

## FEATURES

The CarbOxSat model contains the following features:

- Saturation interpretation of all Halliburton formation carbon/oxygen data
- Halliburton's lithology-compensated Delta-C/O or traditional overlay method
- Inclusion of open hole porosity and clay volume analyses
- Stand-alone analysis using porosity and clay indicators from cased hole monitoring tools or any available source

## BENEFITS

The CarbOxSat model includes the following benefits:

- Determines volume of hydrocarbons produced from the reservoir and allows estimates of remaining reserves
- Enhances reservoir production knowledge
- Allows better understanding of hydrocarbon drainage efficiency from the reservoir
- Identifies potential hydrocarbon production zones that have not been drained or were bypassed or previously undiscovered
- Pinpoints changing oil-water and gas-oil contacts through time-lapse monitoring
- Finds flooded or swept zones

# CarbOxSat™ model

## Wireline and perforating services

This interpretive model is specifically designed for saturation analysis of a single well based on Halliburton C/O logs. The CarbOxSat model is used for interpreting oil saturation in reservoirs where formation water salinity is fresh, mixed, or unknown.

## Associated answer products and pre-processing software

- Pulse-height spectral gain stabilization and processing (RMTERL)
- Multi-pass stacking (RMTEAVG)
- Environmental corrections (RMTECOR)
- SigmaSat™ – similar model for saturation analysis of neutron decay logs
- TripleSat™ – similar family of models utilizing both carbon/oxygen and neutron decay logs, for use where three fluids are present in the reservoir

### CarbOxSat™ MODEL

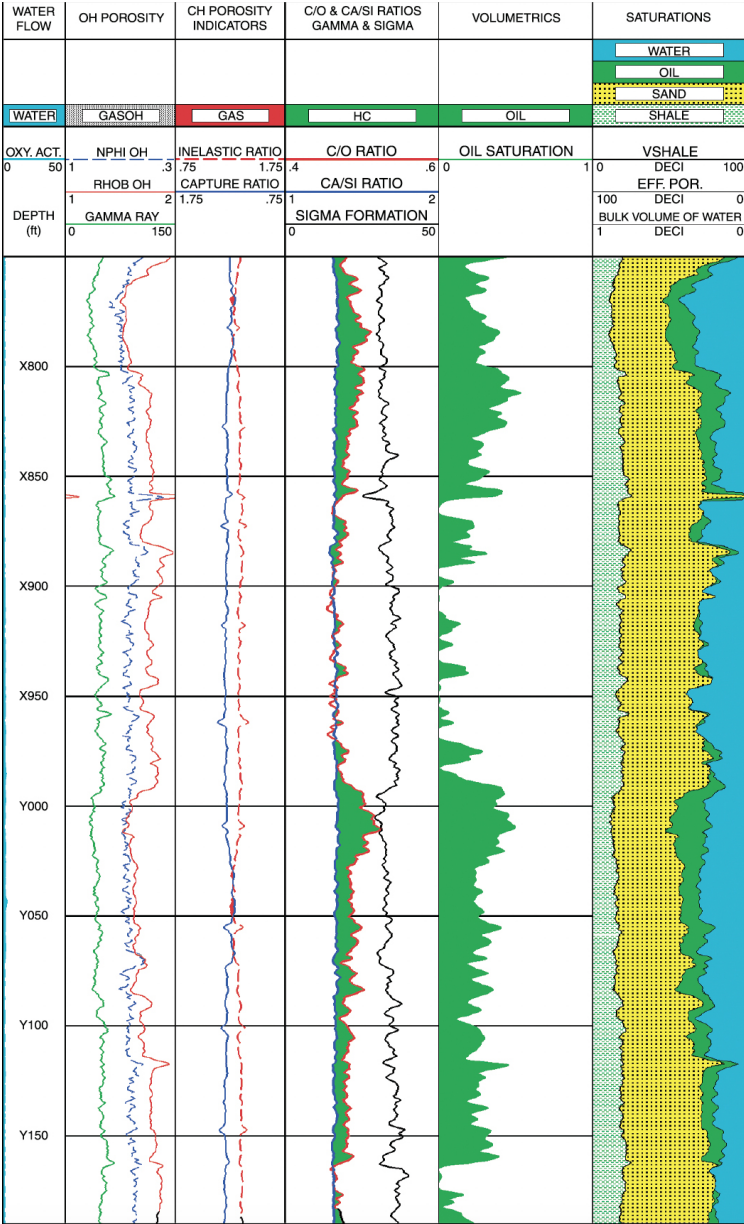
#### Inputs

Clay Volume, Total Porosity, Effective Porosity, Environmentally Corrected Carbon/Oxygen and Calcium/silica Ratios

#### Outputs

Individual and Combined Clay Volume, Total Porosity, Effective Porosity, Capture-Ratio Porosity, Inelastic Ratio Porosity, Volume of Oil, Total and Effective Oil Saturations, Water Volumes

DATA SHEET



Track 1 contains the open hole Neutron and Density porosity curves, as well as the Gamma Ray curve. Track 2 contains the cased hole porosity indicators of a pseudo- Density curve from the inelastic ratio, and a pseudo- Neutron porosity from the capture ratio. Track 3 contains the Delta-C/O envelope indicating the C/O interpretation. Track 5 shows the total hydrocarbon saturation, and Track 6 is a volumetrics track containing the volume of shale, effective porosity, and the bulk volume of water to provide water and hydrocarbon saturation.

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

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