**SL-slk | Slick-water Fracturing Fluid System**

**Product Description**

Compared with the conventional water-based gel fracturing fluid system, SL-slk Water System are as follow:

(1) Because no high molecular polymer is involved in SL-slk Water System, thus, the system has higher propped fracture diverting capability for low-permeability reservoir, at the same time, this kind of low-damage fracturing fluid can result in longer effective fracture.

(2) In this system, only a very small amount of proppant will achieve the similar proppant filling effect as the ordinary polymer fracturing fluid.

(3) In this SL-slk Water System, active water is used as the fracturing fluid, with distinct difference with conventional gel fracturing in terms of rock failure mechanism, fluid distribution in the fracture, the fracture extension mechanism and fracture geometric shape.

(4) The flowback rate after fracturing is significantly better than the conventional guar gum fracturing fluid, which effectively reduces the damage to the reservoir.

**Adaptability of SL-Slick Water System**

(1) Low-permeability formation

In the low permeability reservoir, the fracture requires lower fracture diverting capability. The oil-gas reservoir permeability demarcation of the slick-water fracturing is that the fracturing technology is mainly used for oil-gas reservoirs with permeability respectively lower than 0.05×10^{-3}m^2 and equal to (0.05 ~ 0.1)×10^{-3}m^2 as well as used for naturally fractured oil-gas reservoirs with permeability greater than 0.1×10^{-3}m^2.

(2) High-strength rock formation

The higher the Young’s modulus for the rock, the harder the rock; the easier is to form rough joints fracturing for more conducive to keep the fracture open, thus, maintaining the fracture diverting capability. This fracturing technology is mainly used for oil-gas reservoir with the Young’s modulus greater than 3.4475×10^4 MPa, and as well as in oil-gas reservoir with Young's modulus (3.4475 ~ 6.892)×10^4 MPa.

(3) Low closure stress formation

Low stress is conducive to keep the residual fracture open, the closure stress gradient is generally required to be less than 0.0176MPa/m; the lower the closure stress, the greater the pressure difference the stratum, the better the slick-water fracturing.

(4) Formation with naturally developed fractures

In the reservoir with natural fractures, the hydraulic fracturing can extend along the natural fracture network, enhancing the diverting capability of the fracture and facilitating the connectivity between the natural fracture network and wellbore.

(5) Formation with low pressure

It is difficult to use traditional gel fracturing for the flowback in the formation with low pressure, the gel left in the formation will cause damage to the reservoir, while the slick-water fracturing contributes to accelerating the flowback and prevent against reservoir damage caused by gel.

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**Technical Indicators**

**Technical Indicators Slick-water Fracturing Fluid System**

<table>
<thead>
<tr>
<th>Item</th>
<th>Indicator</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Drag reduction agent is white or white powder/white emulsion</td>
</tr>
<tr>
<td>Solid content</td>
<td>≥90%</td>
</tr>
<tr>
<td>Grain size</td>
<td>≤30 meshes (powder)</td>
</tr>
<tr>
<td>Dissolubility</td>
<td>The friction resistance is 35%~45% of water friction resistance</td>
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</tbody>
</table>

SL-slk Water system resistance reduction rate will decrease with increasing concentration. The 0.1~0.2% SL-slk Water system used as resistance reducing agent for slick water fracturing fluid, and the difficulty of construction reduced simultaneously.

![Graph 1](image1.png)

Fig. 3 0.1% and 0.2% SL-slk Slickwater System flow rate and pressure-drop curves

![Graph 2](image2.png)

Fig. 4 0.1% and 0.2% SL-slk Slickwater System flow rate and resistance reduction rate

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Instructions

Dissolve 0.1~0.2 % SL-slk Water powder or emulsion (used with amount-increased equivalent ingredient), and then add 0.3% organic anti-swelling agent and 0.3% cleanup additive. The fluid preparation of the entire system is simple and time-saving, and it has significant application advantages for continuous fracturing works with large output volume.

Other Additives

Our company also provides anti-swelling agent and cleanup additives which match with SL-slk Water System.

Packing and Storage

Packing: 200 kg iron or plastic drum, also could be packed by consumers’ demand.