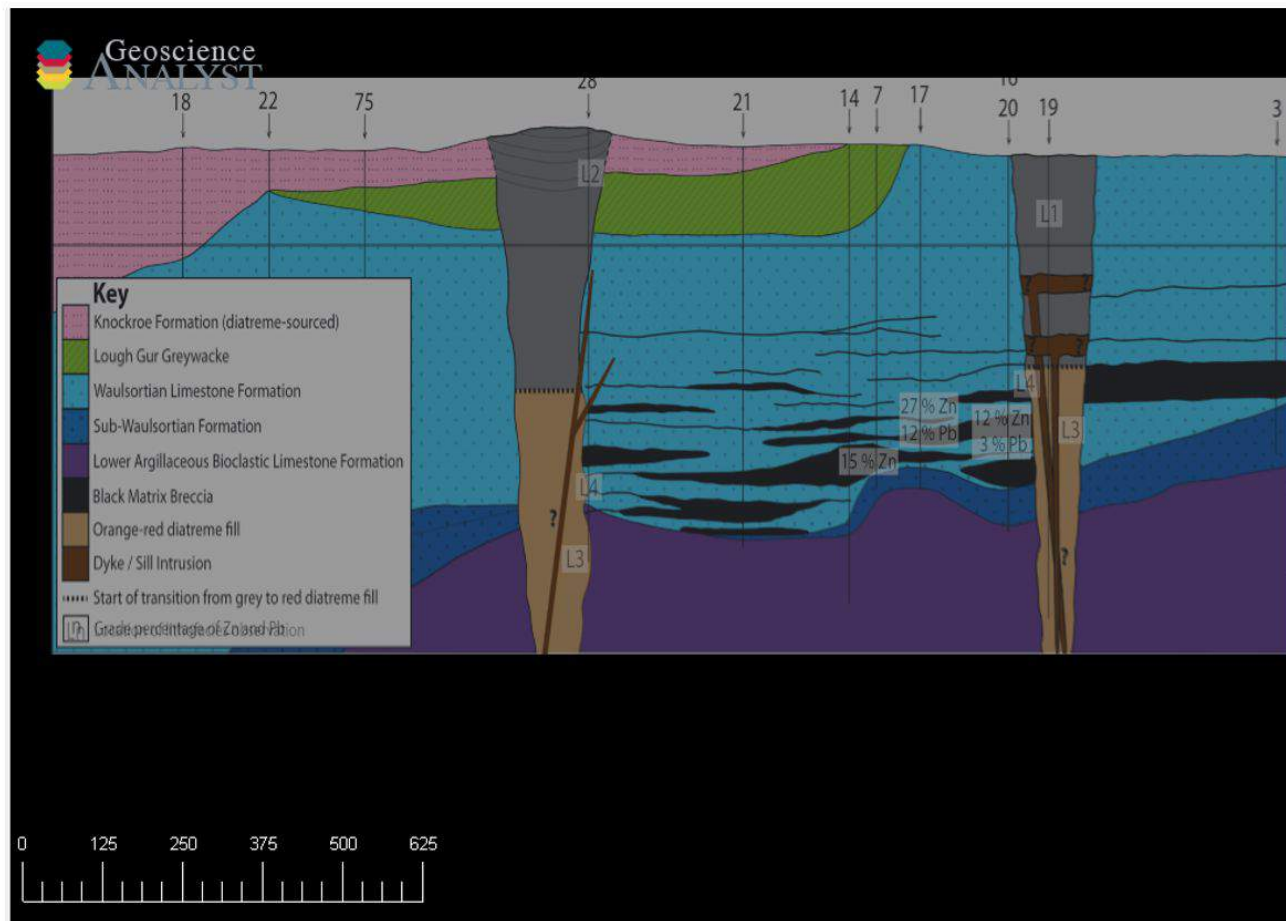


Cross-sections

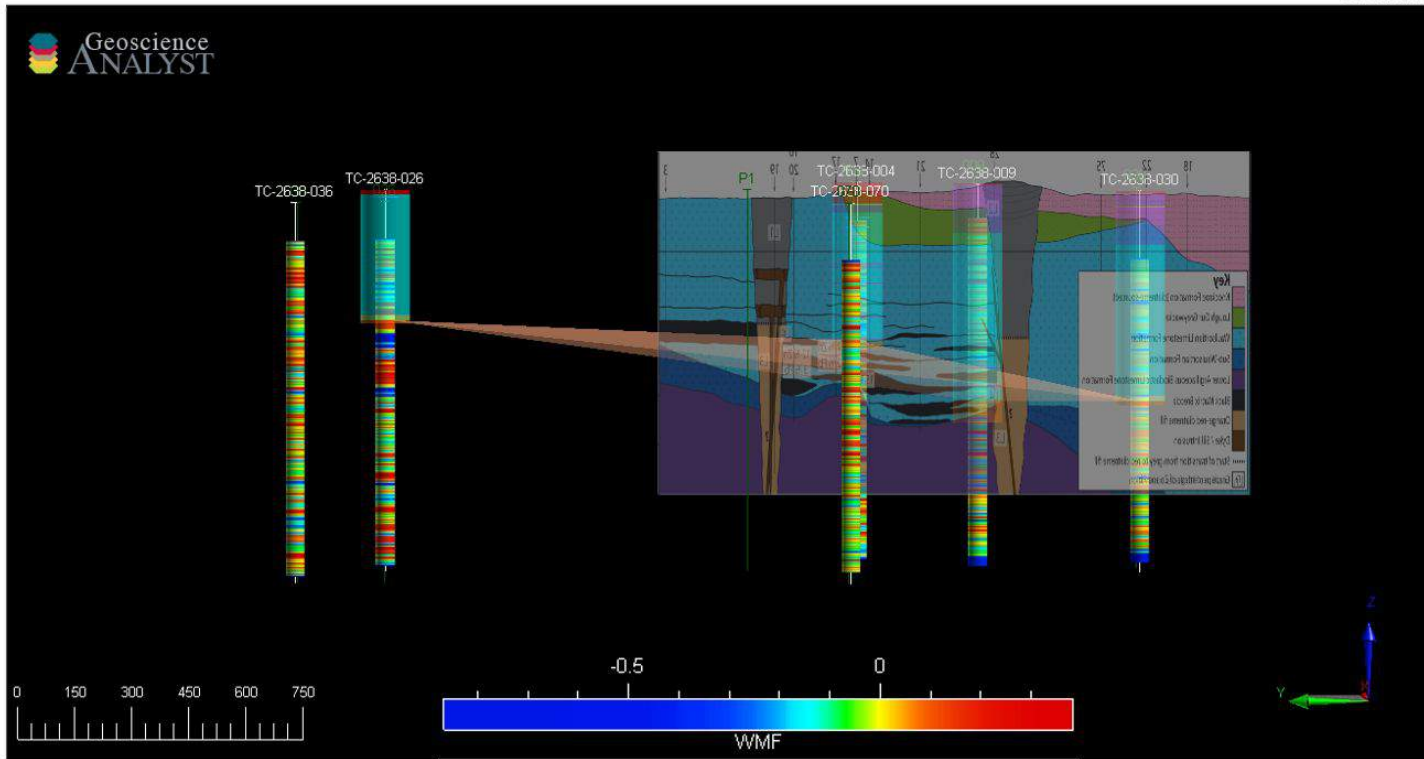
- A detailed lithology cross-section has been provided and the WMF and Lith_7 results are now compared with this.
- This information means an interpolation of the WMF and Lith_7 results can be completed against the breccias and the boundaries of the key limestone units such as the Sub-Waulsortian Formation and the Lower Argillaceous Bioclastic Limestone.
- The drill hole data from the training sites is also plotted alongside the cross-section.



Weighted Mean Frequency looking East

North

South

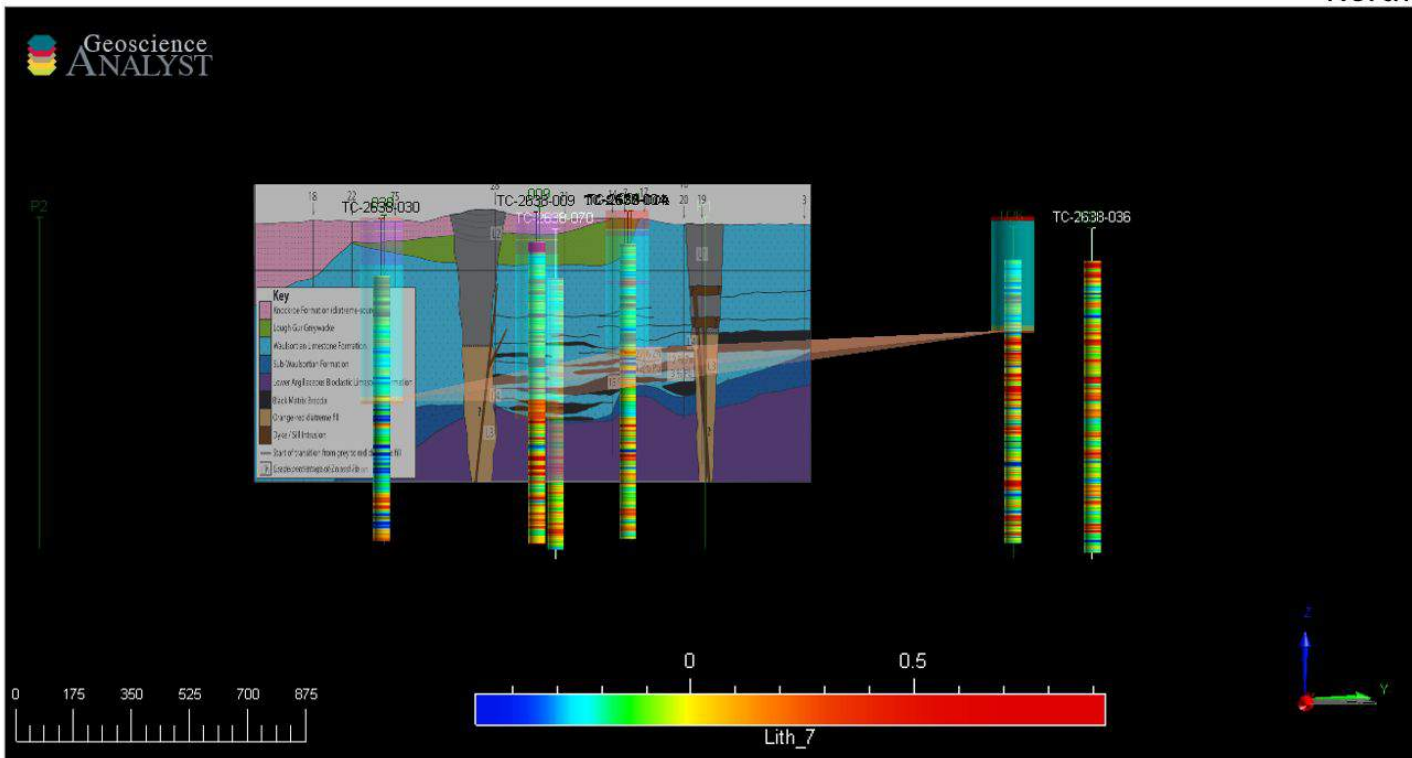


- When looking east, highs in the blind hole tc2638-070 also seem to correspond to breccias .
- Assuming lateral continuation to the east then there is good correspondence between high WMF and the presence of breccia.
- In each example highs in WMF are seen within the Lower Argillaceous Limestone and the Bioclastic Limestone.

Lith_7 looking West

South

North

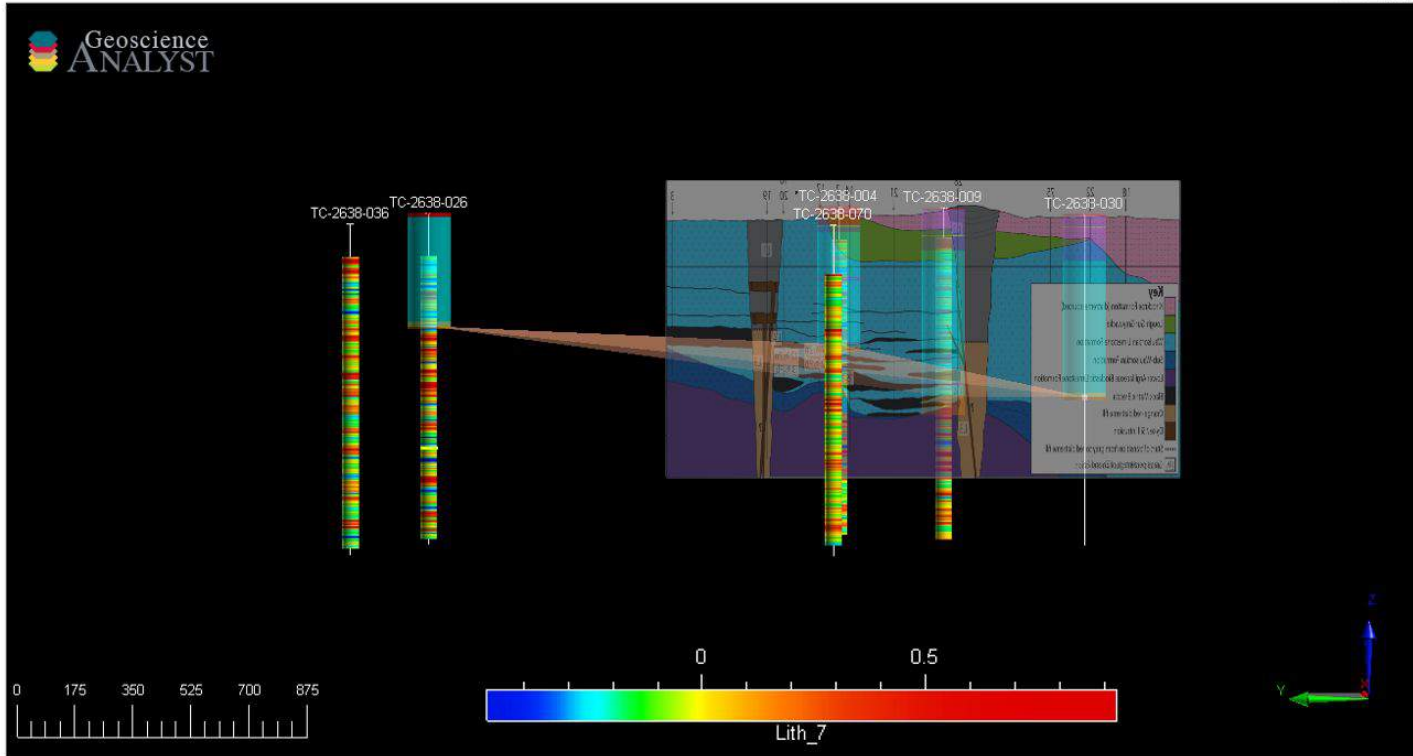


- When Lith_7 is compared to the known lithology data, some highs corresponding to breccias are seen, especially in tc2638-009.
- Unlike WMF, high Lith_7 values are seen to the south of diatreme, adding further evidence to the idea that there is no correspondence with the breccia.
- In each V-bore the base of the Waulsortian is marked by highs in Lith_7 values.

Lith_7 looking East

North

South

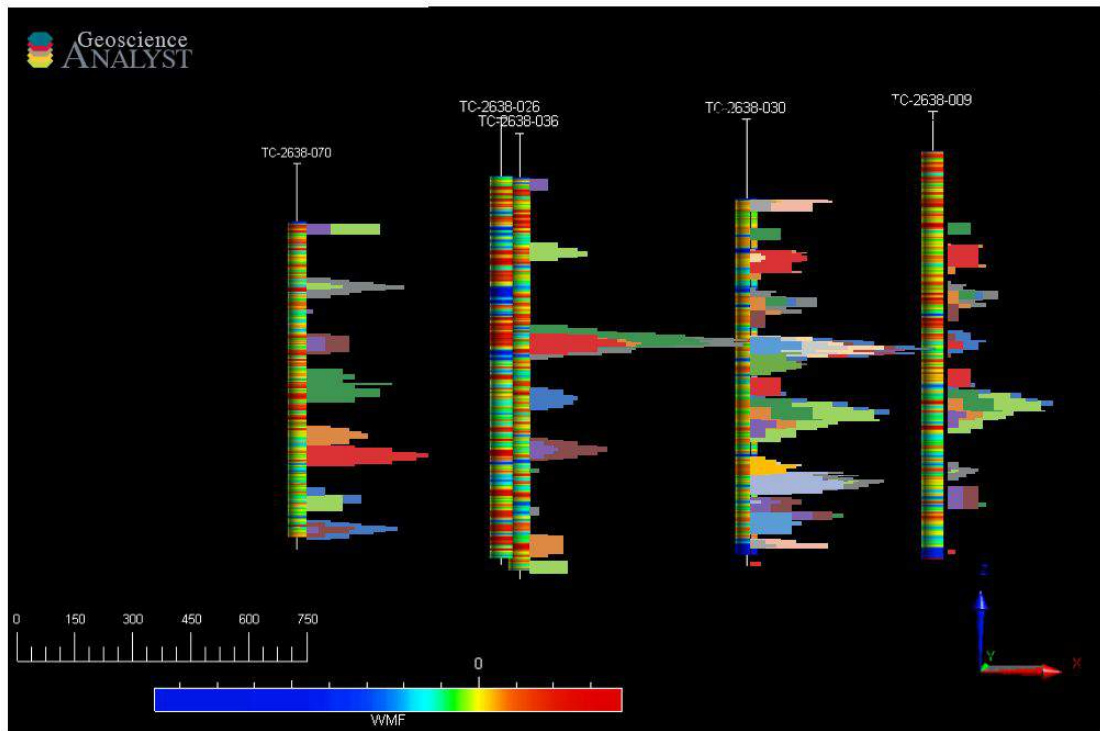


- ☀ When looking east, highs in the blind hole tc2638-070 also seem to correspond to breccias. However when looking across the section, there does appear to be multiple false positives where Lith_7 doesn't appear to correspond to any breccia.
- ☀ Furthermore tc2638-004 does not show a positive response for Lith_7 on the boundary between the Waulsortian and the Sub-Waulsortian.

Conclusions

- In addition to the usual weight of evidence tests, several new tests were devised.
- The most promising of all of them was the difference from the median method for both weighted mean frequency and the Lith_7 Lithmetrics.
- Lows in weighted mean frequency might correspond to dolomites and highs in weighted mean frequency shows some good matches with breccias and lower values are seen in tc2638-030 where breccias are less common.
- Although there is no clear relationship between breccias and Lith_7, the training data suggests a possible relationship between positive values in Lith_7 and the presence of dolomite.
- The weight of evidence method did not clearly separate sulphides from breccias in the training data and this made it difficult to predict sulphide presence with any degree of confidence. As shown in the image there is no relationship to WMF.

Image facing north to north-east



Full weight of evidence criteria plots for selected holes alongside the difference from the median for weighted mean frequency.

What does this mean for Adrok?

What worked well

- The Lith_7 lithmetric has potential to be used as a tool for identifying dolomite and should be tested further.
- Lows in Weighted Mean Frequency could also be used as a tool for identifying dolomite and should be tested further. This could be combined with the Lith_7 lithmetric to build a dolomite finding tool.
- Highs in Weighted Mean Frequency could be used as a tool for identifying breccias and this also needs to be investigated further.

What didn't work well

- Lith_1 to Lith_6 which used the correlation and harmonics datasets did not show any trends with lithology change.
- Although values above 20 in the WSCC are rare, peaks are common at various depths.
- Neither the e-logs or the correlation showed a clear response to lithology, or formation boundaries.

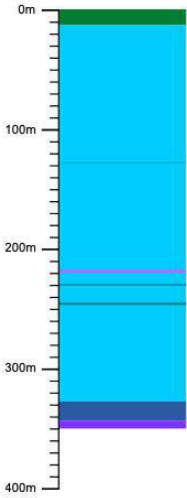
Validating the results

In order to validate the ADR results from project 00232, in terms of interpreting the locations and depths of sulphides and lithology, they will be compared with the following existing data:

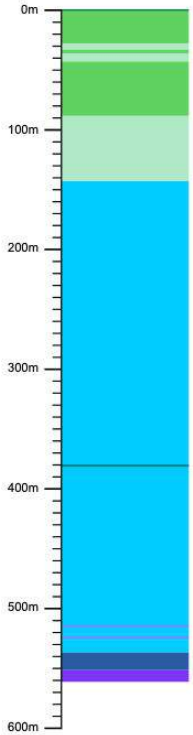
- 🌈 Lithological Drill Hole Data for 4 V-Bores
- 🌈 Assay/Mineralogy Data for 4 V-Bores
- 🌈 2 Cross-Sections from literature

Lithology

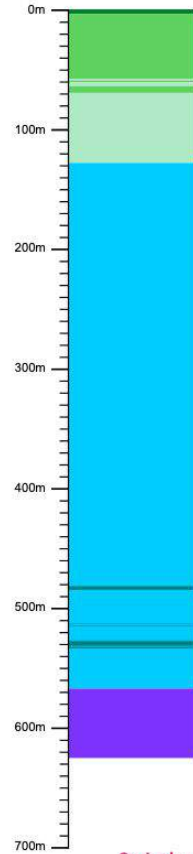
tc2638-026 (H6)



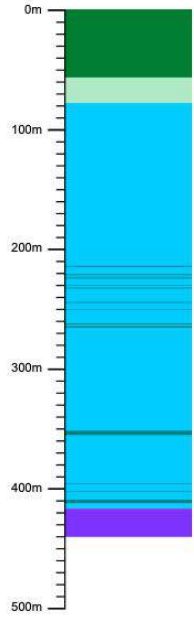
tc2638-030 (H9)



tc2638-009 (H10)



tc2638-004 (H11)



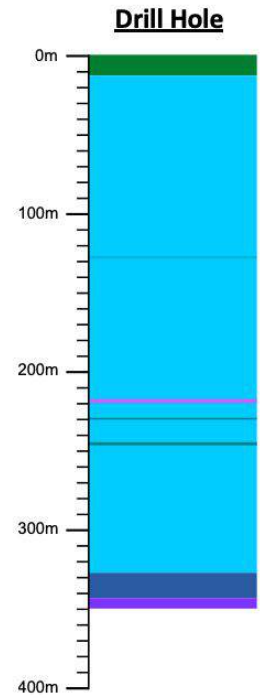
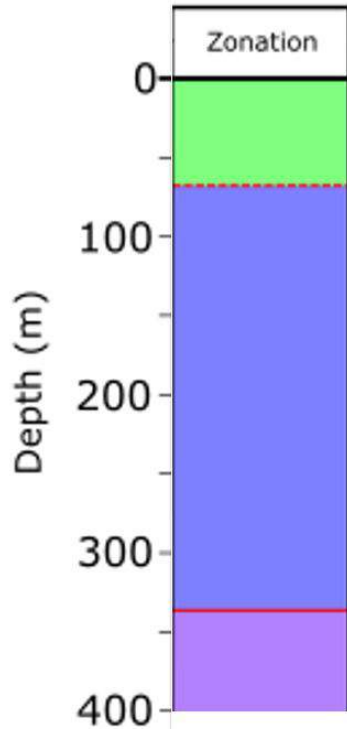
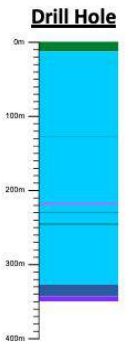
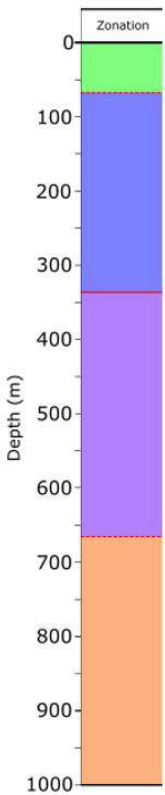
Lithology Key:

- = Overburden
- = Knockroe Basalt
- = Lough Gur
- = Waulsortian Limestone
- = Sub-Waulsortian
- = Bioclastic Limestone
- = Dolomite
- = Massive Sulphides

- 🌈 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.



Lithology: tc2638-026



Boundary	Zonation Depth (m)	Drill Hole Depth (m)	Depth Deviation (m)
Waulsortian Top	69	12	+57
Waulsortian Base	337	342	-5

- High depth deviation in the Waulsortian Top, however, this boundary is difficult to interpret due to beam saturation in the ADR data.
- Only 5m deviation in the Waulsortian Base, which shows strong validation with the drill hole data.

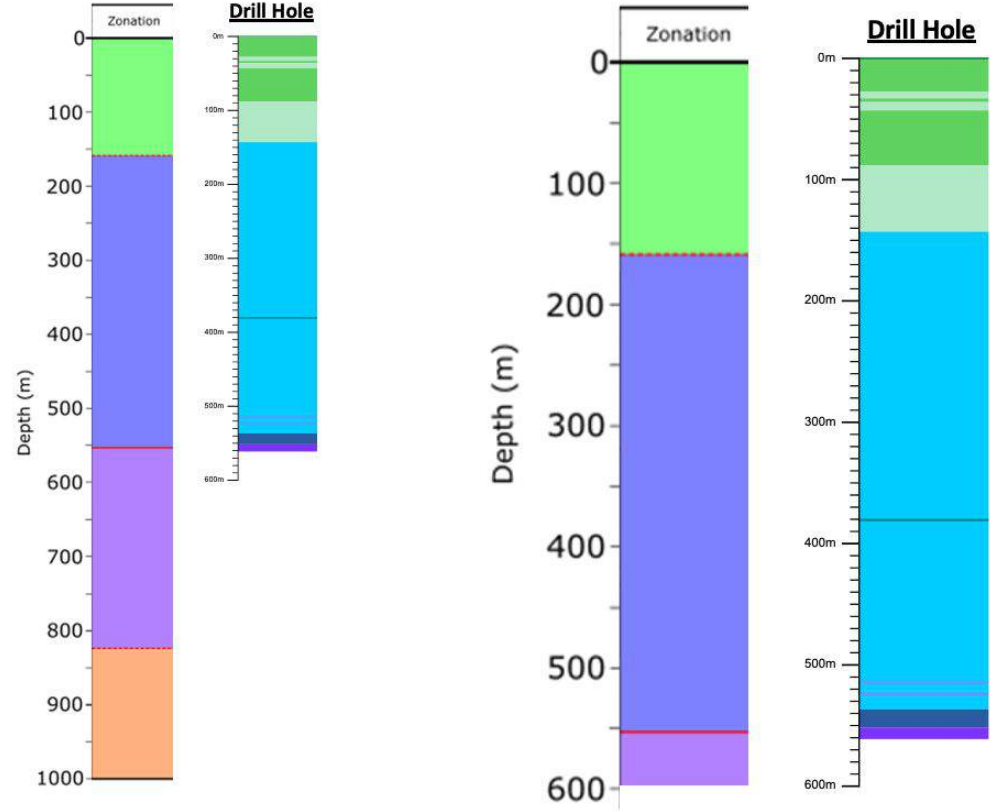
Zonation Lithology Key:

- Overburden/Lough Gur
- Waulsortian Limestone
- Lower Argillaceous Bioclastic Limestone
- Lower Siliclastic Units

Drill Hole Lithology Key:

- Overburden
- Knockroe Basalt
- Lough Gur
- Waulsortian Limestone
- Sub-Waulsortian
- Bioclastic Limestone
- Dolomite
- Massive Sulphides

Lithology: tc2638-030



Boundary	Zonation Depth (m)	Drill Hole Depth (m)	Depth Deviation (m)
Waulsortian Top	169	142.4	+26.6
Waulsortian Base	558	551.4	+6.6

- 26.6m depth deviation in the Waulsortian Top, however, this boundary is difficult to interpret due to beam saturation in the ADR data.
- Only 6.6m deviation in the Waulsortian Base, which shows strong validation with the drill hole data.

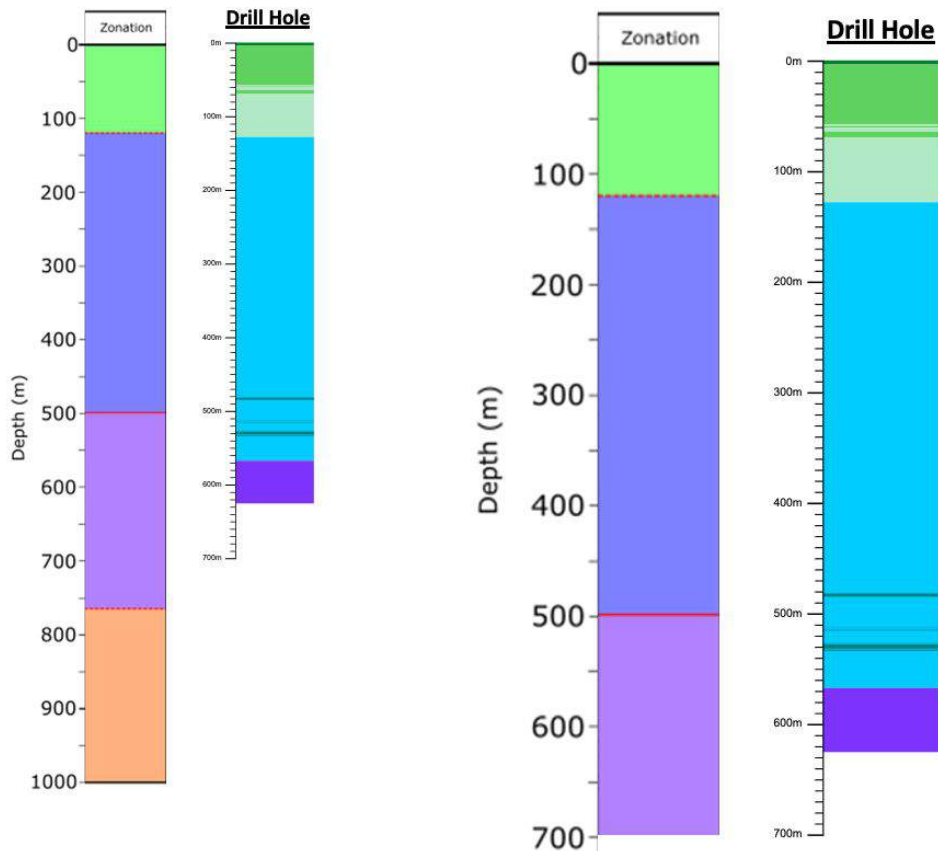
Zonation Lithology Key:

- [Light Green] = Overburden/Lough Gur
- [Blue] = Waulsortian Limestone
- [Purple] = Lower Argillaceous Bioclastic Limestone
- [Orange] = Lower Silliclastic Units

Drill Hole Lithology Key:

- [Dark Green] = Overburden
- [Light Green] = Knockroe Basalt
- [Light Green] = Lough Gur
- [Cyan] = Waulsortian Limestone
- [Dark Blue] = Sub-Waulsortian
- [Purple] = Bioclastic Limestone
- [Teal] = Dolomite
- [Pink] = Massive Sulphides

Lithology: tc2638-009



Boundary	Zonation Depth (m)	Drill Hole Depth (m)	Depth Deviation (m)
Waulsortian Top	120	128.1	-8.1
Waulsortian Base	499	567.6	-68.6

- Only 8.1m deviation in the Waulsortian Top, however, this boundary is difficult to interpret due to beam saturation in the ADR data.
- High depth deviation of 68.6m in the Waulsortian Base, meaning this boundary has been poorly defined by the ADR data.

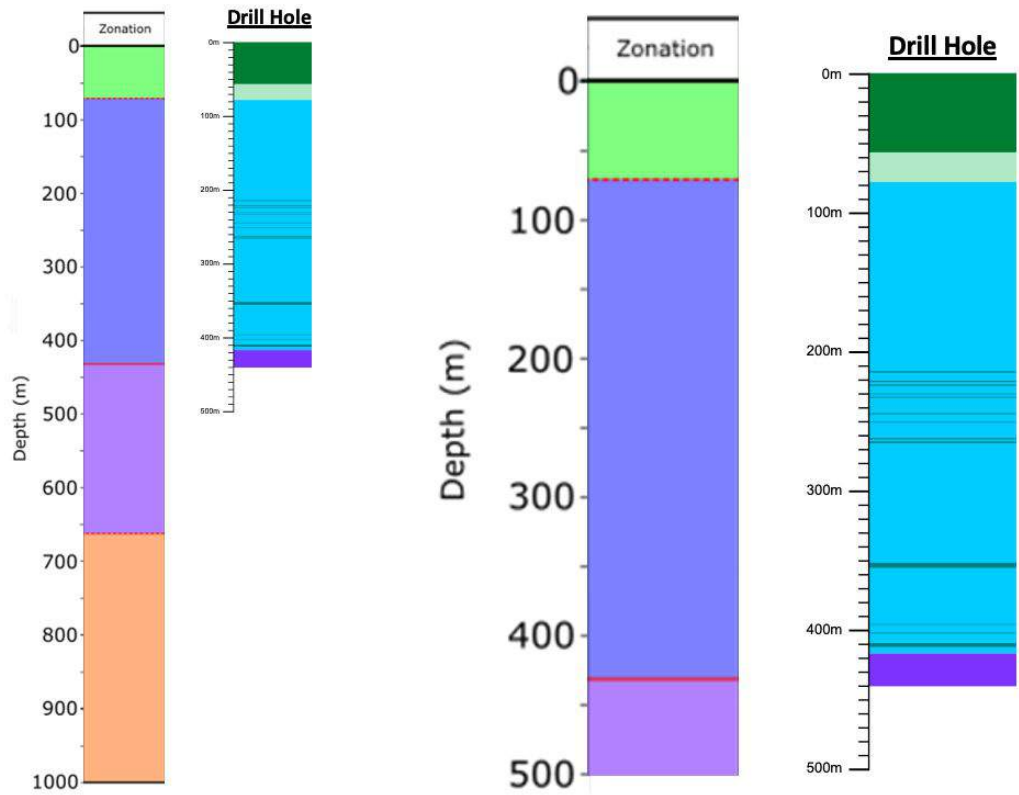
Zonation Lithology Key:

- Green = Overburden/Lough Gur
- Blue = Waulsortian Limestone
- Purple = Lower Argillaceous Bioclastic Limestone
- Orange = Lower Silliclastic Units

Drill Hole Lithology Key:

- Dark Green = Overburden
- Light Green = Knockroe Basalt
- Light Green = Lough Gur
- Blue = Waulsortian Limestone
- Dark Blue = Sub-Waulsortian
- Purple = Bioclastic Limestone
- Dark Purple = Dolomite
- Pink = Massive Sulphides

Lithology: tc2638-004



Boundary	Zonation Depth (m)	Drill Hole Depth (m)	Depth Deviation (m)
Waulsortian Top	72	78.8	-6.8
Waulsortian Base	432	417	+15

- Only 6.8m deviation in the Waulsortian Top, however, this boundary is difficult to interpret due to beam saturation in the ADR data.
- Depth deviation of 15m in the Waulsortian Base, which shows strong validation with the drill hole data.

Zonation Lithology Key:

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

Drill Hole Lithology Key:

- Overburden
- Knockroe Basalt
- Lough Gur
- Waulsortian Limestone
- Sub-Waulsortian
- Bioclastic Limestone
- Dolomite
- Massive Sulphides

Lithology Depth Deviation

Waulsortian Limestone Base Quantitative Validation:

V-Bore	Zonation Depth (m)	Drill Hole Depth (m)	Depth Deviation (m)	Depth Deviation (%)
tc2638-026	337	342	-5	1.5%
tc2638-030	558	551.4	+6.6	1.2%
tc2638-009	499	567.6	-68.6	12.1%
tc2638-004	432	417	+15	3.6%

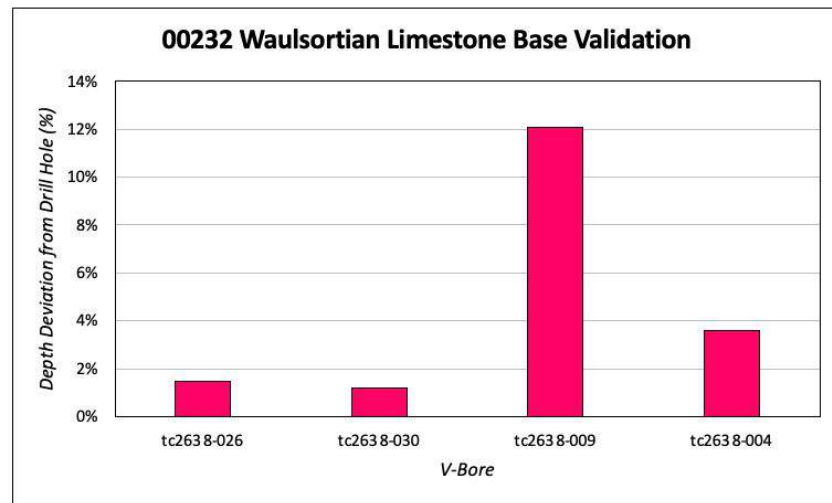
The quantitative validation study of the zonation lithology interpretations shows that in most cases, Adrok's lithological interpretations have a high degree of accuracy.

tc2638-026, tc2638-030 and tc2638-004 all have depth deviations less than 4% for the Waulsortian Limestone base, showing strong validation in the lithological results.

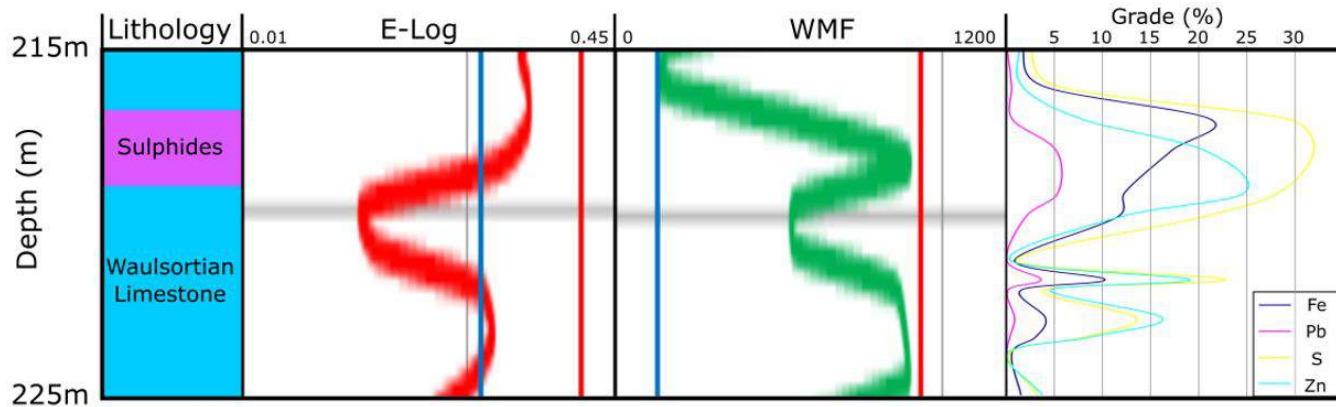
The depth deviation is much higher (12%) at tc2638-009 which indicates poor validation at this site.

The top of the Waulsortian Limestone tends to be at shallow depths where the ADR data experiences beam saturation, making it difficult to interpret the boundary accurately.

Therefore, a quantitative validation study for the Waulsortian Top would not be beneficial.



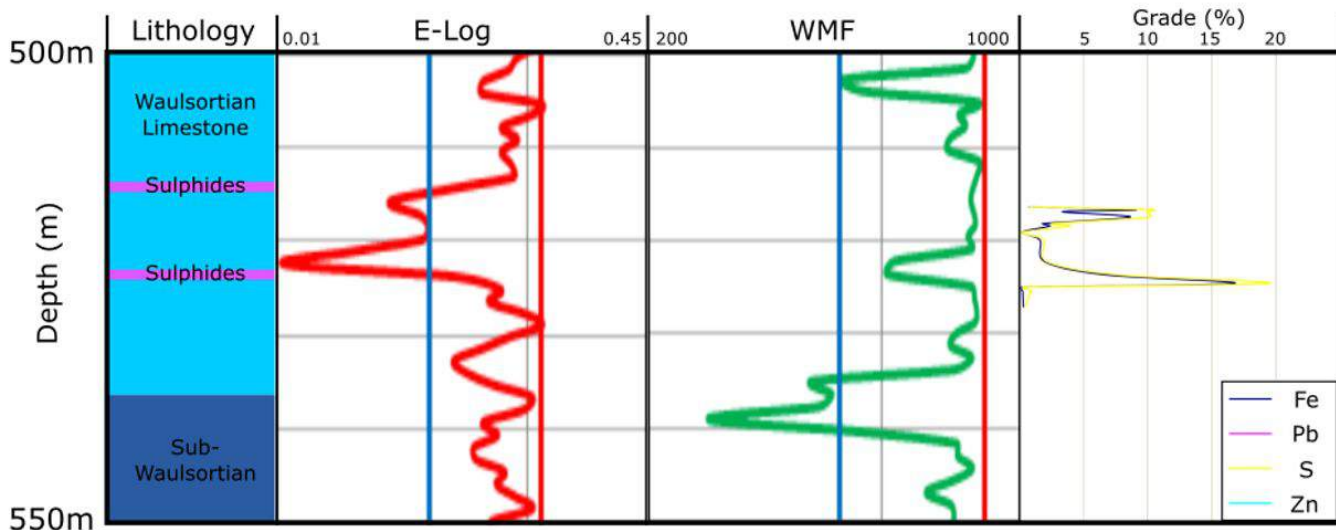
Mineralogy: tc2638-026



Peak in Grade % depth (m)	E-Log Trough depth (m)	Depth Deviation (m)	Depth Deviation (%)
217.5	220	+2.5	1.1%

- 🌈 Large peak in sulphide grade (30%) at 220m depth correlates with a significant trough in E% log below the baseline.
- 🌈 This shows strong validation with the assay data.

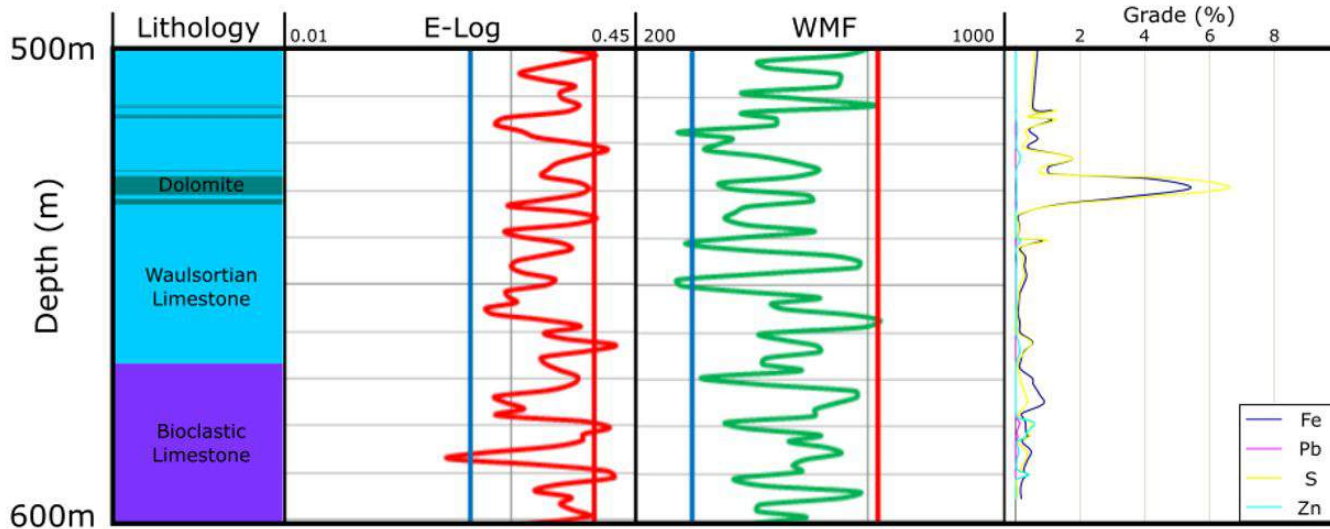
Mineralogy: tc2638-030



Peak in Grade % depth (m)	E-Log Trough depth (m)	Depth Deviation (m)	Depth Deviation (%)
524.5	522	-2.5	0.5%

- Two large peaks in sulphide grade (10-20%) at depths of 515m and 525m correlates with a double trough in E% log below the baseline.
- This shows strong validation with the assay data.

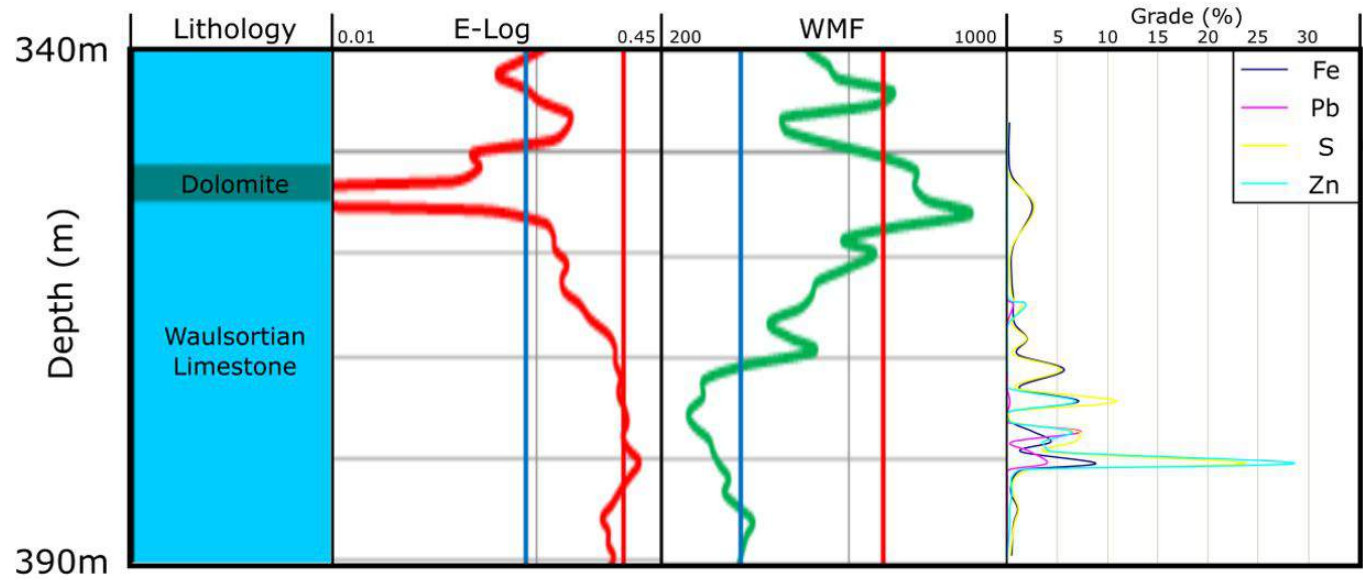
Mineralogy: tc2638-009



Peak in Grade % depth (m)	E-Log Trough depth (m)	Depth Deviation (m)	Depth Deviation (%)
529.5	587	+57.5	10.9%

- 🌟 Peak in sulphide grade (6%) at a depth of 530m does not correlate with any troughs in E% log below the baseline.
- 🌟 This shows poor validation with the assay data.

Mineralogy: tc2638-004



Peak in Grade % depth (m)	E-Log Trough depth (m)	Depth Deviation (m)	Depth Deviation (%)
380	354.5	-25.5	6.7%

- Large peak in sulphide grade (25%) at a depth of 380m does not correlate directly with any troughs in E% log below the baseline.
- There is a strong E% trough at a depth of 355m. This gives a depth deviation of 25m, however, this E% trough could be a response to the dolomite layer in the drill hole lithology log.

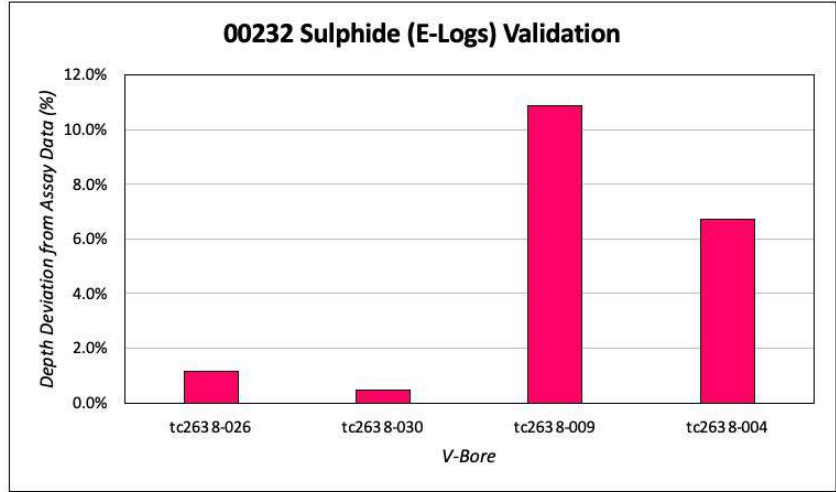
Lithology Depth Deviation

Sulphide Mineralisation Quantitative Validation:

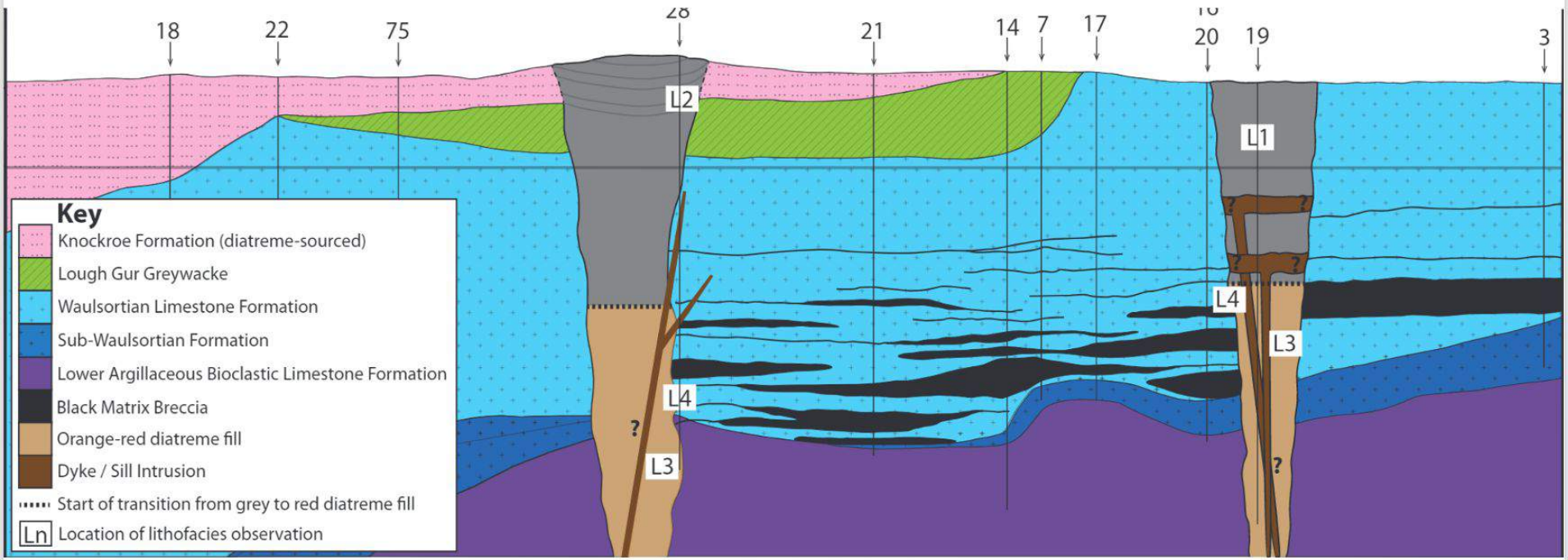
V-Bore	Peak in Grade % depth (m)	E-Log Trough depth (m)	Depth Deviation (m)	Depth Deviation (%)
tc2638-026	217.5	220	+2.5	1.1%
tc2638-030	524.5	522	-2.5	0.5%
tc2638-009	529.5	587	+57.5	10.9%
tc2638-004	380	354.5	-25.5	6.7%

- The quantitative validation study of sulphide identification using E% Log troughs has a mixed set of results.
- Both tc2638-026 and tc2638-030 have <2% depth deviation, showing that the E% Logs have accurately targeted the sulphides.
- However, tc2638-009 and tc2638-004 both have >6% depth deviation which indicate poor validation in these holes. The E% trough at tc2638-004 seems to be responding to a Dolomite layer.

- A significant change in sulphide grade should correspond with a significant trough in the E% Log, beneath the baseline.
- All holes have assay indicating sulphide grades greater than 10%, apart from tc2638-009.

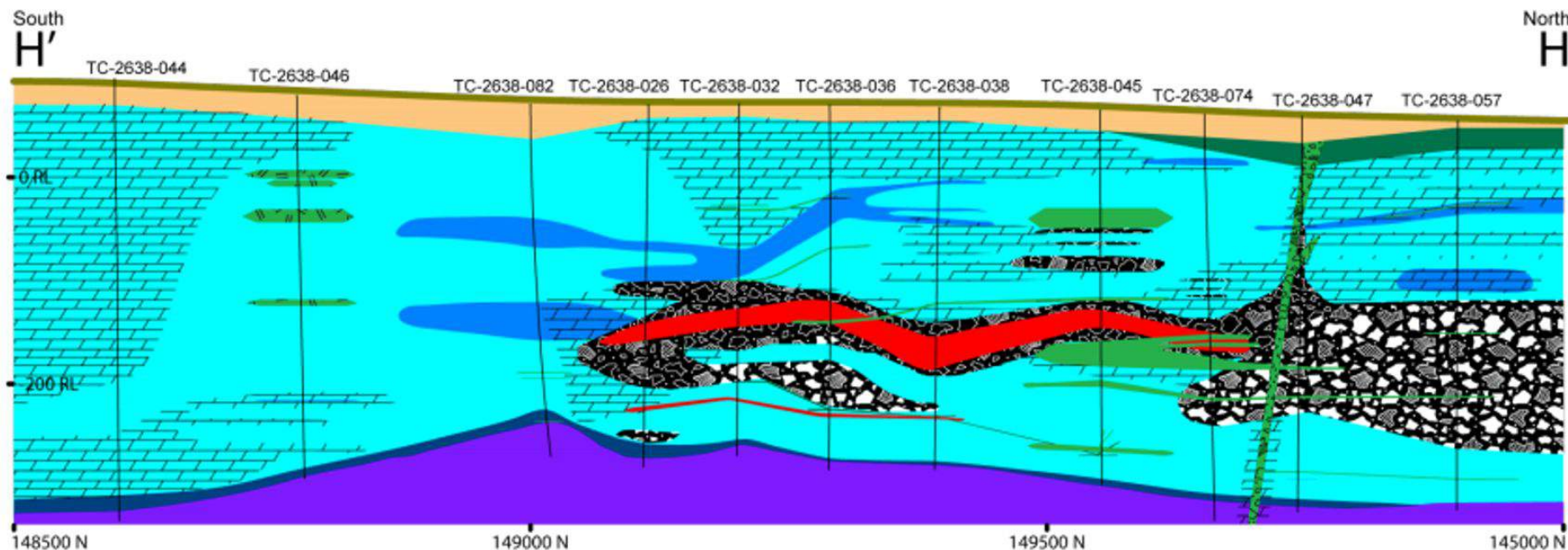


Validation Material: Cross-Section 1



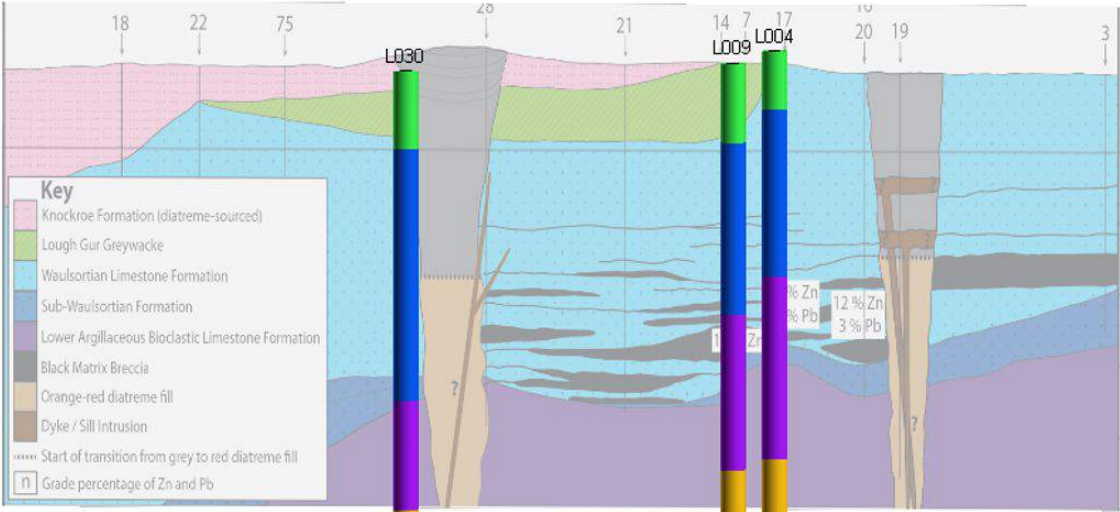
Elliott, H., 2015. *Pb-Zn mineralisation within the Limerick Basin (SW Ireland): a role for volcanism?* (Doctoral dissertation, University of Southampton).

Validation Material: Cross-Section 2



Kerr, N., 2013. *Geology of the Stonepark Zn-Pb prospects, County Limerick, Ireland* (Doctoral dissertation, Colorado School of Mines. Arthur Lakes Library).

Cross-Section 1: Lithology



Zonation Lithology Key:

- = Overburden/Lough Gur
- = Waulsortian Limestone
- = Lower Argillaceous Bioclastic Limestone
- = Lower Siliclastic Units

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

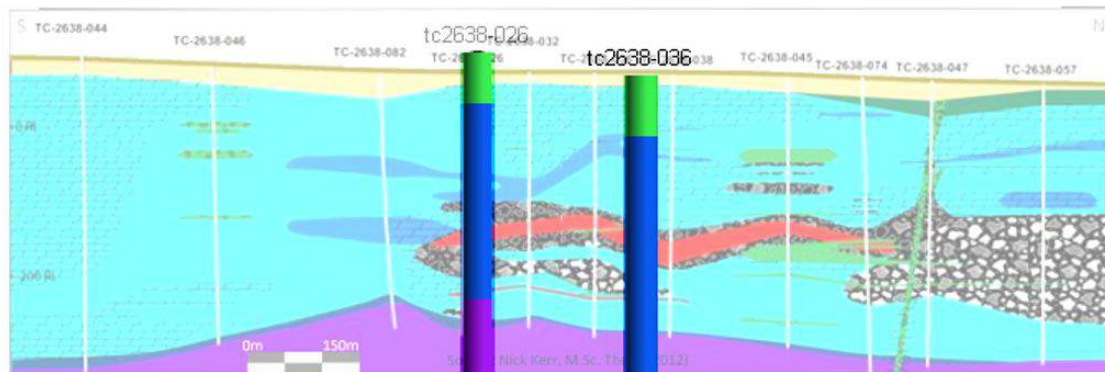
☀ Zonation Lithology for L004, L009 and L030 displayed in the coloured columns.

☀ The Waulsortian top correlates very well between all three scans and the interpreted cross-section.

☀ The Waulsortian base in L030 correlates very well with the interpreted cross-section, however, there is a greater depth deviation in L004 and L009.

☀ These scans are aligned with a stratigraphic high in the cross-section, which explains the shallower depth of the Waulsortian base in L004 and L009.

Cross-Section 2: Lithology



Zonation Lithology Key:

- = Overburden/Lough Gur
- = Waulsortian Limestone
- = Lower Argillaceous Bioclastic Limestone
- = Lower Siliclastic Units

🌈 Cross-Section from a PhD study:

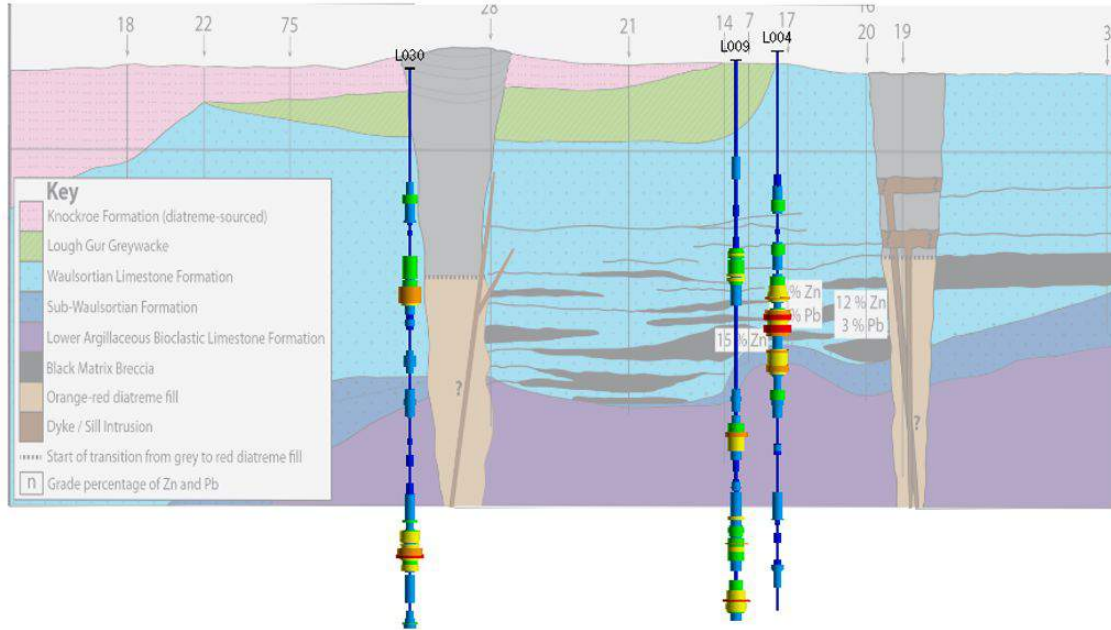
Kerr, N., 2013. Geology of the Stonepark Zn-Pb prospects, County Limerick, Ireland (Doctoral dissertation, Colorado School of Mines. Arthur Lakes Library).

🌈 Zonation Lithology for tc2638-026 and tc2638-036 displayed in the coloured columns.

🌈 In tc2638-026, the Waulsortian Limestone top and base correlates well with the interpreted cross-section.

🌈 In tc2638-036, there is a slightly larger depth deviation in the Waulsortian top and base between the zonation lithology and the interpreted cross-section.

Cross-Section 1: WSCC



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

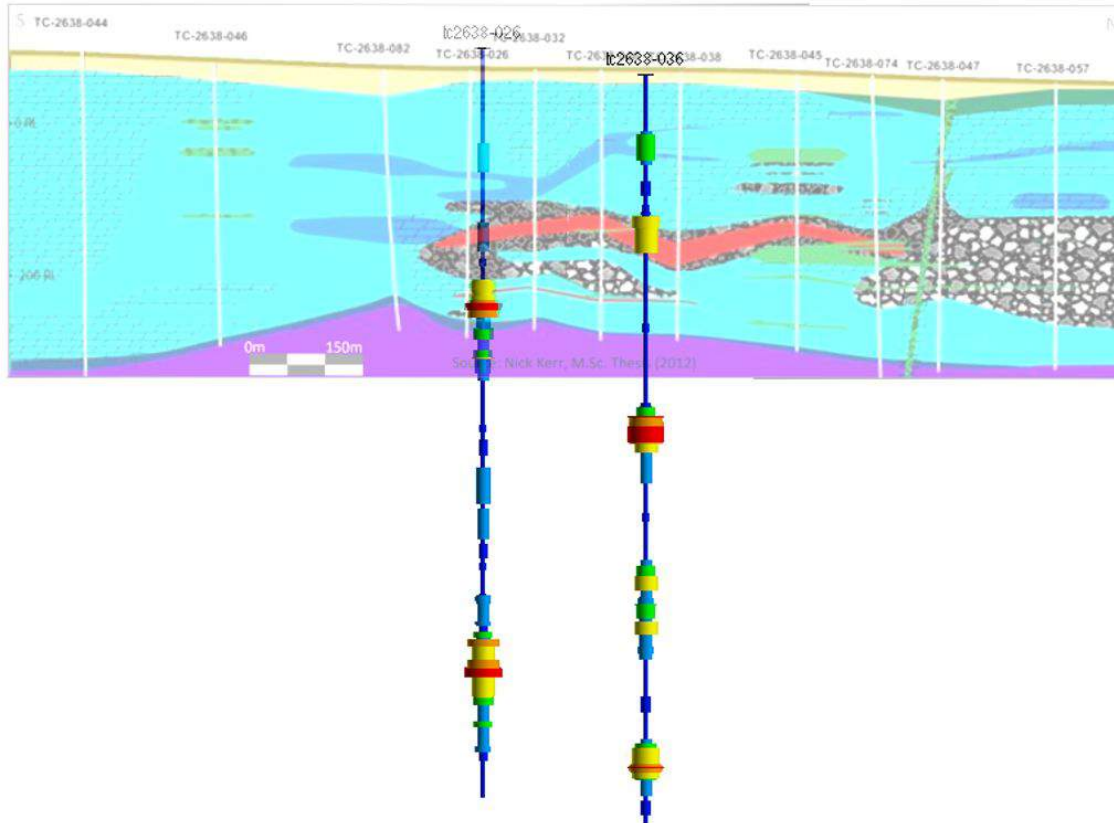
🌈 WSCC displayed by coloured bars down the V-Bore. Warmer colours (red, orange and yellow) are high WSCC values and colder colours (green and blue) are low WSCC values.

🌈 High WSCC values in L004 and L030 correlate well with inferred sulphides in the Waulsortian Limestone from the Interpreted cross-section.

🌈 Less correlation in the L009 WSCC values.

🌈 L009 and L030 both show high WSCC values at depths greater than the base of the cross-section so cannot be validated.

Cross-Section 2: WSCC



- Cross-Section from a PhD study: Kerr, N., 2013. *Geology of the Stonepark Zn-Pb prospects, County Limerick, Ireland (Doctoral dissertation, Colorado School of Mines. Arthur Lakes Library).*
- WSCC displayed by coloured bars down the V-Bore. Warmer colours (red, orange and yellow) are high WSCC values and colder colours (green and blue) are low WSCC values.
- High WSCC values in tc2638-026 and medium/high WSCC values in tc2638-036 correlate well with the inferred sulphides in the Waulsortian Limestone from the Interpreted cross-section.
- There is a slight depth deviation in the tc2638-026 WSCC target.
- Both tc2638-026 and tc2638-036 show high WSCC values at depths greater than the base of the cross-section so cannot be validated.

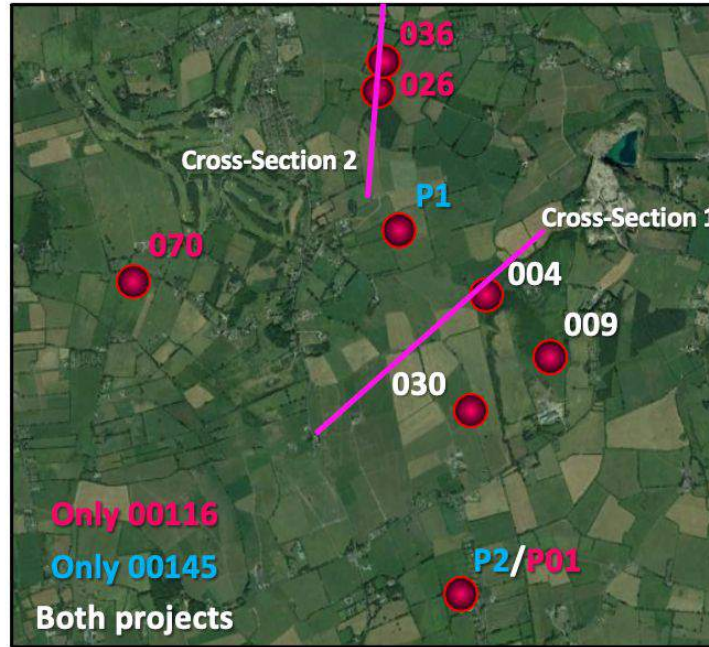
Validation Summary:

Zonation Lithology vs Drill Hole Validation:

- 🌈 tc2638-26, tc2638-30 & tc2638-004 = Strong Validation
- 🌈 tc2638-009 = Weak Validation

E% Log vs Assay Mineralogy Validation:

- 🌈 tc2638-26 & tc2638-30 & = Strong Validation
- 🌈 tc2638-009 & tc2638-004 = Weak Validation



Zonation Lithology vs Cross-Sections Validation:

- 🌈 L030, L009 & tc2638-26 = Strong Validation
- 🌈 L004 & tc2638-036 = Weak Validation

WSSC vs Cross-Section Validation:

- 🌈 L030, L004 & tc2638-26 = Strong Validation
- 🌈 L009 & tc2638-036 = Weak Validation

Validation Summary:

- 🌈 In general, the validation for the zonation lithology against the drill hole data and interpreted cross-sections is quite strong.
- 🌈 The zonation method has found the depths of the top and base of the Waulsortian Limestone with relatively low deviation in most V-Bores, however, there are some sites (e.g., Waulsortian base in tc2638-009) where the depth deviation is up to 70m.
- 🌈 It should also be noted that the Waulsortian top boundary tends to be at a shallow depth, where the ADR data experiences beam saturation, therefore, boundaries are difficult to identify.
- 🌈 The validation for the sulphide zones by comparing the WSCC and E-Log results to assay data and cross-section had a mixed success.
- 🌈 The E-Log has worked well in tc2638-026 and tc2638-030, but not in tc2638-009 and tc2638-004.
- 🌈 The WSCC has worked well in tc2638-026 and L004, but not particularly well in some of the other V-Bores, e.g., the most significant WSCC target in tc2638-036 is too deep.

00232 Repeatability Study

A repeatability study into the new results obtained in project 00232 (2020) from datasets from projects 00116 (2011) and 00145 (2013).

Equipment and Settings: 00116 vs 00145

Settings

00116 (2011)

Stare Settings

Collected at 0m chainage.
500 traces
Gain 2mV
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.

WARR Settings

Gain 2mV
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.
Images are saved as WARR.

P-scans Settings

Gain 2mV.
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.

Equipment

TCU: TCU01
RCU: RCU01
ANT: 29
Platform: Tracked vehicle

00145 (2013)

Stare Settings

Collected at 0m, 25m and 50m chainage.
Gain 2mV.
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.

WARR Settings

Gain 2mV.
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.
Images are saved as WARR.

P-scans Settings

Gain 2mV.
Capture Time 5GS/sec.
100,000 pixels.
20,000ns.

Equipment

TCU: TCU03
RCU: RCU03
ANT: 29
Platform: Metal stretcher

Equipment and Settings: 00116 vs 00145

Equipment

Equipment

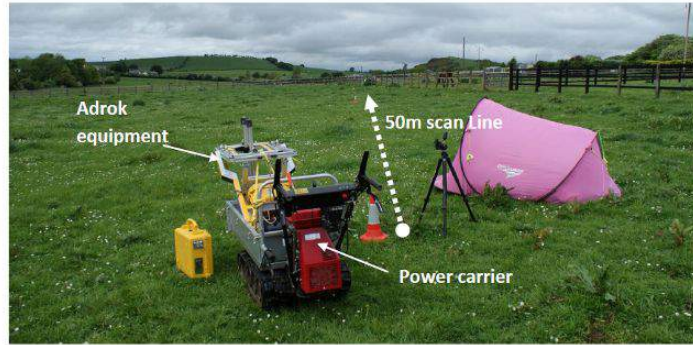
TCU: TCU01

RCU: RCU01

ANT: 29

Platform: Tracked vehicle

00116 (2011)



- ADR scanning completed by using a tracked power carrier.

The major difference in the ADR equipment and setting used between 00116 and 00145 is the platform used to carry the ADR equipment in the field.

Equipment

TCU: TCU03

RCU: RCU03

ANT: 29

Platform: Metal stretcher

00145 (2013)



- ADR scanning completed by using manually carried metal stretcher.

Stares: L004 vs tc2638-004

L004 Stare (S02) Header

Edit header

	Start	End	Step	Separation	Size
Chainage	500	1E3	1	300E-3	500
Vertical	0	20E3	200E-3		100000

Name: L004-S02 Type: Raw Y type: Time

Comment

STARE, 500 TRACES, TX ON, RX ON
 Sample rate:5E9, samps:100000, reclen:100000, span:20E-6
 scale:4E-6, Trig:0.0, delay:9.94E-6
 CH1: scale:2E-3; offset:0, BW:Max., res:50, DC , on
 CH2: scale:1.0; offset:0, BW:Max., res:50, DC , off
 CH3: scale:1.0; offset:0, BW:Max., res:50, DC , off
 CH4: scale:1.0; offset:0, BW:Max., res:50, DC , off

Project title: 00145 Area: L004 Capture time: 15:32 25 Feb 2013

	TX	TY	TZ	RX	RY	RZ
Start	0	-150E-3	0	0	-150E-3	0
End	0	150E-3	0	0	150E-3	0

Beam direction: Azimuth: 0 Elevation: -90.0

Chainage direction: [dropdown] Set defaults Swap Tx/Rx

Save Exit Print header

tc2638-004 Stare (S02) Header

Edit header

	Start	End	Step	Separation	Size
Chainage	500	1E3	1	350E-3	500
Vertical	0	19.982E3	200E-3		99909

Name: 004-S02 Type: Raw Y type: Time

Comment

Stare at 0m, head 037deg.
 Tx-on; Rx-on

Sample rate:5E9, samps:100000, reclen:100000, span:20E-6
 scale:2E-6, Trig:0.0, delay:9.96E-6
 CH1: scale:2E-3; offset:0, BW:Max., res:50, DC , on

Sub Image Chainage: 500 to 1000 Time: 18.1 to 20000

Project title: 00116 Area: 004 Capture time: 10:23 17 May 2011

	TX	TY	TZ	RX	RY	RZ
Start	-105.32E-3	-139.76E-3	0	-105.32E-3	-139.76E-3	0
End	105.32E-3	139.76E-3	0	105.32E-3	139.76E-3	0

Beam direction: Azimuth: 0 Elevation: -90.0

Chainage direction: [dropdown] Set defaults Swap Tx/Rx

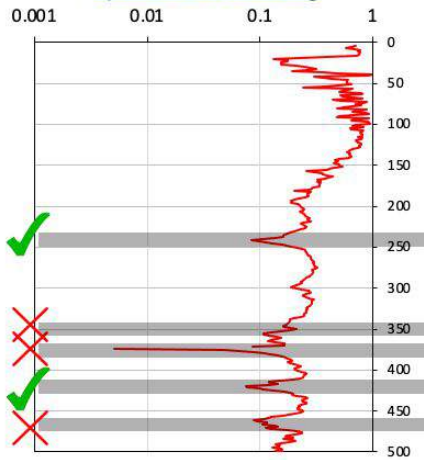
Save Exit Print header

🌈 L004 and tc2638-004 will be the main focus for this repeatability test because they are both the same scan taken in different projects and different years.

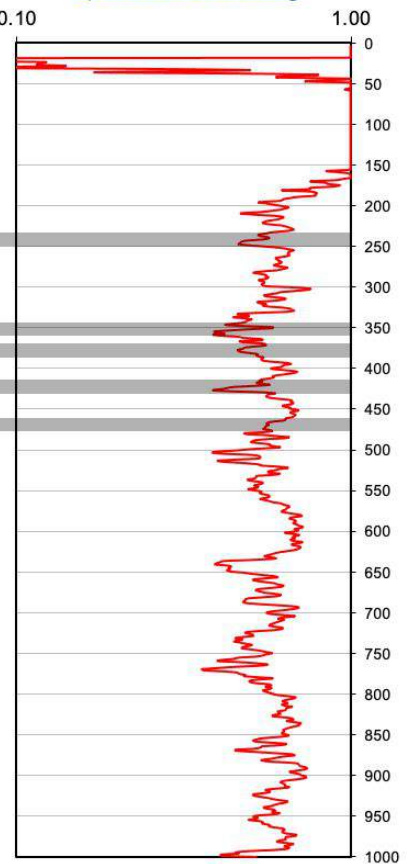
🌈 When checking the stare headers in Radamatic v2.63, there are no major differences.

E-Logs: L004 vs tc2638-004

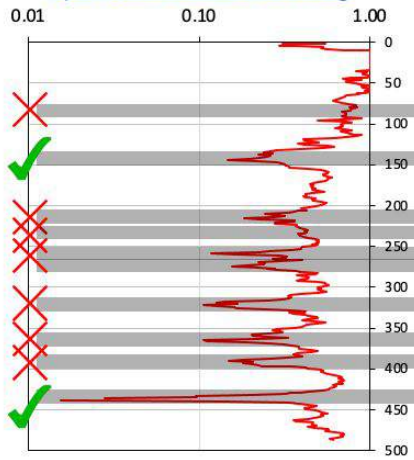
1) L004 00145 E-Log



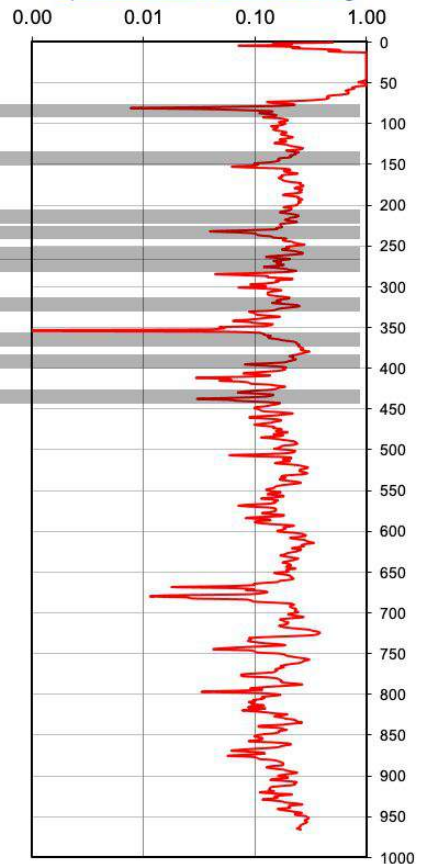
2) L004 00231 E-Log



3) tc2638-004 00116 E-Log



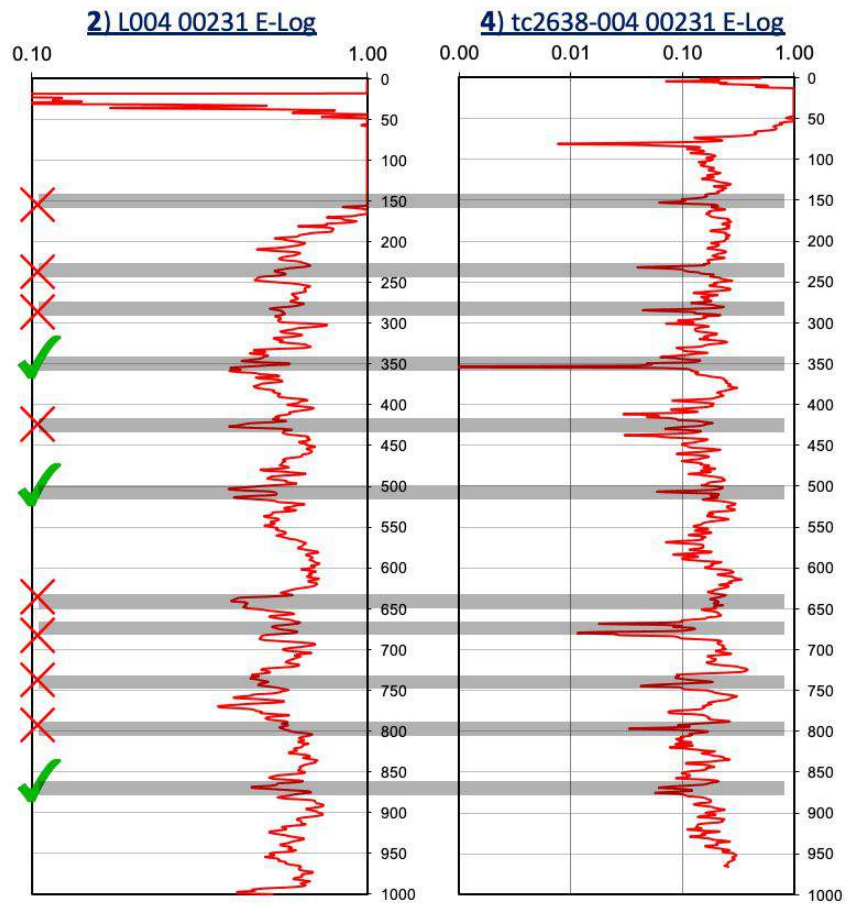
4) tc2638-004 00231 E-Log



In L004, only 40% of the major E-Log trough are displayed in both 00145 and 00231 results.

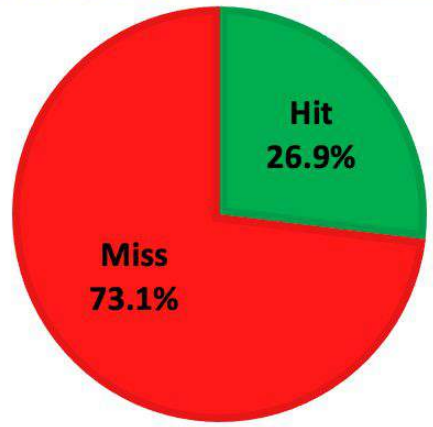
In tc2638-004, only 20% of the major E-Log trough are displayed in both 00116 and 00231 results.

E-Logs: L004 vs tc2638-004



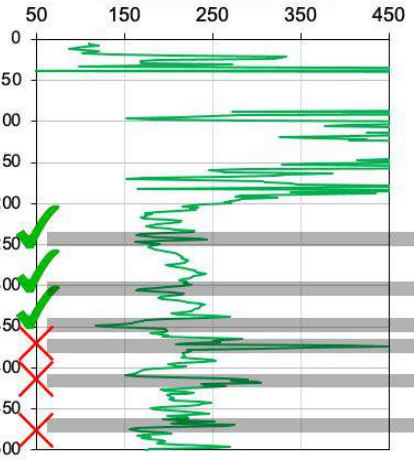
- L004 and tc2638-004 are both the same V-Bore where data was collected in two different projects.
- In 00232, only 27.3% major E% troughs are displayed in both L004 and tc2638-004.
- Overall, there is poor repeatability between all 004 E-Logs.

Hole 004 E% Log Repeatability Summary

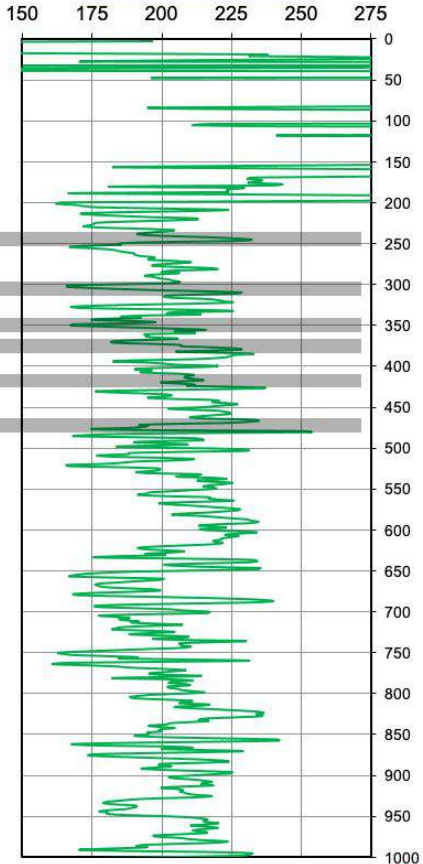


WMF: L004 vs tc2638-004

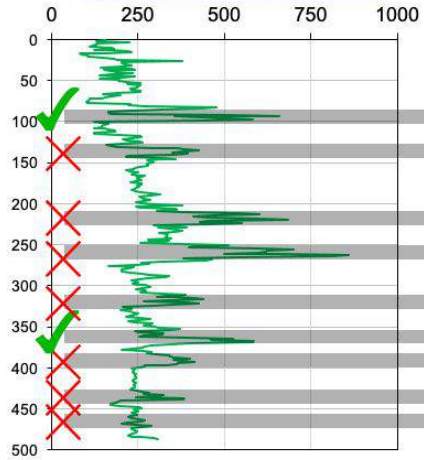
1) L004 00145 WMF



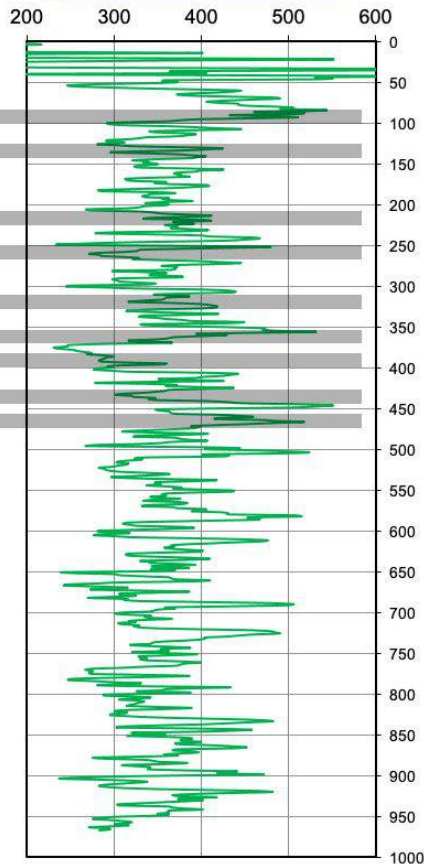
2) L004 00231 WMF



3) tc2638-004 00116 WMF



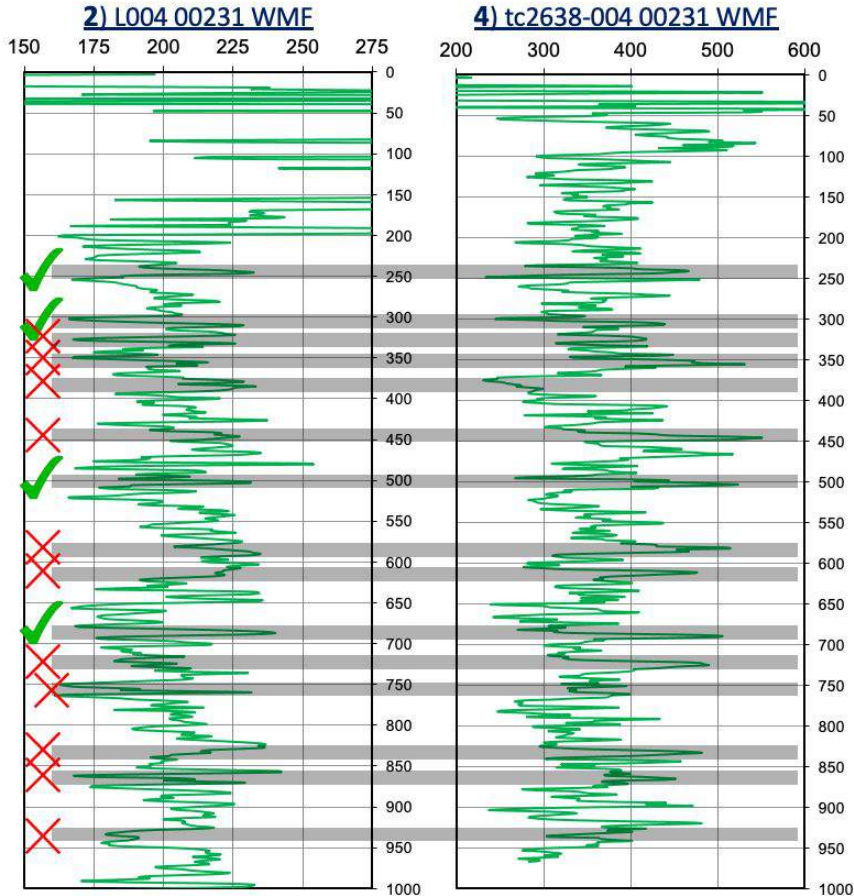
4) tc2638-004 00231 WMF



In L004, only 50% of the major WMF troughs and peaks are displayed in both 00145 and 00231 results.

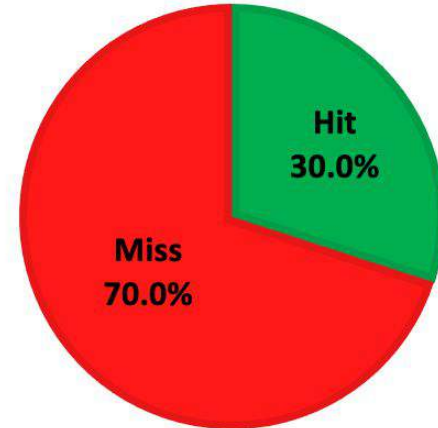
In tc2638-004, only 22.2% of the major WMF troughs and peaks are displayed in both 00116 and 00231 results.

WMF: L004 vs tc2638-004

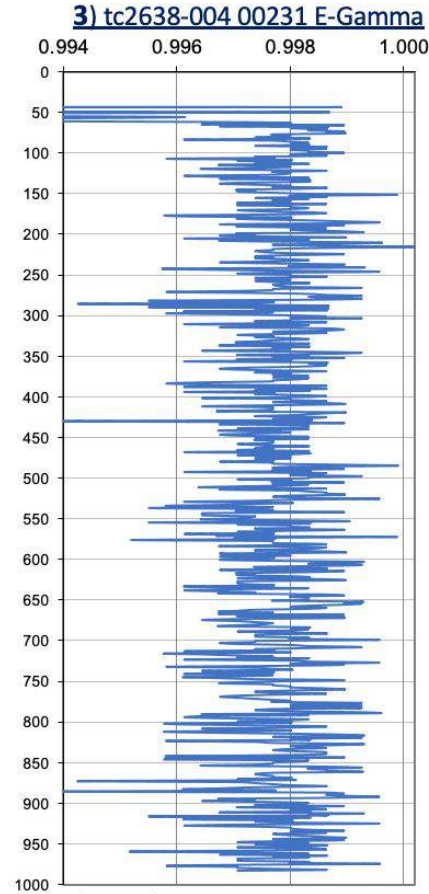
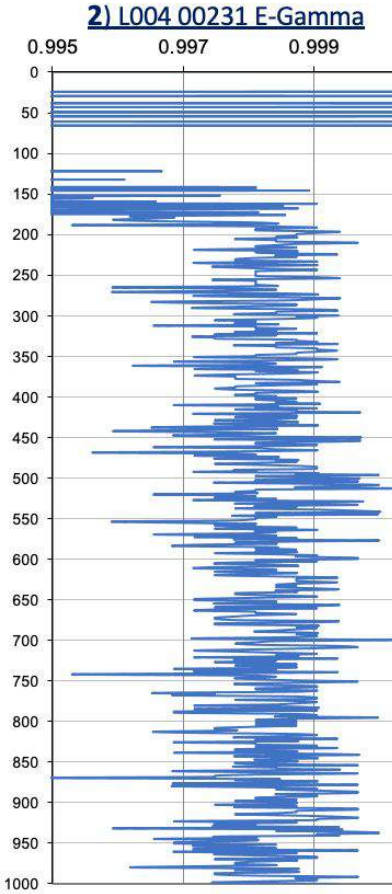
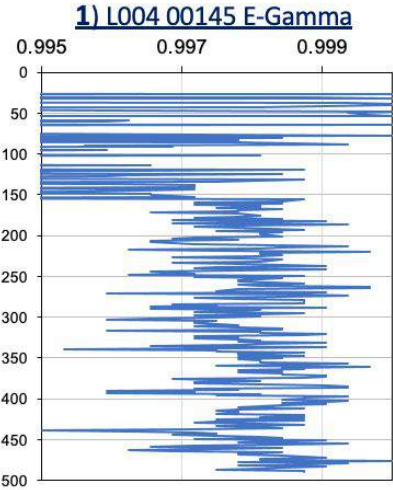


- 🌈 L004 and tc2638-004 are both the same V-Bore where data was collected in two different projects.
- 🌈 In 00232, only 26.7% major WMF troughs and peaks are displayed in both L004 and tc2638-004.
- 🌈 Overall, there is poor repeatability between all 004 WMF logs.

Hole 004 WMF Repeatability Summary



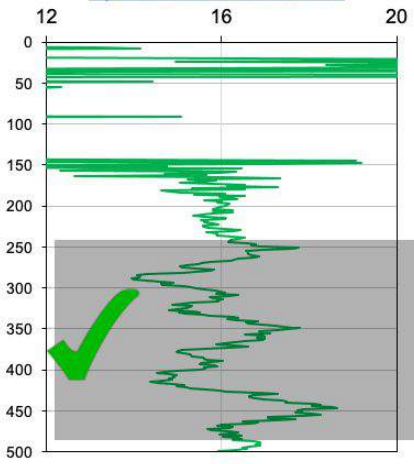
E-Gamma: L004 vs tc2638-004



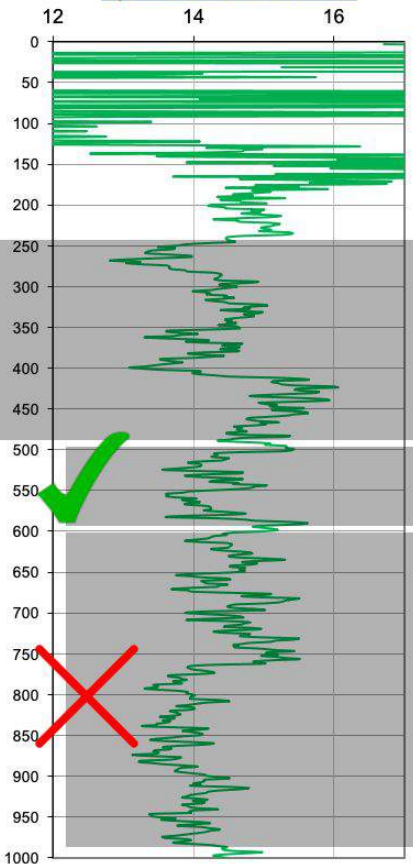
- The E-Gamma wasn't used during 00232, however, visually, the repeatability look relatively poor between L004 (00145 & 00232) and tc2638-026 (00232).
- There are some peaks/troughs that correlate between the three charts but this is not visible on a consistent basis.

E-Mean: L004 vs tc2638-004

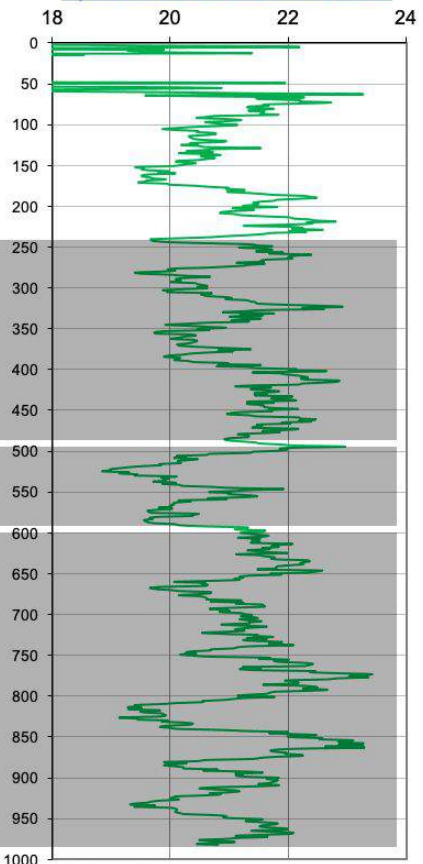
1) L004 00145 E-Mean



2) L004 00231 E-Mean



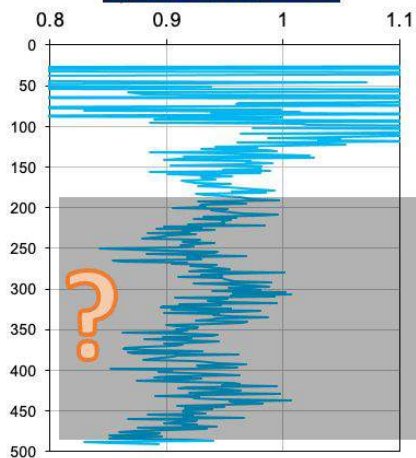
3) tc2638-004 00231 E-Mean



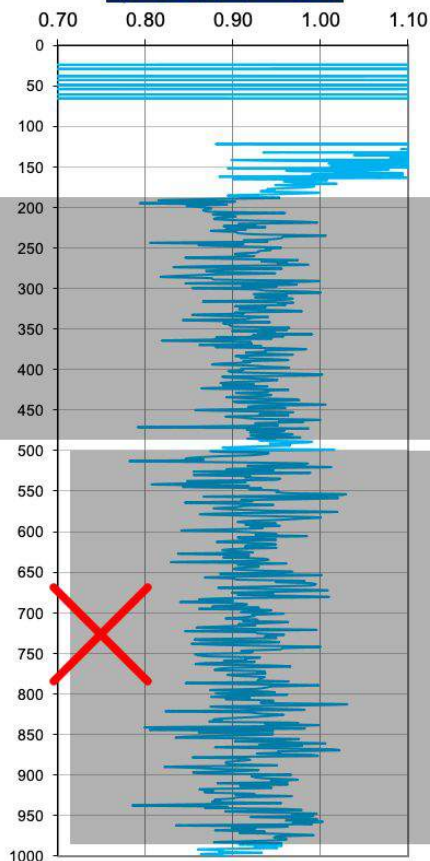
- ☀ Good repeatability in the E-Mean from 250m (below beam saturation) to 500m in L004 chart from 00145 and both L004 and tc2638-004 charts from 00232.
- ☀ Okay repeatability in the E-Mean from 500-600m in L004 and tc2638-004 charts from 00232.
- ☀ Poor repeatability in the E-Mean from 600-1000m in L004 and tc2638-004 charts from 00232.
- ☀ This has a significant impact on the WSCC results.

E-ADR: L004 vs tc2638-004

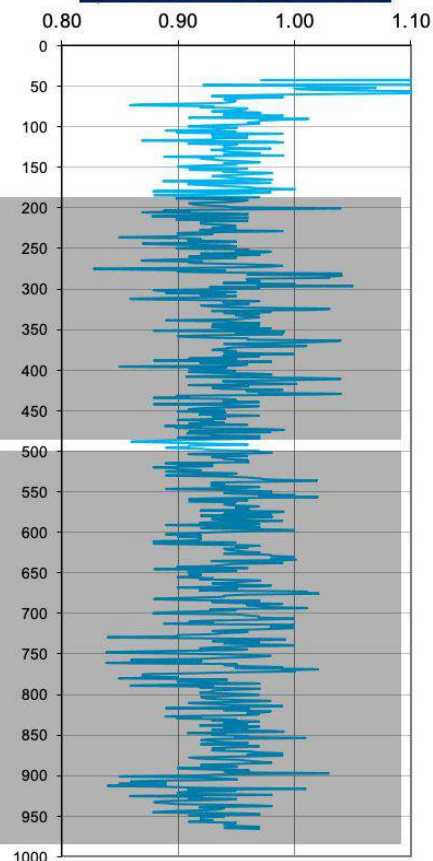
1) L004 00145 E-ADR



2) L004 00231 E-ADR



3) tc2638-004 00231 E-ADR



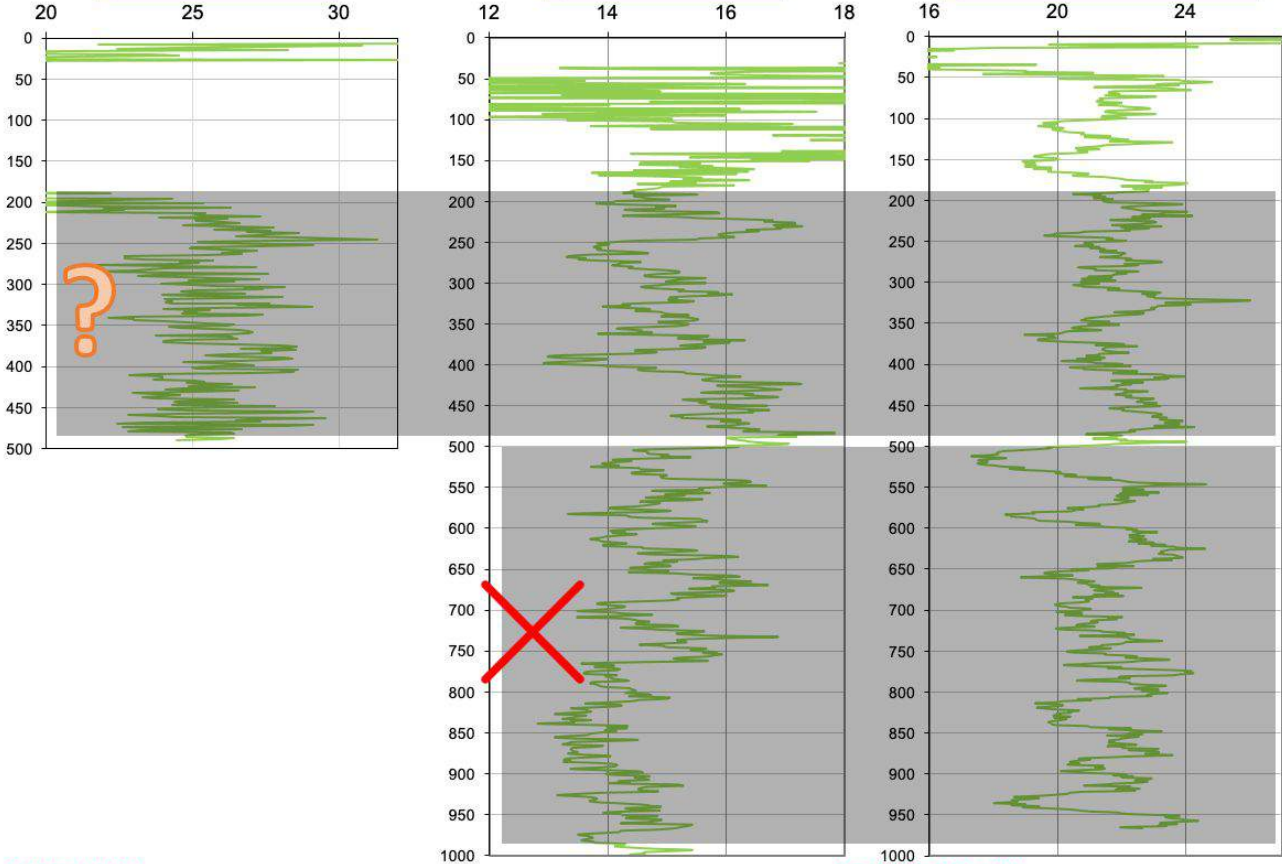
- Repeatability is not great in the E_ADR from 200m to 500m in L004 chart from 00145 and both L004 and tc2638-004 charts from 00232.
- All charts follow a relatively similar trend but the major peaks and troughs are not consistent.
- Poor repeatability in the E-ADR from 500-1000m in L004 and tc2638-004 charts from 00232.
- This has a significant impact on the WSCC results.

E-SD: L004 vs tc2638-004

1) L004 00145 E-ADR

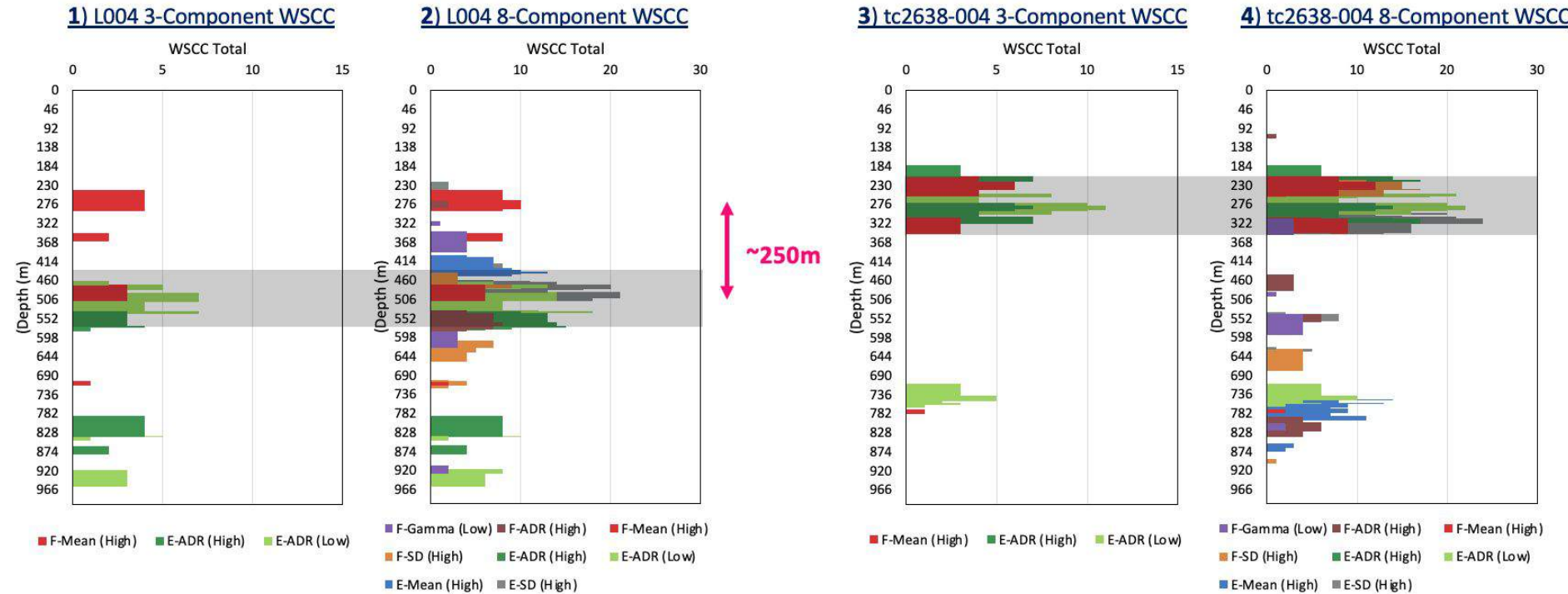
2) L004 00231 E-ADR

3) tc2638-004 00231 E-ADR



- ☀ Repeatability is not great in the E_ADR from 200m to 500m in L004 chart from 00145 and both L004 and tc2638-004 charts from 00232.
- ☀ All charts follow a relatively similar trend but the major peaks and troughs are not consistent.
- ☀ Poor repeatability in the E-ADR from 500-1000m in L004 and tc2638-004 charts from 00232.
- ☀ This has a significant impact on the WSCC results.

WSSC: L004 vs tc2638-004

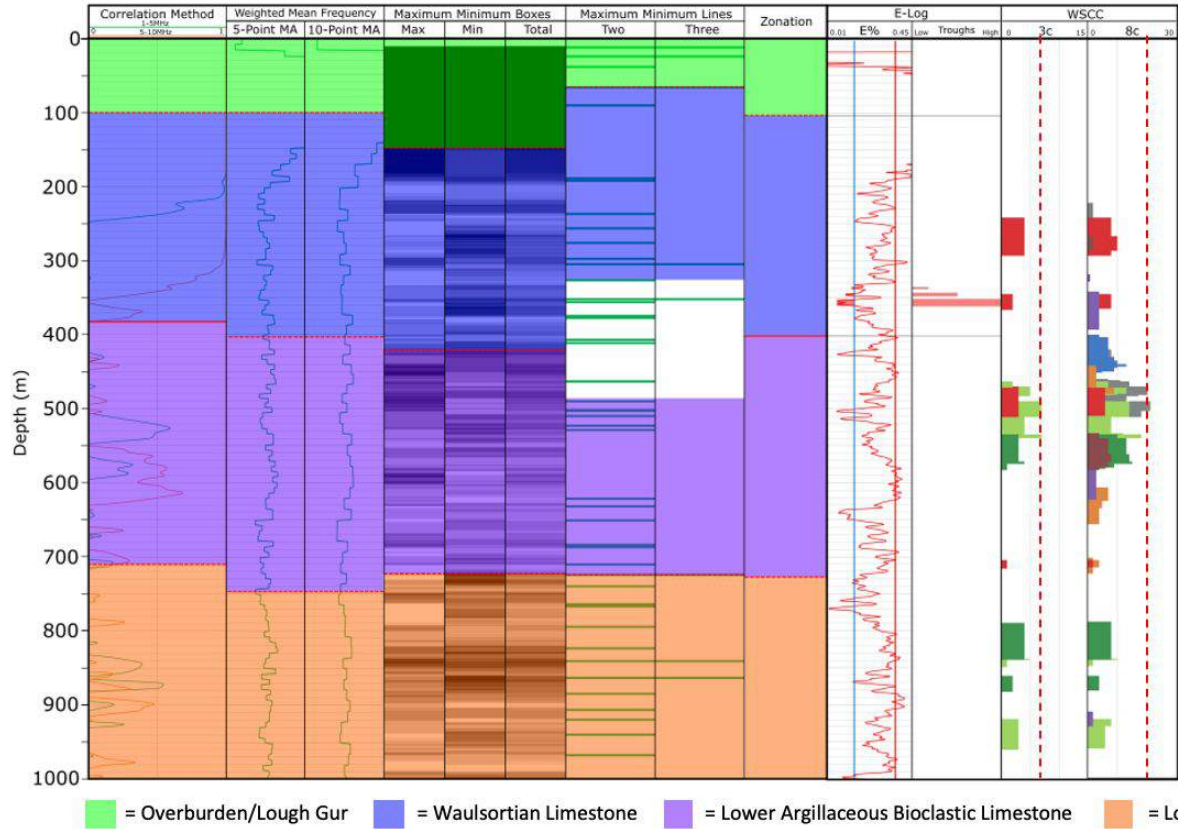


- The WSSC results for L004 and tc2638-004 display clear evidence of poor repeatability. The most significant WSSC target is about 250m deeper in L004 than in tc2638-004.
- According to the Validation Report, the WSSC target in L004 correlates very well with the mineralisation zones from the interpreted cross-sections by Elliot (2015), therefore, the tc2638-004 results are giving the poor repeatability.

Repeatability Summary

- 🌈 The repeatability test between holes L004 and tc2638-004 from projects 00145 and 00116, respectively, as well as the reprocessed results in project 00232 have given some mixed results.
- 🌈 When the original data was collected in 2011 (00116) and 2013 (00145), the only difference in terms of data collection and equipment settings was the platform used to carry the ADR equipment in the field. 00116 used a tracked vehicle whereas 00145 used a metal stretcher.
- 🌈 In general, the EWMF results show poor repeatability between all sets of results from 00116, 00145 and the reprocessed results in 00232.
- 🌈 The raw harmonics, where only E-harmonics were available from 00145, showing good repeatability across all scans down to 500m, however, there is very poor repeatability between the 00232 reprocessed results at depths greater than 500m.
- 🌈 The WSCC results from 00232 show extremely poor repeatability between the 00116 and 00145 reprocessed scans, the major WSCC target having 250m difference in depth.
- 🌈 After comparisons with external interpretations of the mineralisation (Elliot, 2015), we know that the WSCC results for L004 look very promising. This means that the reprocessed 00145 results have been successful, whereas the reprocessed 00116 results have been unsuccessful, despite having scans in the same locations.
- 🌈 There must be some underlying errors within the original datasets, either due to the data collection (different platforms used), or some unknown processing carried out during the original projects.

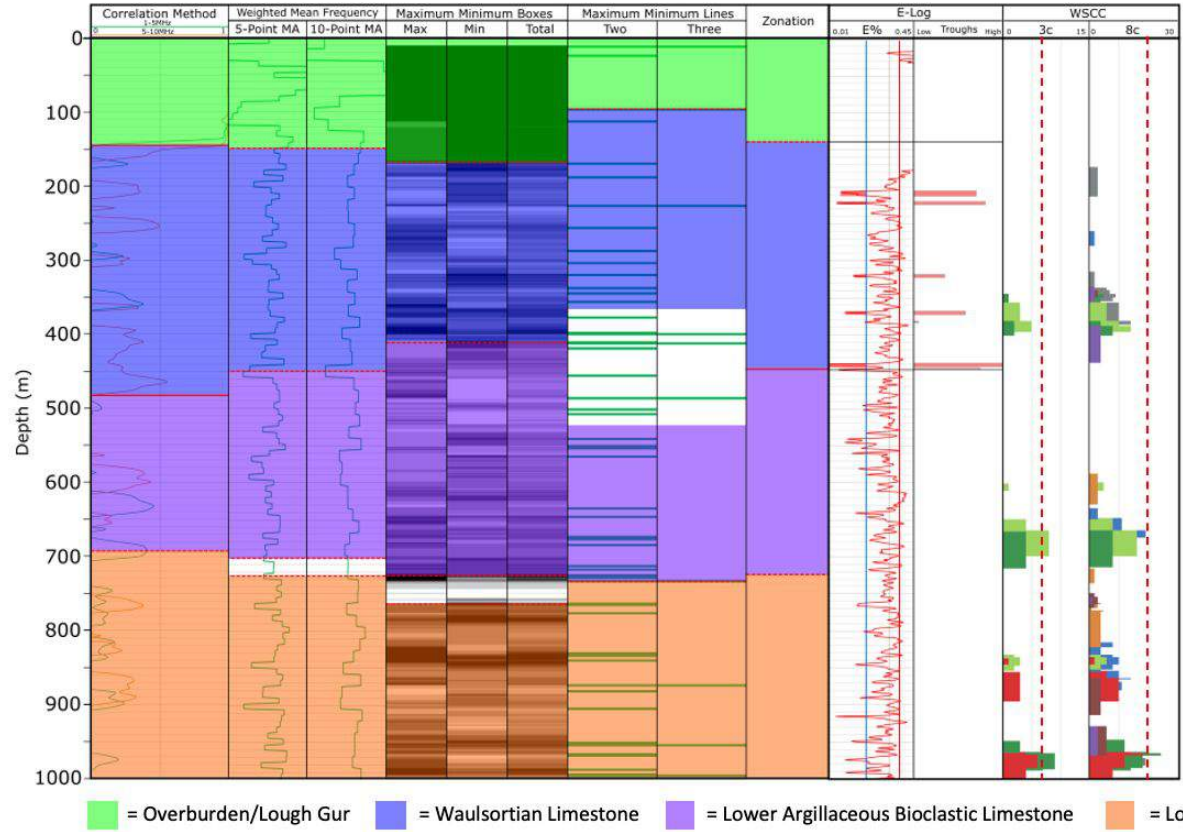
Zonation Lithology: H1 – L004



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

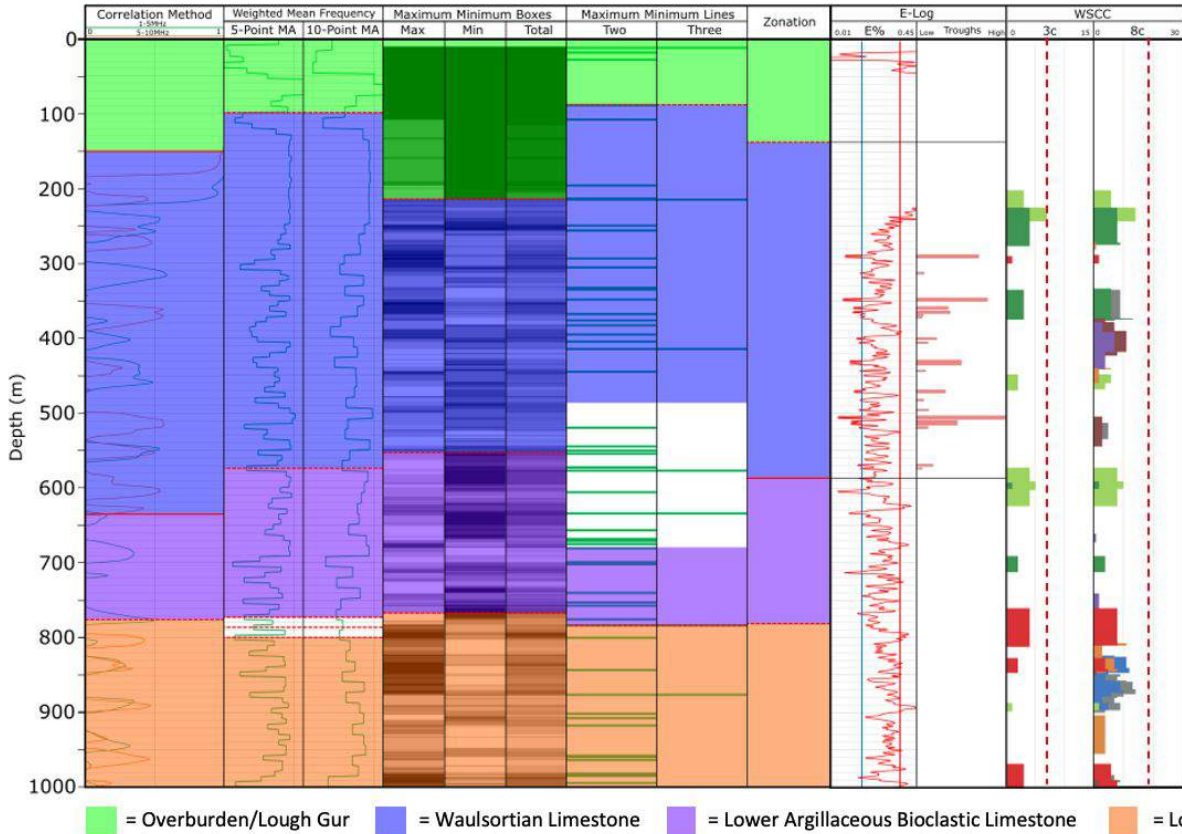
Zonation Lithology: H2 – L009



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

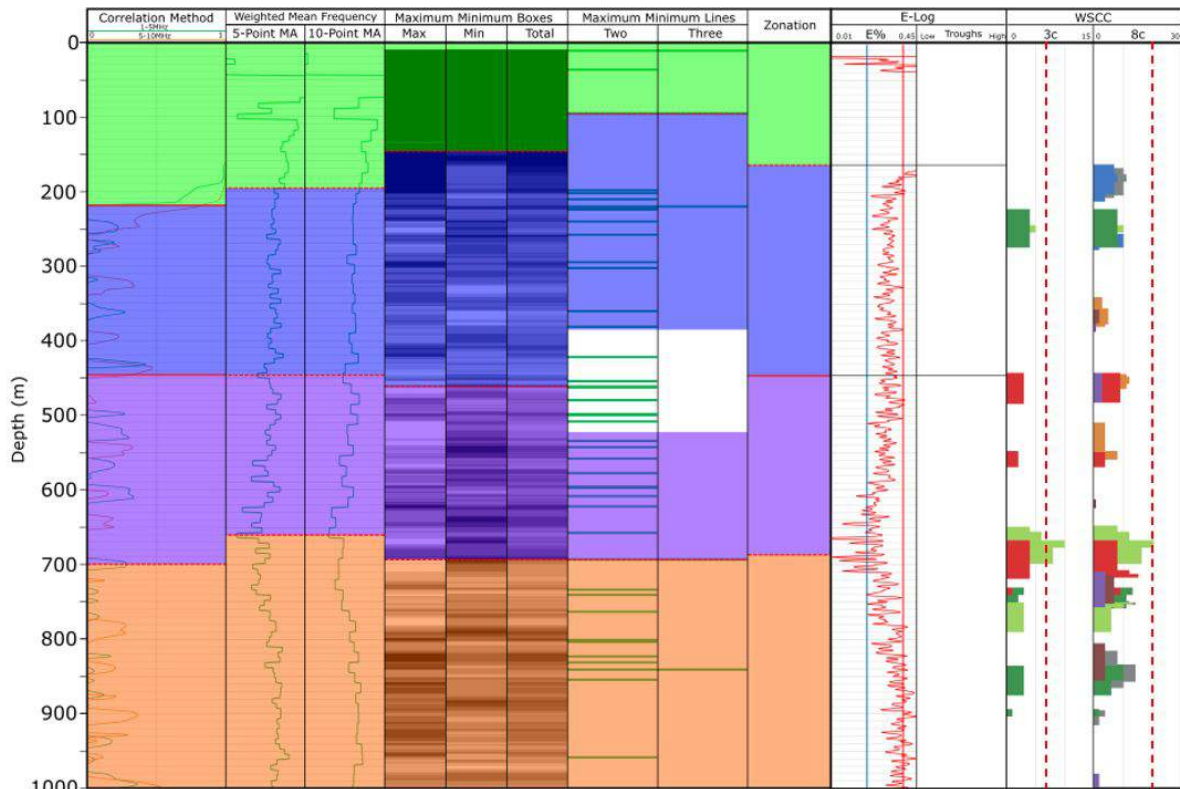
Zonation Lithology: H3 – L030



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

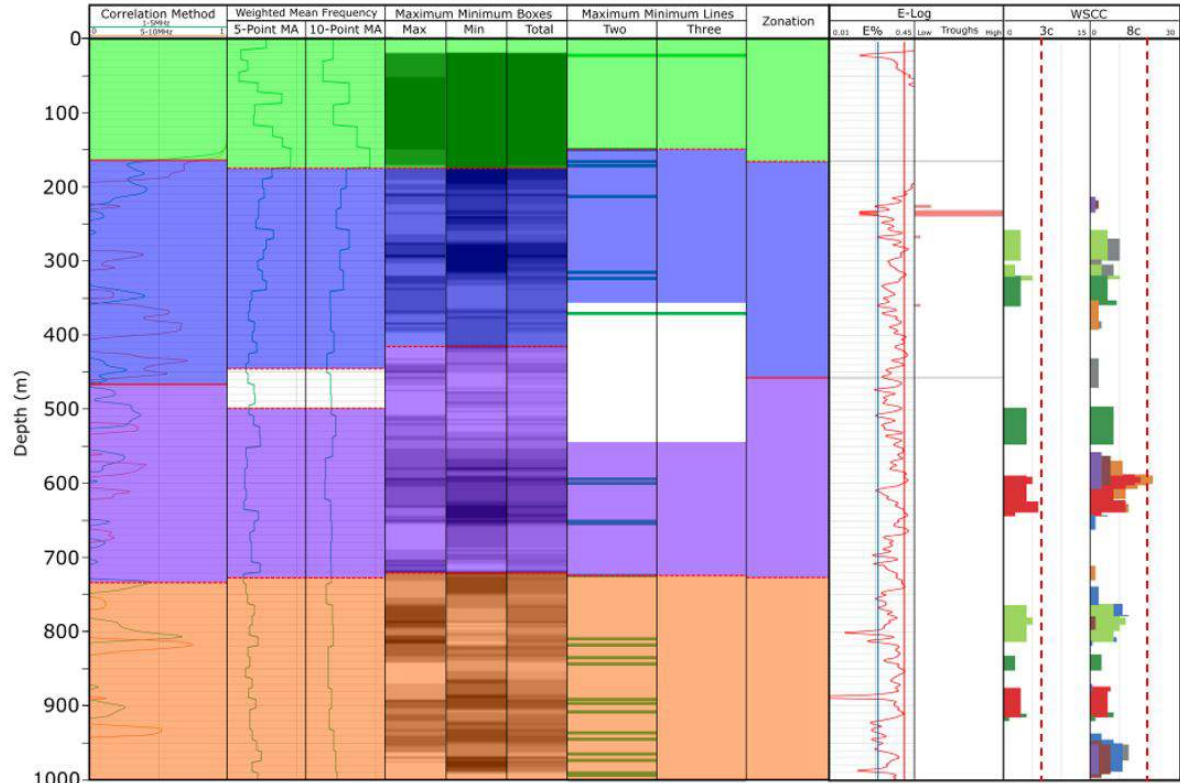


■ = Overburden/Lough Gur
 ■ = Waulsortian Limestone
 ■ = Lower Argillaceous Bioclastic Limestone
 ■ = Lower Silliclastic Units

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

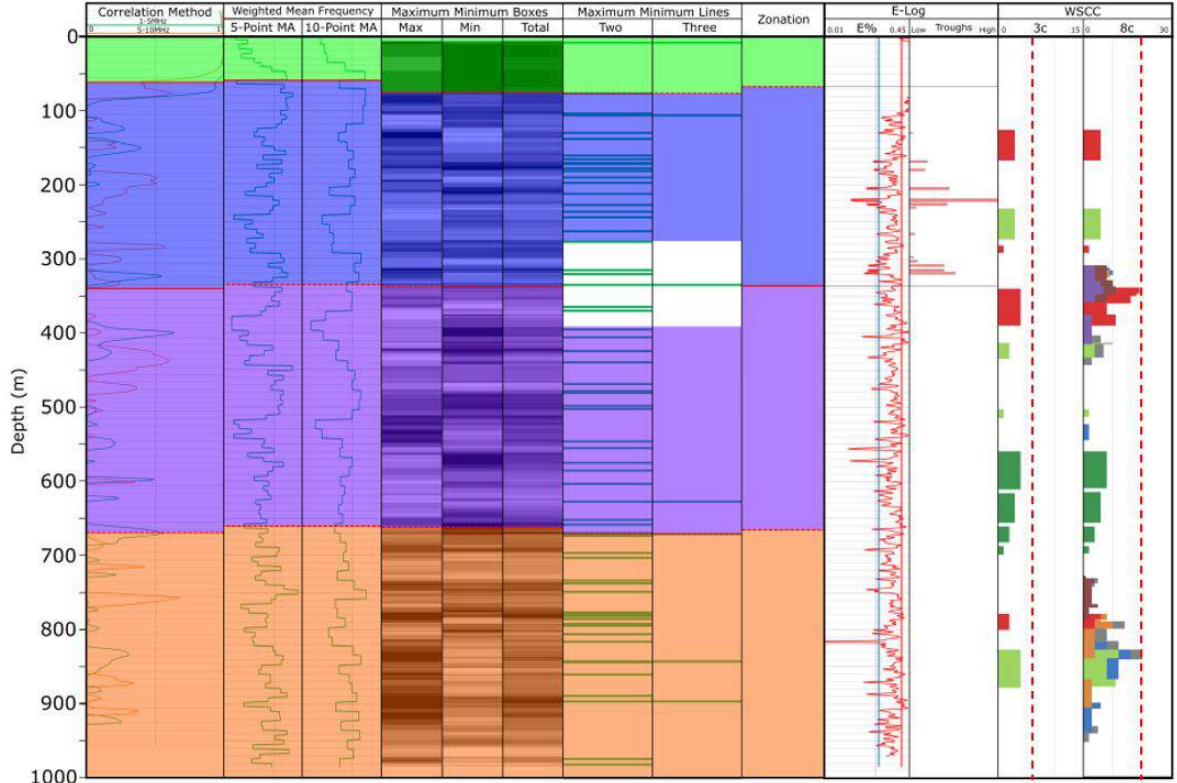


■ = Overburden/Lough Gur
 ■ = Waulsortian Limestone
 ■ = Lower Argillaceous Bioclastic Limestone
 ■ = Lower Siliclastic Units

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 Siliclastic Units	727	1000

Zonation Lithology: H6 – tc2638-026

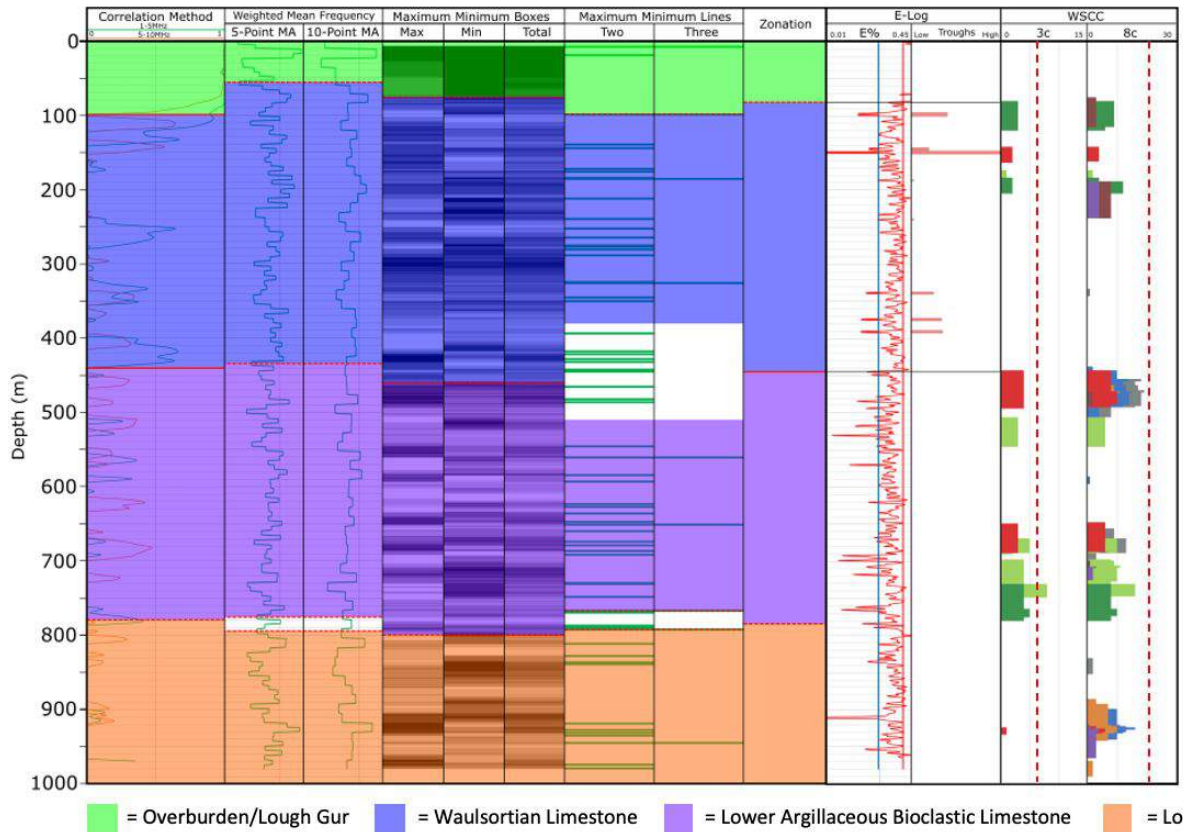


tc2638-026 (H6) Lithology Intervals:

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

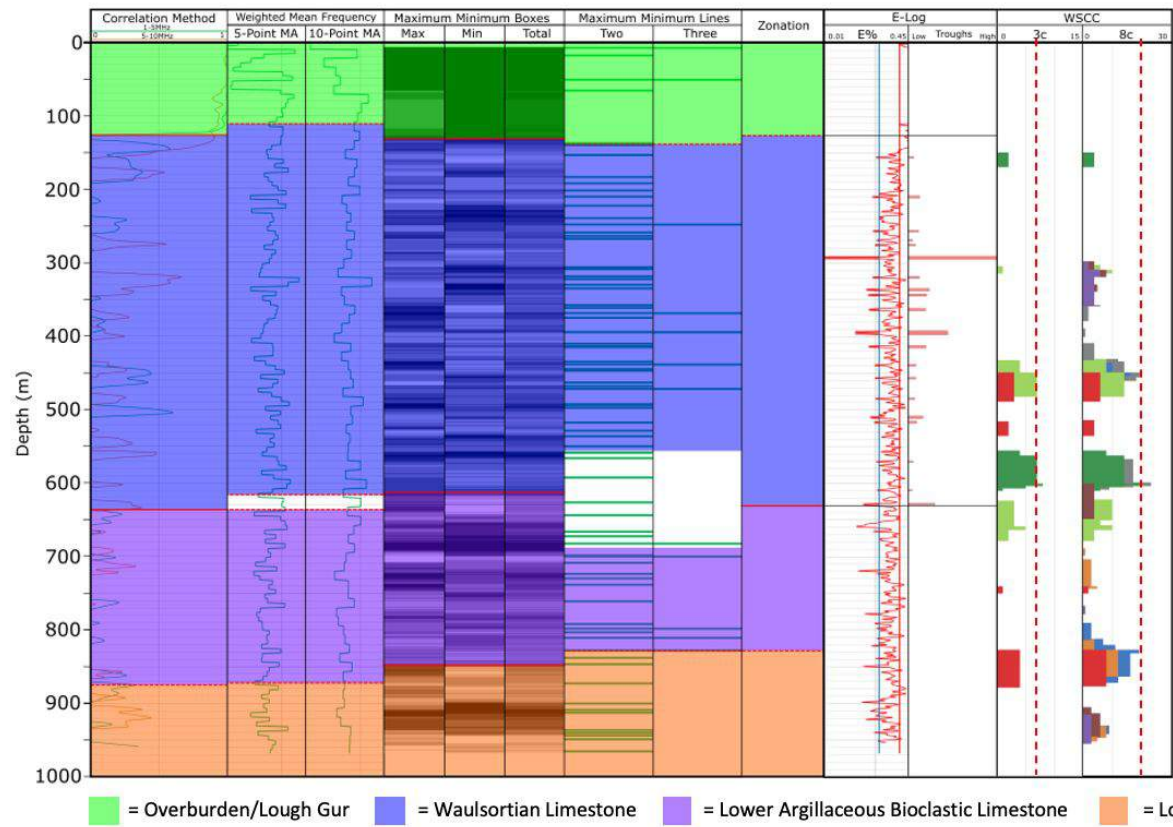
Zonation Lithology: H7 – tc2638-036



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 Siliclastic Units	785	1000

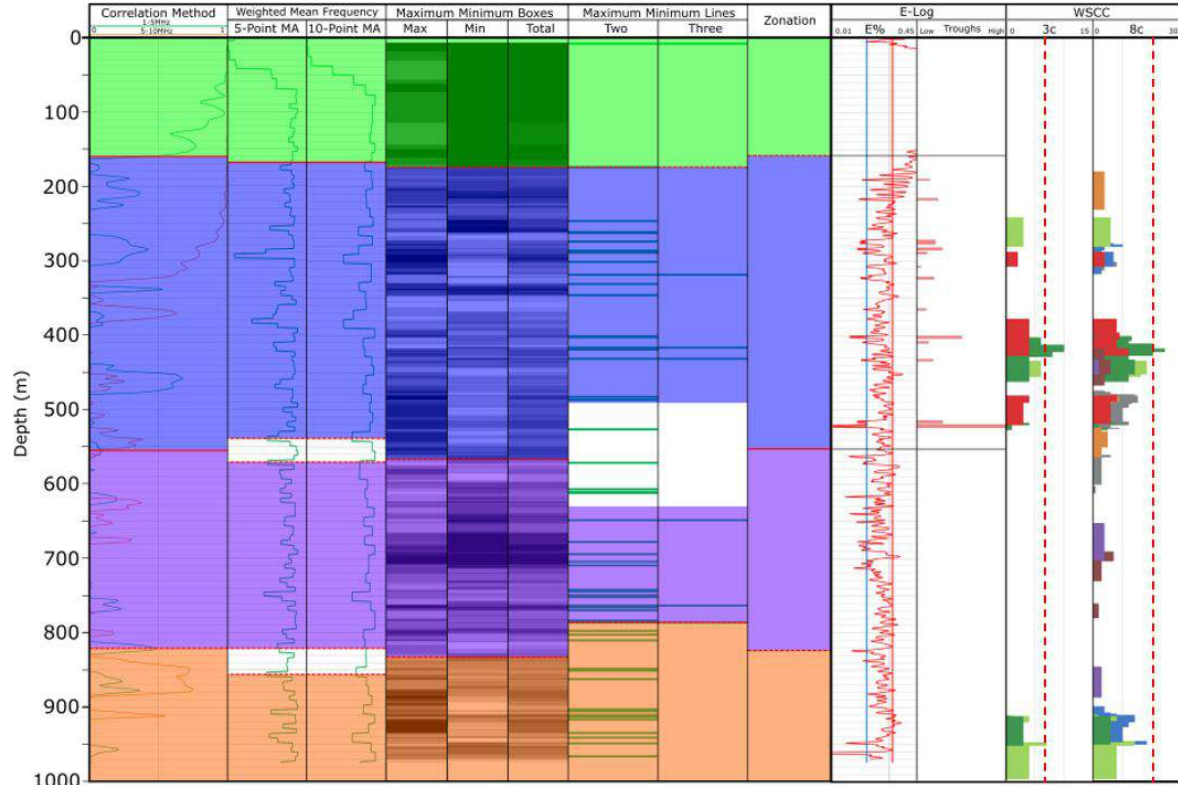
Zonation Lithology: H8 – tc2638-070



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

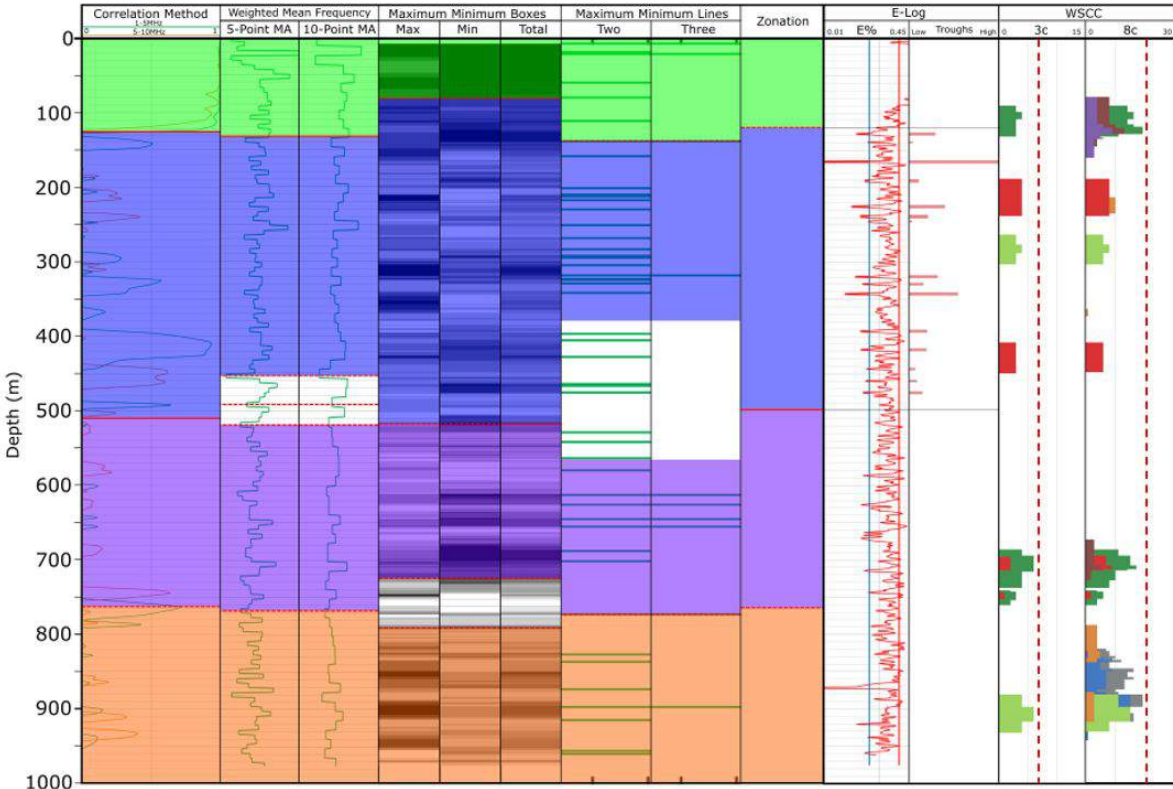


■ = Overburden/Lough Gur
 ■ = Waulsortian Limestone
 ■ = Lower Argillaceous Bioclastic Limestone
 ■ = Lower Silliclastic Units

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

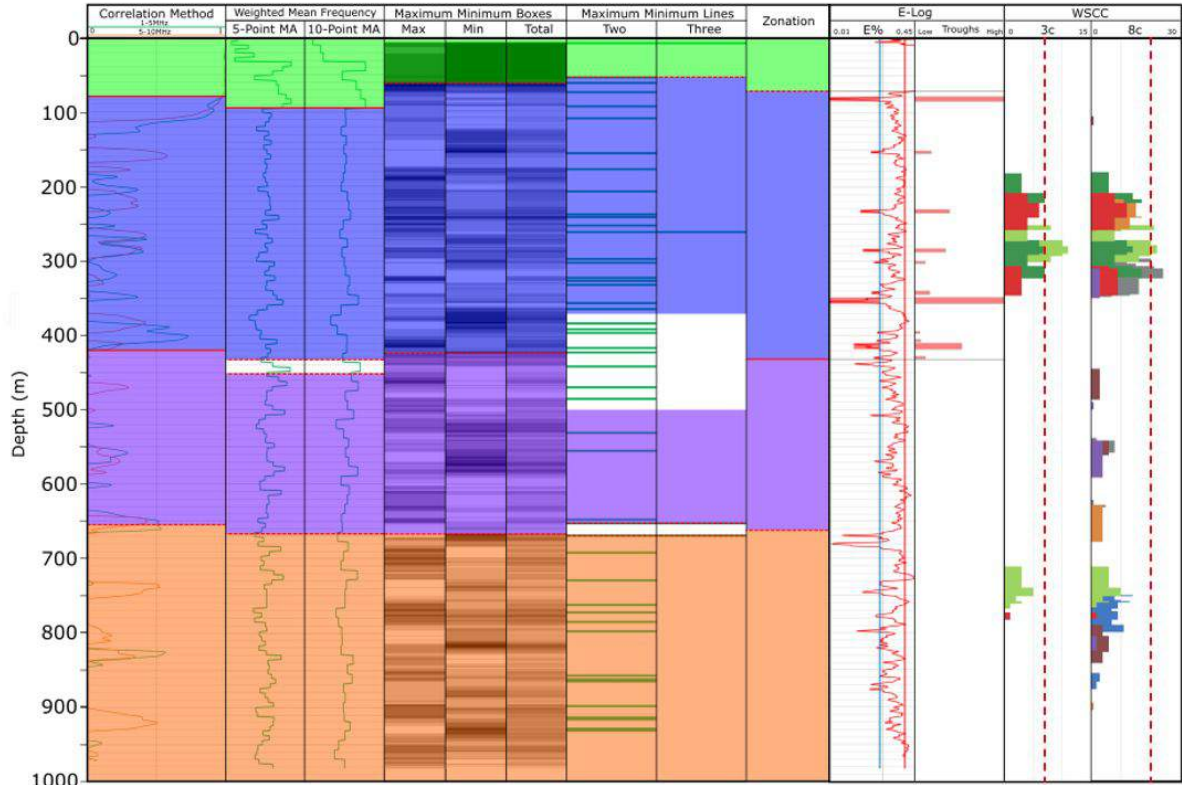


■ = Overburden/Lough Gur
 ■ = Waulsortian Limestone
 ■ = Lower Argillaceous Bioclastic Limestone
 ■ = Lower Silliclastic Units

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

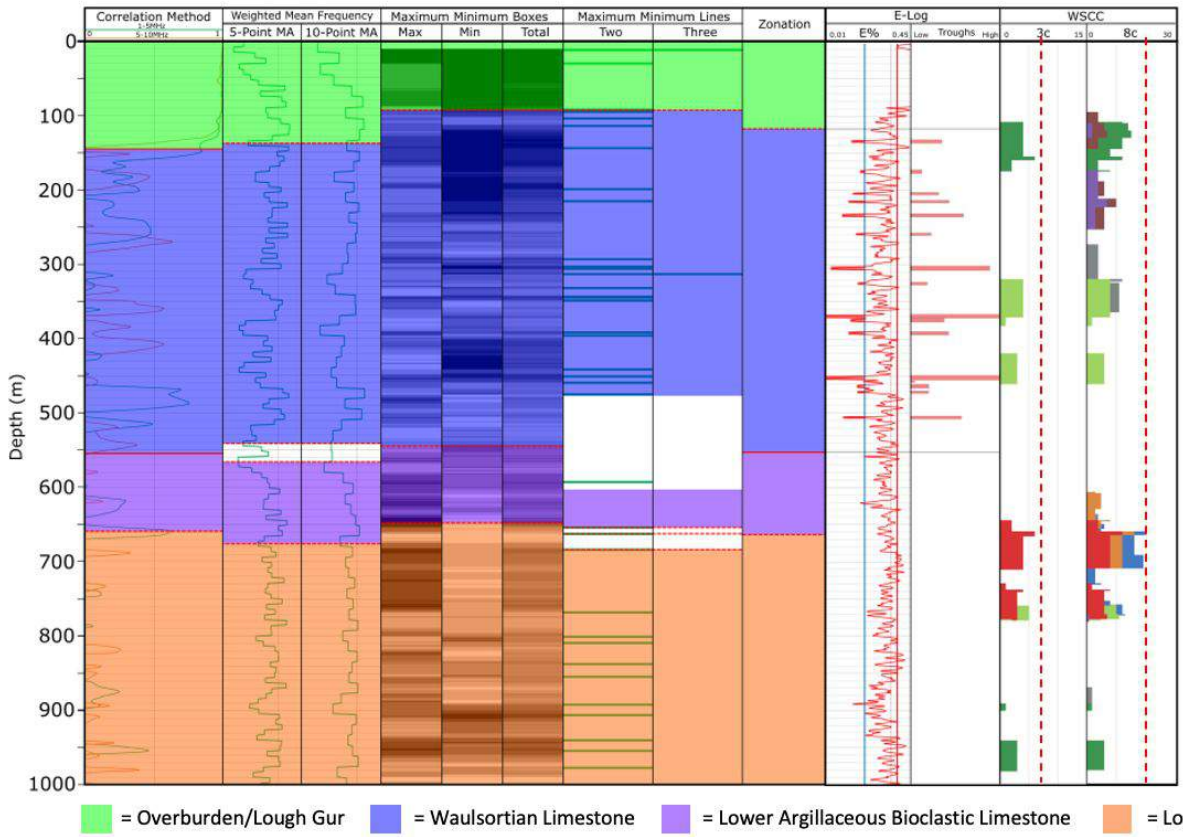


■ = Overburden/Lough Gur
 ■ = Waulsortian Limestone
 ■ = Lower Argillaceous Bioclastic Limestone
 ■ = Lower Siliclastic Units

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 Siliclastic Units	662	1000

Zonation Lithology: H12 – tc2638-P01



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