



**Computer Processed
Interpretation**

Company **ELK ENERGY HOLDINGS, LLC**
 Well **SHEPHERD NO.2-14**
 Field **NOLLETTE SOUTHEAST**
 County **THOMAS**
 State **KANSAS**

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Location: API #: 15-193-21072-00-00

Other Services

SEC 14 TWP 10S RGE 33W
 2310' FSL & 2310' FEL

DIL/CNL/CDL
 MEL

Permanent Datum **GROUND LEVEL** Elevation **3138'**
 Log Measured From **KELLY BUSHING**
 Drilling Measured From **KELLY BUSHING**

Elevation **K.B. 3146'**
 D.F. **N/A**
 G.L. **3138'**

Date Recorded **2/5/2020**

Depth Logger **4700'**

Curve Definitions

SW Water Saturation

SXO Water Saturation In The Flushed Zone

VCL Volume Of Clay

PHIE Density - Neutron Crossplot Shale Corrected

BVW 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 **M. HISS** J. HENRICKSON

Witnessed By **PAT DEENIHAN**

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.

OAKLEY WEST EXIT,
 NORTH TO F RD, WEST TO 23 RD, 1 SOUTH,
 1/3 EAST, NORTH INTO

Log Measured From: **KELLY BUSHING** 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

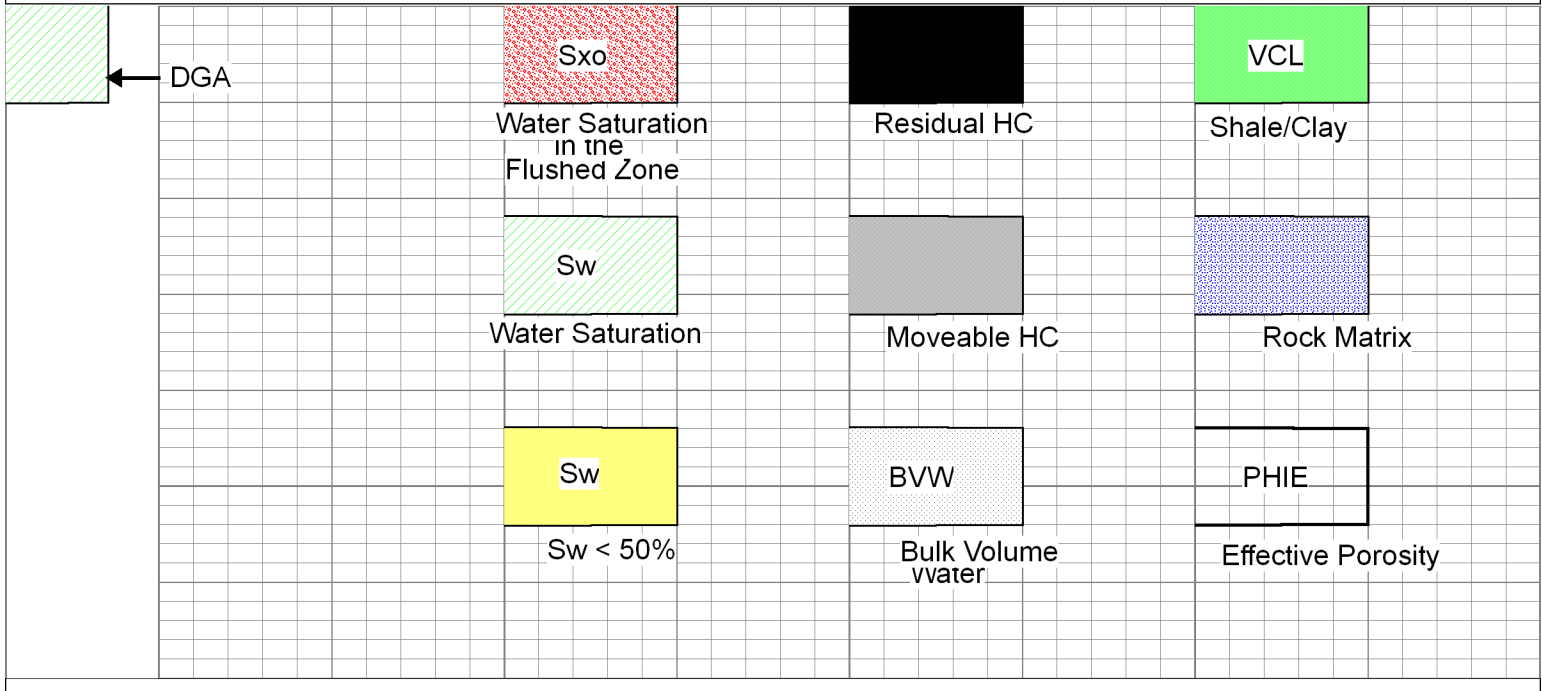
Your Pioneer Energy Services Crew


Engineer: **M. HISS**
 Operator: **J. HENRICKSON**
 Operator:
 Operator:

This Log Record Was Witnessed By

Primary Witness: **PAT DEENIHAN**
 Secondary Witness:
 Secondary Witness:
 Secondary Witness:

Database File cross plots/2wxplt.db
 Dataset Pathname litho
 Presentation Format 2wxplt
 Dataset Creation Thu Apr 24 13:32:02 1997
 Charted by Depth in Feet scaled 1:240



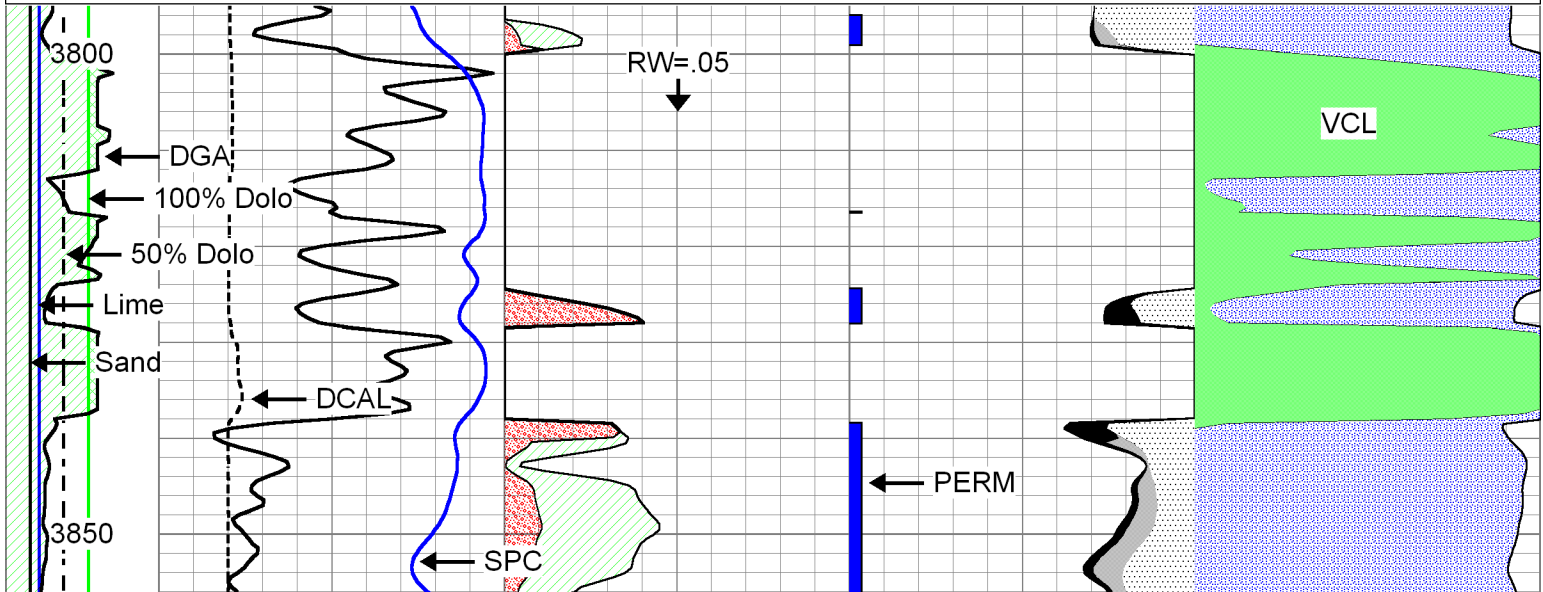


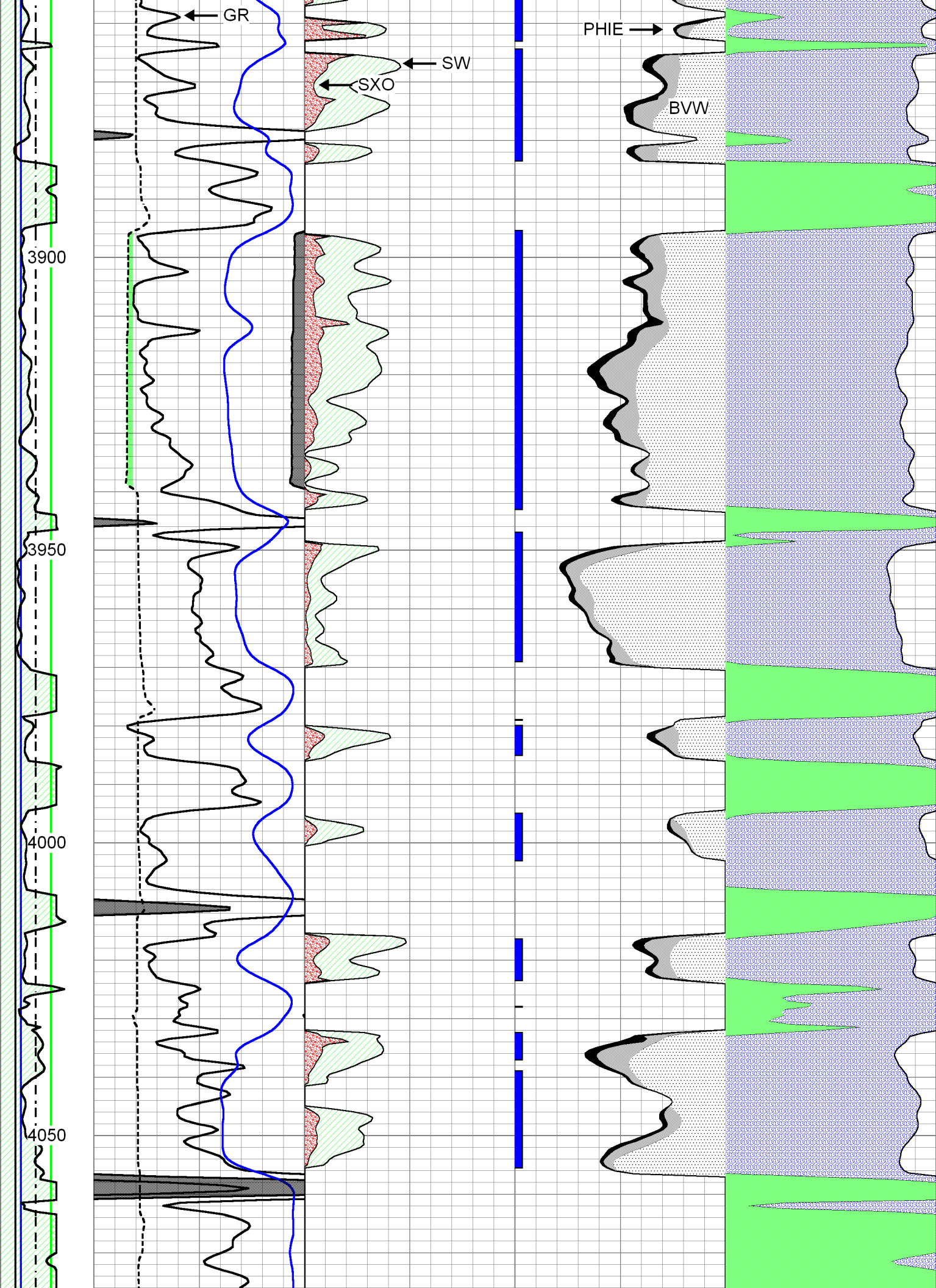
COMPUTER PROCESSED INTERPRETATION

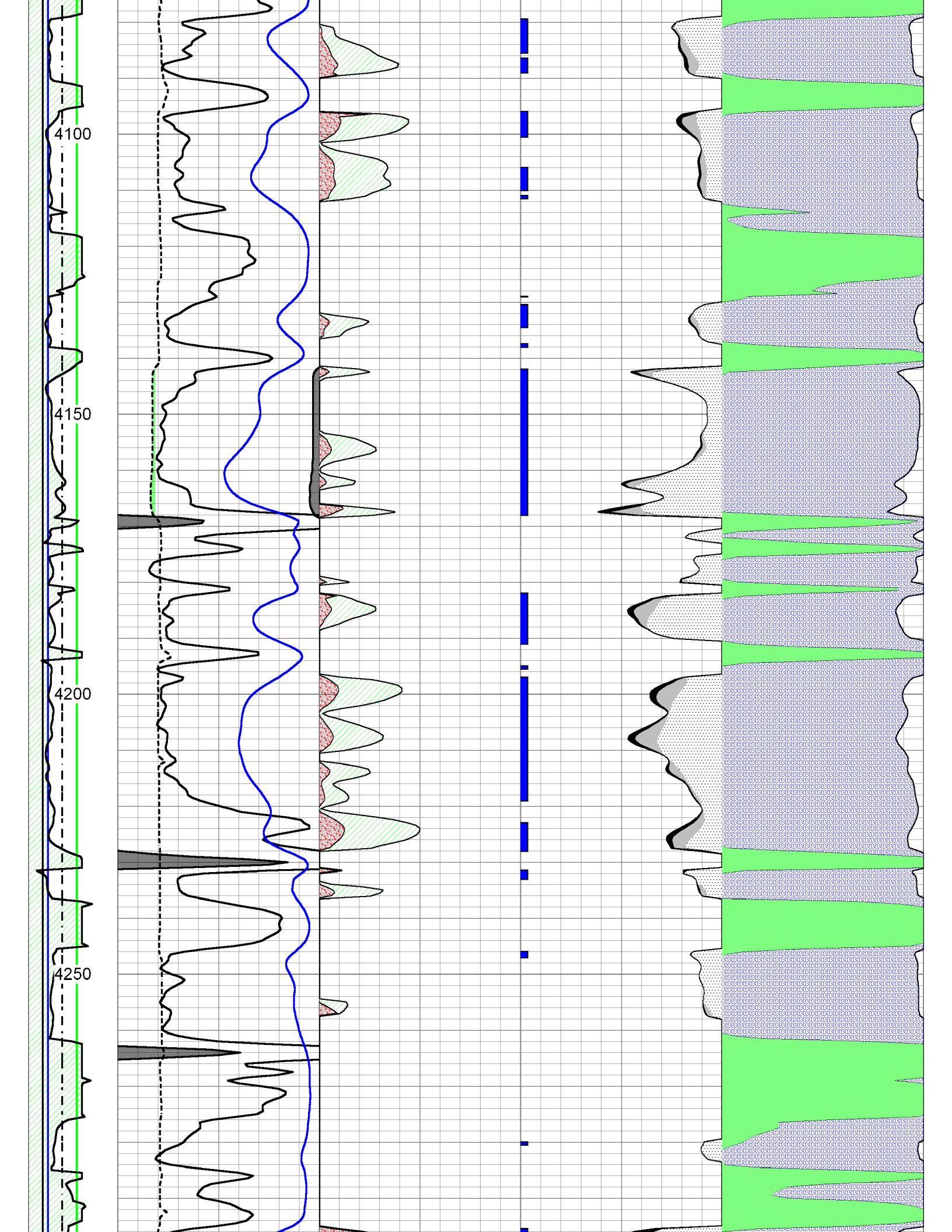
MAIN PASS

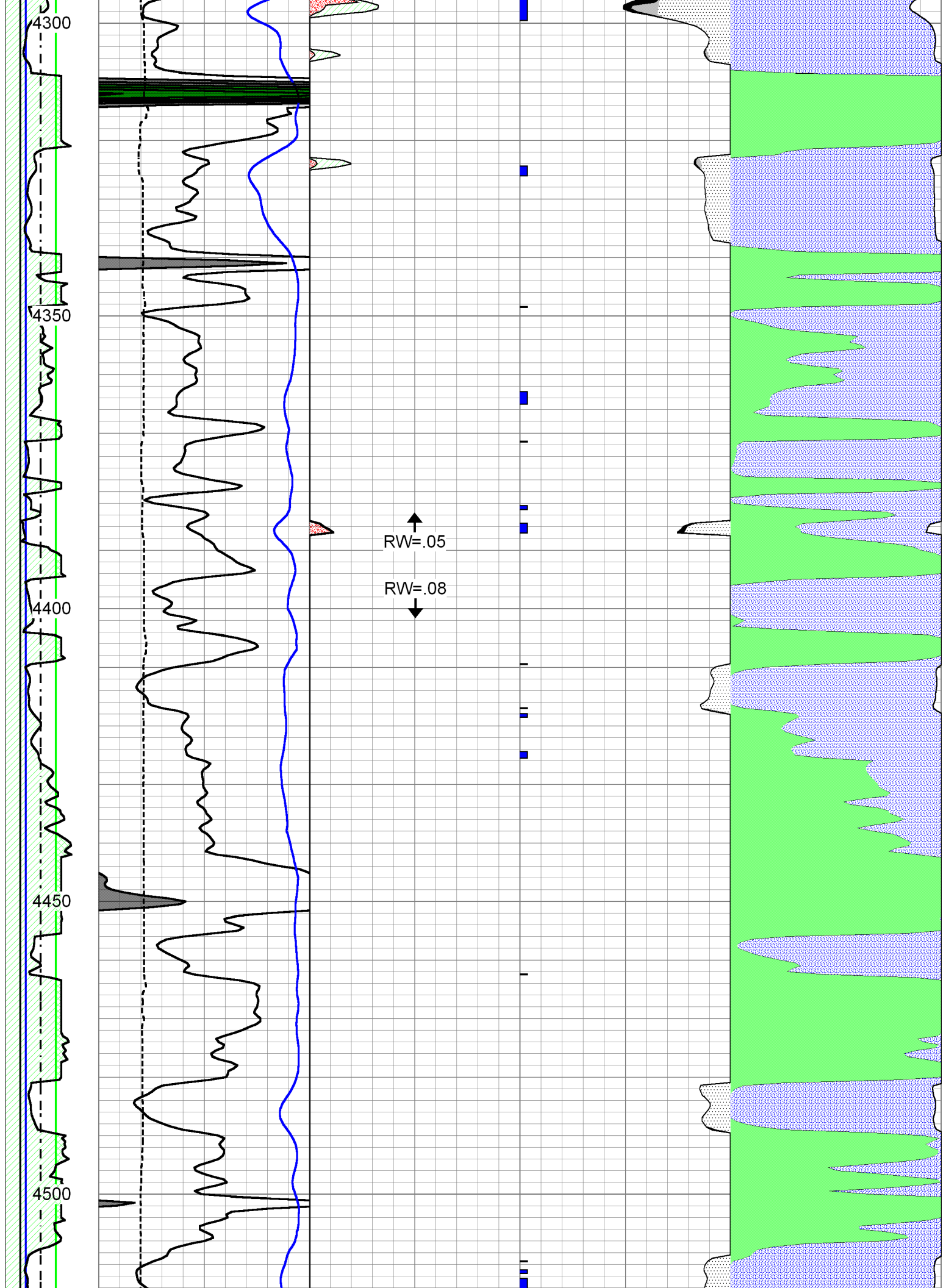
Database File elk_shepherd_#2_14hd.db
 Dataset Pathname CPI/elkcpi
 Presentation Format calc
 Dataset Creation Thu Feb 06 06:49:13 2020
 Charted by Depth in Feet scaled 1:240

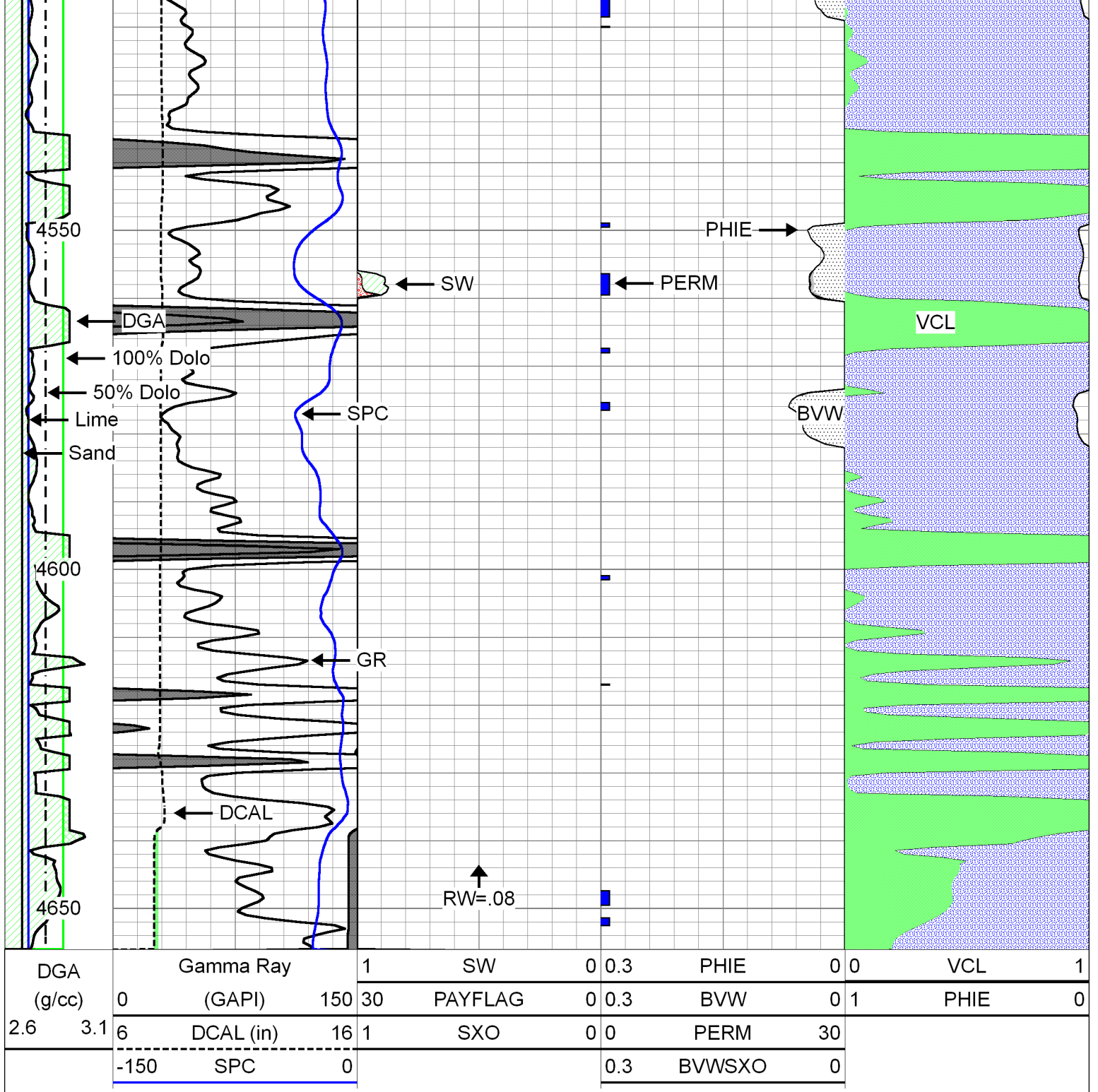
DGA	Gamma Ray	1	SW	0.3	PHIE	0	VCL	1
(g/cc)	(GAPI)	150	PAYFLAG	0.3	BVW	1	PHIE	0
2.6 3.1	DCAL (in)	16	SXO	0	PERM	30		
	SPC	0		0.3	BVWSXO	0		











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