



Gamma Ray

Crew								
Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart

	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite
Brent Cass	2017-08-10	2017-08-17						

Mud Properties Record

Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2017-08-12 06:57	1	2315.00	Oil Based Mud	9.6	14	N/A	17.0	66.9/33.1	Active Pit	58000	0.00
2017-08-13 05:53	2	5102.00	Oil Based Mud	9.2	14	N/A	7.8	66.9/33.1	Active Pit	54000	0.00
2017-08-15 08:47	2	13119.13	Oil Based Mud	9.3	20	N/A	4.8	60.3/39.7	Active Pit	59000	0.00

Mud Resistivity Record

Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Surface			BHCT (degF)	Downhole		
				Rm (ohm.m)	Rmf (ohm.m)	Rmc (ohm.m)		Rm @ BHCT (ohm.m)	Rmf @ BHCT (ohm.m)	Rmc @ BHCT (ohm.m)
2017-08-12 06:55	1	2315.00	72.0	100.000	100.000	100.000	72.0	100.000	100.000	100.000

Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	OnTrak	11735984	Pressure	1.10	39.04	6.750	0.000
1	OnTrak	11735984	Gamma (double)	1.99	39.93	6.750	0.000
1	OnTrak	11735984	Resistivity (4tx)	6.03	43.97	6.750	0.000
1	OnTrak	11735984	Directional (mag)	11.82	49.76	6.750	0.000
2	ATC_SU	14024148	Near Bit VSS	5.93	6.93	7.000	4.330
2	ATC_SU	14024148	Near Bit Inclination	5.93	6.93	7.000	4.330
2	ATC_MWD	12271546	Gamma (single)	2.20	12.55	7.000	3.250
2	ATC_MWD	12271546	Directional (mag)	12.27	22.62	7.000	3.250

Service and Tool Mnemonics


Mnemonic	Name	Description
OTK	OnTrak	Sensor Sub (Inc, Azi, Temp, Azimuthal GR, Res, AP, VSS), OnTrak Platform
BCPM	BCPM	Bi-Directional Communication and Power Module, OnTrak Platform
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

Comments

1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes Drilling Services. Due to the lack of control by Baker Hughes 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.
2	Baker Hughes LWD run 1 utilized 6.750 inch Gamma services (Gamma Ray and Directional) behind an 8.50 inch bit and steerable assembly from 2315 to 5074 feet MD (2315 to 5073 feet TVD).
3	Baker Hughes LWD run 2 utilized a 6.75 inch Gamma Service (Directional and Gamma Ray) tool behind an 8.5 inch bit and Rotary Steerable Assembly from 5074 to 16728 feet MD (5073 to 8017 ft. TVD).
4	Numerous gaps in Gamma Ray data are present throughout the log due to downlinking and surveying while drilling ahead.

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	16716.00	8.500	2	The interval from 16716 to 16728 feet MD (8016 to 8017 feet TVD) was not logged due to the sensor to bit offset at well TD.

	Company	ConocoPhillips	
	Well	STATE_BIERSTADT_4-65_35-34_1CH	
	Interval	Date From: 2017-08-12 10:25:48 Date To: 2017-08-16 04:12:29	Top: 2315.00 Bottom: 16728.00
	Created	2017-08-16 23:27:24	

