

COMPENSATED DENSITY  
GAMMA RAY

PHOENIX SURVEYS, INC.

Company  
Great Western Oil & Gas LLC

Well  
HCW 24-13

Field  
Lapoudre

County  
Weld

State/Province  
Colorado

Location  
SHL - 1339 FSL & 1321 FWL C SW  
BHL 1968 FSL & 671 FWL NW SW  
Sec 24 - 1WP - 6N - 8E - 67W

City Services  
H. Res  
Induction

Permeant beam  
GL  
Elevation  
4757

Log Measured From  
KB  
January 08, 2011

Run Number  
7400

Depth Logger  
7405

Bottom Logged Interval  
7395

Top Log Interval  
3440

Casing Outer  
2.375

Casing Inner  
1.750

Bit Size  
7-7/8"

Type Fluid in Hole  
Chem Gel

Density / Velocity  
3.61 / 550

Source of Sample  
Flowline

Run @ Meas. Temp  
3.0 @ 69 F

Run @ Meas. Temp  
2.2 @ 69 F

Run @ Meas. Temp  
3.5 @ 69 F

Run @ Meas. Temp  
2.0 @ 69 F

Run @ Meas. Temp  
1.04 @ 213 F

Time Circulation Stopped  
1415

Time Logger on Bottom  
215 F

Maximum Recorded Temperature  
213 F

Location  
Barton, CO

Recorded By  
Michele Simon

Versioned By  
Mark Scamardo

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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, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Annular volume calculated for 4.5" casing  
Ensign Drilling Rig 7  
Thank you for using Phoenix Surveys.  
API #: 05-123-31500-00  
No Repeat due to hole conditions!

Database File: 11344.db  
Dataset Pathname: main  
Presentation Format: den\_neu1  
Dataset Creation: Sat Jan 08 23:37:07 2011  
Charted by: Depth in Feet scaled 1:240

Density Caliper (in) 16  
Gamma Ray (GAPI) 130  
TBHV (ft3) ABHV (ft3)

1521 1082  
1504 1070  
1483 1055  
1462 1040  
1445 1028  
1427 1016  
1409 1003  
1391 991  
1373 979  
1354 965  
1335 951  
1316 938  
1297 924  
1280 913  
1263 901  
1246 890  
1228 878  
1210 865  
1191 852  
1173 839  
1154 836  
1135 812

Density Porosity (pu) -10  
Neutron Porosity (pu) -10  
Correction (g/cc) 0.5

2.68 SS Matrix  
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Density Caliper (in) 16  
Gamma Ray (GAPI) 130  
TBHV (ft3) ABHV (ft3)

1079 712  
1060 759  
1042 746  
1022 732

Density Porosity (pu) -10  
Neutron Porosity (pu) -10  
Correction (g/cc) 0.5

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Caliper (in) 16  
Gamma Ray (GAPI) 200  
TBHV (ft3) ABHV (ft3)

230 194  
238 169  
217 153  
197 139  
177 125  
158 111  
139 98  
121 85  
102 72  
82 57  
63 44  
45 32  
29 20  
10 8

Density Porosity (pu) -10  
Neutron Porosity (pu) -10  
Correction (g/cc) 0.5

2.71 LS Matrix  
Matrix Change @ 7223'  
2.68 SS Matrix  
2.68 SS Matrix  
2.68 SS Matrix

Logger's TD: 7405'

Neutron Porosity  
Density Porosity  
Corr