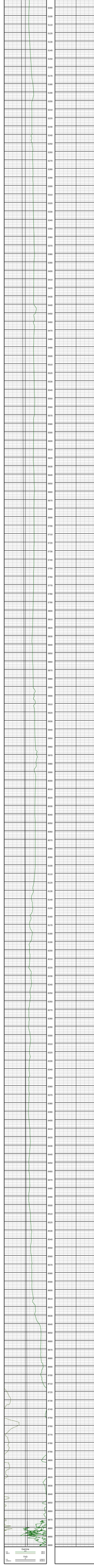

ENSIGN

# Thistle Down 31H-232

**TVD**
**5":100'**

**Company:** PDC Energy Inc
**Well Name:** Thistle Down 31H-232
**API:** 051234545500
**County/Parish:** WELD
**State:** COLORADO
**Country:** USA
**Job number:** 152-177
**Field:** Wattenberg
**Rig Id:** Ensign 152
**Survey Company:** Ensign Directional
**DD1** Jesus Gallego
**DD2** Dan Hanson
**DD3**
**MWD1** Ryan Prue
**MWD2** Paul Wilson

**Log measurements:** Gamma, ROP
**Depth measured from:** 1690 ft
**Maximum temperature:** 204.8

| | Depth | Date |
|---|---|---|
| **Start:** | 0 ft | 12-11-2018 |
| **End:** | 12874 ft | 12-14-2018 |

| Casing | Depth | Size |
|---|---|---|
| **Surface:** | 1690 ft | 9 5/8" |
| **Intermediate:** | | |

**Mud Type:** Water
**Density:** 10.4
**Viscosity:** 39
**Rm:** **Rmf:** **Rmc:**

**Elevations**
**KB:** 23 ft
**GL:** 4804 ft
**DF:** 4827 ft

| Run | Bit Size | Offsets | | Depths | | Dates | |
|---|---|---|---|---|---|---|---|
| | | Gamma | Survey | Start | End | Start | End |
| 1 | 12.25" | | 58.44 ft | 0 ft | 1688 ft | 12-11-2018 | 12-11-2018 |
| 2 | 8.5" | 60.17 ft | 56.81 ft | 1688 ft | | 12-12-2018 | 12-14-2018 |
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| 10 | | | | | | | |

Ensign Directional uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.

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