

Consistently measured digital data from drill cuttings and core

Calibrated and standardized AI-driven advanced reservoir
characterization for improved subsurface analysis



High-resolution white light image – platform carbonate



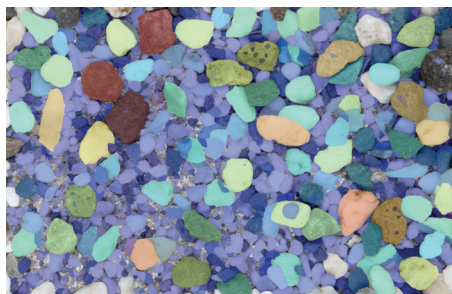
High-resolution UV image – platform carbonate

Applications

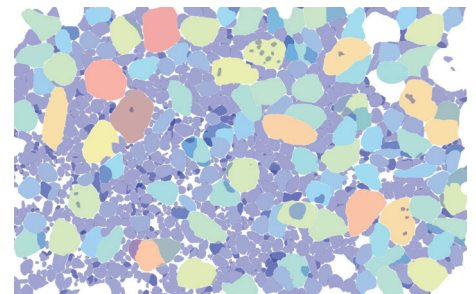
- Enhanced reservoir characterization
- Input to static modelling
- Regional sweet spot identification
- Landing point assessment
- AI-driven drill cutting particle segmentation
- Digital downhole data generation
- Digitization of rock repositories
- High-resolution imaging at the wellsite
- Automated lithofacies at the wellsite



High-resolution white light image



AI-driven particle shape segmentation



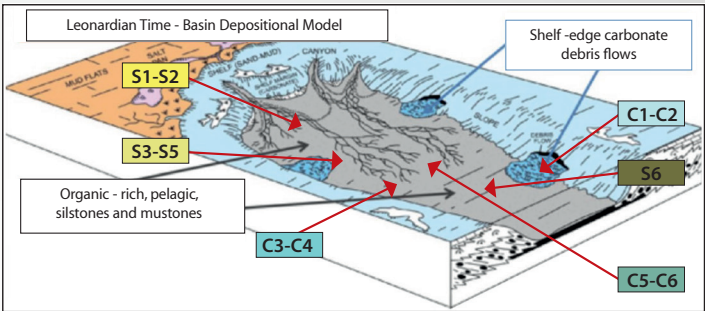
Segmentation mask

Advantages

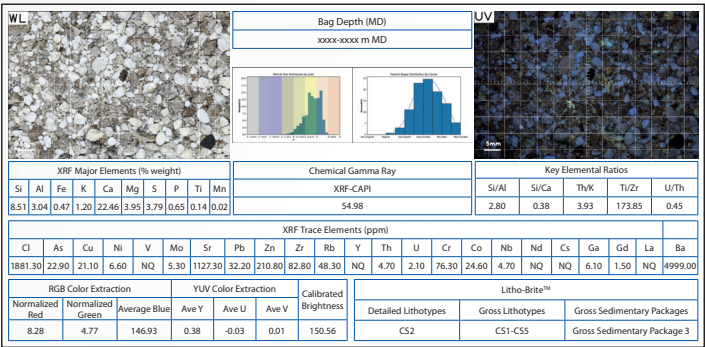
- Image analysis and XRF elemental data driven interpretations
 - Cost-effective alternative to LWD and coring, generating depth-based downhole data trends to complement or substitute wireline logs
 - In-situ, postmortem, or legacy samples
 - Drill cuttings, cores, or outcrop samples
 - Suitable for any lithology and any basin worldwide
 - Standardized play-specific lithotyping for any basin
 - Portable equipment deployable in both the field and core repositories to address sample exportation challenges
- Fully standardized and calibrated workflow
 - Comprehensive subsurface geologic interpretation: Sedimentology, sequence stratigraphy, and data-constrained analysis
 - Customizable, data rich and fully integrated, per-well Data Summary Chart
 - Numerous client testimonials from basins and fields worldwide
 - Peer reviewed scientific papers
 - Patented and trade-marked
 - Data delivered online via GEOLOG's Data Portal

Detailed Lithofacies Code	Calibrated Brightness Range	Si/Ca ratio	EFV	Dominant Lithology	Lithofacies Association Code	Dominant Lithofacies Association	Inferred Depositional Setting
S1	>90	>2	<0.8	Argillaceous siliceous siltstone/v.f. sand	S1-S2	Argillaceous siliceous siltstone/v.f. sand	High energy-low energy channel/turbidite
S2	80-99.99	>2	<0.8	Argillaceous siliceous siltstone/v.f. sand			
S3	68-79.99	>2	<0.8	Argillaceous siliceous siltstone/mudstone			
S4	61-67.99	>2	<0.8	Argillaceous siliceous siltstone/mudstone	S3-S5	Argillaceous siltstone/mudstone	Dominantly overbank/distal fan
S5	<60.99	>2	<0.8	Argillaceous siliceous siltstone/mudstone			
S6	<60.99	>2	>0.8	Argillaceous siliceous mudstone	S6	Argillaceous siliceous mudstone	Hemipelagic event
C1	>150	<2	<0.8	Massive carbonates	C1-C2	Massive carbonates	?Shelf-edge debris flows
C2	90-149.99	<2	<0.8	Massive carbonates			
C3	80-89.99	<2	<0.8	Calcareous siliceous siltstone	C3-C4	Carbonate cemented siltstone (less muddy)	Dominantly overbank/distal fan
C4	68-79.99	<2	<0.8	Calcareous siliceous siltstone			
C5	61-67.99	<2	>0.8	Calcareous mudstone	C5-C6	Carbonate cemented mudstone	Hemipelagic event
C6	<60.99	<2	>0.8	Calcareous mudstone			

Example play specific Litho-Brite™ scheme (above): Model built from image analysis and elemental data (from URTeC, 4055473, June 2024, Houston, Texas)



Visualization of lithofacies architecture and geometries, 3rd Bone Spring Sands (above): (from URTeC, 4055473, June 2024, Houston, Texas)



Example sample card display as part of a downhole digital sample catalogue (left)

Example of a data-rich Digital Cuttings™ Data Summary Chart (below): This chart displays well data, image analysis data, elemental data, and interpretation. Vertical scale: 1:1000. From Ezdeen et al., AAPG International Conference and Exhibition Proceedings, Muscat, Oman, 2024.

