HALLIBURTON

# CBL/GAMMA/TEMP EVALUATION

Company AXIA ENERGY, LLC
Well BULLDOG 20-12H-892
Field LAY CREEK
County MOFFAT State CO

Company AXIA ENERGY, LLC
Well BULLDOG 20-12H-892
Field LAY CREEK
County MOFFAT State CO

API No.: 05-081-07729-01 Serv #: 9712259
Location: SWNW 1641' FNL 712' FWL

Other Services
N/A

Sec: 20 Twp: 8N Rge: 92W

Permanent Datum GROUND LEVEL Elevation 6845
Log Measured From KB , Ft. above perm. datum
Drilling Measured From

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

| | | | |
|---|---|---|---|
| Date @ Time Logged | 31 JULY 2012 | Type Fluid in Hole | FRESHWATER |
| Run No. | 1 | Density of Fluid | 8.4 |
| Depth - Driller | | Fluid Level | SURFACE |
| Depth - Logger | 9200 | Cement Top Est. Logged | 2050 |
| Bottom - Logged Interval | 9200 | Equipment / Location | 3532 / RS,WYO |
| Top - Log Interval | SURFACE | Recorded by | SONNY BURGIE |
| Max. Recorded Temp. | 217 | Witnessed by | COMPANY CONSULTANT |

| CEMENTING DATA | Surface String | Protection String | Production String | Liner |
|---|---|---|---|---|
| Date / Time Cemented | | | | |
| Primary / Squeeze | | | | |
| Expected Compressive Strength | psi@ hrs | psi@ hrs | psi@ hrs | psi@ hrs |
| Cement Volume | | | | |
| Cement Type / Weight | / | / | / | / |
| Formulation | | | | |
| Mud Type / Mud Wgt. | / | / | / | / |

| Borehole Record | | | | Casing & Tubing Record | | | |
|---|---|---|---|---|---|---|---|
| Run Number | Bit | From | To | Size | Weight | From | To |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHCIH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

## Comments

NO CORRELATION LOG WAS PROVIDED

MAX RECORDED TEMP = 217
ESTIMATED TOP OF CEMENT= 1700'

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES ROCK SPRINGS, WYOMING.

|  |  |  |
|---|---|---|
| Service Ticket No. | API No. | PGM Ver |

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

## EQUIPMENT DATA

| CBL |  | GR |  | TEMP |  |  |  |
|---|---|---|---|---|---|---|---|
| Run No. | 1 | Run No. | 1 | Run No. | 1 | Run No. |  |
| Serial No. | 070719 | Serial No. | 070517 | Serial No. | 070362 | Serial No. |  |
| Model No. | CBL-PROBE | Model No. | GR-PROBE | Model No. | TEMP-1.375 | Model No. |  |
| Diameter | 2.75 | Diameter | 2.75 | Diameter | 1.375 | Diameter |  |

## LOGGING DATA

### General Data

| Pass No. | Depths From | Depths To | Well Head Pressure | Speed Ft/Min | Logging Run Comments |
|---|---|---|---|---|---|
| MAIN | 9200 | 50 | 0 | 70 |  |
| REPEAT | 9200 | 9000 | 0 | 70 |  |

|  | TEMP |  | GR |  | AMPLITUDE |  |  |  |
|---|---|---|---|---|---|---|---|---|
| Pass | Scale |  | Scale |  | Scale |  | Scale |  |
| No. | L | R | L | R | L | R | L | L |
| ALL PASSES | 0 | 300 | 0 | 150 | 0 | 100 |  |  |
|  |  |  |  |  |  |  |  |  |

## DIRECTIONAL INFORMATION

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| Maximum Deviation |  | deg. @ |  | KOP |  |  |

|  |  |
|---|---|
| Database File: | bulldog_20_12h_892.db |
| Dataset Pathname: | repeat1/pass5 |
| Presentation Format: | cblsb |
| Dataset Creation: | Tue Jul 31 20:19:14 2012 by Log Halliburton Casedho |
| Charted by: | Depth in Feet scaled 1:240 |

425 Travel Time (usec) 275

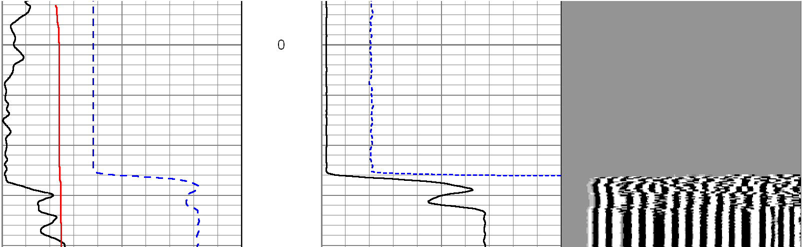
0 Gamma Ray (GAPI) 150

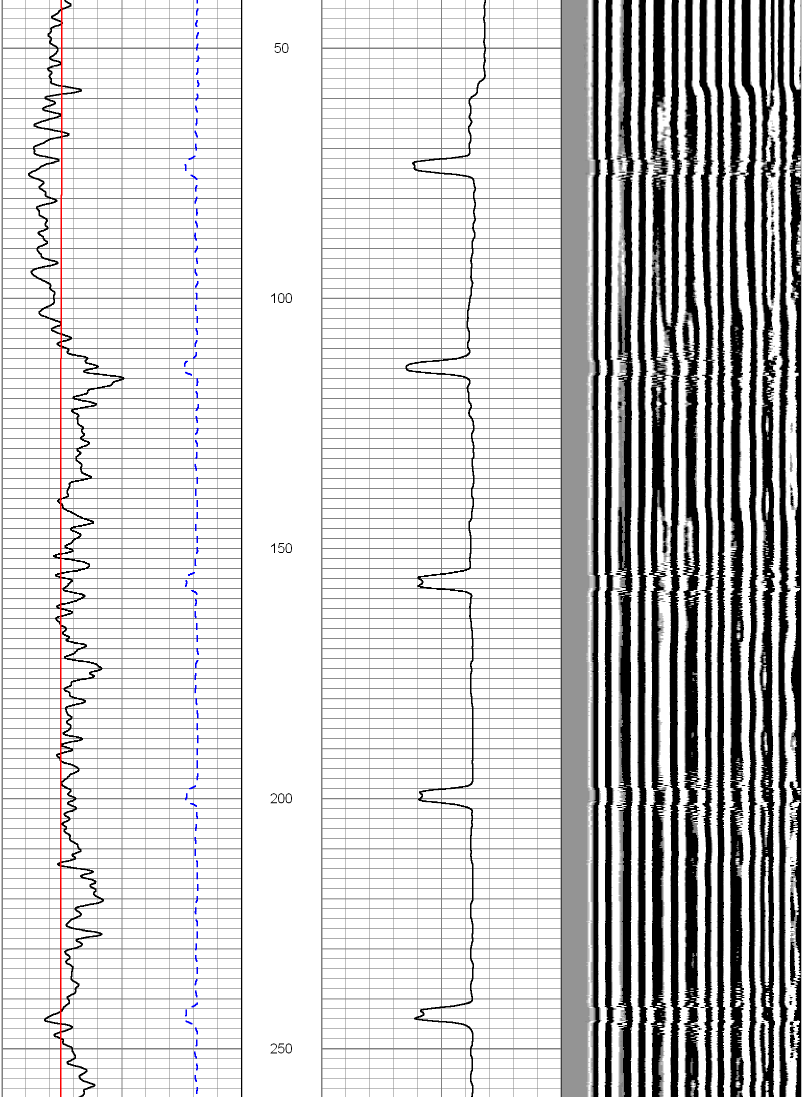
0 TEMP (degF) 300

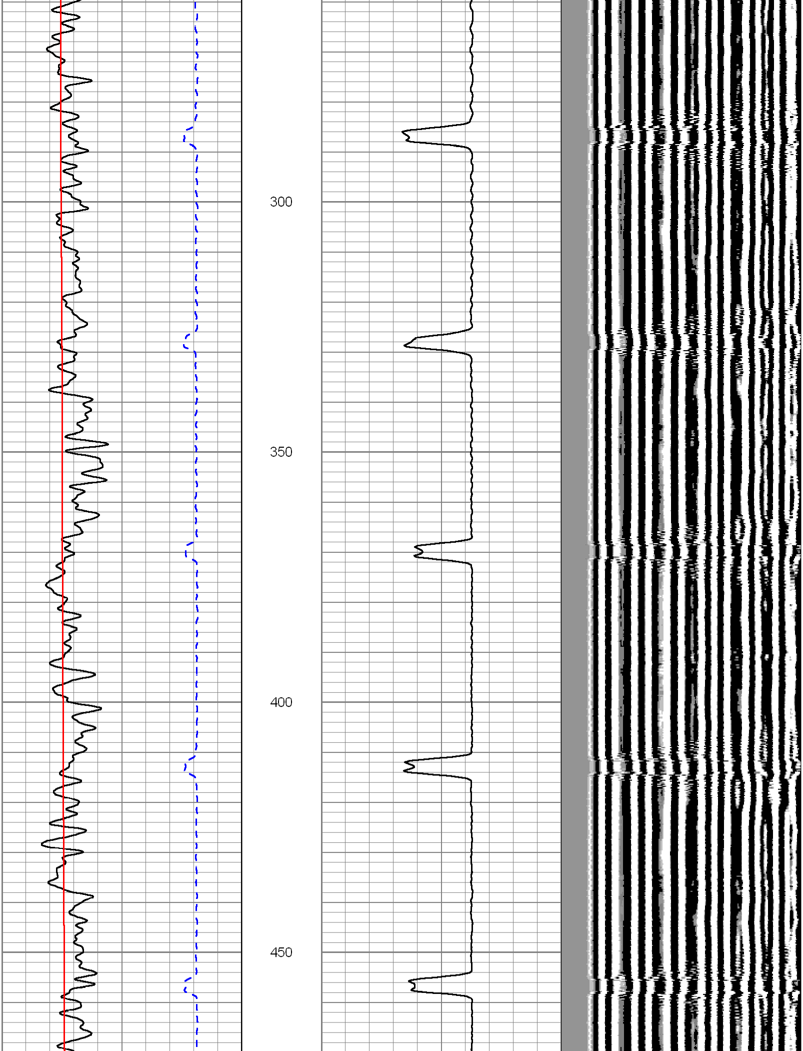
0 Amplified Amplitude (mV) 10

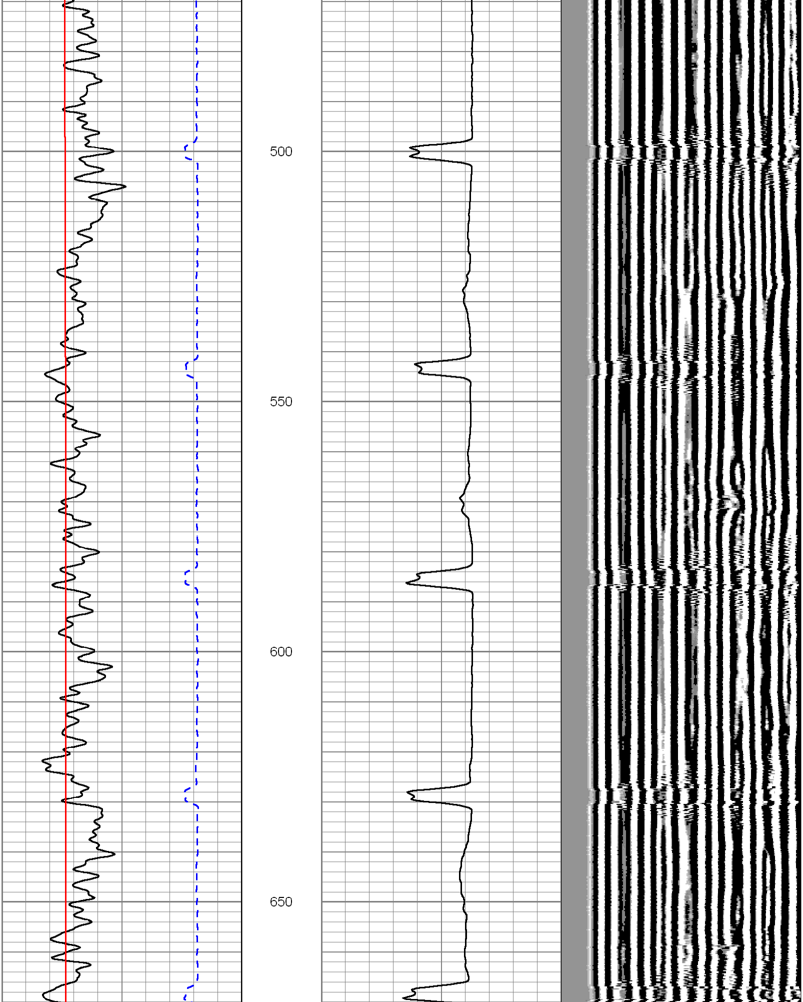
0 Amplitude (mV) 100

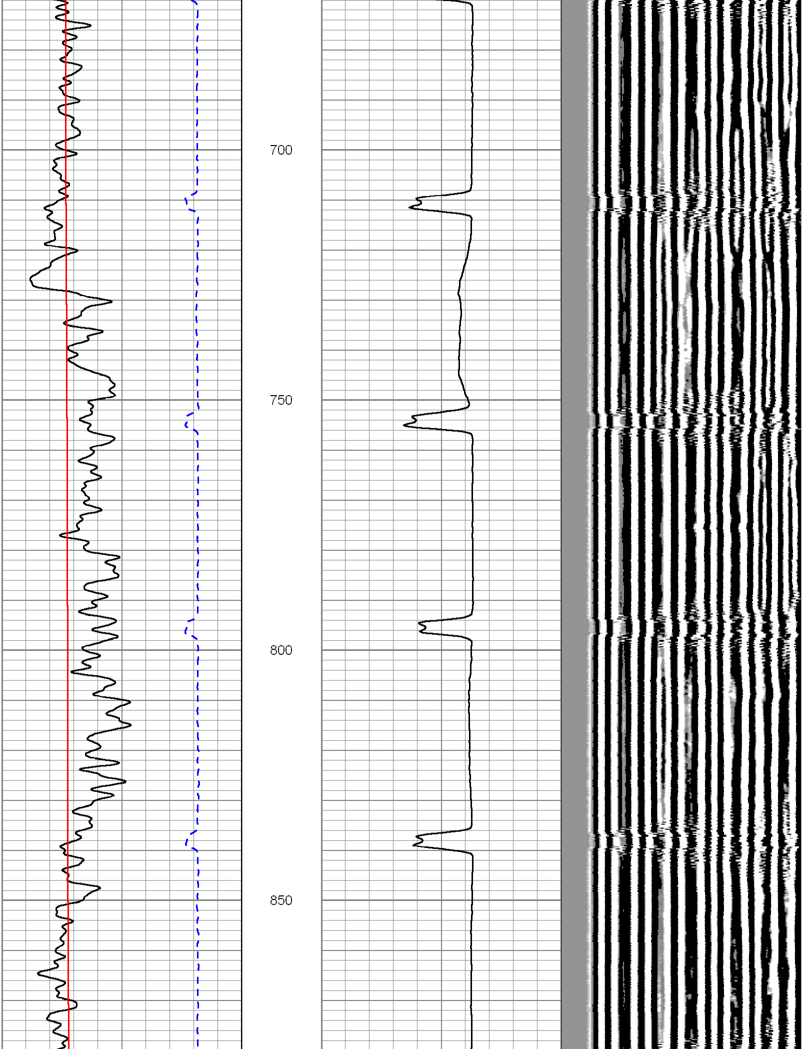
200 Variable Density 1200

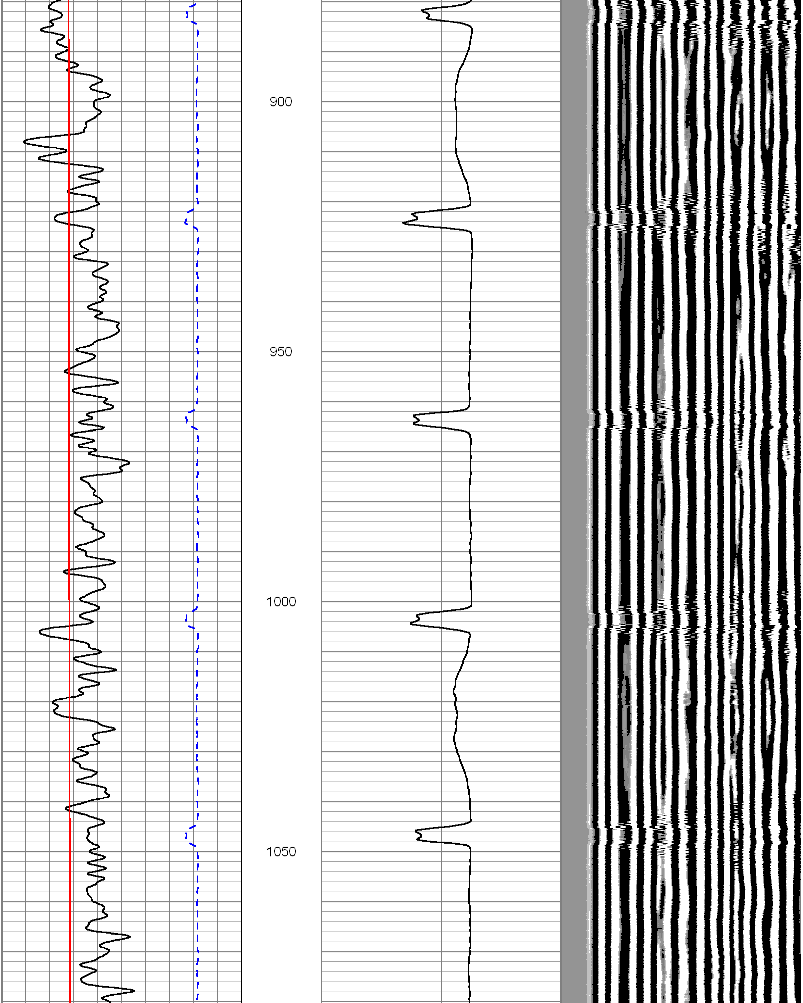


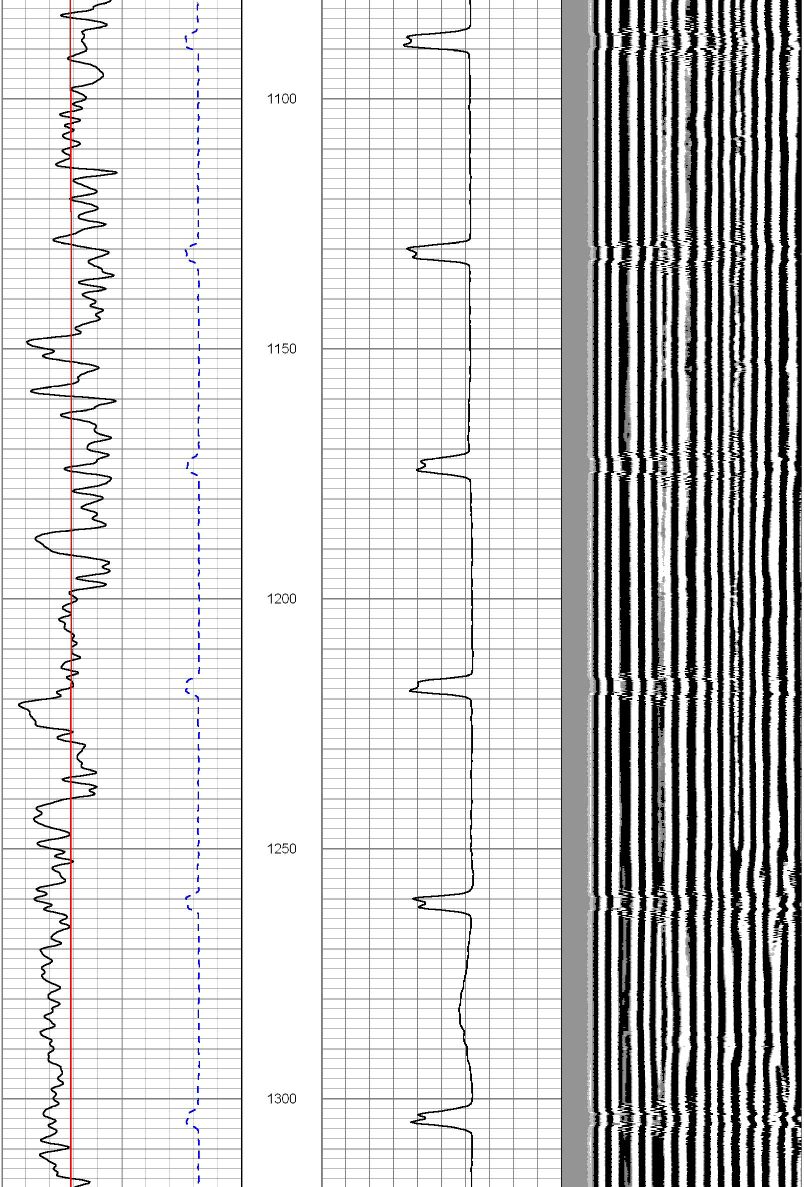


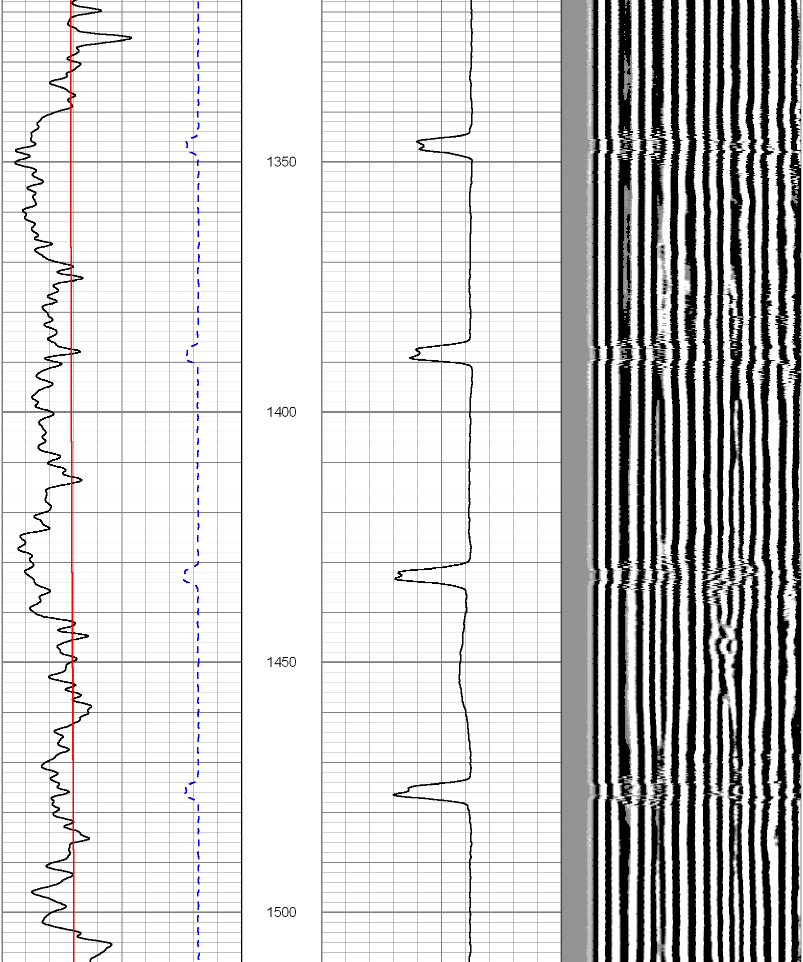


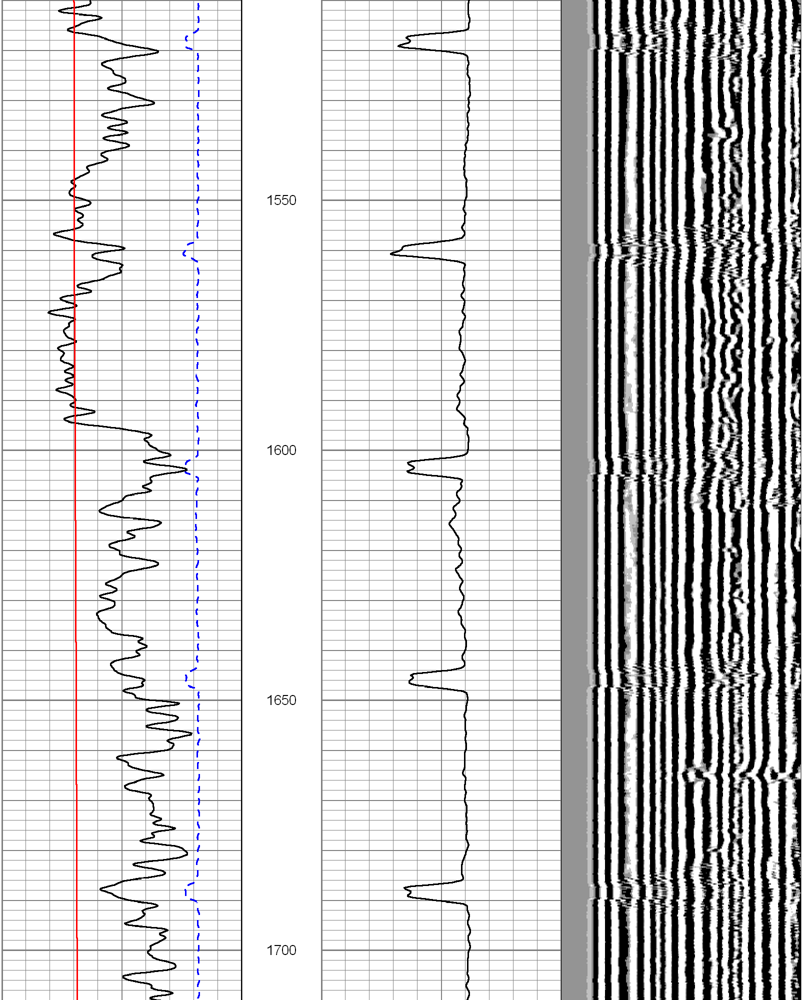


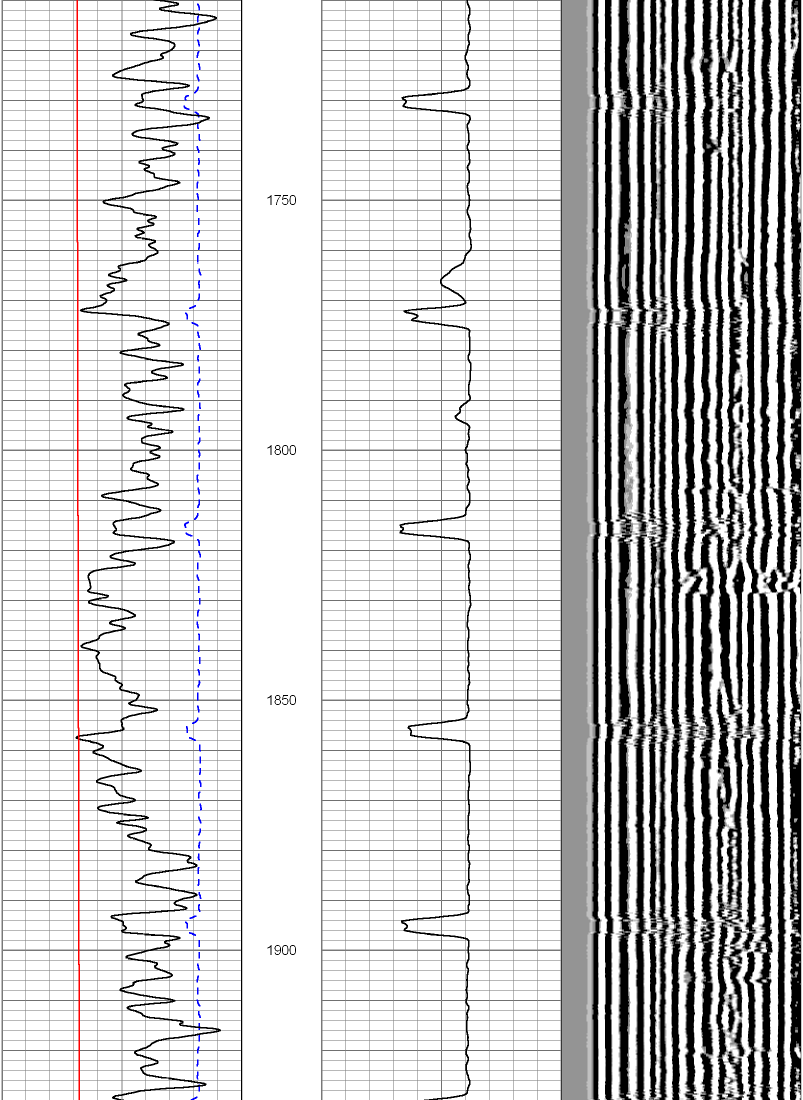


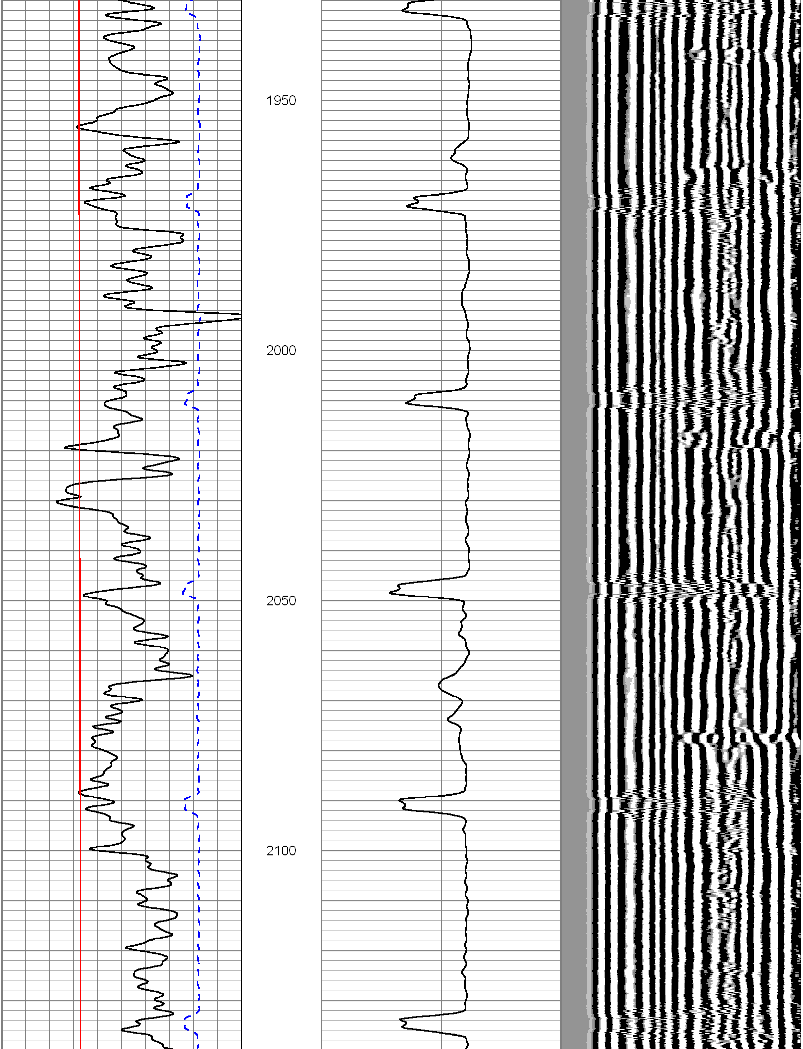


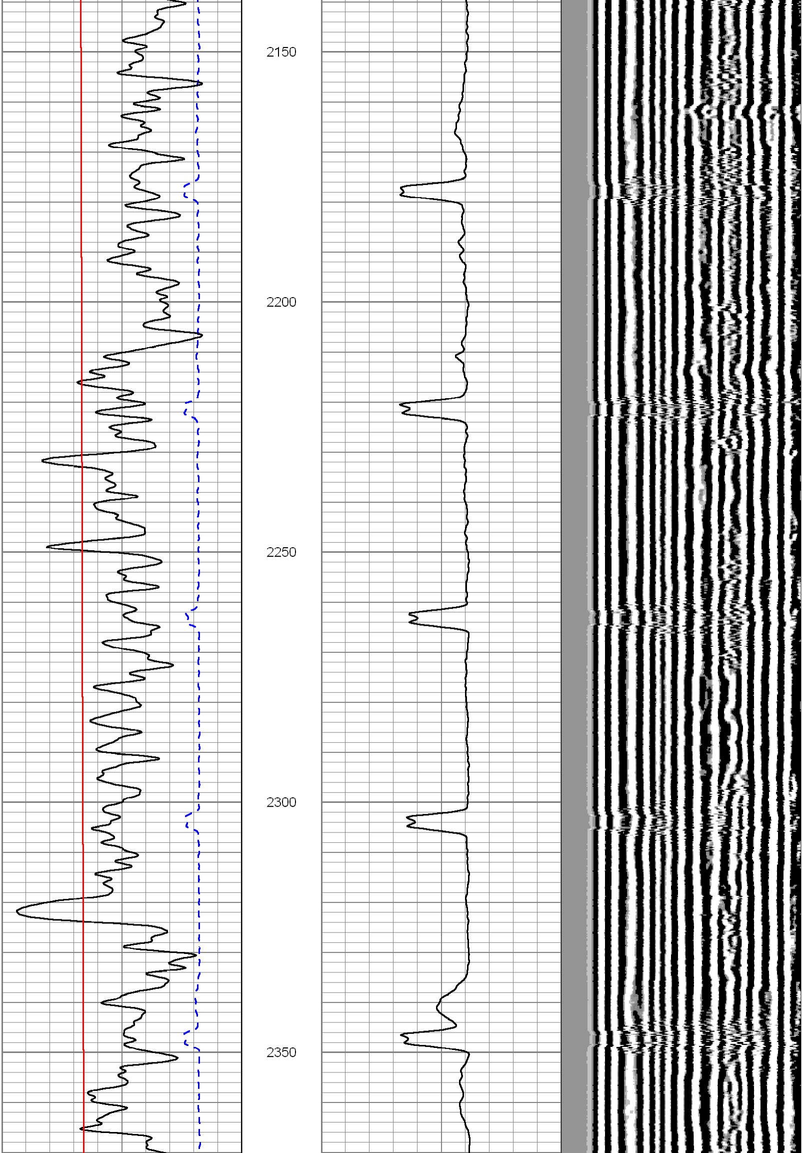


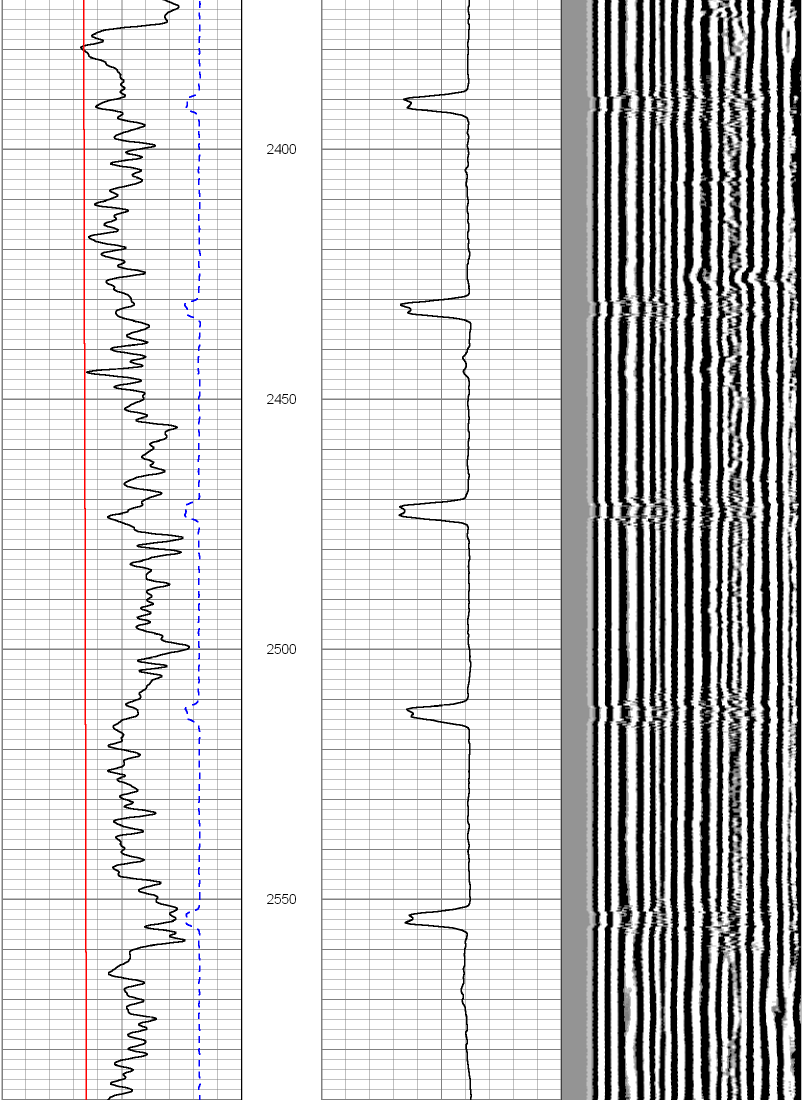


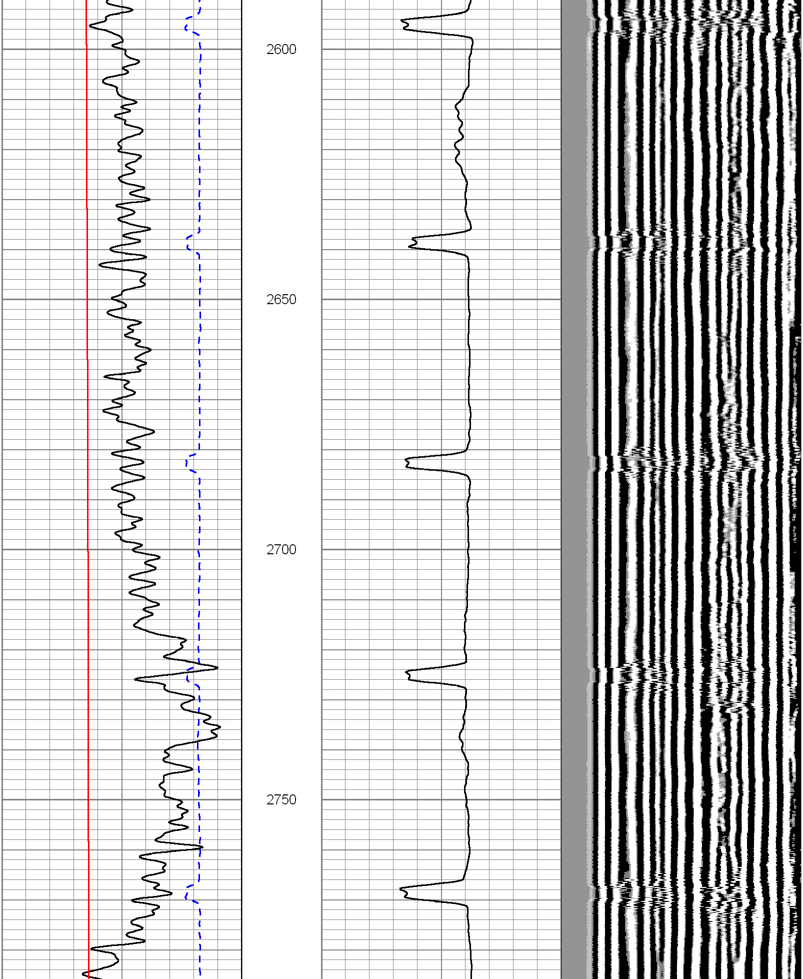


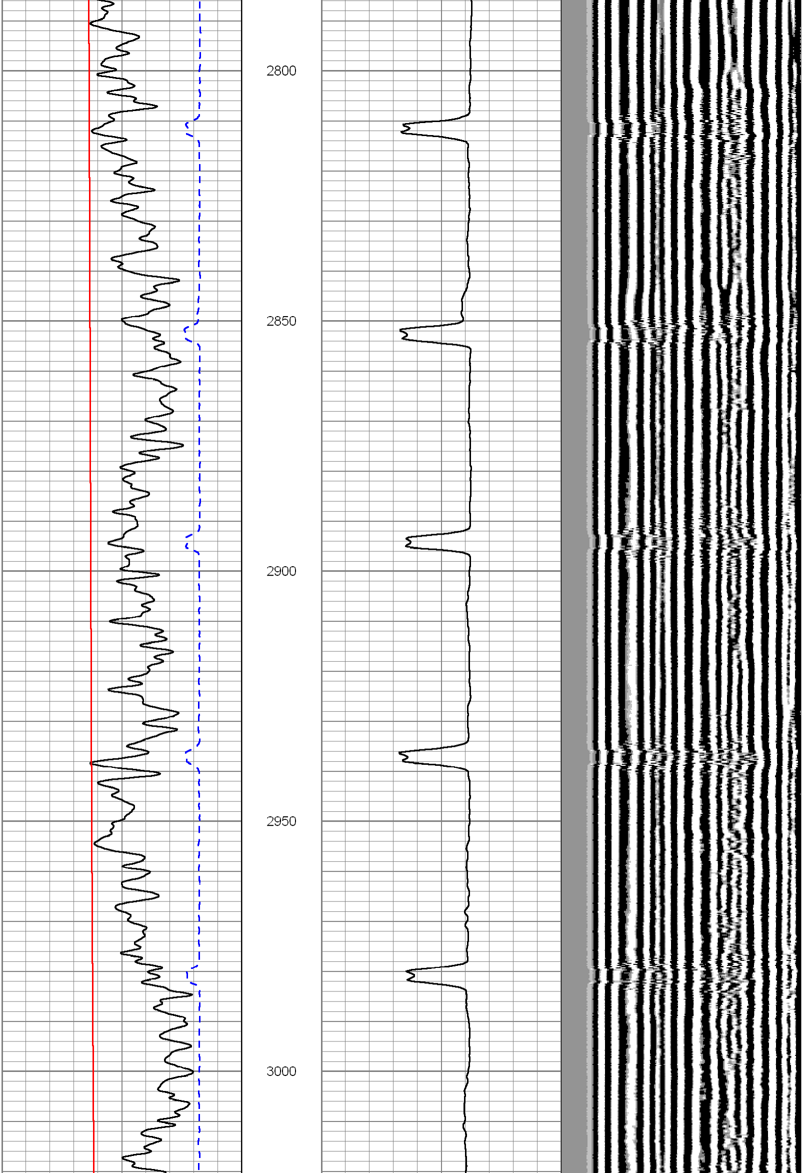


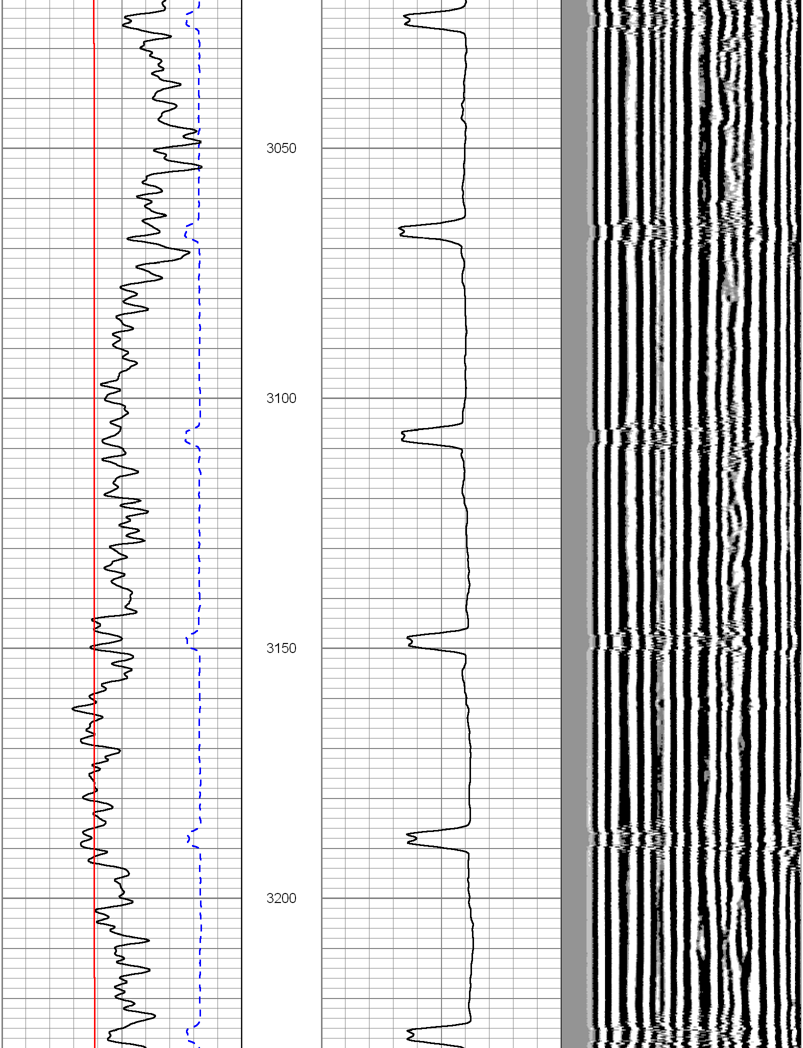


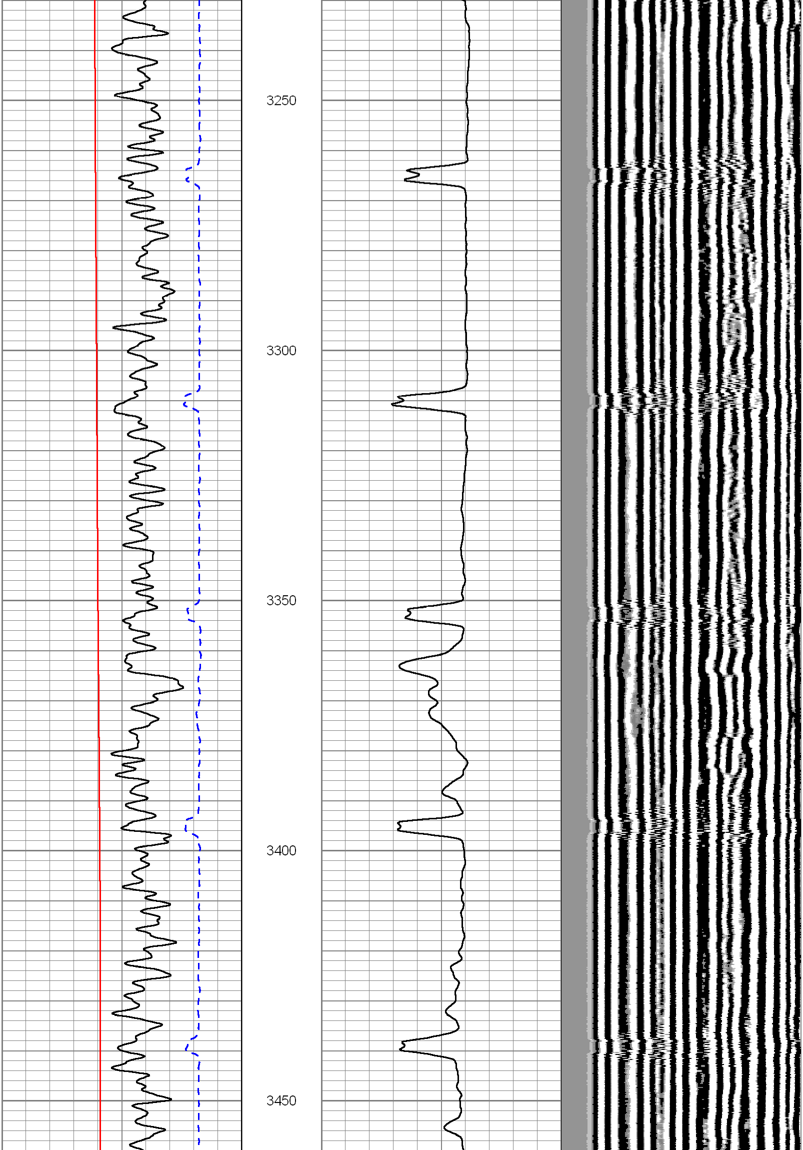


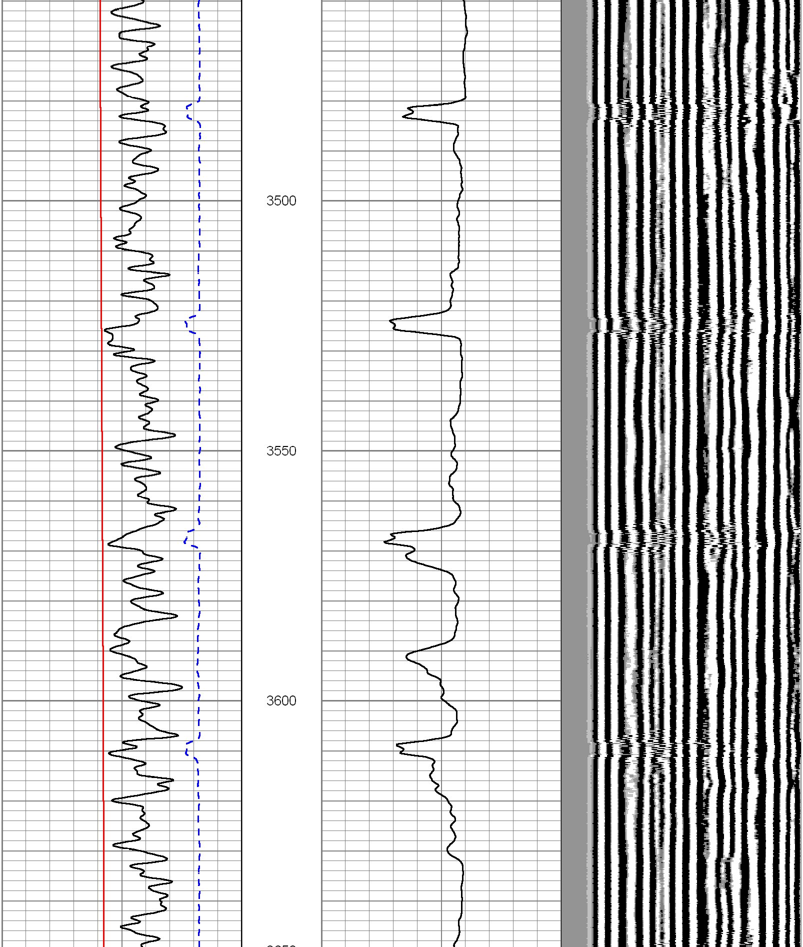


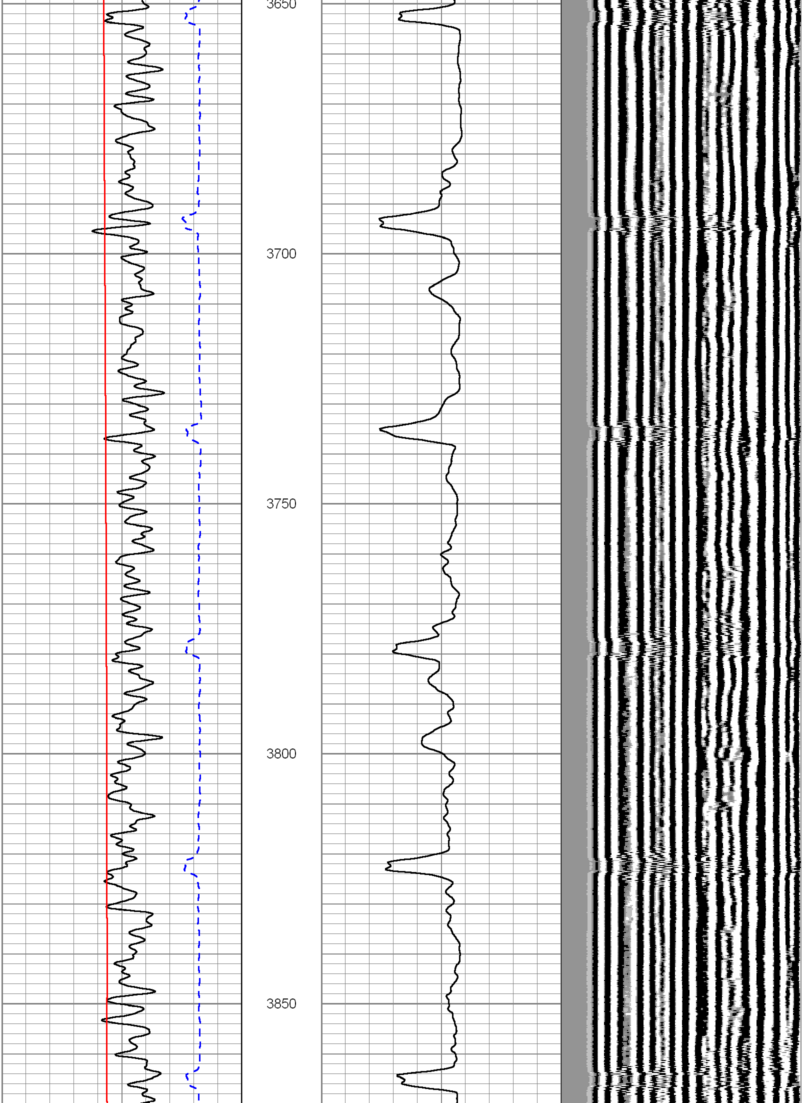








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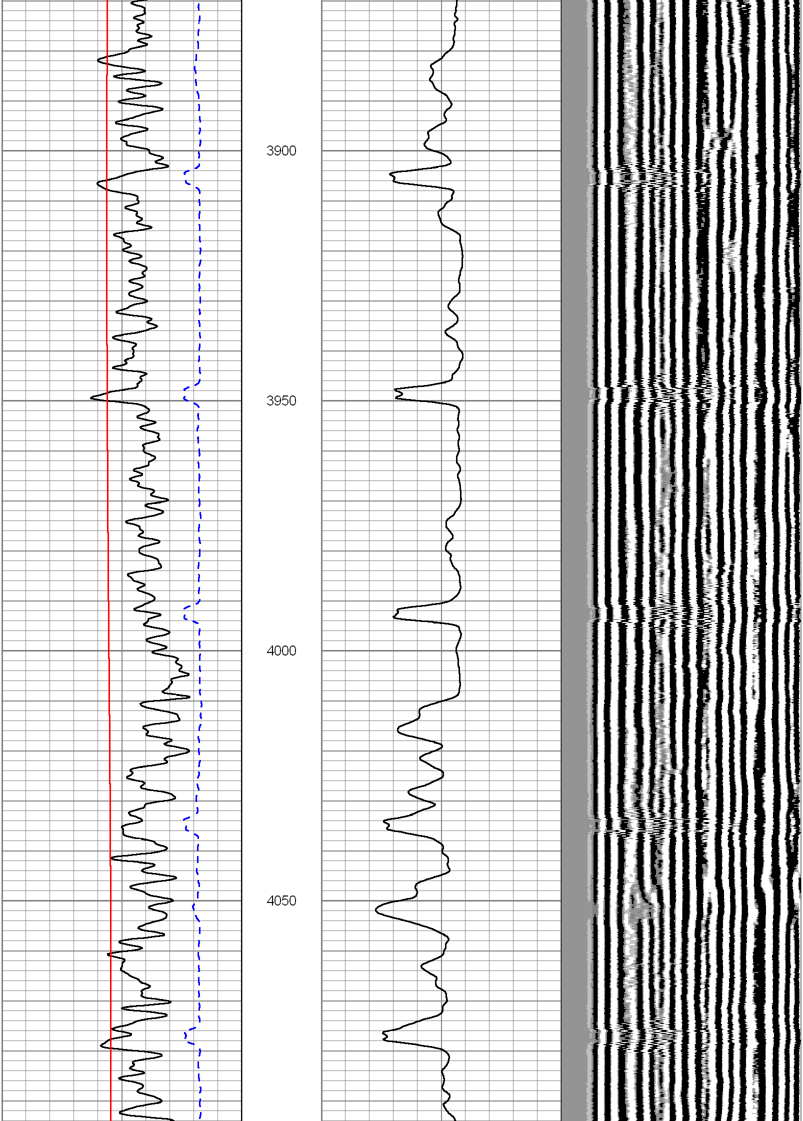
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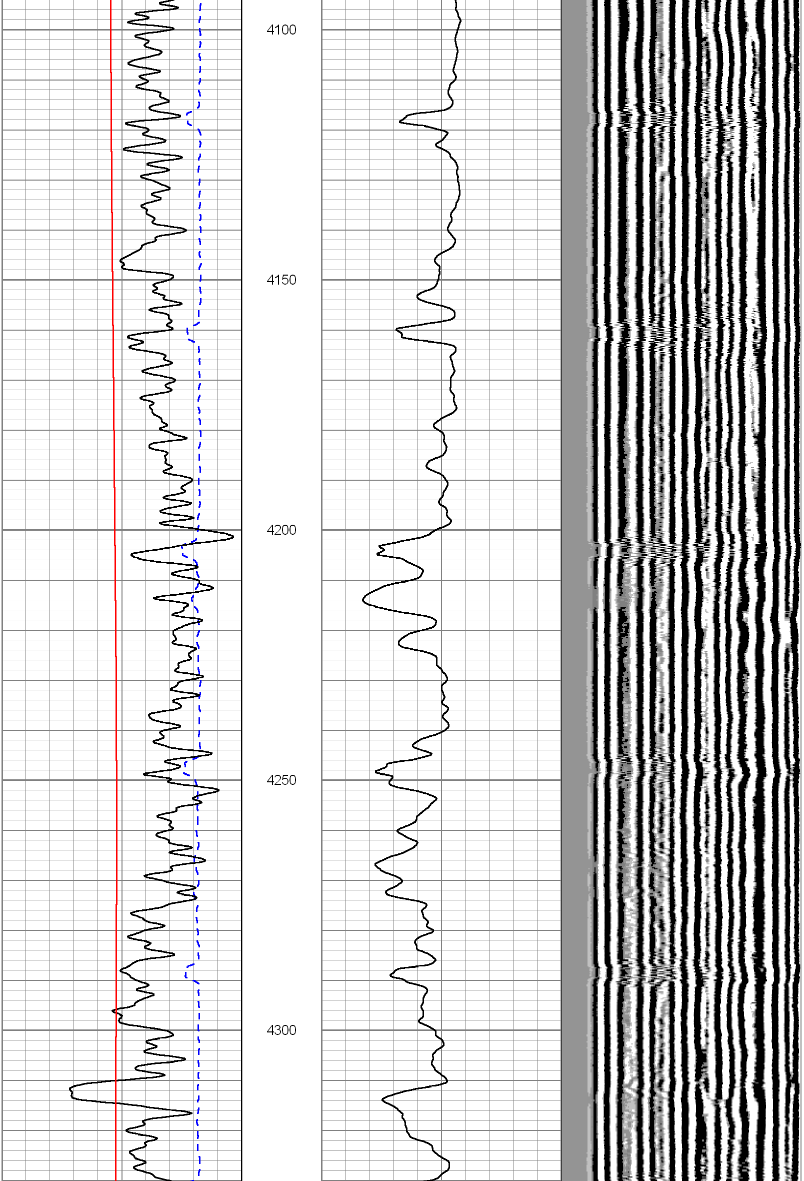
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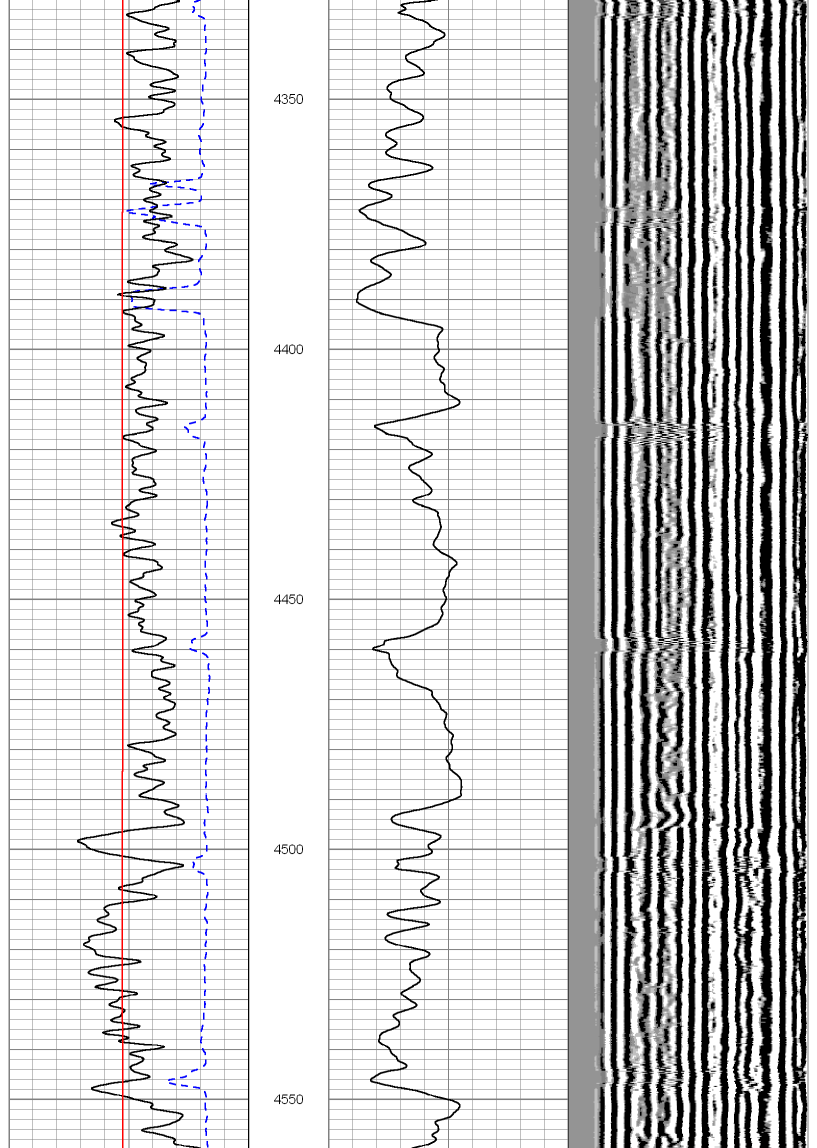
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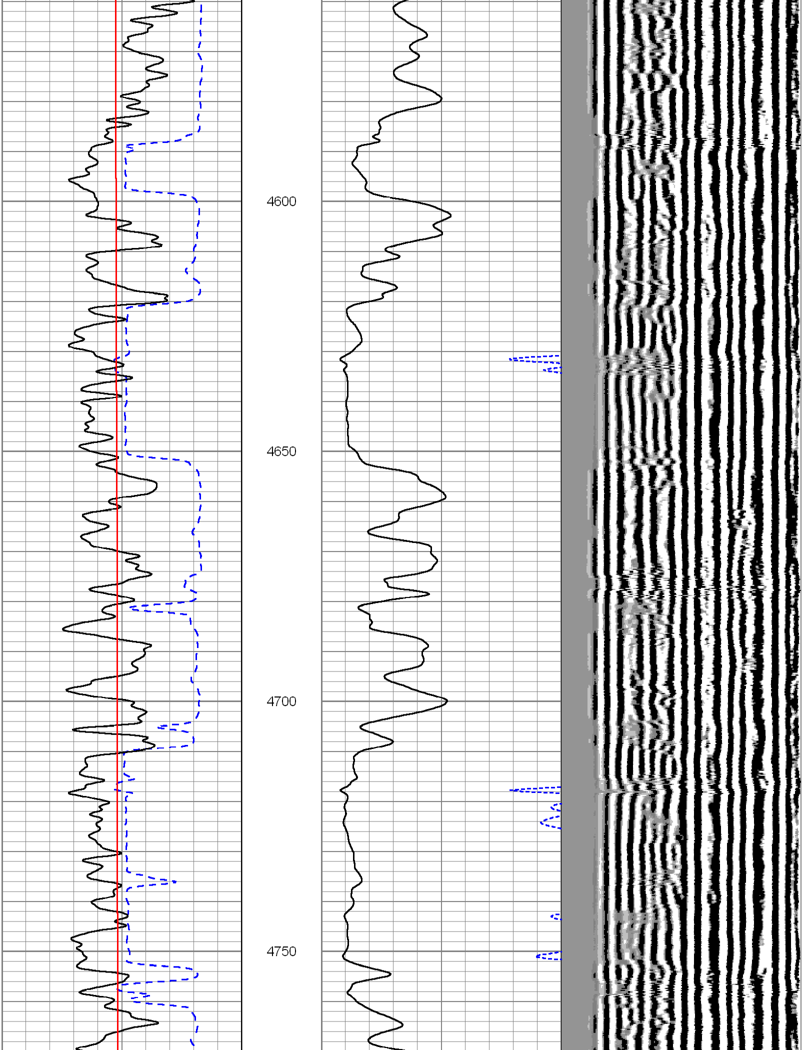
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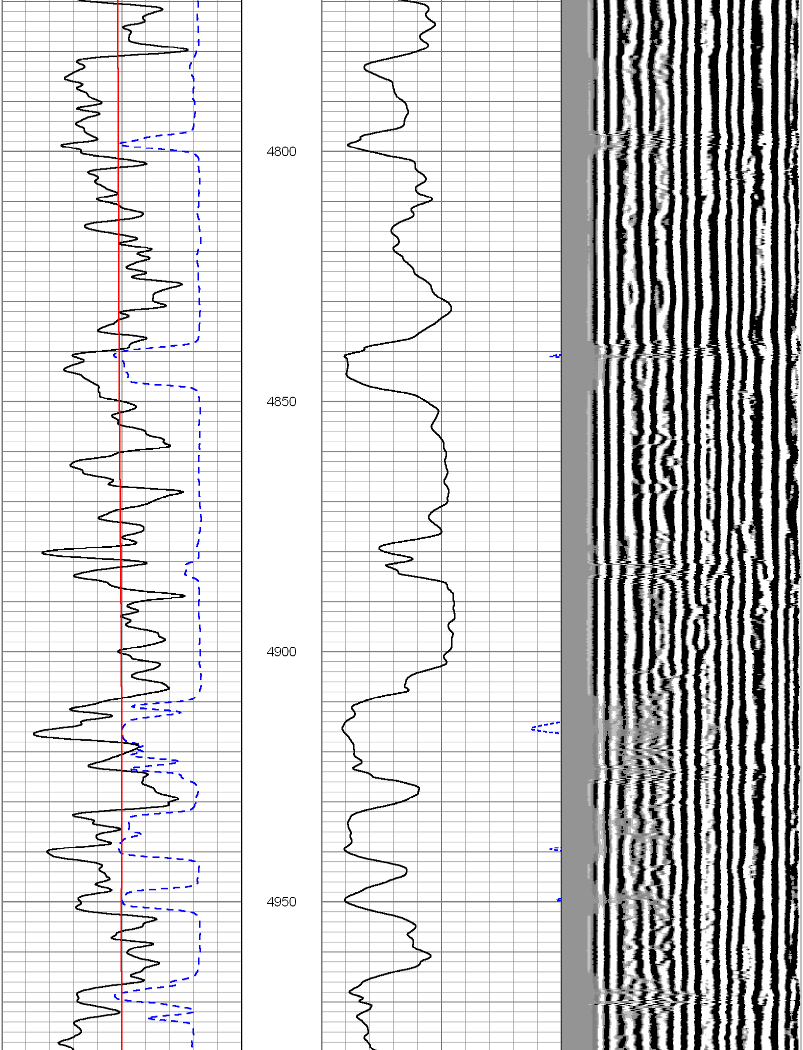
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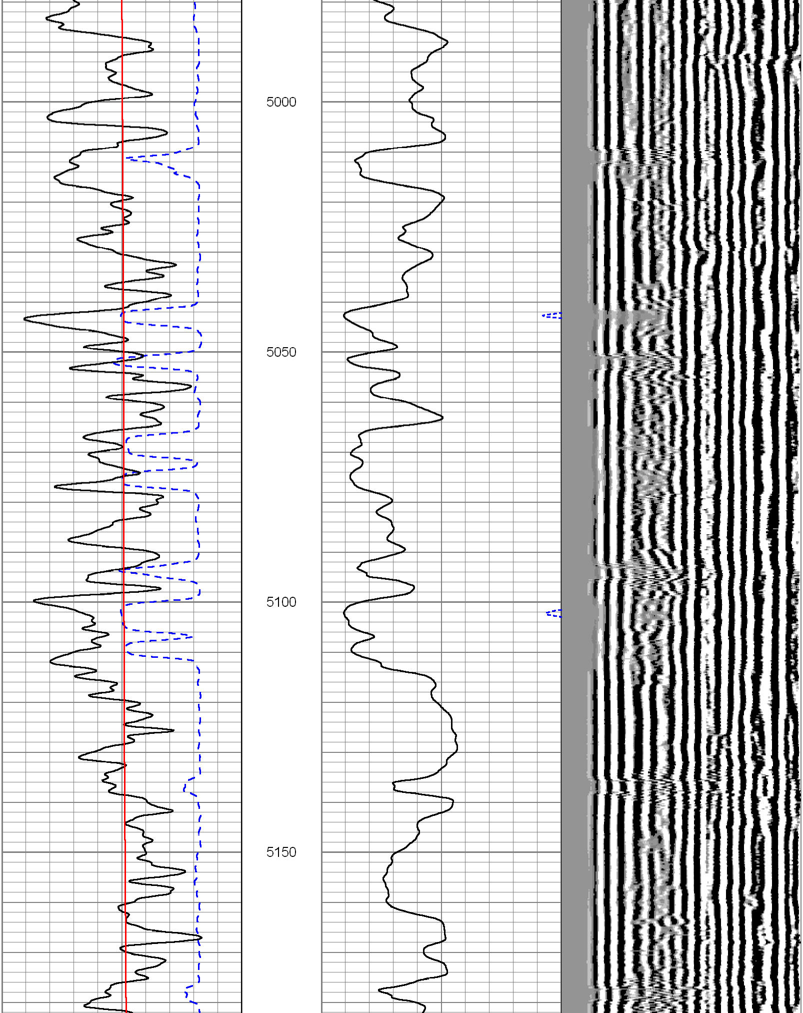
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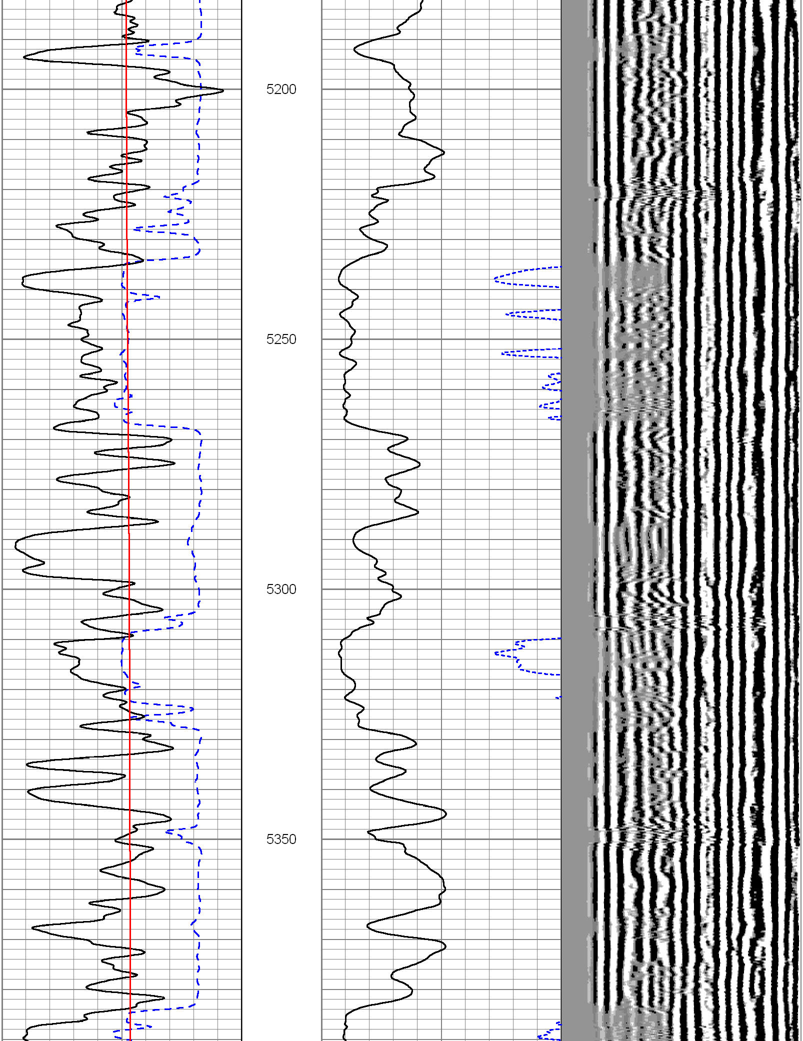
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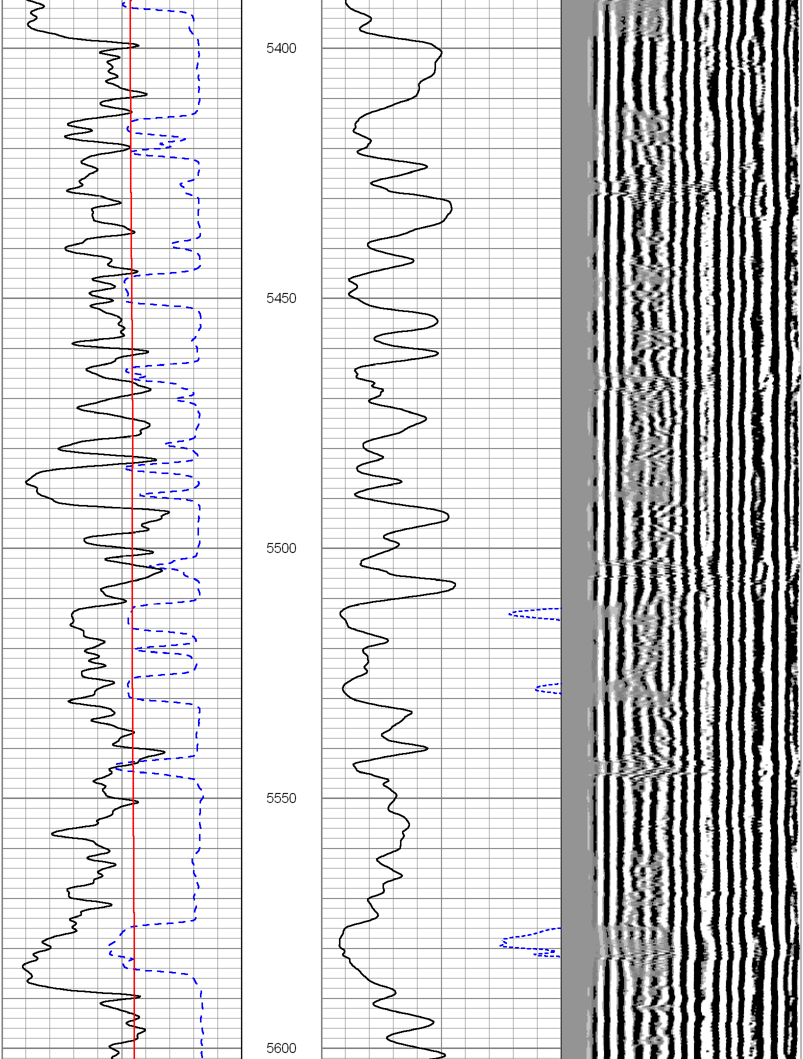
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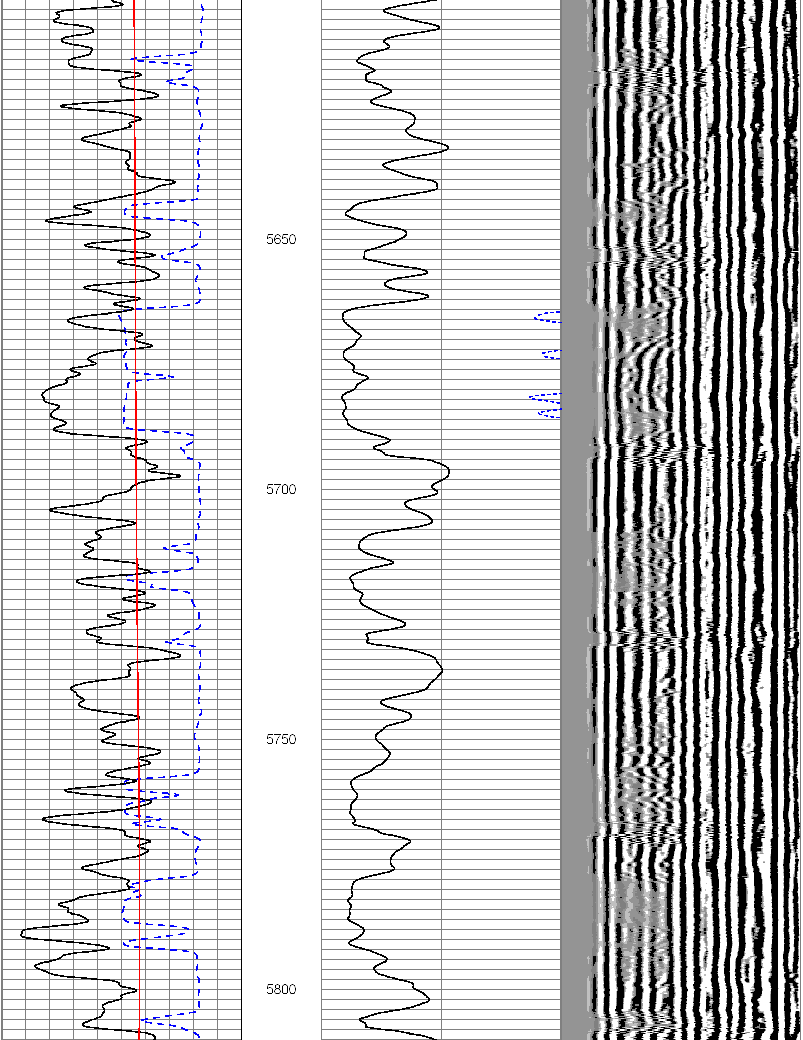
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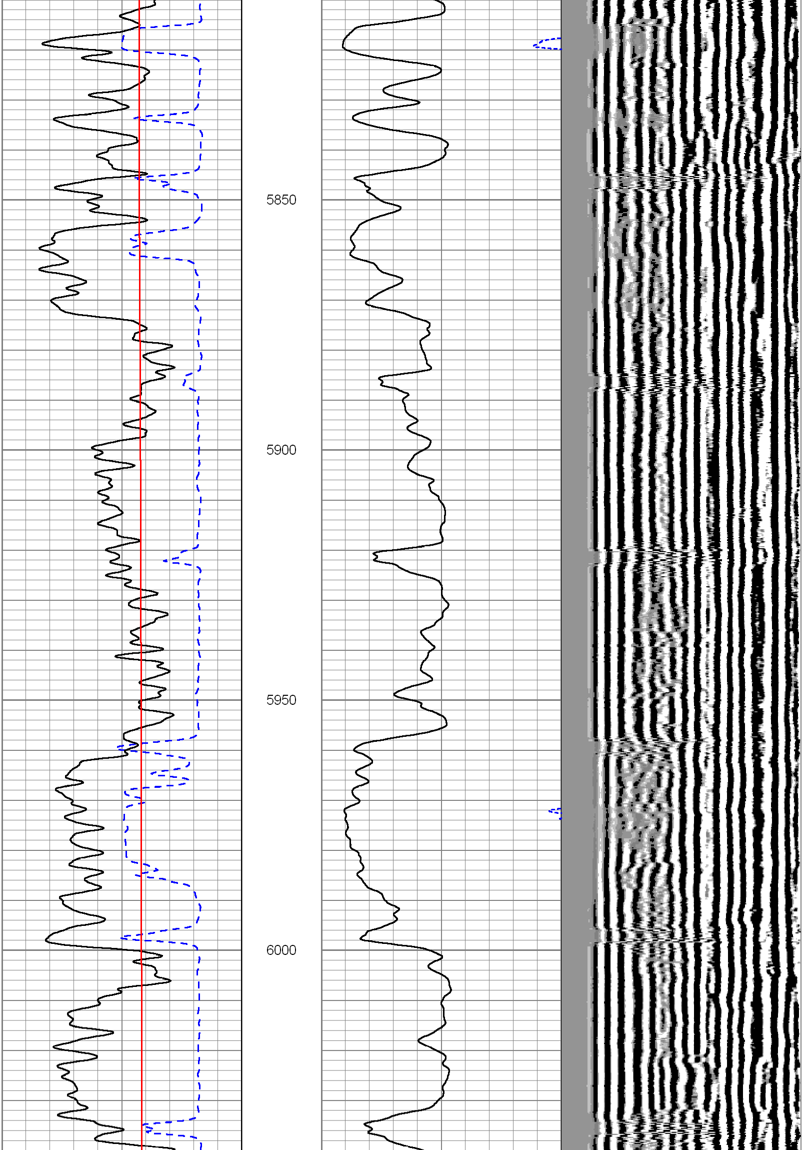
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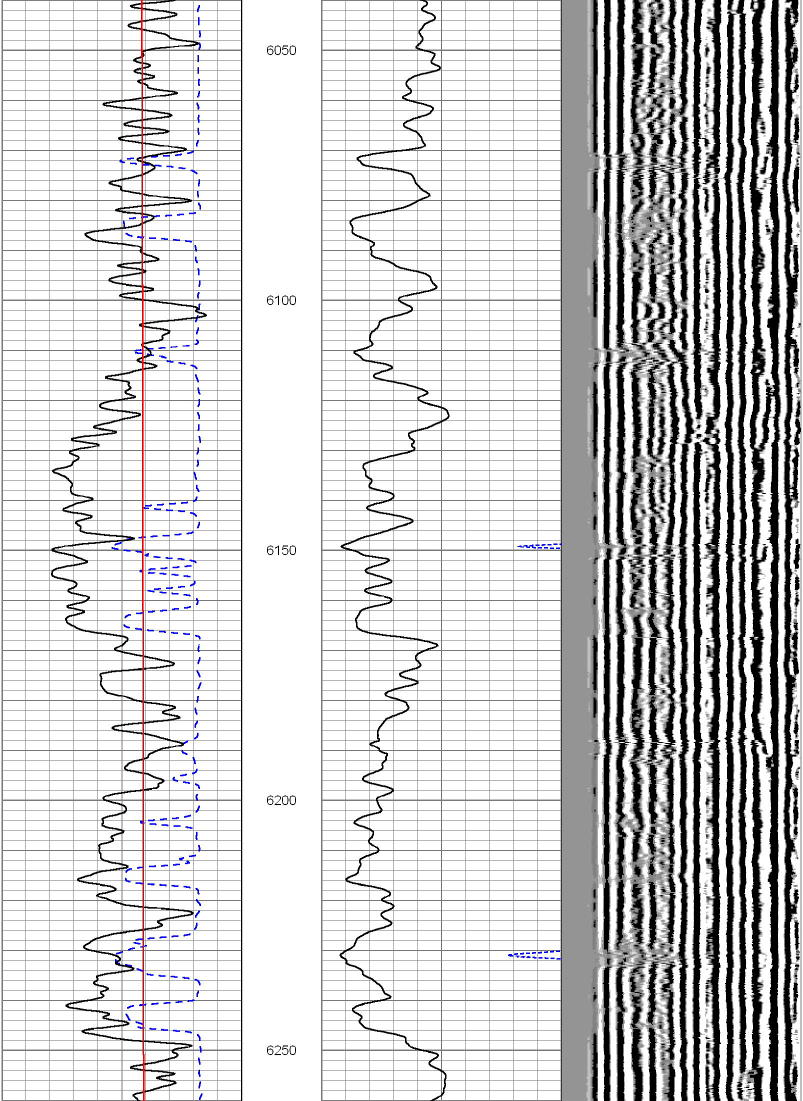
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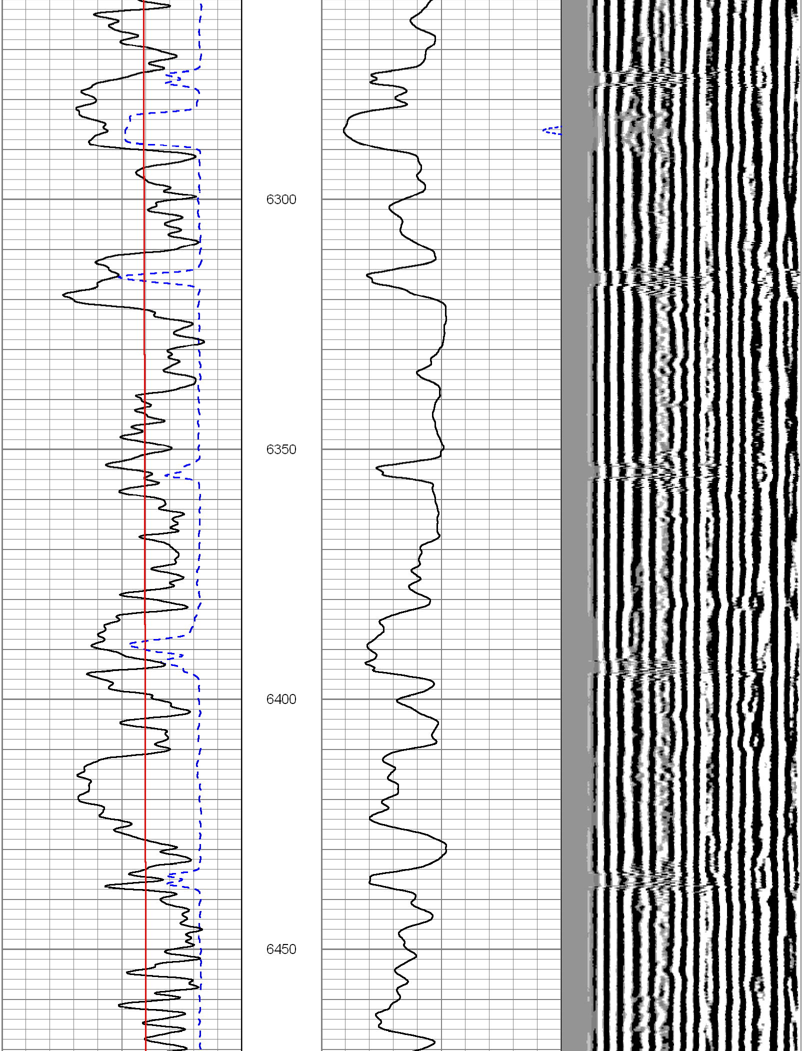
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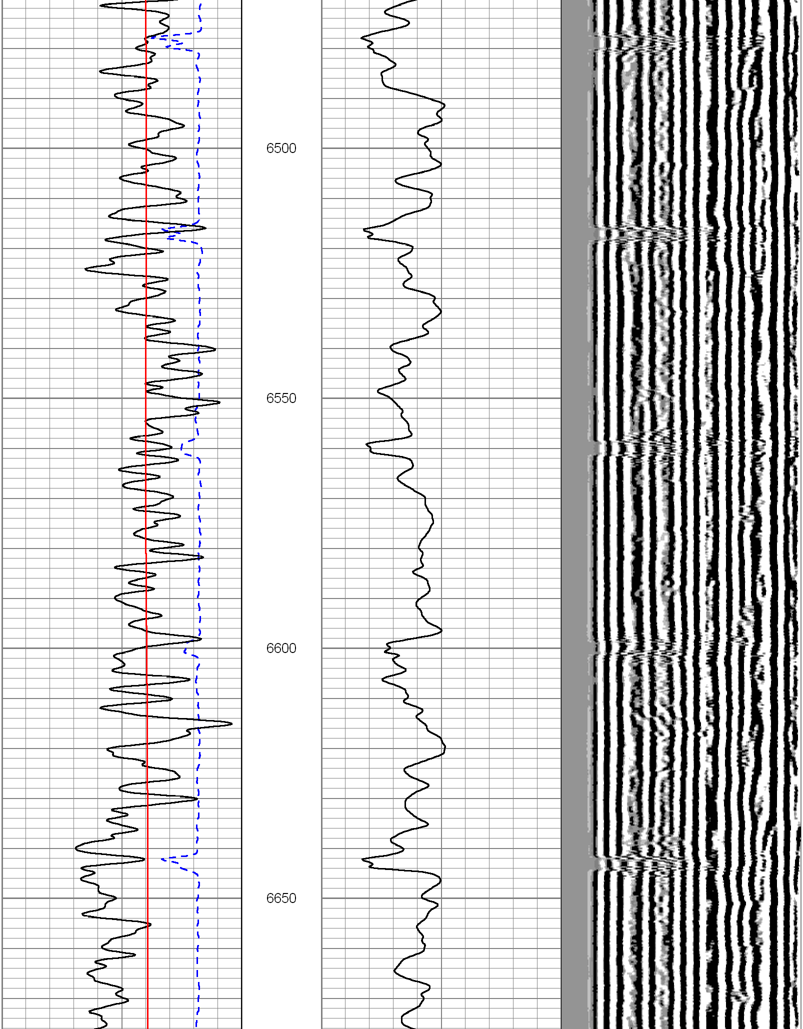
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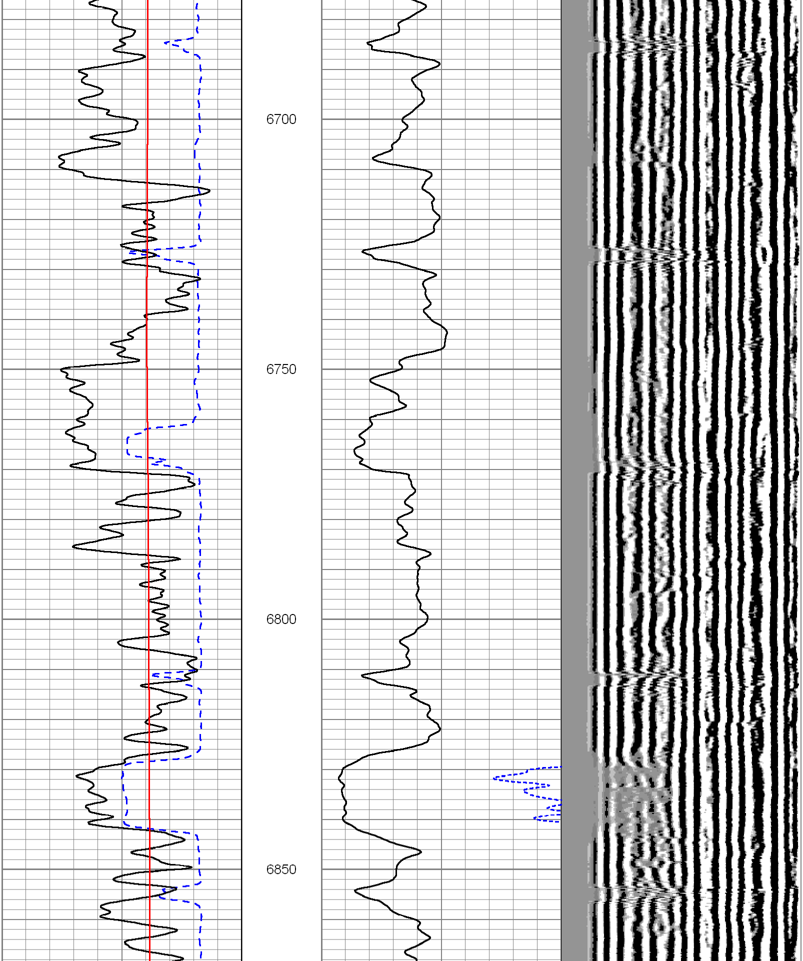
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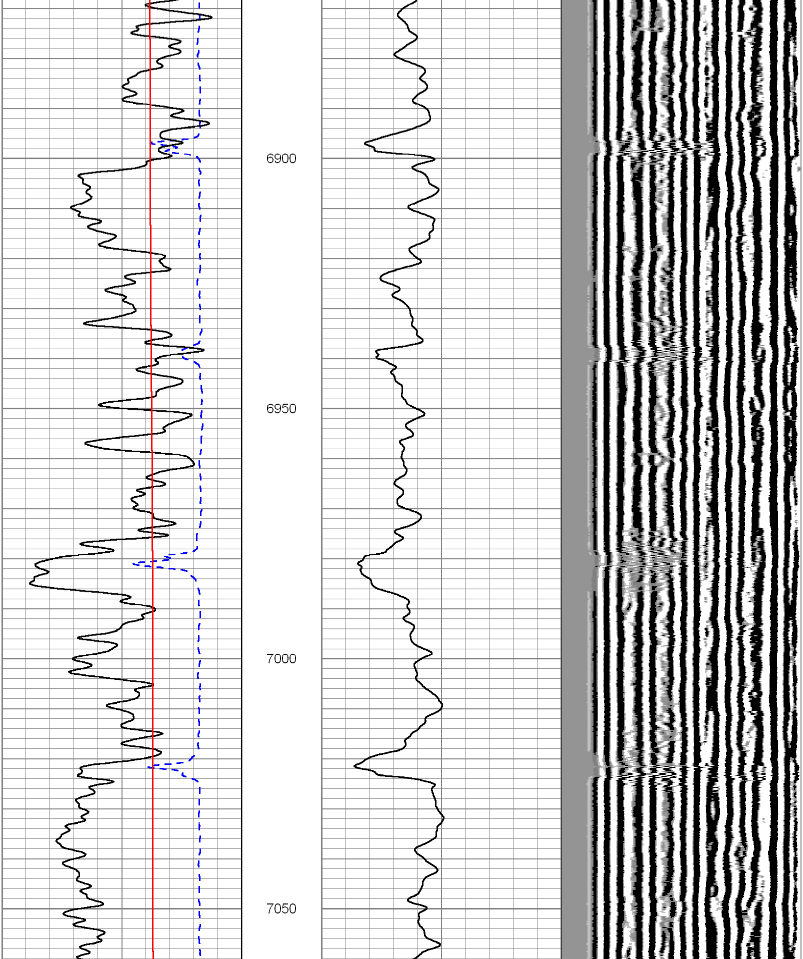
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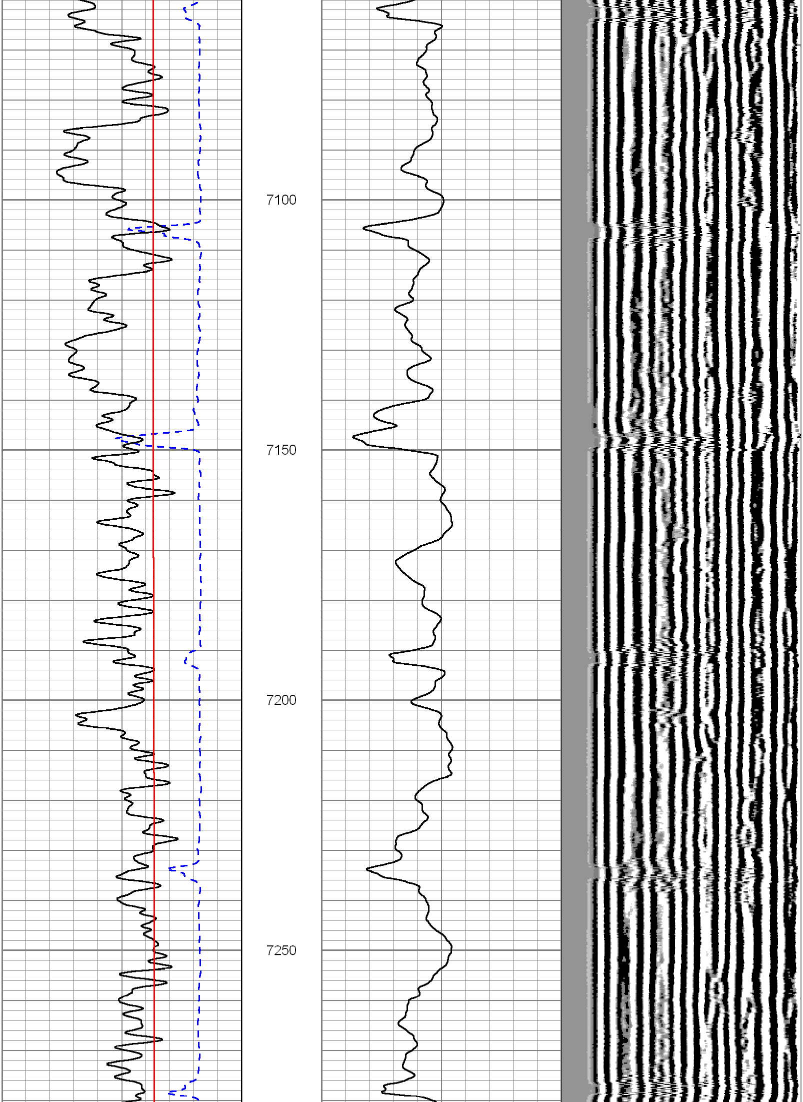
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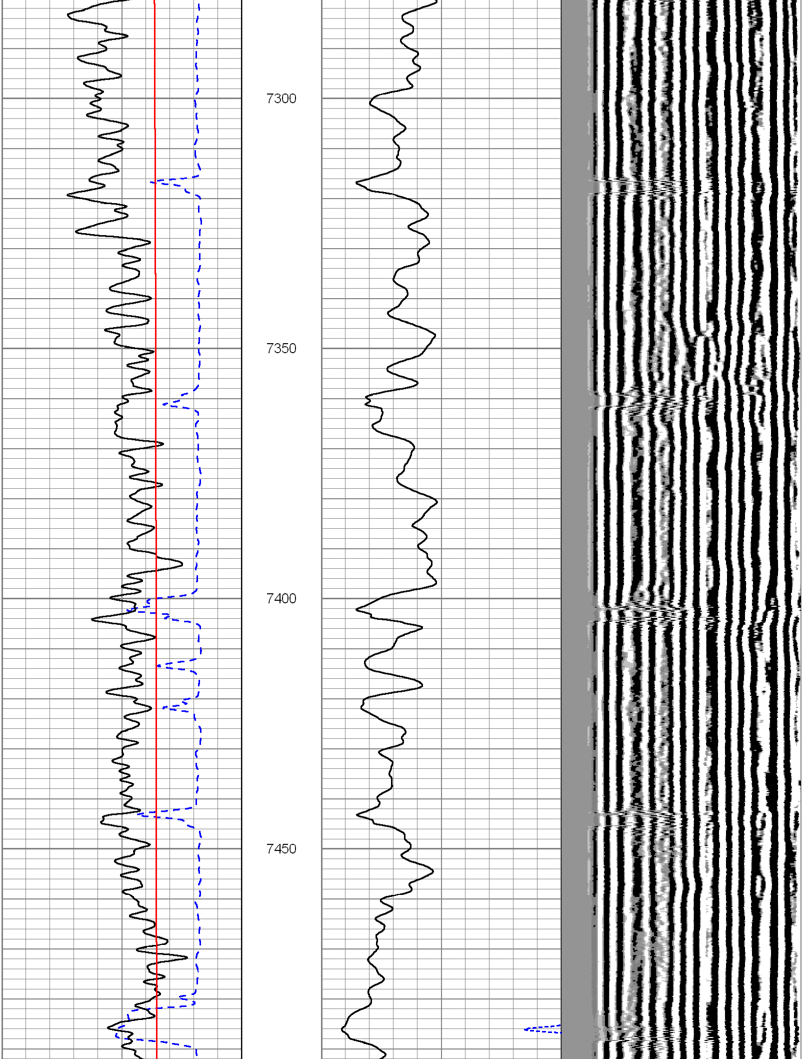
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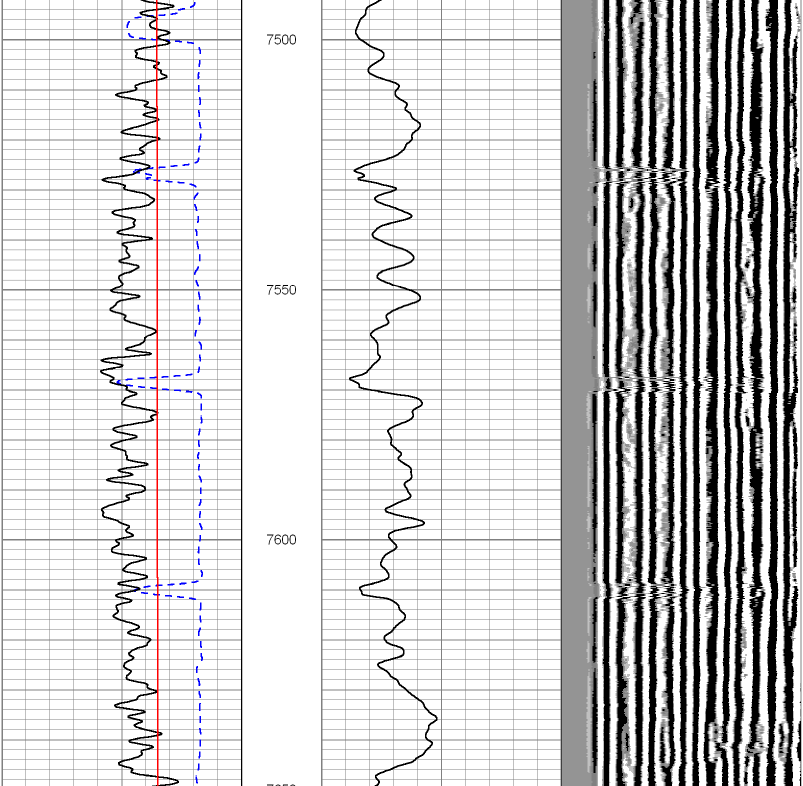
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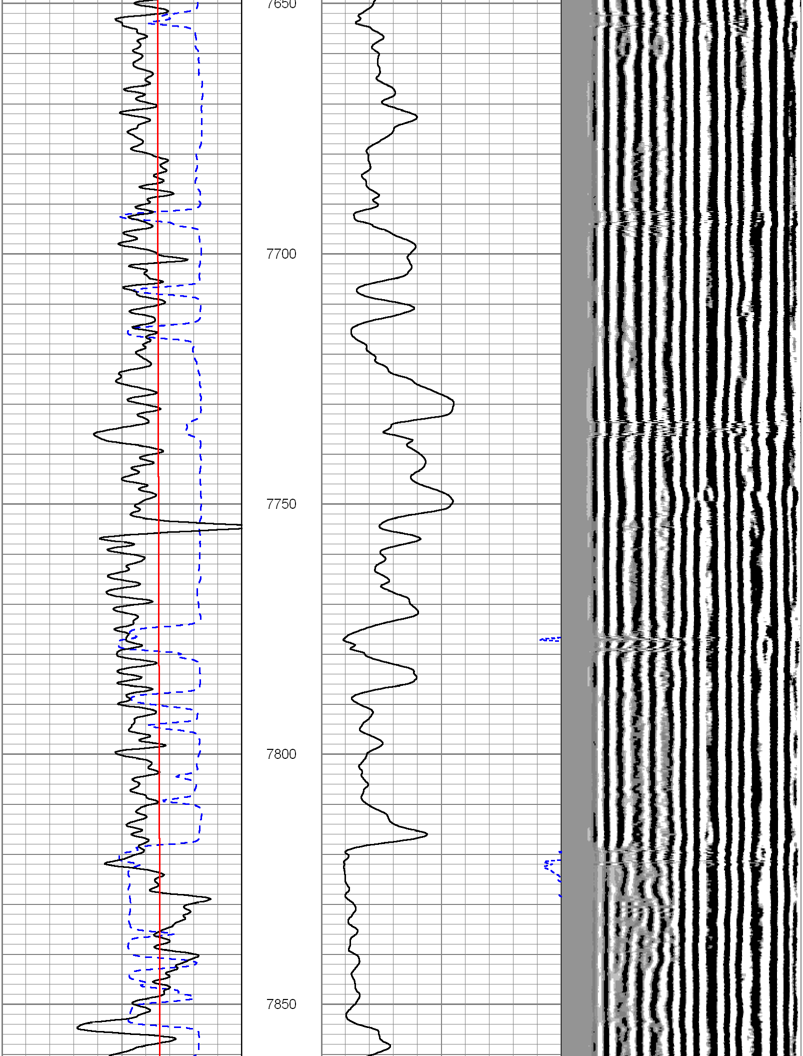
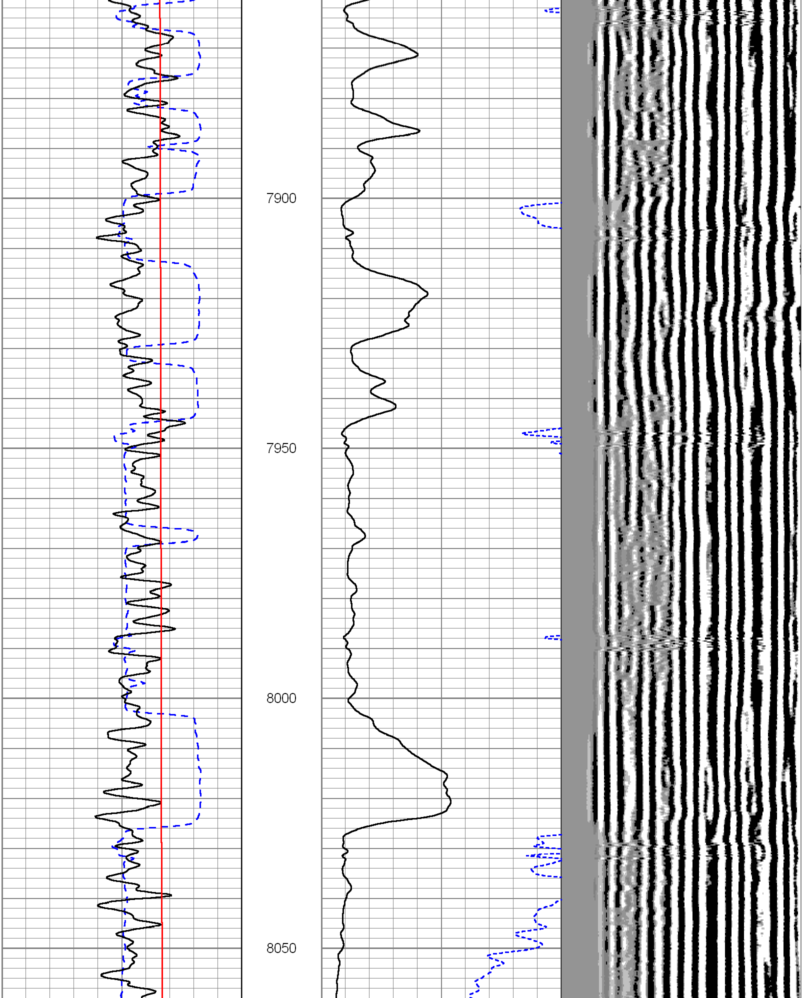
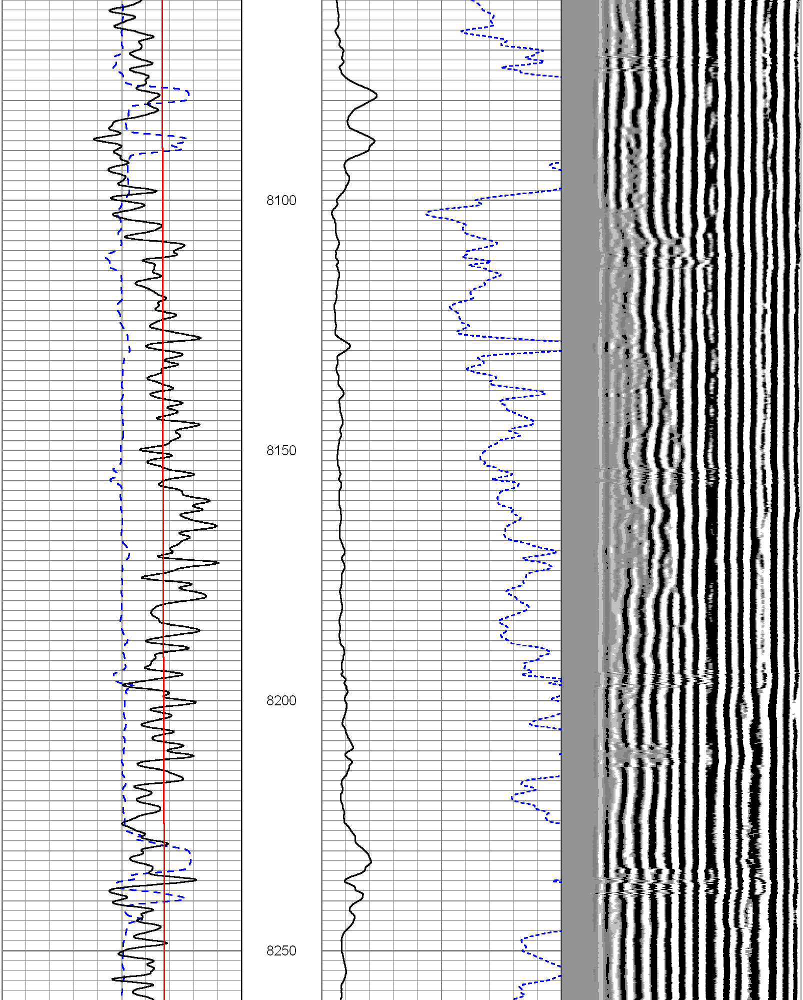
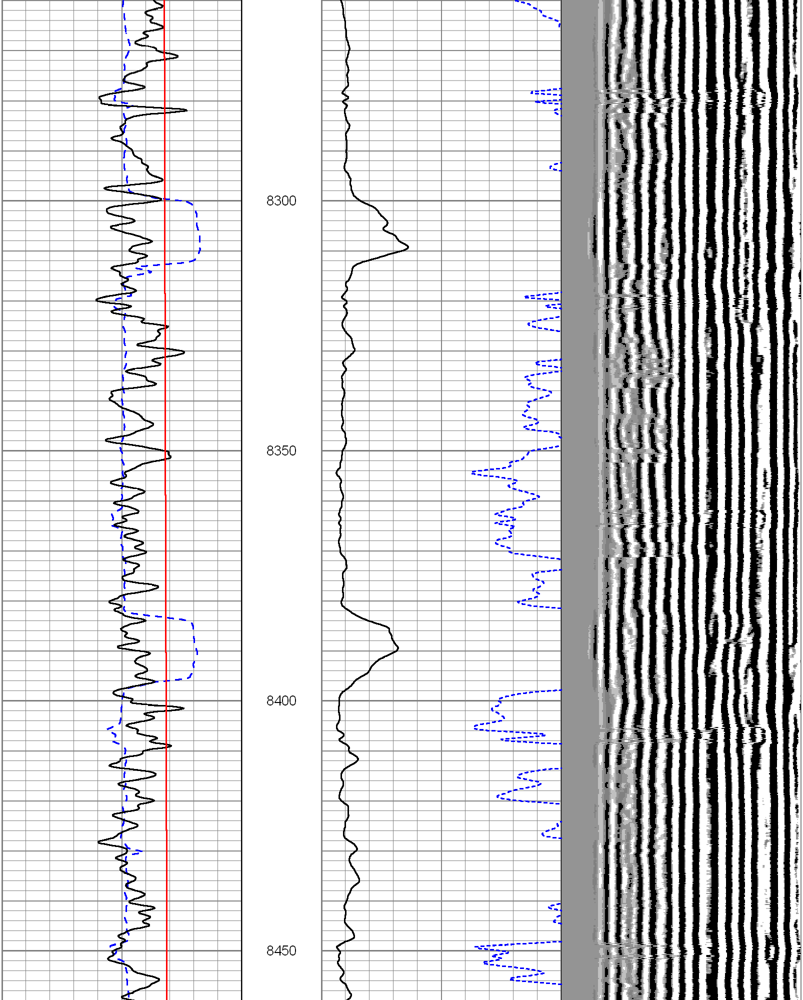
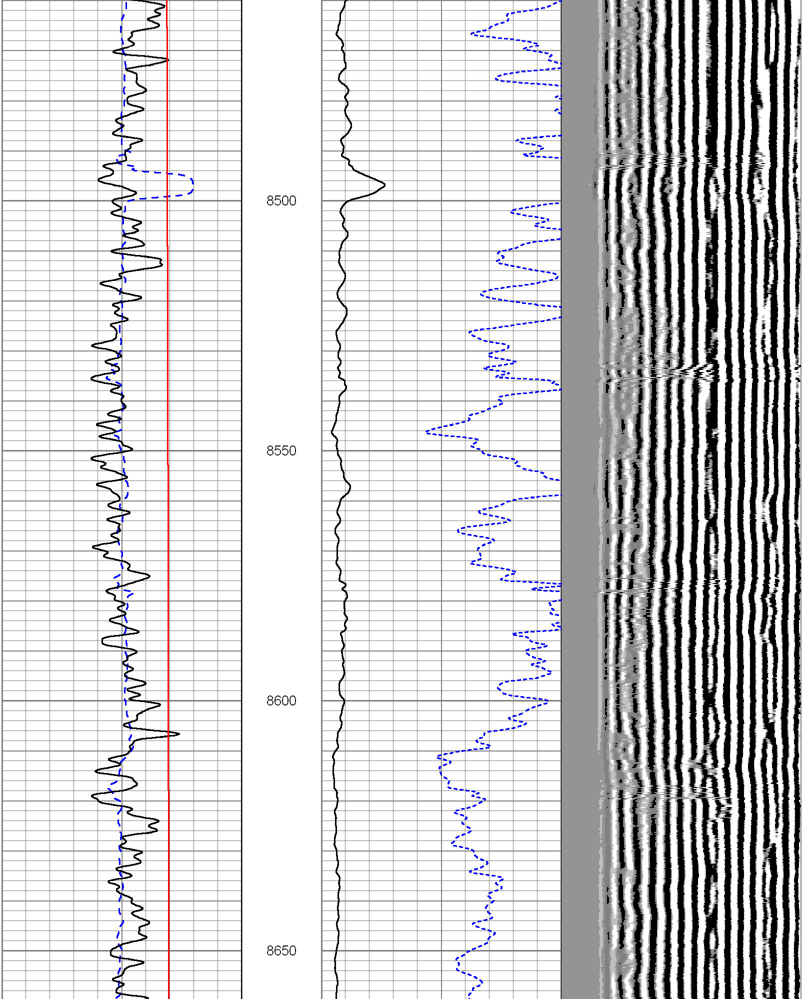
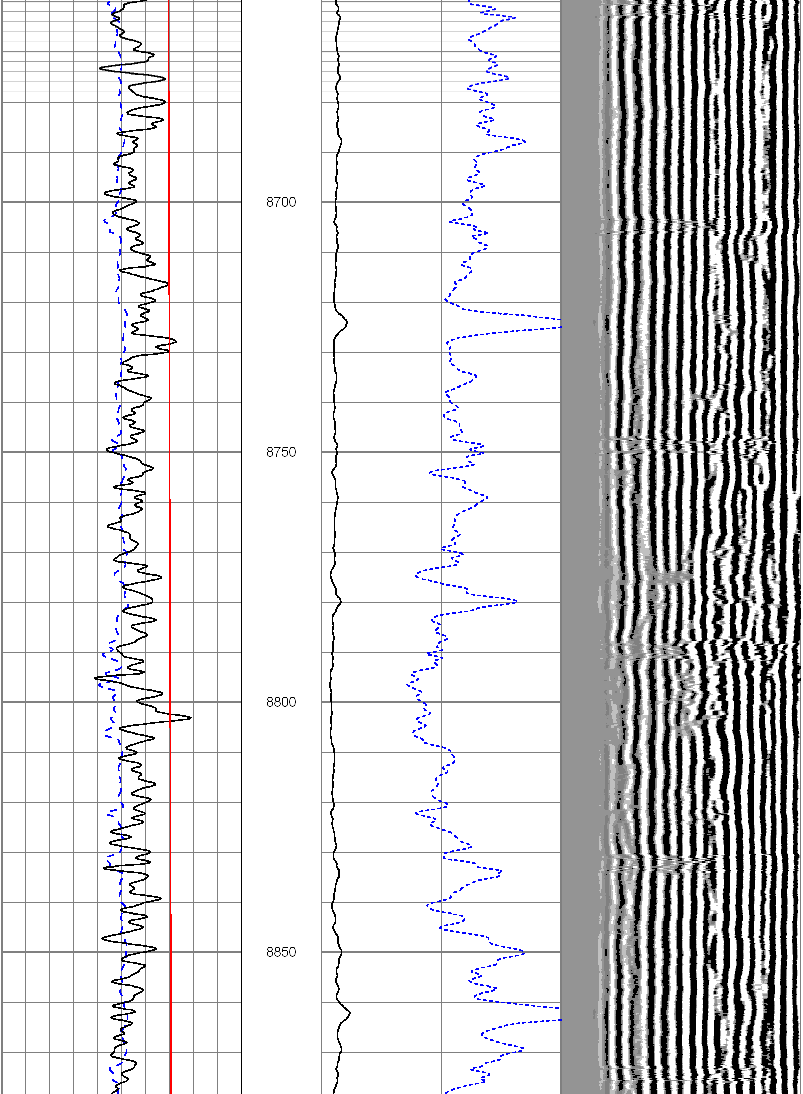


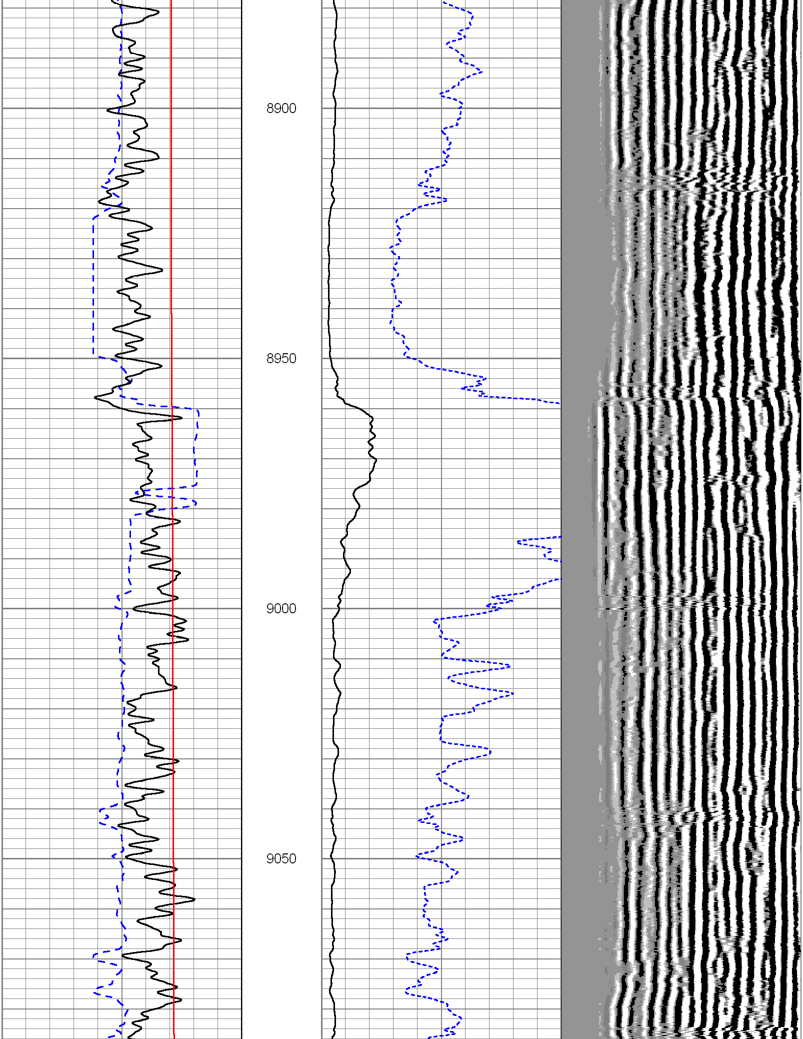


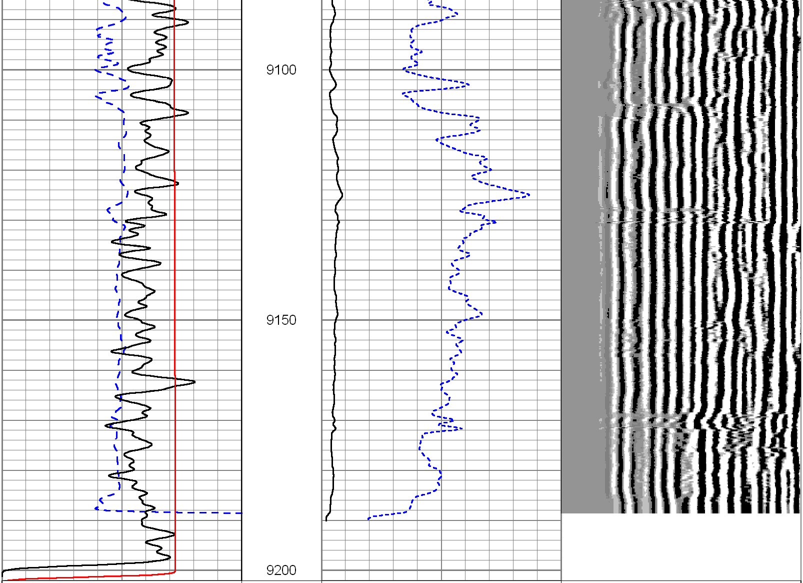








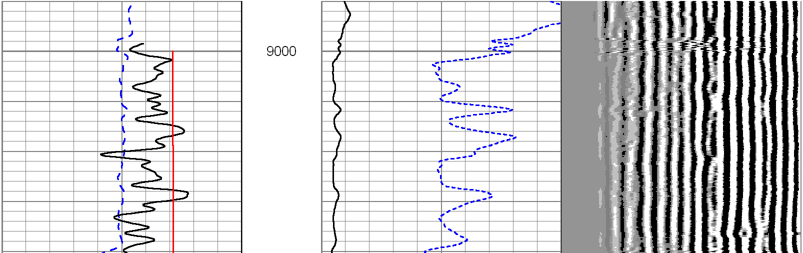


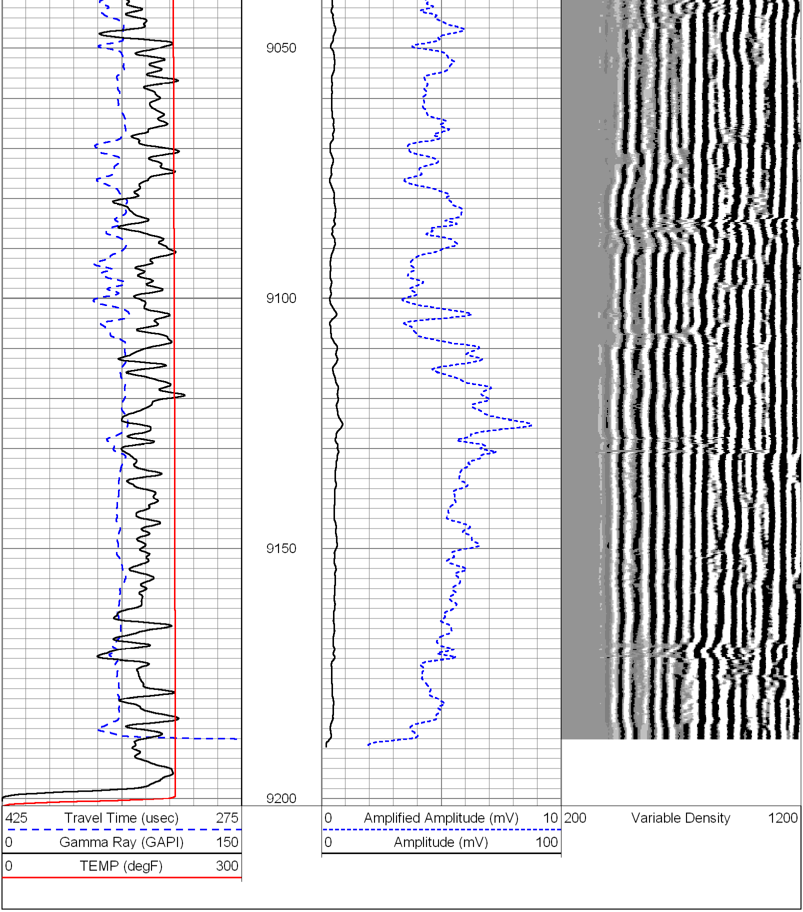


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 425 | Travel Time (usec) | 275 | 0 | Amplified Amplitude (mV) | 10 | 200 | Variable Density | 1200 |
| 0 | Gamma Ray (GAPI) | 150 | 0 | Amplitude (mV) | 100 | | | |
| 0 | TEMP (degF) | 300 | | | | | | |

| | |
|---|---|
| Database File: | bulldog_20_12h_892.db |
| Dataset Pathname: | repeat1/pass2 |
| Presentation Format: | cblsb |
| Dataset Creation: | Tue Jul 31 20:14:55 2012 by Log Halliburton Casedho |
| Charted by: | Depth in Feet scaled 1:240 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 425 | Travel Time (usec) | 275 | 0 | Amplified Amplitude (mV) | 10 | 200 | Variable Density | 1200 |
| 0 | Gamma Ray (GAPI) | 150 | 0 | Amplitude (mV) | 100 | | | |
| 0 | TEMP (degF) | 300 | | | | | | |



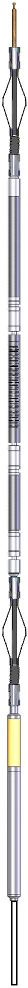


## Log Variables

Database:D:\Warrior_data\bulldog_20_12h_892.db
Dataset: field/well/repeat1/pass5

**Top - Bottom**

| PPT<br>usec | MAXAMPL<br>mV | MINAMPL<br>mV | MINATTN<br>db/ft | CASEOD<br>in | PERFS | TDEPTH<br>ft | BOTTEMP<br>degF |
|---|---|---|---|---|---|---|---|
| 292 | 62 | 2 | 0.8 | 7.625 | 0 | 9191 | 100 |
| BITSIZE<br>in | | | | | | | |
| 7.875 | | | | | | | |

| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|---|
|  |  |  | STND_CH<br>1.4375 IN CABLE HEAD | 1.00 | 1.44 | 1.00 |
|  |  |  | Probe_275<br>Probe 2 3/4 Centralizer | 2.88 | 2.75 | 20.00 |
|  |  |  | CBL-Probe (070719)<br>Probe 2.75" Dual Receiver Bond | 8.92 | 2.75 | 60.00 |
| WVF3 | 13.27 |  |  |  |  |  |
| WVF5 | 12.27 |  |  |  |  |  |
|  |  |  | Probe_275<br>Probe 2 3/4 Centralizer | 2.88 | 2.75 | 20.00 |
| CCL | 5.51 |  |  |  |  |  |
|  |  |  | GR-Probe (070517)<br>Probe 2.75" 4 Channel Pulse | 4.33 | 2.75 | 30.00 |
| GR | 2.77 |  |  |  |  |  |
|  |  |  | TEMP-1.375TEMP (070362)<br>Temperature Tool | 1.88 | 1.38 | 30.00 |
| TEMP | 0.58 |  |  |  |  |  |

| | |
|---|---|
| Dataset: | bulldog_20_12h_892.db: field/well/repeat1/pass5 |
| Total Length: | 21.88 ft |
| Total Weight: | 161.00 lb |
| O.D. | 2.75 in |

| | |
|---|---|
| Company | AXIA ENERGY, LLC |
| Well | BULLDOG 20-12H-892 |
| Field | LAY CREEK |
| County | MOFFAT |
| State | CO |

HALLIBURTON

CBL/GAMMA/TEMP
EVALUATION