

| Evaluation of Starch based on NISOC Standard | | | | | | | |
|--|-------------|----------|-----|----|---------------|----|-----|
| Laboratory Test Condition | | | | | | | |
| Lab Test Date | 20 May 2022 | Lab Temp | 24 | °C | Lab Humidity | 30 | % |
| Batch No | SS-F-13 | Temp | 200 | °F | Time Duration | 4 | Hrs |

Sampling procedure:

Take proper amount of Starch from each pallet and mix together (20 Samples) then run test

| Properties | | Before adding formation water | | After adding formation water | |
|---------------------|-----------|--------------------------------------|--------|---|--------|
| MW | pcf | 150 | | | |
| S.S.W | ml | 350 | | | |
| Starch | gr | 14 | | | |
| Barite (sg=4.2) | gr | 903 | | 123 | |
| FOB (sg=4.7) | gr | 70 | | 40 | |
| Lime | | | | | |
| pH | | 7.5 | | 7.5 | |
| Formation Water | ml | | | 15 % by volume of mud 400 ml | |
| Physical Properties | | Result after 4 hr's rolling at 200 F | | Result after adding formation water and 4 hr's rolling at 200 F | |
| | | Standard | Result | Standard | Result |
| APP. Vis | cps | 72 ± 2 | 67 | 65 ± 2 | 64 |
| PV | Cps | 65 ± 2 | 57 | 58 ± 2 | 55 |
| YP | lb/100ft2 | 18 ± 2 | 20 | 15 ± 2 | 17 |
| 10 sec Gel Strength | lb/100ft2 | 5 ± 1 | 6 | 4 ± 1 | 5 |
| 10 min Gel Strength | lb/100ft2 | 7 ± 1 | 8 | 6 ± 1 | 7 |
| API FL | cc/30min | ≤1 | 0.7 | ≤ 1 | 0.9 |
| pH | | 7 ± 0.5 | 6.5 | 7 ± 0.5 | 6.5 |
| Settling | | Nil | Nil | Nil | Nil |

Note:

- 1- The rheology parameter was measured at 140 F.
- 2- The foaming on both sample was minor

Technical Manager



QC Engineer