The Sizewell C Project

6.14 Environmental Statement Addendum
Volume 3: Environmental Statement Addendum Appendices
Chapter 2 Main Development Site Appendix 2.13.A
Phase 2 Geo-Environmental Interpretative Report Part 19 of 25

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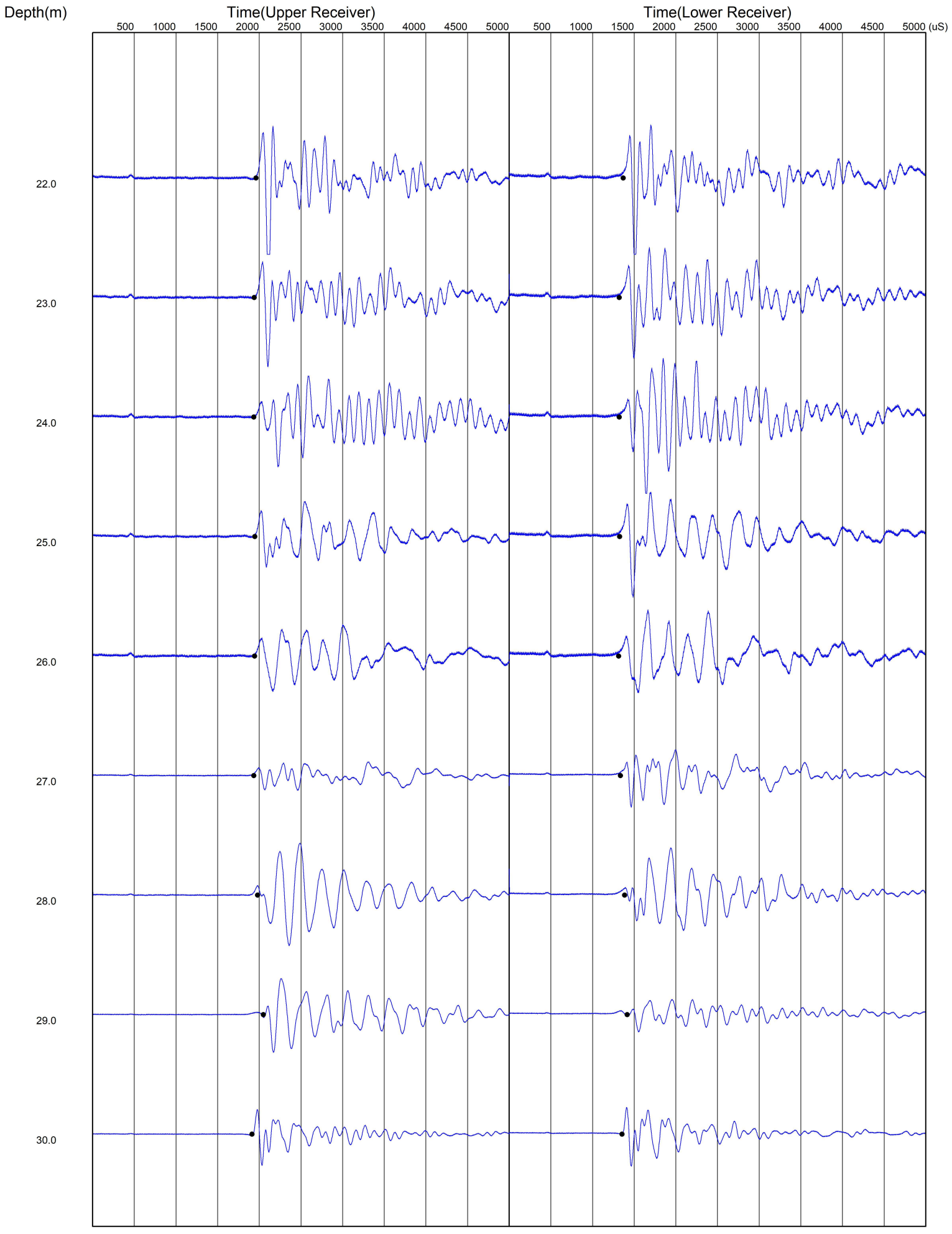
Applicable Regulation:	Regulation 5(2)(a)
PINS Reference Number:	EN010012

January 2021

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

SizewellC
Doing the power of good for Britain
EDF CGN

P Wave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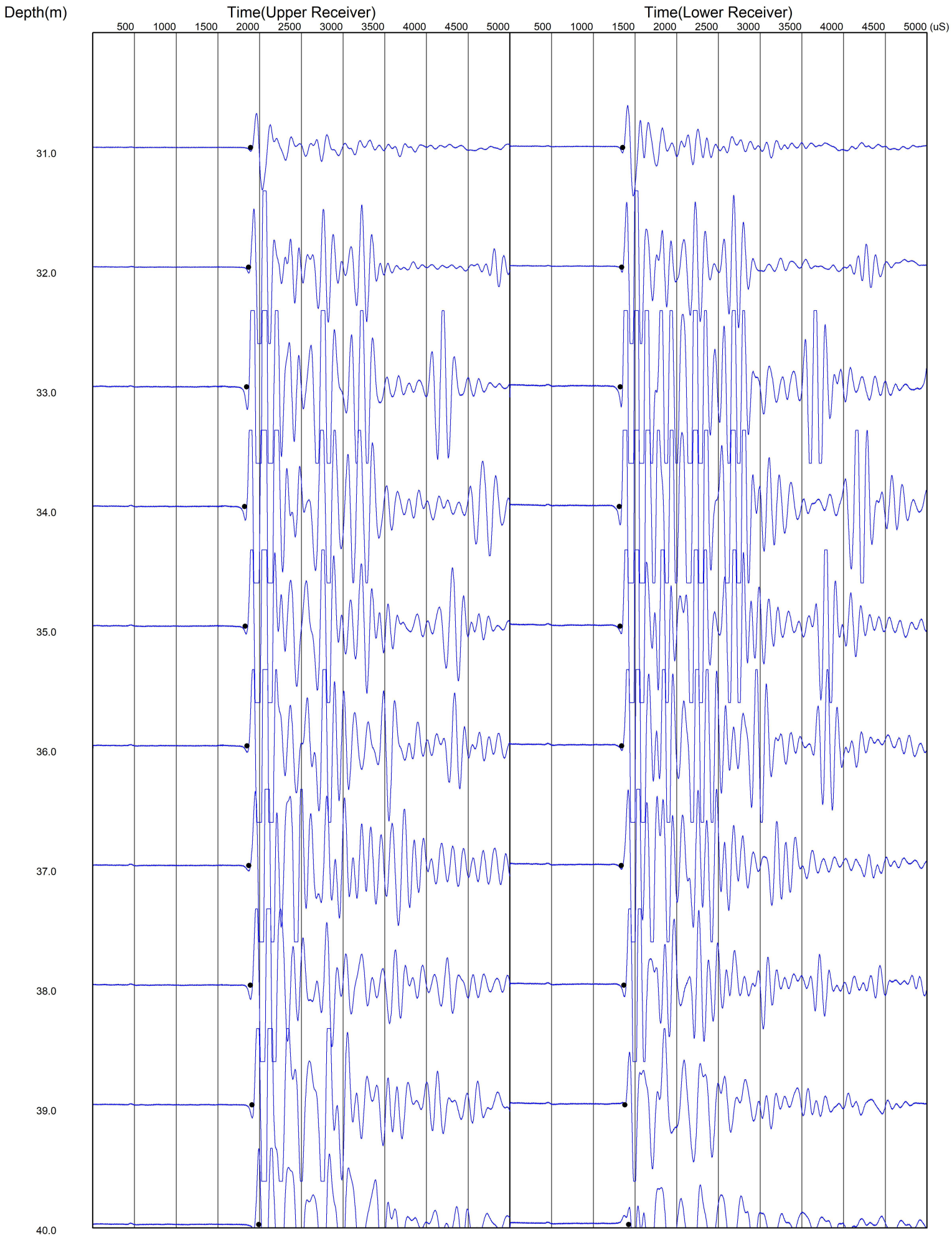
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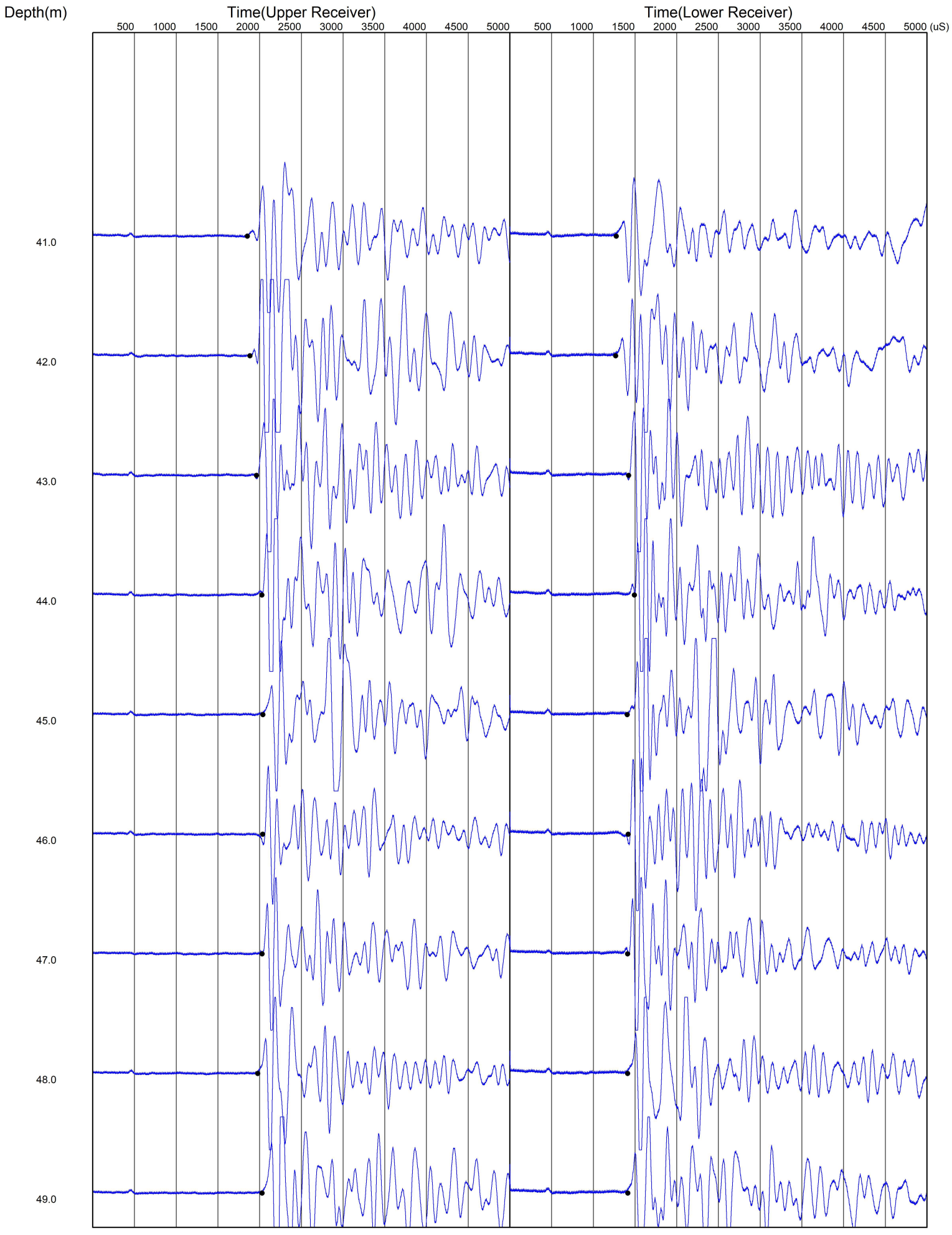
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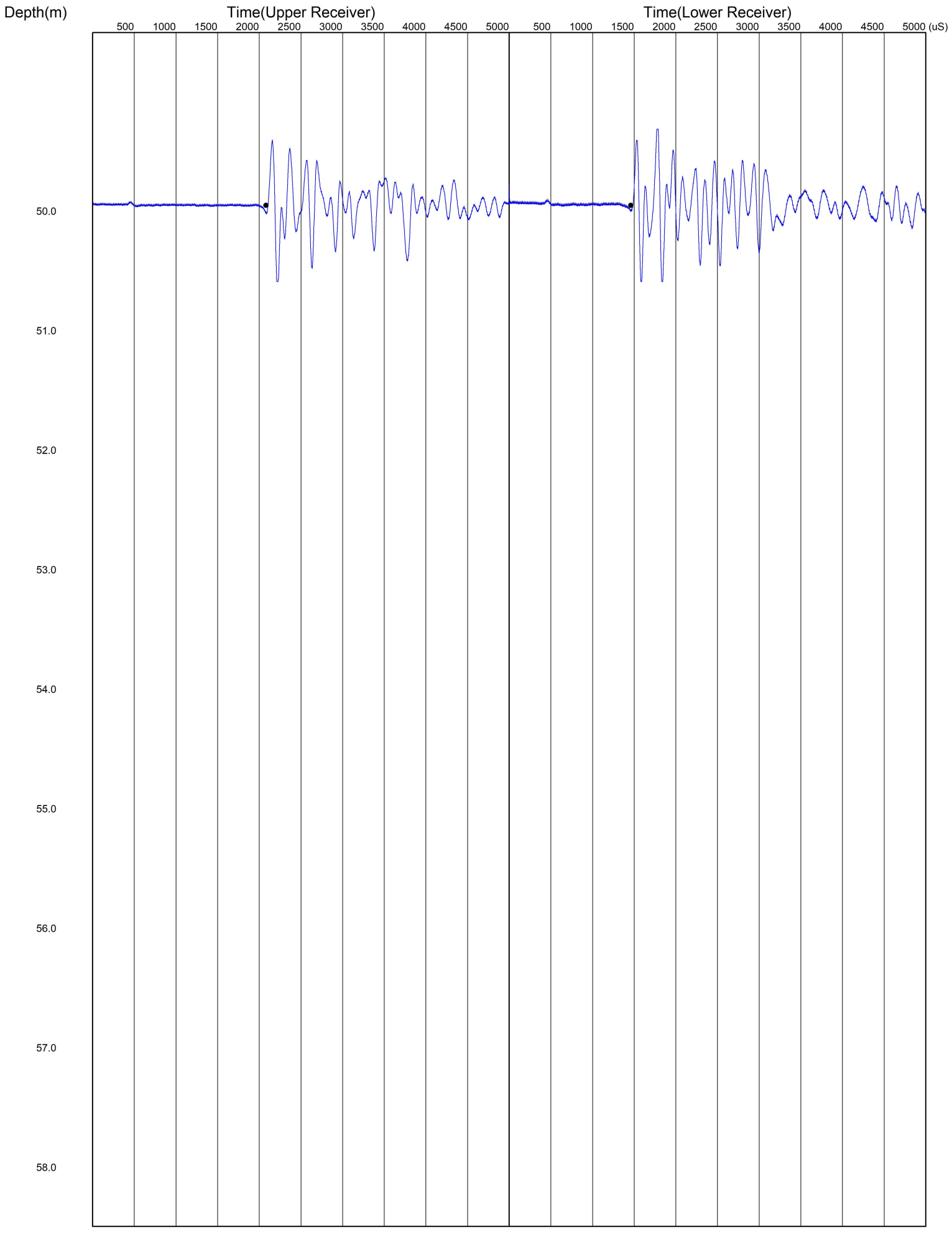
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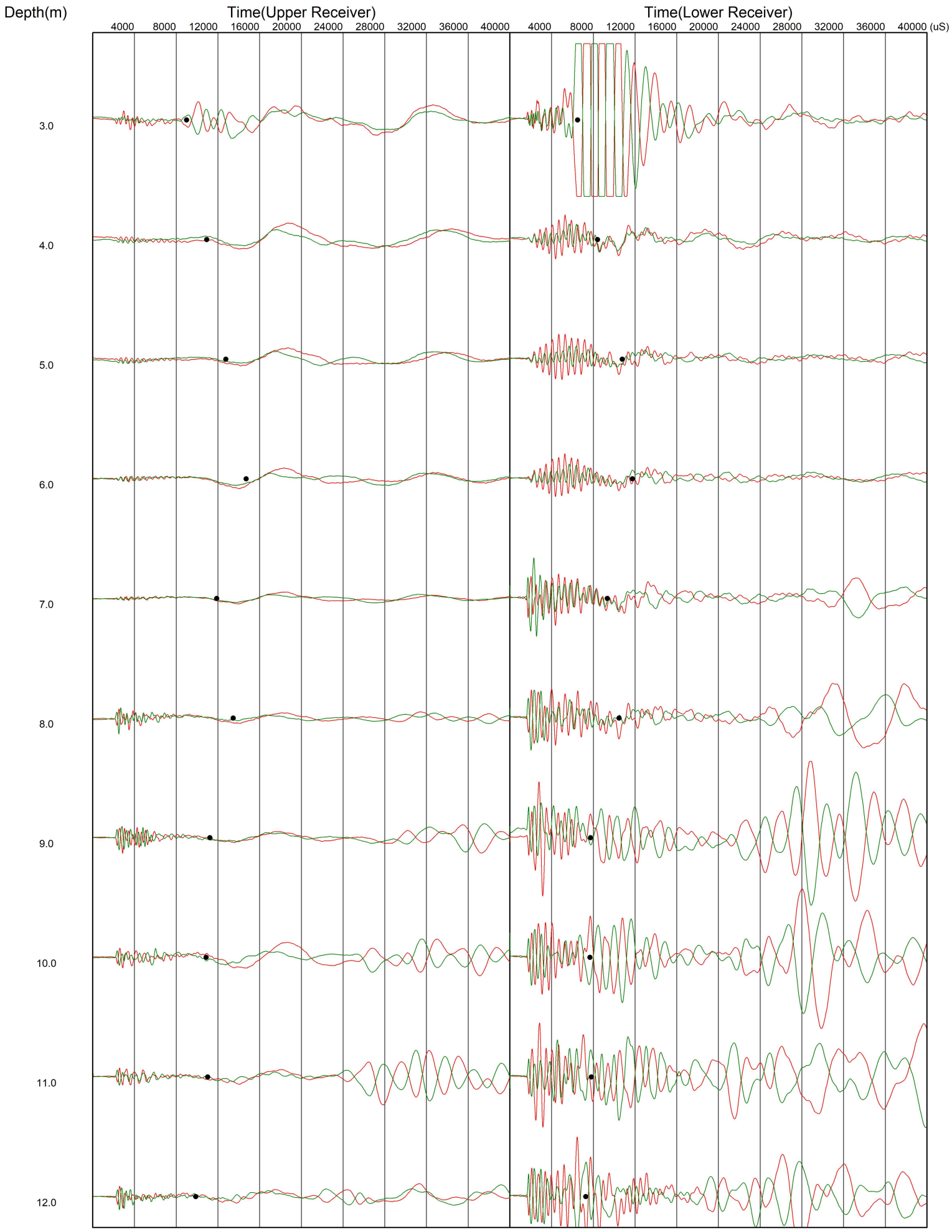
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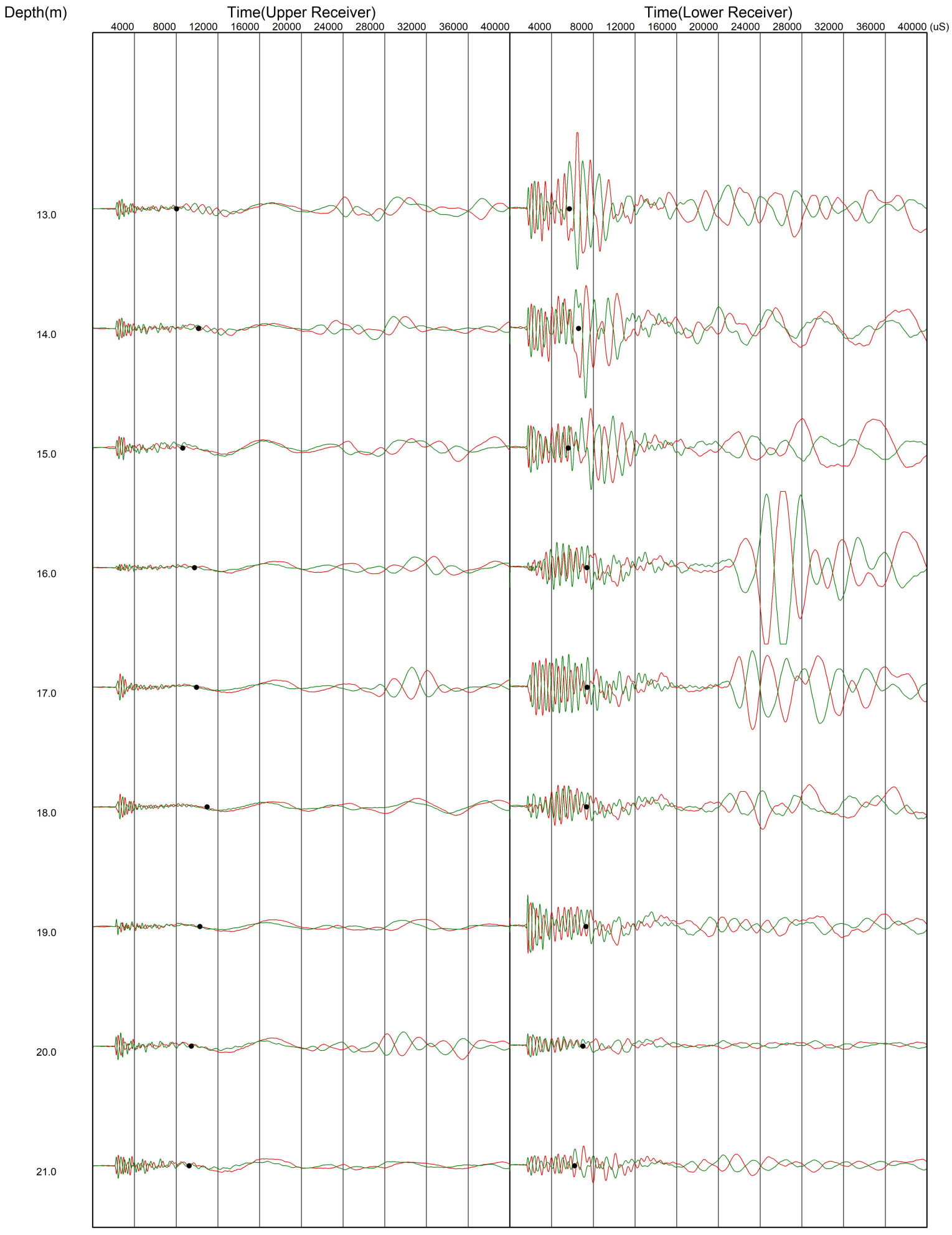
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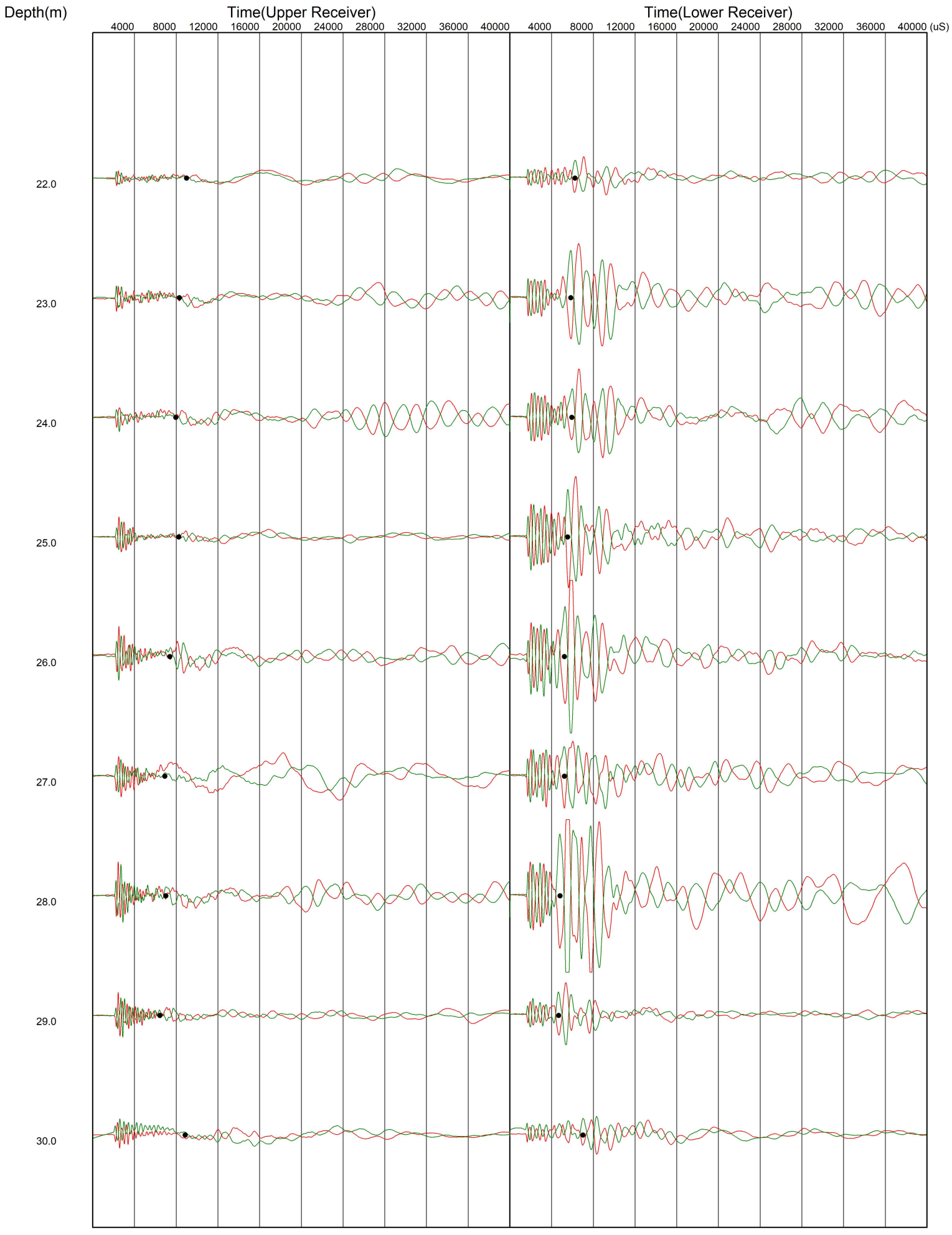
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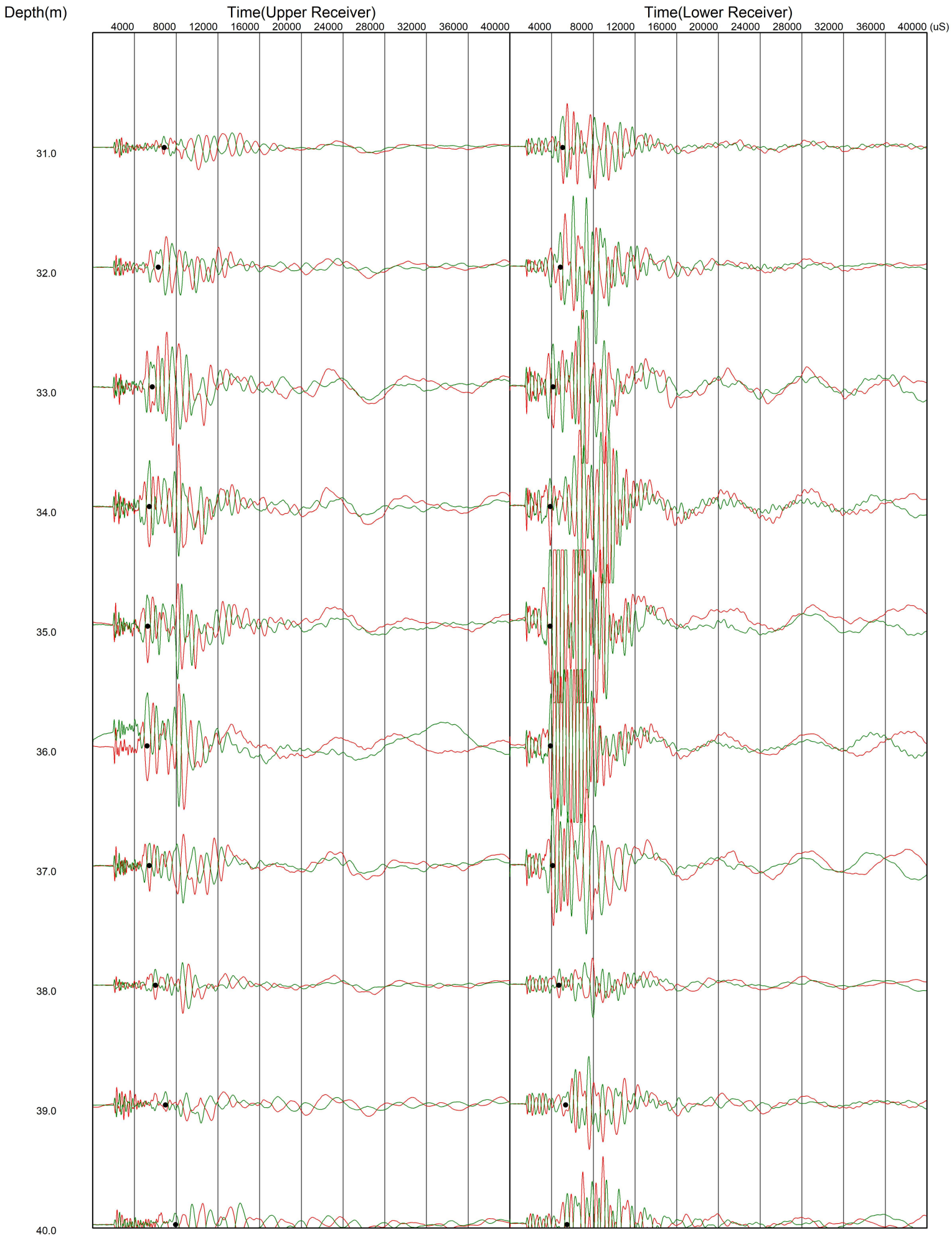
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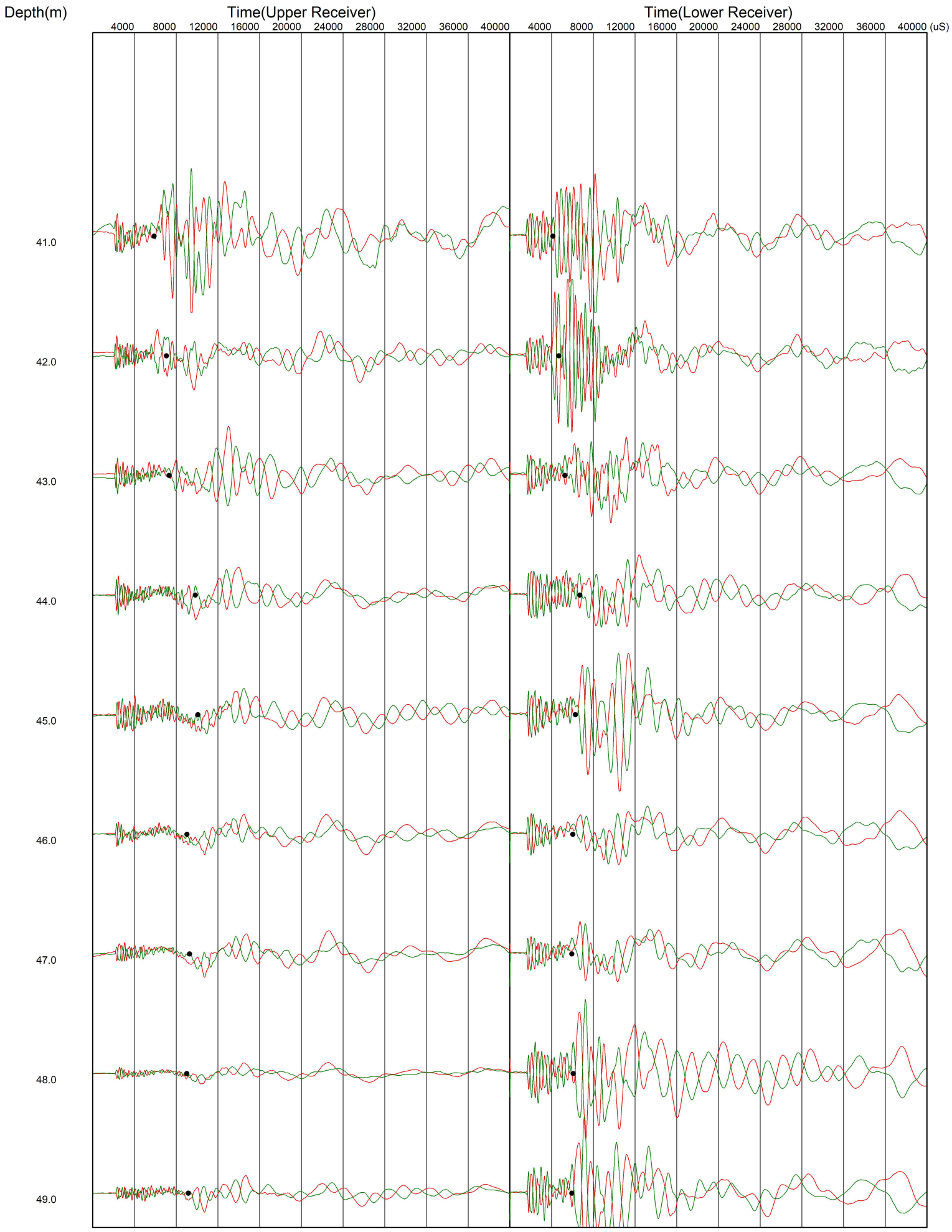
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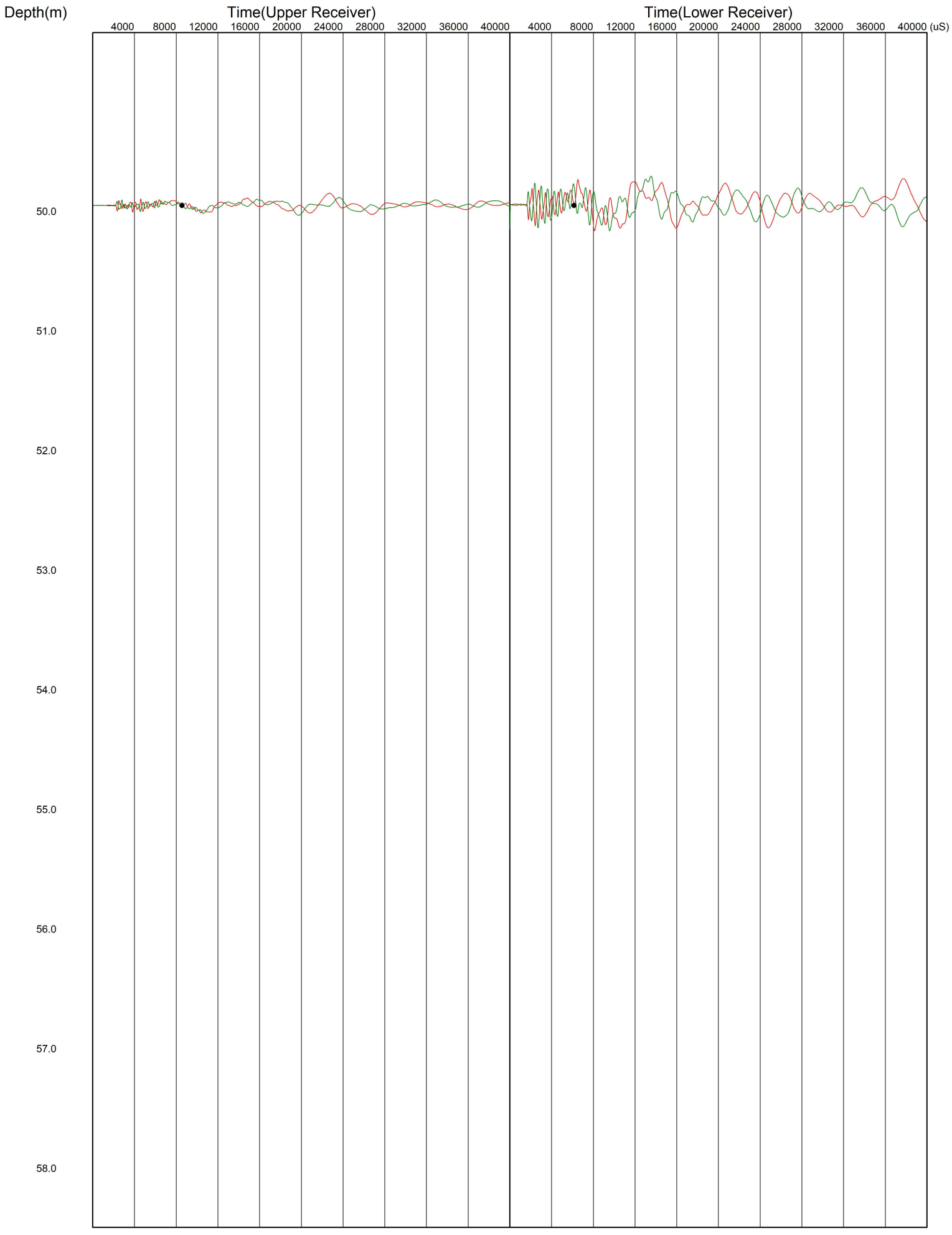
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EUROPEAN GEOPHYSICAL SERVICES

REPORT ON THE

IMAGING AND GEOPHYSICAL LOGGING

OF

THREE BOREHOLES

AT

SIZEWELL C GROUND INVESTIGATION

Prepared For:

STRUCTURAL SOILS LTD

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Report by:	M. Kynaston	09.01.20
Checked by:	M. Magill	10.01.20

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1.0 INTRODUCTION

At the request of Structural Soils Ltd., geophysical logging and imaging was carried out in three boreholes at the Sizewell C ground investigation project.
The work was carried out by European Geophysical Services on multiple visits between the 28th of August and the 11th September, 2019.

The following boreholes were logged:-

DBCH2019-1

	Log / Tool
28.8.19	**Crag Sands**
	P&S Wave suspension logger
10.09.19 11.09.19	**Below Crag Sands**
	Optical Imager
	Acoustic Imager
	Caliper
	Natural Gamma
	Focused Resistivity
	Full Wave Sonic
	P&S Wave suspension logger

1.0 INTRODUCTION

DBCH2019-2

	Log / Tool
28.8.19 29.8.19	**Crag Sands**
	P&S Wave suspension logger
09.09.19 10.09.19	**Below Crag Sands**
	Optical Imager
	Acoustic Imager
	Caliper
	Natural Gamma
	Focused Resistivity
	Full Wave Sonic
	P&S Wave suspension logger

DBCH2019-4

	Log / Tool
05.09.19	**Crag Sands**
	P&S Wave suspension logger
29.08.19 30.08.19	**Below Crag Sands**
	Optical Imager
	Acoustic Imager
	Caliper
	Natural Gamma
	Focused Resistivity
	Full Wave Sonic
	P&S Wave suspension logger

2.0 THE GEOPHYSICAL LOGGING METHODS

The Equipment and Field Procedure

The equipment consisted of a fully digital logging system with a 600m capacity winch mounted cable powered by a petrol generator.

All logging data was recorded digitally for reprocessing and archiving purposes.

With the exception of the optical imager and fluid logs, all logs were run from the bottom of the boreholes upward. The P & S suspension logger was run at 0.5m intervals.

In each instance, ground level was used as the borehole datum.

The optical imager survey was carried out first to avoid the disturbance of the fluid by the geophysical logs which may affect water clarity.

Optical Borehole Imager (Optical)

A precision-machined prism and CCD camera assembly permits a high definition video image of the borehole wall to be captured in a variety of horizontal and vertical resolutions. The resulting image is digitised in the sonde for transmission to the surface acquisition system.

The image is then orientated to Magnetic North and displayed as an unwrapped image log. This enables a detailed structural interpretation to be made if required.

For the best results the optical imager should be run above the water level or in clean, clear fluid. The logging tool is centralised during data acquisition by two sets of bow springs. The bow springs are adjusted to a variety of borehole diameters prior to acquisition. The image is recorded on the way down the borehole to limit disturbance to the clarity of the water in the borehole by the logging tool.

Images and associated data are viewed in real time during the data acquisition.

The orientation system employs a flux gate magnetometer and therefore the recorded data within approximately one metre of magnetic steel casing is un-orientated. This is corrected manually during the post-processing stage

2.0 THE GEOPHYSICAL LOGGING METHODS

Acoustic Borehole Imager (Amplitude and Travel Time)

This tool scans the borehole wall through 360 degrees and records the acoustic reflection of the resulting signal in terms of amplitude and transit time (the travel time from the tool to the borehole wall). This technique requires a fluid filled borehole with a minimum of suspended solids, polymers or muds within the fluid column.

This sensitive technique responds to small diameter changes, rugosity and the acoustic nature of the borehole wall. It is primarily used for detecting fractures and other discontinuities. The resultant images are orientated (to magnetic North) 0° through 90°, 180° and 270° back to 0°.

The logging tool is centralised during data acquisition by two sets of bow springs. The bow springs are adjusted to a variety of borehole diameters prior to acquisition. The image is viewed on the way down the borehole to allow fine tuning of the acquisition parameters. The settings are then adjusted and the image recorded on the way up the borehole which ensures a constant line speed during acquisition.

Images and associated data are viewed in real time during the data acquisition.

The orientation system employs a flux gate magnetometer and therefore the recorded data within approximately one metre of magnetic steel casing is un-orientated. This is corrected manually during the post-processing stage

Caliper

This tool measures the diameter of the borehole. It is used to check the integrity of the borehole lining, and where the borehole is unlined to identify zones of washout, breakout or fissures.

Natural Gamma

The tool measures the naturally occurring gamma radiation found in rocks and sediments. It is mainly used to detect the clays that contain potassium K^{40}, though the U^{238} series of elements and the Th^{232} series of elements also emit gamma radiation.

The higher the concentration of these clay minerals the greater the responses on the natural gamma log, thus, mudstones give a higher reading than sandstones for example.

Focused Resistivity Log (Res Deep and Res Shallow)

The Focused Resistivity tool uses Guard Electrodes to focus the current into the formation. This gives excellent vertical resolution and good penetration, especially in highly conductive borehole fluids where a Normal Resistivity Sonde would not be as effective.

2.0 THE GEOPHYSICAL LOGGING METHODS

The tool has two electrode spacing's to allow a deep and shallow depth of investigation.

The response of this log is a function of porosity, type of formation / mineralogy and its pore water quality. These logs aid in the identification of strata and quality of the pore water.

Full Wave Sonic (FWS)

This tool has been specially designed to provide a full wave form recording of sonic signals and uses fixed spaced transmitter – receivers.
The received signals are digitised at a fast sampling rate with high resolution. Data may be sampled at typically 5cm or 10cm intervals dependent upon resolution required.

The data is processed for Primary (P) wave velocity (or transit time) and amplitude.
This tool can only be used in fluid filled unlined boreholes.

Estimates of Secondary or Shear (S) wave velocity ***may only be obtained under suitable conditions***. These waves are normally identified by higher amplitudes and phase changes after the P wave arrivals.

S-wave arrivals occur after the P-wave. They are waves that have travelled across the borehole fluid to the rock as P-waves and have undergone P to S conversion. Shear waves which refract at the fluid/rock boundary at the S-wave critical angle travel through the rock at V_s and if modal conversion back to P wave occurs the waves can be received by the tool.

Results can be affected by the competency of the rock material, low velocity zones, irregular boundary conditions and complex interactions of non-direct P-waves and other fast waves. This last factor can be the main limiter on Shear wave identification in wireline logging.

P & S Wave (Vp & Vs)

This tool is suspended stationary in the borehole at depth positions of interest and allows simultaneous measurement of P wave (Vp) and S wave (Vs) velocities.

There two sets of receivers at a spacing of 2m and 3m from a transmitter. Each receiver contains two transducers, a piezo-electric device for the detection P waves, and a geophone for the detection of S waves. The time of the P and S wave first arrivals to the receivers are recorded. The distance between the receivers is 1m and the time taken is the difference between the arrival times to the two sets of receivers. As the distance travelled and the time taken is known the speed of the P and S waves can be calculated. By using the difference in arrival times between the two receivers any borehole effects are greatly reduced.

2.0 THE GEOPHYSICAL LOGGING METHODS

The transmitter operates as a dipole source producing energy in two directions, 180° out of phase. The transmitter pulses are directed perpendicular to the borehole wall. This type of source generates strong shear waves within the formation.

Results can be affected by the competency of the rock material, fractured zones, low velocity zones and irregular borehole diameters.

The P and S Suspension tool is 4.5m long. Readings cannot be taken closer than 3m to the water level and no deeper than 3m from the base. This tool can only be used in fluid filled unlined boreholes**.**

3.0 SITE DETAILS

Sizewell C Ground Investigation **OS Grid Ref (Compound) TM 4730 6394**

Sizewell Nuclear power station is located near the village of Sizewell, North of the town of Aldeburgh, in Suffolk. Sizewell C ground investigation took place to the immediate north of the B reactor, on level fields adjacent to the sea.

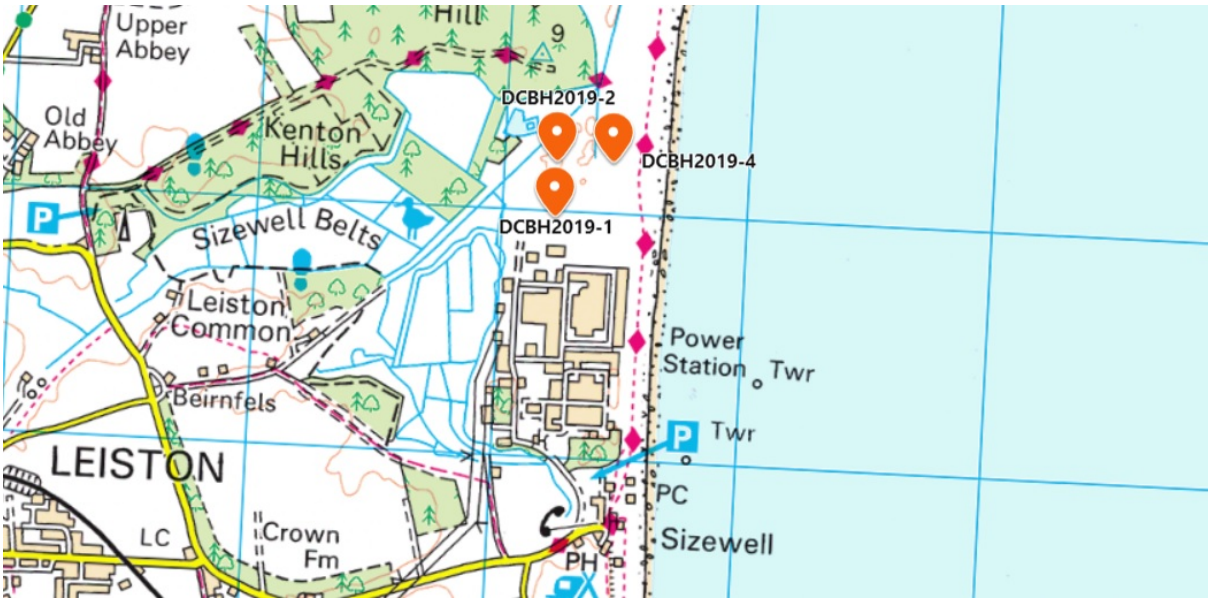

Figure 3.1 Map showing location of Sizewell A and B reactors, with logged borehole locations indicated on land to the north.

Figure 3.2 Locations of the three logged boreholes.

4.0 PROCESSING AND PRESENTATION OF RESULTS

4.1 PROCESSING

4.1.1 Imager Processing

The image of the borehole wall is presented in an unwrapped form with a horizontal scale marked 0° - North, through 90° - East, 180° - South, 270° - West, back to North.

Structural features and discontinuities have been picked from the images in the form of colour coded sinusoidal projections - see Appendix 1 for details. This 'Discontinuities' log is also presented with a horizontal scale marked 0° - North, through 90° - East, 180° - South, 270° - West, back to North.

Structure picking is not a definitive analysis of all the features within a borehole. Only the discontinuities that have a linear dip and direction are 'picked' and used in the analysis of the discontinuities. Features that do not have a regular sinusoidal shape do not have a linear dip and direction, 'best fit' picking of these features is done if approximately 80% coverage of the sinusoid can be achieved. Below this percentage the inaccuracy of the picking is too great and if included in any structural analysis may adversely skew the results. Vughs, solution holes, and angular break outs are examples of features not picked.

The apparent azimuth and apparent dip (i.e. relative to the borehole's azimuth and tilt) of the discontinuities are calculated using the diameter of the borehole and the geometric parameters of the sinusoids overlaid on the discontinuities. The final processing stage is to correct these apparent values to true azimuth (in relation to Magnetic North) and true dip (from horizontal) by correcting for the borehole's azimuth and tilt

4.1.2 P&S Wave Data Processing

P&S wave data have been processed in specialist software. This software displays whole P and S waveform for the different receivers, the software is used to pick the first arrivals times. The distance between the receivers is 1m and the time taken is the difference between the arrival times to the two sets of receivers. As the distance travelled and the time taken is known the velocity of the P and S waves can be calculated. Example waveforms and process screenshot are shown below (Figure 4.1).

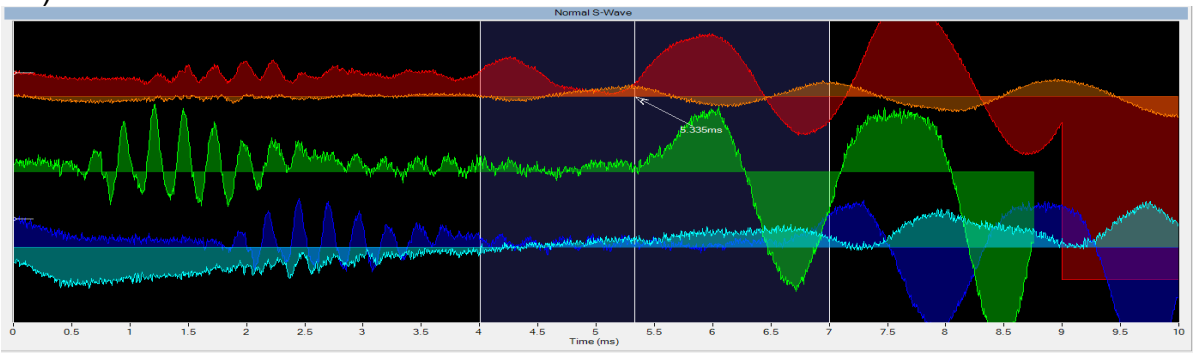

Figure 4.1 Example P and S wave data.

4.2 PRESENTATION

Detailed logs of the imager data have been produced at a vertical scale of 1:10 as A4 plots. All images have been referenced to Magnetic North. The borehole's azimuth and tilt are plotted alongside the images.
The final results are presented as a 'tadpole' plot (Discontinuities - True°). The horizontal position of the tadpole's head gives the defect's true dip angle and its tail points in the direction of the defect's azimuth. These logs are presented with a horizontal scale in degrees. By convention the top of the page is North (Magnetic) and the right hand edge of the paper is East.

Additionally rose diagrams and stereonets of the discontinuities have been produced, with the same orientation (North - top and East – right hand side of page) as above. The stereonets have been produced as 'Northern Hemisphere' form with equal angle projection. On the rose diagram the number of discontinuities over a 10° window have been expressed as a percentage of the total number of discontinuities encountered within the logged interval. The concentric rings represent 10% of the total discontinuities encountered. The true structural data has been presented in digital format as an excel file (xls).

Composite logs containing the geophysical data have also been produced. These logs have been presented as A4 plots for each borehole, and also in electronic (.LAS) format, both filtered and unfiltered (raw). Constructional details and information on each borehole are given in the headers of each log.

Processing of the geophysical data in the composite log is minimal, as the geophysical logs are calibrated to produce quantitative results. Unlike imager logs, no interpretation has been specified.

A Seismic log has also been produced for each borehole where Full Wave Sonic, and / or P&S Wave Velocity logging was carried out. Support logs have been provided alongside the seismic data for aid of interpretation.

5.0 BOREHOLE LOGGING CONSTRAINTS

- **Vehicle access restrictions**
  Good vehicular access across dry fields at the time of logging. 4x4 used.

- **Tool access restrictions**
  None

- **Borehole conditions / Risk to equipment**
  Poor borehole stability was encountered in each of the boreholes logged. In each borehole, collapses occurred. This lead to a process of using multiple casing pulls during the logging, in order to maximize the achievable open-hole logged interval. At times, the boreholes were too unstable even for this method to be effective. For instance when attempting to log the upper part of the formation - the 'Crag Sands' in DCBH2019-4, the borehole was collapsing as soon as a section of geobore had been removed.

  The borehole instability encountered meant that in each case, there are short intervals of missing data in the logs, where the boreholes had collapsed. Such limitations are detailed in the remarks section of the log header where applicable.

  In terms of data recorded, the seismic (P&S suspension logger & Full Wave Sonic) data was somewhat reduced in quality over zones of very poor formation competency, since the tool requires solid formation to generate and record P&S waves.

- **Lack of fluid filled column / Cloudy fluid**
  Fluid encountered within the boreholes was cloudy. As such, the acoustic imager was preferred over the optical imager.

- **Borehole construction / Casing**
  With the exception of the natural gamma, all tools required open-hole conditions for their operation. As such, logging was restricted to stable, unlined sections of the borehole.

Appendix 1

Discontinuity Classification.

Discontinuity	Colour	Classification Parameters
Major Fracture or Fissure	Blue	An open break in the formation, that is **continuous** across the entire image.
Minor Fracture or Fissure	Turquoise	A thin or closed break in the formation, that is **continuous or discontinuous** across the image.
Vein	Green	That may be **continuous or discontinuous** across the entire image.
Fabric	Red	Defines a feature generally metamorphic, igneous or sedimentary in origin that may be **continuous or discontinuous** across the image, such as bedding and cross-bedding, schistosity or gneissosity.
Intrusions	Purple	Intrusive features such as dykes and sills, generally **continuous** across the image
Unknown	Black	Faint features which **can not** be classified.

Appendix 2

Geophysical Logs

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Client: **Structural Soils**

Borehole: **DCBH2019-1**

Log Type: ***Composite***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220.3 263979.2** Elevation: **2.173**

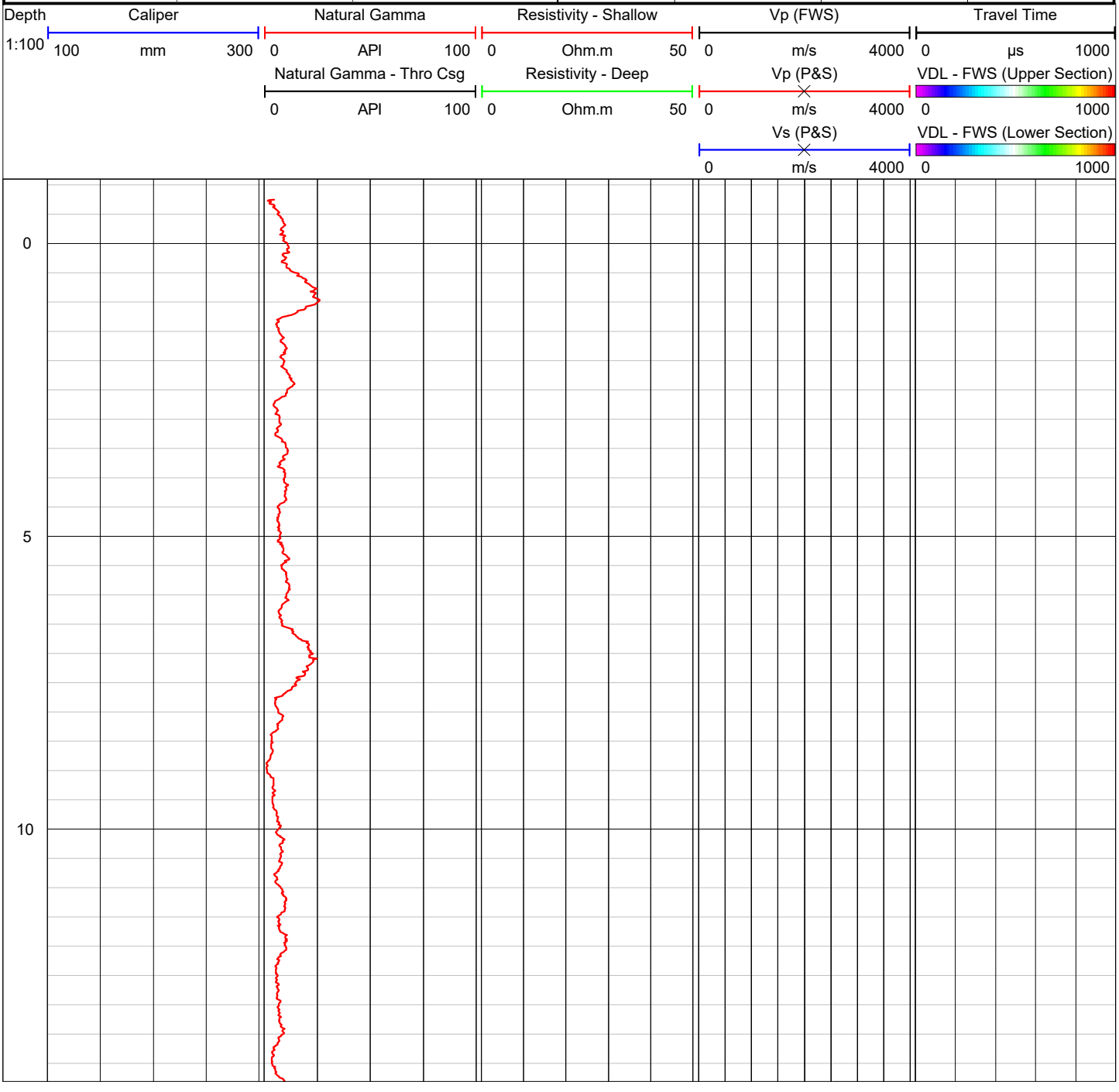
Drilled Depth: (m)	**120.0**	Date:	**10.9.19, 11.09.19**
Logged Depth: (m)	**107.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Borehole initially backfilled to 106m. Logged in sections. Casing pulls to 82.5m, then 67.5m, then 46m. Borehole collapsed to 58m after final casing pull, leading to missing section of log. Fluid cloudy throughout - poor optical image.
Logged Interval: (m)	**46.8-57.6; 67.5-105.2**		
Fluid Level: (m)	**0.0**		

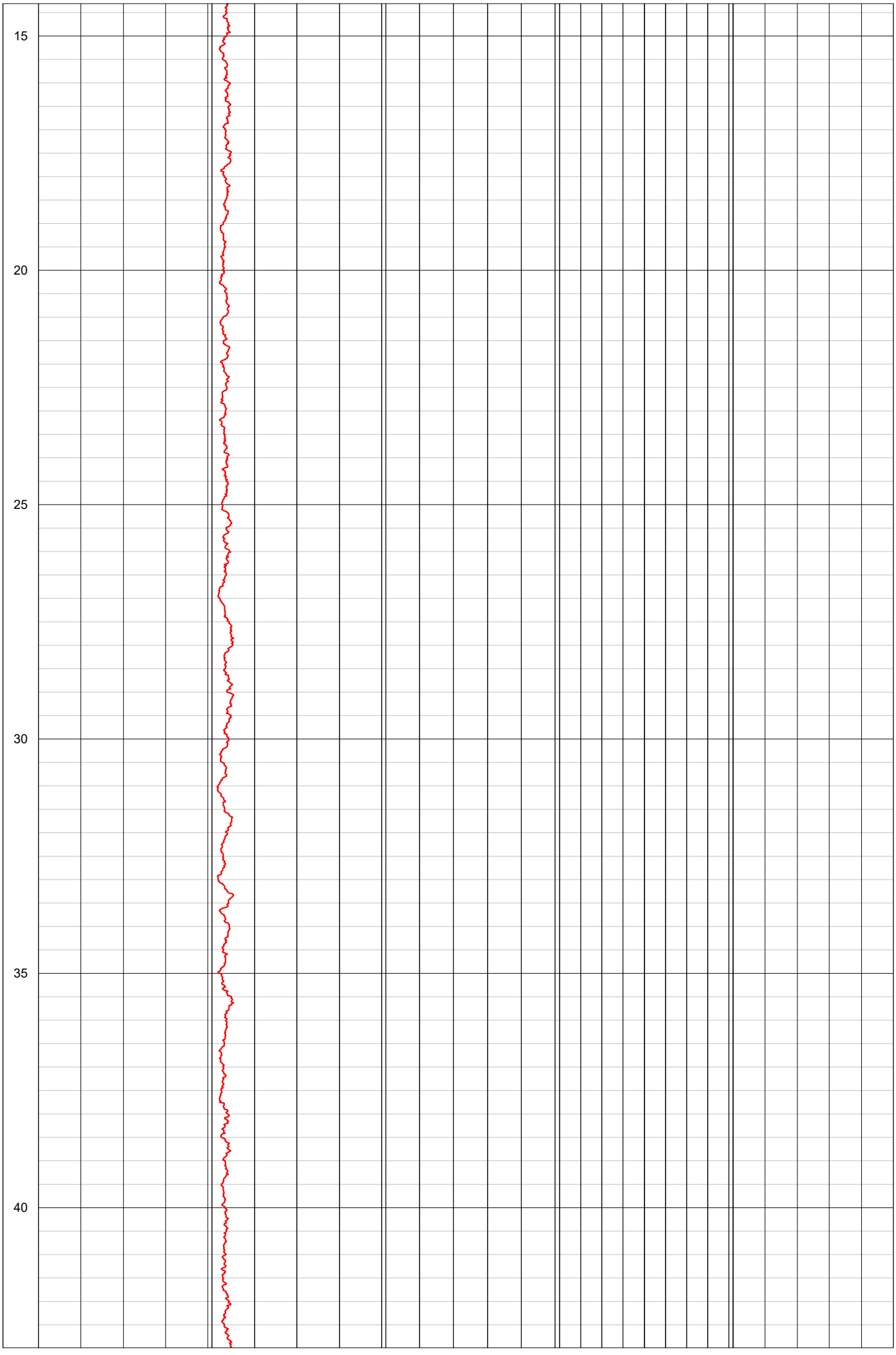
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.8**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**46.8**
Geobore	**127**	**0**	**As above**

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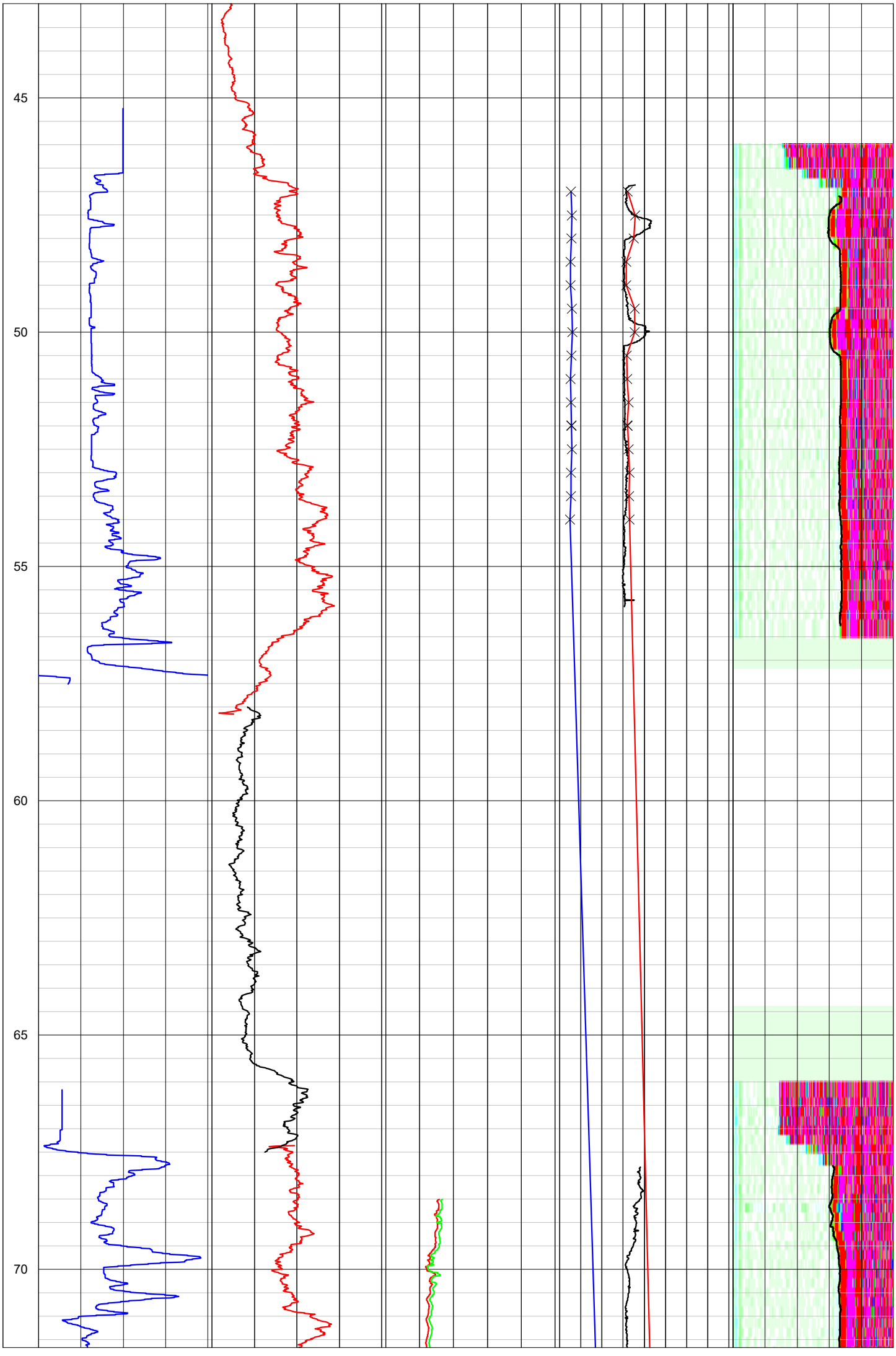
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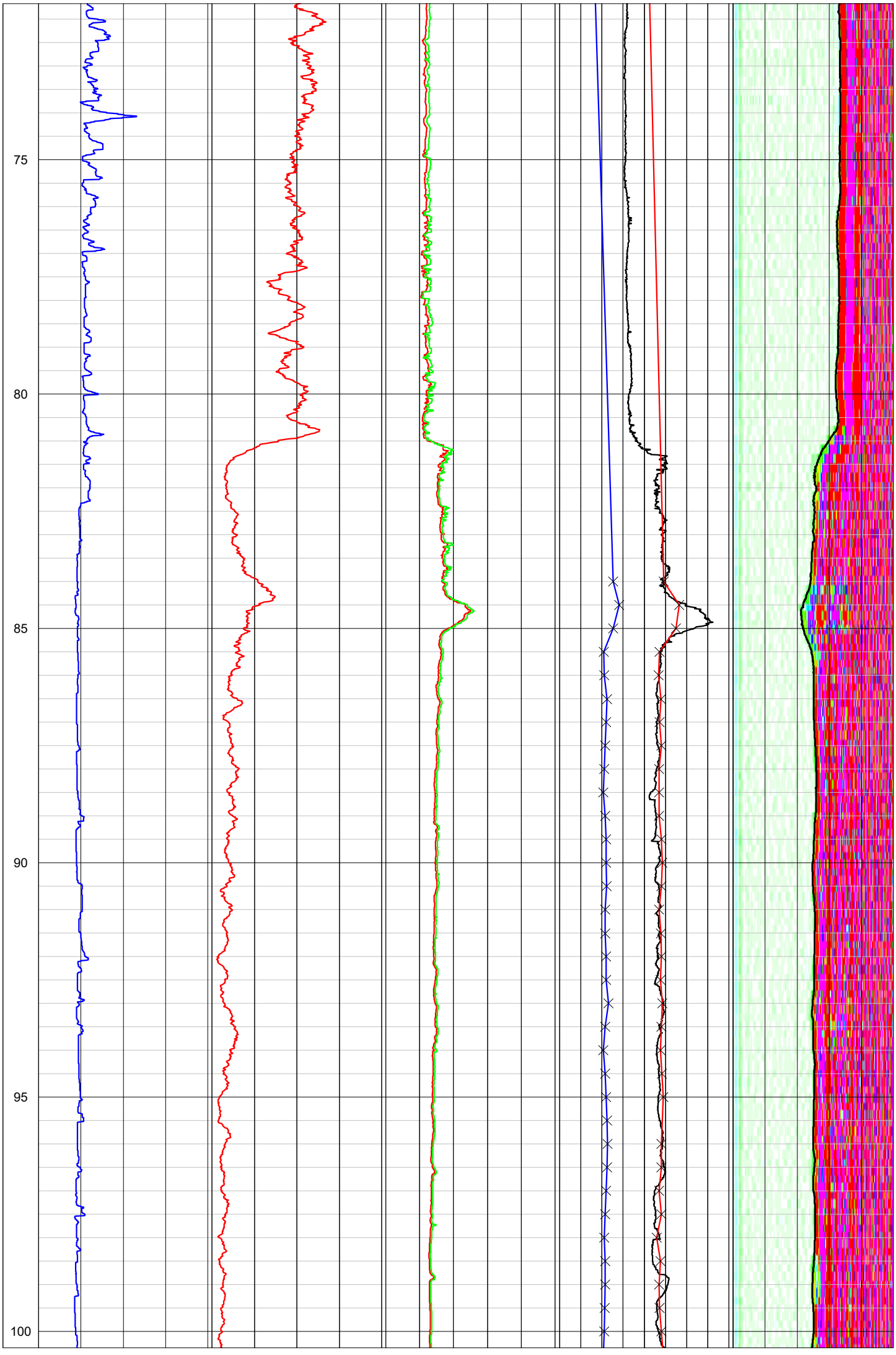
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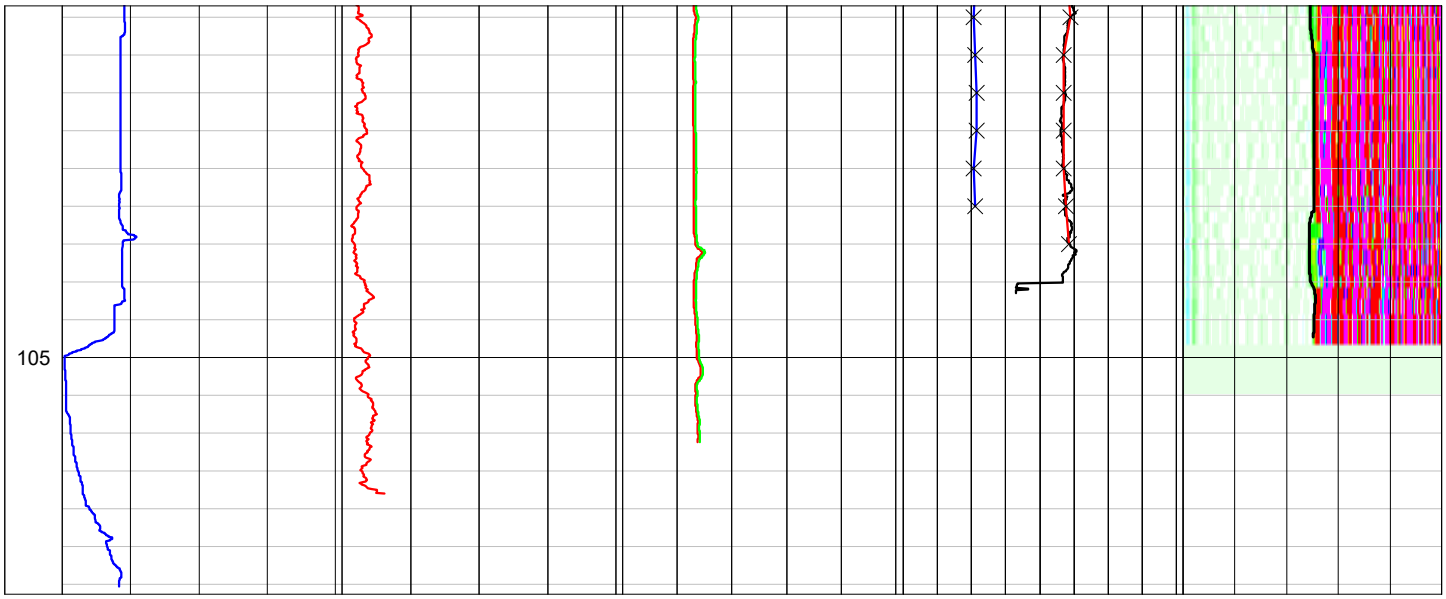
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Client: **Structural Soils**

Borehole: **DCBH2019-1**

Log Type: ***Image***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220.3 263979.2** Elevation: **2.173**

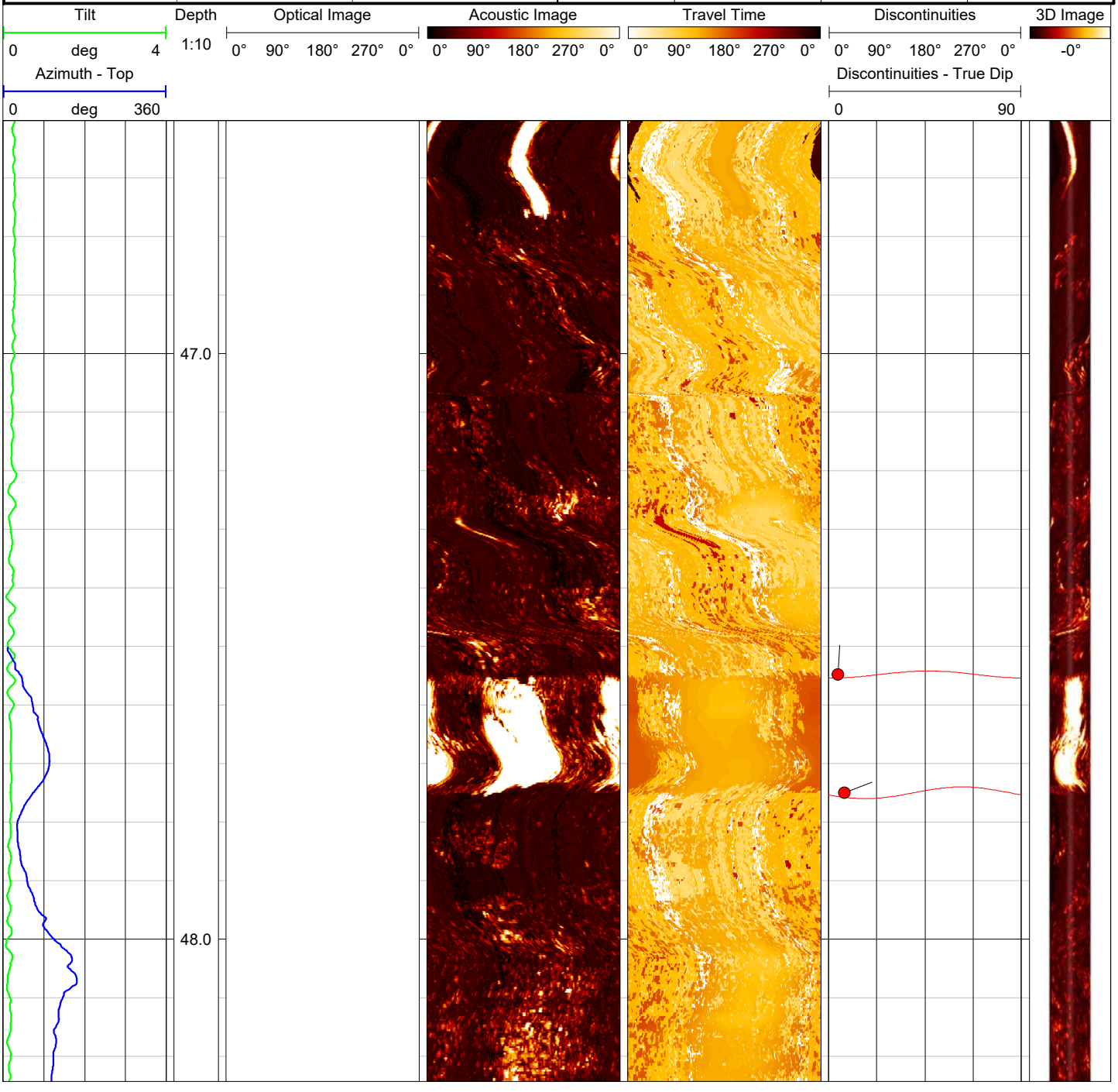
Drilled Depth: (m)	**120.0**	Date:	**10.9.19, 11.09.19**
Logged Depth: (m)	**106.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Borehole initially backfilled to 106m. Logged in sections. Casing pulls to 82.5m, then 67.5m, then 46m. Borehole collapsed to 58m after final casing pull, leading to missing section of log. Fluid cloudy throughout - poor optical image.
Logged Interval: (m)	**46.8-57.6; 67.5-105.2**		
Fluid Level: (m)	**0.0**		

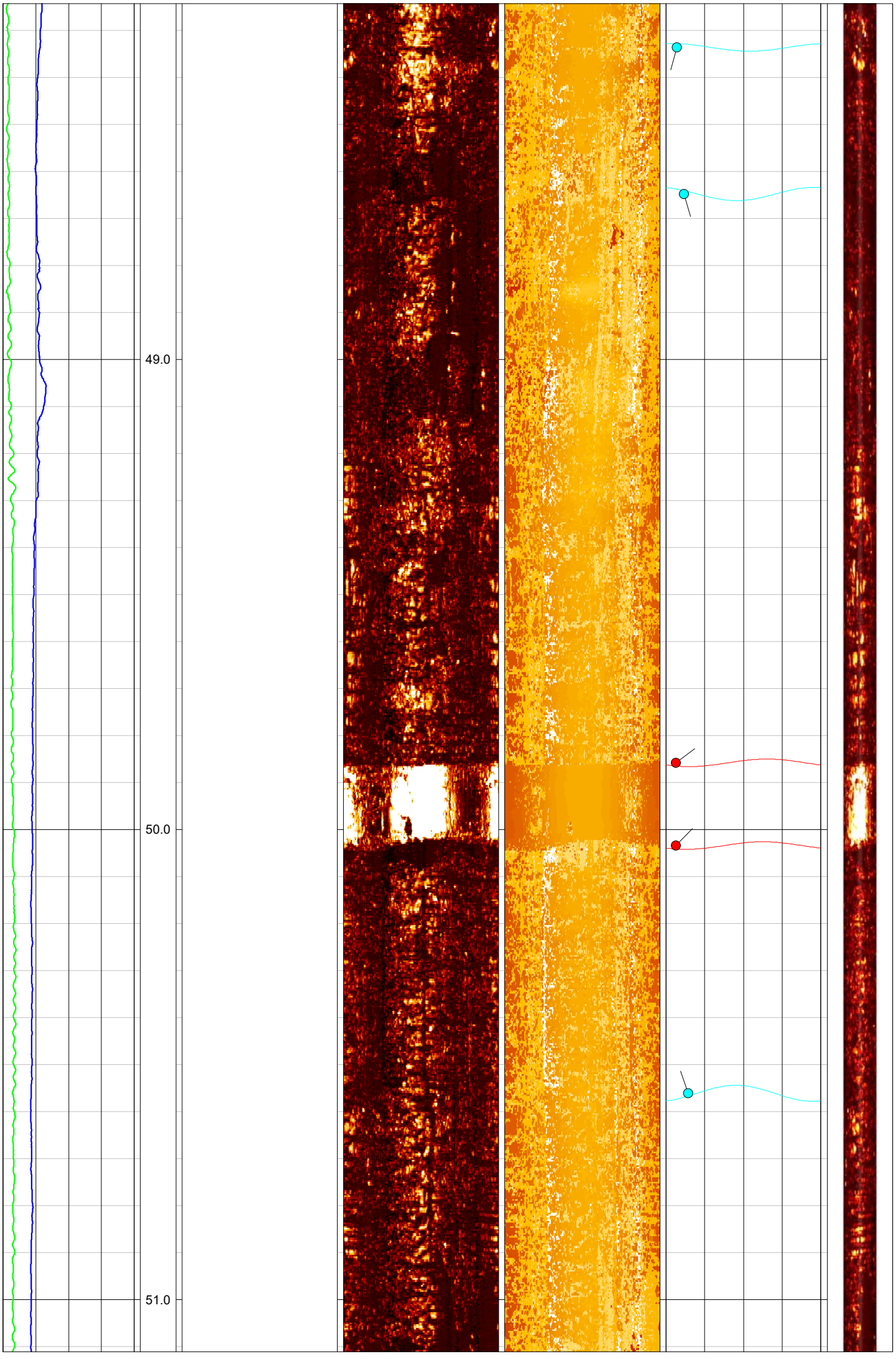
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.8**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**46.8**
Geobore	**127**	**0**	**As above**

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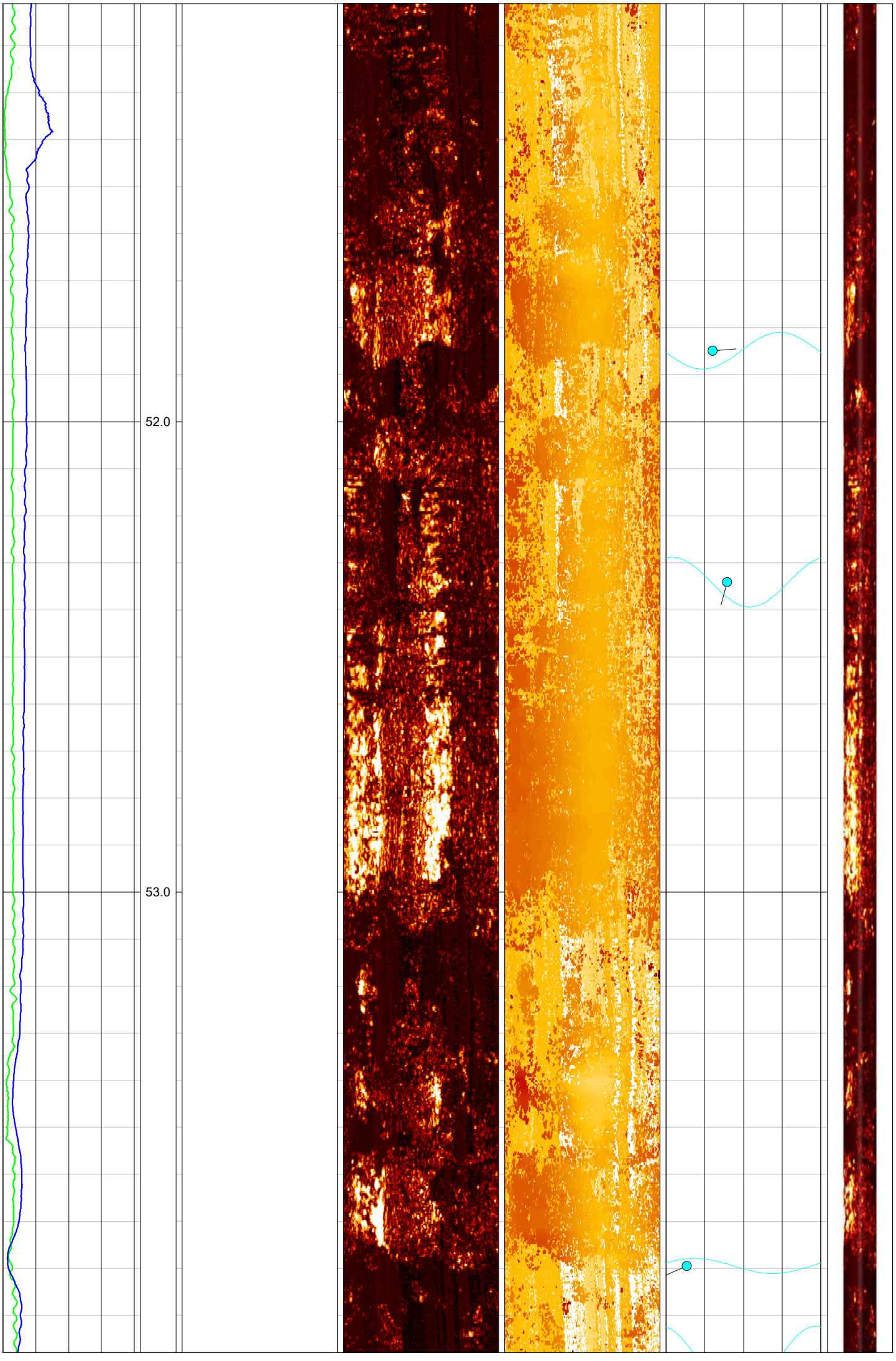
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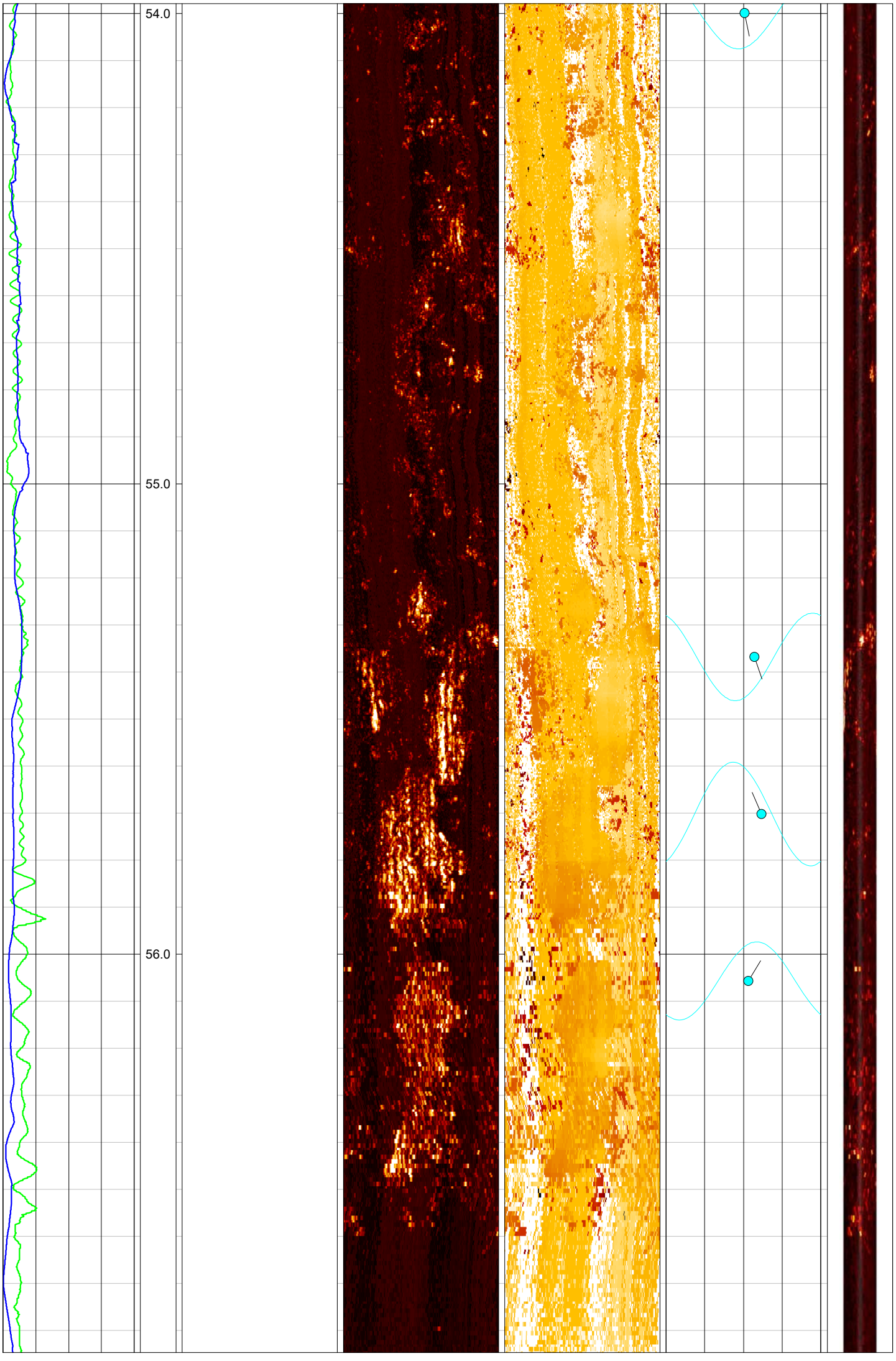
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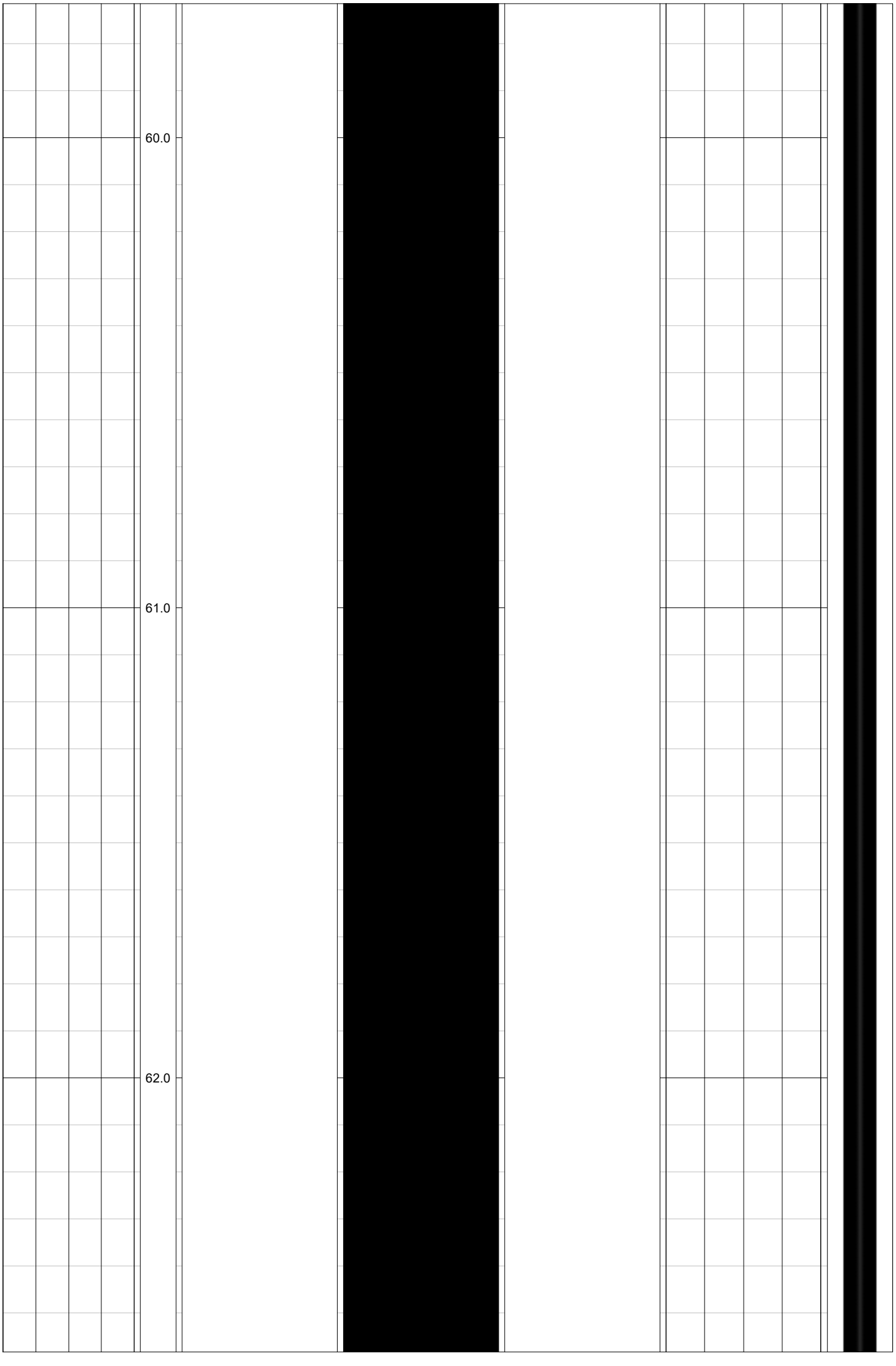
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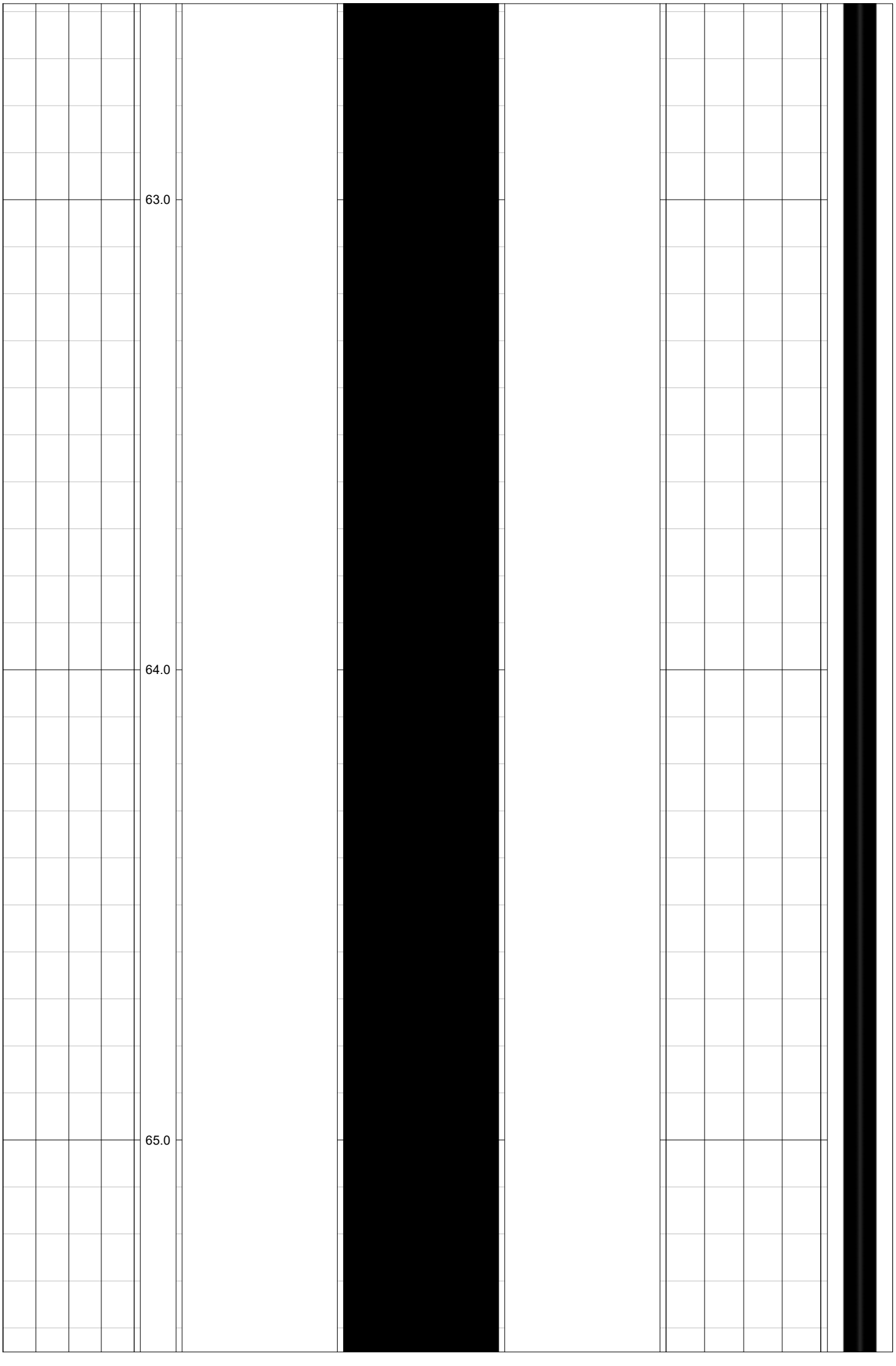
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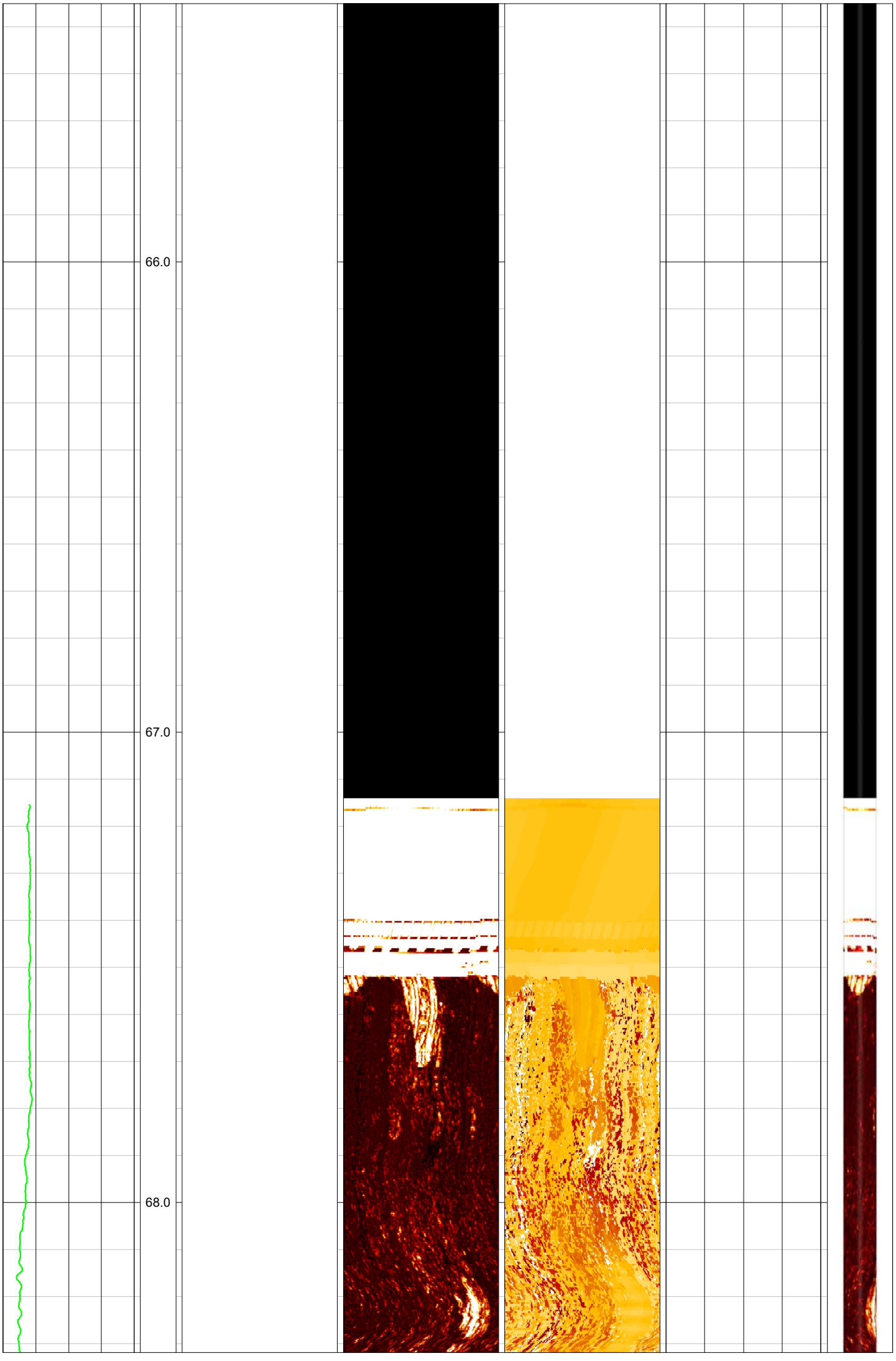
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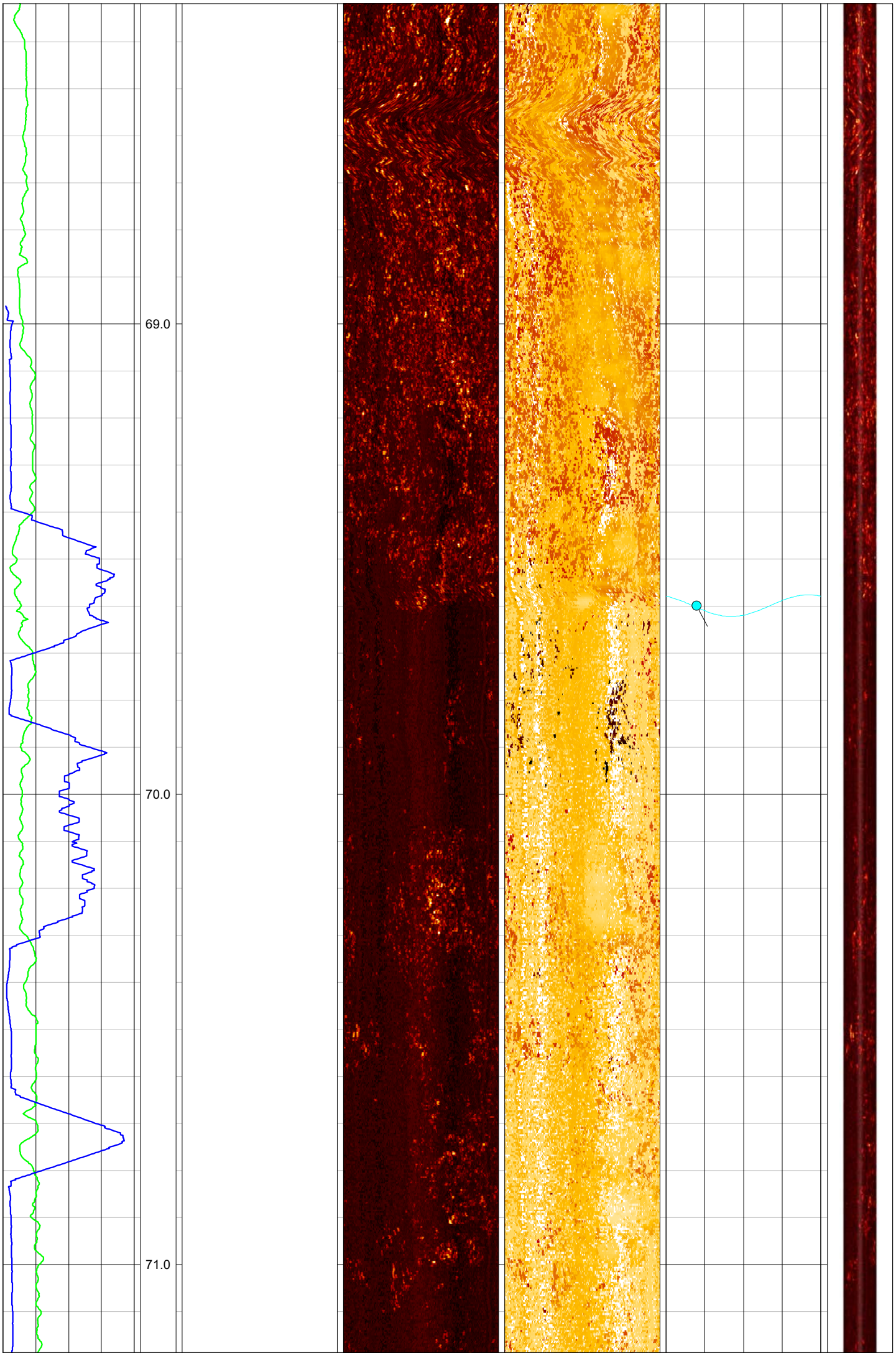
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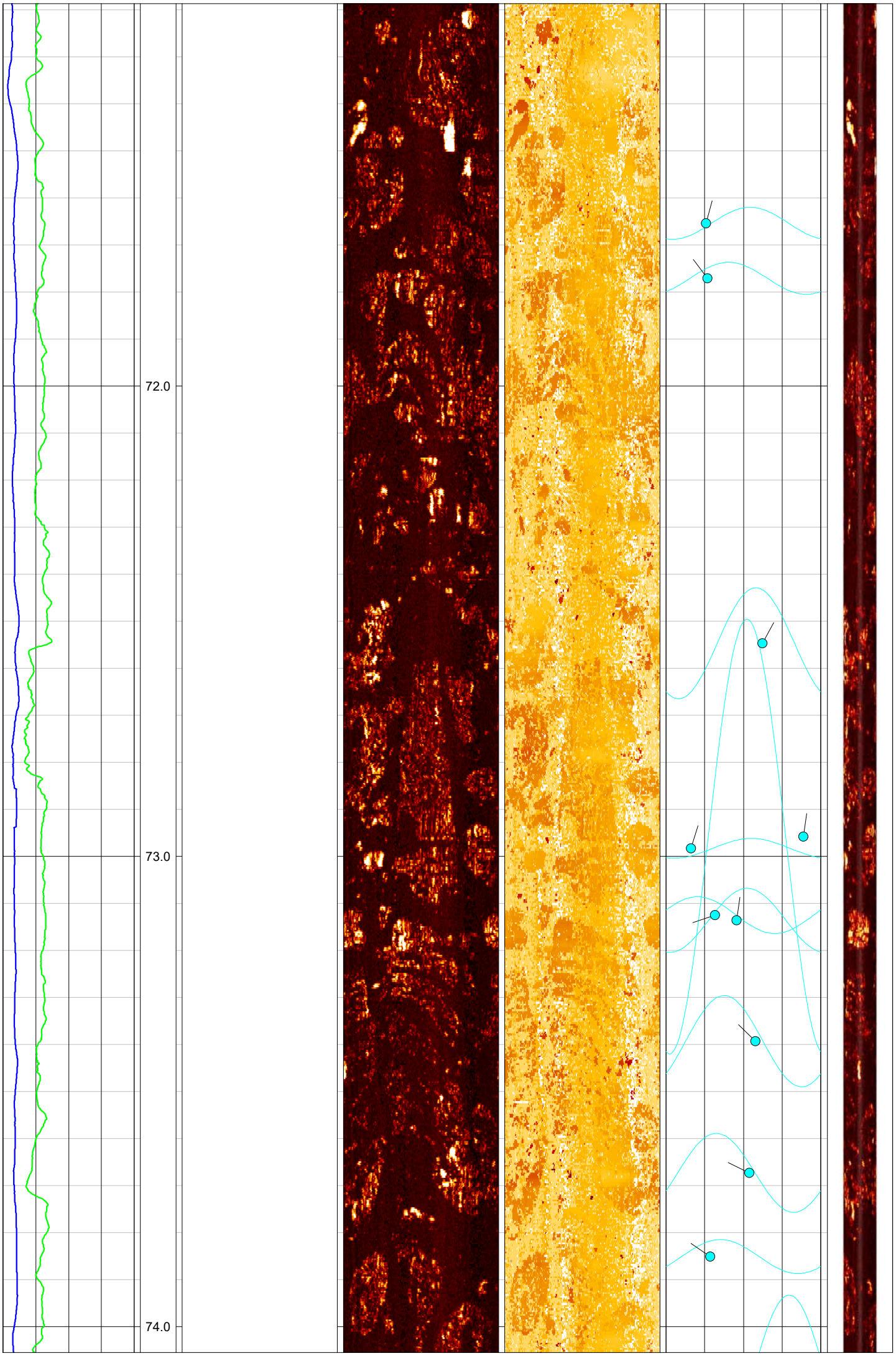
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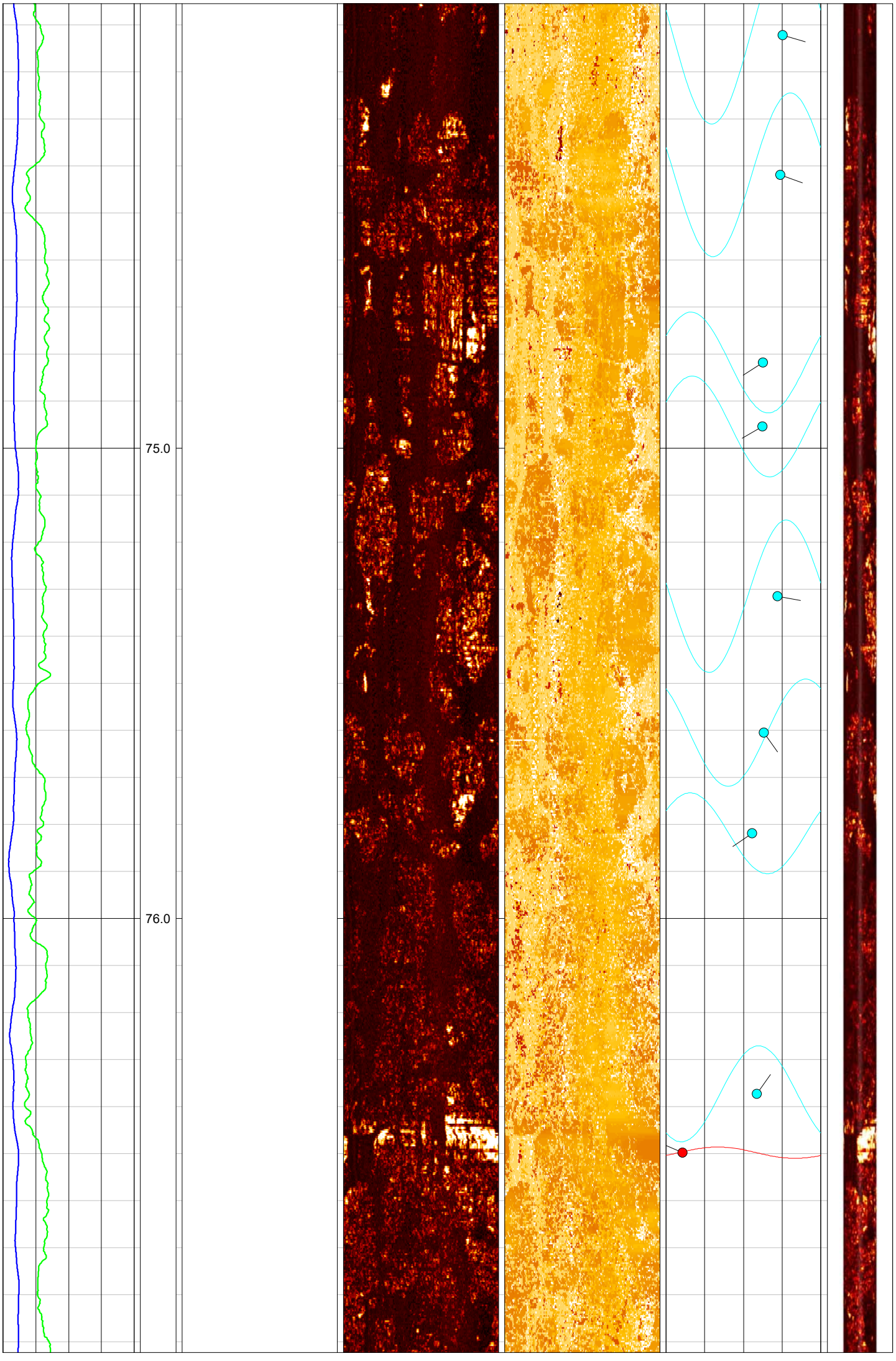
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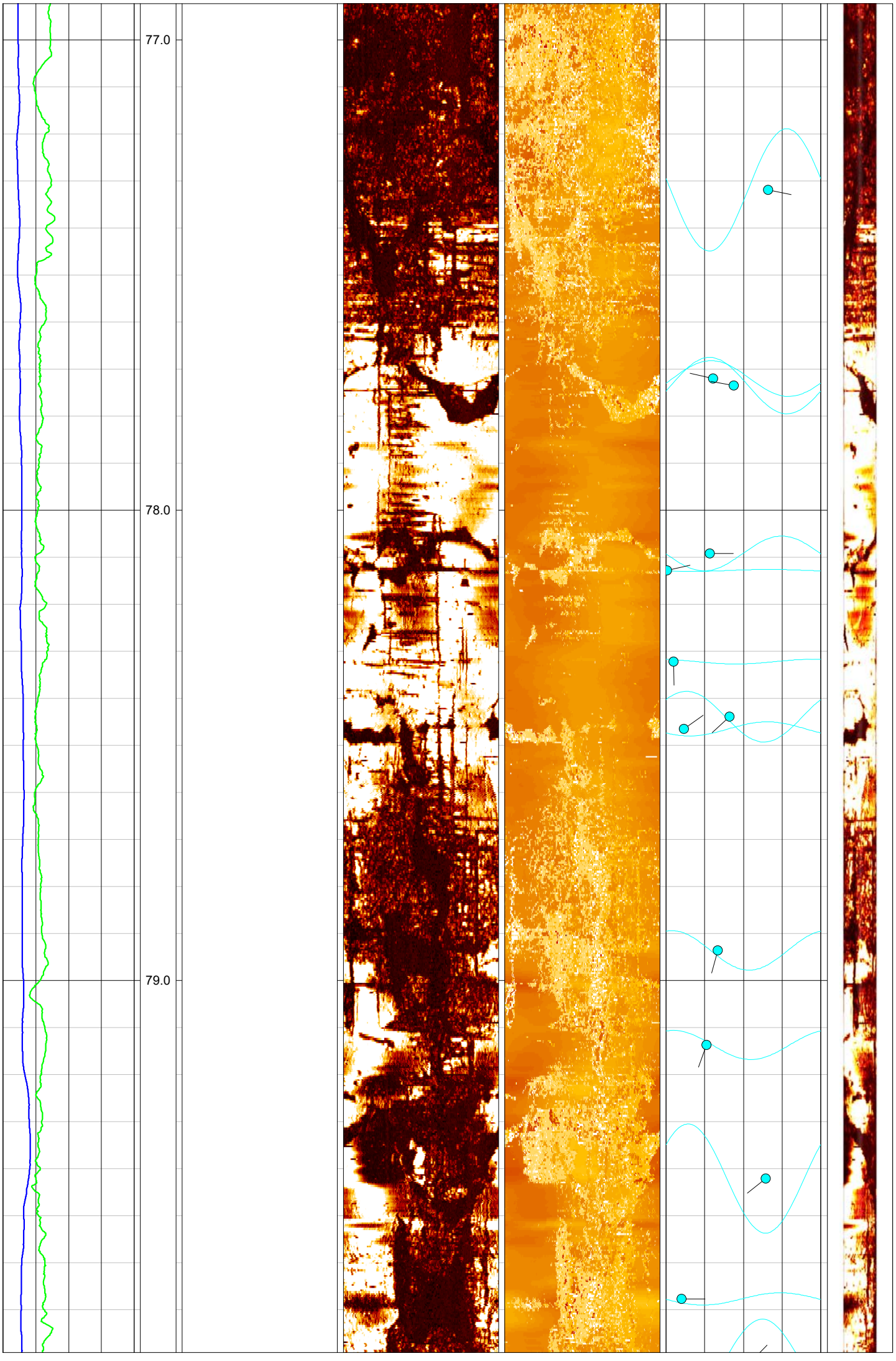
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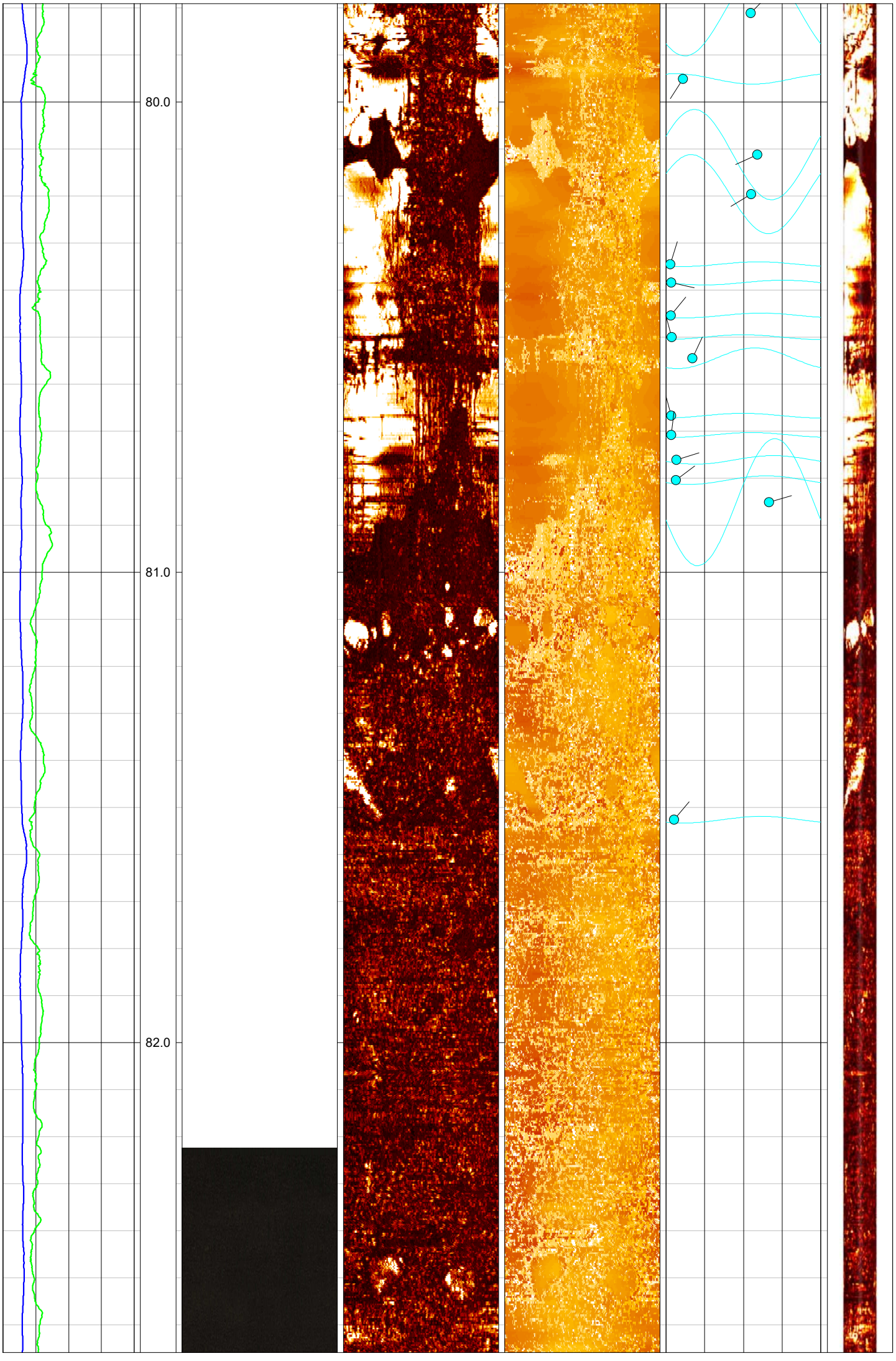
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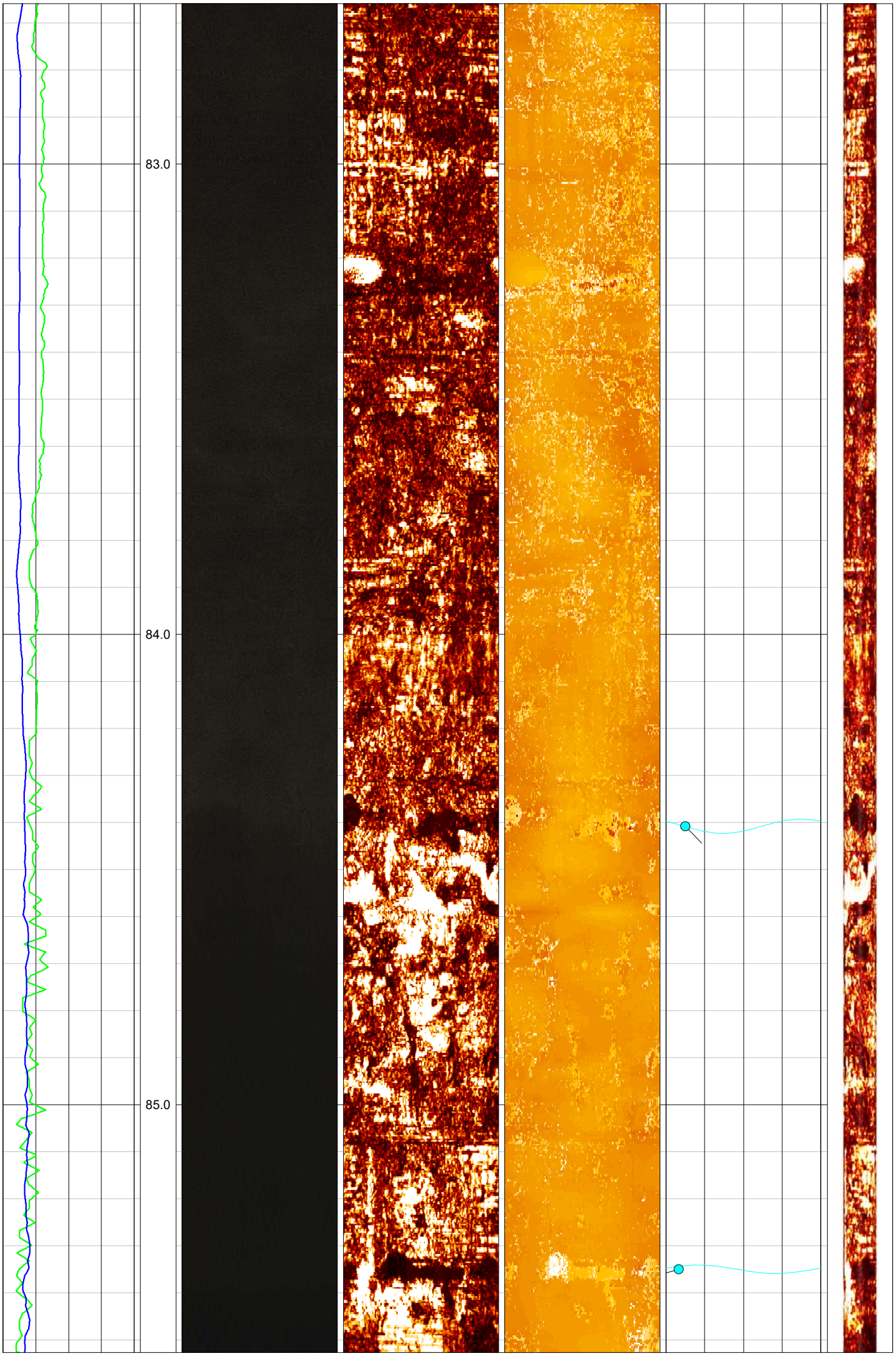
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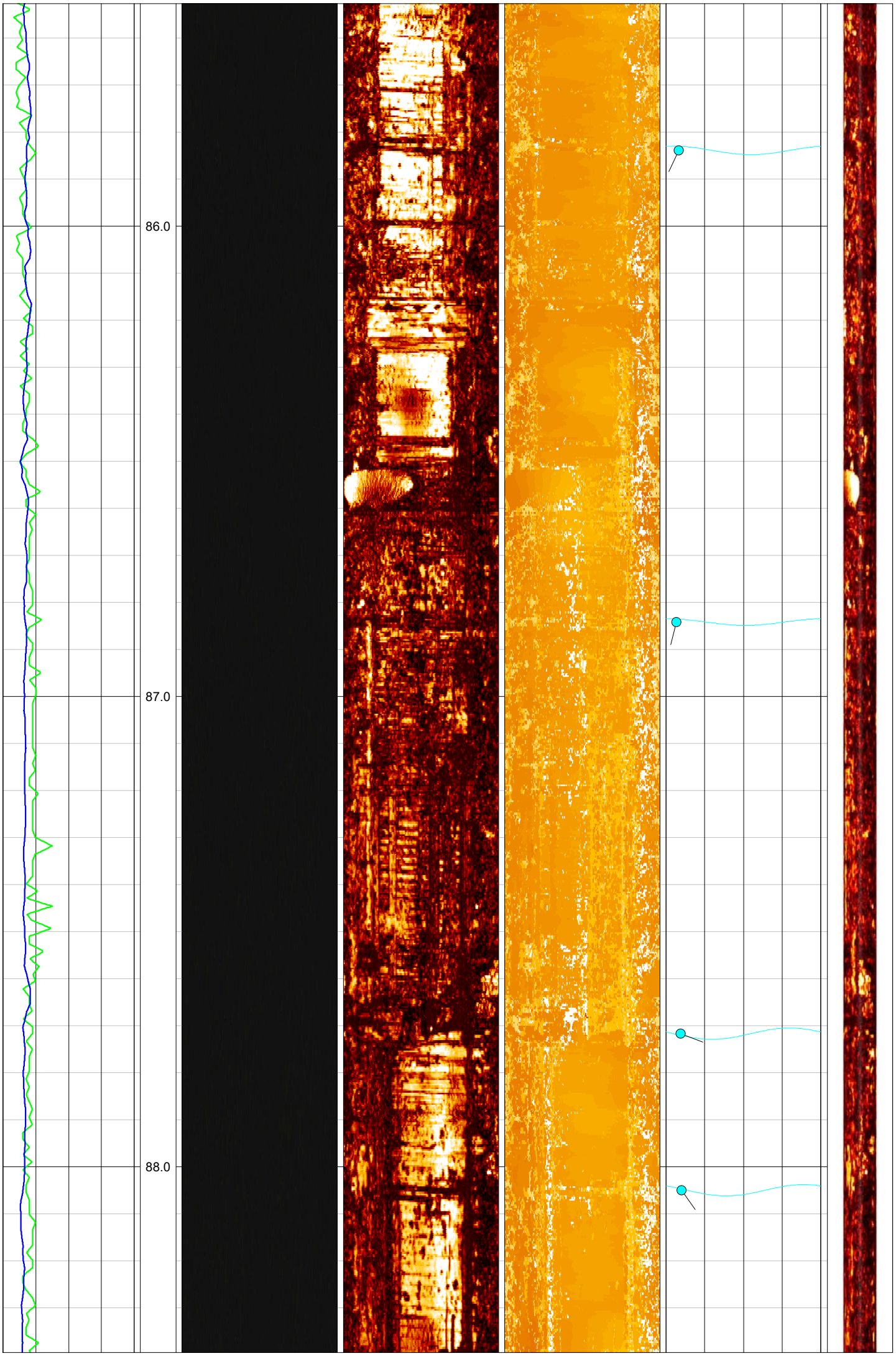
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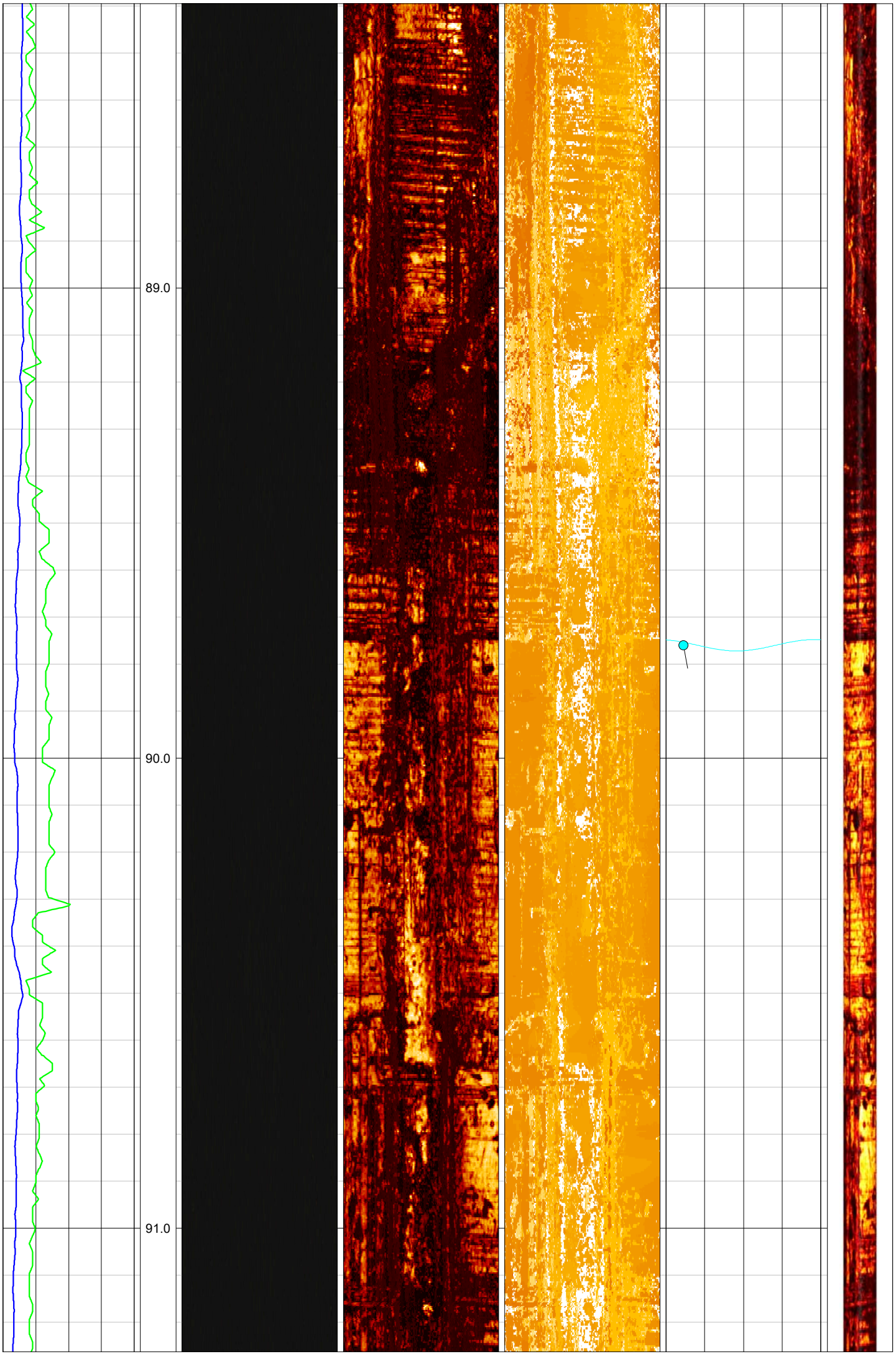
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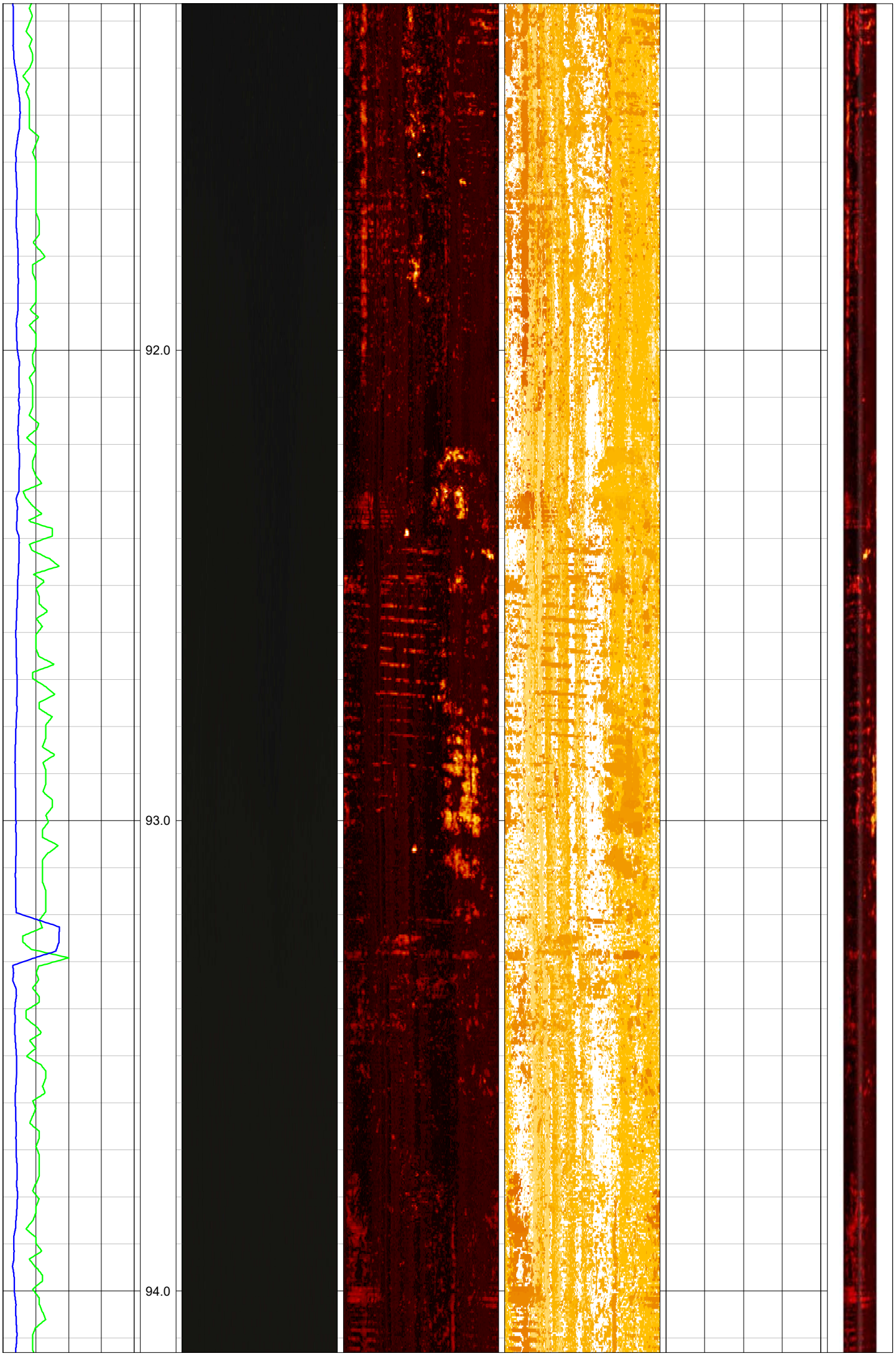
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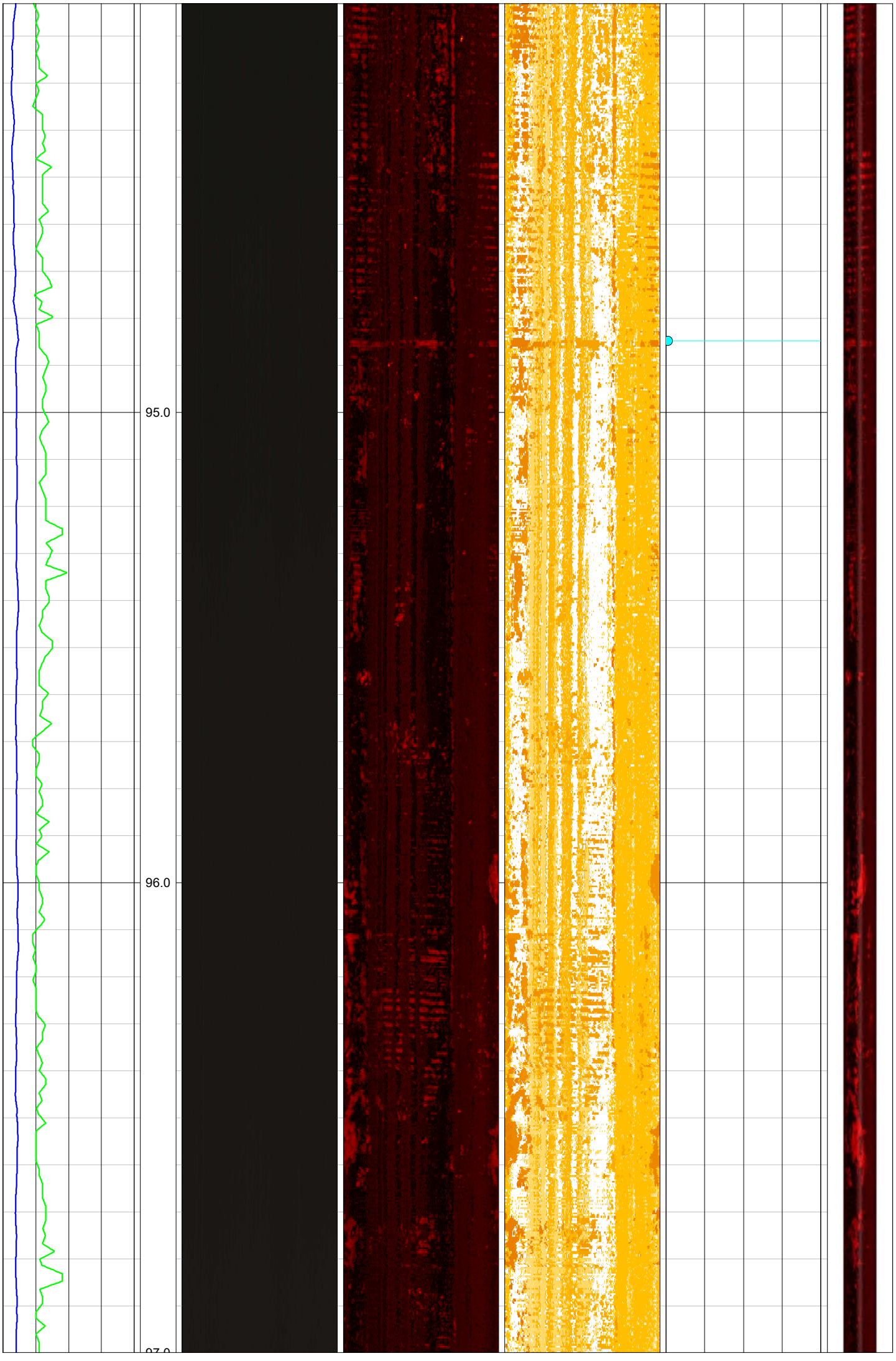
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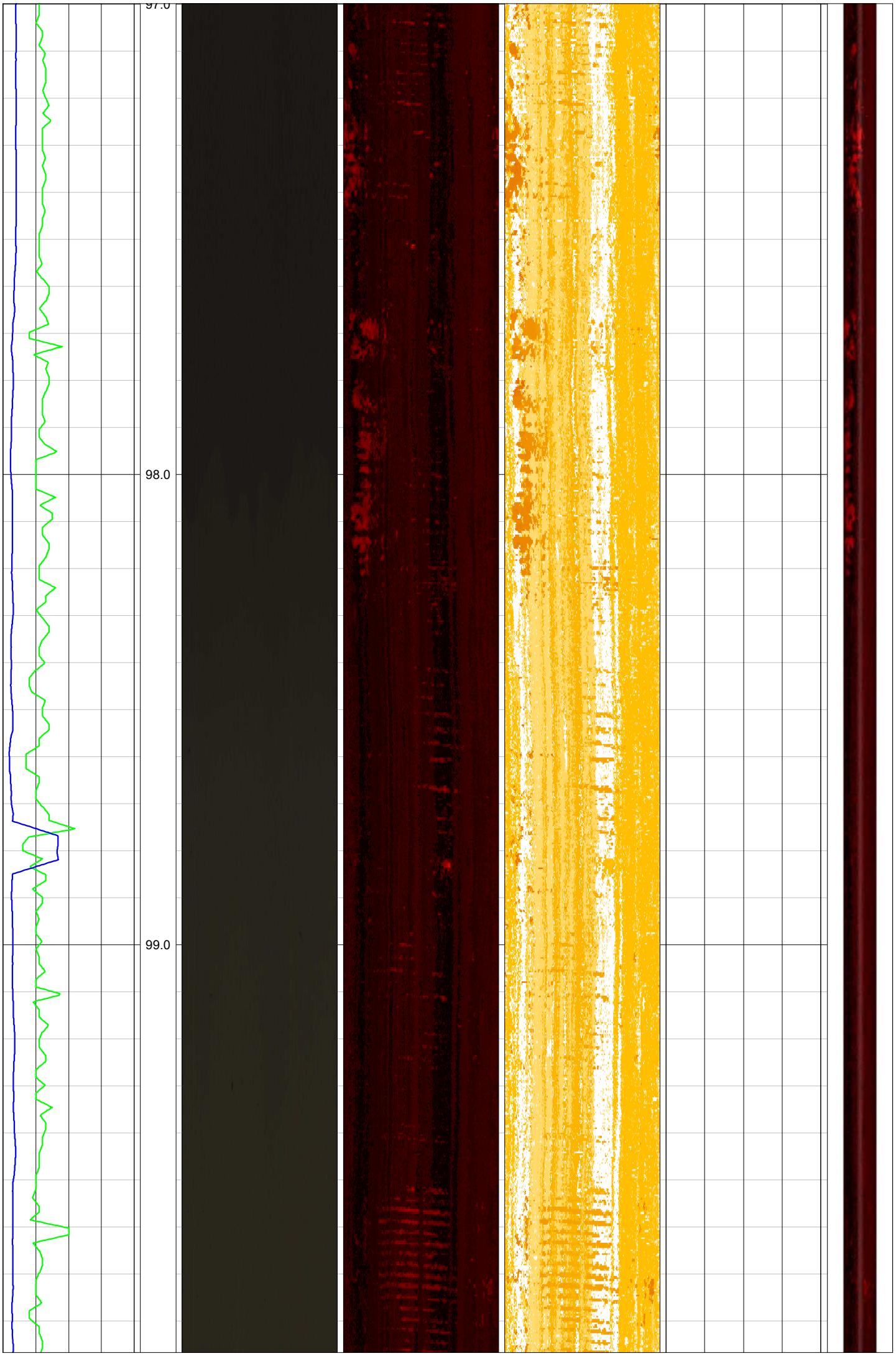
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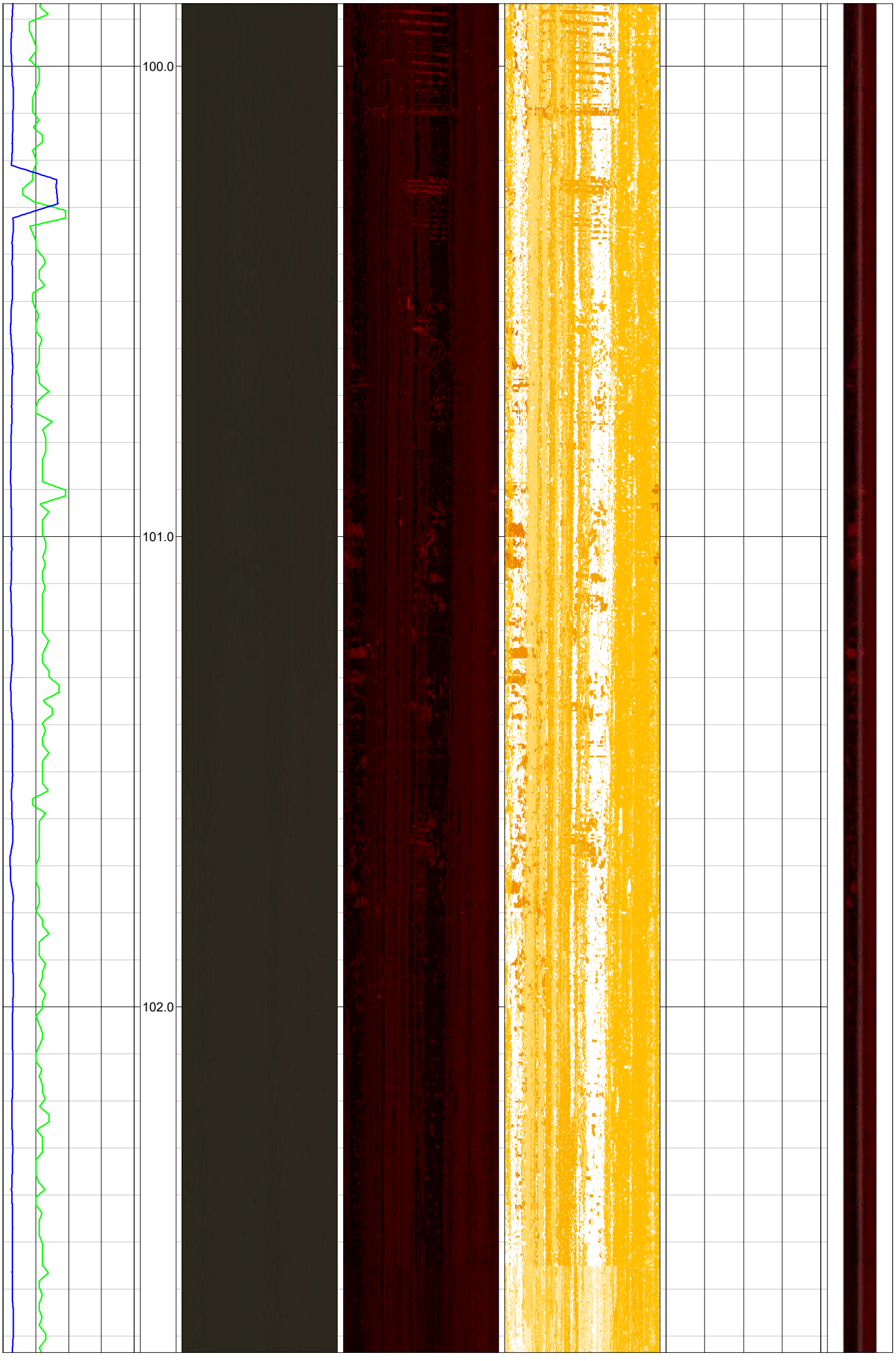
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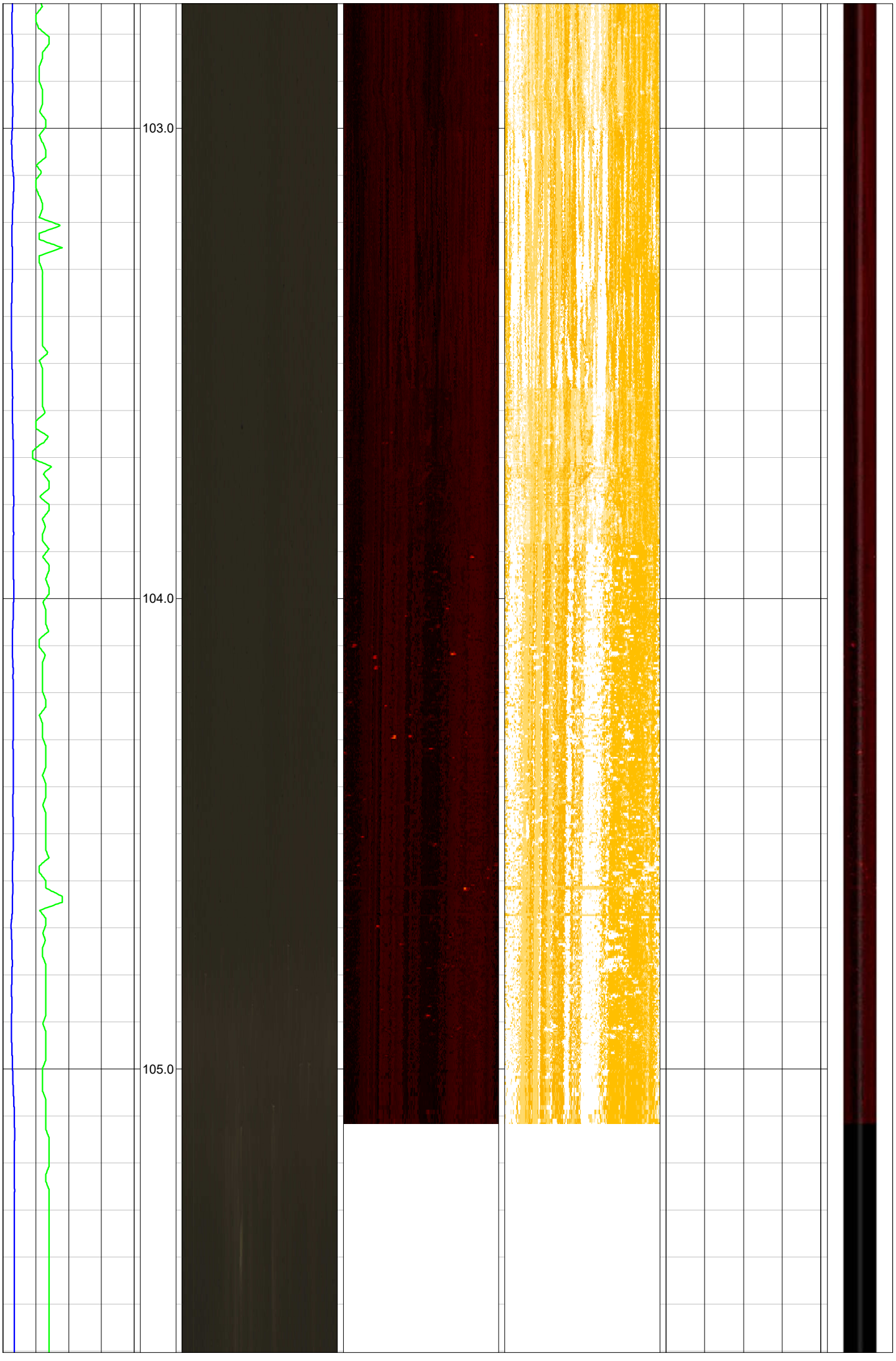

103.0
104.0
105.0


106.0

EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-1**

Log Type: ***Rose Diagram***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220.3 263979.2** Elevation: **2.173**

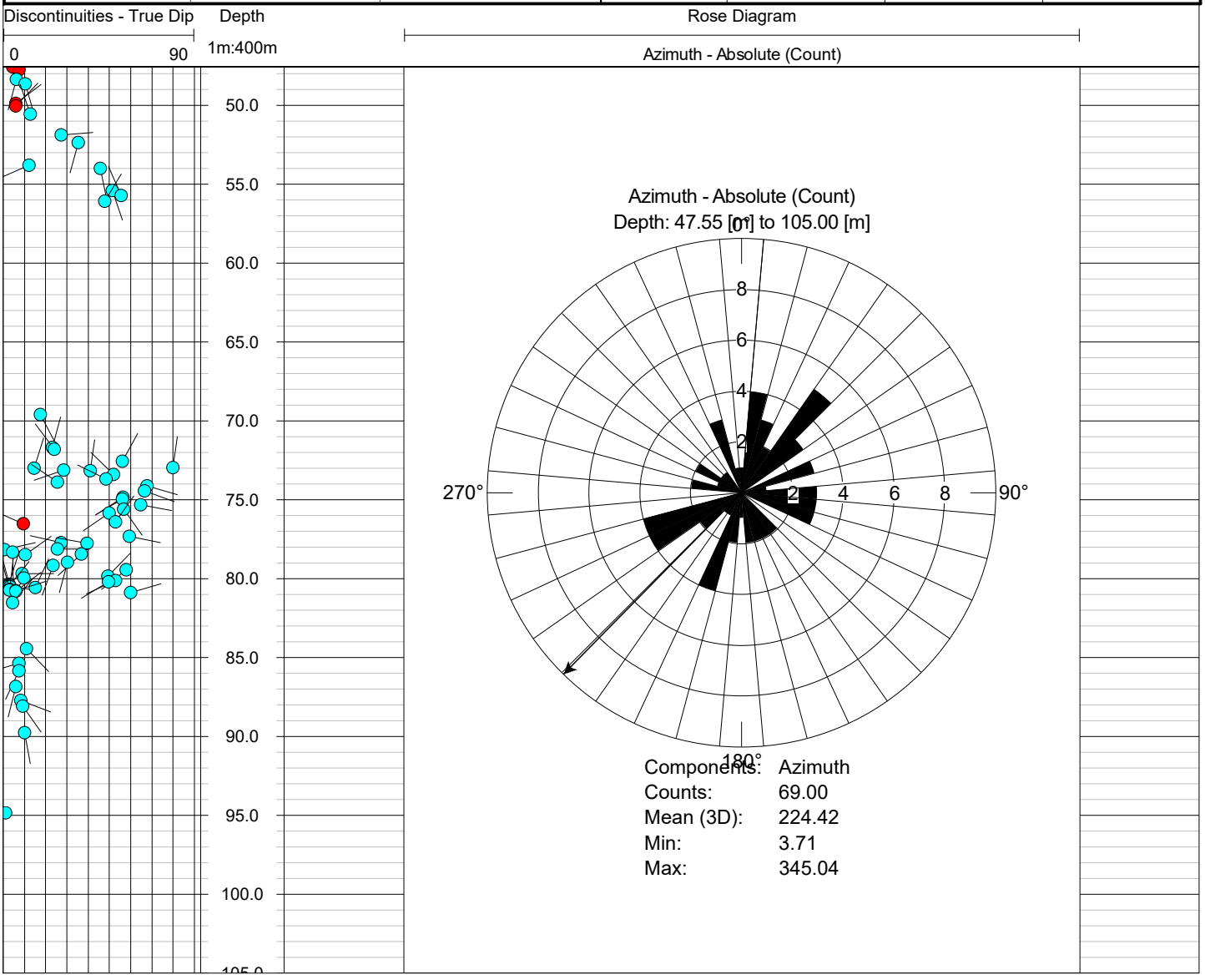
Drilled Depth: (m)	**120.0**	Date:	**10.9.19, 11.09.19**
Logged Depth: (m)	**106.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Borehole initially backfilled to 106m. Logged in sections. Casing pulls to 82.5m, then 67.5m, then 46m. Borehole collapsed to 58m after final casing pull, leading to missing section of log. Fluid cloudy throughout - poor optical image.
Logged Interval: (m)	**46.8-57.6; 67.5-105.2**		
Fluid Level: (m)	**0.0**		

BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.8**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**46.8**
Geobore	**127**	**0**	**As above**



EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-1**

Log Type: ***Stereonet***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220.3 263979.2** Elevation: **2.173**

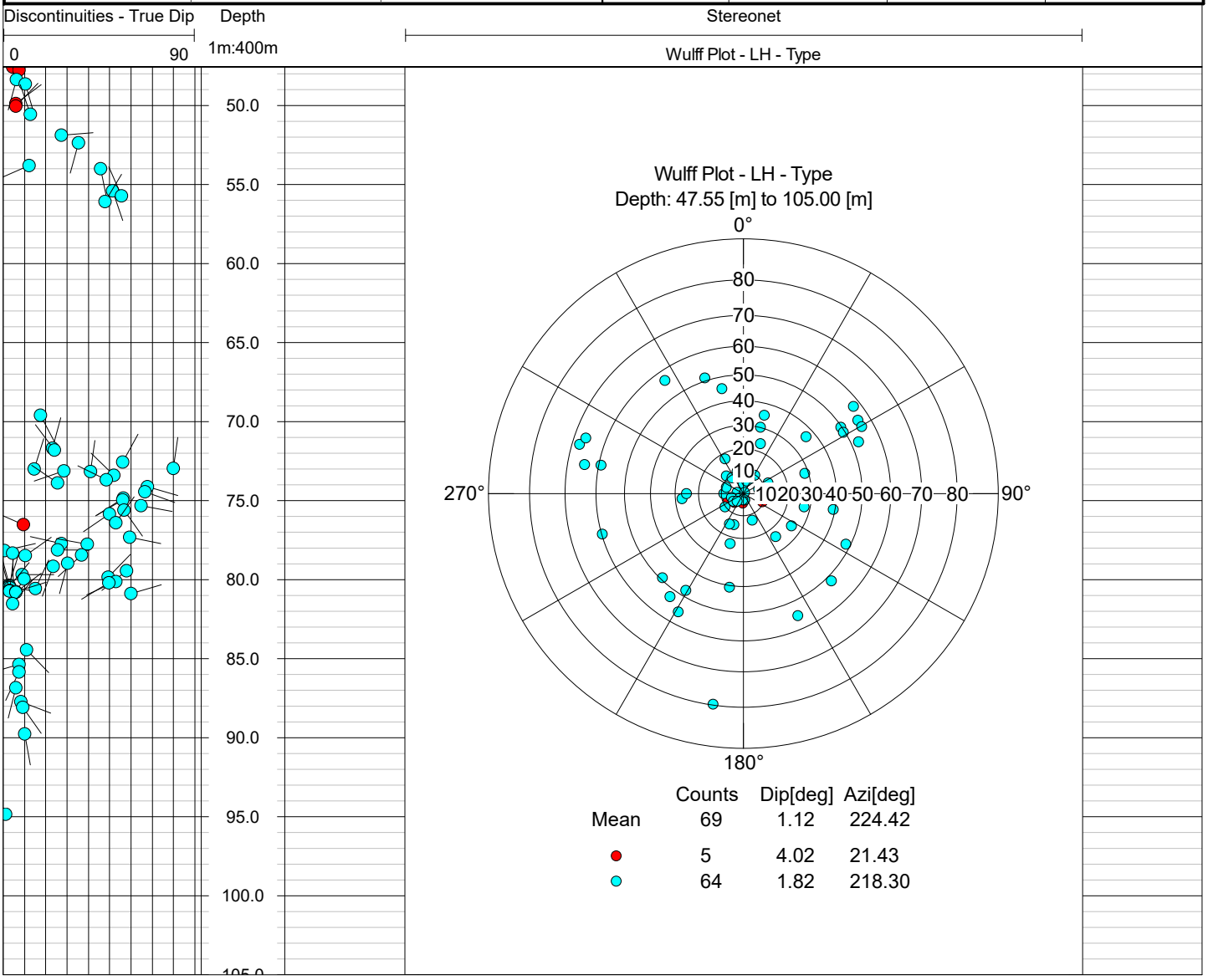
Drilled Depth: (m)	**120.0**	Date:	**10.9.19, 11.09.19**
Logged Depth: (m)	**106.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Borehole initially backfilled to 106m. Logged in sections. Casing pulls to 82.5m, then 67.5m, then 46m. Borehole collapsed to 58m after final casing pull, leading to missing section of log. Fluid cloudy throughout - poor optical image.
Logged Interval: (m)	**46.8-57.6; 67.5-105.2**		
Fluid Level: (m)	**0.0**		

BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.8**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**46.8**
Geobore	**127**	**0**	**As above**



EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-2**

Log Type: ***Composite***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220 264208.6** Elevation: **1.696**

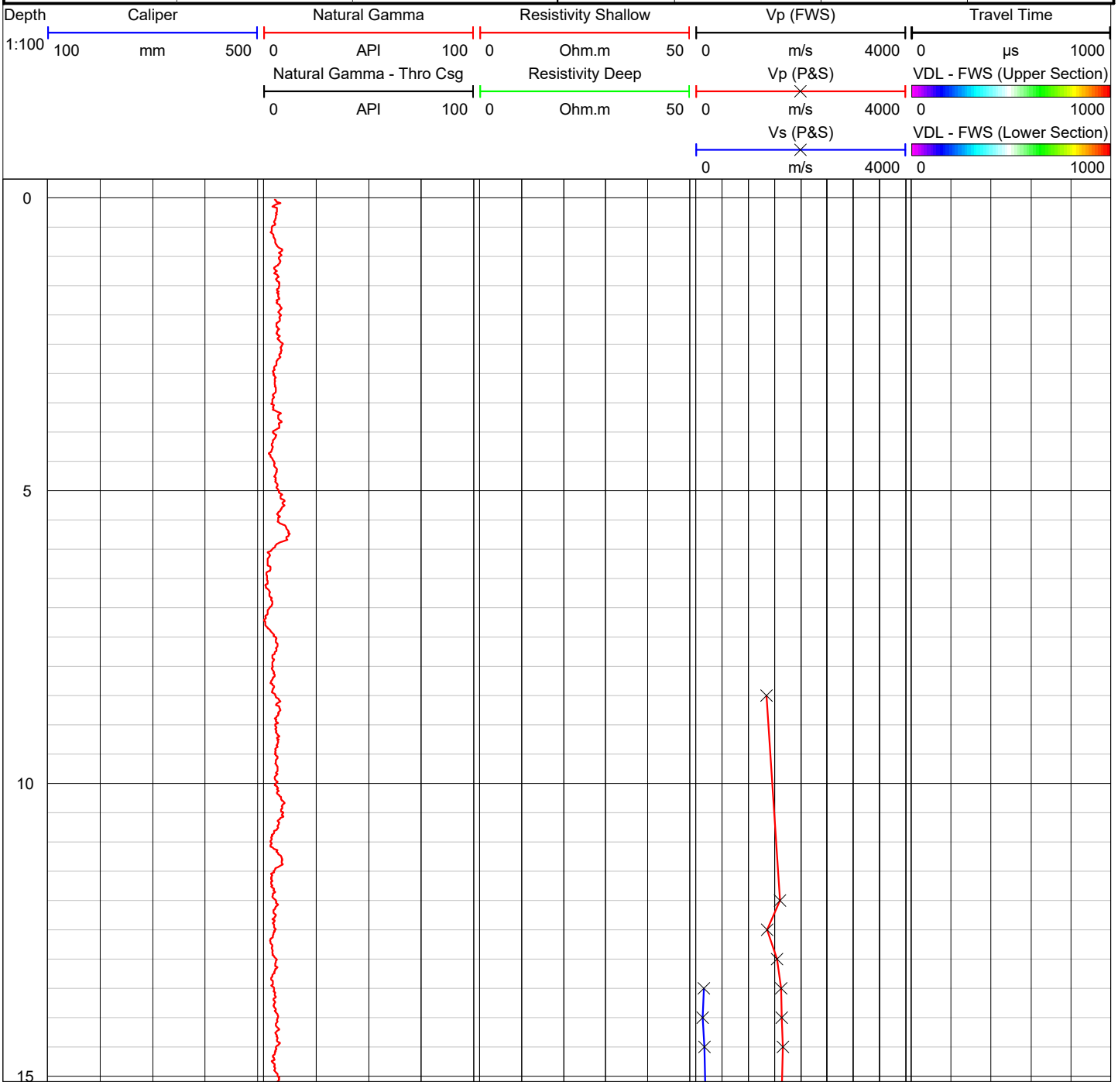
Drilled Depth: (m)	**120.0**	Date:	**9.9.19, 10.9.19**
Logged Depth: (m)	**120.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 80.7m, then 71.7m, then 41.5m. Borehole collapsed to 63m after final pull. Actively backfilling during logging, up to 59m on final log, hence missing section on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**44.8 - 63.2; 71.9 - 120.6**		
Fluid Level: (m)	**0.0**		

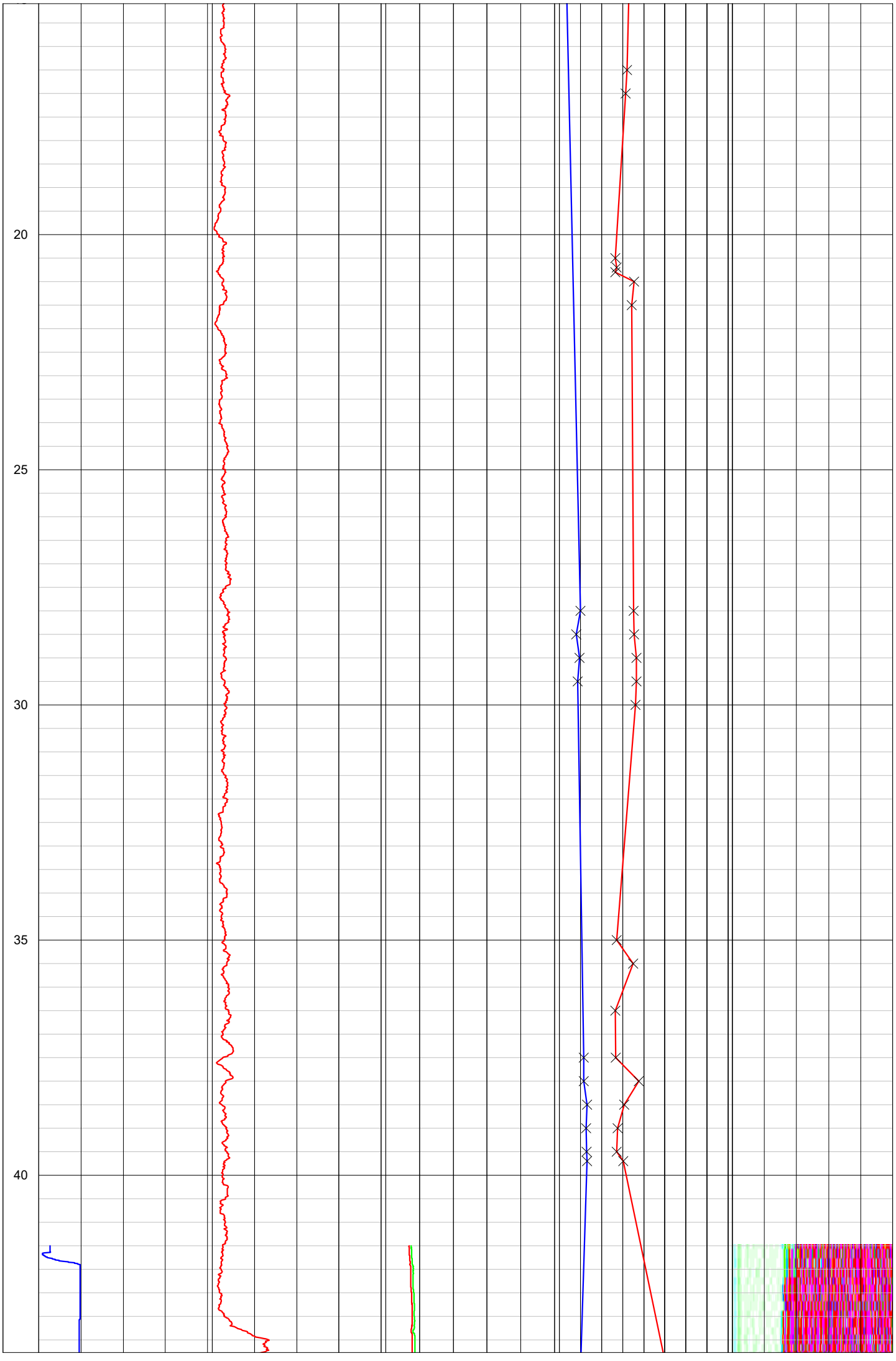
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**44.4**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**44.4**
Geobore	**127**	**0**	**As above**

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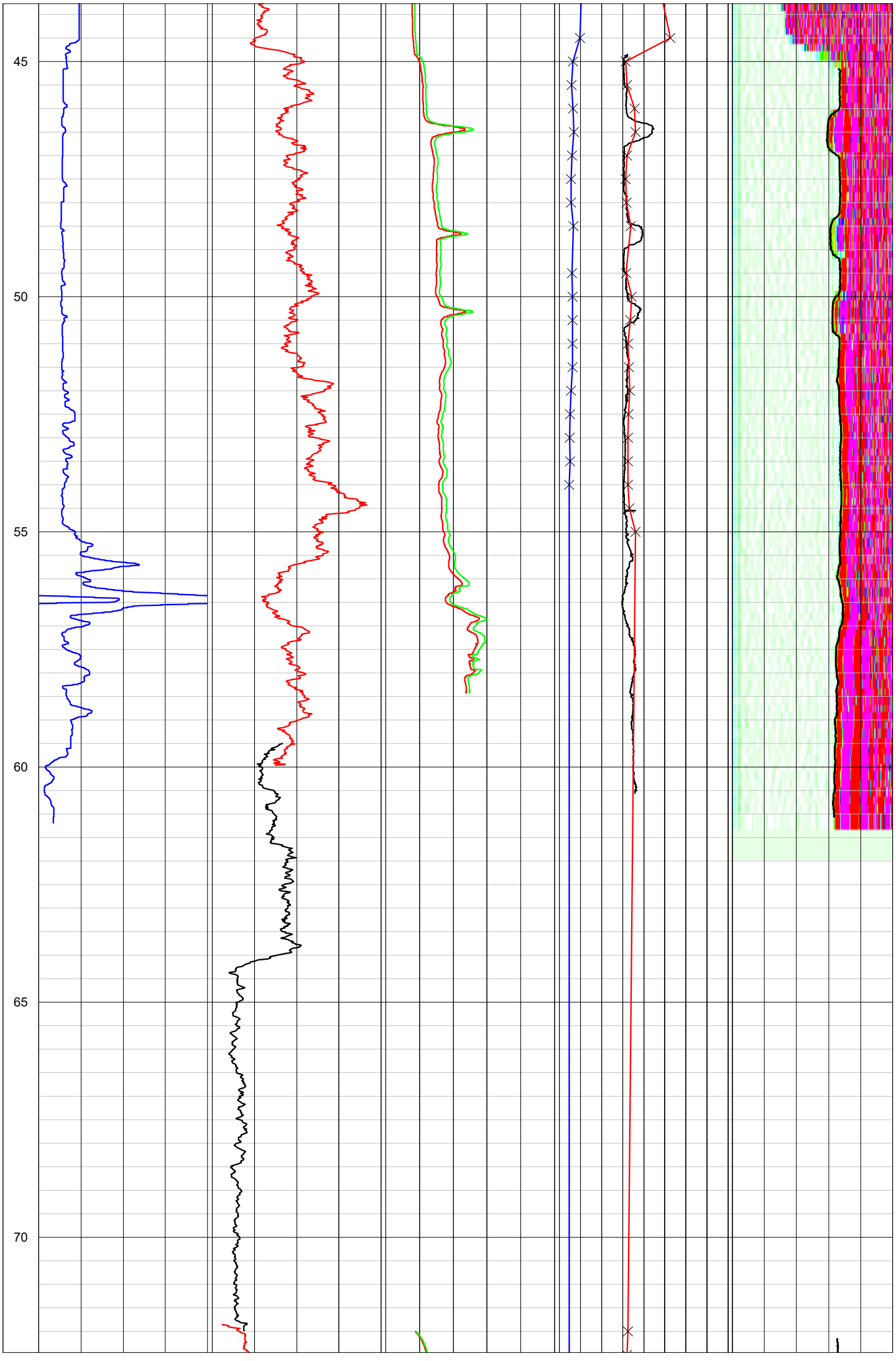
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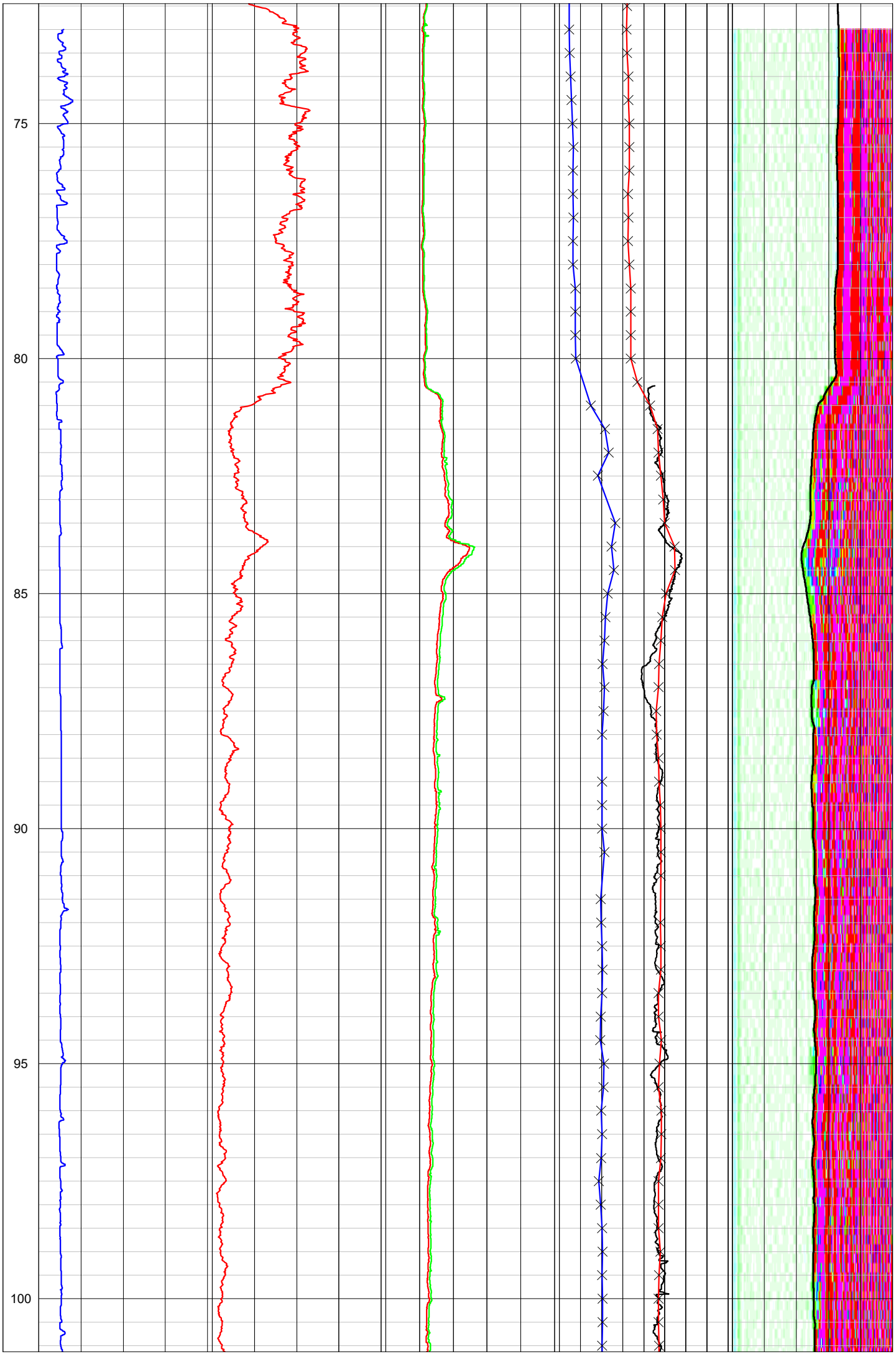
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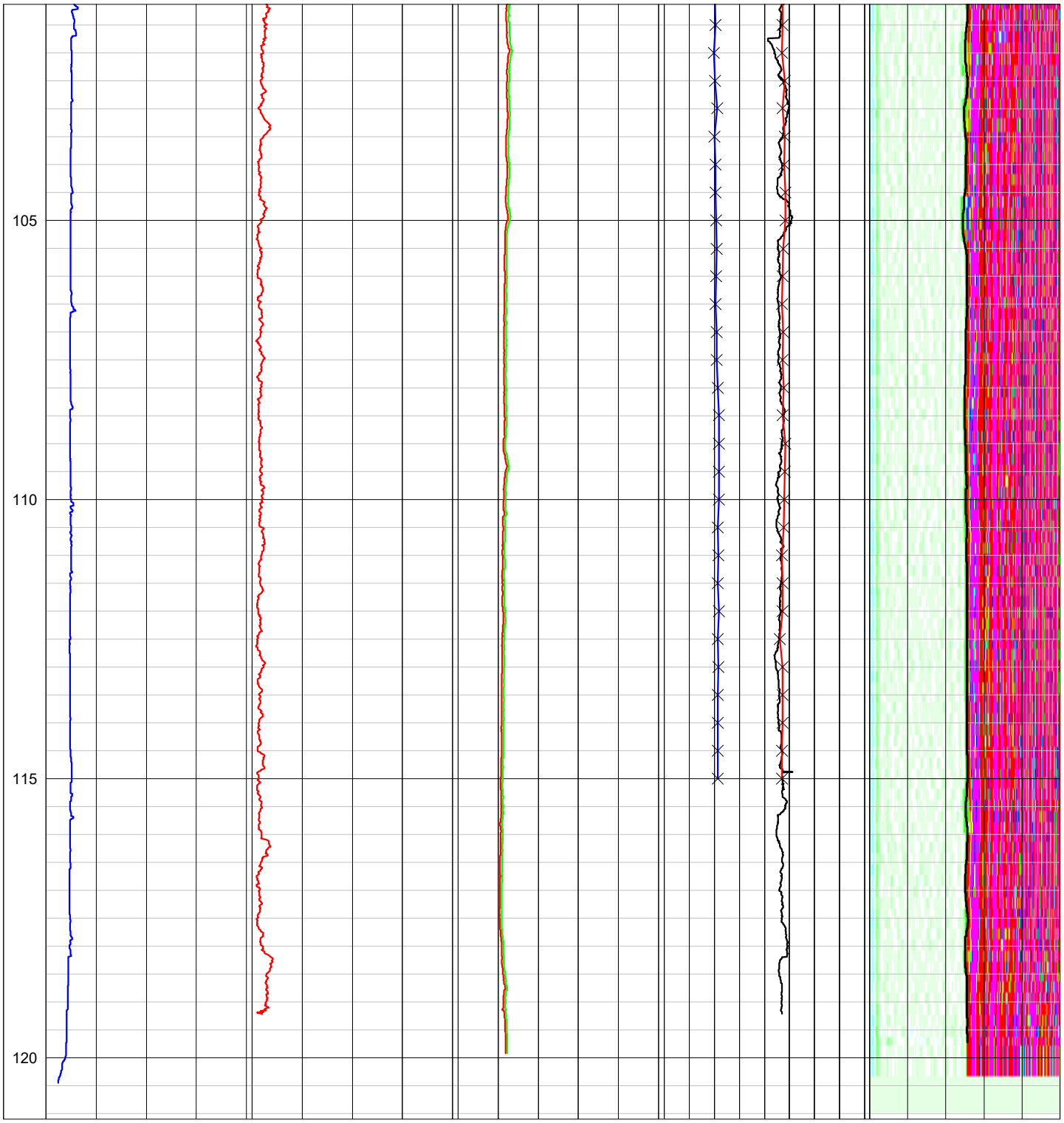
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120

EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-2**

Log Type: ***Image***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220 264208.6** Elevation: **1.696**

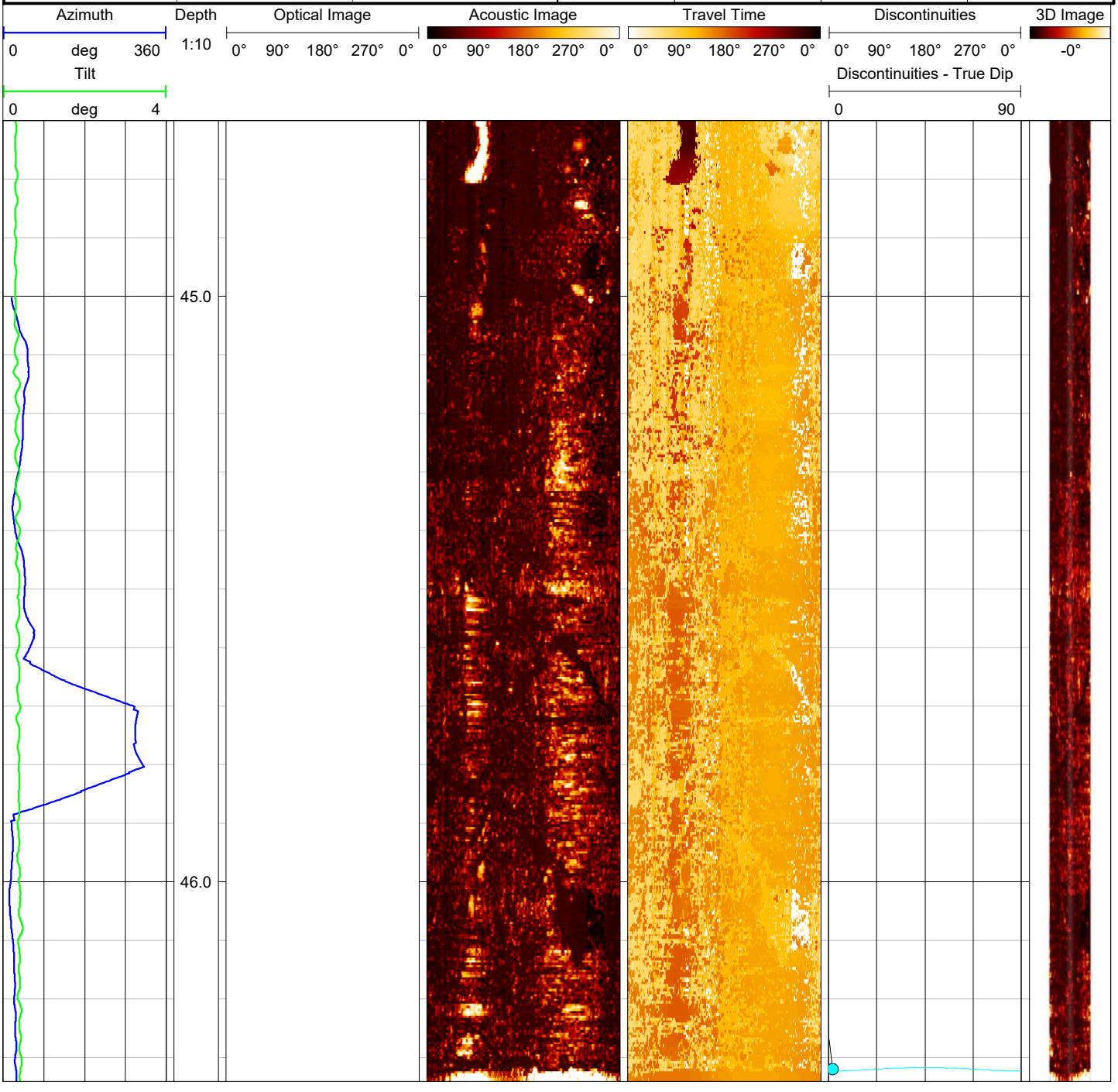
Drilled Depth: (m)	**120.0**	Date:	**9.9.19, 10.9.19**
Logged Depth: (m)	**120.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 80.7m, then 71.7m, then 41.5m. Borehole collapsed to 63m after final pull. Actively backfilling during logging, up to 59m on final log, hence missing section on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**44.8 - 63.2 & 71.9 - 120.6**		
Fluid Level: (m)	**0.0**		

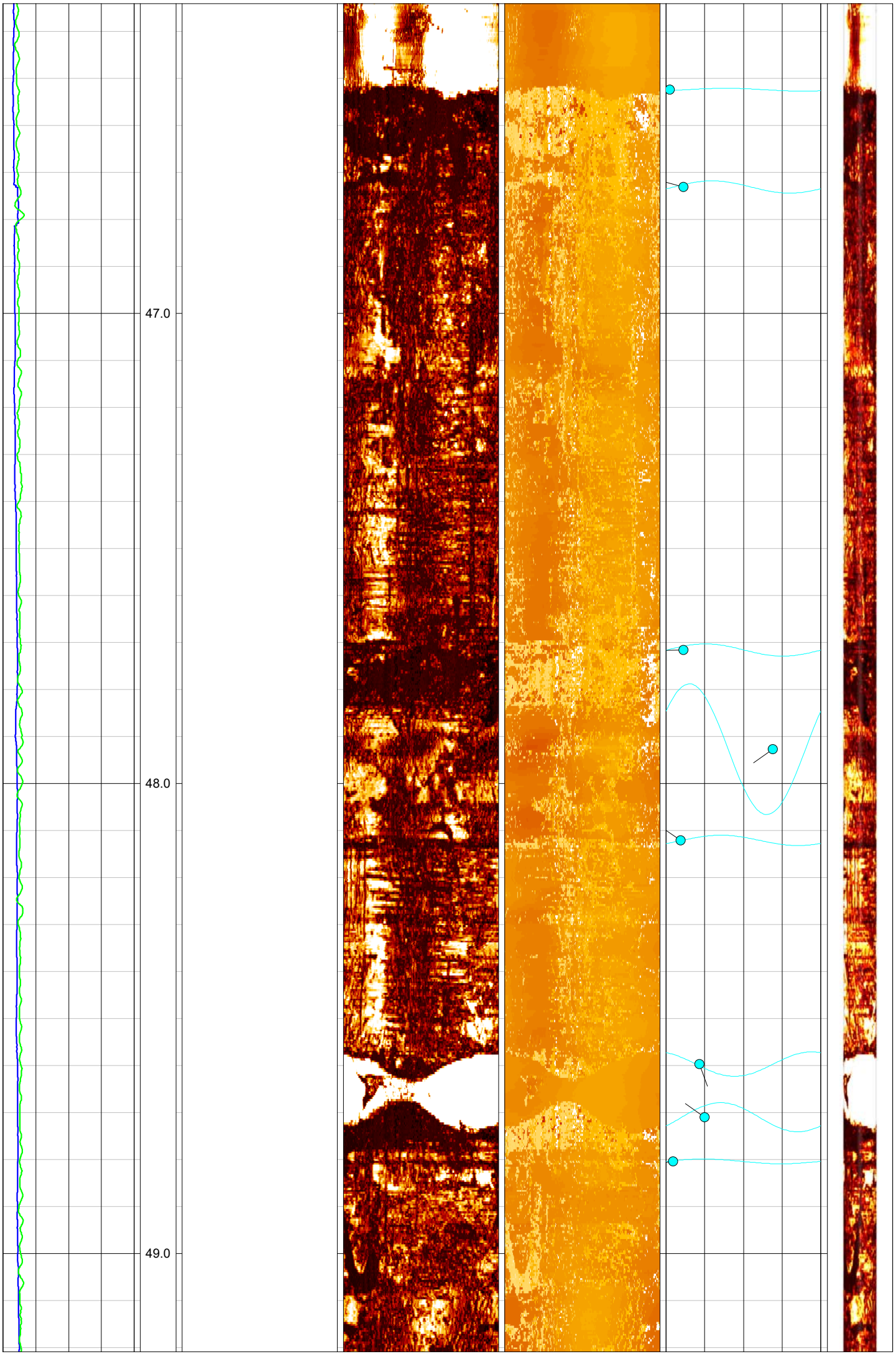
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**44.4**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**44.4**
Geobore	**127**	**0**	**As above**

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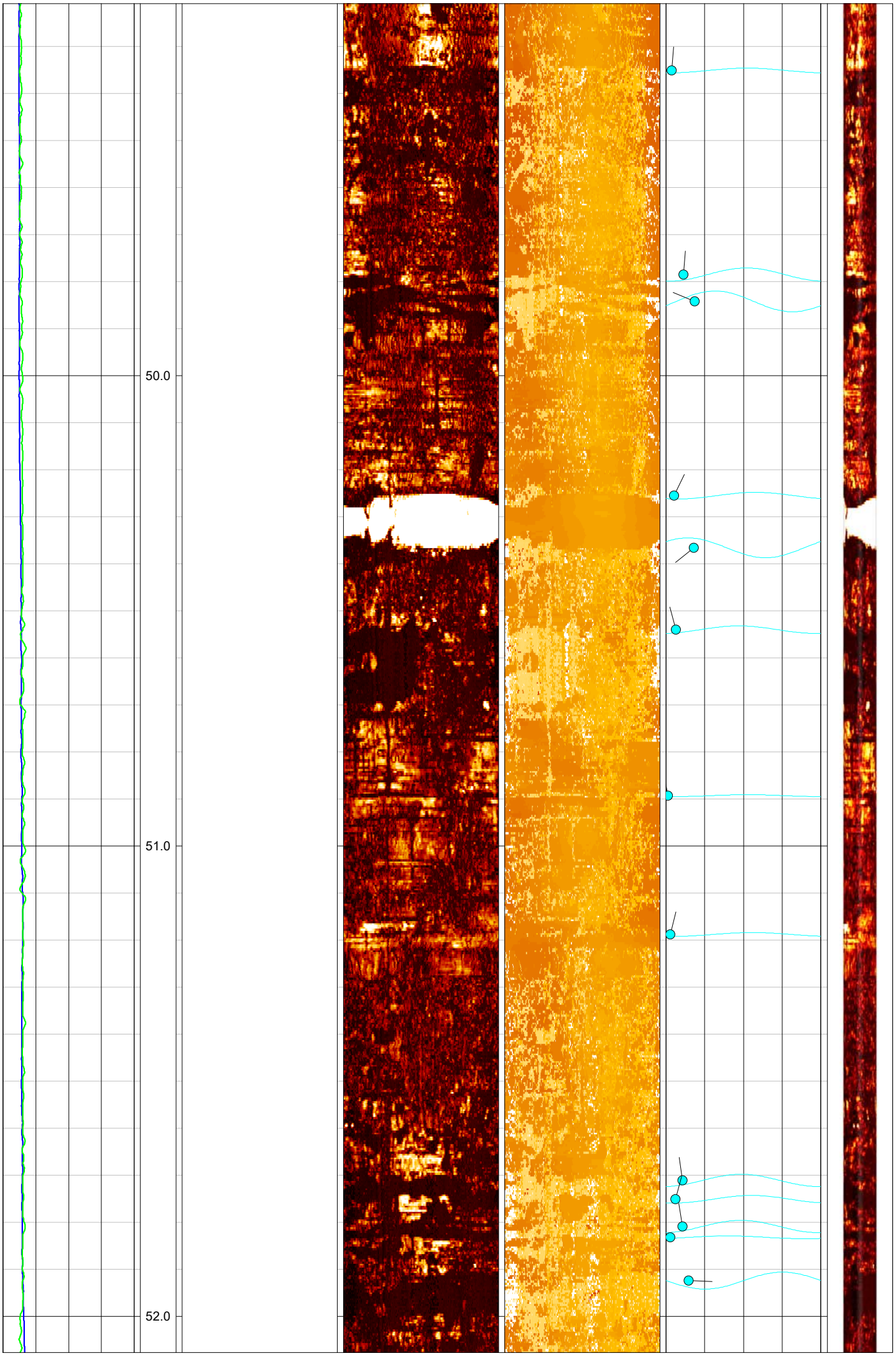
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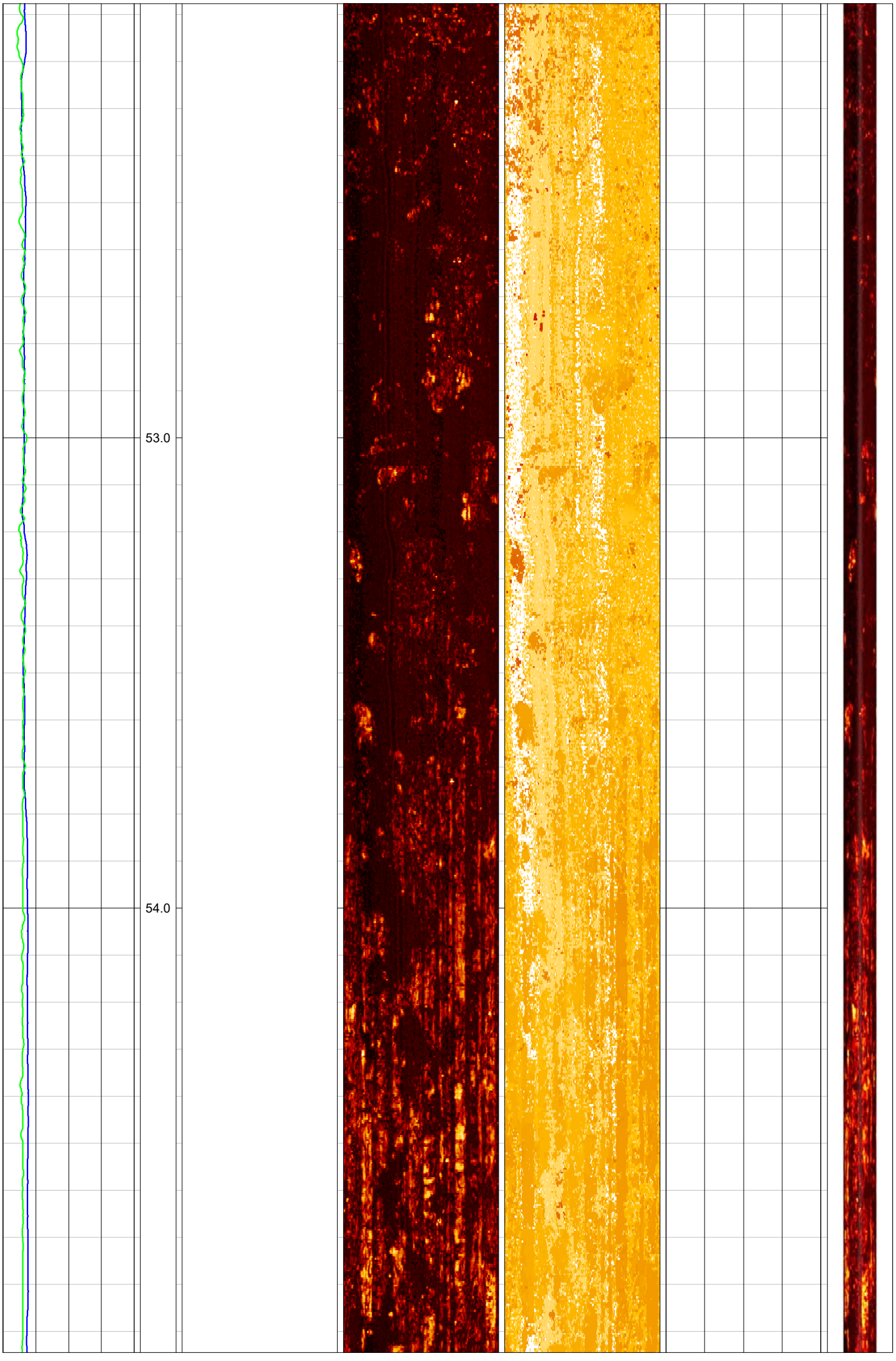
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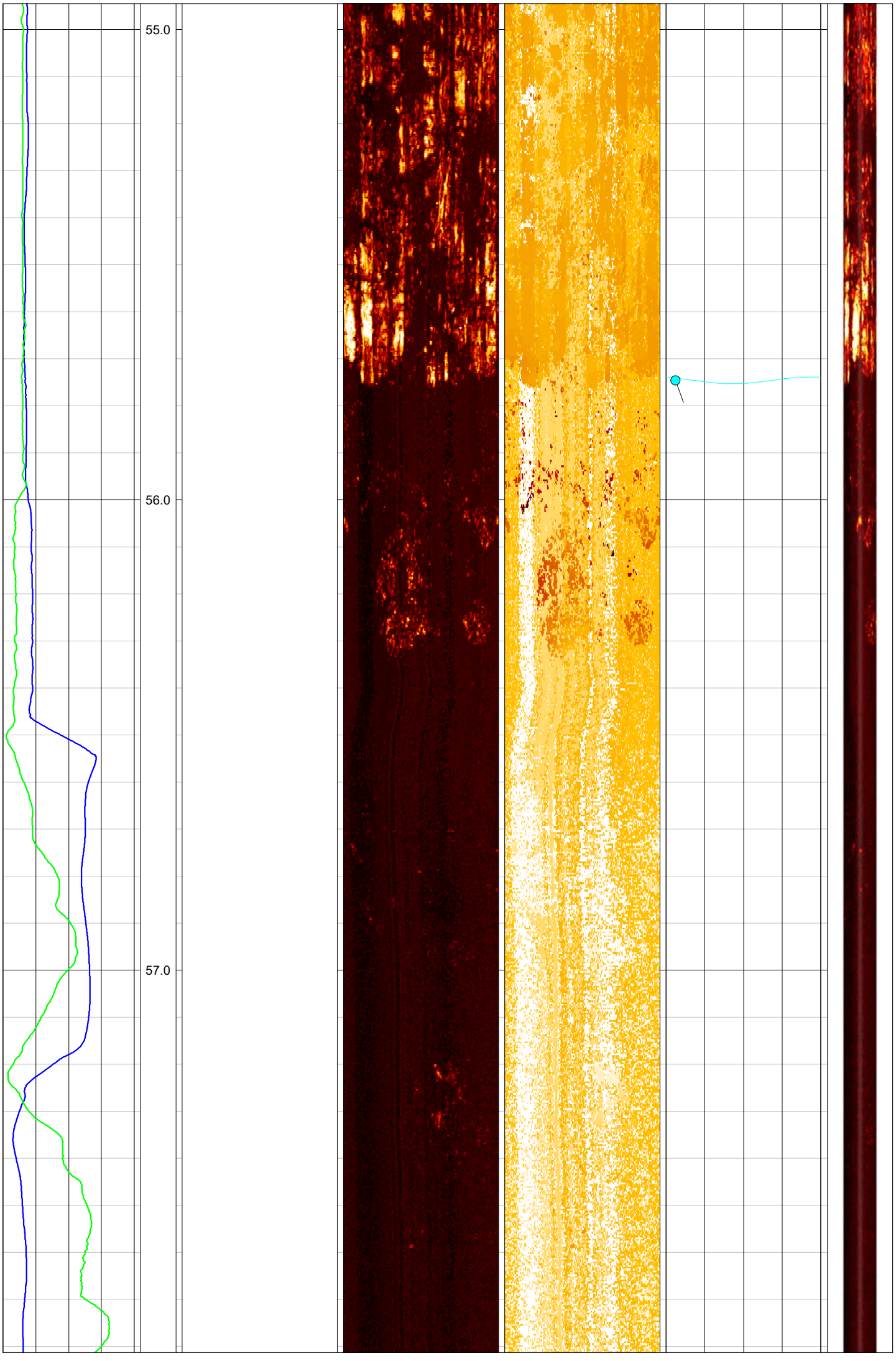
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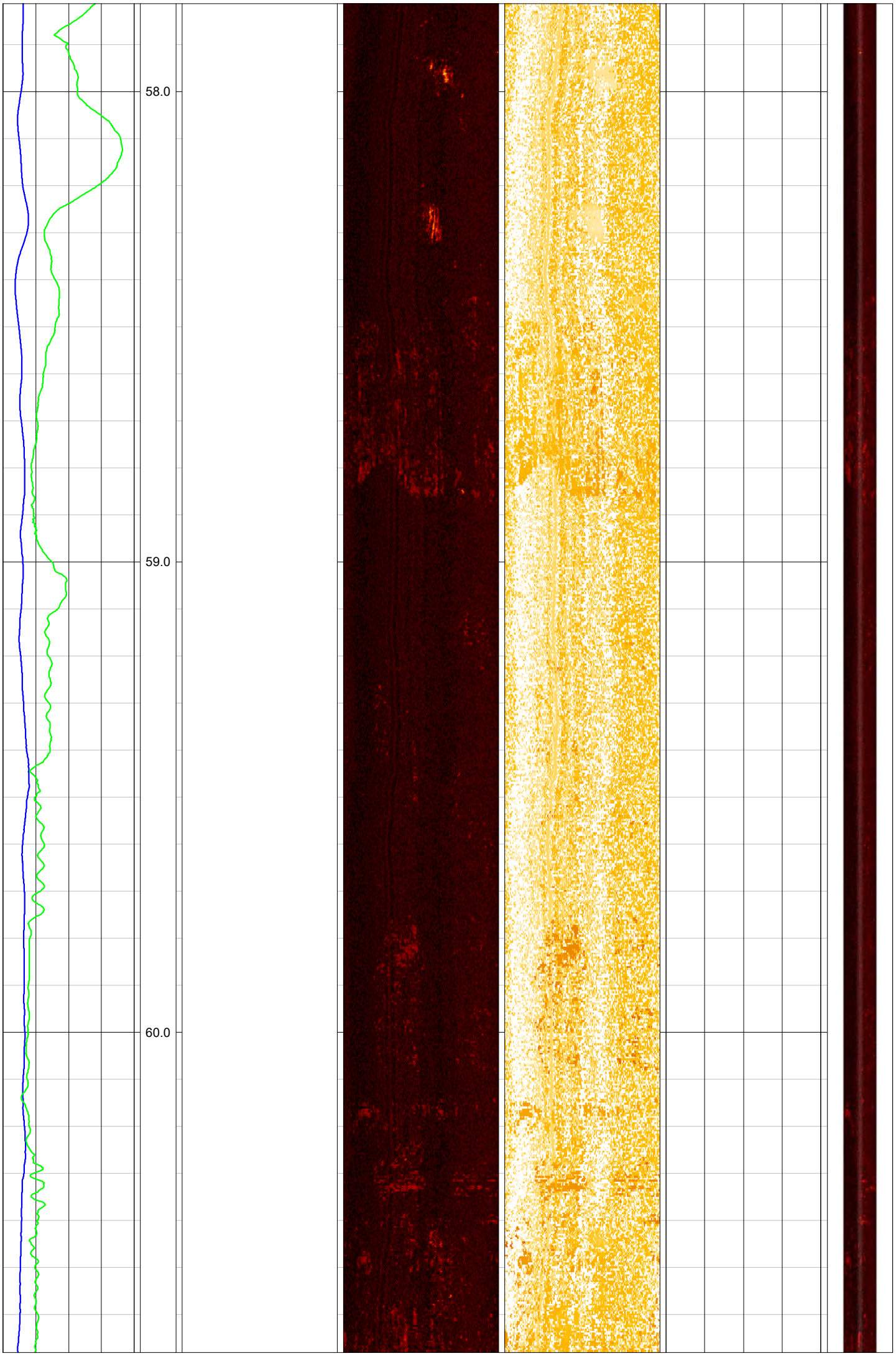
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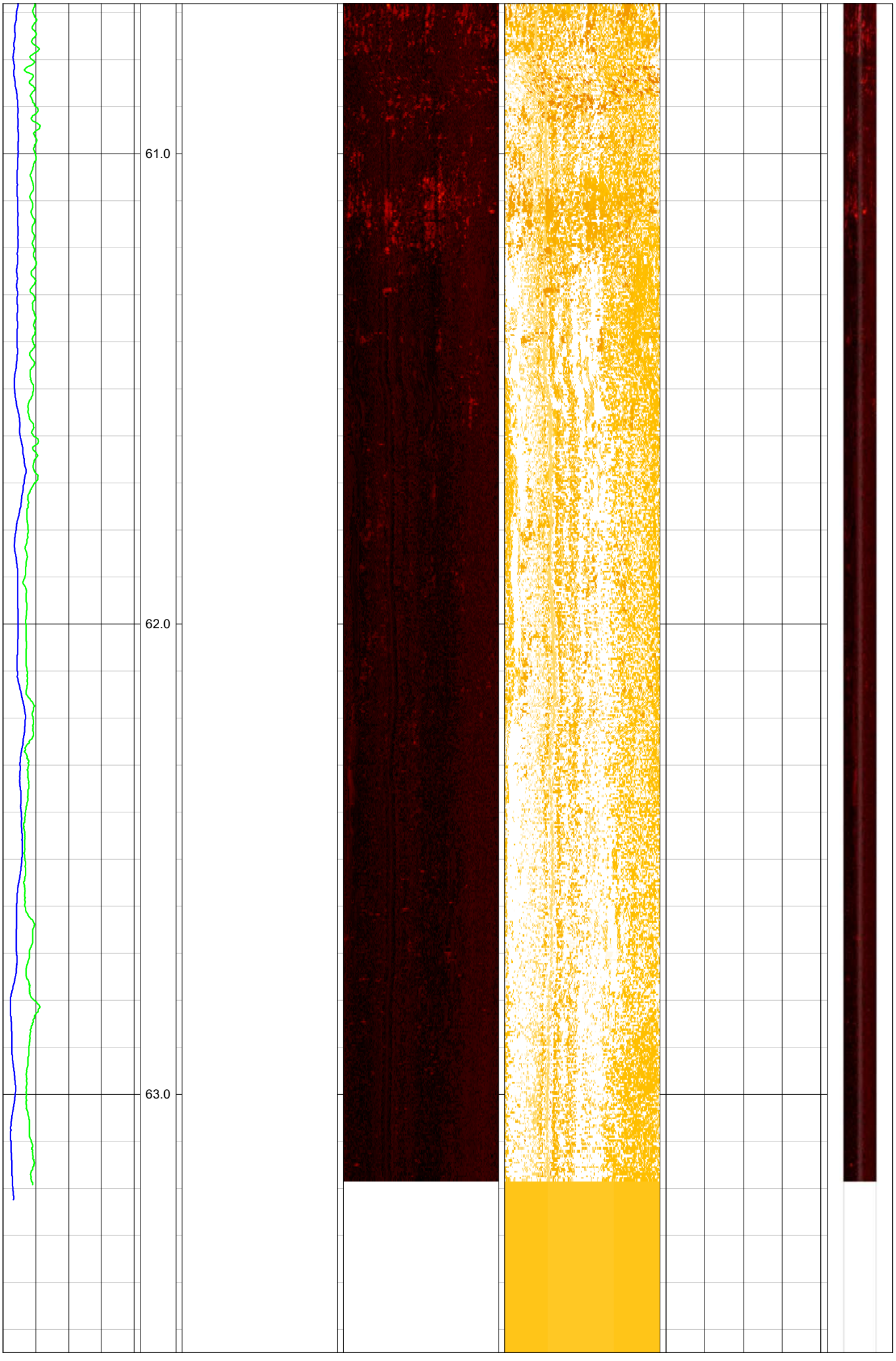
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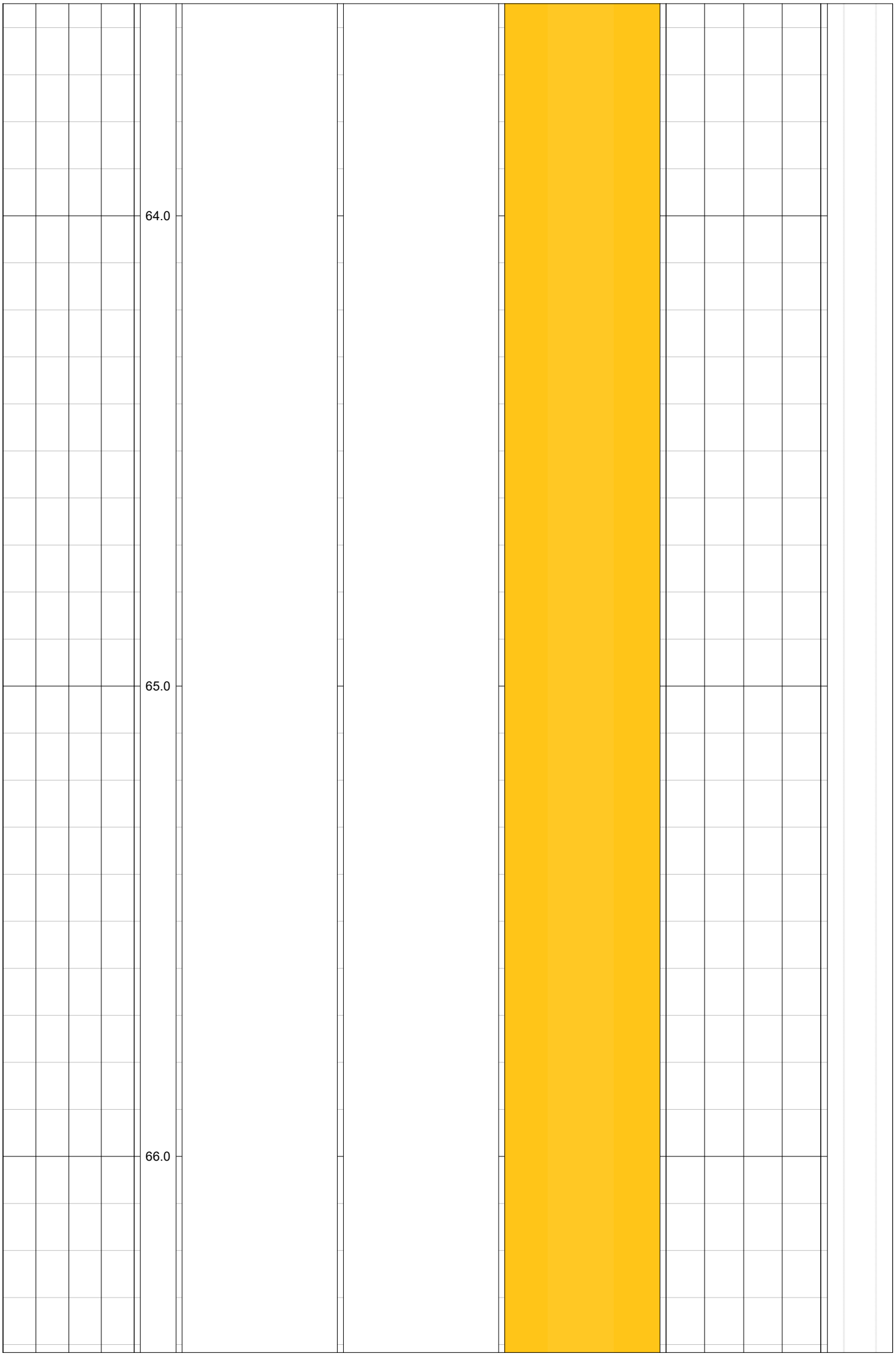
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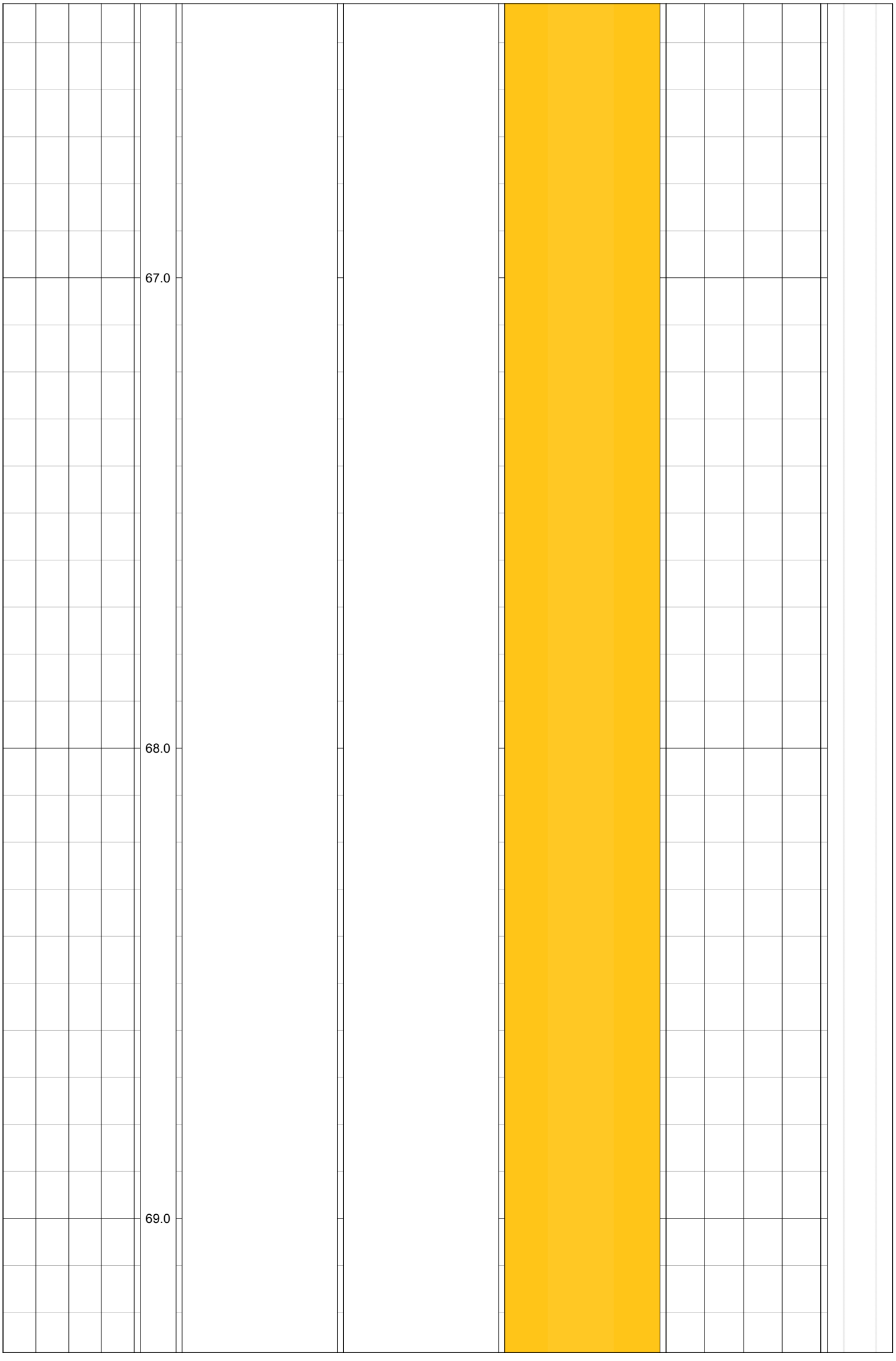
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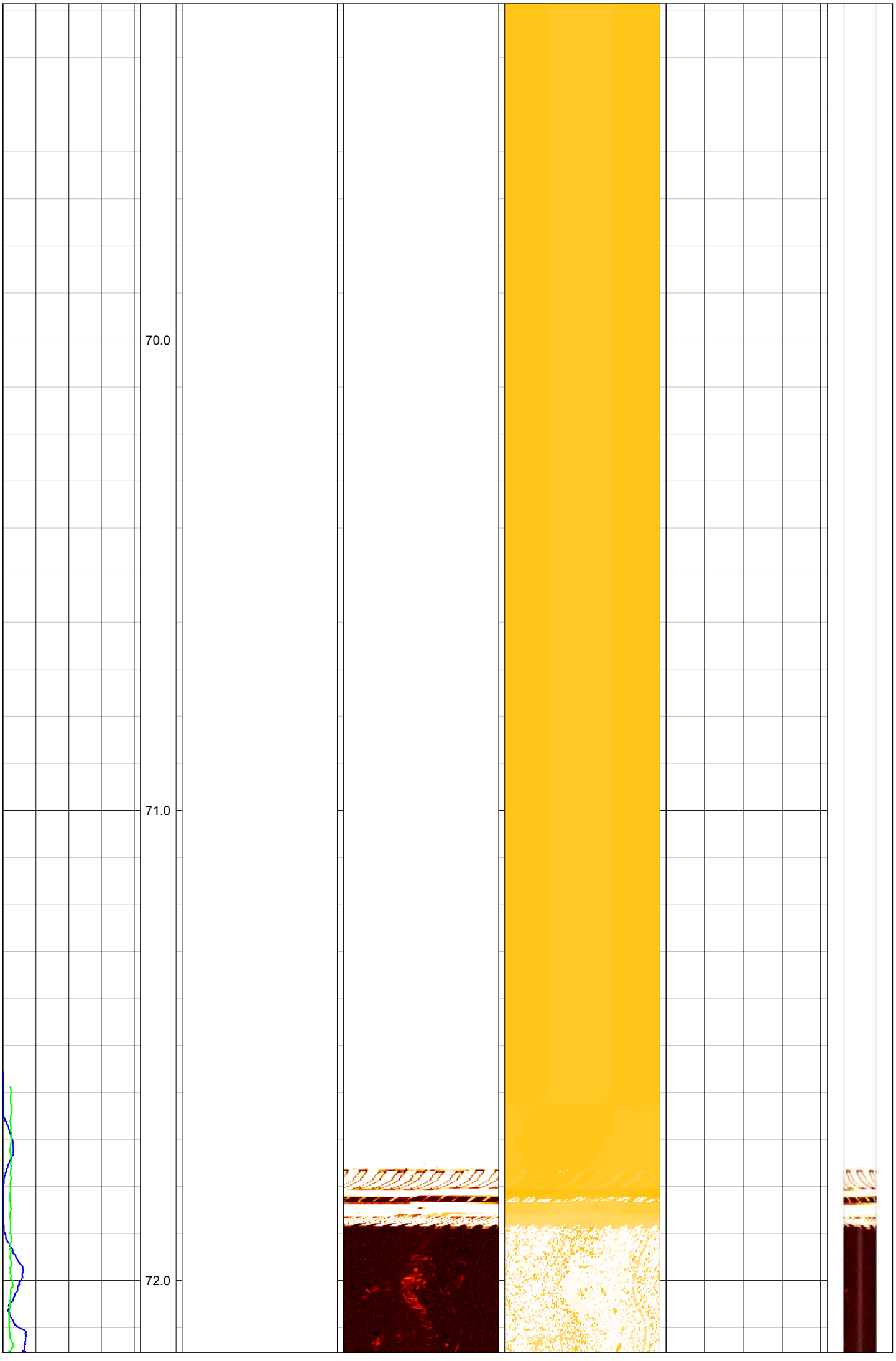
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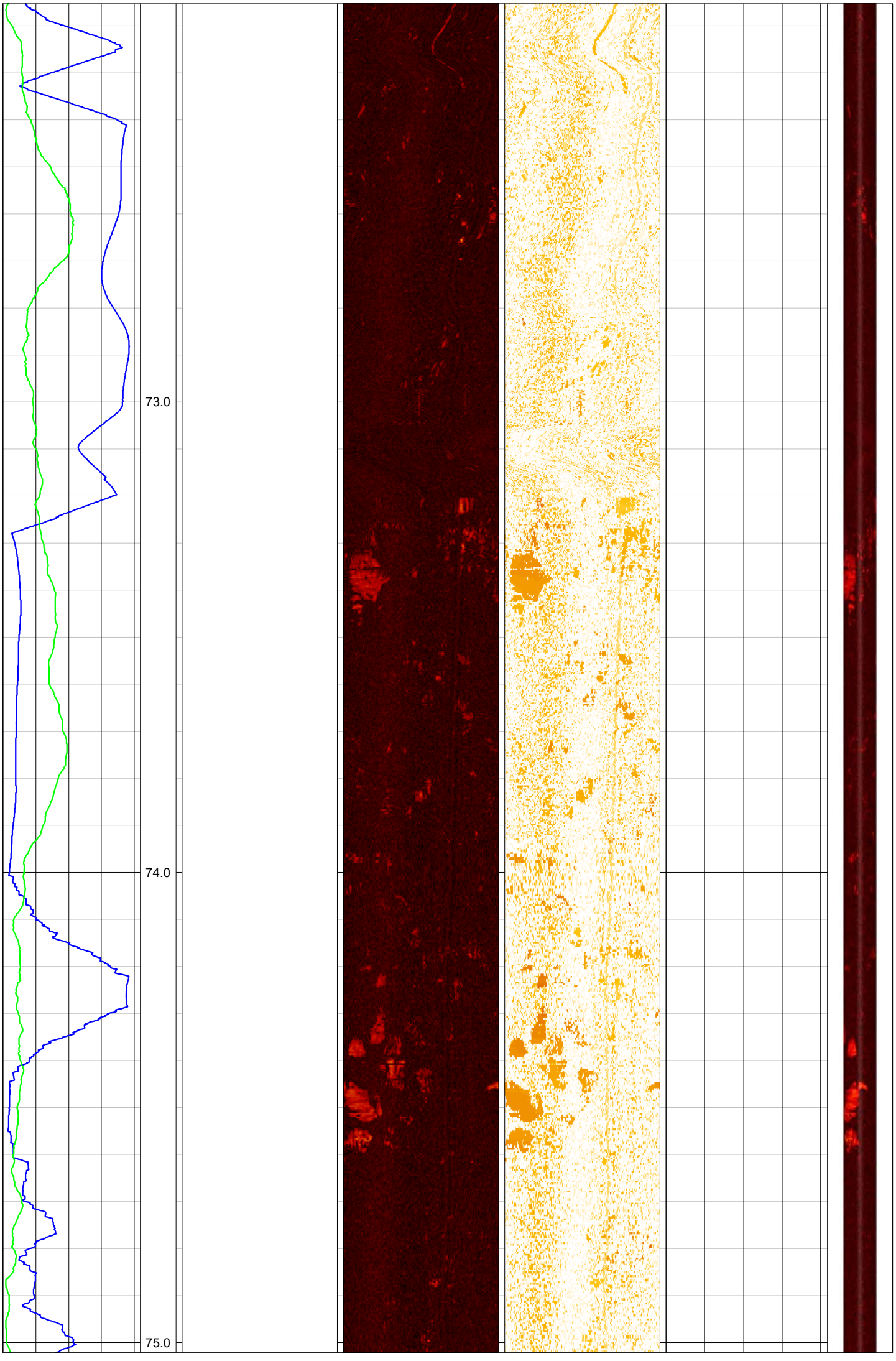
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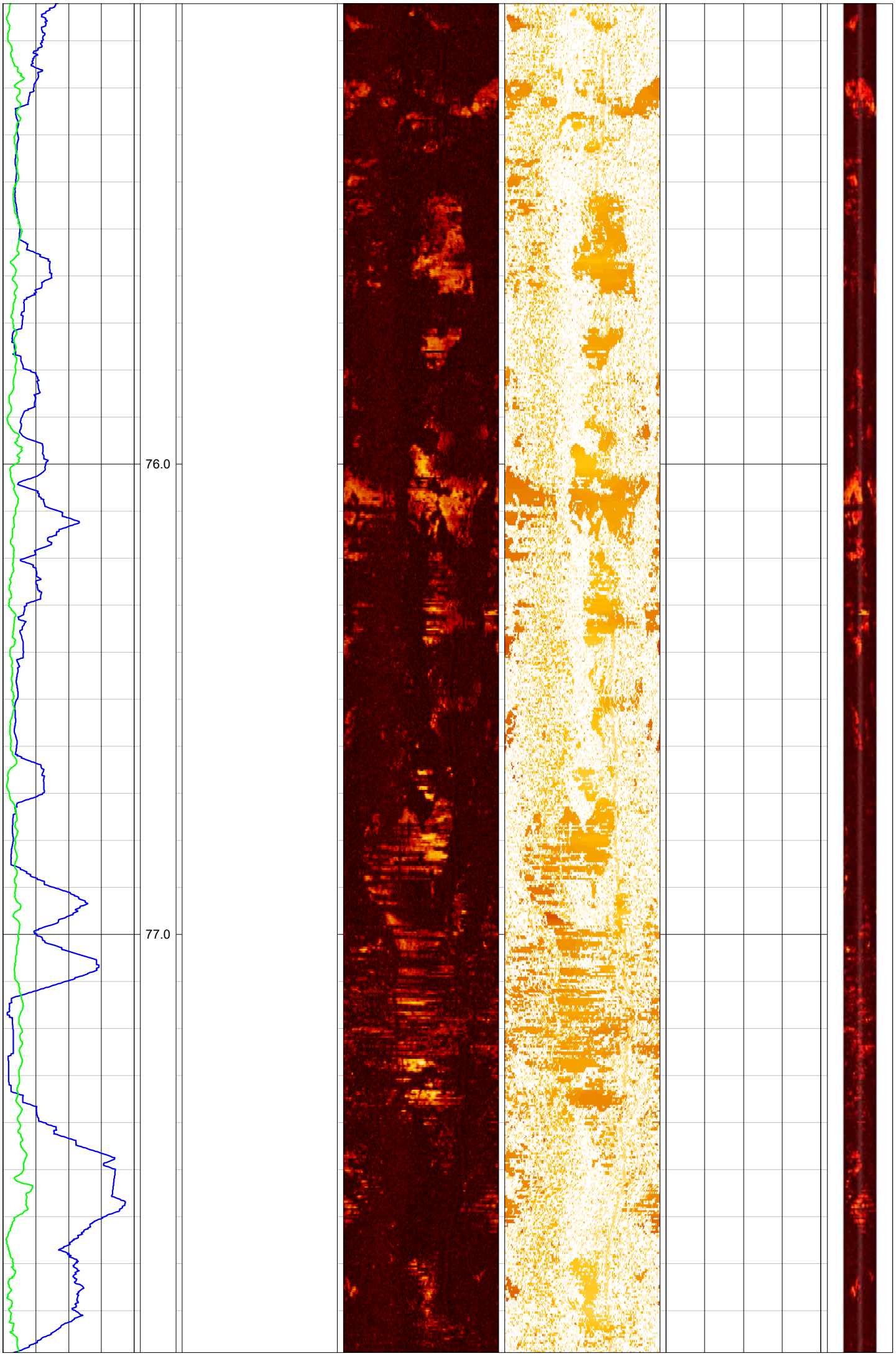
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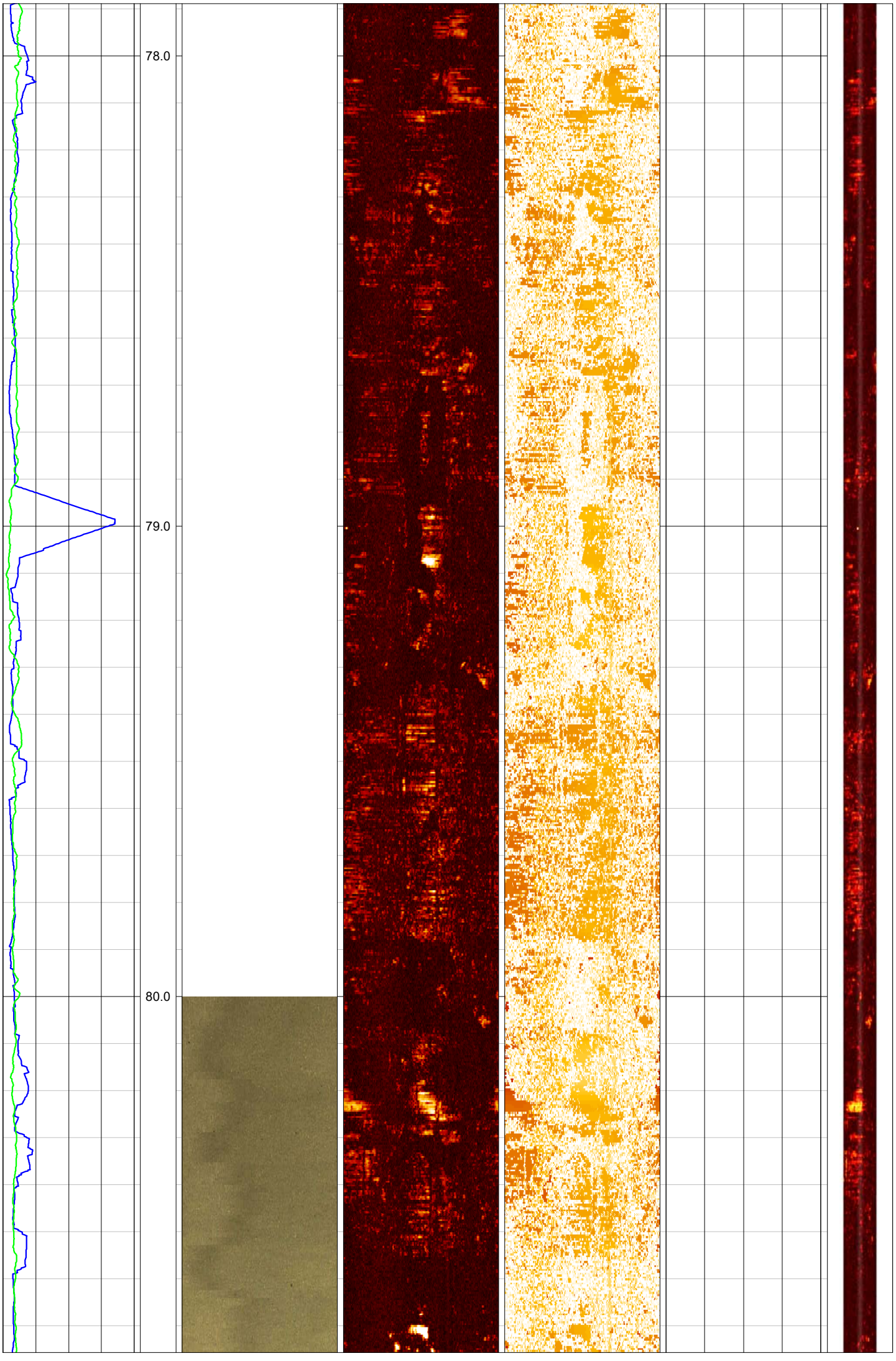
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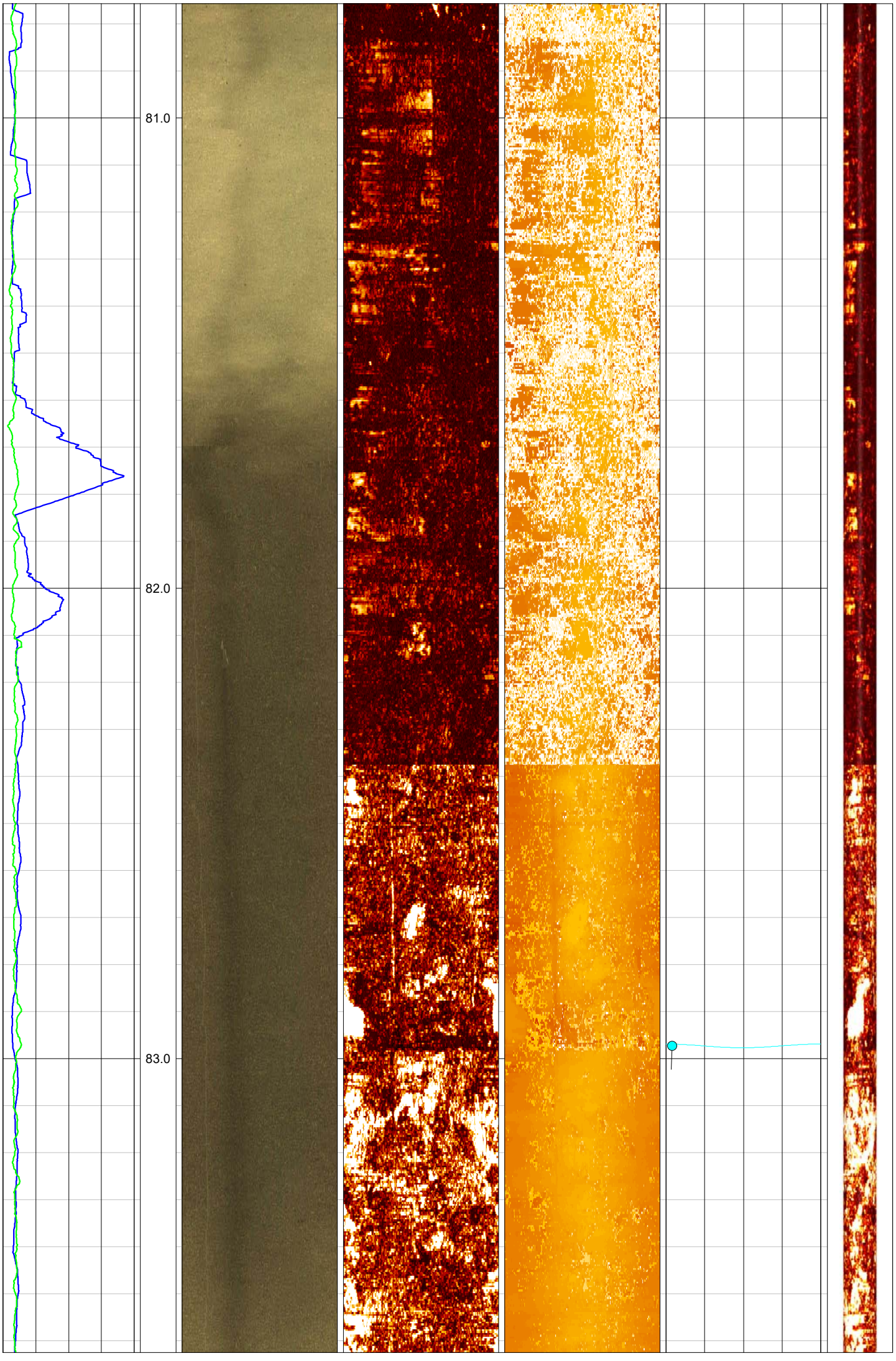
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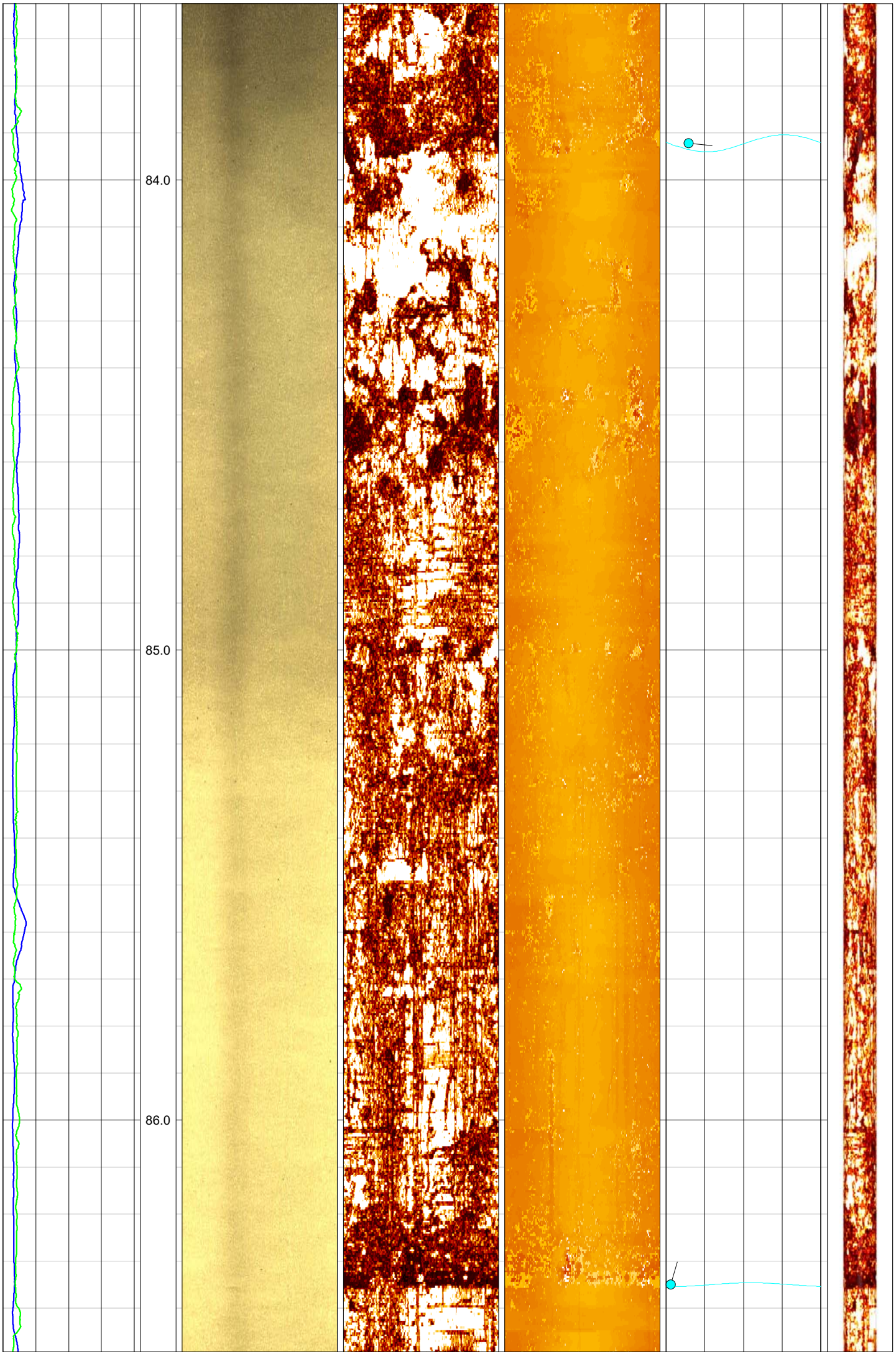
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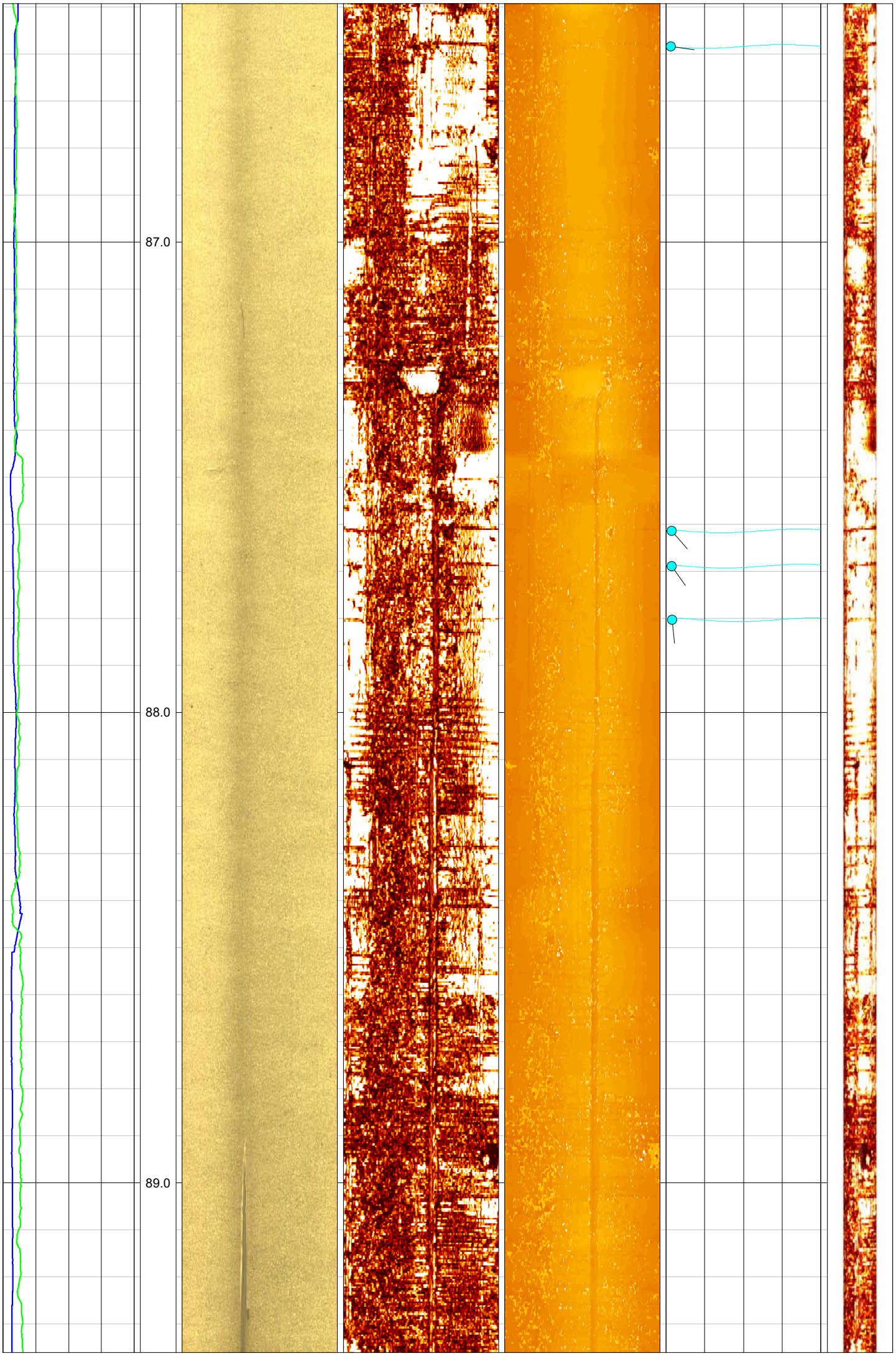
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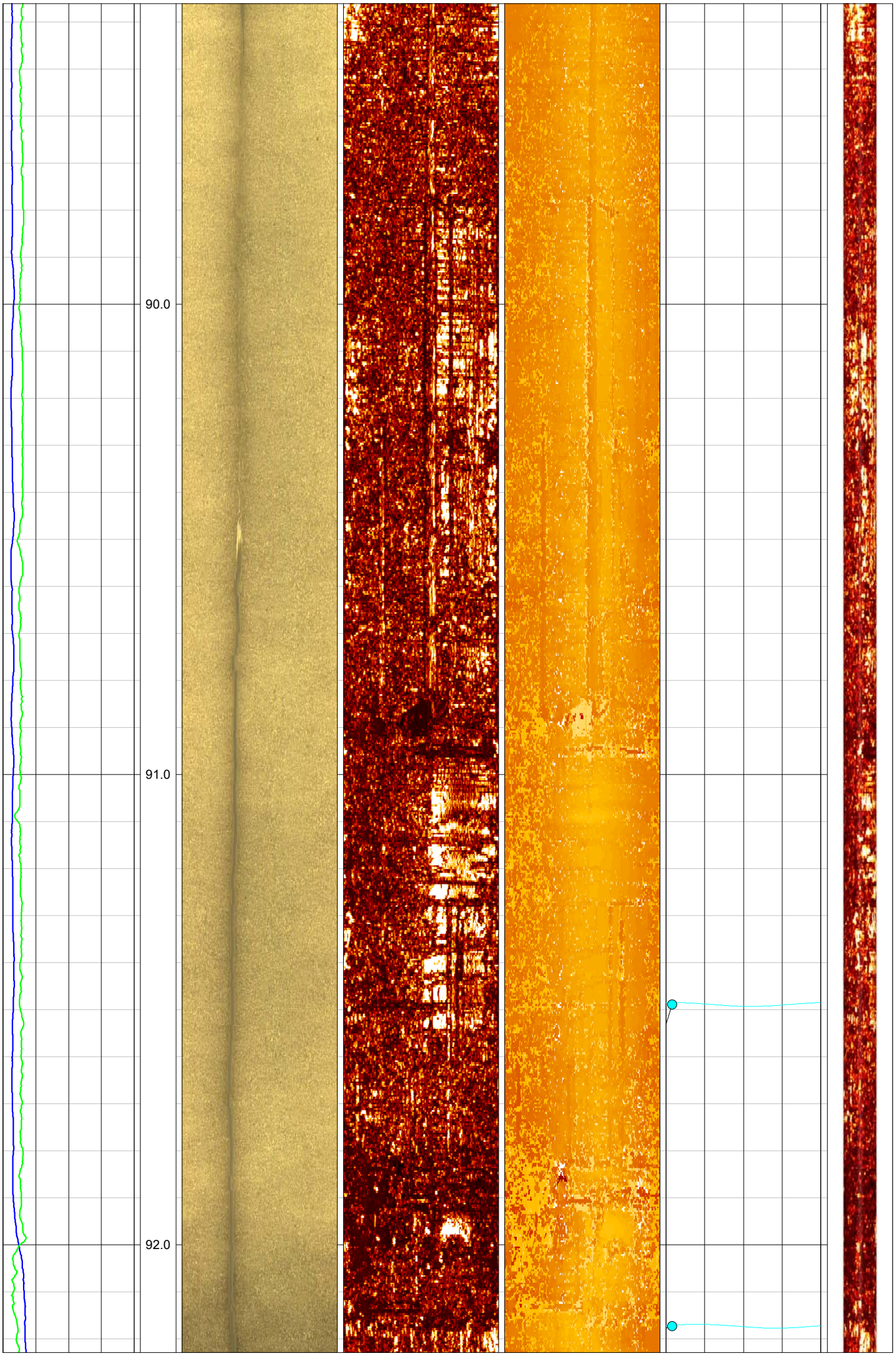
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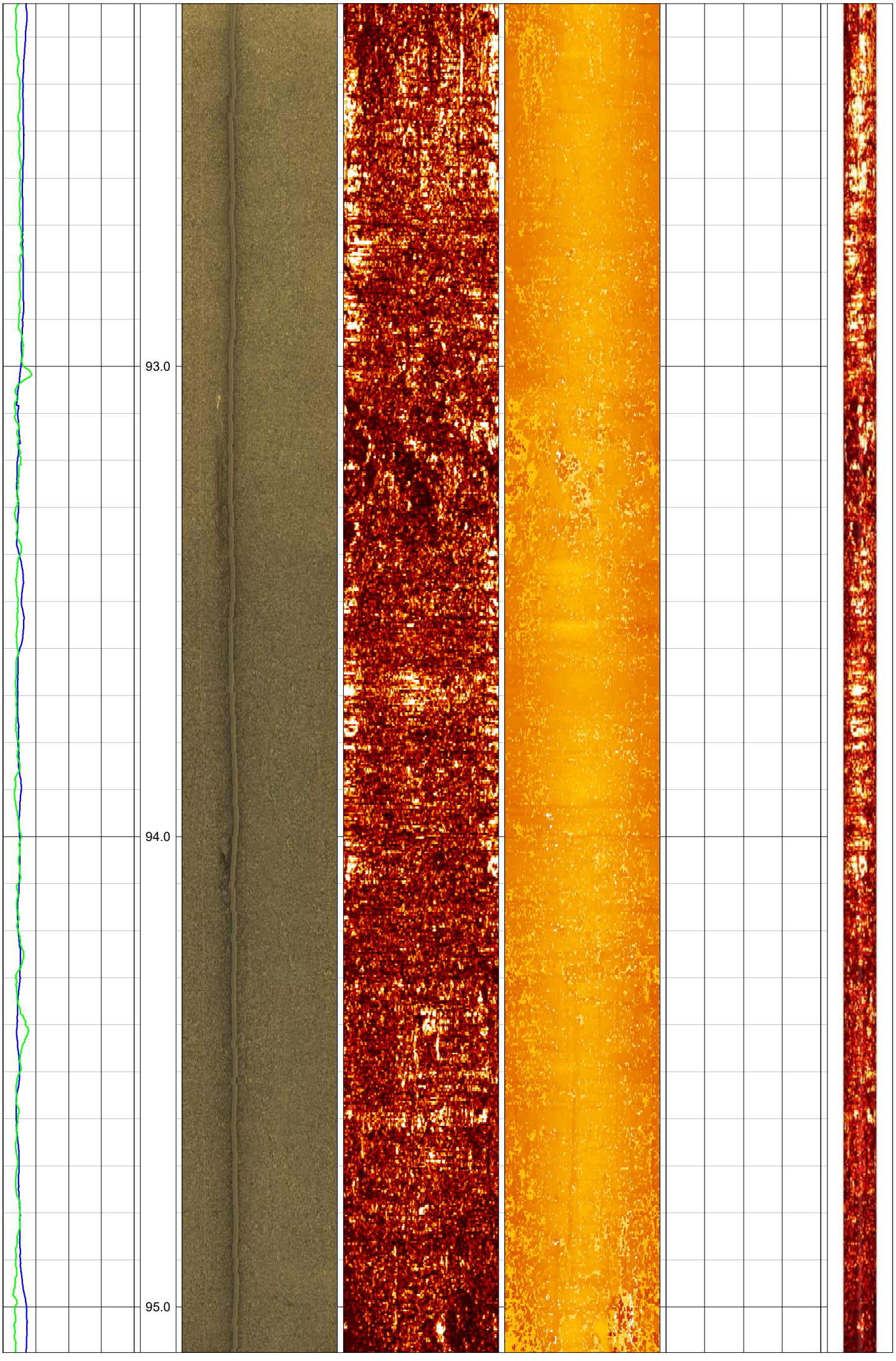
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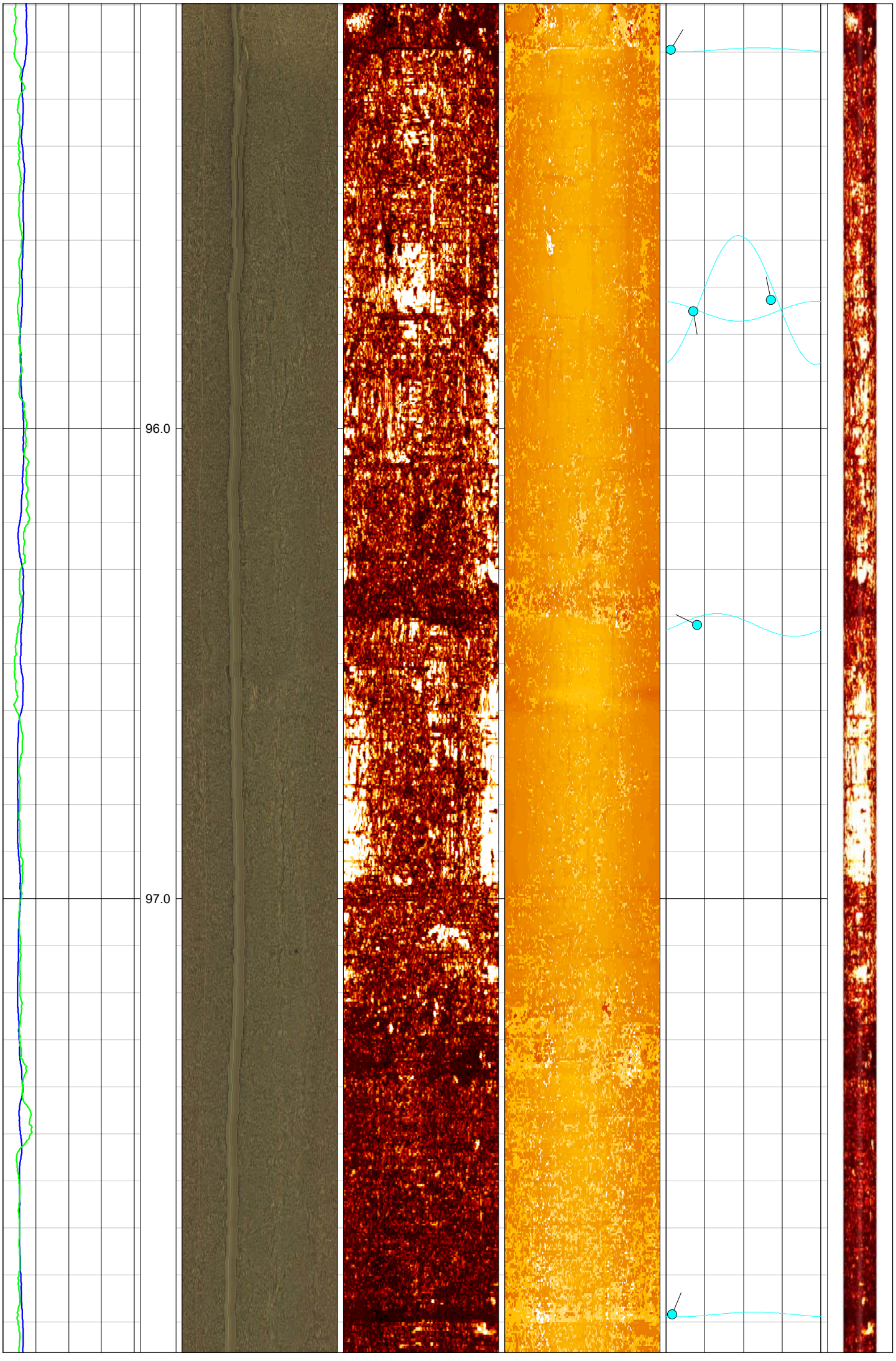
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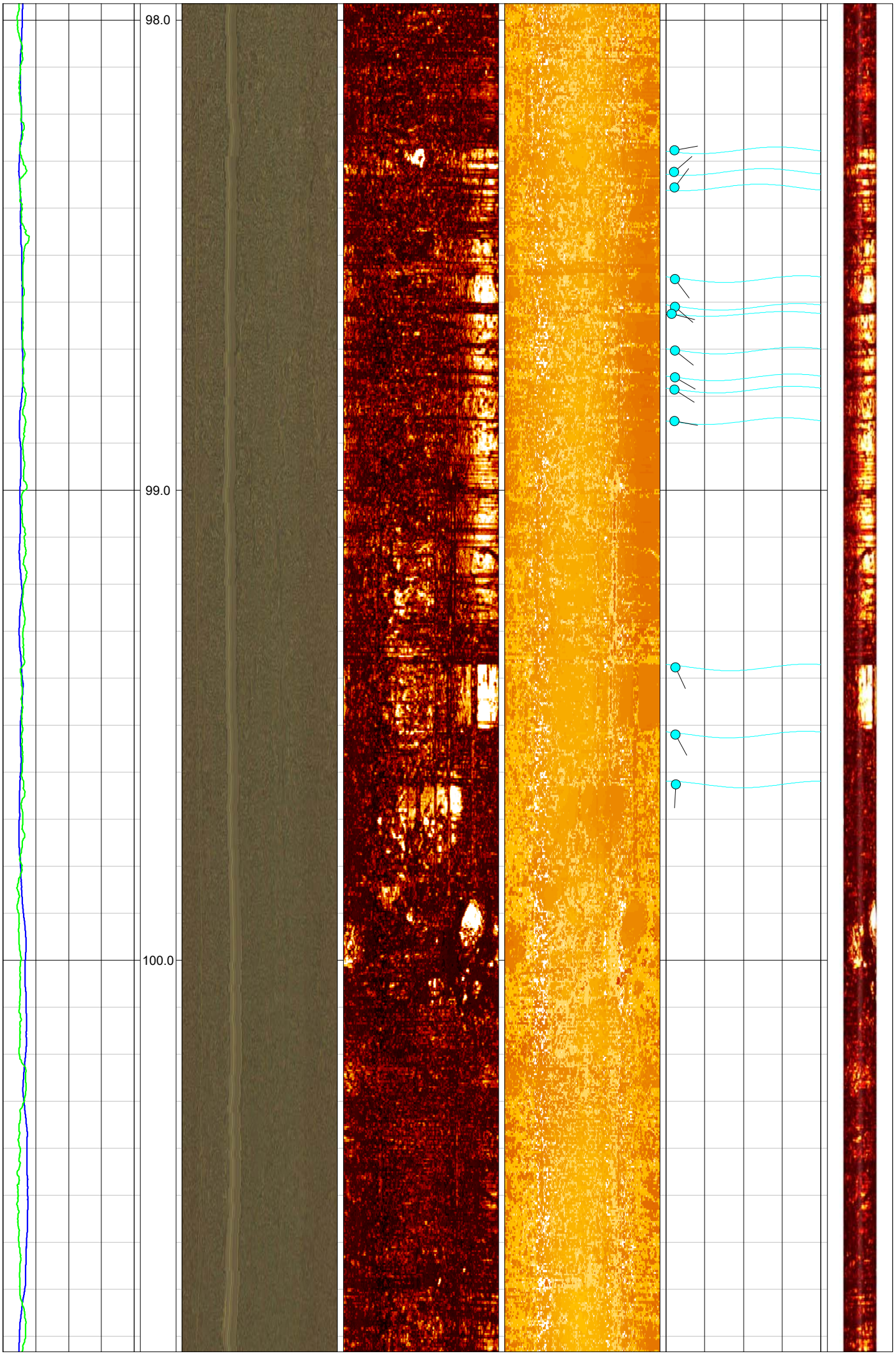
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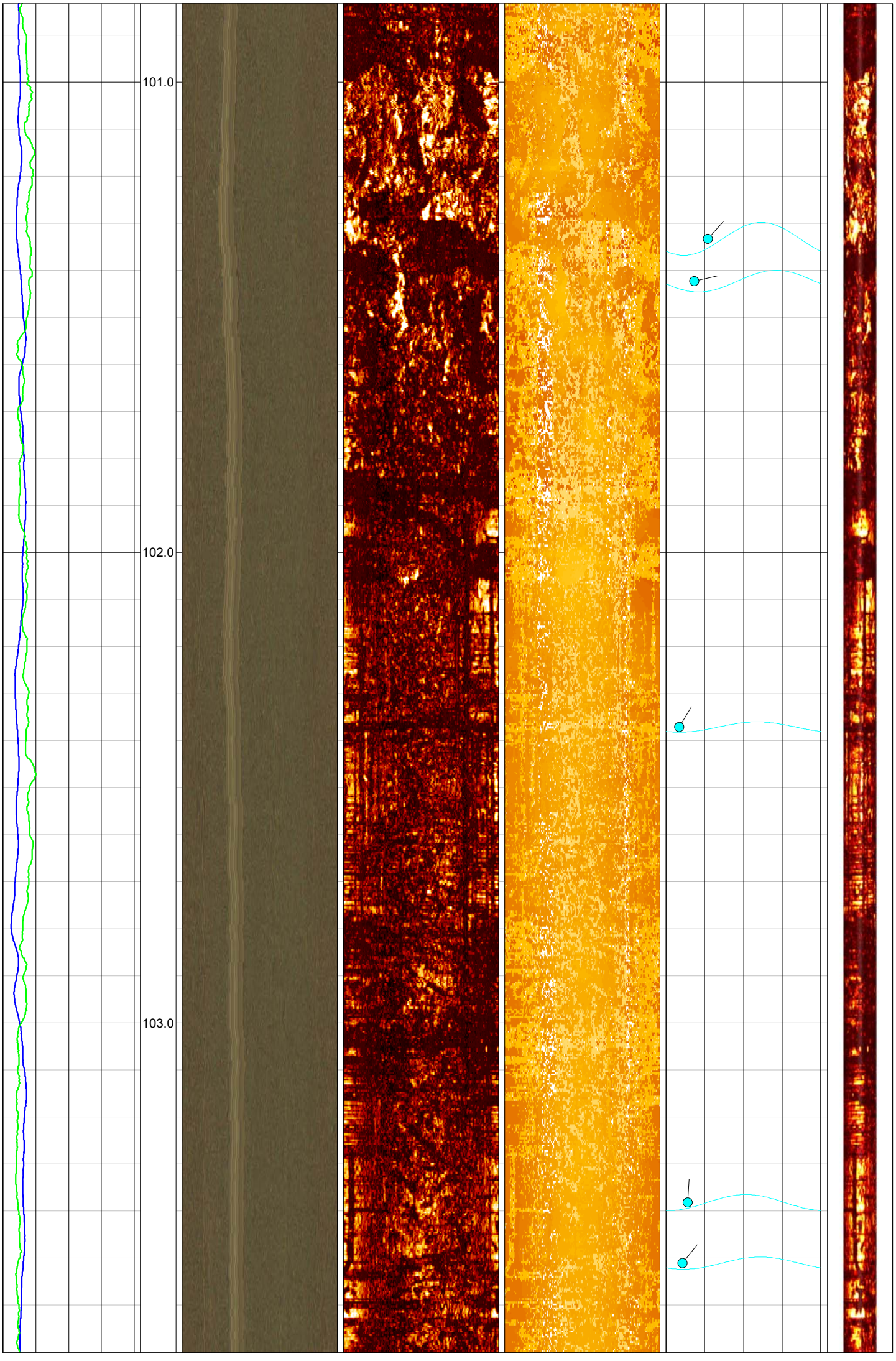
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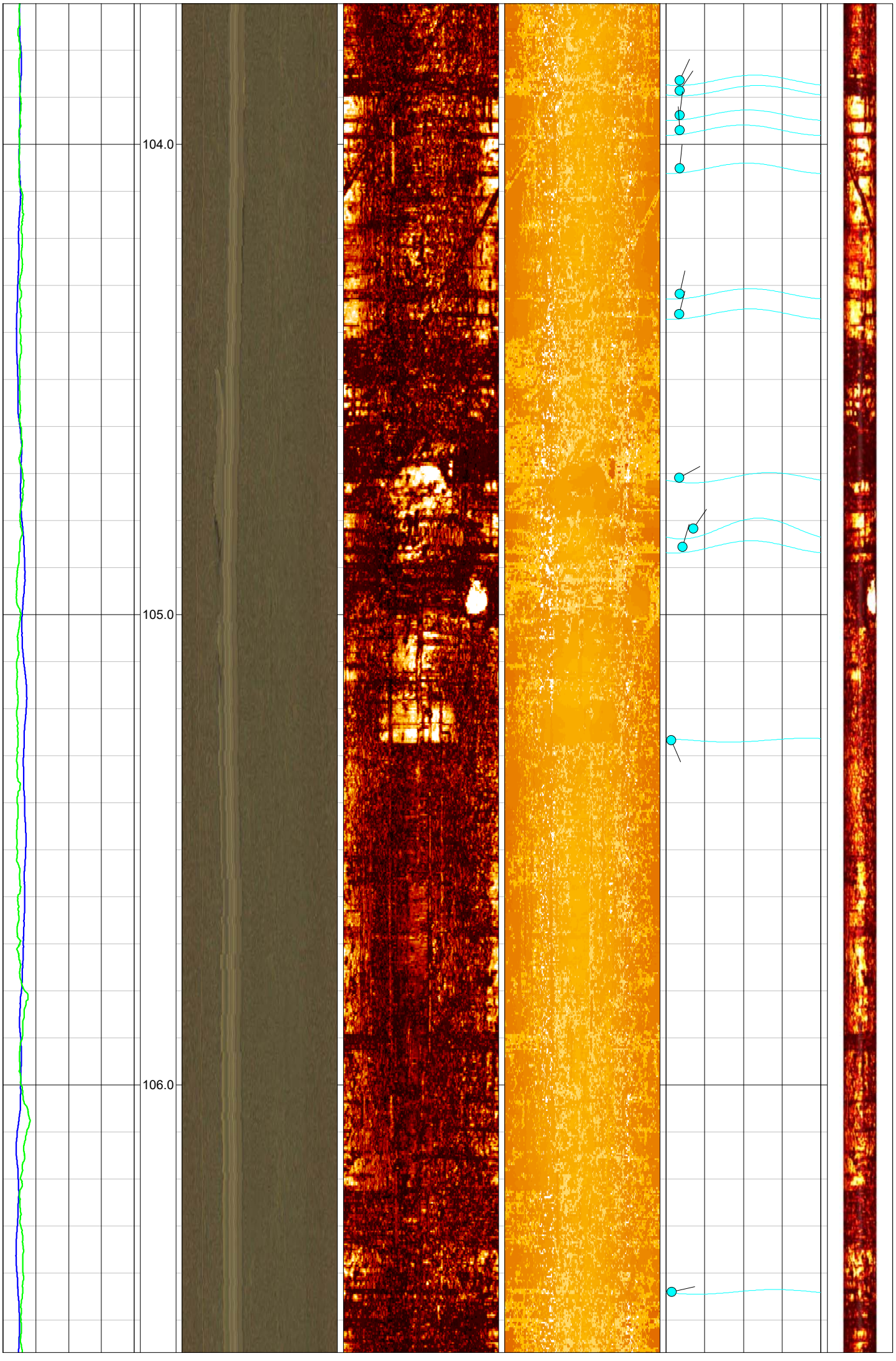
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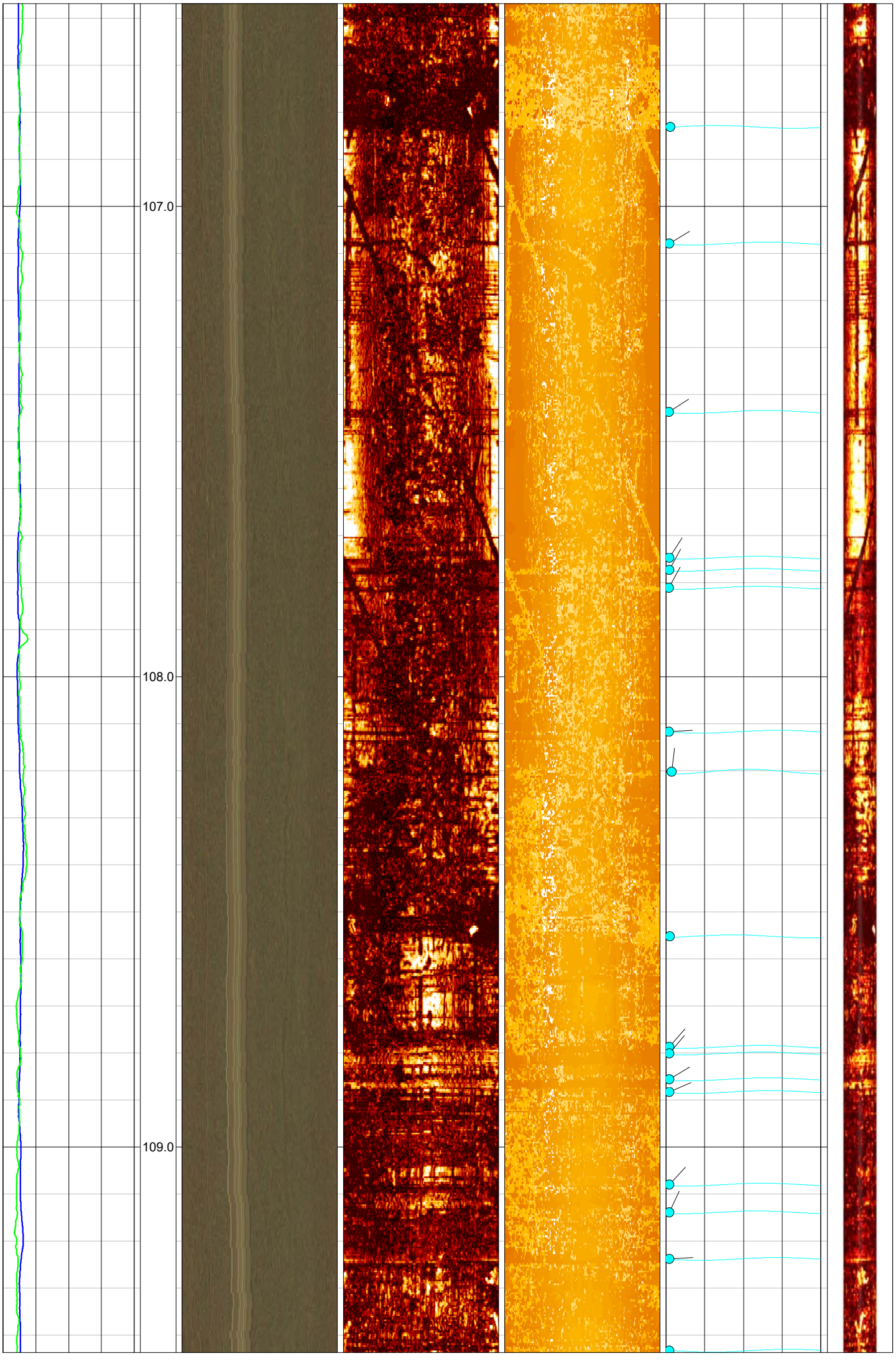
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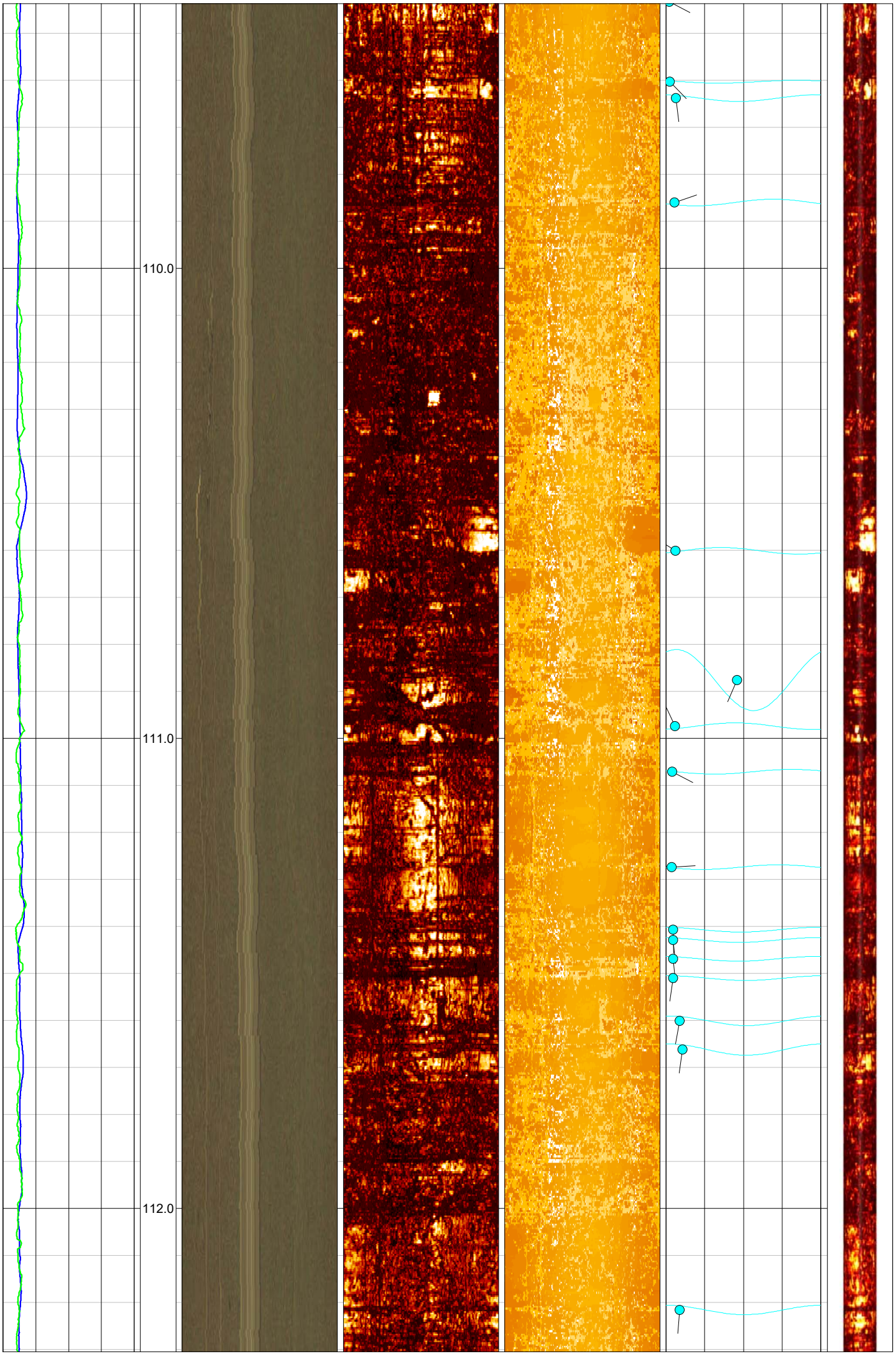
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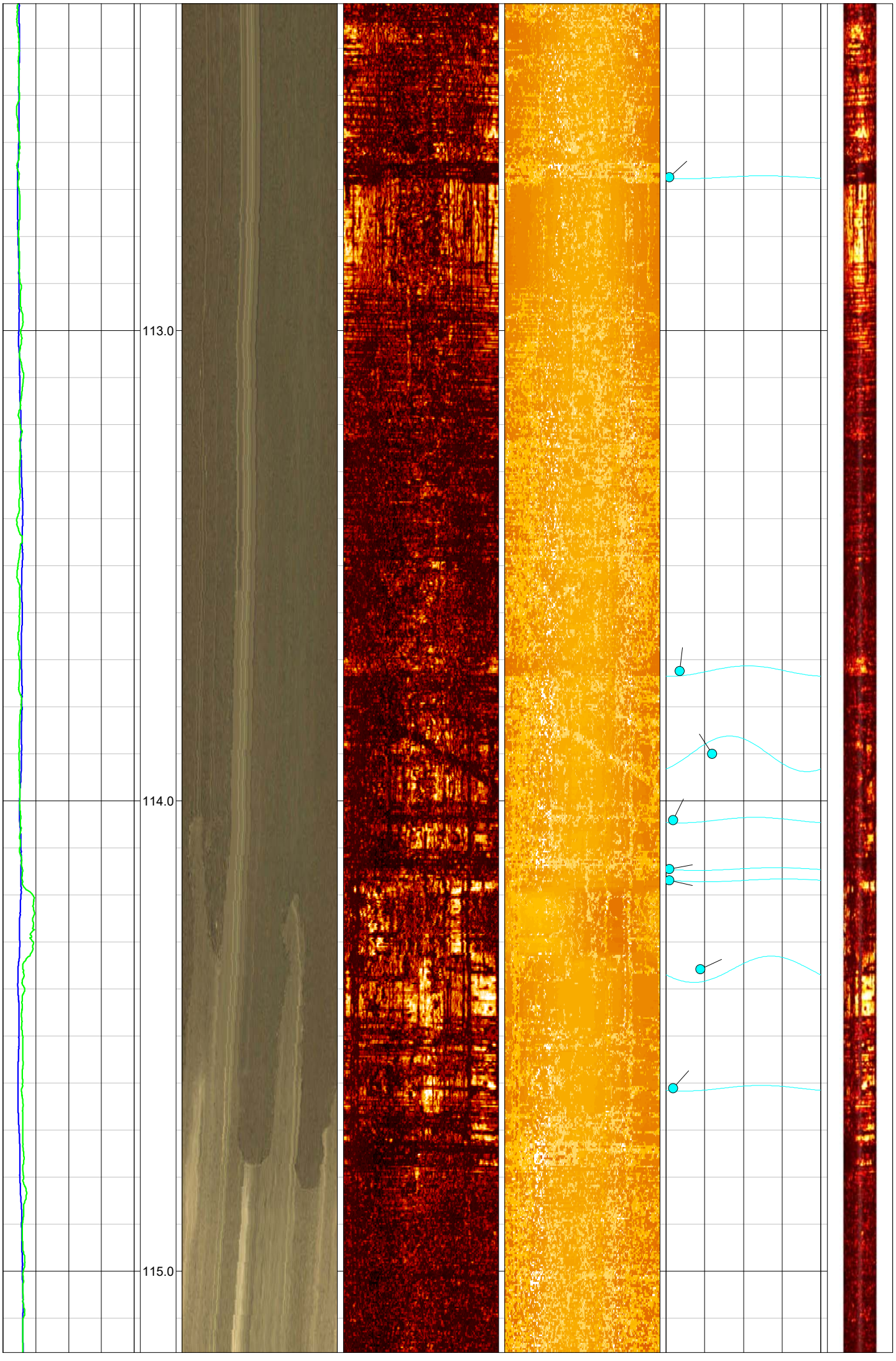
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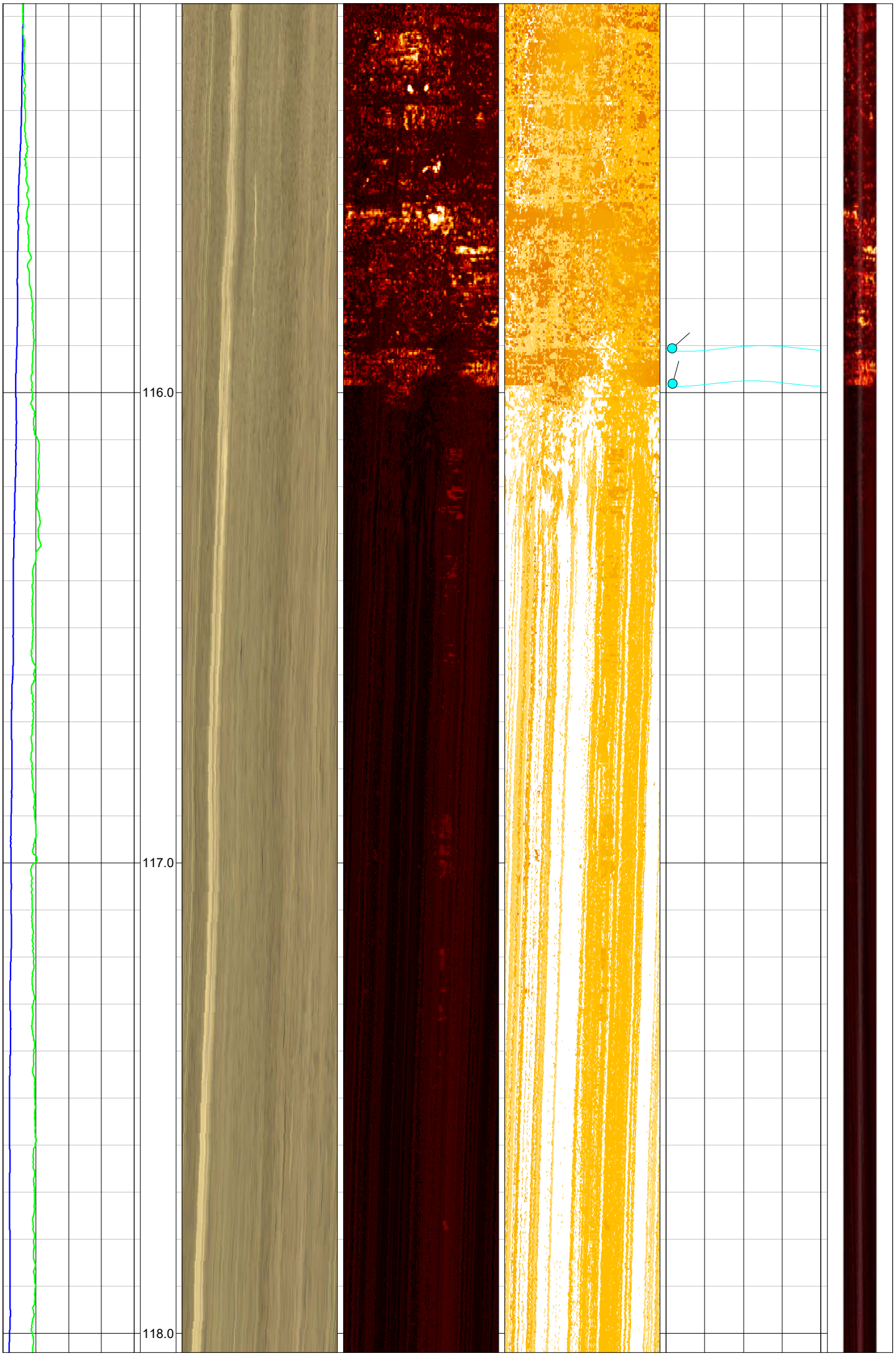
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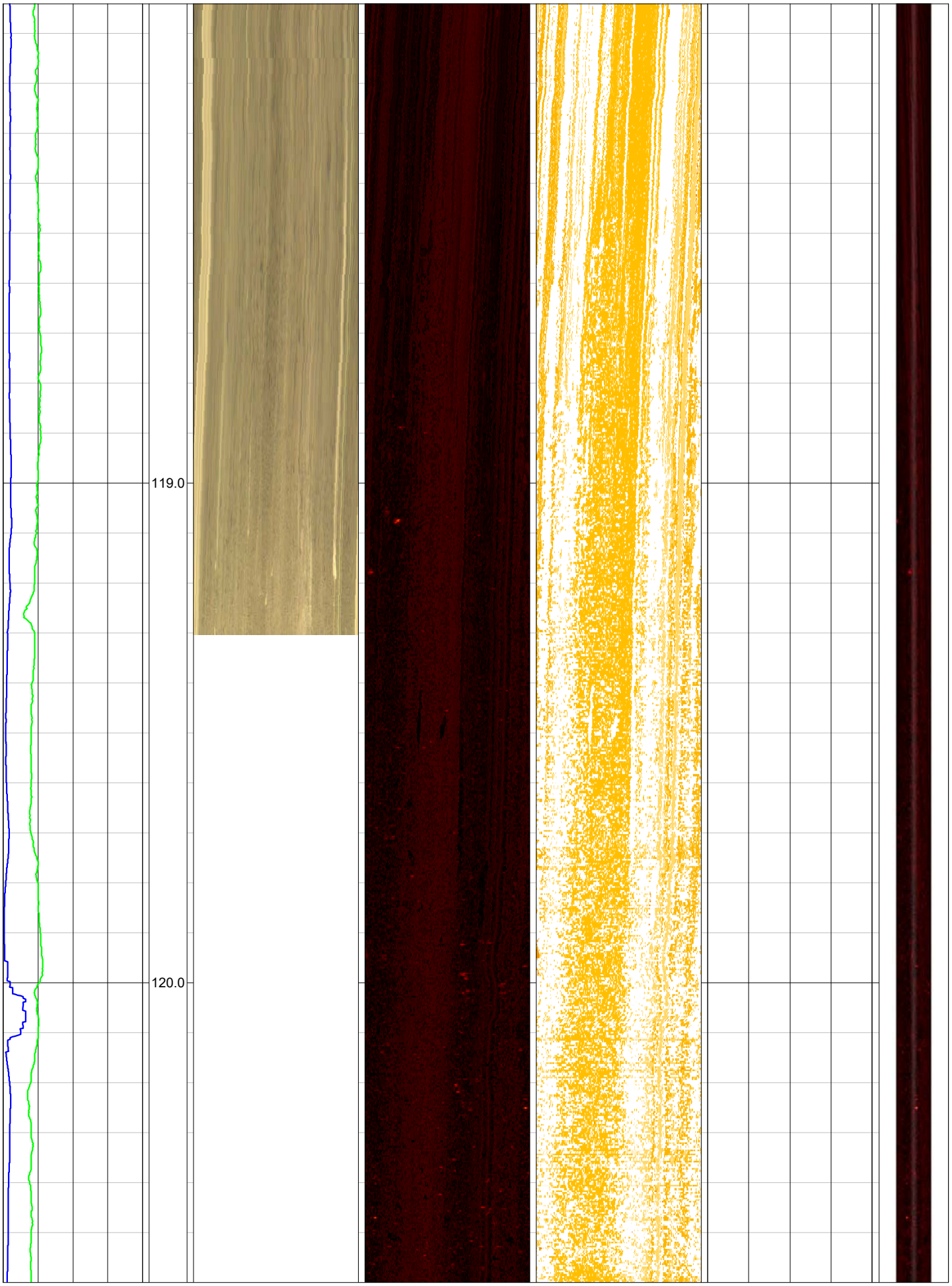

119.0
120.0

EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-2**

Log Type: ***Rose***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220 264208.6** Elevation: **1.696**

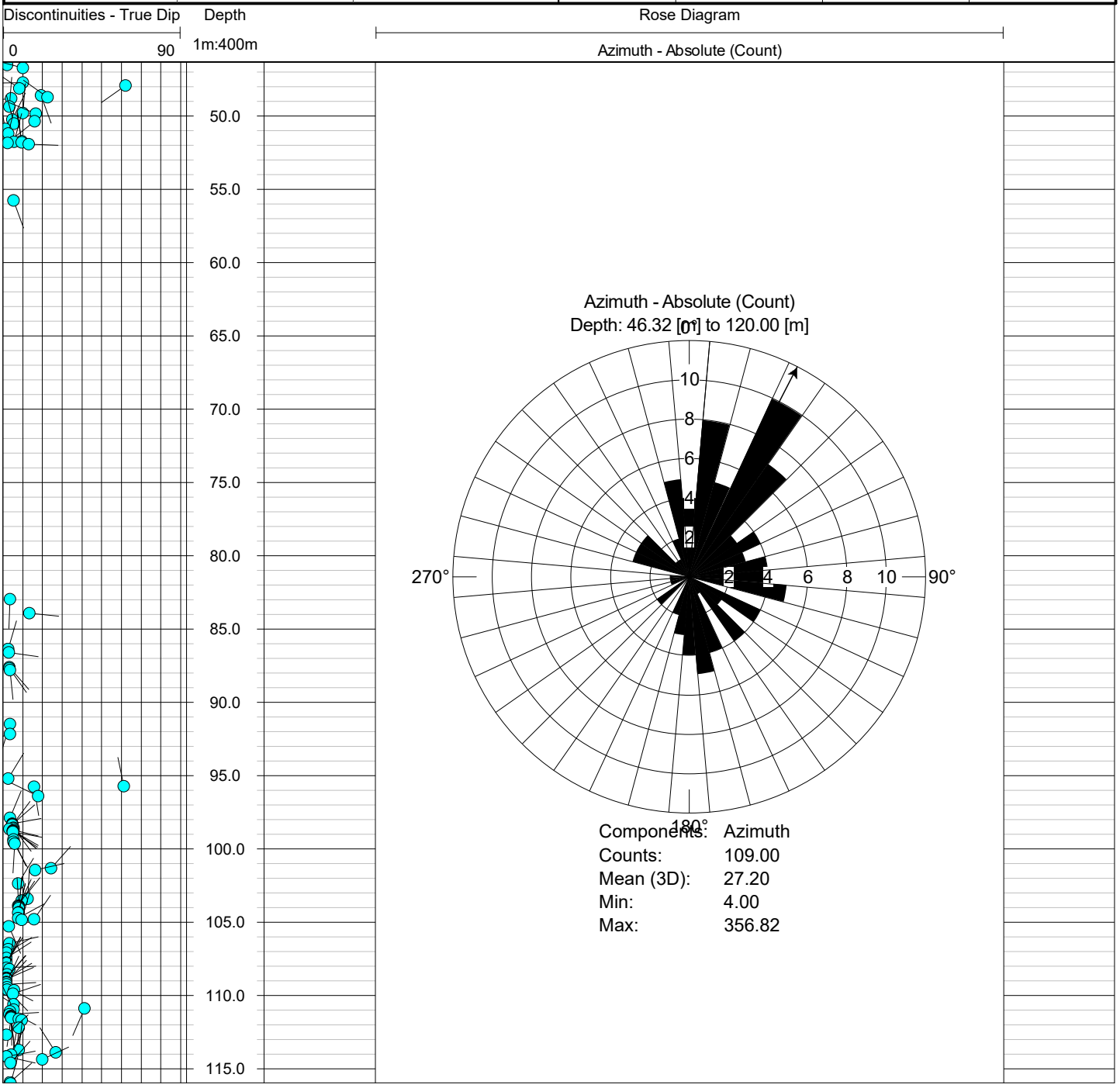
Drilled Depth: (m)	**120.0**	Date:	**9.9.19, 10.9.19**
Logged Depth: (m)	**120.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 80.7m, then 71.7m, then 41.5m. Borehole collapsed to 63m after final pull. Actively backfilling during logging, up to 59m on final log, hence missing section on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**44.8 - 63.2 & 71.9 - 120.6**		
Fluid Level: (m)	**0.0**		

BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**44.4**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**44.4**
Geobore	**127**	**0**	**As above**



EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-2**

Log Type: ***Stereonet***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647220 264208.6** Elevation: **1.696**

Drilled Depth: (m)	**120.0**	Date:	**9.9.19, 10.9.19**
Logged Depth: (m)	**120.0**	Recorded By:	**M. Kynaston**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 80.7m, then 71.7m, then 41.5m. Borehole collapsed to 63m after final pull. Actively backfilling during logging, up to 59m on final log, hence missing section on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**44.8 - 63.2 & 71.9 - 120.6**		
Fluid Level: (m)	**0.0**		

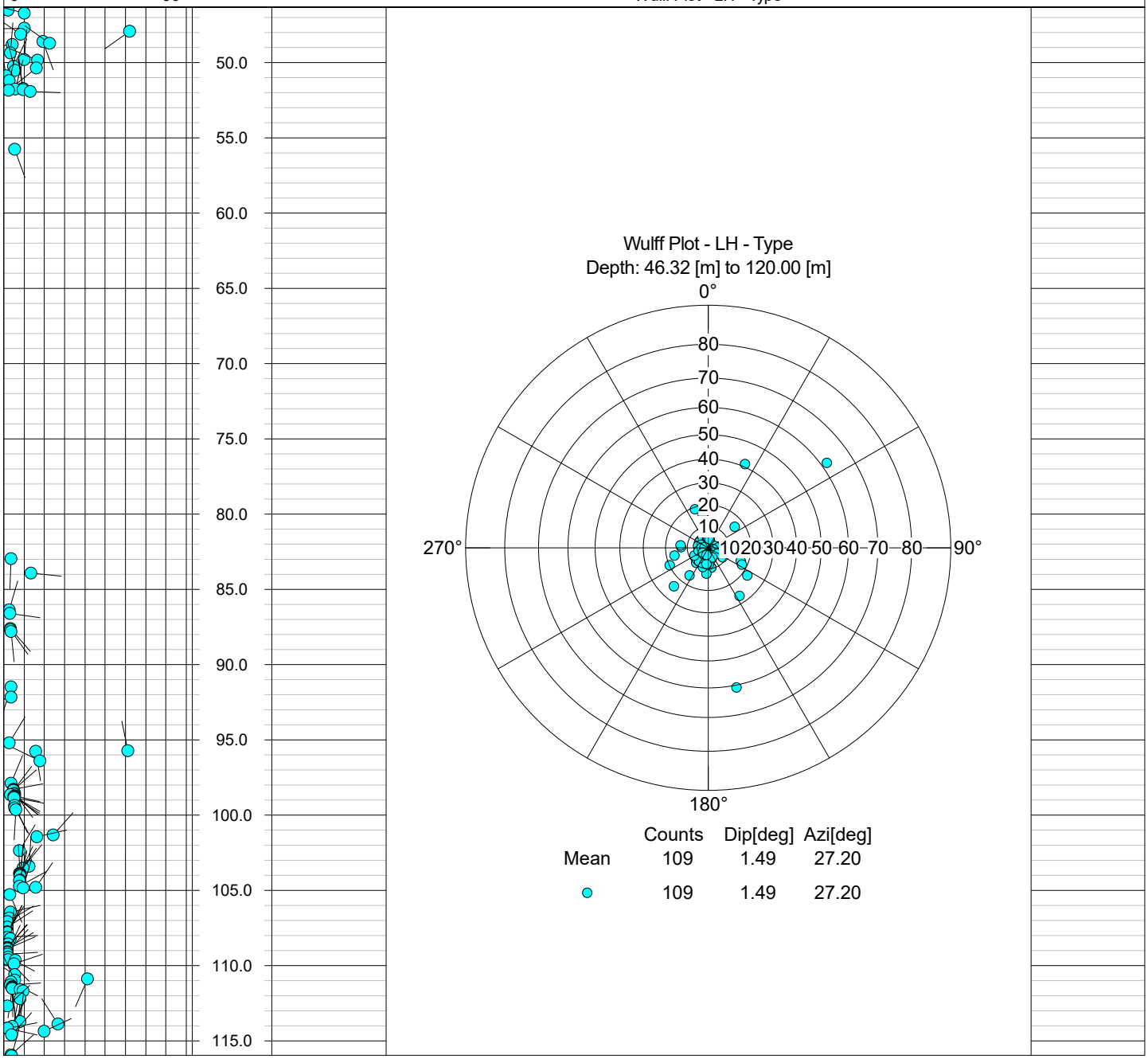
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**44.4**	**120.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Steel	**200**	**0**	**44.4**
Geobore	**127**	**0**	**As above**

Discontinuities - True Dip 0 90 | Depth 1m:400m | Stereonet Wulff Plot - LH - Type



EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-4**

Log Type: ***Composite***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647450.9 264214.2** Elevation: **1.85**

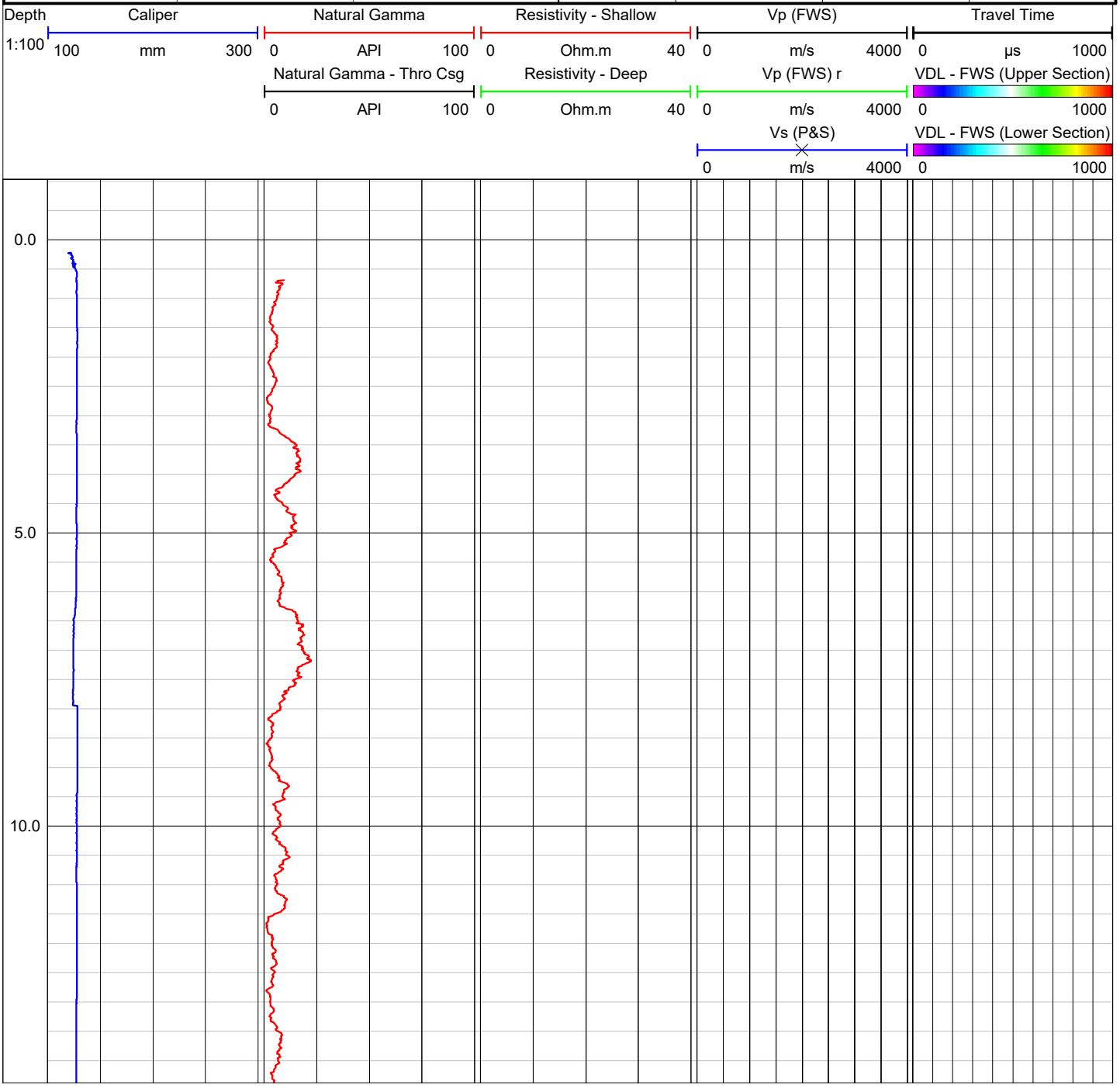
Drilled Depth: (m)	**103.0**	Date:	**29.08.19, 30.08.19**
Logged Depth: (m)	**100.0**	Recorded By:	**M. Magill**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 81.8m, then 70.75m, then 46.7m. Borehole collapsed to 100.0m, 78.2m and 56.9m respectively after these pulls, hence missing sections on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**46.7-56.9; 70.7-78.2; 81.8-100**		
Fluid Level: (m)	**0.0**		

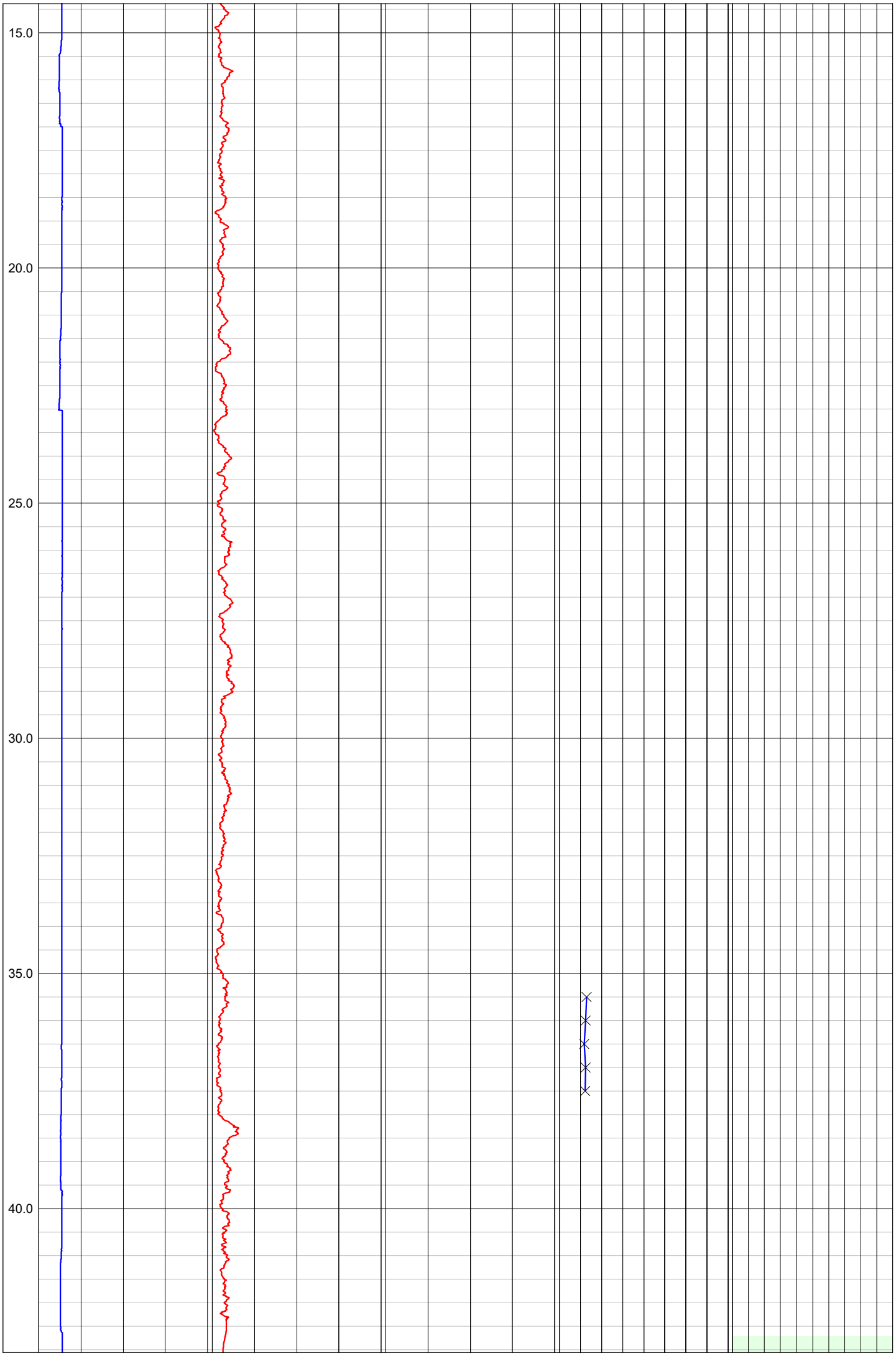
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.7**	**103.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Geobore	**127**	**0.0**	**As above**

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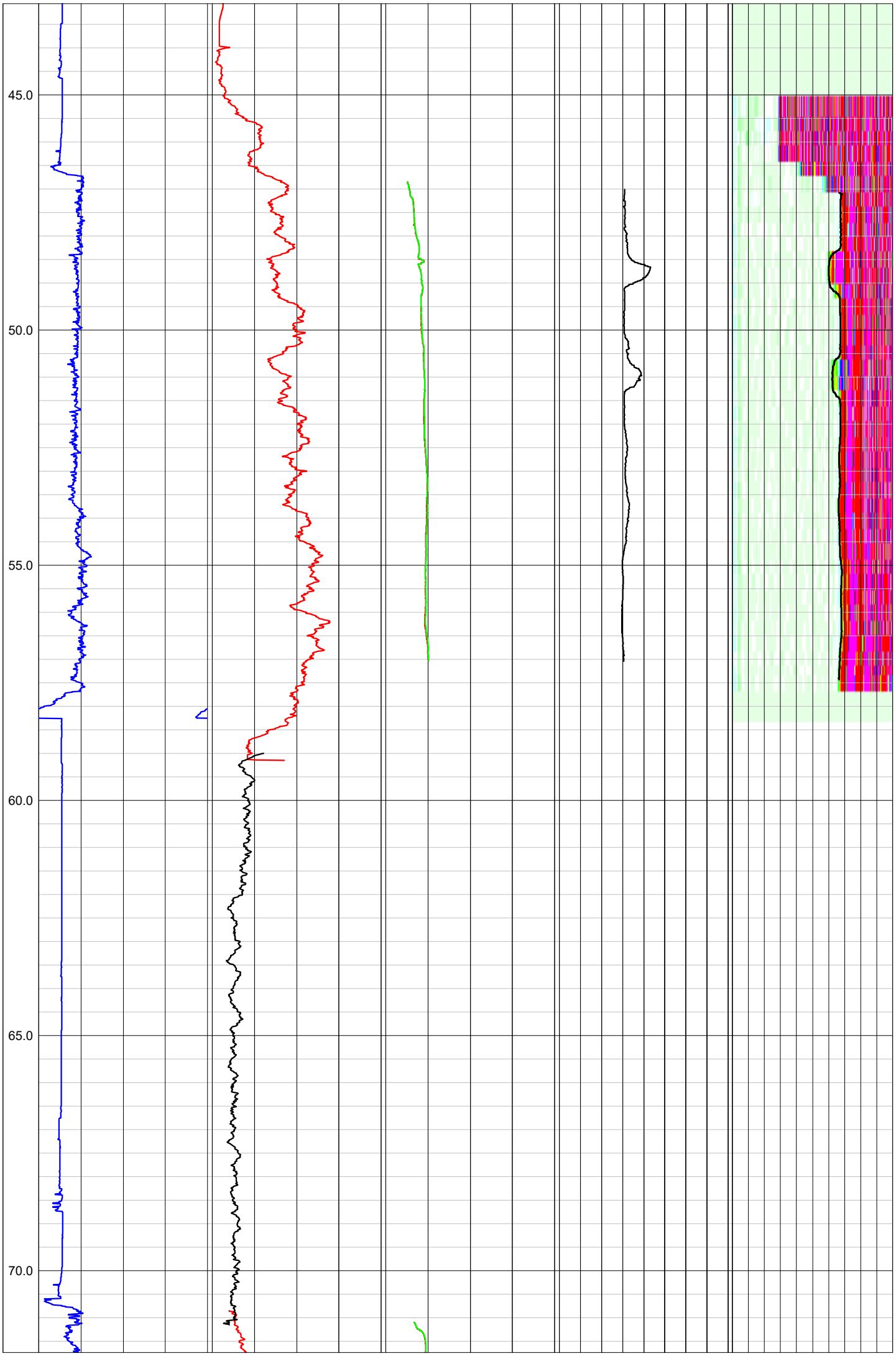
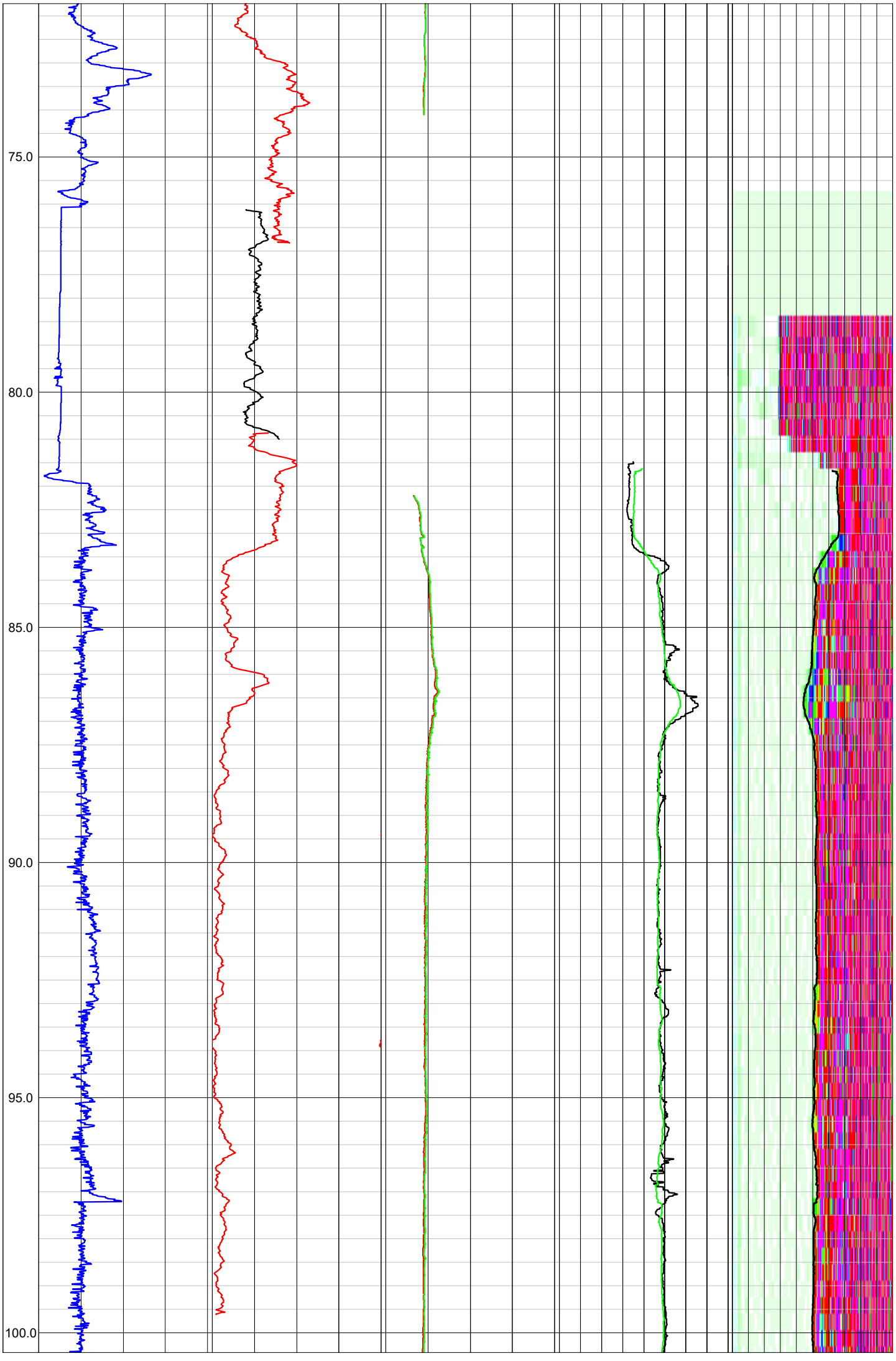
30.0
35.0
40.0


45.0
50.0
55.0
60.0
65.0
70.0


75.0
80.0
85.0
90.0
95.0
100.0

EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-4**

Log Type: ***Image***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647450.9 264214.2** Elevation: **1.85**

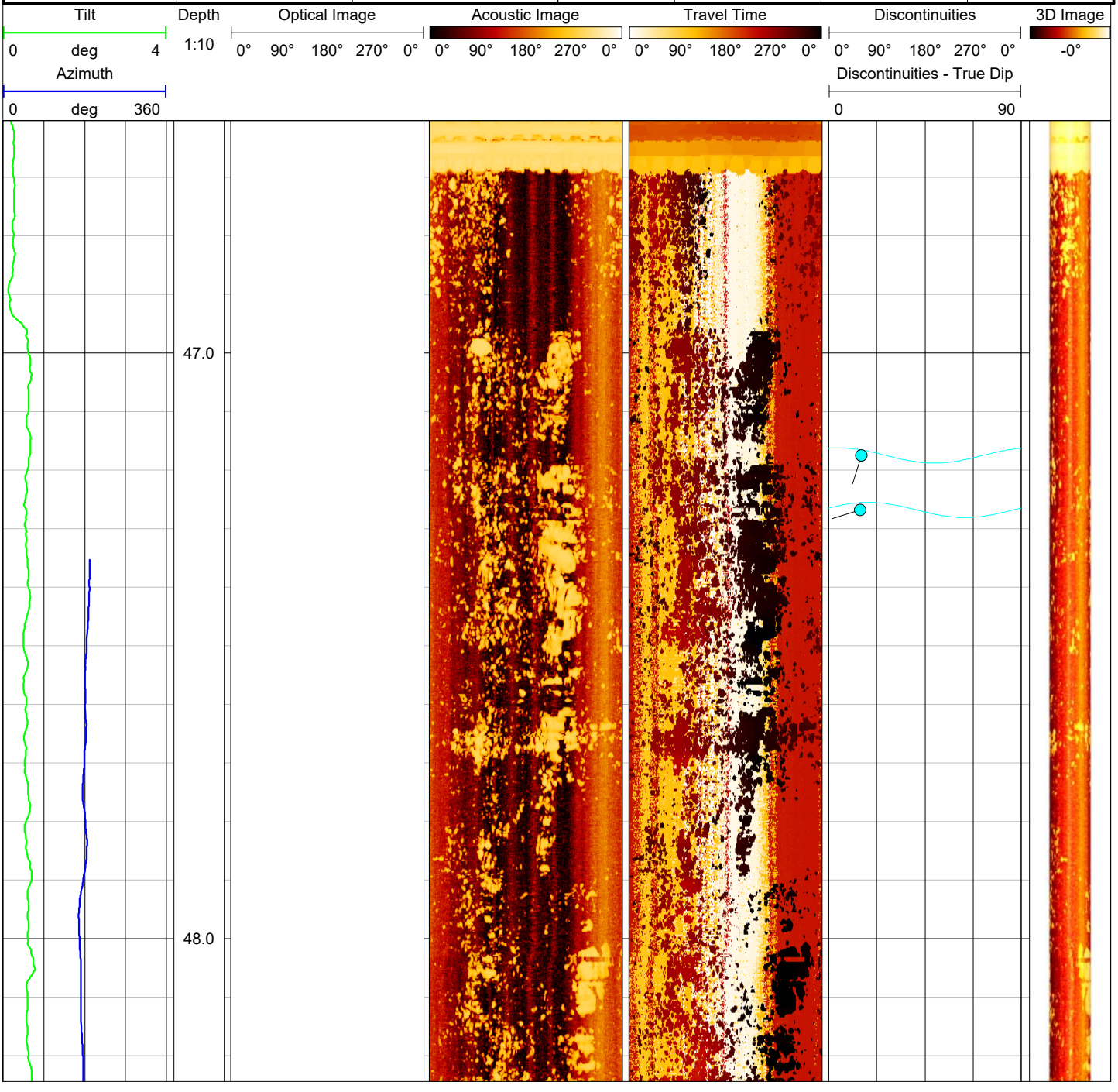
Drilled Depth: (m)	**103.0**	Date:	**29.08.19, 30.08.19**
Logged Depth: (m)	**100.0**	Recorded By:	**M. Magill**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 81.8m, then 70.75m, then 46.7m. Borehole collapsed to 100.0m, 78.2m and 56.9m respectively after these pulls, hence missing sections on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**46.7-56.9m, 70.75-78.2m, 81.8 - 100m**		
Fluid Level: (m)	**0.0**		

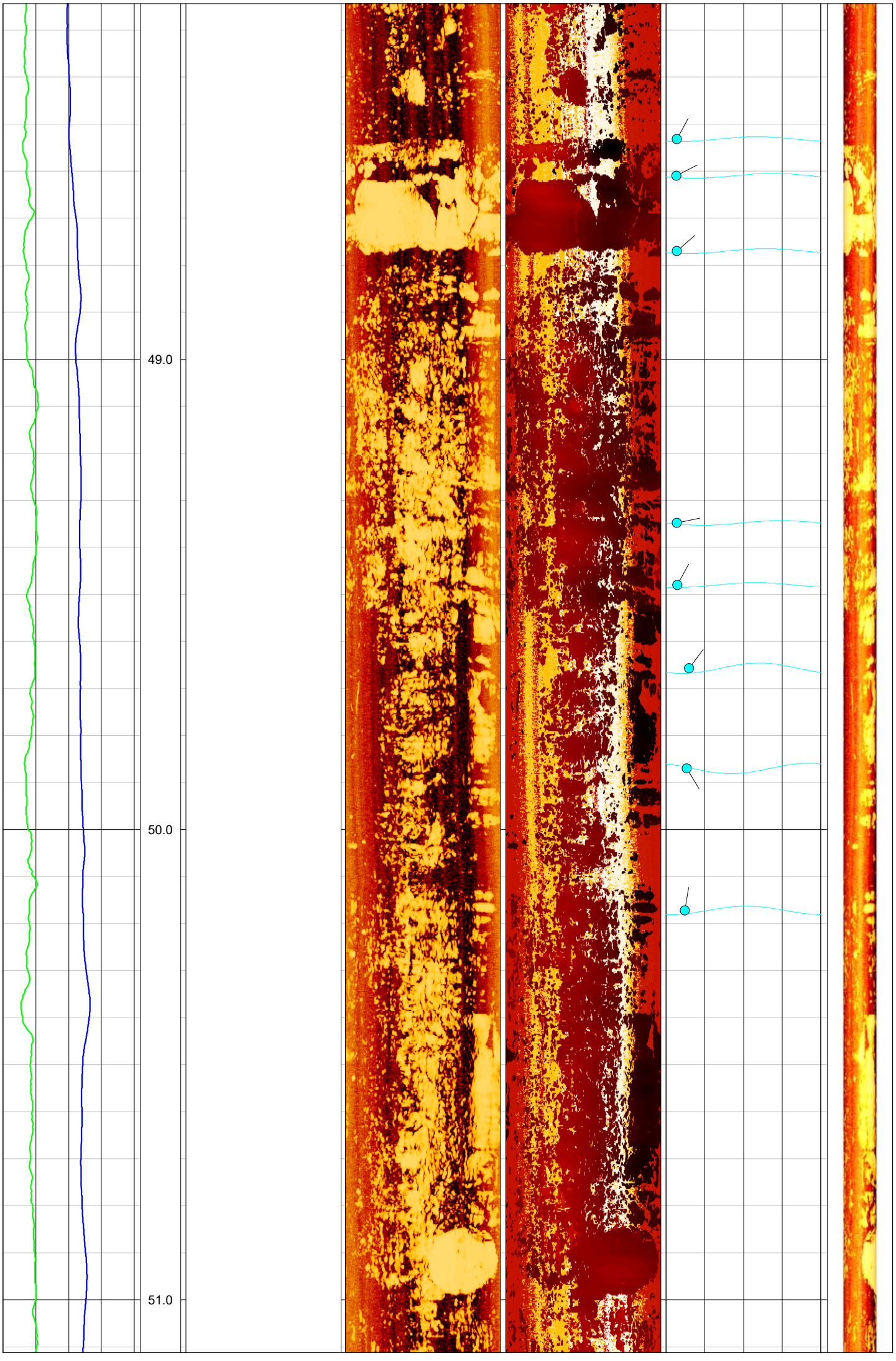
BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.7**	**103.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Geobore	**127**	**0.0**	**As above**

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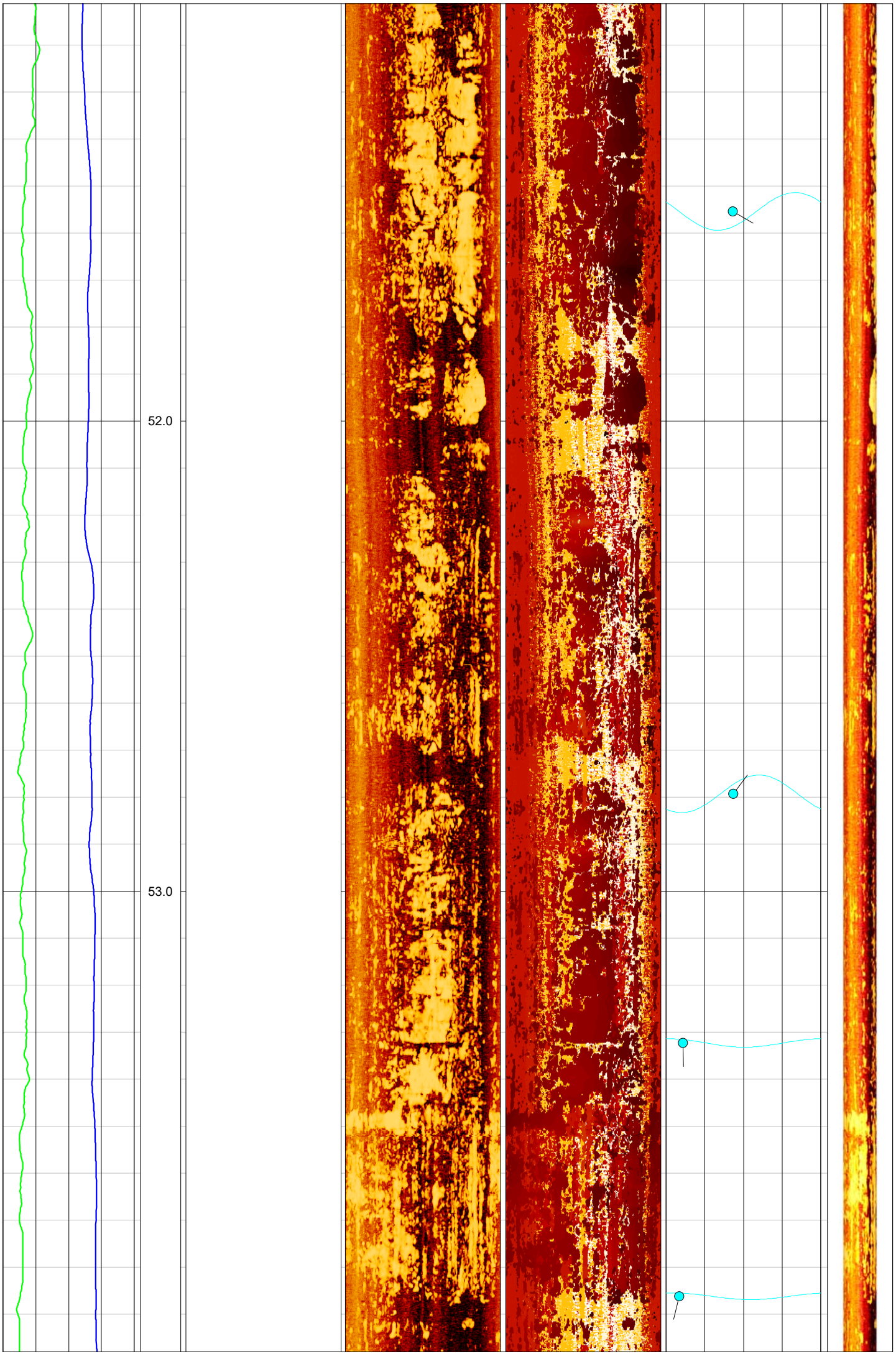
50.0
51.0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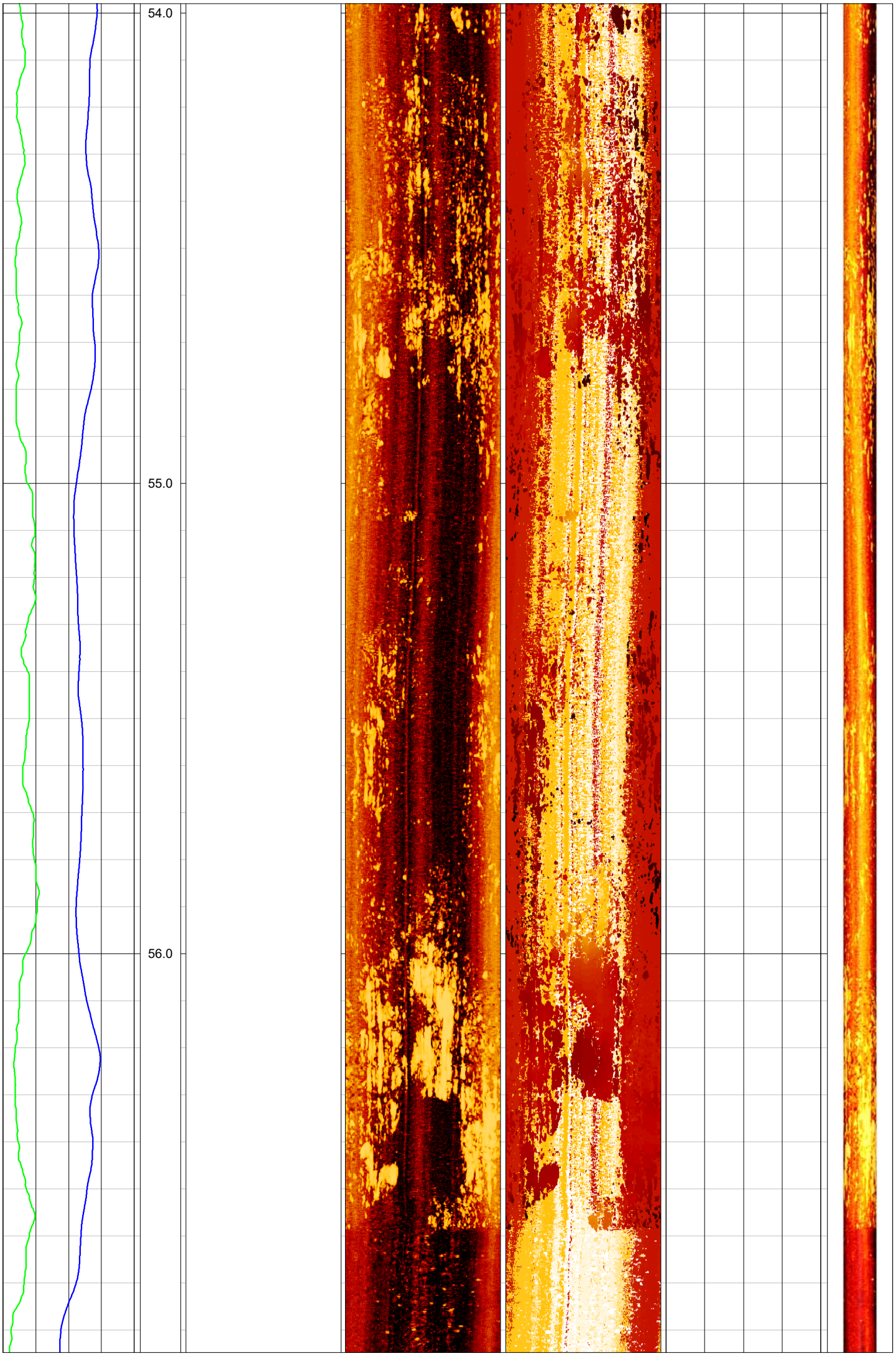
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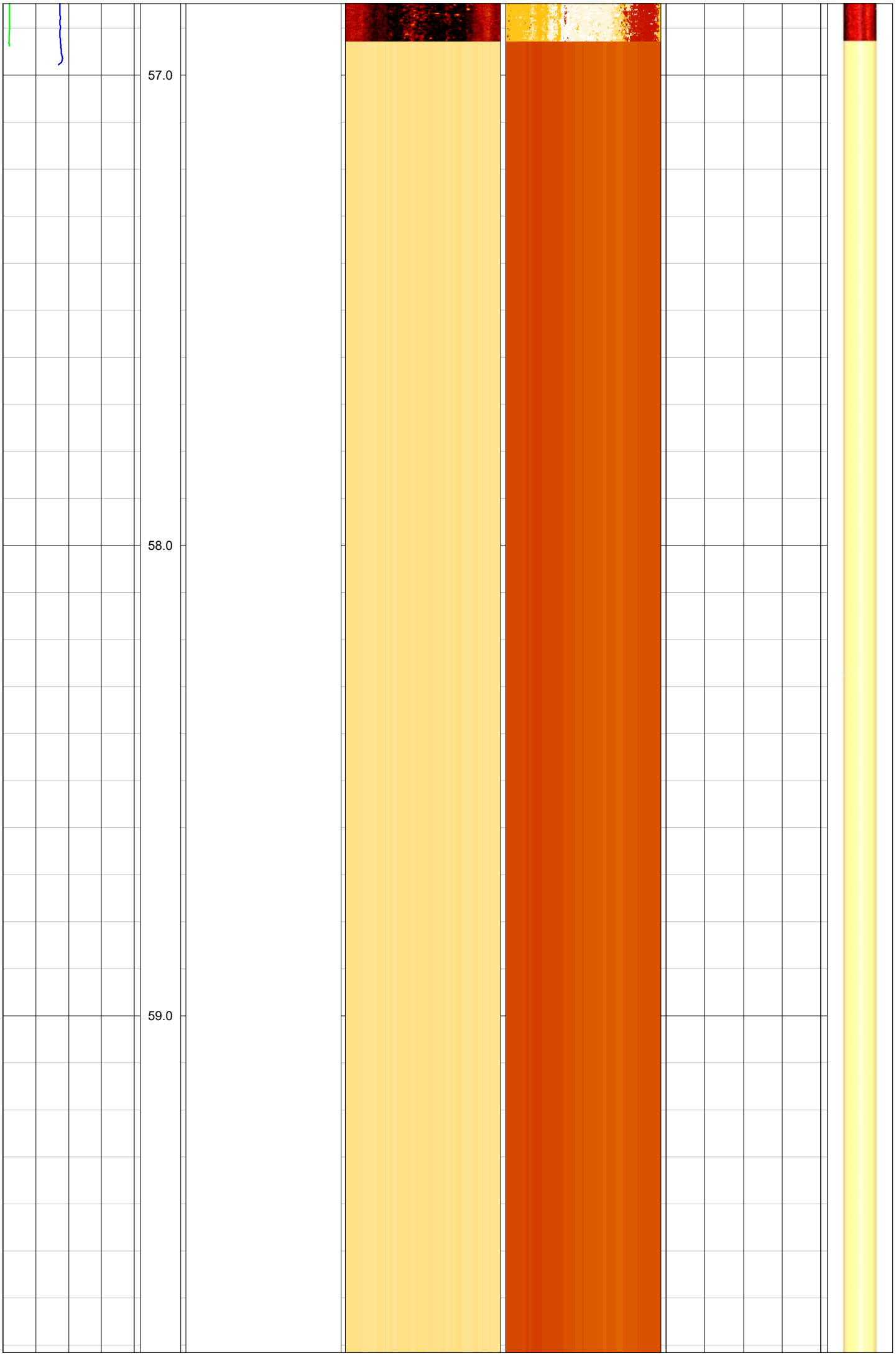
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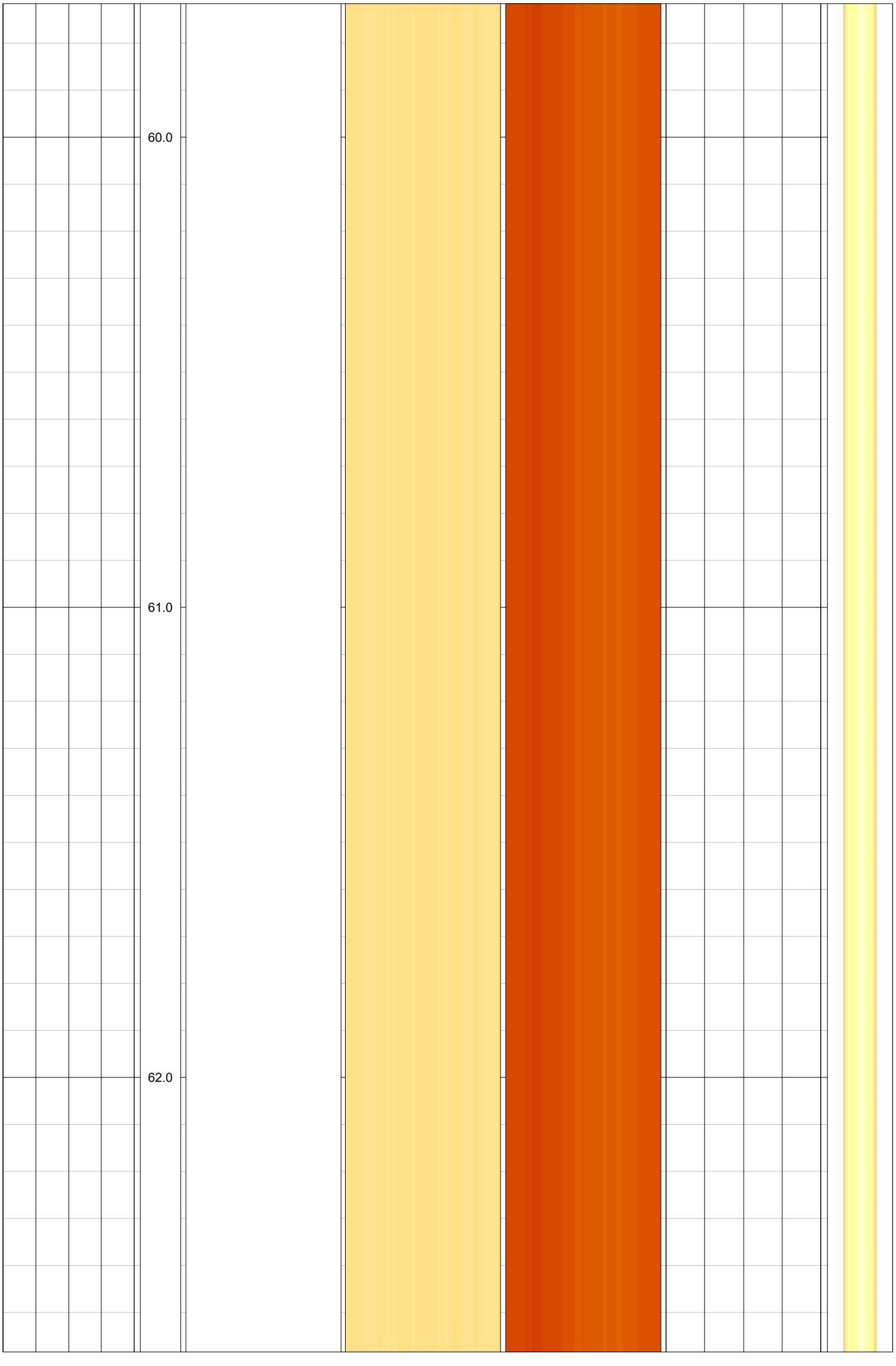
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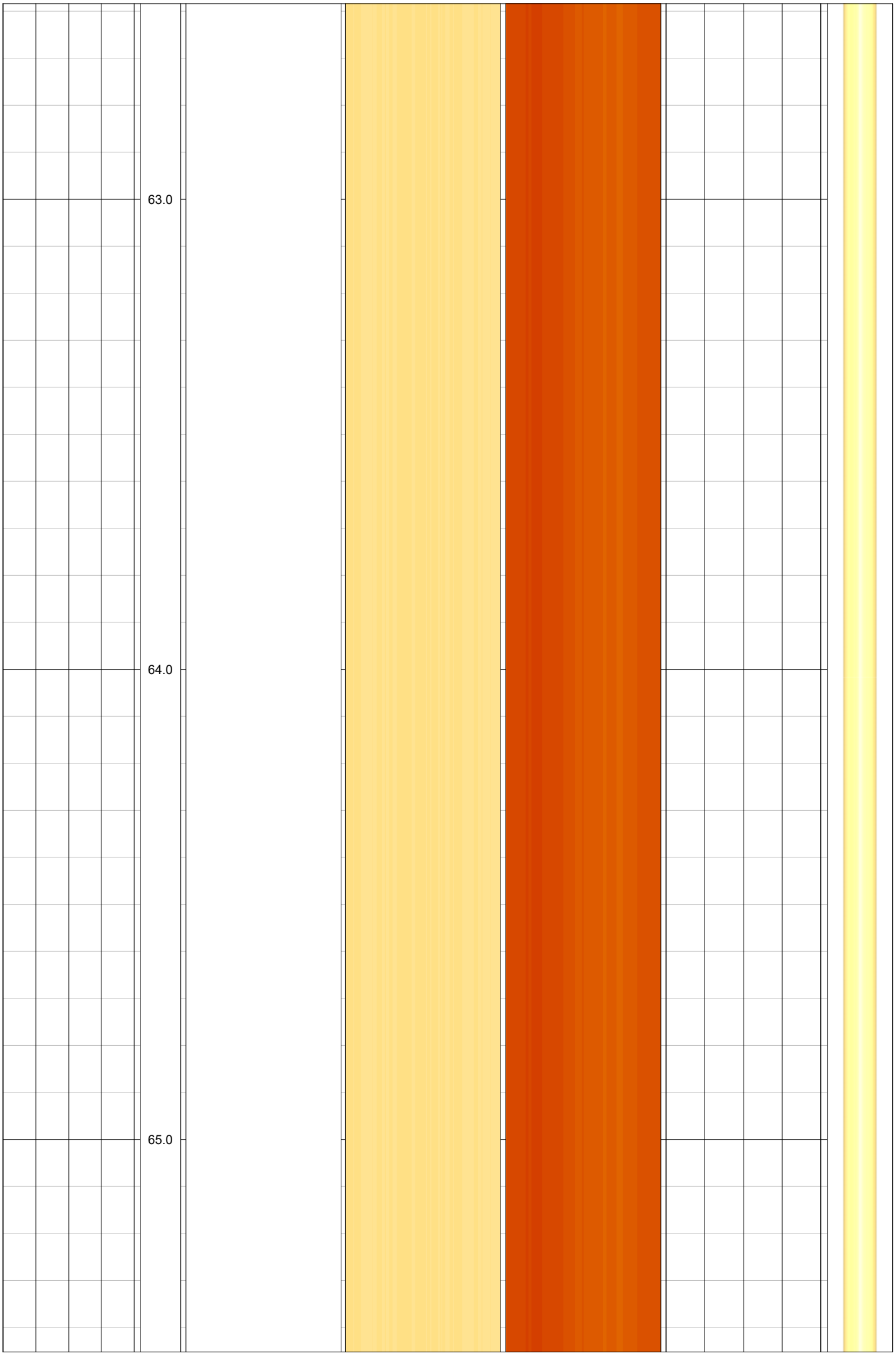
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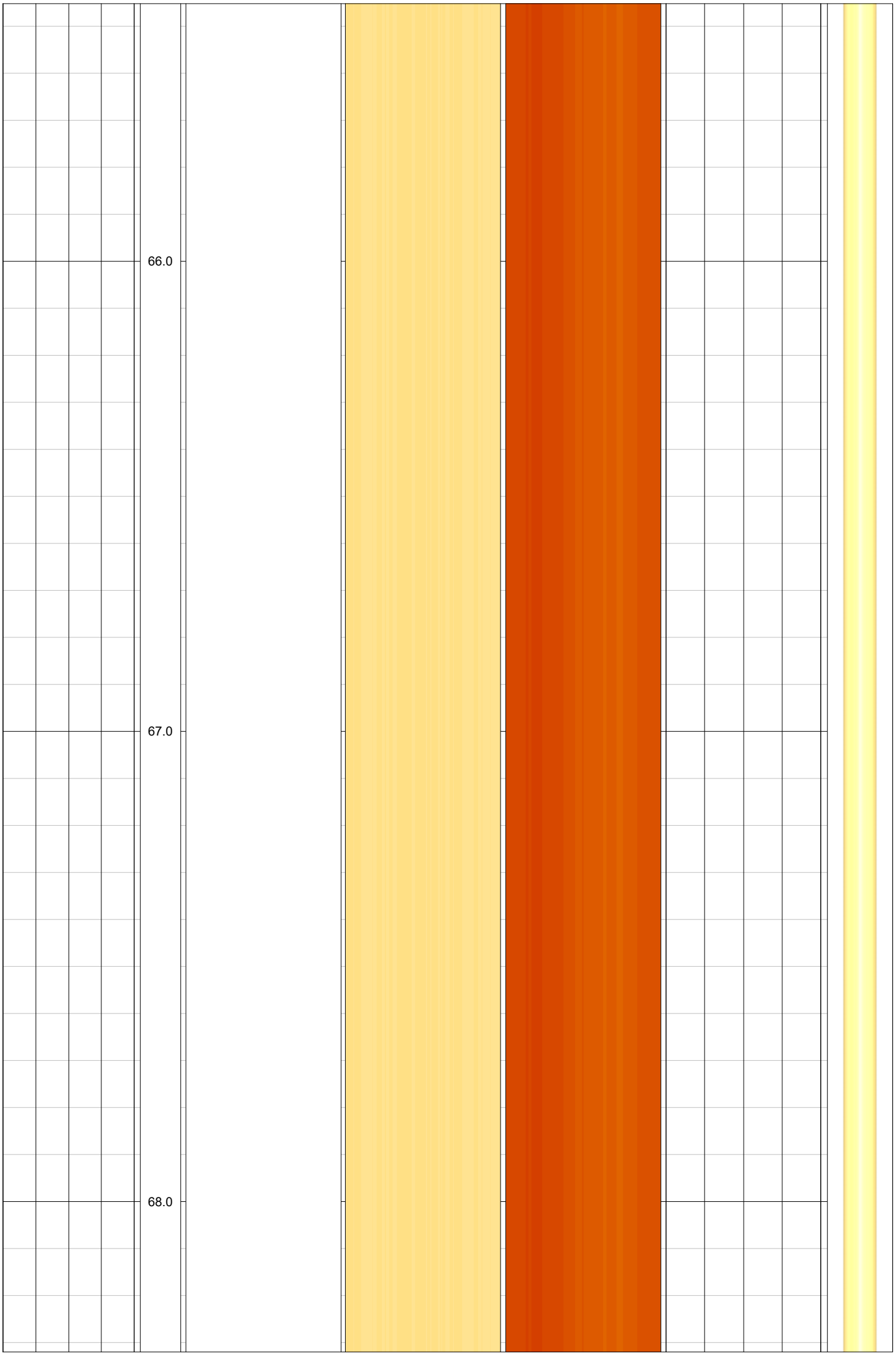
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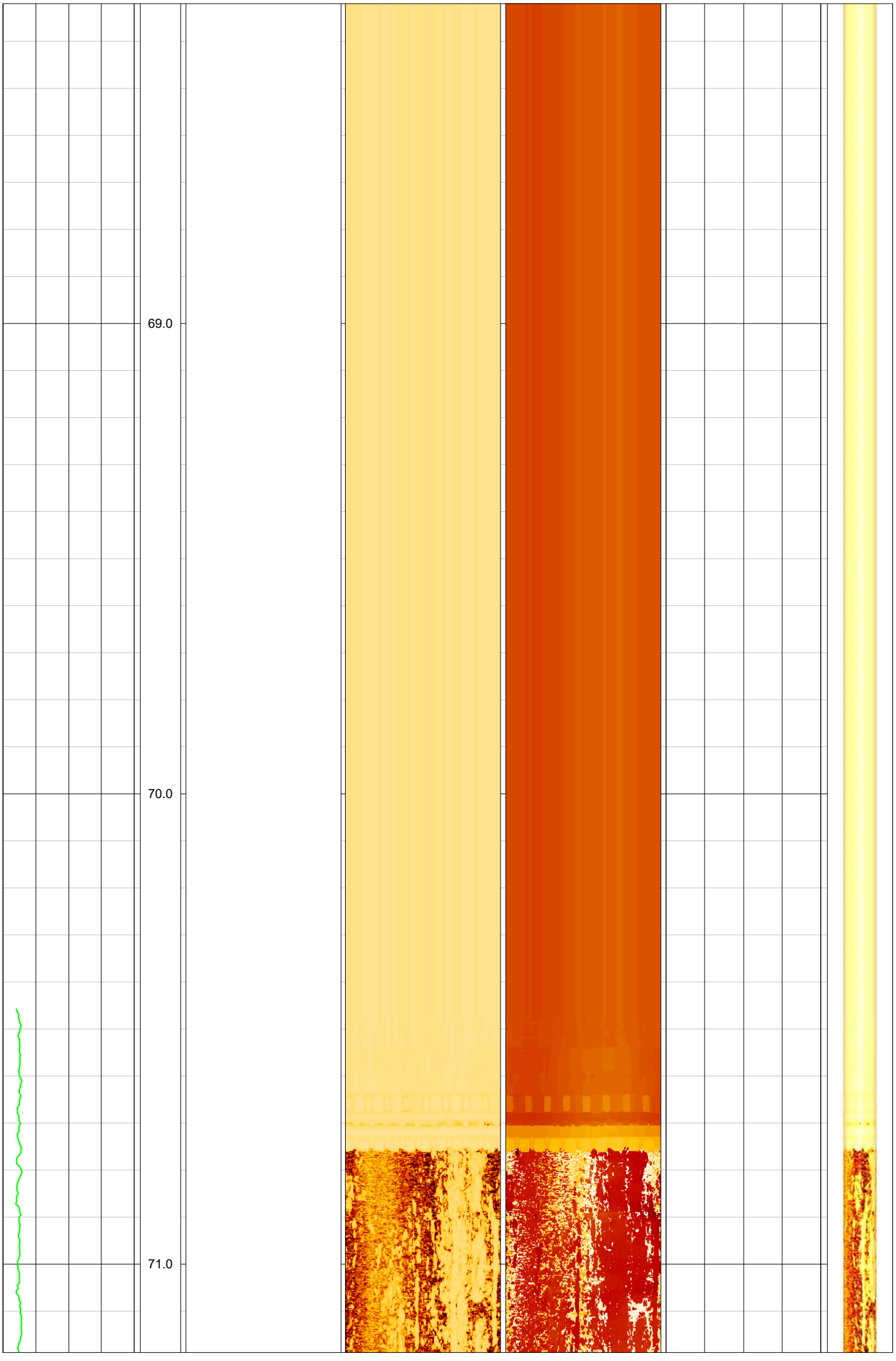
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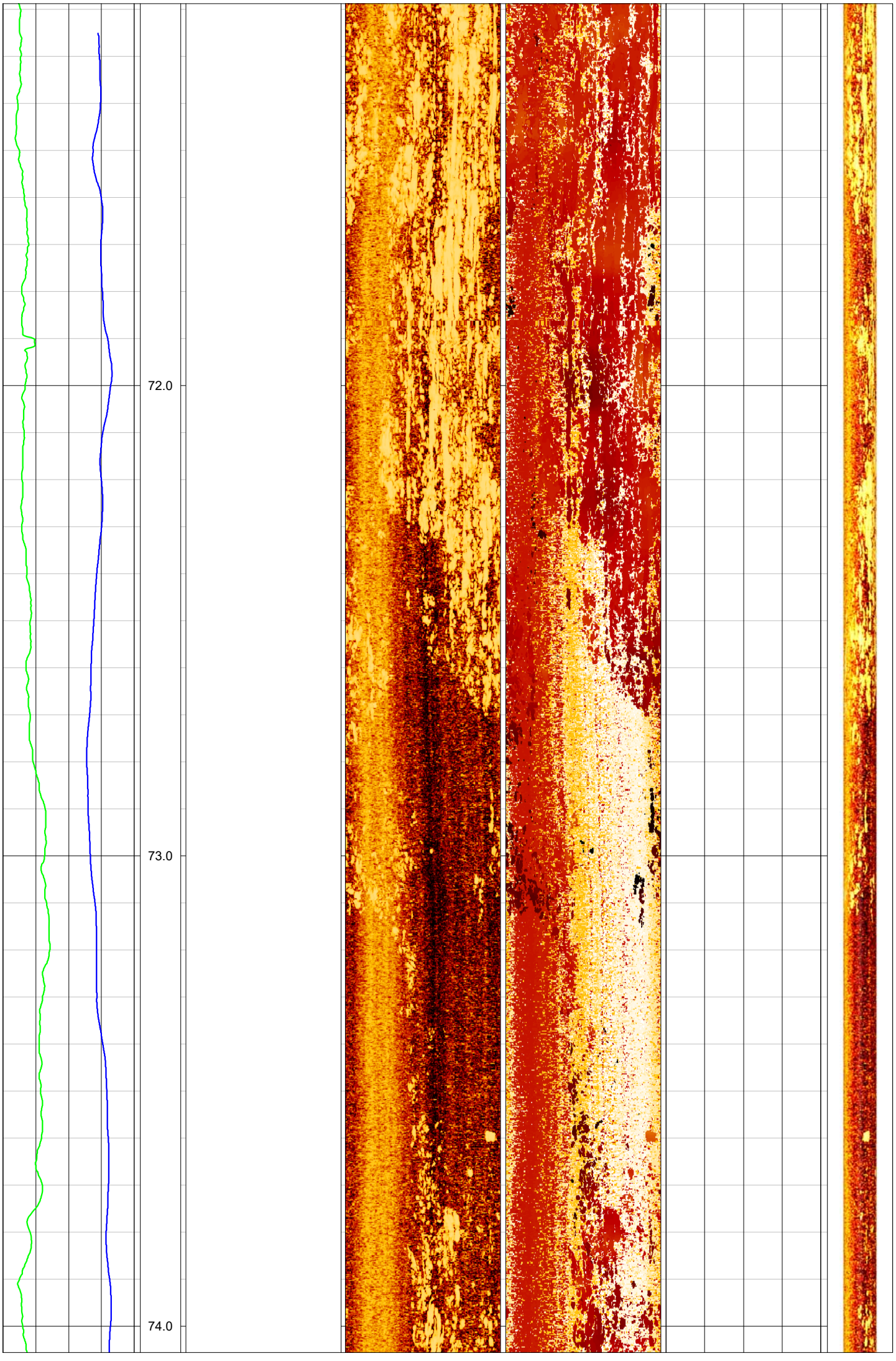
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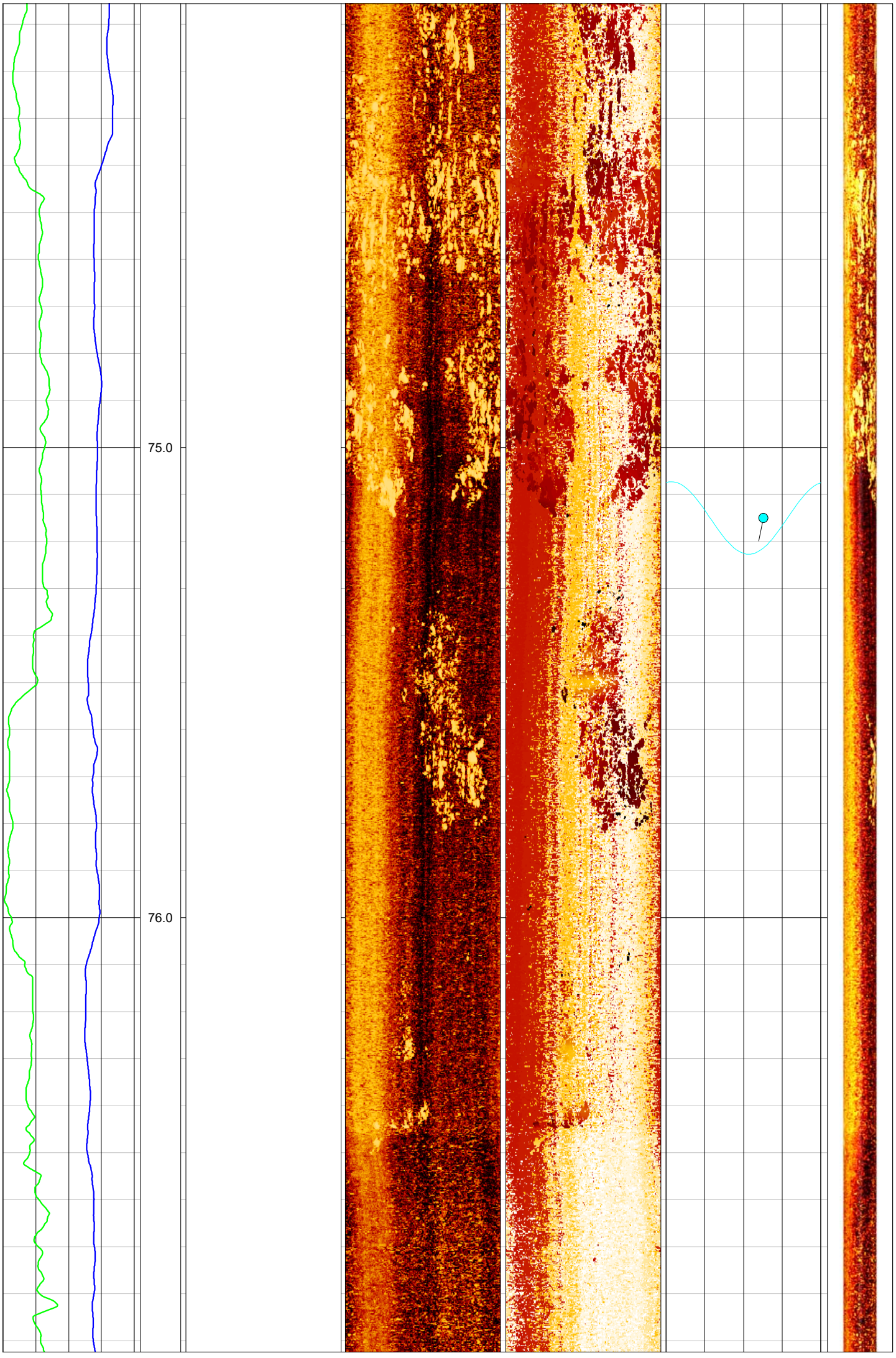
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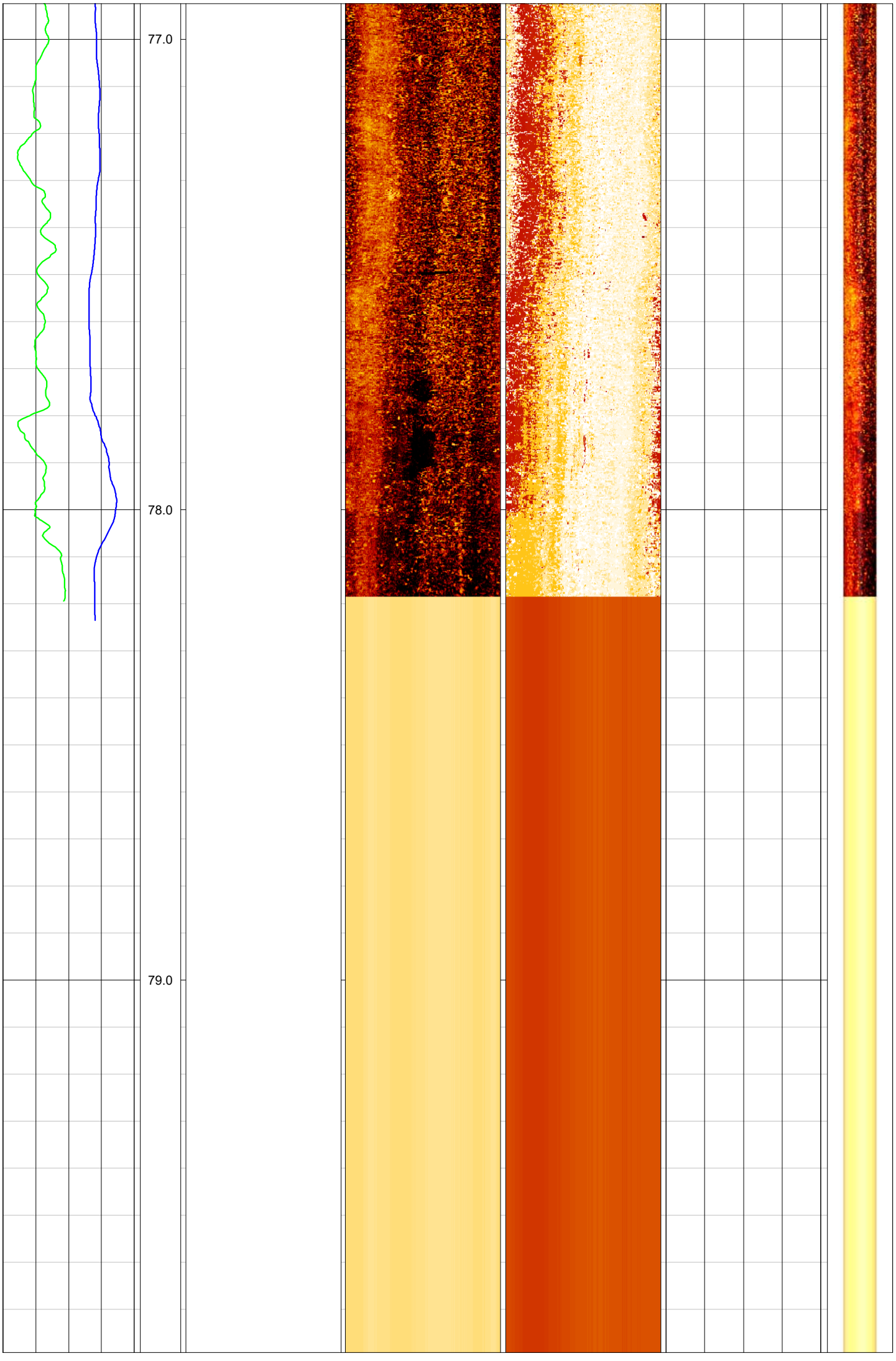
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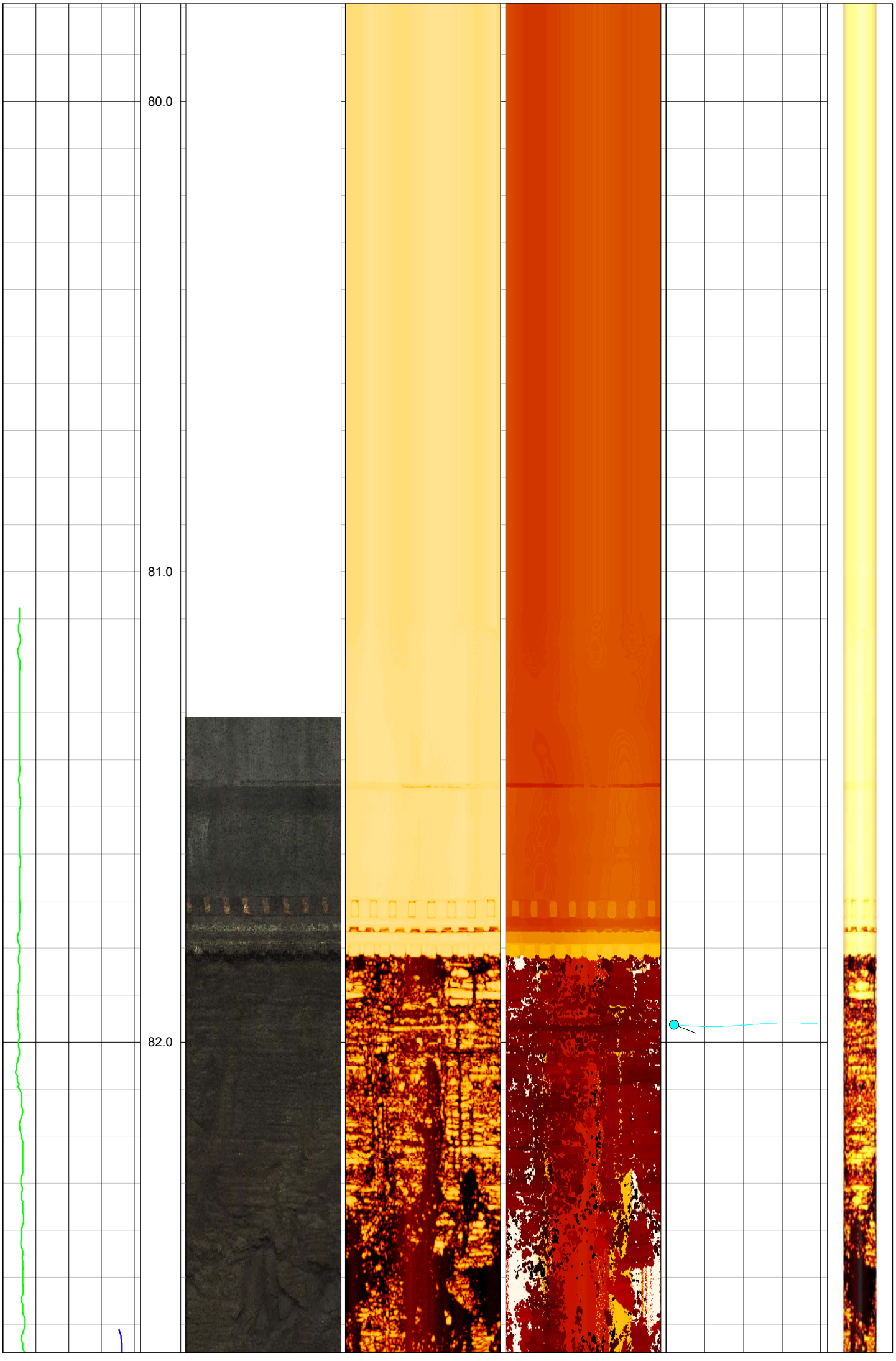
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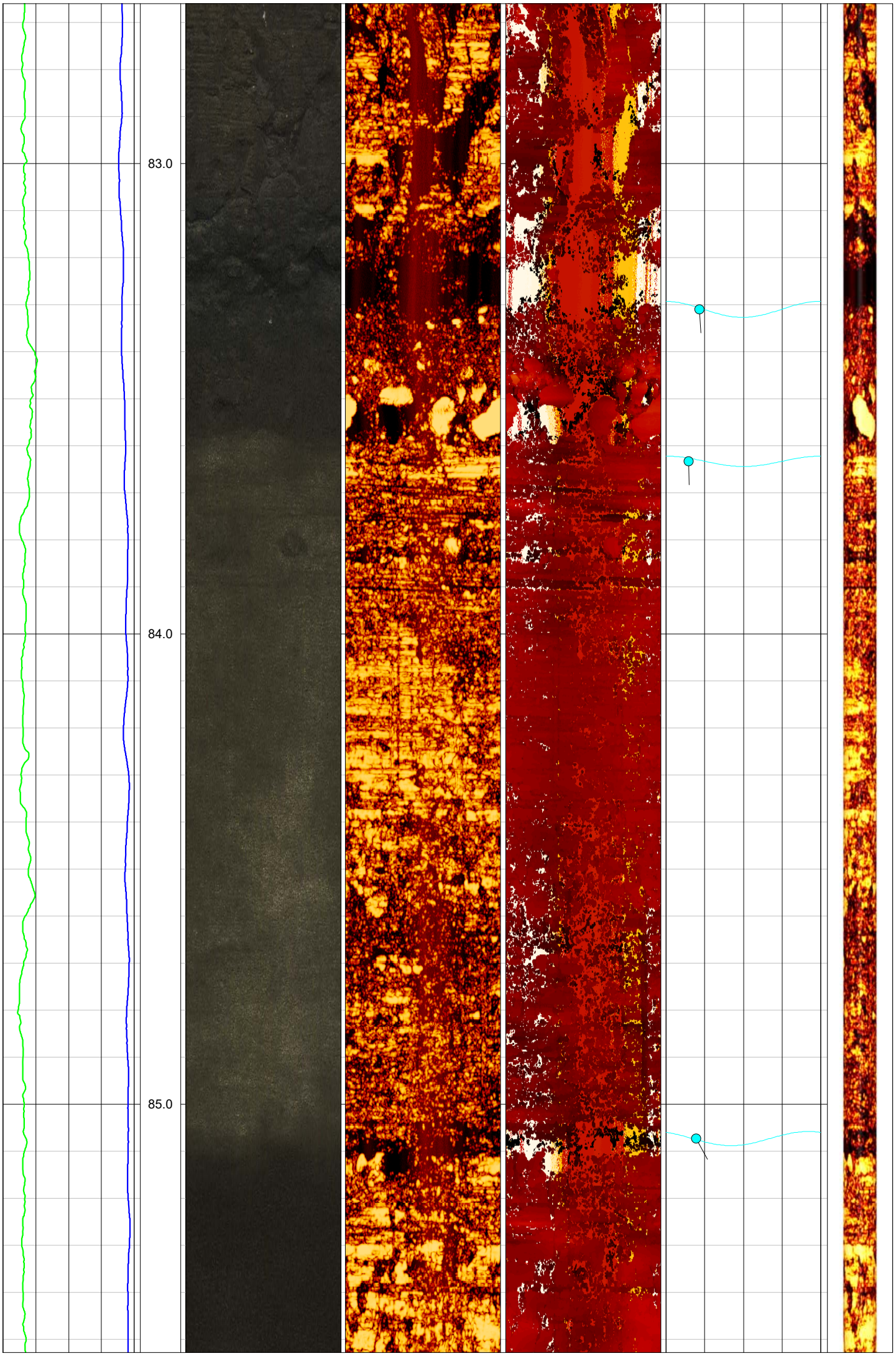
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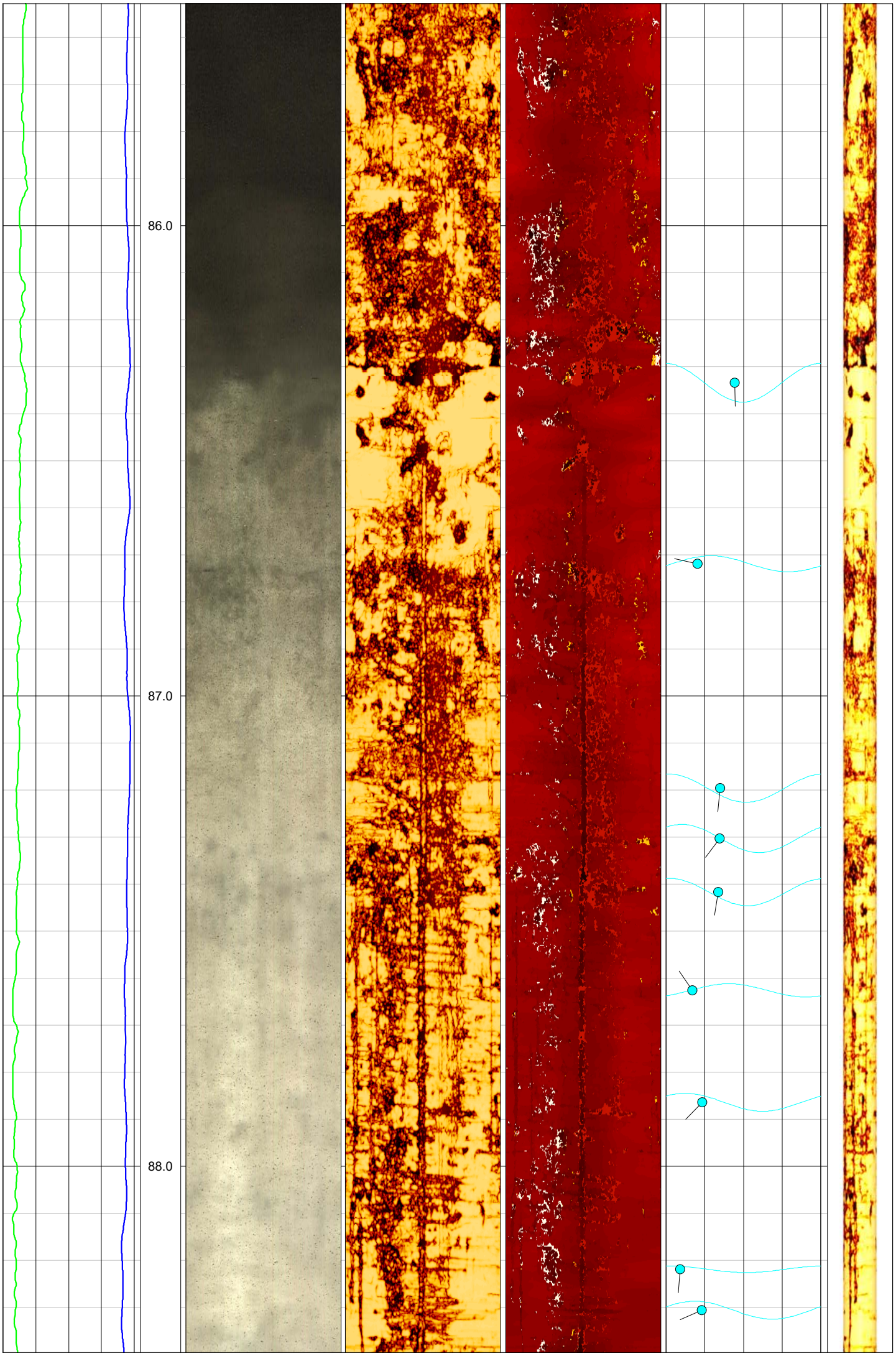
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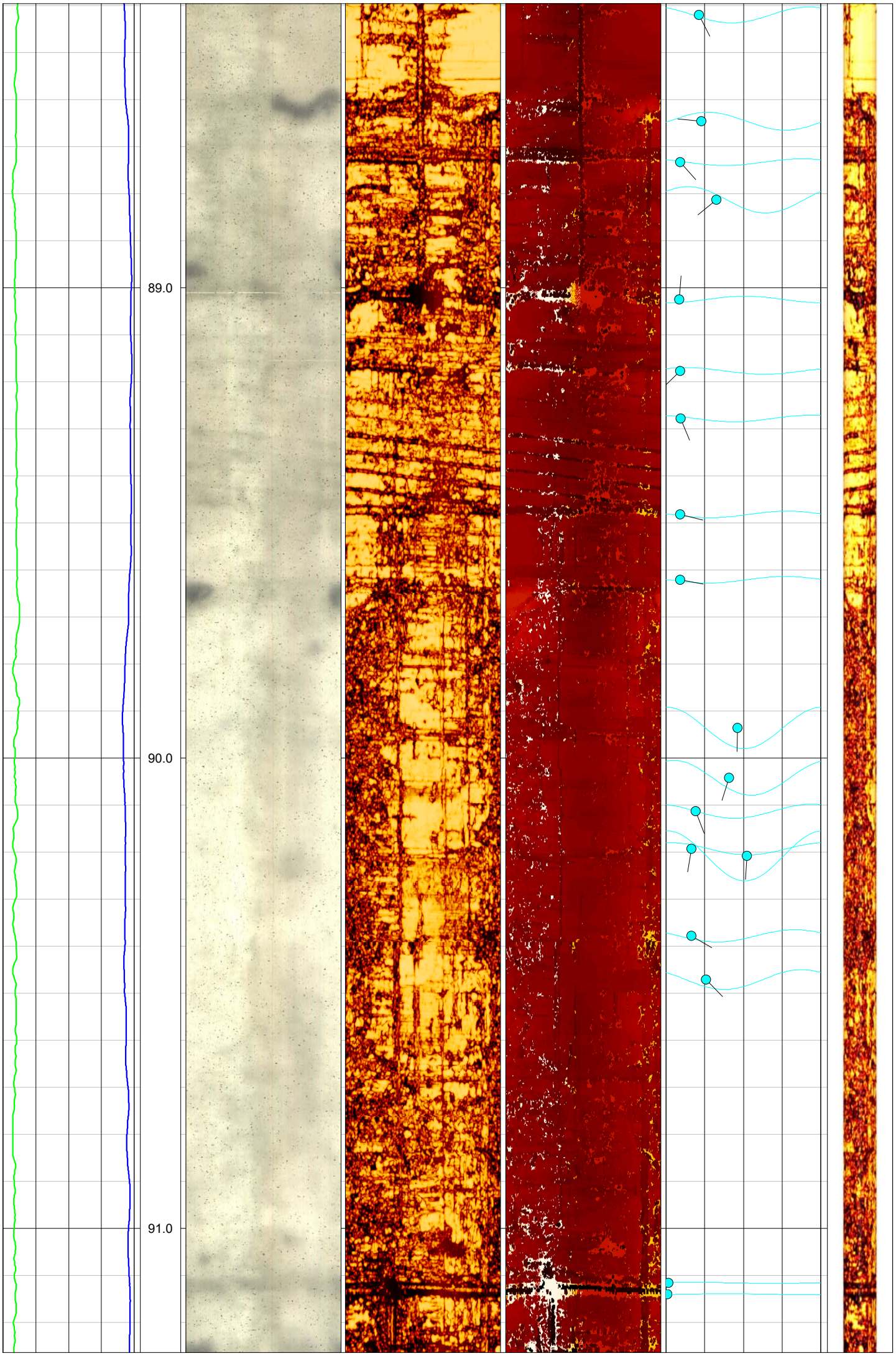
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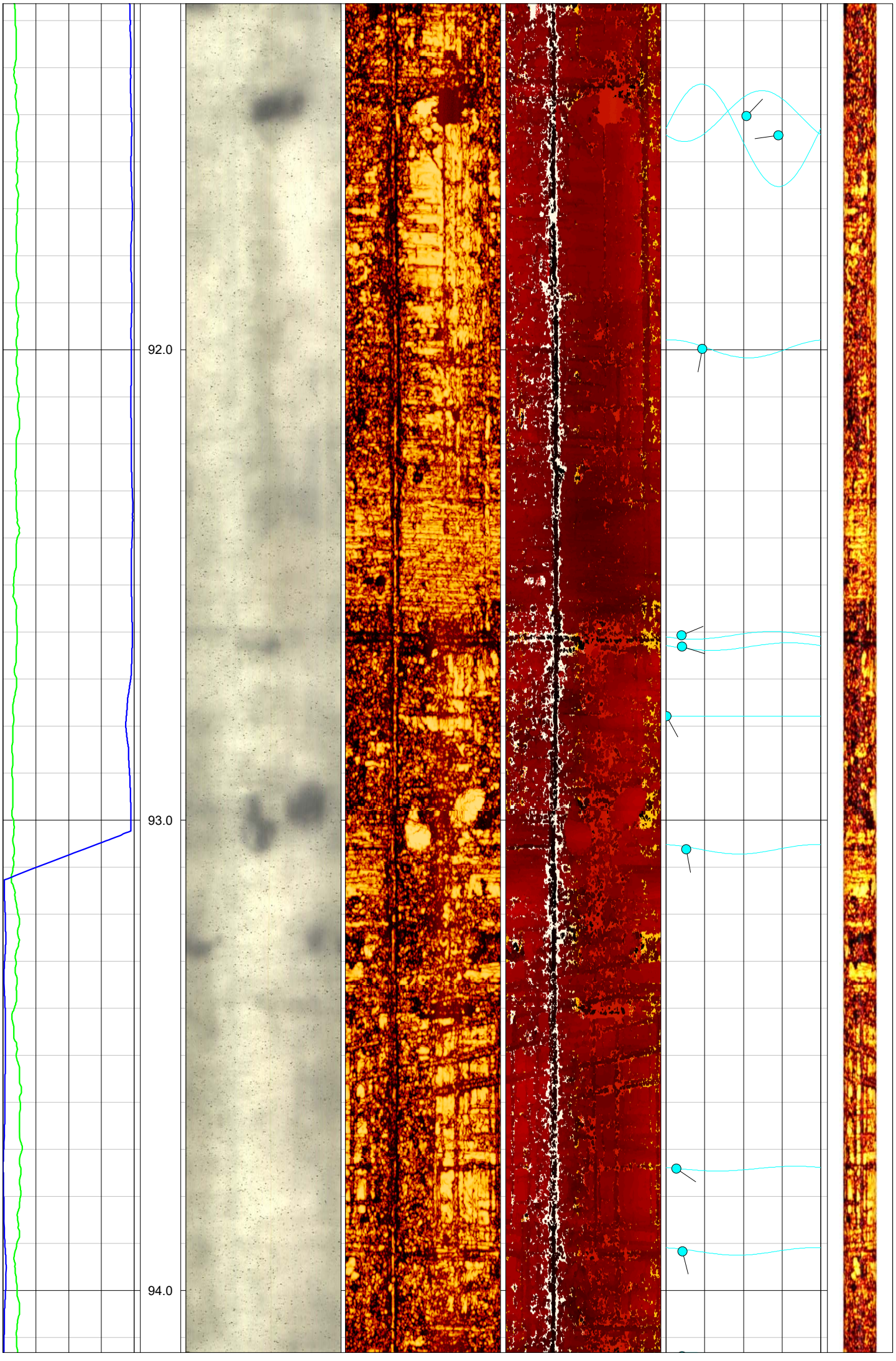
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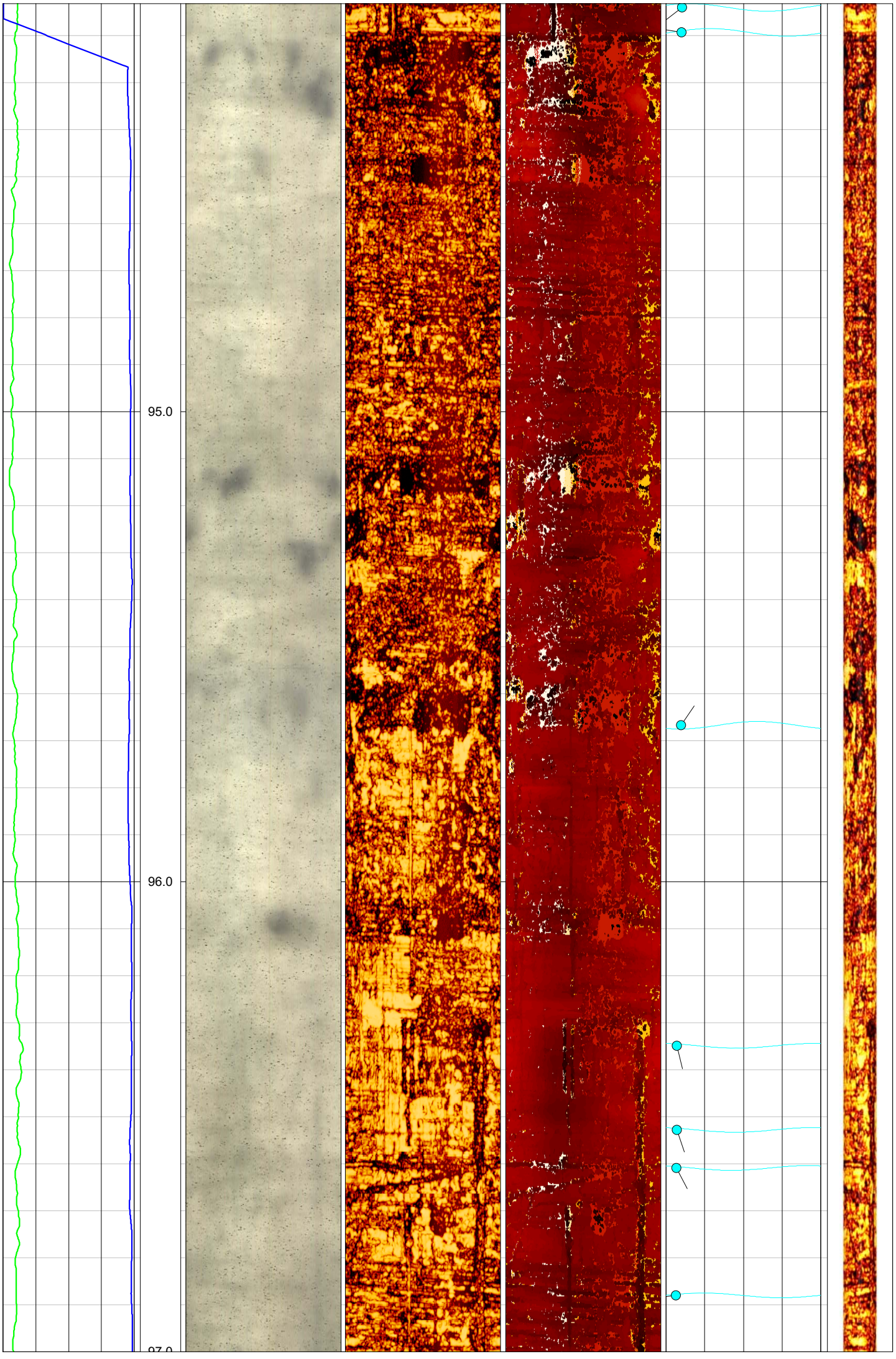
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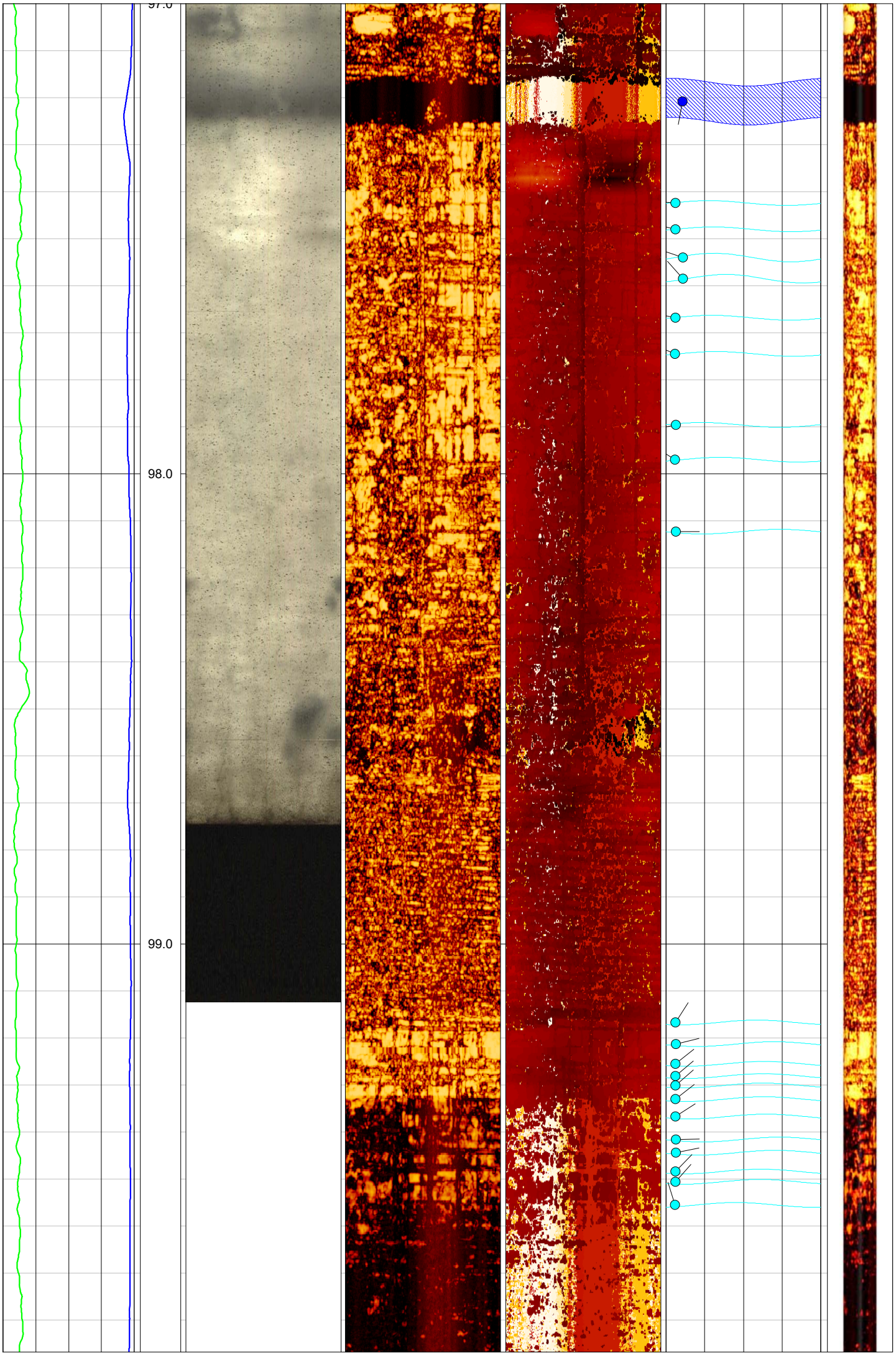
98.0
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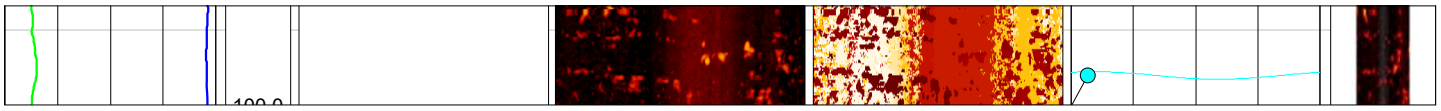


EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-4**

Log Type: ***Stereonet***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647450.9 264214.2** Elevation: **1.85**

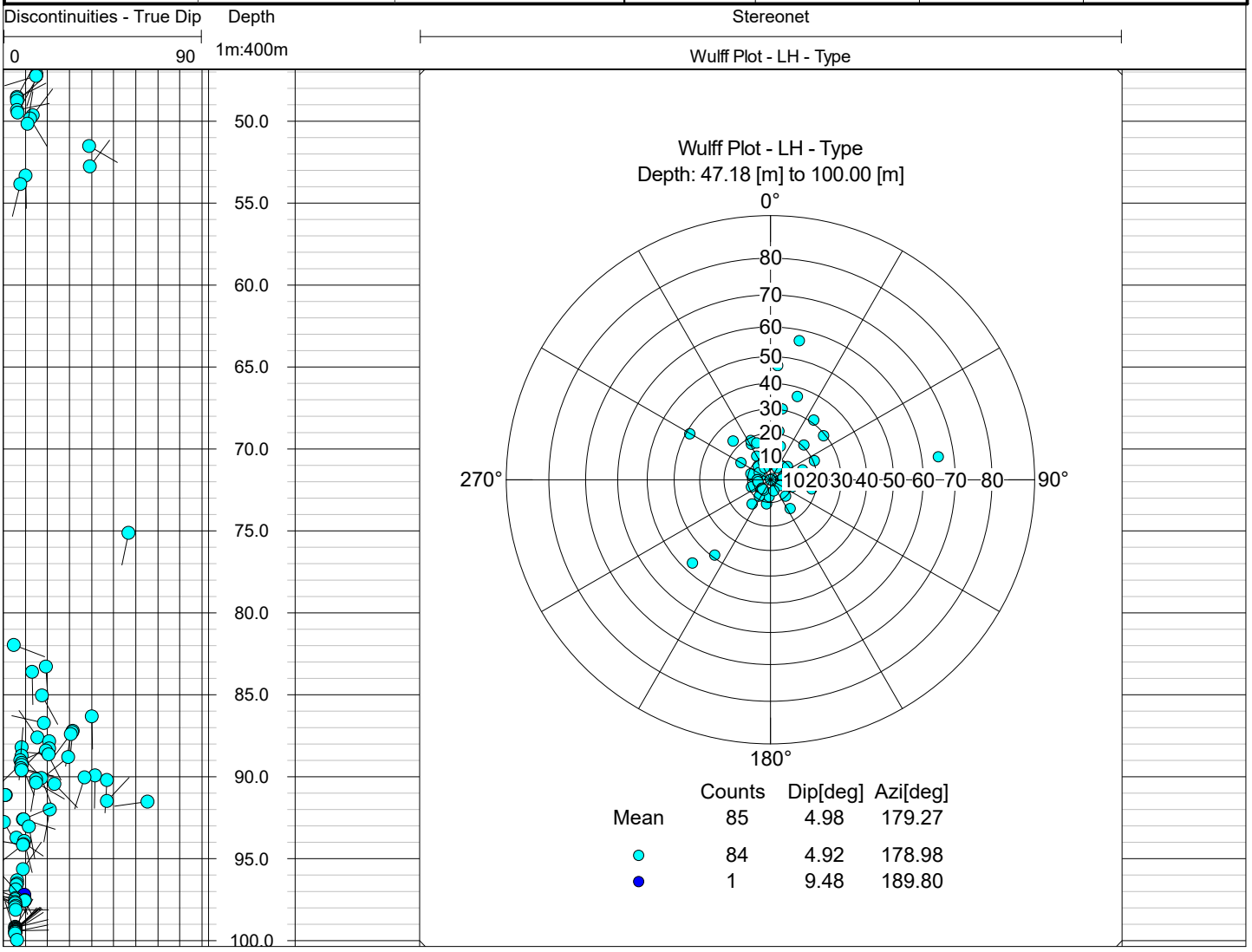
Drilled Depth: (m)	**103.0**	Date:	**29.08.19, 30.08.19**
Logged Depth: (m)	**100.0**	Recorded By:	**M. Magill**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 81.8m, then 70.75m, then 46.7m. Borehole collapsed to 100.0m, 78.2m and 56.9m respectively after these pulls, hence missing sections on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**46.7-56.9m, 70.75-78.2m, 81.8 - 100m**		
Fluid Level: (m)	**0.0**		

BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.7**	**103.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Geobore	**127**	**0.0**	**As above**



EUROPEAN GEOPHYSICAL SERVICES LTD

Client: **Structural Soils**

Borehole: **DCBH2019-4**

Log Type: ***Stereonet***

Location: **Sizewell C** Area: **Aldeburgh** Grid Ref: **647450.9 264214.2** Elevation: **1.85**

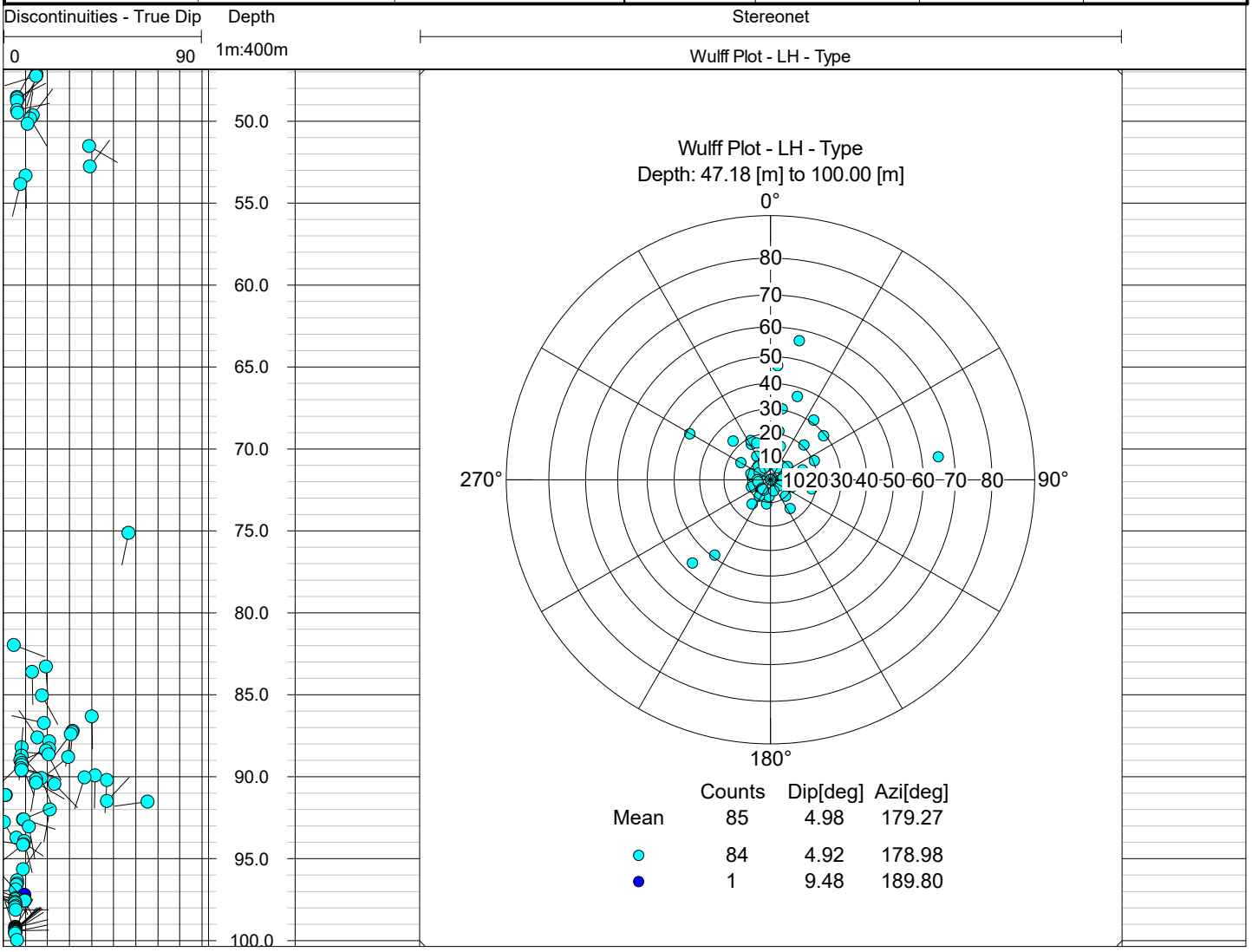
Drilled Depth: (m)	**103.0**	Date:	**29.08.19, 30.08.19**
Logged Depth: (m)	**100.0**	Recorded By:	**M. Magill**
Logging Datum:	**Ground Level**	Remarks:	Logged in sections. Casing pulls to 81.8m, then 70.75m, then 46.7m. Borehole collapsed to 100.0m, 78.2m and 56.9m respectively after these pulls, hence missing sections on log. Fluid clarity poor during optical log.
Logged Interval: (m)	**46.7-56.9m, 70.75-78.2m, 81.8 - 100m**		
Fluid Level: (m)	**0.0**		

BOREHOLE RECORD

Bit: (mm)	From: (m)	To: (m)
150	**46.7**	**103.0**

CASING RECORD

Type	Size: (mm)	From: (m)	To: (m)
Geobore	**127**	**0.0**	**As above**



Appendix F – Ground Investigation Factual Reports

On-shore Phase 2 Ground Investigation for Sizewell Site 2019

CONTINUED

APPENDIX E - GEOENVIRONMENTAL LABORATORY TESTING

(i) Geoenvironmental Test Results

envirolab
M R d d AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number:
Issue Number: **Date:**

Client:

Project Manager:
Project Name:
Project Ref:
Order No:
Date Samples Received:
Date Instructions Received:
Date Analysis Completed:

Prepared by: **Approved by:**

[redacted] [redacted]

envirolab

Envirolab Job Number: 19/06724 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
% Stones >10mm$_A$	4.1	<0.1	<0.1	48.5				% w/w	0.1	A-T-044
pH$_D^{M\#}$	8.82	8.32	7.51	10.04				pH	0.01	A-T-031s
Ammonium / Ammoniacal Nitrogen as NH4$_D$	5.50	-	214	2.49				mg/kg	0.26	A-T-033s
Sulphate (acid soluble)$_D^{M\#}$	<200	-	14000	840				mg/kg	200	A-T-028s
Cyanide (free)$_A^{M\#}$	<1	-	<1	<1				mg/kg	1	A-T-042sFCN
Cyanide (total)$_A^{M\#}$	<1	-	<1	<1				mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	-	<0.2	<0.2				mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	-	570	10				mg/kg	5	A-T-S2-s
Loss on ignition (550degC)$_D^{M\#}$	1.7	1.9	30.6	1.1				% w/w	0.6	A-T-030s
Total Organic Carbon$_D^{M\#}$	0.20	0.31	13.3	0.09				% w/w	0.03	A-T-032s
Fraction of organic carbon$_D^{\#}$	0.0020	-	0.1335	0.0009				N/A	0.0003	A-T-032 FOC
Arsenic$_D^{M\#}$	13	-	27	13				mg/kg	1	A-T-024s
Boron (water soluble)$_D^{M\#}$	<1.0	-	8.1	1.9				mg/kg	1	A-T-027s
Cadmium$_D^{M\#}$	<0.5	-	1.9	<0.5				mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	2	-	14	3				mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	6	-	33	6				mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	-	<1	<1				mg/kg	1	A-T-040s
Iron$_D$	9520	-	24800	6900				mg/kg	50	A-T-024s
Lead$_D^{M\#}$	6	-	35	4				mg/kg	1	A-T-024s
Mercury$_D$	<0.17	-	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	7	-	24	4				mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	-	<1	<1				mg/kg	1	A-T-024s
Vanadium$_D^{M\#}$	13	-	55	13				mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	18	-	72	12				mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1)$_A$	*	-	-	*						A-T-001
pH (leachable)$_A^{\#}$	7.55	-	-	8.39				pH	0.01	A-T-031w
Ammonium / Ammoniacal Nitrogen as NH4 (leachable)$_A$	<0.026	-	-	0.031				mg/l	0.026	A-T-033w
Ammoniacal nitrogen as N (leachable)$_A$	<0.02	-	-	0.02				mg/l	0.02	A-T-033w
Nitrate (leachable)$_A^{\#}$	0.7	-	-	0.7				mg/l	0.1	A-T-026w
Sulphate (leachable)$_A^{\#}$	<1.00	-	-	64.02				mg/l	1	A-T-026w
Cyanide (free) (leachable)$_A$	<0.005	-	-	<0.005				mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$	<0.005	-	-	<0.005				mg/l	0.005	A-T-042wTCN
Sulphide (leachable)$_A$	<0.1	-	-	<0.1				mg/l	0.1	A-T-S2-w

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Envirolab Job Number: 19/06724 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Arsenic (leachable)$_{A}^{\#}$	3	-	-	23				µg/l	1	A-T-025w
Boron (leachable)$_{A}^{\#}$	<10	-	-	57				µg/l	10	A-T-025w
Cadmium (leachable)$_{A}^{\#}$	<1	-	-	<1				µg/l	1	A-T-025w
Copper (leachable)$_{A}^{\#}$	1	-	-	6				µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	<1	-	-	2				µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	<0.05	-	-	<0.05				mg/l	0.05	A-T-040w
Iron (leachable)$_{A}^{\#}$	22	-	-	32				µg/l	10	A-T-025w
Lead (leachable)$_{A}^{\#}$	<1	-	-	<1				µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	2	-	-	2				µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	<0.1	-	-	<0.1				µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	<1	-	-	2				µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	<1	-	-	<1				µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	<1	-	-	78				µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	2	-	-	4				µg/l	1	A-T-025w
Gross Alpha + Gross Beta$_{A}^{\#}$	Appended	-	-	-					100	Subcon Soco-Did
Tritium (Total)$_{A}^{\#}$	Appended	-	-	-					50	Subcon Soco-Did
Carbon-14$_{A}$	Appended	-	-	-					50	Subcon Soco-Did
Gamma Spec HR$_{A}$	Appended	-	-	-						Subcon Soco-Did
Calcium (leachable)$_{A}$	13	-	-	41				mg/l	1	A-T-049w
Acid Herbicides										
2,4,5-T$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest
2,4-D$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest
2,4-DP; (Dichlorprop)$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest
MCPA$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest
MCPB$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest
MCPP; (Mecoprop)$_{A}$	<0.5	-	-	-				mg/kg	0.5	Subcon Chemtest

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	-	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	-	N/A	N/A						
OCP+OPP Combined Pest Suite (incl. Atrazine and Simazine)										
Dichlobenil$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Tecnazene$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Trifluralin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
alpha-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Hexachlorobenzene (HCB)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Simazine$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Atrazine$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
beta-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Quintozene (PCNB)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
gamma-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Chlorothalonil$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
delta-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Triallate$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Heptachlor$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Aldrin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Triadimefon$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Telodrin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Isodrin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Pendimethalin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Heptachlor epoxide$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
trans-Chlordane (Gamma)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
o,p-DDE (2,4)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Endosulphan I (Alpha)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
cis-Chlordane (Alpha)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
p,p-DDE (4,4)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Dieldrin$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056
o,p-DDD (2,4)$_{A}$	<0.01	-	-	-				mg/kg	0.01	A-T-056

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Endrin$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Endosulphan II (Beta)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
p,p-DDD (4,4)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
o,p-DDT (2,4)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Endrin Aldehyde$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Endrin Ketone$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Endosulphan Sulphate$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
p,p-DDT (4,4)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
o,p-Methoxychlor$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
p,p-Methoxychlor$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Permethrin I (cis)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Permethrin II (trans)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Dichlorvos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Mevinphos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Demeton-S$_A$	<0.50	-	-	-				mg/kg	0.5	A-T-056
Demeton-O$_A$	<0.50	-	-	-				mg/kg	0.5	A-T-056
Phorate$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Dimethoate$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Propetamphos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Diazinon (Dimpylate)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Disulfoton$_A$	<0.10	-	-	-				mg/kg	0.1	A-T-056
Etrimphos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Chlorpyrifos-methyl$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Parathion (Ethyl Parathion)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Methyl Parathion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Pirimiphos-methyl$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Fenitrothion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Fensulphothion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Fenthion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Malathion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Chlorfenvinphos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Chlorpyrifos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Trichloronate$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Prothiofos (Tokuthion)$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Ethion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Triazophos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Sulprofos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Carbophenothion$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Phosalone$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Azinphos-methyl$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Azinphos-ethyl$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056
Coumaphos$_A$	<0.01	-	-	-				mg/kg	0.01	A-T-056

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
PAH-16MS										
Acenaphthene$_{A}^{M\#}$	<0.01	-	<0.01	0.06				mg/kg	0.01	A-T-019s
Acenaphthylene$_{A}^{M\#}$	<0.01	-	<0.01	<0.01				mg/kg	0.01	A-T-019s
Anthracene$_{A}^{M\#}$	<0.02	-	<0.02	0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_{A}^{M\#}$	<0.05	-	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_{A}^{M\#}$	<0.05	-	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_{A}^{M\#}$	<0.07	-	<0.07	<0.07				mg/kg	0.07	A-T-019s
Chrysene$_{A}^{M\#}$	<0.06	-	<0.06	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene$_{A}^{M\#}$	<0.08	-	<0.08	<0.08				mg/kg	0.08	A-T-019s
Fluorene$_{A}^{M\#}$	<0.01	-	<0.01	0.13				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_{A}^{M\#}$	<0.03	-	<0.03	<0.03				mg/kg	0.03	A-T-019s
Naphthalene $_{A}^{M\#}$	<0.03	-	<0.03	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene$_{A}^{M\#}$	<0.03	-	<0.03	0.51				mg/kg	0.03	A-T-019s
Pyrene$_{A}^{M\#}$	<0.07	-	<0.07	<0.07				mg/kg	0.07	A-T-019s
Total PAH-16MS$_{A}^{M\#}$	<0.08	-	<0.08	0.72				mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	5.75	-	-	0.74				µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	0.08	-	-	0.17				µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	0.70	-	-	0.04				µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	0.03	-	-	<0.02				µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	0.50	-	-	<0.02				µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	2.34	-	-	1.15				µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	<0.02	-	-	<0.02				µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	74.73	-	-	0.55				µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	3.23	-	-	1.40				µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	0.36	-	-	<0.02				µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	87.7	-	-	4.05				µg/l	0.02	A-T-019w

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Speciated PCB-WHO12										
PCB BZ 81$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 105$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 114$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 118$_A^{M\#}$	<0.007	-	-	<0.007				mg/kg	0.007	A-T-004s
PCB BZ 123$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 126$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 156$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 157$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 167$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 169$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 189$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
PCB BZ 77$_A$	<0.005	-	-	<0.005				mg/kg	0.005	A-T-004s
Total Speciated PCB-WHO12$_A$	<0.007	-	-	<0.007				mg/kg	0.005	A-T-004s

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Envirolab Job Number: 19/06724 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
SVOC + TICs (excluding PAH-16)										
SVOC TICs (Tentatively Identified Compounds)$_A$	None detected	-	-	Appended						A-T-052s
Hexachlorobenzene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-	-	<500				µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<200	-	-	<200				µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	-	298				µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Phenol$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	-	-	<500				µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	-	<100				µg/kg	100	A-T-052s

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Hexachloroethane$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s
Perylene$_A$	<100	-	-	<100				µg/kg	100	A-T-052s

envirolab

Envirolab Job Number: 19/06724 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
VOC+TICs										
Dichlorodifluoromethane$_A$	<1	-	-	<1				µg/kg	1	A-T-006s
Chloromethane$_A$	<10	-	-	<10				µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Bromomethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Chloroethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	-	-	<5				µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	*<1*	-	-	*<1*				µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	<5	-	-	<5				µg/kg	5	A-T-006s
Chloroform$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	<2	-	-	<2				µg/kg	2	A-T-006s
Benzene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	<10	-	-	<10				µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Toluene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	*<1*	-	-	*<1*				µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	<3	-	-	<3				µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	<1	-	-	<1				µg/kg	1	A-T-006s

Envirolab Job Number: 19/06724 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
Chlorobenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	-	-	<1				µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	*<2*	-	-	*<2*				µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-	-	2				µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	-	-	2				µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	-	-	<2				µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	-	-	<3				µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	-	-	<1				µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	-	-	<3				µg/kg	3	A-T-006s
VOC TICs$_{A}$	None detected	-	-	Appended						A-T-006s

Envirolab Job Number: 19/06724

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/06724/3	19/06724/4	19/06724/5	19/06724/14				Units	Limit of Detection	Method ref
Client Sample No	2	WAC	3	1						
Client Sample ID	MGS2019_E	MGS2019_E	MGS2019_E	MGS2019_E1						
Depth to Top	0.50	0.60	1.00	1.10						
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19	10-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	4AE	5A	4A						
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	-	<1	2				mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-	<1	14				mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	-	<1	103				mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	-	9	154				mg/kg	1	A-T-055s
Ali >C21-C35$_A$	7	-	27	179				mg/kg	1	A-T-055s
Total Aliphatics$_A$	7	-	36	451				mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	-	<1	<1				mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	-	<1	4				mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	-	6	36				mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	-	6	54				mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	8	-	66	26				mg/kg	1	A-T-055s
Total Aromatics$_A$	8	-	78	121				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	15	-	113	571				mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	<0.05	<0.01				mg/kg	0.01	A-T-022s

REPORT NOTES

General

Soil chemical analysis:

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts

TPH analysis of water by method A-T-007:

Electrical Conductivity of water by Method A-T-037:

Asbestos:

Predominant Matrix Codes:

Secondary Matrix Codes:

Key:

Envirolab Deviating Samples Report

Client: Structural Soils Limited (Bristol), The Old School , Stillhouse Lane, Bedminster, Bristol, UK, BS3 4EB

Project: Sizewell C

Clients Project No: 734318

Project No: 19/06724

Date Received: 16/07/2019 (am)

Cool Box Temperatures (°C): 19.3 & 19.9

Lab Sample ID			
Client Sample No			
Client Sample ID/Depth			
Date Sampled			
Deviation Code			
	✓	✓	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

Lab Sample ID			
Client Sample No			
Client Sample ID/Depth			
Date Sampled			
	✓	✓	✓
		✓	

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Analysis of a Soil Sample

Envirolab Ltd
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
SK17 3AR

Testing Facility: SOCOTEC UK
Unit 12, Moorbrook
Southmead Industrial Park
Didcot
Oxfordshire
OX11 7HP

Laboratory Reference:	19-0660
Customer Reference:	19/06724
Quote Number:	ENR-ANU-9581Rev1
PO Number:	P0741447
Sample Received:	17 July 2019
Sample Condition:	Satisfactory, Ambient
Analysis Completed:	20 August 2019
Report Author:	
Author's Name:	Trevor Harding
Job Title:	Senior Analyst
Approved By:	
Approver's Name:	Charlene Hunston
Job Title:	Team Leader
Report Date:	20 August 2019

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Introduction

This is a revised report as denoted by the suffix 'Rev1'. At the request of the customer, the customer reference has been updated to include the identifier "MGS2019_E 0.50m". All other results remain unchanged. This report supersedes the previous issue.

Sample Summary

Customer Reference	Laboratory Reference	Matrix	Sampling Date
19/06724/3, MGS2019_E 0.50m	RX4121	Soil	09/07/2019 12:00

Experimental

Tritium

ANU/SOP/2094 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the hydrogen and tritium were converted to water vapour. These were then selectively trapped in a series of gas-bubblers containing dilute acid. Aliquots of known weight were then assessed for their tritium content by liquid scintillation counting. The tritium activity was corrected for the proportion of the bubbler trapping solution taken and for the weight of combusted sample.

Carbon-14

ANU/SOP/2103 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the carbon species were converted to carbon dioxide, which were then selectively trapped in a series of gas-bubblers containing a trapping medium. Aliquots of known weight were then assessed for their ^{14}C content by liquid scintillation counting. Hence the total recovered ^{14}C was calculated from the total weights of each respective trapping medium.

Gross Alpha/Beta

ANU/SOP/2005 – A portion of each sample was slurried in meths and then vacuum filtered onto glass fibre filter paper in a pre-calibrated geometry, to produce a source for counting. After air-drying, the sample was weighed, then counted on a Berthold LB770 low-level gas-flow proportional counter for an appropriate length of time.

Gamma Spectrometry

ANU/SOP/2029 – The measurement technique is based on the use of high purity germanium (HPGe) detectors coupled to an Ortec gamma ray spectroscopy system. The gamma ray spectra are stored on a computer and analysed using the software programme Fitzpeaks for photopeak identification and quantification. The detectors are calibrated for efficiency using a mixed radionuclide standard, which covers an energy range of approximately 30-2000 keV. The efficiency of gamma rays between 30 keV and 120 keV are determined on an individual basis.

Application of decay corrections for the naturally occurring daughter radionuclides of uranium and thorium assumes that the series daughter radionuclides are all in secular equilibrium and therefore decay with the half-life of the first radionuclide in the series." (^{226}Ra is not UKAS accredited)

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Deviating Sample Disclaimer

The reported results are representative of the sample upon receipt. However,

E) Sample processing did not commence within the appropriate holding time (annotated with "†" in the tables below)

Consequently the sample is considered deviating and the validity of the reported data may be compromised.

Results

Results are presented in the following tables.

Any opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

The results in this test report relate only to the items tested. This test report must not be reproduced except in full, without written approval of the laboratory.

Results Summary – Tritium and Carbon-14

Customer Reference	Laboratory Reference	H-3	C-14
19/06724/3, MGS2019_E 0.50m	RX4121 †	<8.3	<3.4

Notes:
1. Results are presented as $Bq.kg^{-1}$ of sample as received and are decay corrected to the sampling date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.
3. † Sample processing did not commence within the appropriate holding time

Results Summary – Gross Alpha/Beta

Customer Reference	Laboratory Reference	Analysis Date	Gross Alpha as Pu-242	Gross Beta as Cs-137
19/06724/3, MGS2019_E 0.50m	RX4121	16/08/2019	<91	267 ± 73

Notes:
1. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample, relative to the analysis date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.

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Results Summary – Gamma Spectrometry

Customer Reference	Laboratory Reference	Be-7	K-40	Co-60	Cs-134	Cs-137	Tl-208	Pb-210	Bi-212	Pb-212
19/06724/3, MGS2019_E 0.50m	RX4121	<11	153 ± 30	<1.4	<1.5	<1.3	<1.6	<30	<17	8.5 ± 1.8

Customer Reference	Laboratory Reference	Bi-214	Pb-214	Ra-224	Ra-226*	Ac-228	Pa-234m	Th-234	U-235	Am-241
19/06724/3, MGS2019_E 0.50m	RX4121	<3.2	5.6 ± 2.1	<32	<26	<6.0	<150	<37	<1.7	<2.7

Notes:

1. Analyses and/or samples marked with an asterisk are not covered under UKAS schedule 1252.
2. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample and are decay corrected to the sampling date.
3. For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
4. Results above the LoD are reported with expanded (2σ) uncertainties based on a total uncertainty budget.
5. Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
6. Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the samples are assumed to be homogeneous.
7. ^{226}Ra has only one gamma ray at 186 keV and the major gamma ray from ^{235}U also occurs at 186 keV. ^{235}U can be measured by the lower abundance gamma ray at 144 keV and if a positive result for ^{235}U is reported, the ^{226}Ra result will be unreliable and overestimated. However even if ^{235}U is below the LoD there may still be a contribution to the ^{226}Ra from ^{235}U and the ^{226}Ra result may be unreliable and overestimated. If an accurate result for ^{226}Ra is required this is better obtained by radiochemical analysis.

- End of Report -

SVOC Tentatively Identified Compounds
(Note: TIC Results are reported on an as received basis and are not moisture corrected).

Appendix to Envirolab Report:

VOC Tentatively Identified Compounds
(Note: TIC Results are reported on an as received basis and are not moisture corrected).

Appendix to Envirolab Report:

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[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Sulfurous acid, decyl 2-ethylhex…	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Naphthalene, 1,2,3,4-tetrahydro-…	[illegible]	[illegible]
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Final Test Report

[illegible]

Notes - Soil analysis

[illegible]

Notes - General

[illegible]

Predominant Matrix Codes: [illegible]

Secondary Matrix Codes [illegible]

[illegible]

[redacted]

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
	Method	ISO17025	MCERTS	19/06724/4				
				WAC		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
				M				
Solid Waste Analysis								
	A	N	N	8.32				
A	A	N	N	0.06				
A	A	N	N	0.03				
	A	N	N	1.9				
	A	N	N	0.31				
A	A	N	N	<0.08				
M	A	N	N	20				
	A	N	N	<0.007				
	A	N	N	<0.01				
Eluate Analysis				10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
				mg/l	mg/kg			
Ar	A	N	N		0.020			
	A	N	N		0.130			
	A	N	N		<0.01			
	A	N	N		<0.01			
	A	N	N		0.050			
M	A	N	N		<0.005			
M	A	N	N		0.030			
	A	N	N		<0.01			
	A	N	N		<0.01			
A	A	N	N		<0.01			
	A	N	N		<0.01			
	A	N	N		0.080			
	A	N	N		13			
	A	N	N		2.0			
	A	N	N		671			
	A	N	N		1460			
	A	N	N		<0.1			
D	A	N	N		<200			
Leach Test Information								
	A	N	N					
	A	N	N					
M								
Dr M	A	N	N					

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FINAL ANALYTICAL TEST REPORT

Envirolab Job Number:
Issue Number: **Date:**

Client:

Project Manager:
Project Name:
Project Ref:
Order No:
Date Samples Received:
Date Instructions Received:
Date Analysis Completed:

Prepared by: **Approved by:**

[redacted]

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Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
% Stones >10mm$_A$	<0.1	<0.1	5.0	7.1	3.0			% w/w	0.1	A-T-044
pH$_D$[M#]	8.53	9.24	7.37	7.56	8.07			pH	0.01	A-T-031s
Ammonium / Ammoniacal Nitrogen as NH4$_D$	2.71	5.03	28.5	6.41	21.3			mg/kg	0.26	A-T-033s
Sulphate (acid soluble)$_D$[M#]	290	310	5400	220	2500			mg/kg	200	A-T-028s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1	<1			mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$[M#]	<1	<1	<1	<1	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	0.6	0.6	1.3	0.6	0.8			mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	22	<5	50			mg/kg	5	A-T-S2-s
Loss on ignition (550degC)$_D$[M#]	3.1	2.5	38.7	1.0	2.1			% w/w	0.6	A-T-030s
Total Organic Carbon$_D$[M#]	0.08	0.21	22.3	0.07	0.88			% w/w	0.03	A-T-032s
Fraction of organic carbon$_D$[#]	0.0008	0.0021	0.2234	0.0007	0.0088			N/A	0.0003	A-T-032 FOC
Arsenic$_D$[M#]	6	5	6	6	6			mg/kg	1	A-T-024s
Boron (water soluble)$_D$[M#]	<1.0	<1.0	7.8	<1.0	3.4			mg/kg	1	A-T-027s
Cadmium$_D$[M#]	<0.5	<0.5	<0.5	<0.5	<0.5			mg/kg	0.5	A-T-024s
Copper$_D$[M#]	<1	<1	<1	<1	<1			mg/kg	1	A-T-024s
Chromium$_D$[M#]	10	11	12	10	11			mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1			mg/kg	1	A-T-040s
Iron$_D$	24300	27800	28900	29000	25700			mg/kg	50	A-T-024s
Lead$_D$[M#]	6	6	7	6	6			mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17			mg/kg	0.17	A-T-024s
Nickel$_D$[M#]	7	8	9	8	8			mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	2	<1	3	2			mg/kg	1	A-T-024s
Vanadium$_D$[M#]	50	54	56	51	52			mg/kg	1	A-T-024s
Zinc$_D$[M#]	15	50	27	20	17			mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1)$_A$	*	-	*	-	-					A-T-001
pH (leachable)$_A$[#]	7.42	-	7.72	-	-			pH	0.01	A-T-031w
Ammoniacal nitrogen as N (leachable)$_A$	<0.02	-	1.39	-	-			mg/l	0.02	A-T-033w
Ammonium / Ammoniacal Nitrogen as NH4 (leachable)$_A$	<0.026	-	1.791	-	-			mg/l	0.026	A-T-033w
Nitrate (leachable)$_A$[#]	0.3	-	<0.1	-	-			mg/l	0.1	A-T-026w
Sulphate (leachable)$_A$[#]	<1.00	-	65.52	-	-			mg/l	1	A-T-026w
Cyanide (free) (leachable)$_A$	<0.005	-	<0.005	-	-			mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$	<0.005	-	<0.005	-	-			mg/l	0.005	A-T-042wTCN
Sulphide (leachable)$_A$	<0.1	-	<0.1	-	-			mg/l	0.1	A-T-S2-w

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Arsenic (leachable)$_{A}^{\#}$	<1	-	9	-	-			µg/l	1	A-T-025w
Boron (leachable)$_{A}^{\#}$	10	-	215	-	-			µg/l	10	A-T-025w
Cadmium (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Copper (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	<0.05	-	<0.05	-	-			mg/l	0.05	A-T-040w
Iron (leachable)$_{A}^{\#}$	68	-	44	-	-			µg/l	10	A-T-025w
Lead (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	3	-	87	-	-			µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	<0.1	-	<0.1	-	-			µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	<1	-	<1	-	-			µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	1	-	4	-	-			µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	1	-	5	-	-			µg/l	1	A-T-025w
Carbon-14$_{A}$	Appended	-	-	Appended	-				50	Subcon Soco-Did
Gamma Spec HR$_{A}$	Appended	-	-	Appended	-					Subcon Soco-Did
Gross Alpha + Gross Beta$_{A}^{\#}$	Appended	-	-	Appended	-				100	Subcon Soco-Did
Tritium (Total)$_{A}^{\#}$	Appended	-	-	Appended	-				50	Subcon Soco-Did
Calcium (leachable)$_{A}$	9	-	62	-	-			mg/l	1	A-T-049w
Acid Herbicides										
2,4,5-T$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
2,4-D$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
2,4-DP; (Dichlorprop)$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPA$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPB$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPP; (Mecoprop)$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest

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Envirolab Job Number: 19/07039 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D^{\#}$	NAD	NAD	NAD	NAD	NAD					A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	N/A	N/A	N/A	N/A					
OCP+OPP Combined Pest Suite (incl. Atrazine and Simazine)										
Dichlobenil$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Tecnazene$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Trifluralin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
alpha-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Hexachlorobenzene (HCB)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Simazine$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Atrazine$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
beta-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Quintozene (PCNB)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
gamma-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorothalonil$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
delta-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triallate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Heptachlor$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Aldrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triadimefon$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Telodrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Isodrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Pendimethalin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Heptachlor epoxide$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
trans-Chlordane (Gamma)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDE (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan I (Alpha)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
cis-Chlordane (Alpha)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDE (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dieldrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDD (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Endrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan II (Beta)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDD (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDT (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endrin Aldehyde$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endrin Ketone$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan Sulphate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDT (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-Methoxychlor$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-Methoxychlor$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Permethrin I (cis)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Permethrin II (trans)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dichlorvos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Mevinphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Demeton-S$_A$	<0.50	-	-	<0.50	-			mg/kg	0.5	A-T-056
Demeton-O$_A$	<0.50	-	-	<0.50	-			mg/kg	0.5	A-T-056
Phorate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dimethoate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Propetamphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Diazinon (Dimpylate)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Disulfoton$_A$	<0.10	-	-	<0.10	-			mg/kg	0.1	A-T-056
Etrimphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorpyrifos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Parathion (Ethyl Parathion)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Methyl Parathion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Pirimiphos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Fenitrothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Fensulphothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Fenthion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Malathion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorfenvinphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorpyrifos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Trichloronate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Prothiofos (Tokuthion)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Ethion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triazophos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Sulprofos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Carbophenothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Phosalone$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Azinphos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Azinphos-ethyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Coumaphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
PAH-16MS										
Acenaphthene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-019s
Acenaphthylene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-019s
Anthracene$_{A}^{M\#}$	<0.02	<0.02	<0.02	<0.02	<0.02			mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_{A}^{M\#}$	<0.05	<0.05	<0.05	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_{A}^{M\#}$	<0.05	<0.05	<0.05	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_{A}^{M\#}$	<0.07	<0.07	<0.07	<0.07	<0.07			mg/kg	0.07	A-T-019s
Chrysene$_{A}^{M\#}$	<0.06	<0.06	<0.06	<0.06	<0.06			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Fluoranthene$_{A}^{M\#}$	<0.08	<0.08	<0.08	<0.08	<0.08			mg/kg	0.08	A-T-019s
Fluorene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Naphthalene $_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Phenanthrene$_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Pyrene$_{A}^{M\#}$	<0.07	<0.07	<0.07	<0.07	<0.07			mg/kg	0.07	A-T-019s
Total PAH-16MS$_{A}^{M\#}$	<0.08	<0.08	<0.08	<0.08	<0.08			mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	<0.02	-	0.03	-	-			µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	<0.02	-	0.04	-	-			µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	0.03	-	0.19	-	-			µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	<0.02	-	<0.02	-	-			µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	0.04	-	0.33	-	-			µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	0.07	-	0.59	-	-			µg/l	0.02	A-T-019w

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Envirolab Job Number: 19/07039 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
SVOC + TICs (excluding PAH-16)										
SVOC TICs (Tentatively Identified Compounds)$_A$	None detected	Appended	-	Appended	-					A-T-052s
Hexachlorobenzene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	-	<500	-			µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	-	<500	-			µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Hexachloroethane$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s
Perylene$_A$	<100	<100	-	<100	-			µg/kg	100	A-T-052s

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Envirolab Job Number: 19/07039 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
VOC+TICs										
Dichlorodifluoromethane$_A$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10	-	<10	-			µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
Bromomethane$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
Chloroethane$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
Carbon Disulphide$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5	-	<5	-			µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Bromochloromethane$_A^{\#}$	<5	<5	-	<5	-			µg/kg	5	A-T-006s
Chloroform$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^{\#}$	*<1*	*<1*	-	*<1*	-			µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^{\#}$	<2	<2	-	<2	-			µg/kg	2	A-T-006s
Benzene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Trichloroethene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Dibromomethane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Bromodichloromethane$_A^{\#}$	<10	<10	-	<10	-			µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Toluene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Tetrachloroethene$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Dibromochloromethane$_A^{\#}$	<3	<3	-	<3	-			µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
Chlorobenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	-	<2	-			µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	-	<2	-			µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	-	<3	-			µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	-	<1	-			µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	-	<3	-			µg/kg	3	A-T-006s
VOC TICs$_{A}$	None detect	None detect	-	None detect	-					A-T-006s

Envirolab Job Number: 19/07039

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07039/3	19/07039/6	19/07039/7	19/07039/13	19/07039/17			Units	Limit of Detection	Method ref
Client Sample No	103	105/WAC4	106/WAC5	104/WAC4	108/WAC8					
Client Sample ID	MGS2019_A	MGS2019_A	MGS2019_A	MGS2019_D	MGS2019_D					
Depth to Top	0.50	3.00	4.00	1.00	4.50					
Depth To Bottom										
Date Sampled	19-Jul-19	19-Jul-19	20-Jul-19	21-Jul-19	21-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4A	4A	4AE	4A	5A					
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	4	2	<1	<1			mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	9	9	<1	3			mg/kg	1	A-T-055s
Ali >C21-C35$_A$	<1	11	48	3	3			mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	24	59	3	5			mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	3	<1	<1	<1			mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	4	4	<1	<1			mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	5	63	2	8			mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	11	68	2	8			mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	<1	35	127	5	13			mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s

REPORT NOTES

General

Soil chemical analysis:

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscr

TPH analysis of water by method A-T-007:

Electrical Conductivity of water by Method A-T-037:

Asbestos:

Predominant Matrix Codes:

Secondary Matrix Codes:

Key:

Envirolab Deviating Samples Report

Client: Structural Soils Limited (Bristol), The Old School , Stillhouse Lane, Bedminster, Bristol, UK, BS3 4EB

Project: Sizewell C

Clients Project No: 734318

Project No: 19/07039

Date Received: 24/07/2019 (am)

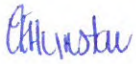
Cool Box Temperatures (°C): 14.0 - 23.1

NO DEVIATIONS IDENTIFIED

SOCOTEC

Analysis of Soil Samples

Envirolab Ltd
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
SK17 3AR

Testing Facility:	SOCOTEC UK Unit 12, Moorbrook Southmead Industrial Park Didcot Oxfordshire OX11 7HP
Laboratory Reference:	19-0664
Customer Reference:	19/07039
Quote Number:	ENR-ANU-9581Rev1
PO Number:	P0741505
Samples Received:	25 July 2019
Sample Condition:	Satisfactory, Ambient
Analysis Completed:	22 August 2019
Report Author:	
Author's Name:	Trevor Harding
Job Title:	Senior Analyst
Approved By:	
Approver's Name:	Charlene Hunston
Job Title:	Team Leader
Report Date:	22 August 2019

SOCOTEC

Sample Summary

Customer Reference	Laboratory Reference	Matrix	Sampling Date
19/07039/3, MGS2019_A 0.5m	RX4146	Soil	19/07/2019 12:00
19/07039/13, MGS2019_D 1.00m	RX4147	Soil	21/07/2019 12:00

Experimental

Tritium

ANU/SOP/2094 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the hydrogen and tritium were converted to water vapour. These were then selectively trapped in a series of gas-bubblers containing dilute acid. Aliquots of known weight were then assessed for their tritium content by liquid scintillation counting. The tritium activity was corrected for the proportion of the bubbler trapping solution taken and for the weight of combusted sample.

Carbon-14

ANU/SOP/2103 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the carbon species were converted to carbon dioxide, which were then selectively trapped in a series of gas-bubblers containing a trapping medium. Aliquots of known weight were then assessed for their ^{14}C content by liquid scintillation counting. Hence the total recovered ^{14}C was calculated from the total weights of each respective trapping medium.

Gross Alpha/Beta

ENR: ANU/SOP/2005 – A portion of each sample was slurried in meths and then vacuum filtered onto glass fibre filter paper in a pre-calibrated geometry, to produce a source for counting. After air-drying, the sample was weighed, then counted on a Berthold LB770 low-level gas-flow proportional counter for an appropriate length of time.

Gamma Spectrometry

ANU/SOP/2029 – The measurement technique is based on the use of high purity germanium (HPGe) detectors coupled to an Ortec gamma ray spectroscopy system. The gamma ray spectra are stored on a computer and analysed using the software programme Fitzpeaks for photopeak identification and quantification. The detectors are calibrated for efficiency using a mixed radionuclide standard, which covers an energy range of approximately 30-2000 keV. The efficiency of gamma rays between 30 keV and 120 keV are determined on an individual basis.

Application of decay corrections for the naturally occurring daughter radionuclides of uranium and thorium assumes that the series daughter radionuclides are all in secular equilibrium and therefore decay with the half-life of the first radionuclide in the series." (^{226}Ra is not UKAS accredited)

Deviating Sample Disclaimer

The reported results are representative of the samples upon receipt. However,

E) Sample processing did not commence within the appropriate holding time (annotated with "†" in the tables below)

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Consequently the samples are considered deviating and the validity of the reported data may be compromised.

Results

Results are presented in the following tables.

Any opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

The results in this test report relate only to the items tested. This test report must not be reproduced except in full, without written approval of the laboratory.

Results Summary – Tritium and Carbon-14

Customer Reference	Laboratory Reference	H-3	C-14
19/07039/3, MGS2019_A 0.5m	RX4146 †	<9.7	<4.5
19/07039/13, MGS2019_D 1.00m	RX4147 †	<8.9	<4.0

Notes:
1. Results are presented as $Bq.kg^{-1}$ of sample as received and are decay corrected to the sampling date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.
3. † Sample processing did not commence within the appropriate holding time

Results Summary – Gross Alpha/Beta

Customer Reference	Laboratory Reference	Analysis Date	Gross Alpha as Pu-242	Gross Beta as Cs-137
19/07039/3, MGS2019_A 0.5m	RX4146	22/08/2019	<84	<85
19/07039/13, MGS2019_D 1.00m	RX4147	22/08/2019	<110	<78

Notes:
1. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample, relative to the analysis date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.

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Results Summary – Gamma Spectrometry

Customer Reference	Laboratory Reference	Be-7	K-40	Co-60	Cs-134	Cs-137	Tl-208	Pb-210	Bi-212	Pb-212
19/07039/3, MGS2019_A 0.5m	RX4146	<12	182 ± 38	<1.8	<2.0	<1.5	3.6 ± 1.3	<23	<21	9.3 ± 2.0
19/07039/13, MGS2019_D 1.00m	RX4147	<9.7	<34	<1.5	<1.6	<1.2	<1.5	<19	<18	3.5 ± 1.3

Customer Reference	Laboratory Reference	Bi-214	Pb-214	Ra-224	Ra-226*	Ac-228	Pa-234m	Th-234	U-235	Am-241
19/07039/3, MGS2019_A 0.5m	RX4146	7.6 ± 2.8	9.7 ± 2.1	<21	<22	<7.4	<190	<27	<1.4	<2.3
19/07039/13, MGS2019_D 1.00m	RX4147	6.1 ± 2.2	6.0 ± 1.8	<17	<19	<6.5	<160	<22	<1.2	<1.9

Notes:

1. Analyses and/or samples marked with an asterisk are not covered under UKAS schedule 1252.
2. Results are presented as $Bq.kg^{-1}$ of dried and homogenised samples and are decay corrected to the sampling date.
3. For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
4. Results above the LoD are reported with expanded (2σ) uncertainties based on a total uncertainty budget.
5. Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
6. Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the samples are assumed to be homogeneous.
7. ^{226}Ra has only one gamma ray at 186 keV and the major gamma ray from ^{235}U also occurs at 186 keV. ^{235}U can be measured by the lower abundance gamma ray at 144 keV and if a positive result for ^{235}U is reported, the ^{226}Ra result will be unreliable and overestimated. However even if ^{235}U is below the LoD there may still be a contribution to the ^{226}Ra from ^{235}U and the ^{226}Ra result may be unreliable and overestimated. If an accurate result for ^{226}Ra is required this is better obtained by radiochemical analysis.

- End of Report -

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Analysis of Soil Samples
(Amendment to 19-0664)

Envirolab Ltd
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
SK14 3AR

Testing Facility: SOCOTEC UK
Unit 12, Moorbrook
Southmead Industrial Park
Didcot
Oxfordshire
OX11 7HP

Laboratory Reference:	19-0664
Customer Reference:	19/07039
Quote Number:	ENR-ANU-9581Rev1
PO Number:	P0741505
Samples Received:	25 July 2019
Sample Condition:	Satisfactory, Ambient
Analysis Completed:	29 August 2019
Report Autho	[redacted]
Author's Name:	Charlene Hunston
Job Title:	Team Leader
Approved By	[redacted]
Approver's Name:	Carla Thompson
Job Title:	Deputy Project Manager
Report Date:	24 September 2019

SOCOTEC

Introduction

This is a revised report as denoted by the suffix 'Rev1'. The report has been reissued with amended gross alpha/beta results. All other results remain unchanged. This report supersedes the previous issue.

Sample Summary

Customer Reference	Laboratory Reference	Matrix	Sampling Date
19/07039/3, MGS2019_A 0.50m	RX4146	Soil	19/07/2019 12:00
19/07039/13, MGS2019_D 1.00m	RX4147	Soil	21/07/2019 12:00

Experimental

Tritium

ANU/SOP/2094 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the hydrogen and tritium were converted to water vapour. These were then selectively trapped in a series of gas-bubblers containing dilute acid. Aliquots of known weight were then assessed for their tritium content by liquid scintillation counting. The tritium activity was corrected for the proportion of the bubbler trapping solution taken and for the weight of combusted sample.

Carbon-14

ANU/SOP/2103 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the carbon species were converted to carbon dioxide, which were then selectively trapped in a series of gas-bubblers containing a trapping medium. Aliquots of known weight were then assessed for their ^{14}C content by liquid scintillation counting. Hence the total recovered ^{14}C was calculated from the total weights of each respective trapping medium.

Gross Alpha/Beta

ANU/SOP/2005 – A portion of each sample was slurried in meths and then vacuum filtered onto glass fibre filter paper in a pre-calibrated geometry, to produce a source for counting. After air-drying, the sample was weighed, then counted on a Berthold LB770 low-level gas-flow proportional counter for an appropriate length of time.

Gamma Spectrometry

ANU/SOP/2029 – The measurement technique is based on the use of high purity germanium (HPGe) detectors coupled to an Ortec gamma ray spectroscopy system. The gamma ray spectra are stored on a computer and analysed using the software programme Fitzpeaks for photopeak identification and quantification. The detectors are calibrated for efficiency using a mixed radionuclide standard, which covers an energy range of approximately 30-2000 keV. The efficiency of gamma rays between 30 keV and 120 keV are determined on an individual basis.

Application of decay corrections for the naturally occurring daughter radionuclides of uranium and thorium assumes that the series daughter radionuclides are all in secular equilibrium and therefore decay with the half-life of the first radionuclide in the series." (^{226}Ra is not UKAS accredited)

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Deviating Sample Disclaimer

The reported results are representative of the samples upon receipt. However,

E) Sample processing did not commence within the appropriate holding time (annotated with "†" in the tables below)

Consequently the samples are considered deviating and the validity of the reported data may be compromised.

Results

Results are presented in the following tables.

Any opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

The results in this test report relate only to the items tested. This test report must not be reproduced except in full, without written approval of the laboratory.

Results Summary – Tritium and Carbon-14

Customer Reference	Laboratory Reference	H-3	C-14
19/07039/3, MGS2019_A 0.50m	RX4146 †	<9.7	<4.5
19/07039/13, MGS2019_D 1.00m	RX4147 †	<8.9	<4.0

Notes:
1. Results are presented as $Bq.kg^{-1}$ of sample as received and are decay corrected to the sampling date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.
3. † Sample processing did not commence within the appropriate holding time

Results Summary – Gross Alpha/Beta

Customer Reference	Laboratory Reference	Analysis Date	Gross Alpha as Pu-242	Gross Beta as Cs-137
19/07039/3, MGS2019_A 0.50m	RX4146	28/08/2019	175 ± 77	261 ± 74
19/07039/13, MGS2019_D 1.00m	RX4147	28/08/2019	<110	<80

Notes:
1. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample, relative to the analysis date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.

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Results Summary – Gamma Spectrometry

Customer Reference	Laboratory Reference	Be-7	K-40	Co-60	Cs-134	Cs-137	Tl-208	Pb-210	Bi-212	Pb-212
19/07039/3, MGS2019_A 0.50m	RX4146	<12	182 ± 38	<1.8	<2.0	<1.5	3.6 ± 1.3	<23	<21	9.3 ± 2.0
19/07039/13, MGS2019_D 1.00m	RX4147	<9.7	<34	<1.5	<1.6	<1.2	<1.5	<19	<18	3.5 ± 1.3

Customer Reference	Laboratory Reference	Bi-214	Pb-214	Ra-224	Ra-226*	Ac-228	Pa-234m	Th-234	U-235	Am-241
19/07039/3, MGS2019_A 0.50m	RX4146	7.6 ± 2.8	9.7 ± 2.1	<21	<22	<7.4	<190	<27	<1.4	<2.3
19/07039/13, MGS2019_D 1.00m	RX4147	6.1 ± 2.2	6.0 ± 1.8	<17	<19	<6.5	<160	<22	<1.2	<1.9

Notes:

1. Analyses and/or samples marked with an asterisk are not covered under UKAS schedule 1252.
2. Results are presented as $Bq.kg^{-1}$ of dried and homogenised samples and are decay corrected to the sampling date.
3. For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
4. Results above the LoD are reported with expanded (2σ) uncertainties based on a total uncertainty budget.
5. Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
6. Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the samples are assumed to be homogeneous.
7. ^{226}Ra has only one gamma ray at 186 keV and the major gamma ray from ^{235}U also occurs at 186 keV. ^{235}U can be measured by the lower abundance gamma ray at 144 keV and if a positive result for ^{235}U is reported, the ^{226}Ra result will be unreliable and overestimated. However even if ^{235}U is below the LoD there may still be a contribution to the ^{226}Ra from ^{235}U and the ^{226}Ra result may be unreliable and overestimated. If an accurate result for ^{226}Ra is required this is better obtained by radiochemical analysis.

- End of Report -

SVOC Tentatively Identified Compounds

(Note: TIC Results are reported on an as received basis and are not moisture corrected).

Appendix to Envirolab Report:

[illegible]	[illegible]
[illegible]	M[illegible]
D[illegible]	[illegible]
D[illegible]	

[illegible]	[illegible]	[illegible]	[illegible]
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D[illegible]	

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D[illegible]	

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[illegible]			[illegible]

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[illegible]

[illegible]

Final Test Report

[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	

Notes - Soil analysis

[illegible]

Notes - General

[illegible]

Predominant Matrix Codes: [illegible]

Secondary Matrix Codes [illegible]

[illegible]

[illegible]

[redacted]

[illegible]

[redacted]

[illegible]

[illegible]

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
	Method	ISO17025	MCERTS	19/07039/6				
				105/WAC4		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
				M				
Solid Waste Analysis								
	A	N	N	9.24				
A	A	N	N	0.43				
A	A	N	N	0.09				
	A	N	N	2.5				
	A	N	N	0.21				
A	A	N	N	<0.08				
M	A	N	N	63				
	A	N	N	<0.007				
	A	N	N	<0.01				
Eluate Analysis				10:1 mg/l	10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Ar	A	N	N		<0.01			
	A	N	N		0.040			
	A	N	N		<0.01			
	A	N	N		<0.01			
	A	N	N		<0.01			
M	A	N	N		<0.005			
M	A	N	N		0.140			
	A	N	N		<0.01			
	A	N	N		<0.01			
A	A	N	N		<0.01			
	A	N	N		<0.01			
	A	N	N		0.010			
	A	N	N		42			
	A	N	N		2.0			
	A	N	N		125			
	A	N	N		530			
	A	N	N		<0.1			
D	A	N	N		<200			
Leach Test Information								
	A	N	N					
	A	N	N					
M								
Dr M	A	N	N					

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
[illegible]	Method	ISO17025	MCERTS	19/07039/7				
[illegible]				106/WAC5		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
[illegible]				[illegible]				
[illegible]				[illegible]				
[illegible]								
[illegible]				[illegible]				
[illegible]				[illegible]				
[illegible]				[illegible]				
Solid Waste Analysis								
[illegible]	[illegible]	N	N	7.37		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	0.1		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	0.04		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	38.7		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	22.3		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	<0.08		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	57		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	<0.007		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	<0.01		[illegible]	[illegible]	[illegible]
Eluate Analysis				10:1 mg/l	10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
[illegible]	[illegible]	N	N	[illegible]	0.090	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	0.200	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.005	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	0.110	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.01	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	0.050	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	358	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	3.0	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	655	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	2330	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<0.1	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	N	N	[illegible]	<200	[illegible]	[illegible]	[illegible]
Leach Test Information								
[illegible]	[illegible]	N	N	[illegible]				
[illegible]	[illegible]	N	N	[illegible]				
[illegible]				[illegible]				
[illegible]	[illegible]	N	N	[illegible]				

[illegible]

envirolab
M R d AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number:
Issue Number: **Date:**

Client:

Project Manager: M Add
Project Name:
Project Ref:
Order No: A
Date Samples Received:
Date Instructions Received:
Date Analysis Completed:

Prepared by: M

Approved by: M

envirolab

Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
% Stones >10mm$_A$	<0.1	-	<0.1	4.3	1.1			% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.95	-	6.86	8.54	8.71			pH	0.01	A-T-031s
Ammonium / Ammoniacal Nitrogen as NH4$_D$	0.90	-	134	3.52	1.02			mg/kg	0.26	A-T-033s
Sulphate (acid soluble)$_D$$^{M\#}$	<200	-	3500	<200	<200			mg/kg	200	A-T-028s
Cyanide (free)$_A$$^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$$^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	-	<0.2	<0.2	<0.2			mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	-	27	<5	<5			mg/kg	5	A-T-S2-s
Loss on ignition (550degC)$_D$$^{M\#}$	1.0	-	14.6	1.2	1.1			% w/w	0.6	A-T-030s
Total Organic Carbon$_D$$^{M\#}$	0.15	-	6.44	0.15	0.16			% w/w	0.03	A-T-032s
Fraction of organic carbon$_D$$^{\#}$	0.0015	-	0.0644	0.0015	0.0016			N/A	0.0003	A-T-032 FOC
Arsenic$_D$$^{M\#}$	8	-	18	15	16			mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	-	5.5	<1.0	<1.0			mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	-	0.6	<0.5	<0.5			mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	<1	-	9	<1	<1			mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	5	-	38	5	5			mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	-	<1	<1	<1			mg/kg	1	A-T-040s
Iron$_D$	7330	-	33900	10300	13400			mg/kg	50	A-T-024s
Lead$_D$$^{M\#}$	3	-	21	4	4			mg/kg	1	A-T-024s
Mercury$_D$	<0.17	-	<0.17	<0.17	<0.17			mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	3	-	28	3	3			mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	12	-	66	12	16			mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	10	-	62	19	13			mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1)$_A$	*	-	-	*	-					A-T-001
pH (leachable)$_A$$^{\#}$	7.34	-	-	7.36	-			pH	0.01	A-T-031w
Ammonium / Ammoniacal Nitrogen as NH4 (leachable)$_A$	<0.026	-	-	<0.026	-			mg/l	0.026	A-T-033w
Ammoniacal nitrogen as N (leachable)$_A$	<0.02	-	-	<0.02	-			mg/l	0.02	A-T-033w
Nitrate (leachable)$_A$$^{\#}$	<0.1	-	-	1.2	-			mg/l	0.1	A-T-026w
Sulphate (leachable)$_A$$^{\#}$	2.32	-	-	1.84	-			mg/l	1	A-T-026w
Cyanide (free) (leachable)$_A$	<0.005	-	-	<0.005	-			mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$	<0.005	-	-	<0.005	-			mg/l	0.005	A-T-042wTCN
Sulphide (leachable)$_A$	<0.1	-	-	<0.1	-			mg/l	0.1	A-T-S2-w

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Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
Arsenic (leachable)$_{A}^{\#}$	4	-	-	4	-			µg/l	1	A-T-025w
Boron (leachable)$_{A}^{\#}$	20	-	-	16	-			µg/l	10	A-T-025w
Cadmium (leachable)$_{A}^{\#}$	<1	-	-	<1	-			µg/l	1	A-T-025w
Copper (leachable)$_{A}^{\#}$	6	-	-	4	-			µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	<1	-	-	<1	-			µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	<0.05	-	-	<0.05	-			mg/l	0.05	A-T-040w
Iron (leachable)$_{A}^{\#}$	86	-	-	142	-			µg/l	10	A-T-025w
Lead (leachable)$_{A}^{\#}$	<1	-	-	<1	-			µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	5	-	-	12	-			µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	<0.1	-	-	<0.1	-			µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	<1	-	-	3	-			µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	<1	-	-	<1	-			µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	2	-	-	2	-			µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	4	-	-	9	-			µg/l	1	A-T-025w
Carbon-14$_{A}$	Appended	-	-	Appended	-				50	Subcon Soco-Did
Gamma Spec HR$_{A}$	Appended	-	-	Appended	-					Subcon Soco-Did
Gross Alpha + Gross Beta$_{A}^{\#}$	Appended	-	-	Appended	-				100	Subcon Soco-Did
Tritium (Total)$_{A}^{\#}$	Appended	-	-	Appended	-				50	Subcon Soco-Did
Calcium (leachable)$_{A}$	8	-	-	11	-			mg/l	1	A-T-049w
Acid Herbicides										
2,4,5-T$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
2,4-D$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
2,4-DP; (Dichlorprop)$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPA$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPB$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest
MCPP; (Mecoprop)$_{A}$	<0.5	-	-	<0.5	-			mg/kg	0.5	Subcon Chemtest

Envirolab Job Number: 19/07142

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	Chrysotile & Amosite	NAD	NAD	NAD					A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose fibres, Board & Bitumen product	-	-	-					A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	No	N/A	N/A	N/A					
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	0.182	-	-	-			% w/w	0.001	A-T-054
OCP+OPP Combined Pest Suite (incl. Atrazine and Simazine)										
Dichlobenil$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Tecnazene$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Trifluralin$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
alpha-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Hexachlorobenzene (HCB)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Simazine$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Atrazine$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
beta-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Quintozene (PCNB)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
gamma-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorothalonil$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
delta-Hexachlorocyclohexane (HCH)$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triallate$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Heptachlor$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Aldrin$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triadimefon$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Telodrin$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Isodrin$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Pendimethalin$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Heptachlor epoxide$_{A}$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
trans-Chlordane (Gamma)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDE (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan I (Alpha)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
cis-Chlordane (Alpha)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDE (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dieldrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDD (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endrin$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan II (Beta)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDD (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-DDT (2,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endrin Aldehyde$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endrin Ketone$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Endosulphan Sulphate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-DDT (4,4)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
o,p-Methoxychlor$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
p,p-Methoxychlor$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Permethrin I (cis)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Permethrin II (trans)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dichlorvos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Mevinphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Demeton-S$_A$	<0.50	-	-	<0.50	-			mg/kg	0.5	A-T-056
Demeton-O$_A$	<0.50	-	-	<0.50	-			mg/kg	0.5	A-T-056
Phorate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Dimethoate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Propetamphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Diazinon (Dimpylate)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Disulfoton$_A$	<0.10	-	-	<0.10	-			mg/kg	0.1	A-T-056
Etrimphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorpyrifos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Parathion (Ethyl Parathion)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Methyl Parathion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Pirimiphos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Fenitrothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

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Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
Fensulphothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Fenthion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Malathion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorfenvinphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Chlorpyrifos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Trichloronate$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Prothiofos (Tokuthion)$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Ethion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Triazophos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Sulprofos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Carbophenothion$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Phosalone$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Azinphos-methyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Azinphos-ethyl$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056
Coumaphos$_A$	<0.01	-	-	<0.01	-			mg/kg	0.01	A-T-056

Envirolab Job Number: 19/07142

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
PAH-16MS										
Acenaphthene$_{A}^{M\#}$	<0.01	-	<0.01	<0.01	0.01			mg/kg	0.01	A-T-019s
Acenaphthylene$_{A}^{M\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-019s
Anthracene$_{A}^{M\#}$	<0.02	-	<0.02	<0.02	<0.02			mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_{A}^{M\#}$	<0.05	-	<0.05	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_{A}^{M\#}$	<0.05	-	<0.05	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_{A}^{M\#}$	<0.07	-	<0.07	<0.07	<0.07			mg/kg	0.07	A-T-019s
Chrysene$_{A}^{M\#}$	<0.06	-	<0.06	<0.06	<0.06			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_{A}^{M\#}$	<0.04	-	<0.04	<0.04	<0.04			mg/kg	0.04	A-T-019s
Fluoranthene$_{A}^{M\#}$	<0.08	-	<0.08	<0.08	0.14			mg/kg	0.08	A-T-019s
Fluorene$_{A}^{M\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_{A}^{M\#}$	<0.03	-	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Naphthalene $_{A}^{M\#}$	<0.03	-	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Phenanthrene$_{A}^{M\#}$	<0.03	-	<0.03	<0.03	<0.03			mg/kg	0.03	A-T-019s
Pyrene$_{A}^{M\#}$	<0.07	-	<0.07	<0.07	0.10			mg/kg	0.07	A-T-019s
Total PAH-16MS$_{A}^{M\#}$	<0.08	-	<0.08	<0.08	0.25			mg/kg	0.01	A-T-019s

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Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
SVOC + TICs (excluding PAH-16)										
SVOC TICs (Tentatively Identified Compounds)$_A$	None detected	-	-	None detected	-					A-T-052s
Hexachlorobenzene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-	-	<500	-			µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<200	-	-	<200	-			µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Phenol$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	-	-	<500	-			µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s

Envirolab Job Number: 19/07142

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
Hexachloroethane$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s
Perylene$_A$	<100	-	-	<100	-			µg/kg	100	A-T-052s

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Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
VOC+TICs										
Dichlorodifluoromethane$_{A}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	-	-	<10	-			µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	-	-	<5	-			µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	-	-	<5	-			µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	-	-	<2	-			µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	-	-	<10	-			µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	-	-	<3	-			µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s

Envirolab Job Number: 19/07142 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
Chlorobenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	-	-	<2	-			µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	-	-	<2	-			µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	-	-	<3	-			µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	-	-	<1	-			µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	-	-	<3	-			µg/kg	3	A-T-006s
VOC TICs$_{A}$	None detect	-	-	None detect	-					A-T-006s

Envirolab Job Number: 19/07142

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07142/3	19/07142/5	19/07142/7	19/07142/9	19/07142/13			Units	Limit of Detection	Method ref
Client Sample No	103	108	110	102	106					
Client Sample ID	DCBH2019_4	MGS_2019_B	MGS_2019_B	MGS_2019_B	MGS_2019_B					
Depth to Top	0.50	5.00	7.00	0.30	3.00					
Depth To Bottom										
Date Sampled	23-Jul-19	23-Jul-19	23-Jul-19	22-Jul-19	22-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4E	4A	5A	4AE	4E					
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	0.04	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	-	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	-	2	<1	<1			mg/kg	1	A-T-055s
Ali >C21-C35$_A$	1	-	9	2	3			mg/kg	1	A-T-055s
Total Aliphatics$_A$	1	-	13	2	3			mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	-	2	<1	1			mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	-	<1	<1	<1			mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	-	2	<1	<1			mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	-	2	<1	1			mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	3	-	59	2	5			mg/kg	1	A-T-055s
Total Aromatics$_A$	3	-	66	2	8			mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	5	-	79	5	12			mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s

REPORT NOTES

General

Soil chemical analysis:

TPH analysis of water by method A-T-007:

Electrical Conductivity of water by Method A-T-037:

Asbestos:

Predominant Matrix Codes:

Secondary Matrix Codes:

Key:

Envirolab Deviating Samples Report

Client: Structural Soils Limited (Bristol), The Old School , Stillhouse Lane, Bedminster, Bristol, UK, BS3 4EB

Project: Sizewell C

Project No: 19/07142

Date Received: 29/07/2019 (am)

Cool Box Temperatures (°C): 17.8, 16.9, 16.0, 19.8, 20.0

Clients Project No: 734318

Lab Sample ID		
Client Sample No		
Client Sample ID/Depth		
Date Sampled		
Deviation Code		
	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

Lab Sample ID		
Client Sample No		
Client Sample ID/Depth		
Date Sampled		
	✓	✓

Analysis of Soil Samples

Envirolab Ltd
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
SK17 3AR

Testing Facility: SOCOTEC UK
Unit 12, Moorbrook
Southmead Industrial Park
Didcot
Oxfordshire
OX11 7HP

Laboratory Reference: 19-0683

Customer Reference: 19/07142

Quote Number: ENR-ANU-9581Rev1

PO Number: P0741531

Samples Received: 30 July 2019

Sample Condition: Satisfactory, Ambient

Analysis Completed: 22 August 2019

Report Auth [redacted]

Author's Name: Trevor Harding

Job Title: Senior Analyst

Approved [redacted]

Approver's Name: Charlene Hunston

Job Title: Team Leader

Report Date: 22 August 2019

SOCOTEC

Sample Summary

Customer Reference	Laboratory Reference	Matrix	Sampling Date
19/07142/3, DCBH2019_4 0.50m	RX4226	Soil	23/07/2019 12:00
19/07142/9, MGS_2019_B 0.30m	RX4227	Soil	22/07/2019 12:00

Experimental

Tritium

ANU/SOP/2094 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the hydrogen and tritium were converted to water vapour. These were then selectively trapped in a series of gas-bubblers containing dilute acid. Aliquots of known weight were then assessed for their tritium content by liquid scintillation counting. The tritium activity was corrected for the proportion of the bubbler trapping solution taken and for the weight of combusted sample.

Carbon-14

ANU/SOP/2103 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the carbon species were converted to carbon dioxide, which were then selectively trapped in a series of gas-bubblers containing a trapping medium. Aliquots of known weight were then assessed for their ^{14}C content by liquid scintillation counting. Hence the total recovered ^{14}C was calculated from the total weights of each respective trapping medium.

Gross Alpha/Beta

ENR: ANU/SOP/2005 – A portion of each sample was slurried in meths and then vacuum filtered onto glass fibre filter paper in a pre-calibrated geometry, to produce a source for counting. After air-drying, the sample was weighed, then counted on a Berthold LB770 low-level gas-flow proportional counter for an appropriate length of time.

Gamma Spectrometry

ANU/SOP/2029 – The measurement technique is based on the use of high purity germanium (HPGe) detectors coupled to an Ortec gamma ray spectroscopy system. The gamma ray spectra are stored on a computer and analysed using the software programme Fitzpeaks for photopeak identification and quantification. The detectors are calibrated for efficiency using a mixed radionuclide standard, which covers an energy range of approximately 30-2000 keV. The efficiency of gamma rays between 30 keV and 120 keV are determined on an individual basis.

Application of decay corrections for the naturally occurring daughter radionuclides of uranium and thorium assumes that the series daughter radionuclides are all in secular equilibrium and therefore decay with the half-life of the first radionuclide in the series." (^{226}Ra is not UKAS accredited)

Deviating Sample Disclaimer

The reported results are representative of the samples upon receipt. However,

E) Sample processing did not commence within the appropriate holding time (annotated with "†" in the tables below)

Consequently the samples are considered deviating and the validity of the reported data may be compromised.

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Results

Results are presented in the following tables.

Any opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

The results in this test report relate only to the items tested. This test report must not be reproduced except in full, without written approval of the laboratory.

Results Summary – Tritium and Carbon-14

Customer Reference	Laboratory Reference	H-3	C-14
19/07142/3, DCBH2019_4 0.50m	RX4226 †	<9.0	<4.9
19/07142/9, MGS_2019_B 0.30m	RX4227 †	<9.5	<5.5

Notes:
1. Results are presented as $Bq.kg^{-1}$ of sample as received and are decay corrected to the sampling date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.
3. † Sample processing did not commence within the appropriate holding time

Results Summary – Gross Alpha/Beta

Customer Reference	Laboratory Reference	Analysis Date	Gross Alpha as Pu-242	Gross Beta as Cs-137
19/07142/3, DCBH2019_4 0.50m	RX4226	22/08/2019	<89	179 ± 62
19/07142/9, MGS_2019_B 0.30m	RX4227	22/08/2019	<90	<95

Notes:
1. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample, relative to the analysis date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.

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Results Summary – Gamma Spectrometry

Customer Reference	Laboratory Reference	Be-7	K-40	Co-60	Cs-134	Cs-137	Tl-208	Pb-210	Bi-212	Pb-212
19/07142/3, DCBH2019_4 0.50m	RX4226	<10	165 ± 27	<1.3	<1.3	<1.2	<1.3	<31	<16	7.7 ± 2.0
19/07142/9, MGS_2019_B 0.30m	RX4227	<12	180 ± 30	<1.4	<1.3	<1.2	2.6 ± 1	<32	<17	6.5 ± 1.8

Customer Reference	Laboratory Reference	Bi-214	Pb-214	Ra-224	Ra-226 *	Ac-228	Pa-234m	Th-234	U-235	Am-241
19/07142/3, DCBH2019_4 0.50m	RX4226	<2.8	6.8 ± 2.1	<32	<22	<5.3	<140	<33	<1.4	<3.2
19/07142/9, MGS_2019_B 0.30m	RX4227	6.1 ± 2.1	6.0 ± 2.2	<33	<24	<5.5	<130	<34	<1.5	<3.3

Notes:

1. Analyses and/or samples marked with an asterisk are not covered under UKAS schedule 1252.
2. Results are presented as $Bq.kg^{-1}$ of dried and homogenised samples and are decay corrected to the sampling date.
3. For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
4. Results above the LoD are reported with expanded (2σ) uncertainties based on a total uncertainty budget.
5. Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
6. Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the samples are assumed to be homogeneous.
7. ^{226}Ra has only one gamma ray at 186 keV and the major gamma ray from ^{235}U also occurs at 186 keV. ^{235}U can be measured by the lower abundance gamma ray at 144 keV and if a positive result for ^{235}U is reported, the ^{226}Ra result will be unreliable and overestimated. However even if ^{235}U is below the LoD there may still be a contribution to the ^{226}Ra from ^{235}U and the ^{226}Ra result may be unreliable and overestimated. If an accurate result for ^{226}Ra is required this is better obtained by radiochemical analysis.

- End of Report -

Analysis of Soil Samples
(Amendment to 19-0683)

Envirolab Ltd
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
SK14 3AR

Testing Facility:	SOCOTEC UK Unit 12, Moorbrook Southmead Industrial Park Didcot Oxfordshire OX11 7HP
Laboratory Reference:	19-0683
Customer Reference:	19/07142
Quote Number:	ENR-ANU-9581Rev1
PO Number:	P0741531
Samples Received:	30 July 2019
Sample Condition:	Satisfactory, Ambient
Analysis Completed:	02 September 2019
Report Auth[redacted]	
Author's Name:	Charlene Hunston
Job Title:	Team Leader
Approved By:	[redacted]
Approver's Name:	Carla Thompson
Job Title:	Deputy Project Manager
Report Date:	24 September 2019

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Introduction

This is a revised report as denoted by the suffix 'Rev1'. The report has been reissued with amended gross alpha/beta results. All other results remain unchanged. This report supersedes the previous issue.

Sample Summary

Customer Reference	Laboratory Reference	Matrix	Sampling Date
19/07142/3, DCBH2019_4 0.50m	RX4226	Soil	23/07/2019 12:00
19/07142/9, MGS_2019_B 0.30m	RX4227	Soil	22/07/2019 12:00

Experimental

Tritium

ANU/SOP/2094 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the hydrogen and tritium were converted to water vapour. These were then selectively trapped in a series of gas-bubblers containing dilute acid. Aliquots of known weight were then assessed for their tritium content by liquid scintillation counting. The tritium activity was corrected for the proportion of the bubbler trapping solution taken and for the weight of combusted sample.

Carbon-14

ANU/SOP/2103 – A sub-sample of known weight was taken from each sample and combusted in an oxygen rich atmosphere in the presence of a copper oxide catalyst. Under these conditions the carbon species were converted to carbon dioxide, which were then selectively trapped in a series of gas-bubblers containing a trapping medium. Aliquots of known weight were then assessed for their ^{14}C content by liquid scintillation counting. Hence the total recovered ^{14}C was calculated from the total weights of each respective trapping medium.

Gross Alpha/Beta

ANU/SOP/2005 – A portion of each sample was slurried in meths and then vacuum filtered onto glass fibre filter paper in a pre-calibrated geometry, to produce a source for counting. After air-drying, the sample was weighed, then counted on a Berthold LB770 low-level gas-flow proportional counter for an appropriate length of time.

Gamma Spectrometry

ANU/SOP/2029 – The measurement technique is based on the use of high purity germanium (HPGe) detectors coupled to an Ortec gamma ray spectroscopy system. The gamma ray spectra are stored on a computer and analysed using the software programme Fitzpeaks for photopeak identification and quantification. The detectors are calibrated for efficiency using a mixed radionuclide standard, which covers an energy range of approximately 30-2000 keV. The efficiency of gamma rays between 30 keV and 120 keV are determined on an individual basis.

Application of decay corrections for the naturally occurring daughter radionuclides of uranium and thorium assumes that the series daughter radionuclides are all in secular equilibrium and therefore decay with the half-life of the first radionuclide in the series." (^{226}Ra is not UKAS accredited)

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Deviating Sample Disclaimer

The reported results are representative of the samples upon receipt. However,

E) Sample processing did not commence within the appropriate holding time (annotated with "†" in the tables below)

Consequently the samples are considered deviating and the validity of the reported data may be compromised.

Results

Results are presented in the following tables.

Any opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

The results in this test report relate only to the items tested. This test report must not be reproduced except in full, without written approval of the laboratory.

Results Summary – Tritium and Carbon-14

Customer Reference	Laboratory Reference	H-3	C-14
19/07142/3, DCBH2019_4 0.50m	RX4226 †	<9.0	<4.9
19/07142/9, MGS_2019_B 0.30m	RX4227 †	<9.5	<5.5

Notes:
1. Results are presented as $Bq.kg^{-1}$ of sample as received and are decay corrected to the sampling date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.
3. † Sample processing did not commence within the appropriate holding time

Results Summary – Gross Alpha/Beta

Customer Reference	Laboratory Reference	Analysis Date	Gross Alpha as Pu-242	Gross Beta as Cs-137
19/07142/3, DCBH2019_4 0.50m	RX4226	29/08/2019	<110	157 ± 58
19/07142/9, MGS_2019_B 0.30m	RX4227	29/08/2019	<88	213 ± 67

Notes:
1. Results are presented as $Bq.kg^{-1}$ of dried and homogenised sample, relative to the analysis date.
2. Uncertainties are quoted at 2 s.d. based on a total uncertainty budget.

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Results Summary – Gamma Spectrometry

Customer Reference	Laboratory Reference	Be-7	K-40	Co-60	Cs-134	Cs-137	Tl-208	Pb-210	Bi-212	Pb-212
19/07142/3, DCBH2019_4 0.50m	RX4226	<10	165 ± 27	<1.3	<1.3	<1.2	<1.3	<31	<16	7.7 ± 2.0
19/07142/9, MGS_2019_B 0.30m	RX4227	<12	180 ± 30	<1.4	<1.3	<1.2	2.6 ± 1.0	<32	<17	6.5 ± 1.8

Customer Reference	Laboratory Reference	Bi-214	Pb-214	Ra-224	Ra-226 *	Ac-228	Pa-234m	Th-234	U-235	Am-241
19/07142/3, DCBH2019_4 0.50m	RX4226	<2.8	6.8 ± 2.1	<32	<22	<5.3	<140	<33	<1.4	<3.2
19/07142/9, MGS_2019_B 0.30m	RX4227	6.1 ± 2.1	6.0 ± 2.2	<33	<24	<5.5	<130	<34	<1.5	<3.3

Notes:

1. Analyses and/or samples marked with an asterisk are not covered under UKAS schedule 1252.
2. Results are presented as $Bq.kg^{-1}$ of dried and homogenised samples and are decay corrected to the sampling date.
3. For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
4. Results above the LoD are reported with expanded (2σ) uncertainties based on a total uncertainty budget.
5. Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
6. Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the samples are assumed to be homogeneous.
7. ^{226}Ra has only one gamma ray at 186 keV and the major gamma ray from ^{235}U also occurs at 186 keV. ^{235}U can be measured by the lower abundance gamma ray at 144 keV and if a positive result for ^{235}U is reported, the ^{226}Ra result will be unreliable and overestimated. However even if ^{235}U is below the LoD there may still be a contribution to the ^{226}Ra from ^{235}U and the ^{226}Ra result may be unreliable and overestimated. If an accurate result for ^{226}Ra is required this is better obtained by radiochemical analysis.

- End of Report -

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FINAL ANALYTICAL TEST REPORT

Envirolab Job Number:
Issue Number: **Date:**

Client:

Project Manager:
Project Name:
Project Ref:
Order No:
Date Samples Received:
Date Instructions Received:
Date Analysis Completed:

Prepared by: [redacted]

Approved by: [redacted]

envirolab

Envirolab Job Number: 19/07214

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
% Stones >10mm$_A$	<0.1	<0.1	0.5	<0.1				% w/w	0.1	A-T-044
pH$_D$[M#]	8.21	7.64	8.23	7.20				pH	0.01	A-T-031s
Ammonium / Ammoniacal Nitrogen as NH4$_D$	0.39	61.4	0.77	67.7				mg/kg	0.26	A-T-033s
Sulphate (acid soluble)$_D$[M#]	<200	5000	<200	1500				mg/kg	200	A-T-028s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1				mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$[M#]	<1	<1	<1	<1				mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	-	<0.2	-	<0.2				mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	<5	<5				mg/kg	5	A-T-S2-s
Loss on ignition (550degC)$_D$[M#]	1.3	11.1	1.2	20.2				% w/w	0.6	A-T-030s
Total Organic Carbon$_D$[M#]	0.04	2.87	0.10	10.5				% w/w	0.03	A-T-032s
Fraction of organic carbon$_D$[#]	0.0004	0.0287	0.0010	0.1051				N/A	0.0003	A-T-032 FOC
Arsenic$_D$[M#]	18	15	24	29				mg/kg	1	A-T-024s
Boron (water soluble)$_D$[M#]	<1.0	6.4	<1.0	10.3				mg/kg	1	A-T-027s
Cadmium$_D$[M#]	<0.5	0.5	<0.5	<0.5				mg/kg	0.5	A-T-024s
Copper$_D$[M#]	<1	8	<1	5				mg/kg	1	A-T-024s
Chromium$_D$[M#]	5	33	6	20				mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1				mg/kg	1	A-T-040s
Iron$_D$	16100	42100	11400	27000				mg/kg	50	A-T-024s
Lead$_D$[M#]	4	16	3	19				mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel$_D$[M#]	3	24	4	17				mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1				mg/kg	1	A-T-024s
Vanadium$_D$[M#]	18	56	14	41				mg/kg	1	A-T-024s
Zinc$_D$[M#]	14	55	12	33				mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1)$_A$	-	*	-	-						A-T-001
pH (leachable)$_A$[#]	-	8.03	-	-				pH	0.01	A-T-031w
Ammoniacal nitrogen as N (leachable)$_A$	-	3.60	-	-				mg/l	0.02	A-T-033w
Ammonium / Ammoniacal Nitrogen as NH4 (leachable)$_A$	-	4.649	-	-				mg/l	0.026	A-T-033w
Nitrate (leachable)$_A$[#]	-	0.3	-	-				mg/l	0.1	A-T-026w
Sulphate (leachable)$_A$[#]	-	59.73	-	-				mg/l	1	A-T-026w
Cyanide (free) (leachable)$_A$	-	<0.005	-	-				mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$	-	<0.005	-	-				mg/l	0.005	A-T-042wTCN
Sulphide (leachable)$_A$	-	<0.1	-	-				mg/l	0.1	A-T-S2-w

Envirolab Job Number: 19/07214 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Arsenic (leachable)$_A^\#$	-	5	-	-				µg/l	1	A-T-025w
Boron (leachable)$_A^\#$	-	478	-	-				µg/l	10	A-T-025w
Cadmium (leachable)$_A^\#$	-	<1	-	-				µg/l	1	A-T-025w
Copper (leachable)$_A^\#$	-	<1	-	-				µg/l	1	A-T-025w
Chromium (leachable)$_A^\#$	-	1	-	-				µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-				mg/l	0.05	A-T-040w
Iron (leachable)$_A^\#$	-	264	-	-				µg/l	10	A-T-025w
Lead (leachable)$_A^\#$	-	2	-	-				µg/l	1	A-T-025w
Manganese (leachable)$_A^\#$	-	143	-	-				µg/l	1	A-T-025w
Mercury (leachable)$_A^\#$	-	<0.1	-	-				µg/l	0.1	A-T-025w
Nickel (leachable)$_A^\#$	-	3	-	-				µg/l	1	A-T-025w
Selenium (leachable)$_A^\#$	-	<1	-	-				µg/l	1	A-T-025w
Vanadium (leachable)$_A^\#$	-	22	-	-				µg/l	1	A-T-025w
Zinc (leachable)$_A^\#$	-	17	-	-				µg/l	1	A-T-025w
Calcium (leachable)$_A$	-	16	-	-				mg/l	1	A-T-049w
Acid Herbicides										
2,4,5-T$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest
2,4-D$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest
2,4-DP; (Dichlorprop)$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest
MCPA$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest
MCPB$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest
MCPP; (Mecoprop)$_D$	<0.5	-	<0.5	-				mg/kg	0.5	Subcon Chemtest

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D$[#]	NAD	NAD	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	N/A	N/A	N/A						
OCP+OPP Combined Pest Suite (incl. Atrazine and Simazine)										
Dichlobenil$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Tecnazene$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Trifluralin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
alpha-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Hexachlorobenzene (HCB)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Simazine$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Atrazine$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
beta-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Quintozene (PCNB)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
gamma-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Chlorothalonil$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
delta-Hexachlorocyclohexane (HCH)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Triallate$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Heptachlor$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Aldrin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Triadimefon$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Telodrin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Isodrin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Pendimethalin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Heptachlor epoxide$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
trans-Chlordane (Gamma)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
o,p-DDE (2,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Endosulphan I (Alpha)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
cis-Chlordane (Alpha)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
p,p-DDE (4,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Dieldrin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
o,p-DDD (2,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Endrin$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Endosulphan II (Beta)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
p,p-DDD (4,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
o,p-DDT (2,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Endrin Aldehyde$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Endrin Ketone$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Endosulphan Sulphate$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
p,p-DDT (4,4)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
o,p-Methoxychlor$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
p,p-Methoxychlor$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Permethrin I (cis)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Permethrin II (trans)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Dichlorvos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Mevinphos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Demeton-S$_A$	<0.50	-	<0.50	-				mg/kg	0.5	A-T-056
Demeton-O$_A$	<0.50	-	<0.50	-				mg/kg	0.5	A-T-056
Phorate$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Dimethoate$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Propetamphos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Diazinon (Dimpylate)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Disulfoton$_A$	<0.10	-	<0.10	-				mg/kg	0.1	A-T-056
Etrimphos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Chlorpyrifos-methyl$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Parathion (Ethyl Parathion)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Methyl Parathion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Pirimiphos-methyl$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Fenitrothion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Fensulphothion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Fenthion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Malathion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Chlorfenvinphos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Chlorpyrifos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Trichloronate$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Prothiofos (Tokuthion)$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056

Envirolab Job Number: 19/07214

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Ethion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Triazophos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Sulprofos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Carbophenothion$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Phosalone$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Azinphos-methyl$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Azinphos-ethyl$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056
Coumaphos$_A$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-056

Envirolab Job Number: 19/07214

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
PAH-16MS										
Acenaphthene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Acenaphthylene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Anthracene$_{A}^{M\#}$	<0.02	<0.02	<0.02	<0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_{A}^{M\#}$	<0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_{A}^{M\#}$	<0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_{A}^{M\#}$	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Chrysene$_{A}^{M\#}$	<0.06	<0.06	<0.06	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_{A}^{M\#}$	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene$_{A}^{M\#}$	<0.08	<0.08	<0.08	<0.08				mg/kg	0.08	A-T-019s
Fluorene$_{A}^{M\#}$	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Naphthalene $_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene$_{A}^{M\#}$	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Pyrene$_{A}^{M\#}$	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Total PAH-16MS$_{A}^{M\#}$	<0.08	<0.08	<0.08	<0.08				mg/kg	0.01	A-T-019s

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Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	0.08	-	-				µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	0.06	-	-				µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	0.10	-	-				µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	0.08	-	-				µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	<0.02	-	-				µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	0.25	-	-				µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	0.08	-	-				µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	0.65	-	-				µg/l	0.02	A-T-019w

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Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Speciated PCB-WHO12										
PCB BZ 81$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 105$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 114$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 118$_A^{M\#}$	<0.007	-	<0.007	-				mg/kg	0.007	A-T-004s
PCB BZ 123$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 126$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 156$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 157$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 167$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 169$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 189$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
PCB BZ 77$_A$	<0.005	-	<0.005	-				mg/kg	0.005	A-T-004s
Total Speciated PCB-WHO12$_A$	<0.007	-	<0.007	-				mg/kg	0.005	A-T-004s

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Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
SVOC + TICs (excluding PAH-16)										
SVOC TICs (Tentatively Identified Compounds)$_A$	Appended	-	None detected	-						A-T-052s
Hexachlorobenzene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-	<500	-				µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Phenol$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	-	<500	-				µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	<100	-				µg/kg	100	A-T-052s

Envirolab Job Number: 19/07214

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Hexachloroethane$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s
Perylene$_A$	<100	-	<100	-				µg/kg	100	A-T-052s

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Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
VOC+TICs										
Dichlorodifluoromethane$_{A}$	<1	-	<1	-				µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	-	<10	-				µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	-	<5	-				µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	-	<5	-				µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	-	<2	-				µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	-	<10	-				µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	*<1*	-	*<1*	-				µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	*<3*	-	*<3*	-				µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
Chlorobenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	-	<1	-				µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	-	<2	-				µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	-	<2	-				µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	-	<3	-				µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	-	<1	-				µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	-	<3	-				µg/kg	3	A-T-006s
VOC TICs$_{A}$	None detect	-	None detect	-						A-T-006s

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Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07214/4	19/07214/8	19/07214/9	19/07214/12				Units	Limit of Detection	Method ref
Client Sample No	104/WAC3	108/WAC4	104	107/WAC4						
Client Sample ID	MGS_2019_F	MGS_2019_F	MGS_2019_C	MGS_2019_C						
Depth to Top	1.00	4.50	1.00	3.70						
Depth To Bottom										
Date Sampled	24-Jul-19	25-Jul-19	23-Jul-19	24-Jul-19						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4A	5A	4A	5A						
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	-	<1	-				mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-	<1	-				mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	-	<1	-				mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	-	<1	-				mg/kg	1	A-T-055s
Ali >C21-C35$_A$	<1	-	<1	-				mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	-	<1	-				mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	-	<1	-				mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	-	<1	-				mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	-	<1	-				mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	-	<1	-				mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	1	-	<1	-				mg/kg	1	A-T-055s
Total Aromatics$_A$	1	-	<1	-				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	1	-	<1	-				mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	<0.01	-				mg/kg	0.01	A-T-022s

REPORT NOTES

General

Soil chemical analysis:

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts

TPH analysis of water by method A-T-007:

Electrical Conductivity of water by Method A-T-037:

Asbestos:

Predominant Matrix Codes:

Secondary Matrix Codes:

Key:

Envirolab Deviating Samples Report

Client: Structural Soils Limited (Bristol), The Old School , Stillhouse Lane, Bedminster, Bristol, UK, BS3 4EB

Project: Sizewell C

Clients Project No: 734318

Project No: 19/07214

Date Received: 31/07/2019 (am)

Cool Box Temperatures (°C): 16.3 - 20.2

Lab Sample ID			
Client Sample No			
Client Sample ID/Depth			
Date Sampled			
Deviation Code			
	✓	✓	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

Lab Sample ID			
Client Sample No			
Client Sample ID/Depth			
Date Sampled			
	✓	✓	✓

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FINAL ANALYTICAL TEST REPORT

Envirolab Job Number:
Issue Number: **Date:**

Client:

Project Manager:
Project Name:
Project Ref:
Order No:
Date Samples Received:
Date Instructions Received:
Date Analysis Completed:

Prepared by: **Approved by:**

[redacted]

[redacted]

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Envirolab Job Number: 19/07318

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07318/3	19/07318/5	19/07318/8	19/07318/11	19/07318/12			Units	Limit of Detection	Method ref
Client Sample No	107	109	6/WAC5	8	WAC7					
Client Sample ID	DCBH2019_4	DCBH2019_4	DCBH2019_5	DCBH2019_5	DCBH2019_5					
Depth to Top	3.00	5.30	4.62	14.80	17.50					
Depth To Bottom										
Date Sampled	31-Jul-19	31-Jul-19	29-Jul-19	30-Jul-19	30-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	5A	3	3	5	5					
% Stones >10mm$_A$	5.9	<0.1	<0.1	<0.1	<0.1			% w/w	0.1	A-T-044
pH$_D^{M\#}$	8.36	7.90	8.16	7.68	8.58			pH	0.01	A-T-031s
Ammonium / Ammoniacal Nitrogen as NH4$_D$	0.49	8.90	71.8	2.58	-			mg/kg	0.26	A-T-033s
Sulphate (acid soluble)$_D^{M\#}$	<200	5100	710	420	-			mg/kg	200	A-T-028s
Cyanide (free)$_A^{M\#}$	<1	<1	<1	<1	-			mg/kg	1	A-T-042sFCN
Cyanide (total)$_A^{M\#}$	<1	<1	<1	<1	-			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	-			mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	<5	<5	-			mg/kg	5	A-T-S2-s
Loss on ignition (550degC)$_D^{M\#}$	<0.6	12.2	9.2	3.5	1.9			% w/w	0.6	A-T-030s
Total Organic Carbon$_D^{M\#}$	0.08	3.35	1.94	1.59	2.10			% w/w	0.03	A-T-032s
Fraction of organic carbon$_D^{\#}$	0.0008	0.0335	0.0194	0.0159	-			N/A	0.0003	A-T-032 FOC
Arsenic$_D^{M\#}$	<1	11	9	5	-			mg/kg	1	A-T-024s
Boron (water soluble)$_D^{M\#}$	<1.0	11.5	10.0	<1.0	-			mg/kg	1	A-T-027s
Cadmium$_D^{M\#}$	<0.5	0.6	<0.5	0.5	-			mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	<1	11	13	<1	-			mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	<1	31	39	8	-			mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	-			mg/kg	1	A-T-040s
Iron$_D$		30800	26300	29800	-			mg/kg	50	A-T-024s
Lead$_D^{M\#}$	<1	20	23	4	-			mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	-			mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	<1	23	27	5	-			mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	<1	1	<1	-			mg/kg	1	A-T-024s
Vanadium$_D^{M\#}$	3	58	77	34	-			mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	<5	58	68	14	-			mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1)$_A$	*	*	*	*	-					A-T-001
pH (leachable)$_A^{\#}$	8.44	8.38	8.21	7.99	-			pH	0.01	A-T-031w
Ammoniacal nitrogen as N (leachable)$_A$	<0.02	0.15	5.71	<0.02	-			mg/l	0.02	A-T-033w
Ammonium / Ammoniacal Nitrogen as NH4 (leachable)$_A$	<0.026	0.197	7.361	<0.026	-			mg/l	0.026	A-T-033w
Nitrate (leachable)$_A^{\#}$	0.1	<0.1	<0.1	<0.1	-			mg/l	0.1	A-T-026w
Sulphate (leachable)$_A^{\#}$	3.36	103.85	207.87	20.84	-			mg/l	1	A-T-026w
Cyanide (free) (leachable)$_A$	<0.005	<0.005	<0.005	<0.005	-			mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$	<0.005	<0.005	<0.005	<0.005	-			mg/l	0.005	A-T-042wTCN
Sulphide (leachable)$_A$	<0.1	<0.1	<0.1	<0.1	-			mg/l	0.1	A-T-S2-w

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Envirolab Job Number: 19/07318 **Client Project Name: Sizewell C**

Client Project Ref: 734318

Lab Sample ID	19/07318/3	19/07318/5	19/07318/8	19/07318/11	19/07318/12			Units	Limit of Detection	Method ref
Client Sample No	107	109	6/WAC5	8	WAC7					
Client Sample ID	DCBH2019_4	DCBH2019_4	DCBH2019_5	DCBH2019_5	DCBH2019_5					
Depth to Top	3.00	5.30	4.62	14.80	17.50					
Depth To Bottom										
Date Sampled	31-Jul-19	31-Jul-19	29-Jul-19	30-Jul-19	30-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	5A	3	3	5	5					
Arsenic (leachable)$_A^{\#}$	5	9	18	1	-			µg/l	1	A-T-025w
Boron (leachable)$_A^{\#}$	94	720	971	71	-			µg/l	10	A-T-025w
Cadmium (leachable)$_A^{\#}$	<1	<1	<1	<1	-			µg/l	1	A-T-025w
Copper (leachable)$_A^{\#}$	4	<1	8	2	-			µg/l	1	A-T-025w
Chromium (leachable)$_A^{\#}$	<1	2	3	<1	-			µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	<0.05	<0.05	<0.05	-			mg/l	0.05	A-T-040w
Iron (leachable)$_A^{\#}$	234	188	1440	10	-			µg/l	10	A-T-025w
Lead (leachable)$_A^{\#}$	1	<1	18	<1	-			µg/l	1	A-T-025w
Manganese (leachable)$_A^{\#}$	3	79	57	80	-			µg/l	1	A-T-025w
Mercury (leachable)$_A^{\#}$	<0.1	<0.1	<0.1	<0.1	-			µg/l	0.1	A-T-025w
Nickel (leachable)$_A^{\#}$	<1	2	6	1	-			µg/l	1	A-T-025w
Selenium (leachable)$_A^{\#}$	<1	<1	<1	<1	-			µg/l	1	A-T-025w
Vanadium (leachable)$_A^{\#}$	22	16	39	2	-			µg/l	1	A-T-025w
Zinc (leachable)$_A^{\#}$	8	13	62	9	-			µg/l	1	A-T-025w
Calcium (leachable)$_A$	3	13	15	16	-			mg/l	1	A-T-049w

Envirolab Job Number: 19/07318

Client Project Name: Sizewell C

Client Project Ref: 734318

Lab Sample ID	19/07318/3	19/07318/5	19/07318/8	19/07318/11	19/07318/12			Units	Limit of Detection	Method ref
Client Sample No	107	109	6/WAC5	8	WAC7					
Client Sample ID	DCBH2019_4	DCBH2019_4	DCBH2019_5	DCBH2019_5	DCBH2019_5					
Depth to Top	3.00	5.30	4.62	14.80	17.50					
Depth To Bottom										
Date Sampled	31-Jul-19	31-Jul-19	29-Jul-19	30-Jul-19	30-Jul-19					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	5A	3	3	5	5					
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D$#	NAD	NAD	NAD	NAD	-					A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	N/A	N/A	N/A	-					