

CERTIFICATE OF ANALYSIS

Doc Code:

PDF-LAB-PR14-PDF-F02

04

Revision No.:

Drilling Mud Emulsifier

Revision Date:

2020.01.20

Customer / Client Name: SAVA ENERGY Address:

Page No.

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Tel/Fax No.:

9374656460

Certificate Issue Date:

2024.08.12

Sample Description:

Request No.:

03RQ0103 03AD0157

Sample Delivery Date:

DME 2024.08.04 Certificate No.:

SE-DME-2024933

Sampling Date:

Customer Sampling Code (B/N): Customer Sampling Code (STK):

Sampling By:

Customer

Registered Sample Code:

 ${}^{\circ}\mathbf{C}$

Shipment Qty:

Lab Sample

Expire Date:

Laboratory Test Result

Laboratory Temp 27.6 **Laboratory Humidity**

% 26

Rolling situation

Laboratory Test Date

Temp

2024.08.10

180

۰F Time 4 hrs

| Test Description | Reference | Standard | Result | ±U |
|------------------|------------|----------|------------------------|----|
| Appearance | ASTM D4176 | - | Homogeneous Mixture | |
| pH | ASTM E70 | - | 6.00 | |

| According to NISOC Procedure Method | | | | | | | | | |
|-------------------------------------|------|--------------------|-------|-------|-------|--|--|--|--|
| Composition | Unit | Sample Code | Mud 1 | Mud 2 | Mud 3 | | | | |
| Oil/Water Ratio | % | - | 60/40 | 60/40 | 70/30 | | | | |
| S.W | mL | - | 140 | 140 | 105 | | | | |
| D.M.E | mL | SE-DME- 2024933 | 3.5 | 3.5 | 3.5 | | | | |
| Gasoil | mL | - | 210 | 210 | 245 | | | | |
| CMC.HV | gr | C45H5 | - | 0.5 | - | | | | |

| Parameters | Mud1 | | Mud2 | | Mud 3 | |
|--|--------|--------|--------|--------|--------|--------|
| | | Result | Req | Result | Req | Result |
| Emulsion Stability before hotroll | | Stable | Stable | Stable | Stable | Stable |
| Apparent Viscosity after 24 hrs - cP | 59 | 31.5 | 183 | 69 | 164 | 52 |
| Yeild Point After 24 hrs- lb/100ft2 | 11 | 17 | 46 | 59 | 74 | 32 |
| Gel 10s/Gel 10Min After 24 hrs-Ib/100ft2 | 2/3 | 1/2 | 6/7 | 3/5 | 22/24 | 7/11 |
| Emulsion Stability after 4hrs Rolling at 180°F | Stable | Stable | Stable | Stable | Stable | Stable |
| Final Volume- mL | 500 | 450 | 400 | 410 | 410 | 400 |
| pH of Mud | 7 | 8.43 | 7 | 8.55 | 7 | 8.53 |

Prepared By **Laboratory Expert**

Approved By Laboratory Technical Manager

Signature

Signature Date 2024.08.12

Signature Date: 2024.08.12

Date: 2024.08.12

Confirme

D. Man

Laboratory test result is only applicable to the received sample.

Laboratory test result which has been issued from central laboratory is based on API13A and according to ISO/IEC17025:2017.

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Material Sample will be kept for 1 month from the date submitted to the company.

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