

## CATHEDRAL

## Cathedral Energy Services

1949 North Pyrite Road  
Casper, Wyoming 82604

**145130**

5":100' - TVD

7/15/2014 1:17:46 PM

**Oper. Company:** Encana Oil & Gas (USA) Inc.

Country: U.S.A.

**State / Province:** Colorado

**County / Parish:** Weld

**Started:** 04/28/2014 07:30 PM

**API/UWI:** 05-123-38085-00

**Field:** Wattenberg (Codell)

**Well:** Edith Ann-Duckworth 4H-21H-O268

**Rig:** Patterson UTI Drilling 272

**Ended:** 05/29/2014 05:30 AM

Gamma Ray  
Section Plane: 0.00  
Magnetic North: 8.58  
Gamma Attenuation Factor: 1.80  
Gamma Averaging: 7%

## Personnel

**Day Hand:** R. Moulton

**Night Hand:** E. King

**Comp. Emp:** Chris Clemens

Maximum Temperature: 250°F

## Location

**Latitude:** 40.117670

**Longitude:** -105.003420

Elev. GL: 4927

Elev. DF:

Elev. KB: 4955.5

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

## Hole Data

Size	From	To
12-1/4	0	974
8-3/4	974	8114
6-1/8	8114	17064

## Casing Data

Size	From	To
9-5/8	0	962
7	0	8101
4-1/2	0	17048

## Bit Sizes

Size	From	To
12-1/4	0	974
8-3/4	974	8114
6-1/8	8114	17064

## Mud Data

Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
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## Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1218	35.61	0	4/30/2014 4:30:43 AM	5000	5/4/2014 8:00:43 AM	8114
1403	37.57	0	5/8/2014 3:30:38 PM	8114	5/16/2014 5:30:38 PM	12844
1323	37.52	0	5/17/2014 11:30:13 PM	12844	5/21/2014 2:00:13 AM	14700
1595	37.72	0	5/21/2014 4:00:23 AM	14700	5/23/2014 3:43:23 AM	15266
1595	37.47	0	5/23/2014 3:45:41 AM	15266	5/26/2014 10:45:41 AM	16590
1641	37.25	0	5/26/2014 10:45:10 AM	16590	5/29/2014 5:30:10 AM	17064

*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

[illegible]



























