

PERFORM
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AIQ



WELLINSIGHT
PERFORM WITH **AIQ**

THE CHALLENGE

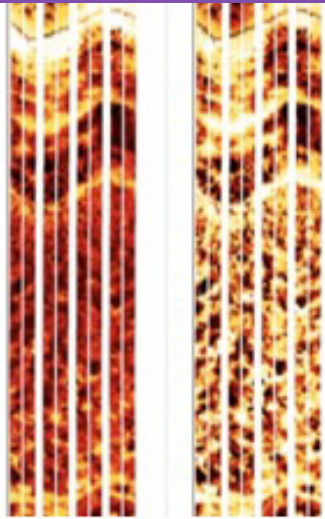


Democratizing access to high-end automated borehole image interpretation.

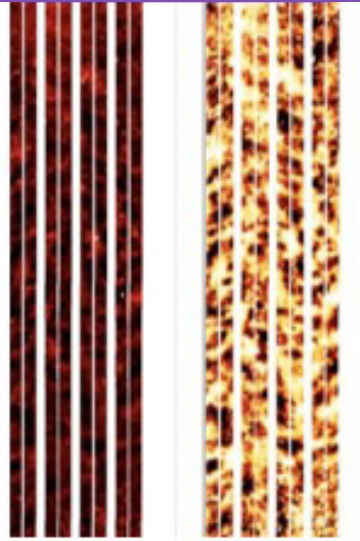
Borehole Image Interpretation (BHI) looks to evaluate the dip magnitude and azimuth direction of geological features detected along the well and to classify them. Manual interpretation of borehole images can be time-consuming and is sometimes affected by inconsistencies stemming from the different interpretation approaches used.

Thus, there is a need for a robust automatic or semi-automatic approach to reduce the manual labor and increase efficiency and consistency.

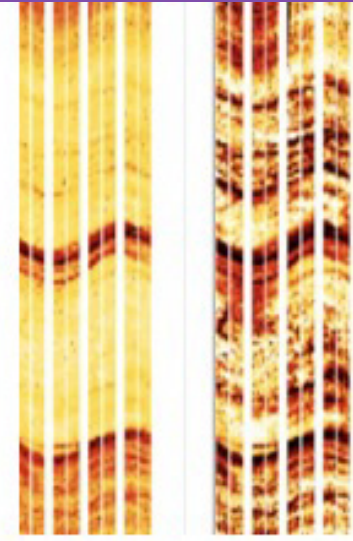
ORIGINAL IMAGES



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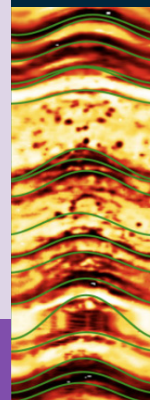
ORIGINAL IMAGES



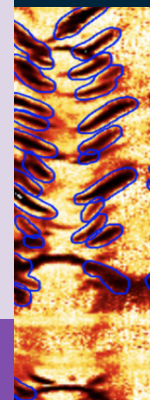
The AI-BHI picking tool is an automated AI engine that interprets borehole images with at least the same level of accuracy as an experienced geologist. Composed of different trained algorithms, AI-BHI picking automatically detects and classifies geological features from borehole images.

The solution utilizes supervised Computer Vision techniques for automatic dip picking, allowing complex pattern recognition, repeatability, reliability, and a reduction in cost and time. The baseline AI-BHI model is able to segment a borehole image into different geological or drilling-related features, and is lightweight and highly responsive.

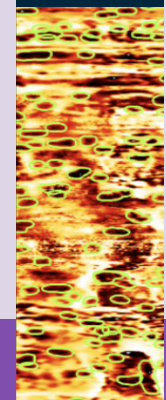
STRUCTURAL FEATURES



MECHANICAL FEATURES



SEDIMENTARY FEATURES



Three dynamic images with different features picked and identified by AI-BHI algorithms.

Geological features are classified in three main families: Structural, Mechanical and Sedimentary features.

THE SOLUTION



Other AI applications developed by AIQ run alongside AI-BHI, following a workflow designed to provide a comprehensive reference to and interpretation of various aspects of borehole geology. These applications are AI-1DMEM (Dimensional Mechanical Earth Model), AI-GeoStress and AI-Payzones.



100%
Automated Borehole Image Interpretation



Maximum value extracted out of the borehole image to increase reservoir understanding and integrate it with subsequent workflows



Provides consistent and objective interpretation by removing human bias

AI-BHI	AI-GEOSTRESS	AI-1DMEM	AI-PAYZONES
Automatically Interpret image-logs	Stress Analysis: identify critically stressed zones		Highlight net pay intervals
Structural, Sedimentary & Mechanical	Assessing principal axes orientation & stress ratio		Estimating Porosity & Permeability

WELLINSIGHT

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Allows complex pattern recognition, repeatability, and reliability to be automated, permitting a reduction in cost and time of analysis.



Reduces uncertainties and improves decision-making speed through consistent, automated insights.



Enhances wellbore stability and minimizes drilling risks, ensuring safer operations and efficient well planning.



Optimizes resource allocation by targeting productive zones, reducing geological risks, and improving operational efficiency.



Facilitates sustainable field development by enhancing well integrity and driving long-term profitability with advanced geomechanical insights.



Improves collaboration by integrating comprehensive subsurface data for better asset management and decision-making.



Automates complex analysis tasks, reducing operational costs and boosting performance.



DISCLAIMER

This booklet contains numerical data that has been sourced from our esteemed clients. It is important to note that these figures are provided in the context of their respective business operations and have been shared with us for the purpose of this booklet.

Please be aware that client-sourced data can be subject to various factors that may influence its interpretation.

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