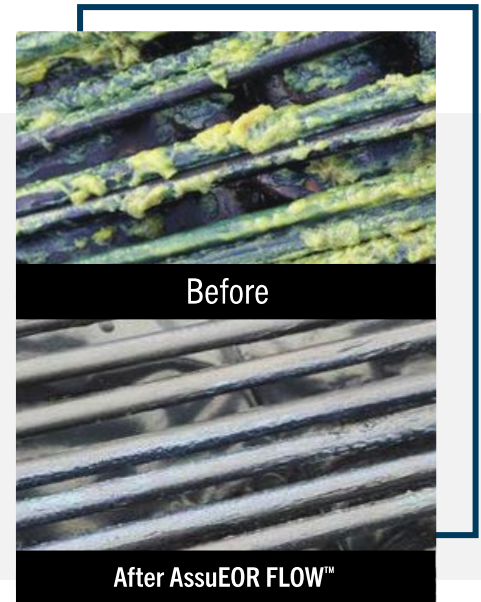


# AssurEOR FLOW<sup>®</sup>

## Paraffin Remediation and Wellbore Cleaning

A high-performance blend of unique biosurfactants to disperse organic deposits in production wells; designed as a pre-treatment to AssurEOR STIM<sup>®</sup>



### Unique Multifunctional Attributes

- ✓ Disperses paraffin from rods and tubing and, unlike other treatments, keeps it in suspension for unrestricted flow
- ✓ Safely cleans wellbores and surface production facilities
- ✓ Minimizes flash point, toxicity or HSE issues
- ✓ Returns near wellbore area and tubulars to a water-wet state, offering added value through significant production increases when in contact with reservoir perforations
- ✓ Improves the condition of flow lines and storage tanks

### Biosurfactant Advantages:

- Low IFT and surface tension properties
- Formation wetting ability
- Exceptionally low CMC (critical micelle concentration)



### User Benefits:

- Keeps paraffins dispersed throughout production cycle
- Proven increases in production
- Improved cost/effectiveness of paraffin control over alternative chemical and mechanical methods



### Typical Applications

- Typically used in conjunction with AssurEOR STIM<sup>®</sup> for production enhancement and well stimulation
- Applications in horizontal and vertical wells
- Periodic batch treatments
  - Down annulus for paraffin remediation and flow line cleanup
  - Into tanks for cleanout
- Initial treatment frequency varies between 2-8 weeks
  - Frequency can often be extended after initial remediation and optimization. Subsequent incremental production responses are possible in many cases.
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### Treatment Guidelines

- Treatments are customized to individual wells
- Oil and water-soluble fractions to be mixed in-situ at deployment site
- Typical treatment volumes in vertical wells range between 40 and 200 gallons
  - Depending on parameters such as desired contact time, length of perforation zones, paraffin carbon chain composition, production volumes and well configuration
- Can be offered as a finished product or as a concentrate to be diluted to a desired field strength