



Pioneer Energy Services

Computer Processed Interpretation

15-145-21,707-00-00

API No.

Company **Apollo Energies, Inc.**

Well **Hutchinson "A" #1**

Field **Garfield Pool**

County **Pawnee** State **Kansas**

Location

**E/2 SE
1320' FSL & 660' FEL**

Other Services
DIL/CNL/CDL

Sec: **9** Twp: **23S** Rge: **17W**

Permanent Datum **Ground Level** Elevation **2093**

Log Measured From **Kelly Bushing** 12 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing**

Elevation
K.B. 2105
D.F. 2093
G.L. 2093

Date Recorded **2/9/2013**

Depth Logger **4390**

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**

BWMSXO **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 **C. Desaire**

Witnessed By **Scott Alberg**

Analysis By **Dale Legleiter**

<<< Fold Here >>>

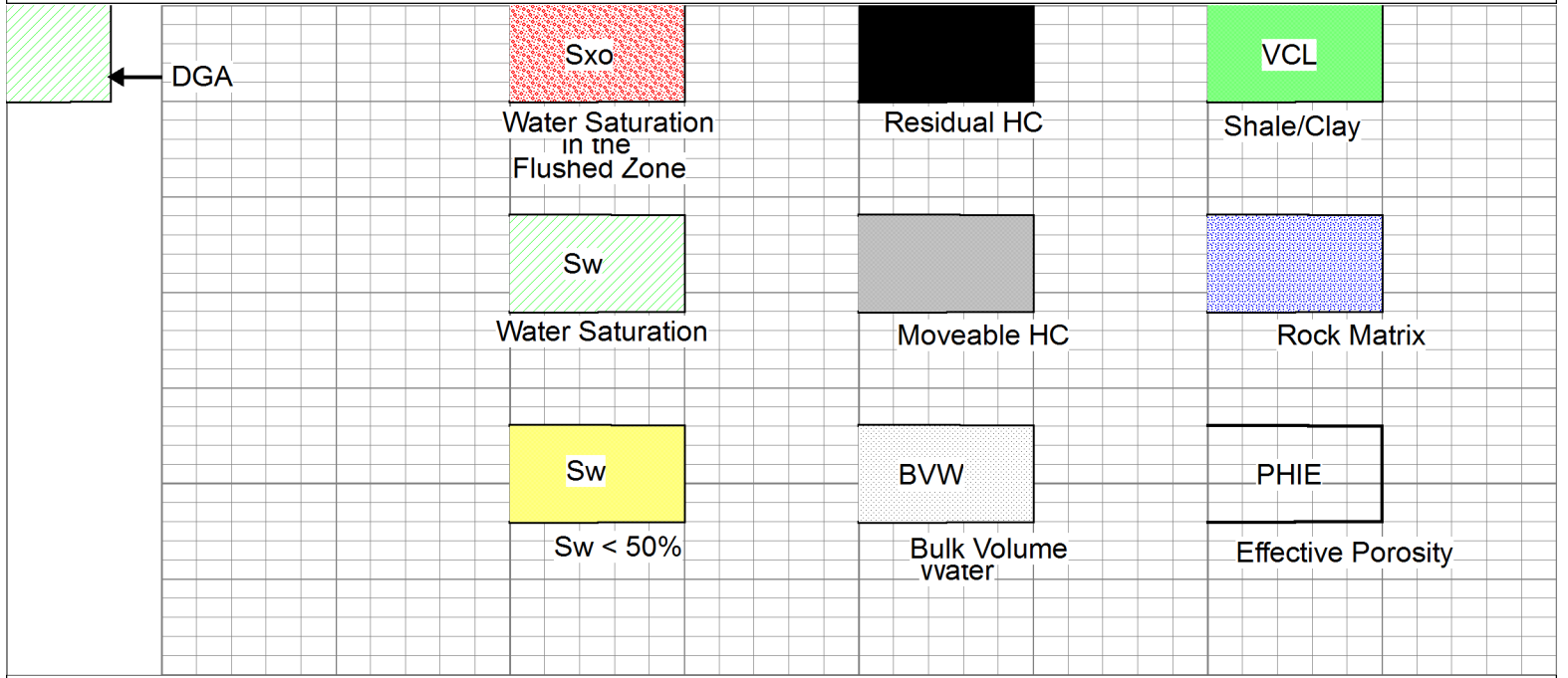
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Thank you for using Pioneer Energy Services
www.pioneer.com
785 625 3858

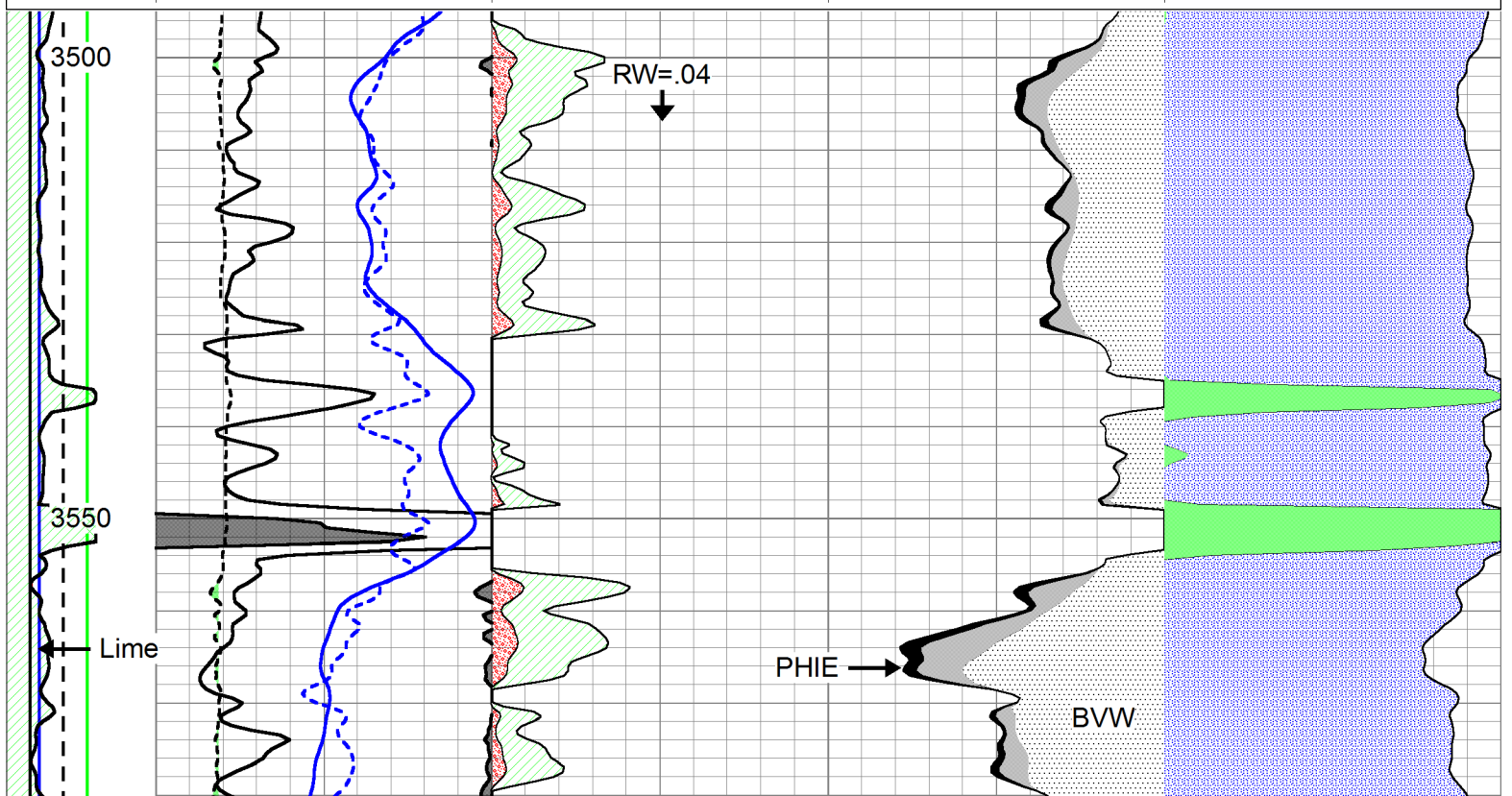
Garfield KS, E Edge,
2 1/2 S to D Rd, 2 E to 160 Ave, 1 1/4 N, W Into

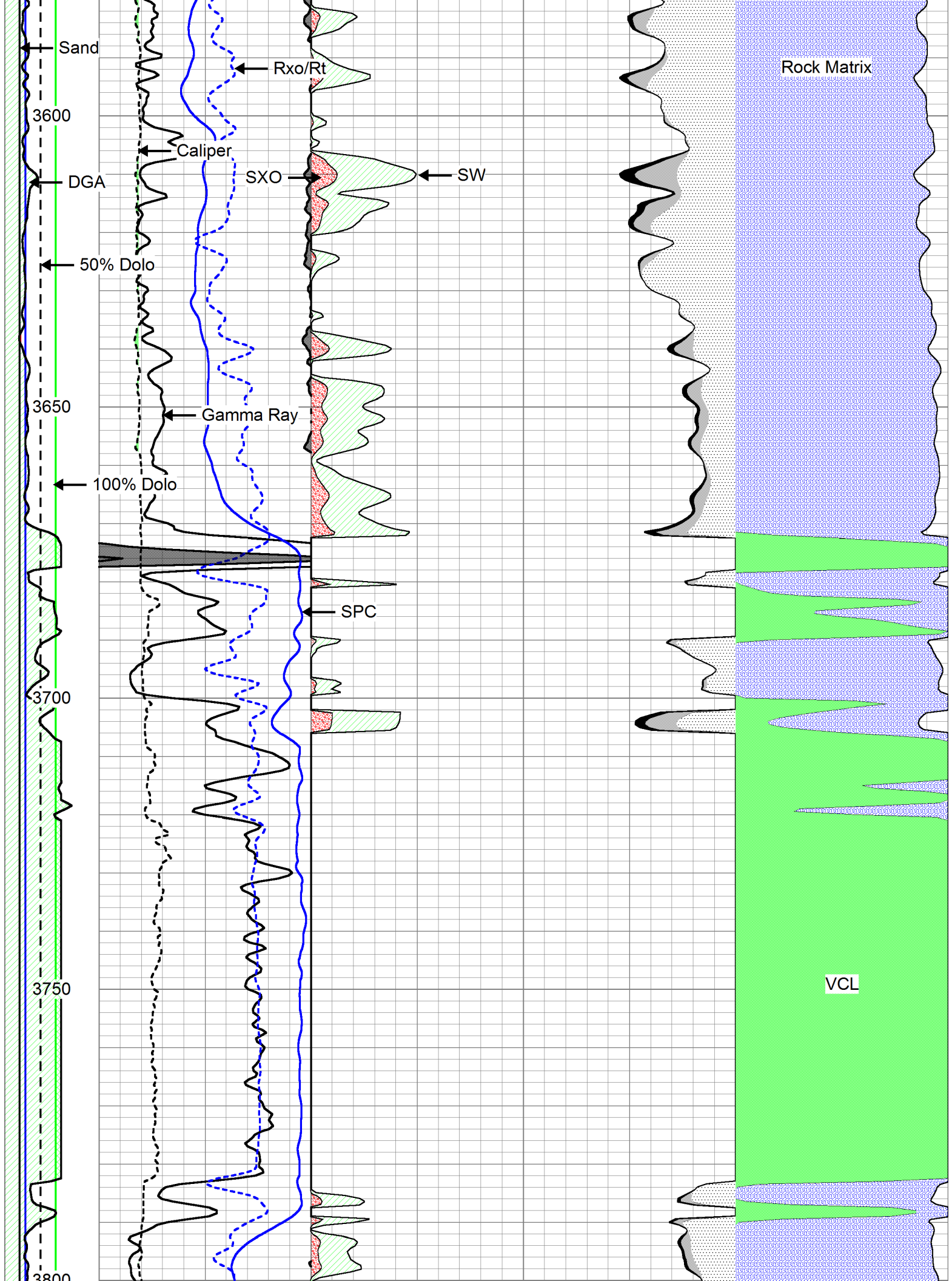
Database File: c:\warrior\data\cross plots\2wxplt.db
Dataset Pathname: litho
Presentation Format: 2wxplt

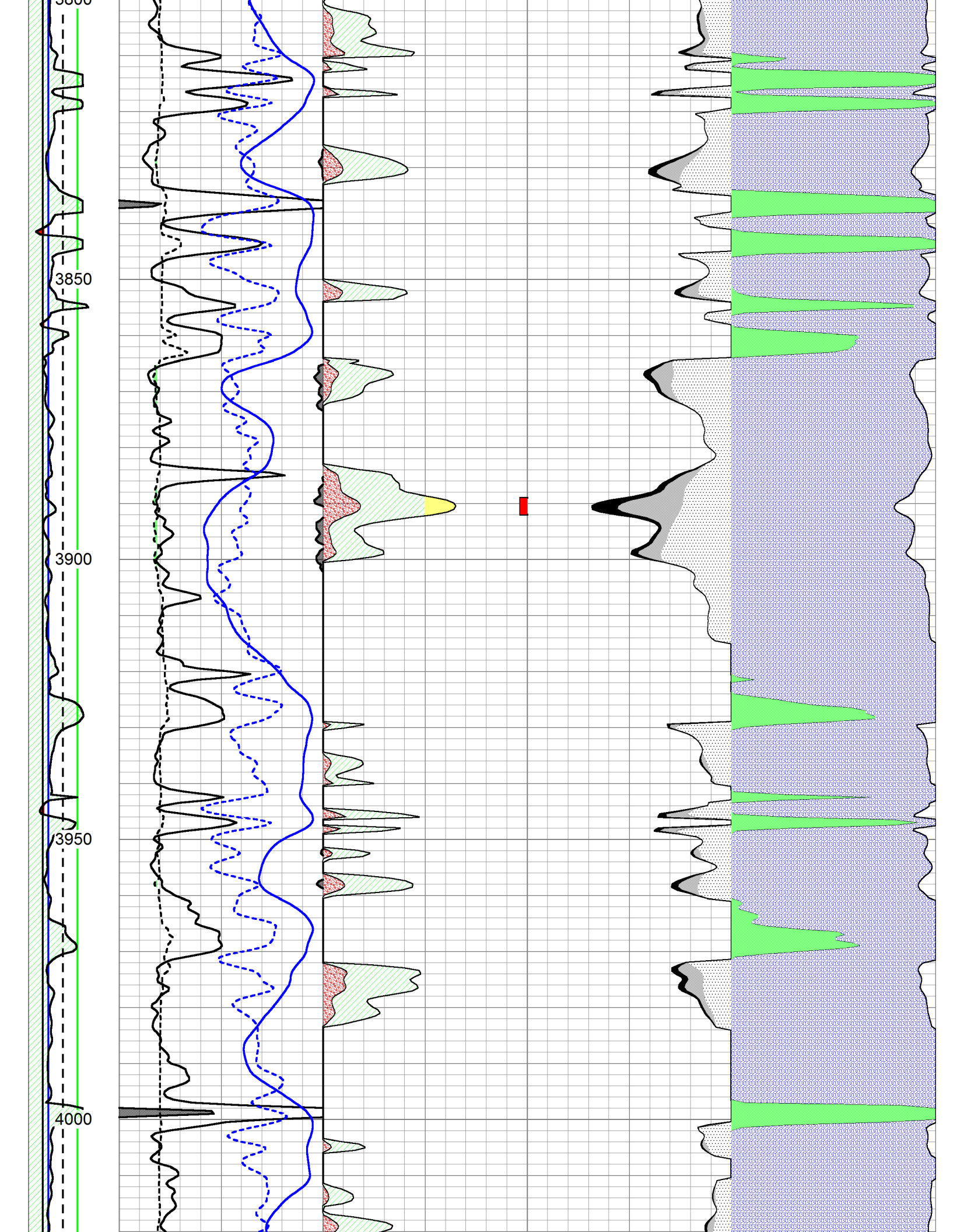


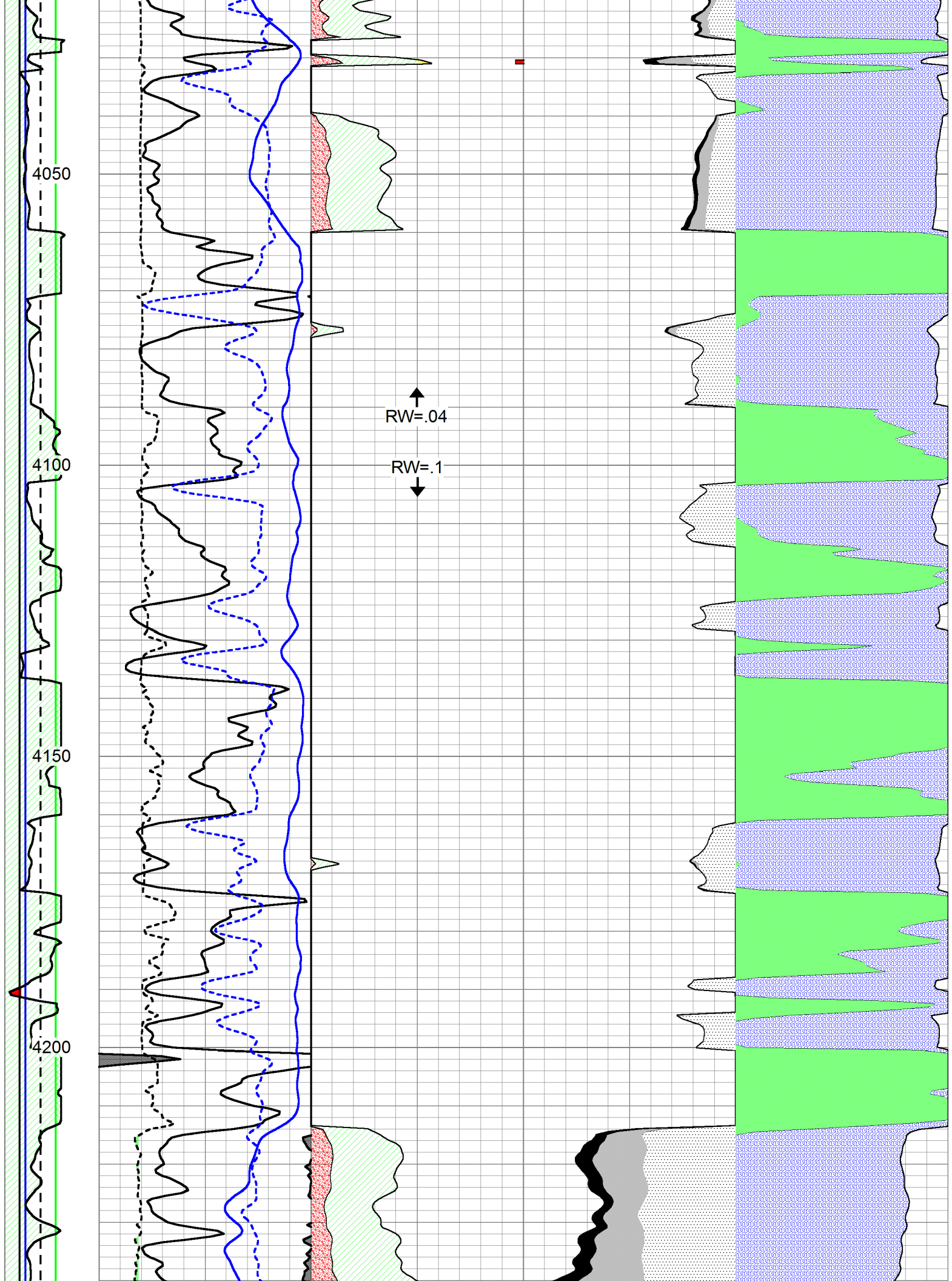
Database File: c:\warrior\data\apollo_hutchinson a #1\apollohd.db
 Dataset Pathname: cpi/cpi
 Presentation Format: calc
 Dataset Creation: Mon Feb 11 11:04:14 2013
 Charted by: Depth in Feet scaled 1:240

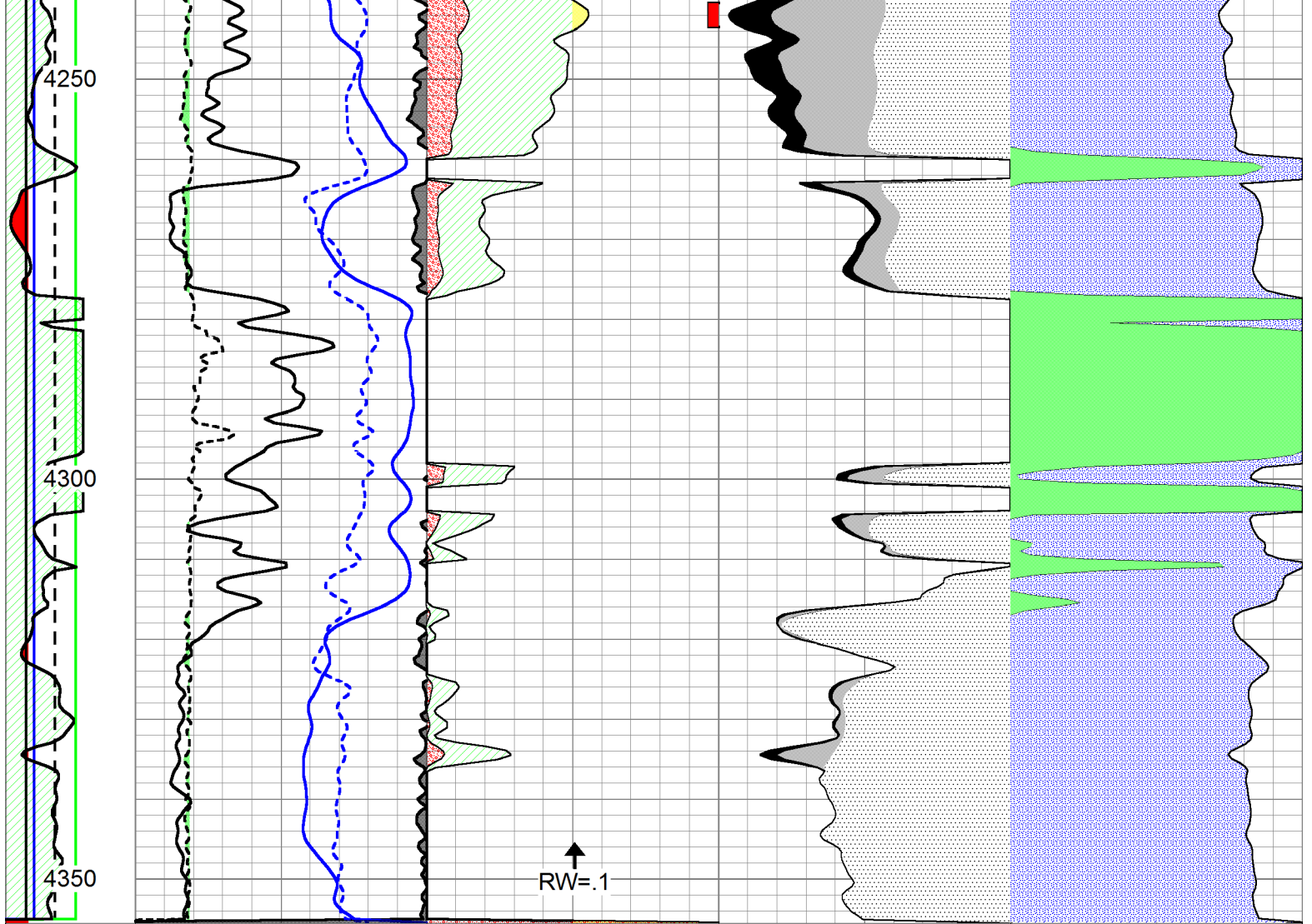
| | | | | | | | | | | | | | |
|-----|-----|-----------|----------|----|----|---------|-----|------|--------|---|-----|------|---|
| DGA | 0 | Gamma Ray | 150 | 1 | SW | 0 | 0.3 | PHIE | 0 | 0 | VCL | 1 | |
| 2.6 | 3.1 | 6 | DCAL | 16 | 30 | PAYFLAG | 0 | 0.3 | BVW | 0 | 1 | PHIE | 0 |
| | | -150 | SPC (mV) | 0 | 1 | SXO | 0 | 0.3 | BVWSXO | 0 | | | |











| | | | | | | | | | | | | |
|-----|-----|---------------|-----|----|---------|---|-----|--------|---|---|------|---|
| DGA | 0 | Gamma Ray | 150 | 1 | SW | 0 | 0.3 | PHIE | 0 | 0 | VCL | 1 |
| 2.6 | 3.1 | DCAL | 16 | 30 | PAYFLAG | 0 | 0.3 | BVW | 0 | 1 | PHIE | 0 |
| | | -150 SPC (mV) | 0 | 1 | SXO | 0 | 0.3 | BVWSXO | 0 | | | |