STEP-SVS-2 Viscoelastic Surfactant Fluid

The STEP-SVS-2 viscoelastic surfactant fluid system is designed to provide an easy-to-use, yet effective method of creating a strong viscoelastic fluid. This fluid can be used either on its own as a heavy linear gel to carry proppant, or combined with nitrogen to create a viscous foam. Upon foaming with nitrogen, this emulsified fluid is capable of carrying high concentrations of proppants downhole. This system provides the benefit of using less water than traditional crosslinked fluid systems, which makes it beneficial in formations which may be water sensitive. One of the benefits of the SVS-2 fluid system is its ability to be adjusted to accommodate a wide variety of salinities in its base fluid. With lab testing, brines up to eight per cent salinity can be accommodated. The SVS-2 Fluid system is typically run using 15-30 L/m^3 of the surfactant SVS-2, dependent upon reservoir temperature and required viscosities; SVA-2 is run at 6 L/m^3 when SVS-2 is run at 15 L/m^3, and scaled proportionately as the SVS-2 increases. The system is broken with the breaker, SVB-1.

Properties:

- Reduces water usage
- Suitable for water sensitive formations
- Can be used with a wide range of base water salinities, including some produced brines
- Creates a stable foam with nitrogen
- Temperature ranges up to 100°C
- Very low residue system, and formation friendly
- Operationally easy-to-use
- Water should be heated to ensure a minimum slurry temperature of 20˚C
- Compatible with a wide range of scale inhibitors, biocides, and other chemicals

Technical Data:

Table 1: Recommended System Loadings

Temperature	20-60˚C	60-70˚C	70-90 ˚C
SVS-1	15 L/m^3	20 L/m^3	25 L/m^3
SVA-2	6 L/m^3	8 L/m^3	10 L/m^3
SCS-1	2 L/m^3	2 L/m^3	2 L/m^3
SVB-1	2 L/m^3	1 L/m^3	1 L/m^3