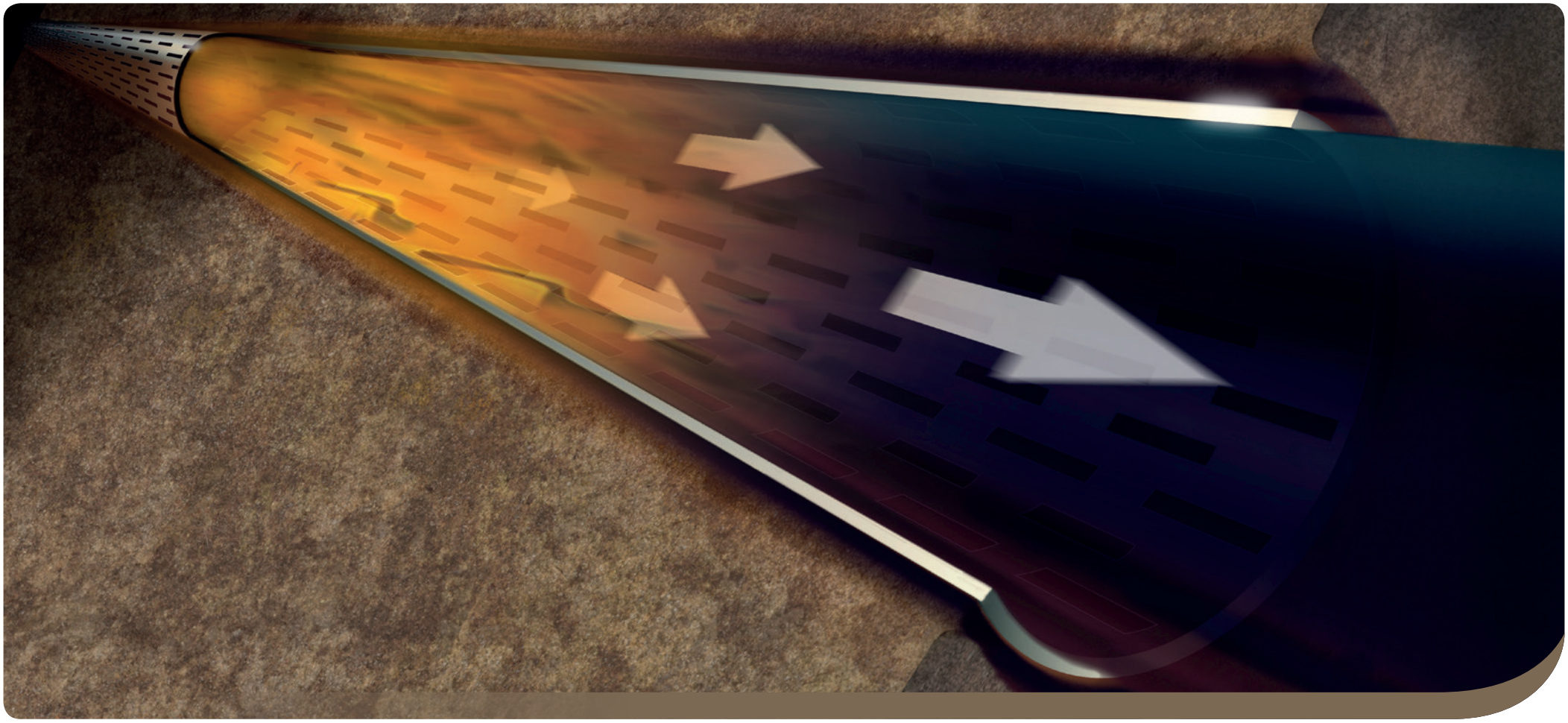
Cleansorb
THE UNIFORM EFFECT



Control your cleanup

Uniformly remove OBM filter cake to optimize well productivity

Cleansorb ORCA FOR OBM

The uniform effect all along the wellbore

Cleansorb ORCA FOR OBM

Effective removal of drilling damage before putting wells on production maximizes well performance, cash flow and NPV.

ORCA for OBM enables operators to retain and improve permeability in horizontal openhole completions and increase production in mature wells without the need for rig intervention.

ORCA's uniform wellbore cleanup ensures the cleanest wells and maximizes production to deliver significant financial benefits.

Maximize production of new wells from day 1 or successfully remediate underperforming wells

- optimize zonal coverage and achieve uniform radial and longitudinal fluid placement throughout the wellbore, thereby optimizing production from the whole of the horizontal section
- maintain and improve permeability all along the payzone

Reduce pumping time by up to 75%

- significantly reduce pumping time and remove the need for stimulation vessels and waiting on weather
- mix using standard equipment
- placement on new wells using the mud pumps and drillstring
- placement for wells already on production via coiled tubing or bullheading
- reduce or eliminate the need for swabbing

In some cases it is possible to use ORCA for OBM as a gravel packing fluid, where the filter cake remains intact during gravel placement before being broken down. Placement post gravel packing can be achieved using a wash pipe.

Improve HSE/environmental compliance

- improve HSE on the rig, removing the need for the transport and handling of corrosive and hazardous conventional acids
- benign non-corrosive formulations
- no need for corrosion inhibitors
- protect intelligent completion hardware
- leave in wellbore for months before flowing well
- no requirement for complex disposal post treatment
- ORCA for OBM chemicals are not regulated for transport, are low hazard and can be air freighted if necessary

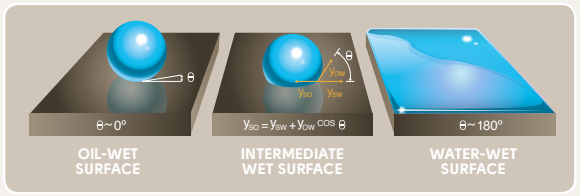
Uniformly remove oil-based mud damage in long openhole horizontal and deviated wells in a single treatment

ORCA for OBM treatment fluids are used to treat filter cakes arising from drilling with oil-based drill-in fluids. ORCA for OBM treatment fluids are applied to treat new wells when first drilled or as remedial treatments for wells already on production.

ORCA for OBM is particularly suitable for treatments of wells drilled with oil-based, synthetic oil-based and ester-based drill-in fluids and ideally fluids containing carbonate weighting materials or formation fines. ORCA for OBM treatments are effective in a wide range of oilfield brine types and densities. Barite dissolution can also be achieved using other Cleansorb additives.

ORCA for OBM treatments optimize zonal coverage to regain and improve permeability along the payzone and improve mud damage removal for horizontal wells where lower draw down limits the ability for wells to 'self-clean.' Uniform wellbore cleanup ensures the cleanest wells and maximizes well production to deliver significant financial benefits.

WATER-WETTING



Before the treatment filter cake particulates and the formation face are oil-wet and cannot be dissolved by acid. During the treatment filter cake particulates and the formation face become water-wet and can be dissolved by in-situ acidizing

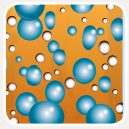
IN-SITU ACIDIZING

Acid generated in-situ dissolves acid soluble solids such as calcium carbonate weighting material or drill cuttings fines

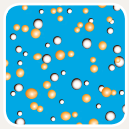
PARTICULATE DISPERSION

Water-wetting of the filter cake particulates enhances their dispersion into the ORCA for OBM treatment fluid

OIL SOLUBILIZING



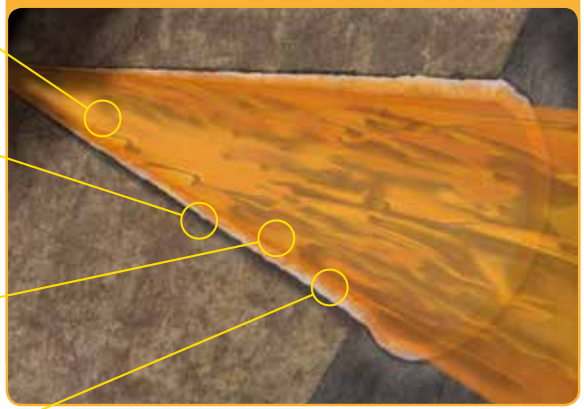
Before - Pre treatment the oil-based mud filter cake contains a water in oil emulsion from the drilling fluid



After - ORCA for OBM employs a surfactant package to micro-emulsify the hydrocarbons from the filter cake into the ORCA fluid

FILTER CAKE IS A BARRIER TO PRODUCTION

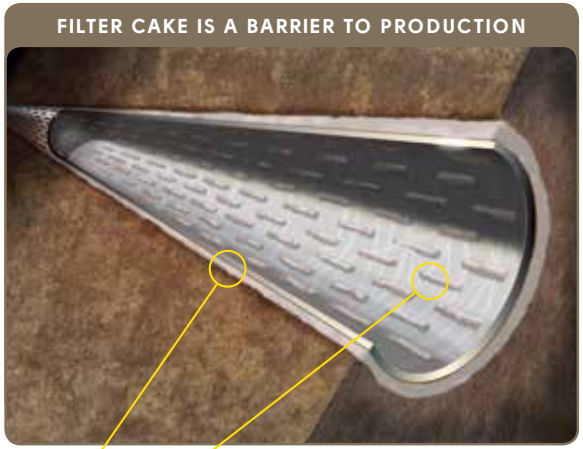
ORCA FOR OBM MULTIPLE ATTACK TREATMENT

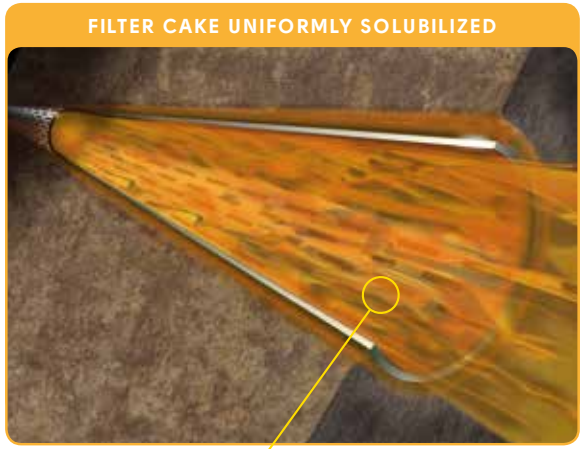


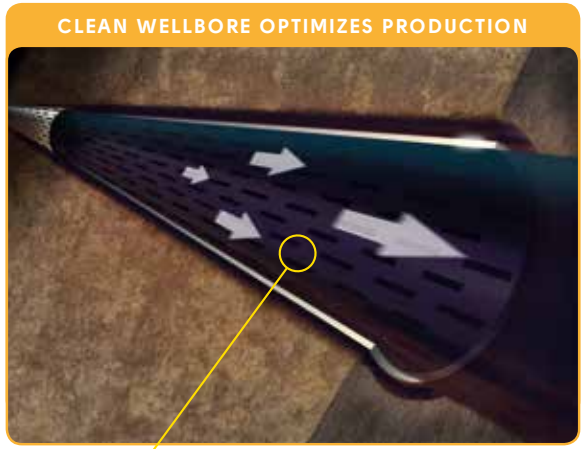
CLEAN WELLBORE OPTIMIZES PRODUCTION

Uniformly remove filter cake from sand control completions in a single treatment

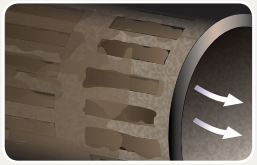
Where sand control completions such as screen completions are used, solubilizing the filter cake using ORCA for OBM before placing the well on production enhances sand screen life by preventing the possibility of the filter cake lifting off and blocking the screen or other sand control completion if left untreated.







WELLBORE FACE & SCREEN BLOCKED WITH MUD

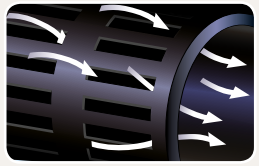


Untreated drilling mud filter cake can block and impede flow through sand screens when wells are activated

ORCA FLUID DISRUPTS MUD RESIDUES

ORCA for OBM disrupts and dissolves drilling mud filter cake and acid soluble solids to enhance flow through screens

OPTIMAL FLOW THROUGH CLEAN SCREEN

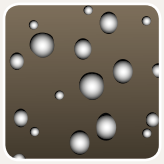


Uniform mud damage removal across the whole interval reduces the likelihood of flow ‘hot spots’ and enhances screen life

Uniformly remove emulsions formed during completion operations in a single treatment

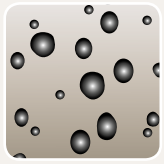
ORCA for OBM may also be effective for remediation of emulsions formed during completion, for example when displacing liquid muds to clear brines. ORCA for OBM will effectively treat such damage.

EMULSIONS



Viscous water in oil emulsions can be formed in the near wellbore formation during drilling and completion operations

EMULSION DISPERSION/REMOVAL

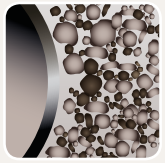


ORCA for OBM breaks and removes water in oil emulsions from the near wellbore formation and leaves surfaces water-wet

Uniformly remove near wellbore damage in a single treatment

Near wellbore production related damage such as scales may be amenable to solubilization by ORCA for OBM, restoring productivity of damaged wells. If carbonate scaling is present the scale is often associated with hydrocarbon layers. ORCA for OBM may be formulated to dissolve both the carbonate and hydrocarbon components of such scales including paraffin and asphaltenes. Removal of near wellbore damage such as infiltrated drilling fluid solids may also be treated using ORCA for OBM.

INFILTRATED DAMAGE



Damaged rock

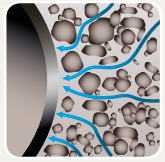
Drilling fluid solids that infiltrate the formation are barriers to flow

SCALE DAMAGE

Production related damage

Scale may be deposited in the near wellbore formation or tubulars during production

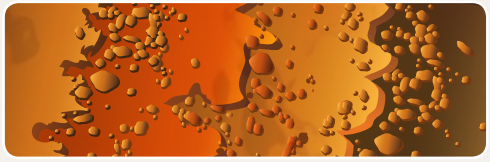
INFILTRATED DAMAGE REMOVAL



Damage removed

Removal of solids that have infiltrated the formation restores the natural permeability of the formation and improves fluid flow

SCALE DAMAGE REMOVAL



Removing scale damage

ORCA for OBM dissolves acid soluble scales such as calcium carbonate to restore flow

Laboratory validated

Uniform removal of OBM filter cake damage

ORCA for OBM is particularly suitable for treatments of filter cakes produced from commonly used oil-based drilling muds and drill-in fluids especially those containing:

- synthetic oil-based drill-in fluids
- ester-based drill-in fluids

Pre-treatment
The filter cake is fully intact and has formed a barrier all along the wellbore which can impair production and injection.

Post-treatment
After applying the ORCA for OBM in a single step the filter cake has been uniformly removed. All hydrocarbon damage has been removed and emulsions destroyed. All acid-soluble particles have been removed significantly improving the well productivity when flowing the well.

Proven and robust technology

- proprietary acid precursors and surfactant systems
- proprietary technology engineered for specific applications prepared by the Cleansorb team of chemists and field engineers
- effective on all common oil-based muds, drill-in fluids and completion brines
- technical validation and laboratory results available
- field case histories (cleansorb.com) prove the efficacy of the technology and its value to operators

Cleansorb

The innovative reservoir chemistry company

Cleansorb's patented in-situ acid generation technologies achieve uniform radial and longitudinal distribution of cleanup and stimulation fluids in the target zone(s) without risk to the formation, environment or completion equipment.

Get in touch

Cleansorb has a team of ORCA for OBM specialists to advise you on the best strategy for your circumstances.
Please email **contact@cleansorb.com** for more information.

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