00232 WSCC and Zonation Report

What is WSCC?

WSCC

Weighted **S**ulphide **C**orrelation **C**riteria

Using a combination of the ADR Correlation Criteria (E- and F- Harmonics) to give sufficient evidence to accurately locate sulphides beneath the ground.

What is WSCC?

- The WSCC approach uses a range of Energy and Frequency Harmonics from the ADR data to target thick (>~10-20m), high-grade (>10% total sulfides) disseminated sulphides beneath the ground.
- After extensive testing across many sulphide exploration projects, Adrok is working towards resolving a set of Correlation Criteria that can be used for the potential identification of sulphides independent of the host rock type.
- The 4 most significant peaks/troughs in certain E- and F-harmonics results are identified for each criteria and given a weighted value and depth of influence based on their relative importance.
- The weighted results for each of the Correlation Criteria are then stacked and plotted to produce the final WSCC output charts, where higher potential sulphide targets are indicated by high WSCC totals.
- High & Low E-ADR and High F-Mean have been the most successful at accurately targeting sulphides so far and are the principal results in the 3-Component WSCC Outputs.
- An additional 8-Component result is also provided in conjunction with the 3-Component results described above. The 8-Component result uses 8 different results from E- and F-harmonics results and can be used in conjunction with the 3-Component WSCC to help support the presence of sulfides.
- It should be noted that thin, shear or vein hosted sulfides will not be detected using the WSCC method because the sulfide layer is likely to be much thinner than the wavelengths used for the survey. In contrast, E% is a better indication of sulfides for narrow vein deposits where high grade (massive) sulfides are encountered.

Correlation Criteria

Correlation Criteria

(8-Components)

F-Charts

Low F-Gamma

High F-ADR

High F-Mean

High F-SD

E-Charts

High E-ADR

Low E-ADR

High E-Mean

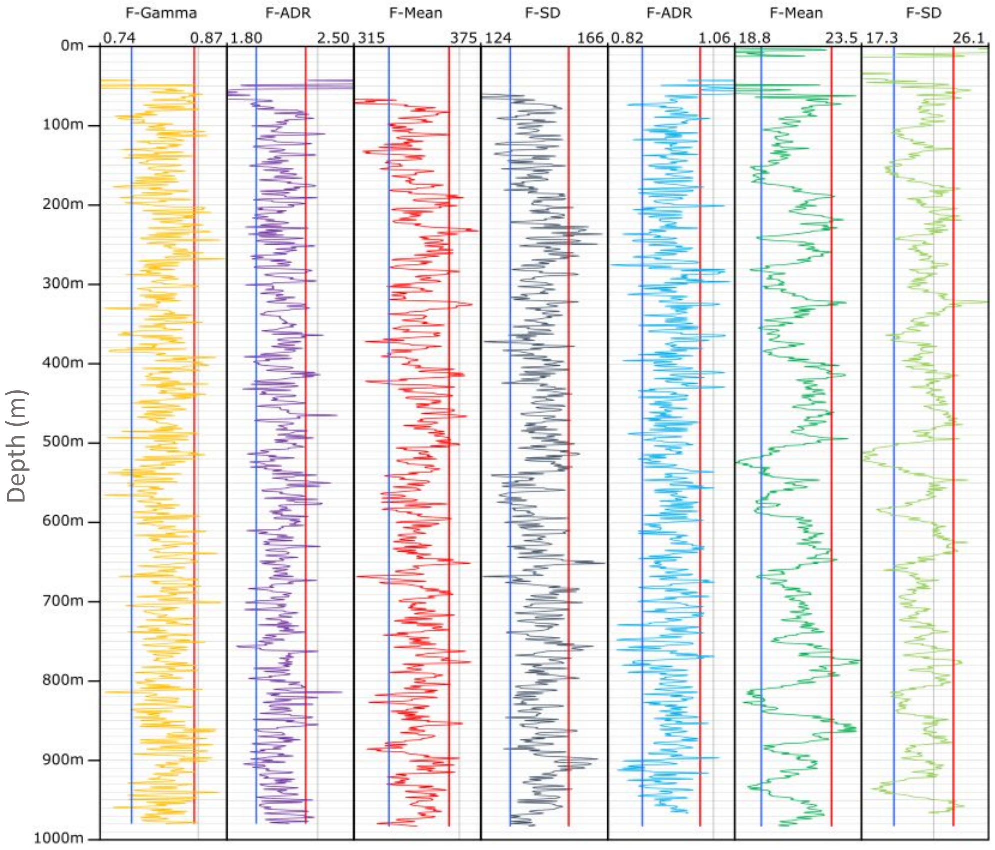
High E-SD

Criteria in **bold** text represent the 3-Component WSCC

WSCC

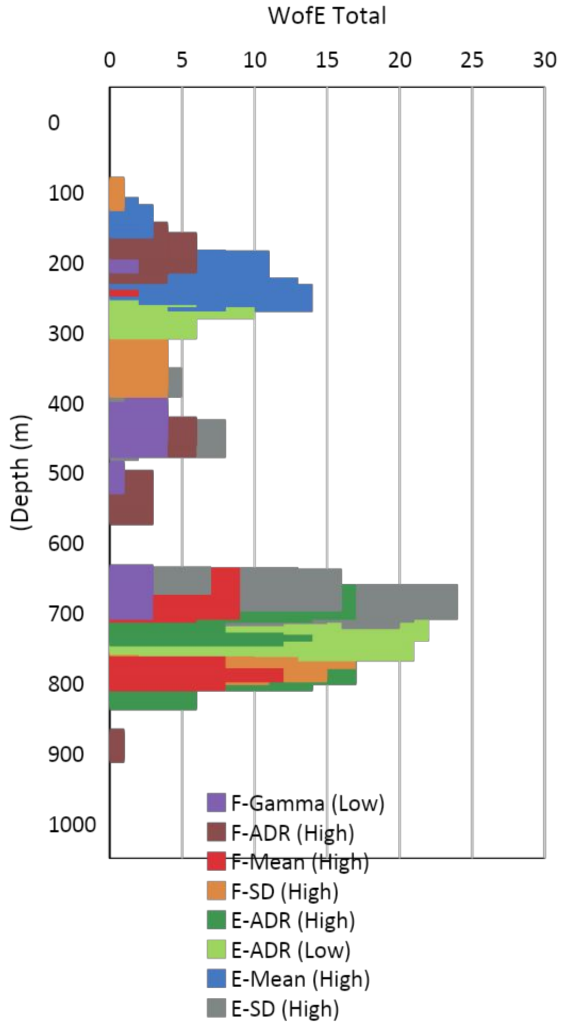
1: ADR Data (E- and F-Harmonics)

00232 H11 (tc2638-004)
Frequency & Energy Harmonics

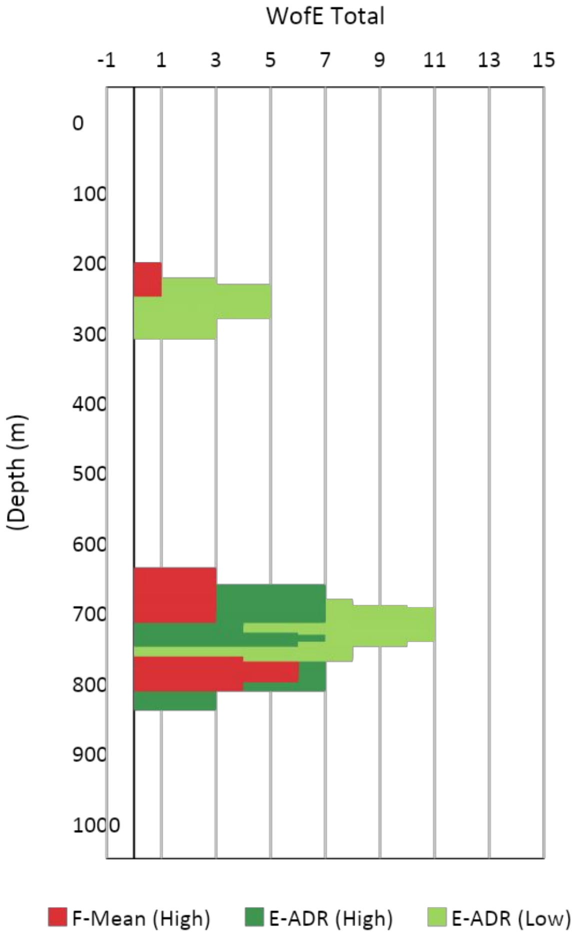


2: WSCC Results (Sulphide Targets)

00232 H11 (tc2638-004)
8-Component WSCC



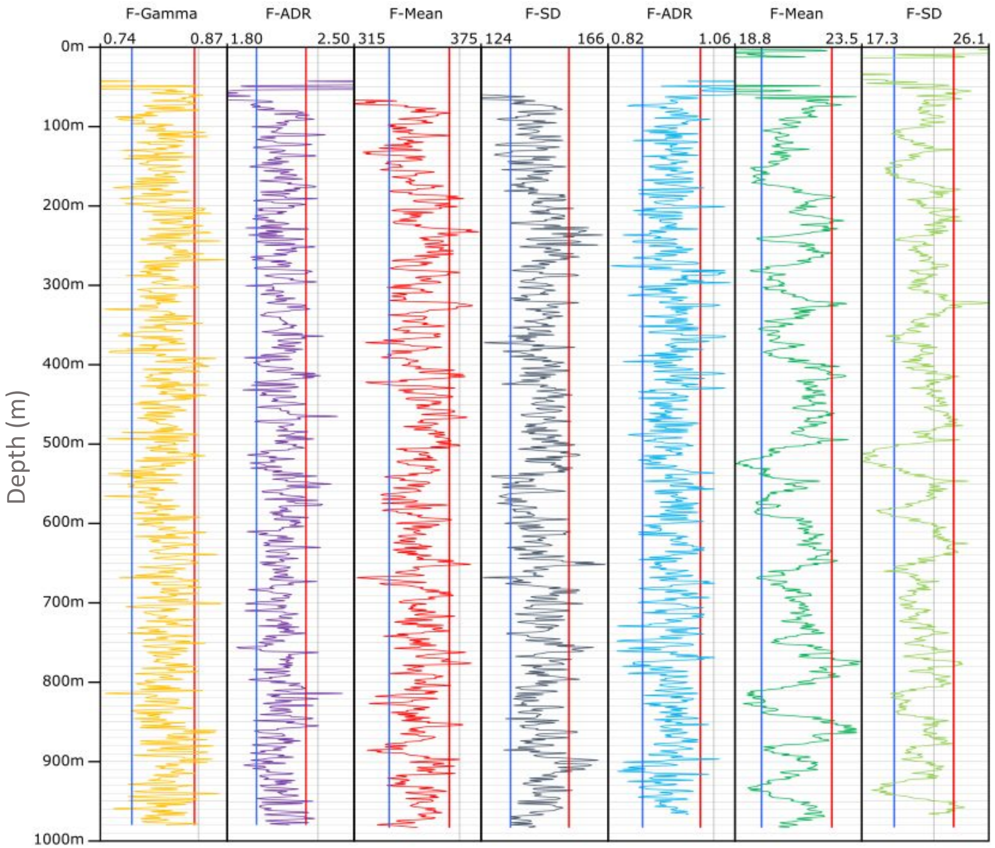
00232 H11 (tc2638-004)
3-Component WSCC



WSCC

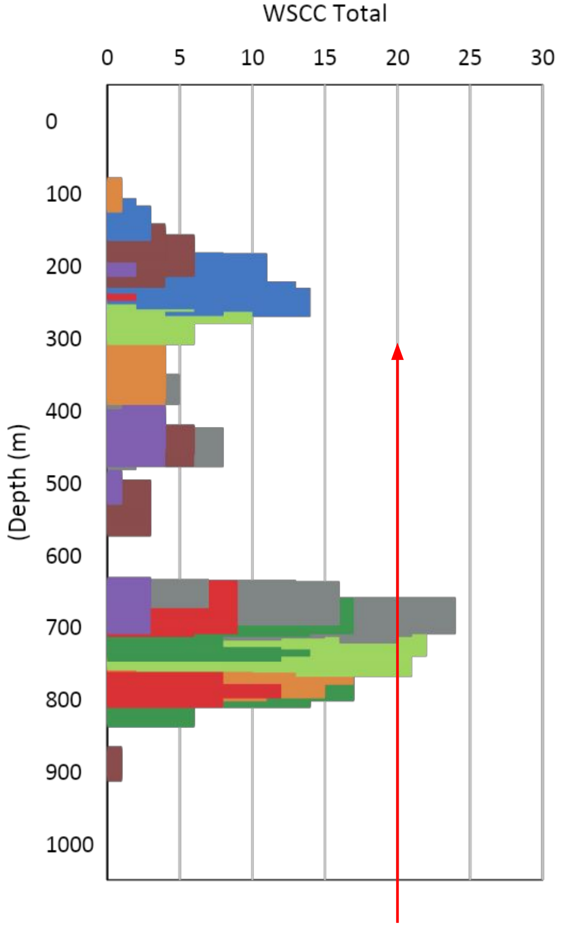
1: ADR Data (E- and F-Harmonics)

00232 H11 (tc2638-004)
Frequency & Energy Harmonics

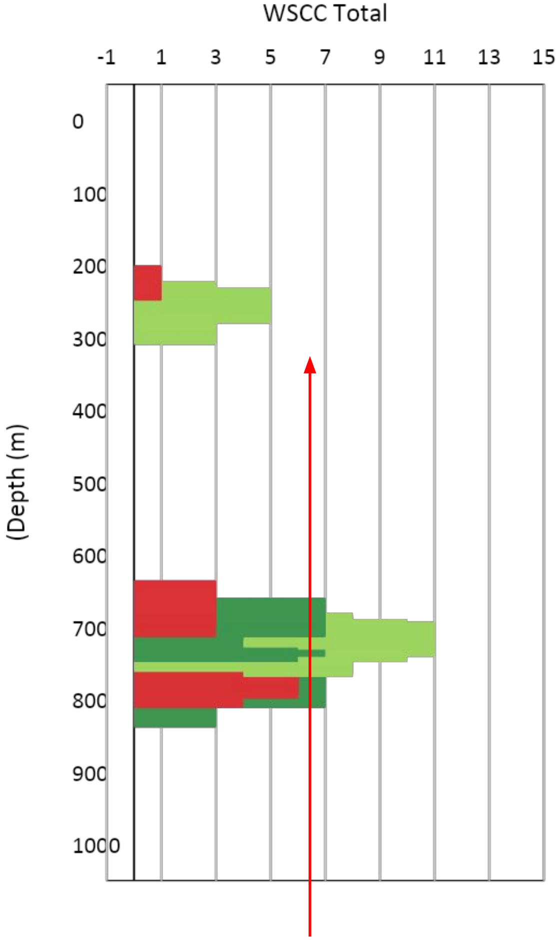


2: WSCC Results (Sulphide Targets)

00232 H11 (tc2638-004)
8-Component WSCC



00232 H11 (tc2638-004)
3-Component WSCC



Good possibility of sulfides at values >20 and >7 for the 8- and 3-component WSCC results respectively

Zonation Introduction

- All 12 V-Bores from project 00232 have been analysed using the Zonation method to produce lithological and mineralogical interpretations of the Central Irish Basin.
- The primary criteria used for the Zonation Method to determine lithological boundaries are the Frequency Correlation, WMF (Moving Averages), MinMax Boxes and MinMax Lines.

Original project no.	Client hole number	Adrok hole name	Hole type	Hole depth (m)
00145	L004	H1	Training	1000
	L009	H2	Training	1000
	L030	H3	Training	1000
	P1	H4	Prospect	1000
	P2	H5	Prospect	1000
00116	tc2638-026	H6	Training	1000
	tc2638-036	H7	Blind	1000
	tc2638-070	H8	Blind	1000
	tc2638-030	H9	Training	1000
	tc2638-009	H10	Training	1000
	tc2638-004	H11	Training	1000
	tc2638-P01	H12	Prospect	1000

Table: *Summary of the collected data during the field survey component of this project.*

Figure: *Maps showing the location of the survey area within Limerick, Ireland and the collected data from projects 00116 and 00145*

Zonation – Frequency Correlation

Geological Formation	Adrok Unit	H1 (L004)	H2 (L009)	H3 (L030)	H4 (P1)	H5 (P2)	H6 (tc2638-026)	H7 (tc2638-036)	H8 (tc2638-070)	H9 (tc2638-030)	H10 (tc2638-009)	H11 (tc2638-004)	H12 (tc2638-P01)
Overburden/ Lough Gur	1	Log signature indicating gain	Log signature indicating gain Unit ends after the gain drops off	Log signature indicating gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain for the low frequency	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a drop off in the gain
Waulsortian Limestone	2	Log signature indicating gain Gain drops off at the base of the unit	Unit begins after the gain drops off Unit ends with a drop off in the frequency signal Many peaks from both frequency ranges throughout the unit	Top of the unit indicates gain which drops off towards the top Base of the unit marked by a drop off in the frequency signal Many peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a slight drop off in the frequency signal Many medium peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in both frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a slight drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a slight drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain in the low frequency Base of the unit marked by a slight drop off in the frequency signal Many medium and large peaks in the low frequency throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit
Lower Argilaceous Bioclastic Limestone	3	Unit begins after a drop off in the frequency after the gain drops Unit ends with a peak in the low and high frequency ranges Mostly low signal throughout the unit, however, does contain some large and significant peaks in both frequencies	Unit begins with a drop off in the frequency signal Unit ends with a large peak in the low frequency correlation Low frequcny signal in the top of the unit and large signal towards the base of the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signal throughout the unit	Top of the unit marked by a slight drop off in the frequency signal Base of the unit marked by a medium/large peak in the low frequency Slightly smaller frequency signal throughout the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a medium/large peak in the low frequency Slightly smaller frequency signal throughout the unit	Top of the unit marked by a slight drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a slight drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Many peaks with smaller signal throughout the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a medium peak in the low frequency Minimal signature peaks throughout the unit	Top of the unit marked by a slight drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit
Lower Silliclastic Unit	4	Unit begins with a peak in the low frequency Range of frequencies throughout the unit	Unit begins with a peak in the low frequency Unit contains 3 sets of peaks in both frequency ranges	Top of the unit marked by a large peak in the low frequency Many peaks in both frequency ranges throughout the unit	Top of the unit marked by a medium/large peak in the low frequency Many small peaks in both frequency ranges throughout the unit	Top of the unit marked by a medium/large peak in the low frequency Many large peaks in both frequency ranges throughout the unit	Top of the unit marked by a large peak in the low frequency Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a large peak in the low frequency Minimal signature throughout the unit	Top of the unit marked by a medium peak in the low frequency Many peaks with smaller signal throughout the unit	Top of the unit marked by a large peak in the low frequency Many peaks from both frequency ranges throughout the unit	Top of the unit marked by a large peak in the low frequency Many peaks with medium signal throughout the unit	Top of the unit marked by a large peak in the low frequency Few large peaks throughout the unit	Top of the unit marked by a large peak in the low frequency Few small and Medium peaks throughout the unit

Zonation – WMF (Moving Averages)

Adrok

Geological Formation	Adrok Unit	H1 (L004)	H2 (L009)	H3 (L030)	H4 (P1)	H5 (P2)	H6 (tc2638-026)	H7 (tc2638-036)	H8 (tc2638-070)	H9 (tc2638-030)	H10 (tc2638-009)	H11 (tc2638-004)	H12 (tc2638-P01)
Overburden/ Lough Gur	1	Log signature indicating gain	Log signature indicating gain Unit ends with a trough in WMF after the gain drops off	Log signature indicating gain Base of the unit marked by a large trough at the base of the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a large trough after the gain	Log signature indicating gain Base of the unit marked by a large trough after the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a small trough after the gain	Log signature indicating gain Base of the unit marked by a large trough after the gain
Waulsortian Limestone	2	Log signature indicating gain at the start of the unit Unit ends with a trough in the WMF Medium variability thoughout the unit	Unit begins with a trough in WMF after the gain drops off Unit ends with a large trough in the WMF High variability throughout the unit with some major troughs	Top of the unit marked by a large trough at the base of the gain Base of the unit marked by a large trough in WMF Low variaiblity in the top half of the unit and high variaiblity in the bottom half of the unit	Top of the unit marked by a small trough after the gain Base of the unit marked by a medium trough in WMF Low variaiblity throughout the unit	Top of the unit marked by a small trough after the gain Base of the unit marked by a trough in WMF Low variaiblity throughout the unit	Top of the unit marked by a large trough after the gain Base of the unit marked by a medium trough in WMF High variaiblity throughout the unit	Top of the unit marked by a large trough after the gain Base of the unit marked by a medium trough in WMF High variaiblity throughout the unit	Top of the unit marked by a small trough after the gain Base of the unit marked by a large trough in WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough after the gain Base of the unit marked by a medium trough in WMF High variaiblity throughout the unit	Top of the unit marked by a small trough after the gain Base of the unit marked by a large trough in WMF Medium variaiblity throughout the unit	Top of the unit marked by a small trough after the gain Base of the unit marked by a medium trough in WMF Medium variaiblity throughout the unit	Top of the unit marked by a large trough after the gain Base of the unit marked by a large trough in WMF High variaiblity throughout the unit
Lower Argillaceous Bioclastic Limestone	3	Unit starts and ends with a trough in the WMF Medium variability throughout the unit	Unit begins with a large trough in WMF Unit ends with a small trough in WMF Medium/high variaiblity throughout the unit	Top and base of the unit marked by large troughs in the WMF High variability throughout the unit that increases towards the base	Top of the unit marked by a medium trough in the WMF Base of the unit marked by a large trough High variability towards the base of the unit	Top and base of the unit marked by a trough in WMF Low variaiblity throughout the unit	Top and base of the unit marked by a medium trough in the WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in the WMF Base of the unit marked by a small trough in the WMF High variaiblity throughout the unit	Top of the unit marked by a large trough in the WMF Base of the unit marked by a medium trough in the WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in the WMF Base of the unit marked by a medium trough in the WMF Medium variaiblity throughout the unit	Top of the unit marked by a large trough in the WMF Base of the unit marked by a small trough in the WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in the WMF Base of the unit marked by a medium trough in the WMF Medium variaiblity throughout the unit	Top of the unit marked by a large trough in the WMF Base of the unit marked by a medium trough in the WMF Medium variaiblity throughout the unit
Lower Silliclastic Unit	4	Unit begins with a trough in the WMF Low variability throughout the unit	Unit begins with a small trough in WMF High variability throughout the unit	Top of the unit marked by a trough in WMF High variability throughout the unit that decreases towards the base	Top of the unit marked by a large trough in WMF Medium to low variability throughout the unit that decreaes towards the base	Top of the unit marked by a trough in WMF Low variaiblity throughout the unit	Top of the unit marked by a medium trough in WMF High variaiblity throughout the unit	Top of the unit marked by a small trough in WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in WMF Medium variaiblity throughout the unit	Top of the unit marked by a small trough in WMF High variaiblity throughout the unit	Top of the unit marked by a medium trough in WMF Medium variaiblity throughout the unit	Top of the unit marked by a medium trough in WMF Medium variaiblity throughout the unit

Zonation – Maximum-Minimum Boxes

Geological Formation	Adrok Unit	H1 (L004)	H2 (L009)	H3 (L030)	H4 (P1)	H5 (P2)	H6 (tc2638-026)	H7 (tc2638-036)	H8 (tc2638-070)	H9 (tc2638-030)	H10 (tc2638-009)	H11 (tc2638-004)	H12 (tc2638-P01)
Overburden/ Lough Gur	1	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated	All logs highly saturated
Waulsortian Limestone	2	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit with higher saturations in the Min Boxes	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable zones of medium to high saturation in all logs throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit with higher saturation in the Max Boxes	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Higher saturation in the Min Boxes	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit
Lower Argilaceous Bioclastic Limestone	3	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit with higher saturations in the Max Boxes	Unit begins and ends with a band of high saturation in the Min Boxes Also high saturation in the Max Boxes at the base of the unit Variable zones of low to medium saturation in all logs througout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Throughout the unit there is high saturation in the Min Boxes and low saturation in the Max Boxes	Unit begins and ends with a band of high saturation in the Min Boxes Higher saturation in the Min Boxes throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Mostly low saturation in both logs with some high saturation in the Min Boxes	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit
Lower Silliclastic Unit	4	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit with slightly higher saturations in the Min Boxes	Unit begins with a band of high saturation in all logs Bands of very high saturation throughout the logs	Unit begins with a band of high saturation in the Min Boxes Throughout the unit there is high saturation in the Max Boxes and low saturation in the Min Boxes	Unit begins with a band of high saturation in the Min Boxes Higher saturation in the Max Boxes throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturatio throughout the unit	Unit begins with a band of high saturation in the Min Boxes Higher saturation in the Max Boxes throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit

Zonation – Maximum-Minimum Lines

Geological Formation	Adrok Unit	H1 (L004)	H2 (L009)	H3 (L030)	H4 (P1)	H5 (P2)	H6 (tc2638-026)	H7 (tc2638-036)	H8 (tc2638-070)	H9 (tc2638-030)	H10 (tc2638-009)	H11 (tc2638-004)	H12 (tc2638-P01)
Overburden/ Lough Gur	1	Base of unit marked by three lines Mix of two lines and three lines throughout the unit	Base of unit marked by three lines and a large gap with no response	Base of unit marked by three lines and a large gap with no response	Base of unit marked by three lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response	Base of unit marked by three lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response	Base of unit marked by three lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response	Base of unit marked by two lines and a large gap with no response
Waulsortian Limestone	2	Top of unit marekd by three lines Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by three lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by three lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by three lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by three lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by three lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit
Lower Argilaceous Bioclastic Limestone	3	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by two lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit	Top of unit not identified Base of unit marked by two lines No consistent signals throughout the unit
Lower Sillliclastic Unit	4	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by two lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit	Top of unit marked by two lines No consistent signals throughout the unit

Zonation – Combined Averages

Geological Formation	Adrok Unit	Frequency Correlation	WMF (Moving Average)	Maximum Minimum Boxes	Maximum Minimum Lines
Overburden/ Lough Gur	**1**	Log signature indicating gain Base of the unit marked by a drop off in the gain	Log signature indicating gain Base of the unit marked by a trough after the gain drops off	All logs highly satuarated	Base of unit marked by three lines and a large gap with no response
Waulsortian Limestone	**2**	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit	Top of the unit marked by a trough after the gain drops off Base of the unit marked by a trough in WMF High variaiblity throughout the unit	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit
Lower Argilaceous Bioclastic Limestone	**3**	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit	Top and base of the unit marked by a trough in the WMF Medium variaiblity throughout the unit	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit
Lower Sillclastic Unit	**4**	Top of the unit marked by a large peak in the low frequency Few small and Medium peaks throughout the unit	Top of the unit marked by a trough in WMF Medium variaiblity throughout the unit	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit	Top of unit marked by three lines No consistent signals throughout the unit

Zonation – Methodology

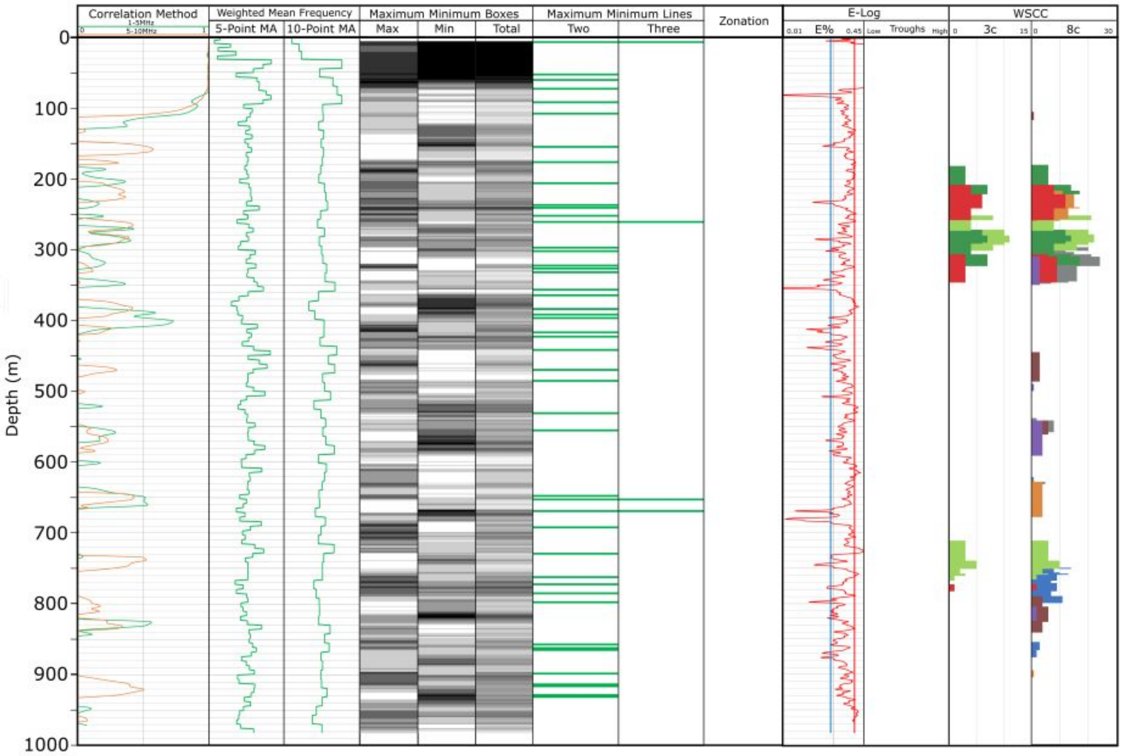
- The Zonation Method pulls together the following ADR results in order to provide interpretations of the lithological and mineralogical changes throughout the V-Bore:
  - Frequency Correlation
  - Weighted Mean Frequency (WMF) 5-point and 10-point Moving Averages
  - Maximum-Minimum Boxes (From E- and F- Harmonics)
  - Maximum-Minimum Lines (From E- and F- Harmonics)

- The above ADR Data has been used and correlated across all 12 V-Bores to determine major lithological changes and boundaries.
- Four zones/units have been identified in the V-Bores, based on existing understanding of the lithologies in the Central Irish Basin.
- After the major lithological boundaries are established, the E%-Log and WSCC Results are compared with the Zonation Results in order to further constrain potential sulphide mineralisation zones.

Zonation – Methodology

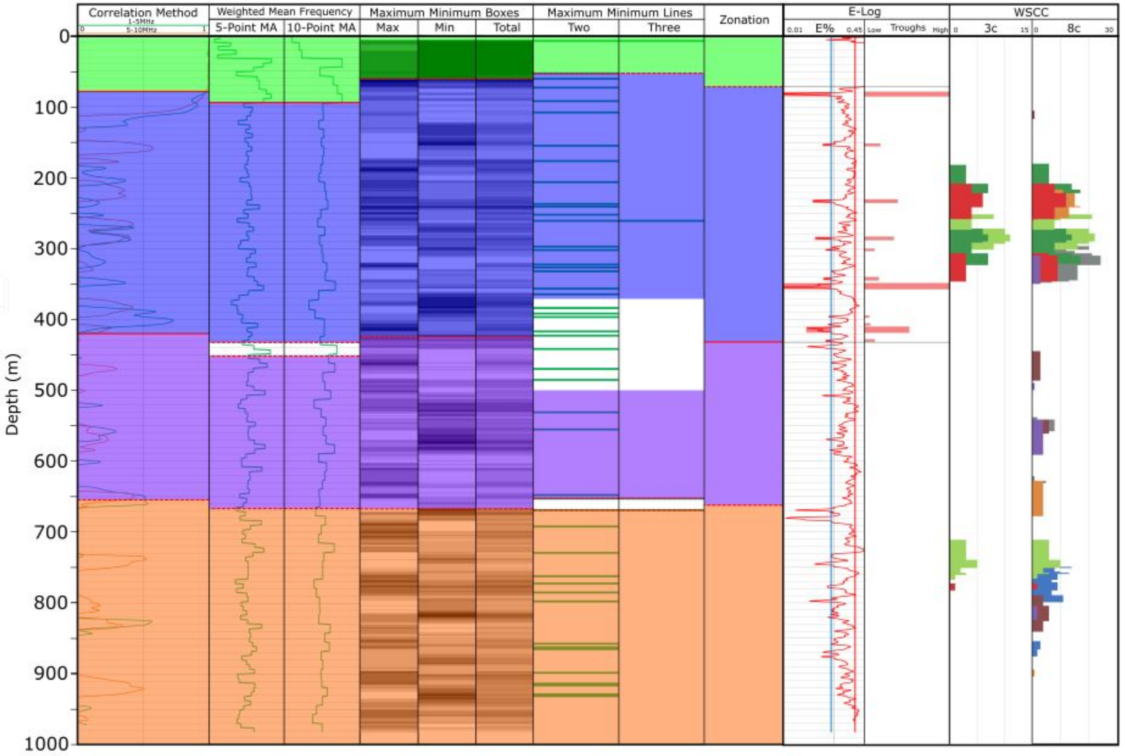
A

The ADR data



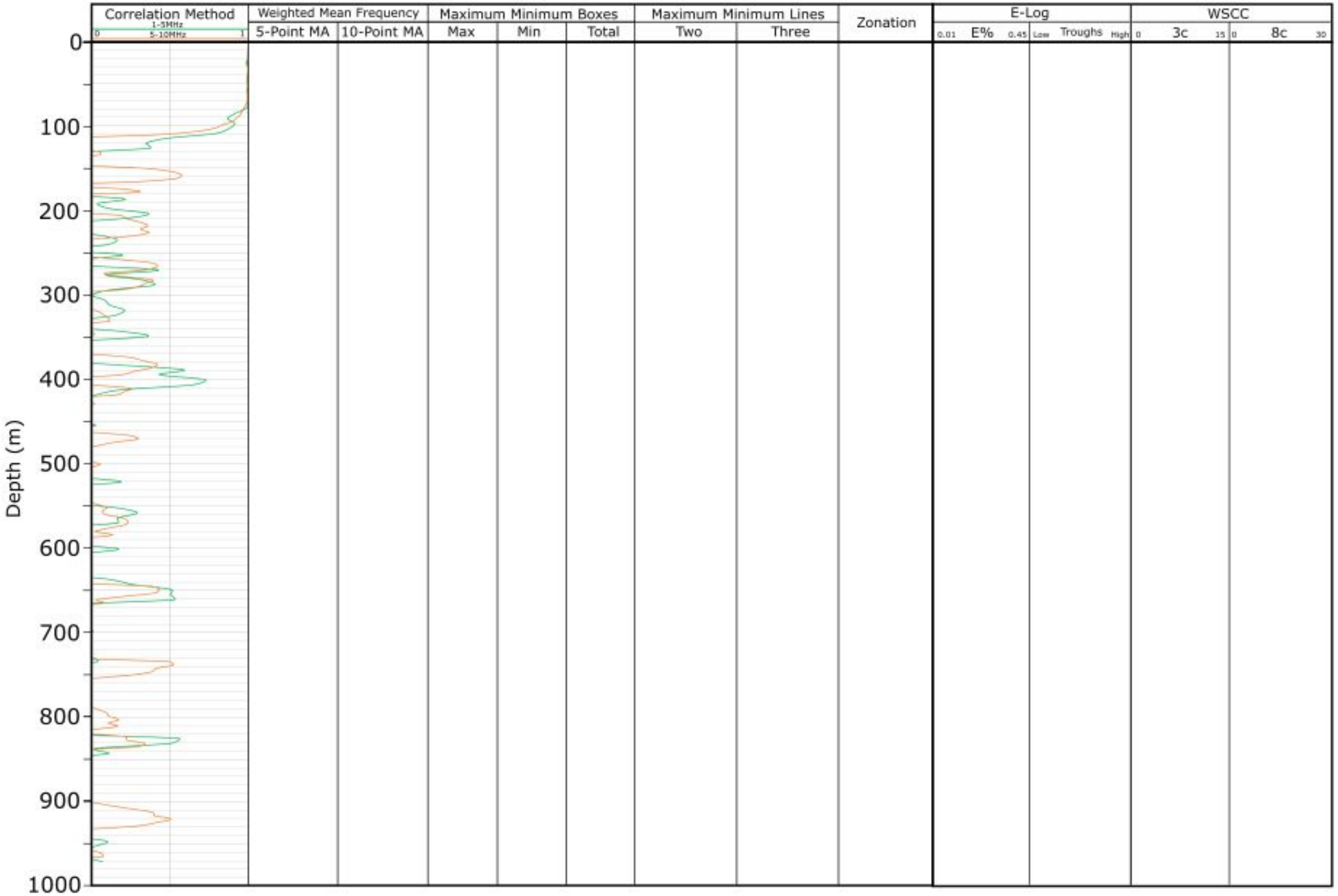
B

The Interpretation for ADR Zones



- The following slides will explain what each of the Zonation parameters are and how they have been interpreted to determine lithological and mineralogical changes.
- H11 (tc2638-004) is used as an example.

Zonation – Frequency Correlation



These curves are effectively a statistical analysis of the consistency and variation of the many thousands of measurements taken at a particular depth interval.

During a repeated scan at a fixed point, 1000 frequency traces can be repeated up to 100 times, to produce up to 100000 wave packets, increasing the signal to noise ratio and allowing higher resolution.

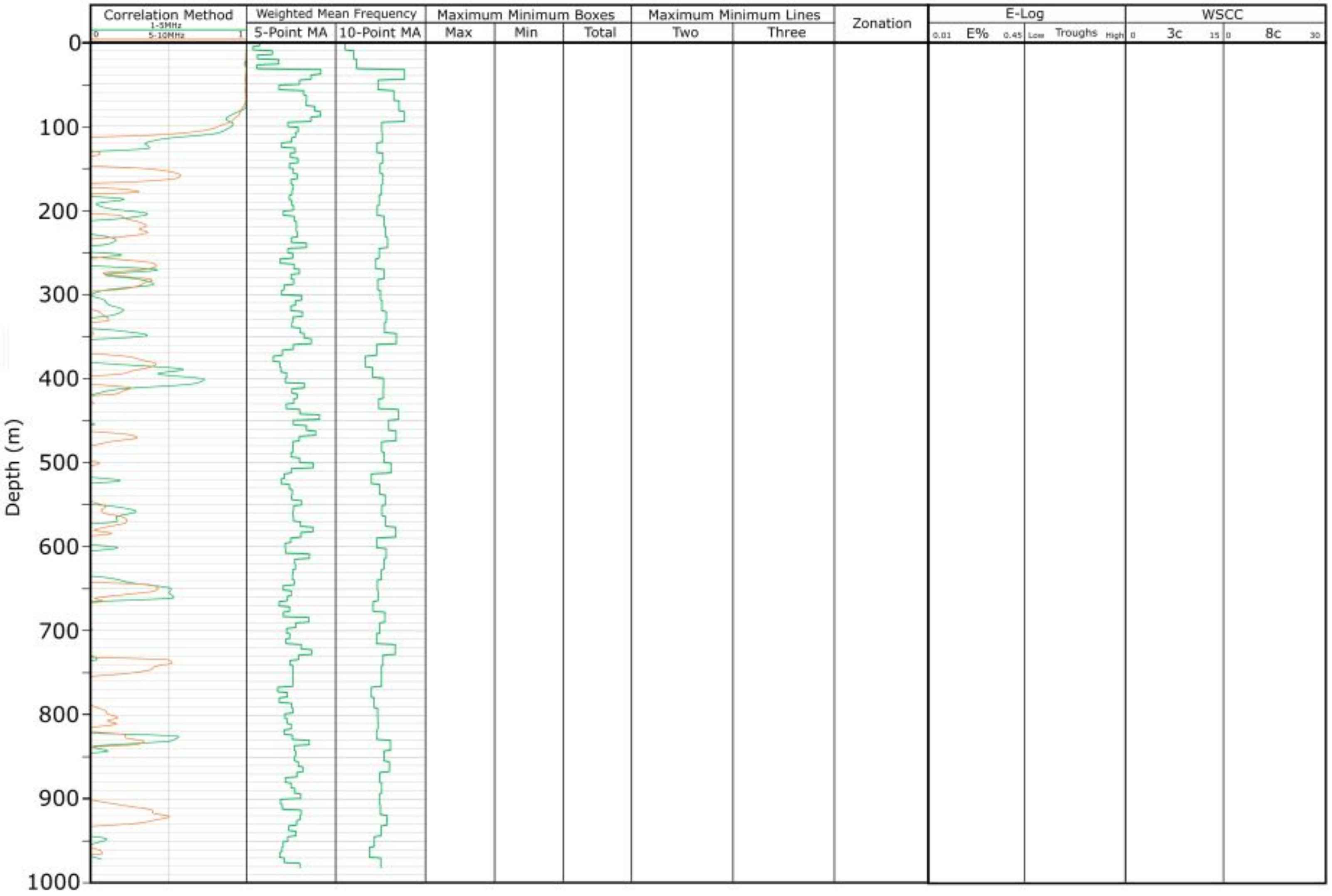
In the time domain before any depth conversion, these responses are stacked. Functionalities within the MATLAB software are then used to relate the responses within different frequency bands with each other. These include raw correlations between individual frequencies, and a stacked correlation for all of that band (γ) as well as the associated standard deviation (σ). The correlations are calculated in windows over a certain time interval, which typically corresponds to a depth interval of between 40-60 meters.

While the approach can be calculated for any frequency band, the bands which Adrok have historically found most useful in a geological context are 1-5 MHz and 5-10 MHz.

Where the correlation value exceeds the standard deviation calculated, it indicates - in a relative sense - that a more consistent correlation is occurring between frequencies and traces within that band, within an interval where the individual frequencies themselves are also behaving more consistently. This is most especially true where the standard deviation (SD) is lowest. Such zones of correlation > SD, where SD is also low, can be thought of as intervals with stronger more consistent reflectance. For this reason, the difference between correlation and SD for a given frequency range is also sometimes shown as a curve alongside the raw data.

For these reasons, it can be helpful to look at various products and dividends of individual curves with the correlation and SD curves, to highlight where a curve's own response can nominally be accorded more reliability
In this case, the data displayed represents correlation minus SD for both 1-5MHz and 5-10MHz). That is, peaks will only appear when the correlation is greater than the SD.

Zonation – WMF (Moving Averages)



- For each particular frequency response, the associated energy over a depth bin is multiplied together with it. This is summed for all the contributing frequencies, and then the result is divided by the total energy observed for all frequencies, to give the Weighted Mean Frequency.
- The Weighted Mean Frequency has been displayed here with 5- and 10-point moving averages.

Zonation – Maximum-Minimum Boxes

1 – Energy/Frequency Logs

- Plotted against depth.
- Define Minimum baseline
- Define Maximum baseline

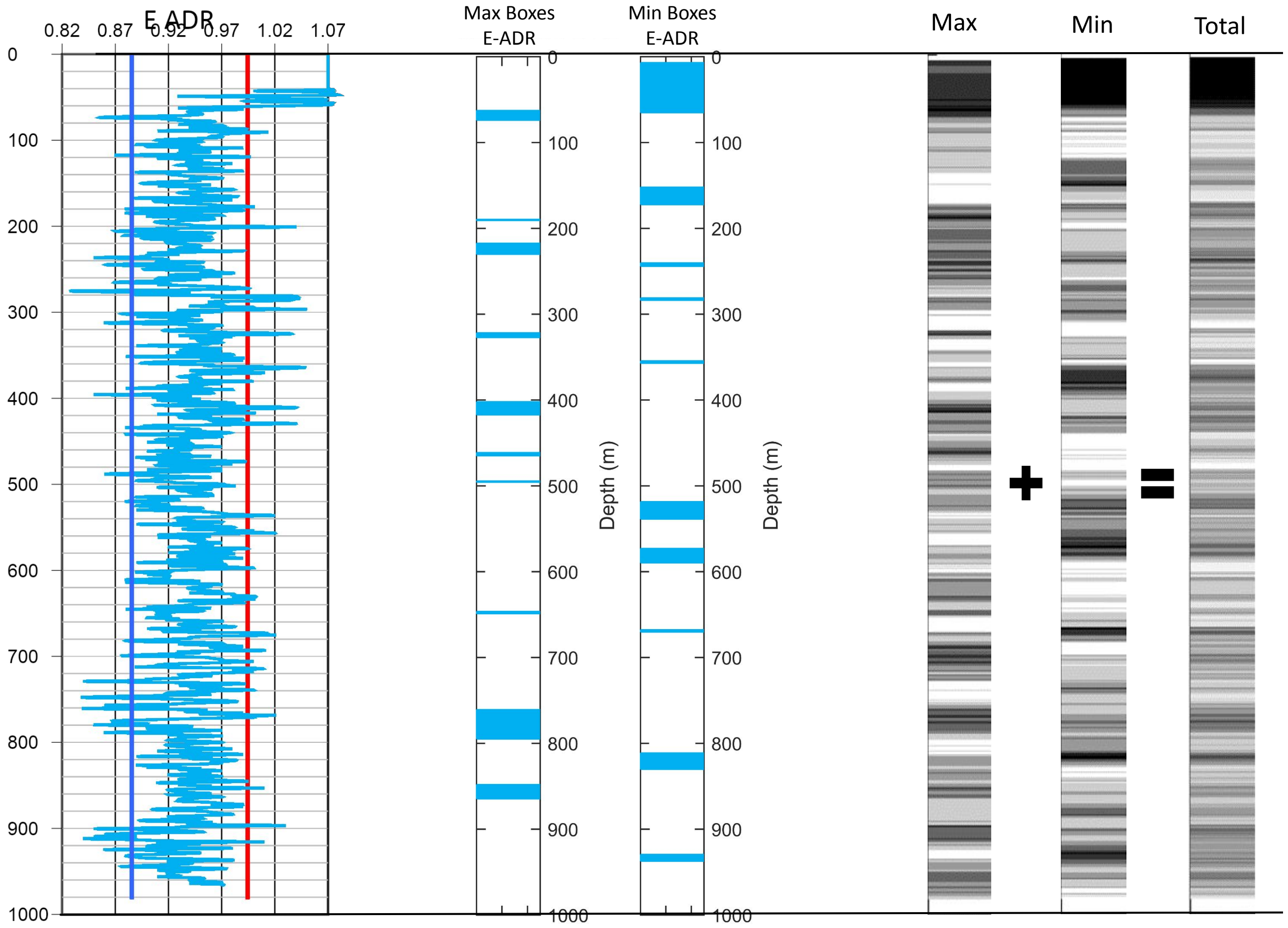
2 – Define MaxMin Boxes Per Parameter

For each Energy and Frequency log, when the data exceeds the baselines, a thinner or thicker box will be plotted.

3 – Define MaxMin Boxes Per V-bore

Each Energy and Frequency MaxMin box is added together, with a high saturation signifying many boxes stacking at the same depth.

- For **Max**: All the Max Boxes from each parameter are stacked.
- For **Min**: All the Min Boxes for each parameter are stacked.
- For **Total**: The Max and Min saturations are stacked.

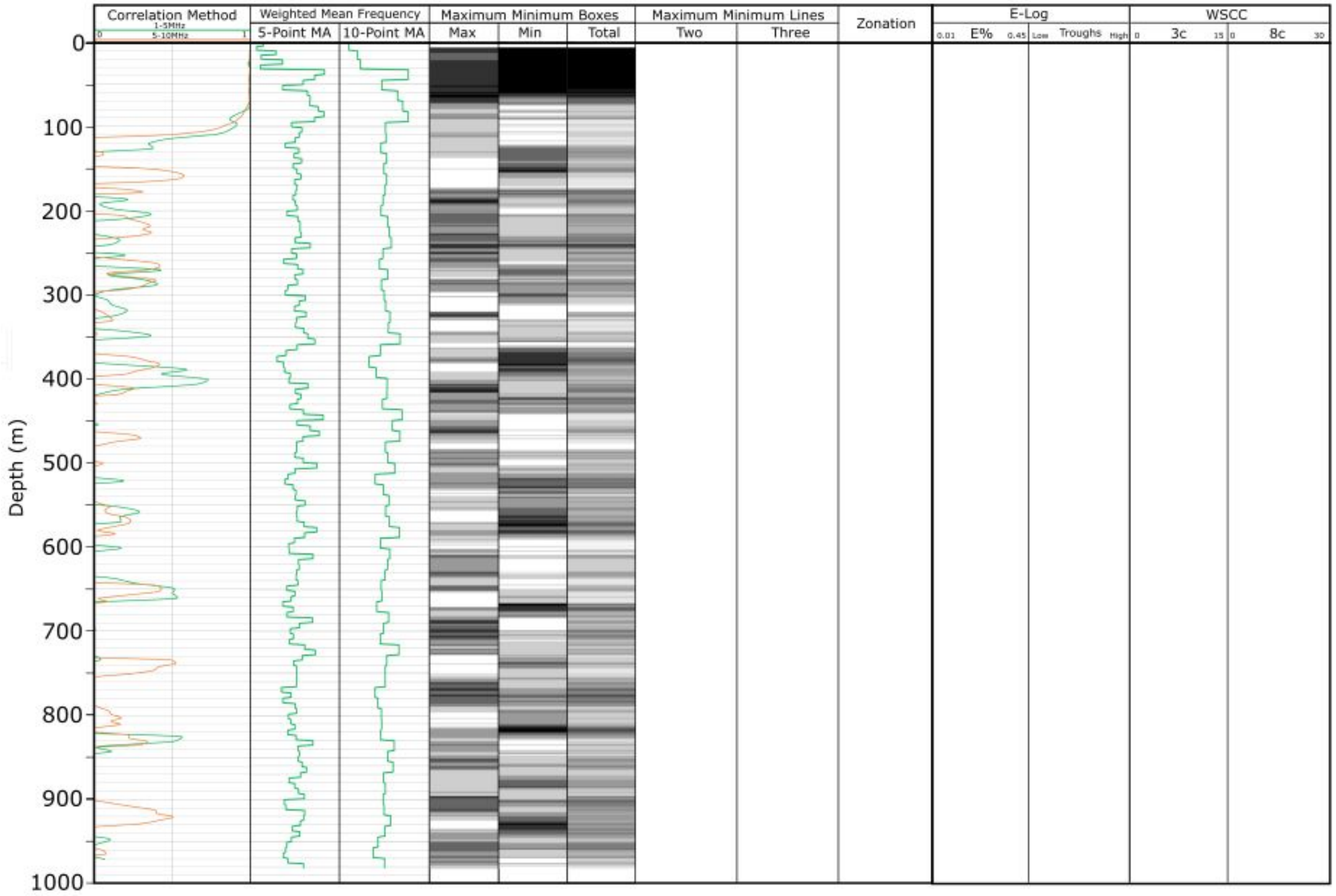


Min Baseline is Median - (SD*1.5)

Max Baseline is Median + (SD*1.5)

Figure:
Left: Example outputs stacked to produce Max-Min outputs
Centre: Maximum-Minimum output
Right: Resultant output from stacking energy and frequency parameters

Zonation – Maximum-Minimum Boxes



Each Energy and Frequency MaxMin box is added together, with a high saturation signifying many boxes stacking at the same depth.

- For Max: All the Max Boxes from each parameter are stacked.
- For Min: All the Min Boxes for each parameter are stacked.
- For Total: The Max Summary and Min Summary saturations are stacked.

Zonation – Maximum-Minimum Lines

1 – Energy/Frequency Logs

- Plotted against depth.
- Define Minimum baseline
- Define Maximum baseline

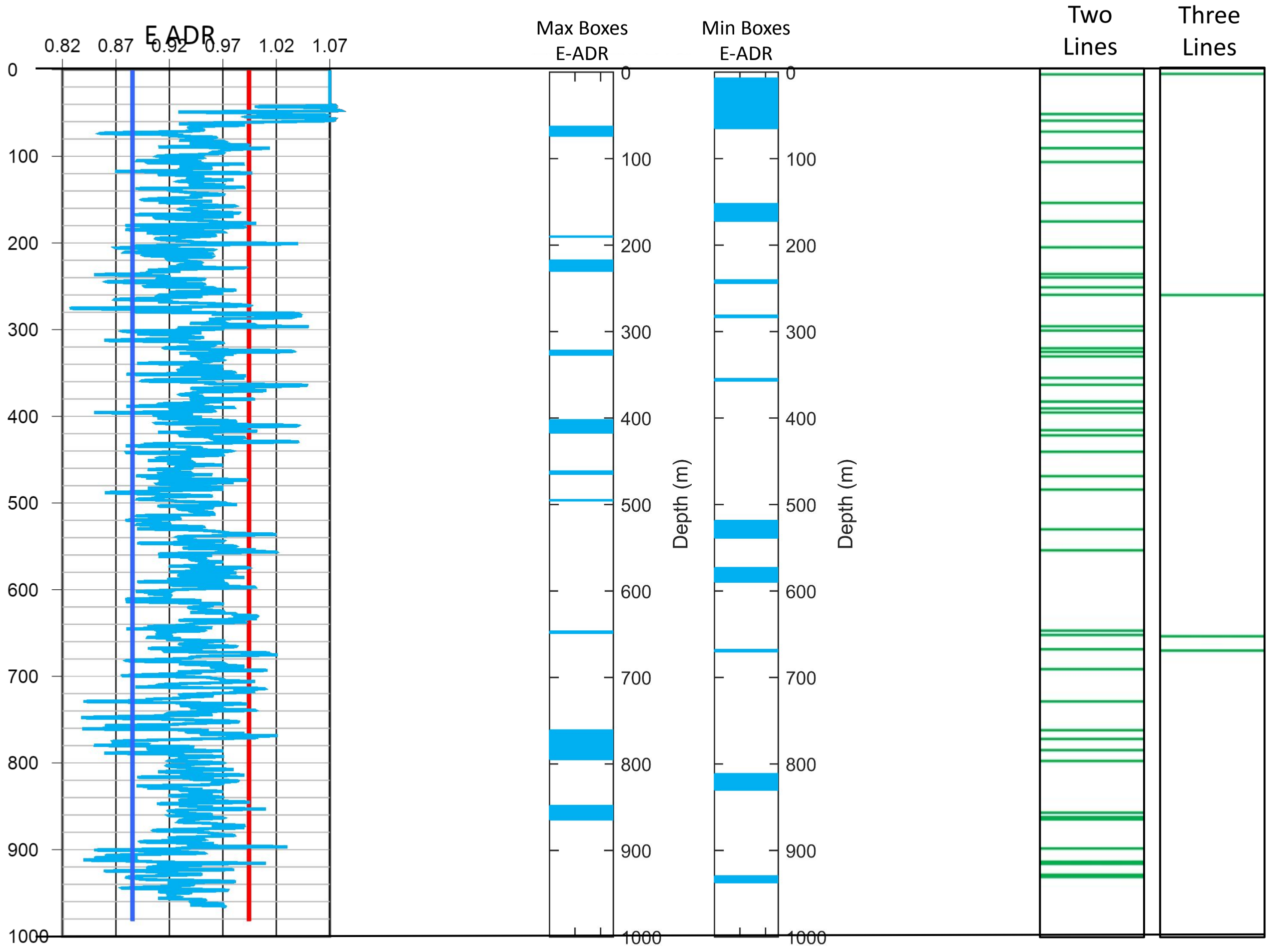
2 – Define MaxMin Boxes Per Parameter

For each Energy and Frequency log, when the data exceeds the baselines, a thinner or thicker box will be plotted.

3 – Define MaxMin Lines Per V-bore

The top and bottom of each Energy and Frequency MaxMin box is plotted as a line.

- For **Two**: Only the points in which two logs have a line in the same depth are shown.
- For **Three**: Only those points in which three or more logs have a line in the same depth are shown.

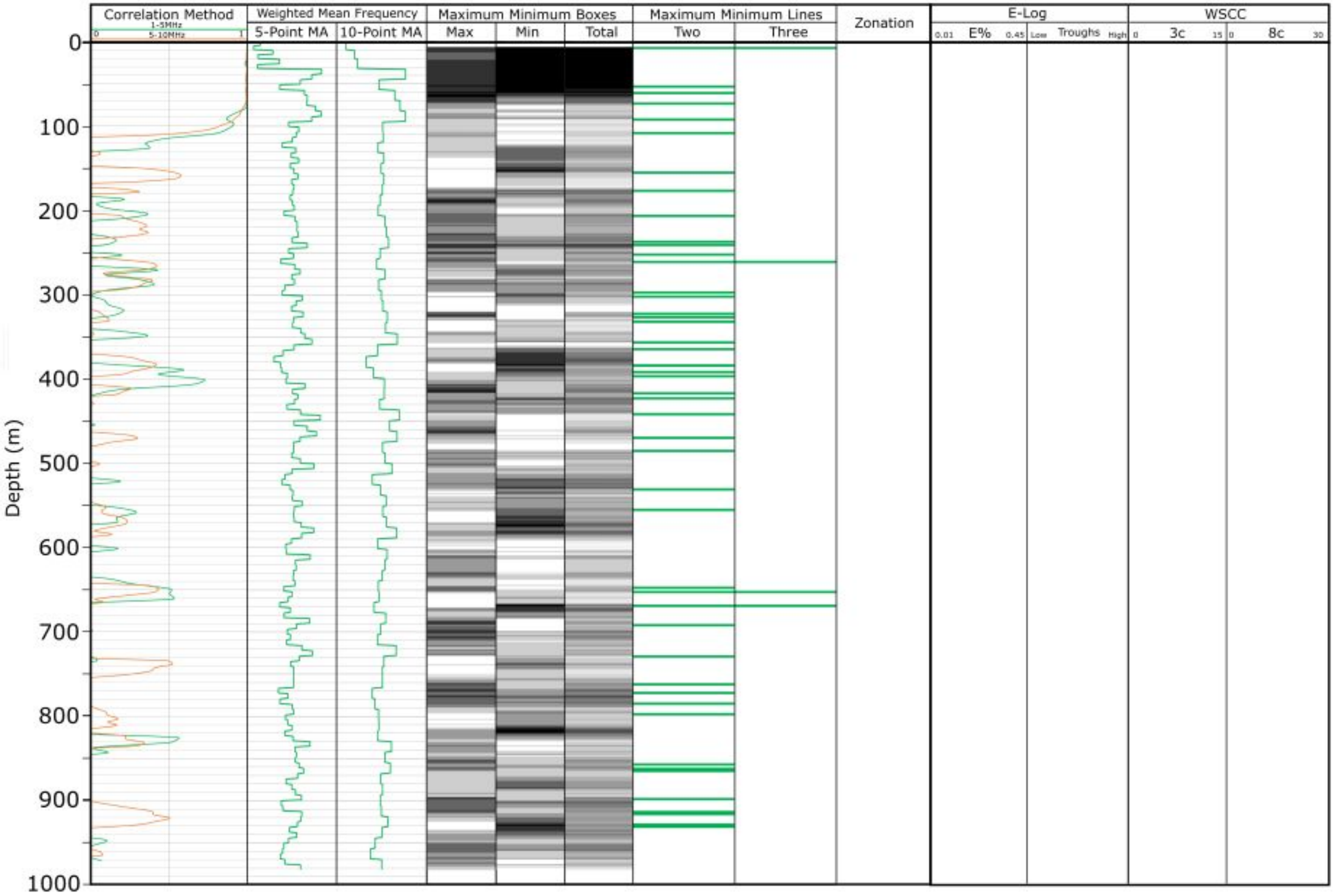


Min Baseline is Median - (SD*1.5)

Max Baseline is Median + (SD*1.5)

Figure:
Left: Example outputs stacked to produce Max-Min outputs
Centre: Maximum-Minimum output
Right: Resultant output from stacking energy and frequency parameters

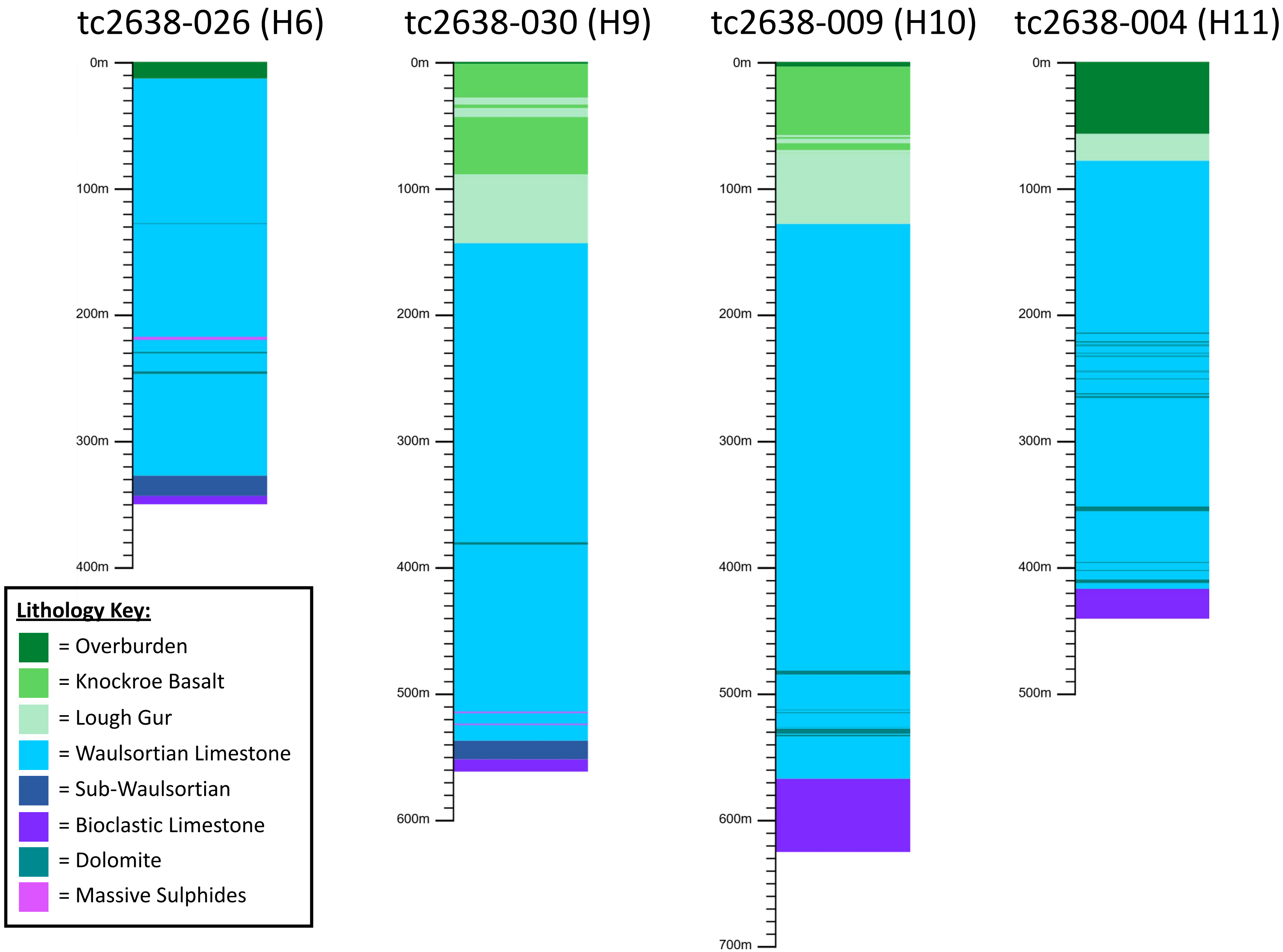
Zonation – Maximum-Minimum Lines



The top and bottom of each Energy and Frequency MaxMin box is plotted as a line.

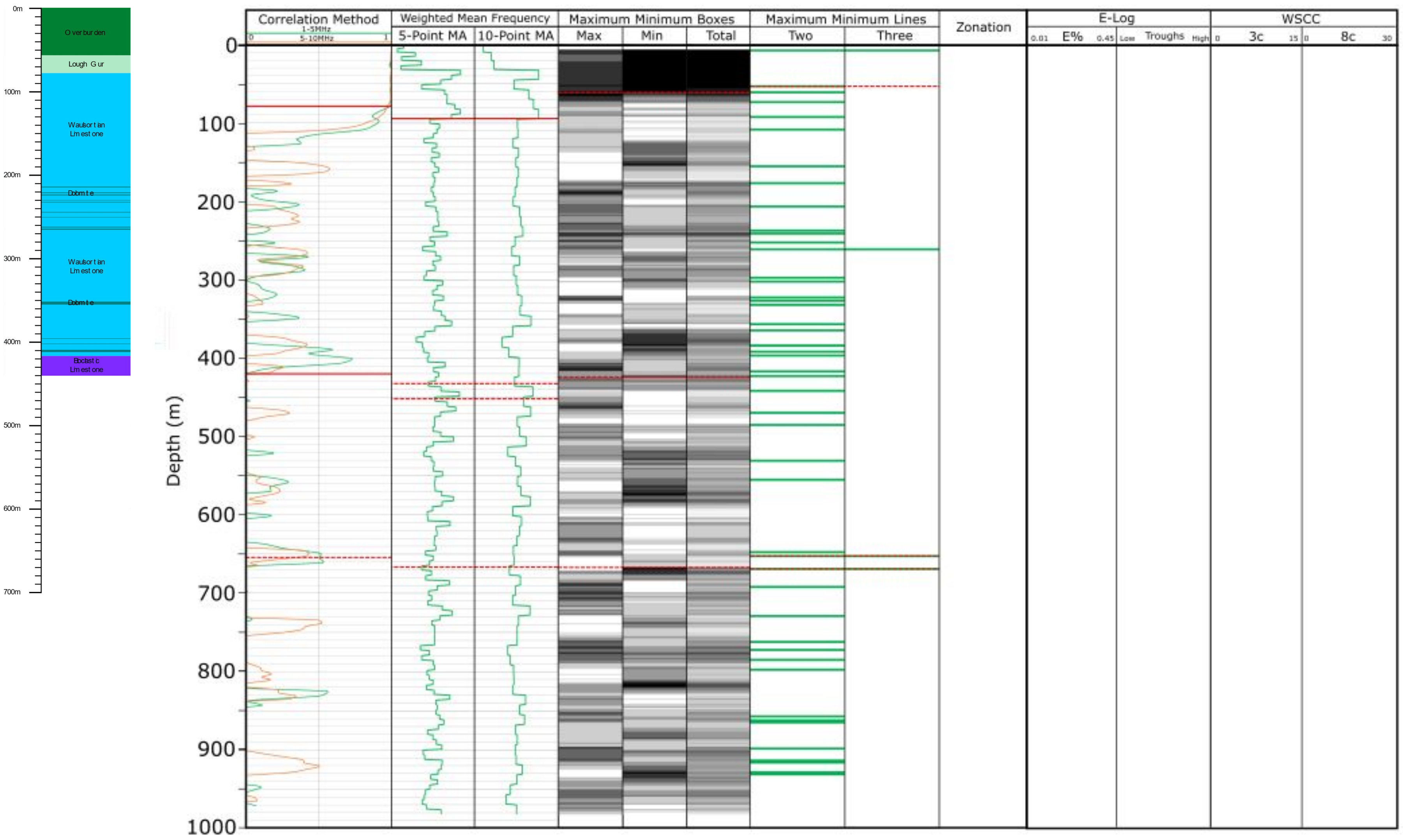
- For **Two**: Only the points in which two logs have a line in the same depth are shown.
- For **Three**: Only those points in which three or more logs have a line in the same depth are shown.

Zonation – Training Lithology



- Lithology Drill Hole data available for 4 sites from project 00116.
- Data is digitized into the form of Lithology Logs as seen in the adjacent figures.
- These logs are used to help constrain consistent responses in the ADR data that correspond to known lithologies.

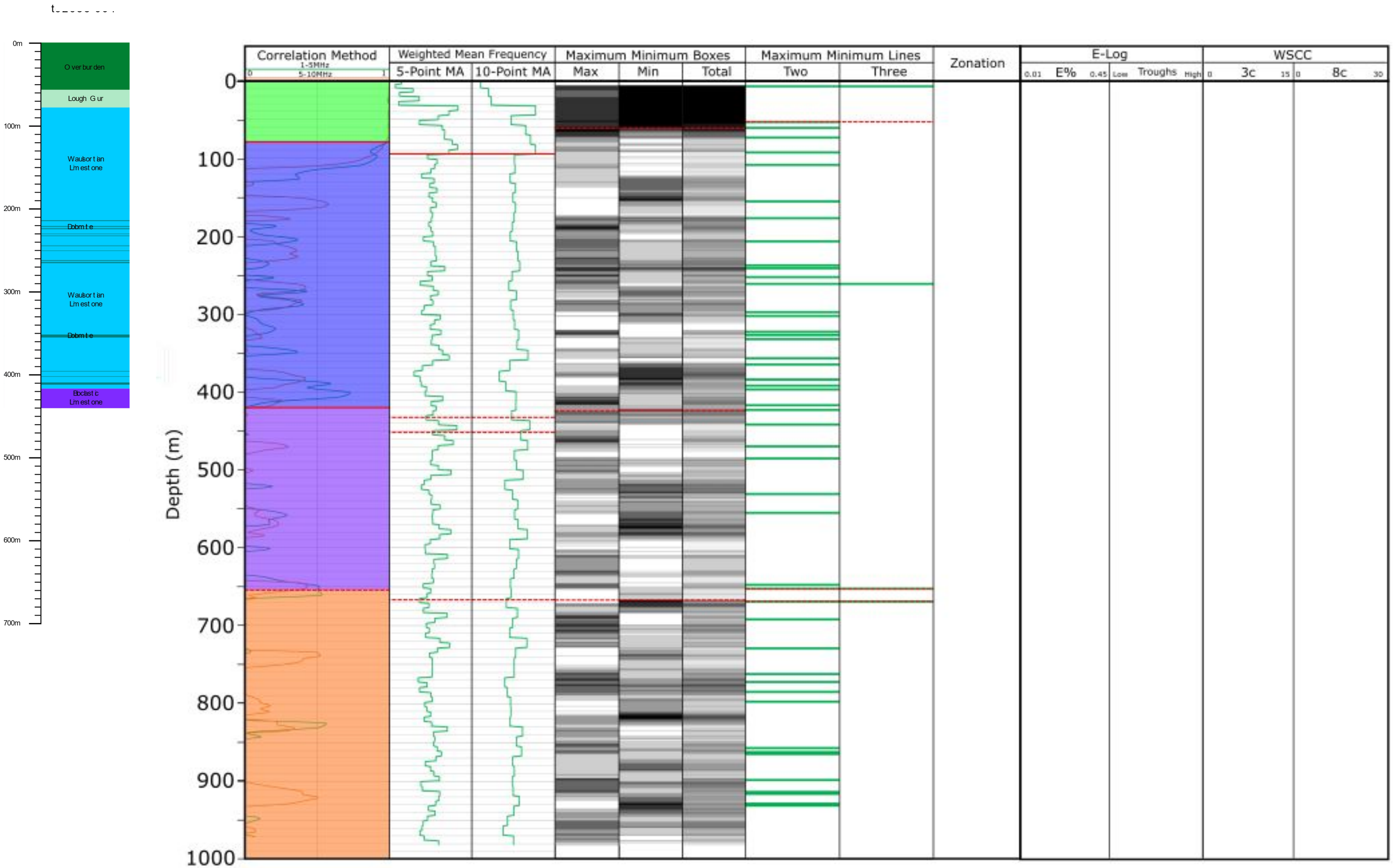
Zonation – Major Boundaries



Red lines mark the changes in values and trends of the ADR parameters that represent lithological changes.

- Thick red lines represent boundaries that have a high-confidence.
- Dotted red lines represent boundaries with slightly less confidence.

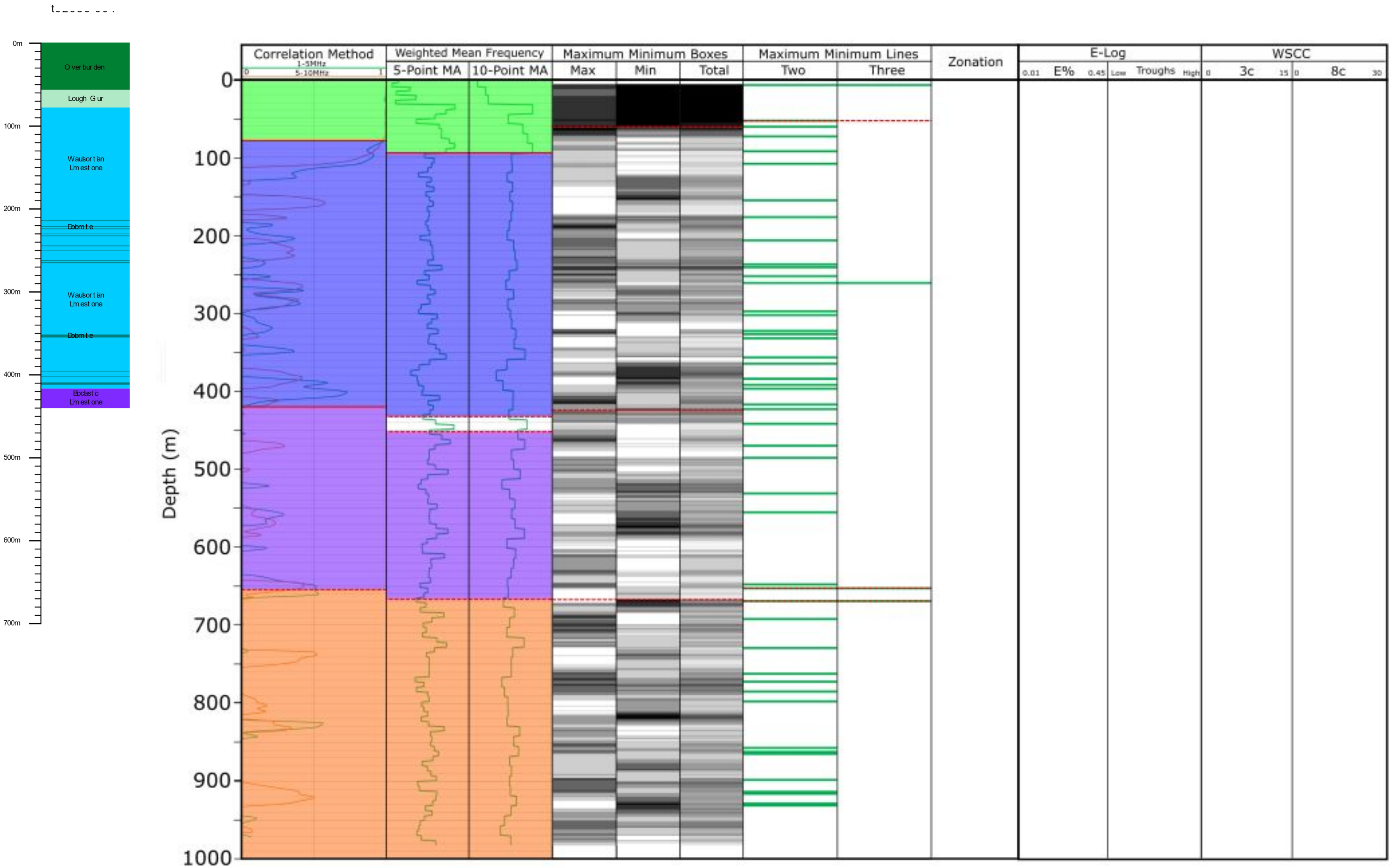
Zonation – Correlation Interpretations



Geological Formation	Adrok Unit	Frequency Correlation
Overburden/ Lough Gur	1	Log signature indicating gain Base of the unit marked by a drop off in the gain
Waulsortian Limestone	2	Top of the unit marked by a drop off in the gain Base of the unit marked by a drop off in the frequency signal Many medium and large peaks in boh frequency ranges throughout the unit
Lower Argilaceous Bioclastic Limestone	3	Top of the unit marked by a drop off in the frequency signal Base of the unit marked by a large peak in the low frequency Minimal signature peaks throughout the unit
Lower Silliclastic Unit	4	Top of the unit marked by a large peak in the low frequency Few small and Medium peaks throughout the unit

= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

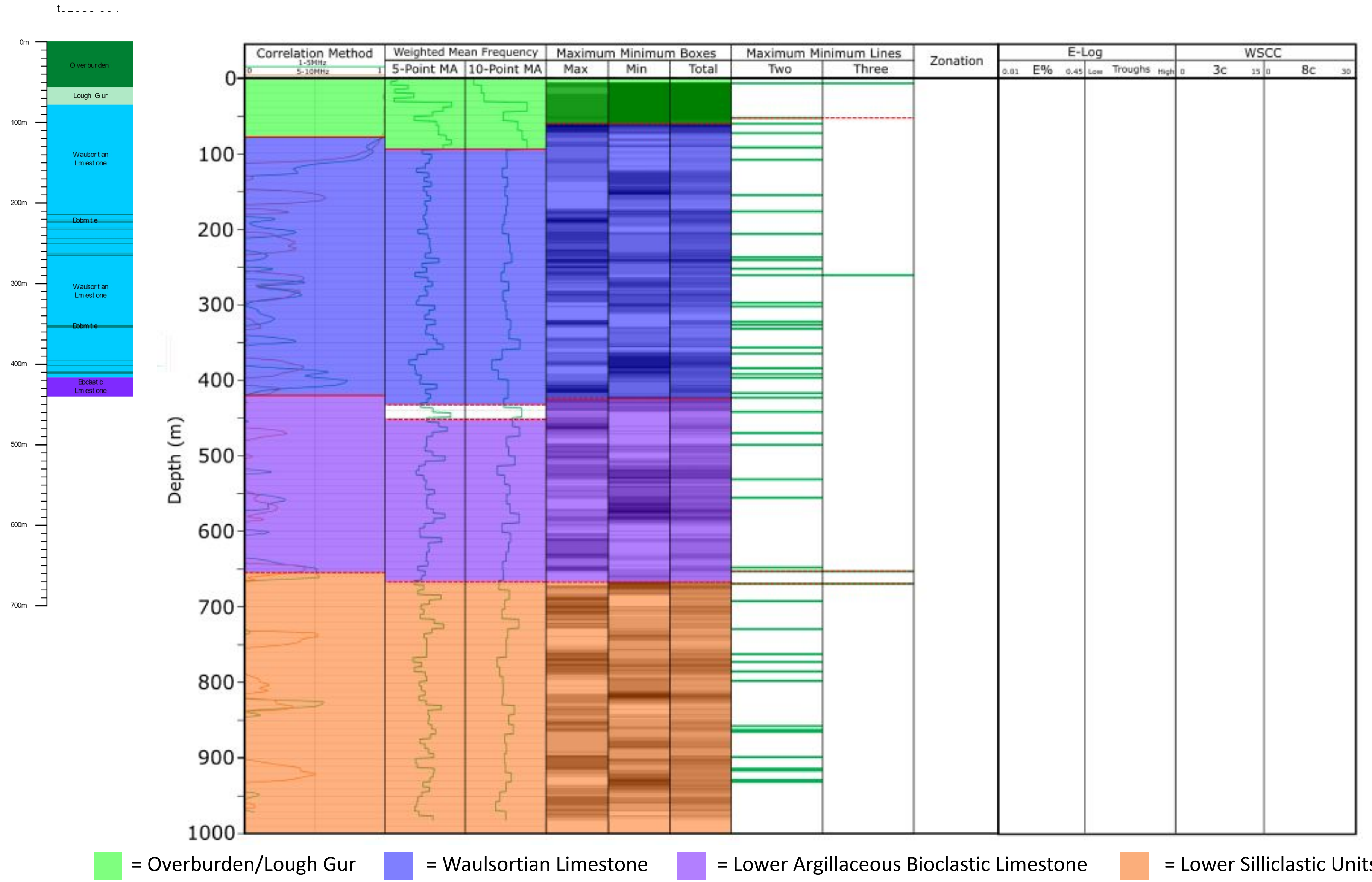
Zonation – WMF Interpretations



Geological Formation	Adrok Unit	WMF (Moving Average)
Overburden/ Lough Gur	1	Log signature indicating gain Base of the unit marked by a trough after the gain drops off
Waulsortian limestone	2	Top of the unit marked by a trough after the gain drops off Base of the unit marked by a trough in WMF High variaiblity throughout the unit
Lower Argillaceous Bioclastic limestone	3	Top and base of the unit marked by a trough in the WMF Medium variaiblity throughout the unit
Lower Sillidastic Unit	4	Top of the unit marked by a trough in WMF Medium variaiblity throughout the unit

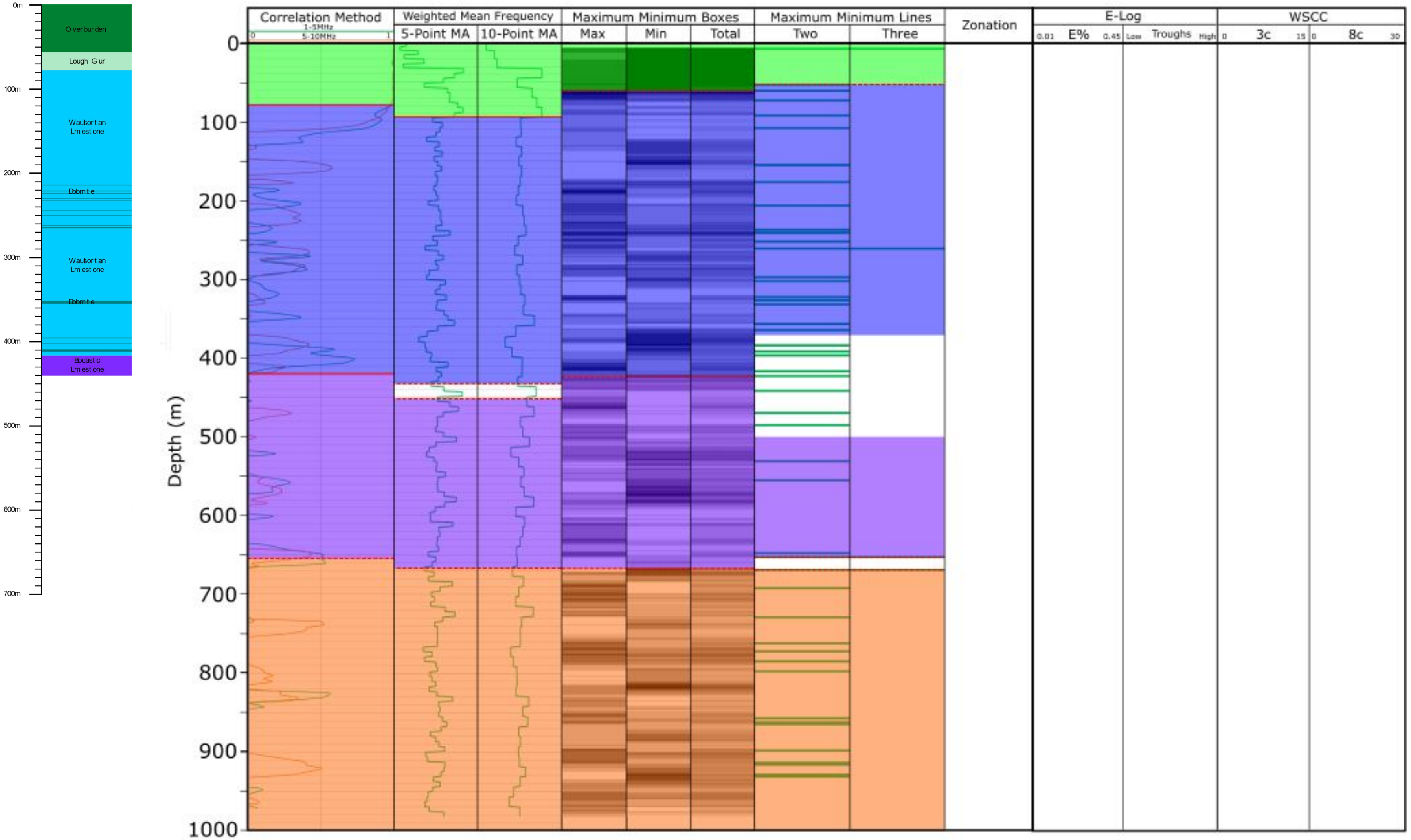
= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

Zonation – MaxMin Boxes Interpretations



Geological Formation	Adrok Unit	Maximum Minimum Boxes
Overburden/ Lough Gur	1	All logs highly satuarated
Waulsortian Limestone	2	Unit begins after highly saturated zone Unit ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit
Lower Argilaceous Bioclastic Limestone	3	Unit begins and ends with a band of high saturation in the Min Boxes Variable saturation throughout the unit
Lower Siliclastic Unit	4	Unit begins with a band of high saturation in the Min Boxes Variable saturation throughout the unit

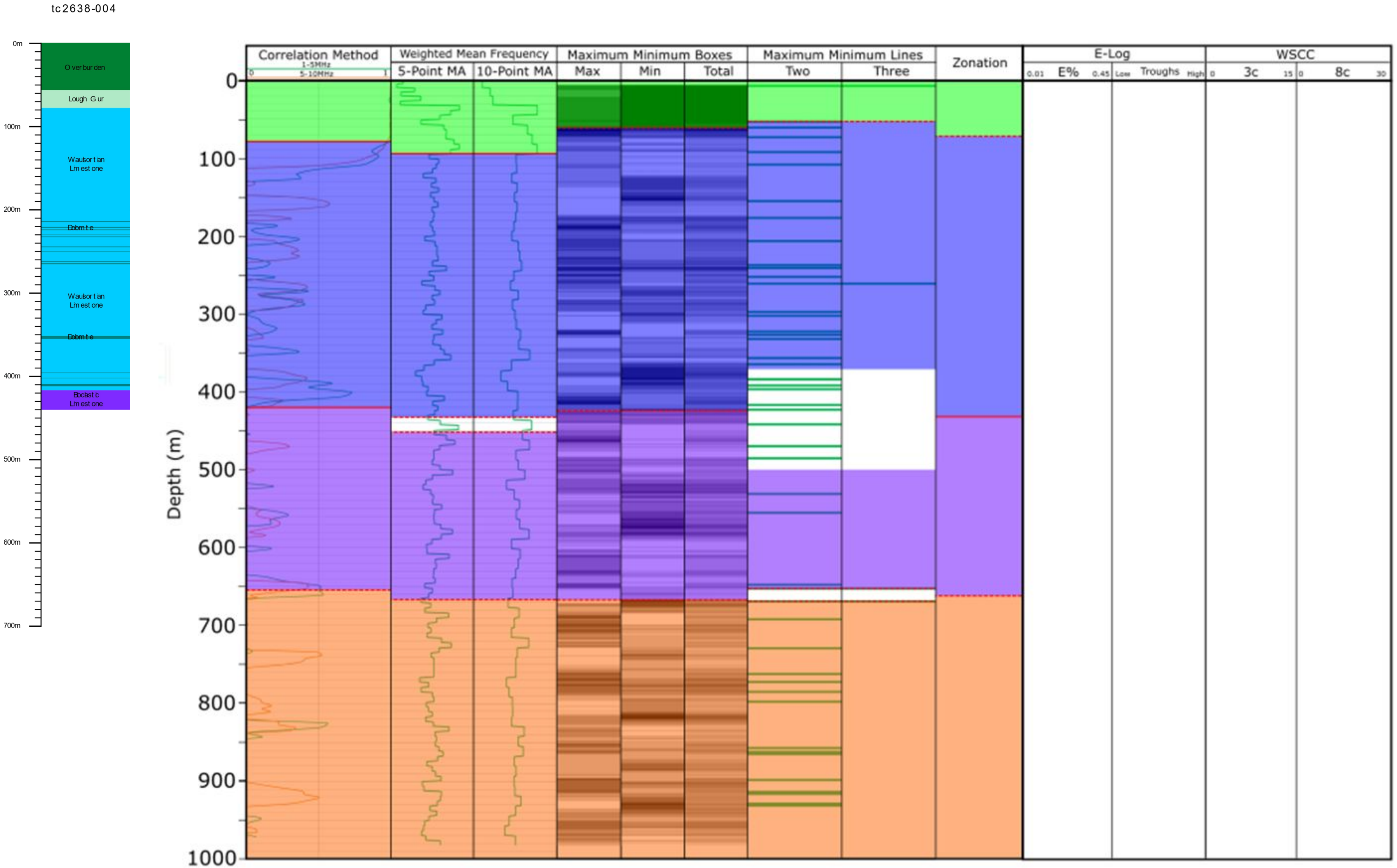
Zonation – MaxMin Lines Interpretations



Geological Formation	Adrok Unit	Maximum Minimum Lines
Overburden/ Lough Gur	1	Base of unit marked by three lines and a large gap with no response
Waulsortian limestone	2	Top of unit marked by two lines after a large gap with no response Base of the unit not identified No consistent signals throughout the unit
Lower Argilaceous Bioclastic limestone	3	Top of unit not identified Base of unit marked by three lines No consistent signals throughout the unit
Lower Sillidastic Unit	4	Top of unit marked by three lines No consistent signals throughout the unit

= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

Zonation – Unit Interpretations



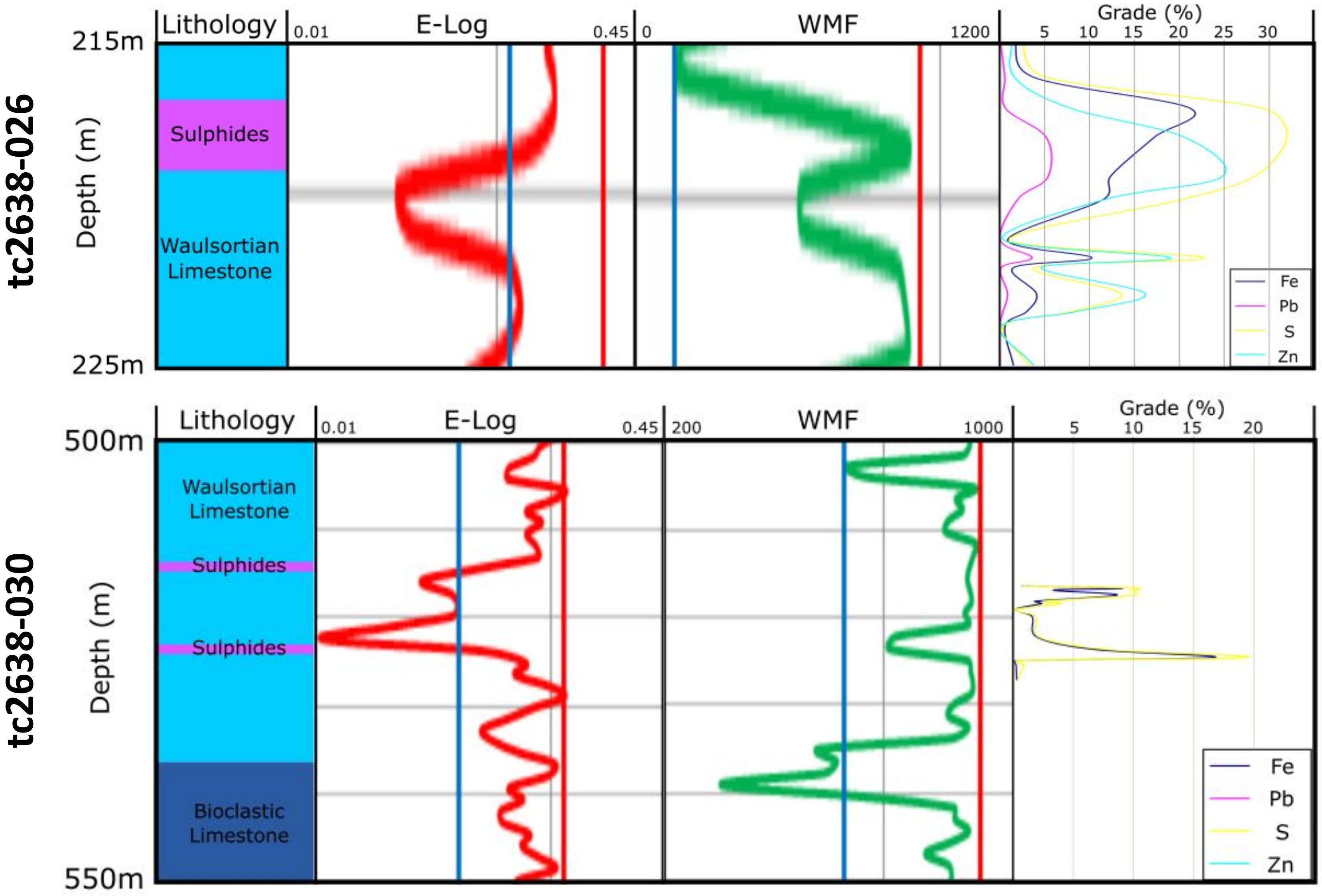
= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

The depths of each lithological boundary is averaged across all parameters to give the final interpreted Zonation Lithology column.

- See appendix for Quantitative Lithology Intervals.
- Final .csv file for compiled Interval Logs (00232 Lithology Interval Log) can be found here:

G:\00232 TCK reproc\Internal Deliverables (00232)\00232 Zonation

Zonation – EWMF



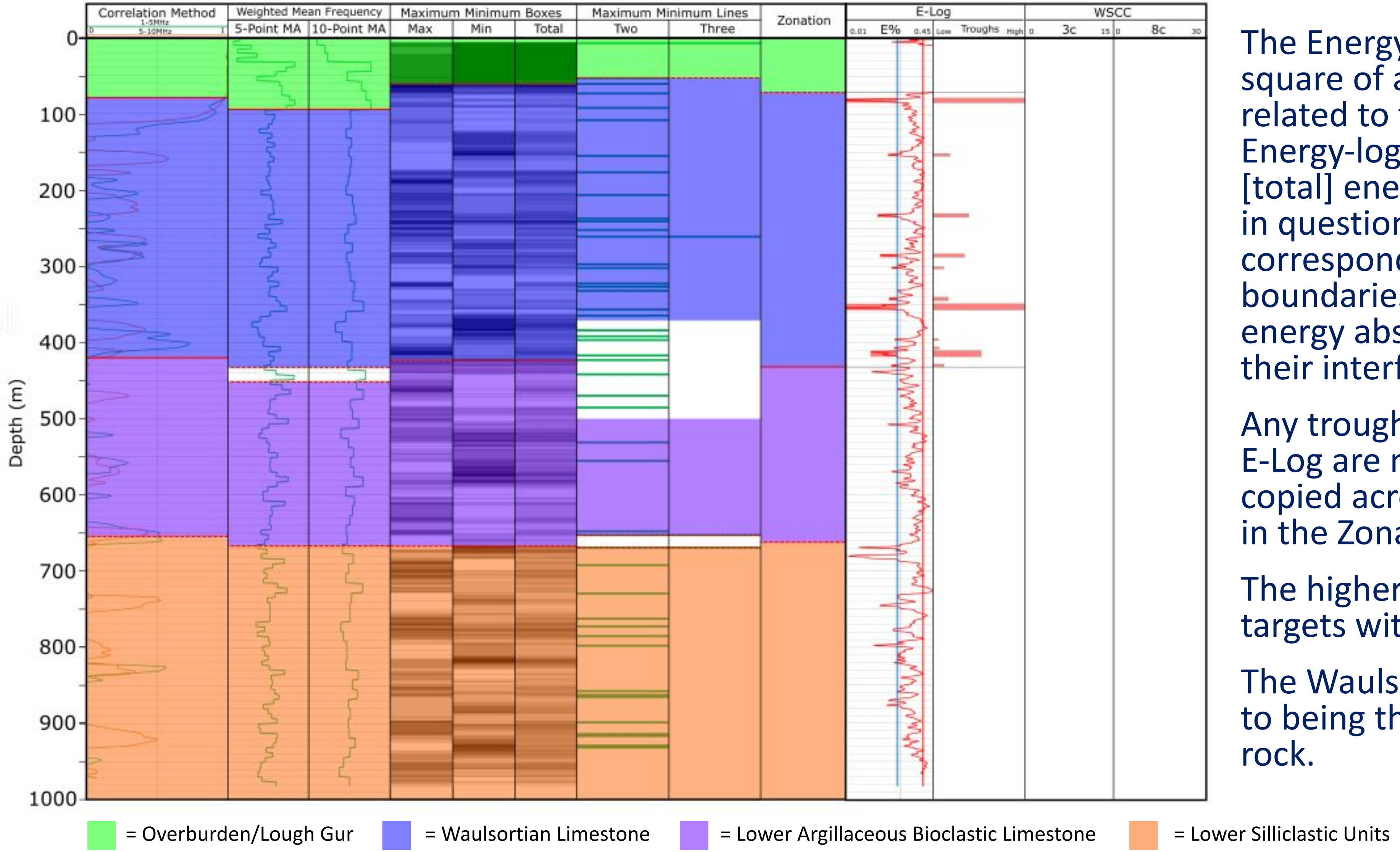
The E-Logs and raw Weighted Mean Frequency (WMF) Charts were compared with existing lithological and assay data at depths of known sulphides:

- Sulphides correlate strongly with a trough below the baseline in the E-Logs.
- No visible or reliable correlative responses between the sulphides and the WMF.

Moving forward, the E-logs will be used to identify sulphides in the Waulsortian Limestone, however, this signal may also be a response to another significant change in material, e.g., breccias and dolomites.

The raw WMF charts will not be used for sulphide targeting.

Zonation – E-Logs



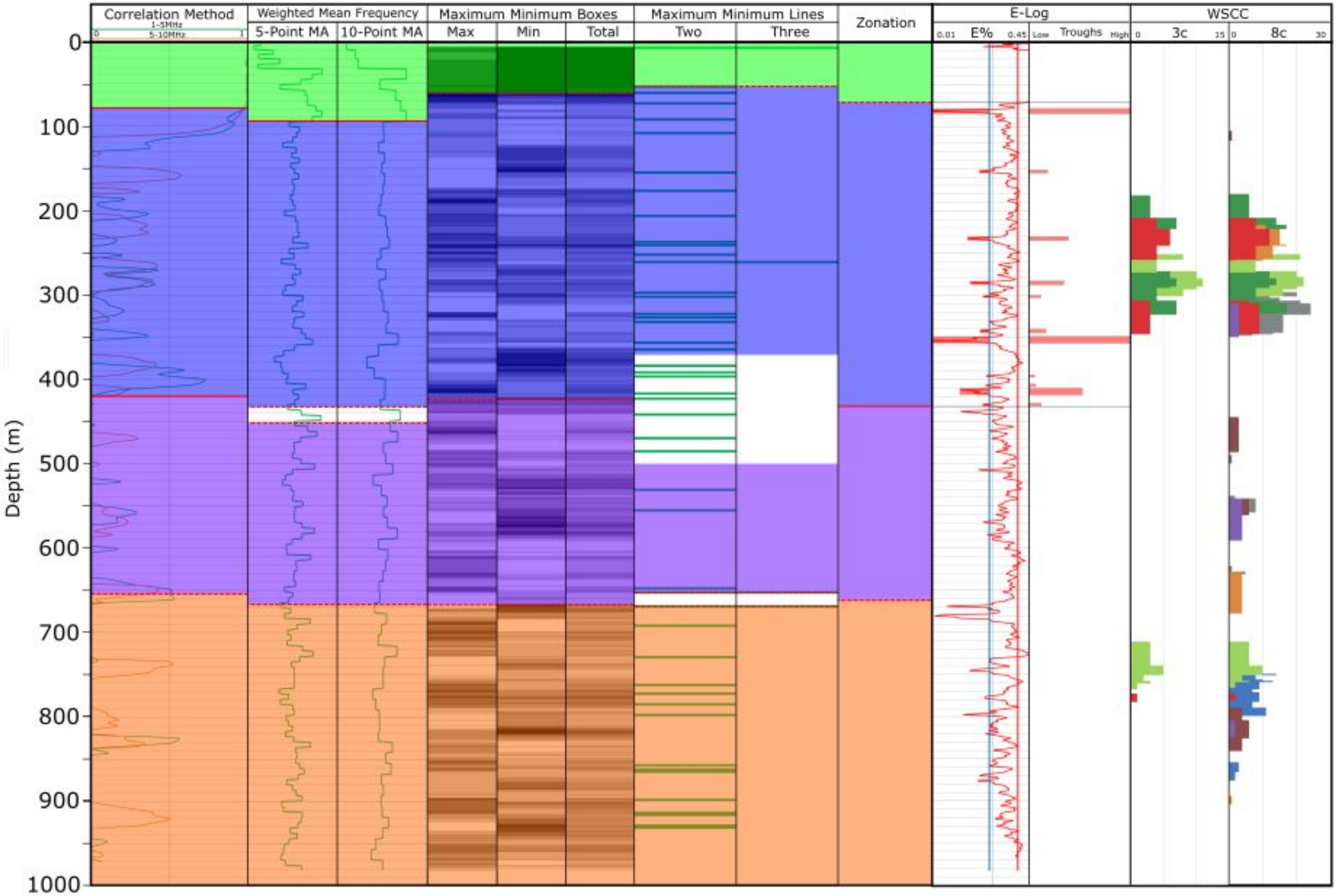
The Energy of a wave is proportional to the square of amplitude, so it is linearly related to the log of the amplitude. The Energy-log curve, is a measure of the [total] energy response from the depth bin in question. Sometimes low E-log values correspond to sandstones or sandstone boundaries, perhaps reflecting more energy absorption within them and at their interfaces.

Any troughs below the baseline in the E-Log are marked with a red block and copied across to the second E-Log column in the Zonation panel.

The higher troughs represent boundary targets with higher confidence.

The Waulsortian Limestone is targeted due to being the primary mineralisation host rock.

Zonation – WSCC



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

In order to categorize the E-Log boundary targets as sulphide mineralisation, the Weighted Sulphide Correlation Criteria (WSCC) Outputs are used to indicate areas with high-confidence sulphide zones.

WSCC Criteria/Component Key:

- F-Gamma (Low)
- F-ADR (High)
- F-Mean (High)
- F-SD (High)
- E-ADR (High)
- E-ADR (Low)
- E-Mean (High)
- E-SD (High)

Zonation Results Targets

Existing literature suggests that mineralisation mostly occurs within the Waulsortian Limestone Formation (Elliot, 2015), therefore the sulphide exploration will be focussed within this unit.

However, the other units will not be completely disregarded and a full analysis will be completed.

Elliott, H., 2015. Pb-Zn mineralisation within the Limerick Basin (SW Ireland): a role for volcanism? (Doctoral dissertation, University of Southampton).

E% Logs

Troughs in the E% Logs indicate significant lithological or mineralogical changes.

This E% response could be indicative of massive sulphide veins, dolomites or breccias.

If an E% trough correlates with a WSCC target, confidence in the sulphide target increase.

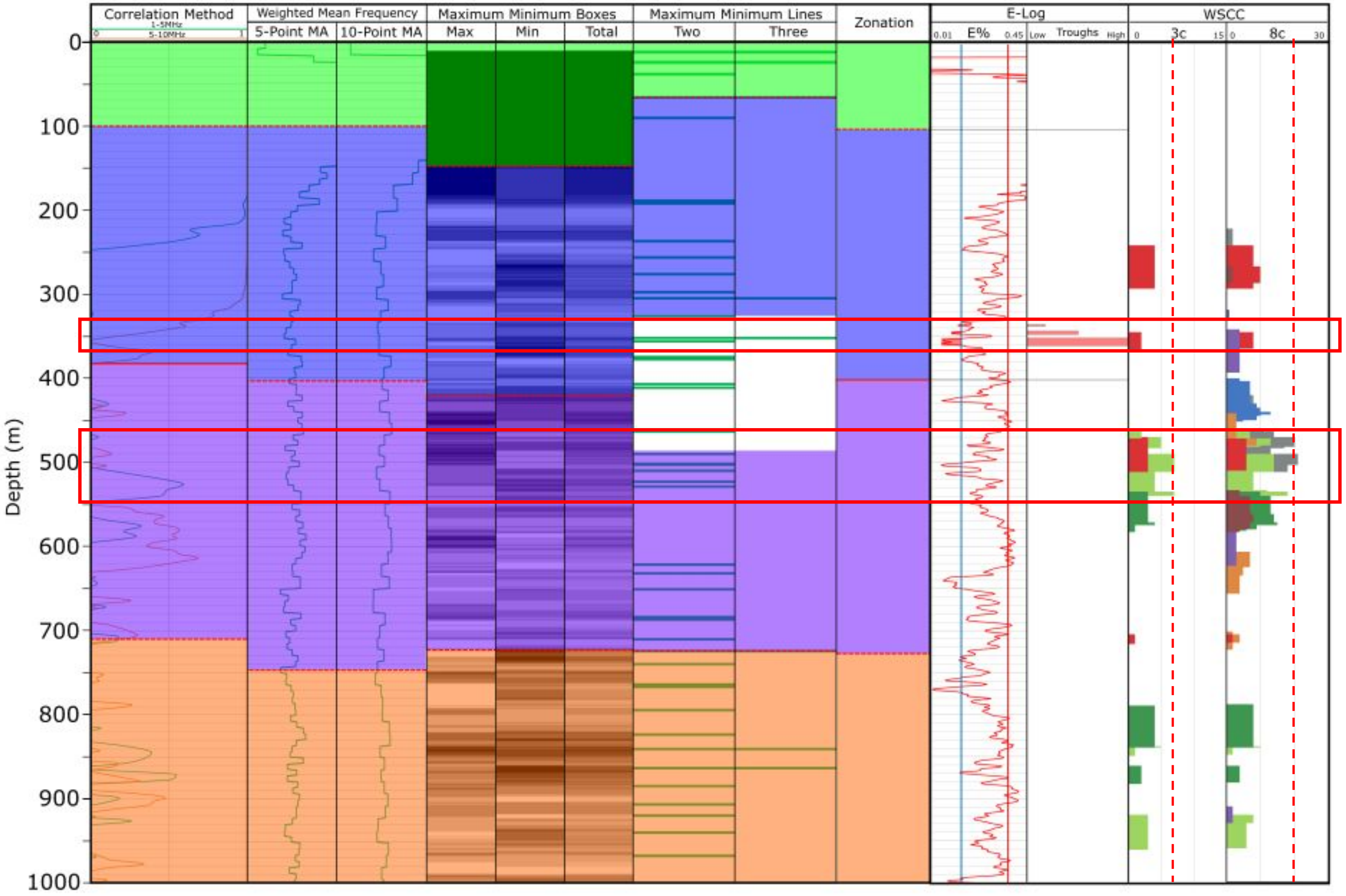
WSCC

The WSCC technique targets sulphides if the WSCC total values exceed the pre-determined "sulphide cut-off".

The cut-off values vary between the different WSCC outputs:

- 3-Component WSCC cut-off = **7**
- 8-Component Enhanced WSCC cut-off = **20**

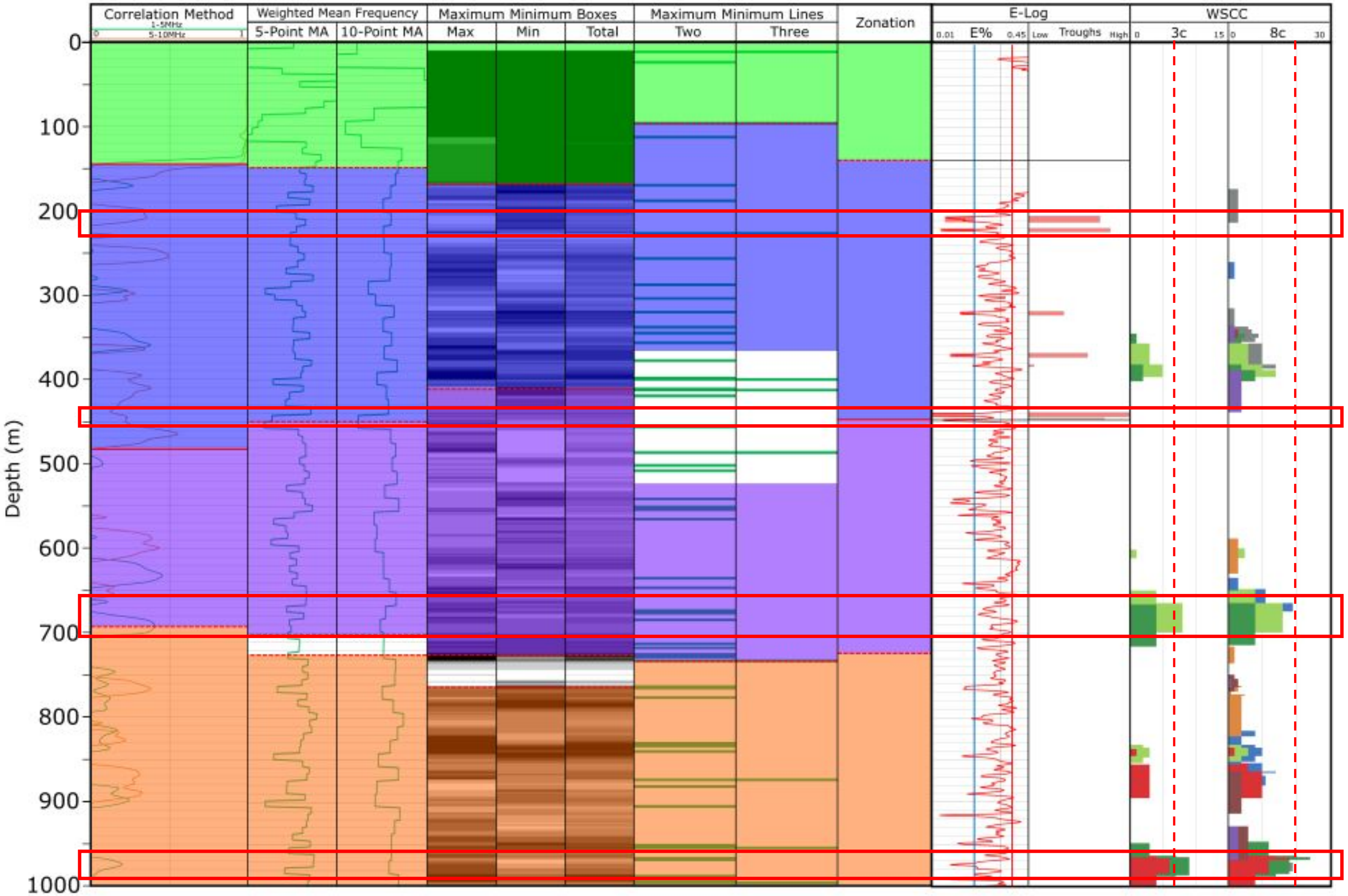
Zonation Results: H1 – L004



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

- Largest E% Troughs in the Waulsortian Limestone (350-360m) do not correlate with WSCC targets, therefore, may not be a sulphide target.
- This E% response could be representative of another significant change in material, e.g., Dolomites and Breccias.
- The only WSCC targets are between 470-540m within the Lower Argillaceous Bioclastic Limestone.
- These sulphide targets also correlate with two strong E% troughs.

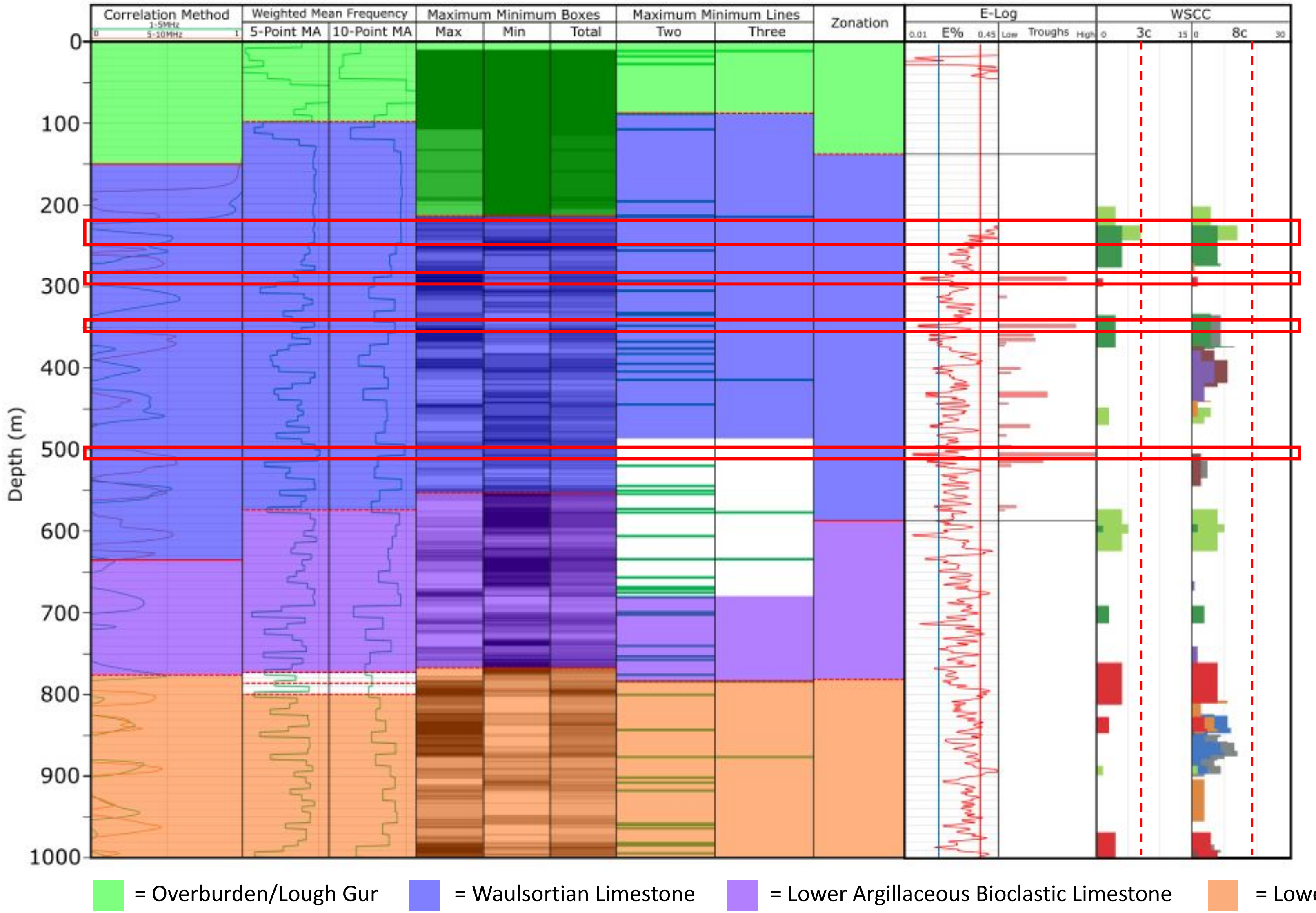
Zonation Results: H2 – L009



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

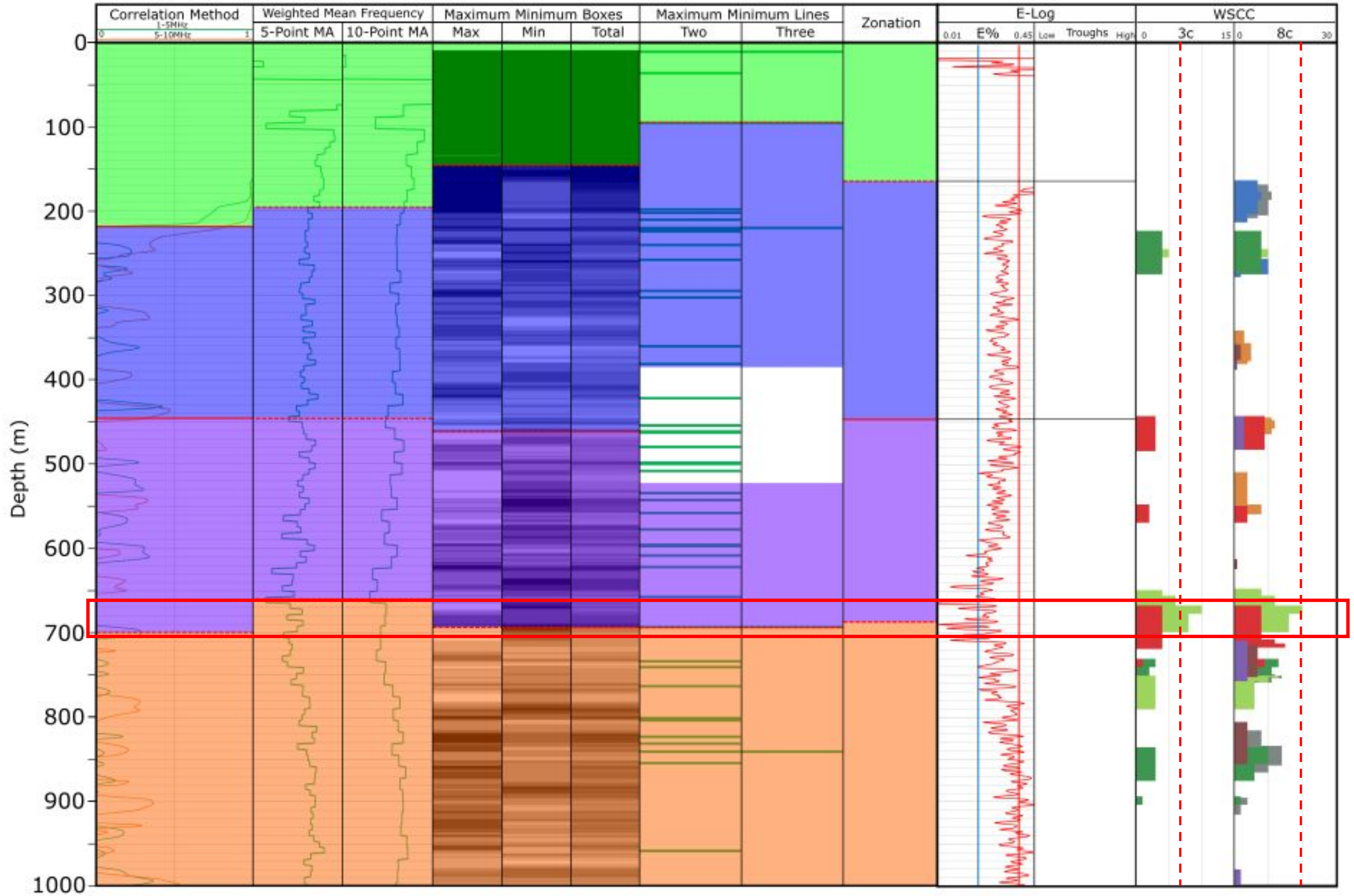
- There are no WSCC targets within the Waulsortian Limestone.
- Two zones with significant E% troughs at 205-225m and 435-450m respectively within the Waulsortian Limestone that may indicate Dolomite.
- There are two WSCC targets deeper in the scan in the Lower Argillaceous Bioclastic Limestone and Lower Silliclastic Units at 665-700m and 965-985m respectively.
- The WSCC target in the Lower Silliclastic Units also correlates across with two E% troughs.

Zonation Results: H3 – L030



- The only WSCC target lies between 225-245m within the Waulsortian Limestone, however, this does not correlate directly with any E% troughs.
- There are three major E% troughs throughout the Waulsortian Limestone at depths of 290m, 350m and 505m that may be indicative of other lithological changes, e.g., Dolomites and Breccias.

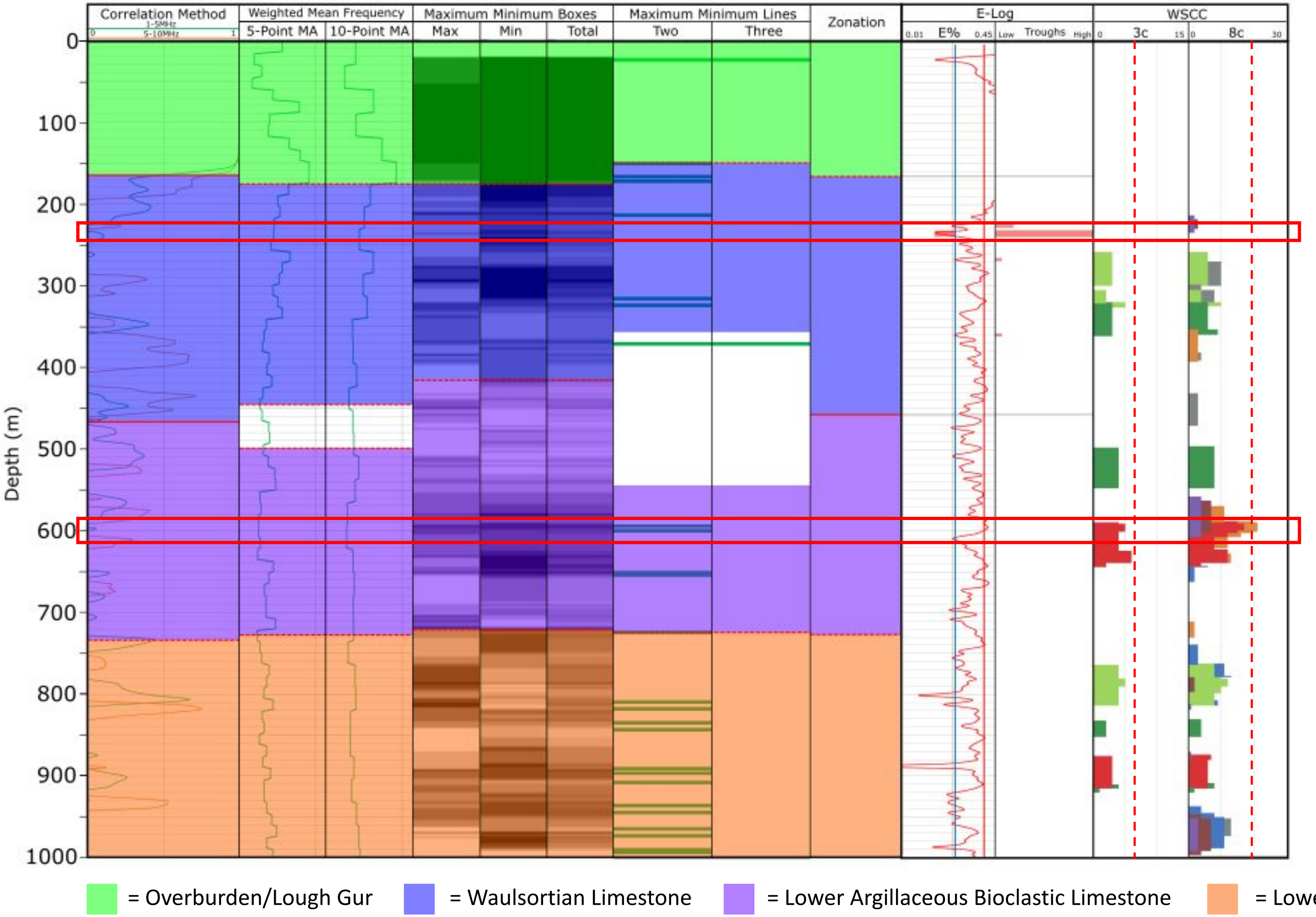
Zonation Results: H4 – P1



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

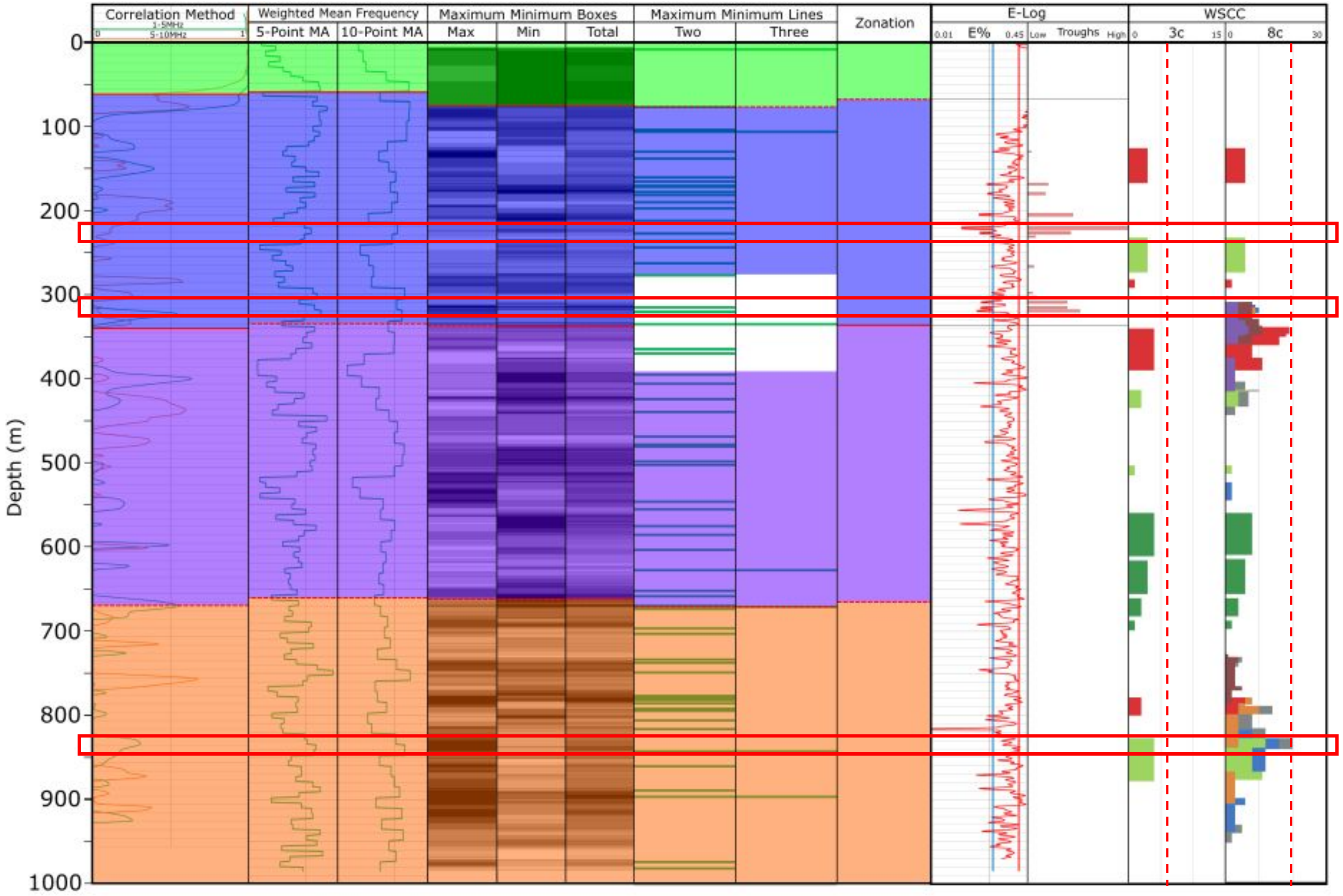
- There are no WSCC targets or E% troughs within the entirety of the Waulsortian Limestone within this scan.
- The only WSCC target sits along the base of the Lower Argillaceous Bioclastic Limestone at 670-700m.
- This sulphide target also correlates strongly with a cluster of many E% troughs at the same depth in the scan.

Zonation Results: H5 – P2



- There are no WSCC targets within the Waulsortian Limestone.
- The only significant E% trough within the Waulsortian Limestone is at a depth of 225-240m and may by indicative of another lithological change, e.g., Dolomite or Breccias.
- The only WSCC target in the scan in the Lower Argillaceous Bioclastic Limestone at a depth of 590-600m.
- This sulphide target is also close to a minor E% trough.

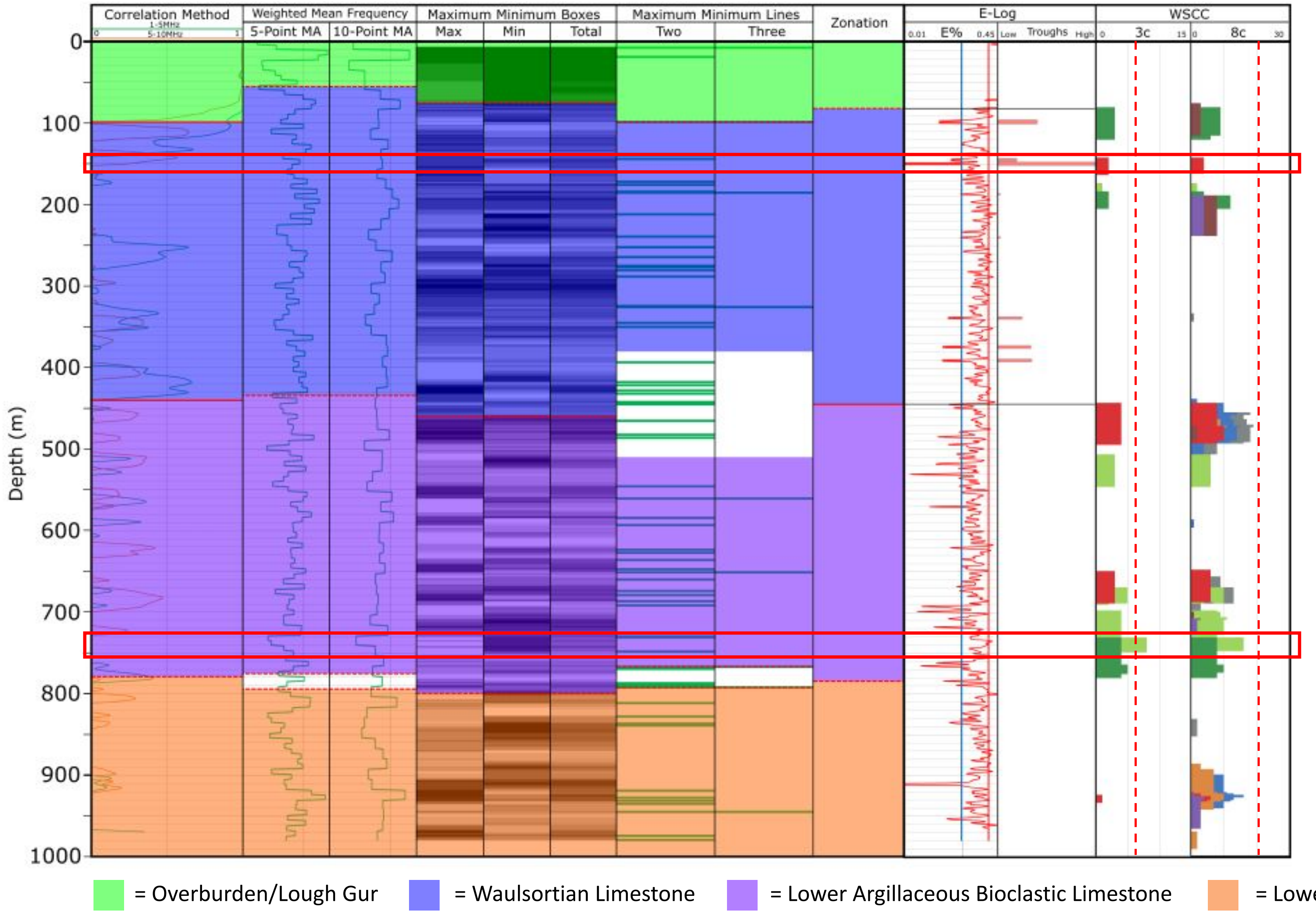
Zonation Results: H6 – tc2638-026



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

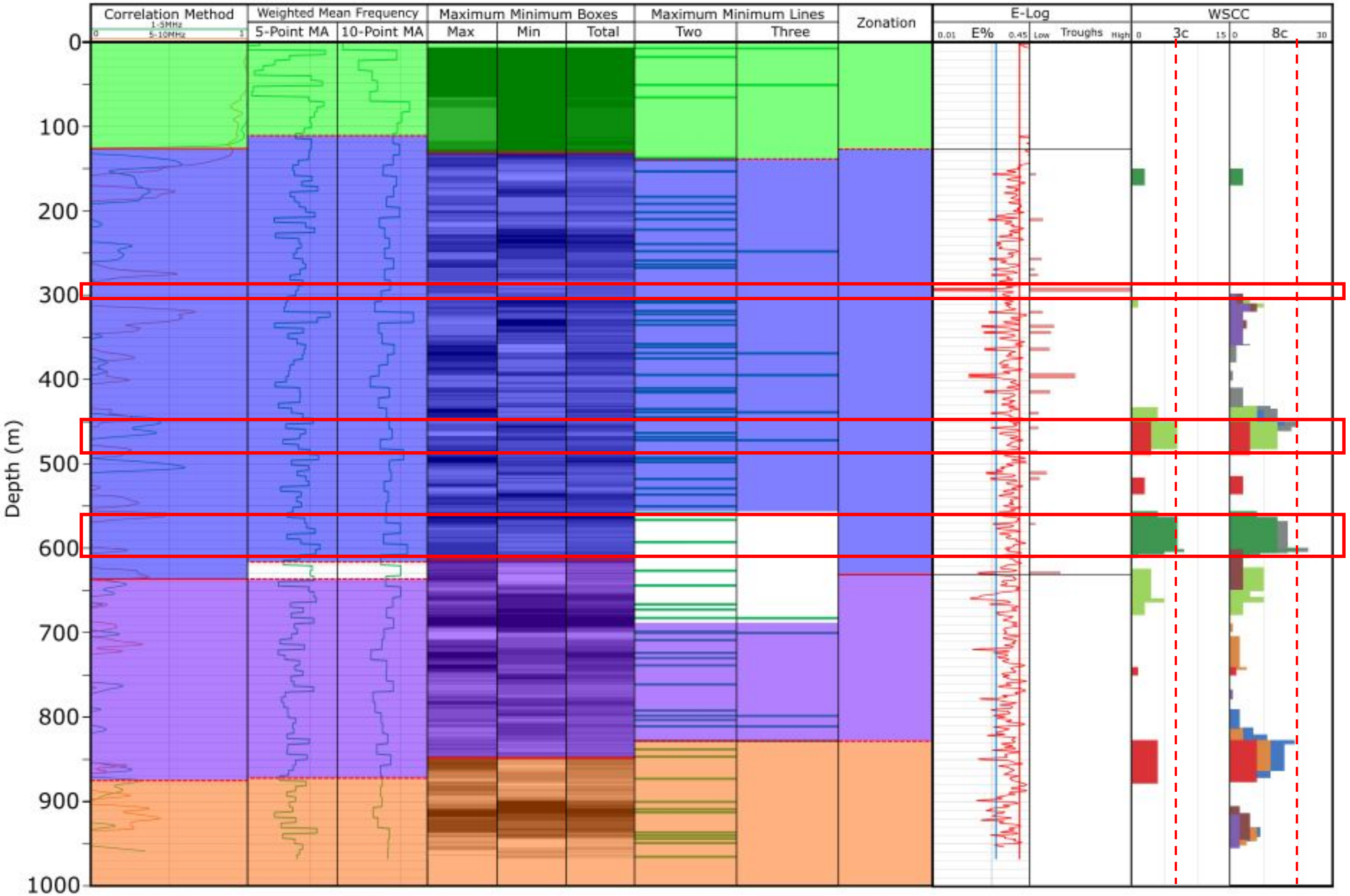
- There are no WSCC targets in the Waulsortian Limestone.
- There are two clusters of significant E% troughs at 220-230m and 305-320m respectively, which may be indicative of lithological changes, e.g., Dolomite and Breccias.
- The lower of these E% troughs is very close to the base of the Waulsortian Limestone and also some high WSCC values, but not quite WSCC targets.
- There is a WSCC target at 825-840m within the Lower Silliclastic Units that corresponds closely with the most significant E% trough in the scan.

Zonation Results: H7 – tc2638-036



- There are no WSCC targets within the Waulsortian Limestone.
- There is a strong E% trough at 150m within the Waulsortian Limestone, which is likely to be indicating another lithological change, e.g., Dolomite or Breccias.
- The only WSCC target in the scan is at a depth of 730-750m within the Lower Argillaceous Bioclastic Limestone.
- This sulphide target is also bounded by clusters of strong troughs in the E% log.

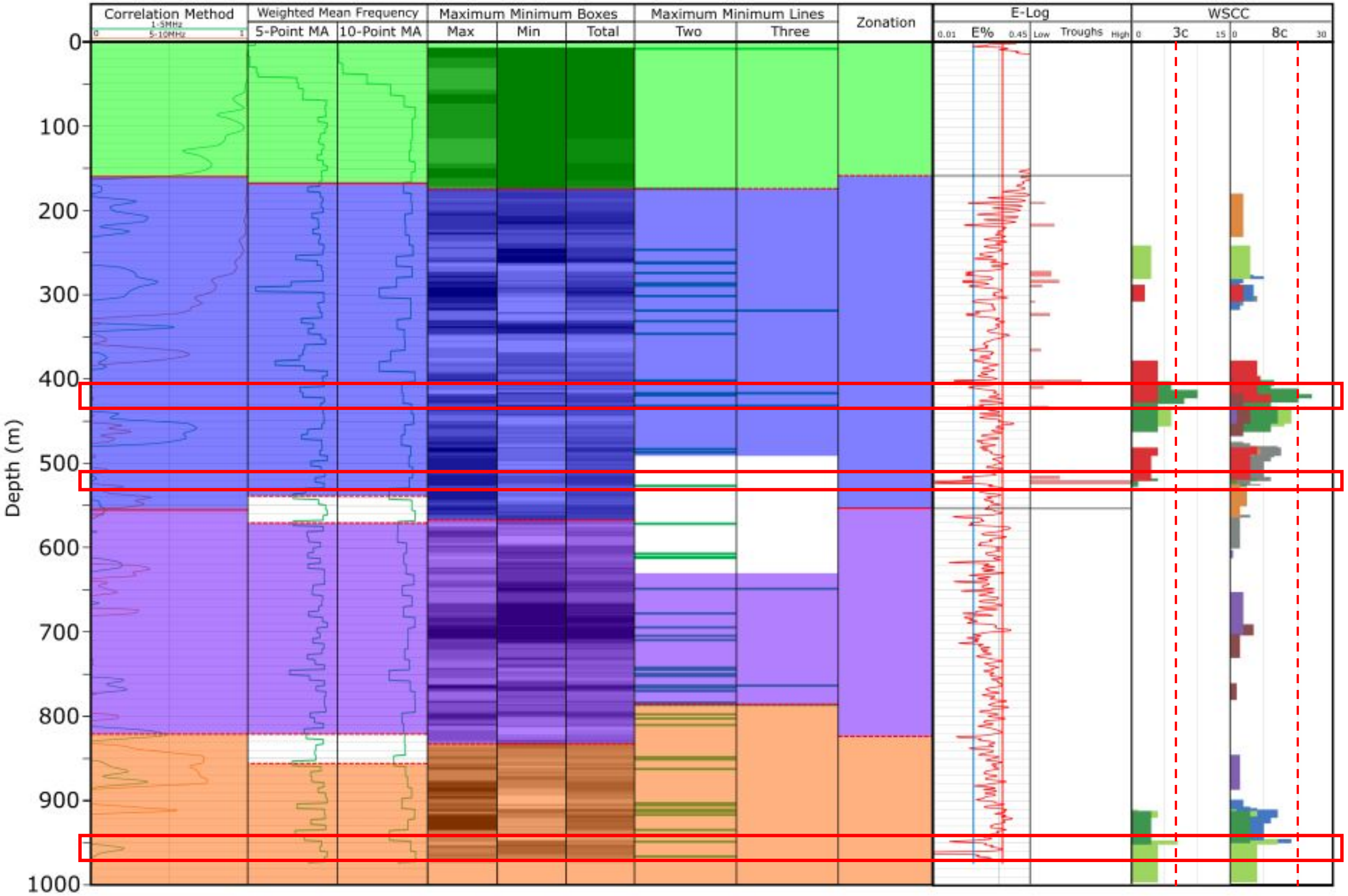
Zonation Results: H8 – tc2638-070



- There are two WSCC targets within the Waulsortian Limestone.
- The first WSCC target is at 450-480m and is bounded by minor E% troughs.
- The second WSCC target is at 560-605m and is also bounded by minor E% troughs.
- The most significant E% trough within the Waulsortian Limestone at 295m does not correspond with any WSCC targets, therefore, may be indicative of another lithological change, e.g., Dolomite and Breccias.

= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

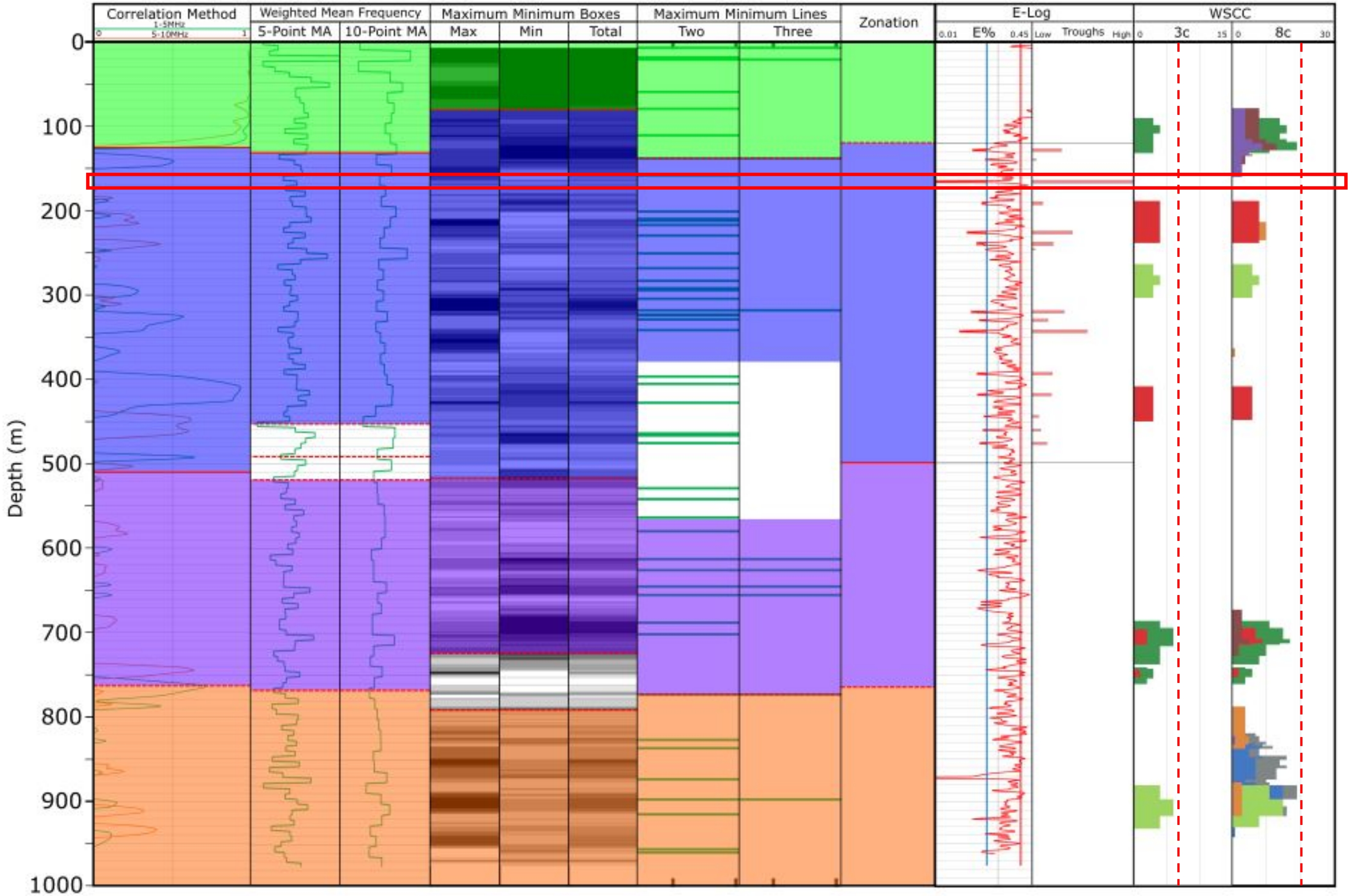
Zonation Results: H9 – tc2638-030



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

- The only WSCC target within the Waulsortian Limestone is at 415-430m and is bounded by E% troughs.
- The other WSCC target is deeper in the scan within the Lower Silliclastic Units at a depth of 945-955m, which is bounded by strong E% troughs.
- The most significant E% trough within the Waulsortian Limestone is at a depth of 520m, and may indicate a lithological change, e.g., Dolomite or Breccia.

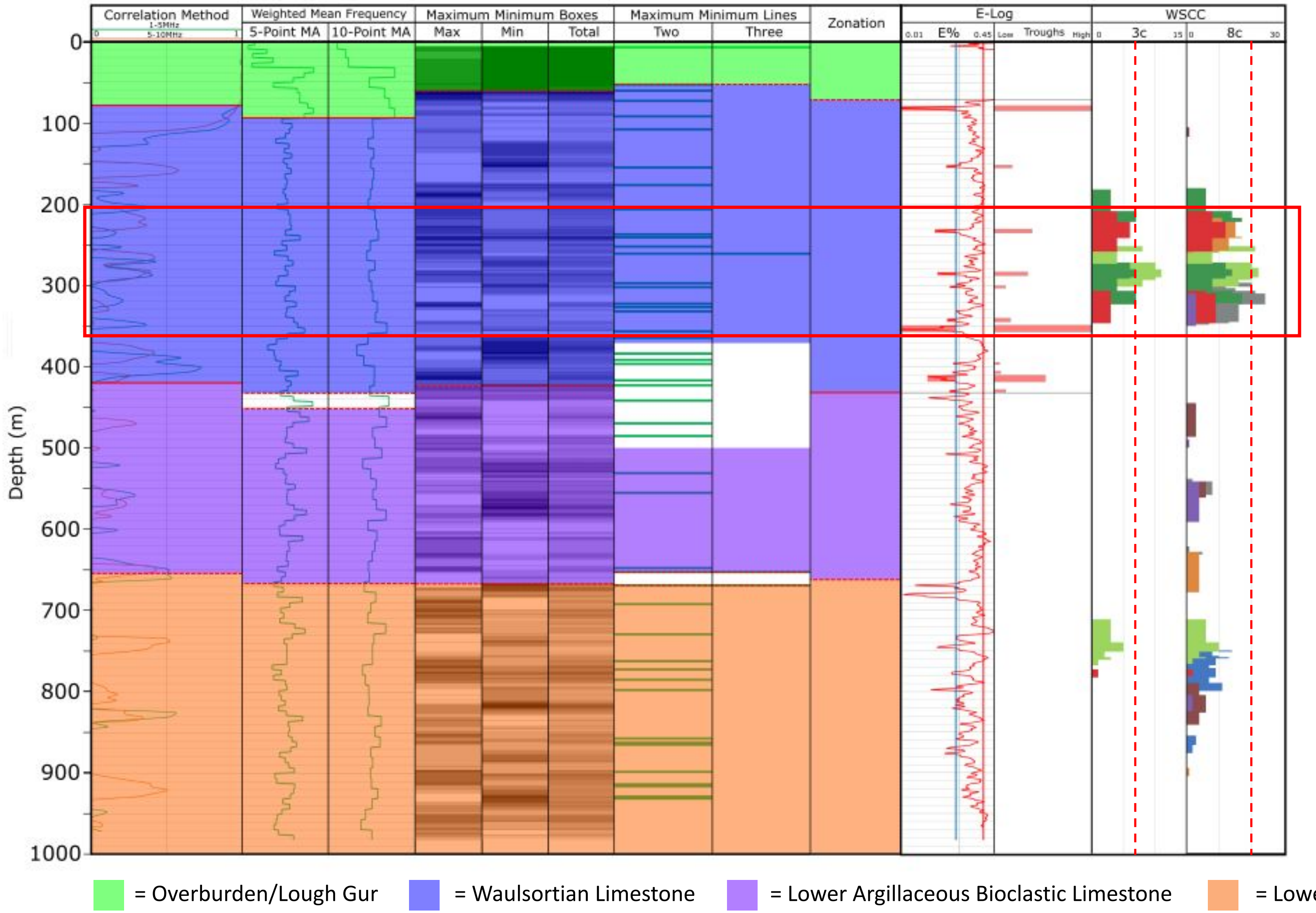
Zonation Results: H10 – tc2638-009



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

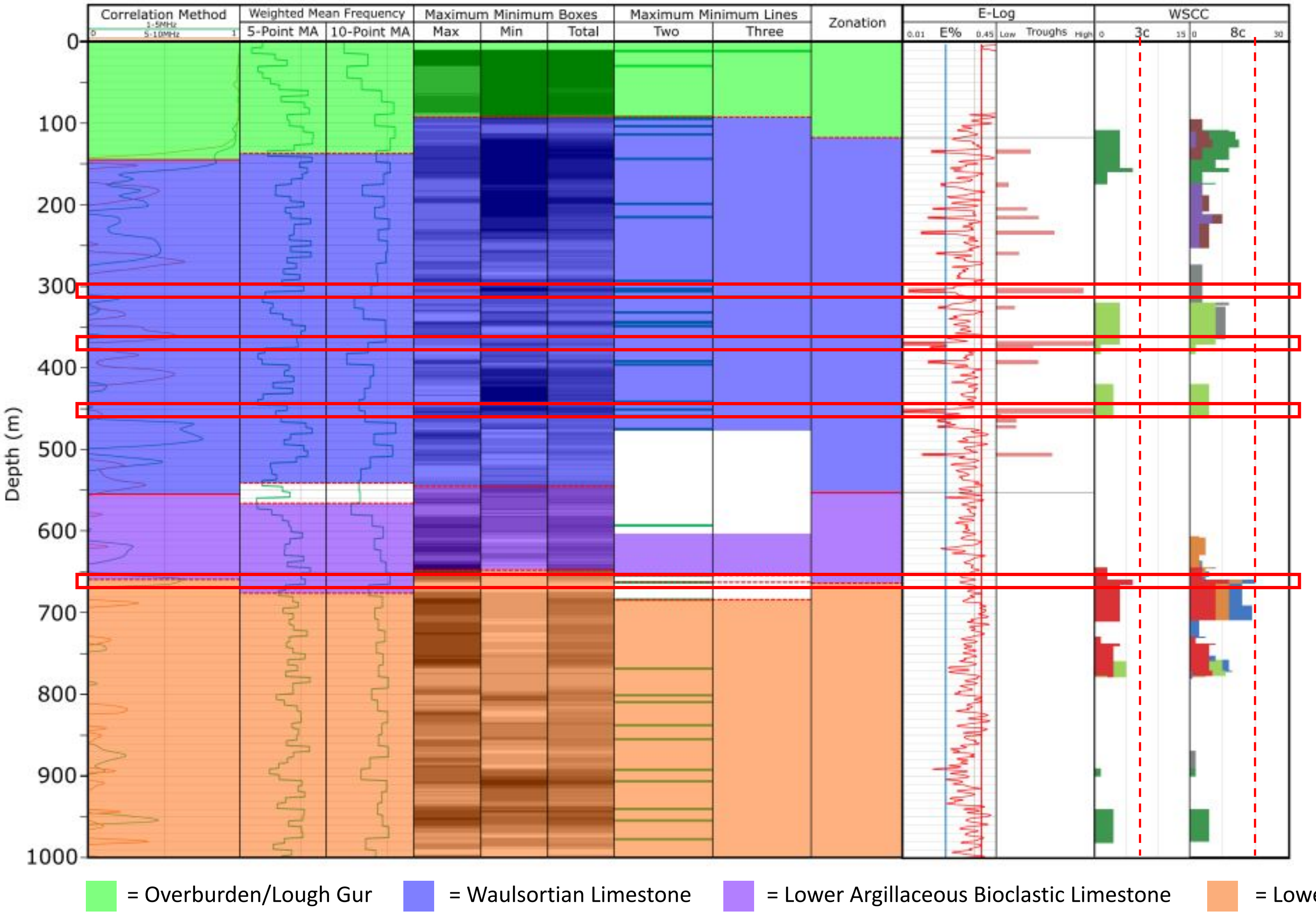
- There are no WSCC targets throughout the entirety of the scan.
- The more significant E% troughs, e.g., at 165m, most likely indicate other lithological changes, e.g., Dolomites or Breccias.

Zonation Results: H11 – tc2638-004



- There is a significant WSCC target within the Waulsortian Limestone at a depth of 210-325m, containing the majority of the WSCC values in the 3-Component WSCC Output.
- This sulphide target ends with a strong E% and contains many slightly less significant E% troughs throughout the target.

Zonation Results: H12 – tc2638-P01



- There are no WSCC targets within the Waulsortian Limestone.
- The three most significant E% troughs within the Waulsortian Limestone are at depths of 305m, 370m and 450m respectively and are likely to indicate other lithological changes, e.g., Dolomite and Breccias.
- The only WSCC target is at a depth of 660-665m, which is at the boundary between the Lower Argillaceous Bioclastic Limestone and the Lower Silliclastic Units.

Sulphide Targets Summary

tc2638-026 (H6):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LSU	Yes	825	840

tc2638-036 (H7):

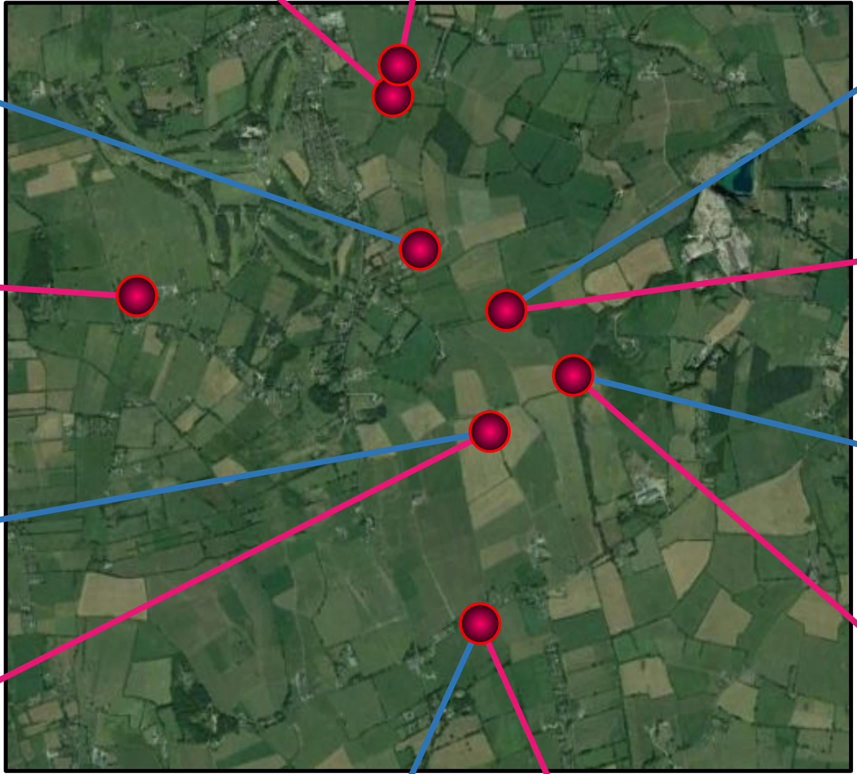
Target #	Formatio n	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	Yes	730	750

P1 (H4):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	Yes	670	700

L004 (H1):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	Yes	470	540



tc2638-070 (H8):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	WL	Yes	450	480
2	WL	Yes	560	605

tc2638-004 (H11):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	WL	Yes	210	325

L030 (H3):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	WL	No	225	245

L009 (H2):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	No	665	700
2	LSU	Yes	965	985

tc2638-030 (H9):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	WL	Yes	415	430
2	LSU	Yes	945	955

tc2638-009 (H10):

No WSCC targets

P2 (H5):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	Yes	590	600

tc2638-P01 (H12):

Target #	Formation	E% Trough?	Depth From (m)	Depth To (m)
1	LABL	No	660	665

Formation Key:

WL = Waulsortian Limestone

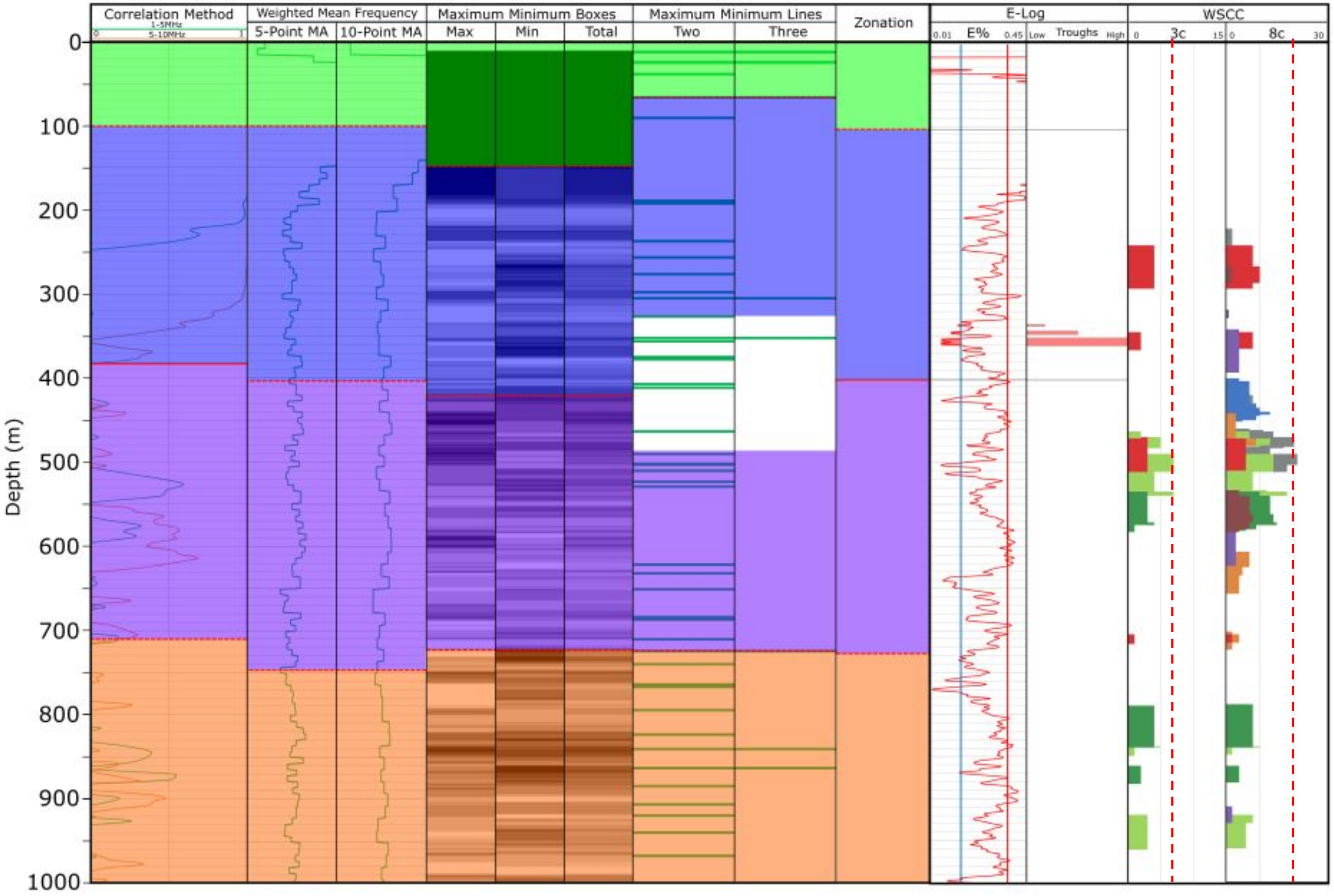
LABL = Lower Argillaceous Bioclastic Limestone

LSU = Lower Silliclastic Units

Zonation Conclusions

- The Zonation Method appears to have good lateral continuity of formation horizons and boundaries from scan to scan. They also correlate well with the known geology in certain scans.
- There are many major WSCC targets within the Waulsortian Limestone as expected, particularly the major WSCC target in tc2638-004. Many of these targets are also corresponding with troughs in the E% logs, which increase our confidence in the presence of sulphides.
- The WSCC technique has also picked out many targets within the Lower Argillaceous Bioclastic Limestone, and a few targets in the Lower Silliclastic Units.
- Adrok currently has limited drill hole data available to ground-truth the results in the Irish Basin.

Zonation Lithology: H1 – L004

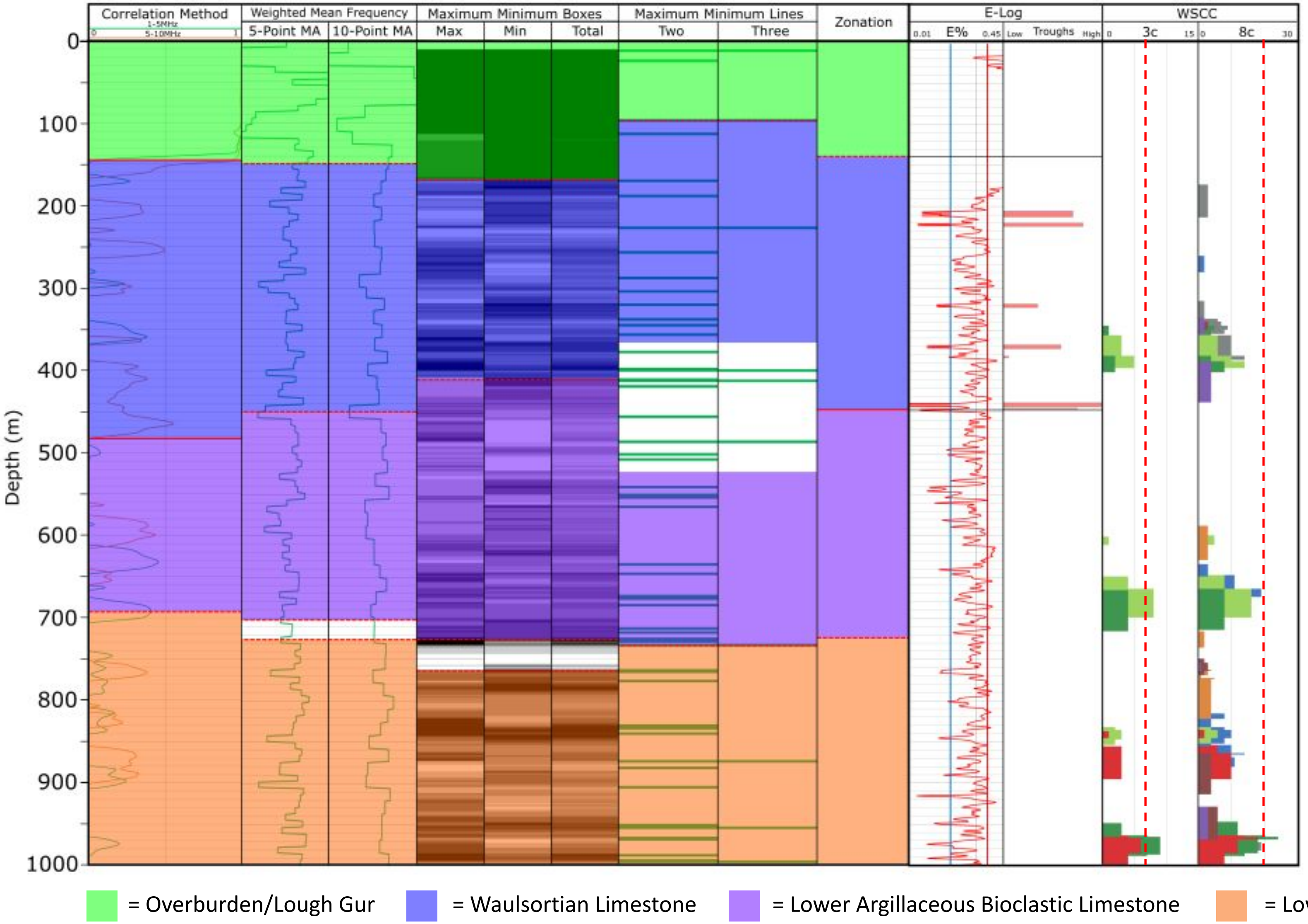


L004 (H1) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	104
Waulsortian Limestone	104	402
Lower Argillaceous Bioclastic Limestone	402	726
Lower Silliclastic Units	726	1000

= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

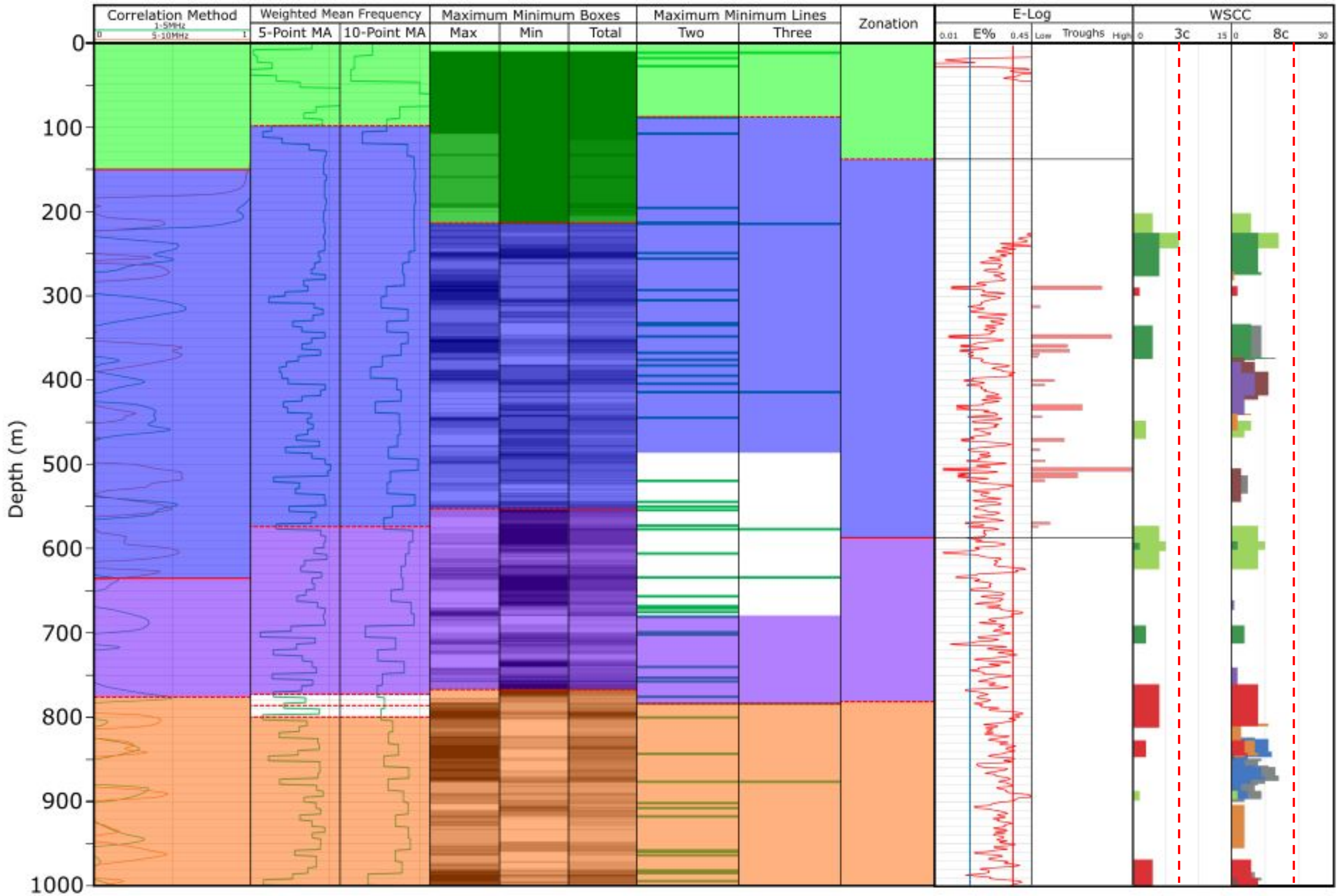
Zonation Lithology: H2 – L009



L009 (H2) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	141
Waulsortian Limestone	141	448
Lower Argillaceous Bioclastic Limestone	448	724
Lower Silliclastic Units	724	1000

Zonation Lithology: H3 – L030

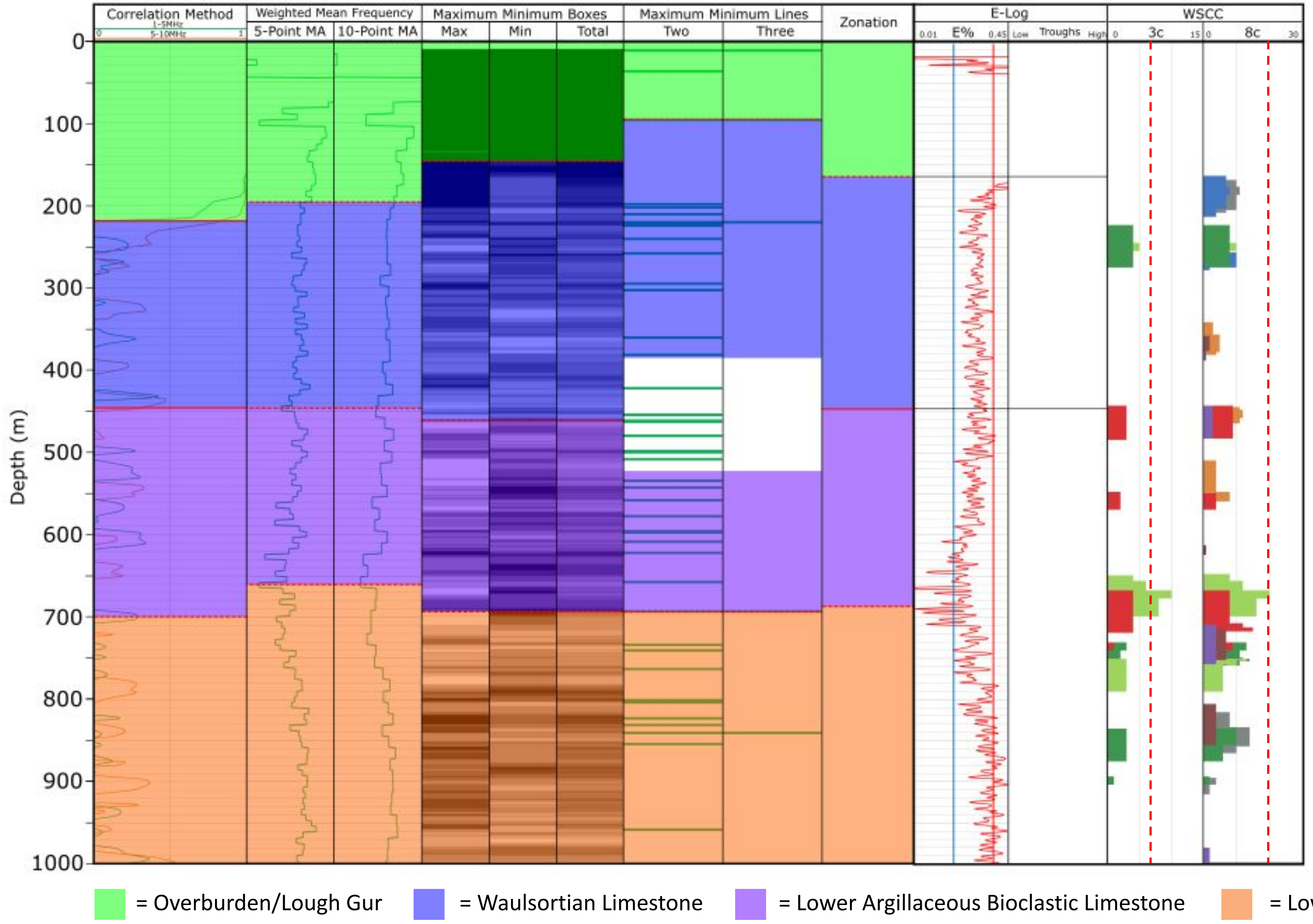


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

L030 (H3) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	139
Waulsortian Limestone	139	587
Lower Argillaceous Bioclastic Limestone	587	781
Lower Silliclastic Units	781	1000

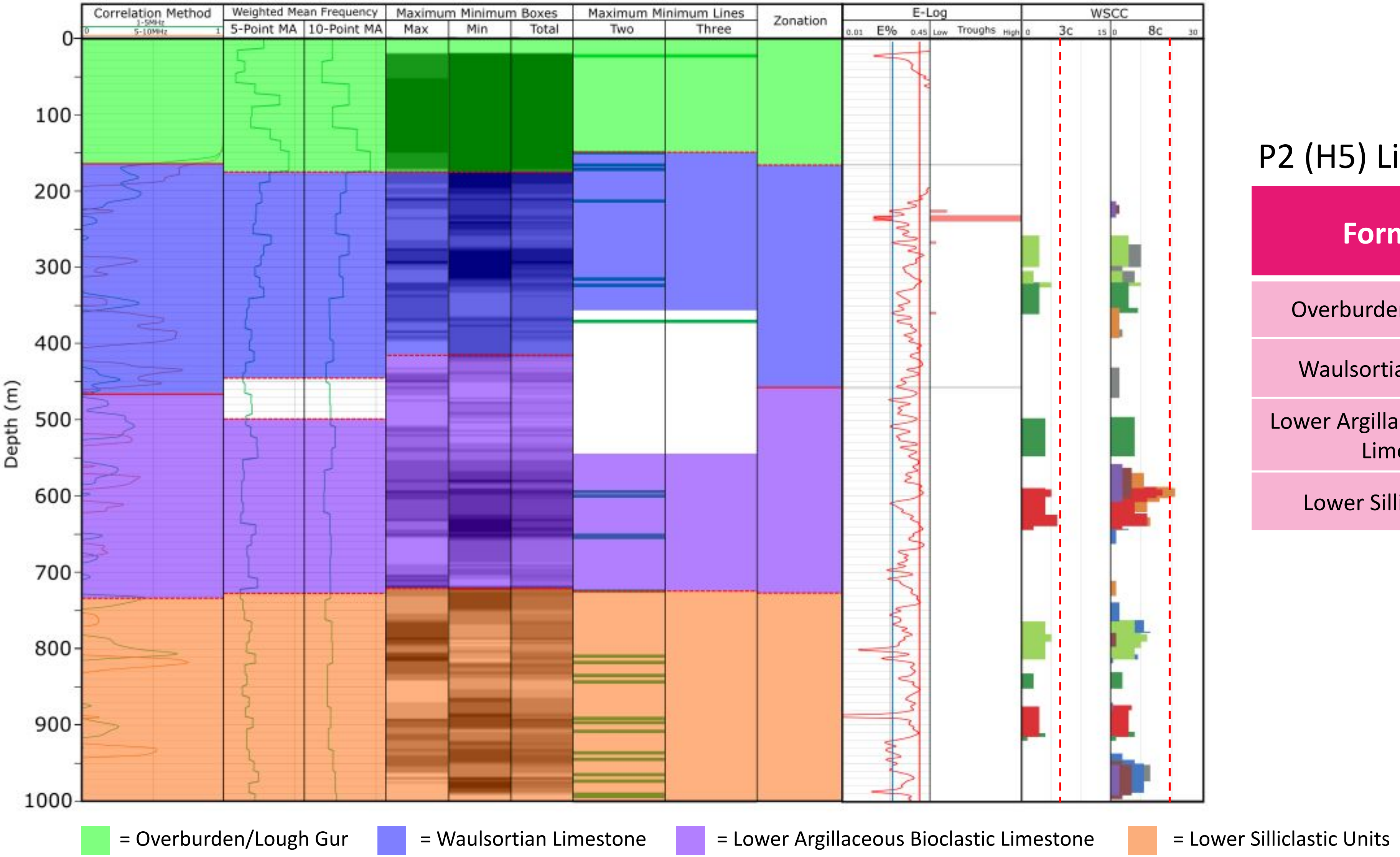
Zonation Lithology: H4 – P1



P1 (H4) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	165
Waulsortian Limestone	165	447
Lower Argillaceous Bioclastic Limestone	447	687
Lower Silliclastic Units	687	1000

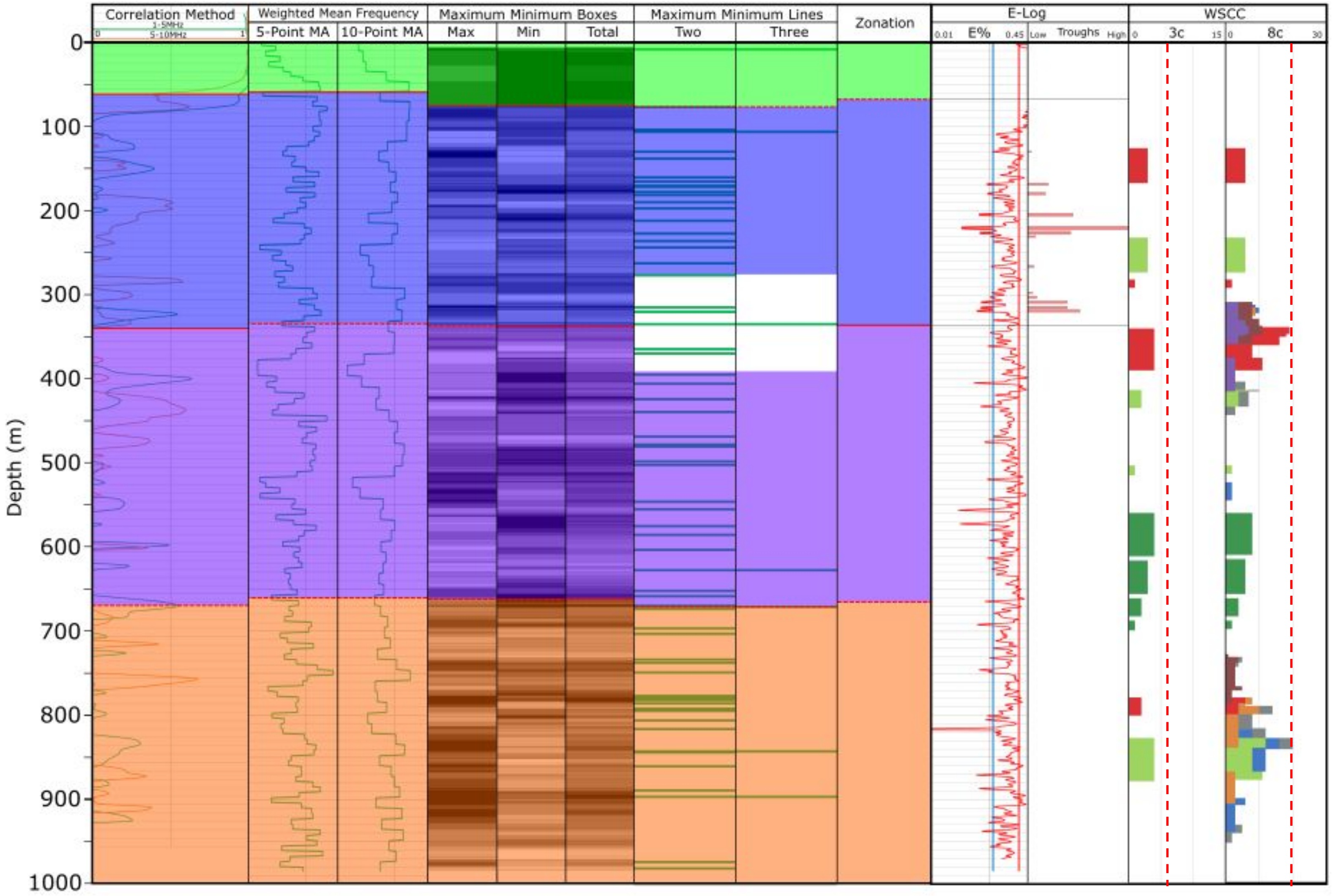
Zonation Lithology: H5 – P2



P2 (H5) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	167
Waulsortian Limestone	167	458
Lower Argillaceous Bioclastic Limestone	458	727
Lower Silliclastic Units	727	1000

Zonation Lithology: H6 – tc2638-026

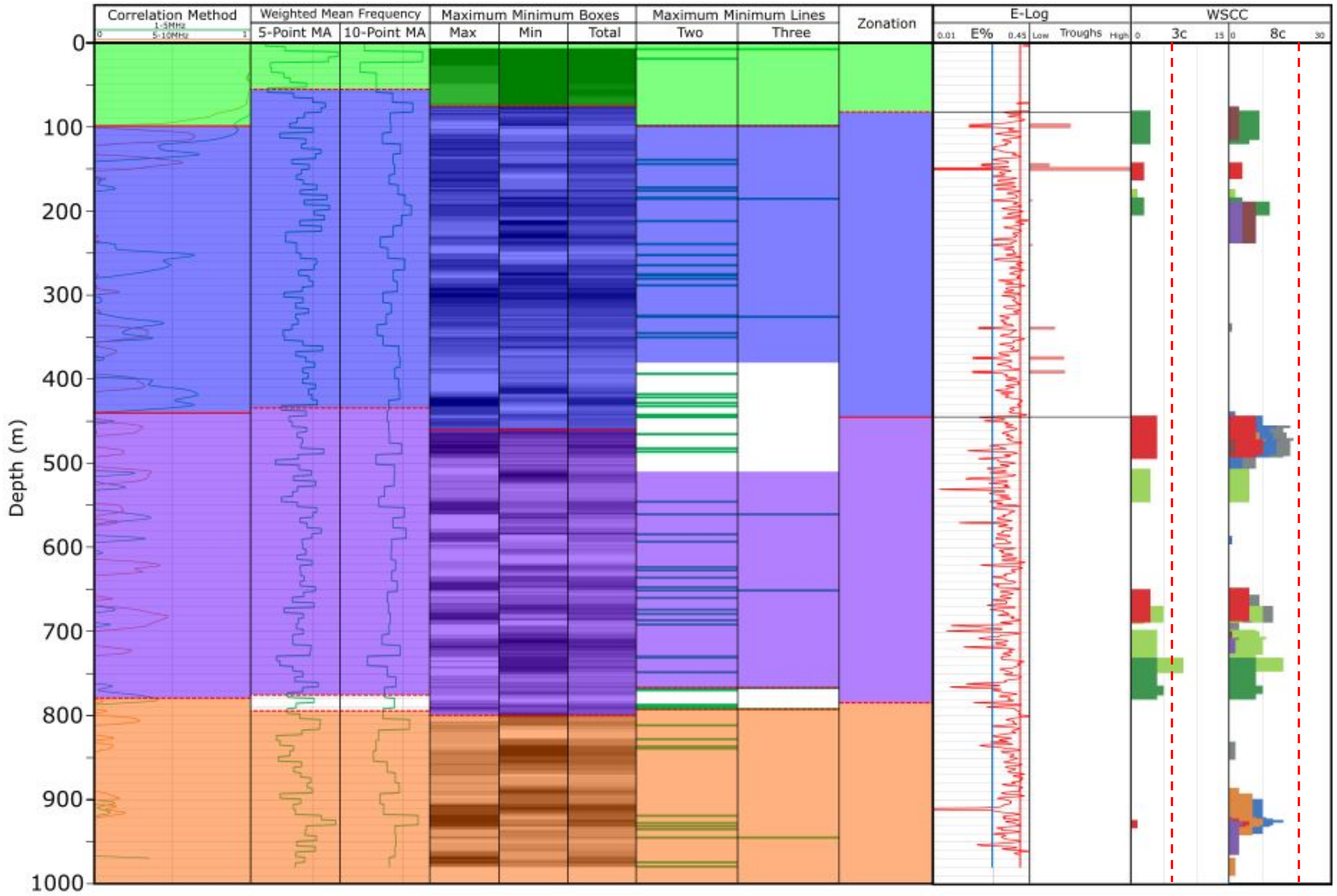


tc2638-026 (H6) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	69
Waulsortian Limestone	69	337
Lower Argillaceous Bioclastic Limestone	337	665
Lower Silliclastic Units	665	1000

= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

Zonation Lithology: H7 – tc2638-036

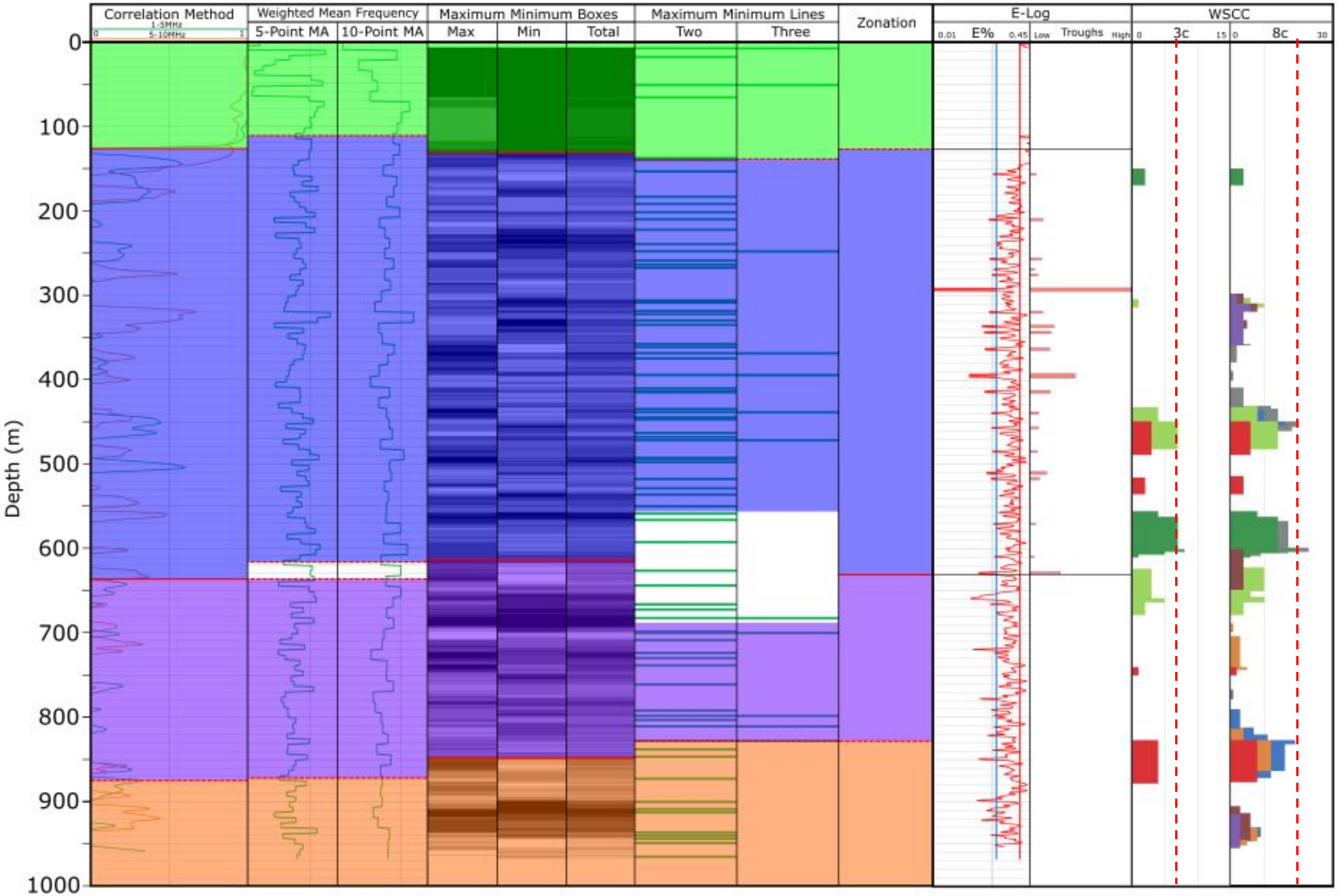


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-036 (H7) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	83
Waulsortian Limestone	83	445
Lower Argillaceous Bioclastic Limestone	445	785
Lower Silliclastic Units	785	1000

Zonation Lithology: H8 – tc2638-070

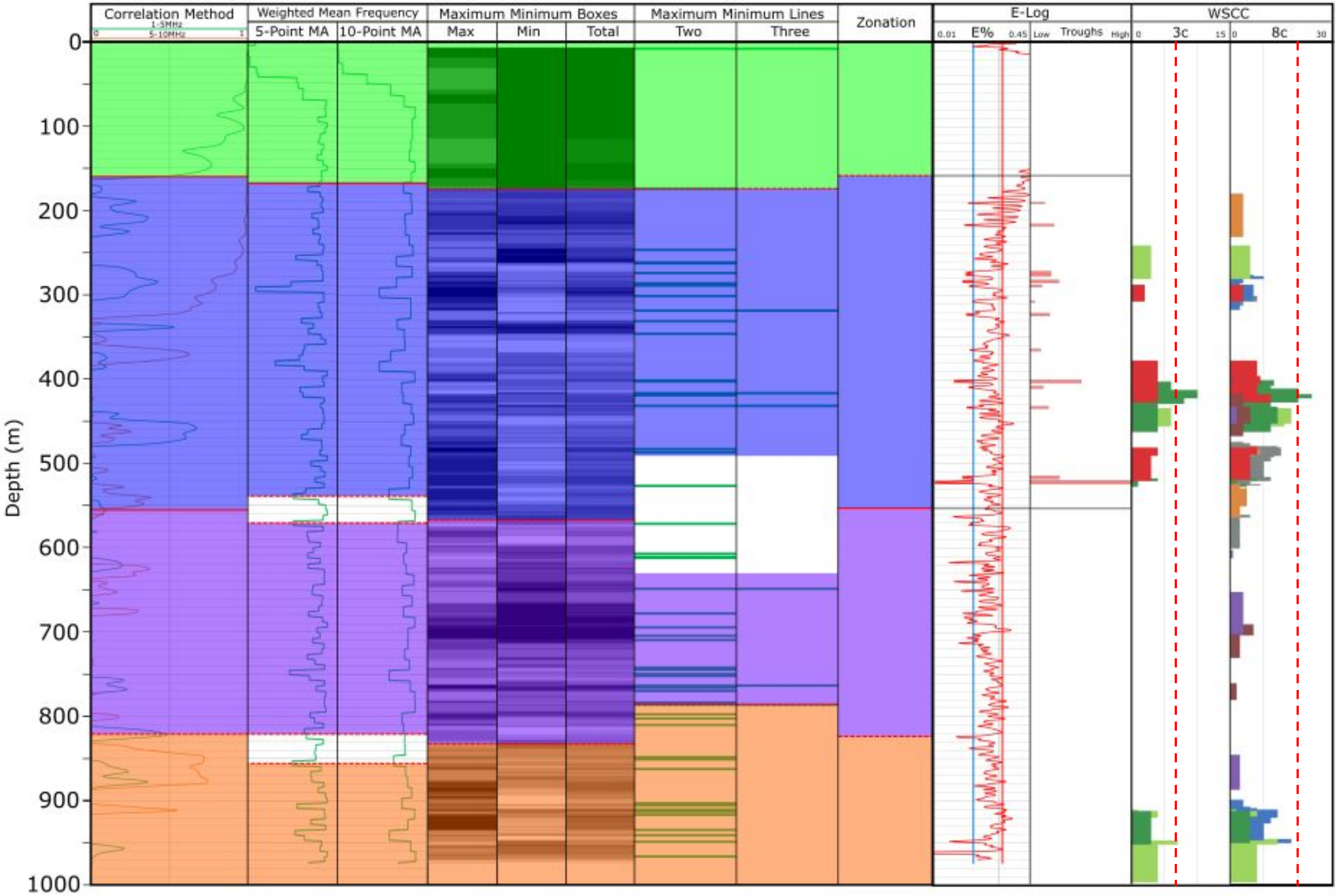


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-070 (H8) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	128
Waulsortian Limestone	128	631
Lower Argillaceous Bioclastic Limestone	631	853
Lower Silliclastic Units	853	1000

Zonation Lithology: H9 – tc2638-030

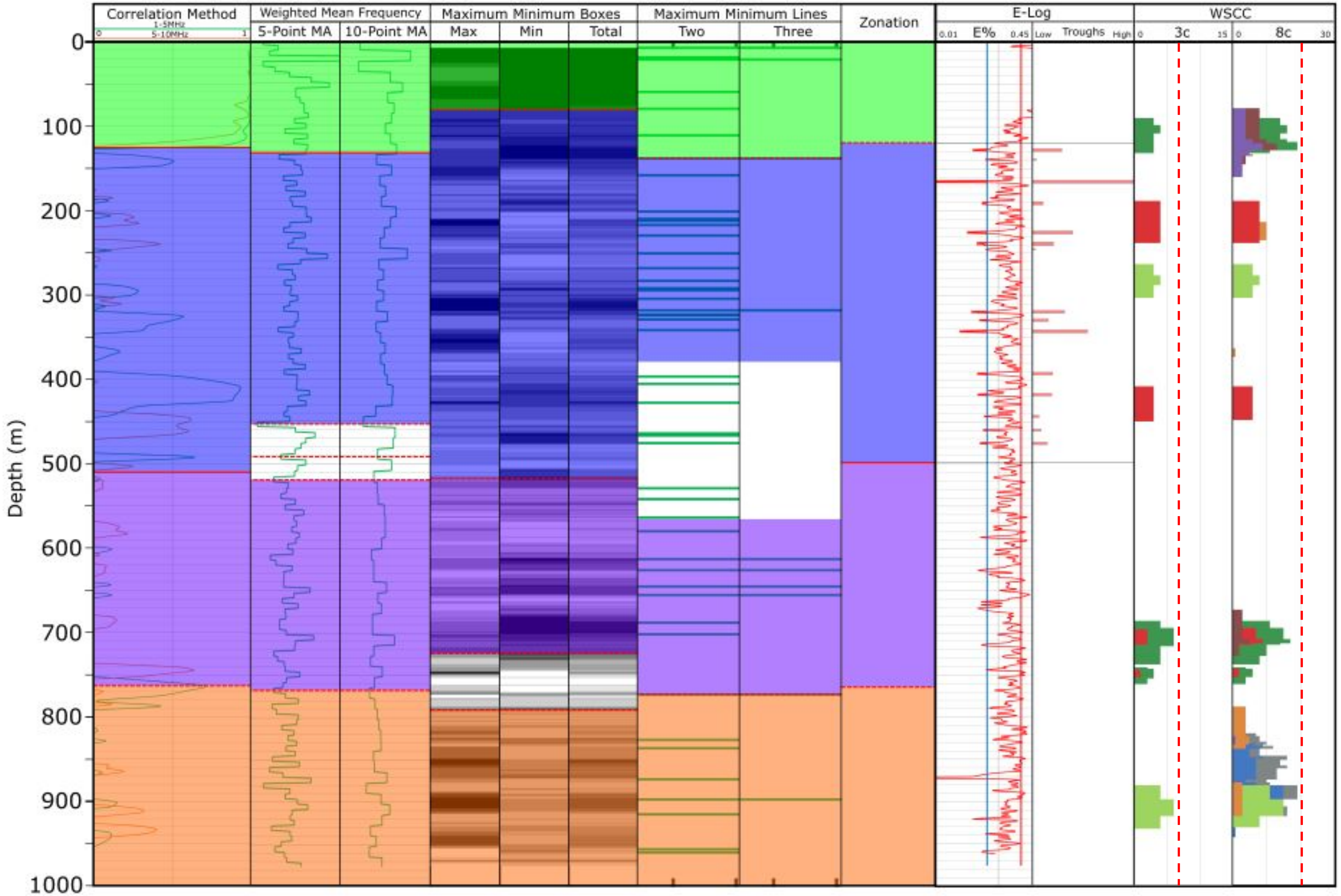


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-030 (H9) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	169
Waulsortian Limestone	169	558
Lower Argillaceous Bioclastic Limestone	558	823
Lower Silliclastic Units	823	1000

Zonation Lithology: H10 – tc2638-009

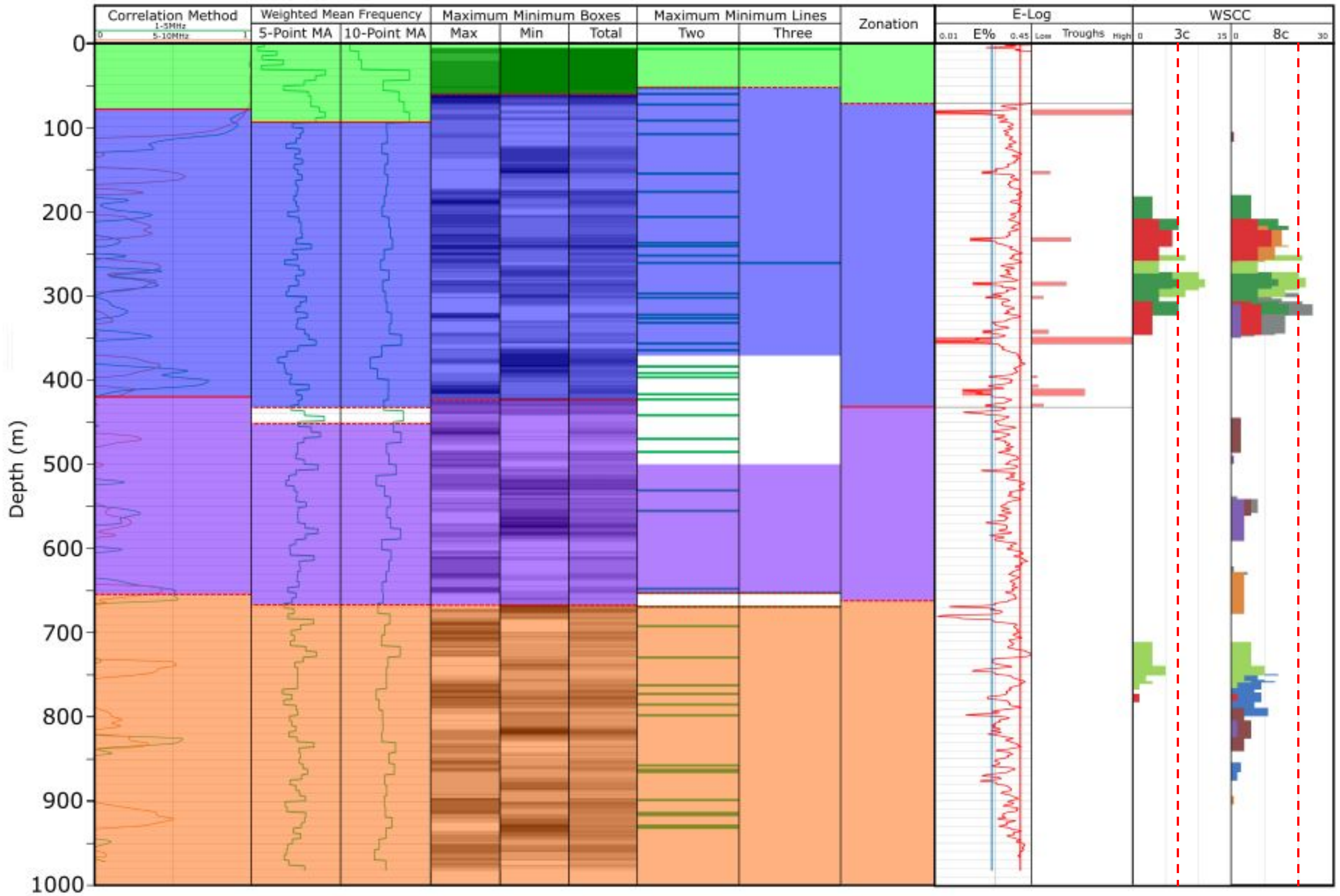


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-009 (H10) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	120
Waulsortian Limestone	120	499
Lower Argillaceous Bioclastic Limestone	499	764
Lower Silliclastic Units	764	1000

Zonation Lithology: H11 – tc2638-004

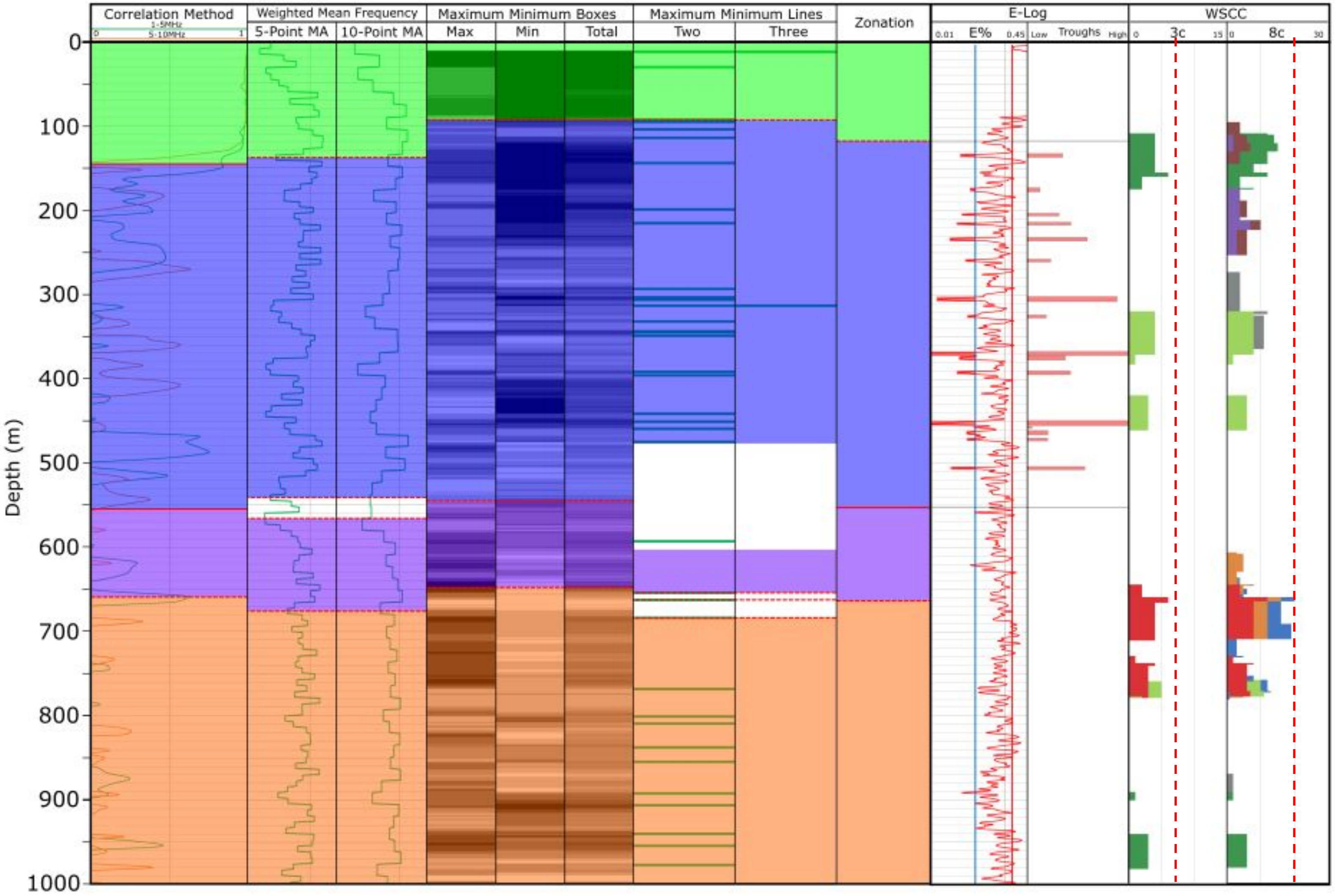


= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-004 (H11) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	72
Waulsortian Limestone	72	432
Lower Argillaceous Bioclastic Limestone	432	662
Lower Silliclastic Units	662	1000

Zonation Lithology: H12 – tc2638-P01



= Overburden/Lough Gur = Waulsortian Limestone = Lower Argillaceous Bioclastic Limestone = Lower Silliclastic Units

tc2638-P01 (H12) Lithology Intervals:

Formation	Depth From (m)	Depth To (m)
Overburden / Lough Gur	0	118
Waulsortian Limestone	118	553
Lower Argillaceous Bioclastic Limestone	553	664
Lower Silliclastic Units	664	1000