Appendix B.2

Borehole Logging Survey Residential Well and RW-1 108 Spencer Road

April 8, 2025

RETTEW

We answer to you.

3020 Columbia Avenue, Lancaster, PA 17603 ● Phone: (800) 738-8395
E-mail: rettew@rettew.com ● Website: rettew.com

Engineers
Environmental Consultants
Surveyors
Landscape Architects
Safety Consultants

April 8, 2025

Mr. Bradford L. Fish
Sunoco Pipeline LP
100 Green Street
Marcus Hook, PA 19061

RE: Borehole Logging Survey
Residential Well and RW-1
108 Spencer Road
Upper Makefield Township, PA
RETTEW Project No. 0963003386

Dear Mr. Fish,

On April 3, 2025, RETTEW completed a geophysical borehole survey at the above-referenced site. The purpose of the survey was to determine which specific product-bearing fractures might be producing jet fuel in the former Residential Well and RW-1 at 108 Spencer Road. To accomplish these objectives, RETTEW conducted Optical Televiewer (OPTV) with ultraviolet (UV) imaging capabilities. The procedures and geophysical techniques used are briefly described in the sections below. A summary of the notable features identified is presented in the "Logging Results" section.

LOGGING EQUIPMENT

RETTEW conducts borehole geophysics and televiewer logging using a Mt. Sopris MX Series winch and SCOUT Pro data acquisition system. This unit records digital data for on-site log playback, reproduction, and field interpretation, as well as post-processing and report presentation. The systems are driven by field PCs running software supplied by the manufacturer for data acquisition, log replay, probe control, probe calibration, and logging environment compensation.

DECONTAMINATION PROCEDURE

Prior to RETTEW's mobilization to the site, the winch cable and sondes scheduled for use are decontaminated, to ensure the quality of sampling by preventing cross-contamination. The procedure described below was implemented both before and after logging. The equipment used for decontamination is listed below.

- Distilled water
- Seventh Generation solution (mixed with distilled water)
- Stiff-bristle brush
- Manual pump spray bottle
- Heavy duty paper towels
- 5-gallon bucket with lid.

The procedure used for decontamination is listed below.

1. A decontamination area is designated and set-up.
2. Proper personal protective equipment is donned (i.e., nitrile gloves, safety glasses).

3. Sondes are removed from their containers and placed in the decontamination area.
4. Mixed detergent solution is applied to each sonde with a manual pump spray bottle.
5. Sondes are manually wiped down with a paper towel or scrubbed with a stiff bristle brush, depending on the amount of mud or dirt on the sonde.
6. Sondes are rinsed with distilled water and dried with a paper towel.
7. Discarded water is captured in a 5-gallon bucket, which is sealed for proper disposal and not allowed to infiltrate the soil.
8. If a sonde is still visibly contaminated, the process is repeated as necessary.
9. Decontamination of the winch cable is performed during the first deployment of a sonde down a borehole, and on the last retrieval of a sonde, for each borehole.
10. Mixed detergent solution is sprayed on paper towels, and the cable is wiped down on its initial deployment down a borehole.
11. Paper towels are monitored for cleanliness and replaced as necessary.
12. Cable decontamination process is repeated on the final recovery of a sonde, for each borehole.

LOGGING PARAMETERS AND METHODOLOGY

Geophysical well logging in general involves lowering sondes in a borehole and recording parameters that are related to the properties of the adjacent soil or rock, the fluids in the borehole or formation, and/or construction details of the well. There are many tools and techniques that have been developed to provide specific information in different environments and constructions of drilled holes. The data collected can define the nature and extent of geologic formations and formation fluids and can be used to provide correlation between holes.

Immediately prior to logging, the former Residential Well and RW-1 were pumped to induce drawdown, creating a cone-of-depression around the wells to draw-in jet fuel light non-aqueous phase liquid (LNAPL). Pumping activities were completed by Groundwater and Environmental Services (GES) personnel.

The sondes used for this survey are described below. Note that RETTEW personnel test them for proper function and recalibrate periodically, as necessary. This is essential to the proper acquisition of downhole data and the ability to relate the data from one borehole to another.

OPTICAL/UV TELEVIEWER

The borehole OPTV provides a high-resolution digital optical scan of the interior of a borehole using visible wavelength light. From the accurately-scaled, continuous image it is possible to identify the depth and character of features such as fractures, bedding planes, veins, solution openings, etc. It is possible to calculate the strike, dip, and aperture of planar features. The OPTV operates by using a high-resolution color downhole camera, which views a reflection of the borehole walls in a hyperbolic correction mirror. At successive depth increments of 0.5 mm, rings of pixels corresponding to circular scans of the borehole wall are acquired from the probe and stacked into a continuous image. The image is rectangular – representing the interior of a cylinder that has been sliced open and rolled out flat. The image is oriented to north, based on data from three magnetometers and accelerometers in the sonde.

Sidewall images were also collected in the same manner utilizing the integrated 365 nanometer (nm) UV

light source. When certain minerals or hydrocarbons are exposed to ultraviolet light, characteristic fluorescence can be observed. Benchtop testing by Energy Transfer (ET) has demonstrated that jet fuel will fluoresce bright blue under 365 nm excitation (see photo in **Appendix A**). The mineral calcite is commonly fluorescent, but not in its pure form. Traces of metals or rare earth elements can cause it to fluoresce – usually red-orange, but the element Europium and some organic compounds can cause blue fluorescence in calcite. The Lockatong Formation in which these wells were installed does not typically contain calcite in its matrix, but does have secondary calcite veins and crystals – particularly along fractures. Discrimination of calcite from LNAPL will be discussed in the results section below.

Note that the use of magnetometers for orientation leads to image distortion in steel-cased holes, and within several feet of the base of steel casing in open holes. All OPTV sondes require an open borehole, or one filled with a clear fluid.

Planar features intersecting a cylindrical borehole appear sinusoidal on the flattened cylindrical image. The azimuth of the peak/trough of the sinusoid, and the amplitude of the sinusoid, can be measured and used to calculate the strike and dip (see **Appendix B**) of such features. Based on their visual character, planar features on the HRAT (and OPTV- see above) logs are categorized on the log sheets as various types of geologic interface (fractures, bedding planes, foliation, etc.). Once sinusoids are fit to the structures, they are corrected for borehole tilt, corrected for declination using NOAA's "Estimated Value of Magnetic Declination" online calculator for each well location, and are listed in the Planar Features Characterization Table (**Appendix C**).

Tables listing the depth, aperture, strike, dip, and type of feature are included for each well (**Appendix C**). Based on their visual character, planar features are categorized as various types of geologic interface (fractures, bedding planes, foliation, etc.). Feature apertures are listed in tenths of an inch. An aperture of zero for an open fracture simply means that while it appears to be a continuous open feature, the opening is smaller than the line thickness on the log (~0.019 inches).

Please note that feature measurements present within five feet of the bottom of a steel casing may be distorted due to metallic interference with the internal magnetometer. Note also that it has been the experience of RETTEW that the aperture of a feature is not always a strong indicator of its water-producing potential. Thin, discrete features sometimes produce as much or more water than wide, open fractures or fracture zones.

LOGGING RESULTS

The logging results for the well are presented on the enclosed digital logs and tables are briefly summarized below.

Note that since analysis of borehole geophysical logs can be quite subjective, and the level of detail is dependent upon the specific goals of the geologist, the analysis below by RETTEW covers the major features of each log – as well as some possibly minor features – to serve as examples (or guides) for further interpretation by geologists familiar with the site, local geology, and/or project goals. In general, logs may display deviations (i.e., "spikes" where the parameter deviates from, and then returns to, "background" level), offsets (changes in background level), or slope changes. Any of these could be considered significant in certain situations, or when compared to correlating features at the same depth on other logs.

108 Spencer Road-Residential Well

NOTABLE FEATURES

- The total depth of the well was measured at approximately 460 feet below "top of casing" (TOC).
- TOC was measured as 0.85 feet above ground level.
- Static water level prior to drawdown pumping was measured at 41.66 feet by GES personnel.
- Water levels were pumped to approximately 202 feet below TOC immediately prior to logging.
- The diameter of the casing at the surface was measured to be nominally 6 inches, and the bottom of the casing was located at 28.4 feet below TOC.
- Logging was completed to a depth of 300 feet below TOC.
- UV responses were observed starting just below the bottom of the casing (28.5 feet) and continuing intermittently to a depth of about 73 feet.
- In the interval with fluorescence, there are light-colored veins and small lenses that could be calcite. However, these light (in visible light) materials continue below 73 feet, but there is no fluorescence. Therefore, the fluorescence can confidently be attributed to LNAPL.
- There are some vertical fluorescent streaks that probably represent tiny droplets of LNAPL that stuck to the glass window of the sonde. Additional optical streaks with no fluorescence probably represent droplets of turbid water with no LNAPL. These vertical streaks cease at about 108 feet where the sonde seems to have entered the (presumably recovering) water table.
- Planar features were recognizable on the optical televiewer logs. The depth, strike, dip, aperture, and feature type are listed on the logs – as well as on the accompanying table (**Appendix C**).

108 Spencer Road-RW-1

NOTABLE FEATURES

- The total depth of the well was measured at 70.4 feet "below ground surface" (BGS).
- Static water level prior to drawdown pumping was measured at 40.91 feet by GES personnel.
- A full depth drawdown was achieved by the pumping immediately prior to logging.
- The diameter of the casing at the surface was measured to be nominally 5 inches, and the bottom of the casing was located at approximately 25 feet BGS.
- There is less fluorescence in RW-1 than in the domestic well (presumably because there has been much less time for LNAPL to migrate into the bore than for the domestic well).
- Fluorescence again (as in the domestic well) begins just below the casing and occurs sporadically and faintly – typically at fractures. Fluorescence ceases in RW-1 below a depth of just over 62 feet.
- The cessation of fluorescence at this depth coupled with the presence of light-colored fracture filling on the optical log is consistent (as it was in the domestic well) with fluorescence due to LNAPL and not calcite.
- Optical vertical streaking with no fluorescence probably represents droplets of turbid water with no LNAPL. These vertical streaks cease at about 59 feet where the sonde seems to have entered the (presumably recovering) water table.
- Planar features were recognizable on the optical televiewer logs. The depth, strike, dip, aperture, and feature type are listed on the logs – as well as on the accompanying table.

SUMMARY INTERPRETATION

In both wells at 108 Spencer, there is blue UV fluorescence consistent with jet fuel LNAPL and not naturally fluorescent calcite. The inferred LNAPL begins just beneath the bottom of casing and extends to depths of 62 feet (RW-1) and 73 feet (domestic well). The occurrence across this depth range is probably due to migration of LNAPL floating on the water table as the water level changes under previous intermittent pumping and/or the pumping immediately prior to this logging event. If there were periods when the water table rose above the elevation of the bottom of casing, it is likely that there could be diffuse LNAPL in fractures outside of the casing.

LIMITATIONS

The survey described above was completed using standard and/or routinely accepted practices of the geophysical industry, and the equipment employed represents, in RETTEW's professional opinion, the best available technology. RETTEW does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. We will notify you of such limitations or conditions when they are identifiable.

We have enjoyed and appreciated this opportunity to have worked with you. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

Robert J. Krause, PG
Senior Geophysicist

Quality Assurance/Control:

Felicia Kegel Bechtel, MSc, PG
Senior Geophysical Advisor

Enclosures
Residential Well – Geophysical Logs and Planar Features
RW-1 – Geophysical Logs and Planar Features
Appendix A: UV Logging Plan
Appendix B: Planar Feature Orientation Schematic
Appendix C: Planar Feature Characteristic Tables

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ENCLOSURES

RETTEW SM

Rettew Field Services

Geophysical Logging Program

WELL ID

RW-1

Logging Date: *04/03/2025*

Logging Datum: *Top of Casing*

BOC: *28.4* **DTW:** *41.7* **TD:** *460.0*

Site Name: *108 Spencer*

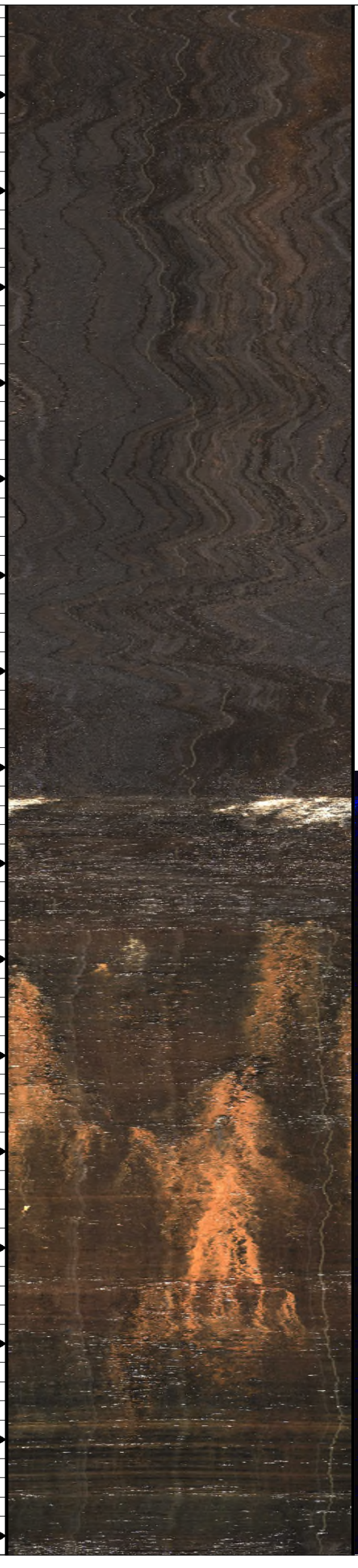
Location: *Upper Makefield Township, PA*

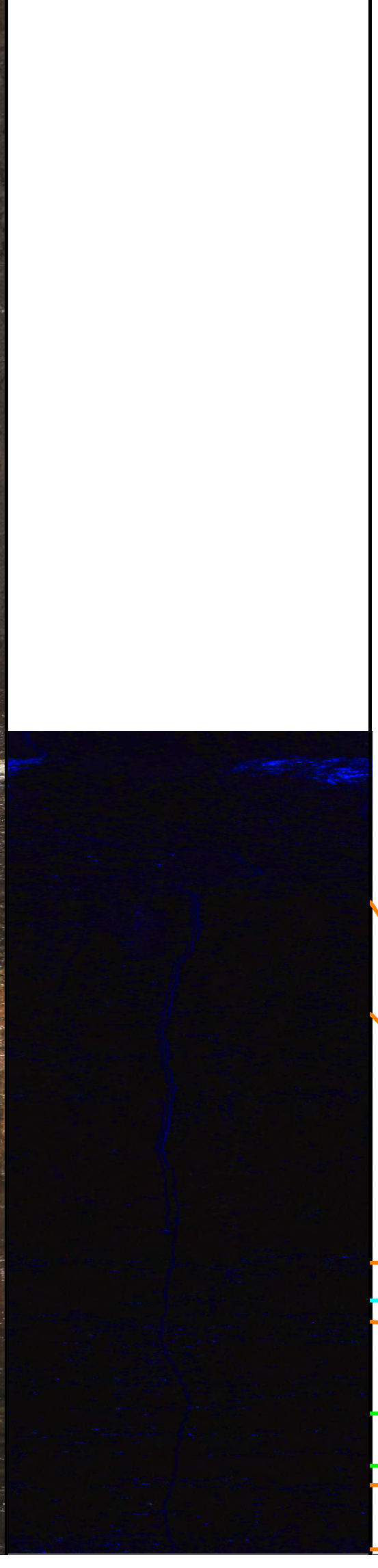
Client: *Sunoco Pipeline LP*

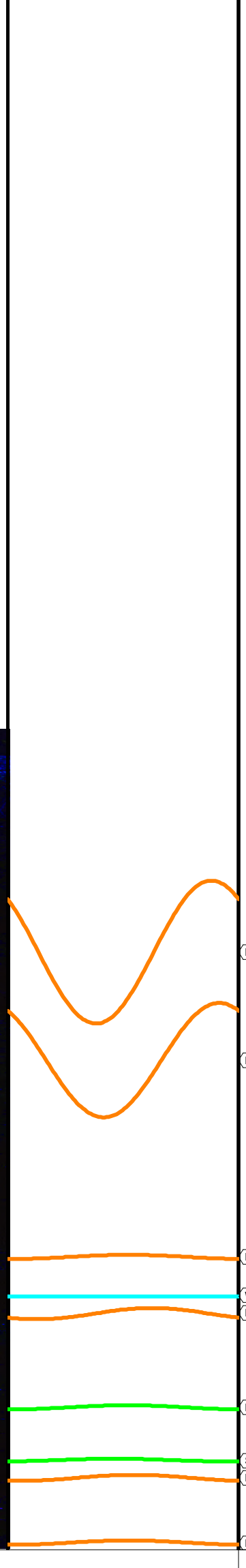
Project No.: *0963003386*

Revision Date: *04/05/2025*

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type







N48E 82S, 0, Partially Open Joint/Fracture

N60E 80S, 0, Partially Open Joint/Fracture

N81W 11N, 0, Partially Open Joint/Fracture

Water lever prior to pumping

N45W 29N, 0, Partially Open Joint/Fracture

N84W 12N, 0, Bedding/Banding/Foliation

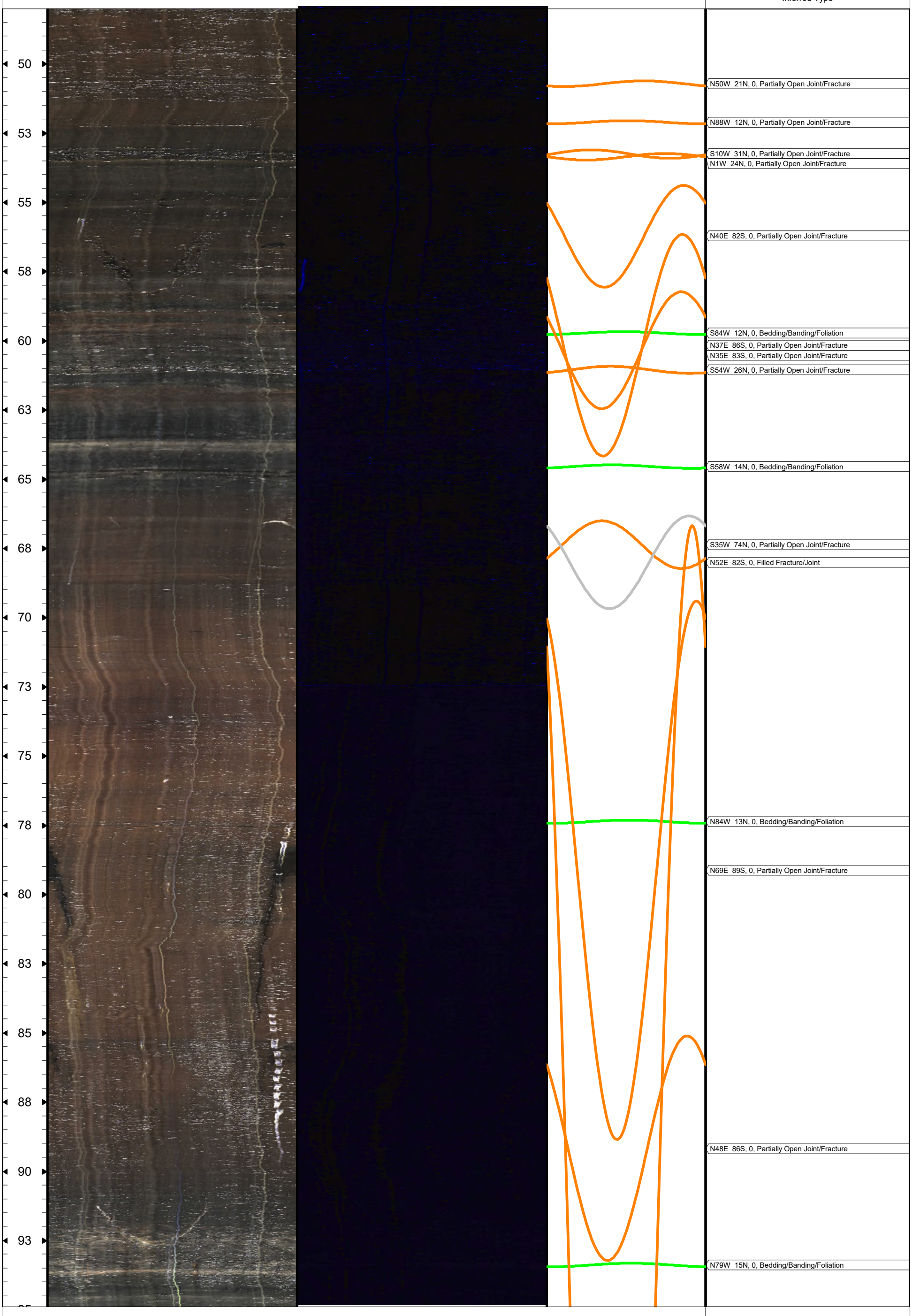
S76W 8N, 0, Bedding/Banding/Foliation

N73W 16N, 0, Partially Open Joint/Fracture

N81W 12N, 0, Partially Open Joint/Fracture

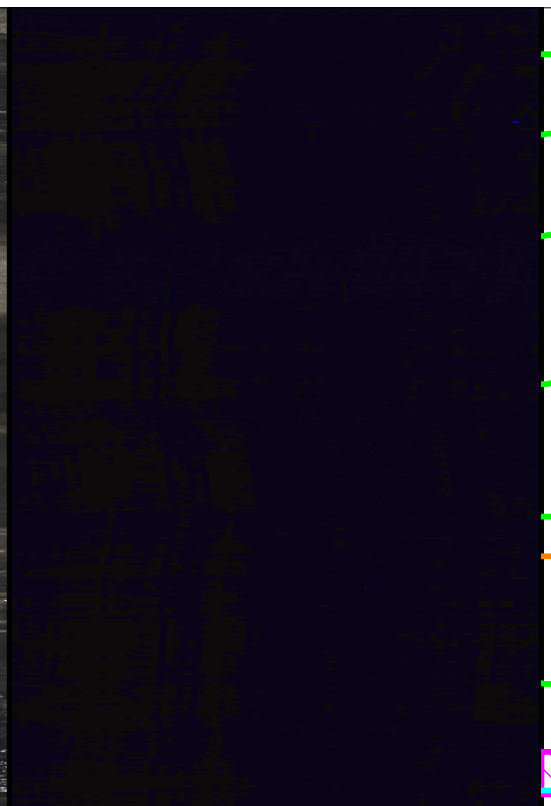
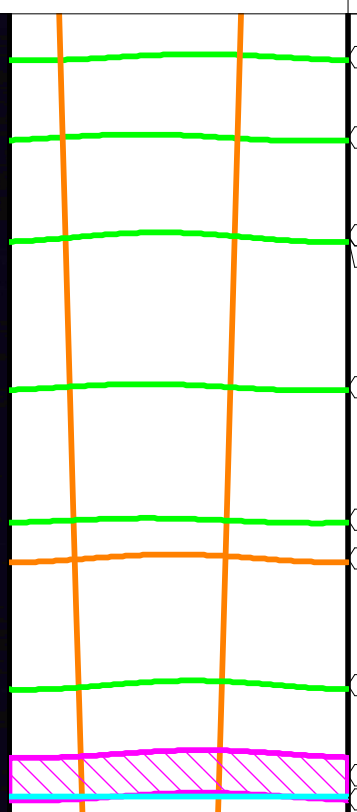
Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type



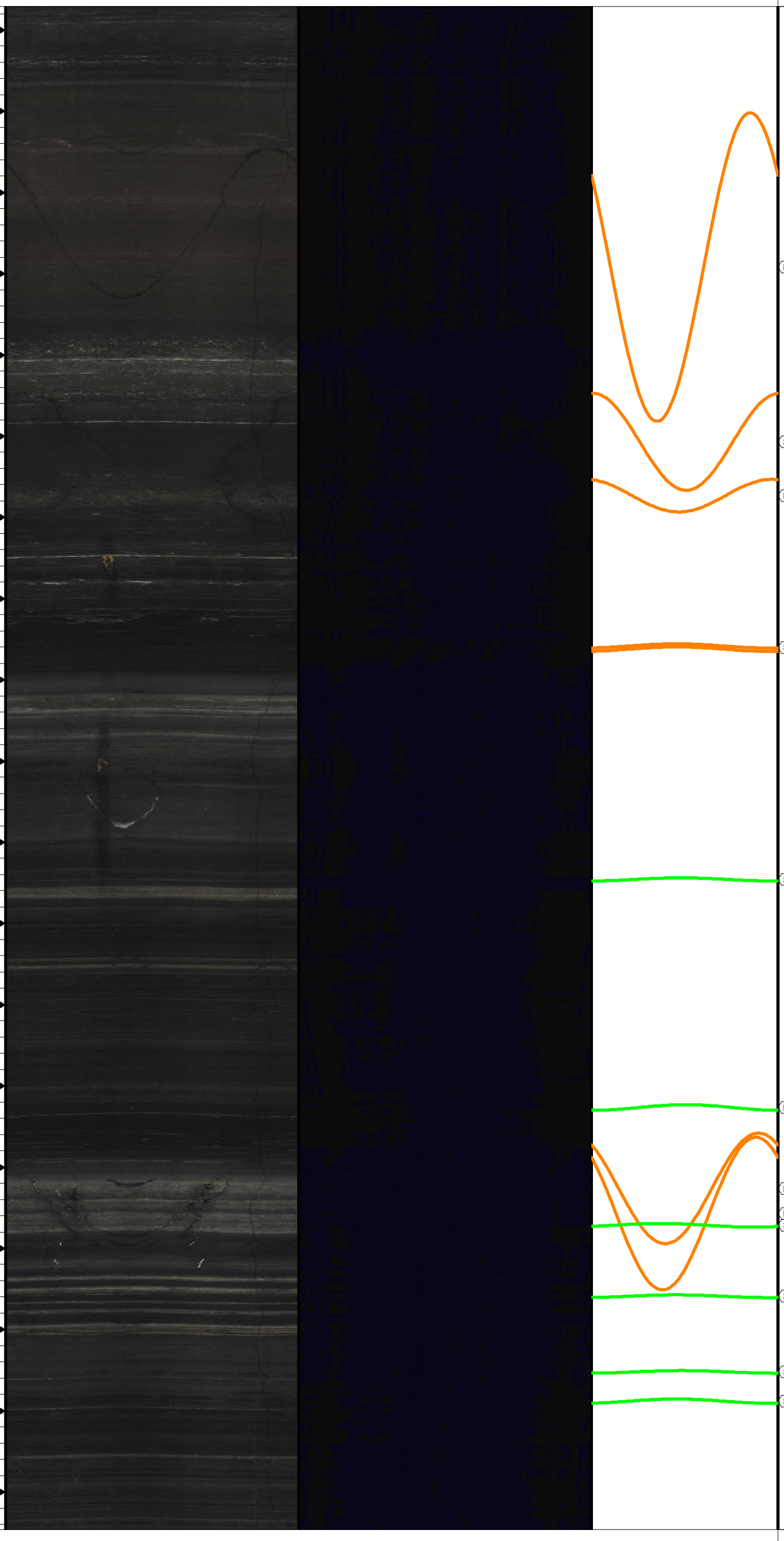
N50W 21N, 0, Partially Open Joint/Fracture
N88W 12N, 0, Partially Open Joint/Fracture
S10W 31N, 0, Partially Open Joint/Fracture
N1W 24N, 0, Partially Open Joint/Fracture
N40E 82S, 0, Partially Open Joint/Fracture
S84W 12N, 0, Bedding/Banding/Foliation
N37E 86S, 0, Partially Open Joint/Fracture
N35E 83S, 0, Partially Open Joint/Fracture
S54W 26N, 0, Partially Open Joint/Fracture
S58W 14N, 0, Bedding/Banding/Foliation
S35W 74N, 0, Partially Open Joint/Fracture
N52E 82S, 0, Filled Fracture/Joint
N84W 13N, 0, Bedding/Banding/Foliation
N69E 89S, 0, Partially Open Joint/Fracture
N48E 86S, 0, Partially Open Joint/Fracture
N79W 15N, 0, Bedding/Banding/Foliation

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type
95				N69W 12N, 0, Bedding/Banding/Foliation
98				S50W 13N, 0, Bedding/Banding/Foliation
100				N60E 90S, 0, Partially Open Joint/Fracture S71W 18N, 0, Bedding/Banding/Foliation
103				S55W 13N, 0, Bedding/Banding/Foliation
105				S57W 9N, 0, Bedding/Banding/Foliation S85W 15N, 0, Partially Open Joint/Fracture
107				N75W 17N, 0, Bedding/Banding/Foliation
110				N65W 14N, 8.35, Minor Open Joint/Fracture Water level during data collection
113				S82W 14N, 0, Bedding/Banding/Foliation
115				N27E 76S, 0, Partially Open Joint/Fracture
117				
120				S83W 12N, 0, Bedding/Banding/Foliation
123				
125				N46E 85S, 0, Partially Open Joint/Fracture N86W 19N, 2.75, Partially Open Joint/Fracture
128				
130				N49E 88S, 0, Partially Open Joint/Fracture
133				S88W 17N, 0, Bedding/Banding/Foliation N53E 85S, 0, Partially Open Joint/Fracture
135				
138				N64W 15N, 0, Bedding/Banding/Foliation
140				

Depth 1ft:50ft | Optical Televiewer 0° 90° 180° 270° 0° | UV Response 0° 90° 180° 270° 0° | Televiewer Features 0° 90° 180° 270° 0° | Feature Characteristics
Strike and Dip (degrees)
Aperture (inches)
Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type



N37E 87S, 0, Partially Open Joint/Fracture

S87E 81S, 0, Partially Open Joint/Fracture

N78E 64S, 0, Partially Open Joint/Fracture

S74W 15N, 1.14, Partially Open Joint/Fracture

S83W 11N, 0, Bedding/Banding/Foliation

N88W 19N, 0, Bedding/Banding/Foliation

N52E 81S, 0, Partially Open Joint/Fracture

N47E 84S, 0, Partially Open Joint/Fracture

S42W 12N, 0, Bedding/Banding/Foliation

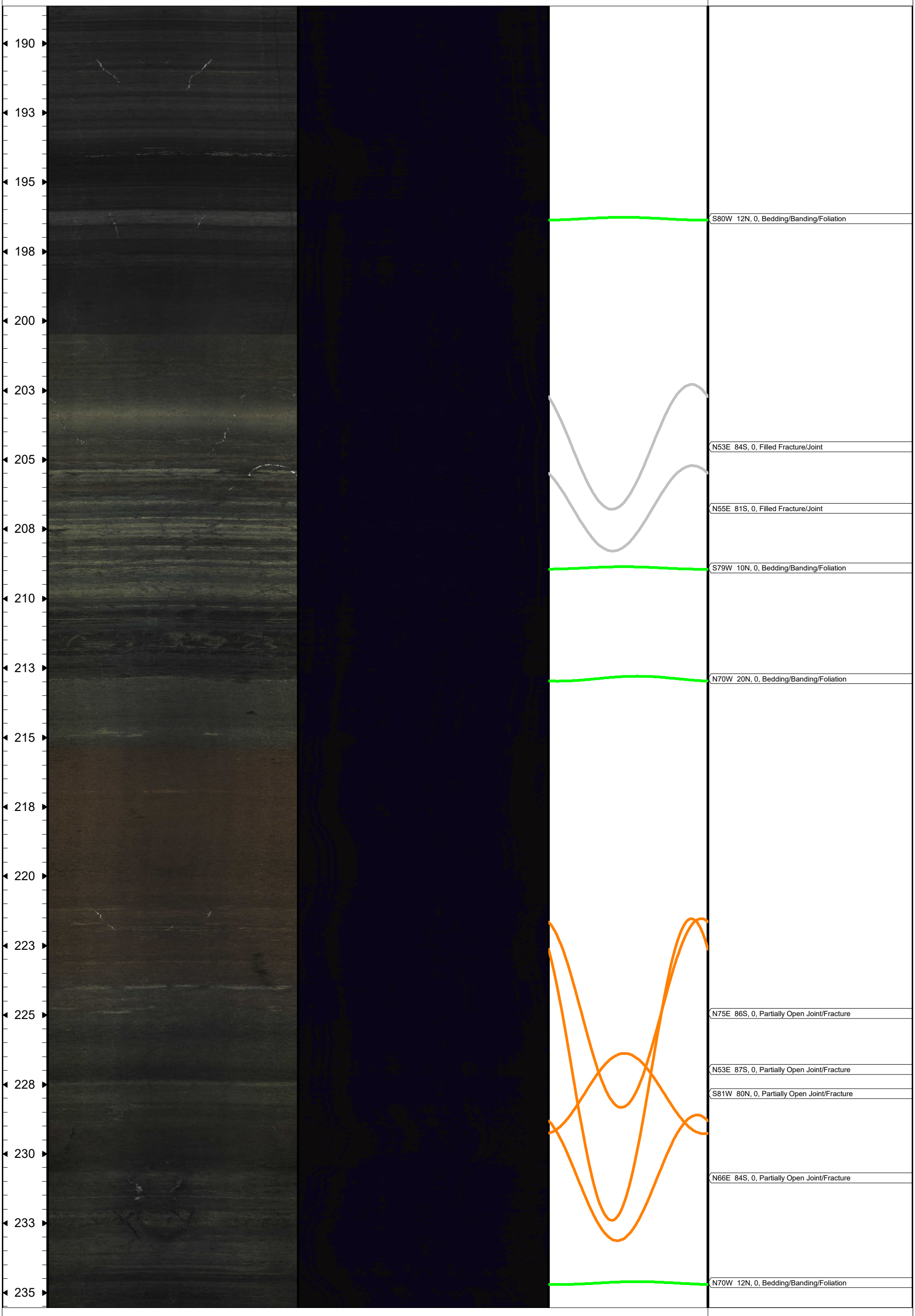
S72W 10N, 0, Bedding/Banding/Foliation

S84W 9N, 0, Bedding/Banding/Foliation

S74W 15N, 0, Bedding/Banding/Foliation

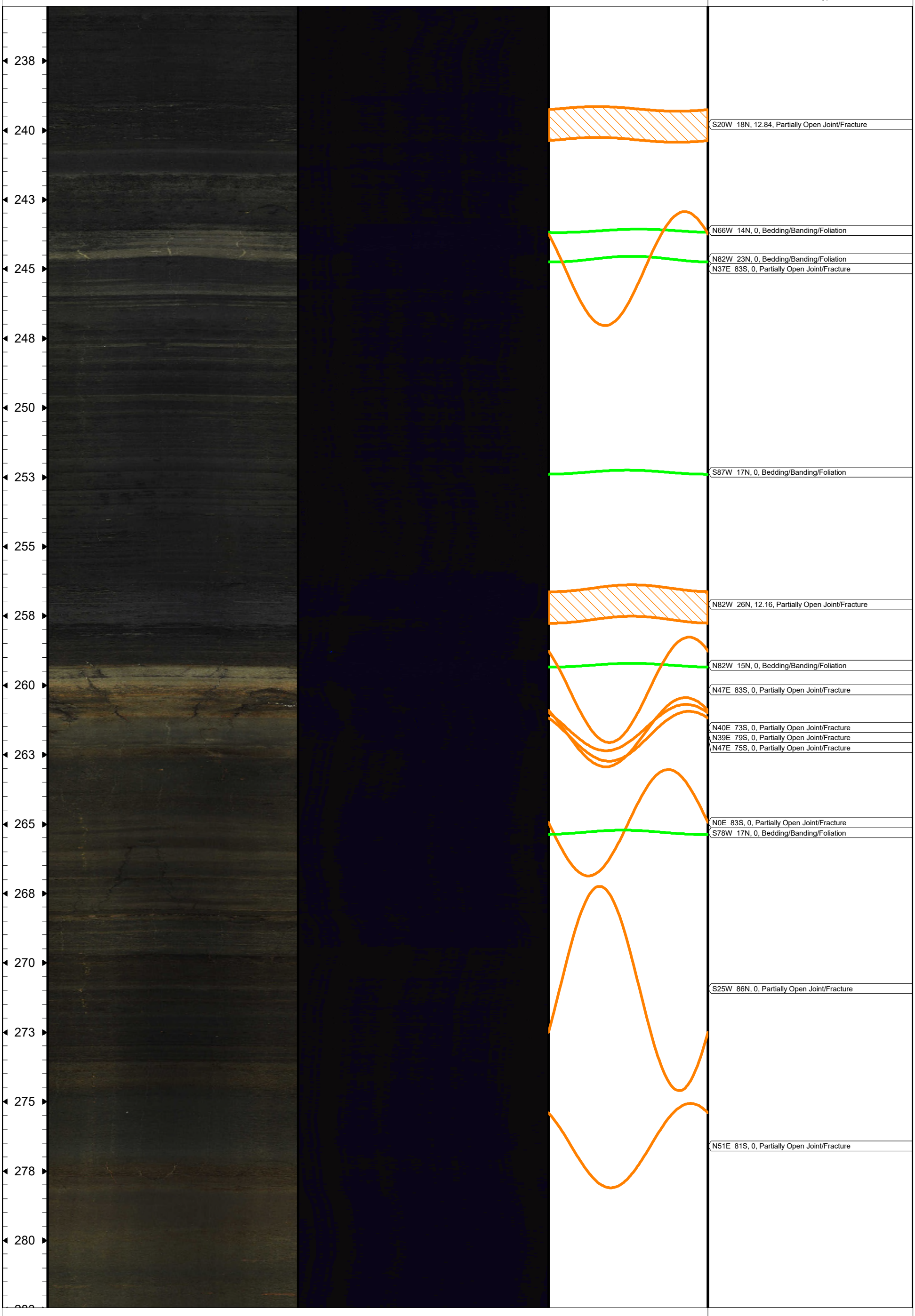
Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type



Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type



Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type
283 285 288 290 293 295 298 300				

Depth 1ft:50ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

Rettew Field Services

Geophysical Logging Program

WELL ID

RW-1

Logging Date: *04/03/2025*

Logging Datum: *Ground Surface*

BOC: *25.0* **DTW:** *40.9* **TD:** *70.4*

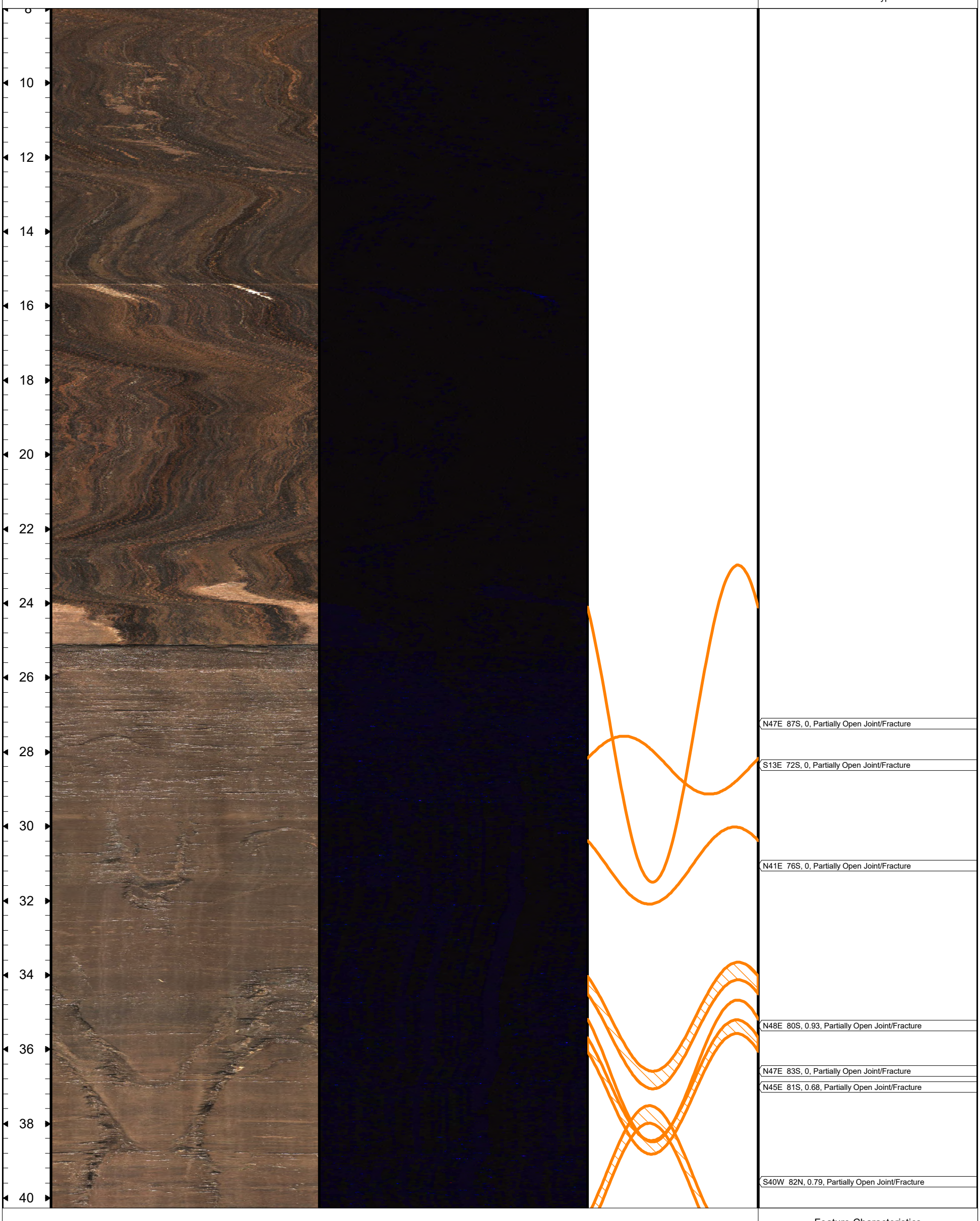
Site Name: *108 Spencer*

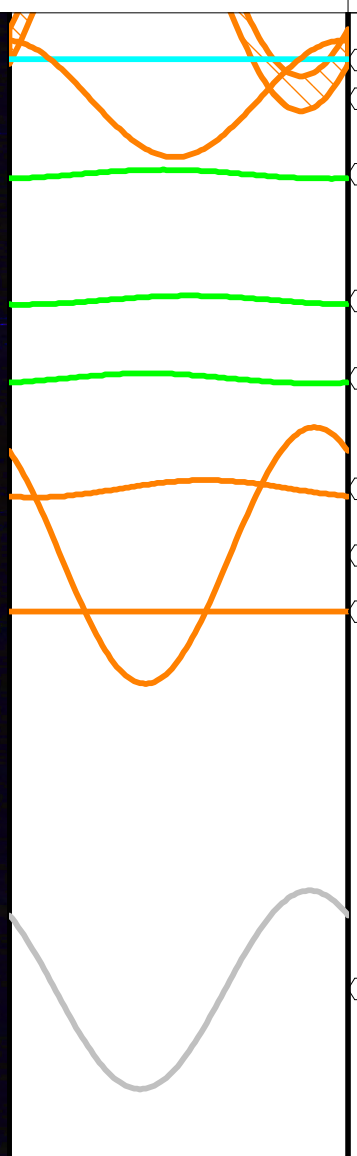
Location: *Upper Makefield Township, PA*

Client: *Sunoco Pipeline LP*

Project No.: *0963003386*

Revision Date: *04/05/2025*



Depth 1ft:40ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type
42				Water level prior to pumping N86E 73S, 0, Partially Open Joint/Fracture
44				S73W 13N, 0, Bedding/Banding/Foliation N79W 14N, 0, Bedding/Banding/Foliation
46				S57W 15N, 0, Bedding/Banding/Foliation N62W 25N, 0, Partially Open Joint/Fracture
48				N54E 82S, 0, Partially Open Joint/Fracture S5W 0N, 0, Partially Open Joint/Fracture
50				
52				N49E 79S, 0, Filled Fracture/Joint
54				
56				S87W 17N, 0, Bedding/Banding/Foliation
58				
60				Water level during data collection N53E 80S, 0, Filled Fracture/Joint
62				N75E 80S, 0, Filled Fracture/Joint
64				N63E 82S, 0, Filled Fracture/Joint
66				N55E 80S, 0, Filled Fracture/Joint
68				N48E 80S, 0, Filled Fracture/Joint
70				

Depth 1ft:40ft	Optical Televiewer 0° 90° 180° 270° 0°	UV Response 0° 90° 180° 270° 0°	Televiewer Features 0° 90° 180° 270° 0°	Feature Characteristics Strike and Dip (degrees) Aperture (inches) Inferred Type

APPENDIX A

UV Logging Plan

3020 Columbia Avenue, Lancaster, PA 17603● Phone: (800) 738-8395
E-mail: rettew@rettew.com ● Website: rettew.com

In an effort to determine which specific product-bearing fractures might be producing jet fuel into the recovery well at 108 Spencer Road, RETTEW will log the well using an Advanced Logic Technology (ALT) QL40-OBI2G-UV Optical Televiewer (OPTV) with ultraviolet (UV) imaging capabilities (see **Figure 1**). The UV OPTV records simultaneous visible light and 365 nm UV continuous, oriented, and scaled borehole images with 1,800 pixels per 360° rotation. The tool will be driven and recorded by a pickup truck-mounted Mount Sopris winch and digital logging system.

Figure 1: UV OPTV Sonde, photo courtesy of ALT.

Prior to logging, the former domestic well will be pumped by Groundwater and Environmental Services (GES) to induce drawdown, creating a cone-of-depression around the well to draw-in jet fuel light non-aqueous phase liquid (LNAPL). During drawdown, the logging system and tool will be set-up and readied so that a downward logging run can begin as soon as the pump is pulled. Pumped water will be directed to a container provided by Energy Transfer (ET). A drawdown of nearly the full depth of the well is desirable (if possible) to ensure inward flow at any fractures. Inward flow from fractures that contain LNAPL should produce UV staining from the fracture downward that ought to persist even if recovery brings the water level above the LNAPL-producing feature (due to adsorption of LNAPL onto the rock wall of the bore).

Nearby domestic supply wells located on Spencer Road will be monitored during the drilling activities outlined in the plan. Liquid level data will be recorded for each domestic well monitored. An interface probe will be used to record liquid level data at a frequency to be determined at each of the domestic wells at various locations on Spencer Road. In addition, water may be collected from various domestic well locations on Spencer Road on a routine basis with a bailer for visual inspection. However, it should be noted that due to spacers and/ or wire guards existing in certain domestic wells, a bailer may not be deployed for visual inspection.

Figure 2: Jet A fuel floating on water illuminated by 365 nm UV flashlight. Photo courtesy of Bill Barth (ET).

Once the pump is pulled, the tool will be run-in to just above the base of casing at a rate of 15 feet per minute, where logging will commence and proceed to a depth of 300 feet at a rate of 5 feet per minute.

Benchtop testing by ET has demonstrated that jet fuel will fluoresce bright blue under 365 nm excitation (see **Figure 2**).

The UV OPTV log will be processed in WellCAD to produce matching visible light and UV scaled and oriented digital images. Although this well has already been OPTV-logged and fracture depths and orientations identified, fractures will again be catalogued and plotted for the UV OPTV log.

As the tool is retrieved, the cable will be decontaminated at the wellhead (as for the previous logging), and the tool will be decontaminated resting on sawhorses with a sheet of plastic beneath. The small volume of decontamination water will be added to the pumped water container.

Containerization and disposal of produced water will follow the Waste Management Plan dated February 26, 2025. Traffic control will follow the Traffic Control Plan dated March 13, 2025.

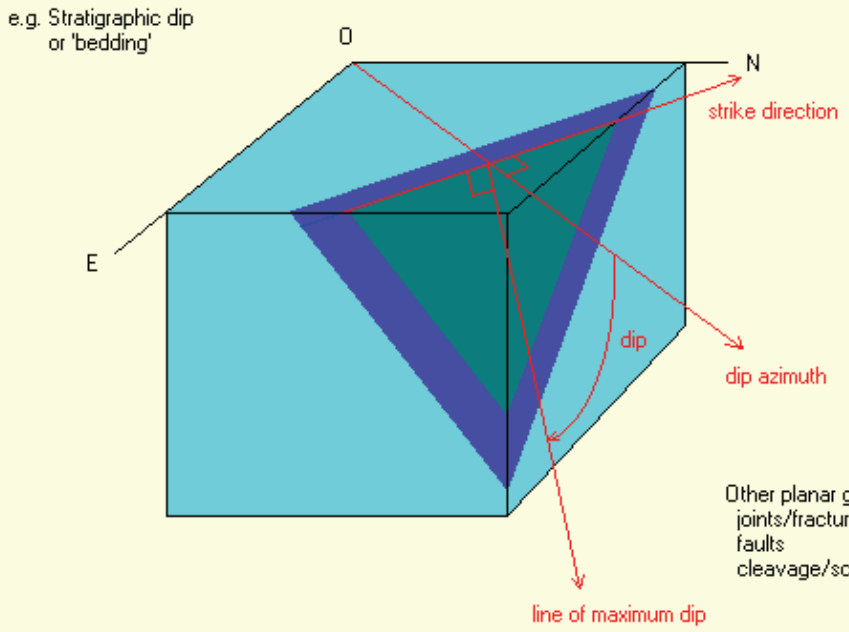
APPENDIX B

Planar Feature Orientation Schematic

Planar Feature Orientation Parameters

Dip = angle of inclination of the plane, downwards from the horizontal
Dip azimuth = azimuth of the line of maximum dip in the plane, clockwise from North
Strike direction = azimuth of a horizontal line in the plane (= dip azimuth – 90°)

e.g. dip and dip azimuth = 60° N041° or strike and dip = N311° 60°



Other planar geologic features include
joints/fractures/veins
faults
cleavage/schistosity

APPENDIX C

Planar Feature Characterization Tables

Residential Well
Planar Feature Table

RETTEW

Project No.:	**0963003386**	**Client:**	**Sunoco Pipeline LP**
Site Name:	**108 Spencer Road**	**Logging Date:**	**02/18/2025**
Location:	**Washington Crossing, PA**	**Revision Date:**	**04/05/2025**

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
33.2	0.0	138	N48E	82S	Partially Open Joint/Fracture
35.8	0.0	150	N60E	80S	Partially Open Joint/Fracture
40.7	0.0	9	N81W	11N	Partially Open Joint/Fracture
42.1	0.0	45	N45W	29N	Partially Open Joint/Fracture
44.5	0.0	6	N84W	12N	Bedding/Banding/Foliation
45.8	0.0	346	S76W	8N	Bedding/Banding/Foliation
46.2	0.0	17	N73W	16N	Partially Open Joint/Fracture
47.8	0.0	9	N81W	12N	Partially Open Joint/Fracture
50.7	0.0	40	N50W	21N	Partially Open Joint/Fracture
52.1	0.0	2	N88W	12N	Partially Open Joint/Fracture
53.3	0.0	280	S10W	31N	Partially Open Joint/Fracture
53.4	0.0	89	N1W	24N	Partially Open Joint/Fracture
56.2	0.0	130	N40E	82S	Partially Open Joint/Fracture
59.7	0.0	354	S84W	12N	Bedding/Banding/Foliation
60.2	0.0	127	N37E	86S	Partially Open Joint/Fracture
60.4	0.0	125	N35E	83S	Partially Open Joint/Fracture
61.1	0.0	324	S54W	26N	Partially Open Joint/Fracture
64.6	0.0	328	S58W	14N	Bedding/Banding/Foliation
67.4	0.0	305	S35W	74N	Partially Open Joint/Fracture
68.0	0.0	142	N52E	82S	Filled Fracture/Joint
77.4	0.0	6	N84W	13N	Bedding/Banding/Foliation
79.1	0.0	159	N69E	89S	Partially Open Joint/Fracture
89.2	0.0	138	N48E	86S	Partially Open Joint/Fracture
93.4	0.0	11	N79W	15N	Bedding/Banding/Foliation
95.6	0.0	21	N69W	12N	Bedding/Banding/Foliation
97.0	0.0	320	S50W	13N	Bedding/Banding/Foliation
98.7	0.0	150	N60E	90S	Partially Open Joint/Fracture
98.7	0.0	341	S71W	18N	Bedding/Banding/Foliation
101.2	0.0	325	S55W	13N	Bedding/Banding/Foliation
103.5	0.0	327	S57W	9N	Bedding/Banding/Foliation
104.1	0.0	355	S85W	15N	Partially Open Joint/Fracture

Residential Well
Planar Feature Table

Project No.:	**0963003386**	**Client:**	**Sunoco Pipeline LP**
Site Name:	**108 Spencer Road**	**Logging Date:**	**02/18/2025**
Location:	**Washington Crossing, PA**	**Revision Date:**	**04/05/2025**

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
106.3	0.0	15	N75W	17N	Bedding/Banding/Foliation
107.8	8.4	25	N65W	14N	Minor Open Joint/Fracture
112.7	0.0	352	S82W	14N	Bedding/Banding/Foliation
114.5	0.0	117	N27E	76S	Partially Open Joint/Fracture
121.3	0.0	353	S83W	12N	Bedding/Banding/Foliation
124.2	0.0	136	N46E	85S	Partially Open Joint/Fracture
125.2	2.8	4	N86W	19N	Partially Open Joint/Fracture
131.2	0.0	139	N49E	88S	Partially Open Joint/Fracture
132.1	0.0	358	S88W	17N	Bedding/Banding/Foliation
132.4	0.0	143	N53E	85S	Partially Open Joint/Fracture
136.4	0.0	26	N64W	15N	Bedding/Banding/Foliation
149.8	0.0	127	N37E	87S	Partially Open Joint/Fracture
155.2	0.0	183	S87E	81S	Partially Open Joint/Fracture
156.8	0.0	168	N78E	64S	Partially Open Joint/Fracture
161.5	1.1	344	S74W	15N	Partially Open Joint/Fracture
168.7	0.0	353	S83W	11N	Bedding/Banding/Foliation
175.7	0.0	2	N88W	19N	Bedding/Banding/Foliation
178.2	0.0	142	N52E	81S	Partially Open Joint/Fracture
178.9	0.0	137	N47E	84S	Partially Open Joint/Fracture
179.3	0.0	312	S42W	12N	Bedding/Banding/Foliation
181.5	0.0	342	S72W	10N	Bedding/Banding/Foliation
183.8	0.0	354	S84W	9N	Bedding/Banding/Foliation
184.7	0.0	344	S74W	15N	Bedding/Banding/Foliation
196.3	0.0	350	S80W	12N	Bedding/Banding/Foliation
204.5	0.0	143	N53E	84S	Filled Fracture/Joint
206.8	0.0	145	N55E	81S	Filled Fracture/Joint
208.9	0.0	349	S79W	10N	Bedding/Banding/Foliation
212.9	0.0	20	N70W	20N	Bedding/Banding/Foliation
224.9	0.0	165	N75E	86S	Partially Open Joint/Fracture
227.0	0.0	143	N53E	87S	Partially Open Joint/Fracture
227.8	0.0	351	S81W	80N	Partially Open Joint/Fracture

Residential Well
Planar Feature Table

Project No.:	**0963003386**	**Client:**	**Sunoco Pipeline LP**
Site Name:	**108 Spencer Road**	**Logging Date:**	**02/18/2025**
Location:	**Washington Crossing, PA**	**Revision Date:**	**04/05/2025**

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
230.9	0.0	156	N66E	84S	Partially Open Joint/Fracture
234.7	0.0	20	N70W	12N	Bedding/Banding/Foliation
239.8	12.8	290	S20W	18N	Partially Open Joint/Fracture
243.6	0.0	24	N66W	14N	Bedding/Banding/Foliation
244.6	0.0	8	N82W	23N	Bedding/Banding/Foliation
245.0	0.0	127	N37E	83S	Partially Open Joint/Fracture
252.3	0.0	357	S87W	17N	Bedding/Banding/Foliation
257.1	12.2	8	N82W	26N	Partially Open Joint/Fracture
259.3	0.0	8	N82W	15N	Bedding/Banding/Foliation
260.2	0.0	137	N47E	83S	Partially Open Joint/Fracture
261.5	0.0	130	N40E	73S	Partially Open Joint/Fracture
261.7	0.0	129	N39E	79S	Partially Open Joint/Fracture
261.8	0.0	137	N47E	75S	Partially Open Joint/Fracture
265.0	0.0	90	N0E	83S	Partially Open Joint/Fracture
265.3	0.0	348	S78W	17N	Bedding/Banding/Foliation
270.9	0.0	295	S25W	86N	Partially Open Joint/Fracture
276.6	0.0	141	N51E	81S	Partially Open Joint/Fracture

RW-1
Planar Feature Table

Project No.:	**0963003386**	**Client:**	**Sunoco Pipeline LP**
Site Name:	**108 Spencer Road**	**Logging Date:**	**04/03/2025**
Location:	**Upper Makefield Twp.**	**Revision Date:**	**04/05/2025**

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
27.2	0.0	137	N47E	87S	Partially Open Joint/Fracture
28.4	0.0	257	S13E	72S	Partially Open Joint/Fracture
31.1	0.0	131	N41E	76S	Partially Open Joint/Fracture
35.4	0.9	138	N48E	80S	Partially Open Joint/Fracture
36.6	0.0	137	N47E	83S	Partially Open Joint/Fracture
37.0	0.7	135	N45E	81S	Partially Open Joint/Fracture
39.6	0.8	310	S40W	82N	Partially Open Joint/Fracture
41.4	0.0	176	N86E	73S	Partially Open Joint/Fracture
42.5	0.0	343	S73W	13N	Bedding/Banding/Foliation
44.2	0.0	11	N79W	14N	Bedding/Banding/Foliation
45.2	0.0	327	S57W	15N	Bedding/Banding/Foliation
46.7	0.0	28	N62W	25N	Partially Open Joint/Fracture
47.6	0.0	144	N54E	82S	Partially Open Joint/Fracture
48.4	0.0	275	S5W	0N	Partially Open Joint/Fracture
53.5	0.0	139	N49E	79S	Filled Fracture/Joint
56.0	0.0	357	S87W	17N	Bedding/Banding/Foliation
59.8	0.0	143	N53E	80S	Filled Fracture/Joint
61.8	0.0	165	N75E	80S	Filled Fracture/Joint
63.0	0.0	153	N63E	82S	Filled Fracture/Joint
65.6	0.0	145	N55E	80S	Filled Fracture/Joint
66.7	0.0	138	N48E	80S	Filled Fracture/Joint