

Mud Properties Record

| Date / Time | | LWD Run No. | Measured Depth (ft.) | Mud Type | Density (ppg) | Viscosity (cp) | pH | Fluid Loss (cc) | Oil / Water | Source | Total Chlorides (ppm) | K+ (%) |
|-------------|-------|----------------|----------------------------|---------------|------------------|-------------------|-----|-----------------------|----------------|----------------|-----------------------------|-----------|
| 12 Dec 15 | 07:00 | 2 | 4055 | Oil Based Mud | 9.0 | 48 | N/A | N/A | 81 / 19 | Active Mud Pit | 55000 | N/A |
| 14 Dec 15 | 07:00 | 3 | 9984 | Oil Based Mud | 9.1 | 43 | N/A | N/A | 83 / 17 | Active Mud Pit | 55000 | N/A |
| 15 Dec 15 | 09:00 | 3 | 14950 | Oil Based Mud | 9.3 | 44 | N/A | N/A | 89 / 11 | Active Mud Pit | 50000 | N/A |

Mnemonics

| Curve | Description | Units |
|-------|-----------------------------------|----------|
| GRAX | Gamma Ray Apparent 1.0 ft AVG | API |
| GRIX | Gamma Ray Data Density | unitless |
| GRSI | Gamma Ray Slidding Indicator | unitless |
| GRTX | Gamma Ray Time Since Drilled | min |
| ROPA | Rate of Penetration 3.0 ft Avg | ft/hr |
| TCDX | Downhole Temperature | degF |
| TVD | True Vertical Depth | ft. |
| WOBA | Surface Weight on Bit, 1.0 ft Avg | klbs |
| | | |

Equipment and Service Data

| LWD Run No. | Tool | Serial Number | Measurement | Bit Offset (ft.) | Max O.D. (in.) | Min I.D. (in.) |
|-------------------|------|------------------|-------------|------------------------|----------------------|----------------------|
| 2 | DIR | 12456787 | Directional | 65.60 | 6.750 | 3.250 |
| 2 | SRIG | 12600745 | Gamma | 62.22 | 6.750 | 3.250 |
| 3 | DIR | 12456787 | Directional | 65.64 | 6.750 | 3.250 |
| 3 | SRIG | 12600745 | Gamma | 62.26 | 6.750 | 3.250 |

Service and Tool Mnemonics

| Mnemonic | Name | Description |
|----------|-----------------------|--|
| DIR | Directional | Wellbore directional survey |
| SRIG | Inclination and Gamma | Probe based gamma ray and inclination module |

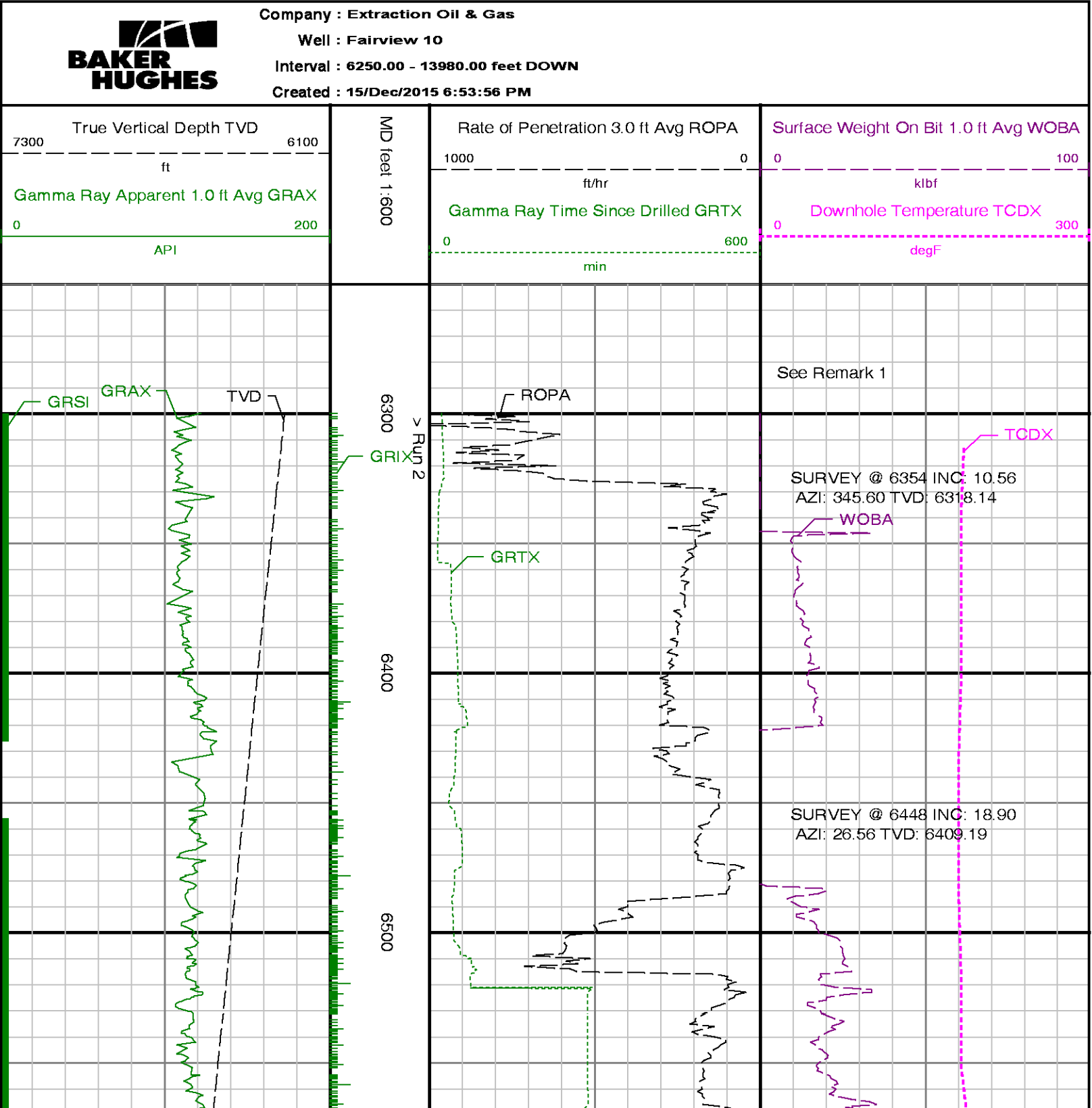
Comments

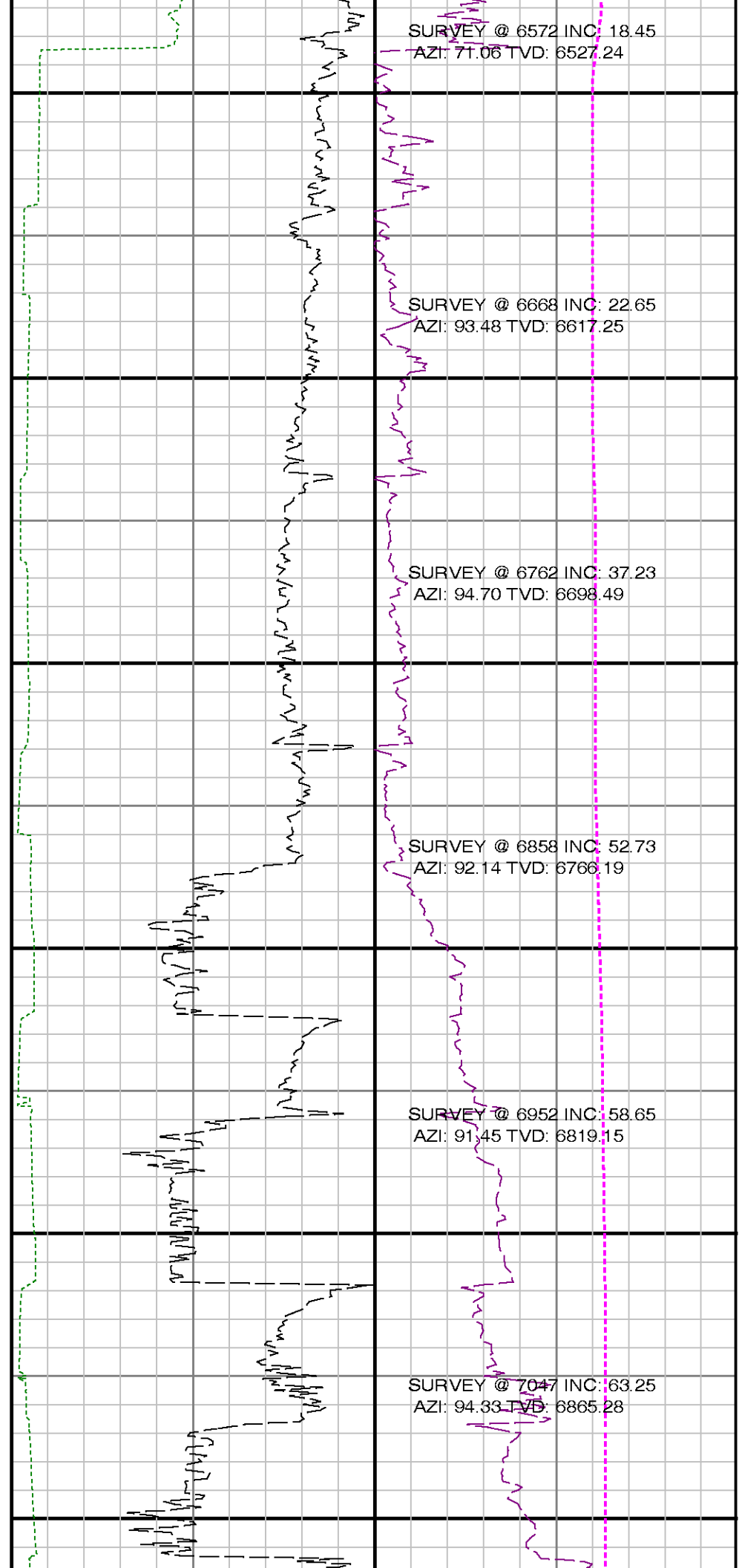
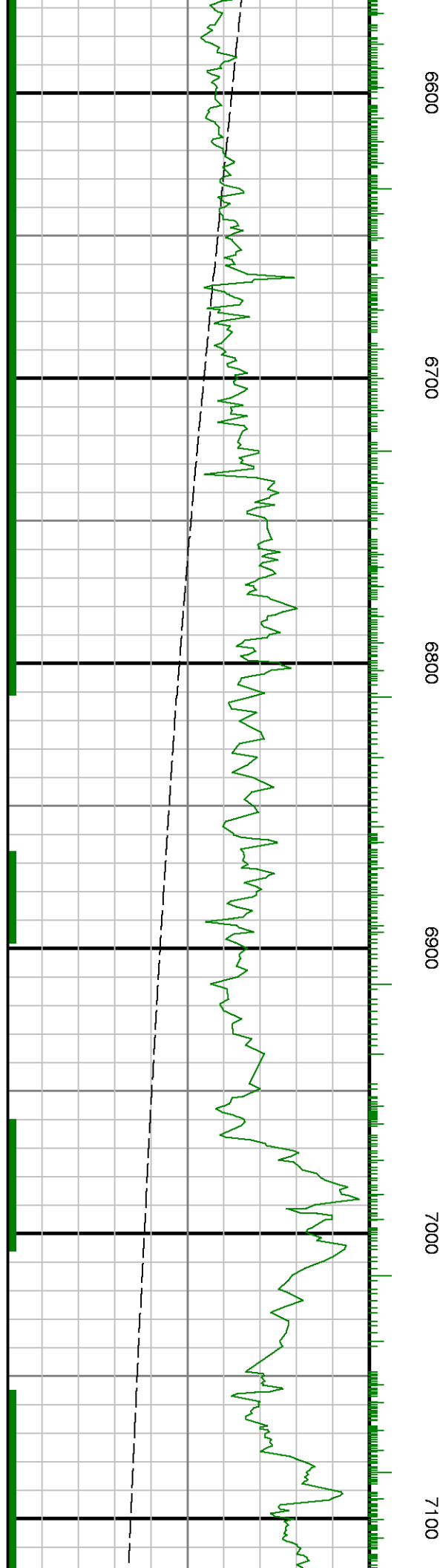
| |
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| <p>1.) A sliding indicator is shown on the left side of track 1 as a heavy line. This indicator has been depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.</p> <p>2.) Depth measurements were obtained from a depth tracking system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes LWD logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.</p> <p>3.) Baker Hughes run 2 and 3 utilized a 6 3/4 inch NaviGamma (Directional and Gamma Ray) tool behind a 7 7/8 inch bit and steerable assembly from 1548 feet to 13951 feet MD (1548 feet to 7215 feet TVD).</p> |
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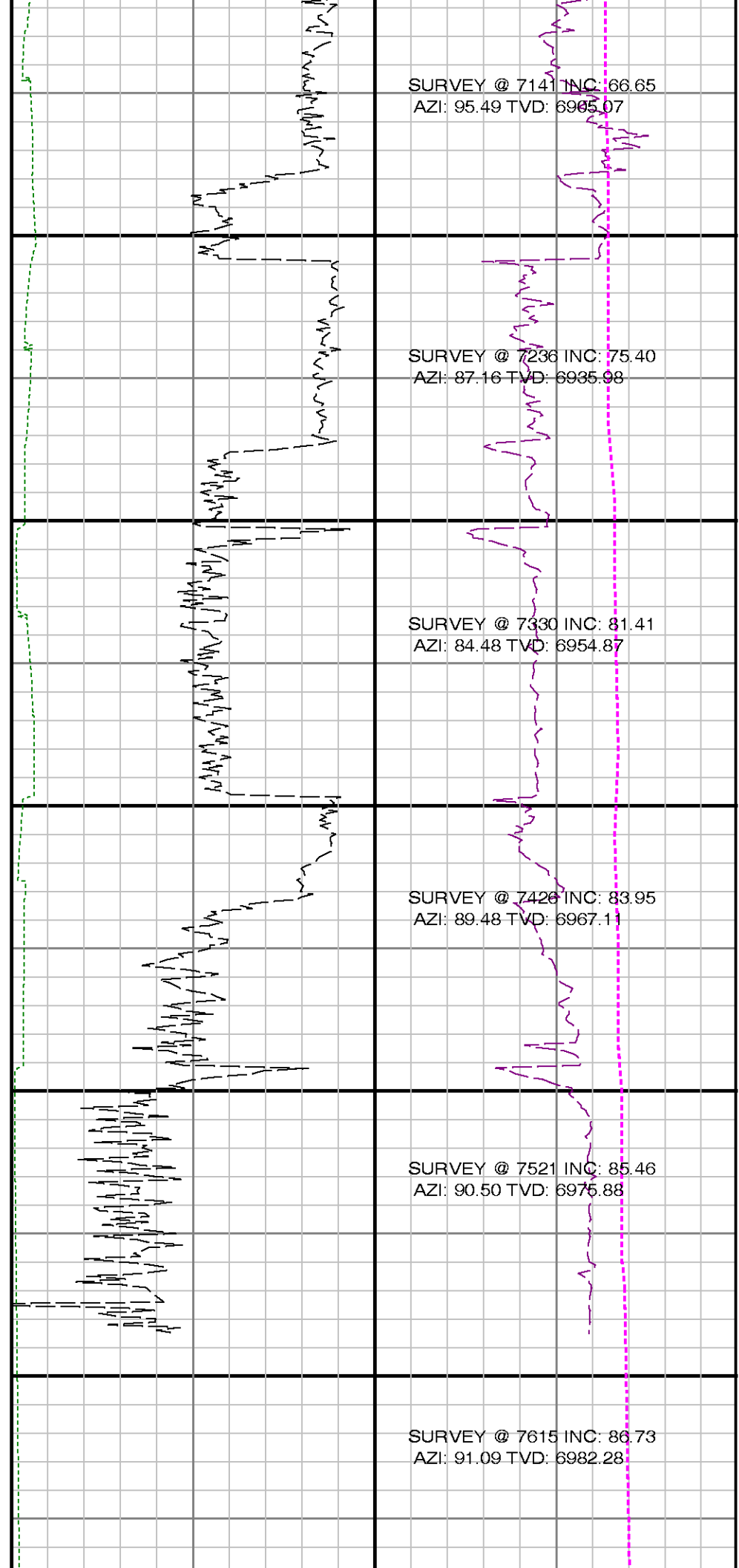
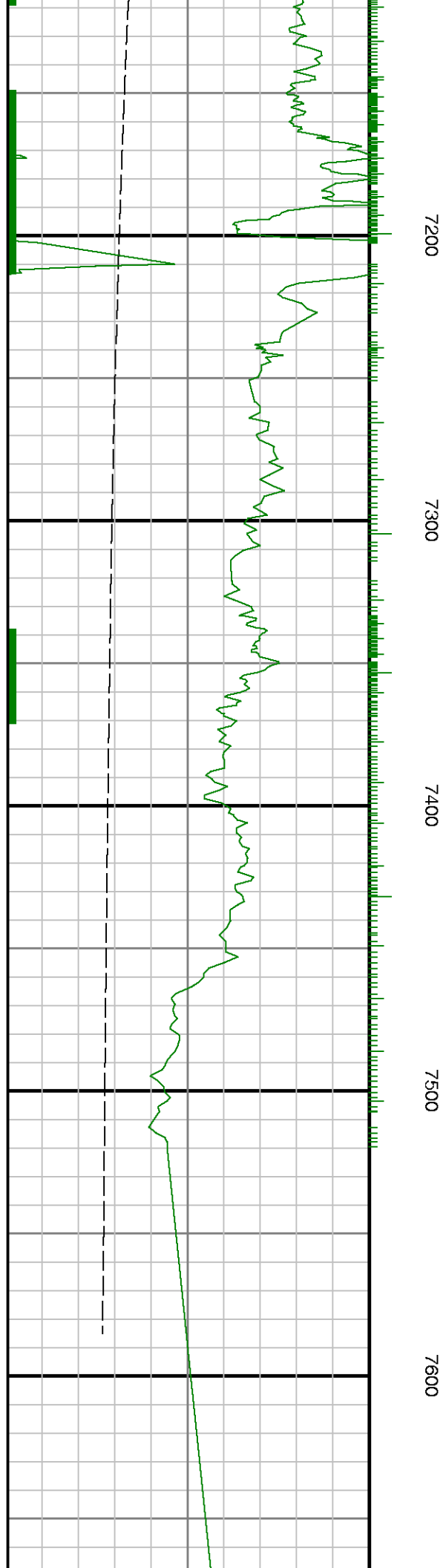
Remarks

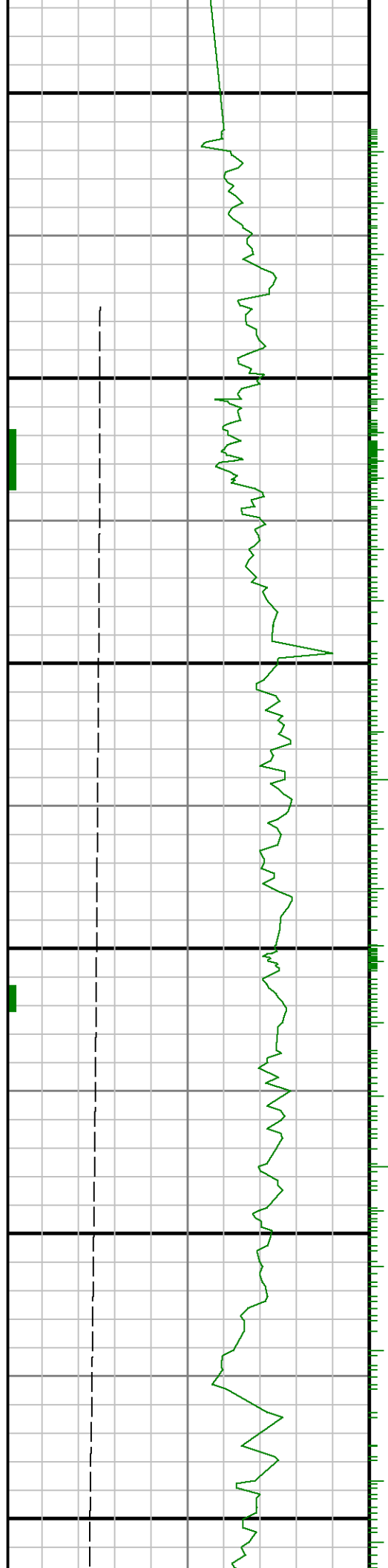
| Number | Measured Depth | Hole Section | LWD Run No. | Remark |
|--------|-------------------|-----------------|----------------|--------|
|--------|-------------------|-----------------|----------------|--------|

| | | | | |
|---|-------|-------|---|---|
| | (ft.) | (in.) | | |
| 1 | 6300 | 7.875 | 2 | The interval from surface to 6300 feet MD (6264 feet TVD) was not logged since logging services began at kick off point. |
| 2 | 9954 | 7.875 | 3 | The interval from 9892 to 9954 feet MD (7182 to 7188 feet TVD) was not logged for up to 12.1 hours due to POOH for motor and bit. |
| 3 | 17376 | 7.875 | 3 | The interval from 13889 to 13951 feet MD (7217 to 7215 feet TVD) was not logged due to bit to sensor offset at TD |









7700

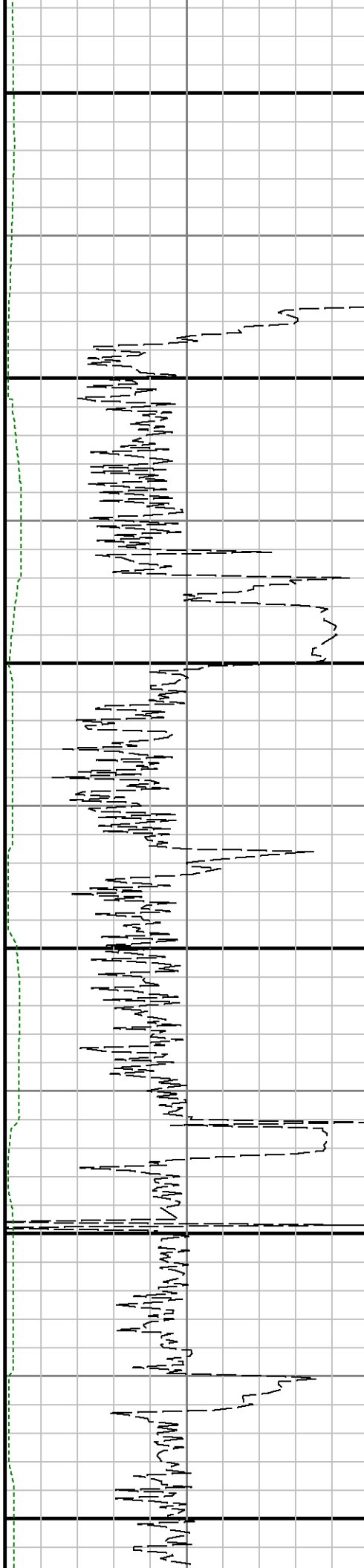
7800

7900

8000

8100

8200



SURVEY @ 7710 INC: 87.65
AZI: 90.19 TVD: 6986.93

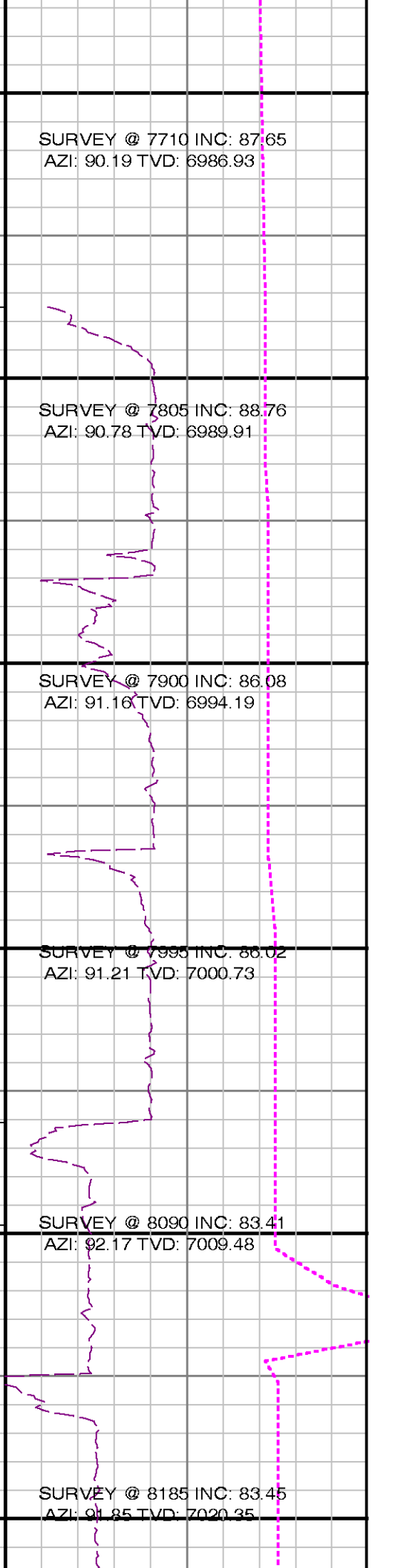
SURVEY @ 7805 INC: 88.76
AZI: 90.78 TVD: 6989.91

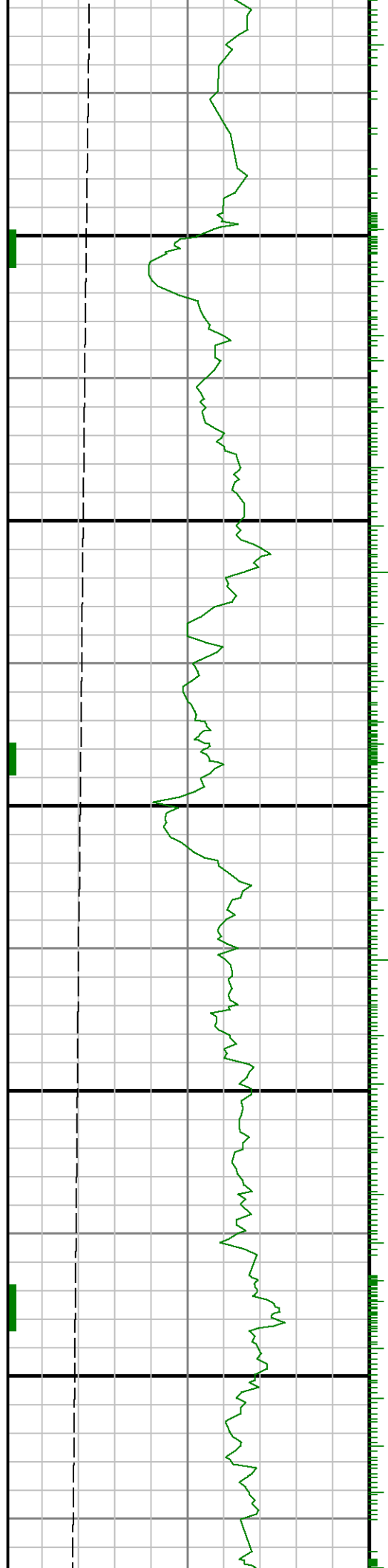
SURVEY @ 7900 INC: 86.08
AZI: 91.16 TVD: 6994.19

SURVEY @ 7995 INC: 86.02
AZI: 91.21 TVD: 7000.73

SURVEY @ 8090 INC: 83.41
AZI: 92.17 TVD: 7009.48

SURVEY @ 8185 INC: 83.45
AZI: 91.85 TVD: 7020.35





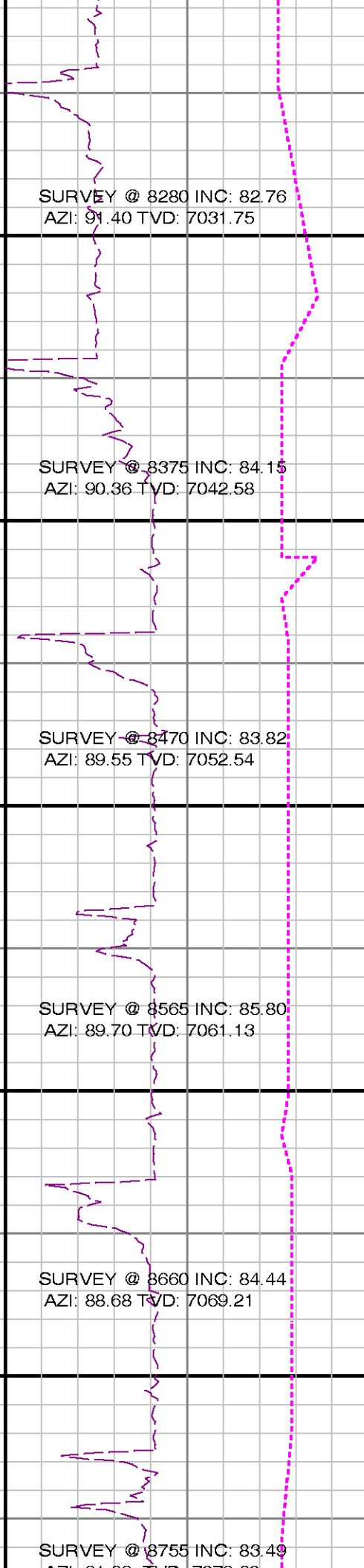
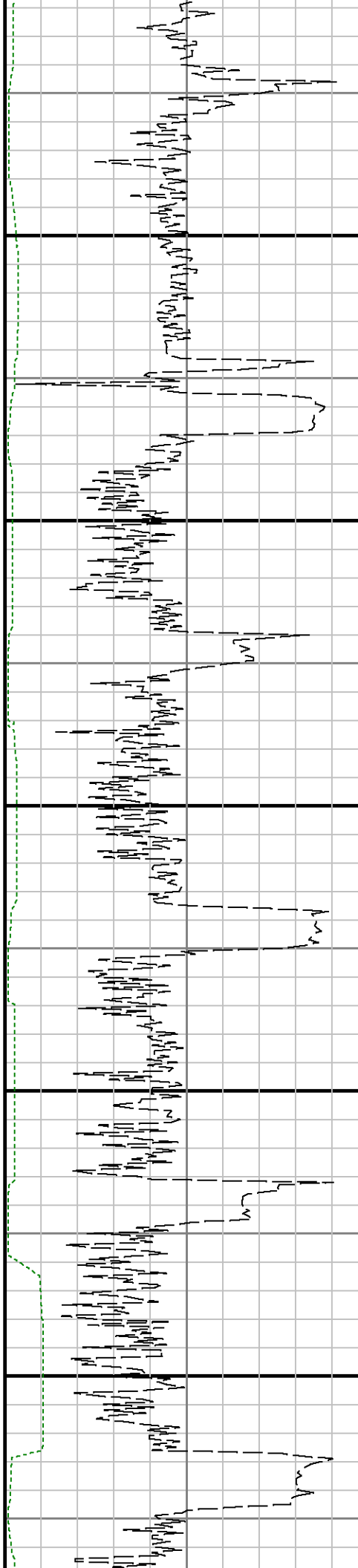
8300

8400

8500

8600

8700



SURVEY @ 8280 INC: 82.76
AZI: 91.40 TVD: 7031.75

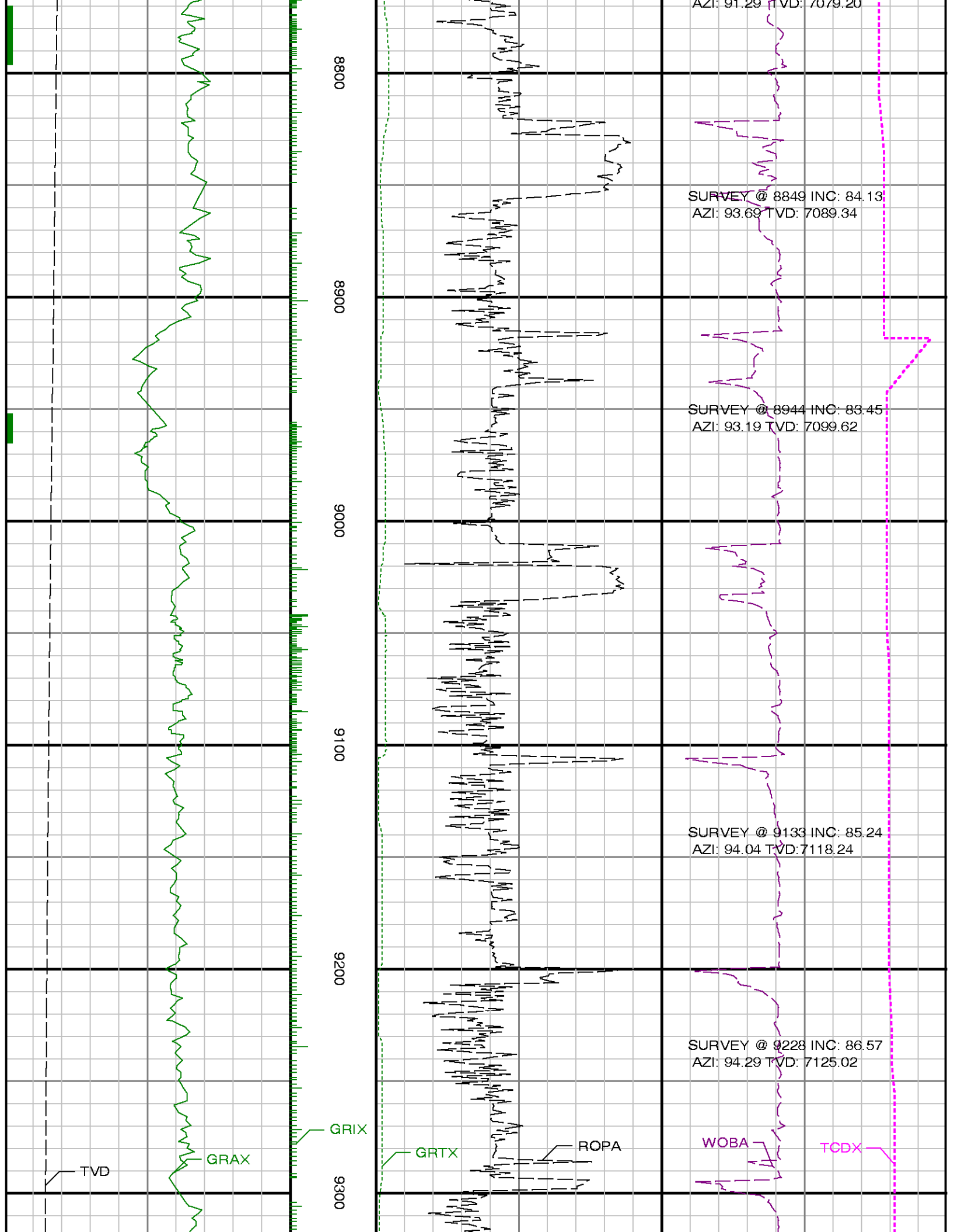
SURVEY @ 8375 INC: 84.15
AZI: 90.36 TVD: 7042.58

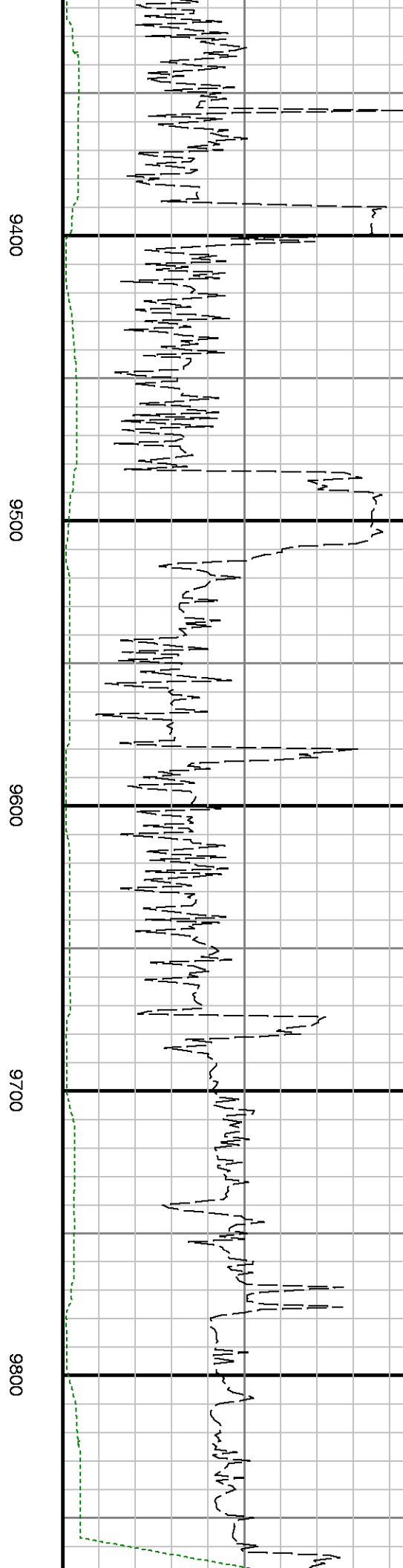
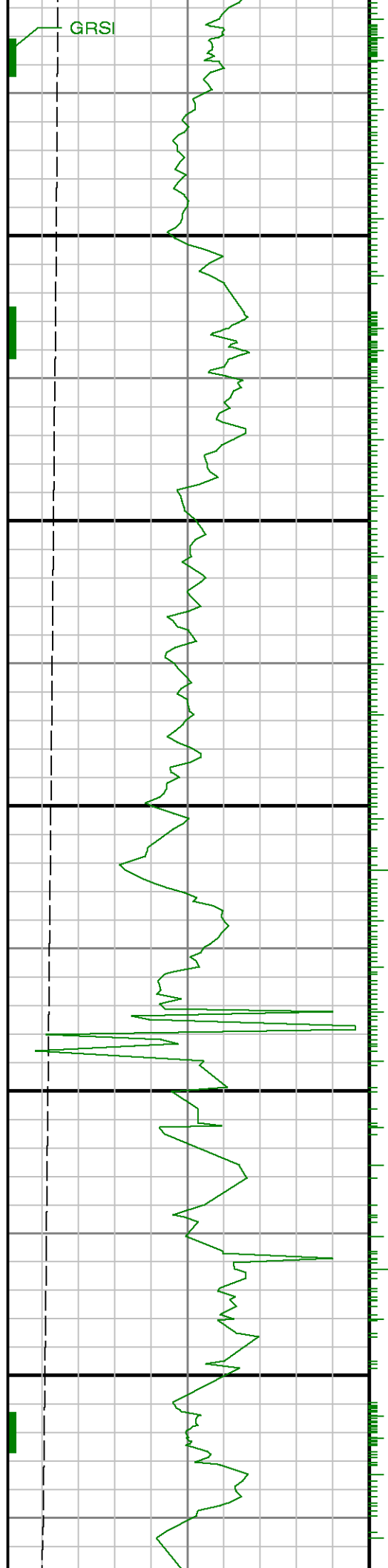
SURVEY @ 8470 INC: 83.82
AZI: 89.55 TVD: 7052.54

SURVEY @ 8565 INC: 85.80
AZI: 89.70 TVD: 7061.13

SURVEY @ 8660 INC: 84.44
AZI: 88.68 TVD: 7069.21

SURVEY @ 8755 INC: 83.49
AZI: 87.68 TVD: 7078.33





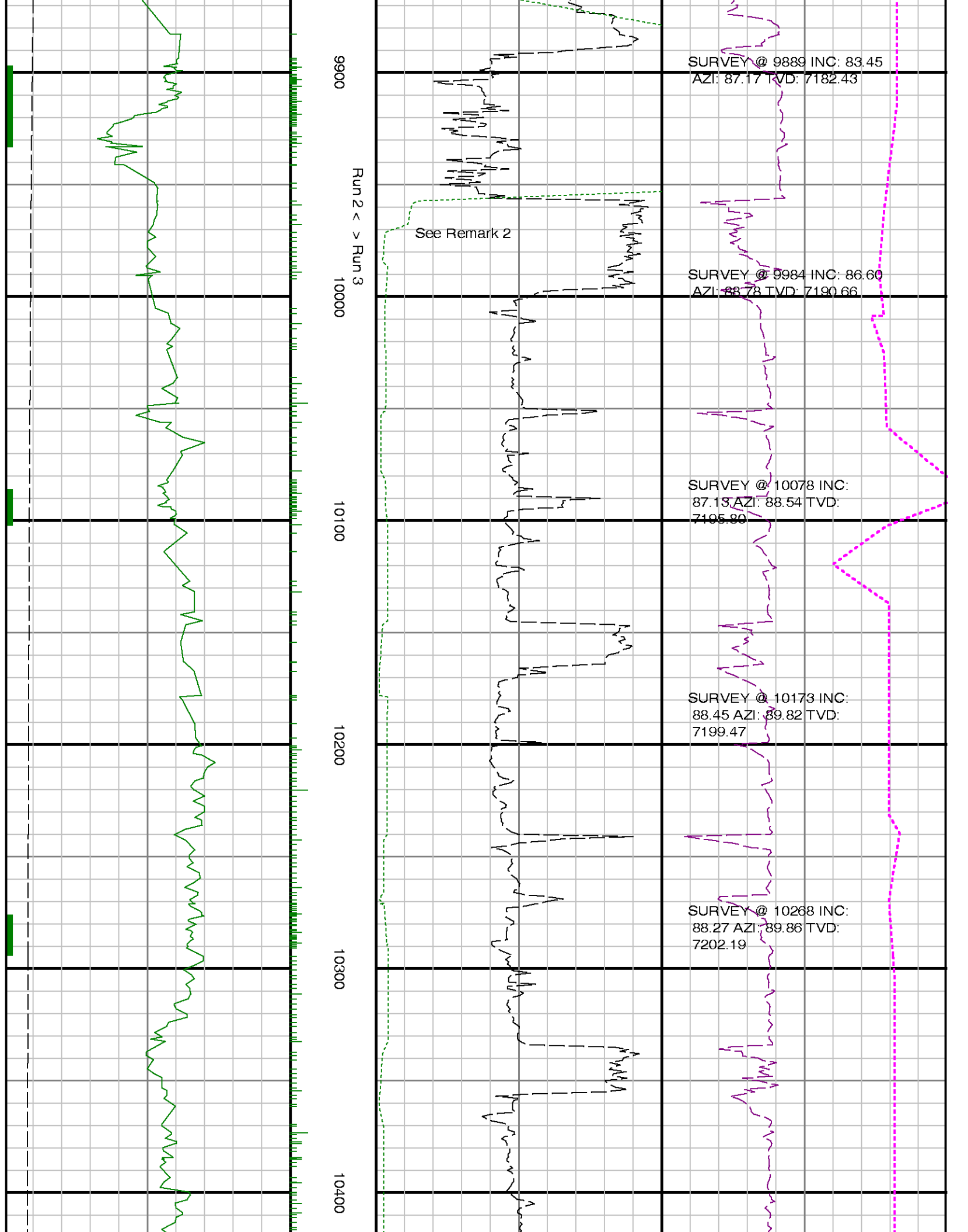
SURVEY @ 9323 INC: 87.60
AZI: 94.13 TVD: 7129.85

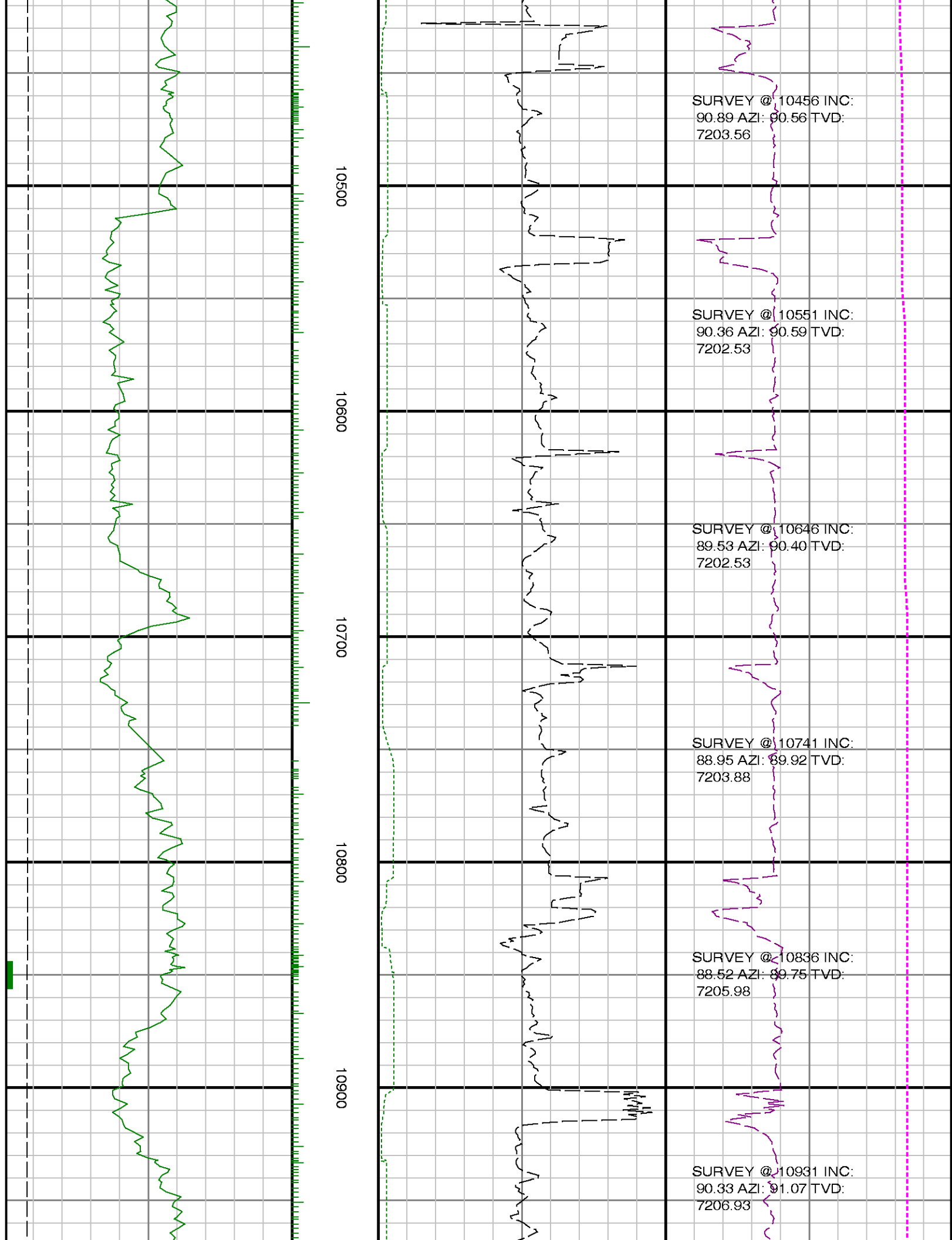
SURVEY @ 9417 INC: 85.18
AZI: 93.47 TVD: 7135.77

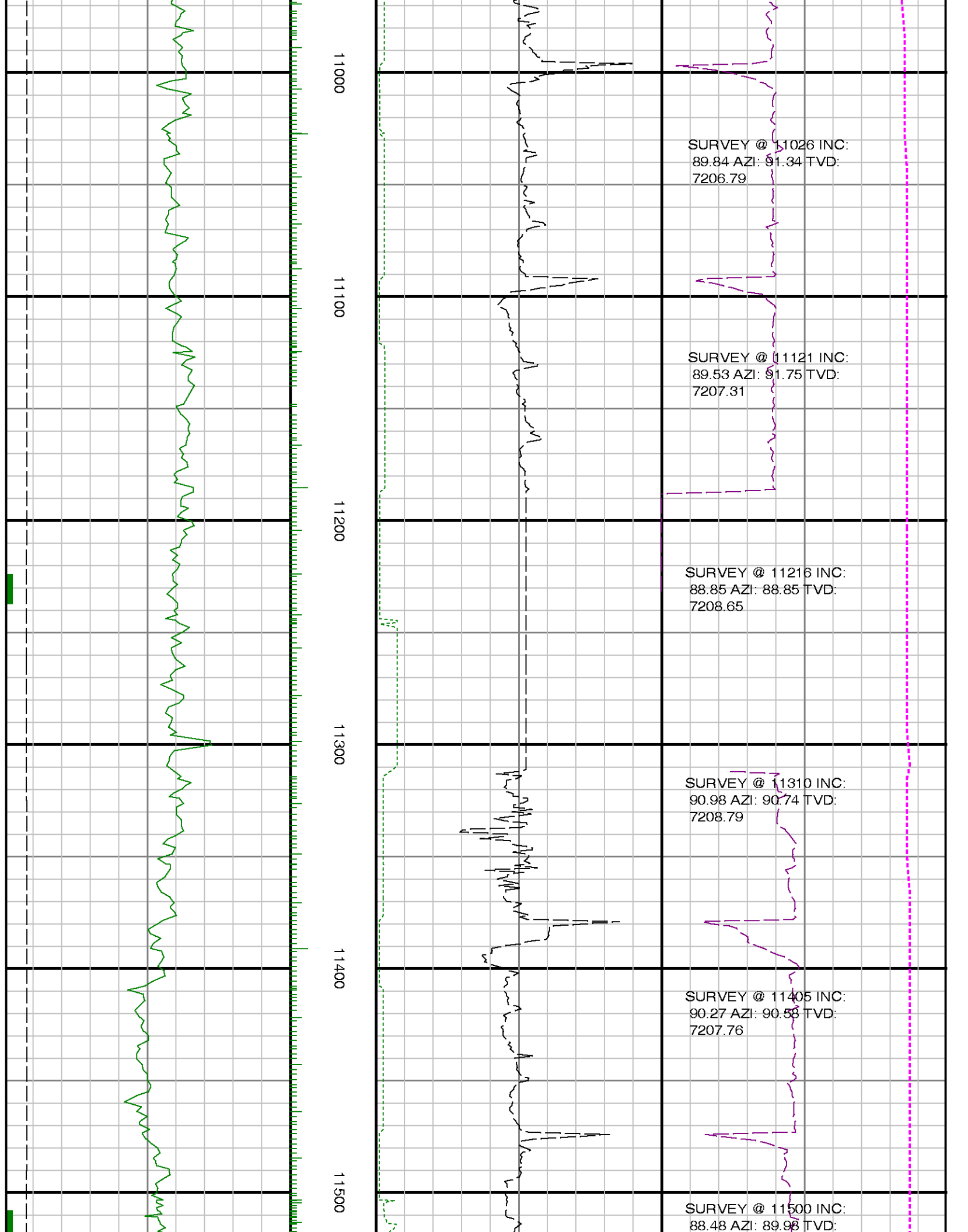
SURVEY @ 9512 INC: 85.16
AZI: 90.33 TVD: 7143.77

SURVEY @ 9606 INC: 84.63
AZI: 89.33 TVD: 7152.14

SURVEY @ 9700 INC: 84.10
AZI: 88.60 TVD: 7161.37







SURVEY @ 11026 INC:
89.84 AZI: 91.34 TVD:
7206.79

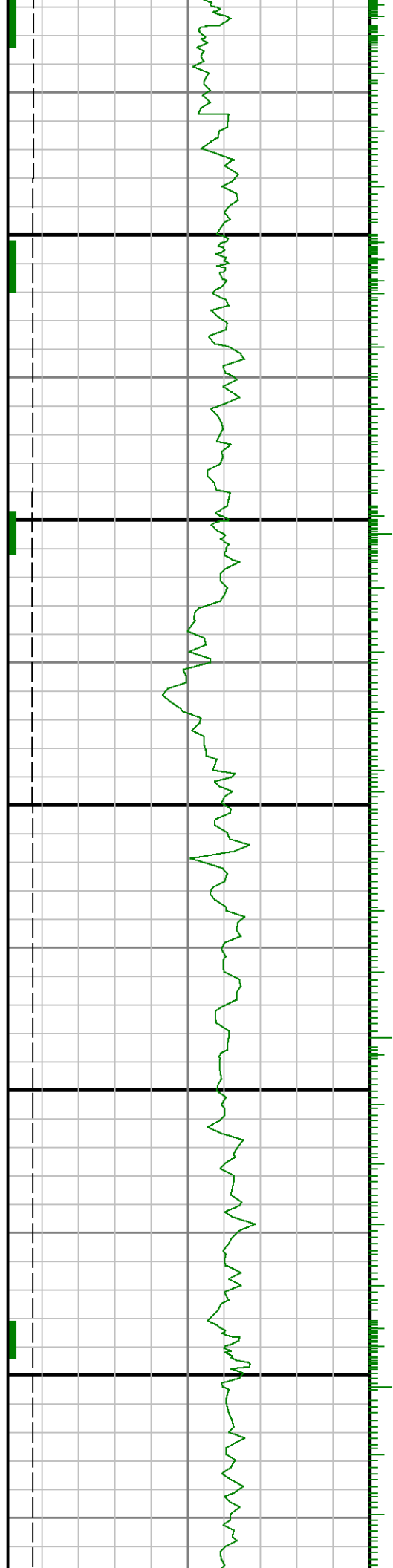
SURVEY @ 11121 INC:
89.53 AZI: 91.75 TVD:
7207.31

SURVEY @ 11216 INC:
88.85 AZI: 88.85 TVD:
7208.65

SURVEY @ 11310 INC:
90.98 AZI: 90.74 TVD:
7208.79

SURVEY @ 11405 INC:
90.27 AZI: 90.58 TVD:
7207.76

SURVEY @ 11500 INC:
88.48 AZI: 89.98 TVD:



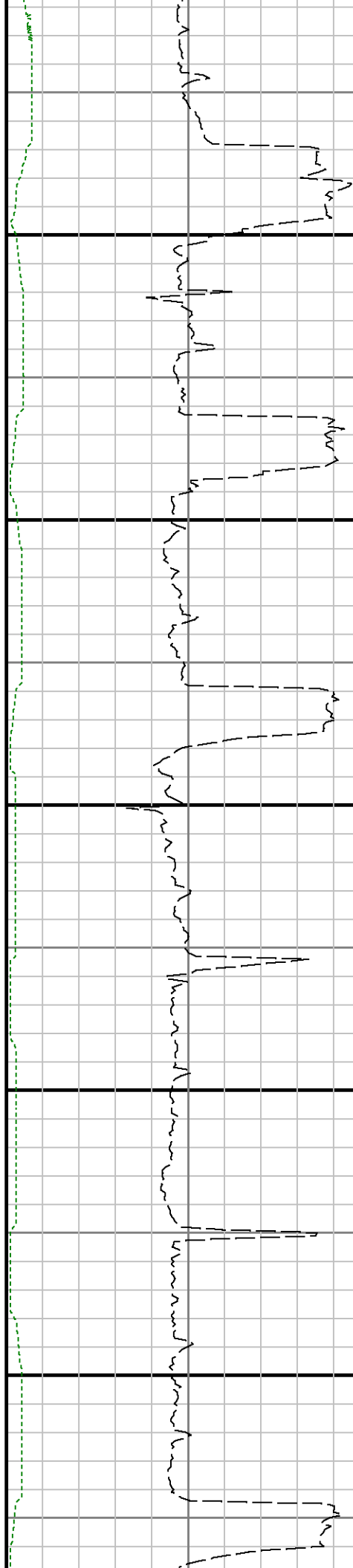
11600

11700

11800

11900

12000



7208.79

SURVEY @ 11594 INC:
88.42 AZI: 91.16 TVD:
7211.34

SURVEY @ 11689 INC:
89.16 AZI: 89.66 TVD:
7213.34

SURVEY @ 11784 INC:
90.64 AZI: 90.21 TVD:
7213.51

SURVEY @ 11879 INC:
90.09 AZI: 90.12 TVD:
7212.90

SURVEY @ 11973 INC:
89.69 AZI: 90.27 TVD:
7213.08

