



# MICRORESISTIVITY LOG

|                                     |                  |
|-------------------------------------|------------------|
| Company RANGE OIL COMPANY, INC.     |                  |
| Well                                | JACOBSON #1      |
| Field                               | PANTHER RANCH SW |
| County                              | CHASE            |
| State                               | KANSAS           |
| Location: API #: 15-017-20922-00-00 |                  |
| 2870' FNL & 1570' FWL               |                  |
| SEC 31 TWP 19S RGE 6E               |                  |
| Permanent Datum                     | GROUND LEVEL     |
| Log Measured From                   | KELLY BUSHING    |
| Drilling Measured From              | KELLY BUSHING    |
| Elevation                           | 1452             |
| Other Services                      | CNL/CDL<br>DIL   |
| K.B.                                | 1458             |
| D.F.                                | N/A              |
| G.L.                                | 1452             |
| Date                                | 6/12/2015        |
| Run Number                          | ONE              |
| Depth Driller                       | 2310             |
| Depth Logger                        | 2310             |
| Bottom Logged Interval              | 2309             |
| Top Log Interval                    | 1300             |
| Casing Driller                      | 8.625 @ 202      |
| Casing Logger                       | 208              |
| Bit Size                            | 7.875            |
| Type Fluid in Hole                  | CHEMICAL         |
| Salinity, ppm CL                    | 1000             |
| Density / Viscosity                 | 9.3 48           |
| pH / Fluid Loss                     | 8.9 8.2          |
| Source of Sample                    | Flowline         |
| Rm @ Meas. Temp                     | 1.40 @ 68        |
| Rmf @ Meas. Temp                    | 1.05 @ 68        |
| Rmc @ Meas. Temp                    | 1.89 @ 68        |
| Source of Rmf / Rmc                 | Charts           |
| Rm @ BHT                            | 0.96 @ 99        |
| Operating Rig Time                  | 3 HOURS          |
| Max Rec. Temp. F                    | 99               |
| Equipment Number                    | 91               |
| Location                            | HAYS             |
| Recorded By                         | D. SCHMIDT       |
| Witnessed By                        | KEN WALLACE      |

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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.

MARION,  
EAST TO HWY 77 & HWY 150 JUNCTION, 8 1/4 EAST,  
SOUTH INTO

Log Measured From: KELLY BUSHING      6 Ft. Above Permanent Datum

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## Your Pioneer Energy Services Crew

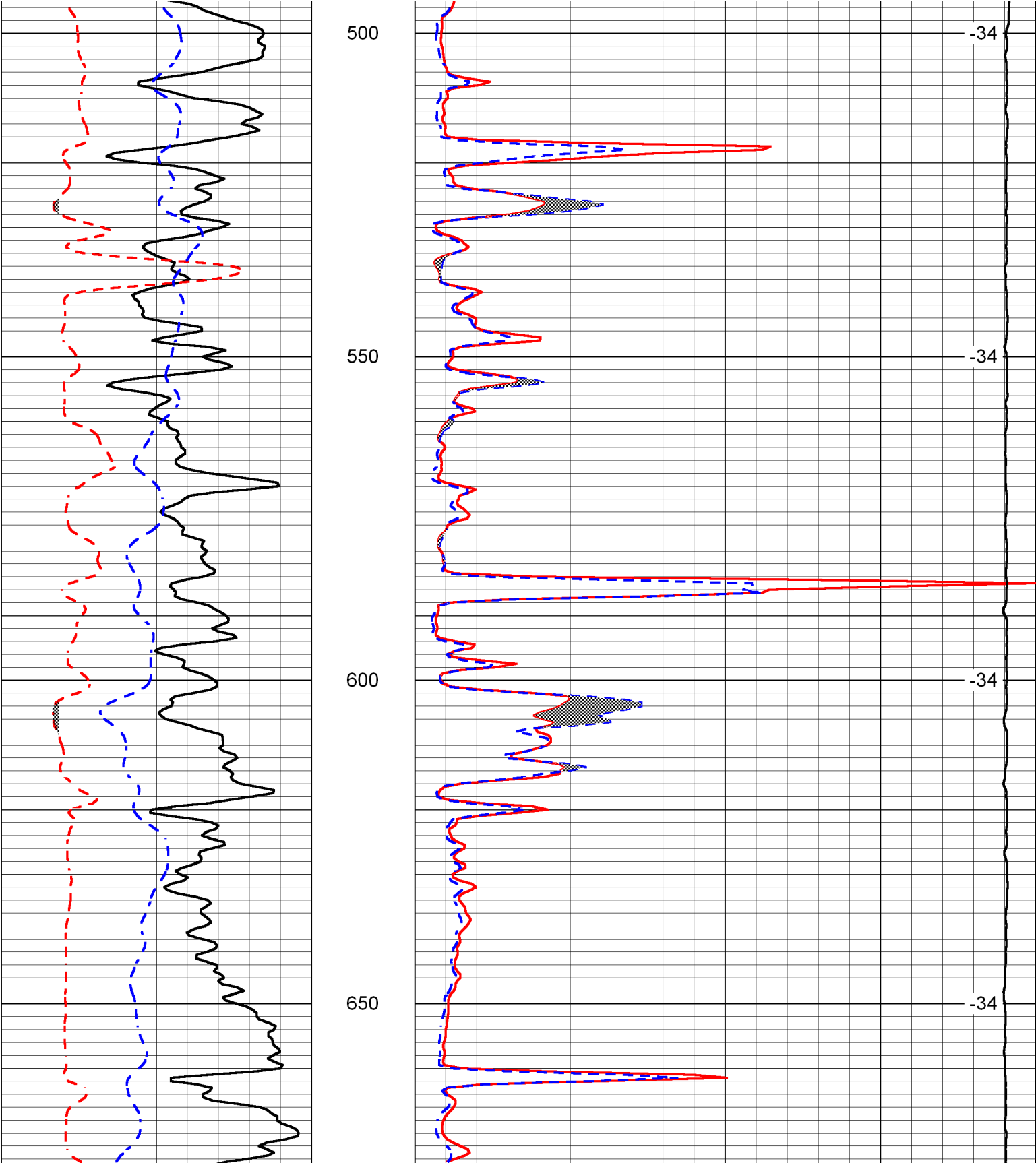
Engineer: D. SCHMIDT  
Operator:  
Operator:  
Operator:

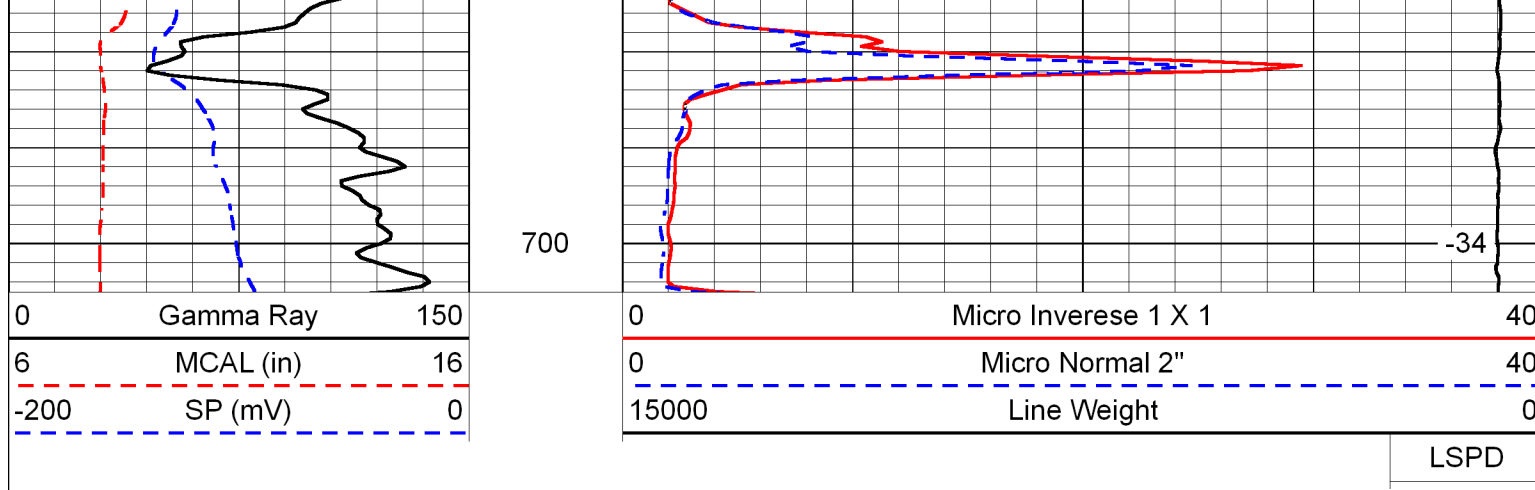
## This Log Record Was Witnessed By

Primary Witness: KEN WALLACE  
Secondary Witness:  
Secondary Witness:  
Secondary Witness:

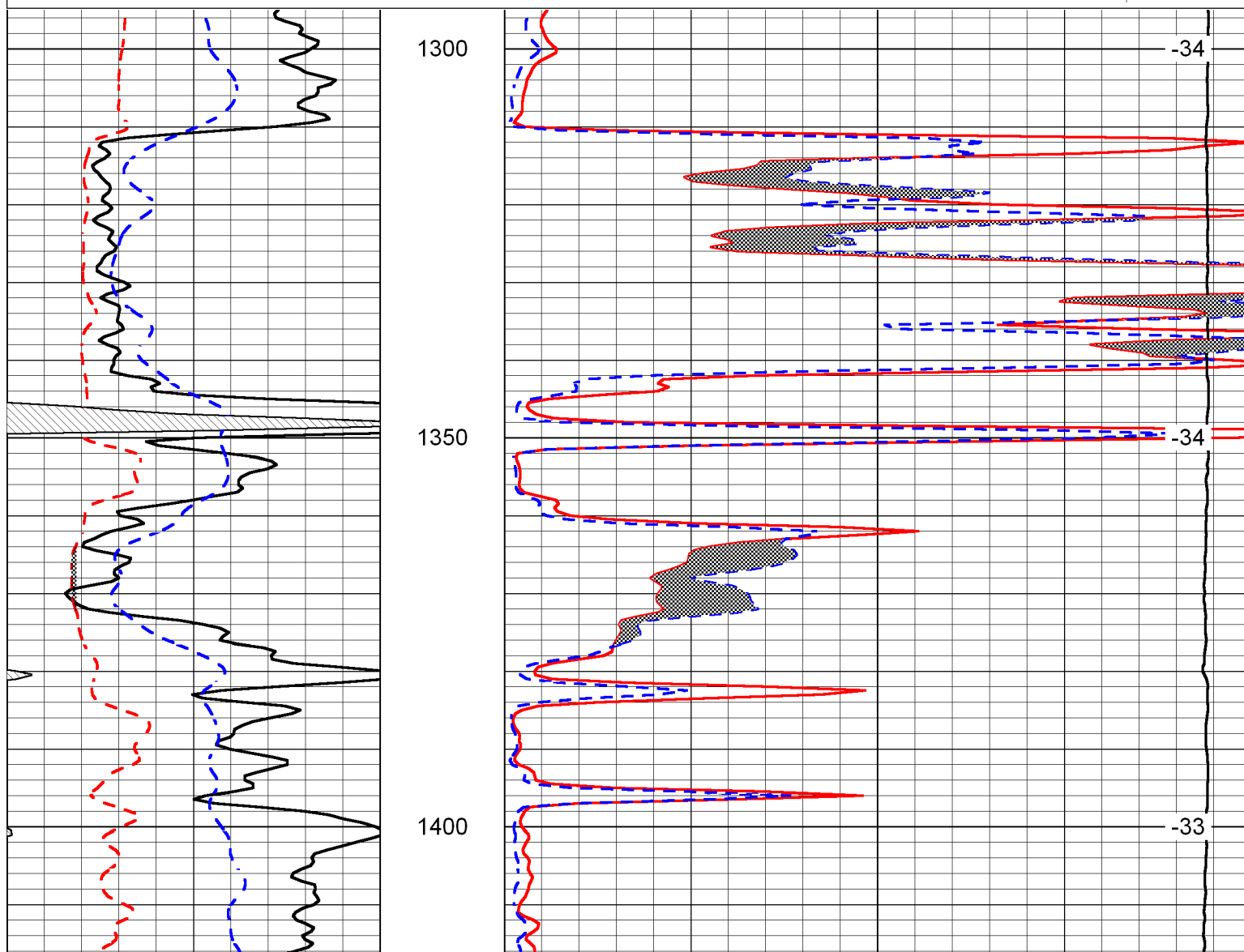
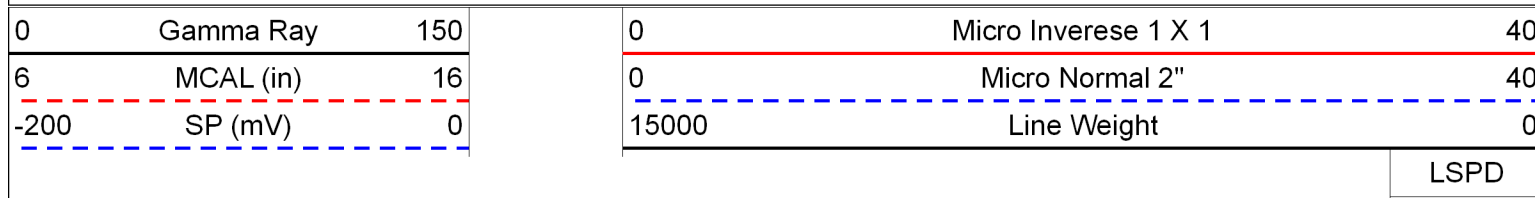
|      |           |     |       |                     |    |
|------|-----------|-----|-------|---------------------|----|
| 0    | Gamma Ray | 150 | 0     | Micro Inverse 1 X 1 | 40 |
| 6    | MCAL (in) | 16  | 0     | Micro Normal 2"     | 40 |
| -200 | SP (mV)   | 0   | 15000 | Line Weight         | 0  |

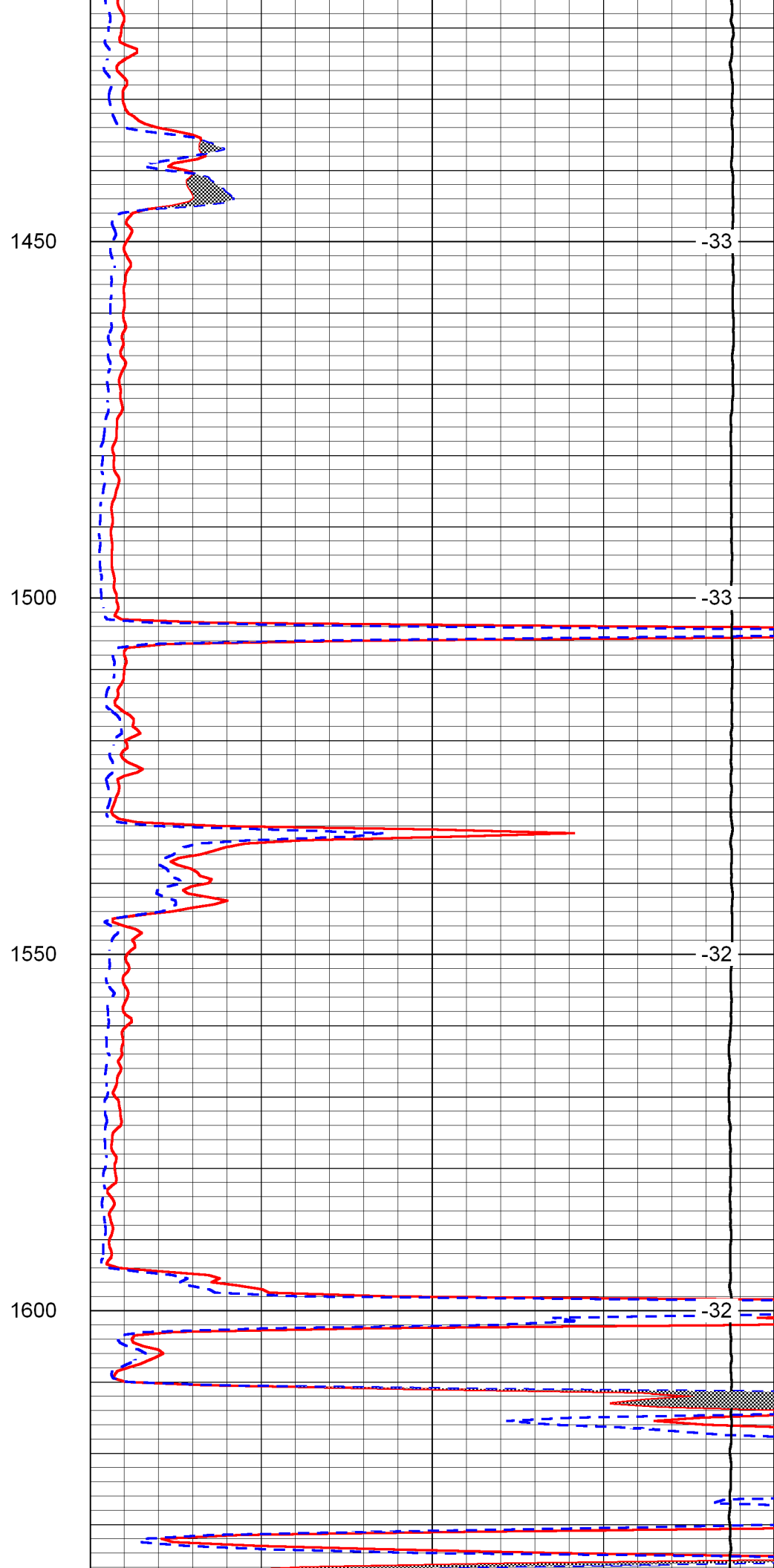
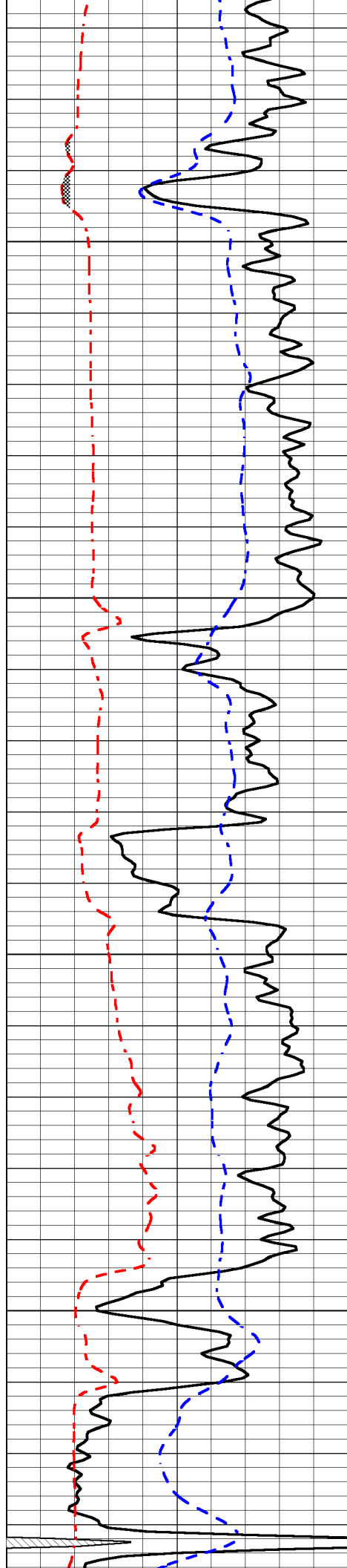
LSPD

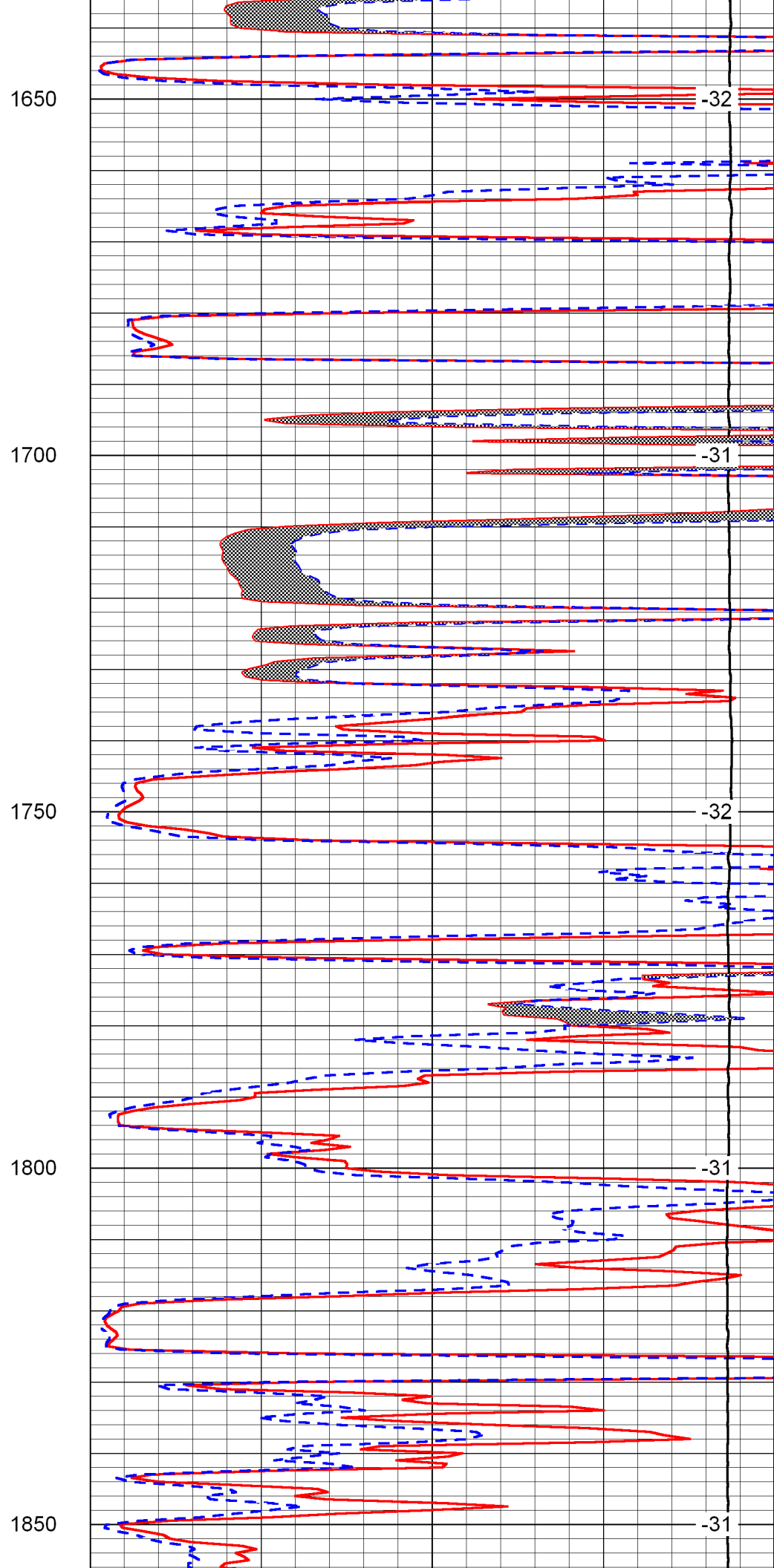
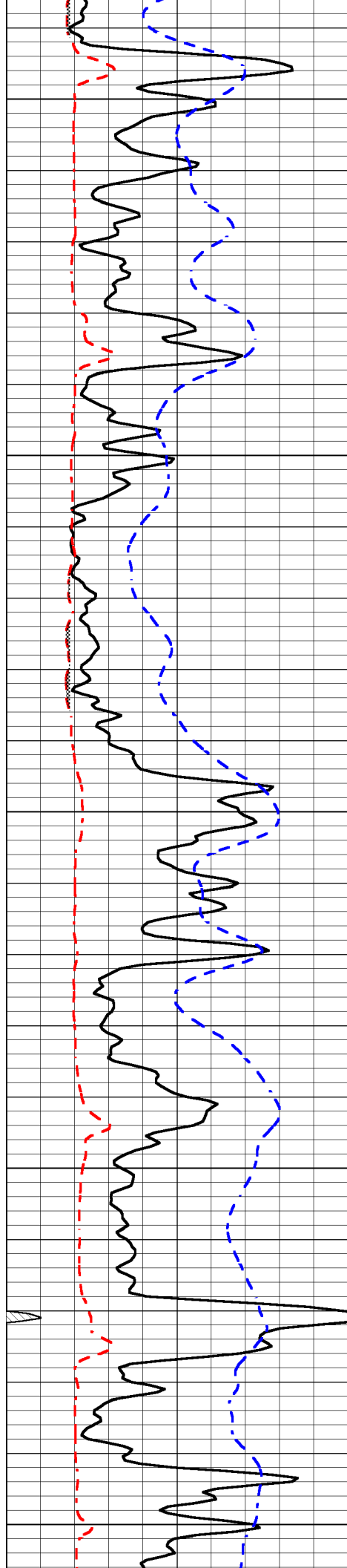


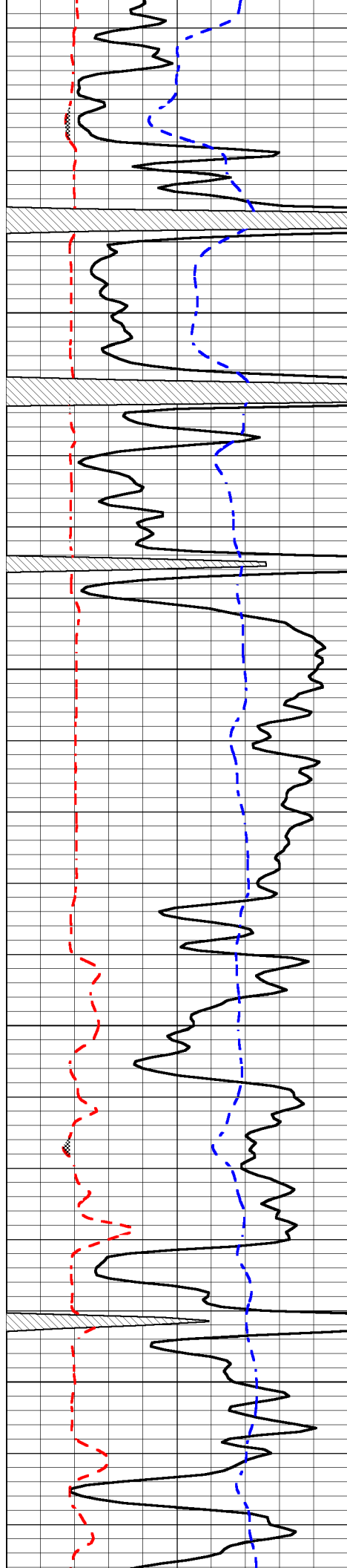


Database File range\_jacobson #1\range\_jacobson\_1hd.db  
 Dataset Pathname DIL/rastkml  
 Presentation Format micro  
 Dataset Creation Fri Jun 12 15:47:51 2015  
 Charted by Depth in Feet scaled 1:240







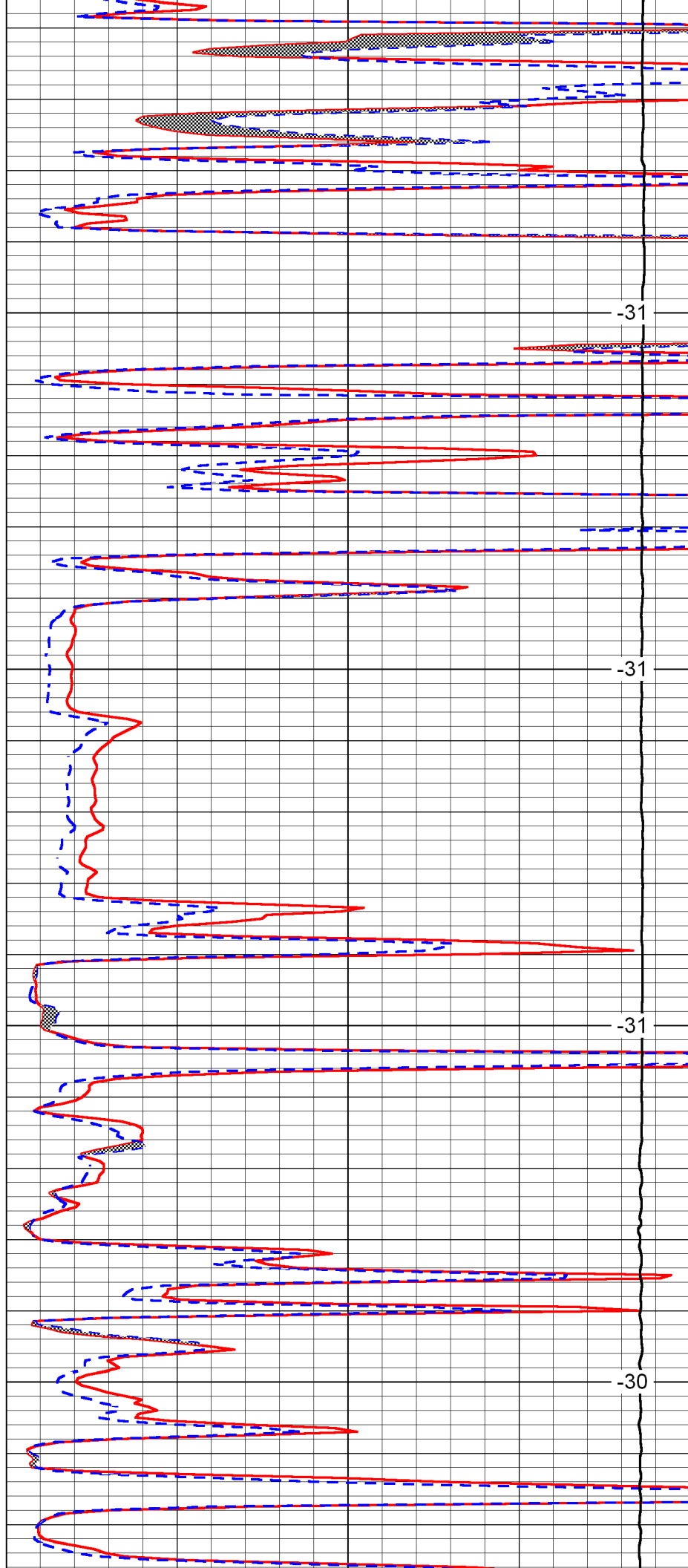


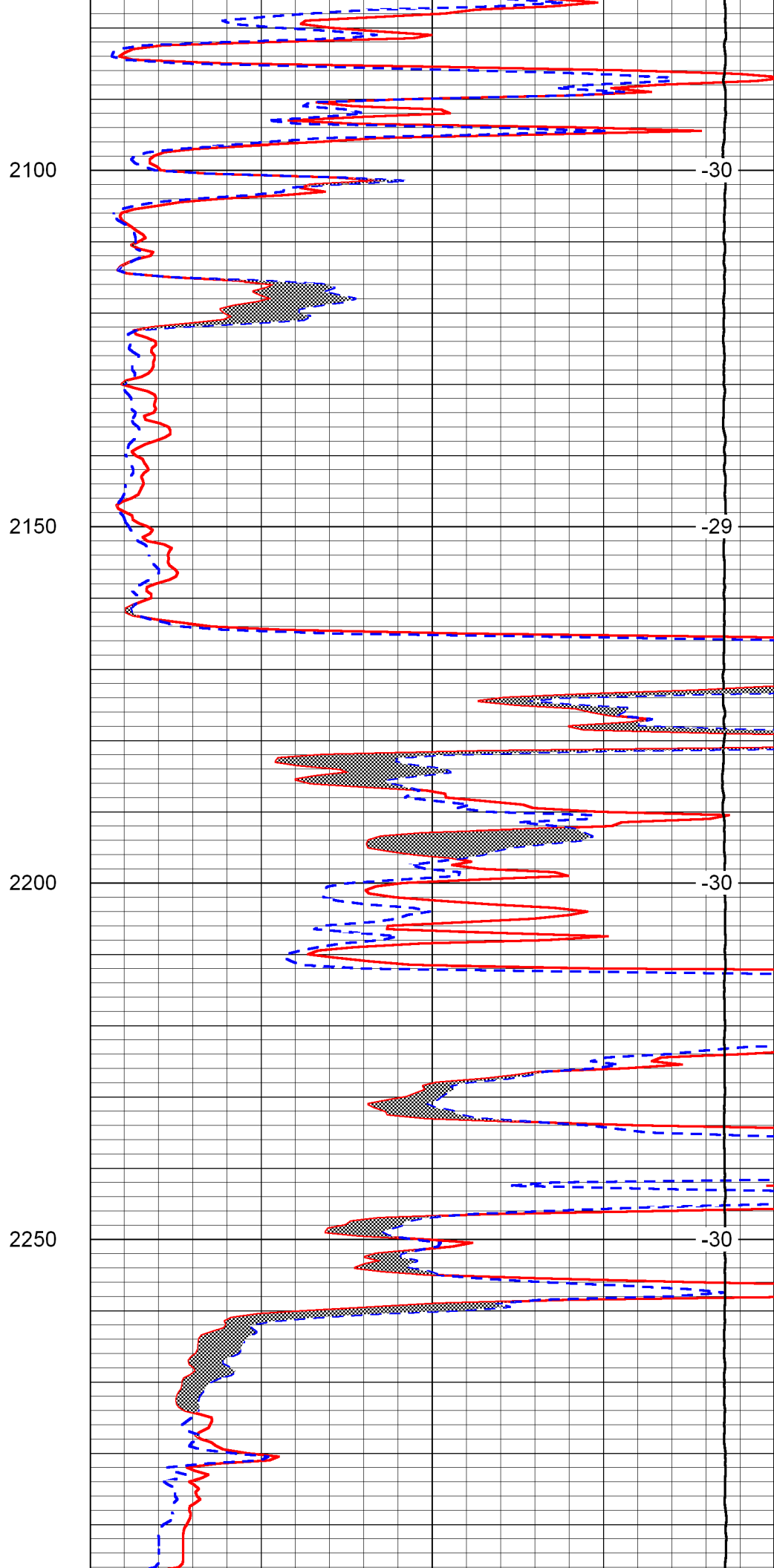
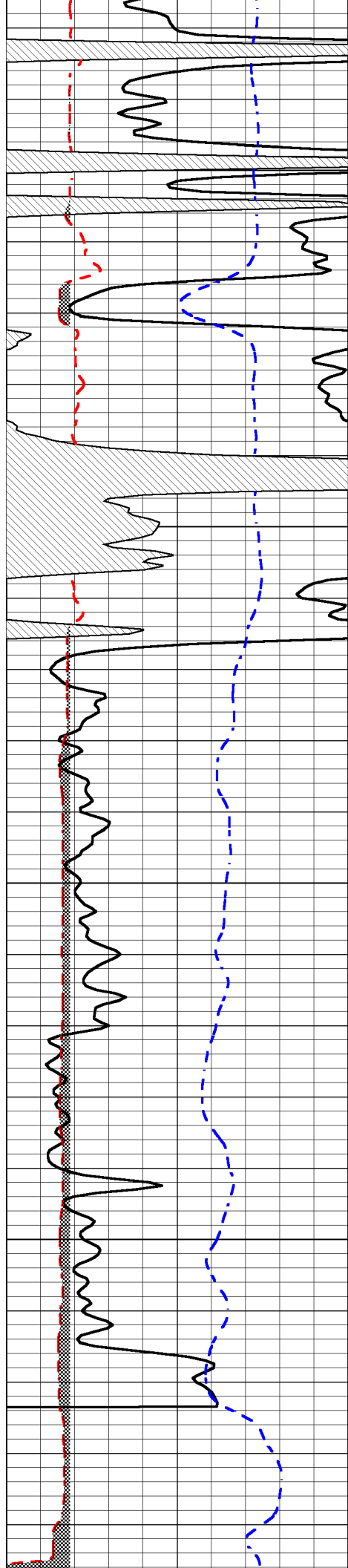
1900

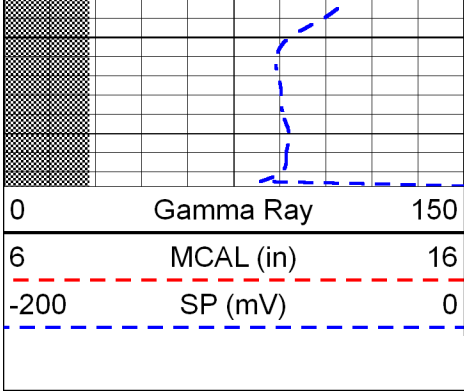
1950

2000

2050







2300

