



Computer Processed  
Interpretation

|                                      |                                                   |                          |
|--------------------------------------|---------------------------------------------------|--------------------------|
| Company RICHLAN DRILLING             |                                                   | Company RICHLAN DRILLING |
| Well                                 | HILLERY #1                                        | Well HILLERY #1          |
| Field                                | WILDCAT                                           | Field WILDCAT            |
| County                               | LOGAN                                             | County LOGAN             |
| State                                | KANSAS                                            | State KANSAS             |
| Location: API # : 15-109-21550-00-00 |                                                   | Other Services           |
| SEC 19 TWP 15S RGE 34W               |                                                   | DIL/CNL/CDL<br>BHCS/MEL  |
| Permanent Datum                      | GROUND LEVEL                                      | Elevation 3137'          |
| Log Measured From                    | KELLY BUSHING                                     | K.B. 3147'               |
| Drilling Measured From               | KELLY BUSHING                                     | D.F. N/A<br>G.L. 3137'   |
| Date Recorded                        | 6/15/2018                                         |                          |
| Depth Logger                         | 4796'                                             | Curve Definitions        |
| SW                                   | Water Saturation                                  |                          |
| SXO                                  | Water Saturation In The Flushed Zone              |                          |
| VCL                                  | Volume Of Clay                                    |                          |
| PHIE                                 | Density - Neutron Crossplot Shale Corrected       |                          |
| BWV                                  | Bulk Volume Water                                 |                          |
| BVWSXO                               | Bulk Volume Water In Flushed Zone                 |                          |
| DCAL                                 | Caliper                                           |                          |
| SPC                                  | SP Corrected For Baseline                         |                          |
| DGA                                  | Apparent Grain Density                            |                          |
| Payflag                              | If: PHIE> 2, VCL< 40, SPC> -10, SW< 50 & DCAL< 11 |                          |
| Recorded By                          | IAN MABB                                          |                          |
| Witnessed By                         | JIM MUSGROVE                                      |                          |
| Analysis By                          | DAN SCHMIDT                                       |                          |

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

PENCE, KS.  
3 MILES WEST TO COUNTY LINE  
NORTH 6 MILES, WEST INTO

Log Measured From: KELLY BUSHING 10 Ft. Above Permanent Datum

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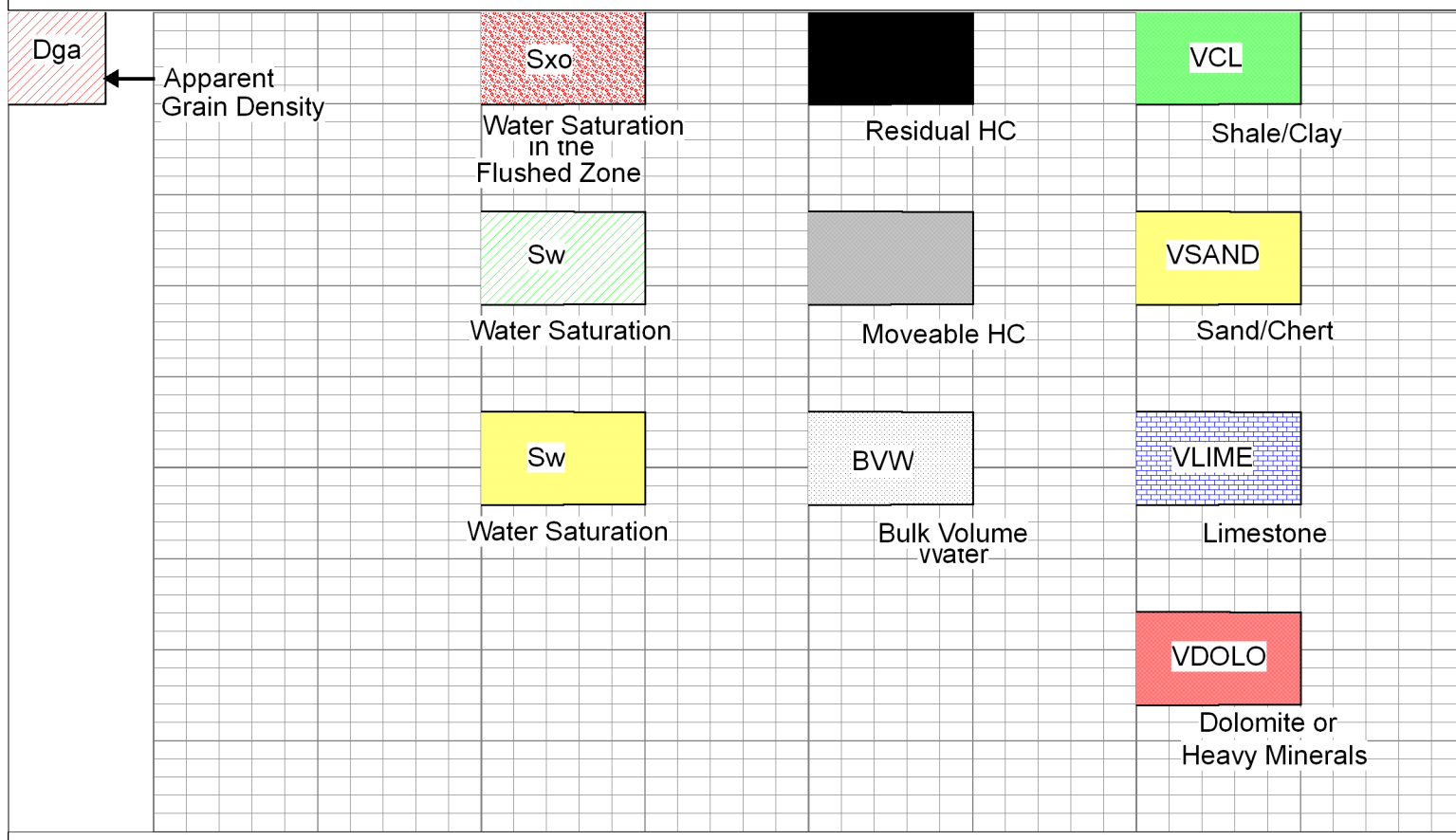
Your Pioneer Energy Services Crew

Engineer: IAN MABB  
Operator:  
Operator:  
Operator:

This Log Record Was Witnessed By

Primary Witness: JIM MUSGROVE  
Secondary Witness:  
Secondary Witness:  
Secondary Witness:

Database File cross plots/3wxplt.db  
Dataset Pathname bricks  
Presentation Format 3wxplt  
Dataset Creation Wed May 14 10:04:54 1997  
Charted by Depth in Feet scaled 1:240



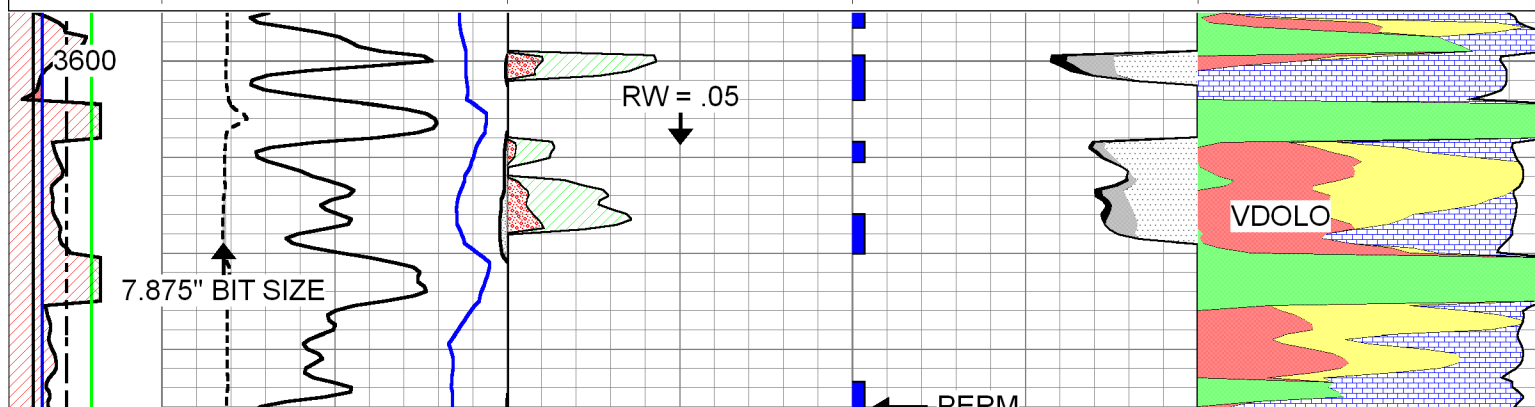


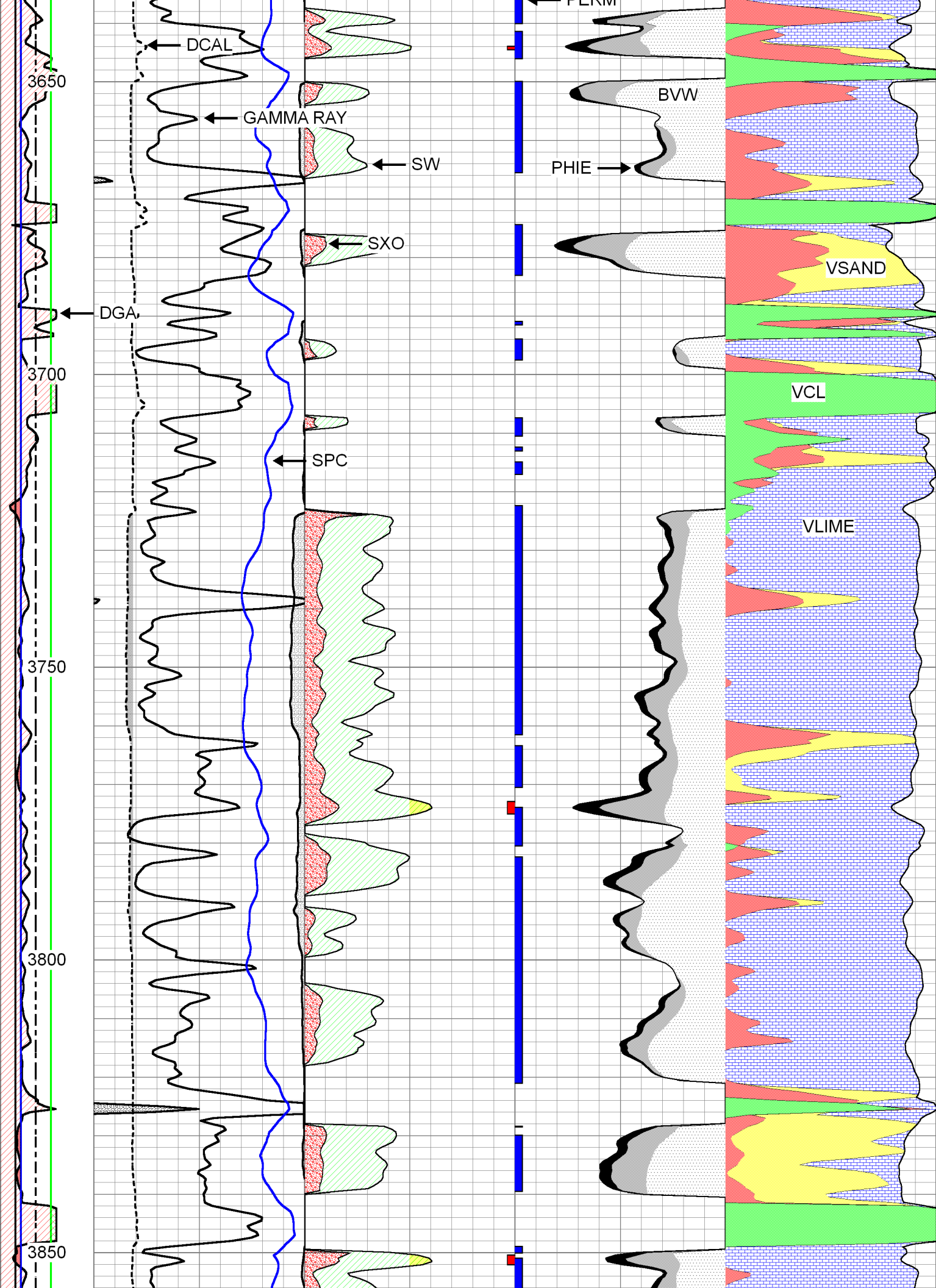
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Pioneer Energy Services

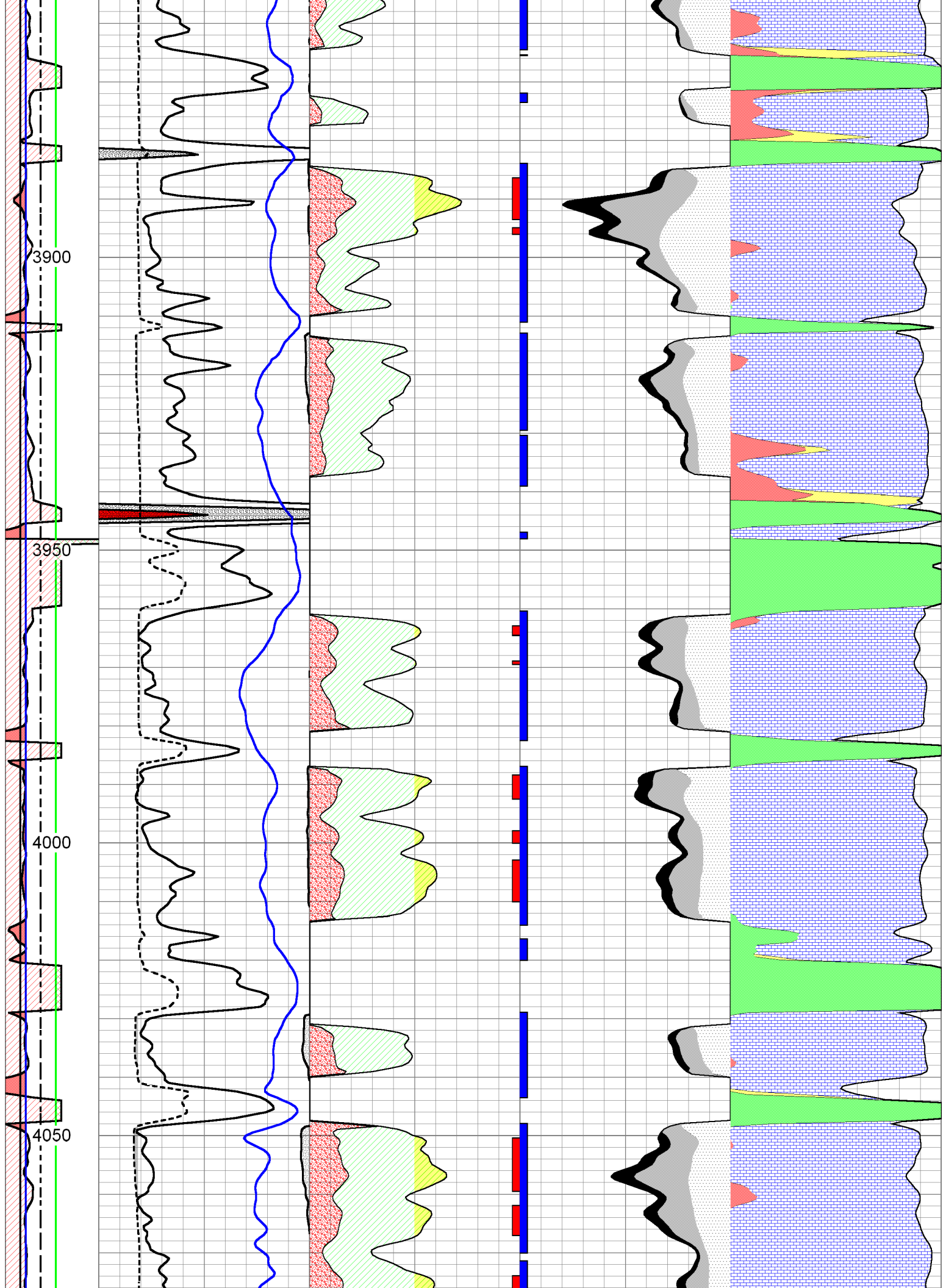
CPI

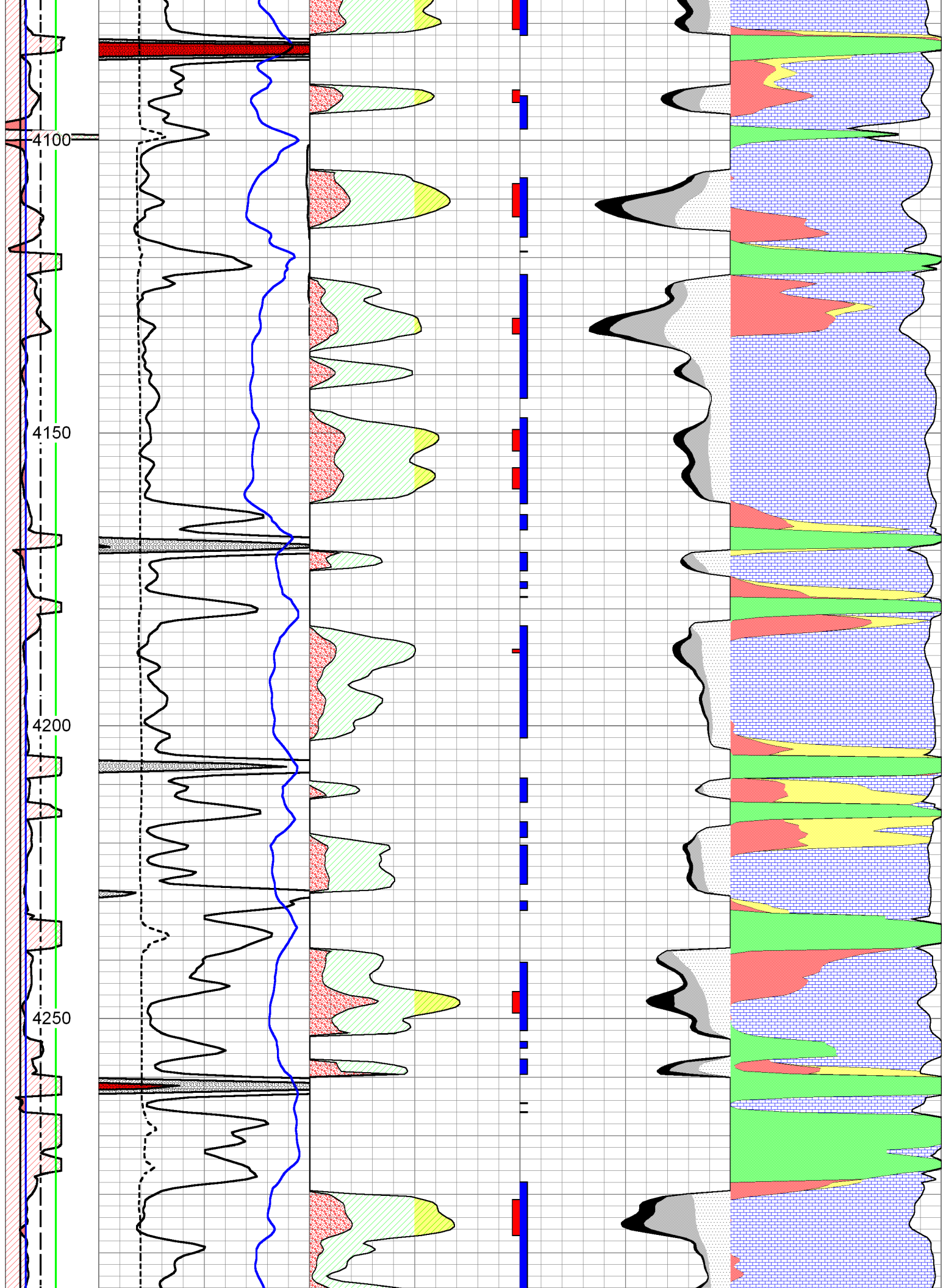
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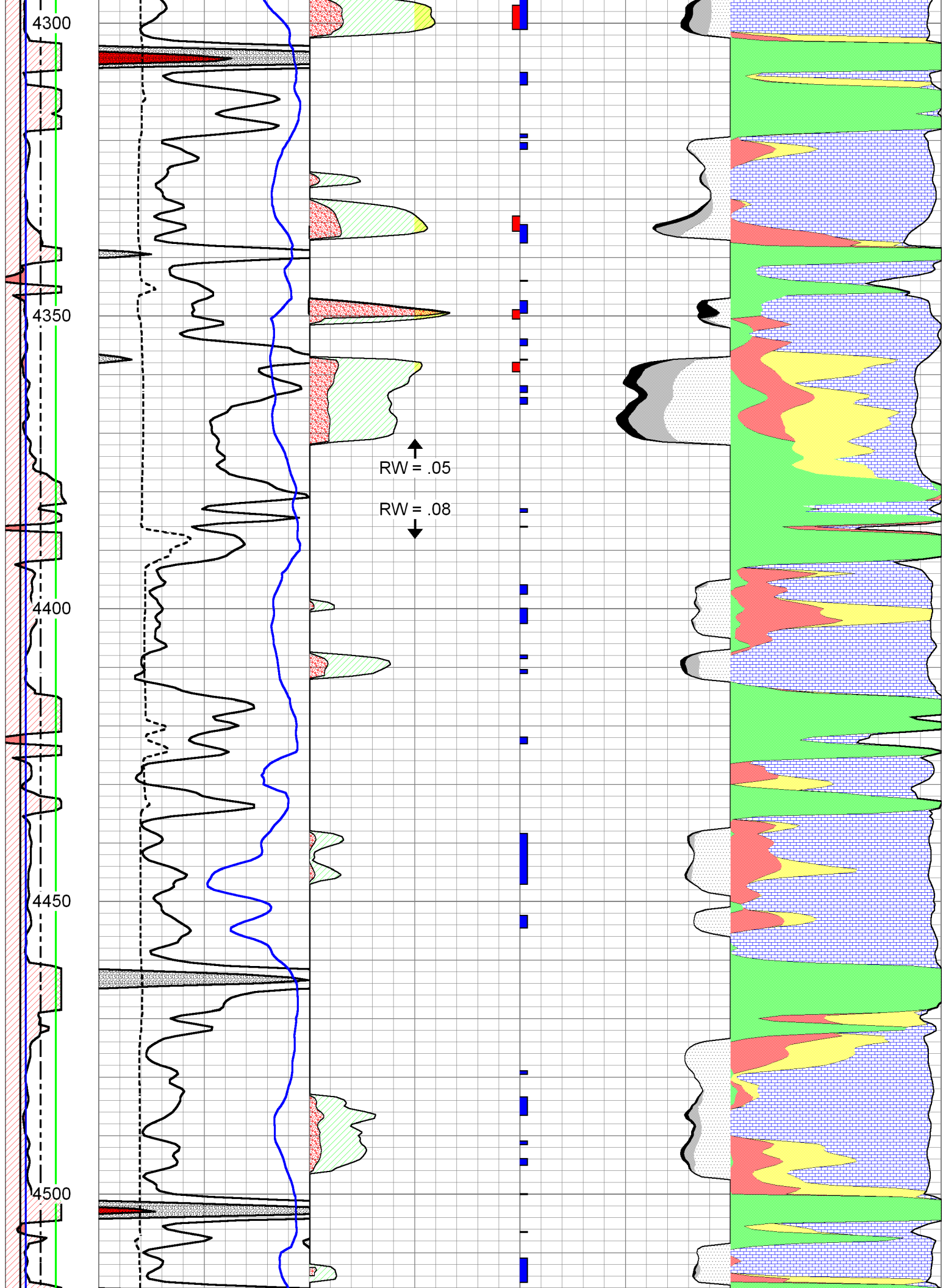
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|---------|-----------|--------------|---------|-----|-----|--------|------|----|-------|---|
| DGA     | Gamma Ray | 1            | SW      | 0   | 0.3 | PHIE   | 0    | 0  | VCL   | 1 |
| (g/cc)  | (GAPI)    | 150          | PAYFLAG | 0   | 0.3 | BVW    | 0    | 0  | VSAND | 1 |
| 2.6 3.1 | 6         | DCAL (in) 16 | 1       | SXO | 0   | 0      | PERM | 30 | VLIME | 1 |
|         | -150      | SPC 0        |         |     | 0.3 | BVWSXO | 0    | 0  | VDOLO | 1 |

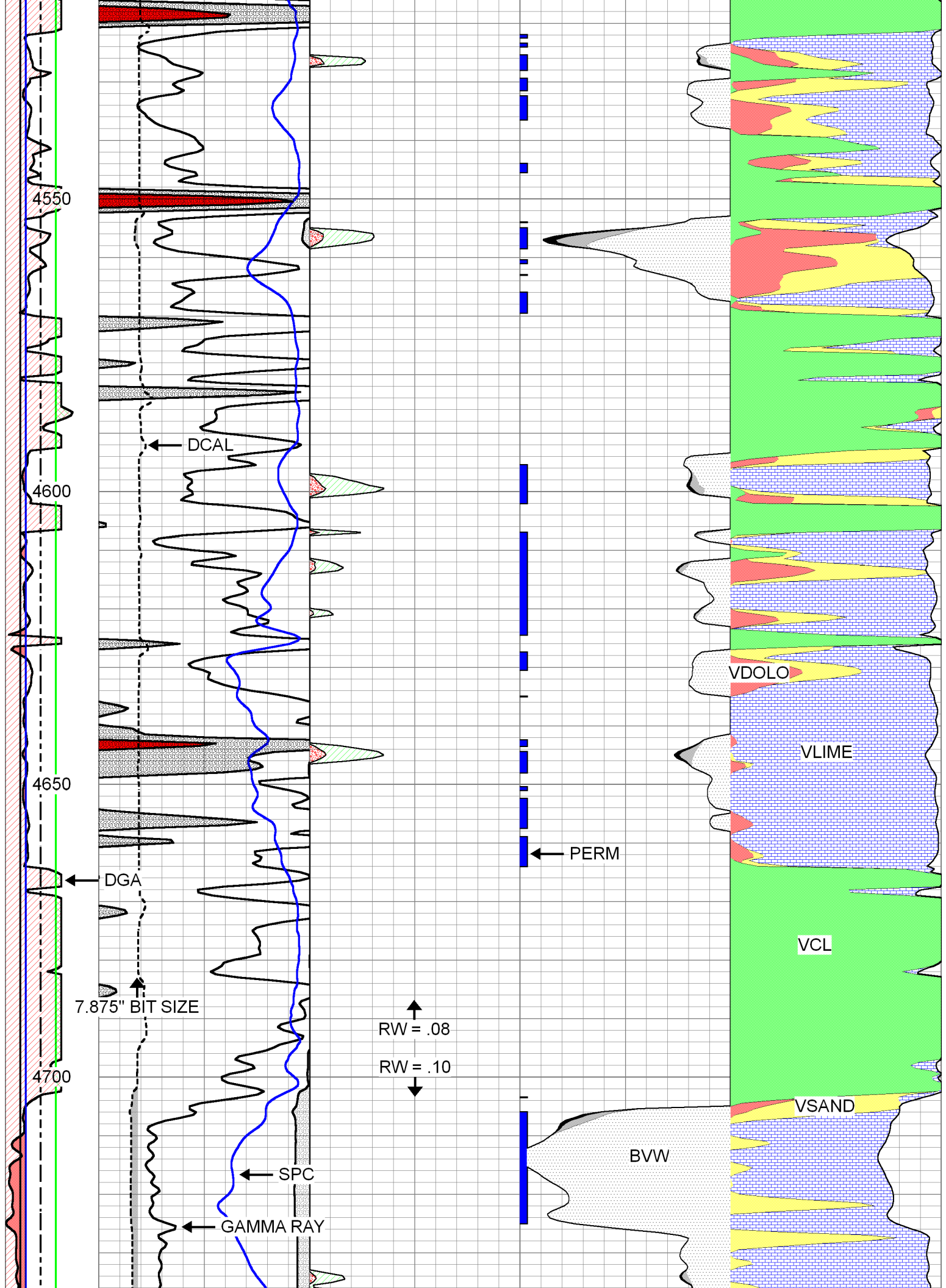


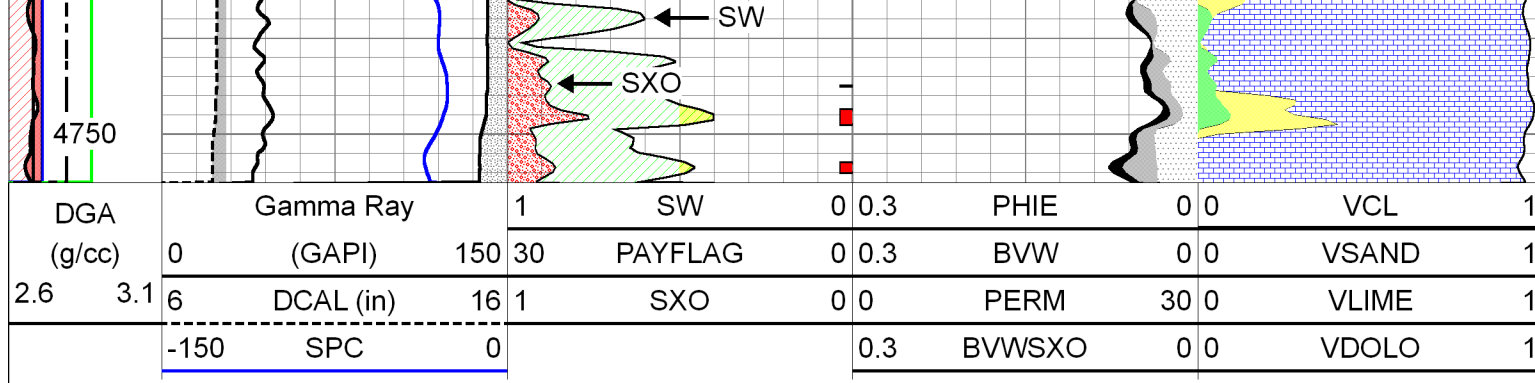












|                                                                                   |         |                  |
|-----------------------------------------------------------------------------------|---------|------------------|
|  | Company | RICHLAN DRILLING |
|                                                                                   | Well    | HILLERY #1       |
|                                                                                   | Field   | WILDCAT          |
|                                                                                   | County  | LOGAN            |
|                                                                                   | State   | KANSAS           |