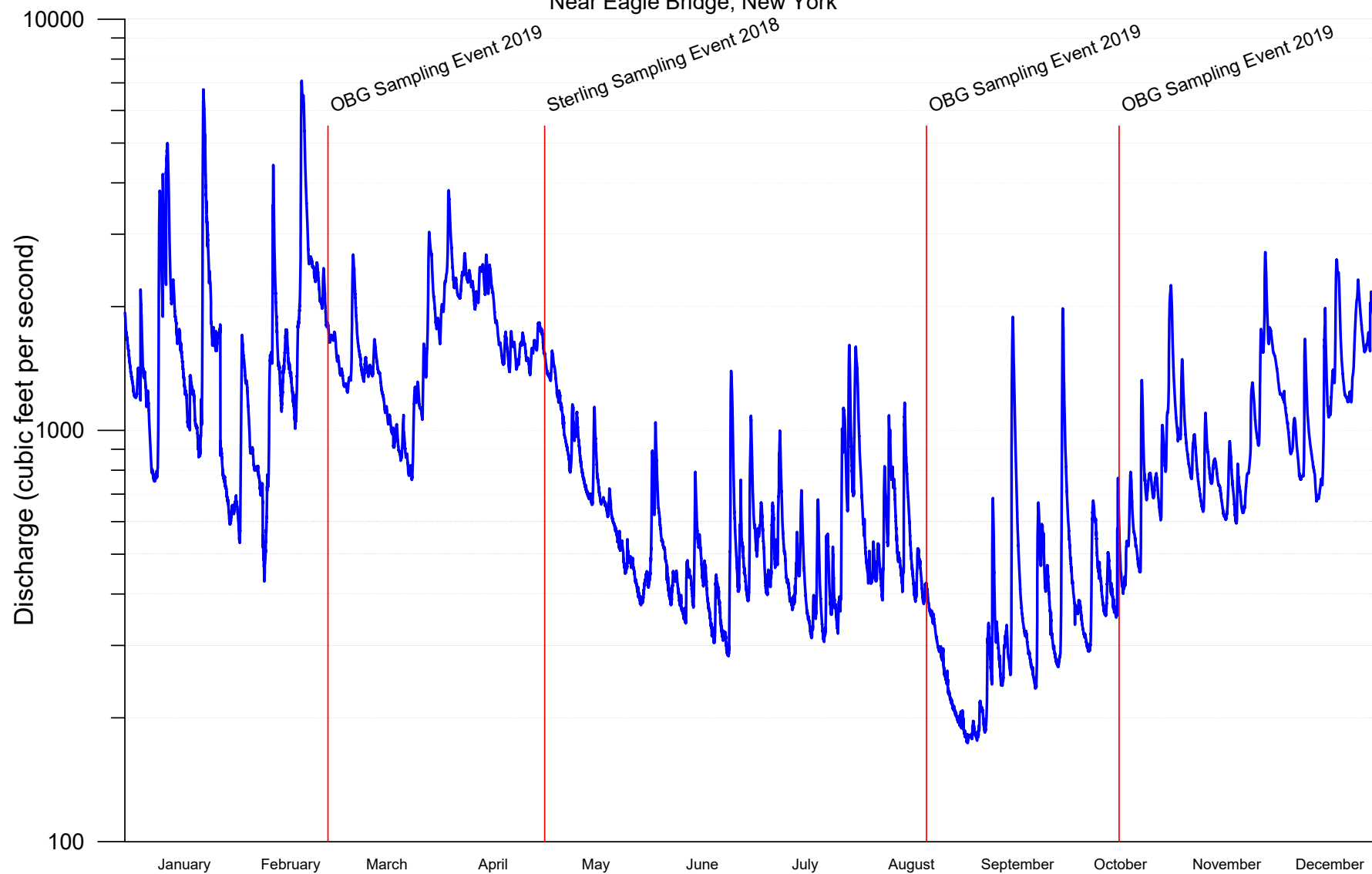




Hoosic River Hydrograph

Average Daily Discharge (2014-2018) Hoosic River

Near Eagle Bridge, New York



— Average Discharge





Surface Water Sampling Logs

STERLING

Sterling Environmental Engineering, P.C.

1 OF 1

SURFACE WATER SAMPLING LOG

SITE: TACONIC (2018-07)

ADDRESS: 136 COON BROOK ROAD
PETERSBURGH NEW YORK, 12138

FIELD STAFF: STEFAN TRUEX (GEOLOGIST)

INSTRUMENTS: YSI 556 MULTIPARAMETER PROBE
LAMOTTE 2020 TURBIDITY METER
GARMIN GPS MAP 76

HANNA INSTRUMENTS pH

AM

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LOCATION	DATE	TIME	TEMP (C)	pH (SU)	SPEC CONDUCT (mS/cm)	ORP (mV)	DO (mg/L)	TURBIDITY (NTU)	GPS (LAT)	GPS (LONG)
SW-1	5/2/18	1300	16.15	6.90	0.063	112.6	8.83	1.27	N 42° 44.537	W 73° 21.462
SW-2	5/2/18	1315 (1420)	15.55	6.8	0.058	117.9	5.48	0.18	N 42° 44.513	W 73° 21.535
SW-3	5/2/18	1500	12.68	6.7	0.206	83.4	6.72	0.29	N 42° 44.458	W 73° 21.538

NOTES:

[Handwritten signature]

5/2/2018

STERLING

Sterling Environmental Engineering, P.C.

SURFACE WATER SAMPLING LOG

SITE: TACONIC (2018-07)

ADDRESS: 136 COON BROOK ROAD
PETERSBURGH NEW YORK, 12138

FIELD STAFF: STEFAN TRUEX (GEOLOGIST)

INSTRUMENTS: YSI 556 MULTIPARAMETER PROBE
LAMOTTE 2020 TURBIDITY METER
GARMIN GPS MAP 76
HANNA PH PEN

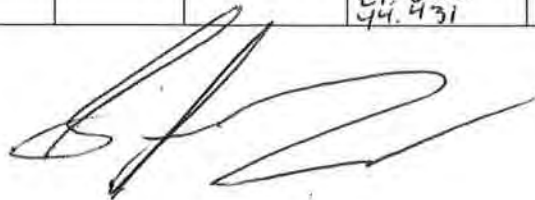
5/3/2018

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☒ CALIBRATED
MID DAY
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LOCATION	DATE	TIME	TEMP (C)	pH (SU)	SPEC CONDUCT (mS/cm)	ORP (mV)	DO (mg/L)	TURBIDITY (NTU)	GPS (LAT)	GPS (LONG)	NOTES
SW-4 SED-4	5/3/18	9 ²⁰	11.41	6.8	0.073	98.4	7.36	0.85	N 42° 44.327	W 73° 21.626	
SW-5 SED	5/3/18	10 ³⁰	← SEDIMENT ONLY						N 42° 44.285	W 73° 21.628	UNNAMED STREAM #2
SW-6 SED-6	5/3/18	11 ⁰⁰	9.10	6.9	0.056	144.8	9.37	1.47	N 42° 44.414	W 73° 21.559	UNNAMED STREAM #1
SW-7	5/3/18	11 ³⁰	8.82	6.7	0.055	151.1	11.40	1.21	N 42° 44.455	W 73° 21.799	UNNAMED STREAM #1
SW-8 SED-8	5/3/18	11 ⁴⁵ 11 ⁵⁰	14.41	6.9	0.069	134.7	4.61	3.8	N 42° 44.501	W 73° 21.636	
SW-9	5/3/18	12 ¹⁵	9.87	6.7	1.305	154.6	9.40	1.72	N 42° 44.476	W 73° 21.637	STORM SEWER
SW-10	5/3/18	12 ⁴⁰	8.08	6.6	0.796	157.0	7.49	2.97	N 42° 44.454 44.469	W 73° 21.648 21.621	STORM SEWER
SW-11A	5/3/18	13 ²⁰	5.07	6.8	0.131	145.1	12.49	4.37	N 42° 44.432	W 73° 21.623	8/4/5
SW-11B	5/3/18	13 ¹⁰	5.13	6.8	0.129	146.9	12.01	3.93	N 42° 44.431	W 73° 21.626	8/4/5

NOTES:

COMPLETED ON 5/3/2018



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Sterling Environmental Engineering, P.C.

SURFACE WATER SAMPLING LOG

SITE: TACONIC (2018-07)

ADDRESS: 136 COON BROOK ROAD
PETERSBURGH NEW YORK, 12138

FIELD STAFF: STEFAN TRUEX (GEOLOGIST)

INSTRUMENTS: YSI 556 MULTIPARAMETER PROBE
LAMOTTE 2020 TURBIDITY METER
GARMIN GPS MAP 76
HANNA INSTRUMENTS

AM
☒ CALIBRATED
☒ CALIBRATED
☒ CALIBRATED
☒ CALIBRATED

MID DAY
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PM
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LOCATION	DATE	TIME	TEMP (C)	pH (SU)	SPEC CONDUCT (mS/cm)	ORP (mV)	DO (mg/L)	TURBIDITY (NTU)	GPS (LAT)	GPS (LONG)
SW-12	5/3/18	1340	20.68	6.3	3.060	115.8	7.49	2.42	42°N 44.394	73°W 21.644
SW-13	5/3/18	1420	11.09	6.8	0.109	109.9	12.32	1.04	42°N 44.480	73°W 21.354

NOTES:

COMPLETED

on

5/3/2018

[Signature]

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SURFACE WATER SAMPLING LOG

SITE: TACONIC (2018-07)

ADDRESS: 136 COON BROOK ROAD
PETERSBURGH NEW YORK, 12138

FIELD STAFF: STEFAN TRUEX (GEOLOGIST)

INSTRUMENTS: YSI 556 MULTIPARAMETER PROBE
LAMOTTE 2020 TURBIDITY METER
GARMIN GPS MAP 76

HANNA PH PEN

☒ CALIBRATED

☒ CALIBRATED

☒ CALIBRATED

☒ CALIBRATED

MED DAY

PM

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☒

LOCATION	DATE	TIME	TEMP (C)	pH (SU)	SPEC CONDUCT (mS/cm)	ORP (mV)	DO (mg/L)	TURBIDITY (NTU)	GPS (LAT)	GPS (LONG)
SW-14	5/7/18	1200	9.42	6.8	0.821	84.2	84.2 8.64	4.74	N 42° 44.510	W 73° 21.660

NOTES:



5/7/2018

Surface Water Sampling
Surface Water Quality Parameters
Taconic Site
Petersburgh, New York

Date and Time	Location ID	Temperature (°C)	pH (SU)	Specific Conductivity (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Water Column Height (feet)	Sample Location Photograph Collected (Y/N)	GPS Coordinates Collected (Y/N)	Notes
3-1-19/10:58	SW-13	1.9	7.09	0.170 ^m	225.9	13.16	1.34	1.2	yes	NO	SW-13-030119/X-1-030119
3-1-19/12:15	SW-1	1.2	7.28	0.070	207.5	11.13	23.2	0.3	yes	No	SW-1-030119
3/1/19/12:55	SW-6	1.7	7.06	0.042	201.0	13.94	1.09	0.7	yes	NO	SW-6-030119 SW-6-030119-MS SW-6-030119-MS



Surface Water Sampling
Surface Water Quality Parameters
Taconic Site
Petersburgh, New York

Date and Time	Location ID	Temperature	pH	Specific Conductivity	ORP	Dissolved Oxygen	Turbidity	Water Column Height	Sample Location Photograph Collected (Y/N)	GPS Coordinates Collected (Y/N)	Notes
		(°C)	(SU)	(µS/cm)	(mV)	(mg/l)	(NTU)	(feet)			
8/22/19 1115	SW-13	19.6	7.03	0.160	63.0	7.60	1.99	~1	N	N	
8/22/19 1155	SW-06	22.5	7.20	0.090	55.4	7.24	2.97	~1.5	N	No	
8/22/19 1220	SW-01	25.4	6.46	0.070	83.2	3.87	9.51	~0.25	N	N	

Surface Water Sampling
Surface Water Quality Parameters
Taconic Site
Petersburgh, New York

Date and Time	Location ID	Temperature	pH	Specific Conductivity	ORP	Dissolved Oxygen	Turbidity	Water Column Height	Sample Location Photograph Collected (Y/N)	GPS Coordinates Collected (Y/N)	Notes
		(°C)	(SU)	(µS/cm)	(mV)	(mg/l)	(NTU)	(feet)			
10/17/19 0905	SW-1	9.6	6.78	0.056	138.0	10.5	7.46	0.5'	N	N	DUP 4 collected for PFOAs 10/17/19
10/17/19 1000	SW-6	10.1	6.88	0.044	106.1	14.1	10.63	3-4'	N	N	TAL/TCL collected
10/17/19 1100	SW-13	10.3	7.58	0.053	-28.8	11.3	43.5	6'	N	N	Batch QC collected for PFOAs
10/17/19 1130	SW-15	11.7	8.83	0.043	-114.8	14.0	12.8	1'	Y	N	



Borehole Geophysical Testing Report

**BOREHOLE GEOPHYSICAL LOGGING – DATA REPORT
TACONIC – PETERSBURGH RI PHASE 1A
PETERSBURGH, NEW YORK**

Prepared for:

TACONIC
136 Coonbrook Road
Petersburgh, New York 12138

Prepared by:

Hager-Richter Geoscience, Inc.
846 Main Street
Fords, New Jersey 08863

File 18RG07
October 2019

Tadpole	Structure Category (Symbol Color)	Description
	Bedding (Brown)	Planar geologic feature interpreted as bedding
	Fracture Rank 1 (Light Blue)	Minor Fracture - not distinct and may not be continuous around the borehole
	Fracture Rank 2 (Blue)	Intermediate Fracture - distinct and continuous around the borehole with little or no apparent aperture
	Fracture Rank 3 (Red)	Major Fracture - distinct and continuous around the borehole with apparent aperture

Figure 1. Key to bedrock structure categories.

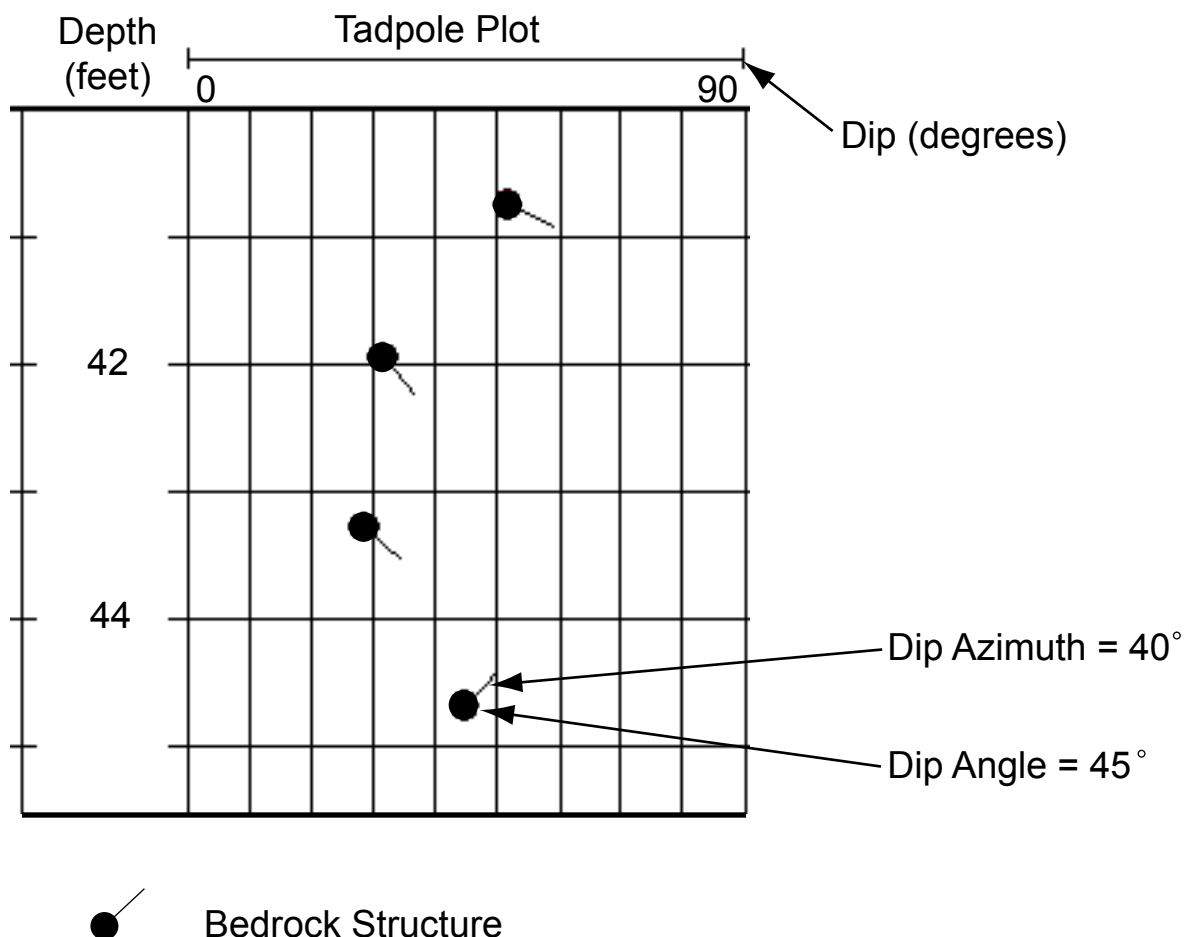


Figure 2. Tadpole plot explanation. The orientation of the bedrock structures is graphically displayed by a tadpole consisting of a circle, the head, and a line, the tail. The position of the head, left to right on the tadpole plot, gives the dip angle of the structure. The left side of the track indicates a dip angle of 0°, and the right side of the track indicates a dip angle of 90° from horizontal. The orientation of the tail gives the dip azimuth of the structure and can be read like a compass. The tail pointing directly up is 0°, north.

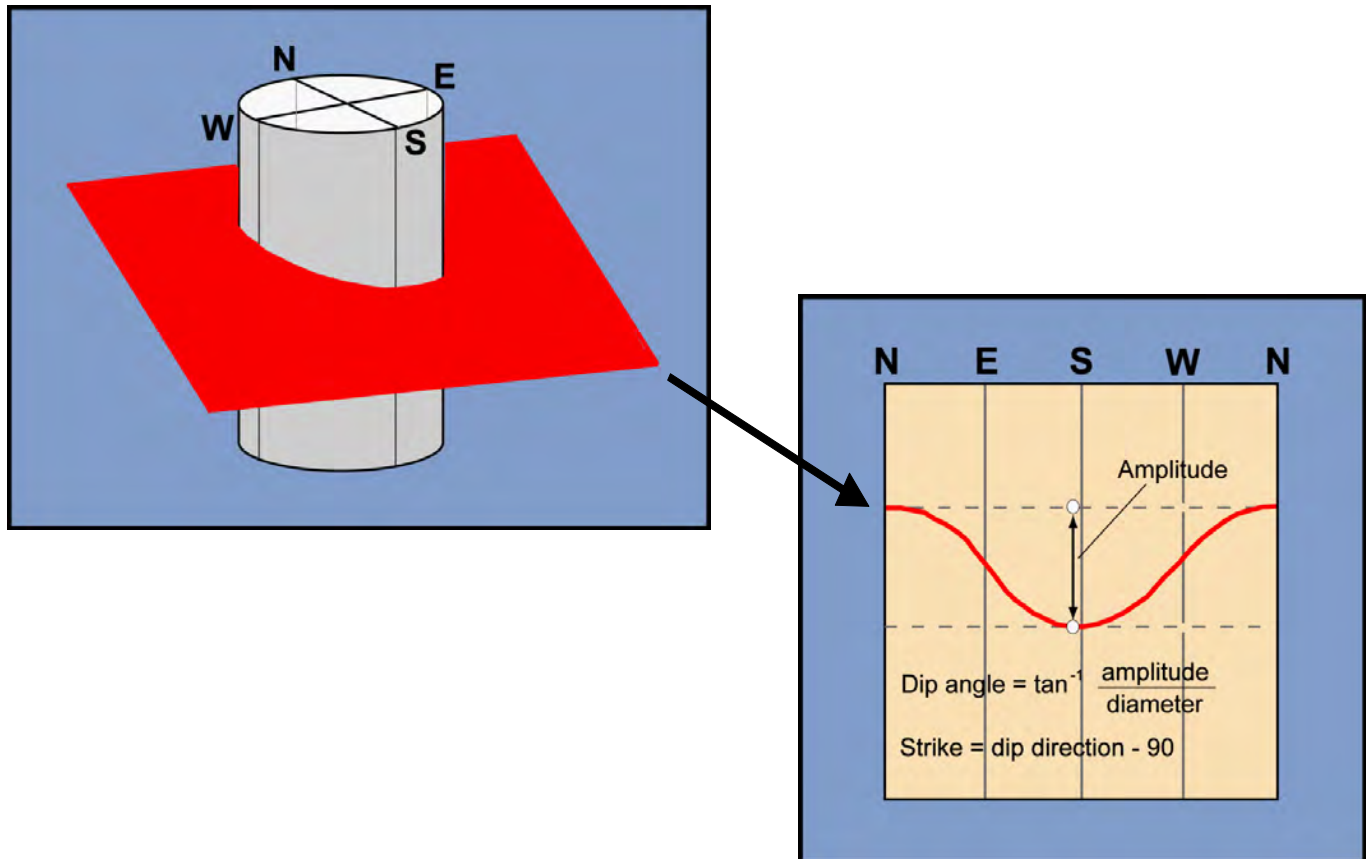


Figure 3. TelevIEWER explanation. The image on the left depicts a planar structure in red, such as a fracture or bedding plane, intersected by a borehole. The image on the right depicts the same structure unwrapped as it would be displayed in an optical televIEWER (OTV) or acoustic televIEWER (ATV) log.

Figure modified from: Garfield, R.L., Day-Lewis, F.D., Gray, M.B., Johnson, C.D., Williams, J.H. and Day-Lewis, A.D.F., 2003, Fractured-Rock Aquifer Characterization within a Regional Geologic Context: Results from the Bucknell University Hydrogeophysics Test Site, GSA Northeastern Section, 38th Annual Meeting, Paper No. 25-19.

HAGER-RICHTER GEOSCIENCE, INC.

Salem, New Hampshire
Tel: 603.893.9944

Fords, New Jersey
Tel: 732.661.0555

PW-1 - BOREHOLE IMAGE LOGS

DATE LOGGED:

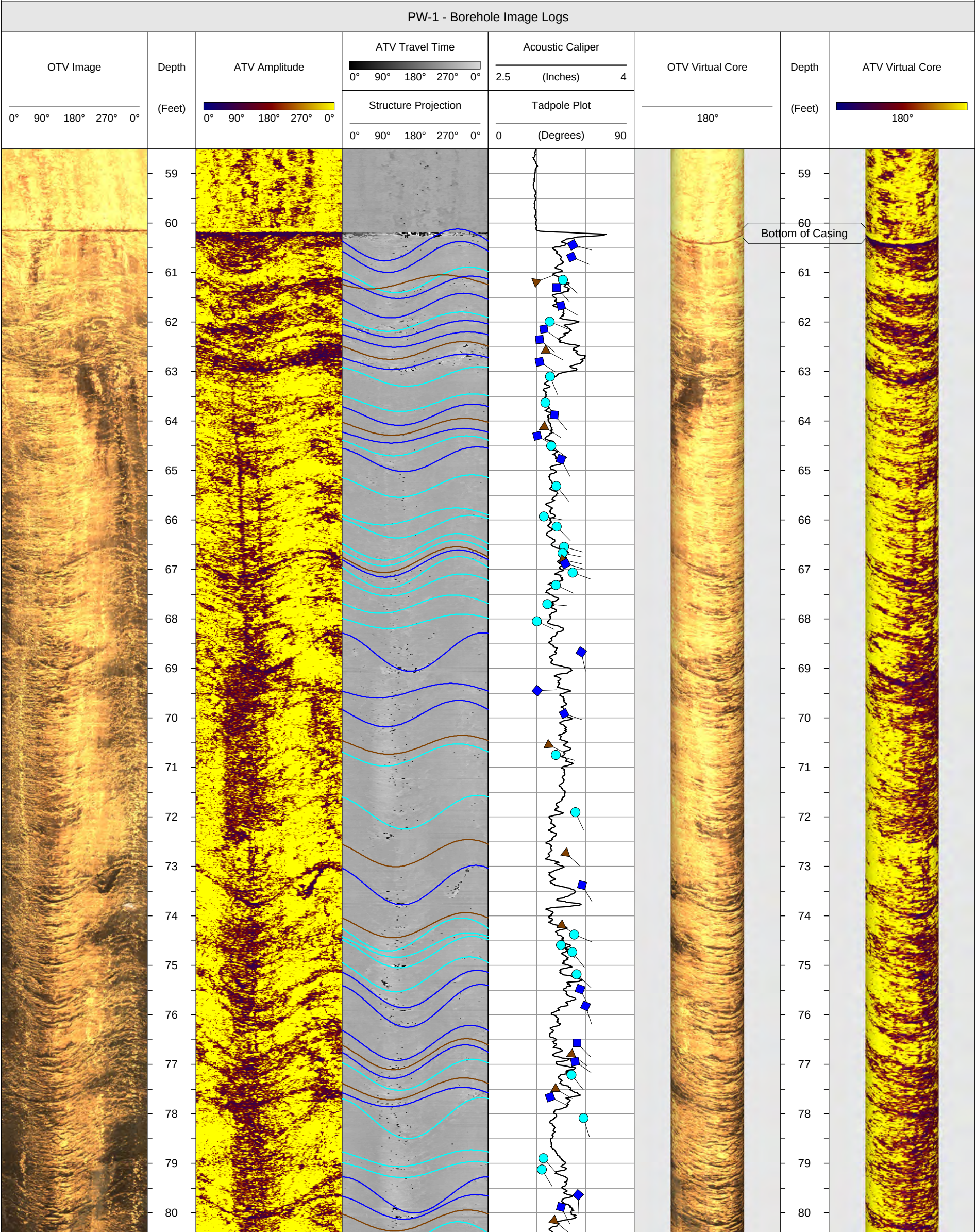
June 18, 2018

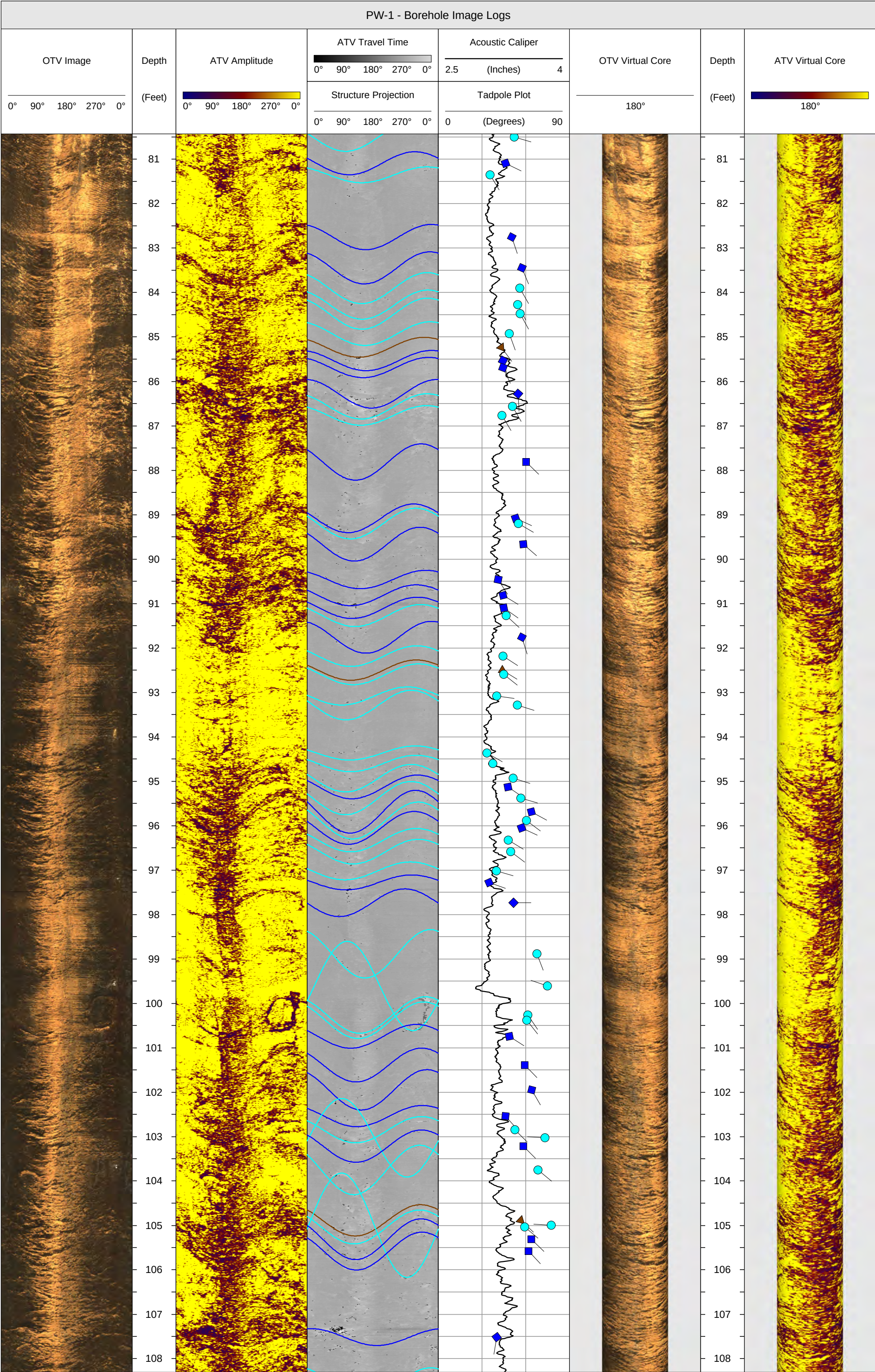
CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 136 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones
CLIENT REP. ON-SITE: Stefan Truex (Sterling)
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

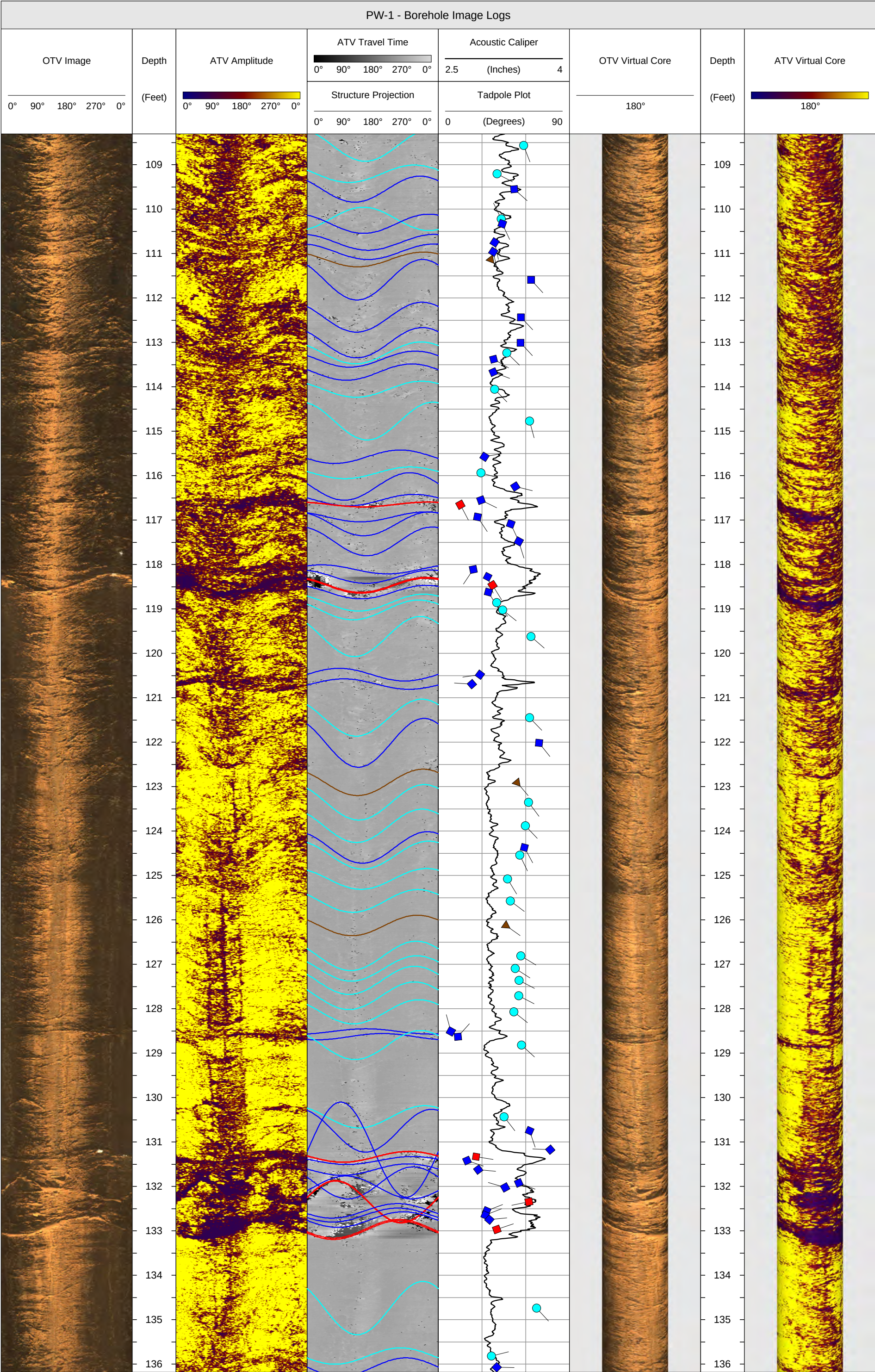
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	1.7 Feet Below the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	15.1 Feet

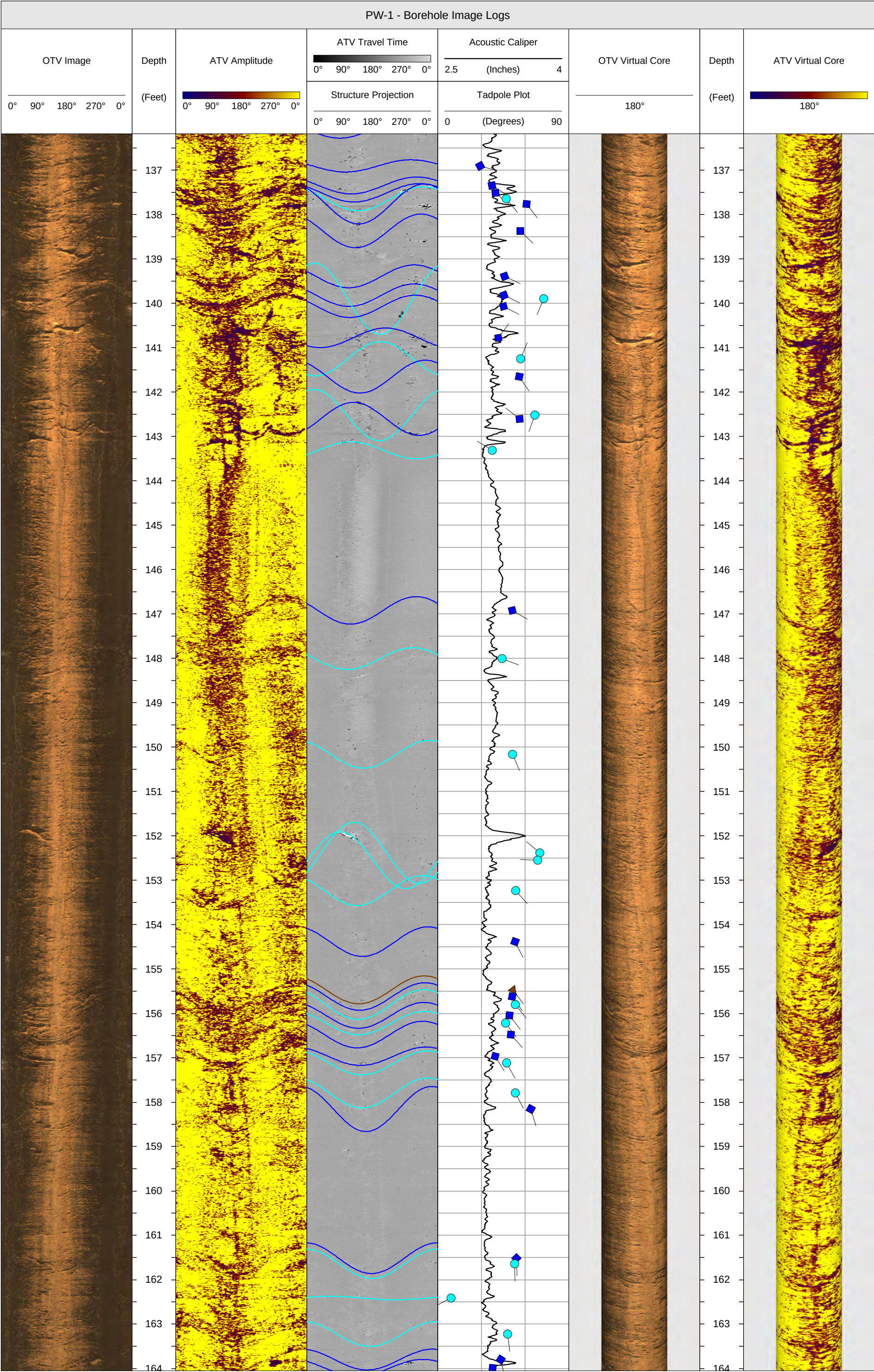
STRUCTURE LEGEND

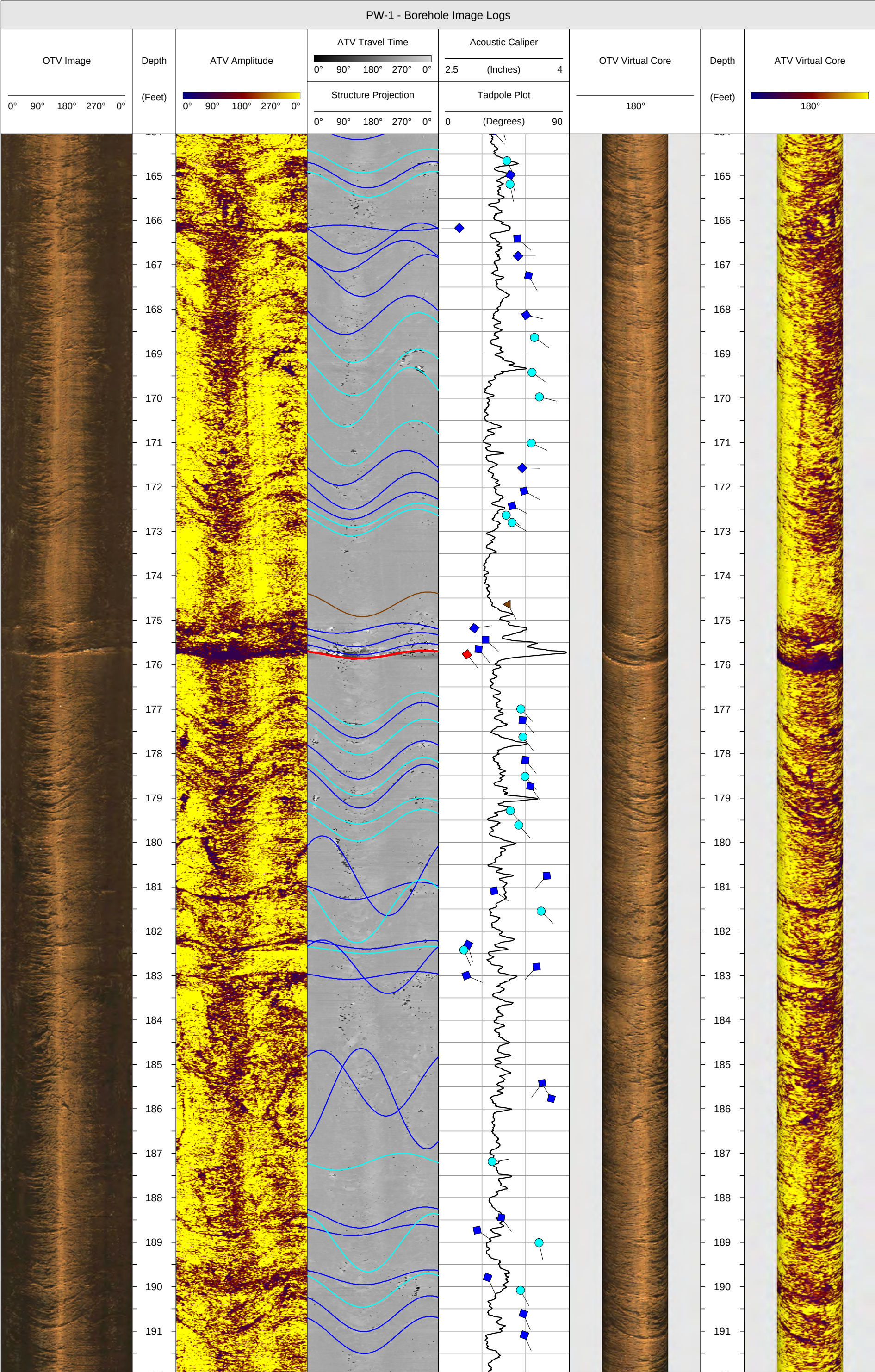
 Fracture Rank 1
 Fracture Rank 2
 Fracture Rank 3
 Bedding

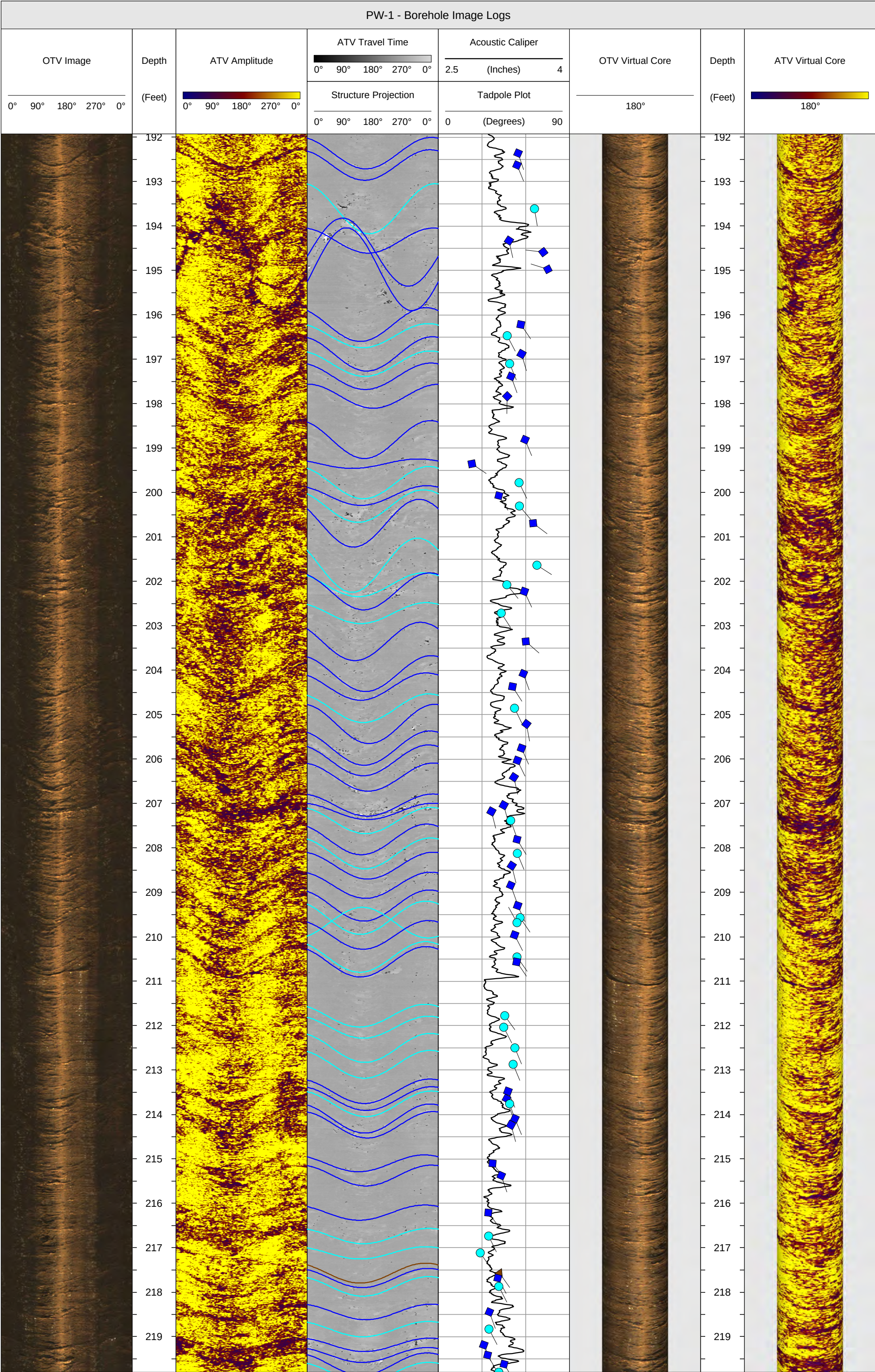


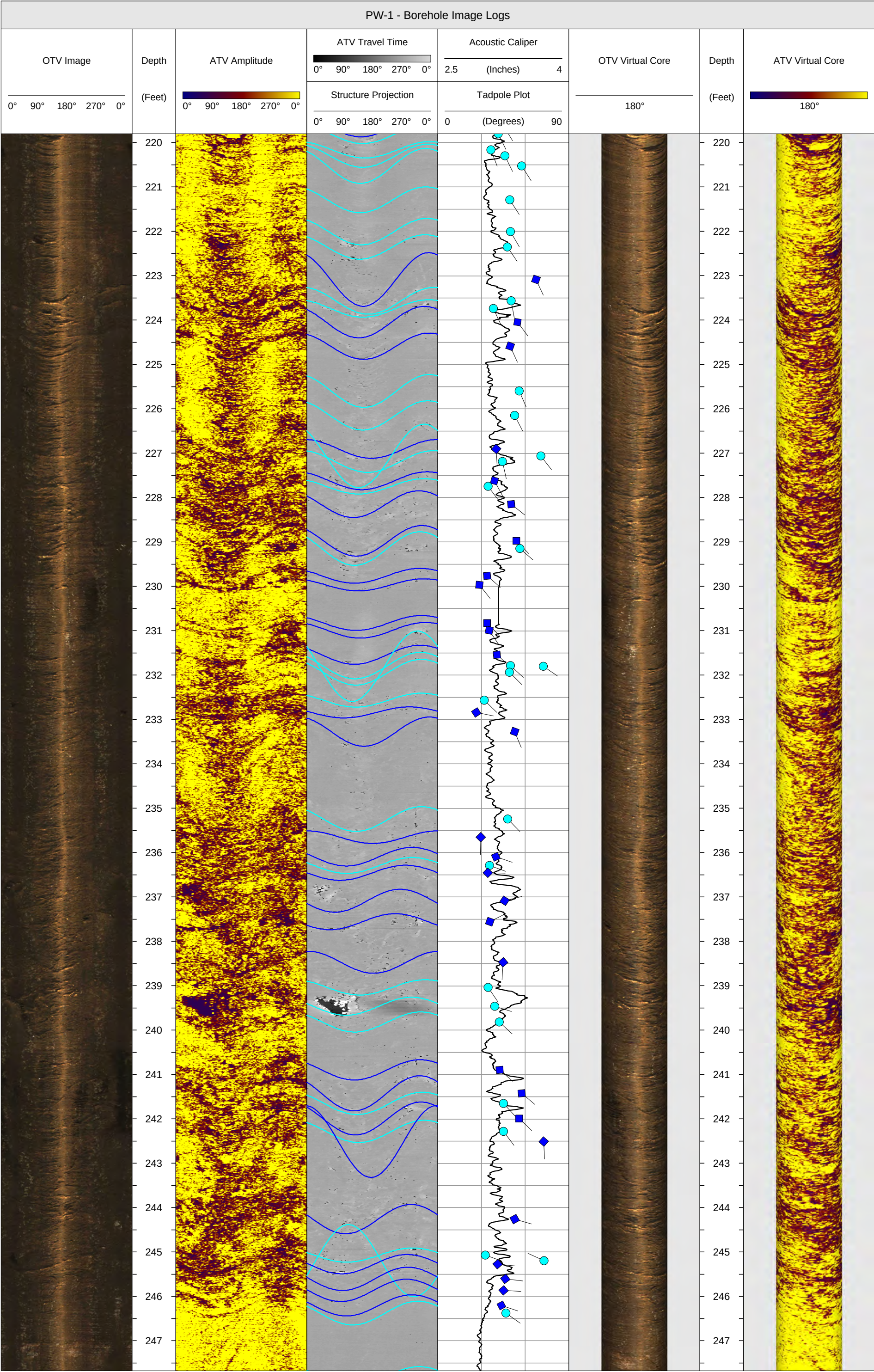


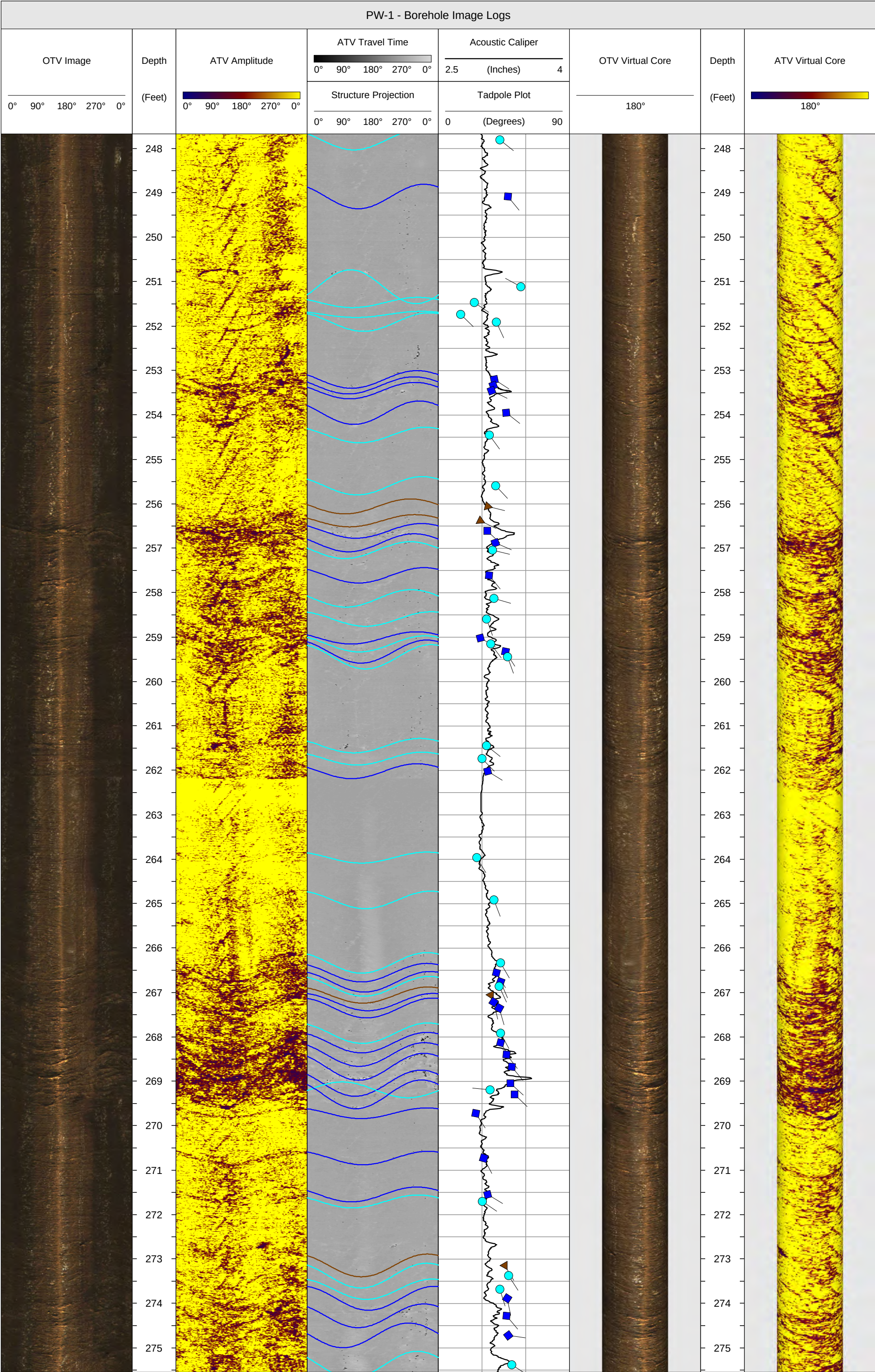


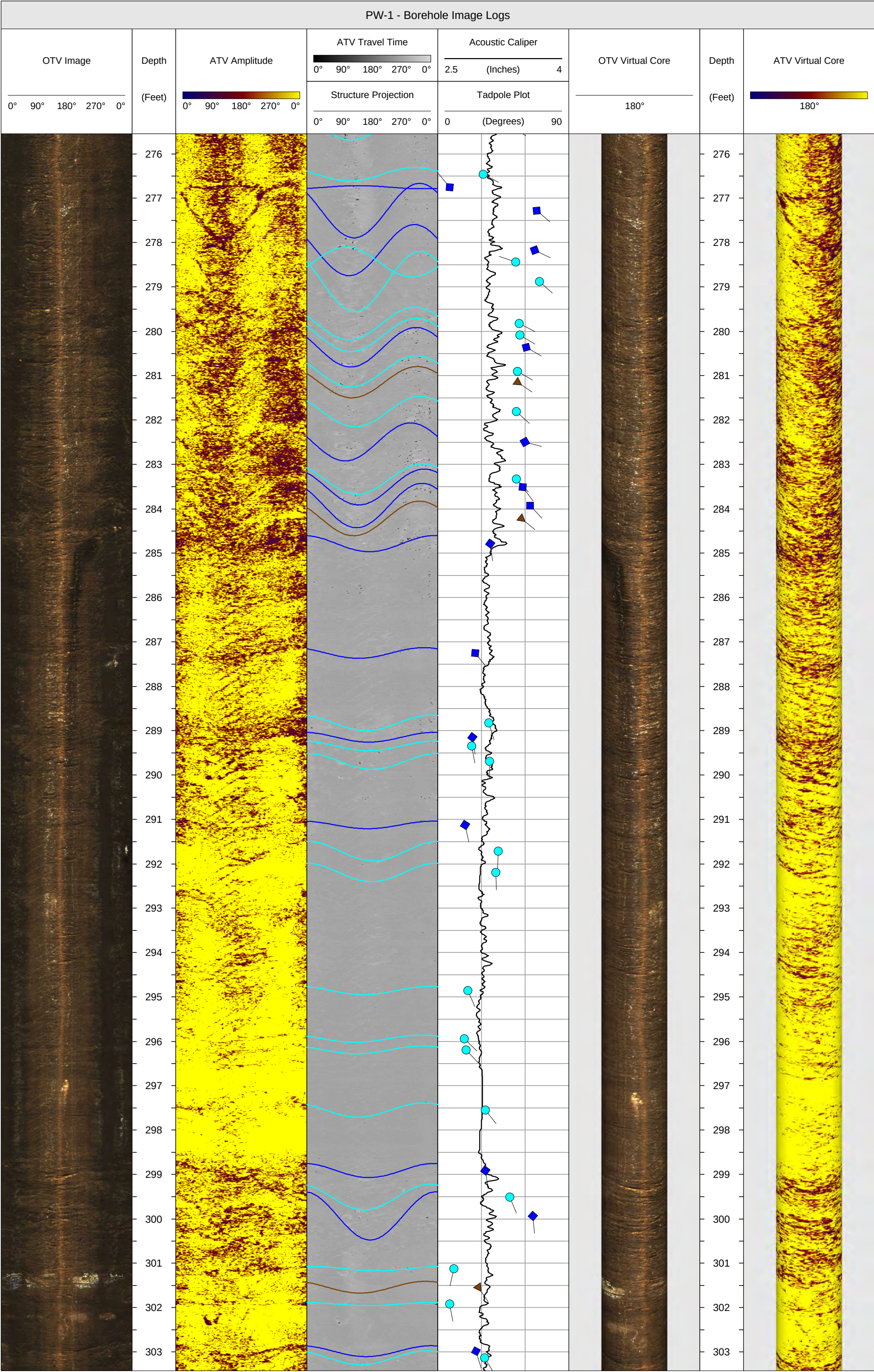


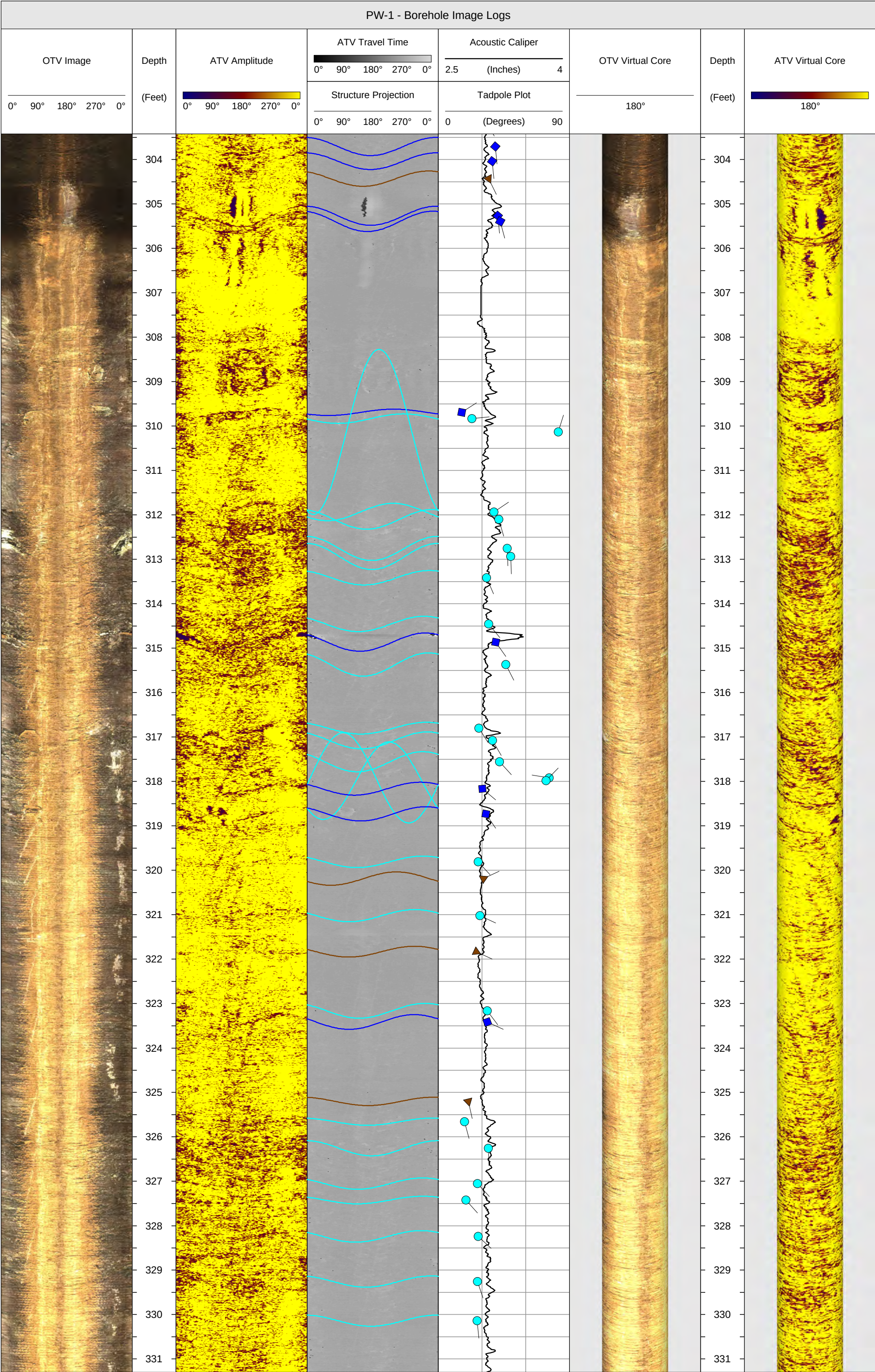


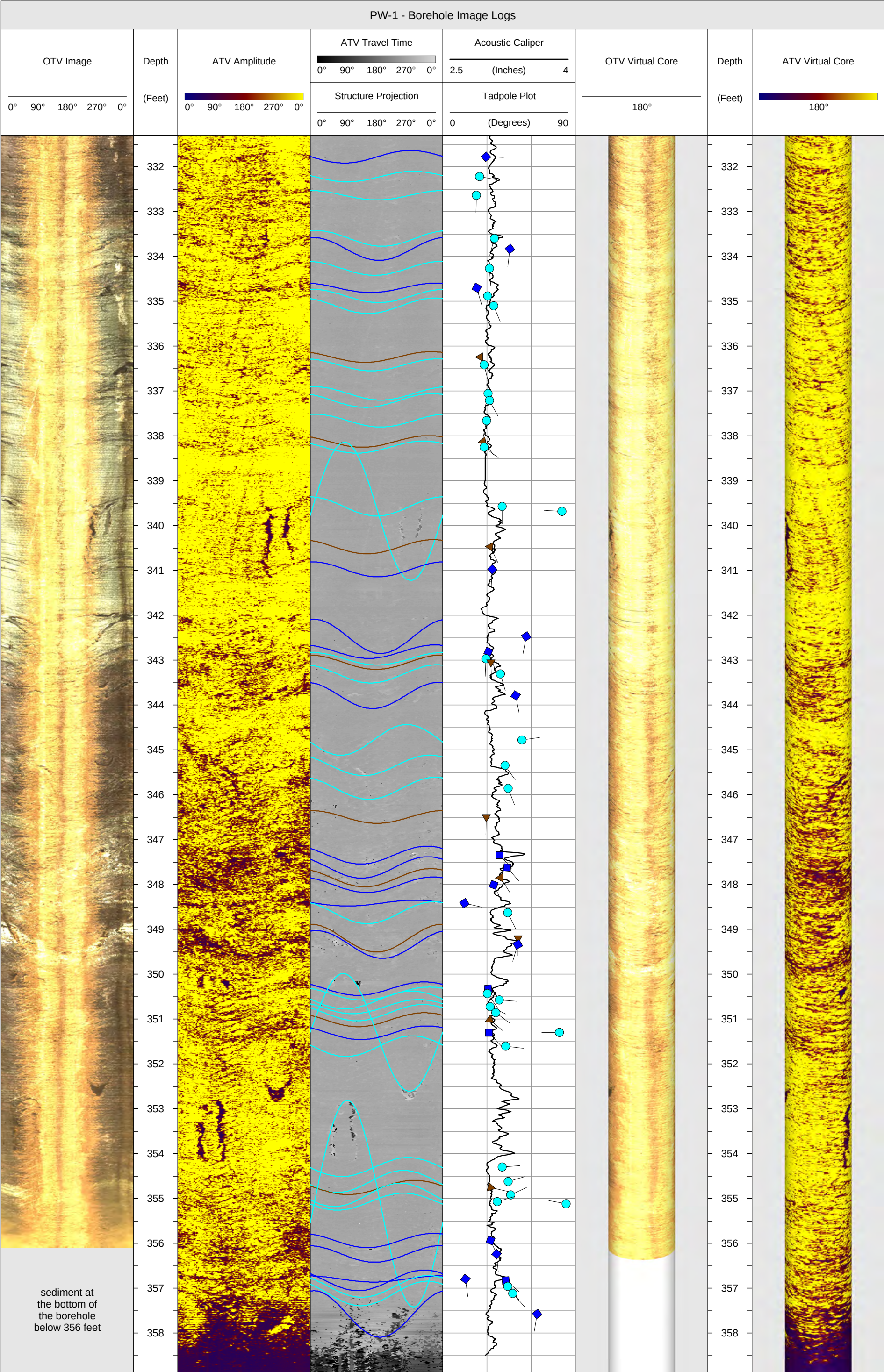












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PW-1 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED:

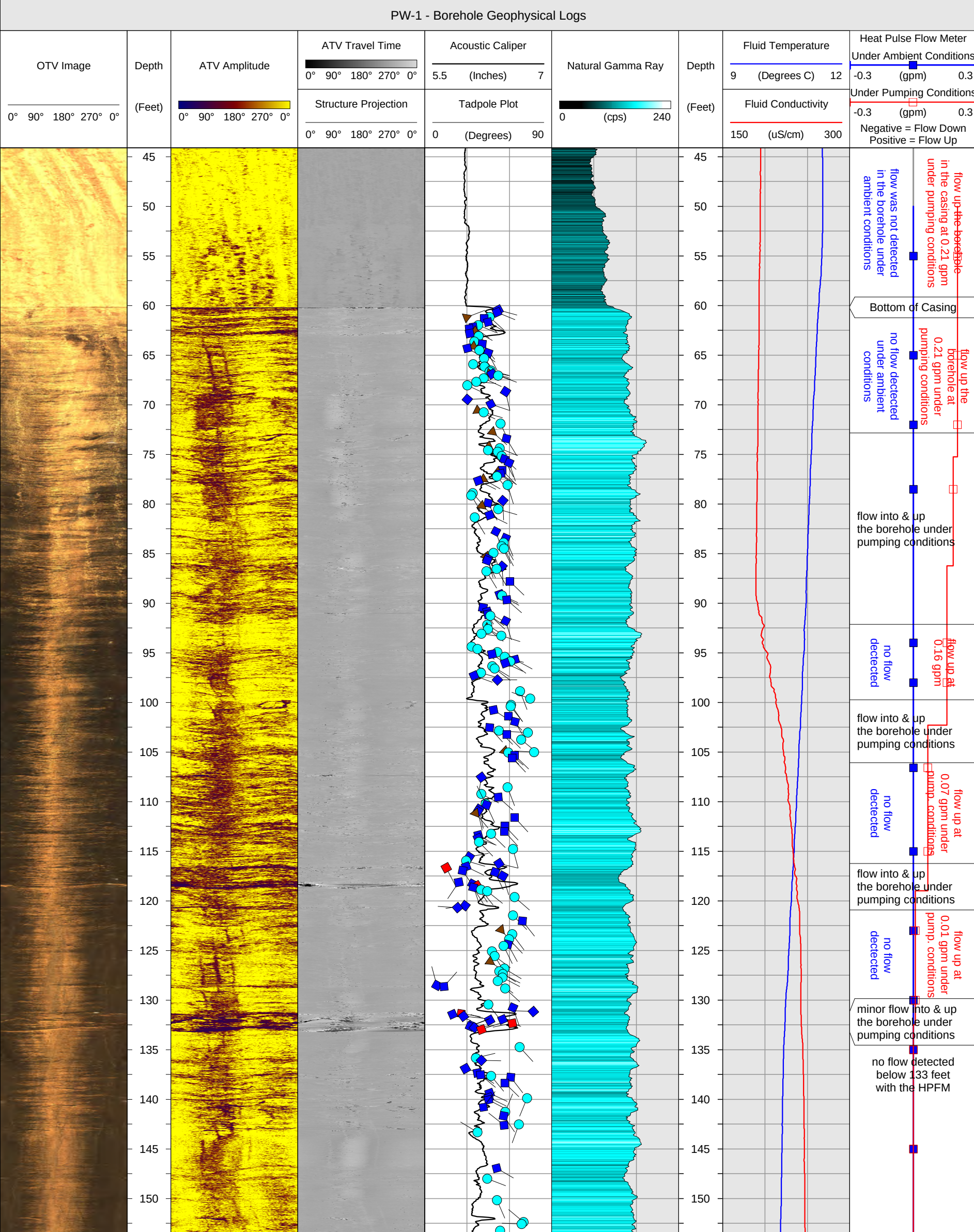
June 18, 2018

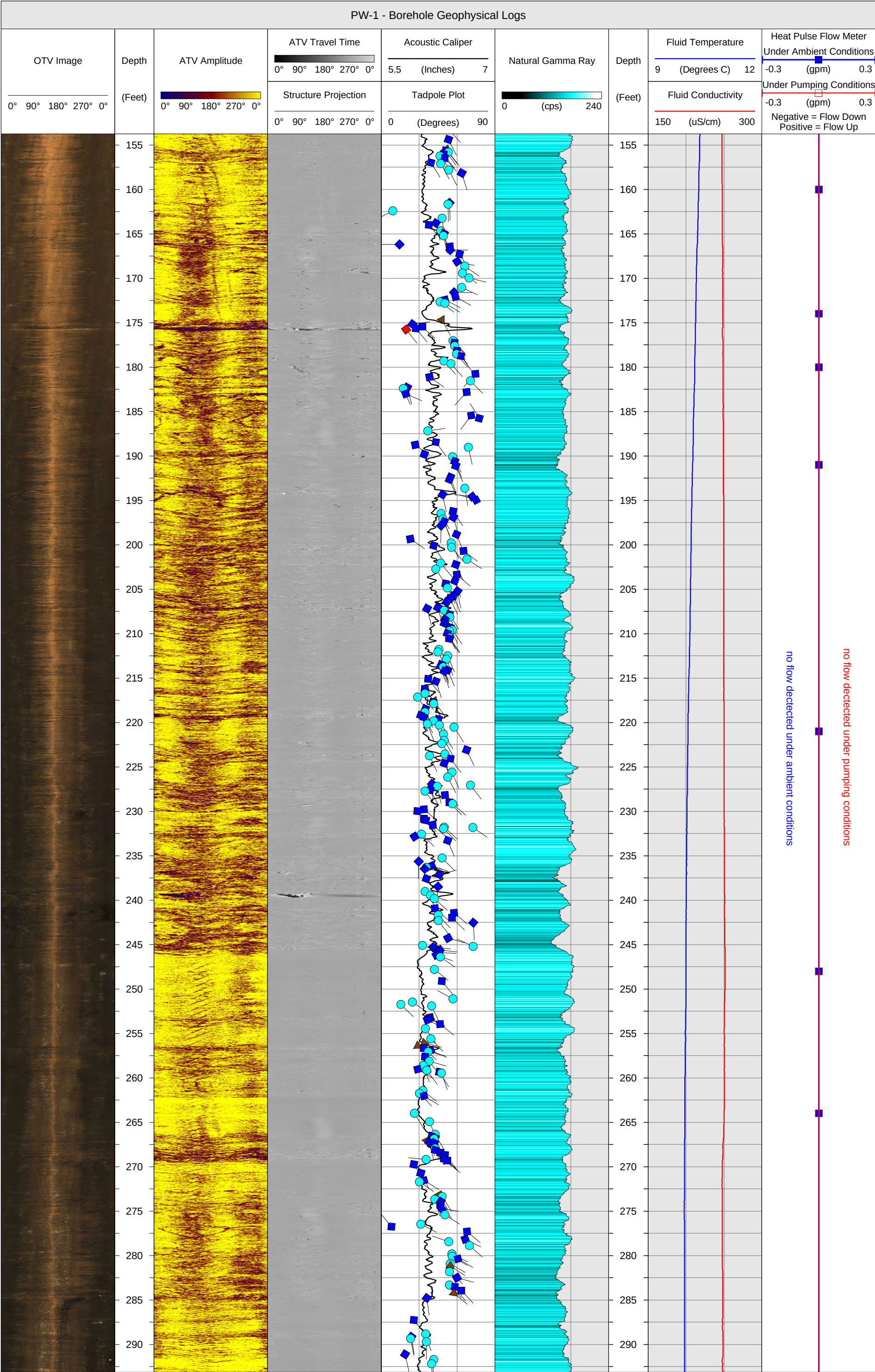
CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 136 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones
CLIENT REP. ON-SITE: Stefan Truex (Sterling)
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

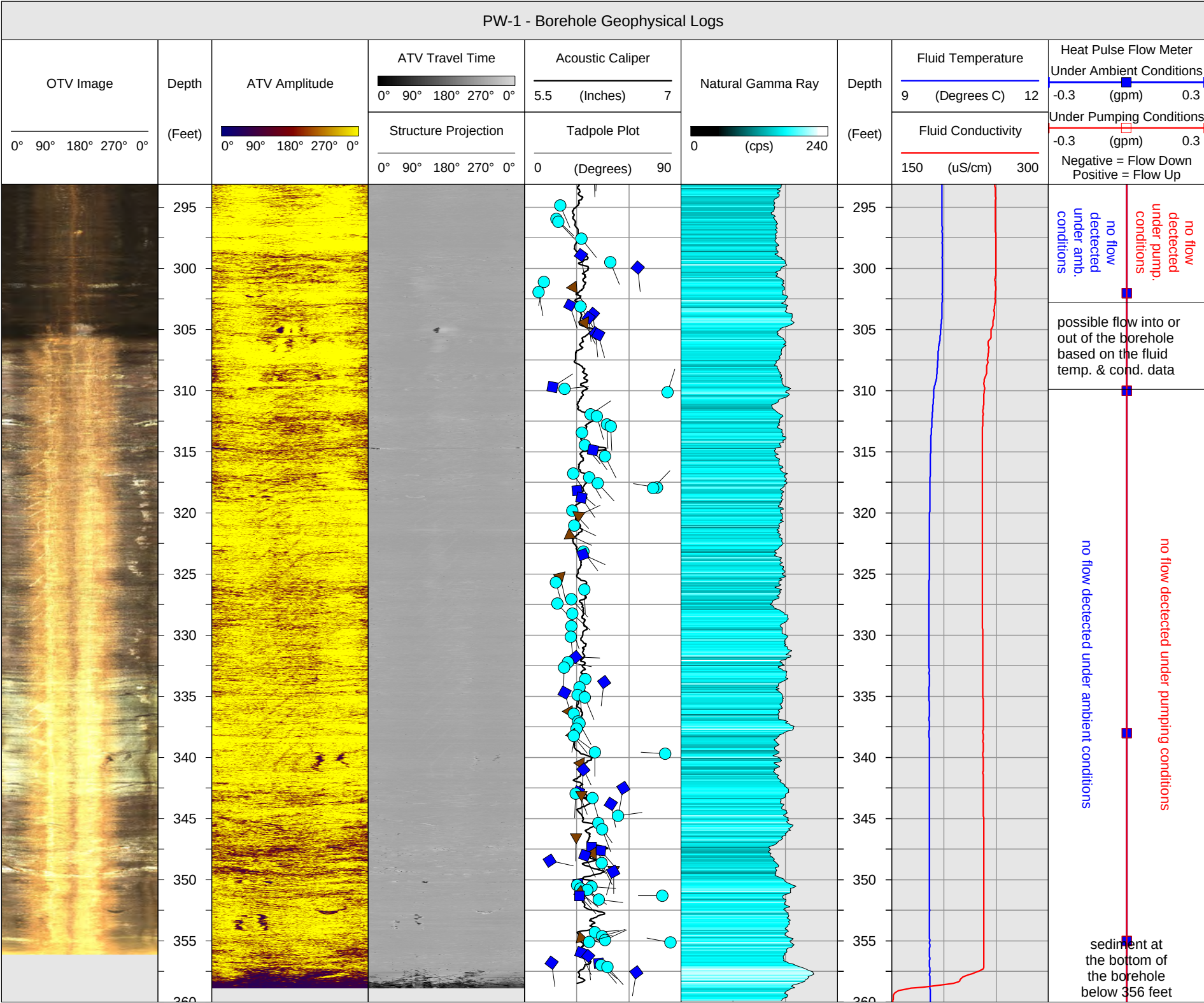
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	1.7 Feet Below the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	15.1 Feet

STRUCTURE LEGEND

 Fracture Rank 1
  Fracture Rank 2
  Fracture Rank 3
  Bedding







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PW-4 - BOREHOLE IMAGE LOGS

DATE LOGGED:

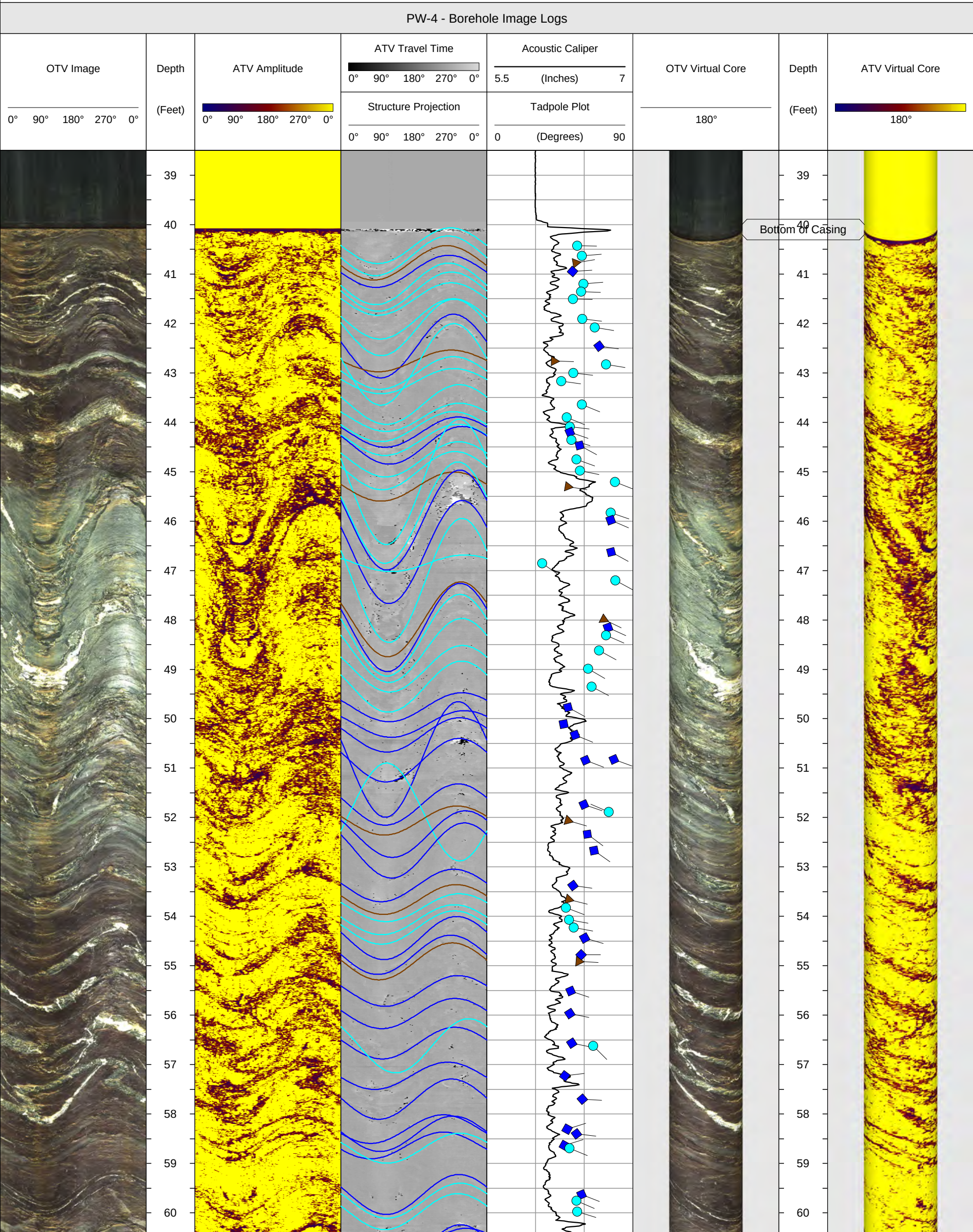
September 5, 2019

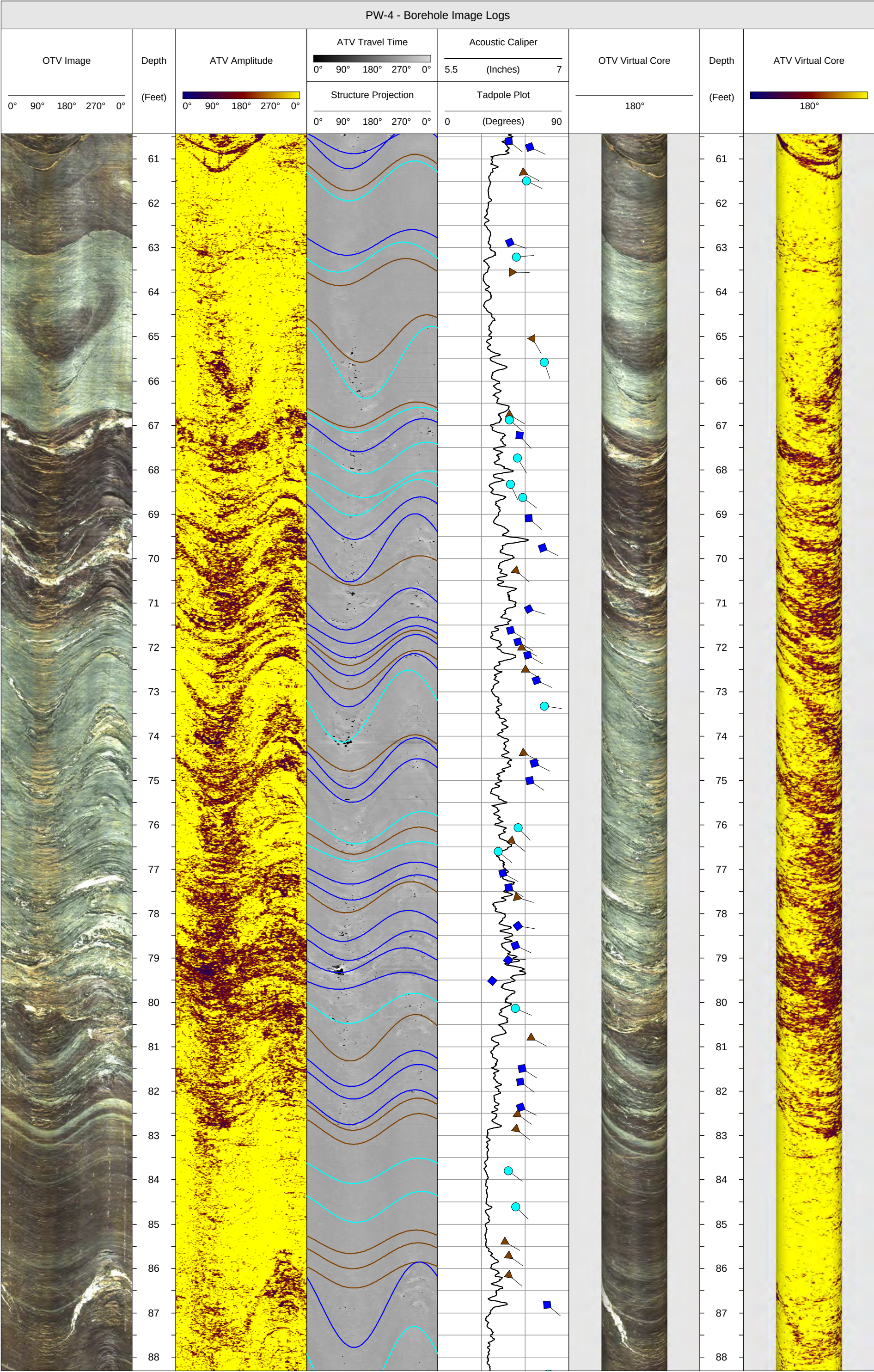
CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 136 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Nick DeCristofaro & Mikko Aarnio
CLIENT REP. ON-SITE: Jeff Mirarchi
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

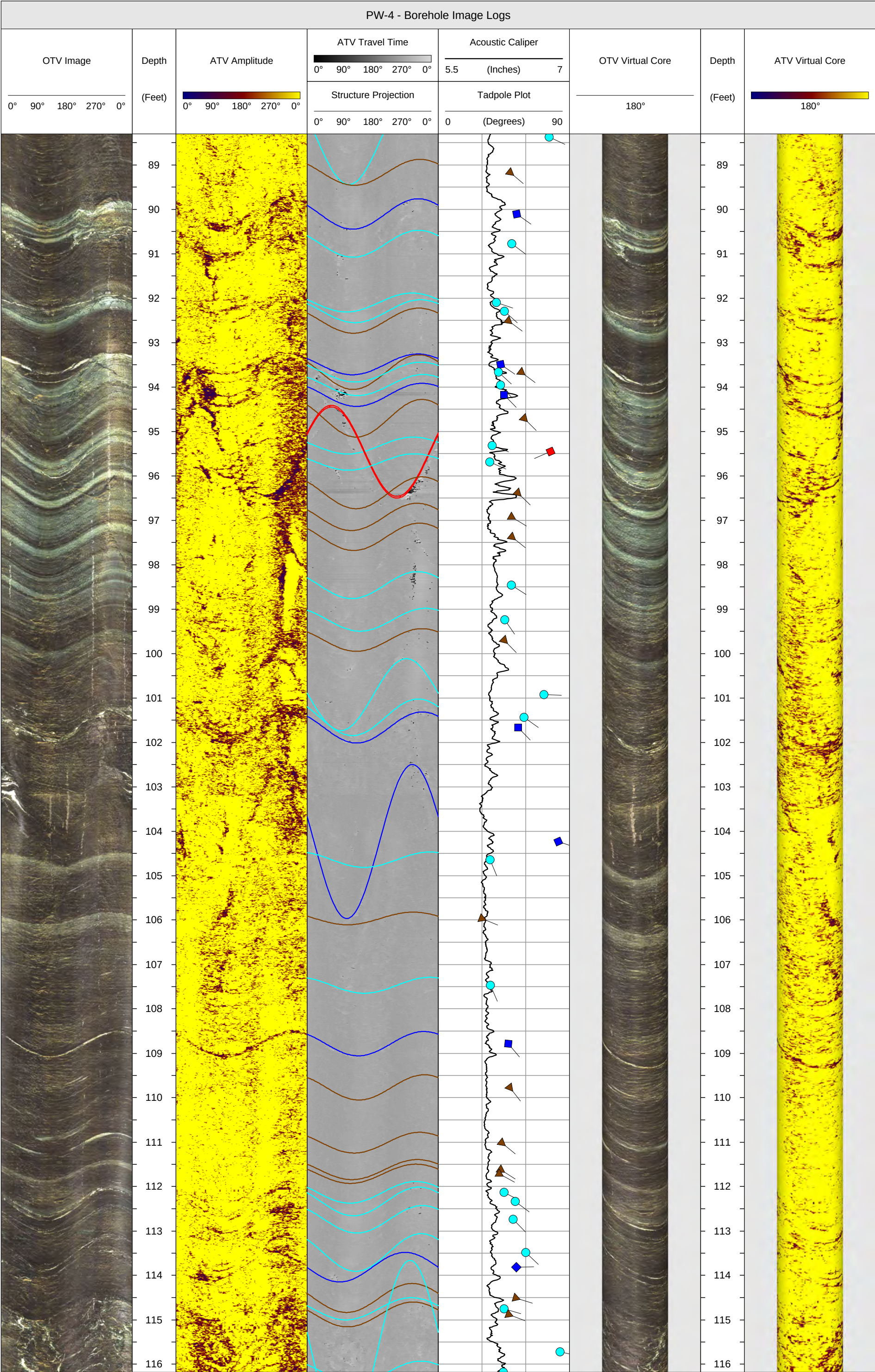
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	1.5 Feet Above the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	Flowing Artesian

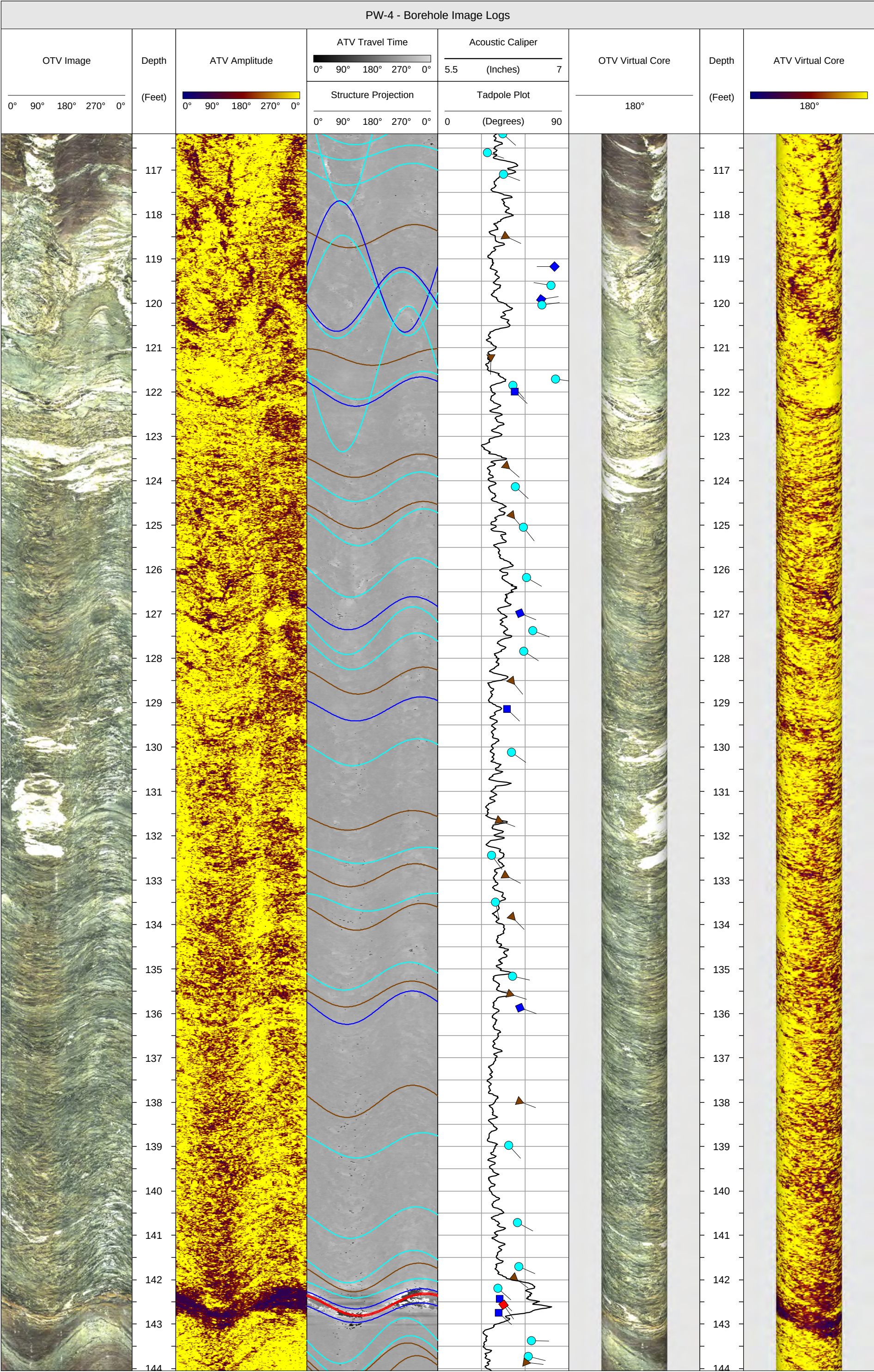
STRUCTURE LEGEND

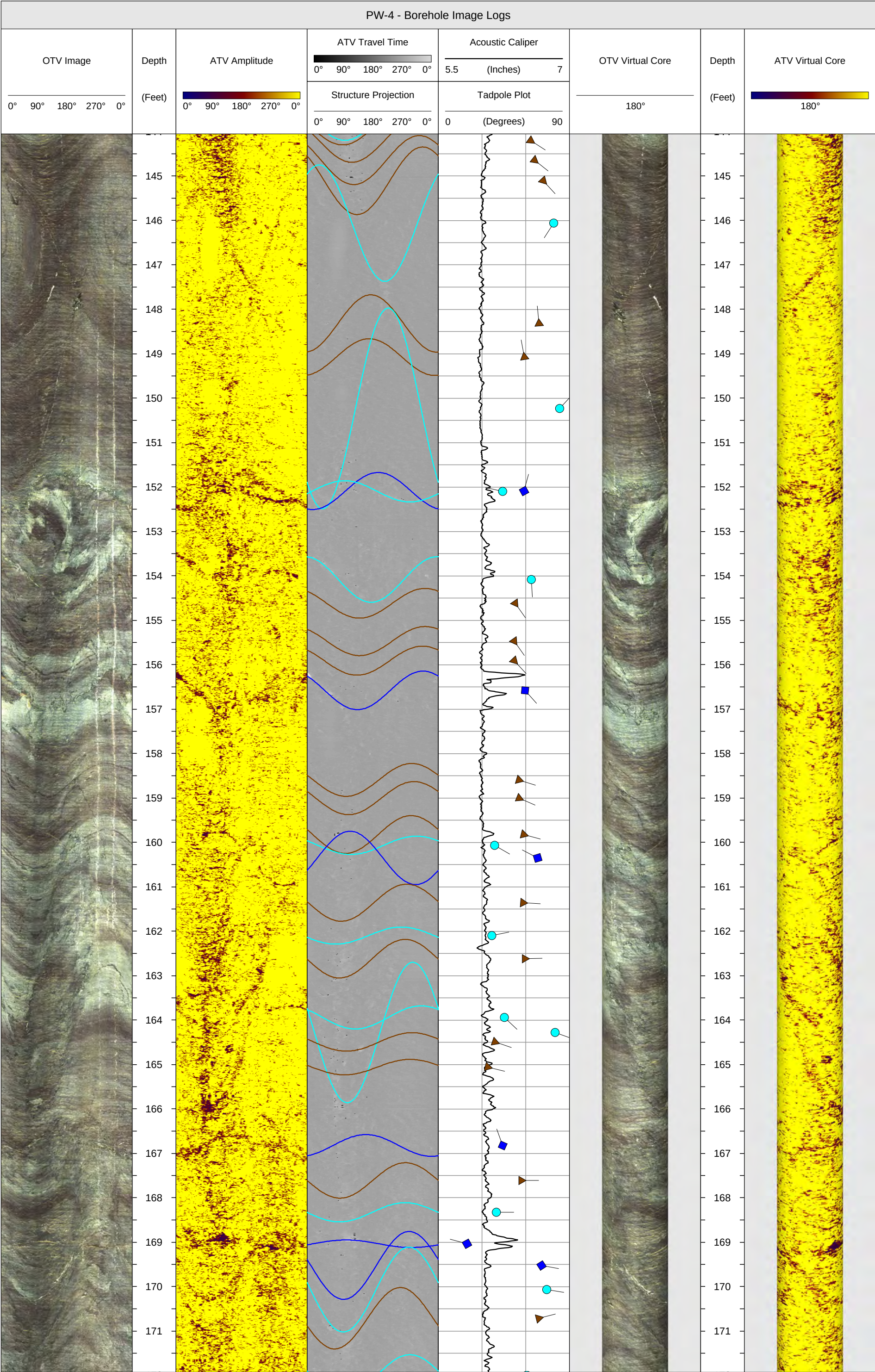
Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding

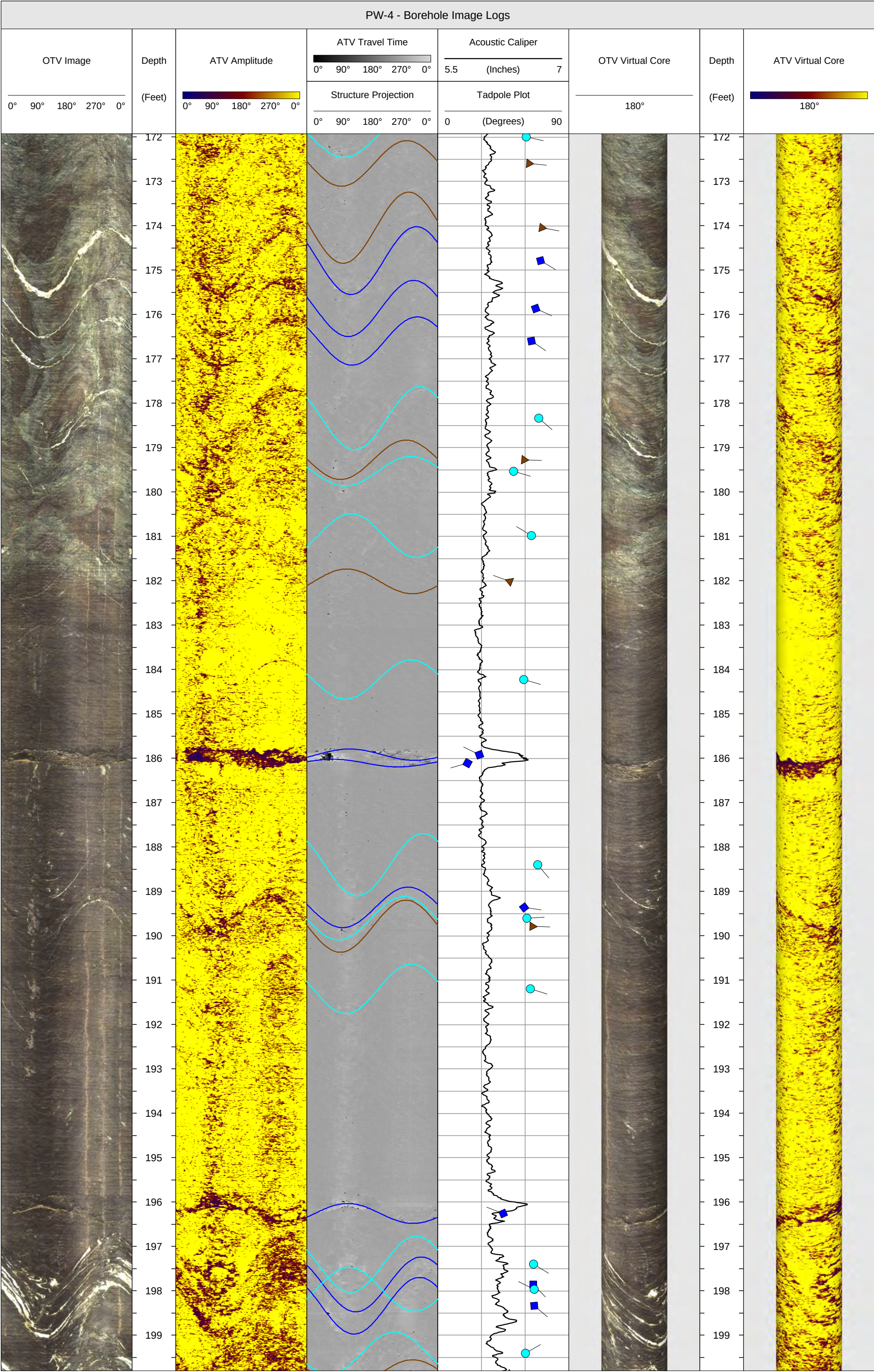


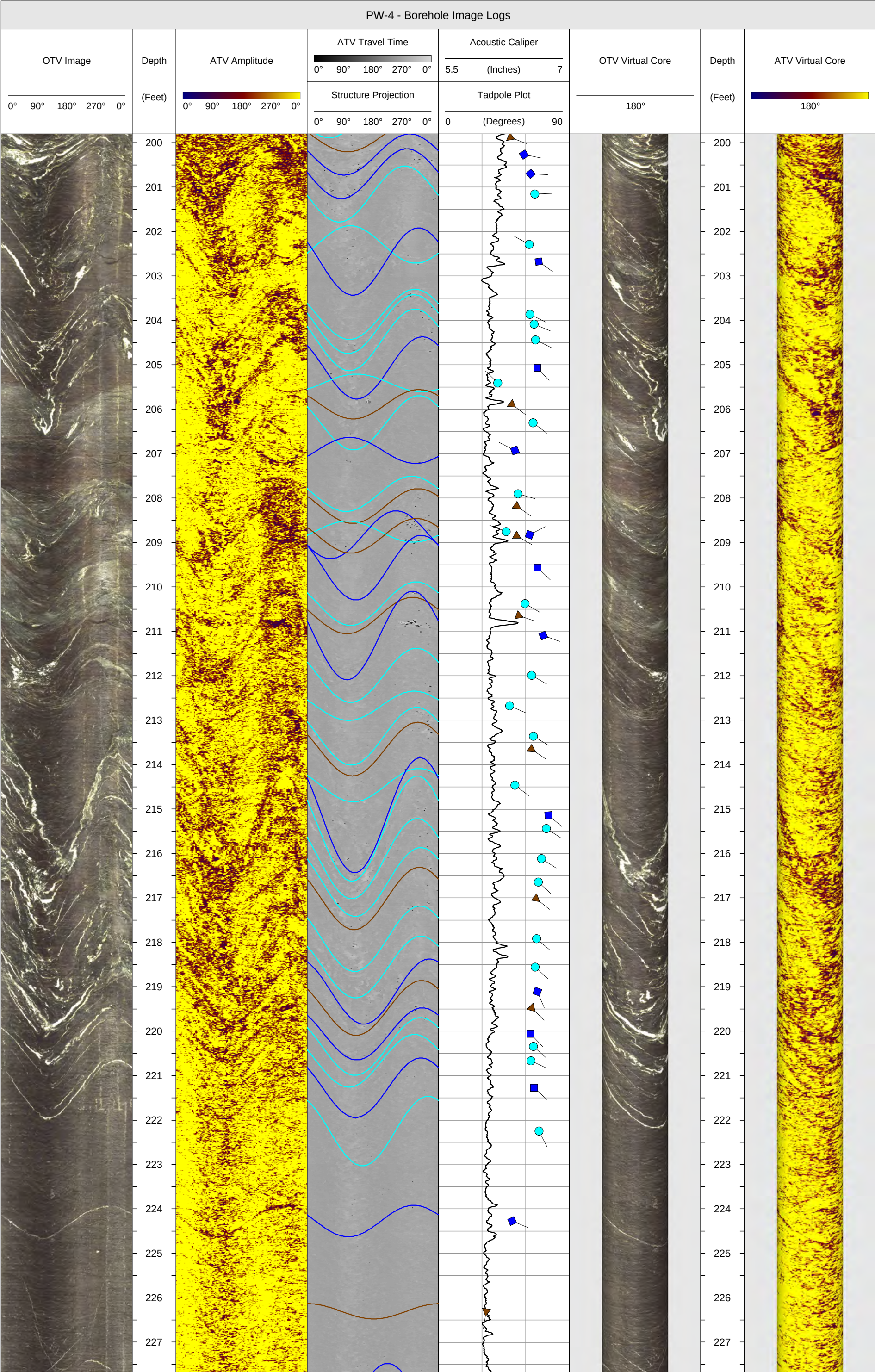


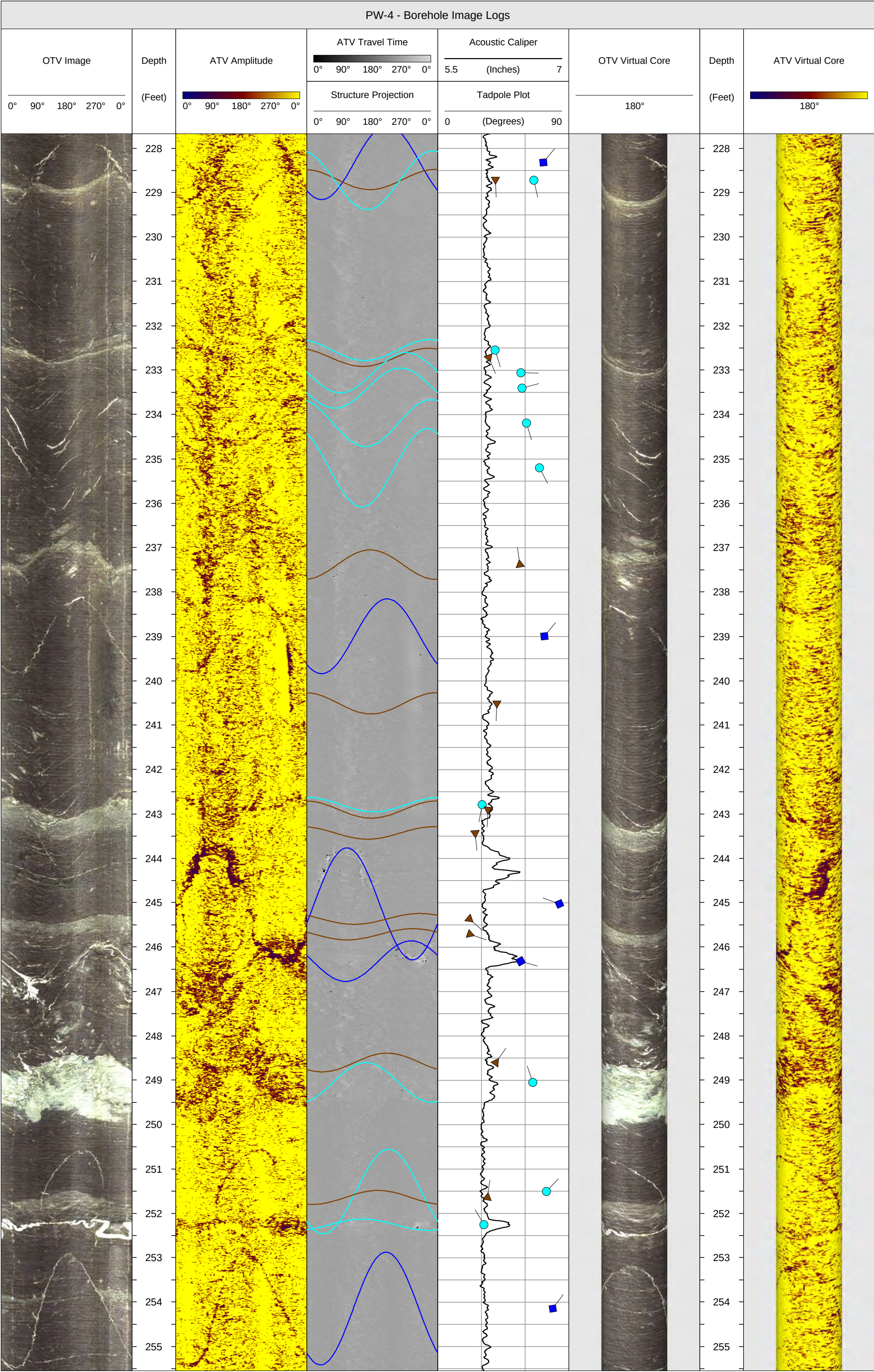


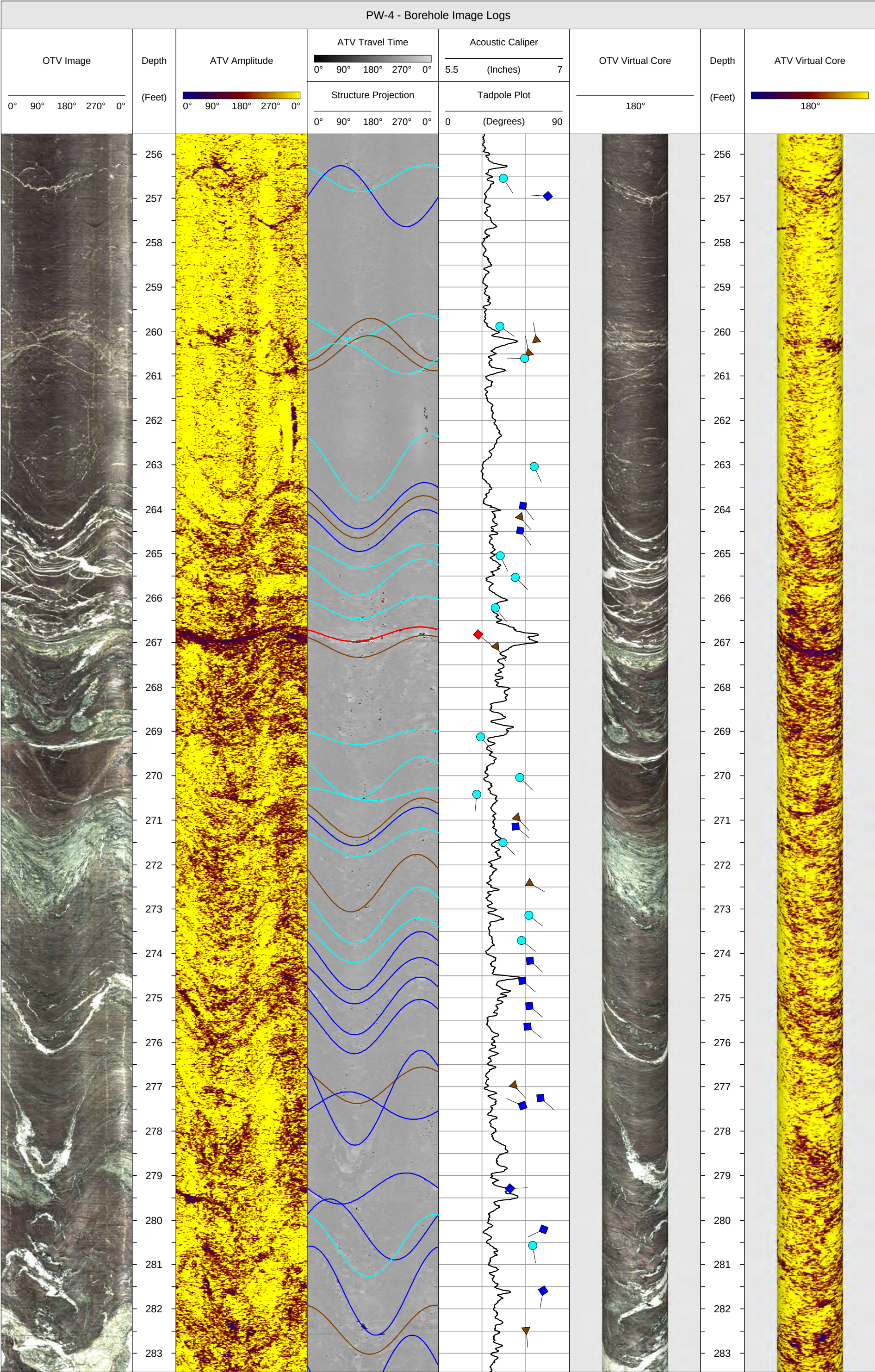


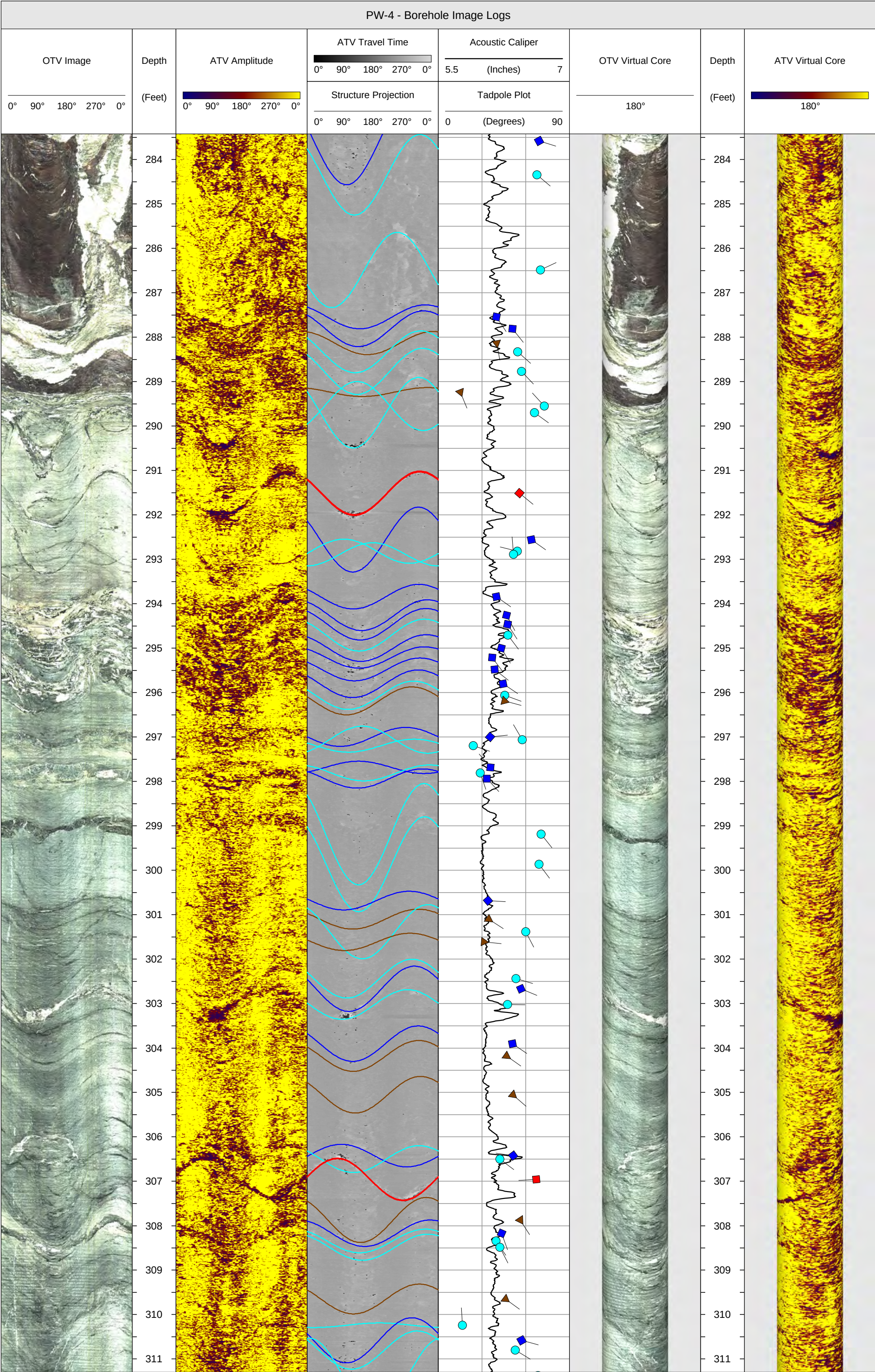


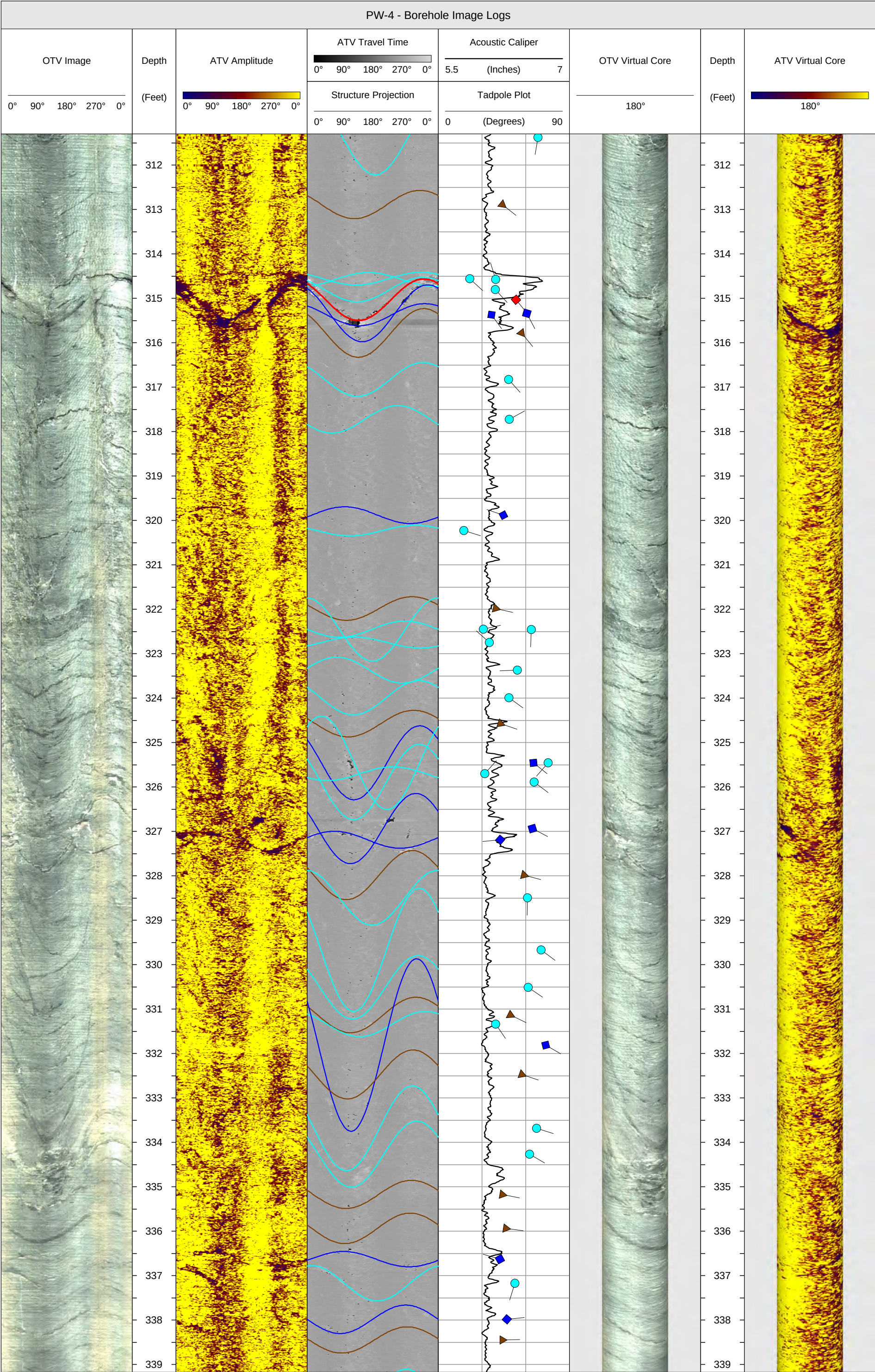


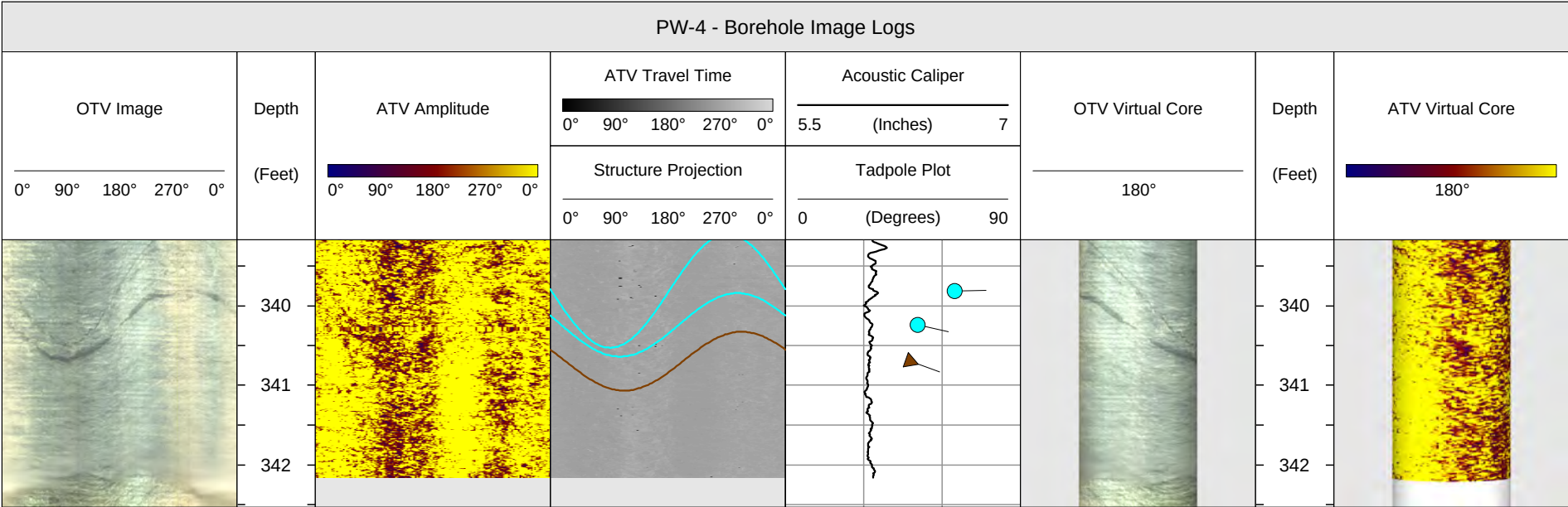












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PW-4 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED:

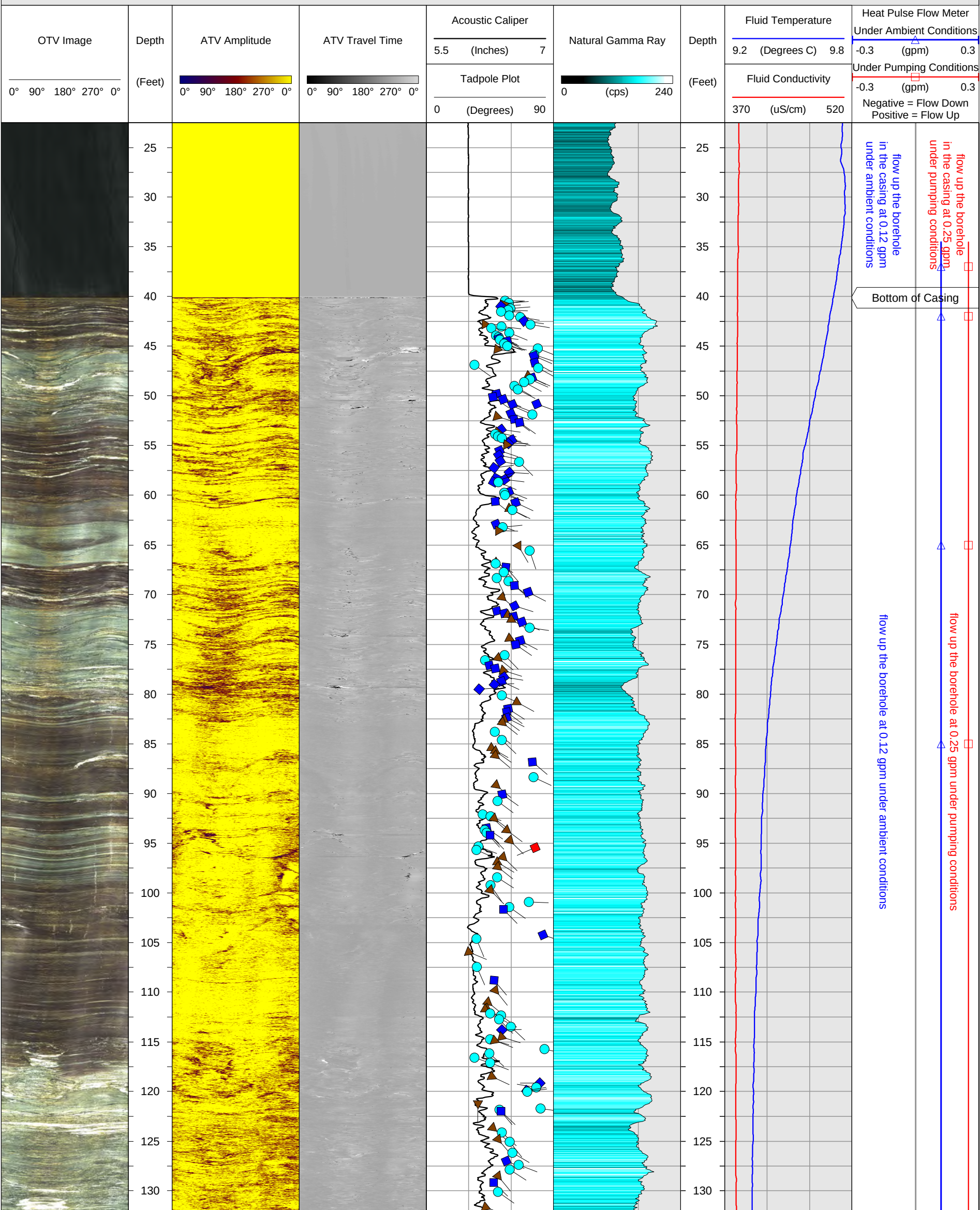
September 5, 2019

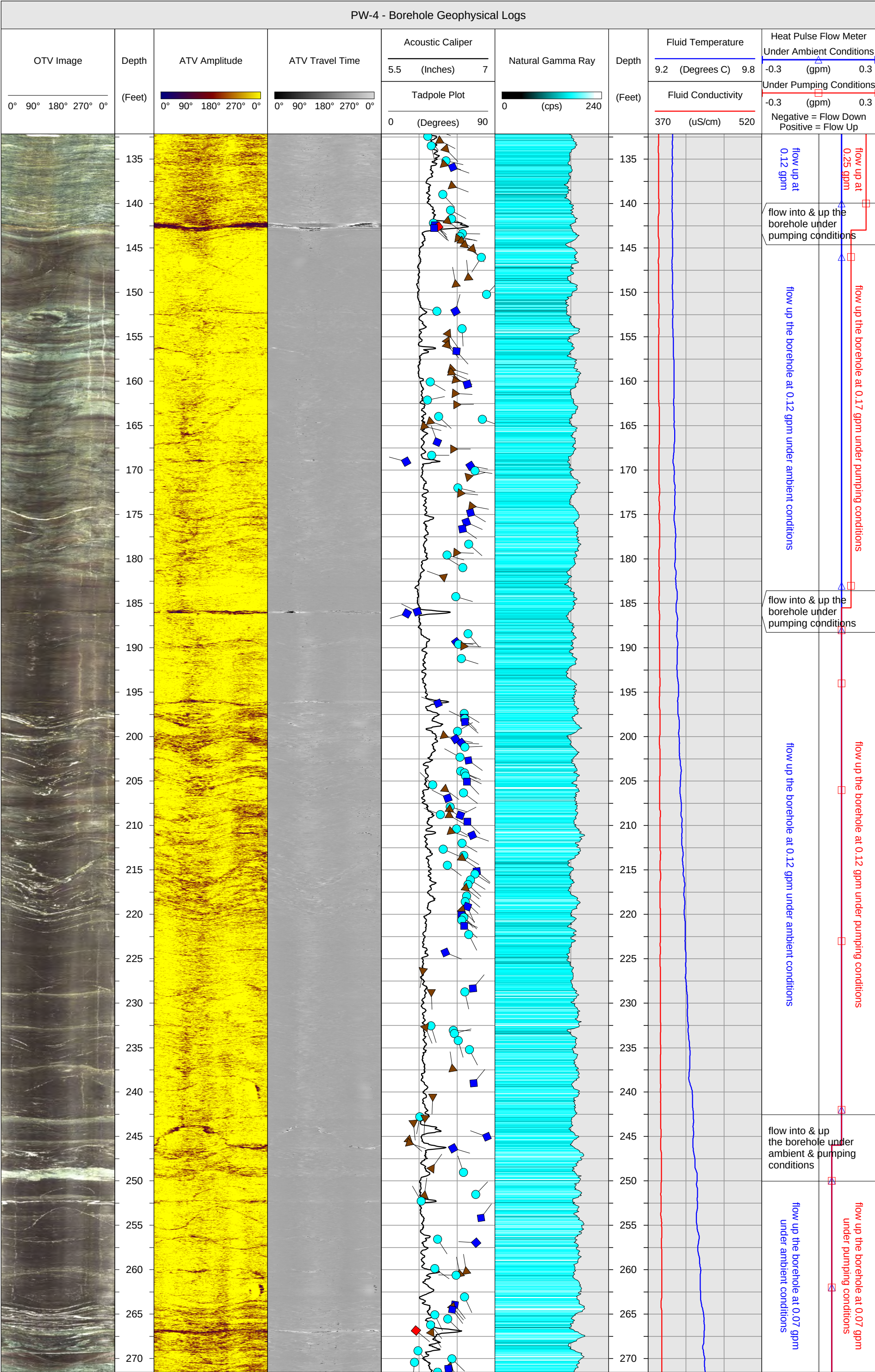
CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 136 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Nick DeCristofaro & Mikko Aarnio
CLIENT REP. ON-SITE: Jeff Mirarchi
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

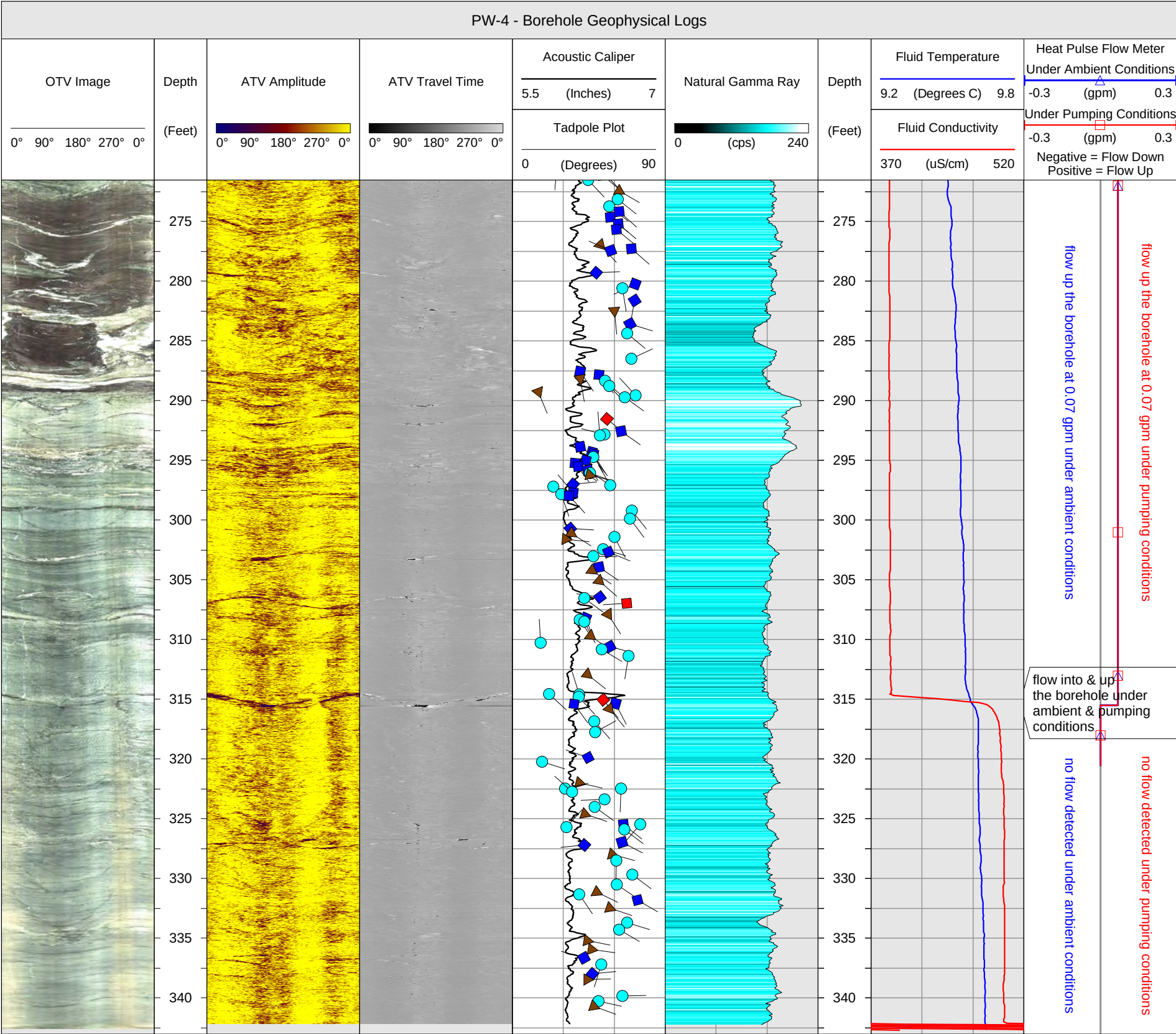
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	1.5 Feet Above the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	Flowing Artesian

STRUCTURE LEGEND

 Fracture Rank 1
 Fracture Rank 2
 Fracture Rank 3
 Bedding







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RW-159CBR - BOREHOLE IMAGE LOGS

DATE LOGGED:

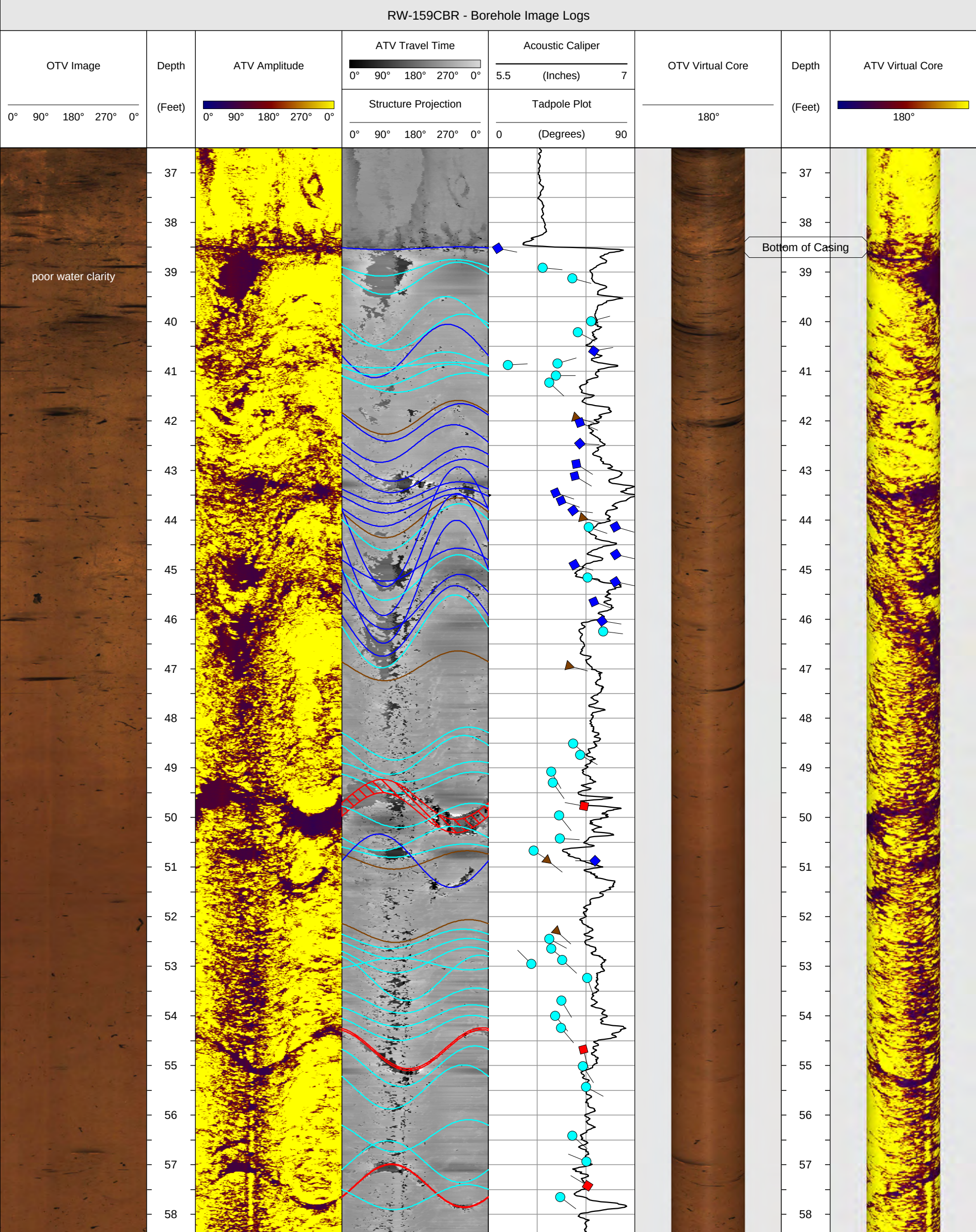
June 18, 2018

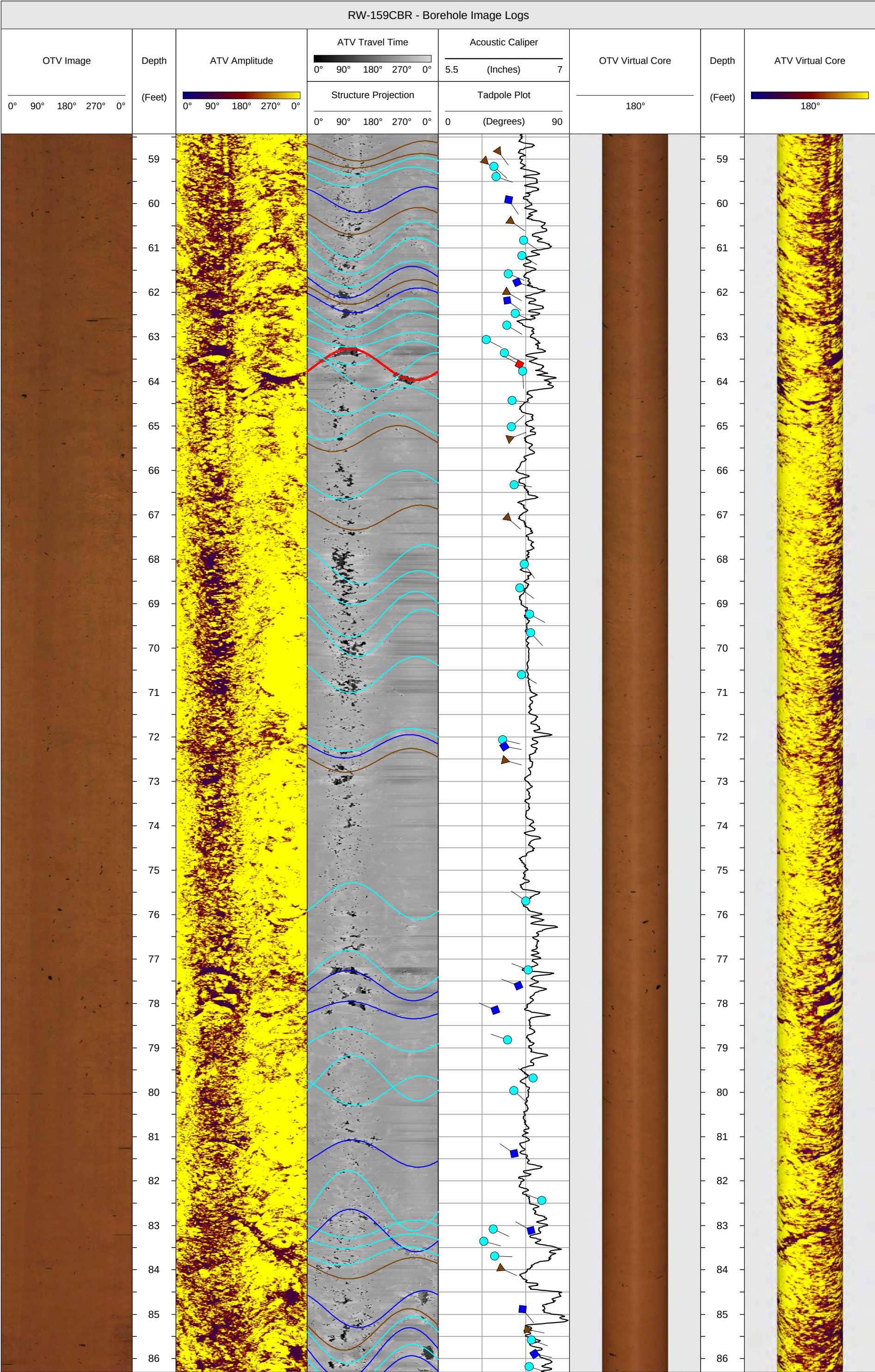
CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 46 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones
CLIENT REP. ON-SITE: Stefan Truex (Sterling)
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

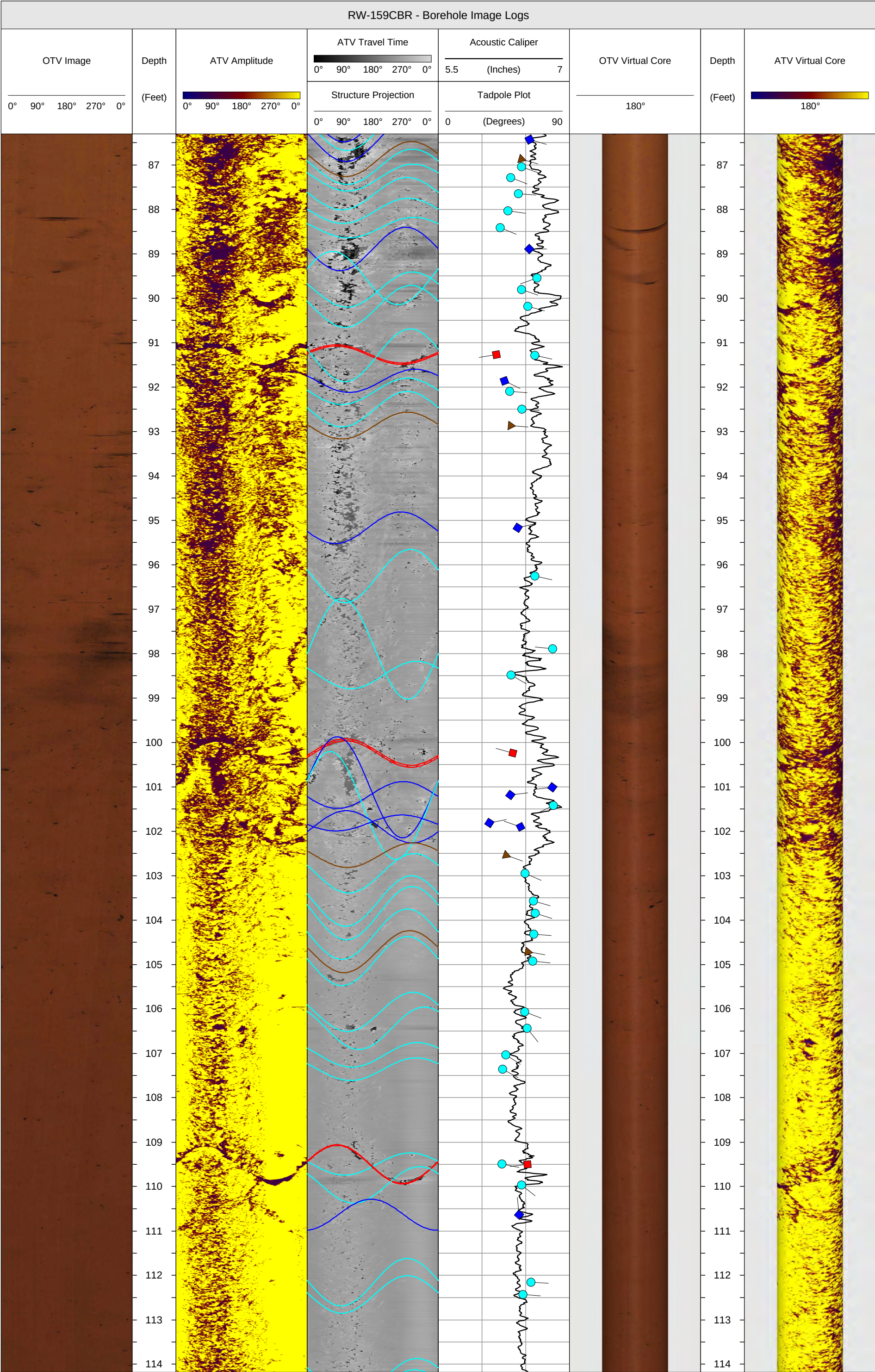
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	2.1 Feet Above the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	2.8 Feet

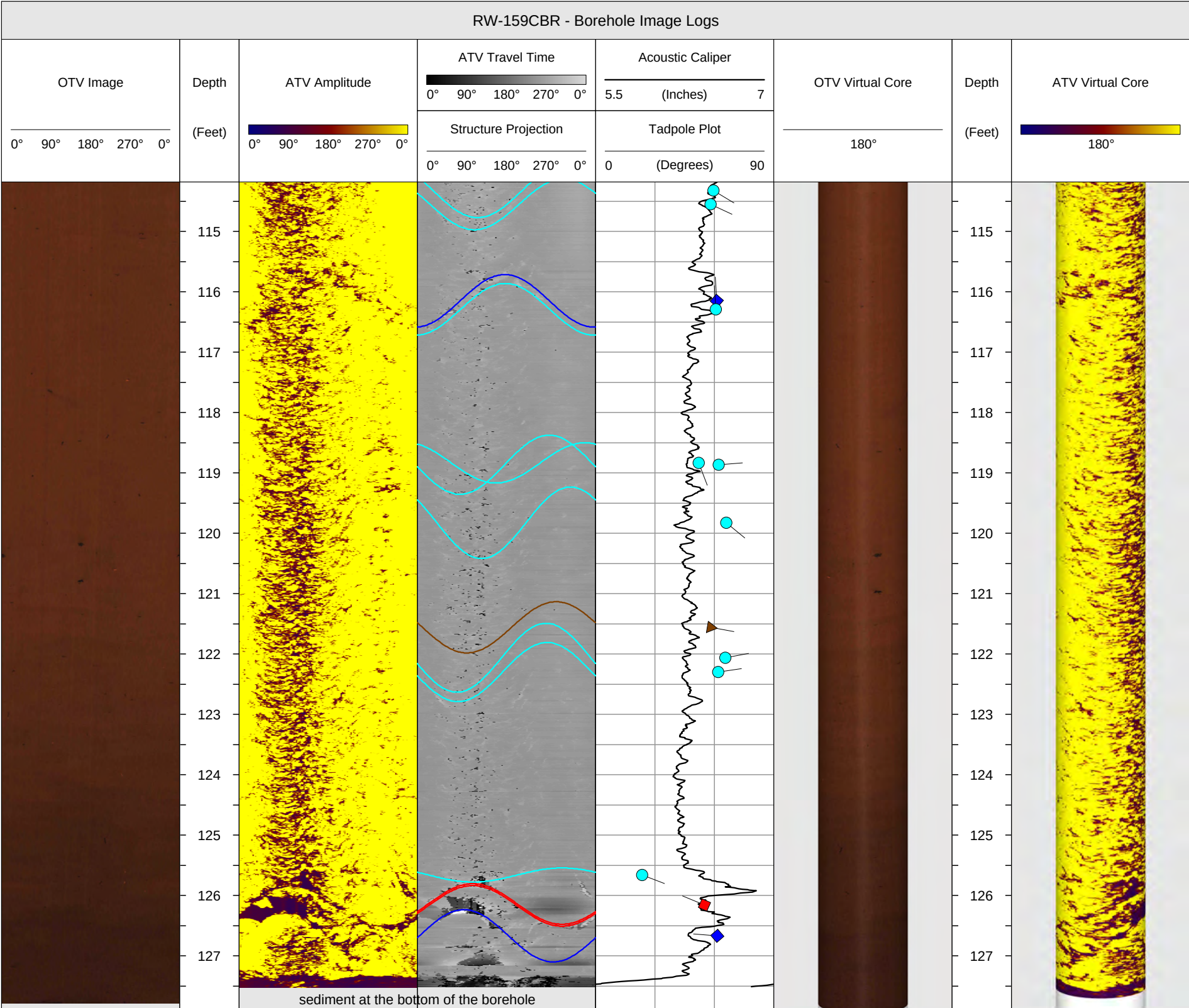
STRUCTURE LEGEND

Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding









**HAGER-RICHTER
GEOSCIENCE, INC.**

Salem, New Hampshire
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Fords, New Jersey
Tel: 732.661.0555

RW-159CBR - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED:

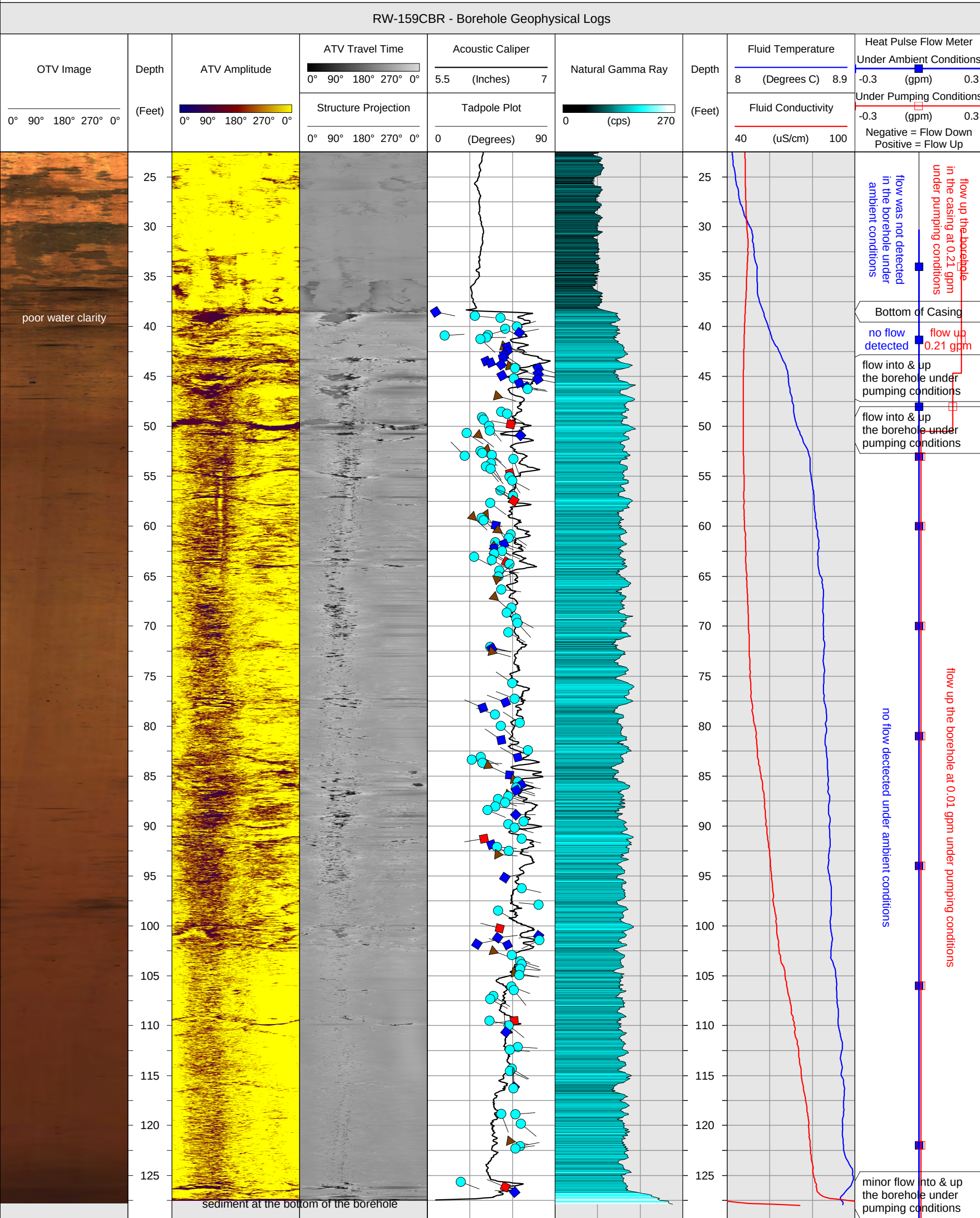
June 18, 2018

CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 46 Coonbrook Road, Petersburg, New York
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones
CLIENT REP. ON-SITE: Stefan Truex (Sterling)
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro

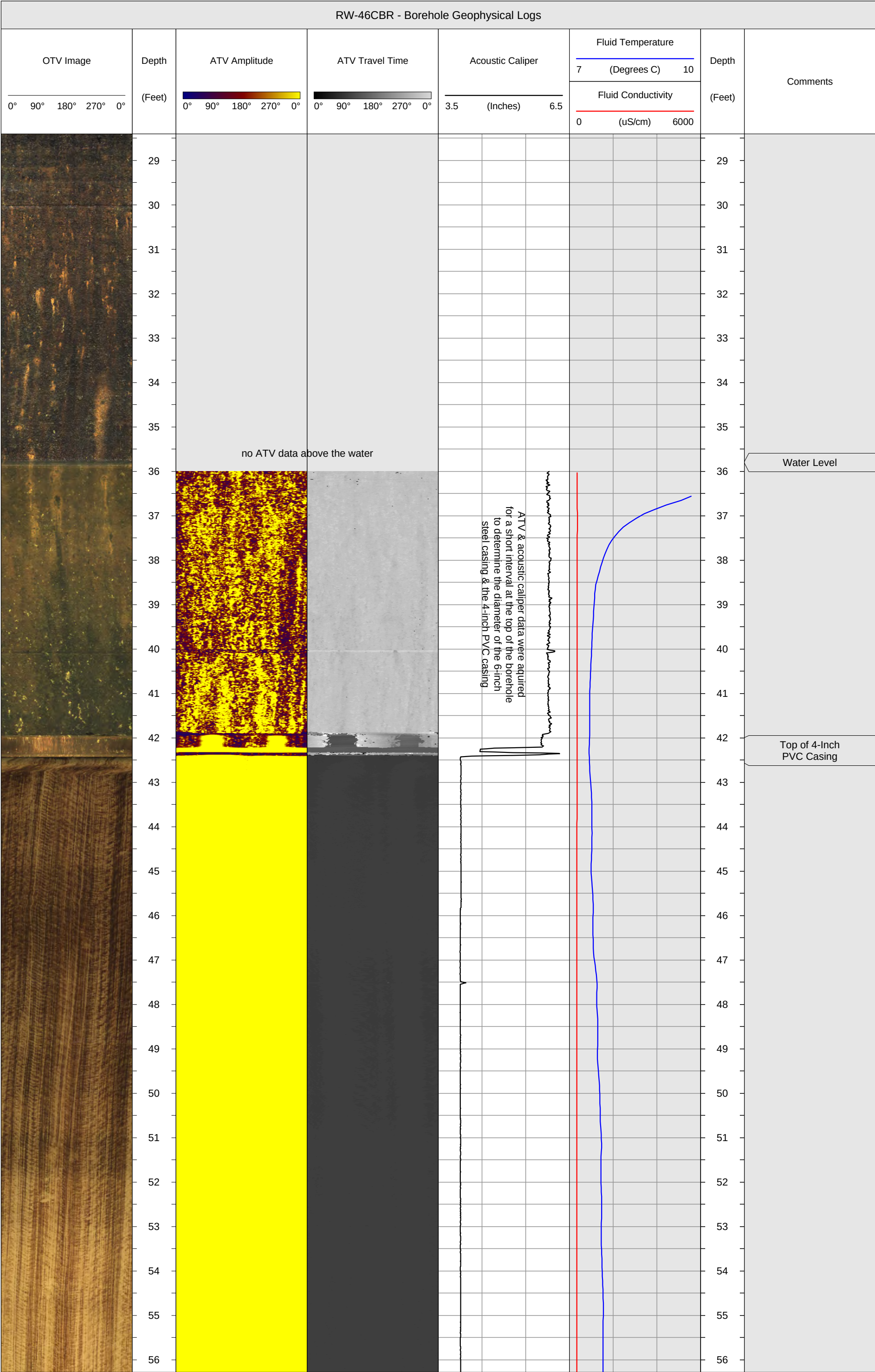
HAGER-RICHTER FILE:	18RG07
LOG DATUM:	Top of the 6-Inch Steel Casing
ORIENTATION REFERENCE:	True North (Magnetic Declination = 14° West)
TOP OF CASING:	2.1 Feet Above the Ground Surface
BOREHOLE DIAMETER:	6 Inches
WATER LEVEL DEPTH:	2.8 Feet

STRUCTURE LEGEND

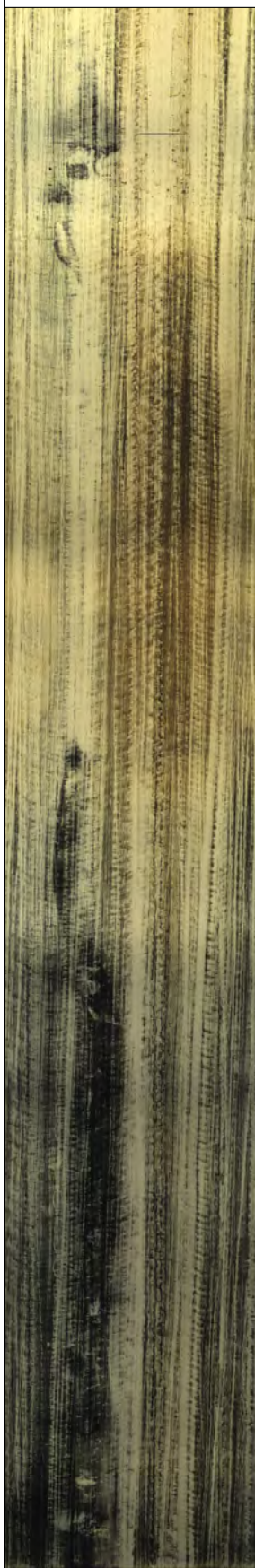
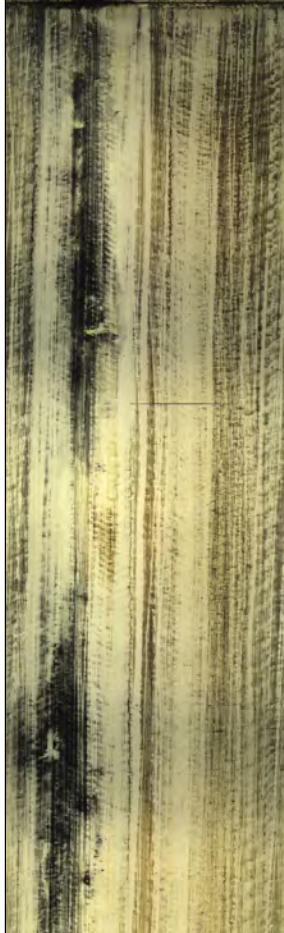
Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding



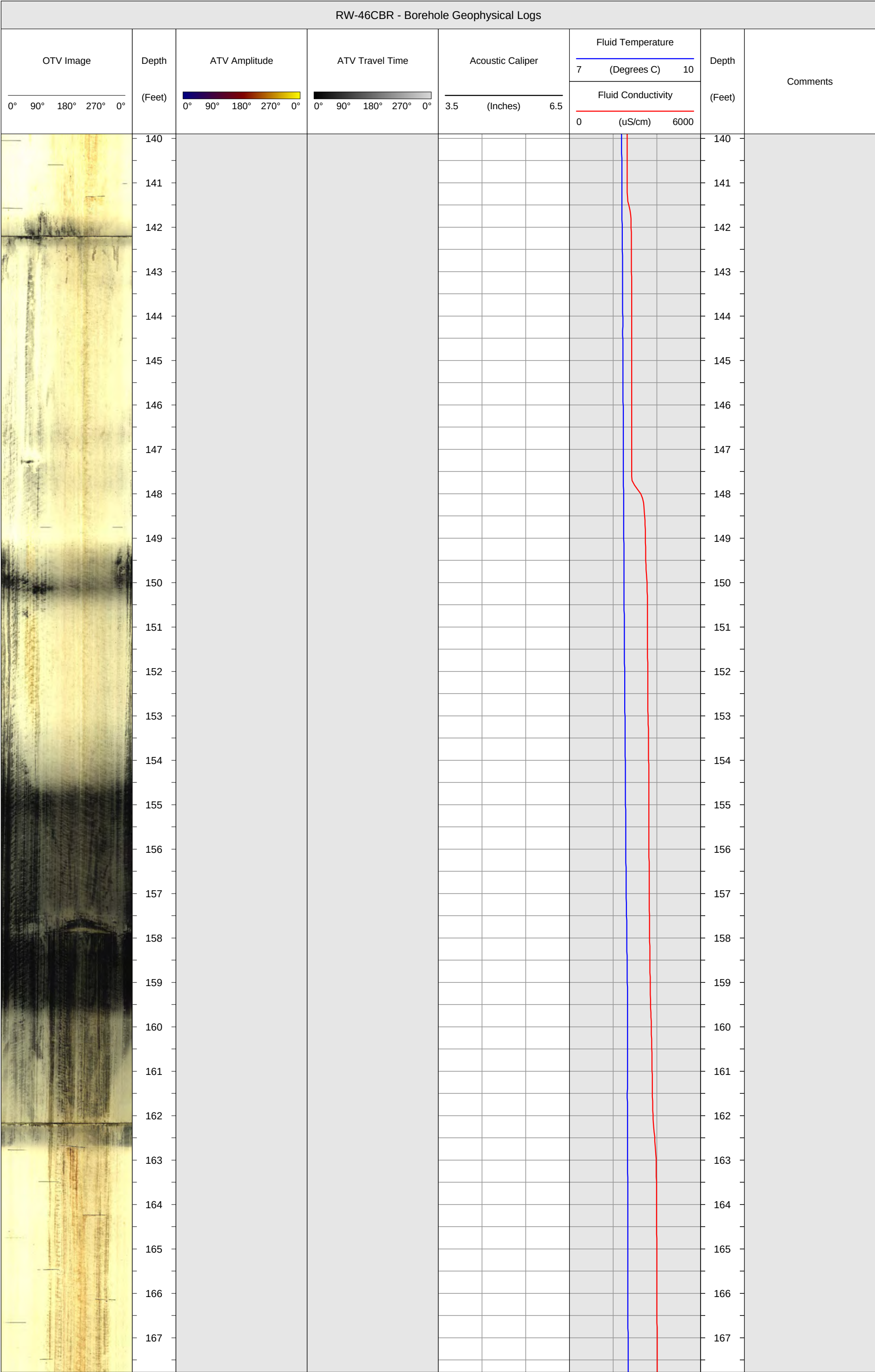
HAGER-RICHTER GEOSCIENCE, INC.				Salem, New Hampshire Tel: 603.893.9944 Fords, New Jersey Tel: 732.661.0555		RW-46CBR - BOREHOLE GEOPHYSICAL LOGS					
CLIENT: Taconic				HAGER-RICHTER FILE: 18RG07		DATE LOGGED: June 18, 2018					
PROJECT: Taconic - Petersburg RI Phase 1a				LOG DATUM: Top of the 6-Inch Steel Casing							
LOCATION: Petersburg, New York				ORIENTATION REFERENCE: True North (Magnetic Declination = 14° West)							
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones				TOP OF CASING: 1.6 Feet Above the Ground Surface							
CLIENT REP. ON-SITE: Mark Williams & Stefan Truex (Sterling)				BOREHOLE DIAMETER: 6 Inches							
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro				WATER LEVEL DEPTH: 35.8 Feet							
RW-46CBR - Borehole Geophysical Logs											
OTV Image 0° 90° 180° 270° 0°	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature 7 (Degrees C) 10			Depth (Feet)	Comments
							Fluid Conductivity 0 (uS/cm) 6000				
	5									Pitless Adapter	
	6									6	
	7									7	
	8									8	
	9									9	
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	11									11	
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	13									13	
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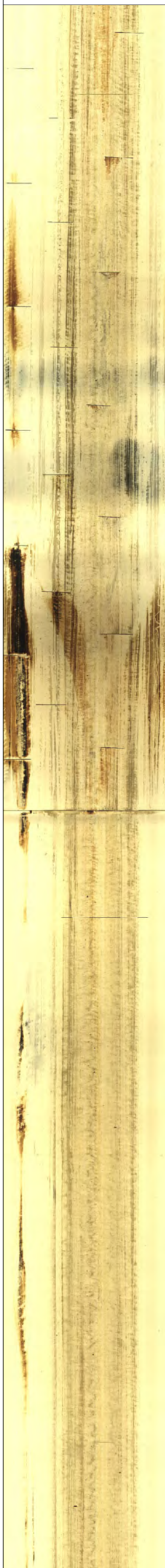


RW-46CBR - Borehole Geophysical Logs														
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5	Fluid Temperature		Depth (Feet)	Comments						
					7 (Degrees C)	10								
					Fluid Conductivity									
					0 (uS/cm)	6000								
	57						57							
	58						58							
	59						59							
	60						60							
	61						61							
	62						62							
							63							63
							64							64
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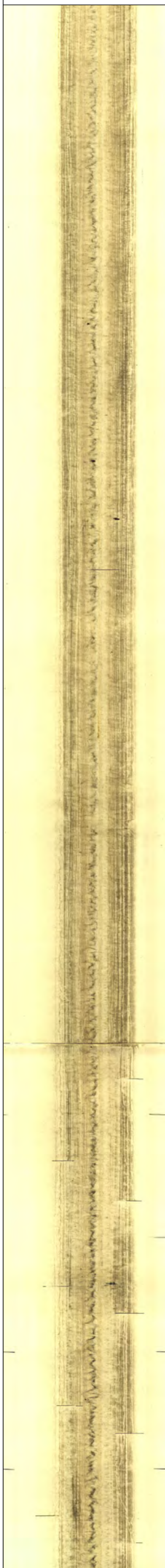
RW-46CBR - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5	Fluid Temperature			Depth (Feet)	Comments		
					7	(Degrees C)	10				
					Fluid Conductivity						
0 (uS/cm) 6000											
	85								85		
	86								86		
	87								87		
	88								88		
	89								89		
	90								90		
	91								91		
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	94								94		
	95								95		
	96								96		
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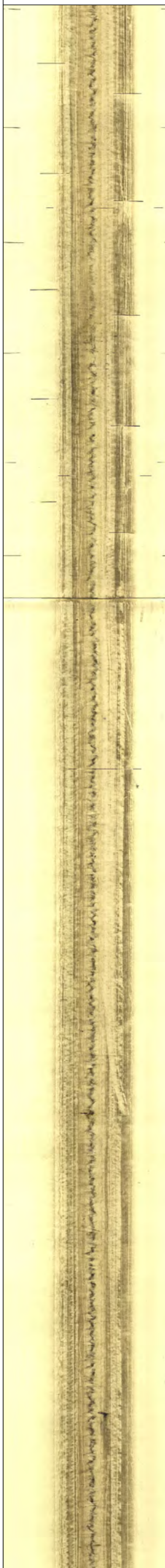
RW-46CBR - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5	Fluid Temperature			Depth (Feet)	Comments		
					7	(Degrees C)	10				
					Fluid Conductivity						
0° 90° 180° 270° 0°					0	(uS/cm)	6000				
	112								112		
	113								113		
	114								114		
	115								115		
	116								116		
	117								117		
	118								118		
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	124								124		
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	138								138		
	139								139		



RW-46CBR - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments
							7	10		
							Fluid Conductivity			
							0	6000		
	168								168	
	169								169	
	170								170	
	171								171	
	172								172	
	173								173	
	174								174	
	175								175	
	176								176	
	177								177	
	178								178	
	179								179	
	180								180	
	181								181	
	182								182	
	183								183	
	184								184	
	185								185	
	186								186	
	187								187	
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	194								194	
	195								195	

RW-46CBR - Borehole Geophysical Logs												
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments		
							7 (Degrees C)	10				
							Fluid Conductivity					
0 (uS/cm)		6000										
	196									196		
	197									197		
	198									198		
	199									199		
	200									200		
	201									201		
	202									202		
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221	221											
222	222											
223	223											

RW-46CBR - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments
							7 (Degrees C)	10		
							Fluid Conductivity 0 (uS/cm) 6000			
	224								224	
	225								225	
	226								226	
	227								227	
	228								228	
	229								229	
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RW-46CBR - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments
							7	10		
							Fluid Conductivity			
0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0	6000							
	252								252	
	253								253	
	254								254	
	255								255	
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RW-46CBR - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments	
							7 (Degrees C)	10			
							Fluid Conductivity				
0° 90° 180° 270° 0°							0 (uS/cm)	6000			
	280								280		
	281								281		
	282								282		
	283								283		
	284								284		
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	306								306		
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RW-46CBR - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature			Depth (Feet)	Comments
							7 (Degrees C)	10			
							Fluid Conductivity 0 (uS/cm) 6000				
	308									308	
	309									309	
	310									310	
	311									311	
	312									312	
	313									313	
	314									314	
	315									315	
	316									316	
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	332									332	
	333									333	
	334									334	
	335									335	

RW-46CBR - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments
							7 (Degrees C)	10		
							Fluid Conductivity			
0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0 (uS/cm)	6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	
	336								336	
	337								337	
	338								338	
	339								339	
	340								340	
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RW-46CBR - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature		Depth (Feet)	Comments
							7	10		
							Fluid Conductivity			
							0	6000		
		(uS/cm)								
	363								363	
	364								364	
	365								365	
	366								366	
	367								367	
	368								368	
	369								369	
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RW-46CBR - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5			Fluid Temperature			Depth (Feet)	Comments
							7	(Degrees C)	10		
							Fluid Conductivity				
0			(uS/cm)			6000					
	391									391	
	392									392	
	393									393	
	394									394	
	395									395	
	396									396	

HAGER-RICHTER GEOSCIENCE, INC.				Salem, New Hampshire Tel: 603.893.9944 Fords, New Jersey Tel: 732.661.0555				RW-46CBR - BOREHOLE GEOPHYSICAL LOGS			
DATE LOGGED:				June 18, 2018							
CLIENT: Taconic				HAGER-RICHTER FILE: 18RG07							
PROJECT: Taconic - Petersburg RI Phase 1a				LOG DATUM: Top of the 6-Inch Steel Casing							
LOCATION: Petersburg, New York				ORIENTATION REFERENCE: True North (Magnetic Declination = 14° West)							
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones				TOP OF CASING: 1.6 Feet Above the Ground Surface							
CLIENT REP. ON-SITE: Mark Williams & Stefan Truex (Sterling)				BOREHOLE DIAMETER: 6 Inches							
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro				WATER LEVEL DEPTH: 35.8 Feet							
RW-46CBR - Borehole Geophysical Logs											
OTV Image 0° 90° 180° 270° 0°		Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3.5 (Inches) 6.5	Fluid Temperature 7 (Degrees C) 10 Fluid Conductivity 0 (uS/cm) 6000	Depth (Feet)	Comments			
		0	ATV & acoustic caliper data were acquired for a short interval at the top of the borehole to determine the diameter of the 6-inch steel casing & the 4-inch PVC casing					0	Pitless Adapter		
		10						10			
		20						20			
		30	no ATV data above the water					30	Water Level		
		40						40		Top of 4-Inch PVC Casing	
		50						50			
		60						60			
		70						70			
		80						80			
		90						90			
		100						100			
		110						110			
		120						120			
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		210						210			
		220						220			
		230						230			
		240						240			
		250						250			
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		320						320			
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		340						340			
		350						350			
		360						360			
		370						370			
		380						380			
		390						390			

HAGER-RICHTER GEOSCIENCE, INC.				Salem, New Hampshire Tel: 603.893.9944 Fords, New Jersey Tel: 732.661.0555				TOWN WELL NO. 6 - BOREHOLE GEOPHYSICAL LOGS							
CLIENT: Taconic				HAGER-RICHTER FILE: 18RG07				DATE LOGGED: June 18, 2018							
PROJECT: Taconic - Petersburg RI Phase 1a				LOG DATUM: Top of the 7-Inch Steel Casing											
LOCATION: Petersburg, New York				ORIENTATION REFERENCE: True North (Magnetic Declination = 14° West)											
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones				TOP OF CASING: 1.9 Feet Above the Ground Surface											
CLIENT REP. ON-SITE: J. Mirarchi (Taconic) & S. Truex (Sterling)				BOREHOLE DIAMETER: 7 Inches											
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro				WATER LEVEL DEPTH: Flowing Artesian											
Town Well No. 6 - Borehole Geophysical Logs															
OTV Image		Depth	ATV Amplitude		ATV Travel Time		Acoustic Caliper		Fluid Temperature		Depth	Comments			
		(Feet)							(Degrees C)		(Feet)				
									Fluid Conductivity						
									(uS/cm)						
		7					ATV & acoustic caliper data were acquired for a short interval at the top of the borehole to determine the diameter of the 7-inch steel casing & the 4-inch PVC casing				7	Pitless Adapter			
		8									8				
		9									9				
		10									10				
		11	no ATV data above the water								11	Water Level			
		11									11	Top of 4-Inch PVC Casing			
		12									12				
		13									13				
		14									14				
		15									15				
		16									16				
		17									17				
		18									18				
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Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature			Depth (Feet)	Comments
							9 (Degrees C) 10.5				
							Fluid Conductivity 160 (uS/cm) 169				
	30								30		
	31								31		
	32								32		
	33								33		
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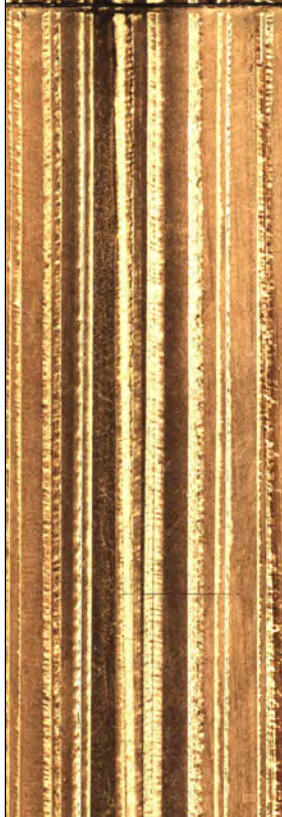
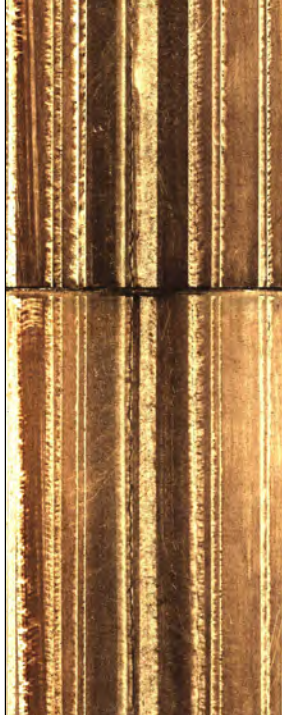
Town Well No. 6 - Borehole Geophysical Logs									
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature		Depth (Feet)	Comments	
					9 (Degrees C)	10.5			
					Fluid Conductivity				
					160 (uS/cm)	169			
	58								
	59								
	60								
	61								
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	68								
	69								
	70								
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Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature			Depth (Feet)	Comments
							9	(Degrees C)	10.5		
							Fluid Conductivity				
0° 90° 180° 270° 0°			0° 90° 180° 270° 0°			160 (uS/cm) 169					
	86									86	
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	89									89	
	90									90	
	91									91	
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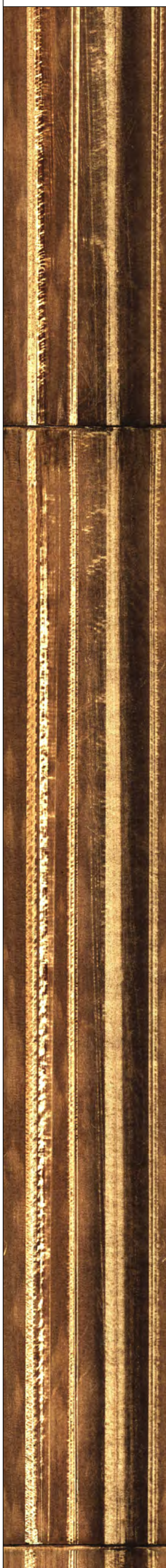
Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature			Depth (Feet)	Comments
							9 (Degrees C)	10.5			
							Fluid Conductivity				
0° 90° 180° 270° 0°			0° 90° 180° 270° 0°			160 (uS/cm) 169					
	114									114	
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Town Well No. 6 - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature		Depth (Feet)	Comments
							9 (Degrees C)	10.5		
							Fluid Conductivity			
160 (uS/cm) 169										
	142								142	
	143								143	
	144								144	
	145								145	
	146								146	
	147								147	
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	169								169	

Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature		Depth (Feet)	Comments			
					9 (Degrees C)	10.5					
					Fluid Conductivity						
					160 (uS/cm)	169					
	168										
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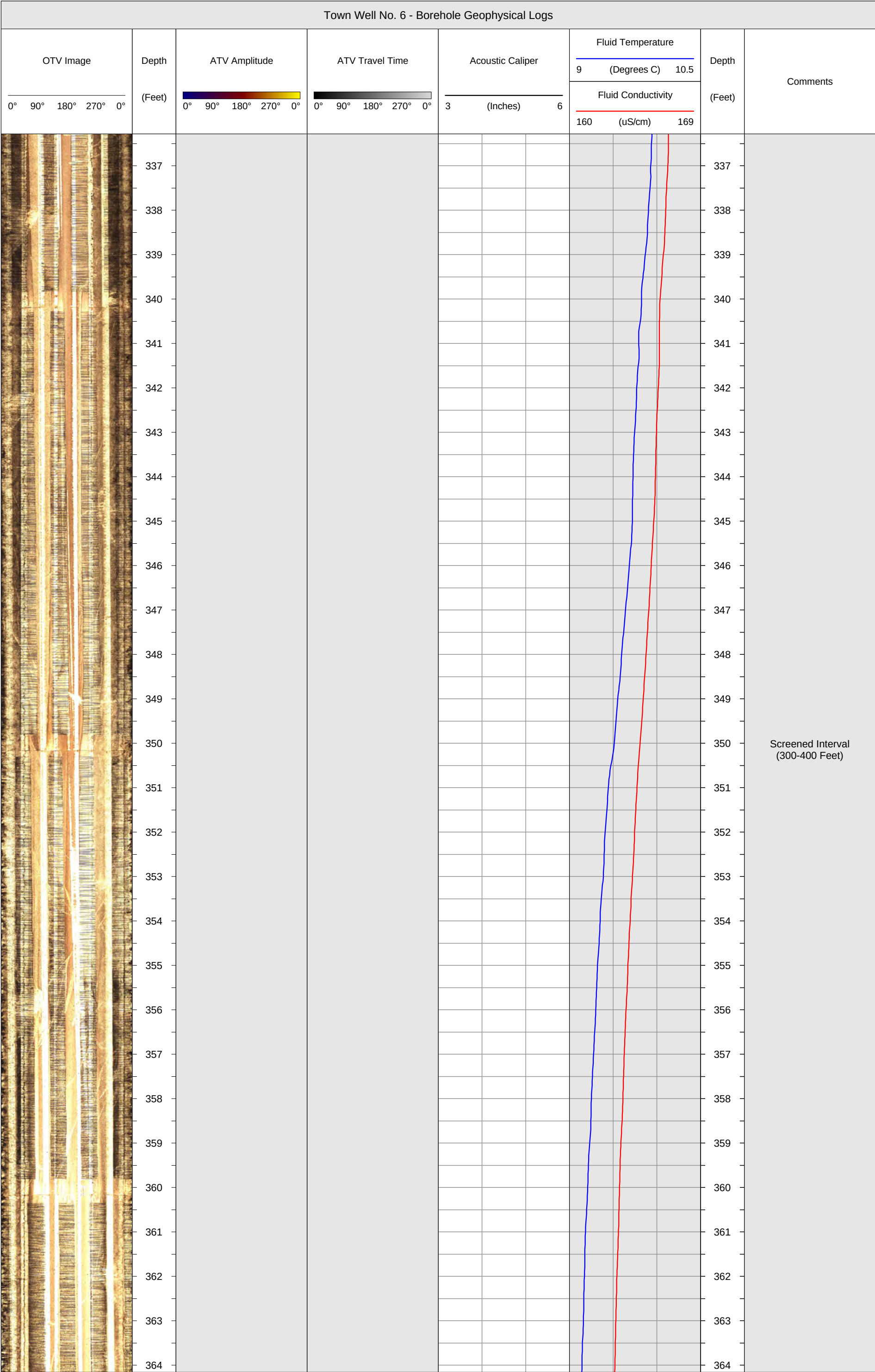
Town Well No. 6 - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature		Depth (Feet)	Comments		
					9 (Degrees C)	10.5				
					Fluid Conductivity					
160 (uS/cm) 169										
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	200							200		
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	224							224		

Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth	ATV Amplitude	ATV Travel Time	Acoustic Caliper			Fluid Temperature			Depth	Comments
	(Feet)	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°				9 (Degrees C) 10.5				
	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	3 (Inches) 6	Fluid Conductivity			160 (uS/cm) 169				
	225									225	
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	252									252	

Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature			Depth (Feet)	Comments
							9 (Degrees C)	10.5			
							Fluid Conductivity				
0° 90° 180° 270° 0°							160 (uS/cm)	169			
	253									253	
	254									254	
	255									255	
	256									256	
	257									257	
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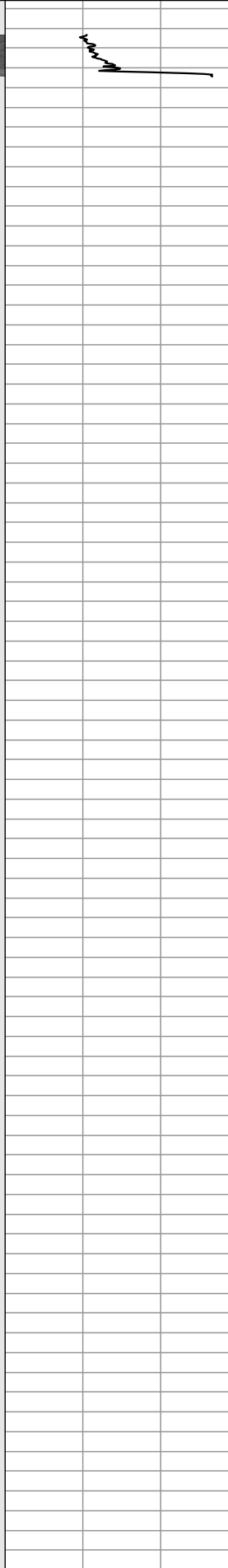
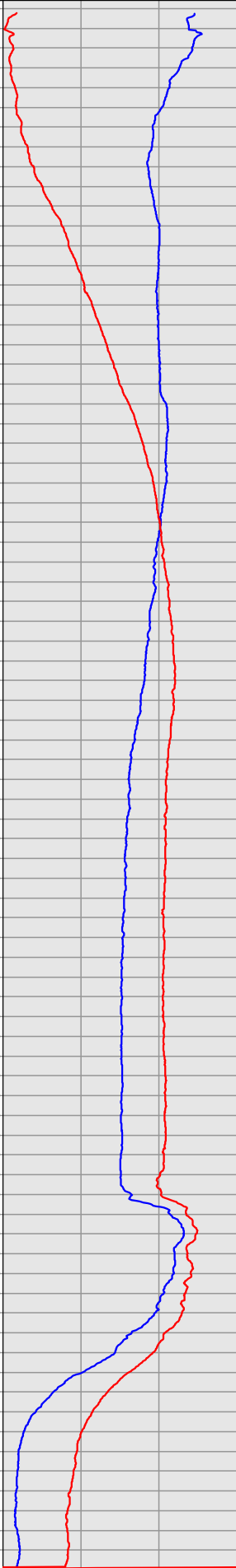
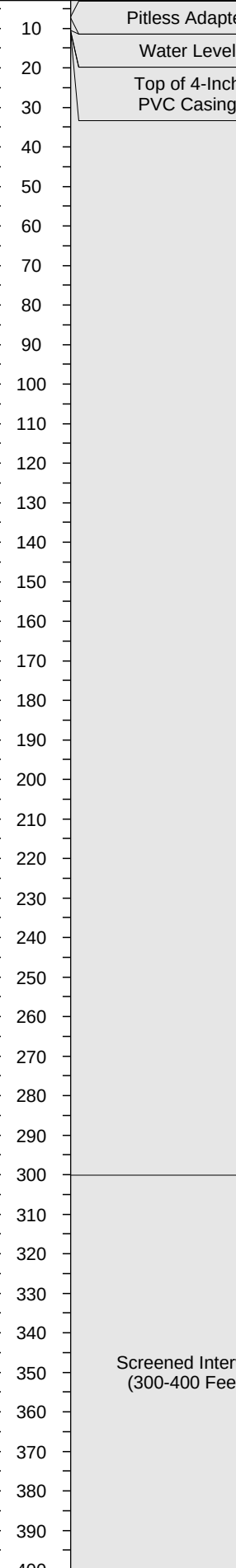
Town Well No. 6 - Borehole Geophysical Logs																	
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature			Depth (Feet)	Comments								
					9	(Degrees C)	10.5										
					Fluid Conductivity												
					160	(uS/cm)	169										
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Screened Interval (300-400 Feet)																	

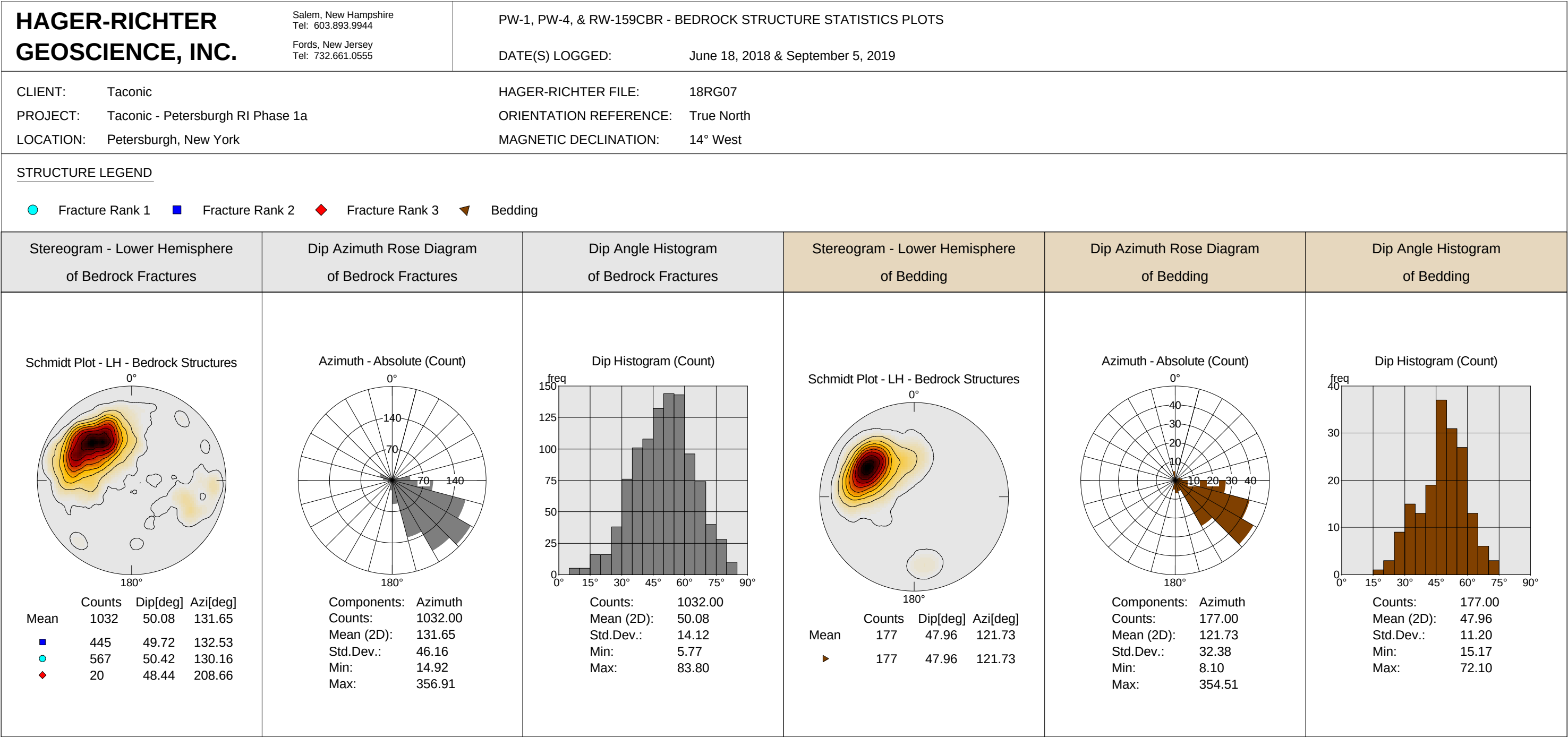
Town Well No. 6 - Borehole Geophysical Logs										
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature		Depth (Feet)	Comments
							9 (Degrees C)	10.5		
							Fluid Conductivity			
0° 90° 180° 270° 0°							160 (uS/cm)	169		
	309								309	Screened Interval (300-400 Feet)
	310								310	
	311								311	
	312								312	
	313								313	
	314								314	
	315								315	
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Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature			Depth (Feet)	Comments		
					9	(Degrees C)	10.5				
					Fluid Conductivity						
0° 90° 180° 270° 0°			0° 90° 180° 270° 0°			160 (uS/cm) 169					
	365								365	Screened Interval (300-400 Feet)	
	366								366		
	367								367		
	368								368		
	369								369		
	370								370		
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Town Well No. 6 - Borehole Geophysical Logs											
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6			Fluid Temperature			Depth (Feet)	Comments
							9 (Degrees C)	10.5			
							Fluid Conductivity				
							160 (uS/cm)	169			
	392									392	Screened Interval (300-400 Feet)
	393									393	
	394									394	
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	399									399	
	400									400	

HAGER-RICHTER GEOSCIENCE, INC. Salem, New Hampshire Tel: 603.893.9944 Fords, New Jersey Tel: 732.661.0555				TOWN WELL NO. 6 - BOREHOLE GEOPHYSICAL LOGS				
DATE LOGGED: June 18, 2018								
CLIENT: Taconic				HAGER-RICHTER FILE: 18RG07				
PROJECT: Taconic - Petersburg RI Phase 1a				LOG DATUM: Top of the 7-Inch Steel Casing				
LOCATION: Petersburg, New York				ORIENTATION REFERENCE: True North (Magnetic Declination = 14° West)				
LOGGING GEOPHYSICIST: Robert Garfield, Nick DeCristofaro, Mark Jones				TOP OF CASING: 1.9 Feet Above the Ground Surface				
CLIENT REP. ON-SITE: J. Mirarchi (Taconic) & S. Truex (Sterling)				BOREHOLE DIAMETER: 7 Inches				
LOGS PROCESSED BY: Robert Garfield & Nick DeCristofaro				WATER LEVEL DEPTH: Flowing Artesian				
Town Well No. 6 - Borehole Geophysical Logs								
OTV Image	Depth (Feet)	ATV Amplitude 0° 90° 180° 270° 0°	ATV Travel Time 0° 90° 180° 270° 0°	Acoustic Caliper 3 (Inches) 6	Fluid Temperature		Depth (Feet)	Comments
					9 (Degrees C)	10.5		
					Fluid Conductivity			
					160 (uS/cm)	169		
	10	no ATV data above the water					10	Pitless Adapter
	20	ATV & acoustic caliper data were aquired for a short interval at the top of the borehole to determine the diameter of the 7-inch steel casing & the 4-inch PVC casing					20	Water Level
	30						Top of 4-Inch PVC Casing	
	40						Screened Interval (300-400 Feet)	
	50							
	60							
	70							
	80							
	90							
	100							
	110							
	120							
	130							
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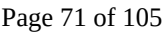
Salem, New Hampshire
Tel: 603.893.9944

Fords, New Jersey
Tel: 732.661.0555

DATE LOGGED: June 18, 2018

HAGER-RICHTER FILE: 18RG07
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 14° West

Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding



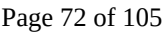
Salem, New Hampshire
Tel: 603.893.9944

Fords, New Jersey
Tel: 732.661.0555

DATE LOGGED: September 5, 2019

HAGER-RICHTER FILE: 18RG07
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 14° West

Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding



HAGER-RICHTER
GEOSCIENCE, INC.

Salem, New Hampshire
Tel: 603.893.9944

Fords, New Jersey
Tel: 732.661.0555

RW-159CBR - BEDROCK STRUCTURE STATISTICS PLOTS

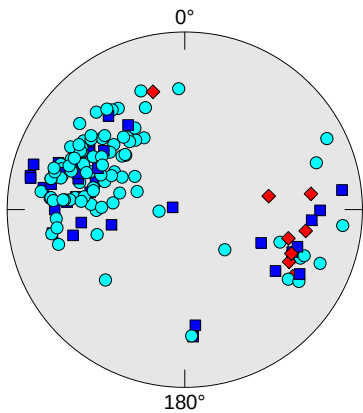
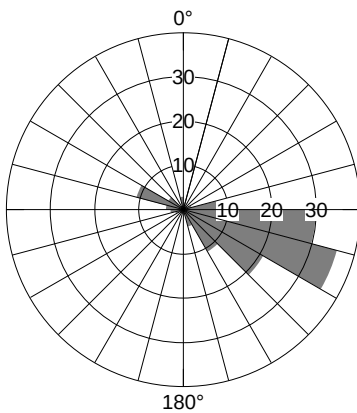
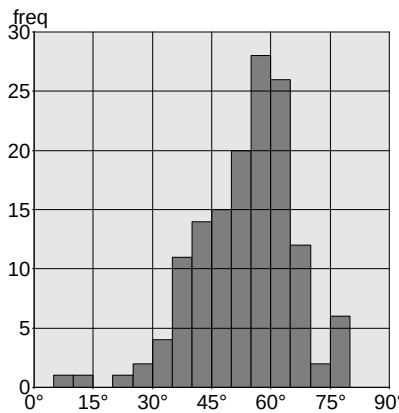
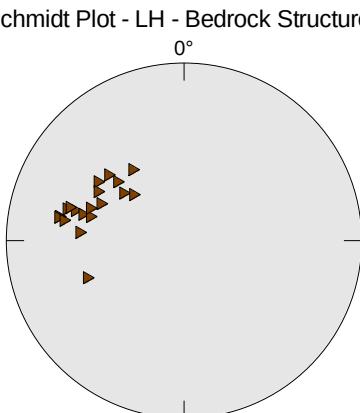
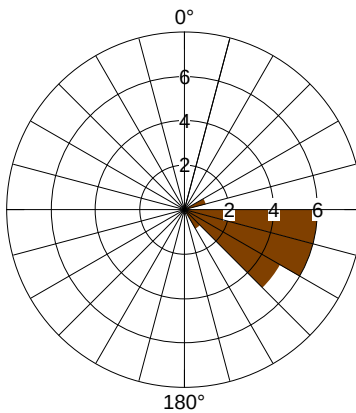
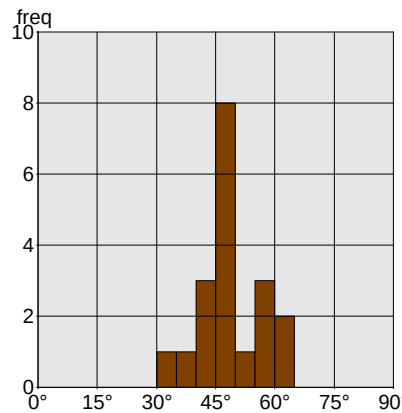
DATE LOGGED: June 18, 2018

CLIENT: Taconic
PROJECT: Taconic - Petersburg RI Phase 1a
LOCATION: 46 Coonbrook Road, Petersburg, New York

HAGER-RICHTER FILE: 18RG07
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 14° West

STRUCTURE LEGEND

Fracture Rank 1 Fracture Rank 2 Fracture Rank 3 Bedding

Stereogram - Lower Hemisphere of Fractures	Dip Azimuth Rose Diagram of Fractures	Dip Angle Histogram of Fractures	Stereogram - Lower Hemisphere of Bedding	Dip Azimuth Rose Diagram of Bedding	Dip Angle Histogram of Bedding																																																																												
Schmidt Plot - LH - Bedrock Structures  <table><tr><th></th><th>Counts</th><th>Dip[deg]</th><th>Azi[deg]</th></tr><tr><td>Mean</td><td>143</td><td>53.66</td><td>113.04</td></tr><tr><td>■</td><td>37</td><td>55.95</td><td>99.23</td></tr><tr><td>●</td><td>98</td><td>52.69</td><td>114.81</td></tr><tr><td>◆</td><td>8</td><td>55.10</td><td>274.93</td></tr></table>		Counts	Dip[deg]	Azi[deg]	Mean	143	53.66	113.04	■	37	55.95	99.23	●	98	52.69	114.81	◆	8	55.10	274.93	Azimuth - Absolute (Count)  <table><tr><th>Components:</th><th>Azimuth</th></tr><tr><td>Counts:</td><td>143.00</td></tr><tr><td>Mean (2D):</td><td>113.04</td></tr><tr><td>Std.Dev.:</td><td>59.99</td></tr><tr><td>Min:</td><td>48.35</td></tr><tr><td>Max:</td><td>356.91</td></tr></table>	Components:	Azimuth	Counts:	143.00	Mean (2D):	113.04	Std.Dev.:	59.99	Min:	48.35	Max:	356.91	Dip Histogram (Count)  <table><tr><th>Counts:</th><th>143.00</th></tr><tr><th>Mean (2D):</th><th>53.66</th></tr><tr><th>Std.Dev.:</th><th>12.18</th></tr><tr><th>Min:</th><th>5.77</th></tr><tr><th>Max:</th><th>78.86</th></tr></table>	Counts:	143.00	Mean (2D):	53.66	Std.Dev.:	12.18	Min:	5.77	Max:	78.86	Schmidt Plot - LH - Bedrock Structures  <table><tr><th></th><th>Counts</th><th>Dip[deg]</th><th>Azi[deg]</th></tr><tr><td>Mean</td><td>19</td><td>48.73</td><td>112.07</td></tr><tr><td>►</td><td>19</td><td>48.73</td><td>112.07</td></tr></table>		Counts	Dip[deg]	Azi[deg]	Mean	19	48.73	112.07	►	19	48.73	112.07	Azimuth - Absolute (Count)  <table><tr><th>Components:</th><th>Azimuth</th></tr><tr><td>Counts:</td><td>19.00</td></tr><tr><td>Mean (2D):</td><td>112.07</td></tr><tr><td>Std.Dev.:</td><td>16.90</td></tr><tr><td>Min:</td><td>69.15</td></tr><tr><td>Max:</td><td>144.08</td></tr></table>	Components:	Azimuth	Counts:	19.00	Mean (2D):	112.07	Std.Dev.:	16.90	Min:	69.15	Max:	144.08	Dip Histogram (Count)  <table><tr><th>Counts:</th><th>19.00</th></tr><tr><th>Mean (2D):</th><th>48.73</th></tr><tr><th>Std.Dev.:</th><th>7.89</th></tr><tr><th>Min:</th><th>31.98</th></tr><tr><th>Max:</th><th>61.35</th></tr></table>	Counts:	19.00	Mean (2D):	48.73	Std.Dev.:	7.89	Min:	31.98	Max:	61.35
	Counts	Dip[deg]	Azi[deg]																																																																														
Mean	143	53.66	113.04																																																																														
■	37	55.95	99.23																																																																														
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►	19	48.73	112.07																																																																														
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HAGER-RICHTER GEOSCIENCE, INC.	
PW-1 - TABLE OF BEDROCK STRUCTURES	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	136 Coonbrook Road, Petersburg, New York
H-R FILE	18RG07
DATE LOGGED	June 18, 2018
LOG DATUM	Top of the 6-Inch Steel Casing
DIP AZIMUTH	True North (Magnetic Declination = 14° West)
DIP ANGLE	Measured from Horizontal

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
60.4	105	52	Fracture Rank 2
60.7	113	51	Fracture Rank 2
61.2	132	46	Fracture Rank 1
61.2	69	30	Bedding
61.3	137	42	Fracture Rank 2
61.7	119	45	Fracture Rank 2
62.0	113	38	Fracture Rank 1
62.1	126	34	Fracture Rank 2
62.4	129	32	Fracture Rank 2
62.6	119	36	Bedding
62.8	123	32	Fracture Rank 2
63.1	158	38	Fracture Rank 1
63.6	143	35	Fracture Rank 1
63.9	141	41	Fracture Rank 2
64.1	122	35	Bedding
64.3	120	30	Fracture Rank 2
64.5	127	39	Fracture Rank 1
64.8	153	45	Fracture Rank 2
65.3	140	42	Fracture Rank 1
65.9	100	34	Fracture Rank 1
66.1	135	42	Fracture Rank 1
66.5	105	47	Fracture Rank 1
66.7	102	46	Fracture Rank 1
66.8	102	46	Bedding
66.9	107	48	Fracture Rank 2
67.1	109	52	Fracture Rank 1
67.3	115	42	Fracture Rank 1
67.7	95	36	Fracture Rank 1
68.0	115	30	Fracture Rank 1
68.7	168	57	Fracture Rank 2
69.5	87	30	Fracture Rank 2
69.9	108	47	Fracture Rank 2
70.5	116	37	Bedding
70.8	106	42	Fracture Rank 1
71.9	155	54	Fracture Rank 1

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
72.7	131	48	Bedding
73.4	149	58	Fracture Rank 2
74.2	126	45	Bedding
74.4	113	53	Fracture Rank 1
74.6	133	45	Fracture Rank 1
74.7	141	52	Fracture Rank 1
75.2	133	55	Fracture Rank 1
75.5	153	57	Fracture Rank 2
75.8	161	60	Fracture Rank 2
76.6	136	55	Fracture Rank 2
76.8	127	51	Bedding
76.9	124	54	Fracture Rank 2
77.2	142	51	Fracture Rank 1
77.5	120	42	Bedding
77.7	116	38	Fracture Rank 2
78.1	163	59	Fracture Rank 1
78.9	139	34	Fracture Rank 1
79.1	149	33	Fracture Rank 1
79.6	178	56	Fracture Rank 2
79.9	152	45	Fracture Rank 2
80.2	129	41	Bedding
80.5	106	52	Fracture Rank 1
81.1	116	46	Fracture Rank 2
81.4	149	36	Fracture Rank 1
82.8	162	50	Fracture Rank 2
83.4	158	57	Fracture Rank 2
83.9	151	56	Fracture Rank 1
84.3	152	54	Fracture Rank 1
84.5	151	56	Fracture Rank 1
84.9	160	49	Fracture Rank 1
85.2	144	43	Bedding
85.5	163	44	Fracture Rank 2
85.7	155	44	Fracture Rank 2
86.3	177	55	Fracture Rank 2
86.6	150	51	Fracture Rank 1
86.8	149	44	Fracture Rank 1
87.8	134	60	Fracture Rank 2
89.1	114	53	Fracture Rank 2
89.2	120	55	Fracture Rank 1
89.7	131	58	Fracture Rank 2
90.5	148	41	Fracture Rank 2
90.8	122	44	Fracture Rank 2
91.1	125	45	Fracture Rank 2
91.3	133	47	Fracture Rank 1
91.8	162	57	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
92.2	122	44	Fracture Rank 1
92.5	122	44	Bedding
92.6	128	45	Fracture Rank 1
93.1	98	40	Fracture Rank 1
93.3	108	54	Fracture Rank 1
94.4	119	33	Fracture Rank 1
94.6	121	38	Fracture Rank 1
94.9	107	51	Fracture Rank 1
95.1	124	48	Fracture Rank 2
95.4	106	57	Fracture Rank 1
95.7	119	64	Fracture Rank 2
95.9	126	61	Fracture Rank 1
96.1	115	57	Fracture Rank 2
96.3	122	48	Fracture Rank 1
96.6	127	50	Fracture Rank 1
97.0	106	40	Fracture Rank 1
97.3	110	35	Fracture Rank 2
97.7	90	52	Fracture Rank 2
98.9	159	68	Fracture Rank 1
99.6	289	75	Fracture Rank 1
100.3	145	61	Fracture Rank 1
100.4	141	61	Fracture Rank 1
100.8	122	49	Fracture Rank 2
101.4	135	59	Fracture Rank 2
102.0	150	64	Fracture Rank 2
102.5	138	46	Fracture Rank 2
102.9	135	53	Fracture Rank 1
103.0	274	73	Fracture Rank 1
103.2	135	58	Fracture Rank 2
103.8	129	68	Fracture Rank 1
104.9	134	57	Bedding
105.0	274	78	Fracture Rank 1
105.0	130	59	Fracture Rank 1
105.3	134	64	Fracture Rank 2
105.6	136	62	Fracture Rank 2
107.5	190	40	Fracture Rank 2
108.6	159	59	Fracture Rank 1
109.2	117	40	Fracture Rank 1
109.6	132	52	Fracture Rank 2
110.2	334	43	Fracture Rank 1
110.3	155	44	Fracture Rank 2
110.7	167	39	Fracture Rank 2
111.0	167	38	Fracture Rank 2
111.1	140	36	Bedding
111.6	138	64	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
112.4	137	57	Fracture Rank 2
113.0	137	56	Fracture Rank 2
113.2	134	47	Fracture Rank 1
113.4	120	38	Fracture Rank 2
113.7	111	38	Fracture Rank 2
114.1	136	39	Fracture Rank 1
114.8	164	63	Fracture Rank 1
115.6	80	32	Fracture Rank 2
115.9	106	29	Fracture Rank 1
116.2	104	53	Fracture Rank 2
116.6	116	29	Fracture Rank 2
116.7	152	15	Fracture Rank 3
116.9	146	27	Fracture Rank 2
117.1	155	50	Fracture Rank 2
117.5	163	55	Fracture Rank 2
118.1	214	24	Fracture Rank 2
118.3	162	34	Fracture Rank 2
118.5	148	37	Fracture Rank 3
118.6	148	34	Fracture Rank 2
118.9	141	40	Fracture Rank 1
119.0	128	44	Fracture Rank 1
119.6	131	64	Fracture Rank 1
120.5	261	29	Fracture Rank 2
120.7	274	23	Fracture Rank 2
121.5	136	63	Fracture Rank 1
122.0	141	69	Fracture Rank 2
122.9	140	54	Bedding
123.4	143	62	Fracture Rank 1
123.9	137	60	Fracture Rank 1
124.4	152	59	Fracture Rank 2
124.5	154	56	Fracture Rank 1
125.1	149	48	Fracture Rank 1
125.6	127	50	Fracture Rank 1
126.1	126	46	Bedding
126.8	121	57	Fracture Rank 1
127.1	123	53	Fracture Rank 1
127.4	118	55	Fracture Rank 1
127.7	117	55	Fracture Rank 1
128.1	129	52	Fracture Rank 1
128.5	345	9	Fracture Rank 2
128.6	42	14	Fracture Rank 2
128.8	132	57	Fracture Rank 1
130.4	142	45	Fracture Rank 1
130.7	161	63	Fracture Rank 2
131.2	272	77	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
131.3	99	26	Fracture Rank 3
131.4	109	20	Fracture Rank 2
131.6	96	27	Fracture Rank 2
131.9	111	55	Fracture Rank 2
132.0	286	46	Fracture Rank 2
132.3	258	62	Fracture Rank 3
132.6	68	33	Fracture Rank 2
132.6	69	32	Fracture Rank 2
132.7	84	35	Fracture Rank 2
133.0	72	40	Fracture Rank 3
134.7	137	67	Fracture Rank 1
135.8	76	36	Fracture Rank 1
136.1	91	40	Fracture Rank 2
136.9	106	29	Fracture Rank 2
137.4	122	37	Fracture Rank 2
137.5	130	40	Fracture Rank 2
137.6	141	47	Fracture Rank 1
137.8	142	61	Fracture Rank 2
138.4	134	57	Fracture Rank 2
139.4	115	46	Fracture Rank 2
139.8	116	45	Fracture Rank 2
139.9	202	73	Fracture Rank 1
140.1	118	45	Fracture Rank 2
140.8	37	41	Fracture Rank 2
141.3	22	57	Fracture Rank 1
141.7	146	56	Fracture Rank 2
142.5	200	67	Fracture Rank 1
142.6	308	56	Fracture Rank 2
143.3	301	37	Fracture Rank 1
146.9	120	51	Fracture Rank 2
148.0	111	44	Fracture Rank 1
150.2	156	51	Fracture Rank 1
152.4	310	70	Fracture Rank 1
152.6	272	69	Fracture Rank 1
153.2	138	54	Fracture Rank 1
154.4	153	53	Fracture Rank 2
155.5	143	51	Bedding
155.6	145	51	Fracture Rank 2
155.8	142	53	Fracture Rank 1
156.1	142	49	Fracture Rank 2
156.2	143	47	Fracture Rank 1
156.5	138	50	Fracture Rank 2
157.0	148	39	Fracture Rank 2
157.1	151	47	Fracture Rank 1
157.8	152	53	Fracture Rank 1

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
158.2	163	64	Fracture Rank 2
161.5	178	54	Fracture Rank 2
161.6	179	53	Fracture Rank 1
162.4	243	9	Fracture Rank 1
163.2	173	48	Fracture Rank 1
163.8	166	43	Fracture Rank 2
164.0	139	38	Fracture Rank 2
164.7	154	47	Fracture Rank 1
165.0	165	50	Fracture Rank 2
165.2	168	49	Fracture Rank 1
166.2	270	14	Fracture Rank 2
166.4	131	54	Fracture Rank 2
166.8	90	55	Fracture Rank 2
167.2	151	62	Fracture Rank 2
168.1	103	60	Fracture Rank 2
168.6	126	66	Fracture Rank 1
169.4	126	64	Fracture Rank 1
170.0	104	69	Fracture Rank 1
171.0	115	64	Fracture Rank 1
171.6	92	58	Fracture Rank 2
172.1	119	59	Fracture Rank 2
172.4	118	51	Fracture Rank 2
172.6	127	47	Fracture Rank 1
172.8	121	51	Fracture Rank 1
174.6	152	48	Bedding
175.2	82	25	Fracture Rank 2
175.4	132	32	Fracture Rank 2
175.7	141	27	Fracture Rank 2
175.8	142	20	Fracture Rank 3
177.0	137	57	Fracture Rank 1
177.3	138	58	Fracture Rank 2
177.6	143	58	Fracture Rank 1
178.1	142	60	Fracture Rank 2
178.5	140	60	Fracture Rank 1
178.7	144	63	Fracture Rank 2
179.3	139	50	Fracture Rank 1
179.6	138	55	Fracture Rank 1
180.8	222	74	Fracture Rank 2
181.1	125	38	Fracture Rank 2
181.5	136	71	Fracture Rank 1
182.3	164	20	Fracture Rank 2
182.4	157	17	Fracture Rank 1
182.8	222	67	Fracture Rank 2
183.0	114	19	Fracture Rank 2
185.4	217	71	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
185.8	328	78	Fracture Rank 2
187.2	82	37	Fracture Rank 1
188.4	144	43	Fracture Rank 2
188.7	125	27	Fracture Rank 2
189.0	167	69	Fracture Rank 1
189.8	156	34	Fracture Rank 2
190.1	152	56	Fracture Rank 1
190.6	156	58	Fracture Rank 2
191.1	157	59	Fracture Rank 2
192.4	161	55	Fracture Rank 2
192.6	158	54	Fracture Rank 2
193.6	170	66	Fracture Rank 1
194.3	167	48	Fracture Rank 2
194.6	277	72	Fracture Rank 2
195.0	288	75	Fracture Rank 2
196.2	146	57	Fracture Rank 2
196.5	152	47	Fracture Rank 1
196.9	163	57	Fracture Rank 2
197.1	158	49	Fracture Rank 1
197.4	160	50	Fracture Rank 2
197.8	182	47	Fracture Rank 2
198.8	158	60	Fracture Rank 2
199.4	124	23	Fracture Rank 2
199.8	154	55	Fracture Rank 1
200.1	148	42	Fracture Rank 2
200.3	140	56	Fracture Rank 1
200.7	127	65	Fracture Rank 2
201.6	123	68	Fracture Rank 1
202.1	140	47	Fracture Rank 1
202.2	155	59	Fracture Rank 2
202.7	147	43	Fracture Rank 1
203.4	131	60	Fracture Rank 2
204.1	160	58	Fracture Rank 2
204.4	147	51	Fracture Rank 2
204.9	154	52	Fracture Rank 1
205.2	170	60	Fracture Rank 2
205.8	157	57	Fracture Rank 2
206.0	154	54	Fracture Rank 2
206.4	167	52	Fracture Rank 2
207.0	165	45	Fracture Rank 2
207.2	166	36	Fracture Rank 2
207.4	160	50	Fracture Rank 1
207.8	149	54	Fracture Rank 2
208.1	158	54	Fracture Rank 1
208.4	166	50	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
208.8	160	50	Fracture Rank 2
209.3	156	54	Fracture Rank 2
209.6	146	56	Fracture Rank 1
209.7	332	54	Fracture Rank 1
210.0	153	52	Fracture Rank 2
210.5	145	54	Fracture Rank 1
210.6	146	54	Fracture Rank 2
211.8	144	46	Fracture Rank 1
212.0	153	45	Fracture Rank 1
212.5	158	53	Fracture Rank 1
212.9	157	51	Fracture Rank 1
213.5	157	48	Fracture Rank 2
213.6	162	47	Fracture Rank 2
213.8	161	49	Fracture Rank 1
214.1	158	53	Fracture Rank 2
214.2	165	50	Fracture Rank 2
215.1	141	37	Fracture Rank 2
215.4	161	43	Fracture Rank 2
216.2	143	34	Fracture Rank 2
216.7	154	35	Fracture Rank 1
217.1	145	29	Fracture Rank 1
217.6	145	42	Bedding
217.7	151	41	Fracture Rank 2
217.9	153	41	Fracture Rank 1
218.4	160	35	Fracture Rank 2
218.8	153	35	Fracture Rank 1
219.2	156	31	Fracture Rank 2
219.4	151	34	Fracture Rank 2
219.6	149	45	Fracture Rank 2
219.8	154	41	Fracture Rank 1
220.2	159	37	Fracture Rank 1
220.3	154	46	Fracture Rank 1
220.5	147	58	Fracture Rank 1
221.3	147	49	Fracture Rank 1
222.0	150	50	Fracture Rank 1
222.4	145	48	Fracture Rank 1
223.1	155	67	Fracture Rank 2
223.6	170	50	Fracture Rank 1
223.7	155	38	Fracture Rank 1
224.0	143	55	Fracture Rank 2
224.6	156	50	Fracture Rank 2
225.6	157	56	Fracture Rank 1
226.2	153	53	Fracture Rank 1
226.9	177	40	Fracture Rank 2
227.1	142	71	Fracture Rank 1

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
227.2	168	44	Fracture Rank 1
227.6	151	39	Fracture Rank 2
227.7	143	35	Fracture Rank 1
228.1	128	50	Fracture Rank 2
229.0	136	54	Fracture Rank 2
229.1	131	56	Fracture Rank 1
229.8	131	34	Fracture Rank 2
230.0	142	29	Fracture Rank 2
230.8	135	34	Fracture Rank 2
231.0	146	35	Fracture Rank 2
231.5	131	41	Fracture Rank 2
231.8	132	50	Fracture Rank 1
231.8	124	73	Fracture Rank 1
231.9	135	49	Fracture Rank 1
232.6	135	32	Fracture Rank 1
232.8	102	26	Fracture Rank 2
233.3	157	53	Fracture Rank 2
235.2	135	48	Fracture Rank 1
235.7	181	30	Fracture Rank 2
236.1	109	40	Fracture Rank 2
236.3	110	36	Fracture Rank 1
236.5	91	34	Fracture Rank 2
237.1	77	46	Fracture Rank 2
237.6	63	36	Fracture Rank 2
238.5	183	45	Fracture Rank 2
239.0	146	35	Fracture Rank 1
239.5	108	39	Fracture Rank 1
239.8	133	42	Fracture Rank 1
240.9	131	42	Fracture Rank 2
241.4	130	58	Fracture Rank 2
241.7	138	45	Fracture Rank 1
242.0	134	56	Fracture Rank 2
242.3	143	45	Fracture Rank 1
242.5	177	73	Fracture Rank 2
244.3	106	53	Fracture Rank 2
245.1	110	33	Fracture Rank 1
245.2	294	73	Fracture Rank 1
245.3	96	41	Fracture Rank 2
245.6	97	46	Fracture Rank 2
245.9	93	45	Fracture Rank 2
246.2	108	44	Fracture Rank 2
246.4	126	47	Fracture Rank 1
247.8	128	42	Fracture Rank 1
249.1	140	48	Fracture Rank 2
251.1	299	57	Fracture Rank 1

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
251.5	124	25	Fracture Rank 1
251.7	134	15	Fracture Rank 1
251.9	155	40	Fracture Rank 1
253.2	122	38	Fracture Rank 2
253.3	113	38	Fracture Rank 2
253.5	116	37	Fracture Rank 2
254.0	128	47	Fracture Rank 2
254.5	144	35	Fracture Rank 1
255.6	137	39	Fracture Rank 1
256.1	104	34	Bedding
256.4	116	29	Bedding
256.6	133	33	Fracture Rank 2
256.9	114	39	Fracture Rank 2
257.0	104	37	Fracture Rank 1
257.6	141	35	Fracture Rank 2
258.1	106	38	Fracture Rank 1
258.6	160	33	Fracture Rank 1
259.0	121	29	Fracture Rank 2
259.2	143	36	Fracture Rank 1
259.3	148	46	Fracture Rank 2
259.5	160	48	Fracture Rank 1
261.4	129	33	Fracture Rank 1
261.7	136	30	Fracture Rank 1
262.0	122	34	Fracture Rank 2
264.0	149	26	Fracture Rank 1
264.9	159	38	Fracture Rank 1
266.3	149	43	Fracture Rank 1
266.6	149	40	Fracture Rank 2
266.8	157	43	Fracture Rank 2
266.9	155	42	Fracture Rank 1
267.1	152	36	Bedding
267.2	166	38	Fracture Rank 2
267.4	163	42	Fracture Rank 2
267.9	152	43	Fracture Rank 1
268.1	149	43	Fracture Rank 2
268.4	142	47	Fracture Rank 2
268.7	141	50	Fracture Rank 2
269.0	132	50	Fracture Rank 2
269.2	276	35	Fracture Rank 1
269.3	134	52	Fracture Rank 2
269.7	148	26	Fracture Rank 2
270.7	152	31	Fracture Rank 2
271.6	121	34	Fracture Rank 2
271.7	125	30	Fracture Rank 1
273.1	149	46	Bedding

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
273.4	148	48	Fracture Rank 1
273.7	162	42	Fracture Rank 1
273.9	169	47	Fracture Rank 2
274.3	140	47	Fracture Rank 2
274.7	99	48	Fracture Rank 2
275.4	122	50	Fracture Rank 1
276.5	117	31	Fracture Rank 1
276.8	321	8	Fracture Rank 2
277.3	130	68	Fracture Rank 2
278.2	116	66	Fracture Rank 2
278.4	289	54	Fracture Rank 1
278.9	132	70	Fracture Rank 1
279.8	117	56	Fracture Rank 1
280.1	121	56	Fracture Rank 1
280.4	120	61	Fracture Rank 2
280.9	121	55	Fracture Rank 1
281.1	124	55	Bedding
281.8	133	54	Fracture Rank 1
282.5	106	60	Fracture Rank 2
283.3	138	54	Fracture Rank 1
283.5	143	58	Fracture Rank 2
283.9	137	63	Fracture Rank 2
284.2	129	57	Bedding
284.8	172	36	Fracture Rank 2
287.3	142	26	Fracture Rank 2
288.8	163	35	Fracture Rank 1
289.2	171	24	Fracture Rank 2
289.4	170	23	Fracture Rank 1
289.7	180	36	Fracture Rank 1
291.1	167	19	Fracture Rank 2
291.7	182	42	Fracture Rank 1
292.2	178	40	Fracture Rank 1
294.9	157	21	Fracture Rank 1
295.9	134	18	Fracture Rank 1
296.2	137	20	Fracture Rank 1
297.6	141	33	Fracture Rank 1
298.9	171	33	Fracture Rank 2
299.5	158	49	Fracture Rank 1
299.9	174	65	Fracture Rank 2
301.1	192	11	Fracture Rank 1
301.5	146	28	Bedding
301.9	169	8	Fracture Rank 1
303.0	163	26	Fracture Rank 2
303.1	149	32	Fracture Rank 1
303.7	174	39	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
304.0	174	37	Fracture Rank 2
304.4	153	35	Bedding
305.3	175	41	Fracture Rank 2
305.4	165	42	Fracture Rank 2
309.7	58	16	Fracture Rank 2
309.8	85	23	Fracture Rank 1
310.1	18	82	Fracture Rank 1
311.9	56	38	Fracture Rank 1
312.1	163	41	Fracture Rank 1
312.8	177	47	Fracture Rank 1
312.9	178	50	Fracture Rank 1
313.4	156	33	Fracture Rank 1
314.5	141	35	Fracture Rank 1
314.9	145	39	Fracture Rank 2
315.4	153	46	Fracture Rank 1
316.8	147	28	Fracture Rank 1
317.1	150	37	Fracture Rank 1
317.6	138	42	Fracture Rank 1
317.9	279	76	Fracture Rank 1
318.0	44	74	Fracture Rank 1
318.2	130	30	Fracture Rank 2
318.7	146	33	Fracture Rank 2
319.8	137	27	Fracture Rank 1
320.2	65	31	Bedding
321.0	115	29	Fracture Rank 1
321.8	114	26	Bedding
323.2	143	34	Fracture Rank 1
323.4	114	33	Fracture Rank 2
325.2	167	21	Bedding
325.7	165	18	Fracture Rank 1
326.3	178	34	Fracture Rank 1
327.1	137	27	Fracture Rank 1
327.4	138	19	Fracture Rank 1
328.2	133	27	Fracture Rank 1
329.3	161	27	Fracture Rank 1
330.1	175	27	Fracture Rank 1
331.8	92	29	Fracture Rank 2
332.2	100	25	Fracture Rank 1
332.6	181	23	Fracture Rank 1
333.6	195	35	Fracture Rank 1
333.8	187	46	Fracture Rank 2
334.3	175	32	Fracture Rank 1
334.7	164	23	Fracture Rank 2
334.9	185	31	Fracture Rank 1
335.1	157	35	Fracture Rank 1

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
336.2	148	26	Bedding
336.4	166	28	Fracture Rank 1
337.1	192	31	Fracture Rank 1
337.2	151	32	Fracture Rank 1
337.7	191	30	Fracture Rank 1
338.1	141	27	Bedding
338.2	126	28	Fracture Rank 1
339.6	180	40	Fracture Rank 1
339.7	273	81	Fracture Rank 1
340.5	154	32	Bedding
341.0	184	34	Fracture Rank 2
342.5	191	57	Fracture Rank 2
342.8	159	31	Fracture Rank 2
343.0	182	29	Fracture Rank 1
343.1	178	33	Bedding
343.3	164	39	Fracture Rank 1
343.8	169	49	Fracture Rank 2
344.8	82	54	Fracture Rank 1
345.3	145	42	Fracture Rank 1
345.9	159	44	Fracture Rank 1
346.5	182	30	Bedding
347.4	137	39	Fracture Rank 2
347.6	139	44	Fracture Rank 2
347.9	148	39	Bedding
348.0	153	35	Fracture Rank 2
348.4	102	15	Fracture Rank 2
348.6	155	44	Fracture Rank 1
349.2	180	51	Bedding
349.3	196	51	Fracture Rank 2
350.3	130	31	Fracture Rank 2
350.4	144	30	Fracture Rank 1
350.6	95	38	Fracture Rank 1
350.7	115	32	Fracture Rank 1
350.9	127	36	Fracture Rank 1
351.0	130	32	Bedding
351.3	270	79	Fracture Rank 1
351.3	137	31	Fracture Rank 2
351.6	97	43	Fracture Rank 1
354.3	86	40	Fracture Rank 1
354.6	73	44	Fracture Rank 1
354.8	103	32	Bedding
354.9	65	46	Fracture Rank 1
355.1	73	37	Fracture Rank 1
355.1	281	84	Fracture Rank 1
355.9	156	32	Fracture Rank 2

PW-1 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
356.2	175	36	Fracture Rank 2
356.8	172	15	Fracture Rank 2
356.8	130	43	Fracture Rank 2
357.0	140	44	Fracture Rank 1
357.1	138	48	Fracture Rank 1
357.6	190	64	Fracture Rank 2

HAGER-RICHTER GEOSCIENCE, INC.	
PW-4 - TABLE OF BEDROCK STRUCTURES	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	136 Coonbrook Road, Petersburg, New York
H-R FILE	18RG07
DATE LOGGED	September 5, 2019
LOG DATUM	Top of the 6-Inch Steel Casing
DIP AZIMUTH	True North (Magnetic Declination = 14° West)
DIP ANGLE	Measured from Horizontal

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
40.4	91	56	Fracture Rank 1
40.6	85	58	Fracture Rank 1
40.8	81	55	Bedding
41.0	87	53	Fracture Rank 2
41.2	86	60	Fracture Rank 1
41.4	92	58	Fracture Rank 1
41.5	92	53	Fracture Rank 1
41.9	97	59	Fracture Rank 1
42.1	99	67	Fracture Rank 1
42.5	98	69	Fracture Rank 2
42.8	92	42	Bedding
42.8	99	74	Fracture Rank 1
43.0	97	53	Fracture Rank 1
43.2	98	46	Fracture Rank 1
43.6	112	59	Fracture Rank 1
43.9	112	49	Fracture Rank 1
44.1	97	51	Fracture Rank 1
44.2	109	51	Fracture Rank 2
44.4	108	52	Fracture Rank 1
44.5	119	57	Fracture Rank 2
44.8	110	55	Fracture Rank 1
45.0	102	57	Fracture Rank 1
45.2	112	79	Fracture Rank 1
45.3	99	50	Bedding
45.8	108	76	Fracture Rank 1
46.0	113	76	Fracture Rank 2
46.6	119	77	Fracture Rank 2
46.9	125	34	Fracture Rank 1
47.2	119	79	Fracture Rank 1
48.0	116	72	Bedding
48.2	114	75	Fracture Rank 2
48.3	114	73	Fracture Rank 1
48.6	118	69	Fracture Rank 1
49.0	120	62	Fracture Rank 1
49.4	117	65	Fracture Rank 1

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
49.8	119	50	Fracture Rank 2
50.1	125	47	Fracture Rank 2
50.3	113	54	Fracture Rank 2
50.8	110	78	Fracture Rank 2
50.8	111	61	Fracture Rank 2
51.7	109	60	Fracture Rank 2
51.9	293	75	Fracture Rank 1
52.1	106	50	Bedding
52.3	127	62	Fracture Rank 2
52.7	125	66	Fracture Rank 2
53.4	99	53	Fracture Rank 2
53.7	104	51	Bedding
53.8	112	49	Fracture Rank 1
54.1	100	51	Fracture Rank 1
54.2	100	54	Fracture Rank 1
54.4	106	60	Fracture Rank 2
54.8	91	58	Fracture Rank 2
54.9	94	57	Bedding
55.5	109	52	Fracture Rank 2
56.0	101	51	Fracture Rank 2
56.6	101	52	Fracture Rank 2
56.6	135	66	Fracture Rank 1
57.2	83	48	Fracture Rank 2
57.7	93	59	Fracture Rank 2
58.3	73	49	Fracture Rank 2
58.4	97	55	Fracture Rank 2
58.6	73	48	Fracture Rank 2
58.7	113	51	Fracture Rank 1
59.6	112	58	Fracture Rank 2
59.8	114	55	Fracture Rank 1
60.0	108	56	Fracture Rank 1
60.6	129	49	Fracture Rank 2
60.7	115	63	Fracture Rank 2
61.3	117	59	Bedding
61.5	116	61	Fracture Rank 1
62.9	110	49	Fracture Rank 2
63.2	84	54	Fracture Rank 1
63.6	91	51	Bedding
65.0	150	65	Bedding
65.6	162	73	Fracture Rank 1
66.8	121	49	Bedding
66.9	130	49	Fracture Rank 1
67.2	139	56	Fracture Rank 2
67.7	149	55	Fracture Rank 1
68.3	155	50	Fracture Rank 1

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
68.6	127	58	Fracture Rank 1
69.1	131	62	Fracture Rank 2
69.8	117	72	Fracture Rank 2
70.3	130	53	Bedding
71.1	107	62	Fracture Rank 2
71.6	122	50	Fracture Rank 2
71.9	120	55	Fracture Rank 2
72.0	118	58	Bedding
72.2	120	62	Fracture Rank 2
72.5	120	60	Bedding
72.8	115	68	Fracture Rank 2
73.3	98	73	Fracture Rank 1
74.4	117	59	Bedding
74.6	118	66	Fracture Rank 2
75.0	125	63	Fracture Rank 2
76.1	135	55	Fracture Rank 1
76.4	128	51	Bedding
76.6	129	41	Fracture Rank 1
77.1	119	45	Fracture Rank 2
77.4	123	49	Fracture Rank 2
77.6	107	54	Bedding
78.3	99	55	Fracture Rank 2
78.7	115	53	Fracture Rank 2
79.1	88	48	Fracture Rank 2
79.5	86	37	Fracture Rank 2
80.1	114	53	Fracture Rank 1
80.8	119	64	Bedding
81.5	122	58	Fracture Rank 2
81.8	127	57	Fracture Rank 2
82.4	117	57	Fracture Rank 2
82.5	126	55	Bedding
82.9	128	54	Bedding
83.8	127	48	Fracture Rank 1
84.6	135	54	Fracture Rank 1
85.4	120	46	Bedding
85.7	125	49	Bedding
86.1	130	49	Bedding
86.8	130	75	Fracture Rank 2
88.4	115	76	Fracture Rank 1
89.2	130	49	Bedding
90.1	125	54	Fracture Rank 2
90.8	126	50	Fracture Rank 1
92.1	108	40	Fracture Rank 1
92.3	132	45	Fracture Rank 1
92.5	127	48	Bedding

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
93.5	125	43	Fracture Rank 2
93.7	127	57	Bedding
93.7	132	41	Fracture Rank 1
94.0	139	43	Fracture Rank 1
94.2	136	45	Fracture Rank 2
94.7	135	59	Bedding
95.3	111	37	Fracture Rank 1
95.5	247	77	Fracture Rank 3
95.7	114	35	Fracture Rank 1
96.4	134	54	Bedding
96.9	122	50	Bedding
97.4	128	50	Bedding
98.5	123	50	Fracture Rank 1
99.2	146	46	Fracture Rank 1
99.7	135	45	Bedding
100.9	92	72	Fracture Rank 1
101.4	125	59	Fracture Rank 1
101.7	136	55	Fracture Rank 2
104.2	109	82	Fracture Rank 2
104.6	158	36	Fracture Rank 1
106.0	112	30	Bedding
107.5	157	36	Fracture Rank 1
108.8	140	48	Fracture Rank 2
109.8	142	49	Bedding
111.0	129	44	Bedding
111.6	123	43	Bedding
111.7	119	42	Bedding
112.1	118	45	Fracture Rank 1
112.3	127	53	Fracture Rank 1
112.7	136	51	Fracture Rank 1
113.5	133	60	Fracture Rank 1
113.8	89	54	Fracture Rank 2
114.5	108	53	Bedding
114.8	106	45	Fracture Rank 1
114.9	111	48	Bedding
115.7	102	84	Fracture Rank 1
116.2	132	45	Fracture Rank 1
116.6	109	34	Fracture Rank 1
117.1	111	45	Fracture Rank 1
118.5	115	46	Bedding
119.2	270	80	Fracture Rank 2
119.6	279	78	Fracture Rank 1
119.9	81	71	Fracture Rank 2
120.0	82	71	Fracture Rank 1
121.2	181	37	Bedding

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
121.7	99	81	Fracture Rank 1
121.9	140	52	Fracture Rank 1
122.0	134	53	Fracture Rank 2
123.7	131	47	Bedding
124.1	132	53	Fracture Rank 1
124.8	140	51	Bedding
125.0	141	59	Fracture Rank 1
126.2	121	61	Fracture Rank 1
127.0	113	56	Fracture Rank 2
127.4	111	65	Fracture Rank 1
127.8	123	59	Fracture Rank 1
128.5	140	51	Bedding
129.1	134	48	Fracture Rank 2
130.1	125	51	Fracture Rank 1
131.7	111	42	Bedding
132.4	143	37	Fracture Rank 1
132.9	118	46	Bedding
133.5	167	39	Fracture Rank 1
133.8	136	51	Bedding
135.2	102	51	Fracture Rank 1
135.6	108	49	Bedding
135.9	110	56	Fracture Rank 2
138.0	111	56	Bedding
139.0	137	49	Fracture Rank 1
140.7	119	55	Fracture Rank 1
141.7	113	56	Fracture Rank 1
142.0	128	52	Bedding
142.2	132	41	Fracture Rank 1
142.4	135	42	Fracture Rank 2
142.6	145	45	Fracture Rank 3
142.7	132	42	Fracture Rank 2
143.4	91	64	Fracture Rank 1
143.7	104	62	Fracture Rank 1
143.9	97	61	Bedding
144.2	123	63	Bedding
144.7	128	66	Bedding
145.1	137	72	Bedding
146.1	213	79	Fracture Rank 1
148.3	355	69	Bedding
149.1	350	59	Bedding
150.2	43	83	Fracture Rank 1
152.1	15	59	Fracture Rank 2
152.1	283	44	Fracture Rank 1
154.1	176	64	Fracture Rank 1
154.6	144	53	Bedding

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
155.5	144	52	Bedding
155.9	137	52	Bedding
156.6	138	60	Fracture Rank 2
158.6	107	55	Bedding
159.0	114	56	Bedding
159.8	105	59	Bedding
160.1	120	39	Fracture Rank 1
160.4	298	68	Fracture Rank 2
161.4	94	58	Bedding
162.1	78	37	Fracture Rank 1
162.6	89	59	Bedding
163.9	133	45	Fracture Rank 1
164.3	110	80	Fracture Rank 1
164.5	109	39	Bedding
165.1	103	34	Bedding
166.8	340	44	Fracture Rank 2
167.6	90	57	Bedding
168.3	90	40	Fracture Rank 1
169.0	285	20	Fracture Rank 2
169.5	100	71	Fracture Rank 2
170.1	99	74	Fracture Rank 1
170.7	76	69	Bedding
172.0	103	61	Fracture Rank 1
172.6	95	63	Bedding
174.1	100	71	Bedding
174.8	122	71	Fracture Rank 2
175.9	114	67	Fracture Rank 2
176.6	125	64	Fracture Rank 2
178.3	131	69	Fracture Rank 1
179.3	93	59	Bedding
179.5	106	52	Fracture Rank 1
181.0	301	64	Fracture Rank 1
182.0	290	49	Bedding
184.2	107	59	Fracture Rank 1
185.9	297	29	Fracture Rank 2
186.1	253	20	Fracture Rank 2
188.4	140	69	Fracture Rank 1
189.4	98	59	Fracture Rank 2
189.6	87	61	Fracture Rank 1
189.8	92	65	Bedding
191.2	107	64	Fracture Rank 1
196.3	292	45	Fracture Rank 2
197.4	121	66	Fracture Rank 1
197.9	135	66	Fracture Rank 2
198.0	296	66	Fracture Rank 1

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
198.3	131	66	Fracture Rank 2
199.4	59	60	Fracture Rank 1
199.9	111	50	Bedding
200.3	101	59	Fracture Rank 2
200.7	93	63	Fracture Rank 2
201.2	87	66	Fracture Rank 1
202.3	298	62	Fracture Rank 1
202.7	126	69	Fracture Rank 2
203.9	116	63	Fracture Rank 1
204.1	112	66	Fracture Rank 1
204.4	116	67	Fracture Rank 1
205.1	137	68	Fracture Rank 2
205.4	314	41	Fracture Rank 1
205.9	127	50	Bedding
206.3	127	65	Fracture Rank 1
206.9	297	53	Fracture Rank 2
207.9	107	55	Fracture Rank 1
208.2	125	54	Bedding
208.8	291	47	Fracture Rank 1
208.8	63	63	Fracture Rank 2
208.9	120	54	Bedding
209.6	134	68	Fracture Rank 2
210.4	120	59	Fracture Rank 1
210.7	109	55	Bedding
211.1	109	72	Fracture Rank 2
212.0	120	64	Fracture Rank 1
212.7	114	49	Fracture Rank 1
213.4	121	65	Fracture Rank 1
213.7	124	64	Bedding
214.5	127	52	Fracture Rank 1
215.1	131	76	Fracture Rank 2
215.4	123	74	Fracture Rank 1
216.1	122	71	Fracture Rank 1
216.6	132	69	Fracture Rank 1
217.0	129	67	Bedding
217.9	130	68	Fracture Rank 1
218.6	133	66	Fracture Rank 1
219.1	156	68	Fracture Rank 2
219.5	135	64	Bedding
220.1	137	63	Fracture Rank 2
220.3	132	65	Fracture Rank 1
220.7	115	64	Fracture Rank 1
221.3	133	66	Fracture Rank 2
222.3	153	69	Fracture Rank 1
224.3	113	51	Fracture Rank 2

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
226.3	189	33	Bedding
228.3	39	73	Fracture Rank 2
228.7	178	40	Bedding
228.7	167	66	Fracture Rank 1
232.6	163	39	Fracture Rank 1
232.7	158	35	Bedding
233.1	91	57	Fracture Rank 1
233.4	75	58	Fracture Rank 1
234.2	164	61	Fracture Rank 1
235.2	152	70	Fracture Rank 1
237.4	351	56	Bedding
239.0	39	73	Fracture Rank 2
240.5	182	41	Bedding
242.8	191	30	Fracture Rank 1
242.9	183	35	Bedding
243.4	175	26	Bedding
245.0	290	84	Fracture Rank 2
245.4	131	22	Bedding
245.7	108	22	Bedding
246.3	106	57	Fracture Rank 2
248.6	35	40	Bedding
249.1	341	65	Fracture Rank 1
251.5	44	75	Fracture Rank 1
251.6	8	34	Bedding
252.3	329	32	Fracture Rank 1
254.1	37	79	Fracture Rank 2
256.5	147	45	Fracture Rank 1
257.0	273	75	Fracture Rank 2
259.9	126	42	Fracture Rank 1
260.2	351	67	Bedding
260.5	348	62	Bedding
260.6	271	59	Fracture Rank 1
263.0	155	66	Fracture Rank 1
263.9	143	58	Fracture Rank 2
264.2	140	56	Bedding
264.5	144	56	Fracture Rank 2
265.1	153	42	Fracture Rank 1
265.5	134	53	Fracture Rank 1
266.2	141	39	Fracture Rank 1
266.8	129	27	Fracture Rank 3
267.1	146	39	Bedding
269.1	140	29	Fracture Rank 1
270.0	134	56	Fracture Rank 1
270.4	186	26	Fracture Rank 1
270.9	137	54	Bedding

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
271.1	130	53	Fracture Rank 2
271.5	137	44	Fracture Rank 1
272.4	120	63	Bedding
273.1	128	62	Fracture Rank 1
273.7	128	57	Fracture Rank 1
274.2	132	63	Fracture Rank 2
274.6	130	58	Fracture Rank 2
275.2	130	62	Fracture Rank 2
275.6	129	61	Fracture Rank 2
277.0	137	52	Bedding
277.3	131	70	Fracture Rank 2
277.4	294	58	Fracture Rank 2
279.3	88	49	Fracture Rank 2
280.2	244	72	Fracture Rank 2
280.6	171	65	Fracture Rank 1
281.6	191	72	Fracture Rank 2
282.5	174	60	Bedding
283.6	107	69	Fracture Rank 2
284.3	130	68	Fracture Rank 1
286.5	65	70	Fracture Rank 1
287.5	146	40	Fracture Rank 2
287.8	141	51	Fracture Rank 2
288.1	170	40	Bedding
288.3	132	54	Fracture Rank 1
288.8	137	57	Fracture Rank 1
289.2	157	15	Bedding
289.6	318	73	Fracture Rank 1
289.7	126	66	Fracture Rank 1
291.5	129	56	Fracture Rank 3
292.6	126	64	Fracture Rank 2
292.8	284	54	Fracture Rank 1
292.9	355	51	Fracture Rank 1
293.8	125	40	Fracture Rank 2
294.3	151	47	Fracture Rank 2
294.5	147	48	Fracture Rank 2
294.7	143	48	Fracture Rank 1
295.0	148	43	Fracture Rank 2
295.2	143	37	Fracture Rank 2
295.5	129	39	Fracture Rank 2
295.8	124	44	Fracture Rank 2
296.1	110	46	Fracture Rank 1
296.2	105	45	Bedding
297.0	84	36	Fracture Rank 2
297.1	330	57	Fracture Rank 1
297.2	108	24	Fracture Rank 1

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
297.7	319	36	Fracture Rank 2
297.8	161	29	Fracture Rank 1
297.9	137	33	Fracture Rank 2
299.2	141	70	Fracture Rank 1
299.9	142	69	Fracture Rank 1
300.7	94	34	Fracture Rank 2
301.1	123	34	Bedding
301.4	153	60	Fracture Rank 1
301.6	96	31	Bedding
302.4	106	53	Fracture Rank 1
302.7	113	57	Fracture Rank 2
303.0	91	48	Fracture Rank 1
303.9	124	51	Fracture Rank 2
304.2	125	47	Bedding
305.1	131	51	Bedding
306.4	278	51	Fracture Rank 2
306.5	127	42	Fracture Rank 1
307.0	266	67	Fracture Rank 3
307.9	147	56	Bedding
308.2	160	43	Fracture Rank 2
308.3	145	39	Fracture Rank 1
308.5	153	42	Fracture Rank 1
309.7	126	46	Bedding
310.2	356	17	Fracture Rank 1
310.6	105	57	Fracture Rank 2
310.8	121	53	Fracture Rank 1
311.4	189	68	Fracture Rank 1
312.9	128	44	Bedding
314.6	133	22	Fracture Rank 1
314.6	343	39	Fracture Rank 1
314.8	138	39	Fracture Rank 1
315.0	141	53	Fracture Rank 3
315.3	152	61	Fracture Rank 2
315.4	144	36	Fracture Rank 2
315.8	141	57	Bedding
316.8	138	48	Fracture Rank 1
317.7	61	49	Fracture Rank 1
319.9	288	45	Fracture Rank 2
320.2	108	17	Fracture Rank 1
322.0	103	39	Bedding
322.4	78	31	Fracture Rank 1
322.5	182	64	Fracture Rank 1
322.8	312	35	Fracture Rank 1
323.4	267	54	Fracture Rank 1
324.0	126	48	Fracture Rank 1

PW-4 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
324.6	109	43	Bedding
325.5	128	65	Fracture Rank 2
325.5	221	75	Fracture Rank 1
325.7	42	32	Fracture Rank 1
325.9	127	66	Fracture Rank 1
326.9	118	65	Fracture Rank 2
327.2	264	42	Fracture Rank 2
328.0	105	59	Bedding
328.5	181	61	Fracture Rank 1
329.7	127	71	Fracture Rank 1
330.5	124	62	Fracture Rank 1
331.1	117	49	Bedding
331.3	146	39	Fracture Rank 1
331.8	120	74	Fracture Rank 2
332.5	109	57	Bedding
333.7	107	67	Fracture Rank 1
334.3	120	63	Fracture Rank 1
335.2	101	44	Bedding
335.9	98	46	Bedding
336.6	286	42	Fracture Rank 2
337.2	197	52	Fracture Rank 1
338.0	84	47	Fracture Rank 2
338.4	89	44	Bedding
339.8	89	65	Fracture Rank 1
340.2	103	51	Fracture Rank 1
340.7	109	48	Bedding

HAGER-RICHTER GEOSCIENCE, INC.	
RW-159CBR - TABLE OF BEDROCK STRUCTURES	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	46 Coonbrook Road, Petersburg, New York
H-R FILE	18RG07
DATE LOGGED	June 18, 2018
LOG DATUM	Top of the 6-Inch Steel Casing
DIP AZIMUTH	True North (Magnetic Declination = 14° West)
DIP ANGLE	Measured from Horizontal

RW-159CBR - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
38.5	102	6	Fracture Rank 2
38.9	95	33	Fracture Rank 1
39.1	105	52	Fracture Rank 1
40.0	74	63	Fracture Rank 1
40.2	117	55	Fracture Rank 1
40.6	80	65	Fracture Rank 2
40.9	74	43	Fracture Rank 1
40.9	87	12	Fracture Rank 1
41.1	89	41	Fracture Rank 1
41.2	133	37	Fracture Rank 1
41.9	106	54	Bedding
42.0	113	56	Fracture Rank 2
42.5	94	56	Fracture Rank 2
42.9	123	54	Fracture Rank 2
43.1	121	53	Fracture Rank 2
43.5	109	41	Fracture Rank 2
43.6	110	45	Fracture Rank 2
43.8	97	52	Fracture Rank 2
44.0	105	58	Bedding
44.1	107	78	Fracture Rank 2
44.2	109	62	Fracture Rank 1
44.7	102	78	Fracture Rank 2
44.9	106	53	Fracture Rank 2
45.2	106	61	Fracture Rank 1
45.3	102	78	Fracture Rank 2
45.7	110	65	Fracture Rank 2
46.0	99	70	Fracture Rank 2
46.3	97	70	Fracture Rank 1
46.9	105	49	Bedding
48.5	131	52	Fracture Rank 1
48.7	119	56	Fracture Rank 1
49.1	150	39	Fracture Rank 1
49.3	145	40	Fracture Rank 1
49.8	280	59	Fracture Rank 3
50.0	142	44	Fracture Rank 1

RW-159CBR - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
50.4	93	44	Fracture Rank 1
50.7	123	28	Fracture Rank 1
50.9	128	36	Bedding
50.9	270	66	Fracture Rank 2
52.3	132	42	Bedding
52.4	118	37	Fracture Rank 1
52.6	131	39	Fracture Rank 1
52.9	133	45	Fracture Rank 1
53.0	315	26	Fracture Rank 1
53.2	160	61	Fracture Rank 1
53.7	149	45	Fracture Rank 1
54.0	141	41	Fracture Rank 1
54.2	140	45	Fracture Rank 1
54.7	165	58	Fracture Rank 3
55.0	147	58	Fracture Rank 1
55.4	118	60	Fracture Rank 1
56.4	131	52	Fracture Rank 1
56.9	293	60	Fracture Rank 1
57.4	302	61	Fracture Rank 3
57.7	128	44	Fracture Rank 1
58.8	144	41	Bedding
59.0	133	32	Bedding
59.2	133	38	Fracture Rank 1
59.4	109	40	Fracture Rank 1
59.9	146	48	Fracture Rank 2
60.4	125	49	Bedding
60.8	124	59	Fracture Rank 1
61.2	121	57	Fracture Rank 1
61.6	112	48	Fracture Rank 1
61.8	109	54	Fracture Rank 2
62.0	120	47	Bedding
62.2	126	47	Fracture Rank 2
62.5	114	53	Fracture Rank 1
62.7	121	47	Fracture Rank 1
63.1	118	33	Fracture Rank 1
63.4	119	45	Fracture Rank 1
63.6	297	56	Fracture Rank 3
63.8	177	58	Fracture Rank 1
64.4	97	51	Fracture Rank 1
65.0	48	50	Fracture Rank 1
65.3	69	49	Bedding
66.3	96	52	Fracture Rank 1
67.1	131	47	Bedding
68.1	144	59	Fracture Rank 1
68.7	127	56	Fracture Rank 1

RW-159CBR - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
69.2	119	63	Fracture Rank 1
69.7	138	63	Fracture Rank 1
70.6	120	57	Fracture Rank 1
72.1	104	44	Fracture Rank 1
72.2	101	45	Fracture Rank 2
72.5	105	46	Bedding
75.7	304	60	Fracture Rank 1
77.3	291	62	Fracture Rank 1
77.6	292	55	Fracture Rank 2
78.2	293	39	Fracture Rank 2
78.8	289	48	Fracture Rank 1
79.7	302	65	Fracture Rank 1
80.0	133	52	Fracture Rank 1
81.4	304	52	Fracture Rank 2
82.4	292	71	Fracture Rank 1
83.1	115	38	Fracture Rank 1
83.1	299	64	Fracture Rank 2
83.4	105	31	Fracture Rank 1
83.7	92	39	Fracture Rank 1
84.0	114	43	Bedding
84.9	141	58	Fracture Rank 2
85.3	101	61	Bedding
85.6	110	64	Fracture Rank 1
85.9	101	66	Fracture Rank 2
86.2	109	62	Fracture Rank 1
86.4	107	63	Fracture Rank 2
86.9	106	57	Bedding
87.0	109	57	Fracture Rank 1
87.3	111	50	Fracture Rank 1
87.7	95	55	Fracture Rank 1
88.0	98	48	Fracture Rank 1
88.4	113	43	Fracture Rank 1
88.9	90	62	Fracture Rank 2
89.6	250	68	Fracture Rank 1
89.8	109	57	Fracture Rank 1
90.2	105	61	Fracture Rank 1
91.3	260	40	Fracture Rank 3
91.3	103	66	Fracture Rank 1
91.9	116	45	Fracture Rank 2
92.1	95	49	Fracture Rank 1
92.5	95	57	Fracture Rank 1
92.9	95	50	Bedding
95.2	77	55	Fracture Rank 2
96.3	103	66	Fracture Rank 1
97.9	276	78	Fracture Rank 1

RW-159CBR - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
98.5	120	50	Fracture Rank 1
100.2	286	51	Fracture Rank 3
101.0	263	78	Fracture Rank 2
101.2	83	49	Fracture Rank 2
101.4	243	79	Fracture Rank 1
101.8	78	35	Fracture Rank 2
101.9	288	56	Fracture Rank 2
102.5	110	47	Bedding
103.0	114	60	Fracture Rank 1
103.6	106	65	Fracture Rank 1
103.9	108	66	Fracture Rank 1
104.3	95	65	Fracture Rank 1
104.7	101	61	Bedding
104.9	95	65	Fracture Rank 1
106.1	111	59	Fracture Rank 1
106.4	142	61	Fracture Rank 1
107.0	123	46	Fracture Rank 1
107.4	119	44	Fracture Rank 1
109.5	102	44	Fracture Rank 1
109.5	263	61	Fracture Rank 3
110.0	128	57	Fracture Rank 1
110.6	355	55	Fracture Rank 2
112.2	94	64	Fracture Rank 1
112.4	95	58	Fracture Rank 1
114.3	122	60	Fracture Rank 1
114.6	115	58	Fracture Rank 1
116.2	356	61	Fracture Rank 2
116.3	357	61	Fracture Rank 1
118.8	159	52	Fracture Rank 1
118.9	86	62	Fracture Rank 1
119.8	129	66	Fracture Rank 1
121.6	100	58	Bedding
122.1	80	65	Fracture Rank 1
122.3	82	62	Fracture Rank 1
125.7	111	24	Fracture Rank 1
126.2	292	55	Fracture Rank 3
126.7	275	61	Fracture Rank 2

HAGER-RICHTER GEOSCIENCE, INC.	
PW-1 - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	Petersburgh, New York
HAGER-RICHTER FILE	18RG07
DATE LOGGED	June 18, 2018
LOG DATUM	Top of the 6-Inch Casing

PW-1 - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
Depth (Feet)	Comments (flow was not detected in the borehole under ambient conditions)
15.1	Ambient Water Level
15.1 - 24.0	no flow detected above the pump
24.0 - 25.0	Location of Pump for HPFM Under Pumping Conditions
25.0 - 60.2	flow up the borehole in the casing at 0.21 gpm under pumping conditions
60.2	Bottom of the 6-Inch Steel Casing
60.2 - 72.8	flow up the borehole at 0.21 gpm under pumping conditions
72.8 - 92.1	flow into & up the borehole under pumping conditions
92.1 - 99.7	flow up the borehole at 0.16 gpm under pumping conditions
99.7 - 106.0	flow into & up the borehole under pumping conditions
106.0 - 116.2	flow up the borehole at 0.07 gpm under pumping conditions
116.2 - 120.9	flow into & up the borehole under pumping conditions
120.9 - 131.2	flow up the borehole at 0.01 gpm under pumping conditions
131.2 - 133.2	minor flow into & up the borehole under pumping conditions
133.2 - 302.8	no flow detected under pumping conditions
302.8 - 309.9	possible flow into or out of the borehole based on the fluid temp. & cond. data
309.9 - 360.0	no flow detected under pumping conditions
360.0	Bottom of the Borehole (based on the geophysical logging)

HAGER-RICHTER GEOSCIENCE, INC.	
PW-4 - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	Petersburgh, New York
HAGER-RICHTER FILE	18RG07
DATE LOGGED	September 5, 2019
LOG DATUM	Top of the 6-Inch Casing

PW-4 - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
Depth (Feet)	Comments
0.0	Water Level (flowing artesian)
6.7 - 15.0	flow up the borehole at 0.12 gpm under ambient conditions
15.0 - 16.0	Location of Pump for HPFM (under pumping conditions)
16.0 - 40.1	flow up the borehole in the casing at 0.12 gpm under ambient conditions flow up the borehole in the casing at 0.25 gpm under pumping conditions
40.1	Bottom of the 6-Inch Steel Casing
40.1 - 141.2	flow up the borehole at 0.12 gpm under ambient conditions flow up the borehole at 0.25 gpm under pumping conditions
141.2 - 143.4	flow into & up the borehole under pumping conditions
143.4 - 185.5	flow up the borehole at 0.12 gpm under ambient conditions flow up the borehole at 0.17 gpm under pumping conditions
185.5 - 186.3	flow into & up the borehole under pumping conditions
186.3 - 242.5	flow up the borehole at 0.12 gpm under ambient conditions flow up the borehole at 0.12 gpm under pumping conditions
242.5 - 250.0	flow into & up the borehole under ambient conditions flow into & up the borehole under pumping conditions
250.0 - 314.1	flow up the borehole at 0.07 gpm under ambient conditions flow up the borehole at 0.07 gpm under pumping conditions
314.1 - 316.4	flow into & up the borehole under ambient conditions flow into & up the borehole under pumping conditions
316.4 - 343.0	no flow detected under ambient conditions no flow detected under pumping conditions
343.0	Bottom of the Borehole (based on the geophysical logging data)

HAGER-RICHTER GEOSCIENCE, INC.	
RW-159CBR - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
CLIENT	Taconic
PROJECT	Taconic - Petersburg RI Phase 1a
LOCATION	Petersburgh, New York
HAGER-RICHTER FILE	18RG07
DATE LOGGED	June 18, 2018
LOG DATUM	Top of the 6-Inch Casing

RW-159CBR - SUMMARY OF BOREHOLE FLOW UNDER AMBIENT & PUMPING CONDITIONS	
Depth (Feet)	Comments (flow was not detected in the borehole under ambient conditions)
2.8	Ambient Water Level
2.8 - 24.0	no flow detected above the pump
24.0 - 25.0	Location of Pump for HPFM Under Pumping Conditions
25.0 - 38.5	flow up the borehole in the casing at 0.21 gpm under pumping conditions
38.5	Bottom of the 6-Inch Steel Casing
38.5 - 43.1	flow up the borehole at 0.21 gpm under pumping conditions
43.1 - 47.3	flow into & up the borehole under pumping conditions
47.9 - 49.0	flow up the borehole at 0.16 gpm under pumping conditions
49.0 - 51.6	flow into & up the borehole under pumping conditions
51.6 - 125.6	flow up the borehole at 0.01 gpm under pumping conditions
125.6 - 128.4	minor flow into & up the borehole under pumping conditions
128.4	Bottom of the Borehole (based on the geophysical logging)



Boring and Core Logs



SOIL BORING LOG

BORING ID: MW-1D
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/11/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/11/2019
JOB #: 70557 BORING LOC.: Parking Lot, West of Site FINAL STATIC WL: 11.33

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425471.697
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 797741.962
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 767.17
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/5.0	N/A	N/A	(0-1.5') Moderate Brown (5 YR 4/4) SILT, some clay, some fine sand, trace organics, trace gravel; Damp-Moist; Firm.	Silt ~1.5'	0.1	SM
						(1.5-5') Yellowish Gray (5Y 7/2) GRAVEL, COBBLES, F SAND, SILT; Damp; Loose.	Sandy Gravel		GM
2	5	10	5.0/4.5	N/A	N/A	(5-7') Yellowish Gray (5Y 7/2) GRAVEL, COBBLES, F SAND, SILT; Damp; Loose.	~7.0'	0.1	SP
						(7-9.5') Light Olive Gray (5Y 5/2) F-M SAND, trace gravel/silt (increasing silt content with depth); Moist-Wet; Medium Dense.	F-M Sand ~10'		
3	10	12	2.0/2.0	N/A	N/A	Lost some material in hole, retrieve next run. Light Olive Gray (5Y 5/2) F-M SAND, GRAVEL, some cobbles, trace silt; Wet; Loose.	F-M Sand and Silt	0.1	SM
4	12	15	3.0/2.3	N/A	N/A	Light Olive Gray (5Y 5/2) SILT, some fine sand, trace clay, trace gravel; Wet; Soft. Potentially slough material.		0.1	
5	15	20	5.0/4.5	N/A	N/A	Light Olive Gray (5Y 5/2) F-M SAND, some silt, trace gravel; Wet; Loose.		0.1	
6	20	24.8	4.8/4.8	N/A	N/A	Light Olive Gray (5Y 5/2) F-M SAND, some silt, trace gravel; Wet; Loose.		0.1	
7	24.8	30	5.0/4.0	N/A	N/A	(24.8-26.5') Light Olive Gray (5Y 5/2) F-M SAND, some silt, trace gravel; Wet; Loose.	~26.5'	0.1	
						(26.5 - 28') Light Olive Gray (5Y 5/2) F-M SAND, GRAVEL (sub-angular to sub-rounded); Wet; Loose.			

NOTES:

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OBG		SOIL BORING LOG		BORING ID: MW-2S					
				INSPECTOR: Luke Reusser					
PROJECT: Taconic Phase 1B		SITE NAME: Taconic		DATE STARTED: 4/14/2019					
CLIENT: Taconic		SITE LOC.: Petersburg, NY		DATE COMPLETED: 4/14/2019					
JOB #: 70557		BORING LOC.: Up Hillside of Building 1		FINAL STATIC WL: NM					
DRILLING CONT.: Cascade		DRILLING METHOD: Sonic		NORTHING: NM					
FOREMAN: Larry Hunsberger		HAMMER / FALL: N/A / N/A		EASTING: NM					
RIG TYPE: SPDR-8		SAMPLER TYPE: Plastic		ELEVATION: NM					
PURPOSE: MW Installation		SAMPLER DIAMETER: 4"		DATUM: NAD83/NAVD88					
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/5.0	N/A	N/A	(0-0.9') Dusky Yellowish Brown (10YR 2/2) F-M-C angular-subangular GRAVEL, some sand, some silt; organic soil with common peds, common root and organic frays; Damp; Loose.	Silty Gravel ~0.9'	0.0	GM
						(0.9-3.0') Pale Yellowish Brown (10YR 6/2) CLAY and SILT supporting fine-medium-coarse angular gravel; Damp; Firm; Common medium-distinct Dark Yellowish Orange (10YR 6/6) mottles.	Clay and Silt ~3.0'		ML
						(3-4.0') Moderate Yellowish Brown (10YR 5/4) F-M-C GRAVEL, some sand, some silt; Damp; Loose.	Gravel ~4.0'		GP
						Grayish Red Purple (5RP 4/2) Weathered Bedrock; silty clay matrix with weathered fine-medium-coarse gravel-sized clasts; Damp; Loose; Well Graded.	Weathered Bedrock	0.0	-
2	5	10	5.0/5.4	N/A	N/A	(5-7.0') Dusky Yellowish Brown (10YR 4/2) Weathered Bedrock; some silt and clay with f-m-c gravel-sized clasts; many medium-coarse distinct Dark Yellowish Brown (10YR 5/4) mottles; possible oxidation.			
						Grayish Red Purple (5RP 4/2) Weathered Bedrock; silty clay matrix with weathered fine-medium-coarse gravel-sized clasts; Damp; Loose; Well Graded.			
3	10	15	NM	N/A	N/A	Borehole advanced to 15.0' bgs into weathered bedrock; hole completely dry; core barrel too hot for core to be retained in plastic sleeve/too late in day; unable to be logged.	~15.0'	0.0	
						End boring at 15.0' bgs.			
NOTES:									
PAGE: 1 of 1									



SOIL BORING LOG

BORING ID: MW-7D
INSPECTOR: Luke Reusser

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/14/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/14/2019
JOB #: 70557 BORING LOC.: Lowland to east of Building 9/10 FINAL STATIC WL: 8.24

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425880.354
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798369.462
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 736.17
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
-	0	2	2.0/2.0	N/A	N/A	Cleared with 12" bit cookie cutter. Asphalt and fill.	Fill ~2.0'	NM	SP
1	2	5	3.0/2.4	N/A	N/A	(2-2.7') Dusty Yellowish Brown (10YR 2/2) F-M subangular GRAVEL, some sand, some silt, little clay; Damp; Loose; Well graded. (2.7-4.4') Dark Yellowish Brown (10YR 4/2) F-M-C subangular GRAVEL, some sand, some silt, trace clay; Damp; Loose-Very Loose.	Gravel	NM	GP
2	5	10	5.0/5.0	N/A	N/A	(5-6.2') Same as above. (6.2-9.1') Same as above transitioning to below.	~9.1'	NM	CL
3	10	15	5.0/5.0	N/A	N/A	(9.1-10.0') Greenish Grey (5GY 6/1) Silty CLAY; Moist; Soft-Firm. (10-11.5') F-M-C subangular GRAVEL, some sand, some silt; Moist; Medium Dense; Well graded. (11.5-14.5') Greenish Grey (5GY 6/1) Silty CLAY; some silty and fine sand toward bottom (13.5-14.5'); Wet; Soft.	Silty Clay ~10.0'	NM	GW
						(14.5-15.0') Lense of Light Olive Gray (5Y 6/1) VF SAND and SILT; little angular medium-coarse gravel; Saturated; Very Loose; with common medium distinct Moderate Yellowish Brown (10YR 5/4) mottles.	Gravel ~11.5'		
						(15-16.6') Moderate Yellowish Brown (10YR 5/4) VF SAND and SILT; Moist; Medium Dense.	Silty Clay ~14.5'		CL
4	15	20	5.0/5.0	N/A	N/A		Sand and Silt	NM	SM
							~16.6'		

NOTES:

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NOTES:



SOIL BORING LOG

BORING ID: MW-8D
INSPECTOR: Alayna Fues

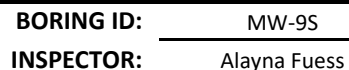
PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/26/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/26/2019
JOB #: 70557 BORING LOC.: Building 2 and 4, Alley FINAL STATIC WL: 8.65

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425608.494
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798306.472
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 735.33
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	10	10.0/5.6	N/A	N/A	(0-3.0') Moderate Yellowish Brown (10YR 5/4) - Greenish Gray (5GY 6/1) GRAVEL, M-C SAND, trace silt, trace fine sand, trace cobbles; Moist-Wet; Medium Dense.	Gravelly Fill ~3.0'	5.4 at 2.0' Rest: 0 - 1.1	GP
						(3-5.6') Yellowish Gray (5Y 7/2) - Light Olive Gray (5Y 6/1) SILT; Moist; Firm.	Silt ~5.6'		ML
2	10	20	10.0/9.6	N/A	N/A	Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, trace-some clay, trace fine sand; Occasional lenses of silty fine sand; Moist-Wet; Firm.	Clayey Silt ~54.0'	0.0	ML
3	20	30	10.0/9.0	N/A	N/A	Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, trace-some clay, trace fine sand; Occasional lenses of silty fine sand; Wet; Soft-Firm.		0.0	
4	30	40	10.0/10.0	N/A	N/A	Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, some clay, traces of gravel-sized pieces; Wet; Soft-Firm.		0.0	
5	40	50	10.0/10.0	N/A	N/A	Same as above.		0.0	
6	50	60	10.0/8.2	N/A	N/A	(50-54.0') Same as above.	Sand and Silt ~61.7'	0.1	SM
						(54-58.2') Light Olive Gray (5Y 6/1) - Dark Yellowish Orange (10YR 6/6) Silty F SAND - Sandy SILT, lens of medium-coarse sand with trace gravel from 54.8-55.4; Wet; Firm.			
7	60	65	5.0/4.1	N/A	N/A	(60-61.7') Light Olive Gray (5Y 6/1) F-M SAND, some coarse sand; Wet; Loose.	Weathered Bedrock ~65.0'	0.0	-
						(61.7-64.1') Light Brownish Gray (5YR 6/1) - Brownish Gray (5YR 4/1) Weathered Bedrock; weathered clay with gravel-sized clasts transitions to weathered clay with cobble-sized clasts with depth.			
						End boring at 65.0' bgs.			

NOTES:

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DRILLING CONT.:	Cascade	DRILLING METHOD:	Sonic	NORTHING:	1425507.915
FOREMAN:	Larry Hunsberger	HAMMER / FALL:	N/A / N/A	EASTING:	798249.786
RIG TYPE:	SPDR-8	SAMPLER TYPE:	Plastic	ELEVATION:	734.83
PURPOSE:	MW Installation	SAMPLER DIAMETER:	4"	DATUM:	NAD83/NAVD88

NOTES: _____

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SOIL BORING LOG

BORING ID: MW-9D
INSPECTOR: Alayna Fuess

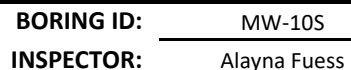
PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/25/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/25/2019
JOB #: 70557 BORING LOC.: Behind Buildings 4 and 5 FINAL STATIC WL: 2.02

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425505.863
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798254.744
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 734.74
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/2.6	N/A	N/A	(Air Knife to 4.0' bgs prior to drilling.) Moderate Yellowish Brown (10YR 5/4) GRAVEL, SILT, F-M SAND; Wet; Medium Dense; increasing sand content with depth.	Gravel and Sand	0.0	GP
2	5	10	5.0/3.6	N/A	N/A	(5-7.2') Same as above.	~7.2'		
						(7.2-8.6') Moderate Yellowish Brown (10YR 5/4) F-M SAND, SILT, trace gravel; Wet; Loose.	Sand	0.2	SP
3	10	20	10.0/4.8	N/A	N/A	(10-10.6') Same as above.	~10.6'		
						(10.6-14.8') Greenish Gray (5GY 6/1) - Light Olive Gray (5GY 6/1) SILT, F SAND; Wet; Firm.	Silty Sand	0.2	SM
							~20.0'		
4	20	30	10.0/6.3	N/A	N/A	Greenish Gray (5GY 6/1) - Light Olive Gray (5Y 6/1) SILT, trace-some clay, lenses of fine sand and silt; Wet; Soft-Firm.	Silt	0.0	ML
							~30.0		
5	30	40	10.0/8.0	N/A	N/A	Greenish Gray (5GY 6/1) - Light Olive Gray (5Y 6/1) Clayey SILT, trace lenses of silt and fine sand at top of core; Wet; Firm.	Clayey Silt	0.0	ML
							~40.0'		
6	40	50	10.0/9.0	N/A	N/A	Same as above; no sand lenses; increase in clay content.	Silt and Clay	0.0	ML
7	50	60	10.0/9.5	N/A	N/A	(50-52.5') Same as above.	~52.5'		
						(52.5-56.0') Light Olive Gray (5Y 6/1) - Dark Yellowish Orange (10YR 6/6) F SAND, trace medium sand, trace silt; Wet; Medium Dense.	Sand		SM
							~56.0'		
						(56-59.5') Pale Yellowish Brown (10YR 6/2) - Light Brownish Gray (5YR 6/1) - Brownish Gray (5YR 2/1) Gravel-cobble-sized pieces of weathered Phyllite (bedrock), some clay; Moist Wet at top.	Weathered Bedrock	0.0	-
							~60.0'		
						End boring at 60.0' bgs.			

NOTES:

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DRILLING CONT.:	<u>Cascade</u>	DRILLING METHOD:	<u>Sonic</u>	NORTHING:	<u>1425494.555</u>
FOREMAN:	<u>Larry Hunsberger</u>	HAMMER / FALL:	<u>N/A</u> / <u>N/A</u>	EASTING:	<u>798411.734</u>
RIG TYPE:	<u>SPDR-8</u>	SAMPLER TYPE:	<u>Plastic</u>	ELEVATION:	<u>735.7</u>
PURPOSE:	<u>MW Installation</u>	SAMPLER DIAMETER:	<u>4"</u>	DATUM:	<u>NAD83/NAVD88</u>

NOTES: _____

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SOIL BORING LOG

BORING ID: MW-10D
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/15/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/15/2019
JOB #: 70557 BORING LOC.: Behind building 4, south side FINAL STATIC WL: 9.82

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425495.206
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798416.426
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 735.48
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/2.0	N/A	N/A	Pale Yellowish Brown (10YR 6/2) - Moderate Yellowish Brown (10YR 5/4) SILT, F SAND, GRAVEL, some-trace clay; Moist-Wet; Firm.	Silty Sand ~5.0'	0.0	SM
2	5	10	5.0/4.8	N/A	N/A	Pale Yellowish Brown (10YR 6/2) - Moderate Yellowish Brown (10YR 5/4) GRAVEL, F-M SAND, GRAVEL, cobbles, some-trace clay; Wet; Firm; gravel decreases with depth.	Sandy Gravel	0.0	GP
3	10	15	5.0/5.0	N/A	N/A	Moderate Yellowish Brown (10YR 5/4) - Pale Yellowish Brown (10YR 6/2) GRAVEL, SILT, M-C SAND, trace fine sand, trace cobbles; Wet; Medium Dense.	~17.7'	0.0	GP
4	15	20	5.0/4.0	N/A	N/A	(15-17.7') Same as above.	~17.7'	0.0	GP
5	20	25	5.0/4.7	N/A	N/A	Greenish Gray (5 GY 6/1) SILT, some clay, trace fine sand; Wet; Firm-Soft.	Silt and Clay	0.0	ML
6	25	30	5.0/4.3	N/A	N/A	Greenish Gray (5 GY 6/1) SILT, some clay; Wet; Firm-Soft; clay content increases with depth.	~38.5'	0.0	ML
7	30	35	5.0/4.7	N/A	N/A	Same as above; trace gravel at bottom.	~38.5'	0.0	ML
8	35	40	5.0/4.0	N/A	N/A	(35-38.5') Same as above.	~38.5'	0.0	ML
9	40	45	5.0/4.9	N/A	N/A	(38.5-39.0') Greenish Gray (5G 6/1) SILT, F SAND, trace clay; Wet; Firm-Soft.	Silty Sand ~40.0'	0.0	SM
10	45	50	5.0/4.9	N/A	N/A	Greenish Gray (5G 6/1) SILT and CLAY; Wet; Soft-Firm.	Silt and Clay	0.0	ML
11	50	55	5.0/3.7	N/A	N/A	Same as above.	~40.0'	0.0	ML

NOTES: Sample for grain size analysis collected at 27.3'.

[illegible]

NOTES:



SOIL BORING LOG

BORING ID: MW-11D
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B	SITE NAME: Taconic	DATE STARTED: 4/17/2019
CLIENT: Taconic	SITE LOC.: Petersburg, NY	DATE COMPLETED: 4/17/2019
JOB #: 70557	BORING LOC.: Front of Building 4	FINAL STATIC WL: 5.35
DRILLING CONT.: Cascade	DRILLING METHOD: Sonic	NORTHING: 1425528.376
FOREMAN: Larry Hunsberger	HAMMER / FALL: N/A / N/A	EASTING: 798582.454
RIG TYPE: SPDR-8	SAMPLER TYPE: Plastic	ELEVATION: 726.5
PURPOSE: MW Installation	SAMPLER DIAMETER: 4"	DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/4.3	N/A	N/A	(0-0.8') Dark Yellowish Brown (10YR 4/2) SILT, some fine sand, trace gravel and organics; Wet; Soft.	Silt ~0.8'	0.2	ML
						(0.8-4.3') Moderate Yellowish Brown (10YR 5/4) F-M SAND, GRAVEL, trace silt; Wet; Loose.			
2	5	10	5.0/3.5	N/A	N/A	(5-6.2') Same as above.	Sand and Gravel ~16.0'	0.0	GP
						(6.2-8.5') Moderate Yellowish Brown (10YR 5/4) GRAVEL, C SAND, some fine-medium sand, trace silt; Wet; Loose.			
3	10	15	5.0/2.0	N/A	N/A	Same as above.		0.0	
4	15	20	5.0/3.5	N/A	N/A	(15-16.0') Same as above with increasing Light Olive Gray (5Y 6/1) silt content.	Silt and Clay ~50.0'	0.1	ML - CL
						(16-18.5') Light Olive Gray (5Y 6/1) SILT, trace-some clay; Wet; Soft.			
5	20	25	5.0/3.2	N/A	N/A	Light Olive Gray (5Y 6/1) SILT, some clay, fine sand-silt lenses from 20-20.3' and 22.3-22.6'; Wet; Soft-Firm.		0.0	
6	25	30	5.0/4.1	N/A	N/A	Light Olive Gray (5Y 6/1) SILT, some clay; Wet; Soft-Firm.		0.1	
7	30	35	5.0/4.5	N/A	N/A	Same as above.		0.0	
8	35	40	5.0/4.5	N/A	N/A	Same as above.		0.0	
9	40	45	5.0/4.2	N/A	N/A	Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, some clay; Wet; Soft; fine sand and silt lens from 41.6-42'.		0.0	
10	45	50	5.0/3.5	N/A	N/A	Light Olive Gray (5Y 6/1) SILT, some clay interspersed with fine sand and silt layers; Wet; Firm-Soft.		0.0	

NOTES:



SOIL BORING LOG

BORING ID: MW-13S
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/23/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/23/2019
JOB #: 70557 BORING LOC.: Near Front Pond FINAL STATIC WL: 4.00

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425985.796
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 799064.266
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 721.42
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
						Drill to 9.0' bgs and set well. No soil cores collected for logging, see log for MW-13D for descriptions.			

NOTES:



SOIL BORING LOG

BORING ID: MW-13D
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/23/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/23/2019
JOB #: 70557 BORING LOC.: Near Front Pond FINAL STATIC WL: 3.15

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425982.268
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 799060.115
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 721.40
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/4.3	N/A	N/A	(0-2.8') Moderate Yellowish Brown (10YR 5/4) - Light Olive Gray (5Y 6/1) SILT, trace clay, trace fine sand, trace organics; Moist; Firm.	Silt ~2.8'	0.0 - 0.4	ML
						(2.8-4.3') Moderate Yellowish Brown (10YR 5/4) - Light Olive Gray (5Y 6/1) GRAVEL, M-C SAND, some silt; trace cobbles; Moist-Wet; Medium Dense.	Gravel and Sand ~7.2'		GP
2	5	10	5.0/3.5	N/A	N/A	(5-7.2') Same as above; Wet.		0.1	ML
						(7.2-8.1') Greenish Gray (5GY 6/1) - Light Olive Gray (5Y 6/1) SILT; trace clay, trace cobbles; Moist-Wet; Soft.	Silt; trace cobbles		
3	10	15	5.0/5.0	N/A	N/A	Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, some clay, trace cobbles; Wet; Soft-Firm.		0.0	GP
4	15	20	5.0/5.0	N/A	N/A	Same as above; slight increase in clay content.	~20.0'	0.0	
5	20	25	5.0/3.5	N/A	N/A	Moderate Yellowish Brown (10YR 5/4) - Light Olive Gray (5Y 6/1) GRAVEL, trace medium-coarse sand, fine-medium sandy unit from 21-21.8'; Wet; Loose.	Gravel	0.0	GP
6	25	30	5.0/5.0	N/A	N/A	(25-27.0') Light Olive Gray (5Y 6/1) - Light Brownish Gray (5YR 6/1) GRAVEL, some cobbles, trace medium-coarse sand; Wet-Moist; Medium Dense.	~27.0'		
						(27-30.0') Greenish Gray (5GY 6/1) Weathered Phyllite (Bedrock), clay, fine-medium sand-sized particles; Dry-damp; Stiff-Medium Dense.	Weathered Bedrock ~30.0'		-
						End boring at 30.0' bgs.			

NOTES:



SOIL BORING LOG

BORING ID: MW-14S
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/24/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/25/2019
JOB #: 70557 BORING LOC.: Campground FINAL STATIC WL: 6.53

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425558.018
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 799131.061
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 720.73
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
						Drill to 20.0' bgs and set well. No soil cores collected for logging, see logs for MW-14D and EXB-2 for descriptions.			

NOTES: _____

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SOIL BORING LOG

BORING ID: MW-15D
INSPECTOR: Alayna Fuess

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/12/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/12/2019
JOB #: 70557 BORING LOC.: Building 10 Adjacent FINAL STATIC WL: 24.26

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425364.144
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798092.400
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 754.90
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing		
								PID (ppm)	USCS	
1	0	5	5.0/2.9	N/A	N/A	(0-0.4') Olive Gray (5Y 4/1) SILT, trace fine sand, trace organics; Damp-Moist; Soft.	Silt ~0.4'	0.0	ML	
						(0.4-2.9') Moderate Yellowish Brown (10YR 5/4) SILT, some fine sand and gravel, trace clay; Moist-Wet; Firm; trace brick pieces.	Sandy Silt ~5.0'		SM	
2	5	10	5.0/4.9	N/A	N/A	Moderate Yellowish Brown (10YR 5/4) - Dark Yellowish Brown (10YR 4/2) SILT, trace-some clay, trace fine sand and organics, some gravel; Moist; Firm.	Silt ~11.0'	0.1	ML	
3	10	15	5.0/4.8	N/A	N/A	(10-11') Same as above.	Gravel/ Sand ~13.4'	0.0	GP	
						(11-13.4') Light Olive Gray (5Y 5/2) - Yellowish Gray (5Y 7/2) GRAVEL, F-M SAND, trace-some silt; Dry-Damp at bottom; Loose.	F-M Sand and Silt ~14.8'		SM	
						(13.4-14.8) Light Olive Gray (5Y 5/2) F-M SAND, silt, trace gravel; Moist; Medium Dense.				
4	15	20	5.0/4.4	N/A	N/A	Light Olive Gray (5Y 5/2) SILT, some-trace fine sand, trace clay; Moist-Wet; Firm.	Silt ~25.0'	0.0	ML	
5	20	25	5.0/4.8	N/A	N/A	(20-21.7') Light Olive Gray (5Y 5/2) SILT, trace fine sand, trace clay; Wet; Soft-Firm.		0.0		
						(21.7-24.8') Light Olive Gray (5Y 5/2) with traces of Dark Yellowish Orange (10YR 6/6) SILT, some clay, trace fine sand; Wet; Firm; Increased clay with depth.				
6	25	30	5.0/4.8	N/A	N/A	(25-26.5') Light Olive Gray (5Y 5/2) F-M SAND, trace-some silt; Wet; Soft.	F-M Sand ~26.5'	0.0	SP	

NOTES:



SOIL BORING LOG

BORING ID: MW-15D

INSPECTOR: Alayna Fuess

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
						(26.5-29.0') Light Olive Gray (5Y 5/2) SILT, trace-some clay, trace fine sand; Wet; Firm-Soft.	Silt ~29.0'	0.0	ML
						(29-29.8') Dark Yellowish Brown (10YR 4/2) - Light Olive Gray (5Y 5/2) F-M SAND, trace silt, trace clay; Moist-Wet; Loose.	F-M Sand		SP
7	30	35	5.0/4.7	N/A	N/A	Light Olive Gray (5Y 5/2) - Dark Yellowish Brown (10YR 4/2) F-M SAND, trace gravel; Wet-Moist; Loose-Medium Dense.	~35.0'	0.0	
8	35	40	5.0/4.8	N/A	N/A	(35-36.2') Yellowish Gray (5Y 7/2) CLAY, trace silt, trace fine sand; Wet; Firm.	Clay ~36.2'	0.0	CL
						(36.2-39.8') Yellowish Gray (5Y 7/2) - Light Olive Gray (5Y 5/2) F-M SAND, trace-some silt; Wet; Medium Dense.	F-M Sand		SP
9	40	45	5.0/3.9	N/A	N/A	(40-42.2') Light Olive Gray (5Y 5/2) F-M SAND, SILT, trace clay; Wet; Soft-Firm.	~42.2'	0.0	
						(42.2-43.9') Light Olive Gray (5Y 6/1) - Greenish Gray (5GY 6/1) SILT, CLAY; trace fine sand; Wet; Soft-Firm.	Sandy Silt and Clay ~43.9'		ML
10	45	50	5.0/5.0	N/A	N/A	Light Olive Gray (5Y 5/2) F-M SAND; Wet; Loose-Medium Dense.	F-M Sand	0.0	SP
11	50	55	5.0/4.4	N/A	N/A	(50-52.5') Same as above.	~52.5'	0.0	
						(52.5-53.2') Light Olive Gray (5Y 6/1) CLAY, SILT, fine-medium sand, gravel; Wet; Firm.	Clay/Silt/Gravel ~53.2'		ML
						(53.2-54.4') Greenish Gray (5GY 6/1) F-M SAND, trace gravel; Wet-Moist; Loose.	F-M Sand ~55.0'		SP
12	55	6	5.0/4.7	N/A	N/A	Pale Olive (10Y 6/2) - Light Olive Gray (5Y 6/1) CLAY, SILT; Wet; Soft-Firm.	Clay/Silt	0.0	ML
13	60	66	6.0/4.9	N/A	N/A	(60-62.3') Same as above.	~62.3'		0.0
						(62.3-63.4') Light Olive Gray (5Y 6/1) SILT, F SAND, trace gravel, trace-some clay; Wet; Loose.	Silt ~63.4'	SM	
						(63.4-64.9') Light Olive Gray (5Y 6/1) CLAY, SILT with Light Brownish Gray (5YR 6/1) and Light Bluish Gray (5G 6/1) Phyllite (Bedrock) pieces.	Weathered Bedrock	-	

NOTES:

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SOIL BORING LOG

BORING ID: MW-16D
INSPECTOR: Luke Reusser

PROJECT: Taconic Phase 1B SITE NAME: Taconic DATE STARTED: 4/13/2019
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 4/13/2019
JOB #: 70557 BORING LOC.: Lowland to east of Building 9/10 FINAL STATIC WL: 6.32

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425195.903
FOREMAN: Larry Hunsberger HAMMER / FALL: N/A / N/A EASTING: 798269.129
RIG TYPE: SPDR-8 SAMPLER TYPE: Plastic ELEVATION: 728.93
PURPOSE: MW Installation SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	5	5.0/4.0	N/A	N/A	(0-0.6') Dusky Yellowish Brown (10YR 3/2) F-M-C subangular-angular GRAVEL, some F-M sand, some silt; Wet; Loose.	Sandy Gravel	0.0	GP
						(0.6-2.6') Dark Yellowish Brown (10YR 4/2) F-M-C subangular-angular GRAVEL, some F-M sand, some silt; Wet; Loose; Poorly sorted.			
						(2.6-4.0') Moderate Yellowish Brown (10YR 5/4) F-M-C subangular-angular GRAVEL, some F-M sand, some silt; Wet; Loose; Poorly sorted; some larger clasts than above.			
2	5	10	5.0/4.5	N/A	N/A	(5-6.5') Moderate Yellowish Brown (10YR 5/4) F-M-C subangular-angular GRAVEL, some F-M sand, some silt; Saturated; Loose; Poorly sorted.	~12.6'	0.0	ML
						(6.5-9.5') Moderate Yellowish Brown (10YR 5/4) F-M GRAVEL, some sand, some silt; Wet; Loose.			
						(10-12.6') Same as above			
3	10	15	5.0/4.6	N/A	N/A	(12.6-13.2') Dark Yellowish Brown (10YR 6/6) Clayey SILT, some fine-medium gravel; Moist; Dense-Firm.	Clayey Silt ~13.2'	0.0	GP
						(13.2-13.7') Moderate Yellowish Brown (10YR 5/4) F-M GRAVEL, some sand, some silt; Wet; Loose.	Gravel ~13.7'		
						(13.7-14.0') Dark Yellowish Brown (10YR 4/2) F-M SAND, some silt; Moist-Wet.	Silty Sand		
						(14.0-14.6) Dusky Brown (5YR 2/2) F-M SAND, some silt; Moist-wet; Medium Dense.	~14.6'		MS*

NOTES: * - USCS classification edited from field observation based on grain size results.

SOIL BORING LOG

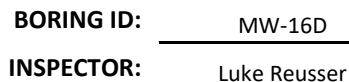
BORING ID: MW-16D

INSPECTOR: Luke Reusser

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
						Slop from 15-20'. Cleaned out hole. Recovered material well churned.	-	-	-
4	15	20	5.0/4.5	N/A	N/A	(15-19.5') Dark Grayish Green (5GY 4/1) VF SAND, SILT, some-little clay; Saturated; Loose-Very Loose; Running/Flowing sands.	Silty Sand	0.0	MS*
5	20	25	5.0/5.0	N/A	N/A	(20-25.0') Greenish Gray (5GY 6/1) VF SAND, SILT, some-little clay; Saturated; Loose-Very Loose; Running/Flowing sands.		0.0	
6	25	30	5.0/5.0	N/A	N/A	(25-30.0') Greenish Gray (5G 6/1) Clayey SILT - SILT and CLAY, little medium-coarse subangular-angular gravel; Wet-saturated; Soft.	Clayey Silt ~30.0'	0.0	ML
7	30	35	5.0/4.5	N/A	N/A	(30-32.5') Greenish Gray (5GY 6/1) VF SAND and SILT, trace coarse gravel; Wet-saturated; Very Loose.	Silty Sand ~32.5'	0.0	SM
						(32.5-34.5') Greenish Gray (5GY 6/1) Clayey SILT, trace medium-coarse subangular gravel; Wet-saturated; Very Loose.			
8	35	40	5.0/4.8	N/A	N/A	(35-39.8') Greenish Gray (5G 6/1) Clayey SILT, trace fine gravel; Wet; Soft.	Clayey Silt	0.0	ML
9	40	45	5.0/4.8	N/A	N/A	(40-44.8') Greenish Gray (5G 6/1) Clayey SILT and fine sand; Wet-Saturated; Very Loose; Alternating zones of stiffer (finer) and looser (coarser) material.		0.0	
10	45	50	5.0/4.3	N/A	N/A	(45-49.3') Greenish Gray (5GY 6/1) Clayey SILT, some fine sand; Wet-Saturated; Loose.	~50.5'	0.0	ML
11	50	55	5.0/4.1	N/A	N/A	(50-50.5') Same as above.		0.0	
						(50.5-54.1') Light Olive Brown (5Y 5/6) F SAND, some silt; Wet; Loose-Medium Dense.	Silty Sand ~54.1'	0.0	SM
12	55	60	5.0/1.2	N/A	N/A	(55-56.2') Moderate Olive Brown (5Y 4/4) Weathered Phyllite (bedrock) with Pale Green (10G 6/2) streaks; Wet; Loose.	Weathered Bedrock	0.0	-
13	60	65	4.0/3.0	N/A	N/A	(60-62.0') Greenish Gray (5G 6/1) SILT and CLAY; Wet-saturated; Medium Dense-Loose; Weathered bedrock with matrix supported weathered angular clasts.		0.0	

NOTES: * - USCS classification edited from field observation based on grain size results.

Sample for grain size analysis collected at 24.0 - 24.25'.



NOTES: _____

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SOIL BORING LOG

BORING ID: EXB-1
INSPECTOR: Sarah Travaly

PROJECT: Taconic Phase 1A SITE NAME: Taconic DATE STARTED: 9/26/2018
CLIENT: Taconic SITE LOC.: Petersburg, NY DATE COMPLETED: 9/26/2018
JOB #: 70557 BORING LOC.: In front of Main Office Building FINAL STATIC WL: 13.99

DRILLING CONT.: Cascade DRILLING METHOD: Sonic NORTHING: 1425752.050
FOREMAN: Josh Sigler HAMMER / FALL: N/A / N/A EASTING: 798434.586
RIG TYPE: Bort Longyear T600 SAMPLER TYPE: Plastic ELEVATION: 735.67
PURPOSE: Soil Sampling Program SAMPLER DIAMETER: 4" DATUM: NAD83/NAVD88

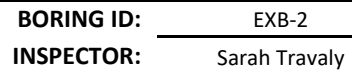
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing	
								PID (ppm)	USCS
1	0	6	6.0/5.3	N/A	N/A	(0-1.9') Dark brown C-M-F SAND, little silty clay, little coarse-medium-fine gravel, trace cobbles; Dry-Moist; Loose; roots/organic matter.	Sand ~1.9'	0.0	SP
						(1.9-4.0') Brown Clayey SILT, some coarse-medium-fine gravel, trace cobbles, some coarse sand; Moist; Medium Dense.	Clayey Silt		ML
						(4-6.0') Light brown Clayey SILT, some coarse-medium-fine gravel, trace cobbles, some coarse sand; Moist; Medium Dense.	~6.0'		
2	6	16	10.0/8.0	N/A	N/A	(6-8.7') Light brown C-M-F SAND, some fine gravel, trace silt, trace cobbles; Dry-Moist; Loose.	Sand ~8.7'	0.0	SP
						(8.7-11.6') Light brown C-M-F GRAVEL, some silty clay, trace cobbles; Wet; Medium Dense.	Gravel ~11.6'		GP
						(11.6-13.6') Light brown Clayey SILT, some medium-fine gravel, some coarse-medium sand; Wet-moist; Dense-Tight.	Clayey Silt		ML
						(13.6-16.0') Gray SILT, some brown mottles; Wet-Moist; Tight.			
3	16	26	10.0/10.0	N/A	N/A	Gray Clayey SILT, trace medium sand; Moist-Wet; Medium Dense; Very Sticky; Not Plastic; Cool to touch.		0.0	
4	26	36	10.0/10.0	N/A	N/A	Gray Clayey SILT; Moist; Medium Dense; Very Sticky; Not Plastic; very thin layers.	0.0	0.0	
5	36	46	10.0/9.0	N/A	N/A	(36-37.7') Same as above.			
						(37.7-41.3') Tan Clayey SILT, orange mottles, occasional fine sand			

NOTES:

[illegible]

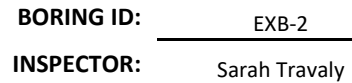
NOTES:

OBG 94 New Karner Road, Ste. 106, Albany, New York, 12203				CORE LOG		Hole No.: EXB-1 Sheet 1 of 1	Job No.: 70557.050.016 Date Started: 9/27/2018		
Project: Taconic Phase 1a Remedial Investigation				Drilling Contractor: Cascade			Date Finished: 9/27/2018		
Client: Taconic Facility				Driller: Josh Sigler			Total Depth: 80.0 ft bgs		
Purpose: Exploratory Borehole				Geologist: Sarah Travaly			Ground Elev.: 735.7 ft NAVD 88		
Location: Petersburg, New York				Length of Casing: 58.2'			S.W.L.: 13.99 ft bmp		
Hole Location: In Front of Main Office Building				Casing Size: 6"		Core Size: 4"	Inclination/Bearing: ---		
Formation Member Unit	Run No. Depth	Pen. Rate (min. per foot)	Depth Scale	Lithologic Description	Core Recovery		RQD		
					Length	Percent			
Not Applicable	Not Applicable	Austerlitz Phyllite	1	1.8	55.0' — Advance boring to 55.0 feet below ground surface (ft bgs) utilizing rotosonic drilling methods. Top of bedrock at 41.3 ft bgs. Set 6-inch steel overburden isolation casing to a depth of 55.0 ft bgs. See EXB-1 boring log for overburden soil description. 60.0' — 65.0' —	3.8	35%	0%	
			2	3.3	70.0' — (66.0'-67.3') Phyllite, grayish green, fine grained, wavy bedding, some quartz inclusions, some calcite infill, low angle breaks at 66.6', 67.1', and 67.3'. PID= 0.0 ppm. — (67.3'-68.8') Reddish Phyllite, fine grained, wavy bedding, some calcite infill on fracture planes, low angle breaks at 67.7', 67.9', and 68.5'. PID = 0.0 ppm. — (68.8'-71.8') Phyllite, same as above, pulverized from sonic vibrations. PID = 0.0 ppm. — (72.0'-73.0') Phyllite, reddish and green, pulverized from sonic vibrations. PID = 0.0 ppm. 75.0' — (73.0'-76.0') Phyllite, reddish, thinly bedded, wavy. PID = 0.0 ppm.	9.0	90%	24%	
			3	3.0	80.0' — (76.0'-77.5') Phyllite, reddish, fine grained, thin wavy bedding, some calcite infill on fracture planes, low angle breaks at 76.5' and 77.1'. PID = 0.0 ppm. — (77.5'-80.0') Phyllite, grayish green, quartz inclusions, clay and grains on surface. PID = 0.0 ppm.	3.5	70%	49%	
					Bottom of core at 80.0 ft bgs.				



DRILLING CONT.:	Cascade	DRILLING METHOD:	Sonic	NORTHING:	1425568.740
FOREMAN:	Josh Sigler	HAMMER / FALL:	N/A / N/A	EASTING:	799129.423
RIG TYPE:	Sonic Crawler	SAMPLER TYPE:	Plastic	ELEVATION:	720.91
PURPOSE:	Soil Sampling Program	SAMPLER DIAMETER:	4"	DATUM:	NAD83/NAVD88

NOTES:
PAGE: 1 of 2



NOTES:
PAGE: 2 of 2

OBG 94 New Karner Road, Ste. 106, Albany, New York, 12203						CORE LOG		Hole No.: EXB-2		Job No.: 70557.050.016					
								Sheet 1 of 1		Date Started: 10/4/2018					
Project: Taconic Phase 1a Remedial Investigation						Drilling Contractor: Cascade				Date Finished 10/4/2018					
Client: Taconic Facility						Driller: Josh Sigler				Total Depth: 99.0 ft bgs					
Purpose: Exploratory Borehole						Geologist: Sarah Travalay				Ground Elev.: 720.9 ft NAVD 88					
Location: Petersburg, New York						Length of Casing: 77.1'				S.W.L.: 2.03 ft bmp					
Hole Location: Adjacent to Campground						Casing Size: 6"		Core Size: 4"		Inclination/Bearing: ---					
Formation Member Unit			Run No. Depth	Pen. Rate (min. per foot)	Depth Scale	Lithologic Description					Core Recovery		RQD		
											Length	Percent			
Not Applicable	Not Applicable	Austerlitz Phyllite	1	4.0	74.0'	Advance boring to 74.0 feet below ground surface (ft bgs) utilizing rotosonic drilling methods. Top of bedrock at 69.0 ft bgs. Set 6-inch steel overburden isolation casing to a depth of 74.0 ft bgs. See EXB-2 boring log for overburden soil description. (74.0'-75.7') Phyllite, greenish, fine grained, thinly bedded, wavy bedding, quartz inclusions, low angle break at 75.7'. PID = 0.0 ppm. (75.7'-80.0') Phyllite, red, fine grained, thinly bedded, wavy bedding, some minerals on fracture planes, low angle break at 80.0'. PID = 0.0 ppm. (80.0'-84.0') Phyllite, greenish, fine grained, thinly bedded, wavy bedding, quartz vein running throughout. PID = 0.0 ppm.					6.2	62%	19%		
					79.0'										
					84.0'										
			2	6.0	89.0'	(84.0'-85.5') Phyllite, greenish, fine grained, thinly bedded, wavy bedding, quartz present on fracture planes. PID = 0.0 ppm. (85.5'-94.0') Phyllite, reddish, fine grained, thinly bedded, wavy bedding, some green Phyllite interbedding, less quartz than above. PID = 0.0 ppm.					4.8	48%	29%		
					94.0'										
			3	4.6		Phyllite, red, fine grained, thinly bedded, wavy bedding. PID = 0.0 ppm.					4	80%	25%		
					99.0'										
								Bottom of core at 99.0 ft bgs.							



Well Completion Logs



WELL COMPLETION LOG

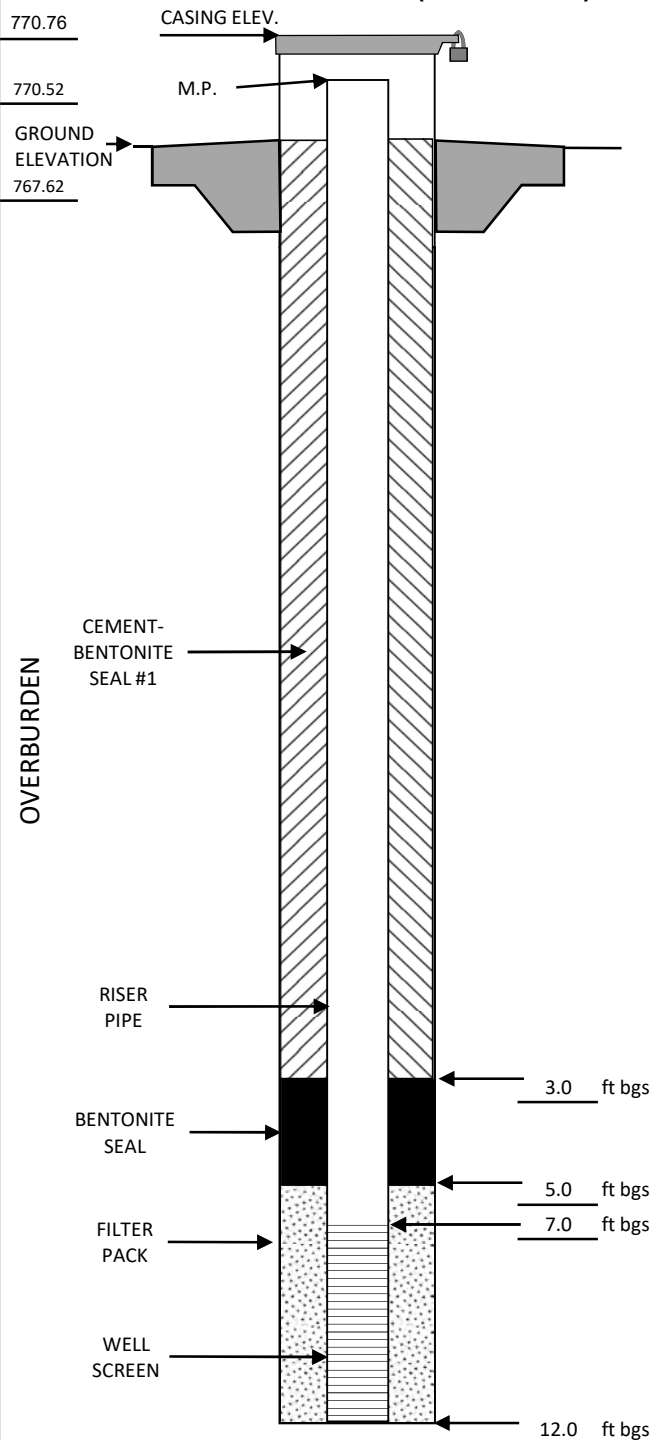
Well ID: MW-1S
Northing: 797737.404
Easting: 1425474.136

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/11/2019
Date Installed: 4/11/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 11.81 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic **Diameter:** 6"
Interval: 0.0 to 12.0 ft bgs

Sampling Method:

Type: NA **Diameter:** NA
Weight: NA **Fall:** NA
Interval: NA to NA ft bgs

Bedrock

Method: NA **Diameter:** NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA **Diameter:** NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC **Diameter:** 2"
Interval: +3.2 to 7.0 ft bgs **Joint:** Flush

Screen:

Material: PVC **Diameter:** 2"
Slot Size: 0.010" **Joint:** Flush
Interval: 7.0 to 12.0 ft bgs

Sump:

Material: NA **Diameter:** NA
Interval: NA to NA ft bgs **Joint:** NA

Filter Pack:

Type: Fil Pro Sand **Grade:** #1
Interval: 5.0 to 12.0 ft bgs

Seal(s):

Type: Bentonite **Interval:** 3.0 to 5.0 ft bgs
Type: Cement/Bentonite Seal #1 **Interval:** 2.0 to 3.0 ft bgs
Type: **Interval:** to ft bgs
Type: **Interval:** to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

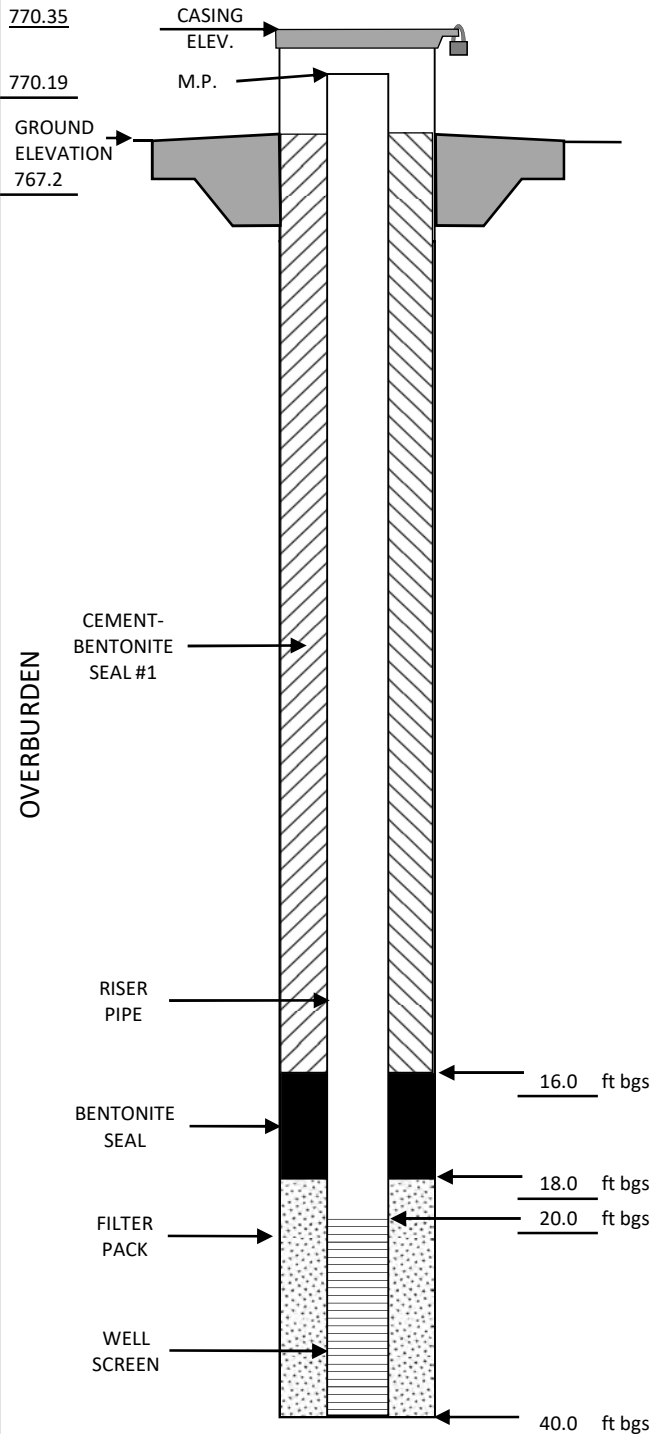
Well ID: MW-1D
Northing: 797741.962
Easting: 1425471.697

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/11/2019
Date Installed: 4/11/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 11.36 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 40.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 40.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 40.0 to 42.5 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 40.0 to 42.5 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.2 to 20.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 20.0 to 40.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 18.0 to 40.0 ft bgs

Seal(s):

Type: Bentonite Interval: 16.0 to 18.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 16.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

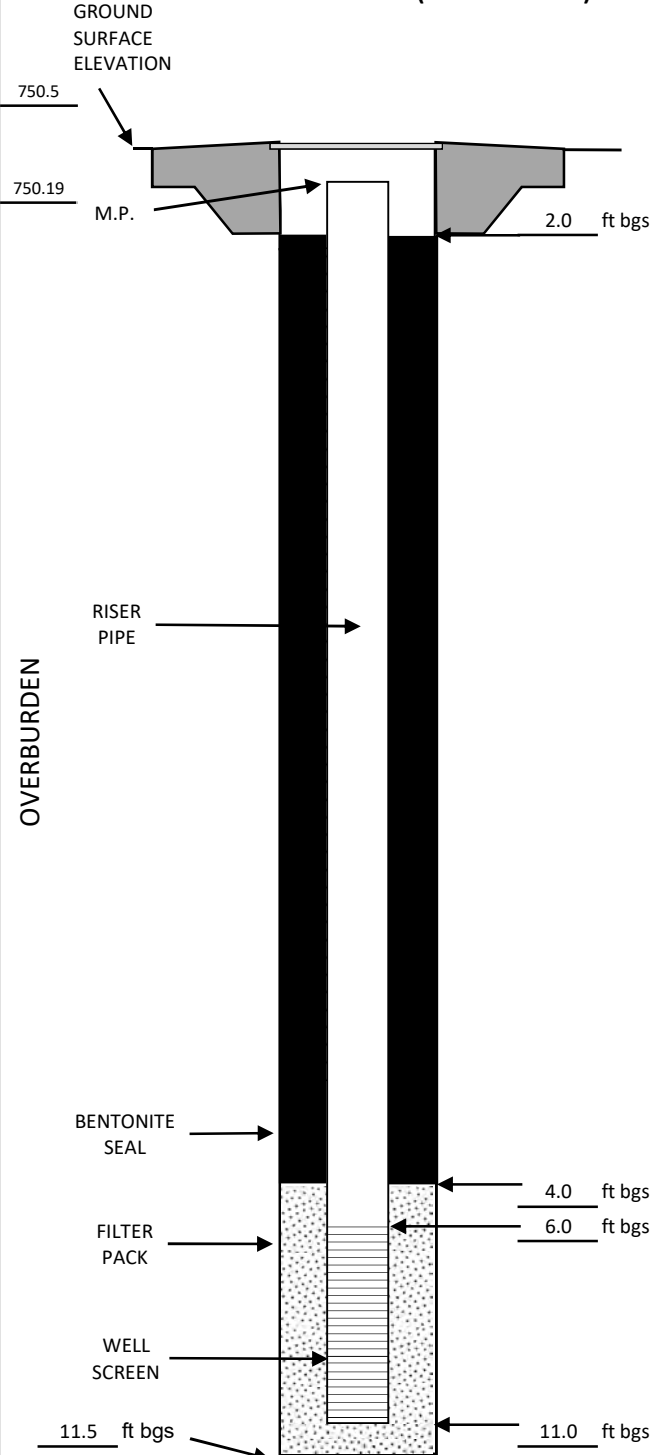
Well ID: MW-3S
Northing: 797985.726
Easting: 1425787.02

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/29/2019
Date Installed: 4/29/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
M.P. - Measurement Point
PVC - Polyvinyl Chloride
NA - Not Applicable

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 3.72 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method 1: Airknife Diameter: NA
Interval 1: 0.0 to 5.0 ft bgs
Method 2: Sonic Diameter: 6"
Interval 2: 0.0 to 12.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 12.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 12.0 to 15.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 12.0 to 15.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: 0.3 to 6.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 6.0 to 11.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 4.0 to 11.5 ft bgs

Seal(s):

Type: Bentonite Interval: 2.0 to 4.0 ft bgs
Type: Bentonite Interval: 11.5 to 15.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

Additional Notes:

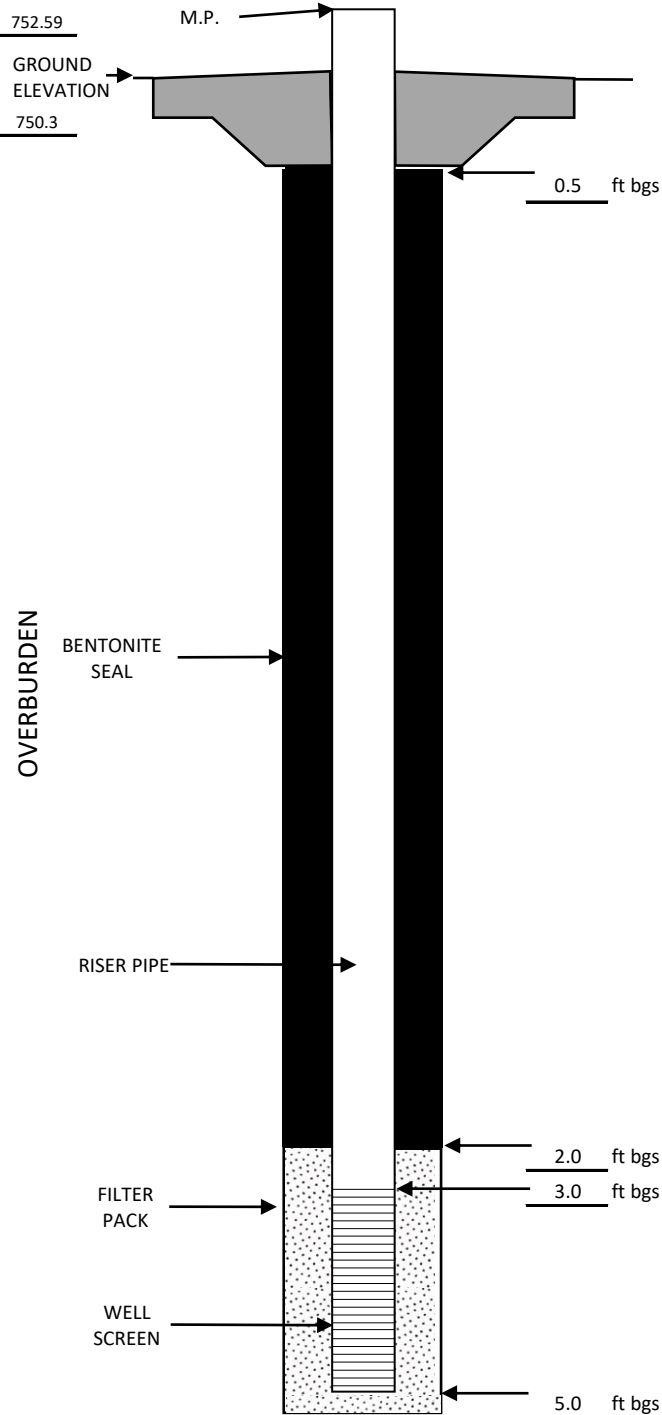
- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.

WELL COMPLETION LOG

Well ID: MW-4S
 Northing: 798019.035
 Easting: 1425844.370

Site Name: Taconic Facility Drilling Subcontractor: Cascade Date Drilled: 6/3/2019
 Site Location: Petersburg, NY Master Driller: Roger Baley Date Installed: 6/3/2019
 Project #: 70557 Installation Inspector: Taconic Date Developed: 6/5/2019-6/6/2019
 Client: Taconic

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
 Static Water Level: 4.70 ft bmp
 Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Direct Push Diameter: 4"
 Interval: 0.0 to 5.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
 Weight: NA Fall: NA
 Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
 Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
 Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 1.5"
 Interval: +2.3 to 3.0 ft bgs Joint: Flush

Screen:

Material: Pre-Packed PVC Diameter: 1.5"
 Slot Size: 0.010" Joint: Flush
 Interval: 3.0 to 5.0 ft bgs

Sump:

Material: NA Diameter: NA
 Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Pre-Pack & Fil Pro Sand Grade: #1
 Interval: 2.0 to 5.0 ft bgs

Seal(s):

Type: Bentonite Interval: 0.5 to 2.0 ft bgs
 Type: Interval: to ft bgs
 Type: Interval: to ft bgs
 Type: Interval: to ft bgs

Surface Completion:

Type: Stick-up, Concrete Well Pad, Locking J-Plug

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
 ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.
- Information supplied by Taconic. OBG not on-site during well installation.



WELL COMPLETION LOG

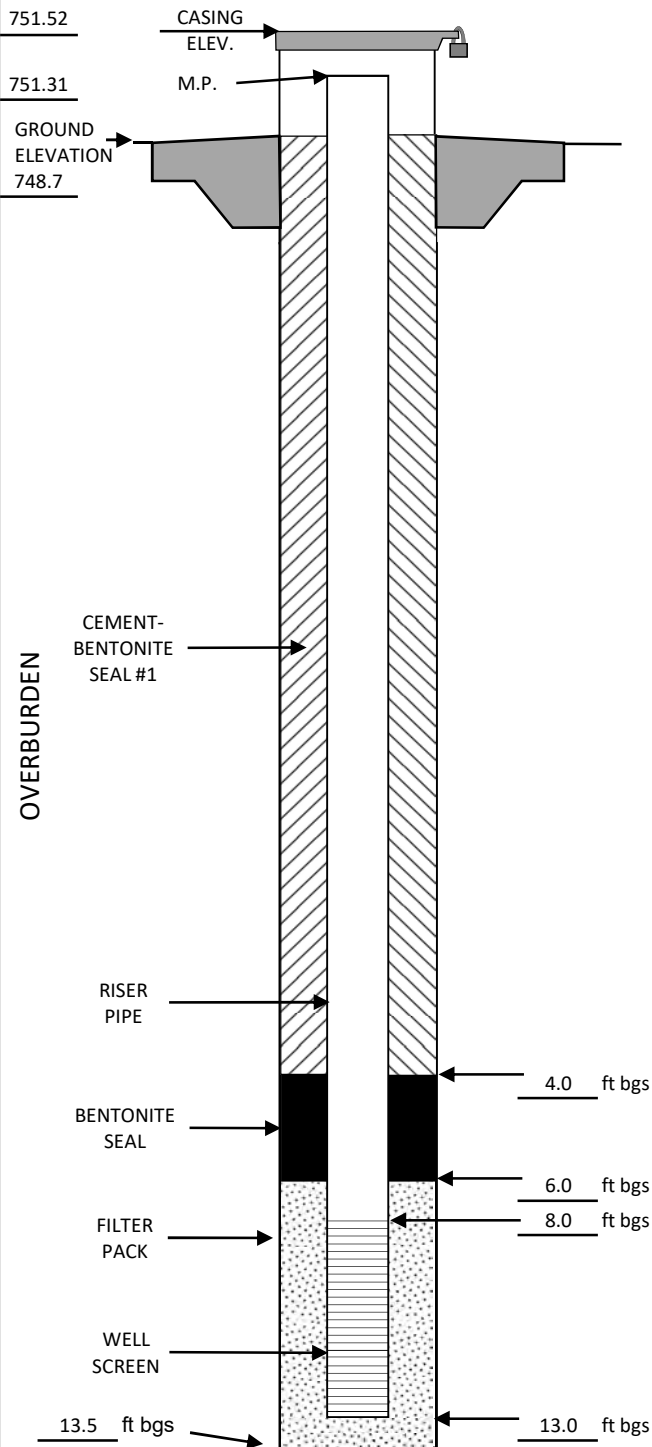
Well ID: MW-5S
Northing: 798060.049
Easting: 1425683.168

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/29/2019
Date Installed: 4/29/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 9.04 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 25.8 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 25.8 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 25.8 to 30.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 25.8 to 30.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +2.8 to 8.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 8.0 to 13.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 6.0 to 13.5 ft bgs

Seal(s):

Type: Bentonite Interval: 4.0 to 6.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 4.0 ft bgs
Type: Bentonite Interval: 13.5 to 30.0 ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

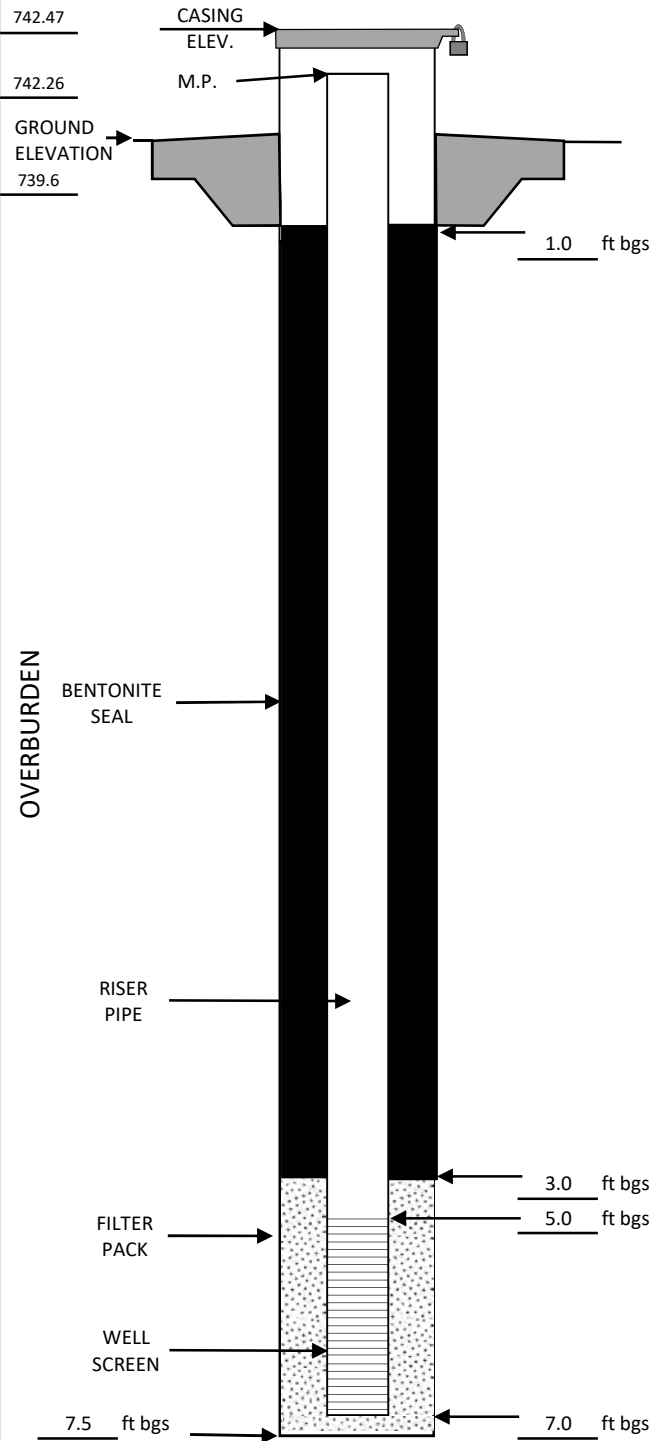
Well ID: MW-6S
Northing: 798185.880
Easting: 1425776.470

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/29/2019
Date Installed: 4/29/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
M.P. - Measurement Point
PVC - Polyvinyl Chloride
NA - Not Applicable

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 7.11 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method 1: Airknife **Diameter:** NA
Interval 1: 0.0 to 5.0 ft bgs
Method 2: Sonic **Diameter:** 6"
Interval 2: 0.0 to 17.2 ft bgs

Sampling Method:

Type: Sonic **Diameter:** 4"
Weight: NA **Fall:** NA
Interval: 0.0 to 17.2 ft bgs

Bedrock

Method: Sonic **Diameter:** 6"
Interval: 17.2 to 20.0 ft bgs

Sampling Method:

Type: Sonic **Diameter:** 4"
Interval: 17.2 to 20.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC **Diameter:** 2"
Interval: +2.9 to 5.0 ft bgs **Joint:** Flush

Screen:

Material: PVC **Diameter:** 2"
Slot Size: 0.010" **Joint:** Flush
Interval: 5.0 to 7.0 ft bgs

Sump:

Material: NA **Diameter:** NA
Interval: NA to NA ft bgs **Joint:** NA

Filter Pack:

Type: Fil Pro Sand **Grade:** #1
Interval: 3.0 to 7.5 ft bgs

Seal(s):

Type: Bentonite **Interval:** 1.0 to 3.0 ft bgs
Type: Bentonite **Interval:** 7.5 to 20.0 ft bgs
Type: **Interval:** to ft bgs
Type: **Interval:** to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

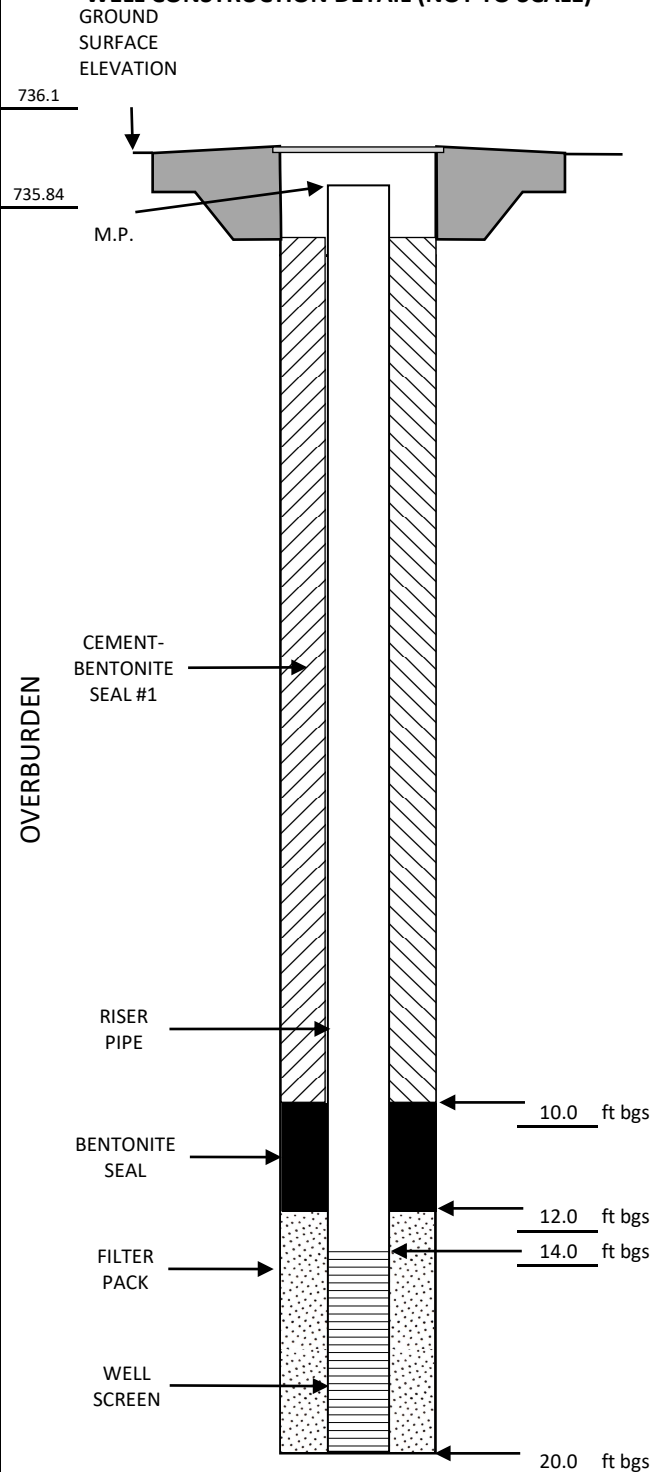
Well ID: MW-7D
Northing: 798369.462
Easting: 1425880.354

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Lucas Reusser

Date Drilled: 4/14/2019
Date Installed: 4/14/2019
Date Developed: 5/3/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 8.54 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 17.5 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 17.5 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 17.5 to 20.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 17.5 to 20.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: 0.3 to 14.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 14.0 to 20.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 12.0 to 20.0 ft bgs

Seal(s):

Type: Bentonite Interval: 10.0 to 12.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 10.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

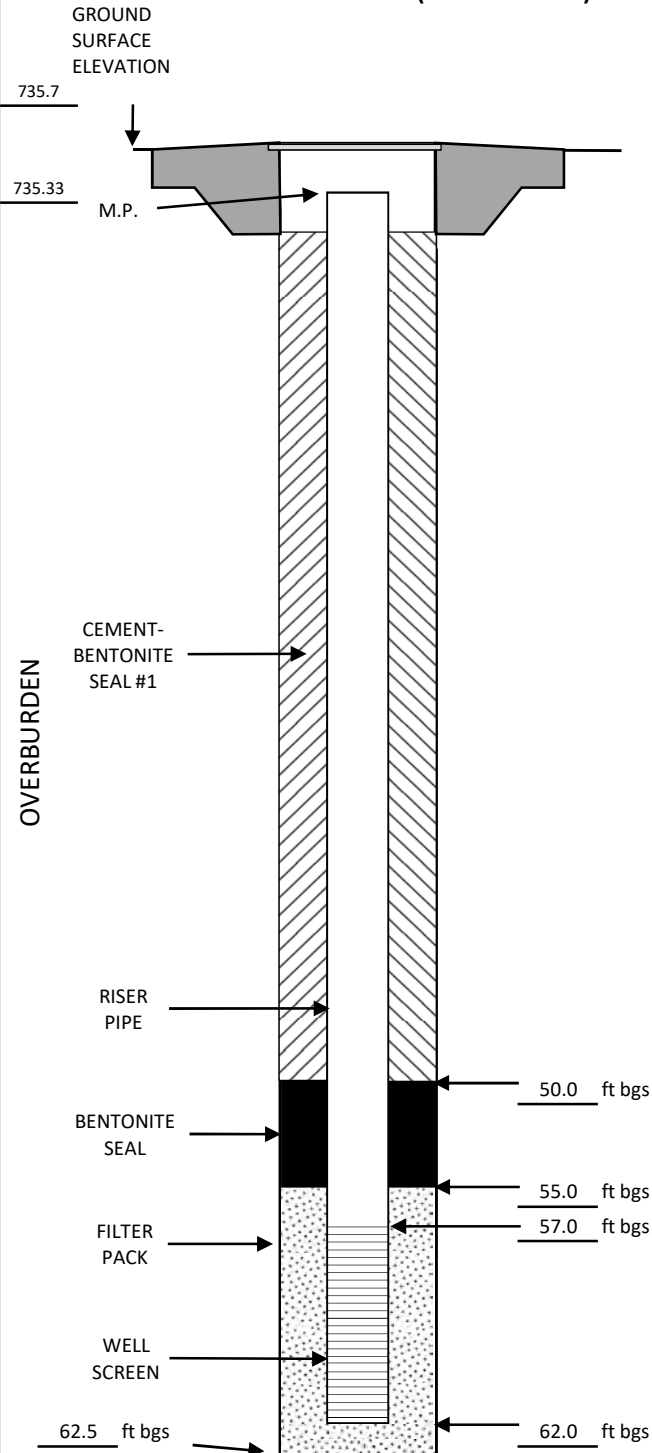
Well ID: MW-8D
Northing: 798306.472
Easting: 1425608.494

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/26/2019
Date Installed: 4/27/2019
Date Developed: 5/3/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 9.00 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 61.7 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 61.7 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 61.7 to 65.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 61.7 to 65.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: 0.4 to 57.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 57.0 to 62.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 55.0 to 62.5 ft bgs

Seal(s):

Type: Bentonite Interval: 50.0 to 55.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 50.0 ft bgs
Type: Bentonite Interval: 62.5 to 65.0 ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

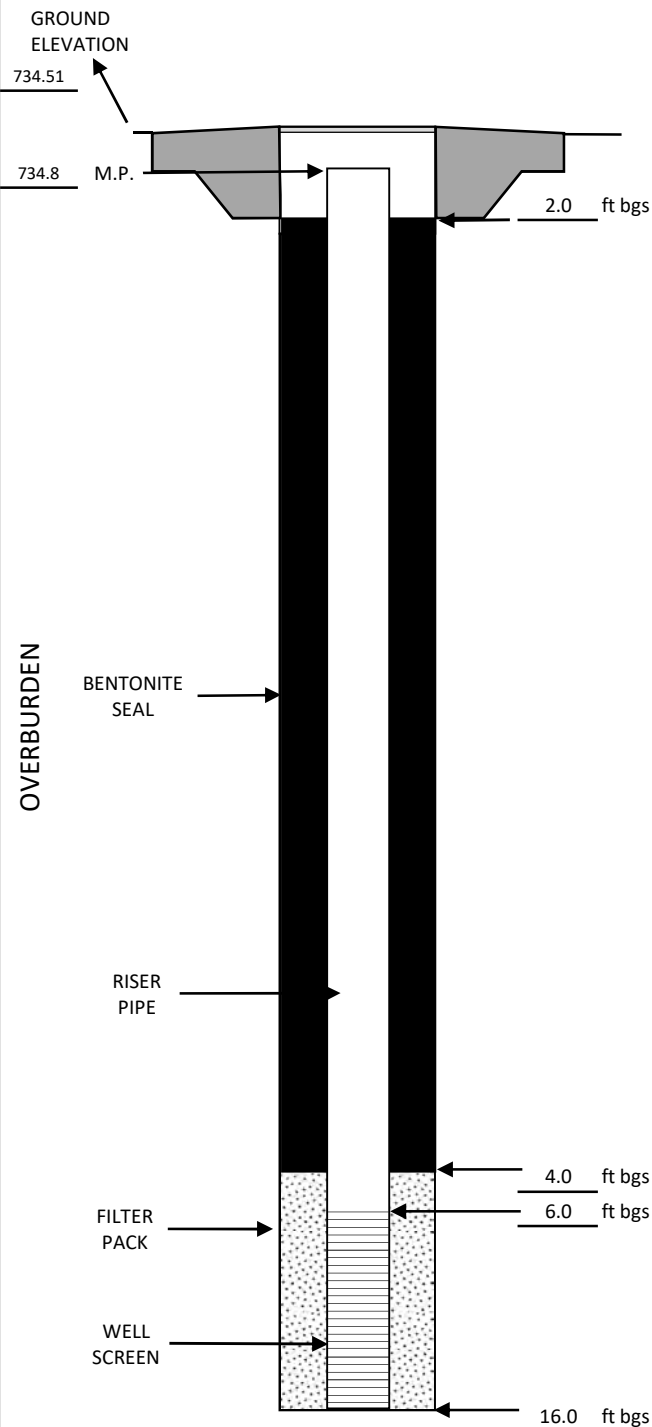
Well ID: MW-9S
Northing: 798249.786
Easting: 1425507.915

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/26/2019
Date Installed: 4/26/2019
Date Developed: 5/7/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 1.76 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 8"
Interval: 0.0 to 16.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 4"
Interval: 0.3 to 6.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 4"
Slot Size: 0.020" Joint: Flush
Interval: 6.0 to 16.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 4.0 to 16.0 ft bgs

Seal(s):

Type: Bentonite Interval: 2.0 to 4.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

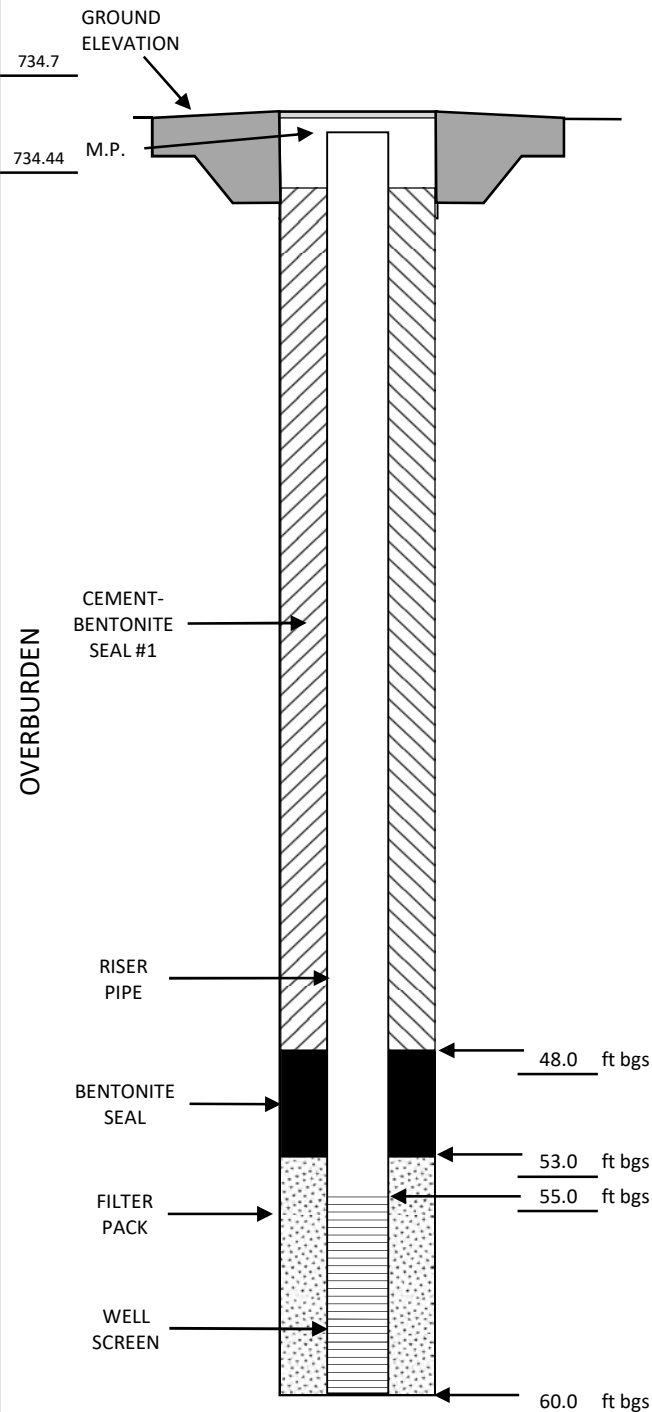
Well ID: MW-9D
Northing: 798254.744
Easting: 1425505.863

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/25/2019
Date Installed: 4/25/2019 - 4/26/2019
Date Developed: 5/7/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 7.81 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method 1: Airknife Diameter: NA
Interval 1: 0.0 to 4.0 ft bgs
Method 2: Sonic Diameter: 6"
Interval 2: 0.0 to 57.0 ft bgs

Sampling Method:
Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 57.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 57.0 to 60.0 ft bgs

Sampling Method:
Type: Sonic Diameter: 4"
Interval: 57.0 to 60.0 ft bgs

Well Construction

Riser Pipe:
Material: PVC Diameter: 2"
Interval: 0.3 to 55.0 ft bgs Joint: Flush

Screen:
Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 55.0 to 60.0 ft bgs

Sump:
Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:
Type: Fil Pro Sand Grade: #1
Interval: 53.0 to 60.0 ft bgs

Seal(s):
Type: Bentonite Interval: 48.0 to 53.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 48.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:
Type: Flush mount locking curb box.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

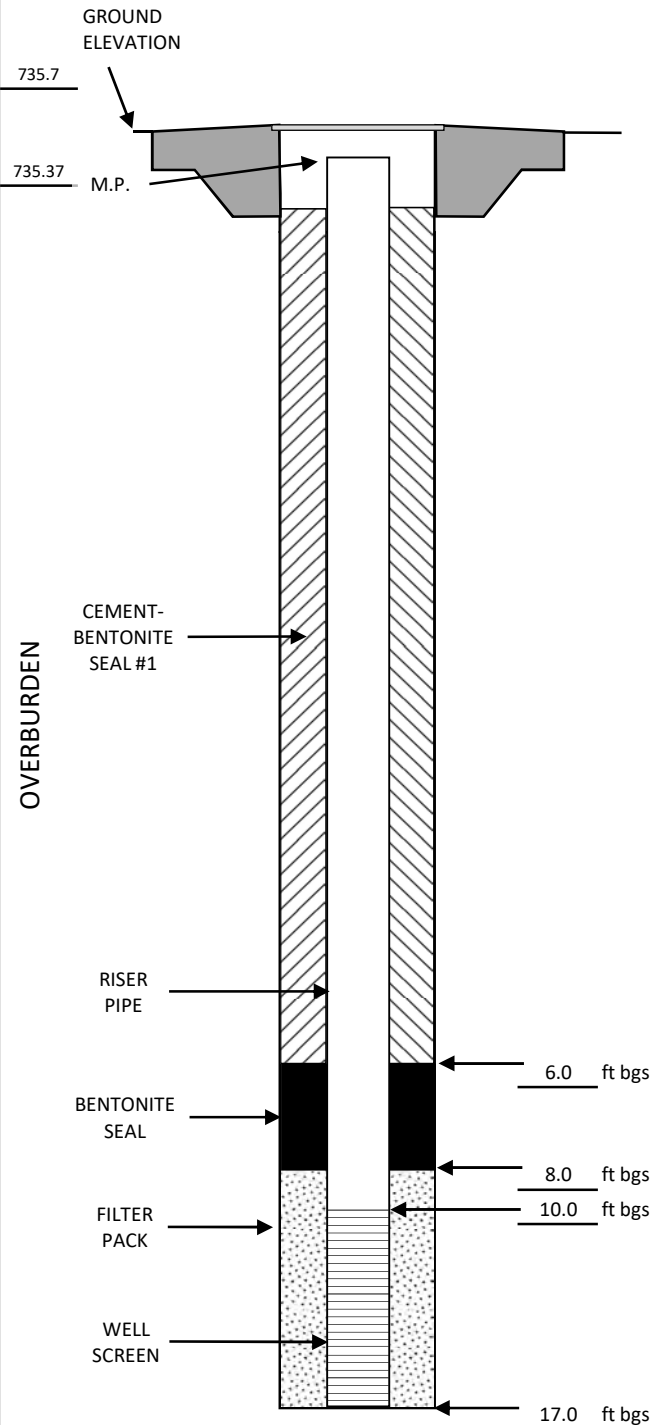
Well ID: MW-10S
Northing: 798411.734
Easting: 1425494.555

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/16/2019
Date Installed: 4/16/2019
Date Developed: 5/3/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 6.07 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 8"
Interval: 0.0 to 17.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 4"
Interval: 0.3 to 10.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 4"
Slot Size: 0.020" Joint: Flush
Interval: 10.0 to 17.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 8.0 to 17.0 ft bgs

Seal(s):

Type: Bentonite Interval: 6.0 to 8.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 6.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

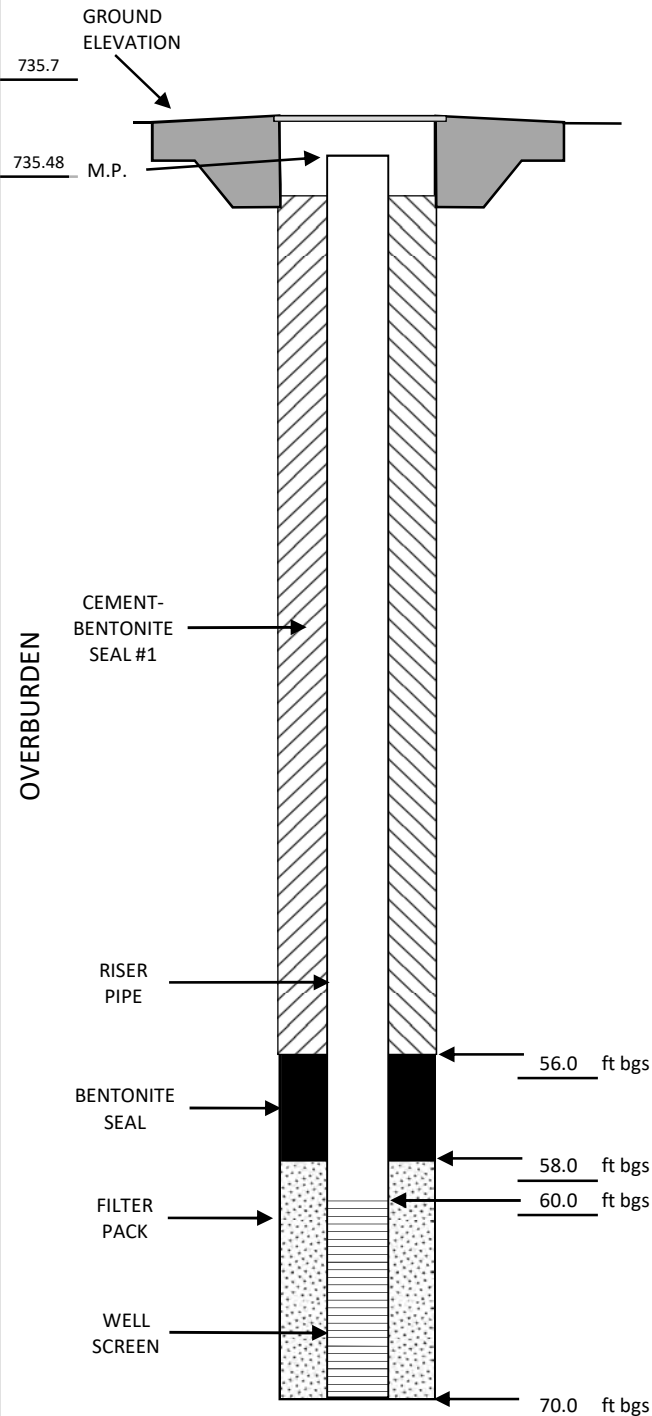
Well ID: MW-10D
Northing: 798416.426
Easting: 1425495.206

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/15/2019
Date Installed: 4/16/2019
Date Developed: 5/3/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 10.02 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 63.5 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 63.5 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 63.5 to 70.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 63.5 to 70.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: 0.2 to 60.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 60.0 to 70.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 58.0 to 70.0 ft bgs

Seal(s):

Type: Bentonite Interval: 56.0 to 58.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 56.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Flush mount locking curb box.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

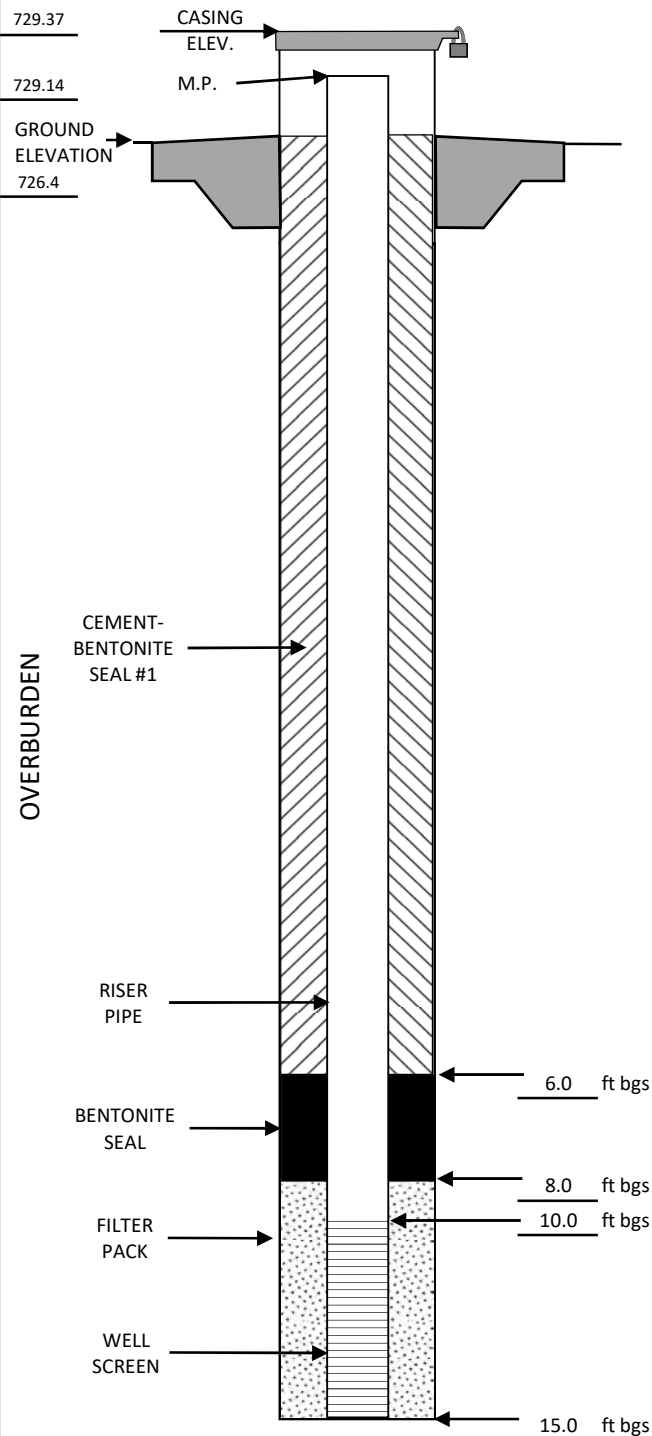
Well ID: MW-11S
Northing: 798585.523
Easting: 1425532.795

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/17/2019
Date Installed: 4/17/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 4.60 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic **Diameter:** 6"
Interval: 0.0 to 15.0 ft bgs

Sampling Method:

Type: NA **Diameter:** NA
Weight: NA **Fall:** NA
Interval: NA to NA ft bgs

Bedrock

Method: NA **Diameter:** NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA **Diameter:** NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC **Diameter:** 2"
Interval: +3.0 to 10.0 ft bgs **Joint:** Flush

Screen:

Material: PVC **Diameter:** 2"
Slot Size: 0.010" **Joint:** Flush
Interval: 10.0 to 15.0 ft bgs

Sump:

Material: NA **Diameter:** NA
Interval: NA to NA ft bgs **Joint:** NA

Filter Pack:

Type: Fil Pro Sand **Grade:** #1
Interval: 8.0 to 15.0 ft bgs

Seal(s):

Type: Bentonite **Interval:** 6.0 to 8.0 ft bgs
Type: Cement/Bentonite Seal #1 **Interval:** 2.0 to 6.0 ft bgs
Type: **Interval:** to ft bgs
Type: **Interval:** to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

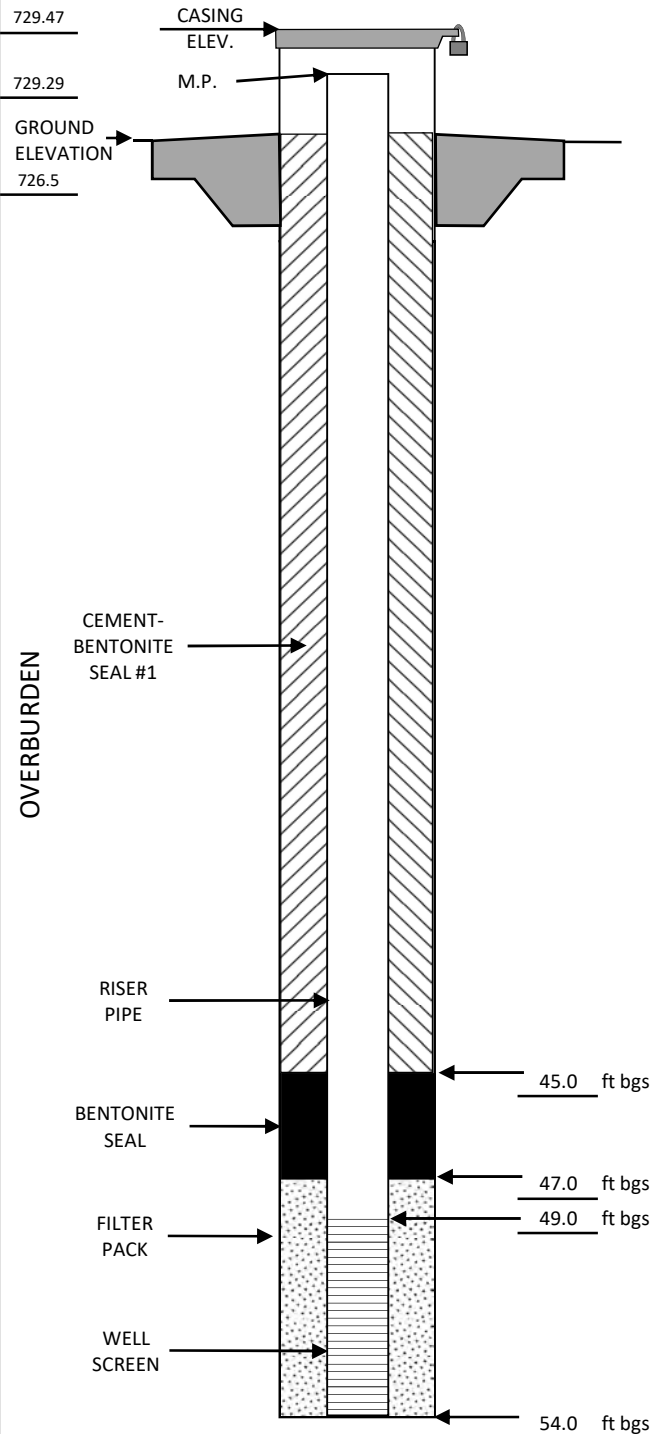
Well ID: MW-11D
Northing: 798582.454
Easting: 1425528.376

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/17/2019
Date Installed: 4/17/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 5.49 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 50.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 50.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 50.0 to 55.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 50.0 to 55.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.0 to 49.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 49.0 to 54.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 47.0 to 54.0 ft bgs

Seal(s):

Type: Bentonite Interval: 45.0 to 47.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 45.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

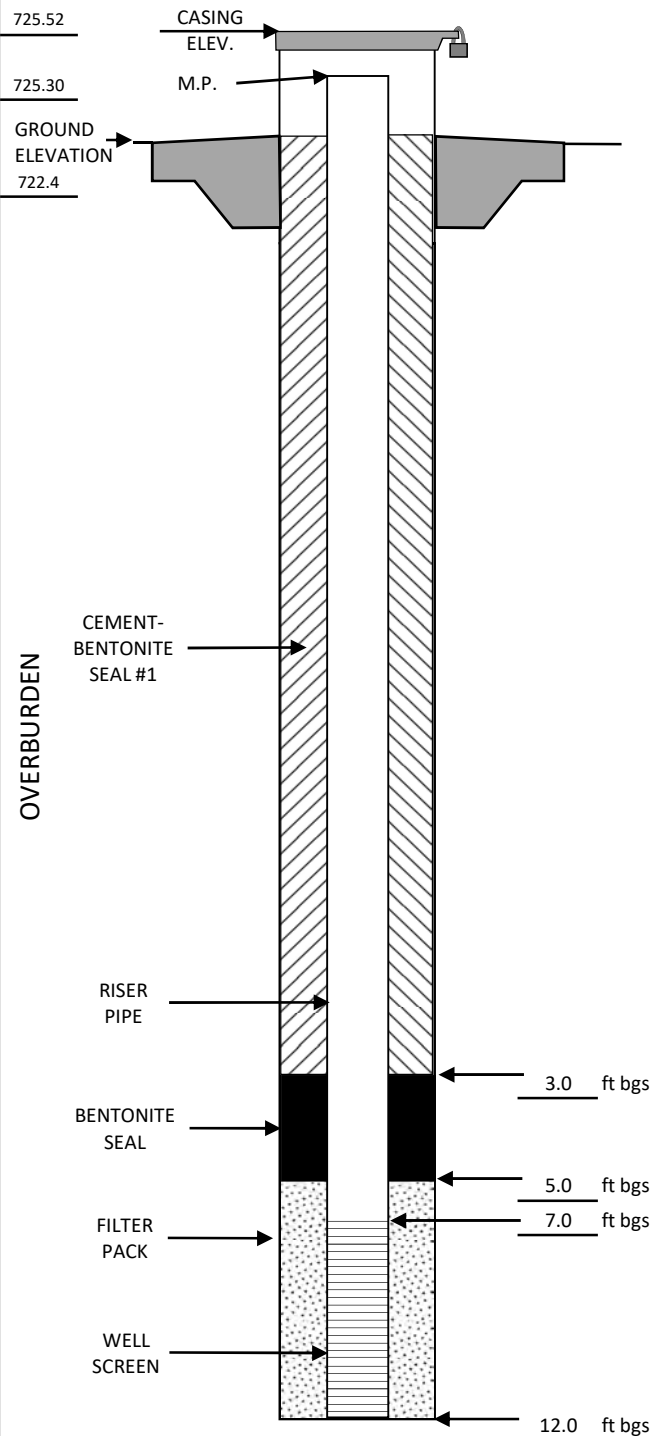
Well ID: MW-12S
Northing: 798841.801
Easting: 1425805.496

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/23/2019
Date Installed: 4/23/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 3.73 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 15.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.1 to 7.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 7.0 to 12.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 5.0 to 12.0 ft bgs

Seal(s):

Type: Bentonite Interval: 3.0 to 5.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 3.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

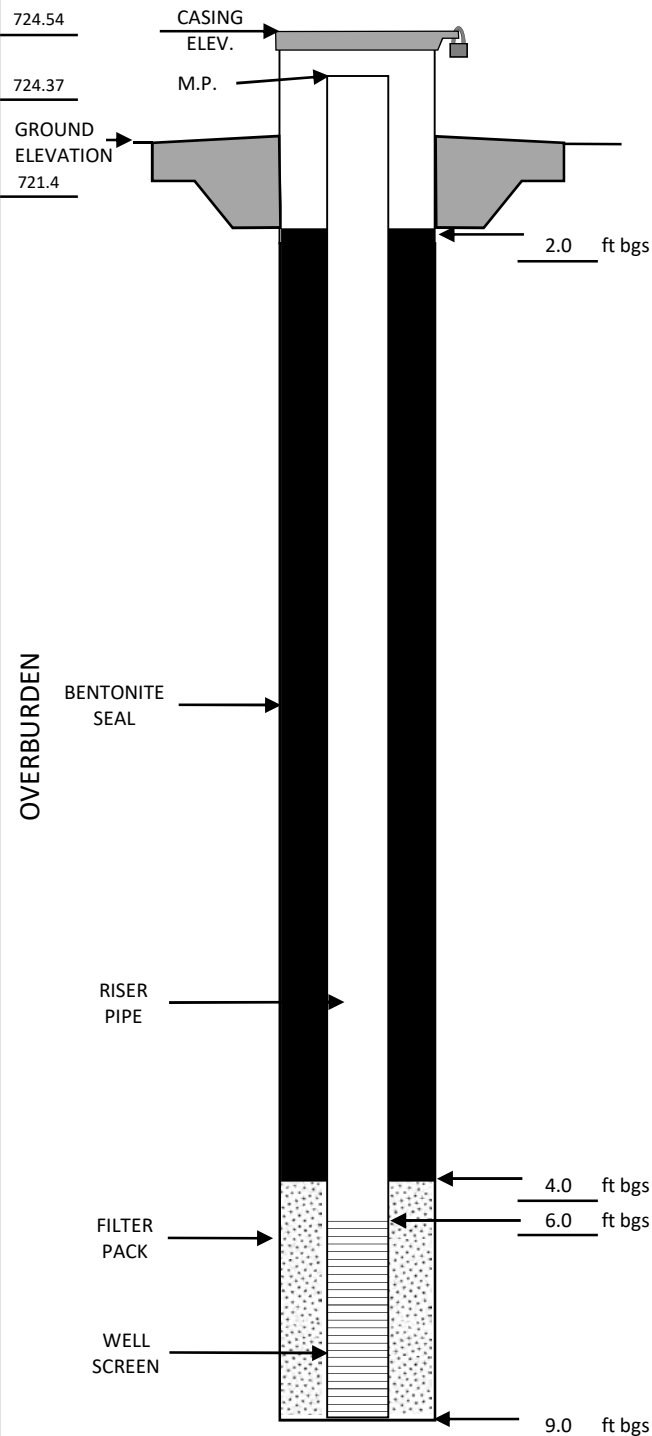
Well ID: MW-13S
Northing: 799064.266
Easting: 1425985.796

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/23/2019
Date Installed: 4/23/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 4.11 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 9.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.1 to 6.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 6.0 to 9.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 4.0 to 9.0 ft bgs

Seal(s):

Type: Bentonite Interval: 2.0 to 4.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

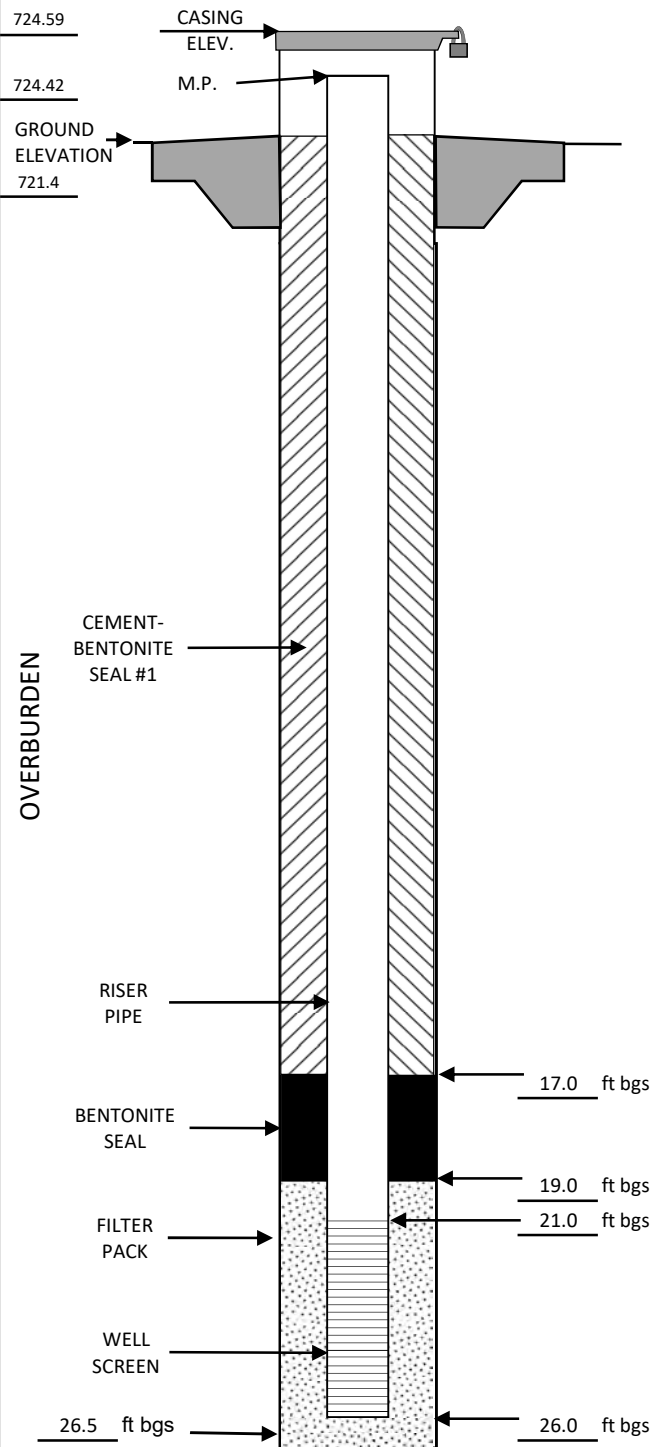
Well ID: MW-13D
Northing: 799060.115
Easting: 1425982.268

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/23/2019
Date Installed: 4/23/2019
Date Developed: 5/2/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
M.P. - Measurement Point
PVC - Polyvinyl Chloride
NA - Not Applicable

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 3.23 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 27.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 27.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 27.0 to 30.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 27.0 to 30.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.2 to 21.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 21.0 to 26.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 19.0 to 26.5 ft bgs

Seal(s):

Type: Bentonite Interval: 17.0 to 19.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 17.0 ft bgs
Type: Bentonite Interval: 26.5 to 30.0 ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

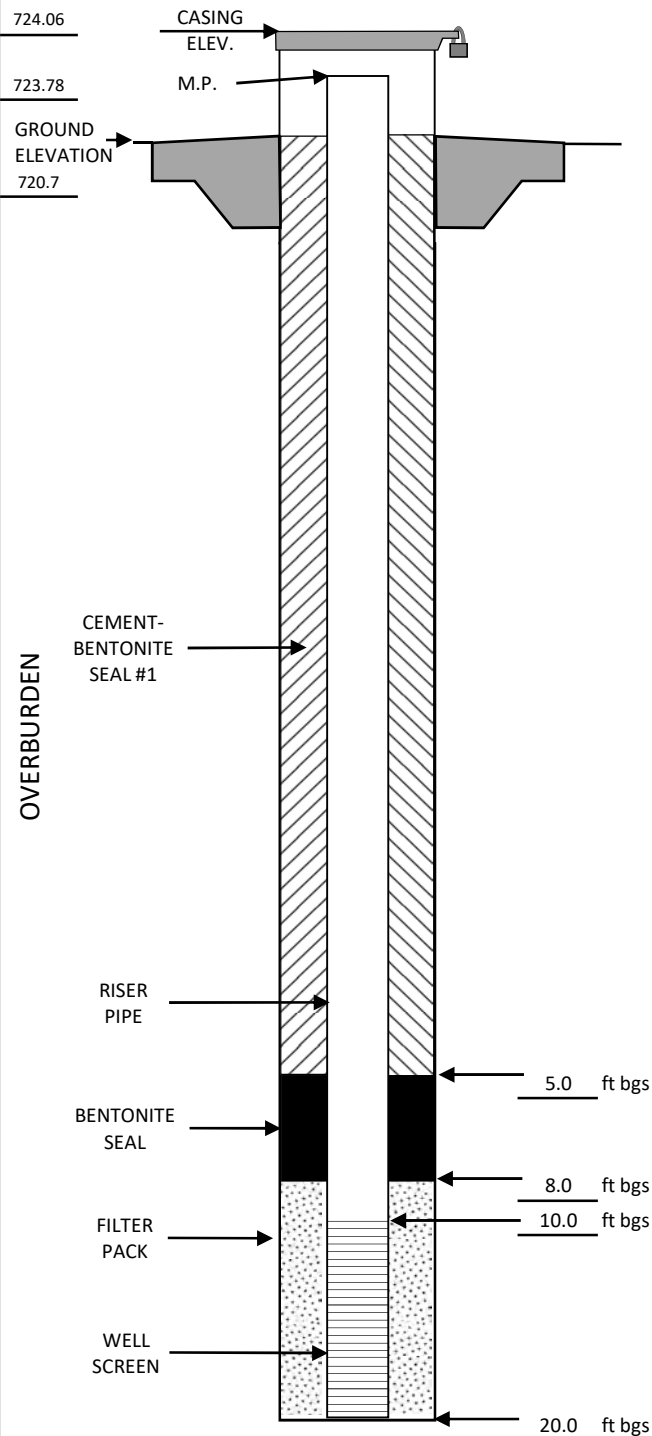
Well ID: MW-14S
Northing: 799131.061
Easting: 1425558.018

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/24/2019
Date Installed: 4/24/2019 - 4/25/2019
Date Developed: 5/6/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 6.45 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 20.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.4 to 10.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 10.0 to 20.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 8.0 to 20.0 ft bgs

Seal(s):

Type: Bentonite Interval: 5.0 to 8.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 5.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

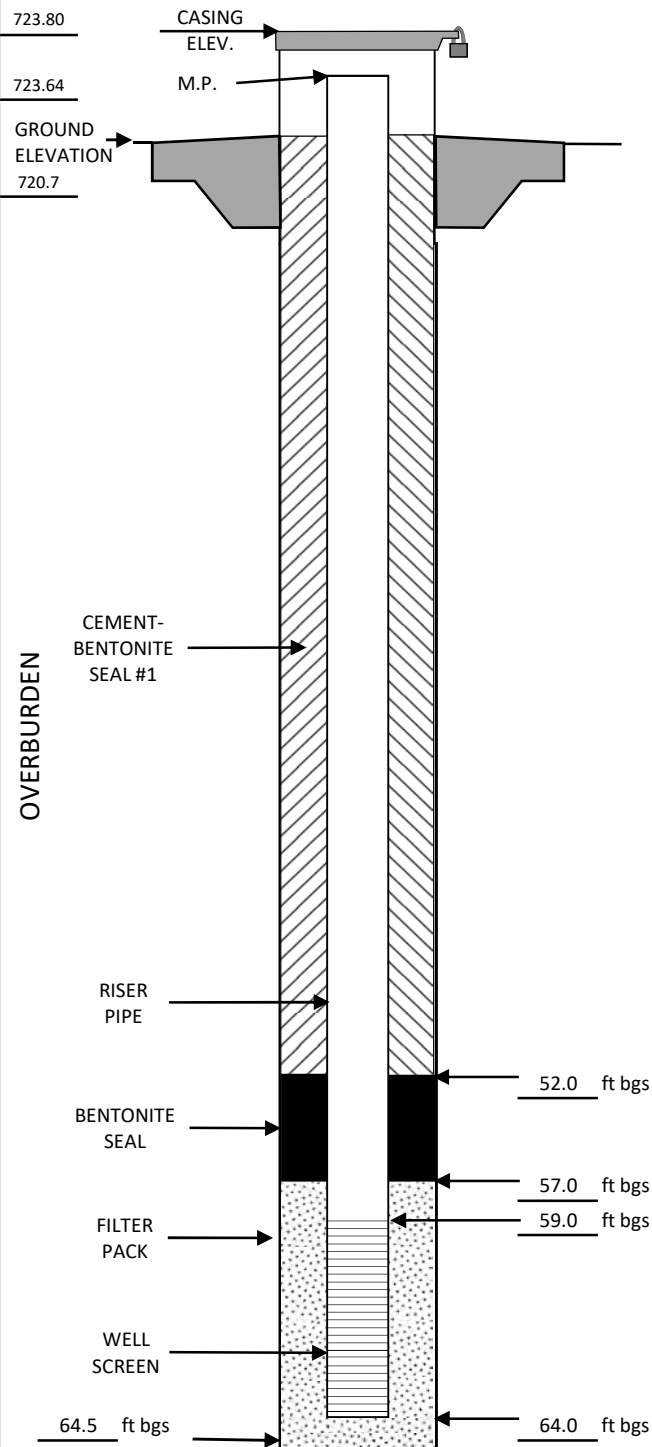
Well ID: MW-14D
Northing: 799135.430
Easting: 1425560.513

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/24/2019
Date Installed: 4/24/2019
Date Developed: 5/6/2019 - 5/8/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
M.P. - Measurement Point
PVC - Polyvinyl Chloride
NA - Not Applicable

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 1.74 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic
Interval: 0.0 to 41.3 ft bgs
Diameter: 6"

Sampling Method:

Type: Sonic
Weight: NA
Interval: 0.0 to 20.0 ft bgs
Diameter: 4"
Fall: NA

Bedrock

Method: Sonic
Interval: 41.3 to 70.0 ft bgs
Diameter: 6"

Sampling Method:

Type: NA
Interval: NA to NA ft bgs
Diameter: NA

Well Construction

Riser Pipe:

Material: PVC
Interval: +3.1 to 59.0 ft bgs
Diameter: 2"
Joint: Flush

Screen:

Material: PVC
Slot Size: 0.010"
Interval: 59.0 to 64.0 ft bgs
Diameter: 2"
Joint: Flush

Sump:

Material: NA
Interval: NA to NA ft bgs
Diameter: NA
Joint: NA

Filter Pack:

Type: Fil Pro Sand
Interval: 57.0 to 64.5 ft bgs
Grade: #1

Seal(s):

Type: Bentonite
Interval: 52.0 to 57.0 ft bgs
Type: Cement/Bentonite Seal #1
Interval: 2.0 to 52.0 ft bgs
Type: Bentonite
Interval: 64.5 to 70.0 ft bgs
Type: Bentonite
Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

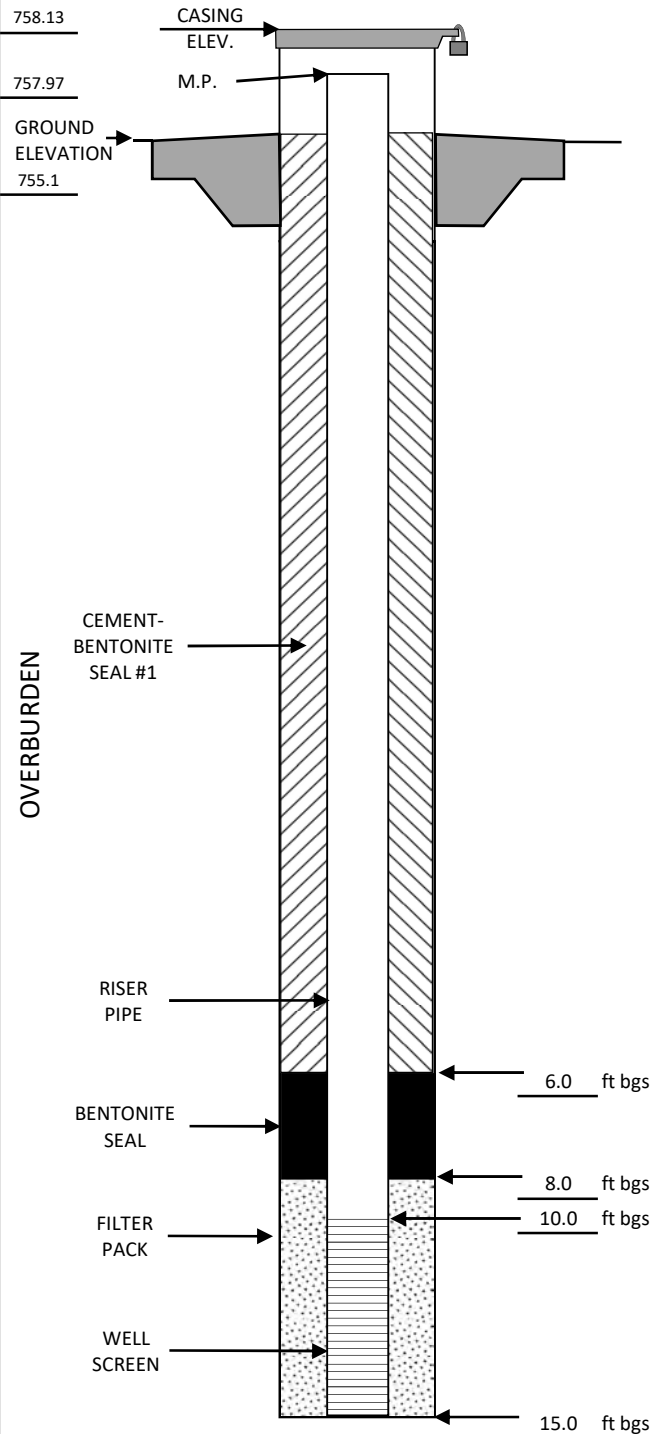
Well ID: MW-15S
Northing: 798087.754
Easting: 1425366.498

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Lucas Reusser

Date Drilled: 4/13/2019
Date Installed: 4/13/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
M.P. - Measurement Point
PVC - Polyvinyl Chloride
NA - Not Applicable

INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 14.58 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic
Interval: 0.0 to 15.0 ft bgs
Diameter: 6"

Sampling Method:

Type: NA
Weight: NA
Interval: NA to NA ft bgs
Diameter: NA
Fall: NA

Bedrock

Method: NA
Interval: NA to NA ft bgs
Diameter: NA

Sampling Method:

Type: NA
Interval: NA to NA ft bgs
Diameter: NA

Well Construction

Riser Pipe:

Material: PVC
Interval: +3.0 to 10.0 ft bgs
Diameter: 2"
Joint: Flush

Screen:

Material: PVC
Slot Size: 0.010"
Interval: 10.0 to 15.0 ft bgs
Diameter: 2"
Joint: Flush

Sump:

Material: NA
Interval: NA to NA ft bgs
Diameter: NA
Joint: NA

Filter Pack:

Type: Fil Pro Sand
Interval: 8.0 to 15.0 ft bgs
Grade: #1

Seal(s):

Type: Bentonite
Interval: 6.0 to 8.0 ft bgs
Type: Cement/Bentonite Seal #1
Interval: 2.0 to 6.0 ft bgs
Type:
Interval: to ft bgs
Type:
Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

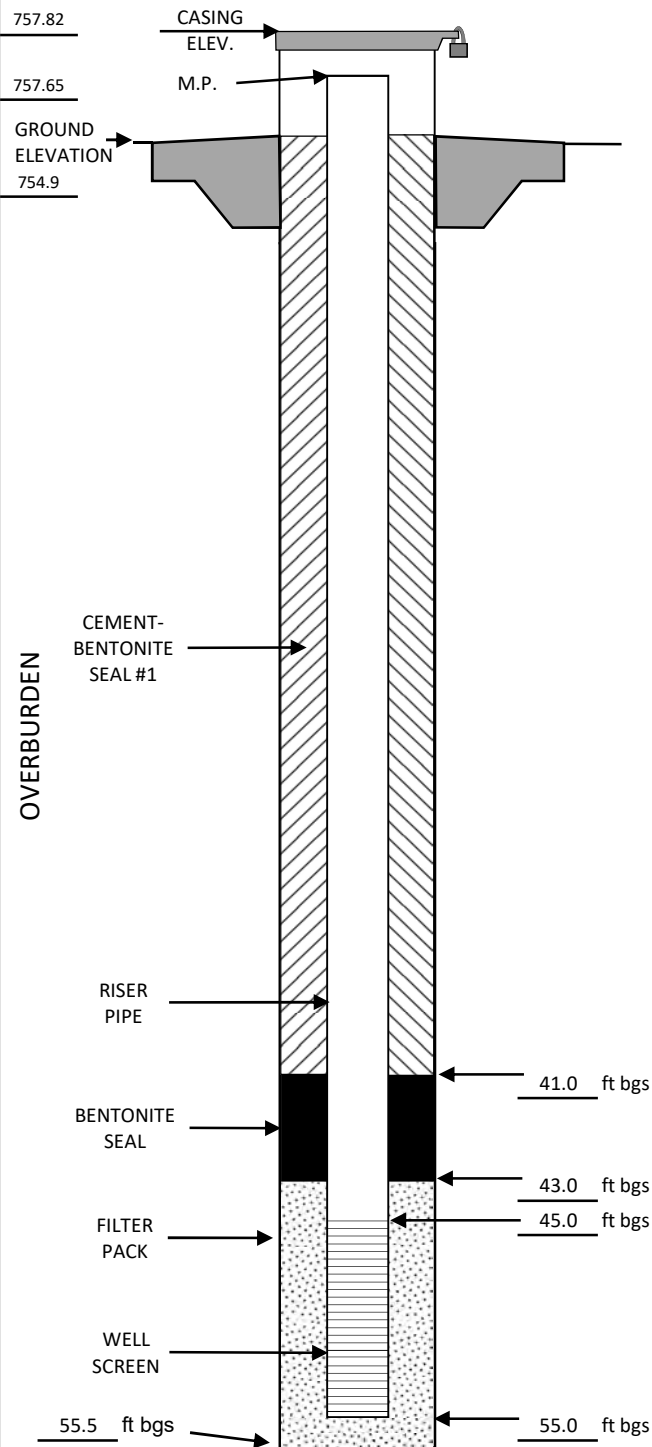
Well ID: MW-15D
Northing: 798092.400
Easting: 1425364.144

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Alayna Fuess

Date Drilled: 4/12/2019
Date Installed: 4/12/2019
Date Developed: 5/1/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 24.40 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 63.4 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 63.4 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 63.4 to 66.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 63.4 to 66.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +2.9 to 45.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 45.0 to 55.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 43.0 to 55.5 ft bgs

Seal(s):

Type: Bentonite Interval: 41.0 to 43.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 41.0 ft bgs
Type: Bentonite Interval: 55.5 to 66.0 ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

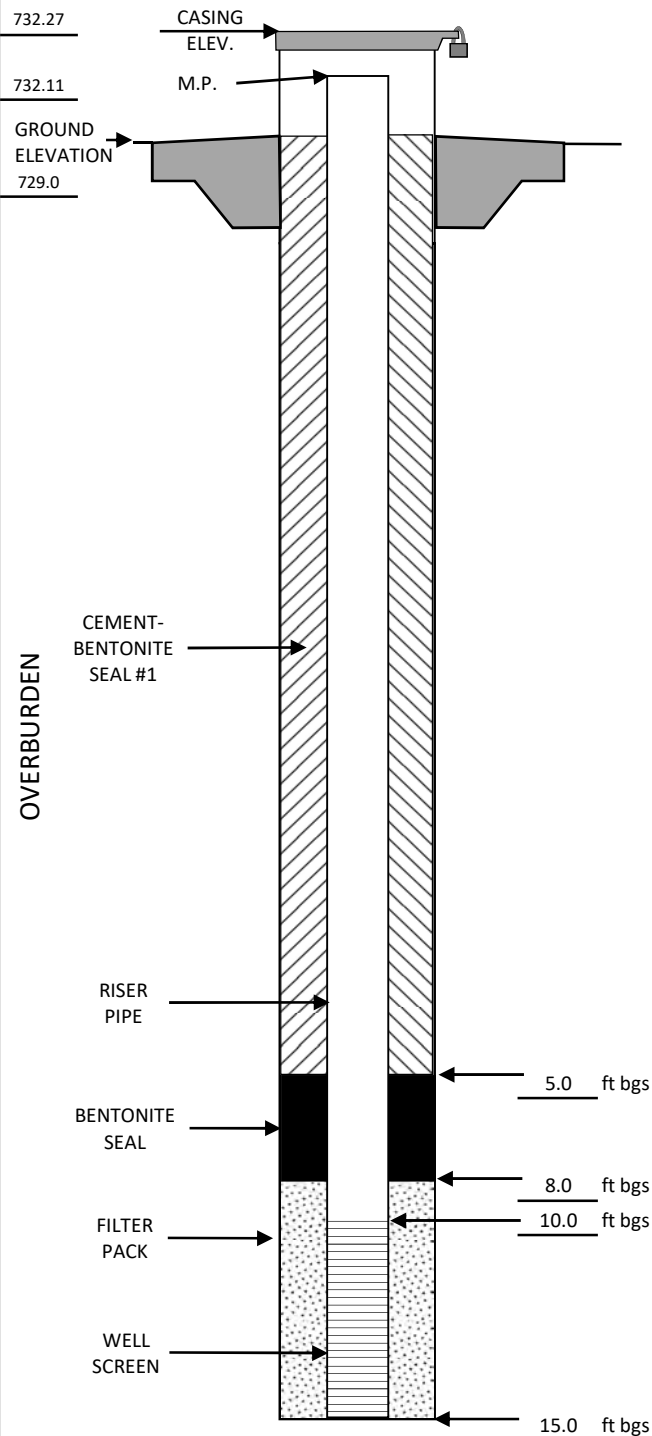
Well ID: MW-16S
Northing: 798267.061
Easting: 1425200.567

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Lucas Reusser

Date Drilled: 4/14/2019
Date Installed: 4/14/2019
Date Developed: 5/9/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 5.60 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 15.0 ft bgs

Sampling Method:

Type: NA Diameter: NA
Weight: NA Fall: NA
Interval: NA to NA ft bgs

Bedrock

Method: NA Diameter: NA
Interval: NA to NA ft bgs

Sampling Method:

Type: NA Diameter: NA
Interval: NA to NA ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.3 to 10.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 10.0 to 15.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 8.0 to 15.0 ft bgs

Seal(s):

Type: Bentonite Interval: 5.0 to 8.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 5.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

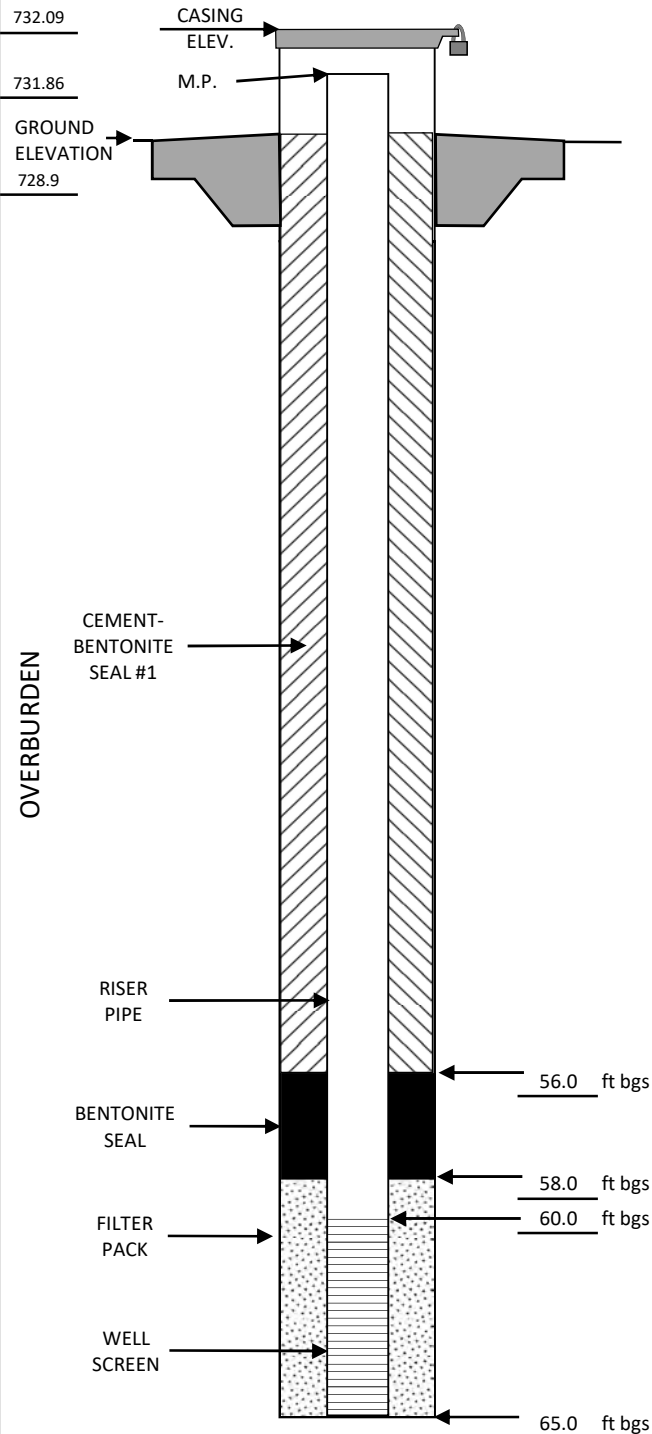
Well ID: MW-16D
Northing: 798269.129
Easting: 1425195.903

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Larry Hunsberger
Installation Inspector: Lucas Reusser

Date Drilled: 4/13/2019
Date Installed: 4/13/2019
Date Developed: 5/9/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



INSPECTION NOTES

Well Type: Overburden Monitoring Well
Static Water Level: 4.72 ft bmp
Measurement Point: Well Casing

Borehole Advancement

Overburden

Method: Sonic Diameter: 6"
Interval: 0.0 to 55.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 55.0 ft bgs

Bedrock

Method: Sonic Diameter: 6"
Interval: 55.0 to 65.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 55.0 to 65.0 ft bgs

Well Construction

Riser Pipe:

Material: PVC Diameter: 2"
Interval: +3.2 to 60.0 ft bgs Joint: Flush

Screen:

Material: PVC Diameter: 2"
Slot Size: 0.010" Joint: Flush
Interval: 60.0 to 65.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: Fil Pro Sand Grade: #1
Interval: 58.0 to 65.0 ft bgs

Seal(s):

Type: Bentonite Interval: 56.0 to 58.0 ft bgs
Type: Cement/Bentonite Seal #1 Interval: 2.0 to 56.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing, Concrete Well Pad.

ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point PVC - Polyvinyl Chloride

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

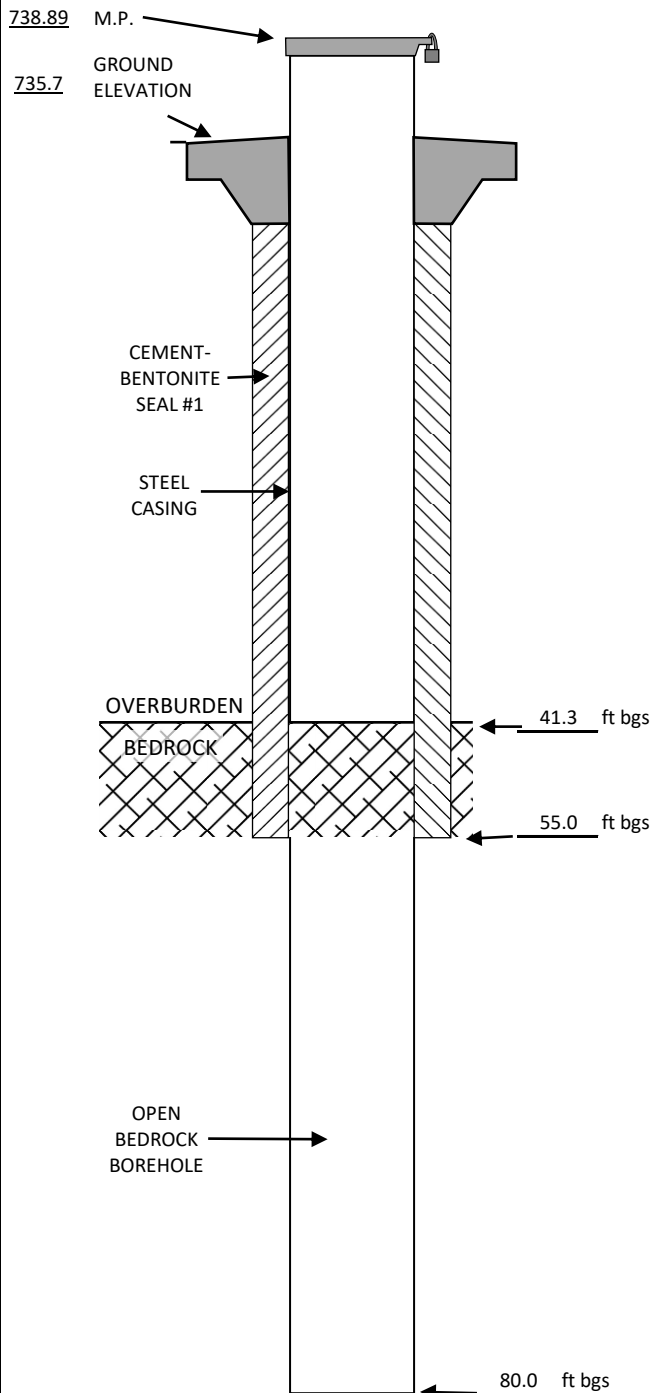
Well ID: EXB-1
Northing: 798434.586
Easting: 1425752.050

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Josh Sigler
Installation Inspector: Sarah Travalay

Date Drilled: 9/26/2018 - 9/27/2018
Date Installed: 9/27/2018
Date Developed: 5/7/2019 - 5/9/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point

INSPECTION NOTES

Well Type: Open Bedrock Borehole
Static Water Level: 13.99 ft bmp
Measurement Point: Well Casing
Borehole Advancement
Overburden
Method: Sonic Diameter: 8"
Interval: 0.0 to 41.3 ft bgs
Casing: Steel Interval: +3.2 to 55.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 41.3 ft bgs

Bedrock

Method: Sonic Diameter: 8"
Interval: 41.3 to 80.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 41.3 to 80.0 ft bgs

Well Construction

Riser Pipe:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Screen:

Material: NA Diameter: NA
Slot Size: NA Joint: NA
Interval: 55.0 to 80.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: NA Grade: NA
Interval: NA to NA ft bgs

Seal(s):

Type: Cement/Bentonite Seal #1 Interval: 2.0 to 55.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing on Well Cap, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



WELL COMPLETION LOG

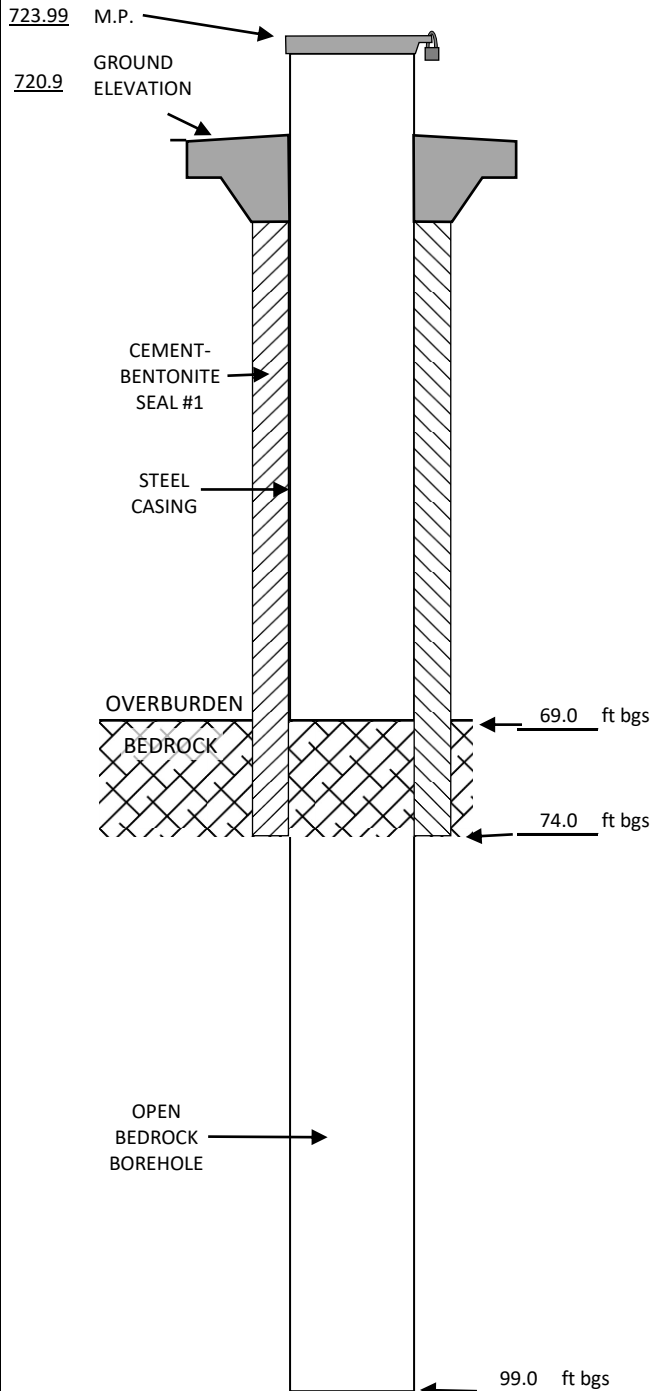
Well ID: EXB-2
Northing: 799129.423
Easting: 1425568.740

Site Name: Taconic Facility
Site Location: Petersburg, NY
Project #: 70557
Client: Taconic

Drilling Subcontractor: Cascade
Master Driller: Josh Sigler
Installation Inspector: Sarah Travalay

Date Drilled: 10/1/2018 - 10/4/2018
Date Installed: 10/4/2018
Date Developed: 5/8/2018 - 5/10/2018

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface M.P. - Measurement Point NA - Not Applicable
ft bmp - Feet Below Measuring Point

INSPECTION NOTES

Well Type: Open Bedrock Borehole
Static Water Level: 2.03 ft bmp
Measurement Point: Well Casing
Borehole Advancement
Overburden
Method: Sonic Diameter: 8"
Interval: 0.0 to 69.0 ft bgs
Casing: Steel Interval: +3.1 to 74.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Weight: NA Fall: NA
Interval: 0.0 to 69.0 ft bgs

Bedrock

Method: Sonic Diameter: 8"
Interval: 69.0 to 99.0 ft bgs

Sampling Method:

Type: Sonic Diameter: 4"
Interval: 69.0 to 99.0 ft bgs

Well Construction

Riser Pipe:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Screen:

Material: NA Diameter: NA
Slot Size: NA Joint: NA
Interval: 74.0 to 99.0 ft bgs

Sump:

Material: NA Diameter: NA
Interval: NA to NA ft bgs Joint: NA

Filter Pack:

Type: NA Grade: NA
Interval: NA to NA ft bgs

Seal(s):

Type: Cement/Bentonite Seal #1 Interval: 2.0 to 74.0 ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs
Type: Interval: to ft bgs

Surface Completion:

Type: Stick-Up, Locking Steel Protective Casing on Well Cap, Concrete Well Pad.

Additional Notes:

- Elevations in feet referenced to North American Vertical Datum of 1988.
- Northing and Easting coordinates referenced to New York State Plane Coordinate System North American Datum of 1983 East Zone.



Well Development Logs



Well information:

Start Development Time:

End Development Time: <u>1454</u>	Total volume of water removed: <u>5</u> gal.
Development Water Characteristics	
Physical appearance at start of development	Physical appearance at end of development
Color <u>Brown</u>	Color <u>Brown</u>
Odor <u>None</u>	Odor <u>None</u>
Sheen/Free Product <u>None</u>	Sheen/Free Product <u>None</u>
Development Water Disposal Method: <u>On site drums</u>	



Well information:

Start Development Time: 10:32

gpm

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color	<u>Brown</u>
Odor	<u>no</u>

Sheen/Free Product	no
--------------------	----

Development Water Disposal Method: on site drums

emptied buckets @ 11:30
emptied buckets @ 12:45



Well information:

Start Development Time:

End Development Time: 17:30

Total volume of water removed: ~ 12.0 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Sheen/Free Product	None
--------------------	------

Sheen/Free Product

Development Water Disposal Method: On site



Well information:

Start Development Time: 1440

End Development Time: 1450 Total volume of water removed: ~0.20 gal.

Development Water Disposal Method: Contained and treated on-site





Well information:

Start Development Time: 1656

End Development Time: 1748 Total volume of water removed: 11 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Sheen/Free Product	NO
--------------------	----

Sheen/Free Product	NO
--------------------	----

Development Water Disposal Method: on site drums



Well information:

* Measurements taken from

☐	Top of Well Casing
☐	Top of Protective Casing
☐	(Other, Specify)

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color Grey
Odor None

Color grey
Odor None

Sheen/Free Product	None
--------------------	------

Sheen/Free Product None

Development Water Disposal Method: on site drums



Well information:

* Measurements taken from

Start Development Time: 1120

1133

Development Water Characteristics

Physical appearance at start of development

DTB after
G1-S

Physical appearance at end of development

Development Water Disposal Method: on site drums

Development Log.xls

5/8/2017



Well information:

Start Development Time: 1130

End Development Time: 1347 Total volume of water removed: 90 gal.

Development Water Disposal Method: on site poly tank



Well Development Log

Date 5/7 Personnel ATF, JFC Well ID. MW-9D
Site Name Takonic Equipment Used LaMotte 200T, YSI Pro Weather Overcast, ±55°F
Site Location Petersburg, NY Development Method Water Pump Project # 70557

Well information:

Total Depth of Well * 54.40 ft. Diameter of Well 2 in.
Depth to Water * 2.02 ft. 1 Well Volume ~8.54 gal. → 32,327.42 in³
Length of Water Column 52.38 ft.
Diameter of Well ATF 4.2 in. 10 vol = ~85.4 gal

Start Development Time: 1123

Time of Measurement	Depth To Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Total Volume of Water Purged	Flow Rate (ml/min)
<u>1123</u>	<u>2.02</u>	<u>18.0</u>	<u>7.72</u>	<u>0.237</u>	<u>120.3</u>	<u>7.65</u>	<u>Over</u>	Start Values	<u>640</u>
<u>~1200</u>	<u>8.55</u>	<u>13.3</u>	<u>7.41</u>	<u>0.315</u>	<u>-24.48</u>	<u>5.37</u>	<u>Over</u>	<u>~1 vol</u>	<u>~960</u>
<u>~1220</u>	<u>8.60</u>	<u>13.4</u>	<u>6.42</u>	<u>0.322</u>	<u>-153.2</u>	<u>5.92</u>	<u>Over</u>	<u>~2 vol</u>	<u>~1000</u>
<u>* ~1240</u>	<u>8.30</u>	<u>12.8</u>	<u>6.75</u>	<u>0.650</u>	<u>-101.9</u>	<u>5.31</u>	<u>Over</u>	<u>~3 vol</u>	<u>~1000</u>
<u>~1259</u>	<u>9.14</u>	<u>11.6</u>	<u>6.41</u>	<u>0.631</u>	<u>-28.5</u>	<u>7.23</u>	<u>Over</u>	<u>~4 vol</u>	<u>1000</u>
<u>~1316</u>	<u>8.41</u>	<u>11.4</u>	<u>6.16</u>	<u>0.649</u>	<u>-9.5</u>	<u>7.03</u>	<u>Over</u>	<u>~5 vol</u>	<u>1000</u>
<u>~1333</u>	<u>8.90</u>	<u>11.7</u>	<u>6.07</u>	<u>0.528</u>	<u>26.8</u>	<u>6.75</u>	<u>Over</u>	<u>~6 vol</u>	<u>1000</u>
<u>~1350</u>	<u>9.20</u>	<u>11.5</u>	<u>6.09</u>	<u>0.656</u>	<u>18.8</u>	<u>7.23</u>	<u>Over</u>	<u>~7 vol</u>	<u>1000</u>
<u>~1401</u>	<u>9.00</u>	<u>12.0</u>	<u>6.04</u>	<u>0.623</u>	<u>12.7</u>	<u>11.34</u>	<u>Over</u>	<u>~8 vol</u>	<u>~2400</u>
<u>~1424</u>	<u>9.00</u>	<u>11.6</u>	<u>6.11</u>	<u>0.663</u>	<u>-35.3</u>	<u>7.94</u>	<u>Over</u>	<u>~9 vol</u>	<u>~2400</u>
<u>~1441</u>	<u>9.00</u>	<u>11.1</u>	<u>6.13</u>	<u>0.667</u>	<u>-5.7</u>	<u>7.75</u>	<u>Over</u>	<u>~10 vol</u>	<u>~2400</u>
<u>1401</u>	<u>9.00</u>	<u>11.1</u>	<u>6.08</u>	<u>0.659</u>	<u>24.8</u>	<u>7.51</u>	<u>Over</u>	End	<u>~2400</u>

End Development Time: 1407

Total volume of water removed: 85-90 gal.

Development Water Characteristics

Physical appearance at start of development

Color Li Brown, Translucent

Odor No

Sheen/Free Product No

Physical appearance at end of development

Color Li Brown

Odor No

Sheen/Free Product No

Development Water Disposal Method: On-site Poly Tank

Start Pump Depth at ~55' bgs (Top of screen)
* Lowered pump ~2' tubing
** Lowered pump to bottom of screen
Final Depth = 60.15' bmp



Well information:

Start Development Time: 1055

End Development Time: 13:09

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Sheen/Free Product	<u>NA</u>
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Sheen/Free Product

Development Water Disposal Method:



Well information:

Start Development Time: 14:03

End Development Time: 16:33 Total volume of water removed: ~95.0 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color Brown

Color Brown

Odor None

Odor None

Sheen/Free Product	None
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Sheen/Free Product None

Development Water Disposal Method:



Well information:

Start Development Time: 10:44

End Development Time: 11:40

Total volume of water removed: 13.0 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color	Brown
Odor	N/A
Sheen/Free Product	N/A

Development Water Disposal Method:

Well Development Log

Date	<u>05/02/19</u>	Personnel	<u>RDH</u>	Well ID.	<u>HW-110</u>
Site Name	<u>Tacoma</u>	Equipment Used	<u>Small-droll WQ Meter</u>	Weather	<u>+40's, Rain</u>
Site Location	<u>Petersburg, N.Y.</u>	Development Method	<u>Western Turbidity</u>	Project #	<u>70557</u>

Well information:

Total Depth of Well *	<u>56.80</u>	ft.	Diameter of Well	<u>2.0</u>	in.	* Measurements taken from ☒ Top of Well Casing ☐ Top of Protective Casing ☐ (Other, Specify)
Depth to Water *	<u>5.35</u>	ft.	1 Well Volume	<u>8.4</u>	gal.	
Length of Water Column	<u>51.45</u>	ft.	Total Depth Final <u>56.75'</u> bwp			
Diameter of Well	<u>2.0</u>	in.				

Start Development Time: 12:15

[illegible]

End Development Time: 15:26

Total volume of water removed: ~ 85.0 gal.

Development Water Characteristics

Physical appearance at start of development

Color	Brown
Odor	None
Product	None

Physical appearance at end of development

Color	Clay Gray
Odor	None
Sheen/Free Product	None

Sheen/Free Product

Development Water Disposal Method:



Well information:

* Measurements taken from

☒	Top of Well Casing
☐	Top of Protective Casing
☐	(Other, Specify)

End Development Time: 1745

Total volume of water removed: 15 gal.

Development Water Disposal Method: on site drums

5/8/2017



Well information:

* Measurements taken from

☐	Top of Well Casing
☐	Top of Protective Casing
☐	(Other, Specify)

End Development Time: 1055 Total volume of water removed: 13 gal.

Color	<u>Brown</u>
Odor	<u>none</u>
Sheen/Free Product	<u>none</u>

DTB 12.50 after

Well Development Log

Date	5-2-19	Personnel	JFG	Well ID.	MW-13D
Site Name	Taronic	Equipment Used	HL308	Weather	rain
Site Location	Petersburgh	Development Method	watera	Project #	

Well information:

Total Depth of Well *	<u>27.45</u> ft.	Diameter of Well	<u>2</u> in.	* Measurements taken from ☐ Top of Well Casing ☐ Top of Protective Casing ☐ (Other, Specify)
Depth to Water *	<u>3.15</u> ft.	1 Well Volume	<u>4</u> gal.	
Length of Water Column	<u>24.3</u> ft.			
Diameter of Well	_____ in.			

Start Development Time: 11:20

[illegible]

End Development Time: 1259 Total volume of water removed: 70 40 gal.

Development Water Characteristics

Physical appearance at start of development

Color Brown
Odor none
uct none

Sheen/Free Product None

Physical appearance at end of development

Color	Brown
Odor	none
Sheen/Free Product	none

Sheen/Free Product	None
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Development Water Disposal Method: On site drums

emptied buckets @ 12:00
restarted development @ 12:30

28.30 DTB
after

Well Development Log

Date	5/6/19	Personnel	ATF, JFG	Well ID.	MW-145
Site Name	Talonic	Equipment Used	SmartTrail / LaMotte	Weather	Sun, $\pm 60^{\circ}\text{F}$
Site Location	Petersburgh, VA	Development Method	Water Pump	Project #	70557

Well information:

Total Depth of Well *	<u>22.05</u> ft.	Diameter of Well	<u>2</u> in.	* Measurements taken from ☒ Top of Well Casing ☐ Top of Protective Casing ☐ (Other, Specify)
Depth to Water *	<u>6.53</u> ft.	1 Well Volume	<u>2.6</u> gal.	
Length of Water Column	<u>16.12</u> ft.			
Diameter of Well	<u>2</u> in.			

~~10 gal AF~~ 10 well vol = 26.0

Start Development Time: 1123

[illegible]

End Development Time: 1300 Total volume of water removed: 228 gal.

Development Water Characteristics

Physical appearance at start of development

Color Brown-Grey

Odor No

Sheen/Free Product NO

Physical appearance at end of development

Color Brown-Green

Odor No

Sheen/Free Product 15

Development Water Disposal Method:

SmartTROLL #FA01325; LaMotte #FA03767

* Lowered pump ~ 2' - 3'

- * * iPod overheated

*** RIDG Exp

Development Log.xls

- ~~***~~ Stopped to dump water



Well information:

* Measurements taken from

- Start Development Time: 1122

Start Values	
9.77	~ 1 well vol
12.77	
~ 9.77	~ 2 well vol, ~ 19.5 gal
~ 24.4 gal	
34.4	

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color	brown
Odor	none
Sheen/Free Product	none

Development Log.xls

5/8/2017



Well information:

Start Development Time: 1425

End Development Time: 15:40

Total volume of water removed: ~5.5 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color Brown

Color Brown

Odor None

Odor None

Sheen/Free Product	<u>Name</u>
--------------------	-------------

Sheen/Free Product	None
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Development Water Disposal Method: Containize in 55-gallon drum on-site



Well information:

Start Development Time: 1030

End Development Time: 13:02 Total volume of water removed: ~ 55.0 gal.

Physical appearance at start of development

Sheen/Free Product	None
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Sheen/Free Product	None
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Development Water Disposal Method: Containerize in 55-gallon drum on-site



Well information:

* Measurements taken from

☐	Top of Well Casing
☐	Top of Protective Casing
☐	(Other, Specify)

End Development Time: 10:09

Total volume of water removed: 17.5 gal.

Development Water Characteristics

Physical appearance at start of development

Physical appearance at end of development

Color Brown
Odor none

Sheen/Free Product

Development Water Disposal Method: on site drum

Development Log.xls



Well information:

* Measurements taken from

☐	Top of Well Casing
☐	Top of Protective Casing
☐	(Other, Specify)

High Sediment load
Fast recharge



Well information:

Start Development Time:

5-7
5-8
5-9

Sunny 55° day 2



170

Personnel

Well ID.

Equipment Used YSL or FA00978

Weather

Development Method Waterfall

Project #

Total Depth of Well * 85-23 ft.

Diameter of Well 4 in.

Depth to Water * 1.85' ft.

1 Well Volume 122 gal.

Length of Water Column _____ ft.

Diameter of Well 4 in

* Measurements taken from

☐ Top of Well Casing

☐ Top of Protective Casing

☐ (Other, Specify)

Start Development Time: ~~12:55~~ 13:17

5-8
5-10

Total volume of water removed: 500 gal.

Final
DTB
94
feet

Physical appearance at end of development

Color Clear

Color brown

Odor none

Odor None

Sheet/Free Product	none
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Sheen/Free Product None

Development Water Disposal Method: on site poly tank

water level is above ground level
water level dropped to around 50 feet
and held at this level - 5-8-10