



# CATHEDRAL

Cathedral Energy Services  
1949 North Pyrite Road  
Casper, Wyoming 82604

**145254**

5":100' - TVD

9/21/2014 11:46:01 AM

**Oper. Company:** Encana Oil & Gas (USA) Inc.  
**Country:** U.S.A.  
**State / Province:** Colorado  
**County / Parish:** Weld  
**Started:** 03/17/2014 04:00 AM

**API/UWI:** 05-123-38073-00  
**Field:** Wattenberg (Niobrara)  
**Well:** Edith Ann-Duckworth 4A-2H 0268  
**Rig:** Patterson UTI Drilling 272  
**Ended:** 08/21/2014 09:30 AM

Gamma Ray  
Section Plane: 0.00  
Magnetic North: 8.54  
Gamma Averaging: 7%

## Personnel

**Day Hand:** R. Moulton  
**Night Hand:** E. King  
**Comp. Emp:** Leonard Clark

## Location

**Latitude:** 40.117670  
**Longitude:** -105.003720  
**Elev. GL:** 4925  
**Elev. DF:**  
**Elev. KB:** 4953.5

Log and Survey Depths Relative to Kelly Bushing (KB) Depth

## Hole Data

| Size   | From | To   |
|--------|------|------|
| 12-1/4 | 0    | 913  |
| 8-3/4  | 913  | 7884 |
| 6-1/8  | 7884 | 7884 |

## Casing Data

| Size  | From | To    |
|-------|------|-------|
| 9-5/8 | 0    | 902.5 |
| 7     | 0    | 7870  |
| 4-1/2 | 0    | 17114 |

## Bit Sizes

| Size   | From | To    |
|--------|------|-------|
| 12-1/4 | 0    | 913   |
| 8-3/4  | 913  | 7884  |
| 6-1/8  | 7884 | 17130 |

## Mud Data

| Type | Weight | Density | Viscosity | Rm | Rmf | Rmc | From | To |
|------|--------|---------|-----------|----|-----|-----|------|----|
|------|--------|---------|-----------|----|-----|-----|------|----|

## Tool Run Data

| Serial Number | Gamma Offset | Resist. Offset | Start Time            | Start Depth | End Time             | End Depth |
|---------------|--------------|----------------|-----------------------|-------------|----------------------|-----------|
| 1580          | 36.37        | 0              | 3/20/2014 12:00:28 AM | 5000        | 3/21/2014 8:30:28 PM | 6864      |
| 1580          | 39.63        | 0              | 9/21/2014 9:20:06 PM  | 6864        | 3/22/2014 2:00:06 AM | 7884      |
| 1519          | 38.78        | 0              | 8/10/2014 8:00:57 AM  | 7884        | 8/16/2014 4:30:57 PM | 14632     |
| 1519          | 39.72        | 0              | 8/16/2014 6:00:35 PM  | 14632       | 8/21/2014 9:30:35 AM | 17130     |

*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, cost damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.*

0.00      Gamma Ray (API)      150.00      TVD      0.00      ROP (FT/HR)      600.00  
150.00      2      300.00      FT



























