



CAPABILITIES OVERVIEW - CARLYLE LABORATORY

Test or Analysis	Equipment / Method
Comprehensive Quality Control Program	<ul style="list-style-type: none">• Includes all Incoming Raw Materials and all Lots of Blended Products• Quality Control Samples Retained For One Year• Product Stability/Cold Temperature Testing
Fluid and Solids Analysis	<ul style="list-style-type: none">• Full Oil Analysis (Sulfur, Density, Kinematic and Dynamic Viscosity, Pour Point, Vapour Pressure)• Full Water Analysis• Millipore Analyses• Solids/Scale/Deposit/Hydrocarbon Analyses• XRD Analysis
Corrosion and Scale Inhibitor Program Analysis	<ul style="list-style-type: none">• Residuals Monitoring• Fe, Mn, Na and Ca Testing and Trending• Corrosion Failure Analyses• Emulsion Tendency Evaluation• Evaluation of Water/Oil Phase Partitioning and Compatibility
Wax Analysis and PPD Testing	<ul style="list-style-type: none">• Viscosity-temperature Analysis• Molecular Composition by GC-FID• Evaluation of Wax Dispersants and Solvents• Hot Flask Testing
Acid Stimulations	<ul style="list-style-type: none">• Designing Acidizing Packages• Acid Compatibility Testing
Bacteria Counts	<ul style="list-style-type: none">• SRB, APB Bacteria Bottles• ATP (LuminUltra)
Fracturing Fluids	<ul style="list-style-type: none">• Fluid Design, Testing, Trouble-shooting• Design and Selection of Frac Fluid Additives
Demulsifiers	<ul style="list-style-type: none">• Bottle Testing For Product Evaluation, Trouble-Shooting and Product Development• Water Treating• Water Compatibility• Scaling Tendency Calculation Software