



# Onshore Oilfield Services

*WATER TECHNOLOGIES*

# Innovative Solutions to Improve Production

Oil and Gas exploration and production processes are highly complex and capital-intensive. Production companies face challenges related to cost structure swings, asset protection, safety, climate, geographic hazards and environmental constraints across the diverse conditions they operate in.

Veolia offers unique solutions that drive down lease operating expenses and minimize problems that threaten well profitability. We integrate chemicals, technologies, equipment systems, and robust service support to provide a balanced approach to solving customer problems and maximizing production efficiencies. We collaborate with your experts to optimize chemical usage, objectively measure our performance, and ensure that we positively impact your balance sheet economics.

With over 160 years of operational experience, Veolia focuses on your field's future production and securing flow assurance. We understand the variability in wells and their need to be addressed separately to reduce costs across the entire field, and enhance your results.



## HYDREX™ Chemicals

- Scale & Corrosion Inhibitors
- Chemical Sensors for Verification
- Bacterial Control
- H<sub>2</sub>S & O<sub>2</sub> Scavengers
- Iron Sulfide Dissolvers
- Hydrate Inhibitors
- Emulsion Breakers
- Foamers & Specialty Surfactants
- Paraffin & Asphaltene Deposit Control
- Calcium Naphthenate Inhibitors
- Produced Water Recycle & Reuse
- Odor Abatement
- Friction Reducers & Cross Linking Agents

## Hydrex Protection

Veolia's comprehensive line of Hydrex™ performance chemicals provides effective protection against your stimulation, completion, deep well injection, midstream and pipeline challenges.

Our operational culture drives the continuous improvement which separates Veolia as a leader in all its business interests. Our Hydrex technologies deliver the results you expect at your well sites to support your business objectives.

We are aligned with your needs to operate efficiently and cost effectively, while producing a quality product. Through our Hydrex chemicals, our goals are to maximize your production efficiency rates, protect your asset integrity and maximize life cycle costs while assuring that your overall lease operating expense is minimized.



## Robust Technical Support

Members of Veolia’s technical team and district lab staff collaborate to evaluate and diagnose field problems and recommend cost-effective solutions. We help develop new and improved products and applications by utilizing our collaborative field experience with validated laboratory analytics. Our regional laboratory provides a second line of support for our field experts, and helps coordinate the introduction and evaluation of new solutions for producers.



## Analytical Services

Veolia’s laboratories service our clients 24/7 for analytical and technical support. We perform many analytical procedures, ensure product quality control, provide field problem resolution, and technical assistance. Our labs are staffed by experts in all aspects of gas and oil production, oil and water treatment, water disposal, and injection management. The lab also performs qualitative analyses of deposits and uses a centrifuge for solids/sludge determination in aqueous or hydrocarbon fluids.



## Delivery & Additional Support Services

Veolia’s dedicated warehouses are serviced by our own delivery vehicles and contain product inventory that is managed to your program needs. We provide around-the-clock delivery service, 7 days a week. We can also provide “cradle-to-grave” service, which includes both collection and disposal of used oil, filters, and ancillary wastes, ensuring environmental compliance. Our staff can also provide customers with the proper government paperwork, and our safety and environmental managers are always available to help customers with any compliance issues they might face.

## Technical & Analytical Services

- > Analytical Laboratory Services
- > On-Site Chemical Analytical Testing
- > Site Specific Program Development
- > Breakthrough Tests
- > Chemical Feed System Installation & Monitoring
- > Flow Assurance Studies
- > Automated Chemical Inventory Control
- > Computerized Modeling & Simulation
- > Emulsion Breaker Evaluations
- > Foam Abatement Testing
- > Predictive Scale & Corrosion Studies
- > Failure Analysis
- > Microbiological Control Monitoring
- > Operator Training Classes

## Program Automation & Control

At Veolia, we don't just provide treatment chemistry, equipment and service. We provide you comprehensive solutions that deliver the results you expect.

From the time you place your order until the time you receive performance results at the wellhead, Veolia manages the technologies, delivery capabilities, on-site services and advanced automation & control components to minimize your involvement, so that you can focus on production.



## Data Management & Control

Veolia's Aquavista™ technology also extends to our cloud-based data management programs that proactively manage your wells to alleviate operational problems that impact reliability.

Aquavista provides you the insight to confirm that conditions downhole are where they need to be. Aquavista is also used to report on chemical inventory and chemical feed equipment functionality.



## Automated Feed & Control

Our complete line of Veolia controllers ensure control over our Hydrex technologies that are applied at your wells. These controllers provide real-time monitoring of your process, as well as the chemistries used at your wells, ensuring they operate reliably and efficiently.

In addition, Veolia offers our customers a fully staffed Aftermarket equipment sales/service capability.

### Veolia Aquavista™ Features:

- > Continuous, cloud-based monitoring of your system's performance, chemical residuals, and product inventories
- > Secure, real-time data available over any internet or cellular connection
- > A standardized method for operators and treatment specialists to save wet tests, controller data and inventory data to analyze performance trends
- > Accessible by computers, tablets and mobile phones

# What to Expect from Veolia

Our field teams work closely with each customer to select specific products and devise targeted solutions that maximize flow assurance and improve your bottom line:

- On-site surveys at each well/field laboratory modeling your operational conditions to identify potential processing problems
- Predictive tools to clearly define any operational limitations
- Simulated pilot studies that validate the chemical approach being designed
- A technically robust chemical program is then finalized
- Program is validated by Veolia engineering to ensure product marketability and minimize any environmental issues
- On-site client meetings to review the program, the implementation strategy, develop Key Performance Indicators (KPI's) and assess the sustainability impact
- Development of a transition plan, including a customized service program for each client to guarantee that asset protection and production efficiency are maintained



## Design & Develop

On-site surveys, direct site interface, laboratory analysis, technical support

## Validate & Review

Laboratory simulation, pilot studies, economic modeling, program development

## Deliver & Perform

Hydrex, Aquavista, on-site service, program monitoring

## Environmental & Personal Safety Program

Our Seven Safety Elements Are:

1. Management Commitment
2. Safety Responsibility and Accountability
3. Employee Involvement
4. Hazard Identification and Control
5. Accident Investigation and Reporting
6. Training
7. Planning and Evaluation

*More than 169,000 global employees working in customer systems, Safety and Environmental Stewardship are at the core of every activity Veolia undertakes. Our GOAL is to conduct SAFE activities in a SAFE manner every day.*

# Resourcing the world

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