

PRODUCT FACT SHEET

Category- OIL FIELD CHEMICALS



NIF (NON INVASIVE FLUID) ADDITIVE: Category: CHEMICALS:
DRILLING MUD/CEMENTING

Aim: Filtrate loss control and borehole stabilizing agent, by creating non-invasive membrane that can withstand a differential pressure of ~ 3000 psi. To provide a window to drill depleted reservoir of about 3000 psi differential pressure.

Field: To be used in deep Eocene wells of Assam field depth range 3500-5500m.

Mud weight proposed: 11-15 ppg (Water based mud)

Open Hole section: 1000-1500 m

Hole Size: 8 ½" BHT: < 1300 C (Maximum)

Formation: Shale/sand stone/clay.



ITEM DESCRIPTION: Non Invasive Fluid additive having following specifications:

Sl. No	Specifications
1.	Physical State: The material shall be in the form of powder, free from lumps
2.	Moisture Content at 105 ± 2 degC, percent by mass: 12.0 (Maximum)
3.	pH of 5% (w/v) Solution of the Material in Distilled Water at 24 ± 2 degC: 10.0 (Minimum)
4.	Performance test : * To be tested in sand bed test cell *
	Make a sand bed of 20/40 mesh frac sand of 15 cm height in the test cell.
5A.	Fresh Water Mud
	(i) Base mud A
	Prepare a 10 to 15 cp Bentonite suspension. Add 0.4% XCP, 1.2% PAC(L), 0.3% PAC (R) maintain pH 9.5 to 10 by adding KOH. Add 0.2% magnesium oxide. Hot roll at 100°C for 24 hours. Perform invasion test in sand bed test cell at 100 psi. Requirement: To be observed.



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	<p>(ii) In base mud A</p> <p>Add 2% NIF additive. Mix thoroughly.</p> <p>Hot roll at 100°C for 24 hours.</p> <p>Perform invasion test in sand bed test cell at 100 psi.</p> <p>Requirement: Invasion should not be more than 8 cm.</p> <p>Note: The NIF additive in the above formulation should not adversely affect the rheology of the base mud including Oil emulsified water based mud.</p>
5B.	<p>Salt Water Mud</p> <p>(i) Base mud B</p> <p>In fresh water 5% KCL, 0.45% XCP, 1.2% PAC (L), 0.3% PAC(R) & 6% OIL approved micronized CaCO₃, maintained PH to 9.5 - 10 by KOH.</p> <p>Add 0.2% magnesium oxide.</p> <p>Hot roll at 100°C for 24 hours.</p> <p>Perform invasion test in sand bed test cell at 100 psi.</p> <p>Requirement: To be observed.</p> <p>(ii) In base mud B</p> <p>Add 2% NIF additive. Mix thoroughly.</p> <p>Hot roll at 100°C for 24 hours.</p> <p>Perform invasion test in sand bed test cell at 100 psi.</p> <p>Requirement: Invasion should not be more than 8 cm.</p> <p>Note: The NIF additive in the above formulation should not adversely affect the rheology of the base mud including Oil emulsified water based mud.</p>

Any Query Please Contact: indeg@oilindia.in