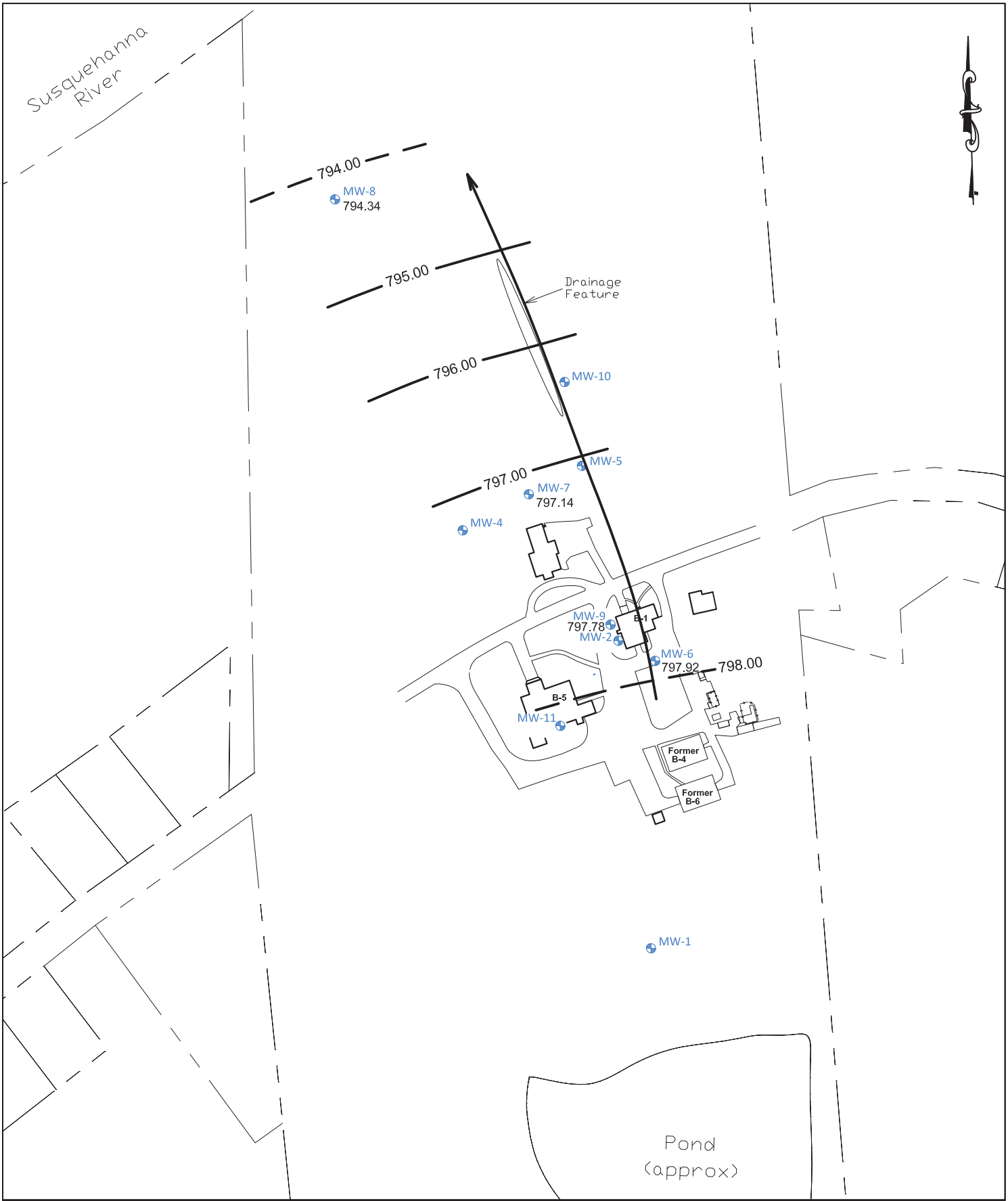
Appalachin, New York

Figure 3A

DATE: 6-4-2013 | Approximate Scale: 1" = 200'

Groundwater Contour Map
Shallow Wells
June 4, 2013



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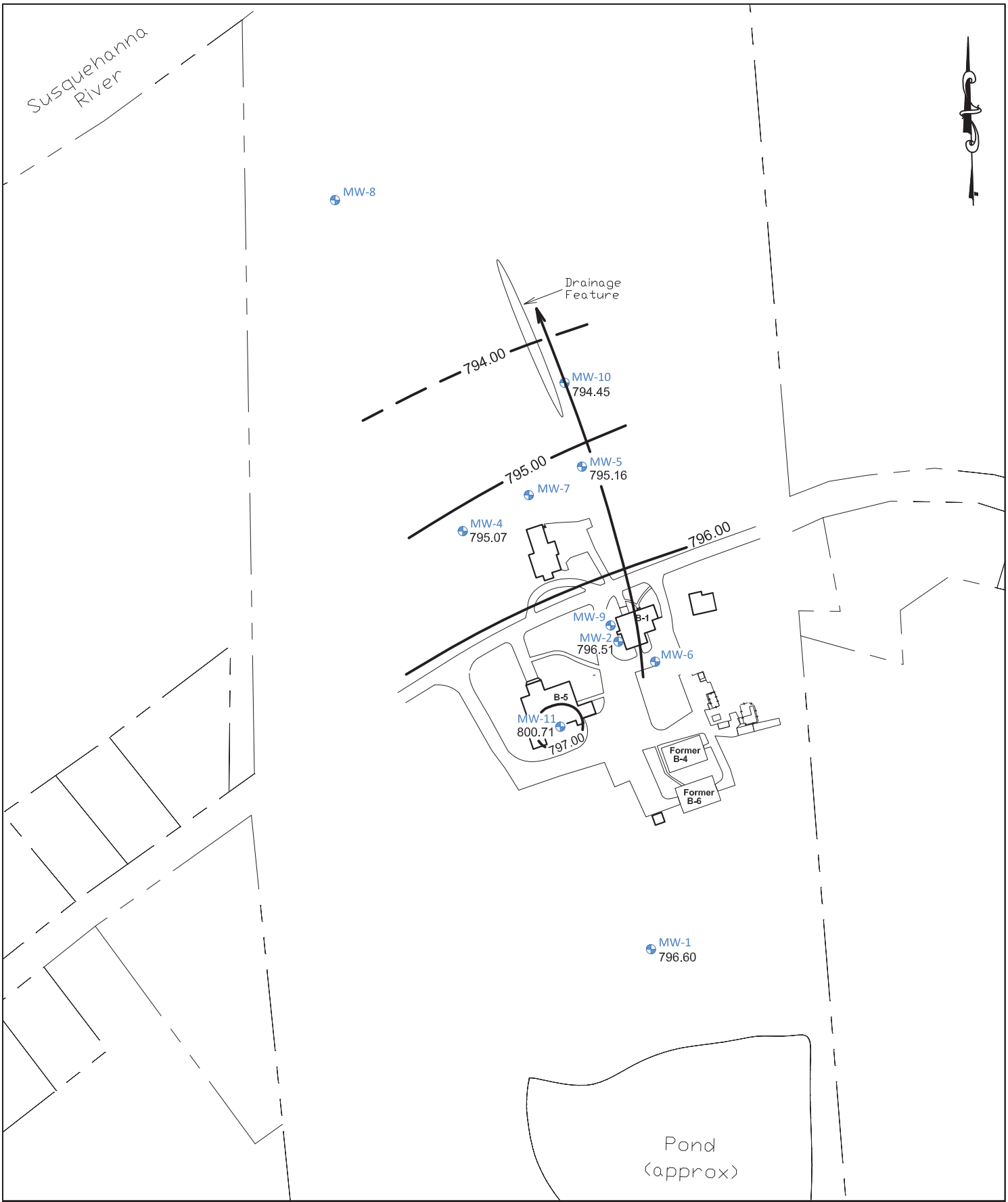
Appalachin, New York

Figure 3B

DATE: 6-4-2013 | Approximate Scale: 1" = 200'

Groundwater Contour Map
Deep Wells
June 4, 2013



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1646 Marshland Road
Appalachin, New York

Figure 4A

DATE: 11-4-2013 | Approximate Scale: 1" = 200'

Groundwater Contour Map
Shallow Wells
November 4, 2013

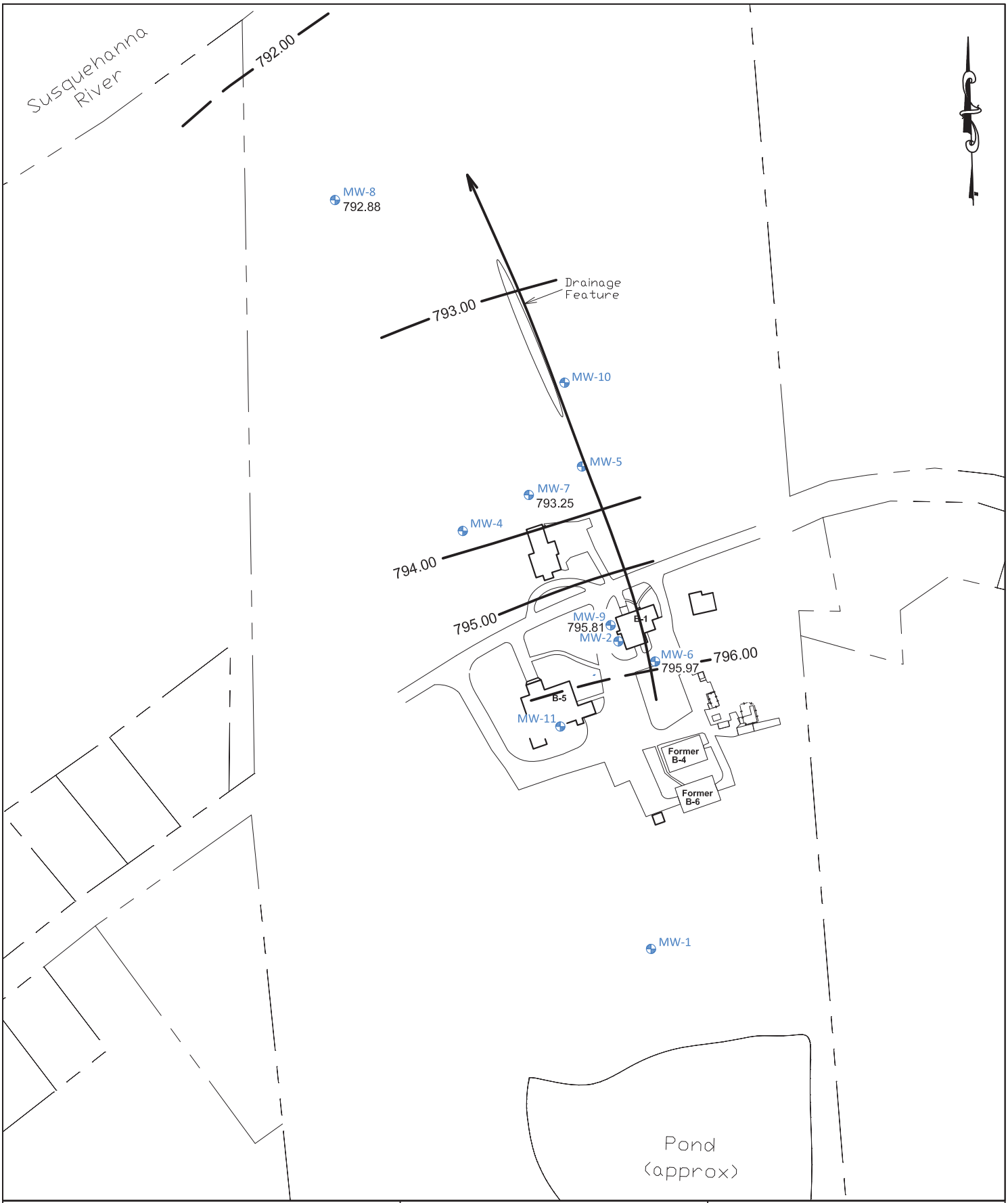

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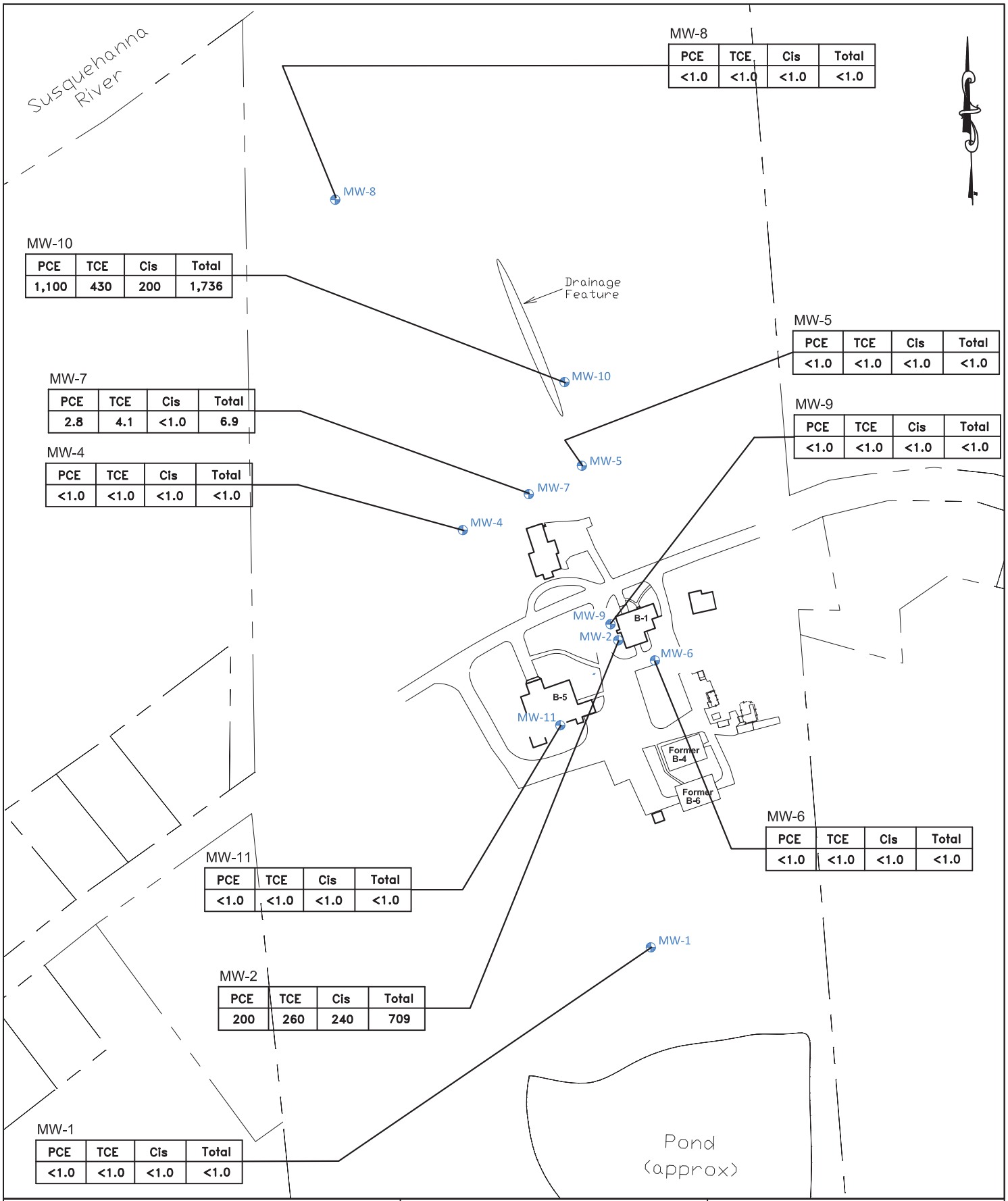
Figure 4B

DATE: 11-4-2013 | Approximate Scale: 1" = 200'

Groundwater Contour Map
Deep Wells
November 4, 2013



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SITE: **NYSDEC Site # 754011**
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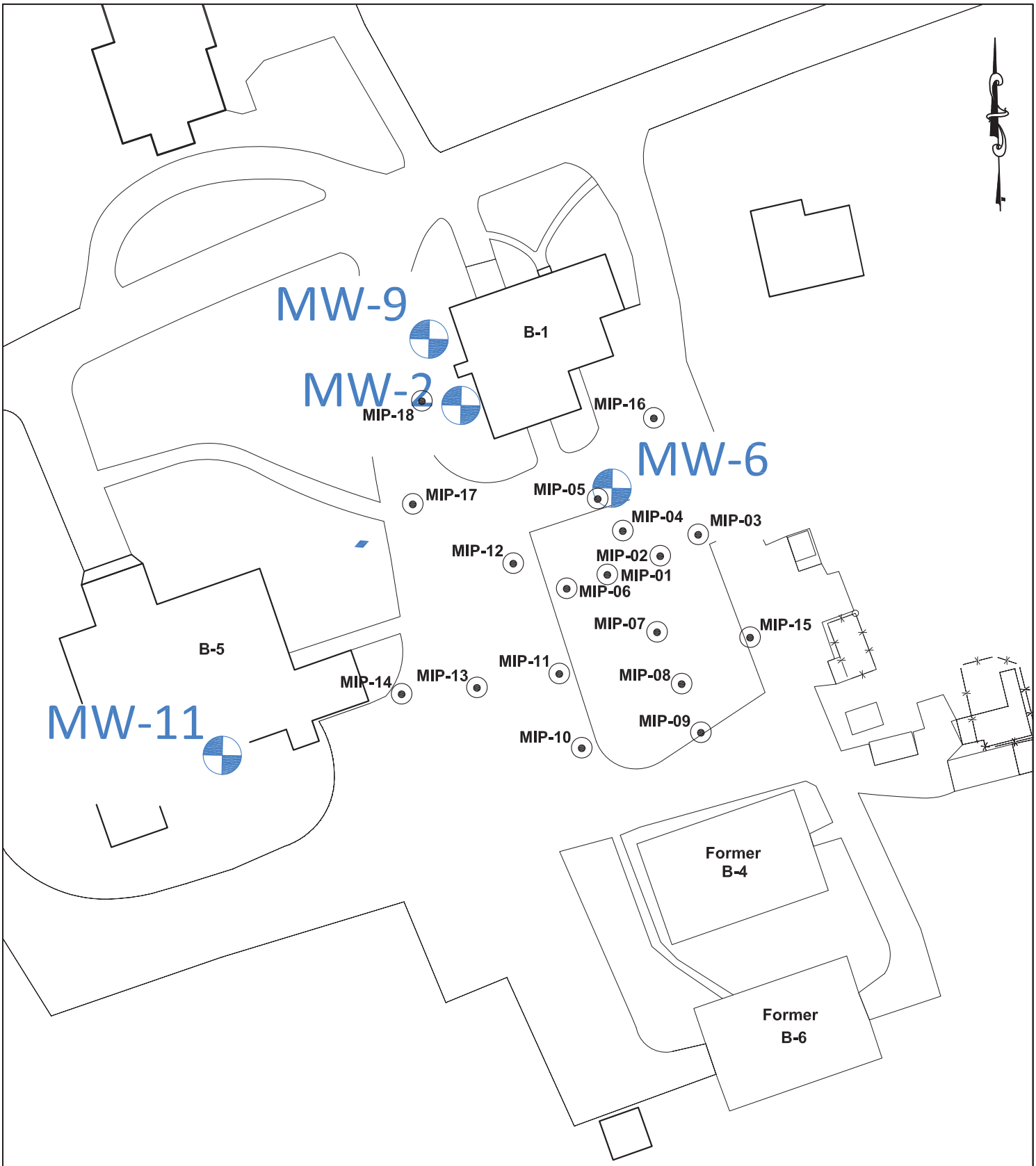
Figure 5

DATE: 6-4-2013 | Approximate Scale: 1" = 200'

VOC Distribution Map
----- Monitoring Wells -----
June 4, 2013



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Owego Heat Treat
1646 Marshland Road
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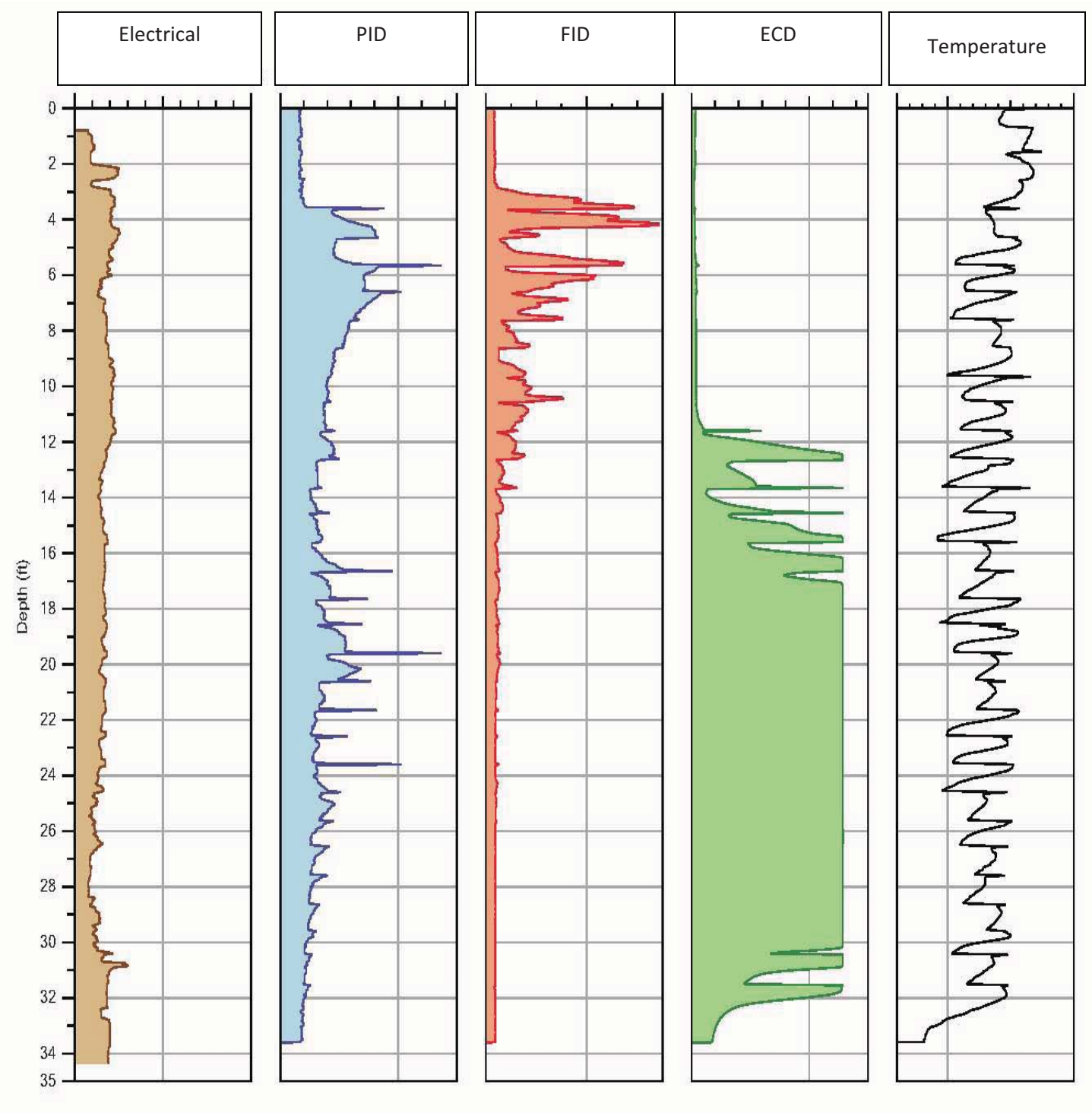
Figure 6

DATE: July, 2013 | Approximate Scale: 1" = 50'

MIP Boring Locations
July, 2013
Owego Heat Treat



Source: Columbia Technologies, LLC.

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SITE: **NYSDEC Site #754011**
Owego Heat Treat
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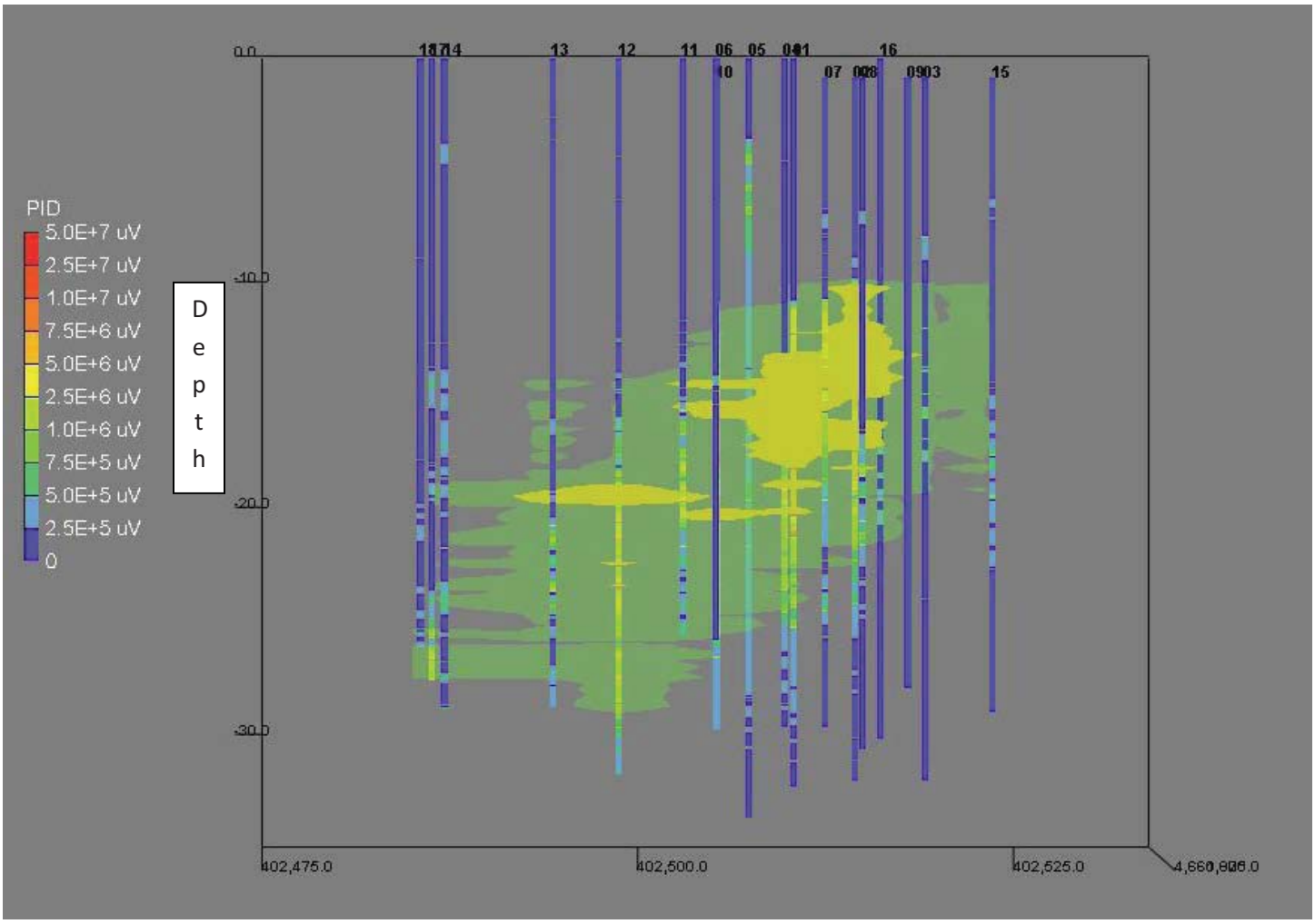
Appalachin, New York

FIGURE 7

Typical Data Plot
MIP
Investigation



WEST EAST

Source: Subsurface Characterization Using Membrane Interface Probe (MIP) and Soil Electrical Conductivity (EC) Technologies. Owego Heat Treat, 1646 Marshland Road, Apalachin, New York by Columbia Technologies, LLC., September 10, 2013.

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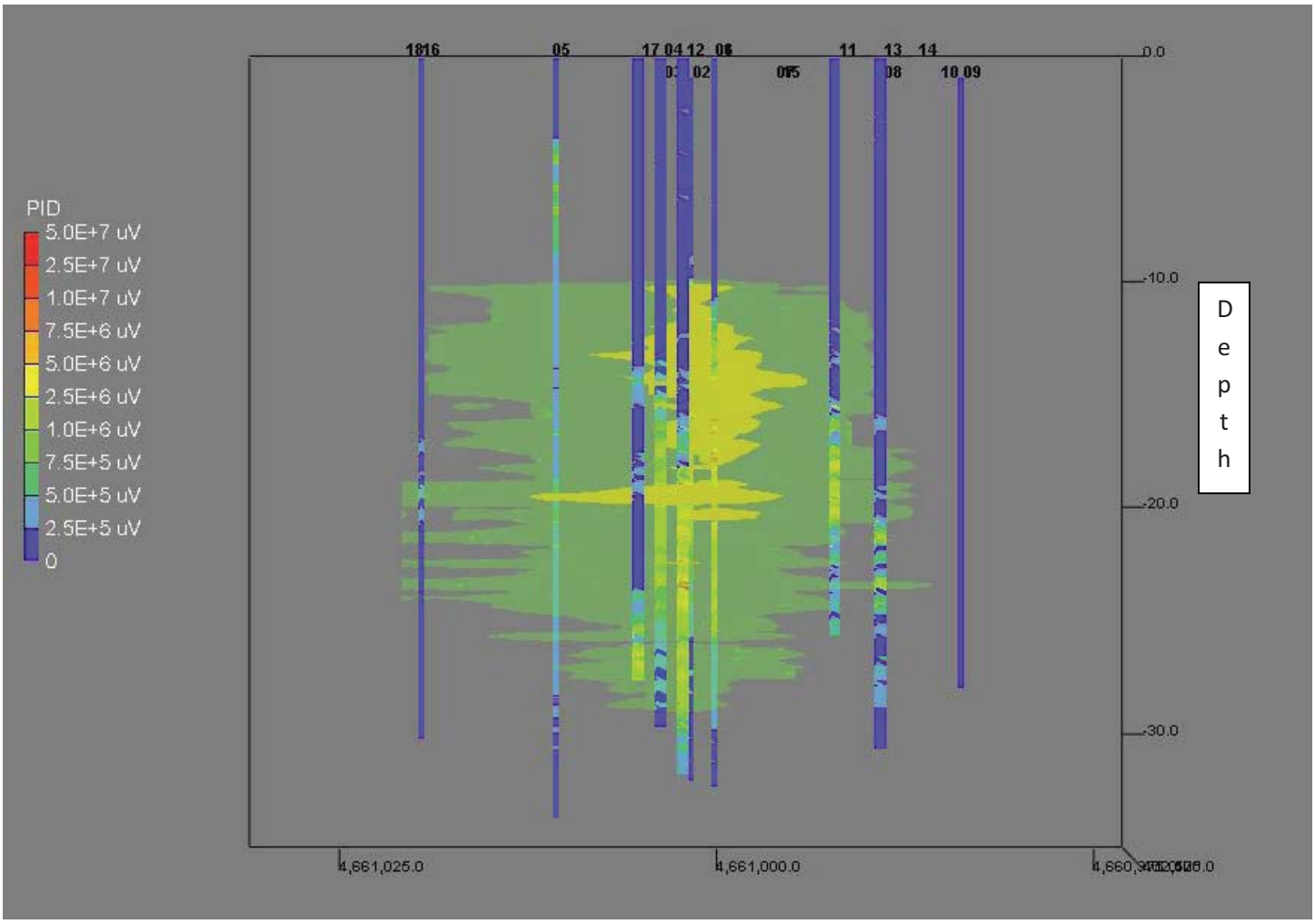
FIGURE 8

East-West Transect MIP Investigation



Source: Subsurface Characterization Using Membrane Interface Probe (MIP) and Soil Electrical Conductivity (EC) Technologies. Owego Heat Treat, 1646 Marshland Road, Apalachin, New York by Columbia Technologies, LLC., September 10, 2013.

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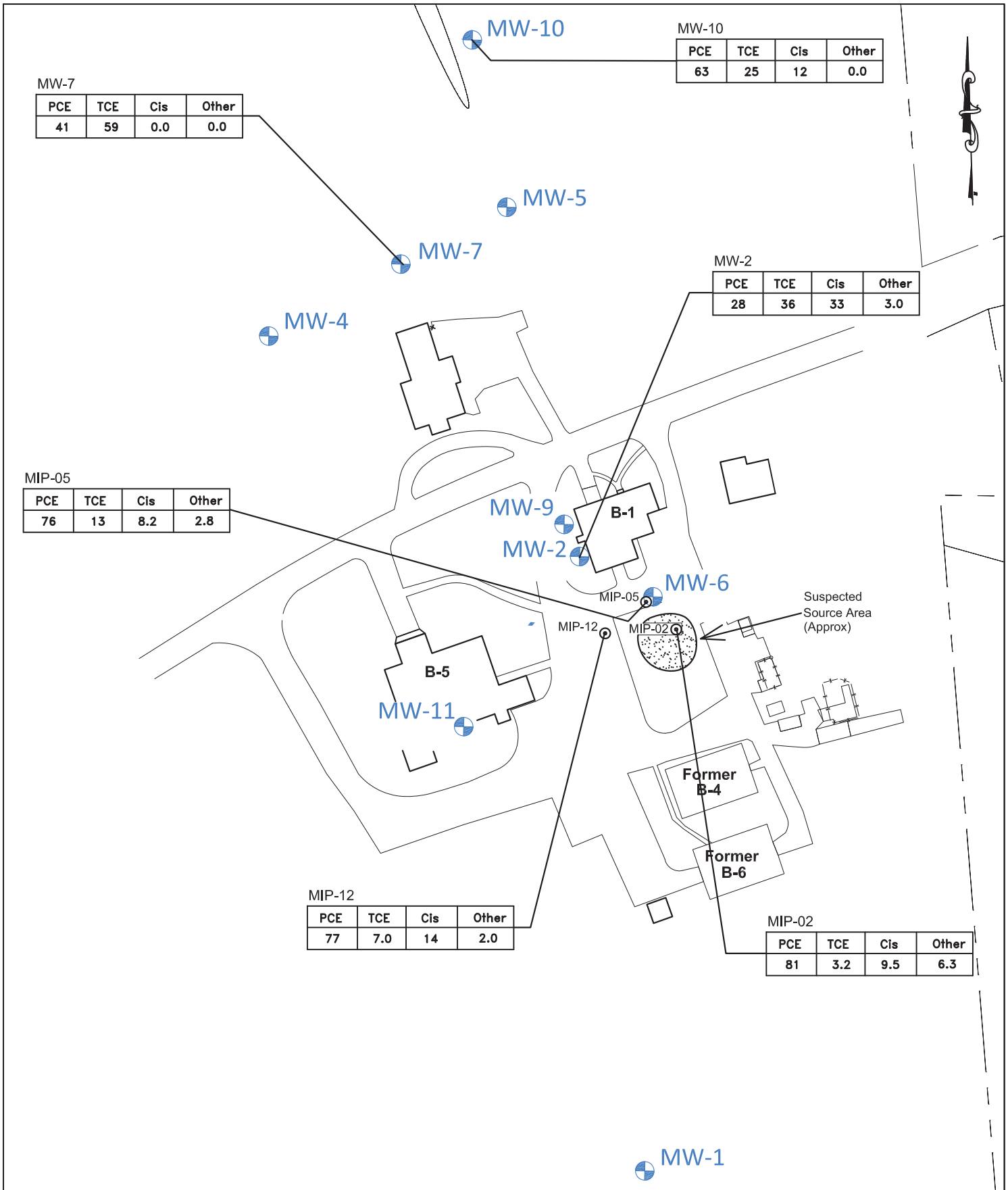
FIGURE 9

North-South Transect MIP Investigation



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SITE: **NYSDEC Site # 754011**
Owego Heat Treat
1646 Marshland Road
Appalachin, New York

Figure 10

DATE: July, 2013 | Approximate Scale: 1" = 100'

Percentages of PCE, TCE and DCE to Toal VOCs in Groundwater June-July, 2013 Owego Heat Treat

APPENDIX A

FIELD SAMPLING RECORDS

Aztech
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Sampling Data
Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID	Diameter	Depth (from TOC)	Static DTW	NOTES
MW-1		~~[illegible]~~ 25.28	11.42	BTB Sampled (6-5-2013)
MW-2		31.55	11.23	BTB sampled (6-5-2013)
MW-3				NM Per Gary Prescott
MW-4		27.32	20.05	BTB Sampled (6-4-2013)
MW-5		24.92	13.58	BTB Sampled (6-4-2013)
MW-6		49.91	11.23	RHH sampled (6-5-2013)
MW-7		41.13	15.84	From TOP of STEEL RHH Sampled (6-4-2013)
MW-8		47.38	12.50	RHH sampled (6-4-2013)
MW-9		49.33	16.22	BTB sampled (6-5-2013)
MW-10		30.97	18.63	RHH sampled (6-5-2013)
MW-11		11.91	8.20	RHH sampled (6-5-2013)
~~BW-1~~ MW x Bh		30.76	10.23	NOT sampled Per
MW x D		60.39	11.14	Gary Prescott

NOTES:

Data Collected By: R. Hoose | B. Barlsir **Date:** 6-4-2013

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-1
Sampling Date: 6/5/13
Weather Conditions: Sunny 70's
Static DTW: 11.47
Purge Start Time: 1215
Purge End Time:
Sample Collection Time: 1300

Pump Intake Depth (from grade):
Pump Intake Depth (from TOC): 5' above Bottom
Sampling Personnel: BTB
Pump Type: P. Pump
Sample Clarity: Brown to Clear
Sample Odor: No
Sheen: No

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	11.47				Pump on @ 1215			
5	11.47	<250	22.9 °C	5.24	0.084	~~207~~ 8.3	207	567
10	11.47	<250	21.04	5.20	0.084	4.3	230	500
15	11.49	<250	16.77	5.31	0.103	4.7	228	175
20	11.51	<250	12.94	5.47	0.147	4.93	220	65.2
25	11.51	<250	13.47	5.30	.152	4.34	226	30.5
30	11.52	<250	13.75	5.17	.156	4.02	232	32.6
35	11.51	<250	13.70	5.27	.157	3.94	229	28.7
40	11.50	<250	13.70	5.28	.157	3.95	229	23.5
45	11.51	<250	13.65	5.29	.159	3.92	221	28.1
50								
55								
60								

Sample @ 1300
~ 3.5 gallons

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W

Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-2
Sampling Date: 6/5/13
Weather Conditions: Sunny < 75°'s
Static DTW: 13.37 (@ 13)
Purge Start Time: 0920
Purge End Time:
Sample Collection Time: 1015

Pump Intake Depth (from grade):
Pump Intake Depth (from TOC): 5' above Bottom
Sampling Personnel: BTB
Pump Type: P. Pump
Sample Clarity: Brown
Sample Odor: No
Sheen: No

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	13.37	—	Pump on @			0920	—	
5	13.54	<250 mg/L	13.06	6.89	0.009	9.59	101	54.8
10	13.57	<250	13.36	6.30	.321	1.64	44	54
15	13.56	<250	13.27	6.31	.320	0.96	39	84.3
20	13.57	<250 mg/L	13.10	6.32	.320	0.84	33	76.9
25	13.55	<250 mg/L	13.04	6.21	.320 ✓	.65	41	79.4
30	~~13.54~~ 13.55	<250	12.99	6.23 ✓	.325 ✓	.43	46	~~72.7~~
35	13.55	<250 mg/L	12.97	6.21	.327	.43	50	70.1
40	13.55	<250 mg/L	12.95	6.14	.330	.42 ✓	52	67.8
45	13.55	<250 mg/L	12.96 ✓	6.22	.333 ✓	.29	51 ✓	68.0
50	13.55	<250 mg/L	12.99	6.20 ✓	.334 ✓	.27 ✓	53 ✓	62.4
55								
60			Purged @ 1015					
							2.5 gallons	

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

DTB = 27.

Well ID:	MW-4	**Pump Intake Depth (from grade):**	25'
Sampling Date:	Sunny 70's 6/4/13	**Pump Intake Depth (from TOC):**	25
Weather Conditions:		**Sampling Personnel:**	BTB
Static DTW:	20.05	**Pump Type:**	P. Pump
Purge Start Time:	355	**Sample Clarity:**	Lt. Brown to Clear
Purge End Time:		**Sample Odor:**	None
Sample Collection Time:		**Sheen:**	None

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	20.13							
5	20.21	<250 mg/L	19.79	6.38	~~195~~ .493	10.93	195	135
10	20.14	<250 mg/L	17.09	6.70	.523	3.29	182	110
15	20.14	<250 mg/L	16.42	6.72	.549	2.54	179	77
20	20.15	<250 mg/L	16.10	6.72 ✓	.565	2.28	177	73.6
25	20.15	<250 mg/L	15.92	6.73 ✓	.567	2.08	176	63.6
30	20.15	<250 mg/L	15.61	6.73 ✓	5.73	1.88	175 ✓	53.3
35	20.15	<250 mg/L	15.34	6.70 ✓	.585	1.80	175 ✓	40.6
40	20.15	<250 mg/L	14.95	6.70	.588	1.75 ✓	175	38.4
45								
50								
55		1645	Sample collect ~2 gallons purged					
60								

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Low Flow Sampling

Owego Heat Treat

1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

DTB 24.92

Well ID: MW-5
Sampling Date: 6/4/13
Weather Conditions: Sunny 70's
Static DTW: 13.58
Purge Start Time: 1440
Purge End Time: 1520
Sample Collection Time: 1520

Pump Intake Depth (from grade): ~~~20'~~ 18'
Pump Intake Depth (from TOC): ~ 20'
Sampling Personnel: BTB
Pump Type: Peristaltic
Sample Clarity: Light Brown to Clear
Sample Odor: None observed
Sheen: None observed

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	13.58	< 250 ml/m	16.88	4.81	.108	11.17	258	45.6
5	13.79	< 250	16.95	4.82	.099	10.44	256	31.7
10	13.82	< 250 ml/L	16.67	4.88	.091	9.47	249	22.9
15	13.80	< 250 ml/L	16.12	4.91	.089	9.43	248	16.8
20	13.81	< 250	15.99	4.92 ✓	0.090 ✓	9.09	245 ✓	10.7
25	13.85	< 250	15.87	4.93 ✓	0.090 ✓	9.04	245	8.0
30	13.82	< 250	15.60 ✓	4.95 ✓	0.089 ✓	8.64	245	3.8
35	13.82	< 250	15.61 ✓	4.95 ✓	0.089 ✓	8.64	245	2.9 ✓
40	13.82	< 250	15.62 ✓	4.95 ✓	0.089 ✓	8.63 ✓	245	2.5 ✓
45								
50						~ 25 gallons purged		
55			Sampled @ 1520					
60								

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-6
Sampling Date: 6-5-13
Weather Conditions: 70°F Sunny
Static DTW: 11.26
Purge Start Time: 0930
Purge End Time: 1025
Sample Collection Time: 1025

Pump Intake Depth (from grade): ~45'
Pump Intake Depth (from TOC): ~44.6
Sampling Personnel: R. Hoose
Pump Type: Peristaltic
Sample Clarity: Clear
Sample Odor: NO
Sheen: NO

	Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. ~~(uS/cm)~~ mS/cm	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0930	0.0	11.26							
	5	11.35		13.14	7.53	0.346	3.96	135	216
940	10	11.35		13.01	7.30	0.412	1.04	127	85.2
	15	11.38		13.07	7.28	0.457	0.51	121	58.5
950	20								
	25	11.39		13.06	7.28	0.507	0.00	103	13.5
1000	30	11.37	3Gal	13.08	7.28	0.527	0.00	98	10.3
	35	11.37		13.12	7.29	0.534	0.00	94	6.9
1010	40	11.37		13.27	7.28	0.553	0.00	92	3.4
	45	11.37		13.28	7.29	0.560	0.00	90	4.0
1020	50	11.37		13.42	7.29	0.582	0.00	86	1.0
	55								
	60								
	TD 49.91								

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-7
Sampling Date: 6-4-2013
Weather Conditions: 65°F Clear
Static DTW: 15.84
Purge Start Time: 1555
Purge End Time: 1640
Sample Collection Time: 1640

Pump Intake Depth (from grade): 34'
Pump Intake Depth (from TOC): 36'
Sampling Personnel: R. Hoose
Pump Type: Peristaltic
Sample Clarity: Clear
Sample Odor: None
Sheen: None

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. ~~(uS/cm)~~ mS/cm	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	16.10							
1600 5	16.12		14.32	7.18	0.654	2.52	162	226
10	16.12		14.57	7.10	0.654	1.39	140	196
1610 15	16.13		14.18	7.09	0.664	0.95	129	128
20	16.16		14.02	7.21	0.667	0.45	115	85.4
1620 25	16.19		14.00	7.19	0.682	0.00	108	57.6
30	16.20		13.98	7.19	0.685	0.00	106	43.4
1630 35	16.20		13.92	7.20	0.685	0.00	105	41.1
40	16.20		13.83	7.20	0.688	0.00	106	39.9
1640 45	16.22		13.75	7.17	0.691	0.00	106	22.8
50								
55								
60								
~3½	Gallons	Purged						

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-8
Sampling Date: 6-4-13 @ 1520
Weather Conditions: 65°F SUNNY
Static DTW: 12.58
Purge Start Time: 1415 (NO FLOW)
Purge End Time: 1515
Sample Collection Time: 1520

Pump Intake Depth (from grade): ~ 40'
Pump Intake Depth (from TOC): ~ 42'
Sampling Personnel: R. Hoose
Pump Type: Peristaltic
Sample Clarity: Clear
Sample Odor: None
Sheen: None

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. ~~(uS/cm)~~ MS/CM	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	14.82							
5								
10								
1430 15	21.00		11.63	7.43	0.171	8.15	197	97.0
20	22.25		12.59	7.76	0.186	7.31	199	79.0
1440 25	23.13		12.80	7.50	0.207	6.41	208	78.3
30	23.30	Lost Prime	12.71	7.23	0.256	4.67	211	93.5
1450 35	24.00		12.01	7.08	0.292	4.91	209	115
40	25.15		11.76	7.23	0.241	5.62	204	109
500 45	26.85		11.61	7.22	0.254	7.42	202	93.0
50	28.00		11.77	8.21	0.163	8.83	177	90.6
1510 55	29.50		11.61	7.69	0.231	9.65	198	86.6
60			11.64	7.32	0.269	9.27	201	76.6
TOTAL DEPTH =	47.38							
TOTAL Purge	~3 gallons							

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-9
Sampling Date: 6/5/13
Weather Conditions: Sunny < 75°'s
Static DTW:
Purge Start Time: 0755
Purge End Time:
Sample Collection Time:

Pump Intake Depth (from grade): ~38'
Pump Intake Depth (from TOC): ~40'
Sampling Personnel: BTB
Pump Type: P. Pump
Sample Clarity: Clear
Sample Odor: None observed
Sheen: None observed

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	16.28		Pump on @ 755					
5	16.34	<250 mg/L	12.2	6.85	.528	5.90	113	77.3
10	16.35	<250 mg/L	12.19	6.85	.573	3.09	114	62.7
15	16.32	<250 mg/L	12.17	6.92	.584	2.39	112 ✓	53.5
20	16.32	<250 mg/L	12.13	6.97	.591 ✓	1.42	94	37.6
25	16.34	<250	12.12	6.98	.590 ✓	1.16	79	35.1
30	16.32	<250 mg/L	12.17 ✓	6.97 ✓	.589 ✓	0.96	57	27.7
35	16.33	<250 mg/L	12.21 ✓	6.97 ✓	.591 ✓	.79	37	27.6
40	16.33	<250	12.25 ✓	6.96	.596 ✓	.76	33	26.7
45	16.33	<250	12.25 ✓	6.96	.594 ✓	.74	34	24.9
50								
55			Sample Collected @ 850					
60					~2 gallons purged			

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Low Flow Sampling

Owego Heat Treat

1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID:	MW-10	**Pump Intake Depth (from grade):**	24'
Sampling Date:	6-5-13 @ 0845	**Pump Intake Depth (from TOC):**	26'
Weather Conditions:	65°F Clear	**Sampling Personnel:**	R. Hoose
Static DTW:	18.72	**Pump Type:**	Peristaltic
Purge Start Time:	0755	**Sample Clarity:**	Clear
Purge End Time:	0845	**Sample Odor:**	None
Sample Collection Time:	0845	**Sheen:**	None

Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. ~~(uS/cm)~~ mS/cm	DO (mg/l)	ORP (mV)	Turbidity (NTU)
0.0	18.72							
5	18.75		11.09	6.75	0.545	1.20	236	283
805 10	18.75		11.24	6.96	0.537	0.45	230	329
15	18.76		11.30	7.21	0.537	0.18	222	215
815 20	18.76	3 gal/min	11.36	7.24	0.538	0.00	218	84.5
25	18.76		11.40	7.39	0.538	0.00	207	49.0
825 30	18.76		11.45	7.39	0.538	0.00	203	33.7
35	18.76		11.50	7.41	0.536	0.00	198	26.5
835 40	18.77	+3 gal	11.55	7.42	0.534	0.00	191	10.1
45	18.77		11.62	7.45	0.535	0.00	186	7.7
0845 50	18.77	+1 1/2 gal	11.65	7.44	0.534	0.00	182	1.9
55								
60								
TD = 30.97' TOC								
~7 1/2 gal TOTAL Purge								

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Low Flow Sampling

Owego Heat Treat
1646 Marshland Road
Appalachin (Owego), NY
NYSDEC Site No. 754011

Well ID: MW-11
Sampling Date: 6-5-13
Weather Conditions:
Static DTW: 8.20
Purge Start Time: 1205
Purge End Time: 1255
Sample Collection Time: 1255

Pump Intake Depth (from grade): ~10.80
Pump Intake Depth (from TOC): ~11.00
Sampling Personnel: R. Hoose
Pump Type: Peristaltic
Sample Clarity:
Sample Odor:
Sheen:

	Elapsed Time (Min)	DTW (TOC)	Flow Rate (Liters/ Min)	Temp	pH	Cond. (uS/cm)	DO (mg/l)	ORP (mV)	Turbidity (NTU)
1205	0.0	8.20							
	5	8.77		17.10	6.45	0.219	1.91	32	0.0 ?
1215	10	8.91		16.18	6.32	0.225	1.48	16	185
	15	8.94		16.18	6.26	0.230	1.16	30	93x2
1225	20	8.92		16.18	6.22	0.231	1.02	39	32x8
	25	8.93		16.16	6.23	0.235	0.82	36	187
1235	30	8.95		16.33	6.37	0.239	0.71	33	58.7
	35	8.95		16.34	6.54	0.241	0.67	26	57.4
1245	40	8.96		16.83	*	0.234	0.58	∞	19.7
	45	8.98		*	*	0.235	0.53	*	12.2
1255	50	8.99		16.92	*	0.247	0.50	*	9.3
	55								
	60								
TD ~		11.91	* = CONDENSATION ON CONDE - CANT READ						
TOTAL		Purge	~1.9	GALLONS					

APPENDIX B

SUMMARY TABLES

SUMMARY OF GROUNDWATER ELEVATIONS

NYSDEC - Owego Heat Treat
1646 Marshland Road
Appalachin, New York
NYSDEC Site No. 754011

MONITORING WELL DESIGNATION		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
TOP OF CASING (11-4-2013)		809.71	812.26		817.25	811.02	809.15	812.98	806.84	814.00	815.28	809.73
TOP OF CASING (Original)		199.82	202.39	199.30	207.53	201.12	199.48	202.92	196.95			
BOTTOM OF MONITORING WELL		174.54	170.84	NM	180.21	176.20	149.57	161.79	149.57	764.67	784.31	797.82
MEASUREMENT DATE	**GAUGING DATA**	**GROUNDWATER ELEVATIONS**										
6/4/2013	DTW	11.42	14.23	NM	20.05	13.58	11.23	15.84	12.50	16.22	18.63	8.20
	GW Elev	798.29	798.03		797.20	797.44	797.92	797.14	794.34	797.78	796.65	801.53
11/4/2013	DTW	13.11	15.75	NM	22.18	15.86	13.18	19.73	13.96	18.19	20.83	9.02
	GW Elev	796.60	796.51		795.07	795.16	795.97	793.25	792.88	795.81	794.45	800.71

Notes:
Survey by Delta Engineering, Vernon, NY
GW Elev = Groundwater Elevation (ft.)
DTW = Depth to water (ft.)
NM = Not Measured

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

OWEGO HEAT TREAT
1646 Marshland Road
Appalachin, New York
Site No. 754011

WELL ID/DATE	COMPOUND				
	PCE	TCE	VC	Cis-1,2 DCE	Total VOC
NYSDEC Standard+ (ug/l)	**5.0**	**5.0**	**2.0**	**5.0**	**-**
MW-1					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/05/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-2					
12/14/06*					2,365
3/15/07*					31
6/22/07*					63
9/17/07*					825
12/31/07*					223
3/24/08*					31
9/29/28*					41
3/6/09*	4.6	**16**	< 1.0	**70**	91
3/23/11**	**5,100**	**1,300**	< 500	< 500	6,400
6/25/12**	**3,600**	**1,100**	< 500	< 500	4,700
9/17/12**	**7,700**	**2,700**	< 200	**1,200**	11,600
06/05/13	**200**	**260**	**4.0**	**240**	709
MW-3					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
MW-4					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/04/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-5					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/04/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-6					
12/14/06*					23
3/15/07*					1.0
6/22/07*					6.0
9/17/07*					10
12/31/07*					15
3/24/08*					5.0
9/29/28*					38
3/6/09*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
3/23/11**	**5.3**	1.0	< 1.0	< 1.0	6.3
6/25/12**	< 1.0	1.0	< 1.0	< 1.0	< 1.0
9/17/12**	< 1.0	1.0	< 1.0	< 1.0	< 1.0
06/05/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-7					
12/14/06*					18
3/15/07*					16
6/22/07*					13
9/17/07*					13
12/31/07*					14
3/24/08*					17
9/29/28*					8.0
3/6/09*	< 1.0	1.7	< 1.0	< 1.0	1.7
3/23/11**	2.1	3.0	< 1.0	< 1.0	5.1
6/25/12**		---------- Not Sampled ----------			
9/17/12**	< 1.0	1.2	< 1.0	< 1.0	3.4

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

OWEGO HEAT TREAT
1646 Marshland Road
Appalachin, New York
Site No. 754011

WELL ID/DATE	COMPOUND				
	PCE	**TCE**	**VC**	**Cis-1,2 DCE**	**Total VOC**
NYSDEC Standard[+] (ug/l)	**5.0**	**5.0**	**2.0**	**5.0**	**-**
MW-7 (Continued)					
06/04/13	2.8	4.1	< 1.0	< 1.0	6.9
MW-8					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/04/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-9					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/05/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-10					
12/14/06*					603
3/15/07*					2,230
6/22/07*					3,140
9/17/07*					3,530
12/31/07*					1,903
3/24/08*					399
9/29/28*					2,006
3/6/09*	**580**	**160**	< 1.0	3.2	772
3/23/11**	**1,800**	**600**	< 200	**310**	2,710
6/25/12**		---------- Not Sampled ----------			
9/17/12**	**2,200**	**1,200**	< 100	**670**	4,070
06/05/13	**1,100**	**430**	< 1.0	**200**	1,736
MW-11					
	---------- Not Sampled - 12/14/06 -- 6/4-5/13 ----------				
06/05/13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

All concentrations presented in micrograms per liter (ug/l)

[+] NYSDEC Standard for class GA groundwater given in 6NYCRR Part 703.5 Table 1.

Concentrations in bold are in excess of their respective Standard for class GA groundwater.

* Lab results provided in Status Report by Geologic, NY, Inc. (4-29-2009). Analysis via Method 8260.

** Lab results provided in Periodic Review Report by Owego Heat Treat (10-15-2012). Analysis via Method 624 for Method 601 volatiles list.

Total VOC = Sum of all VOCs identified in that sample

Blank space indicates that that information is not available.

Abbreviations:

PCE = Tetrachloroethene
TCE = Trichloroethene
Cis 1,2-DCE = Cis-1,2-dichloroethene
VC - Vinyl Chloride

APPENDIX C

MIP INVESTIGATION REPORT

SmartData Solutions®

Subsurface Characterization Using Membrane Interface Probe (MIP) and Soil Electrical Conductivity (EC) Technologies Owego Heat Treat 1646 Marshland Road Apalachin, New York

PREPARED FOR

Aztech Technologies, Inc.
5 McCrea Hill Road
Ballston Spa, New York 12020

September 10, 2013

PREPARED BY

COLUMBIA Technologies, LLC
1448 South Rolling Road
Baltimore, Maryland 21227
410-536-9911
www.columbiatechnologies.com

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APPENDICES

Introduction

Aztech Technologies, Inc. (Aztech) contracted **COLUMBIA Technologies, LLC (COLUMBIA)** to conduct an investigation of subsurface contamination at the Owego Heat Treat site, located in Apalachin, New York. This investigation involved delineating the depth and horizontal extent of a suspected tetrachloroethylene (PCE) and trichloroethylene (TCE) plume and other total volatile organic compound (VOC) contamination distributions. The former industrial facility, used to treat metals, was badly damaged during Hurricane Irene, and the investigation was completed in order to help determine the future use(s) of the property. Tooling used at the site included the Membrane Interface Probe (MIP) technology to map the dissolved phase, vapor phase and sorbed phase of VOCs and the Electrical Conductivity (EC) technology to characterize soil electrical conductivity. Both technologies are contained in a single downhole tool, the MIP/EC Probe, allowing **COLUMBIA** to collect multiple lines of evidence with a single push at each location.

The investigation was conducted on July 15th, 2013 through July 19th, 2013 and consisted of 18 MIP/EC locations to depths ranging from 25.5 feet to 34.35 feet below ground surface (bgs). A Geoprobe® Direct Push Technology (DPT) drilling rig was used to advance the locations.

MIP/EC Equipment Description

The MIP/EC probe is approximately 12-inches (30 cm) in length and 1.5-inches (3.8 cm) in diameter. The probe is driven into the ground at the nominal rate of one foot per minute using a DPT rig.

The MIP/EC probe was developed by Geoprobe Systems® and contains two separate systems: the soil Electrical Conductivity, or EC tool; and the Membrane Interface Probe, or MIP. EC, MIP chemical response, MIP operating parameters, rate of push speed and temperature are collected by the MIP/EC Field Instrument, and displayed continuously in real time during each push of the probe.

EC: Soil electrical conductivity, the inverse of soil resistivity, is measured using a dipole arrangement. In this process, an alternating electrical current is transmitted through the soil from the center, isolated pin of the probe. This current is then passed back to the probe body. The voltage response of the imposed current to the soil is measured across these same two points.

Conductivity is measured in Siemens/meter, and due to the low conductivity of earth materials, the EC probe uses milliSiemens/meter (mS/m). The probe is reasonably accurate in the range of 5 to 400 mS/m.

The electrical properties of soil vary by geological setting. Therefore, conductivity measurements will vary both in magnitude and the relative change from one soil type to another in each geological setting. In general, at a given location, lower conductivity values are characteristic of larger particles such as cobbles and sands, while higher conductivities are characteristic of finer sized particles such as finer sand, silts and clays. Observed conductivities significantly higher than 400 mS/m are indicative of ionic materials other than soil. Examples include saltwater intrusion, presence of ionic chemicals from storage or injection, or potentially soil mixtures with metallic compounds.

MIP: The MIP portion of the probe is used to create high resolution, real-time profiles of subsurface VOC contamination. The operating principle is based on heating the soil and/or water around a semi-permeable polymer membrane to 121º Celsius (C), which allows VOCs to partition across this membrane. The MIP can be used in saturated or unsaturated soils, as water does not pass through the membrane. Nitrogen is used as an inert carrier gas, and travels from a surface supply down a transfer tubing which sweeps across the back of the membrane and returns any captured VOCs to the installed detectors at the surface. It takes approximately 60 seconds for the nitrogen gas stream to travel through 150 feet of inert tubing and reach the detectors.

COLUMBIA utilizes three detectors: a Photo Ionization Detector (PID), a Flame Ionization Detector (FID) and an Electron Capture Detector (ECD), mounted on a laboratory grade Shimadzu Model 14A gas chromatograph. The output signal from the detectors is captured by a MIP data logging system installed on a MIP Field Computer or laptop computer.

The PID detector consists of a special ultraviolet (UV) lamp mounted on a thermostatically controlled, low volume, flow-through cell. The temperature is adjustable from ambient temperature to 250ºC. The 10.2 electron volt (eV) UV lamp emits energy at a wavelength of 120 nanometers, which is sufficient to ionize most aromatics such as benzene, toluene, xylene, etc., and many other molecules such as hydrogen sulfide (H_2S), hexane, and ethanol whose ionization potential is below 10.2 eV. The PID also emits a response for

chlorinated compounds containing double-bonded carbons (halogenated ethylenes), such as TCE and PCE. Methanol and water, which have ionization potentials greater than 10.2 eV, do not respond on the PID. Since the PID is non-destructive, it is often run first in series with other detectors for multiple analyses from a single injection.

The FID utilizes a hydrogen flame to combust compounds in the carrier gas. The FID responds linearly over several orders of magnitude, and the response is very stable from day to day. This detector responds to any molecule with a carbon-hydrogen bond, but poorly to compounds such as H_2S, carbon tetrachloride, or ammonia. The carrier gas effluent from the GC column is mixed with hydrogen and burned. This combustion ionizes the analyte molecules. A collector electrode attracts the negative ions to the electrometer amplifier, producing an analog signal, which is directed to the data system input.

The ECD detector consists of a sealed stainless steel cylinder containing radioactive Nickel-63. The Nickel-63 emits beta particles (electrons), which collide with the carrier gas molecules, ionizing them in the process. This forms a stable cloud of free electrons in the ECD cell. When electro-negative compounds (especially chlorinated, fluorinated or brominated molecules), such as carbon tetrachloride or TCE, enter the cell, they immediately combine with the free electrons, temporarily reducing the number remaining in the electron cloud. The detector electronics, which maintain a constant current of about 1 nanoampere through the electron cloud, are forced to pulse at a faster rate to compensate for the decreased number of free electrons. The pulse rate is converted to an analog output, which is transmitted to the data system.

The ECD detector provides for extremely sensitive detection of common contaminants such as PCE and TCE, typically in the range of 100-200 parts per billion (ppb) in-situ concentrations for these compounds. However, the relatively small linear range of the detector as compared to the other detectors, the maximum response of the detector will be reached early, typically at in-situ concentration of 1 to 2 ppm for these polychlorinated compounds. Additionally, ECD detector response varies considerably for different compounds. Of particular note the response factor of the ECD to polychlorinated compounds such as PCE is a factor of 1000 to 10,000 as compared to dichloro compounds, such as the common degradation product cis-1,2 Dichloroethylene (DCE). Performance testing for the compounds of interest is critical to understanding the system response to in-situ chemical distributions.

Depth in feet is measured and recorded using a precision potentiometer with a 100-inch linear range. The potentiometer is mounted onto the mast of the DPT rig and a counter-weight anchored to the foot of the rig. Measurements are recorded on the down stroke of the mast, as the tooling string is pushed into the ground, and is accurate within $1/10^{th}$ of an inch. The reference elevation (depth) reported for each individual boring is established by setting the data logger to zero feet with the membrane on the MIP/EC probe aligned with the ground surface. True boring elevations can be established with the addition of survey data if provided for in the scope of work.

MIP System Performance Test

As a quality control check, the MIP system response is evaluated prior to and upon completion of each MIP location. An aqueous phase performance test is performed using specific compounds designed to evaluate the sensitivity of the particular probe, transfer line and detector suite to be used. The resulting values are recorded and compared to predetermined values.

The EC dipole is also evaluated using a brass and stainless steel test jig, resulting in known values of 55 and 290 mS. Results must fall within 10% of the expected values; otherwise corrective action must be performed.

Investigation Methods

A total of 18 MIP/EC locations were completed at the Owego Heat Treat site. Each location was selected by **Aztech's** representative onsite, and the termination depth of each location was also determined by **Aztech's** representative onsite. Immediately upon completion of each location, the dataset is wirelessly delivered to **COLUMBIA's** remote servers for Quality Assurance/Quality Control (QA/QC) review and upload to a password secure website using Columbia's patented ***SmartData Solutions***® technology. The results from each location are shown in Appendices A and B.

General MIP/EC Log Interpretation

Each MIP/EC log includes five separate graphs of data. The first graph displays the soil electrical conductivity and is measured in mS/m. In general, lower conductivities are indicative of coarser grained particles, such as sands and silty sands, and higher conductivities are indicative of finer grained particles, such as clays and silty clays. The next three graphs are

measures of chemical detector response: PID, FID, and ECD, measured in microvolts (μV). These graphs are a linear scale, and provide a relative comparison of total detector response between boring locations. The last graph is temperature of the probe as it is advanced in the subsurface. This graph is monitored to make sure the heating elements of the MIP/EC probe are sufficient to volatilize the VOCs the system comes in contact with.

Interpreting MIP Results and Comparison to Sampling and Laboratory Analyses

A typically configured MIP system is effective at profiling the relatively distribution of certain VOCs and relative soil types versus depth. The typical MIP system will detected VOCs with boiling points of 121ºC or less; with vapor pressures above approximately 0.14 psi; and with non-polar hydrophobic compound structures. The sensitivity or in-situ detection level of a MIP system is dependent on many different factors. **COLUMBIA's** systems and protocols are standardized to provide reliable and comparable detection and logging of chlorinated VOCs (CVOCs) on the order of 200 ppb in-situ concentrations. Petroleum based VOCs are reliably logged at 1 part per million (ppm) in-situ concentrations. Each of **COLUMBIA's** MIP system configurations are performance tested prior to use and if requested, MIP systems may be specially configured for atypical compounds of concern (COCs) and site conditions.

An understanding of the principles of operation and performance of the configured MIP detectors is essential to properly interpreting the MIP log results. For example, a CVOC with an ionization potential greater than 10.2 eV will respond on the ECD detector but not on the PID equipped with a 10.2 eV lamp. A hydrophillic compound such as an alcohol or ketone will normally be scrubbed out of the MIP gas stream by the MIP Membrane and the installed dryer and never reach the detectors. Each CVOC has a different response factor on the ECD. For example the primary contaminant has a 1000 to 10000 higher level response on the ECD than the degradation product cis-1,2 DCE. Each variation in detector or system performance can be overcome by properly configuring and testing the MIP system for the site specific COCs prior to use. Additionally, the in-field performance tests performed before and after each boring are critical to monitor the performance of the MIP system from the membrane through to the data logging system.

Generalized correlations between MIP response and laboratory sample results can be inferred, but cannot be viewed as a linear comparison. MIP response and laboratory results are

collected, analyzed and reported in different units and by different procedures, so correlation is not an exact one-to-one comparison. For example, not all VOCs present and analyzed in laboratory instruments with compound separation are detected and measured by a typical MIP system. The MIP process uses a membrane extraction process from a heated zone of varying subsurface matrix of soil, water, and/or vapor. Soil and groundwater results involve the collection of a sample, extraction of sub-sample at the surface, and then transporting them to a laboratory for further extraction and analysis. These two processes are different by definition.

Unusual or invalid responses on the MIP system can result from malfunctions such as carrier or makeup gas leakage, gas flow blockage, heater failure, and carryover of water vapor or excessive chemical saturation. Each MIP detector will respond differently to each of these malfunctions. The most common cause of false positive responses for CVOCs is water carryover or blockage of carrier gas flow. The most common causes of false negative are improperly adjusted gas flows or leakage and inoperative detectors. **COLUMBIA's** operators are trained to recognize these problems and to take the appropriate corrective action in the field.

SmartData Solutions®

COLUMBIA's *SmartData Solutions*® is a patented process (U.S. Patent No, 7,058,509) that enables the rapid processing of field data into easy to understand 2D/3D visualizations posted to a password protected website. This process includes QA/QC review, formatting and rapid visualization of the data for the project team and enables a complete check of the dataset prior to completion of fieldwork.

As a result of the high sensitivity of the ECD to chlorinated compounds, and the elevated levels of contamination encountered, the extended depth response presented by the ECD data does not accurately reflect the true vertical extent of contamination. Visualization of the PID response is more representative of the contamination source area.

Delineation

The *SmartData Solutions*® graphics display a 3D view of the contamination plume. These plumes are calculated by extrapolating data in three dimensions between measured data points, and the plumes are only calculated within the bounds of the outermost measured points. A plume is considered to be unbounded when it extends to the bounds of those outermost

measured points. A fully bounded plume will exist entirely within the confines of the outermost measured points.

3-Dimensional Orientation

The *SmartData Solutions*® graphics use a relative azimuth system to describe map orientation as a map may not be oriented with true North at the top of the map. The relative azimuth system uses a 360° compass to describe the position *from which* the graphic is being viewed. For example, a viewer "looking east" on a North oriented map would have a relative azimuth of 270°, i.e. the viewer would be standing on the "western" 270° azimuth point looking through the center to the "east".

Observations

All locations exhibited a response on the ECD, indicating the presence of chlorinated solvents. At 15 of the 18 locations, the ECD encountered chlorinated compounds at concentrations high enough to saturate, or "flat-line" the detector. At this point, the detector electronics cannot pulse any faster, to produce more free electrons, to combine with the incoming electron-negative chlorinated compounds, and the chlorinated compounds overwhelm the detector. When this happens, it is useful to view the PID response to determine the most heavily contaminated zone, as the PID is sensitive to chlorinated compounds, but not as sensitive, and has a larger linear range, and will rarely saturate. The ECD exhibited response as shallow as 1.5 feet bgs (MIP15) and as deep as 31 feet bgs (MIP01, MIP02, MIP05 and MIP12). The highest responses (detector saturation) occurred between 7 feet bgs and 31 feet bgs.

Extremely elevated PID response (greater than 5.0E+06µV, sustained over multiple feet bgs) occurred at locations MIP01, MIP02, MIP04, MIP06, MIP07 and MIP12, all located in the central portion of the property. Of the above mentioned six locations, logs MIP02 and MIP07 exhibited response at shallow depth, at 8 feet bgs and 9.5 feet bgs, respectively. These two locations are the easternmost locations of the above mentioned group, and likely correspond to the source area.

Locations MIP01, MIP04 and MIP06 are located to the west of MIP02 and MIP07. Depth of first response occurred at 11 feet bgs, 13.5 feet bgs and 11 feet bgs, respectively. MIP12, located further to the west of MIP01, MIP04 and MIP06, exhibited a small, minimal response at 12.5 feet bgs and the start of a larger, more significant response at 16.5 feet bgs.

This indicates the plume is sinking as it moves downgradient. This movement is also shown in the Figures.

Many locations exhibited a response on the FID, at the same depths as the ECD response, and the two detectors are likely responding to the same compound. Independent FID responses were observed shallow at locations MIP05, MIP11, MIP13, MIP14 and MIP17, and are an indication of compounds with combustible carbon-hydrogen bonds, such as methane or vinyl chloride. These locations are all located in the asphalt, and it is likely the asphalt is acting as a cap to trap the vapors.

Log Anomalies

COLUMBIA's field operator noted the EC was not working properly, as a result of a grounding issue with the MIP equipment, on locations MIP06 and MIP07. The signal appeared as a "blocky" response, and should not be considered valid. Further analysis of the MIP logs indicates a similar "blocky" response on logs MIP10 through MIP18, and this data is considered suspect.

An erroneous peak on the PID, caused by changing the range settings on the field computer and GC too rapidly, were identified during the final QA/QC and removed. Logs affected include MIP06 at 18.80 feet bgs and MIP07 at 14.65 feet bgs.

No other log anomalies were noted.

Recommendations

COLUMBIA recommends the use of the Hydraulic Profiling Tool (HPT) technology to better delineate pathways for the various contaminants. HPT information can also be useful for creating contaminate fate and transport models, selecting monitoring well location and screen intervals, and targeting zones for remedial injections

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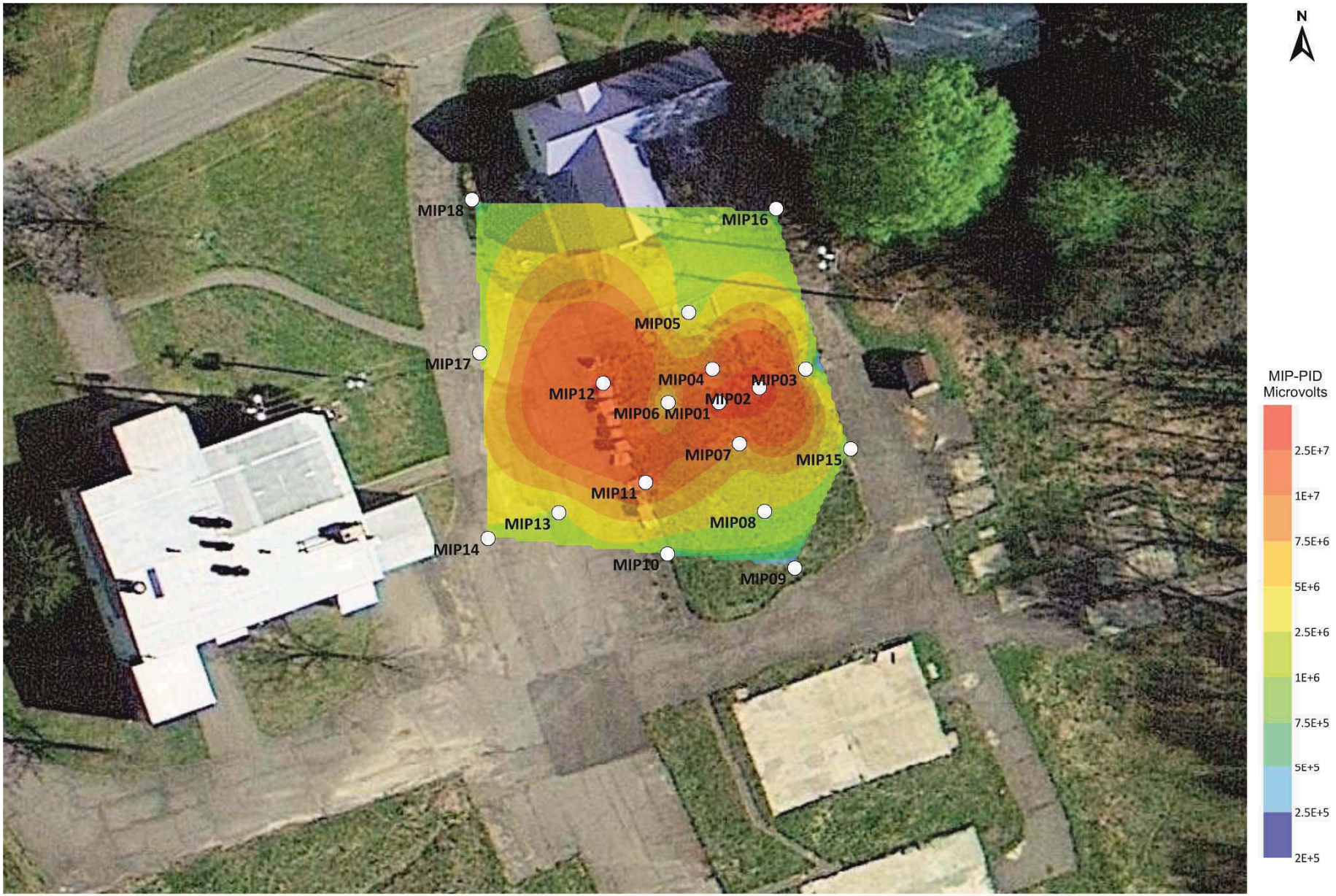
Figure 1 Sitemap and Locations
July 15th, 2013 – July 19th, 2013



COLUMBIA TECHNOLOGIES

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Feet

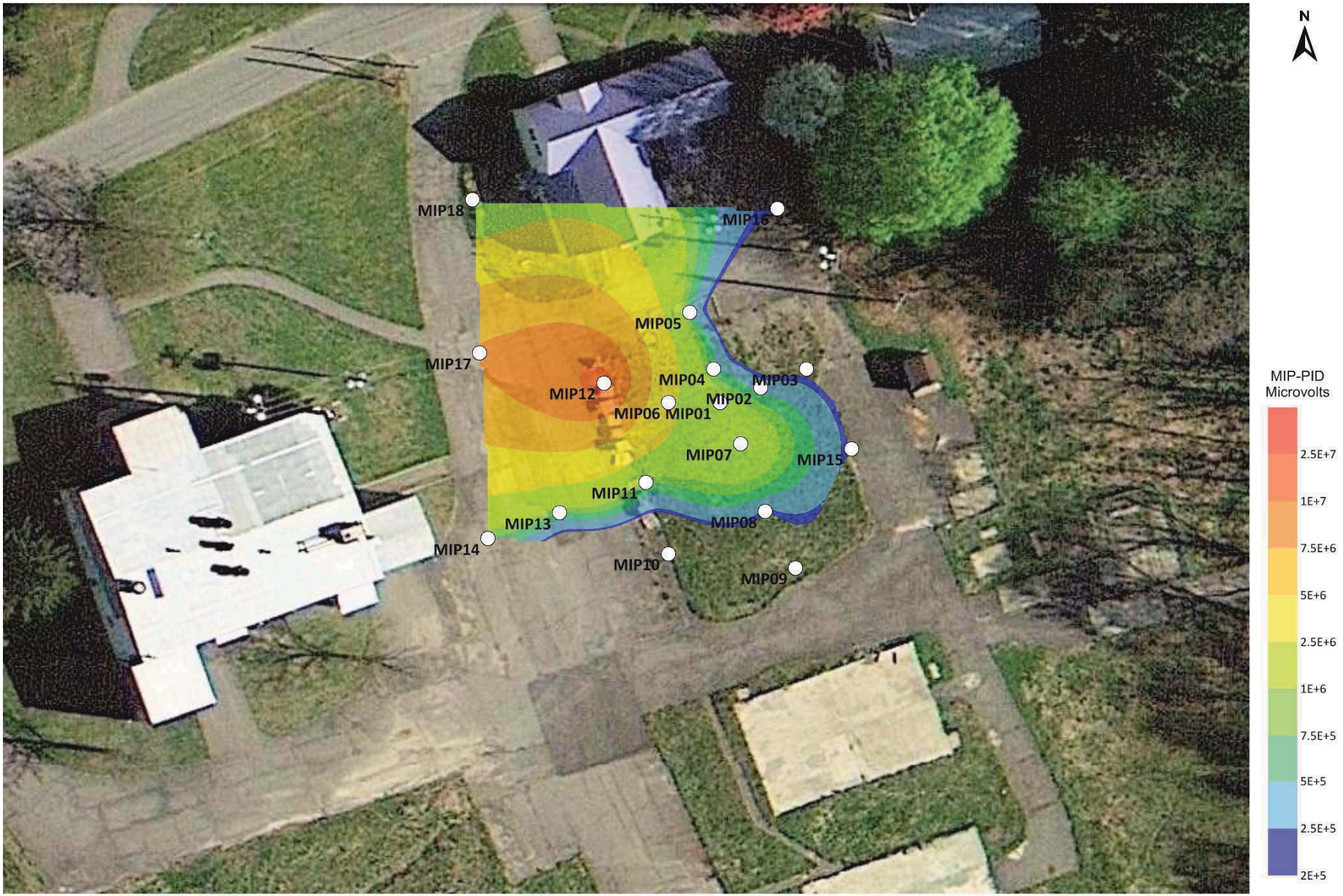
0 50 100

Legend

○ MIP Location

Maximum MIP-PID
Response Plot 0-25ft
Completed: July 2013

Figure 2 Maximum Concentration, PID Response, 0 feet bgs to 25 feet bgs
July 15th, 2013 – July 19th, 2013



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Feet

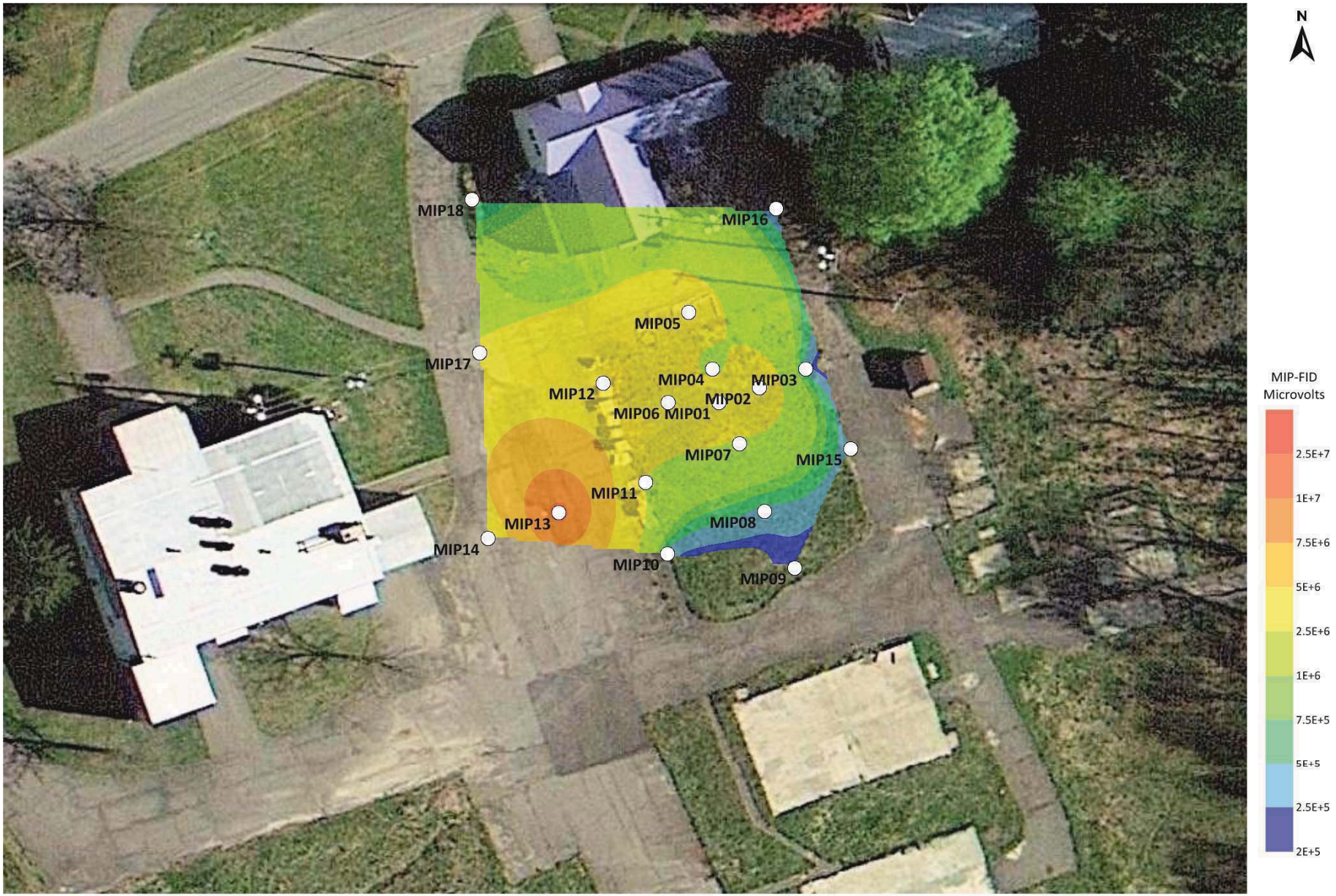
0 50 100

Legend

○ MIP Location

Maximum MIP-PID
Response Plot 25-35ft
Completed: July 2013

Figure 3 Maximum Concentration, PID Response, 25 feet bgs to 35 feet bgs
July 15th, 2013 – July 19th, 2013



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Feet

0 50 100

Legend

○ MIP Location

Maximum MIP-FID
Response Plot 0-25ft
Completed: July 2013

Figure 4 Maximum Concentration, FID Response, 0 feet bgs to 25 feet bgs
July 15th, 2013 – July 19th, 2013

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Feet

0 50 100

Legend

○ MIP Location

Maximum MIP-FID
Response Plot 25-35ft
Completed: July 2013

Figure 5 Maximum Concentration, FID Response, 25 feet bgs to 35 feet bgs
July 15th, 2013 – July 19th, 2013

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Feet

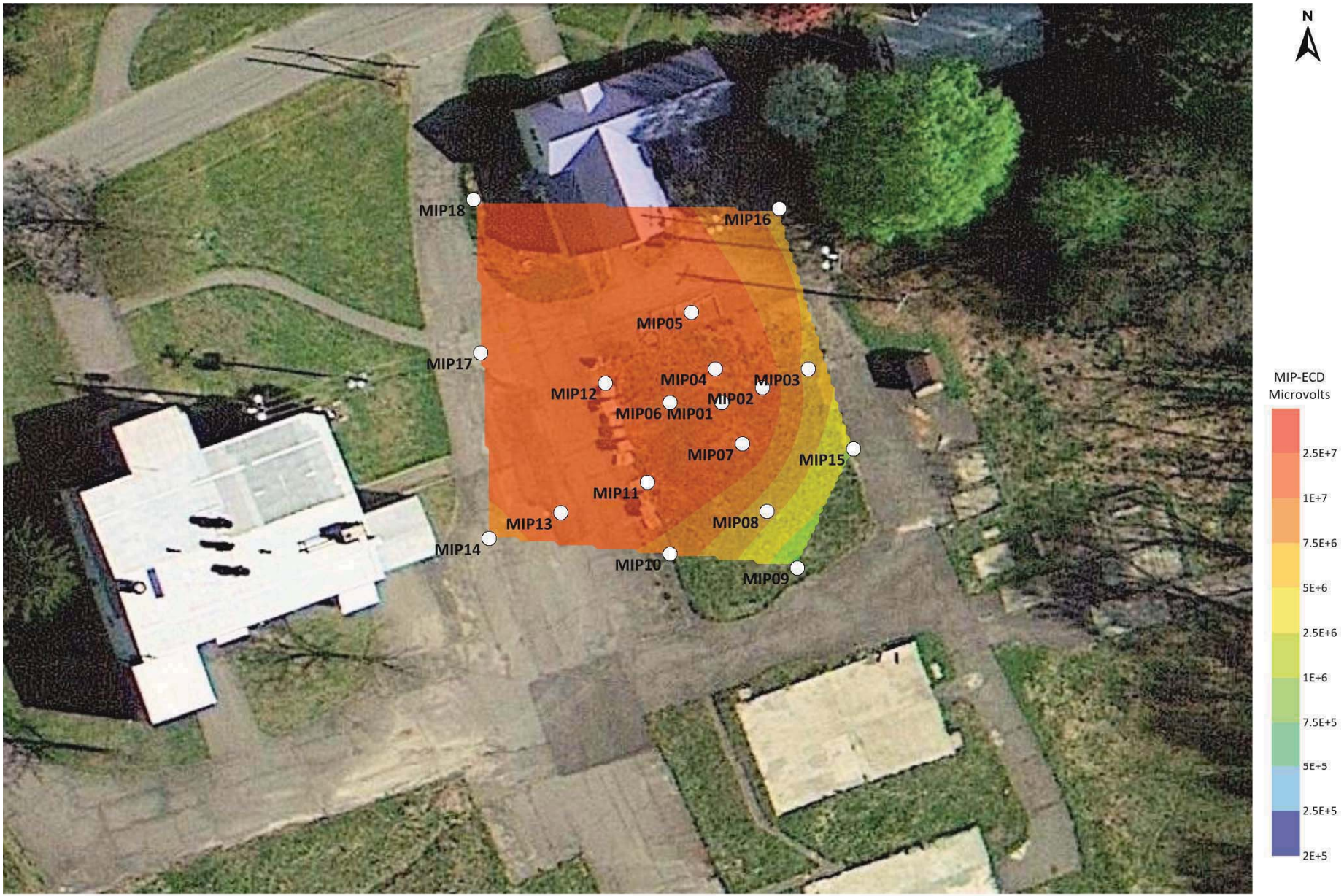
0 50 100

Legend

○ MIP Location

Maximum MIP-ECD
Response Plot 0-25ft
Completed: July 2013

Figure 6 Maximum Concentration, ECD Response, 0 feet bgs to 25 feet bgs
July 15th, 2013 – July 19th, 2013



COLUMBIA TECHNOLOGIES
1448 South Rolling Road • Baltimore, MD 21227 USA
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Feet
0 50 100

Legend
○ MIP Location

Maximum MIP-ECD
Response Plot 25-35ft
Completed: July 2013

Figure 7 Maximum Concentration, PID Response, 0 feet bgs to 25 feet bgs
July 15th, 2013 – July 19th, 2013

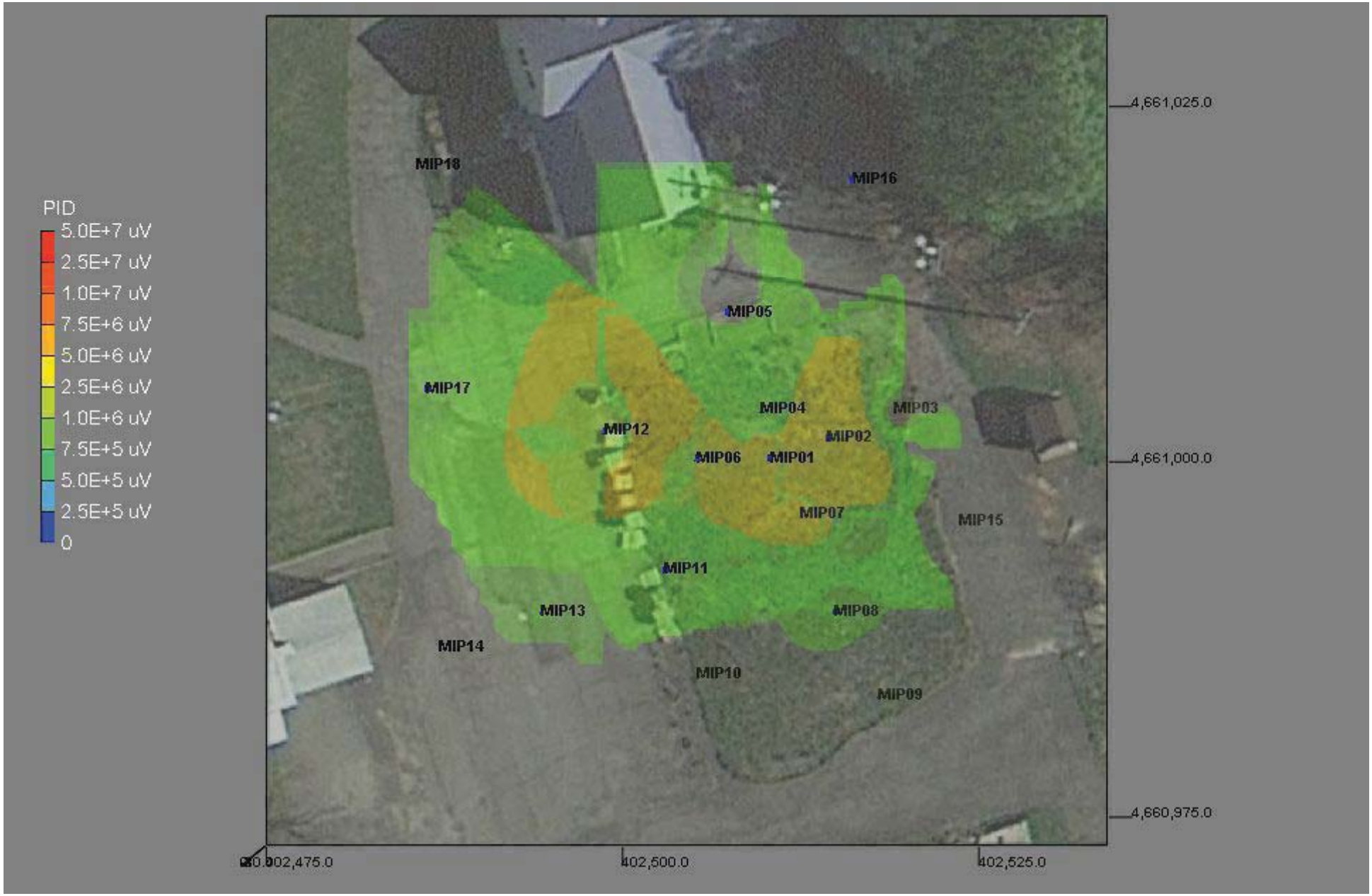

Figure 8 Plan View, PID Response >1.0E+06µV and 7.5E+06µV
July 15th, 2013 – July 19th, 2013

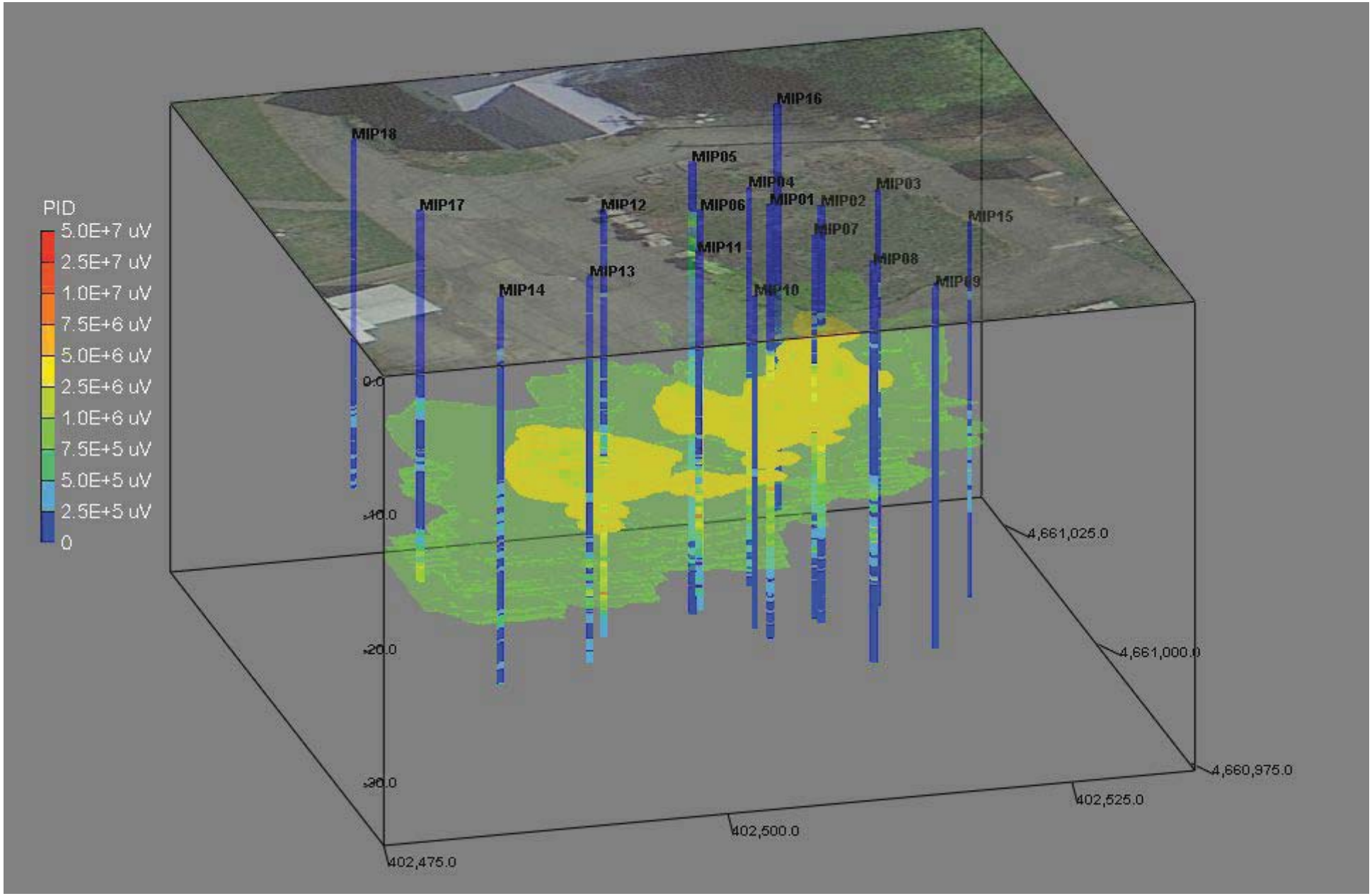

Figure 9 Oblique View Looking Northeast, PID Response >1.0E+06µV and 7.5E+06µV
July 15th, 2013 – July 19th, 2013

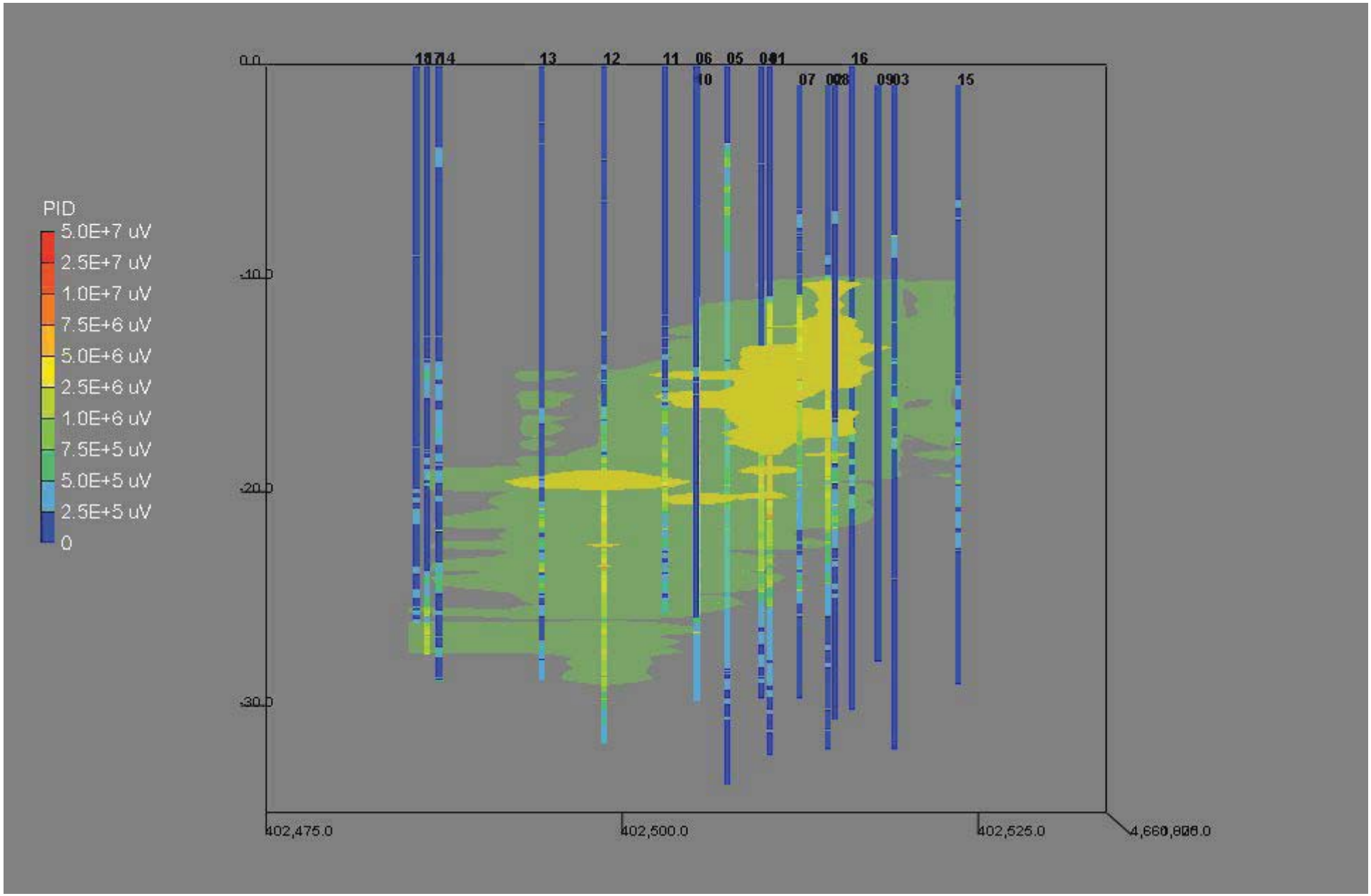

Figure 10 Transect View Looking North, PID Response >1.0E+06µV and 7.5E+06µV
July 15th, 2013 – July 19th, 2013

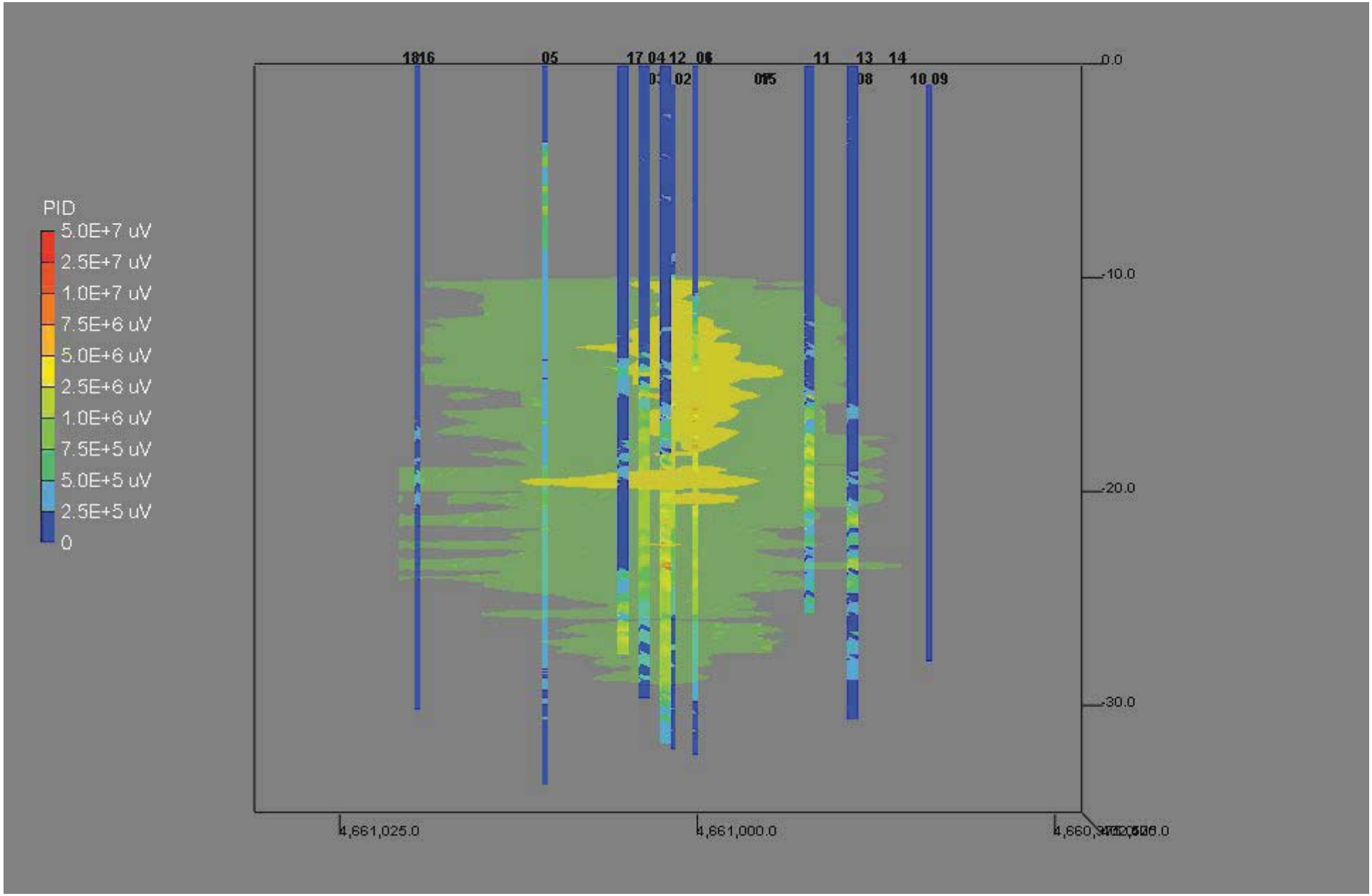

Figure 11 Transect View Looking East, PID Response >1.0E+06µV and 7.5E+06µV
July 15th, 2013 – July 19th, 2013

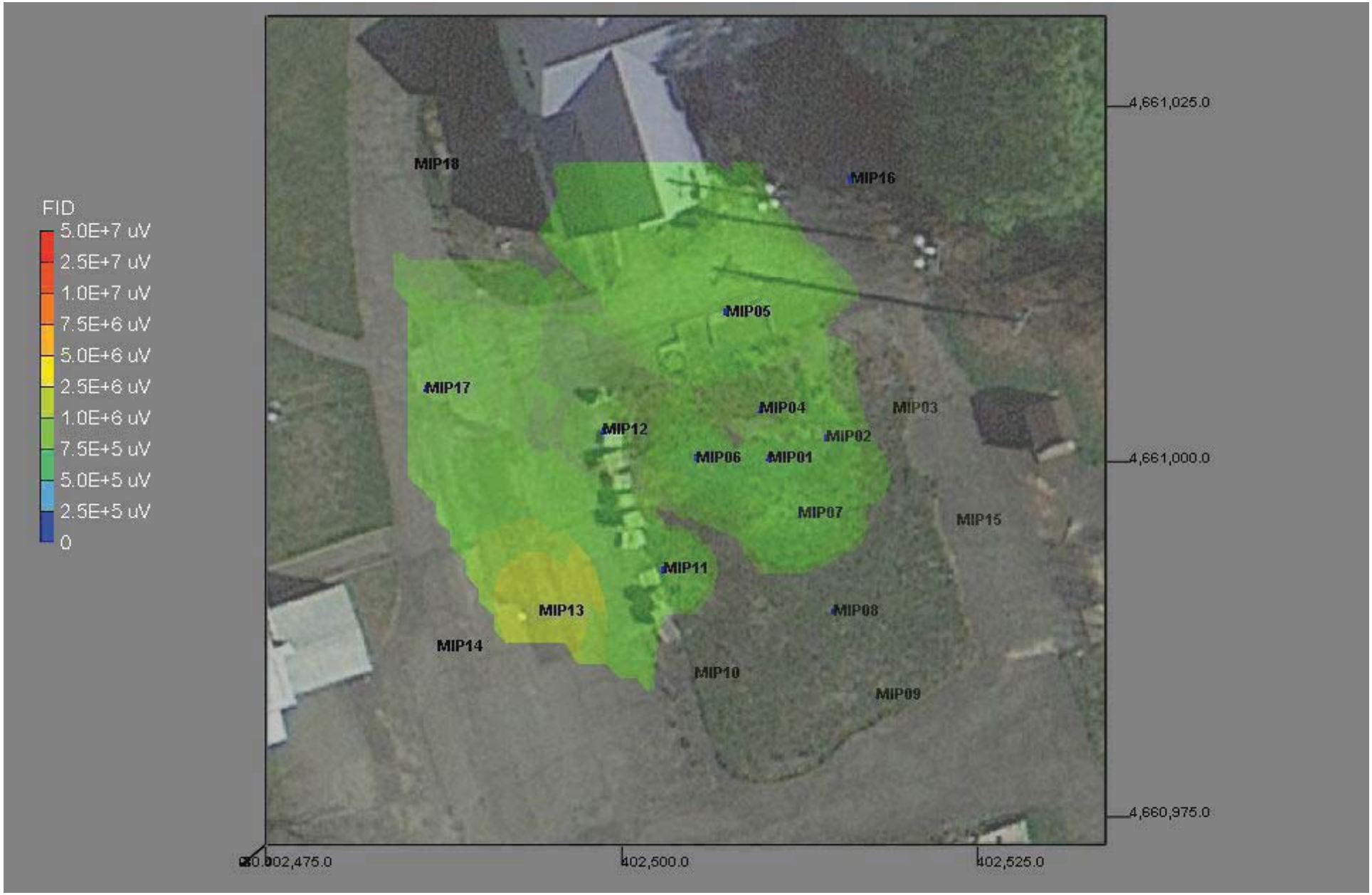

Figure 12 Plan View, FID Response >1.0E+06µV and 5.0E+06µV
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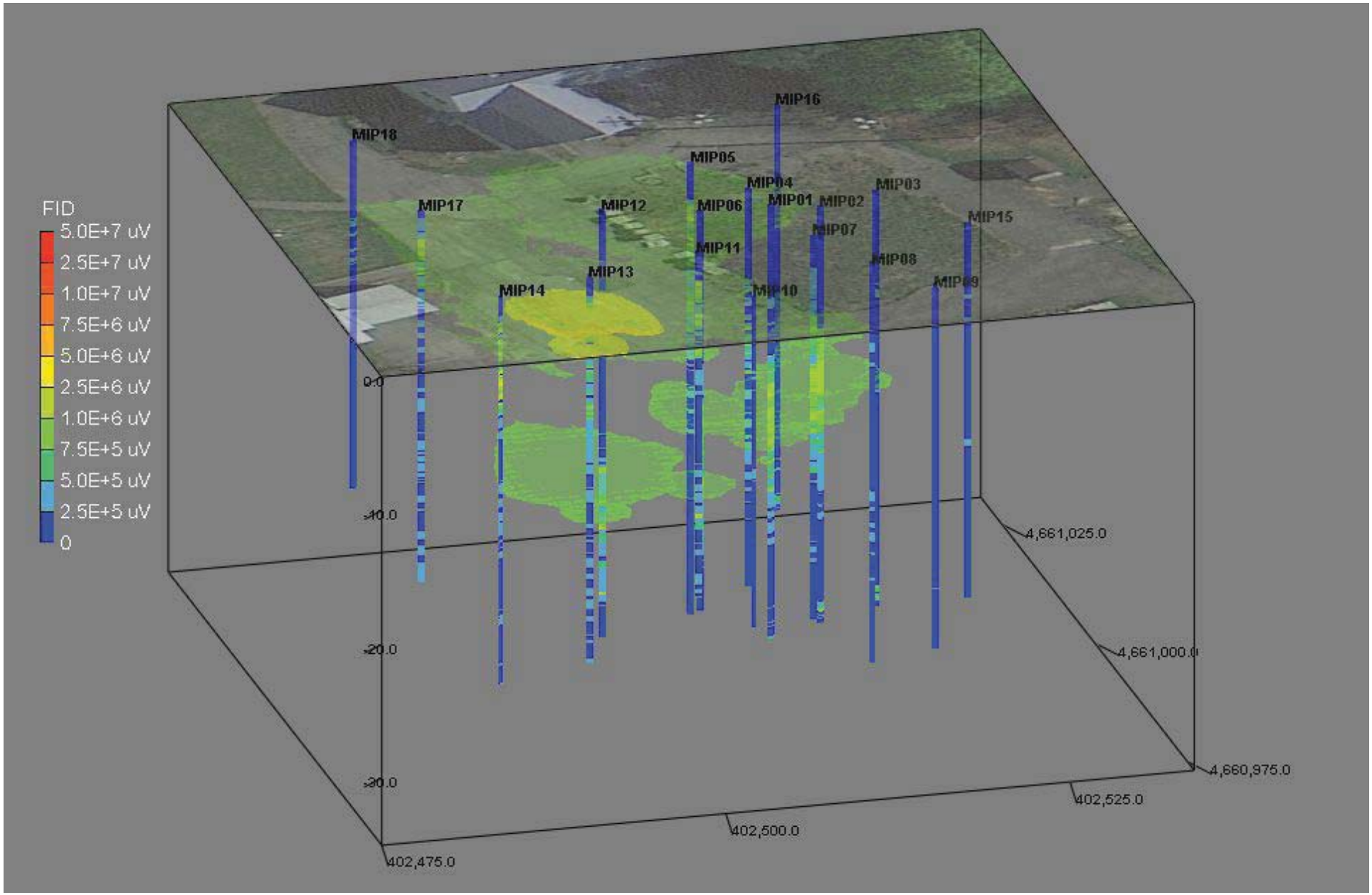


Figure 13 Oblique View Looking Northeast, FID Response >1.0E+06µV and 5.0E+06µV
July 15th, 2013 – July 19th, 2013

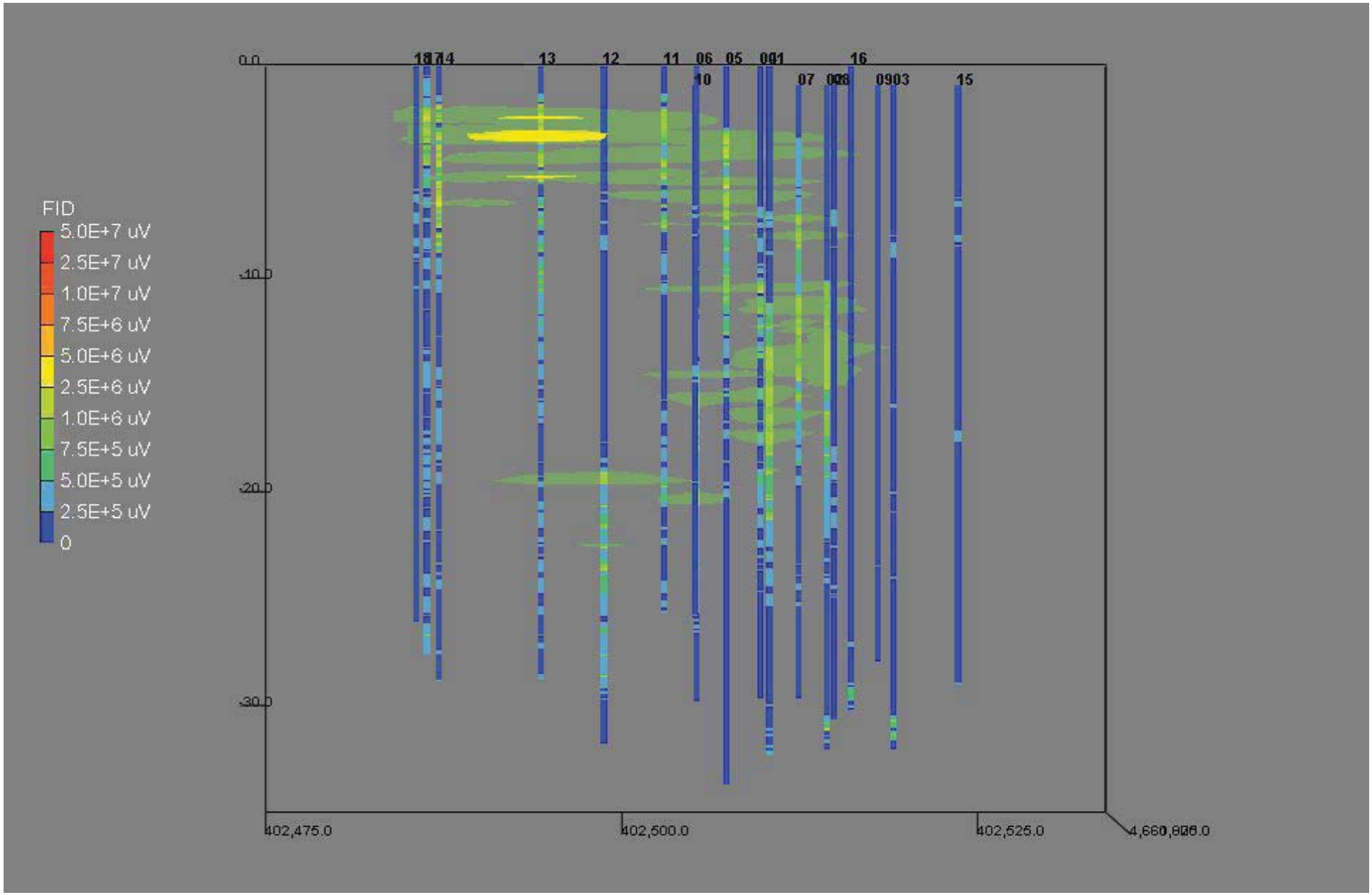


Figure 14 Transect View Looking North, FID Response >1.0E+06µV and 5.0E+06µV
July 15th, 2013 – July 19th, 2013

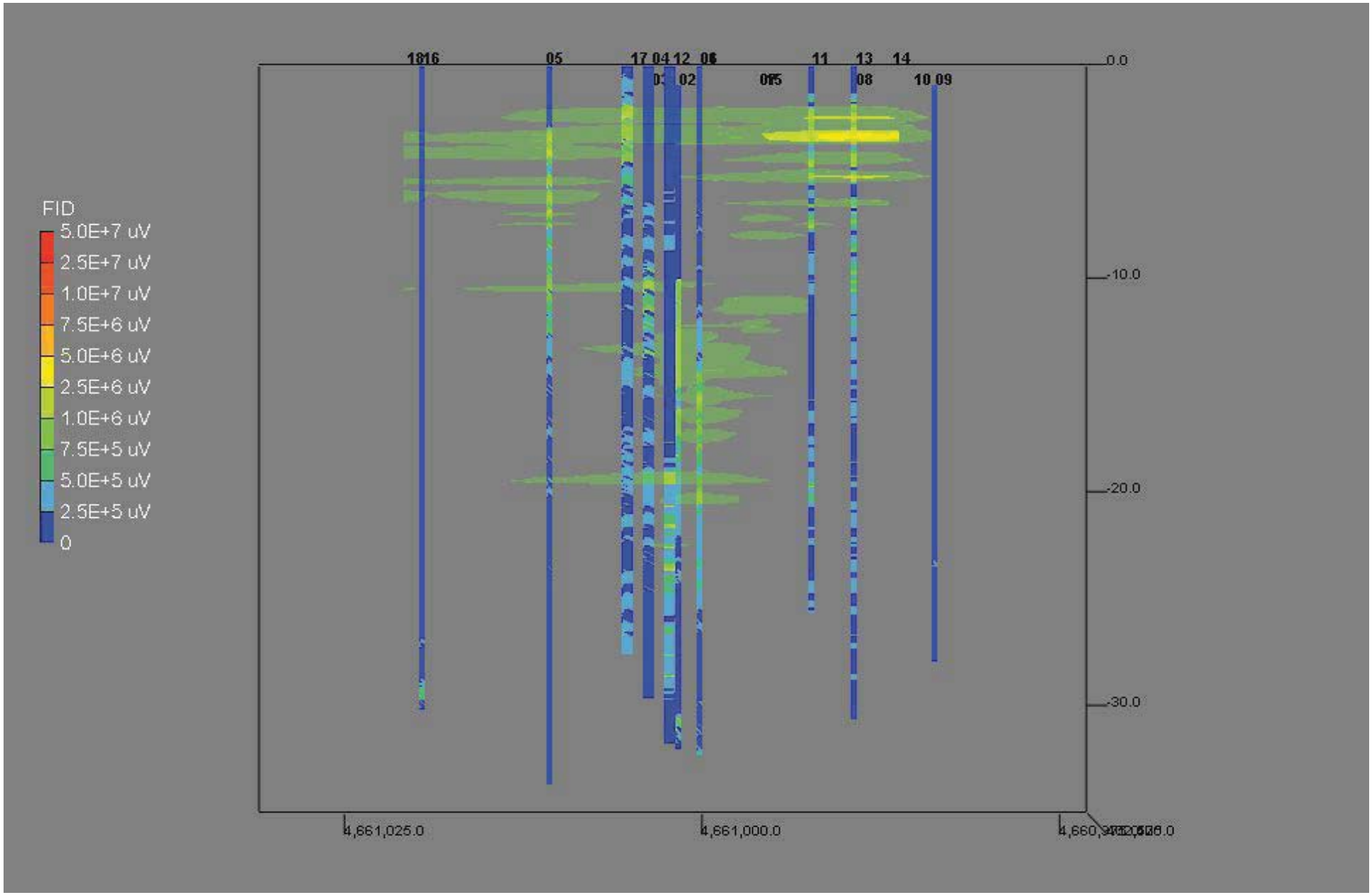
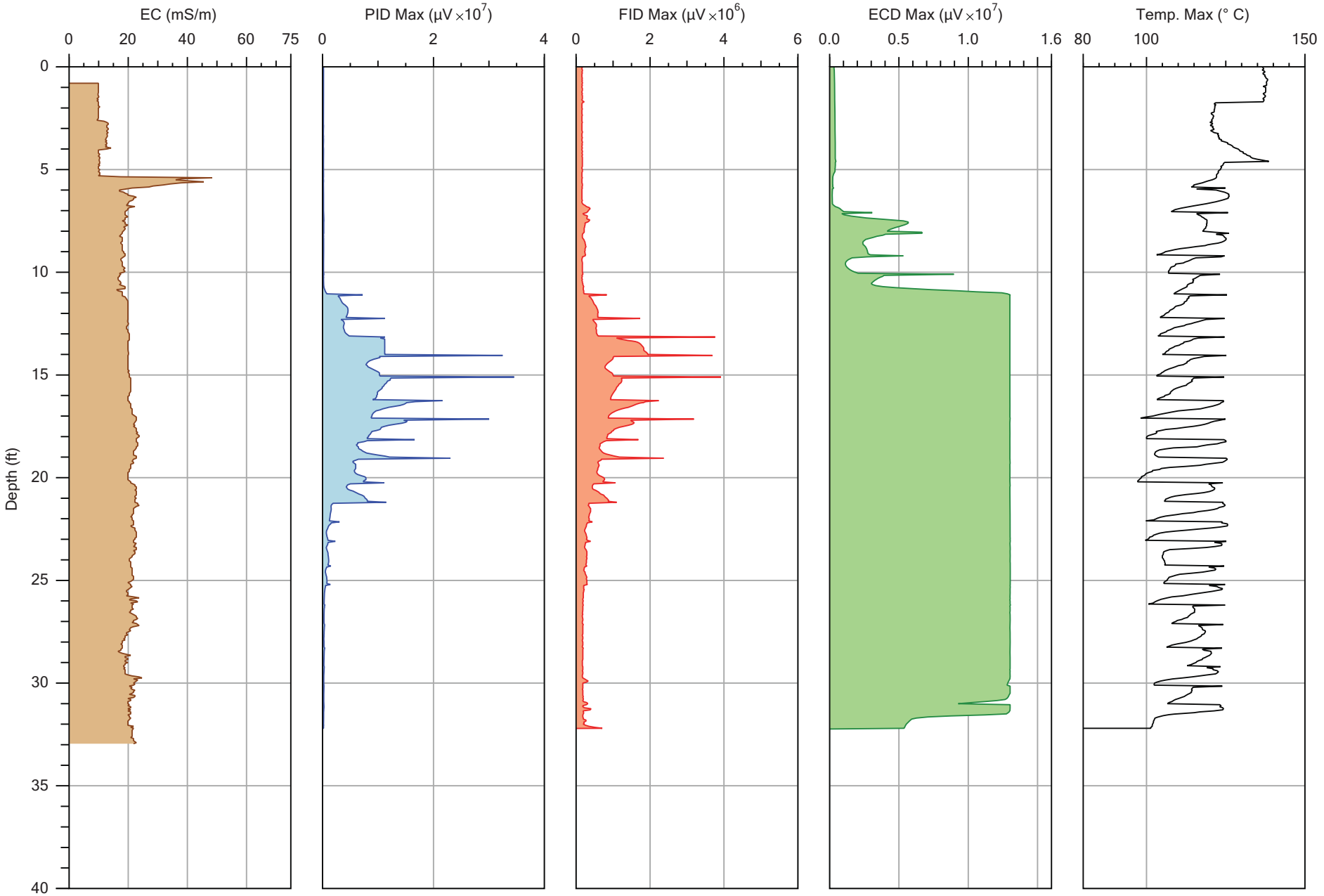


Figure 15 Transect View Looking East, FID Response >1.0E+06µV and 5.0E+06µV
July 15th, 2013 – July 19th, 2013

APPENDIX A

MIP Logs, Individual Scale



COLUMBIA TECHNOLOGIES

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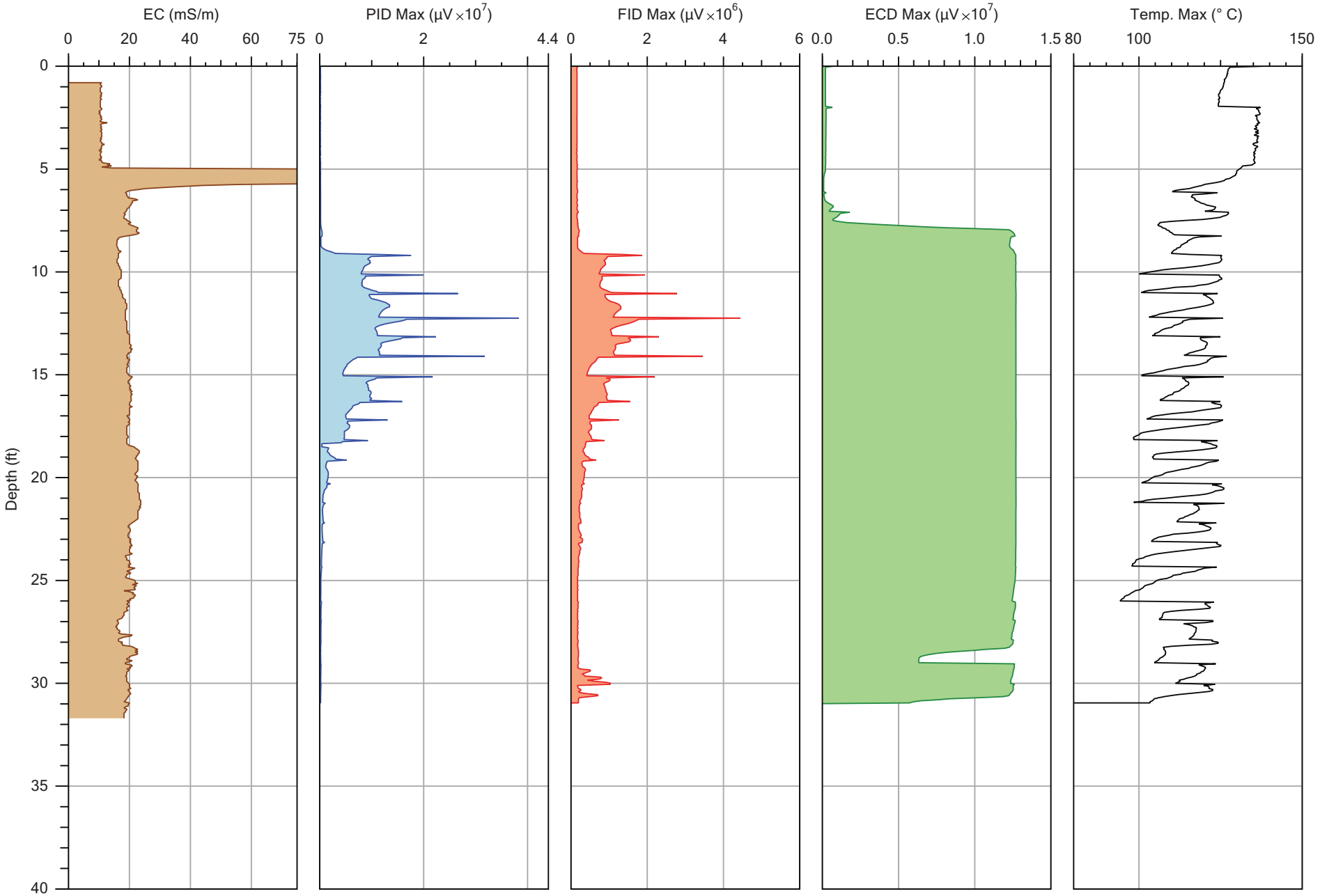

COLUMBIA TECHNOLOGIES

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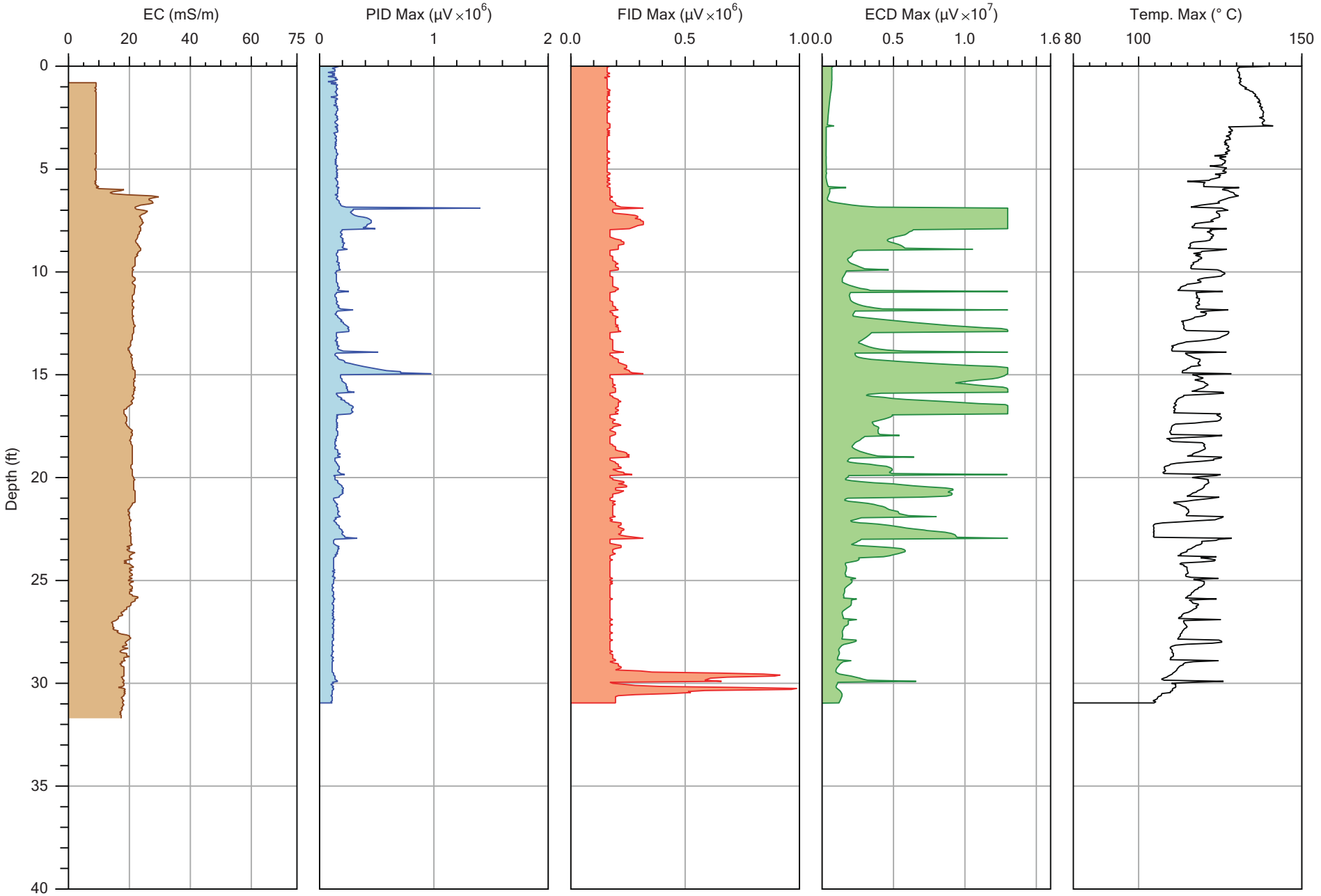
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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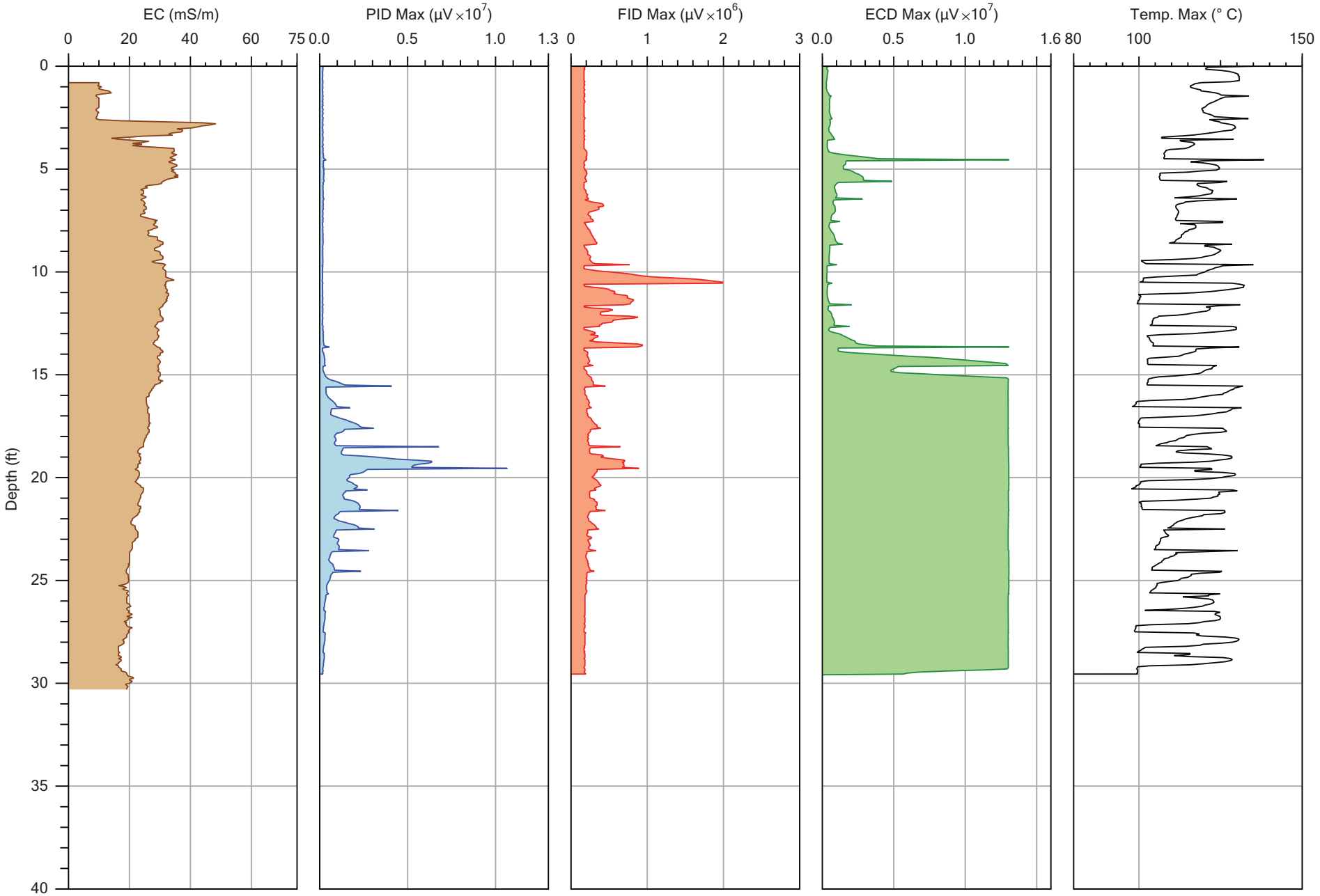

COLUMBIA TECHNOLOGIES

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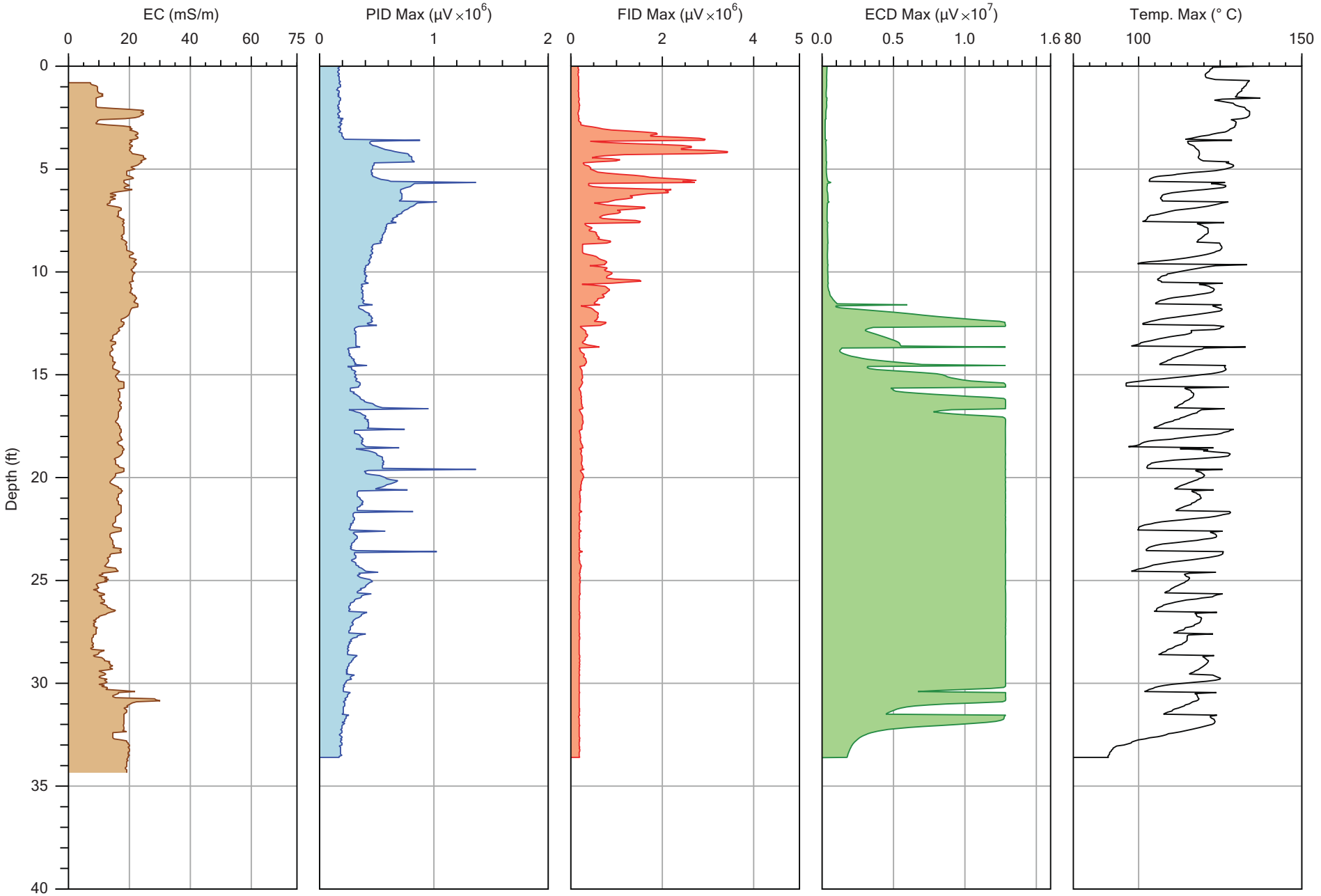

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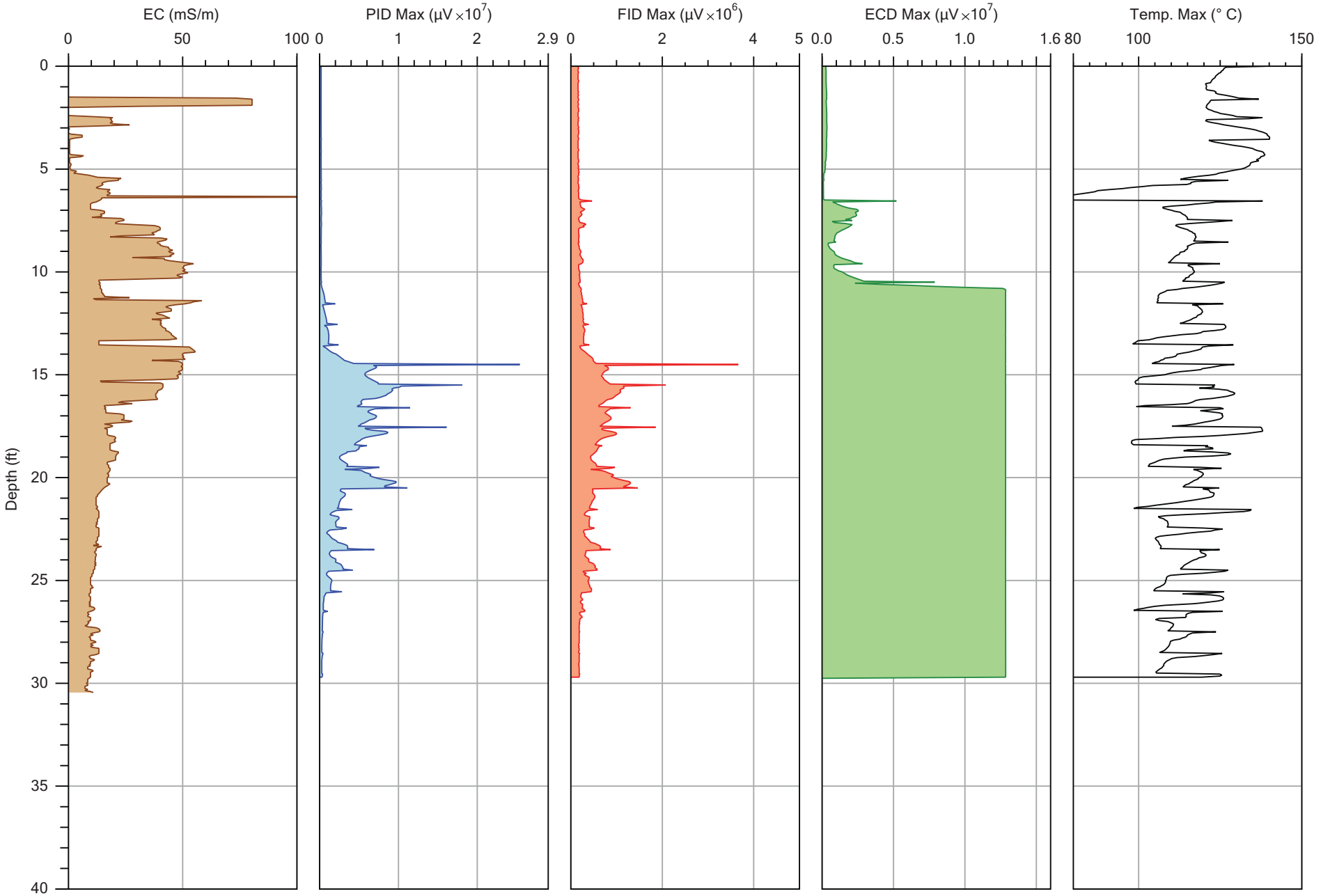

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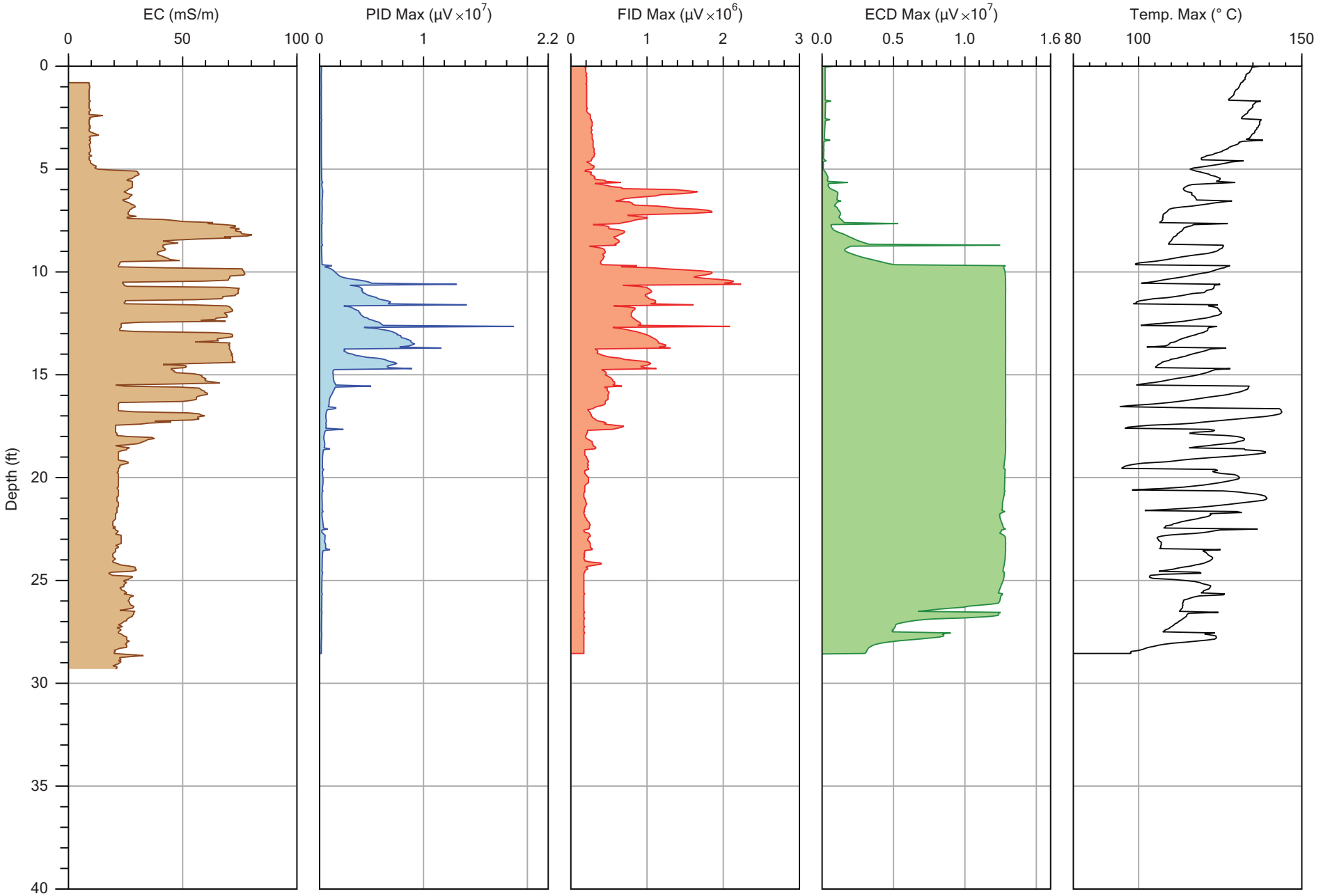

COLUMBIA TECHNOLOGIES

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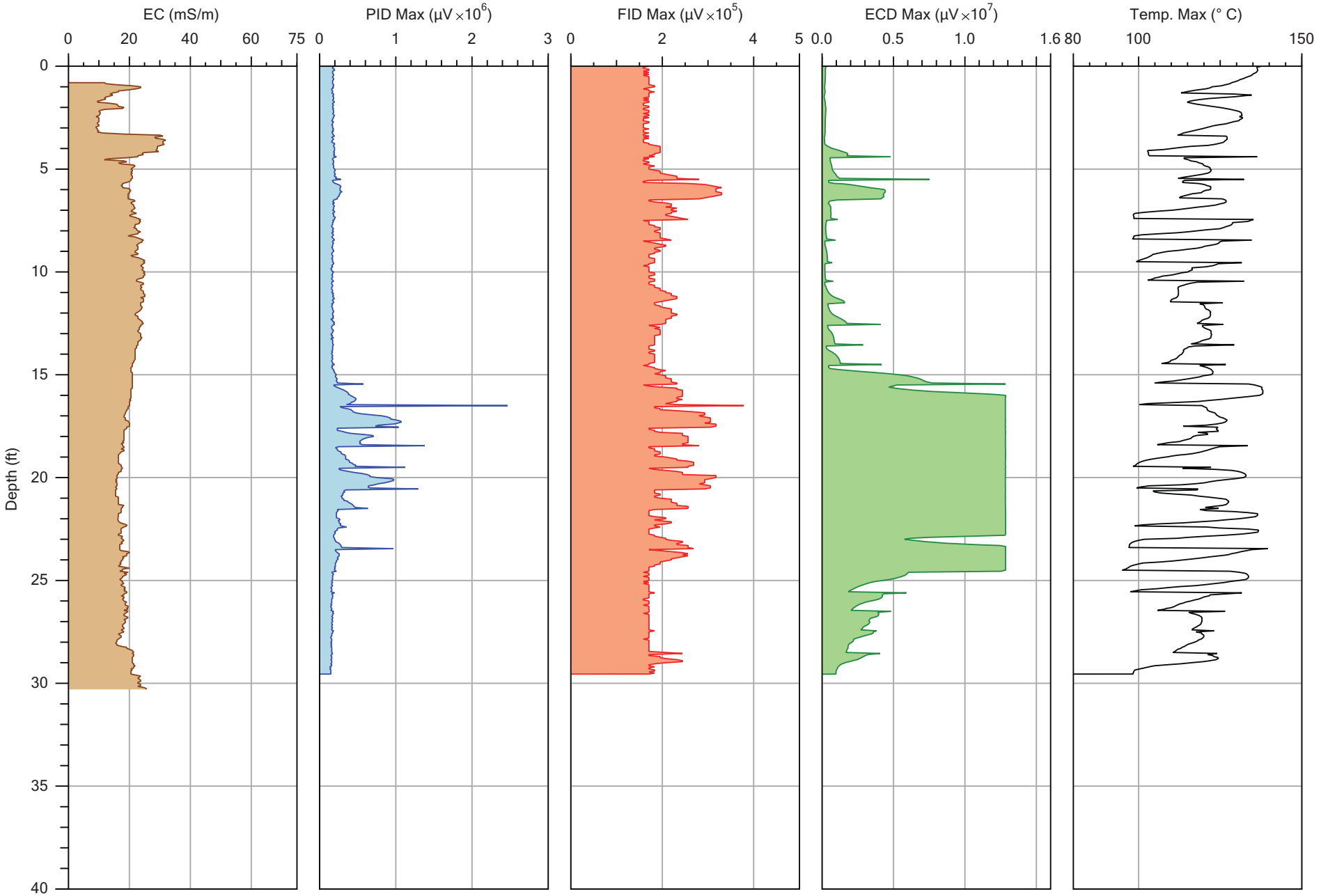

COLUMBIA TECHNOLOGIES

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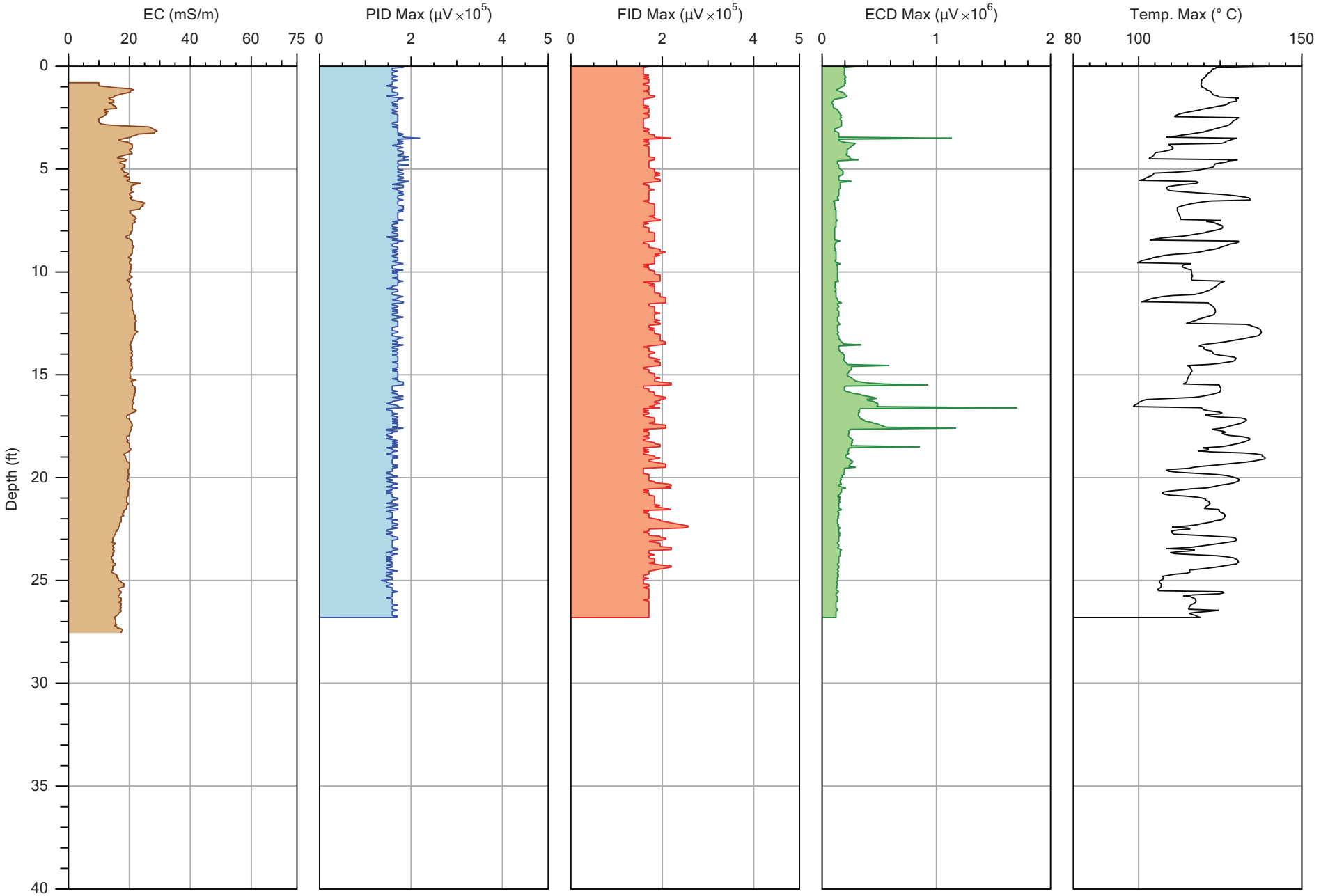
		Location:



COLUMBIA TECHNOLOGIES

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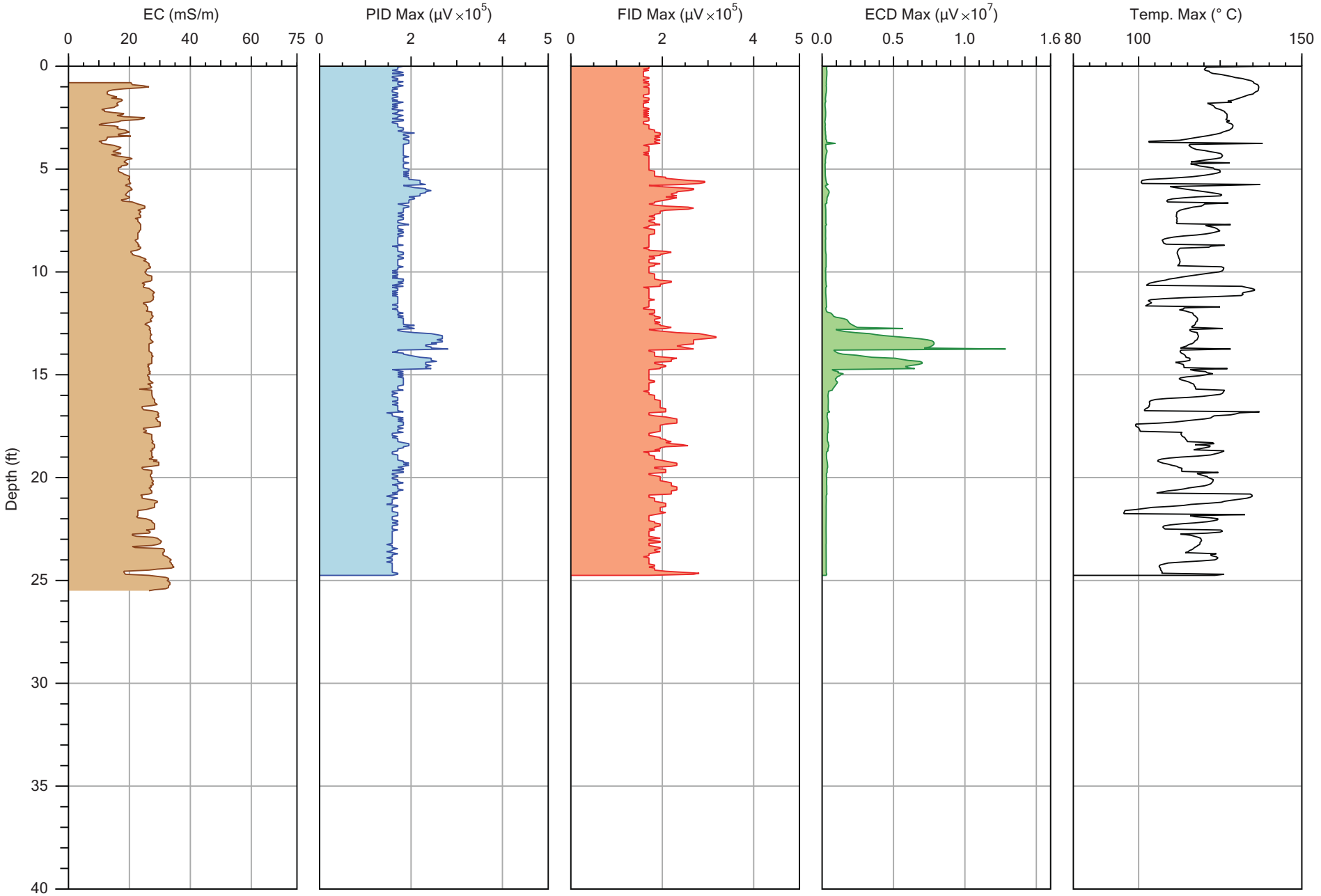
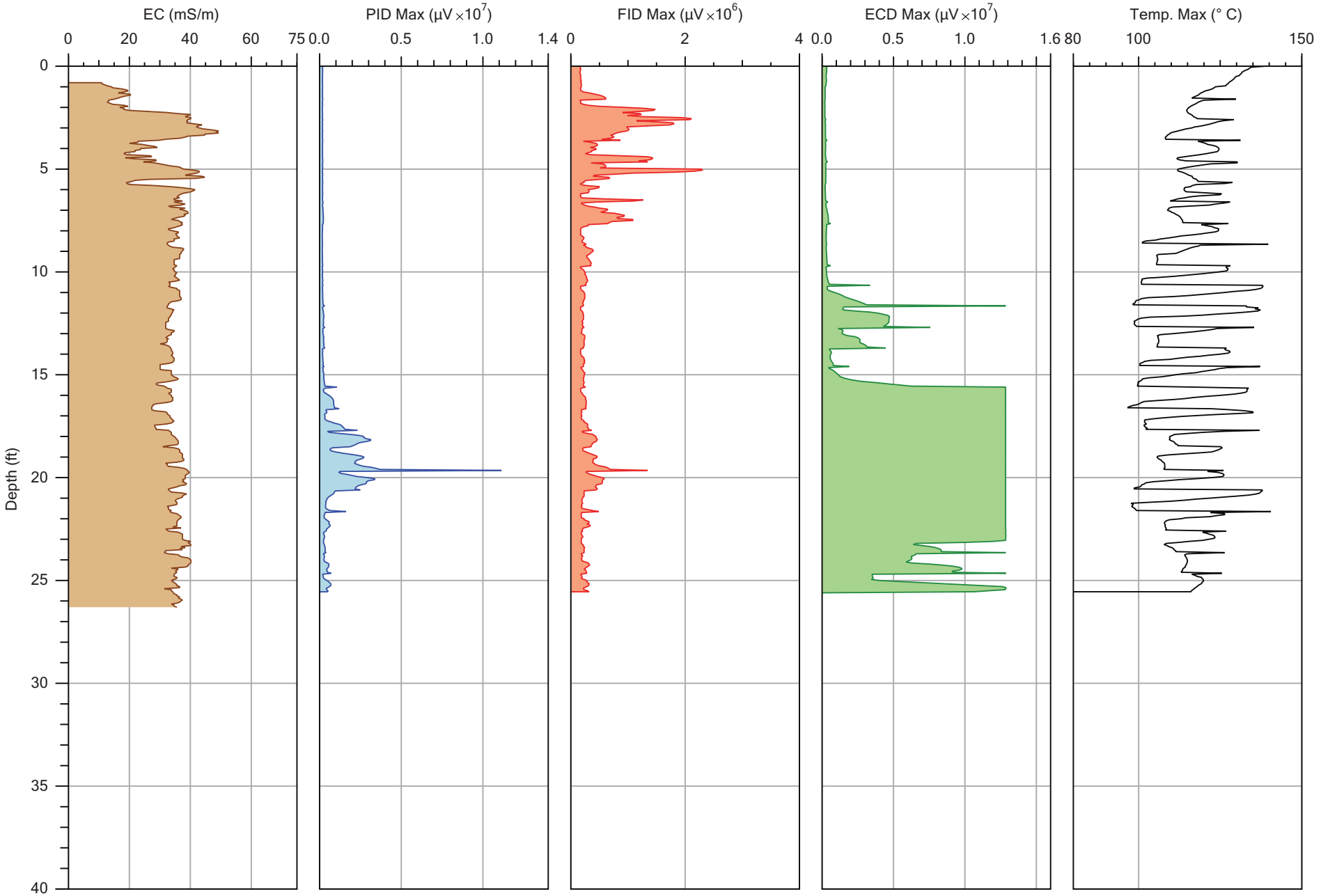


COLUMBIA TECHNOLOGIES

Company: COLUMBIA Technologies	Operator: RJT	File: MIP10.DAT
		Date: 7/18/2013
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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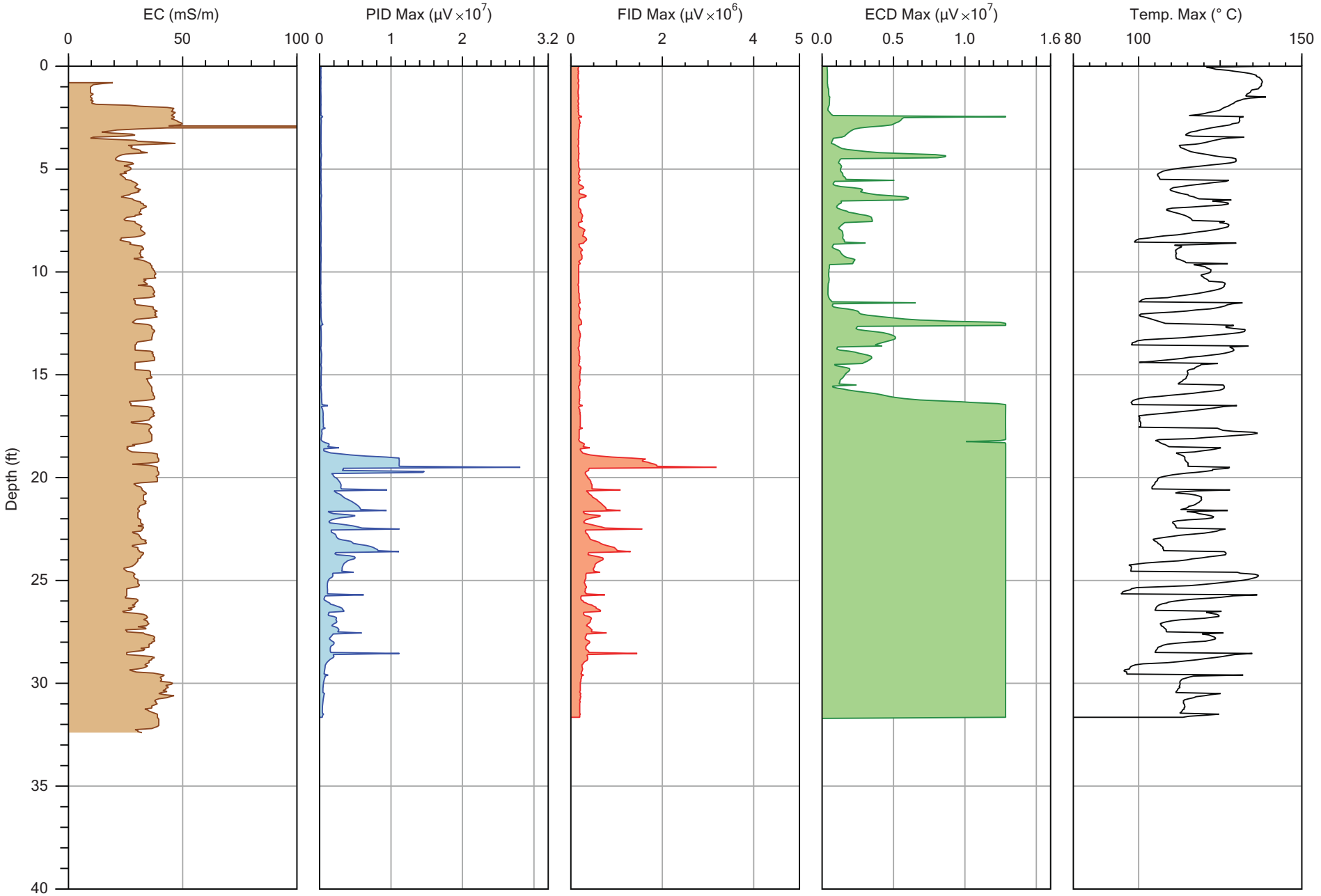
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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Project ID: Owego Heat Treat	Client: Aztech Technologies	Date: 7/18/2013
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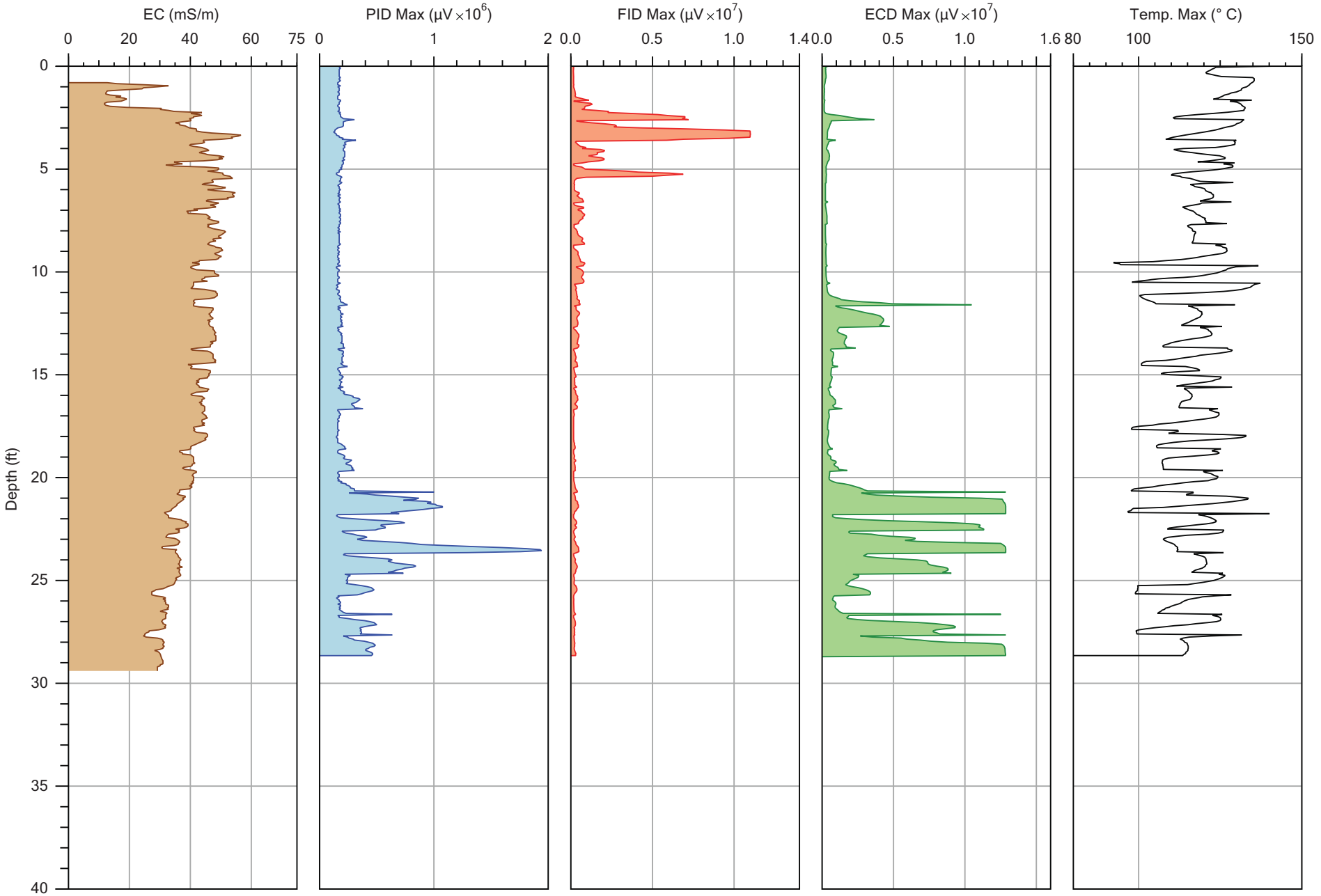

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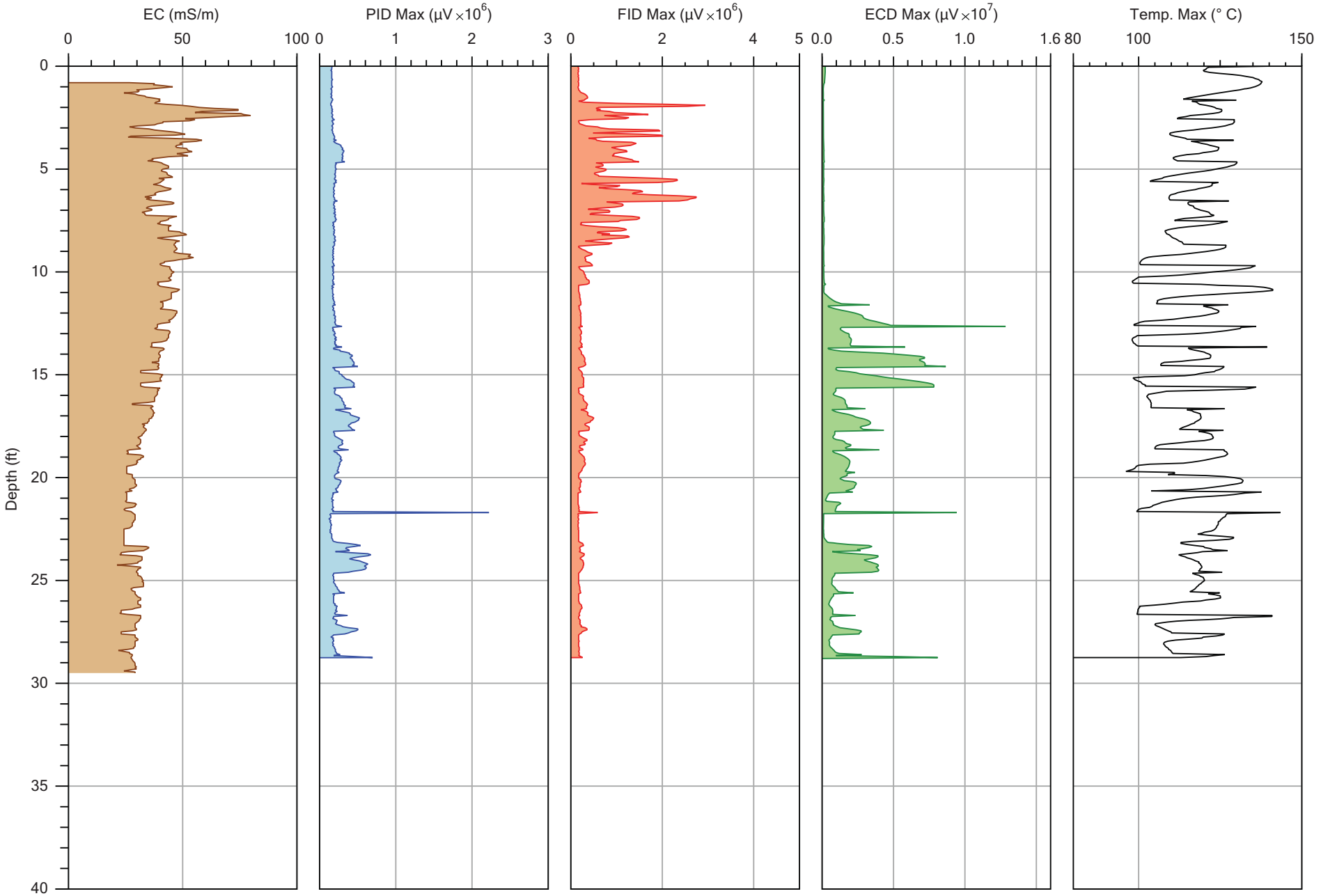

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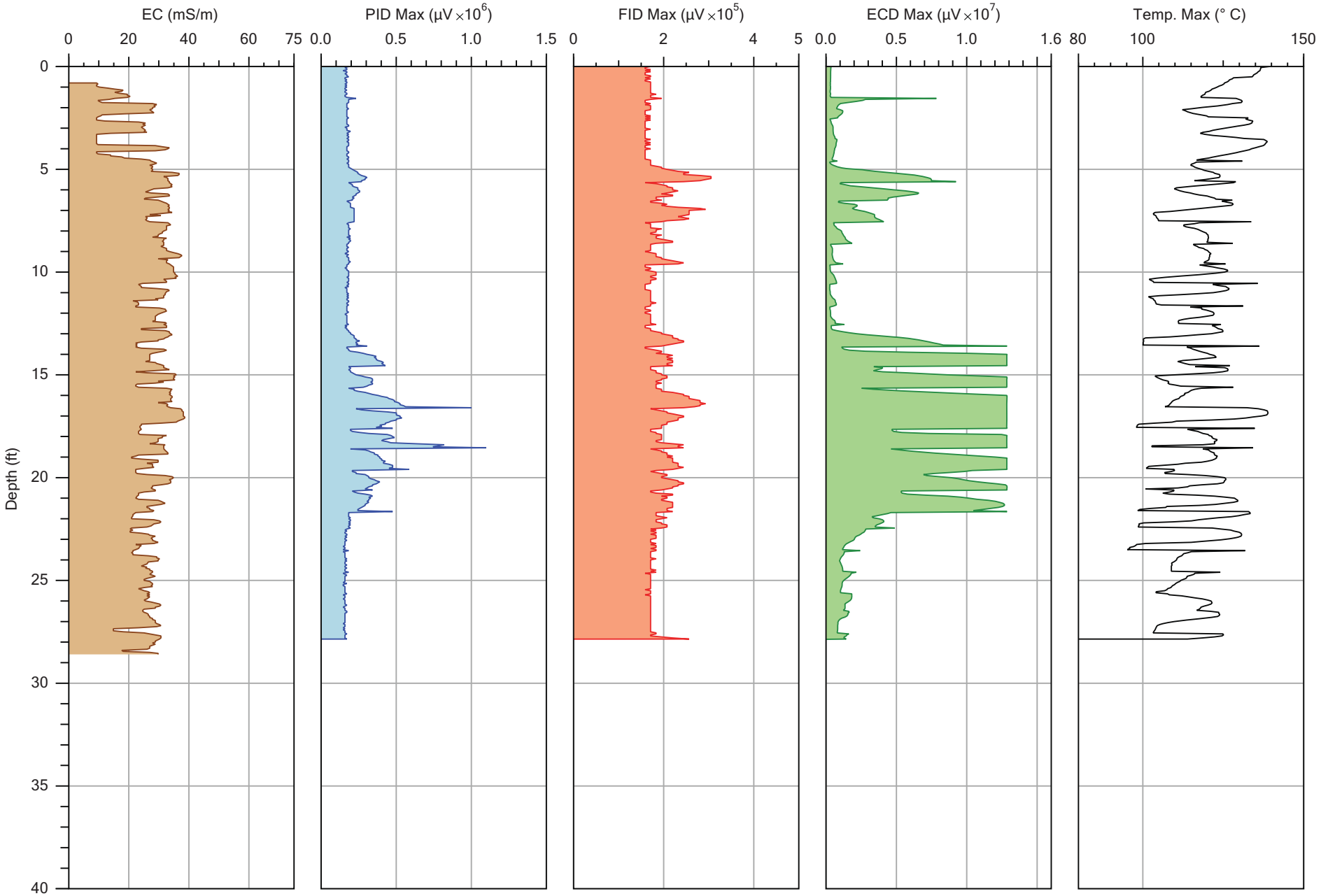
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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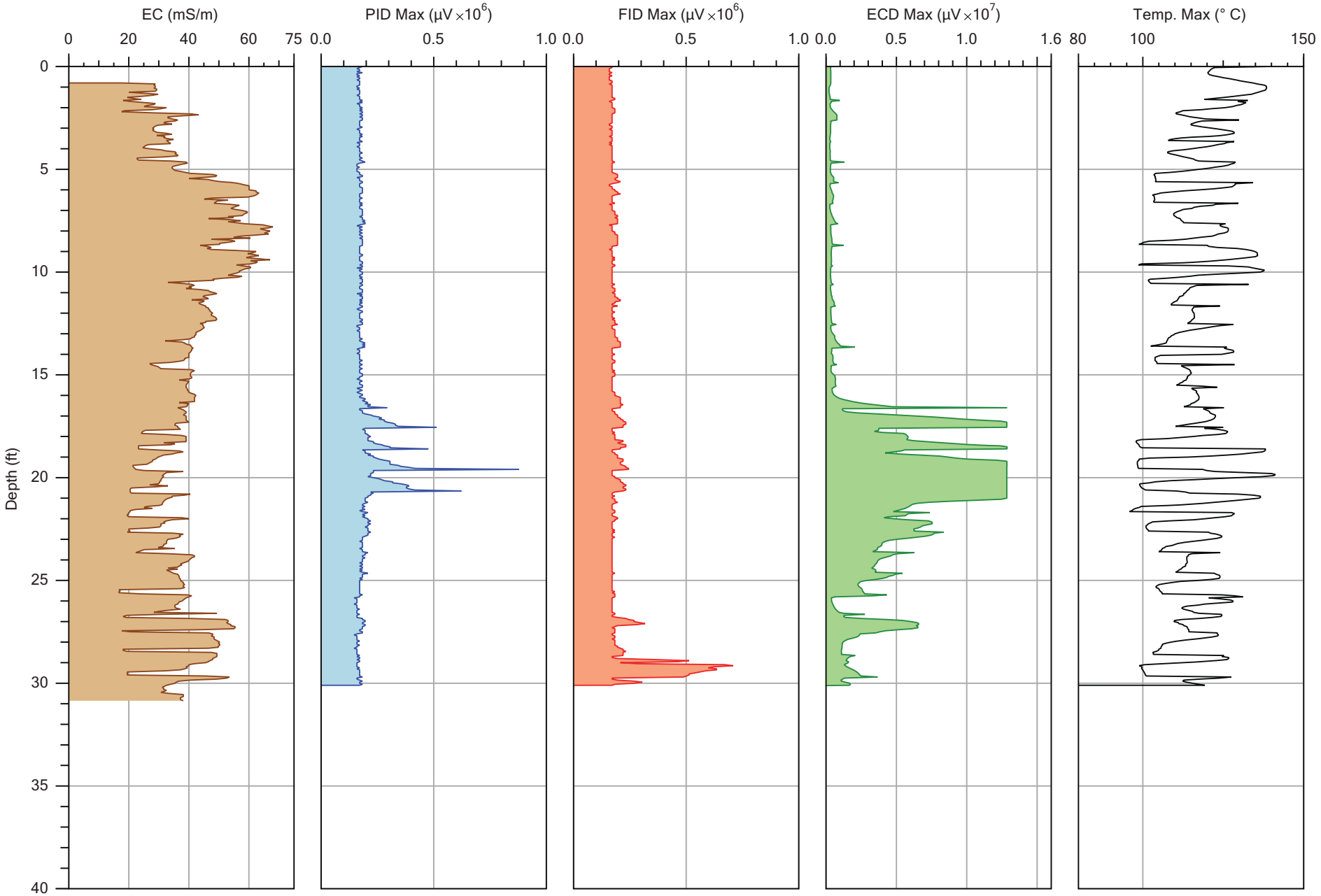
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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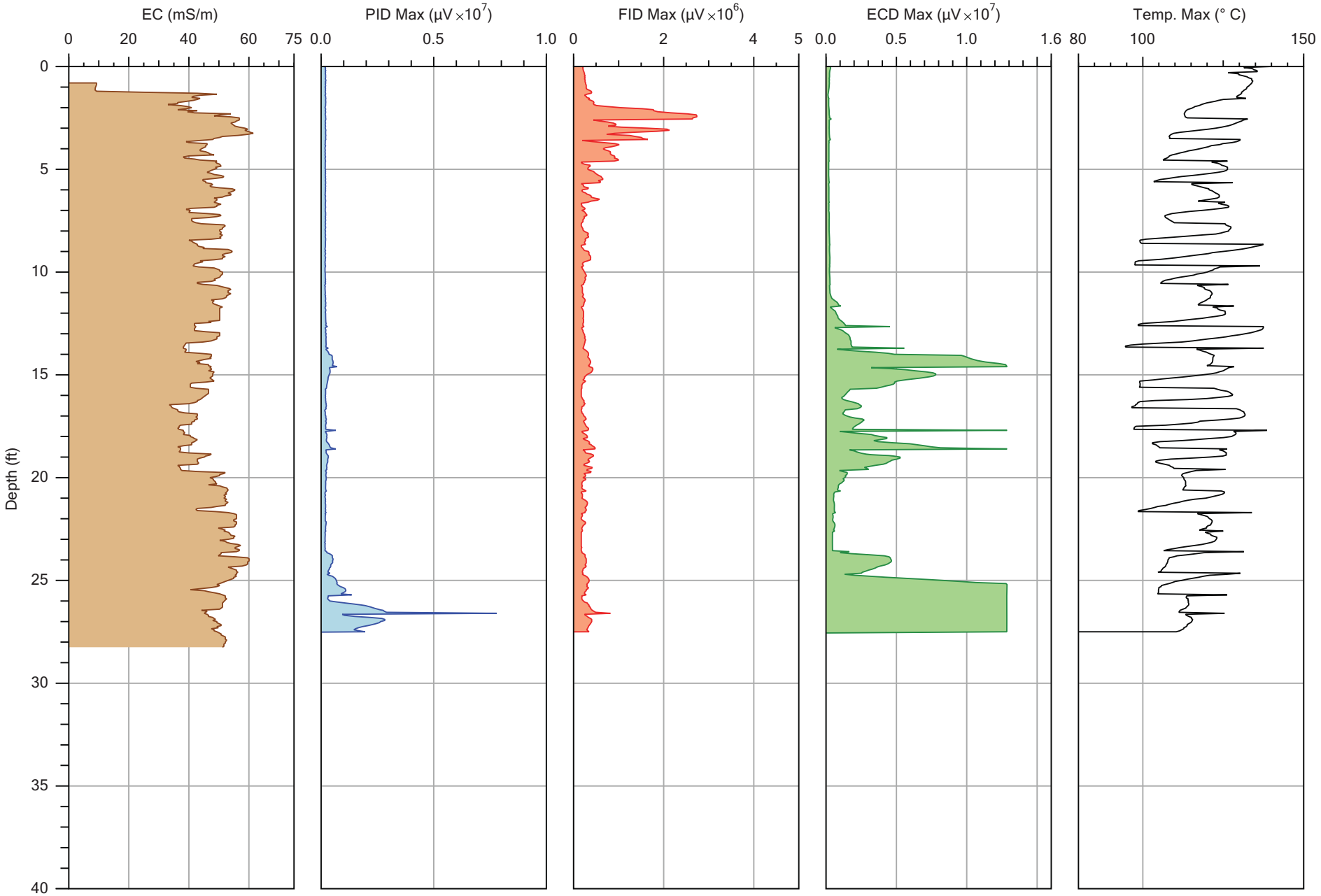
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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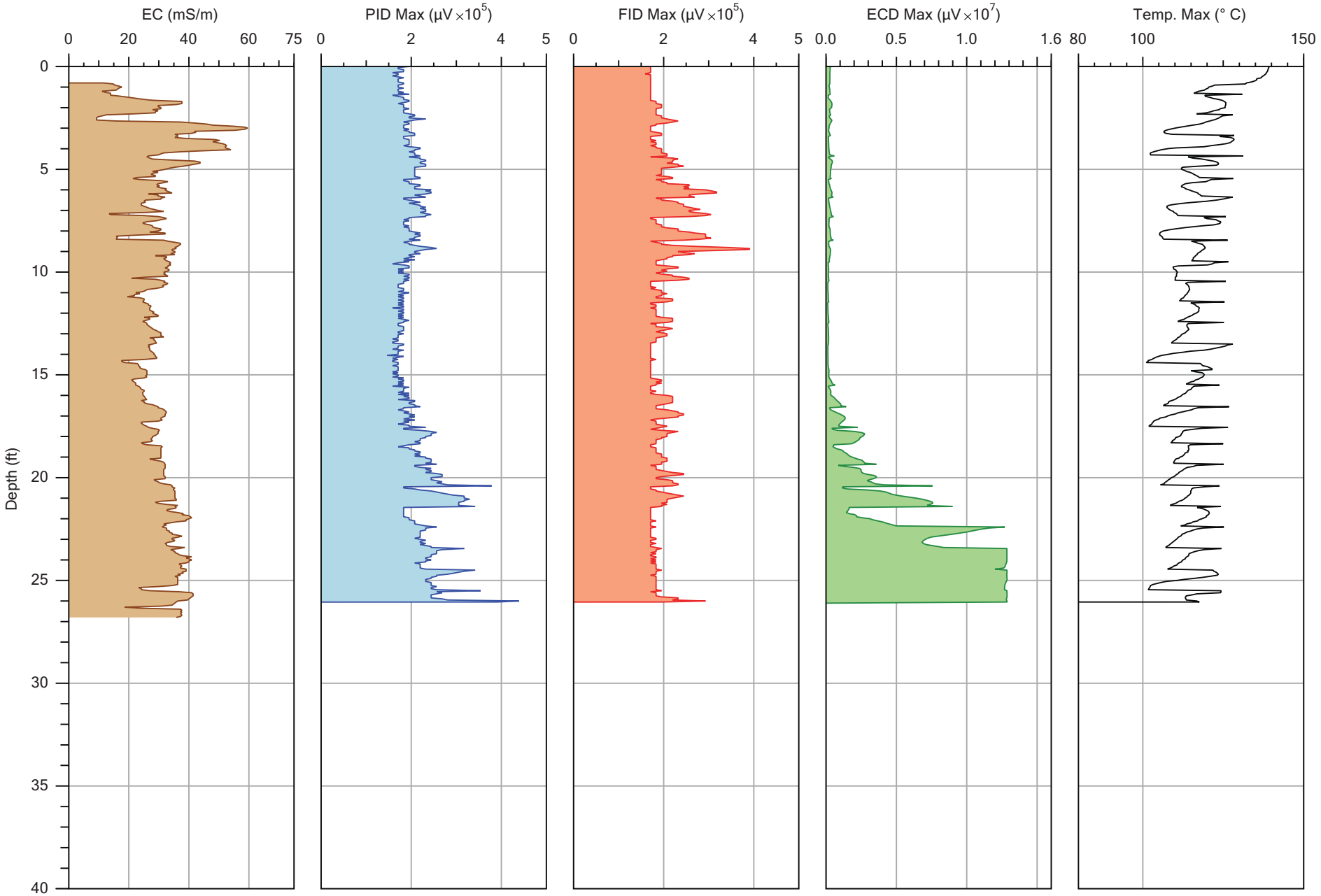
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:

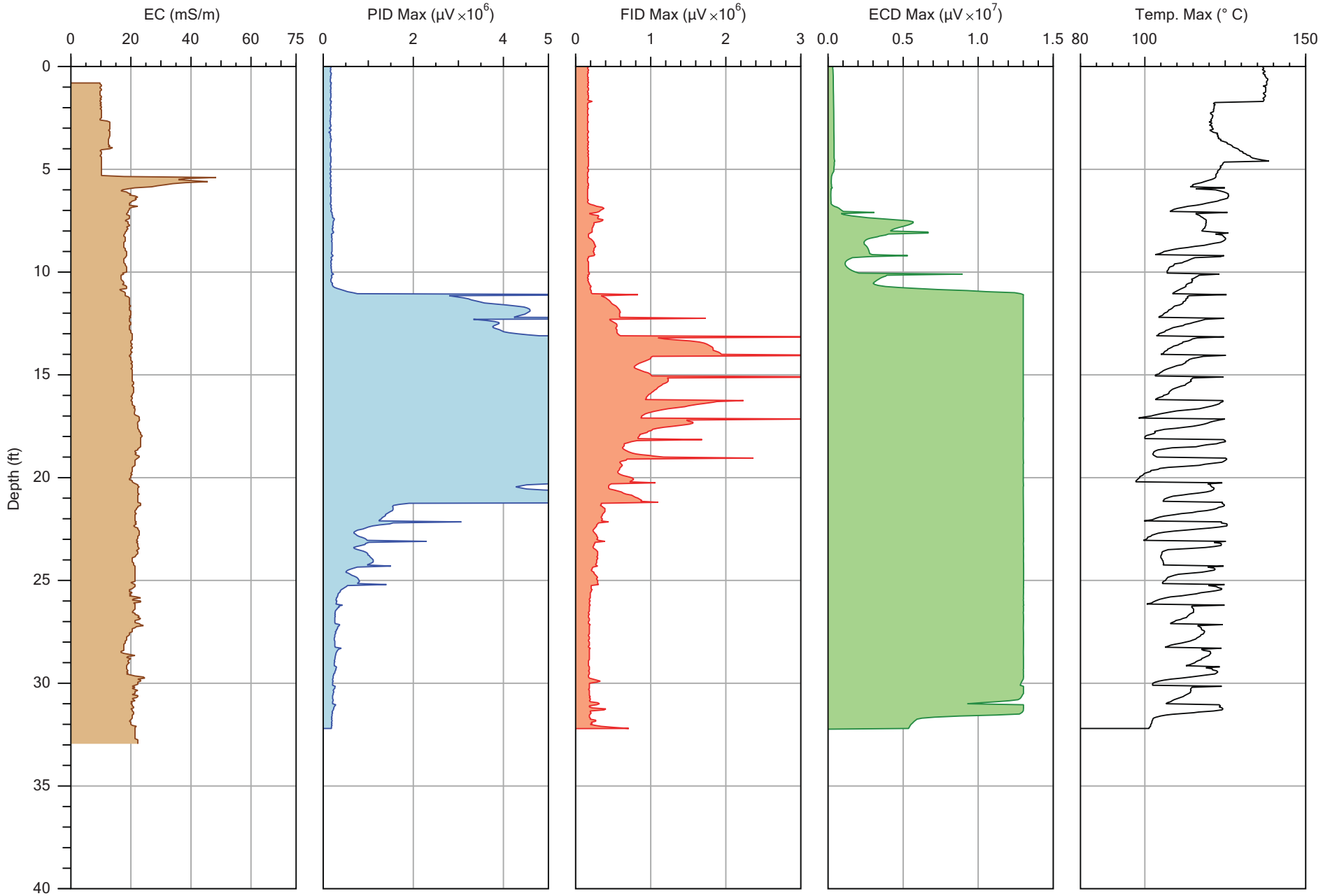


COLUMBIA TECHNOLOGIES

Company: COLUMBIA Technologies	Operator: RJT	File: MIP18.DAT
		Date: 7/19/2013
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:

APPENDIX B

MIP Logs, Standardized Scale



COLUMBIA TECHNOLOGIES

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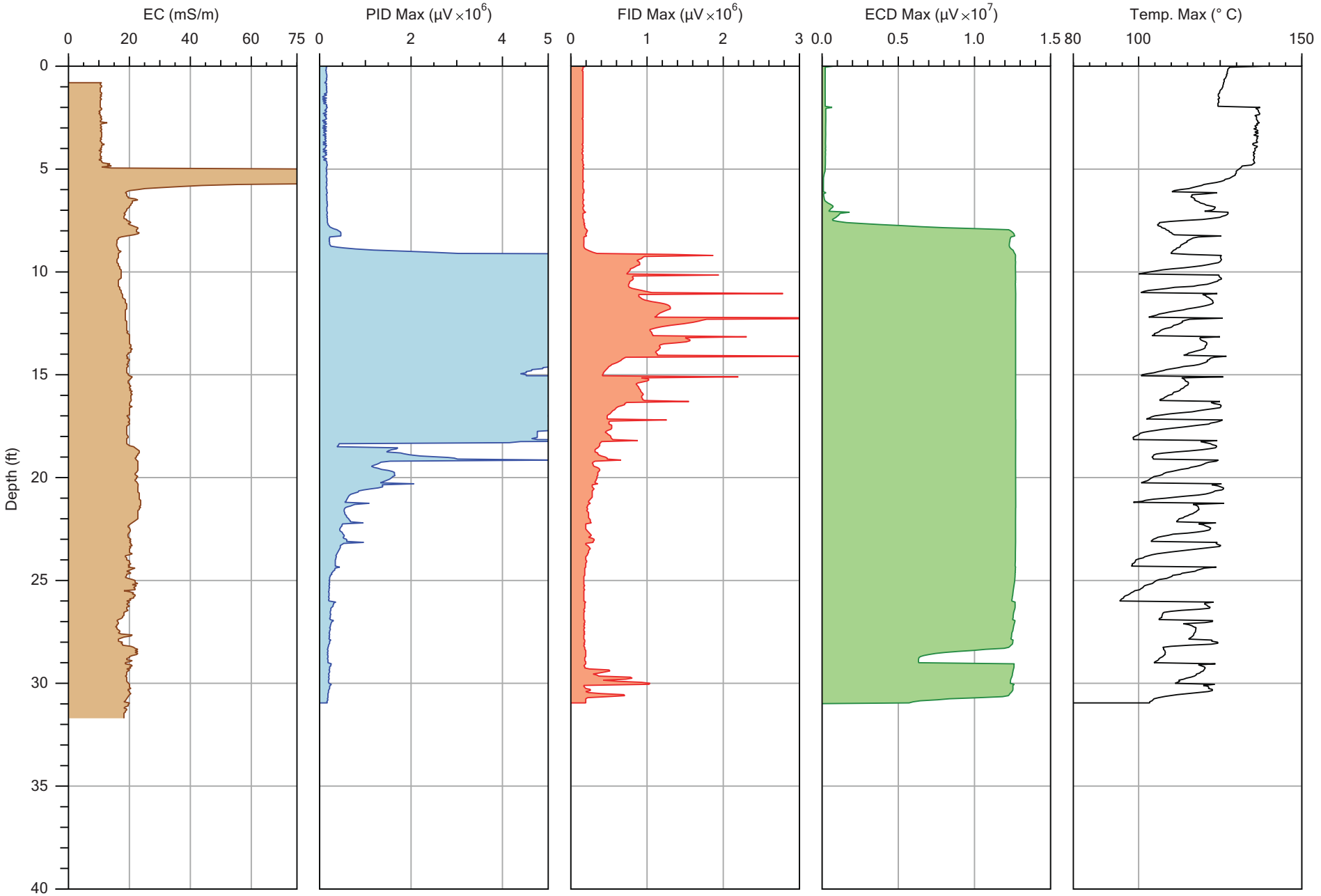

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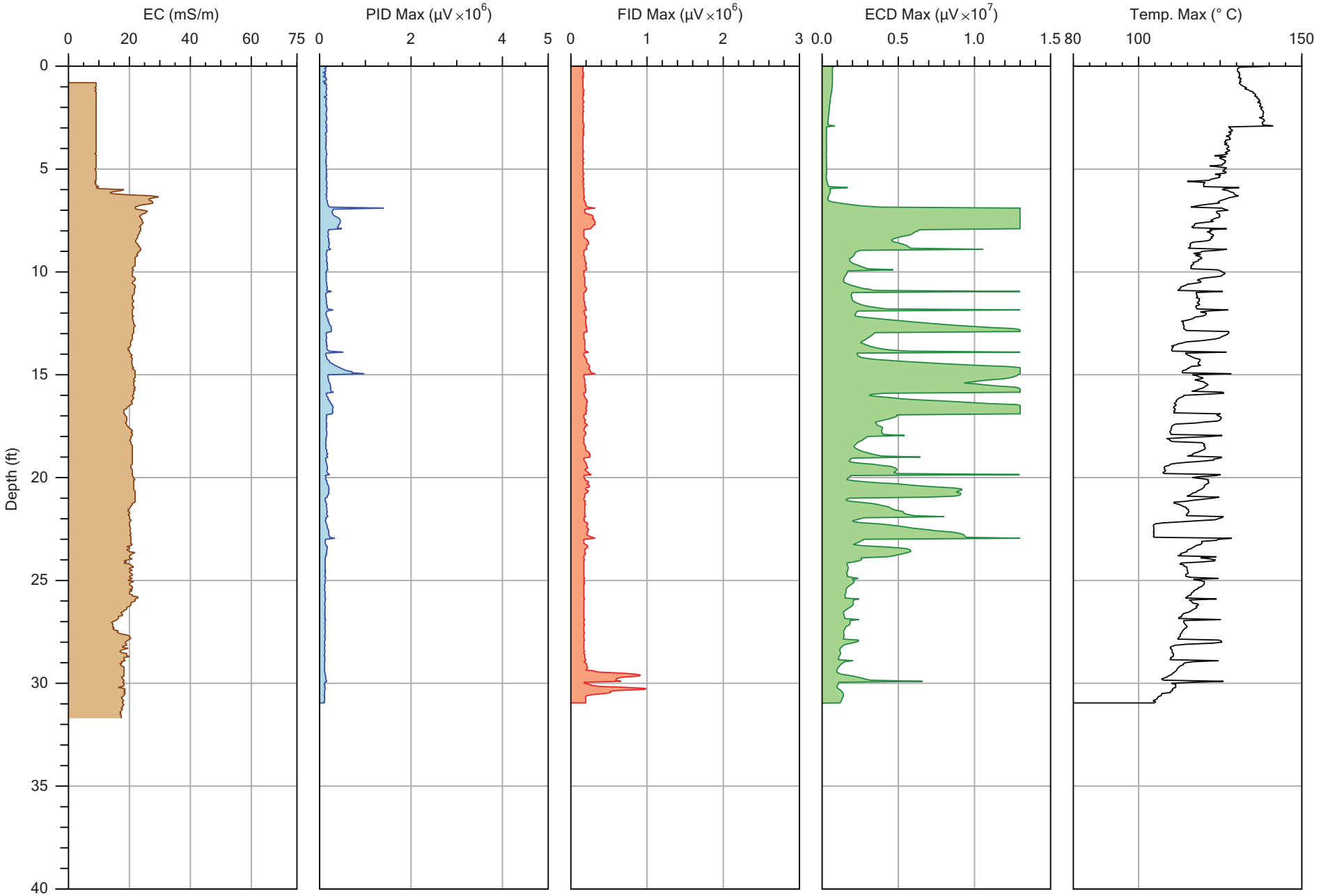

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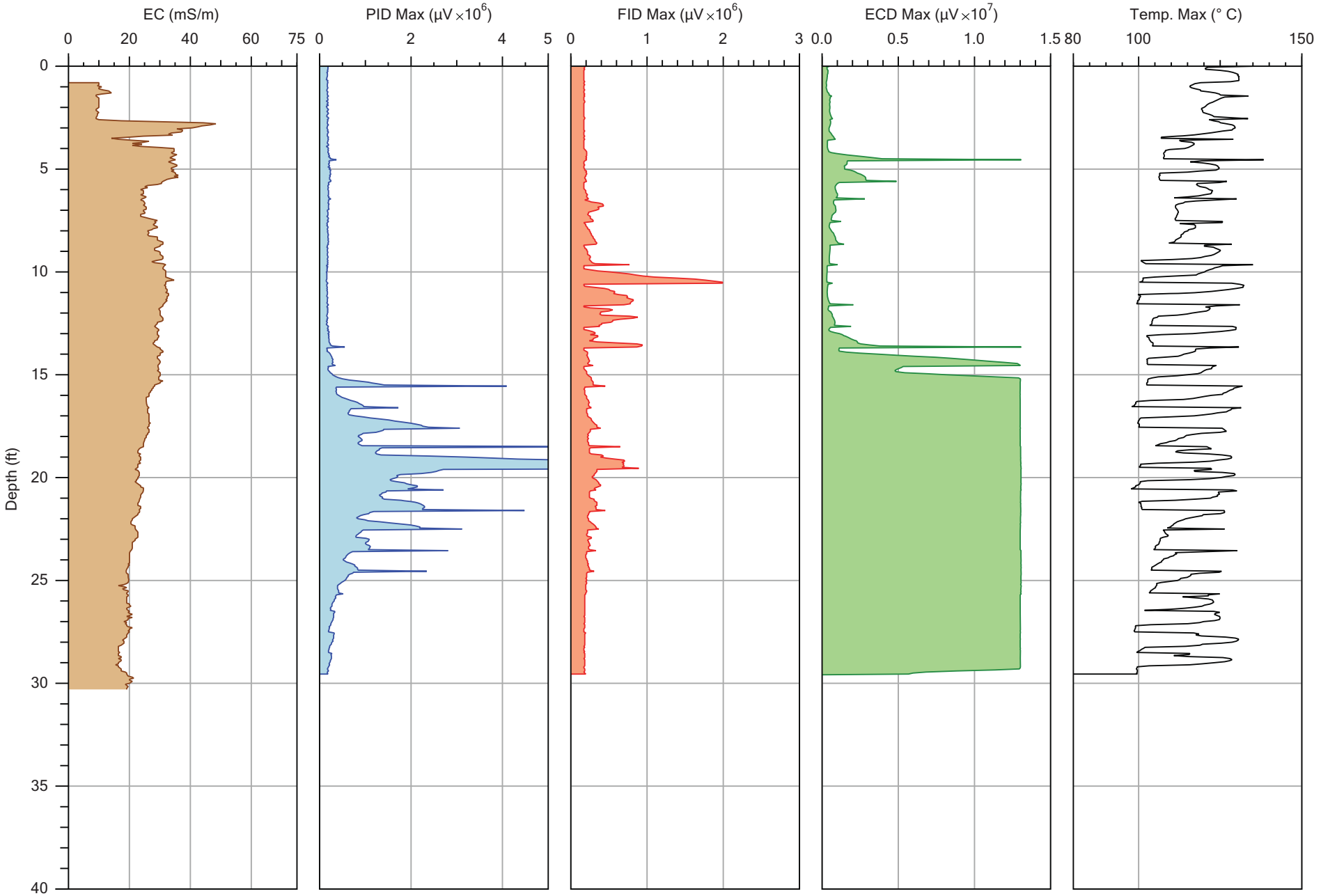

COLUMBIA TECHNOLOGIES

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Project ID: Owego Heat Treat	Client: Aztech Technologies	Date: 7/16/2013
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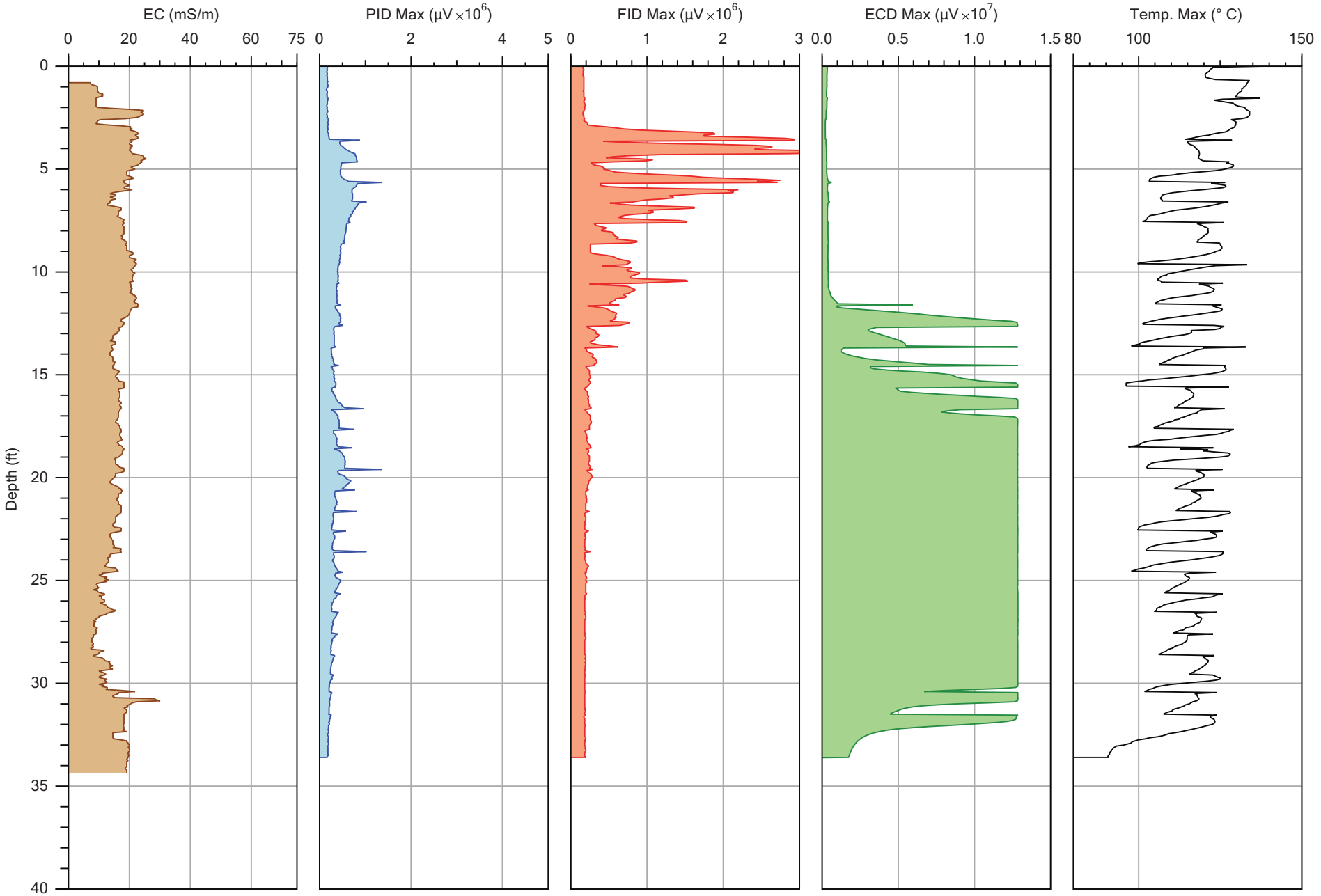

COLUMBIA TECHNOLOGIES

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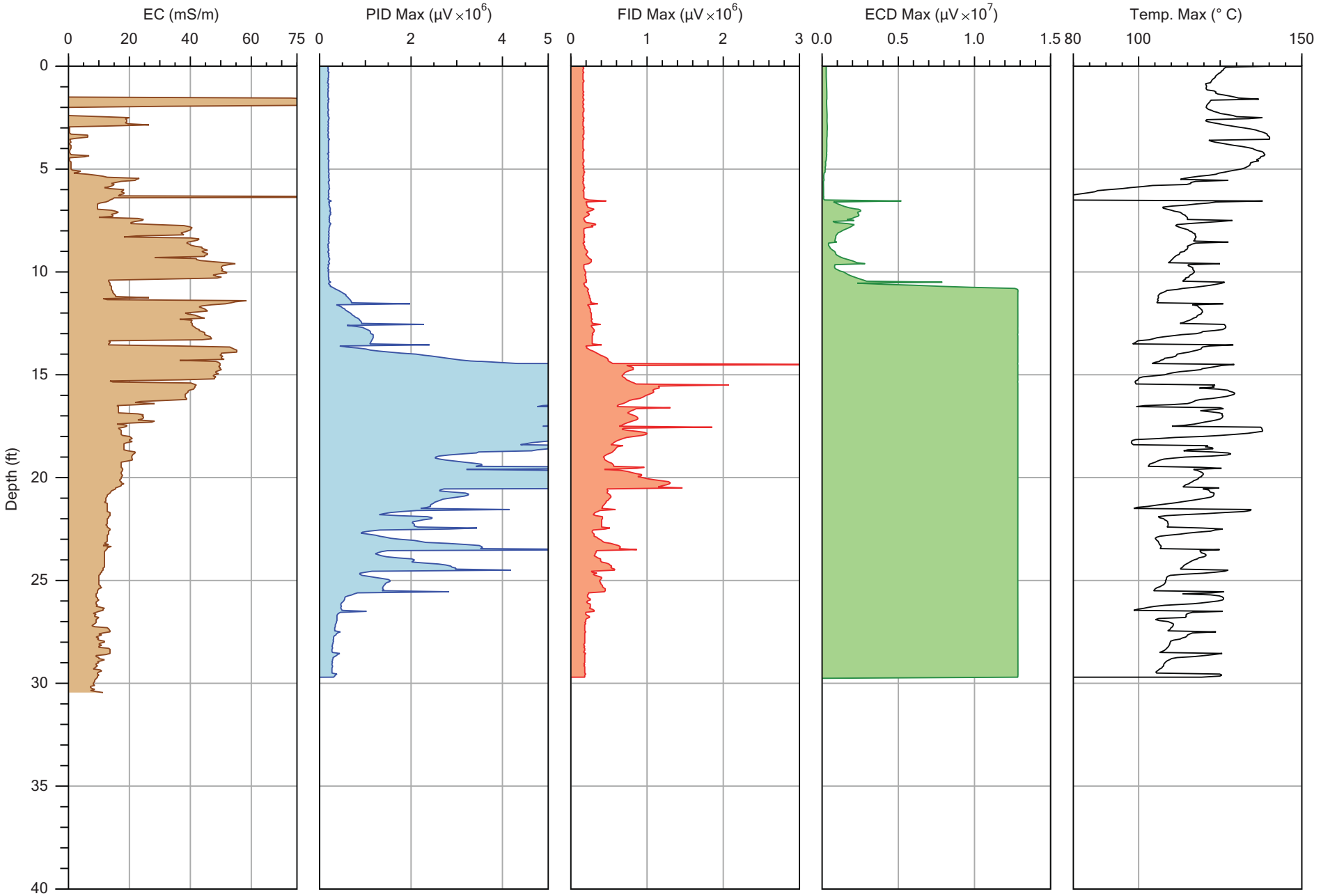

COLUMBIA TECHNOLOGIES

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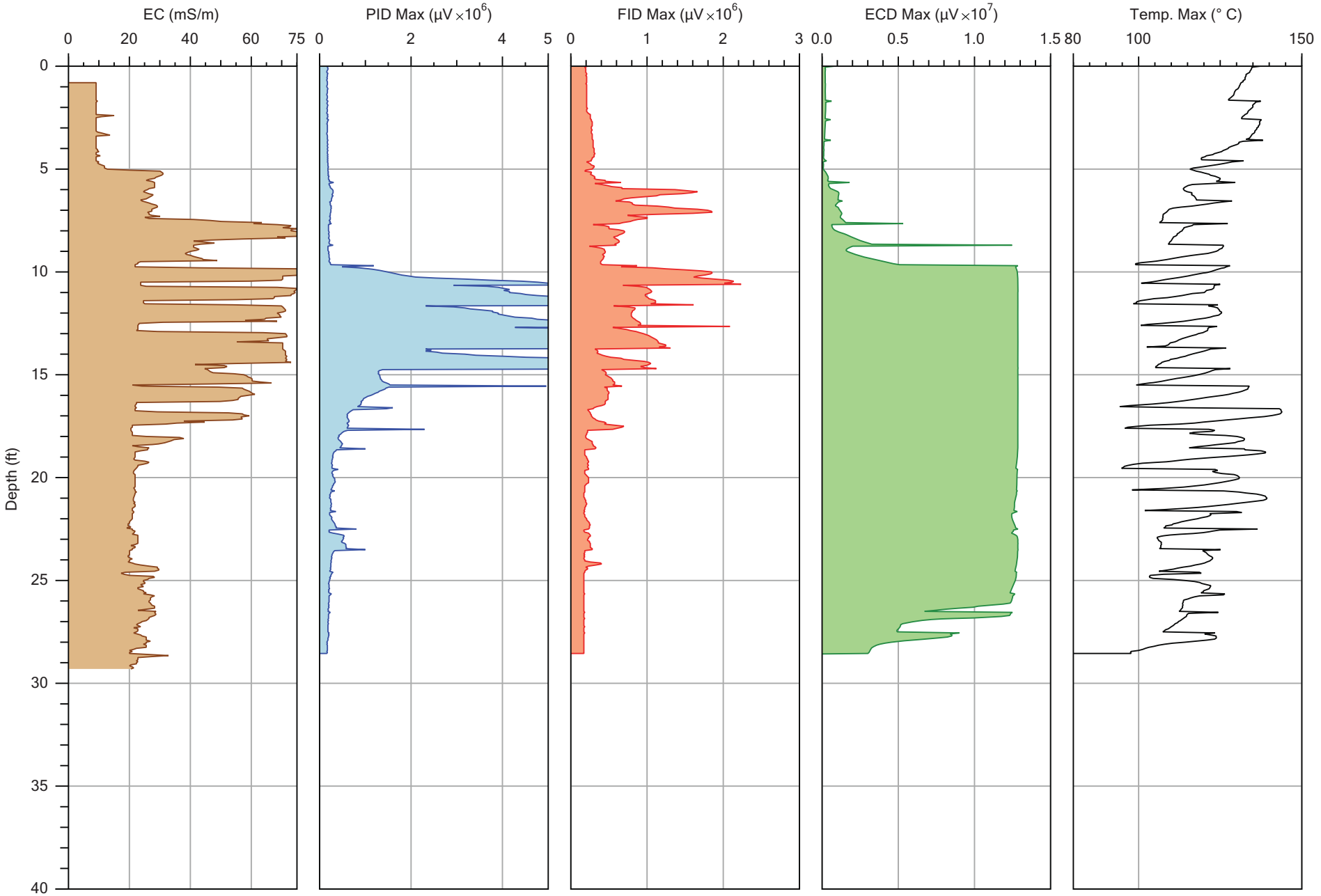

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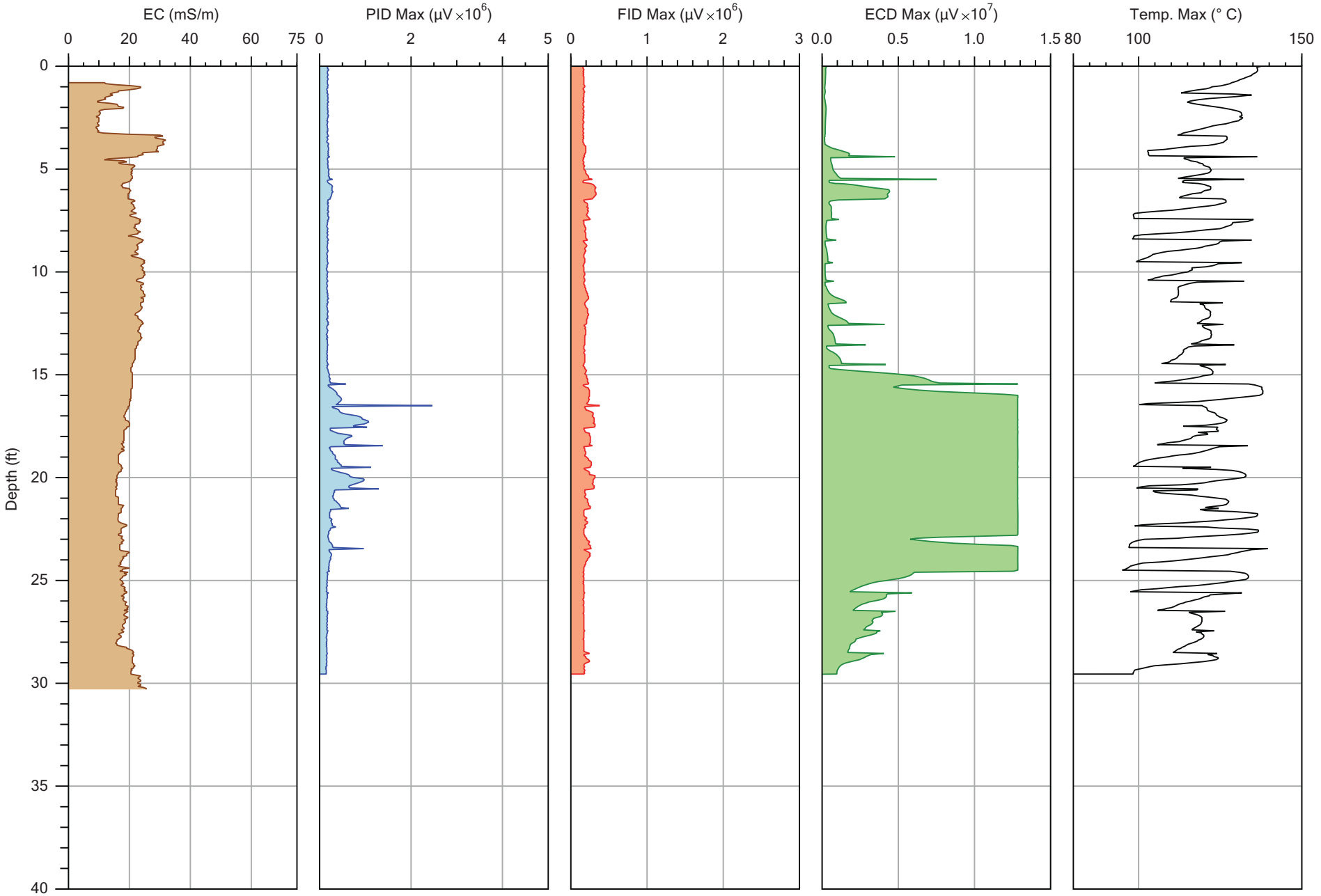

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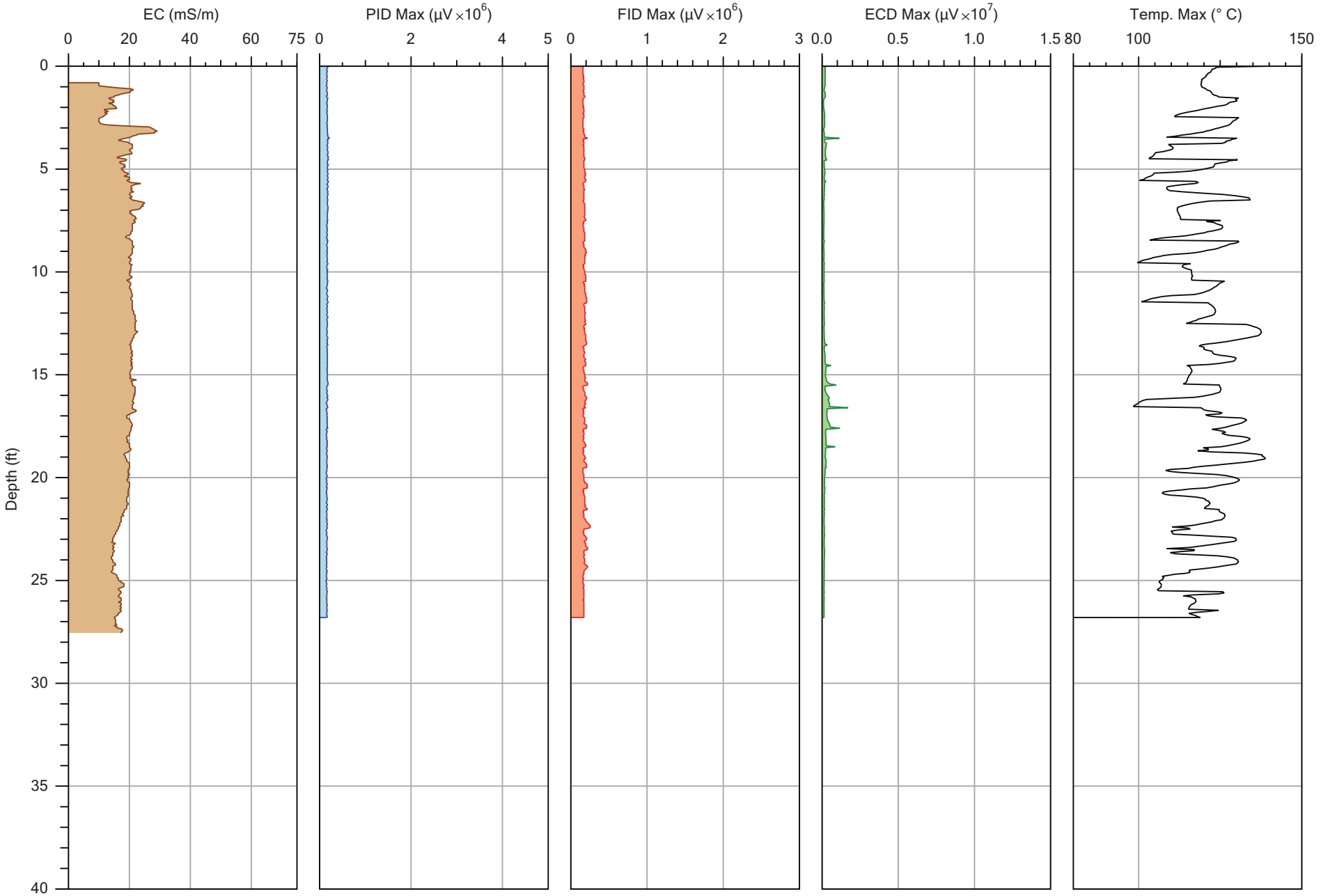

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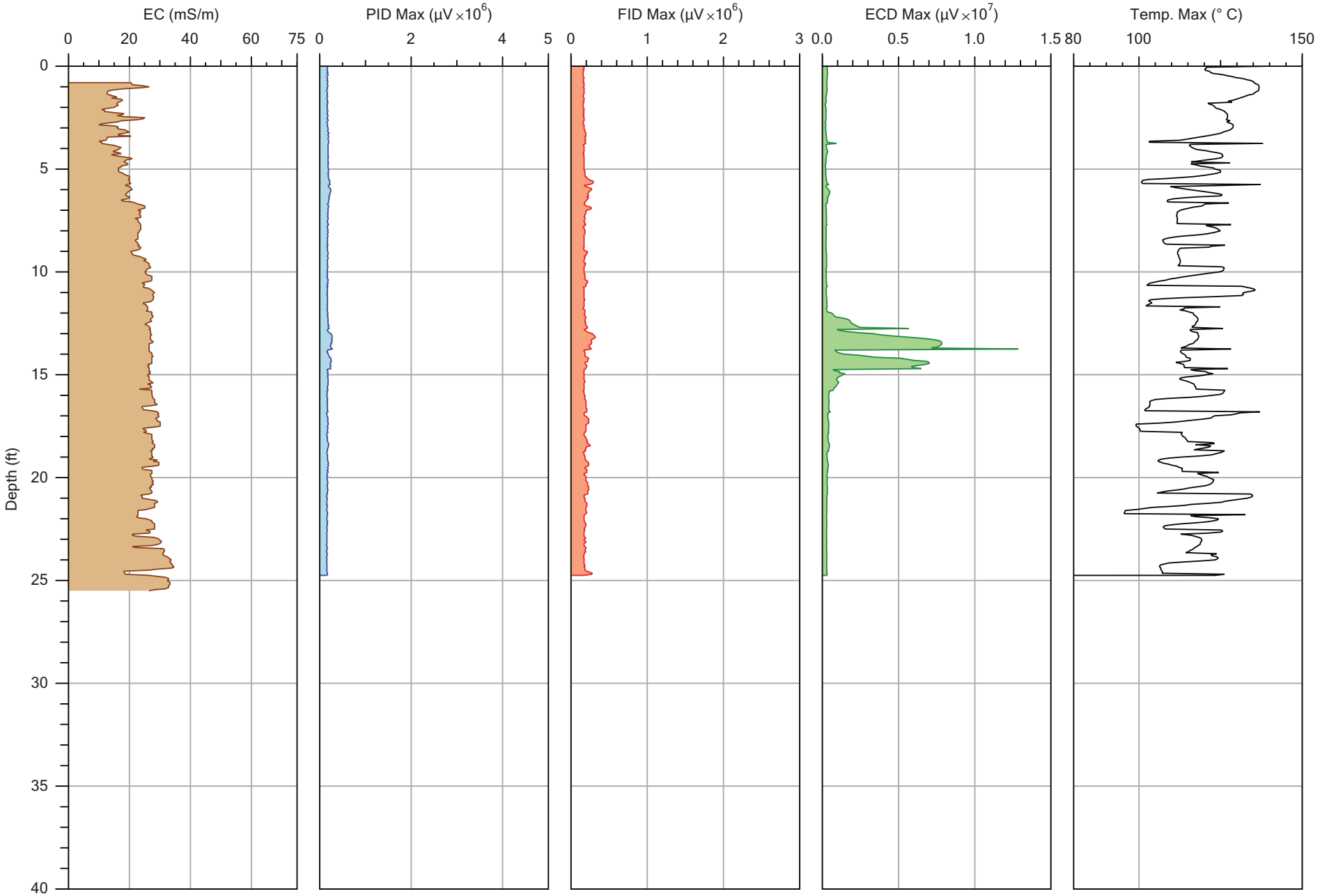

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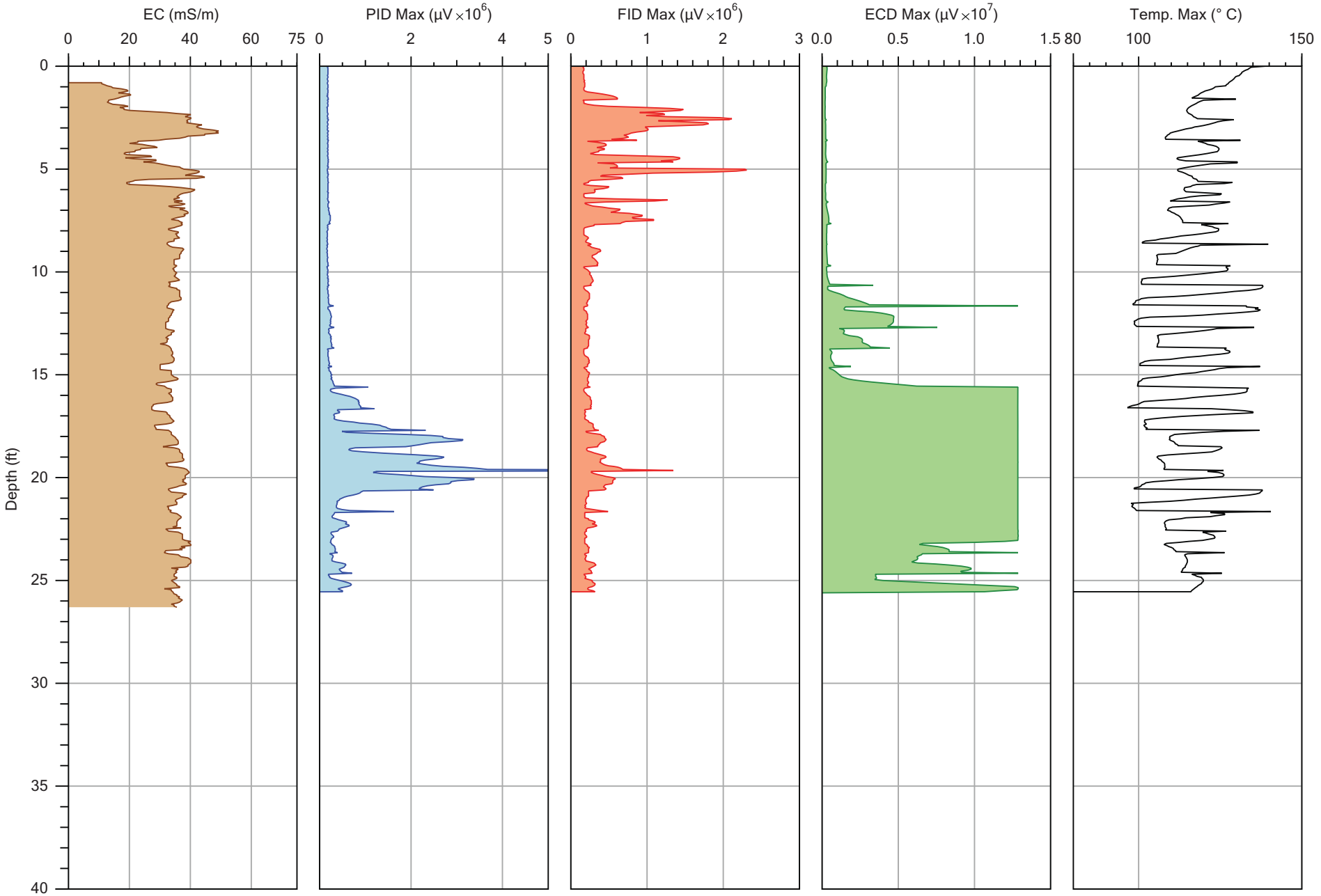
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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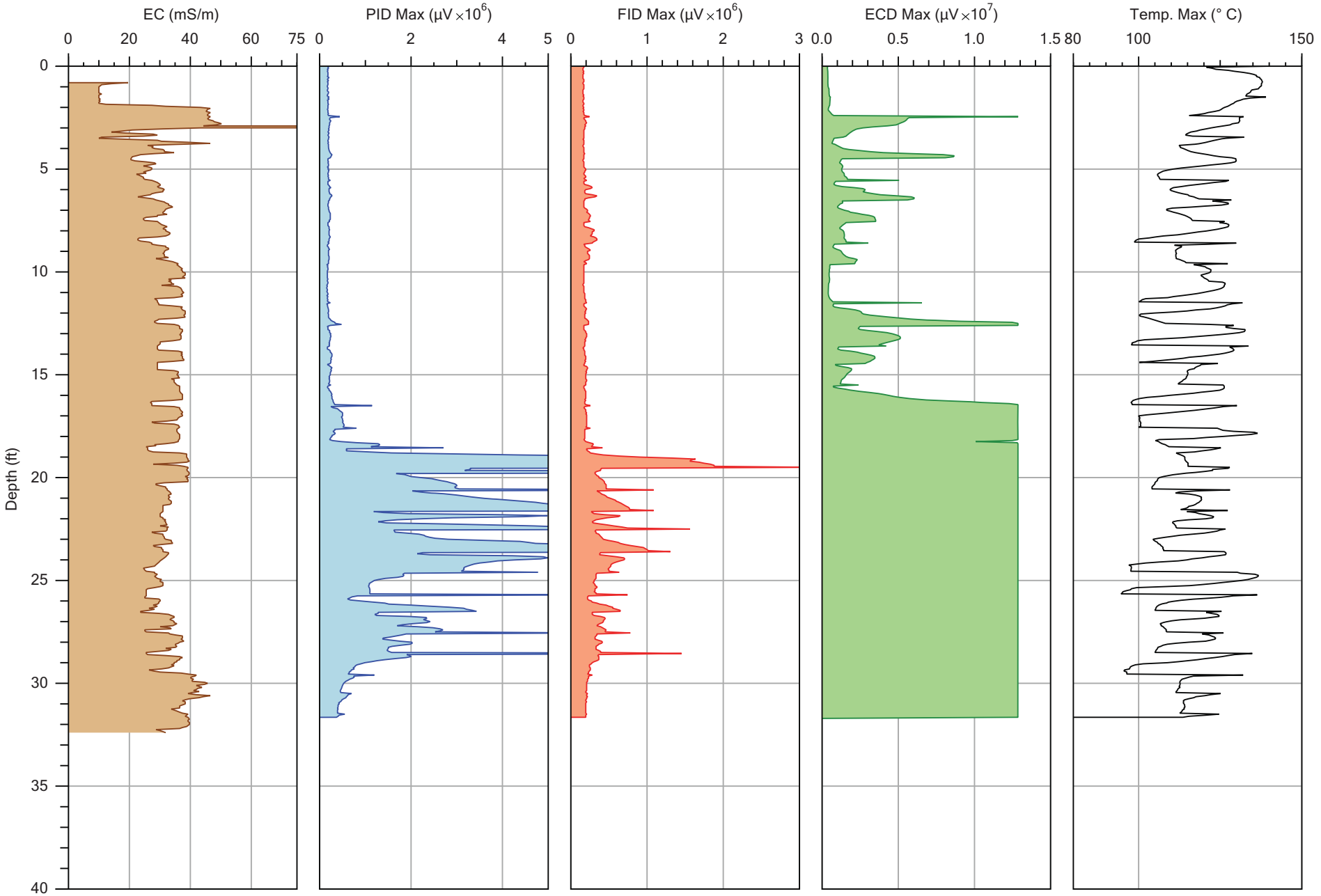
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

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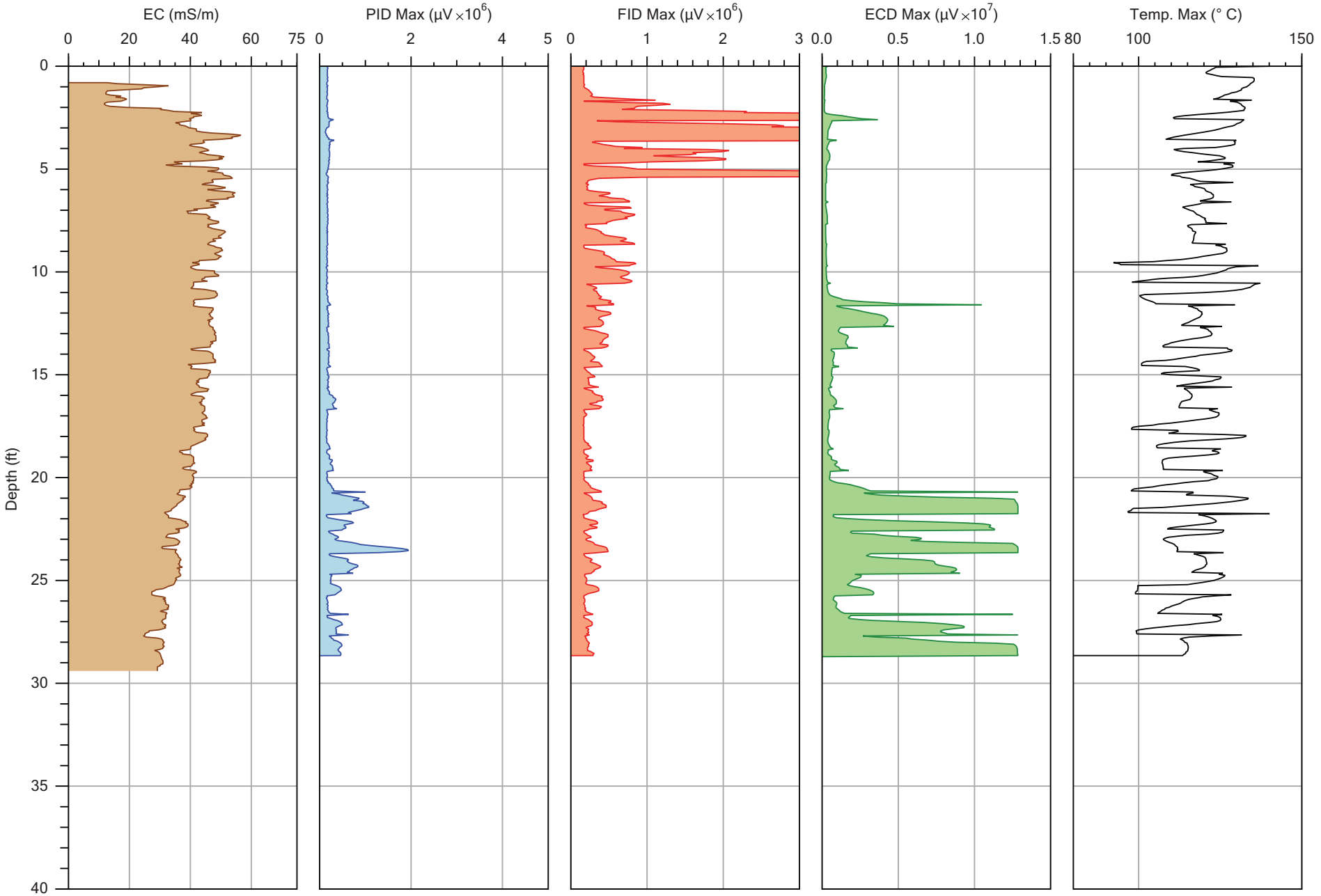

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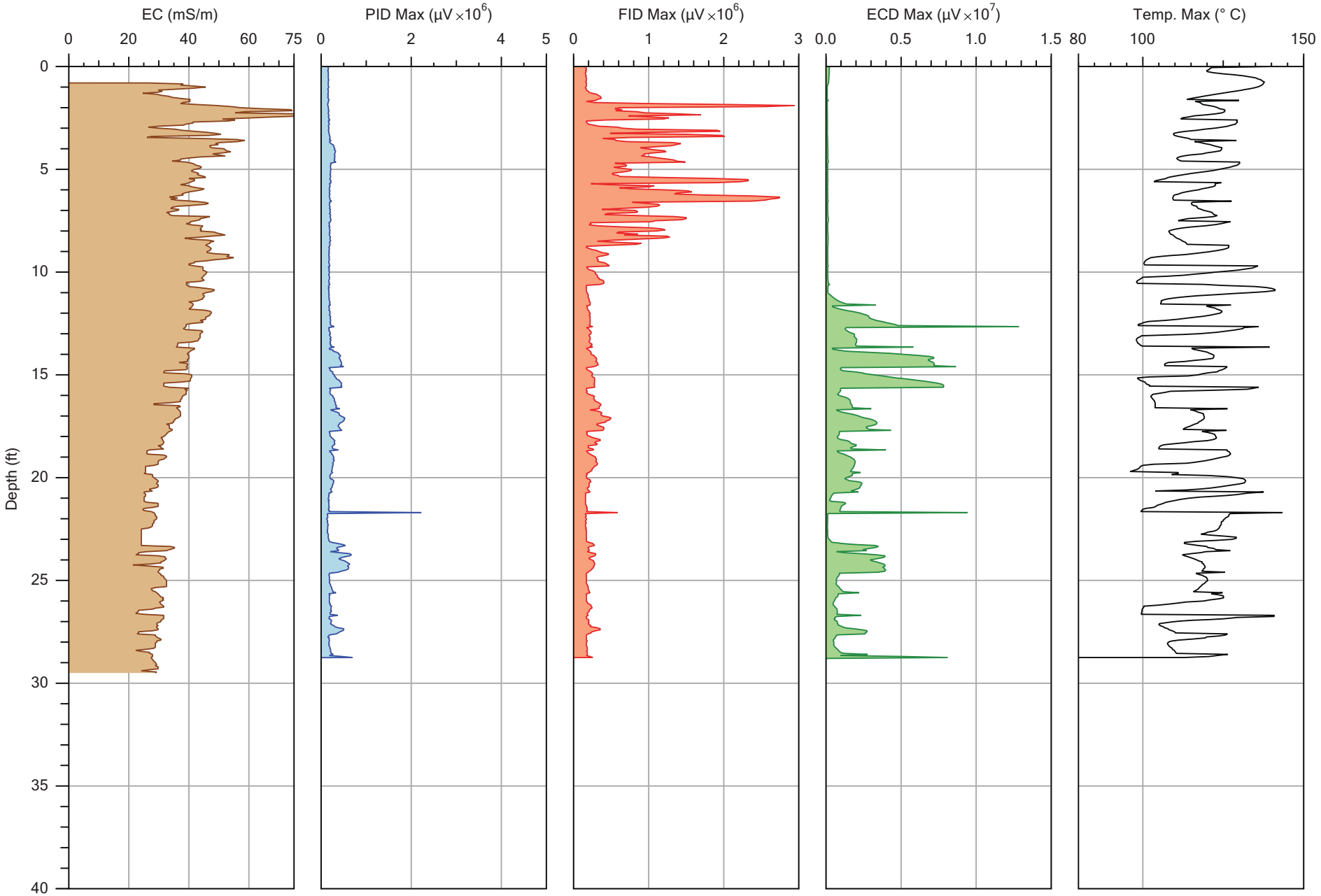

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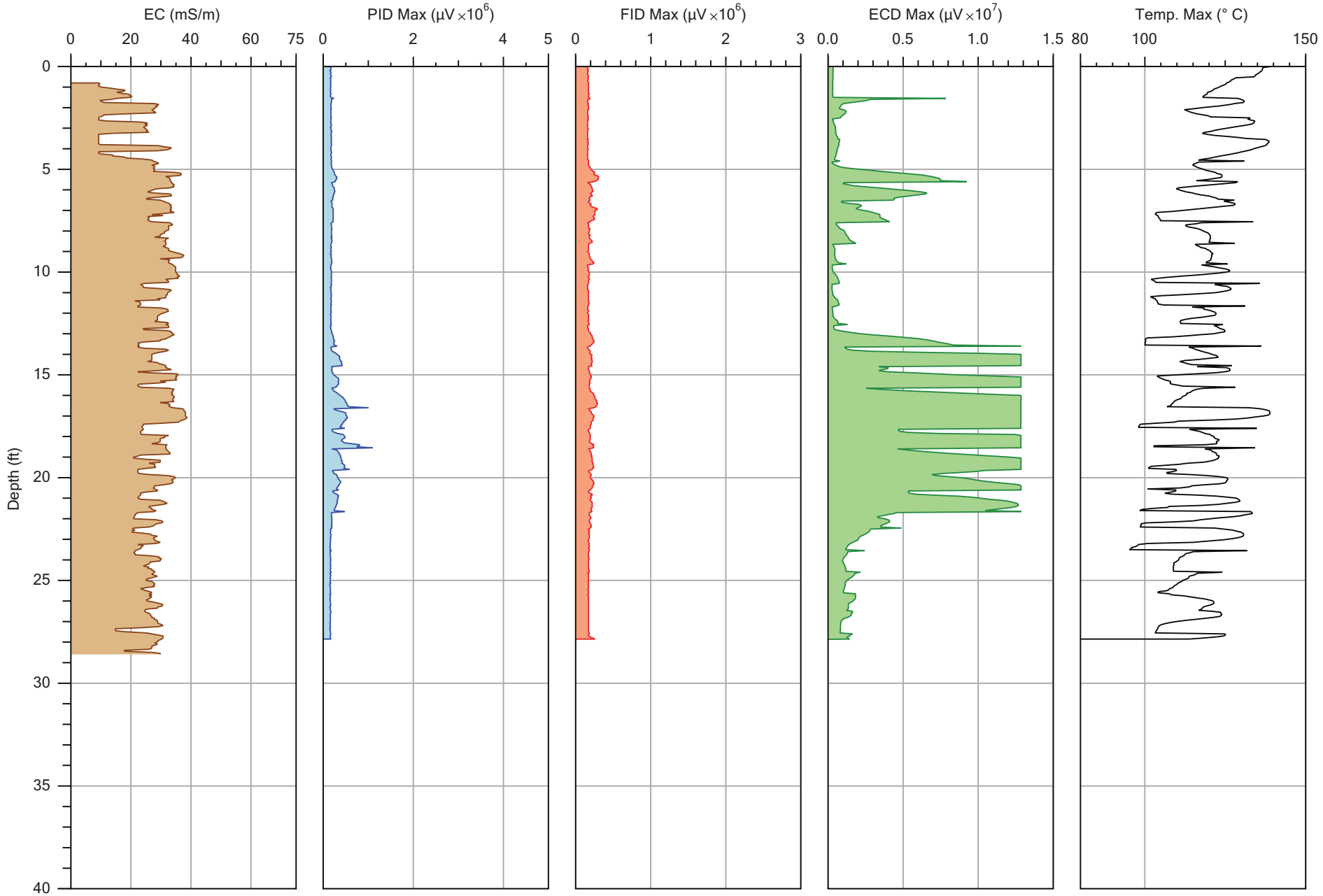

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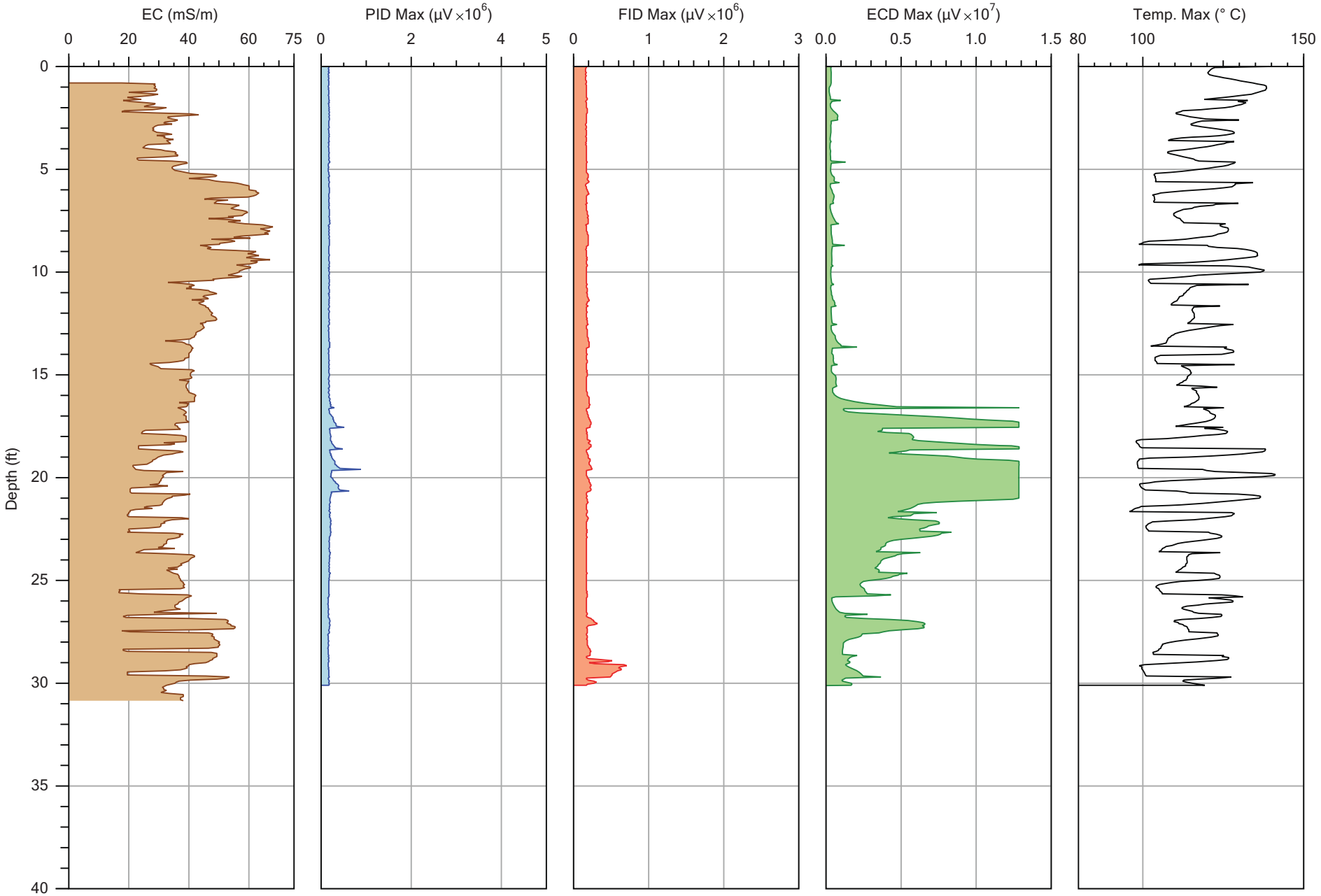

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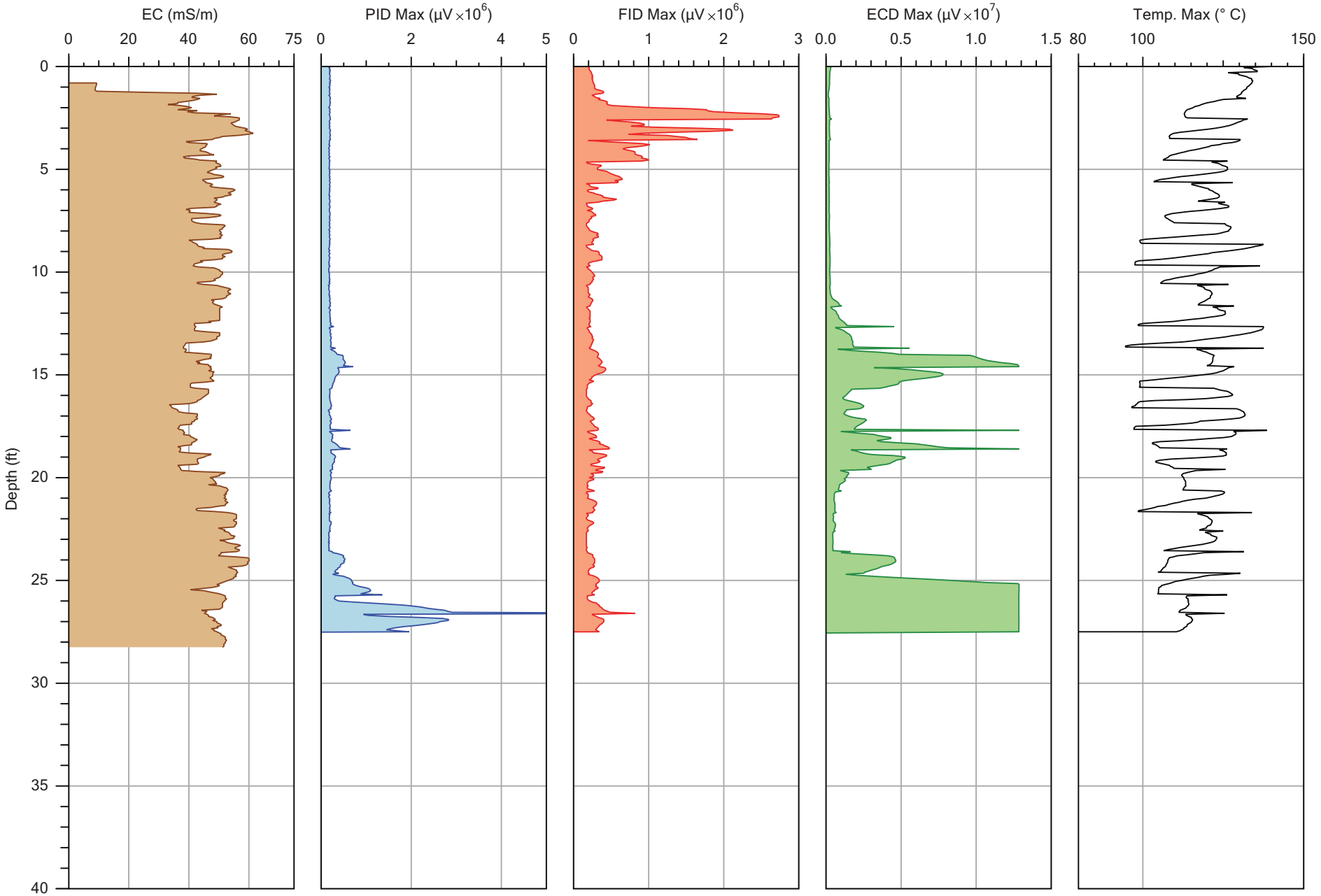
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



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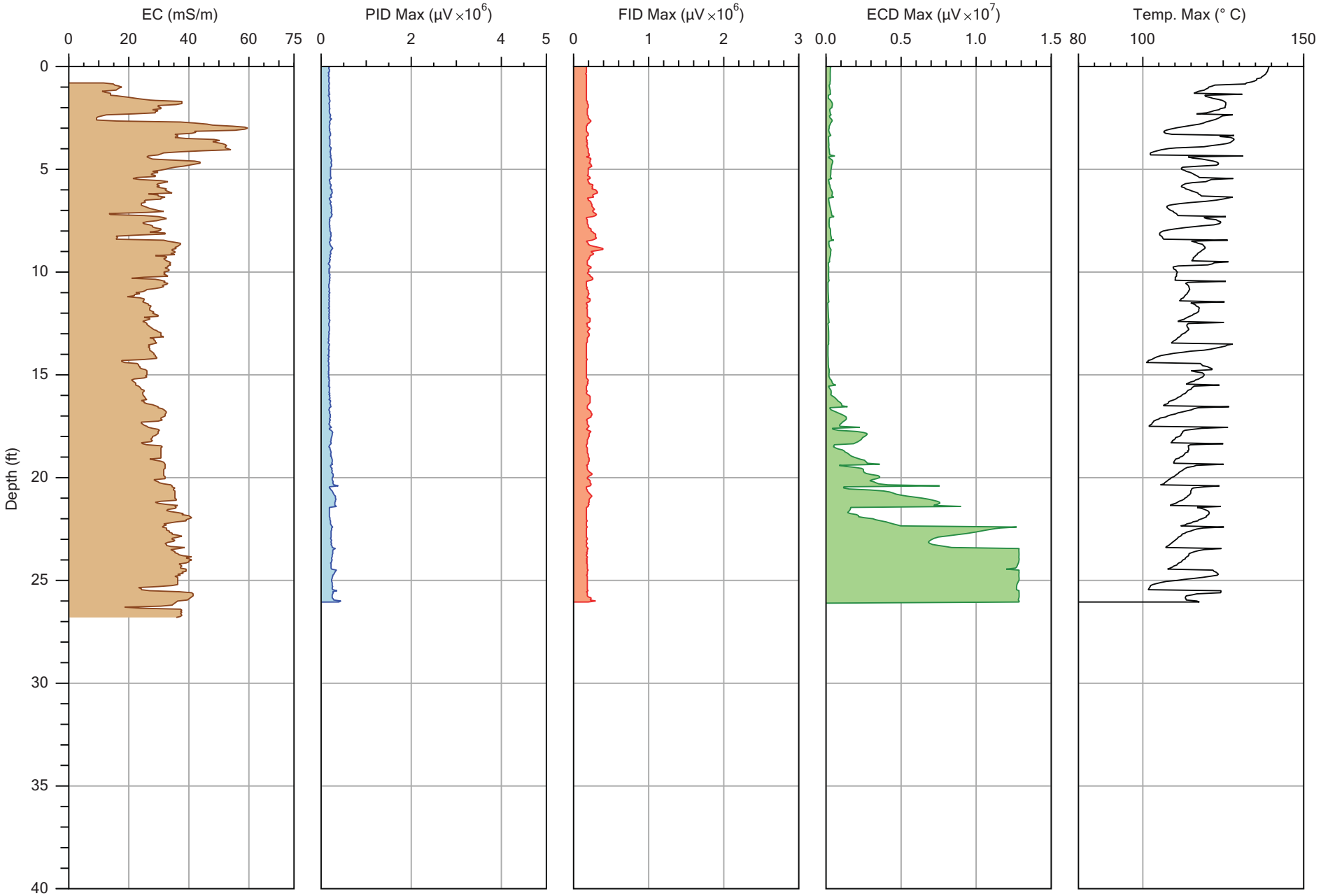
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:



COLUMBIA TECHNOLOGIES

Company: COLUMBIA Technologies	Operator: RJT	File: MIP18.DAT
		Date: 7/19/2013
Project ID: Owego Heat Treat	Client: Aztech Technologies	Location:

ATTACHMENT D

LABORATORY ANALYTICAL REPORTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-39551-1
Client Project/Site: Owego Heat Treat #

For:
New York State D.E.C.
615 Erie Blvd., West
Syracuse, New York 13204

Attn: Gary Priscott

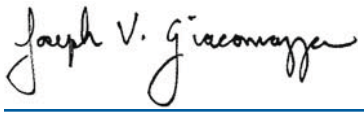
Joseph V. Giacomazza

Authorized for release by:
6/20/2013 3:56:02 PM
Joe Giacomazza, Project Administrator
joe.giacomazza@testamericainc.com

Designee for

Sally Hoffman, Project Manager II
sally.hoffman@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Administrator
6/20/2013 3:56:02 PM

Table of Contents

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-39551-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-39551-1

Receipt
The samples were received on 6/6/2013 1:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8º C.

GC/MS VOA
Method(s) 8260B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: (480-39551-5 MS), (480-39551-5 MSD), MW-10 (480-39551-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The matrix spike duplicate (MSD) recoveries for batch 122946 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8260B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: MW-2 (480-39551-8), Purge Water (480-39551-11). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Ion Chromatography
No analytical or quality issues were noted.

Metals
Method(s) 6010B: The Method Blank for batch 480-123006 contained dissolved iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples MW-1 (480-39551-10), MW-10 (480-39551-5), MW-2 (480-39551-8), MW-6 (480-39551-7), MW-9 (480-39551-6) was not performed.

Method(s) 6010B: The Continuing Calibration Blank (CCB 480-123452/11) for analytical batch 480-123452 contained dissolved iron above the reporting limit (RL). Samples MW-1 (480-39551-10), MW-10 (480-39551-5) associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of the samples was not performed.

Method(s) FILTRATION: The following samples were received unpreserved and were preserved upon receipt to the laboratory: MW-1 (480-39551-10), MW-10 (480-39551-5), MW-2 (480-39551-8), MW-6 (480-39551-7), MW-9 (480-39551-6). Regulatory documents require a 24-hour waiting period from the time of the addition of the acid preservative to the time of digestion.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-8
Date Collected: 06/04/13 15:20
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/07/13 08:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/07/13 08:30	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/07/13 08:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/07/13 08:30	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/07/13 08:30	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/07/13 08:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/07/13 08:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/07/13 08:30	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/07/13 08:30	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/07/13 08:30	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/07/13 08:30	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/07/13 08:30	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/07/13 08:30	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/07/13 08:30	1
2-Hexanone	ND		5.0	1.2	ug/L			06/07/13 08:30	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/07/13 08:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/07/13 08:30	1
Acetone	ND		10	3.0	ug/L			06/07/13 08:30	1
Benzene	ND		1.0	0.41	ug/L			06/07/13 08:30	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/07/13 08:30	1
Bromoform	ND		1.0	0.26	ug/L			06/07/13 08:30	1
Bromomethane	ND		1.0	0.69	ug/L			06/07/13 08:30	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/07/13 08:30	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/07/13 08:30	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/07/13 08:30	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/07/13 08:30	1
Chloroethane	ND		1.0	0.32	ug/L			06/07/13 08:30	1
Chloroform	ND		1.0	0.34	ug/L			06/07/13 08:30	1
Chloromethane	ND		1.0	0.35	ug/L			06/07/13 08:30	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/07/13 08:30	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/07/13 08:30	1
Cyclohexane	ND		1.0	0.18	ug/L			06/07/13 08:30	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/07/13 08:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/07/13 08:30	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/07/13 08:30	1
Methyl acetate	ND		1.0	0.50	ug/L			06/07/13 08:30	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/07/13 08:30	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/07/13 08:30	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/07/13 08:30	1
Styrene	ND		1.0	0.73	ug/L			06/07/13 08:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/07/13 08:30	1
Toluene	ND		1.0	0.51	ug/L			06/07/13 08:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/07/13 08:30	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/07/13 08:30	1
Trichloroethene	ND		1.0	0.46	ug/L			06/07/13 08:30	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/07/13 08:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/13 08:30	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/07/13 08:30	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-8
Date Collected: 06/04/13 15:20
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*104*		*66 - 137*		*06/07/13 08:30*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*06/07/13 08:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*06/07/13 08:30*	*1*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-5
Date Collected: 06/04/13 15:20
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/07/13 08:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/07/13 08:58	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/07/13 08:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/07/13 08:58	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/07/13 08:58	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/07/13 08:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/07/13 08:58	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/07/13 08:58	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/07/13 08:58	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/07/13 08:58	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/07/13 08:58	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/07/13 08:58	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/07/13 08:58	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/07/13 08:58	1
2-Hexanone	ND		5.0	1.2	ug/L			06/07/13 08:58	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/07/13 08:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/07/13 08:58	1
Acetone	ND		10	3.0	ug/L			06/07/13 08:58	1
Benzene	ND		1.0	0.41	ug/L			06/07/13 08:58	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/07/13 08:58	1
Bromoform	ND		1.0	0.26	ug/L			06/07/13 08:58	1
Bromomethane	ND		1.0	0.69	ug/L			06/07/13 08:58	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/07/13 08:58	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/07/13 08:58	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/07/13 08:58	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/07/13 08:58	1
Chloroethane	ND		1.0	0.32	ug/L			06/07/13 08:58	1
Chloroform	ND		1.0	0.34	ug/L			06/07/13 08:58	1
Chloromethane	ND		1.0	0.35	ug/L			06/07/13 08:58	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/07/13 08:58	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/07/13 08:58	1
Cyclohexane	ND		1.0	0.18	ug/L			06/07/13 08:58	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/07/13 08:58	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/07/13 08:58	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/07/13 08:58	1
Methyl acetate	ND		1.0	0.50	ug/L			06/07/13 08:58	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/07/13 08:58	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/07/13 08:58	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/07/13 08:58	1
Styrene	ND		1.0	0.73	ug/L			06/07/13 08:58	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/07/13 08:58	1
Toluene	ND		1.0	0.51	ug/L			06/07/13 08:58	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/07/13 08:58	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/07/13 08:58	1
Trichloroethene	ND		1.0	0.46	ug/L			06/07/13 08:58	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/07/13 08:58	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/13 08:58	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/07/13 08:58	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-5
Date Collected: 06/04/13 15:20
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137		06/07/13 08:58	1
Toluene-d8 (Surr)	94		71 - 126		06/07/13 08:58	1
4-Bromofluorobenzene (Surr)	103		73 - 120		06/07/13 08:58	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-4
Date Collected: 06/04/13 16:45
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/07/13 09:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/07/13 09:26	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/07/13 09:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/07/13 09:26	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/07/13 09:26	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/07/13 09:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/07/13 09:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/07/13 09:26	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/07/13 09:26	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/07/13 09:26	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/07/13 09:26	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/07/13 09:26	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/07/13 09:26	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/07/13 09:26	1
2-Hexanone	ND		5.0	1.2	ug/L			06/07/13 09:26	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/07/13 09:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/07/13 09:26	1
Acetone	ND		10	3.0	ug/L			06/07/13 09:26	1
Benzene	ND		1.0	0.41	ug/L			06/07/13 09:26	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/07/13 09:26	1
Bromoform	ND		1.0	0.26	ug/L			06/07/13 09:26	1
Bromomethane	ND		1.0	0.69	ug/L			06/07/13 09:26	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/07/13 09:26	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/07/13 09:26	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/07/13 09:26	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/07/13 09:26	1
Chloroethane	ND		1.0	0.32	ug/L			06/07/13 09:26	1
Chloroform	ND		1.0	0.34	ug/L			06/07/13 09:26	1
Chloromethane	ND		1.0	0.35	ug/L			06/07/13 09:26	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/07/13 09:26	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/07/13 09:26	1
Cyclohexane	ND		1.0	0.18	ug/L			06/07/13 09:26	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/07/13 09:26	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/07/13 09:26	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/07/13 09:26	1
Methyl acetate	ND		1.0	0.50	ug/L			06/07/13 09:26	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/07/13 09:26	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/07/13 09:26	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/07/13 09:26	1
Styrene	ND		1.0	0.73	ug/L			06/07/13 09:26	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/07/13 09:26	1
Toluene	ND		1.0	0.51	ug/L			06/07/13 09:26	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/07/13 09:26	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/07/13 09:26	1
Trichloroethene	ND		1.0	0.46	ug/L			06/07/13 09:26	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/07/13 09:26	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/13 09:26	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/07/13 09:26	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-4
Date Collected: 06/04/13 16:45
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*06/07/13 09:26*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*06/07/13 09:26*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*06/07/13 09:26*	*1*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-7
Date Collected: 06/04/13 16:40
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/07/13 09:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/07/13 09:53	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/07/13 09:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/07/13 09:53	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/07/13 09:53	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/07/13 09:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/07/13 09:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/07/13 09:53	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/07/13 09:53	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/07/13 09:53	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/07/13 09:53	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/07/13 09:53	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/07/13 09:53	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/07/13 09:53	1
2-Hexanone	ND		5.0	1.2	ug/L			06/07/13 09:53	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/07/13 09:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/07/13 09:53	1
Acetone	ND		10	3.0	ug/L			06/07/13 09:53	1
Benzene	ND		1.0	0.41	ug/L			06/07/13 09:53	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/07/13 09:53	1
Bromoform	ND		1.0	0.26	ug/L			06/07/13 09:53	1
Bromomethane	ND		1.0	0.69	ug/L			06/07/13 09:53	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/07/13 09:53	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/07/13 09:53	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/07/13 09:53	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/07/13 09:53	1
Chloroethane	ND		1.0	0.32	ug/L			06/07/13 09:53	1
Chloroform	ND		1.0	0.34	ug/L			06/07/13 09:53	1
Chloromethane	ND		1.0	0.35	ug/L			06/07/13 09:53	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/07/13 09:53	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/07/13 09:53	1
Cyclohexane	ND		1.0	0.18	ug/L			06/07/13 09:53	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/07/13 09:53	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/07/13 09:53	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/07/13 09:53	1
Methyl acetate	ND		1.0	0.50	ug/L			06/07/13 09:53	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/07/13 09:53	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/07/13 09:53	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/07/13 09:53	1
Styrene	ND		1.0	0.73	ug/L			06/07/13 09:53	1
Tetrachloroethene	**2.8**		1.0	0.36	ug/L			06/07/13 09:53	1
Toluene	ND		1.0	0.51	ug/L			06/07/13 09:53	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/07/13 09:53	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/07/13 09:53	1
Trichloroethene	**4.1**		1.0	0.46	ug/L			06/07/13 09:53	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/07/13 09:53	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/13 09:53	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/07/13 09:53	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-7
Date Collected: 06/04/13 16:40
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-4
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		06/07/13 09:53	1
Toluene-d8 (Surr)	94		71 - 126		06/07/13 09:53	1
4-Bromofluorobenzene (Surr)	103		73 - 120		06/07/13 09:53	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-10
Date Collected: 06/05/13 08:45
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/07/13 10:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/07/13 10:21	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/07/13 10:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/07/13 10:21	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/07/13 10:21	1
1,1-Dichloroethene	**0.75**	**J**	1.0	0.29	ug/L			06/07/13 10:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/07/13 10:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/07/13 10:21	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/07/13 10:21	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/07/13 10:21	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/07/13 10:21	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/07/13 10:21	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/07/13 10:21	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/07/13 10:21	1
2-Hexanone	ND		5.0	1.2	ug/L			06/07/13 10:21	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/07/13 10:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/07/13 10:21	1
Acetone	ND		10	3.0	ug/L			06/07/13 10:21	1
Benzene	ND		1.0	0.41	ug/L			06/07/13 10:21	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/07/13 10:21	1
Bromoform	ND		1.0	0.26	ug/L			06/07/13 10:21	1
Bromomethane	ND		1.0	0.69	ug/L			06/07/13 10:21	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/07/13 10:21	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/07/13 10:21	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/07/13 10:21	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/07/13 10:21	1
Chloroethane	ND		1.0	0.32	ug/L			06/07/13 10:21	1
Chloroform	ND		1.0	0.34	ug/L			06/07/13 10:21	1
Chloromethane	ND		1.0	0.35	ug/L			06/07/13 10:21	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/07/13 10:21	1
Cyclohexane	ND		1.0	0.18	ug/L			06/07/13 10:21	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/07/13 10:21	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/07/13 10:21	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/07/13 10:21	1
Methyl acetate	ND		1.0	0.50	ug/L			06/07/13 10:21	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/07/13 10:21	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/07/13 10:21	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/07/13 10:21	1
Styrene	ND		1.0	0.73	ug/L			06/07/13 10:21	1
Toluene	ND		1.0	0.51	ug/L			06/07/13 10:21	1
trans-1,2-Dichloroethene	**5.2**		1.0	0.90	ug/L			06/07/13 10:21	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/07/13 10:21	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/07/13 10:21	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/13 10:21	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/07/13 10:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*06/07/13 10:21*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*06/07/13 10:21*	*1*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-10
Date Collected: 06/05/13 08:45
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*06/07/13 10:21*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**200**		20	16	ug/L			06/08/13 17:04	20
Tetrachloroethene	**1100**		20	7.2	ug/L			06/08/13 17:04	20
Trichloroethene	**430**		20	9.2	ug/L			06/08/13 17:04	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*66 - 137*		*06/08/13 17:04*	*20*
Toluene-d8 (Surr)	*100*		*71 - 126*		*06/08/13 17:04*	*20*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*06/08/13 17:04*	*20*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	ND		0.050	0.019	mg/L		06/10/13 07:50	06/11/13 18:45	1
Manganese, Dissolved	**0.00091**	**J**	0.0030	0.00040	mg/L		06/10/13 07:50	06/11/13 18:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**22.5**		2.0	0.35	mg/L			06/07/13 03:12	1
Total Alkalinity as CaCO3	**252**		5.0	0.79	mg/L			06/09/13 21:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**2.5**		0.050	0.020	mg/L			06/06/13 12:54	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-9
Date Collected: 06/05/13 08:50
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/13 17:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/13 17:32	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/13 17:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/08/13 17:32	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/13 17:32	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/13 17:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/08/13 17:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/13 17:32	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/08/13 17:32	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/08/13 17:32	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/13 17:32	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/13 17:32	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/08/13 17:32	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/08/13 17:32	1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/13 17:32	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/13 17:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/13 17:32	1
Acetone	ND		10	3.0	ug/L			06/08/13 17:32	1
Benzene	ND		1.0	0.41	ug/L			06/08/13 17:32	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/08/13 17:32	1
Bromoform	ND		1.0	0.26	ug/L			06/08/13 17:32	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/13 17:32	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/13 17:32	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/13 17:32	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/13 17:32	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/08/13 17:32	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/13 17:32	1
Chloroform	ND		1.0	0.34	ug/L			06/08/13 17:32	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/13 17:32	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/08/13 17:32	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/13 17:32	1
Cyclohexane	ND		1.0	0.18	ug/L			06/08/13 17:32	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/13 17:32	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/13 17:32	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/08/13 17:32	1
Methyl acetate	ND		1.0	0.50	ug/L			06/08/13 17:32	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/08/13 17:32	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/08/13 17:32	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/13 17:32	1
Styrene	ND		1.0	0.73	ug/L			06/08/13 17:32	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/08/13 17:32	1
Toluene	ND		1.0	0.51	ug/L			06/08/13 17:32	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/13 17:32	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/13 17:32	1
Trichloroethene	ND		1.0	0.46	ug/L			06/08/13 17:32	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/13 17:32	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/13 17:32	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/08/13 17:32	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-9
Date Collected: 06/05/13 08:50
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-6
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*66 - 137*		*06/08/13 17:32*	*1*
Toluene-d8 (Surr)	*102*		*71 - 126*		*06/08/13 17:32*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*06/08/13 17:32*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.039	J B	0.050	0.019	mg/L		06/10/13 07:50	06/20/13 13:30	1
Manganese, Dissolved	0.25		0.0030	0.00040	mg/L		06/10/13 07:50	06/11/13 18:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22.1		2.0	0.35	mg/L			06/07/13 03:23	1
Total Alkalinity as CaCO3	349		5.0	0.79	mg/L			06/09/13 21:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	2.0		0.050	0.020	mg/L			06/06/13 12:55	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-6
Date Collected: 06/05/13 10:25
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/13 18:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/13 18:00	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/13 18:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/08/13 18:00	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/13 18:00	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/13 18:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/08/13 18:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/13 18:00	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/08/13 18:00	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/08/13 18:00	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/13 18:00	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/13 18:00	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/08/13 18:00	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/08/13 18:00	1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/13 18:00	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/13 18:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/13 18:00	1
Acetone	ND		10	3.0	ug/L			06/08/13 18:00	1
Benzene	ND		1.0	0.41	ug/L			06/08/13 18:00	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/08/13 18:00	1
Bromoform	ND		1.0	0.26	ug/L			06/08/13 18:00	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/13 18:00	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/13 18:00	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/13 18:00	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/13 18:00	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/08/13 18:00	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/13 18:00	1
Chloroform	ND		1.0	0.34	ug/L			06/08/13 18:00	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/13 18:00	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/08/13 18:00	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/13 18:00	1
Cyclohexane	ND		1.0	0.18	ug/L			06/08/13 18:00	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/13 18:00	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/13 18:00	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/08/13 18:00	1
Methyl acetate	ND		1.0	0.50	ug/L			06/08/13 18:00	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/08/13 18:00	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/08/13 18:00	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/13 18:00	1
Styrene	ND		1.0	0.73	ug/L			06/08/13 18:00	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/08/13 18:00	1
Toluene	ND		1.0	0.51	ug/L			06/08/13 18:00	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/13 18:00	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/13 18:00	1
Trichloroethene	ND		1.0	0.46	ug/L			06/08/13 18:00	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/13 18:00	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/13 18:00	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/08/13 18:00	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-6
Date Collected: 06/05/13 10:25
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-7
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*66 - 137*		*06/08/13 18:00*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*06/08/13 18:00*	*1*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*06/08/13 18:00*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	ND		0.050	0.019	mg/L		06/10/13 07:50	06/20/13 13:33	1
Manganese, Dissolved	**0.0045**		0.0030	0.00040	mg/L		06/10/13 07:50	06/11/13 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**18.9**		2.0	0.35	mg/L			06/07/13 03:33	1
Total Alkalinity as CaCO3	**322**		5.0	0.79	mg/L			06/10/13 00:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**2.1**		0.050	0.020	mg/L			06/06/13 12:56	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-2
Date Collected: 06/05/13 10:15
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/13 18:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/13 18:55	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/13 18:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/08/13 18:55	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/13 18:55	1
1,1-Dichloroethene	**1.1**		1.0	0.29	ug/L			06/08/13 18:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/08/13 18:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/13 18:55	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/08/13 18:55	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/08/13 18:55	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/13 18:55	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/13 18:55	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/08/13 18:55	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/08/13 18:55	1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/13 18:55	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/13 18:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/13 18:55	1
Acetone	ND		10	3.0	ug/L			06/08/13 18:55	1
Benzene	ND		1.0	0.41	ug/L			06/08/13 18:55	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/08/13 18:55	1
Bromoform	ND		1.0	0.26	ug/L			06/08/13 18:55	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/13 18:55	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/13 18:55	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/13 18:55	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/13 18:55	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/08/13 18:55	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/13 18:55	1
Chloroform	ND		1.0	0.34	ug/L			06/08/13 18:55	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/13 18:55	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/13 18:55	1
Cyclohexane	ND		1.0	0.18	ug/L			06/08/13 18:55	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/13 18:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/13 18:55	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/08/13 18:55	1
Methyl acetate	ND		1.0	0.50	ug/L			06/08/13 18:55	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/08/13 18:55	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/08/13 18:55	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/13 18:55	1
Styrene	ND		1.0	0.73	ug/L			06/08/13 18:55	1
Toluene	ND		1.0	0.51	ug/L			06/08/13 18:55	1
trans-1,2-Dichloroethene	**3.7**		1.0	0.90	ug/L			06/08/13 18:55	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/13 18:55	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/13 18:55	1
Vinyl chloride	**4.0**		1.0	0.90	ug/L			06/08/13 18:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/08/13 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*06/08/13 18:55*	*1*
Toluene-d8 (Surr)	*102*		*71 - 126*		*06/08/13 18:55*	*1*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-2
Date Collected: 06/05/13 10:15
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*06/08/13 18:55*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	240		4.0	3.2	ug/L			06/10/13 11:54	4
Tetrachloroethene	200		4.0	1.4	ug/L			06/10/13 11:54	4
Trichloroethene	260		4.0	1.8	ug/L			06/10/13 11:54	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*66 - 137*		*06/10/13 11:54*	*4*
Toluene-d8 (Surr)	*99*		*71 - 126*		*06/10/13 11:54*	*4*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*06/10/13 11:54*	*4*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.22	B	0.050	0.019	mg/L		06/10/13 07:50	06/20/13 13:35	1
Manganese, Dissolved	1.6		0.0030	0.00040	mg/L		06/10/13 07:50	06/11/13 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	17.6		2.0	0.35	mg/L			06/07/13 07:38	1
Total Alkalinity as CaCO3	120		5.0	0.79	mg/L			06/10/13 01:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.85		0.050	0.020	mg/L			06/06/13 13:02	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-11
Date Collected: 06/05/13 12:55
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/10/13 11:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/10/13 11:26	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/10/13 11:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/10/13 11:26	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/10/13 11:26	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/10/13 11:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/10/13 11:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/10/13 11:26	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/10/13 11:26	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/10/13 11:26	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/10/13 11:26	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/10/13 11:26	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/10/13 11:26	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/10/13 11:26	1
2-Hexanone	ND		5.0	1.2	ug/L			06/10/13 11:26	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/10/13 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/10/13 11:26	1
Acetone	ND		10	3.0	ug/L			06/10/13 11:26	1
Benzene	ND		1.0	0.41	ug/L			06/10/13 11:26	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/10/13 11:26	1
Bromoform	ND		1.0	0.26	ug/L			06/10/13 11:26	1
Bromomethane	ND		1.0	0.69	ug/L			06/10/13 11:26	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/10/13 11:26	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/10/13 11:26	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/10/13 11:26	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/10/13 11:26	1
Chloroethane	ND		1.0	0.32	ug/L			06/10/13 11:26	1
Chloroform	ND		1.0	0.34	ug/L			06/10/13 11:26	1
Chloromethane	ND		1.0	0.35	ug/L			06/10/13 11:26	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/10/13 11:26	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/10/13 11:26	1
Cyclohexane	ND		1.0	0.18	ug/L			06/10/13 11:26	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/10/13 11:26	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/10/13 11:26	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/10/13 11:26	1
Methyl acetate	ND		1.0	0.50	ug/L			06/10/13 11:26	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/10/13 11:26	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/10/13 11:26	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/10/13 11:26	1
Styrene	ND		1.0	0.73	ug/L			06/10/13 11:26	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/10/13 11:26	1
Toluene	ND		1.0	0.51	ug/L			06/10/13 11:26	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/10/13 11:26	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/10/13 11:26	1
Trichloroethene	ND		1.0	0.46	ug/L			06/10/13 11:26	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/10/13 11:26	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/10/13 11:26	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/10/13 11:26	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-11
Date Collected: 06/05/13 12:55
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*117*		*66 - 137*		*06/10/13 11:26*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*06/10/13 11:26*	*1*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*06/10/13 11:26*	*1*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-1
Date Collected: 06/05/13 13:00
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/13 19:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/13 19:51	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/13 19:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/08/13 19:51	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/13 19:51	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/13 19:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/08/13 19:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/13 19:51	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/08/13 19:51	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/08/13 19:51	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/13 19:51	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/13 19:51	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/08/13 19:51	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/08/13 19:51	1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/13 19:51	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/13 19:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/13 19:51	1
Acetone	ND		10	3.0	ug/L			06/08/13 19:51	1
Benzene	ND		1.0	0.41	ug/L			06/08/13 19:51	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/08/13 19:51	1
Bromoform	ND		1.0	0.26	ug/L			06/08/13 19:51	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/13 19:51	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/13 19:51	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/13 19:51	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/13 19:51	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/08/13 19:51	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/13 19:51	1
Chloroform	ND		1.0	0.34	ug/L			06/08/13 19:51	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/13 19:51	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/08/13 19:51	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/13 19:51	1
Cyclohexane	ND		1.0	0.18	ug/L			06/08/13 19:51	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/13 19:51	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/13 19:51	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/08/13 19:51	1
Methyl acetate	ND		1.0	0.50	ug/L			06/08/13 19:51	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/08/13 19:51	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/08/13 19:51	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/13 19:51	1
Styrene	ND		1.0	0.73	ug/L			06/08/13 19:51	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/08/13 19:51	1
Toluene	ND		1.0	0.51	ug/L			06/08/13 19:51	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/13 19:51	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/13 19:51	1
Trichloroethene	ND		1.0	0.46	ug/L			06/08/13 19:51	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/13 19:51	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/13 19:51	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/08/13 19:51	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-1
Date Collected: 06/05/13 13:00
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-10
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*66 - 137*		*06/08/13 19:51*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*06/08/13 19:51*	*1*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*06/08/13 19:51*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	ND		0.050	0.019	mg/L		06/10/13 07:50	06/11/13 18:54	1
Manganese, Dissolved	**0.025**		0.0030	0.00040	mg/L		06/10/13 07:50	06/11/13 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**15.0**		2.0	0.35	mg/L			06/07/13 07:48	1
Total Alkalinity as CaCO3	**80.9**		5.0	0.79	mg/L			06/10/13 02:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**1.1**		0.050	0.020	mg/L			06/06/13 13:03	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: Purge Water
Date Collected: 06/05/13 13:00
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/13 18:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/13 18:27	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/13 18:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/08/13 18:27	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/13 18:27	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/13 18:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/08/13 18:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/13 18:27	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/08/13 18:27	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/08/13 18:27	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/13 18:27	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/13 18:27	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/08/13 18:27	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/08/13 18:27	1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/13 18:27	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/13 18:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/13 18:27	1
Acetone	ND		10	3.0	ug/L			06/08/13 18:27	1
Benzene	ND		1.0	0.41	ug/L			06/08/13 18:27	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/08/13 18:27	1
Bromoform	ND		1.0	0.26	ug/L			06/08/13 18:27	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/13 18:27	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/13 18:27	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/13 18:27	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/13 18:27	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/08/13 18:27	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/13 18:27	1
Chloroform	**0.41**	**J**	1.0	0.34	ug/L			06/08/13 18:27	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/13 18:27	1
cis-1,2-Dichloroethene	**33**		1.0	0.81	ug/L			06/08/13 18:27	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/13 18:27	1
Cyclohexane	ND		1.0	0.18	ug/L			06/08/13 18:27	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/13 18:27	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/13 18:27	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/08/13 18:27	1
Methyl acetate	ND		1.0	0.50	ug/L			06/08/13 18:27	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/08/13 18:27	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/08/13 18:27	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/13 18:27	1
Styrene	ND		1.0	0.73	ug/L			06/08/13 18:27	1
Toluene	ND		1.0	0.51	ug/L			06/08/13 18:27	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/13 18:27	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/13 18:27	1
Trichloroethene	**56**		1.0	0.46	ug/L			06/08/13 18:27	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/13 18:27	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/13 18:27	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/08/13 18:27	1

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: Purge Water
Date Collected: 06/05/13 13:00
Date Received: 06/06/13 01:45

Lab Sample ID: 480-39551-11
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*06/08/13 18:27*	*1*
Toluene-d8 (Surr)	*101*		*71 - 126*		*06/08/13 18:27*	*1*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*06/08/13 18:27*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	110		2.0	0.72	ug/L			06/10/13 12:21	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*66 - 137*		*06/10/13 12:21*	*2*
Toluene-d8 (Surr)	*100*		*71 - 126*		*06/10/13 12:21*	*2*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*06/10/13 12:21*	*2*

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-8
Lab Sample ID: 480-39551-1
Date Collected: 06/04/13 15:20
Matrix: Water
Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122629	06/07/13 08:30	TRB	TAL BUF

Client Sample ID: MW-5
Lab Sample ID: 480-39551-2
Date Collected: 06/04/13 15:20
Matrix: Water
Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122629	06/07/13 08:58	TRB	TAL BUF

Client Sample ID: MW-4
Lab Sample ID: 480-39551-3
Date Collected: 06/04/13 16:45
Matrix: Water
Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122629	06/07/13 09:26	TRB	TAL BUF

Client Sample ID: MW-7
Lab Sample ID: 480-39551-4
Date Collected: 06/04/13 16:40
Matrix: Water
Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122629	06/07/13 09:53	TRB	TAL BUF

Client Sample ID: MW-10
Lab Sample ID: 480-39551-5
Date Collected: 06/05/13 08:45
Matrix: Water
Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122629	06/07/13 10:21	TRB	TAL BUF
Total/NA	Analysis	8260B	DL	20	122946	06/08/13 17:04	TRB	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	123452	06/11/13 18:45	AH	TAL BUF
Dissolved	Analysis	353.2		1	122557	06/06/13 12:54	KS	TAL BUF
Total/NA	Analysis	300.0		1	122577	06/07/13 03:12	KAC	TAL BUF
Total/NA	Analysis	SM 2320B		1	123023	06/09/13 21:42	LK	TAL BUF

Client Sample ID: MW-9

Lab Sample ID: 480-39551-6

Date Collected: 06/05/13 08:50

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122946	06/08/13 17:32	TRB	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	123452	06/11/13 18:48	AH	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	125108	06/20/13 13:30	AH	TAL BUF
Dissolved	Analysis	353.2		1	122557	06/06/13 12:55	KS	TAL BUF
Total/NA	Analysis	300.0		1	122577	06/07/13 03:23	KAC	TAL BUF
Total/NA	Analysis	SM 2320B		1	123023	06/09/13 21:55	LK	TAL BUF

Client Sample ID: MW-6

Lab Sample ID: 480-39551-7

Date Collected: 06/05/13 10:25

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122946	06/08/13 18:00	TRB	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	123452	06/11/13 18:50	AH	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	125108	06/20/13 13:33	AH	TAL BUF
Dissolved	Analysis	353.2		1	122557	06/06/13 12:56	KS	TAL BUF
Total/NA	Analysis	300.0		1	122577	06/07/13 03:33	KAC	TAL BUF
Total/NA	Analysis	SM 2320B		1	123030	06/10/13 00:49	LK	TAL BUF

Client Sample ID: MW-2

Lab Sample ID: 480-39551-8

Date Collected: 06/05/13 10:15

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122946	06/08/13 18:55	TRB	TAL BUF
Total/NA	Analysis	8260B	DL	4	123054	06/10/13 11:54	CDC	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	123452	06/11/13 18:52	AH	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	125108	06/20/13 13:35	AH	TAL BUF
Dissolved	Analysis	353.2		1	122557	06/06/13 13:02	KS	TAL BUF
Total/NA	Analysis	300.0		1	122577	06/07/13 07:38	KAC	TAL BUF
Total/NA	Analysis	SM 2320B		1	123030	06/10/13 01:01	LK	TAL BUF

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Client Sample ID: MW-11

Lab Sample ID: 480-39551-9

Date Collected: 06/05/13 12:55

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123054	06/10/13 11:26	CDC	TAL BUF

Client Sample ID: MW-1

Lab Sample ID: 480-39551-10

Date Collected: 06/05/13 13:00

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122946	06/08/13 19:51	TRB	TAL BUF
Dissolved	Prep	3005A			123006	06/10/13 07:50	JM	TAL BUF
Dissolved	Analysis	6010B		1	123452	06/11/13 18:54	AH	TAL BUF
Dissolved	Analysis	353.2		1	122557	06/06/13 13:03	KS	TAL BUF
Total/NA	Analysis	300.0		1	122577	06/07/13 07:48	KAC	TAL BUF
Total/NA	Analysis	SM 2320B		1	123030	06/10/13 02:35	LK	TAL BUF

Client Sample ID: Purge Water

Lab Sample ID: 480-39551-11

Date Collected: 06/05/13 13:00

Matrix: Water

Date Received: 06/06/13 01:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	122946	06/08/13 18:27	TRB	TAL BUF
Total/NA	Analysis	8260B	DL	2	123054	06/10/13 12:21	CDC	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Method Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #

TestAmerica Job ID: 480-39551-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-39551-1	MW-8	Water	06/04/13 15:20	06/06/13 01:45
480-39551-2	MW-5	Water	06/04/13 15:20	06/06/13 01:45
480-39551-3	MW-4	Water	06/04/13 16:45	06/06/13 01:45
480-39551-4	MW-7	Water	06/04/13 16:40	06/06/13 01:45
480-39551-5	MW-10	Water	06/05/13 08:45	06/06/13 01:45
480-39551-6	MW-9	Water	06/05/13 08:50	06/06/13 01:45
480-39551-7	MW-6	Water	06/05/13 10:25	06/06/13 01:45
480-39551-8	MW-2	Water	06/05/13 10:15	06/06/13 01:45
480-39551-9	MW-11	Water	06/05/13 12:55	06/06/13 01:45
480-39551-10	MW-1	Water	06/05/13 13:00	06/06/13 01:45
480-39551-11	Purge Water	Water	06/05/13 13:00	06/06/13 01:45

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brian Bartlett / Randy Hess	Lab PM: Hoffman, Sally	Carrier Tracking No(s):	COC No: 480-36445-9443.1
Client Contact: Whitney Shafer	Phone: 518 885 5353	E-Mail: sally.hoffman@testamericainc.com		Page: Page ~~1 of 2~~ 1 of 1
Company: Aztech Technologies Inc				Job #:
Address: 5 McCrea Hill Road	Due Date Requested:			
City: Ballston Spa	TAT Requested (days):			
State, Zip: NY, 12020				
Phone:	PO #: Call Out			
Email: wshafer@aztechtech.com	WO #:			
Project Name: Owego Heat Treat #	Project #: 48007955			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - TCL list OLM04.2	300.0_28D - Sulfate	353.2 - Nitrate Nitrite as N	2320B - Total Alkalinity as CaCO3	6010B - (MOD) Copy Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	N	N	N		
MW-8	6/4/13	1520	G	Water			X						
MW-5	6/4/13	1620	G	Water			X						
MW-4	6/4/13	1645	G	Water			X						
MW-7	6/4/13	1640	G	Water			X						
MW-10	6/5/13	0845	G	Water			X	X	X	X	X		
MW-9	6/5/13	0850	G	Water			X	X	X	X	X		
MW-6	6/5/13	1025	G	Water			X	X	X	X	X		
MW-2	6/5/13	1015	G	Water			X	X	X	X	X		
MW-11	6/5/13	1255	G	Water			X						
MW-1	6/5/13	~~1215~~ 1300	G	Water			X	X	X	X	X		
Purge Water	6/5/13	1300	G	Water			X						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: cc. rhoose@aztechtech.com wshafer@aztechtech.com

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/5/13 1645	Aztech		6/5/13 16:45	TH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/6/13	TH		6 6 13 0145	JA Burtt
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.9 #1

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-39551-1

Login Number: 39551

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	Aztech
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-42421-1
Client Project/Site: Owego Heat Treat #754011

For:
New York State D.E.C.
615 Erie Blvd., West
Syracuse, New York 13204

Attn: Gary Priscott

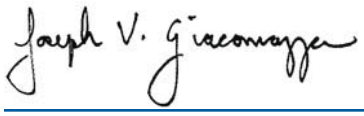
Joseph V. Giacomazza

Authorized for release by:
7/25/2013 12:28:41 PM
Joe Giacomazza, Project Administrator
joe.giacomazza@testamericainc.com

Designee for

Sally Hoffman, Project Manager II
sally.hoffman@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Administrator
7/25/2013 12:28:41 PM

Table of Contents

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-42421-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-42421-1

Receipt
The samples were received on 7/23/2013 2:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1º C.

GC/MS VOA
Method(s) 8260B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: MID-02 (480-42421-1), MID-05 (480-42421-2), MID-12 (480-42421-3). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-02
Date Collected: 07/19/13 08:30
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			07/24/13 04:27	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			07/24/13 04:27	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			07/24/13 04:27	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			07/24/13 04:27	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			07/24/13 04:27	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			07/24/13 04:27	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			07/24/13 04:27	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			07/24/13 04:27	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			07/24/13 04:27	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			07/24/13 04:27	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			07/24/13 04:27	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			07/24/13 04:27	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			07/24/13 04:27	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			07/24/13 04:27	4
2-Hexanone	ND		20	5.0	ug/L			07/24/13 04:27	4
2-Butanone (MEK)	ND		40	5.3	ug/L			07/24/13 04:27	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			07/24/13 04:27	4
Acetone	ND		40	12	ug/L			07/24/13 04:27	4
Benzene	ND		4.0	1.6	ug/L			07/24/13 04:27	4
Bromodichloromethane	ND		4.0	1.6	ug/L			07/24/13 04:27	4
Bromoform	ND		4.0	1.0	ug/L			07/24/13 04:27	4
Bromomethane	ND		4.0	2.8	ug/L			07/24/13 04:27	4
Carbon disulfide	ND		4.0	0.76	ug/L			07/24/13 04:27	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			07/24/13 04:27	4
Chlorobenzene	ND		4.0	3.0	ug/L			07/24/13 04:27	4
Dibromochloromethane	ND		4.0	1.3	ug/L			07/24/13 04:27	4
Chloroethane	ND		4.0	1.3	ug/L			07/24/13 04:27	4
Chloroform	ND		4.0	1.4	ug/L			07/24/13 04:27	4
Chloromethane	ND		4.0	1.4	ug/L			07/24/13 04:27	4
cis-1,2-Dichloroethene	**42**		4.0	3.2	ug/L			07/24/13 04:27	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			07/24/13 04:27	4
Cyclohexane	ND		4.0	0.72	ug/L			07/24/13 04:27	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			07/24/13 04:27	4
Ethylbenzene	ND		4.0	3.0	ug/L			07/24/13 04:27	4
Isopropylbenzene	ND		4.0	3.2	ug/L			07/24/13 04:27	4
Methyl acetate	ND		4.0	2.0	ug/L			07/24/13 04:27	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			07/24/13 04:27	4
Methylcyclohexane	ND		4.0	0.64	ug/L			07/24/13 04:27	4
Methylene Chloride	ND		4.0	1.8	ug/L			07/24/13 04:27	4
Styrene	ND		4.0	2.9	ug/L			07/24/13 04:27	4
Tetrachloroethene	**360**		4.0	1.4	ug/L			07/24/13 04:27	4
Toluene	ND		4.0	2.0	ug/L			07/24/13 04:27	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			07/24/13 04:27	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			07/24/13 04:27	4
Trichloroethene	**14**		4.0	1.8	ug/L			07/24/13 04:27	4
Trichlorofluoromethane	**27**		4.0	3.5	ug/L			07/24/13 04:27	4
Vinyl chloride	ND		4.0	3.6	ug/L			07/24/13 04:27	4
Xylenes, Total	ND		8.0	2.6	ug/L			07/24/13 04:27	4

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-02
Date Collected: 07/19/13 08:30
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*86*		*66 - 137*		*07/24/13 04:27*	*4*
Toluene-d8 (Surr)	*89*		*71 - 126*		*07/24/13 04:27*	*4*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*07/24/13 04:27*	*4*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-05
Date Collected: 07/19/13 08:45
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			07/24/13 04:48	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			07/24/13 04:48	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			07/24/13 04:48	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			07/24/13 04:48	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			07/24/13 04:48	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			07/24/13 04:48	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			07/24/13 04:48	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			07/24/13 04:48	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			07/24/13 04:48	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			07/24/13 04:48	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			07/24/13 04:48	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			07/24/13 04:48	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			07/24/13 04:48	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			07/24/13 04:48	4
2-Hexanone	ND		20	5.0	ug/L			07/24/13 04:48	4
2-Butanone (MEK)	ND		40	5.3	ug/L			07/24/13 04:48	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			07/24/13 04:48	4
Acetone	ND		40	12	ug/L			07/24/13 04:48	4
Benzene	ND		4.0	1.6	ug/L			07/24/13 04:48	4
Bromodichloromethane	ND		4.0	1.6	ug/L			07/24/13 04:48	4
Bromoform	ND		4.0	1.0	ug/L			07/24/13 04:48	4
Bromomethane	ND		4.0	2.8	ug/L			07/24/13 04:48	4
Carbon disulfide	ND		4.0	0.76	ug/L			07/24/13 04:48	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			07/24/13 04:48	4
Chlorobenzene	ND		4.0	3.0	ug/L			07/24/13 04:48	4
Dibromochloromethane	ND		4.0	1.3	ug/L			07/24/13 04:48	4
Chloroethane	ND		4.0	1.3	ug/L			07/24/13 04:48	4
Chloroform	ND		4.0	1.4	ug/L			07/24/13 04:48	4
Chloromethane	ND		4.0	1.4	ug/L			07/24/13 04:48	4
cis-1,2-Dichloroethene	**42**		4.0	3.2	ug/L			07/24/13 04:48	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			07/24/13 04:48	4
Cyclohexane	ND		4.0	0.72	ug/L			07/24/13 04:48	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			07/24/13 04:48	4
Ethylbenzene	ND		4.0	3.0	ug/L			07/24/13 04:48	4
Isopropylbenzene	ND		4.0	3.2	ug/L			07/24/13 04:48	4
Methyl acetate	ND		4.0	2.0	ug/L			07/24/13 04:48	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			07/24/13 04:48	4
Methylcyclohexane	**1.4**	**J**	4.0	0.64	ug/L			07/24/13 04:48	4
Methylene Chloride	ND		4.0	1.8	ug/L			07/24/13 04:48	4
Styrene	ND		4.0	2.9	ug/L			07/24/13 04:48	4
Tetrachloroethene	**390**		4.0	1.4	ug/L			07/24/13 04:48	4
Toluene	**9.3**		4.0	2.0	ug/L			07/24/13 04:48	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			07/24/13 04:48	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			07/24/13 04:48	4
Trichloroethene	**67**		4.0	1.8	ug/L			07/24/13 04:48	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			07/24/13 04:48	4
Vinyl chloride	ND		4.0	3.6	ug/L			07/24/13 04:48	4
Xylenes, Total	ND		8.0	2.6	ug/L			07/24/13 04:48	4

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-05
Date Collected: 07/19/13 08:45
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*86*		*66 - 137*		*07/24/13 04:48*	*4*
Toluene-d8 (Surr)	*99*		*71 - 126*		*07/24/13 04:48*	*4*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*07/24/13 04:48*	*4*

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-12
Date Collected: 07/19/13 09:00
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			07/24/13 05:09	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			07/24/13 05:09	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			07/24/13 05:09	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			07/24/13 05:09	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			07/24/13 05:09	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			07/24/13 05:09	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			07/24/13 05:09	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			07/24/13 05:09	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			07/24/13 05:09	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			07/24/13 05:09	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			07/24/13 05:09	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			07/24/13 05:09	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			07/24/13 05:09	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			07/24/13 05:09	4
2-Hexanone	ND		20	5.0	ug/L			07/24/13 05:09	4
2-Butanone (MEK)	ND		40	5.3	ug/L			07/24/13 05:09	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			07/24/13 05:09	4
Acetone	ND		40	12	ug/L			07/24/13 05:09	4
Benzene	ND		4.0	1.6	ug/L			07/24/13 05:09	4
Bromodichloromethane	ND		4.0	1.6	ug/L			07/24/13 05:09	4
Bromoform	ND		4.0	1.0	ug/L			07/24/13 05:09	4
Bromomethane	ND		4.0	2.8	ug/L			07/24/13 05:09	4
Carbon disulfide	ND		4.0	0.76	ug/L			07/24/13 05:09	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			07/24/13 05:09	4
Chlorobenzene	ND		4.0	3.0	ug/L			07/24/13 05:09	4
Dibromochloromethane	ND		4.0	1.3	ug/L			07/24/13 05:09	4
Chloroethane	ND		4.0	1.3	ug/L			07/24/13 05:09	4
Chloroform	ND		4.0	1.4	ug/L			07/24/13 05:09	4
Chloromethane	ND		4.0	1.4	ug/L			07/24/13 05:09	4
cis-1,2-Dichloroethene	**41**		4.0	3.2	ug/L			07/24/13 05:09	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			07/24/13 05:09	4
Cyclohexane	ND		4.0	0.72	ug/L			07/24/13 05:09	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			07/24/13 05:09	4
Ethylbenzene	ND		4.0	3.0	ug/L			07/24/13 05:09	4
Isopropylbenzene	ND		4.0	3.2	ug/L			07/24/13 05:09	4
Methyl acetate	ND		4.0	2.0	ug/L			07/24/13 05:09	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			07/24/13 05:09	4
Methylcyclohexane	ND		4.0	0.64	ug/L			07/24/13 05:09	4
Methylene Chloride	ND		4.0	1.8	ug/L			07/24/13 05:09	4
Styrene	ND		4.0	2.9	ug/L			07/24/13 05:09	4
Tetrachloroethene	**230**		4.0	1.4	ug/L			07/24/13 05:09	4
Toluene	ND		4.0	2.0	ug/L			07/24/13 05:09	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			07/24/13 05:09	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			07/24/13 05:09	4
Trichloroethene	**21**		4.0	1.8	ug/L			07/24/13 05:09	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			07/24/13 05:09	4
Vinyl chloride	**7.1**		4.0	3.6	ug/L			07/24/13 05:09	4
Xylenes, Total	ND		8.0	2.6	ug/L			07/24/13 05:09	4

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-12
Date Collected: 07/19/13 09:00
Date Received: 07/23/13 02:45

Lab Sample ID: 480-42421-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*89*		*66 - 137*		*07/24/13 05:09*	*4*
Toluene-d8 (Surr)	*90*		*71 - 126*		*07/24/13 05:09*	*4*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*07/24/13 05:09*	*4*

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Client Sample ID: MID-02

Lab Sample ID: 480-42421-1

Date Collected: 07/19/13 08:30

Matrix: Water

Date Received: 07/23/13 02:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	130255	07/24/13 04:27	TRB	TAL BUF

Client Sample ID: MID-05

Lab Sample ID: 480-42421-2

Date Collected: 07/19/13 08:45

Matrix: Water

Date Received: 07/23/13 02:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	130255	07/24/13 04:48	TRB	TAL BUF

Client Sample ID: MID-12

Lab Sample ID: 480-42421-3

Date Collected: 07/19/13 09:00

Matrix: Water

Date Received: 07/23/13 02:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	130255	07/24/13 05:09	TRB	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13 *
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13 *
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-13 *
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13 *
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13 *

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: New York State D.E.C.
Project/Site: Owego Heat Treat #754011

TestAmerica Job ID: 480-42421-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-42421-1	MID-02	Water	07/19/13 08:30	07/23/13 02:45
480-42421-2	MID-05	Water	07/19/13 08:45	07/23/13 02:45
480-42421-3	MID-12	Water	07/19/13 09:00	07/23/13 02:45

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt ______

Drinking Water? Yes ☐ No ☒

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client: NYSDEC Region 7	Project Manager: R Heese / Gary Priscott	Date: 7/19/13	Chain of Custody Number: [illegible]
Address: 615 Erie Blvd	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
City: Syracuse; State: NY; Zip Code	Site Contact; Lab Contact	Analysis (Attach list if more space is needed)	
Project Name and Location (State): Dryer Head Trend	Carrier/Waybill Number		Special Instructions/ Conditions of Receipt
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	GW	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8260
MIP-02	7/19/13	0830		X			X				X			X
MIP-05	7/19/13	0845		X			X				X			X
MIP 12	7/19/13	0900		X			X				X			X

Nathan Follett 7/19/13 RTB

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other Standard

QC Requirements (Specify): cc Gary Priscott, Randy Heese, Whitney Sheeler

	Date	Time		Date	Time
1. Relinquished By: [signature]	7/22/13	10:30	1. Received By: [signature]	7/22/13	10:30
2. Relinquished By: [signature]	7/22/13		2. Received By: [signature] TAL	7.23.13	0245
3. Relinquished By			3. Received By		

Comments: 4.1 #1

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-42421-1

Login Number: 42421

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert K

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	False	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	