

Production Profile Analysis

Company: Utah FORGE
Well: FORGE 16B(78)-32
Field: Forge
County: Beaver
State: Utah

Geoscience & Production Center of Excellence, North America

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Logging Date: 04/27/2024
Report Date: 04/28/2024

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1.0 EXECUTIVE SUMMARY

Well: FORGE 16B(78)-32

Production Profile

Survey date: 27-APR-2024

Well History and Logging Objective

The objective of the PLT is to determine the produced fluid distribution profile from the various perforated intervals. The production fluid for the circulation test is water injected into well 16A(78)-32. The perforated intervals correspond with four frac stages that were pumped and one stage that was perforated but not fracture stimulated on Well 16B(78)-32 in April 2024. The frac stage intervals in well 16B(78)-32 are as follows:

- Stage 1: 9,690 – 9,773 ft MD
- Stage 2: 9,429 – 9,512 ft MD
- Stage 3: 9,265 – 9,393 ft MD
- Stage 4: 8,958 – 9,058 ft MD
- Stage 5: 8,774 – 8,883 ft MD

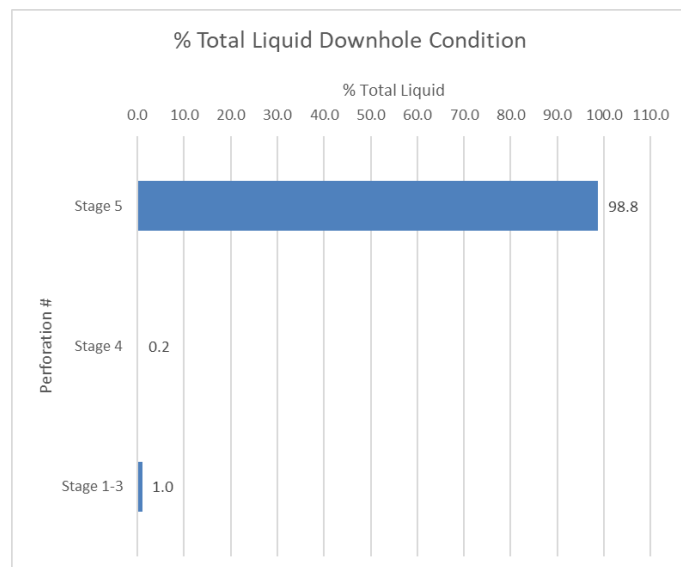
The PLT will be conveyed into the deviated section of the wellbore. Since the 16B(78)-32 will be logged under flowing conditions it is necessary to have conveyance, preferably on a roller bogie/taxi with added weight bars. It is desirable to measure the rate distribution of the produced water from the various frac stage intervals to improve the understanding of connective pathways from the fracture system connection with the 16A(78)-32 well.

Conclusions

Eight continuous passes were recorded during the logging (up and down logging direction) with logging speed of 150, 185, 200, and 225 ft/minutes.

The logging was done under 12.5 BPM (18000 BPD) injection on 16A(78)-32 well.

The flowing survey shows the percentage of the fluid production at downhole condition:



2.0 TABULATED RESULTS

Flowing Survey

The metered rate for the analysis: 12.5 BPM (18000 BPD).

| Contributions at Standard Conditions | | | | | | | | |
|--------------------------------------|-------------------|-----------------------|---------------|---------------|----------------|--------------------|--------------|------------------|
| Surface Rate Summary | | Log Date Test date | Qo (stb/d) | Qw (stb/d) | Qg (Mscf/d) | Qo + Qw (stb/d) | Water Cut | GOR (scf/stb) |
| Calculated rates (S.C.) | | 27-Apr-2024 | 0 | 18119 | 0 | 18119 | 1.00 | N/A |
| Metered Rates (S.C.) | | 27-Apr-2024 | 0 | 18000 | 0 | 18000 | 1.00 | N/A |
| | | | | | | | | |
| Layer | Flowing Intervals | | Qo (stb/d) | Qw (stb/d) | Qg (Mscf/d) | Qo + Qw (stb/d) | Water Cut | % Liquid Rate |
| | Top | Bottom | | | | | | |
| Stage 5 | 8774.1 | 8883.0 | 0.0 | 17901.2 | 0.0 | 17901.2 | 1.0 | 98.8 |
| Stage 4 | 8958.0 | 9058.0 | 0.0 | 35.2 | 0.0 | 35.2 | 1.0 | 0.2 |
| Stage 1-3 | 9265.0 | 9773.0 | 0.0 | 182.0 | 0.0 | 182.0 | 1.0 | 1.0 |

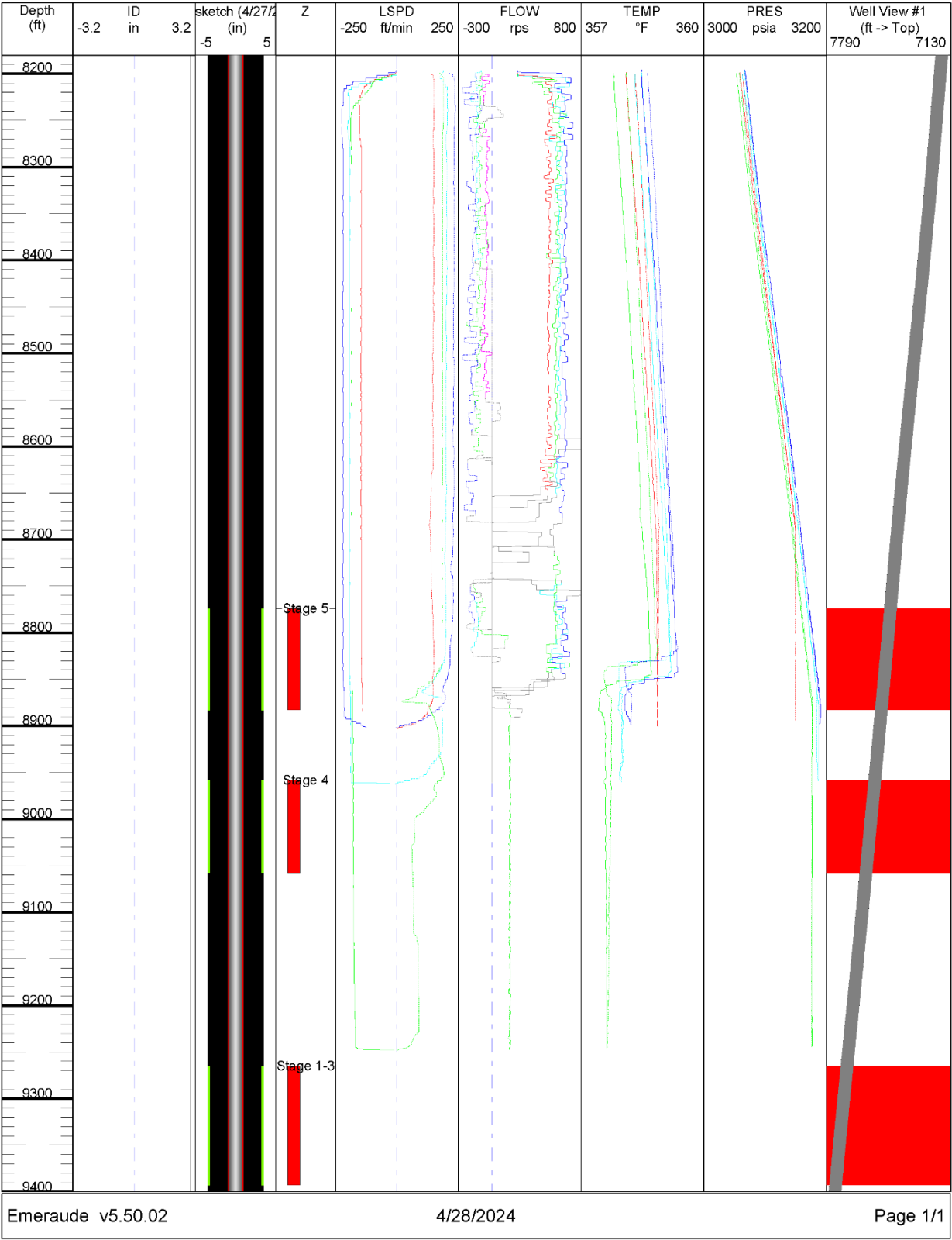
| Contributions at Downhole Conditions | | | | | | | | | | |
|--------------------------------------|-------------------|--------|---------------|---------------|---------------|---------------|----------------|------------------|----------------|-----------------|
| Layer | Flowing Intervals | | Qo (bbl/d) | Qw (bbl/d) | Qg (bbl/d) | Qt (bbl/d) | % Total Oil | % Total Water | % Total Gas | % Total Rate |
| | Top | Bottom | | | | | | | | |
| Stage 5 | 8774.1 | 8883.0 | 0.0 | 19854.6 | 0.0 | 19854.6 | 0.0 | 98.8 | 0.0 | 98.8 |
| Stage 4 | 8958.0 | 9058.0 | 0.0 | 39.0 | 0.0 | 39.0 | 0.0 | 0.2 | 0.0 | 0.2 |
| Stage 1-3 | 9265.0 | 9773.0 | 0.0 | 201.7 | 0.0 | 201.7 | 0.0 | 1.0 | 0.0 | 1.0 |

| Cumulative Rates at Downhole Conditions | | | | | | | | |
|---|--------|---------------|---------------|---------------|---------------|-----------------|----------------|--------------|
| Flowing Intervals | | Qo (bbl/d) | Qw (bbl/d) | Qg (bbl/d) | Qt (bbl/d) | Press (psia) | Temp (degF) | Dev (deg) |
| Top | Bottom | | | | | | | |
| 8774.1 | 8883.0 | 0 | 20096 | 0 | 20096 | 3134.4 | 358.8 | 61.3 |
| 8958.0 | 9058.0 | 0 | 241 | 0 | 241 | 3182.7 | 357.8 | 62.4 |
| 9265.0 | 9773.0 | 0 | 202 | 0 | 202 | 3177.4 | 357.6 | 61.3 |

3.0 PRODUCTION LOGGING SURVEY

Curve scale:

- ID: Internal Diameter, -3.2 to 3.2 inches.
- LSPD: Line Speed, -250 to 250 ft/min.
- FLOW: Flowmeter Spinner, -300 to 800 RPS.
- TEMP: Temperature, 357-360 degF.
- PRESS: Pressure, 3000-3200 psia.
- Well View (TVD): 7790-7130 ft.



4.0 SPINNER CALIBRATION

Flowing Survey

| | | |
|-------------|---|---|
| HALLIBURTON | | 16B_PPROF_27APR24_V1 |
| | Company: Utah FORGE Field: FORGE Well: FORGE 16B(78)-32 | Test: PPROF Date: 04/27/2024 Survey: Survey # 1 |

Graph showing rps versus ft/min. The y-axis ranges from -700 to 700 rps, and the x-axis ranges from -200 to 200 ft/min. A linear trendline is shown with data points. A threshold arrow points to the x-axis at 5 ft/min.

Threshold (+) 5 ft/min Threshold (-) -5 ft/min

| Calib. Zone ft | Slope (+) | Slope (-) | Int (+) ft/min | Int (-) ft/min | Int. Diff. ft/min |
|-------------------|-----------|-----------|-------------------|-------------------|----------------------|
| 8277.9-8311.4 | 0.910 | 1.588 | -467.14 | -120.09 | -347.05 |

Emeraude v5.50.02

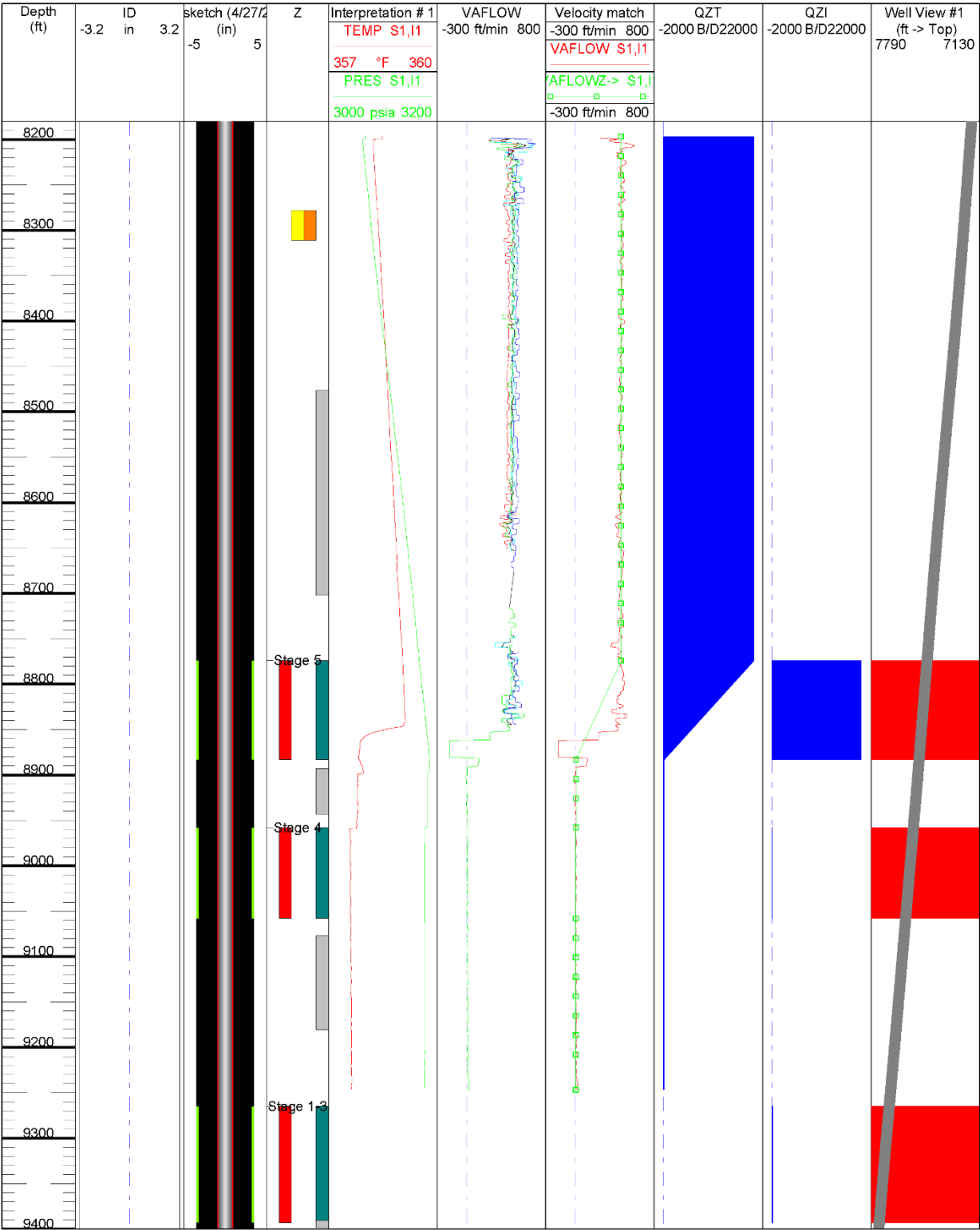
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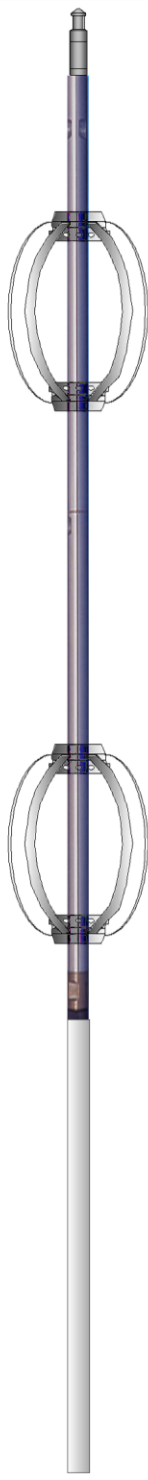
5.0 PVT PARAMETER

| | | |
|---|---|---|
| | PVT | 16B_PPROF_27APR24_V1 |
| HALLIBURTON | Company: Utah FORGE Field: FORGE Well: FORGE 16B(78)-32 | Test: PPROF Date: 04/27/2024 Survey: Survey # 1 |
| <div><div>FLUID TYPE</div><div>Water</div></div> <div><div>Salinity, ppm</div><div>10000</div></div> <div><div>Rsw</div><div>Katz</div></div> <div><div>cw</div><div>Dodson and Standing</div></div> <div><div>Muw</div><div>Van-Wingen+Frick</div></div> | | |
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6.0 PRODUCTION LOG ANALYSIS



7.0 TOOL DIAGRAM

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--|-------------|--|---|-------------|-----------|-------------|
| | |  | CHD-1-.69 (1.69) 1.6875 CABLEHEAD | 1.00 | 1.69 | |
| | | | SLIP-OBC Slip On 3 .625 Dits Centralizer | 3.00 | 3.63 | 5.00 |
| | | | WT-1-11/16" 1.6875" WEIGHT BAR | 14.00 | 1.69 | 84.00 |
| | | | SLIP-OBC (001) Slip On 3 .625 Dits Centralizer | 3.00 | 3.63 | 5.00 |
| | | | KUSTER_PL-PTS (GS5219) Kuster PTSC | 6.71 | 1.75 | |
| PRES | 2.58 | | | | | |
| TEMP | 1.33 | | | | | |
| FLOW | 0.38 | | | | | |
| UTCTIM | 0.00 | | | | | |
| Dataset: 16b_plt.db: field/well/run1/pass3 | | | | | | |
| Total length: 21.71 ft | | | | | | |
| Total weight: 94.00 lb | | | | | | |
| O.D.: 3.63 in | | | | | | |

End of Report