



Crew								
Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Brent Cass	2018-03-02	2018-03-11						

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+ (%)
2018-03-04 13:48	1	2108.00	Oil Based Mud	10.0	19	0	5.2	63.5/36.5	Active Pit	73000	0.00
2018-03-06 00:48	2	4538.00	Oil Based Mud	10.0	19	0	5.2	63.5/36.5	Active Pit	63000	0.00
2018-03-08 07:54	2	10989.01	Oil Based Mud	9.5	16	0	2.4	67.8/32.2	Active Pit	68000	0.00
2018-03-09 04:59	2	14218.63	Oil Based Mud	9.7	17	0	2.6	70.3/29.7	Active Pit	59000	0.00

Mud Resistivity Record

Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Rm (ohm.m)	Rmf (ohm.m)	Rmc (ohm.m)	BHCT (degF)	Rm @ BHCT (ohm.m)	Rmf @ BHCT (ohm.m)	Rmc @ BHCT (ohm.m)
2018-03-10 05:17	2	18415.00	144.0	100.000	N/A	N/A	250.0	100.000	N/A	N/A

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	ATC_SU	12232313	Near Bit Inclination	5.93	6.93	7.000	4.330
1	ATC_SU	12232313	Near Bit VSS	5.93	6.93	7.000	4.330
1	ATC_MWD	14281551	Gamma (single)	2.77	13.10	7.000	3.250
1	ATC_MWD	14281551	Directional (mag)	12.27	22.60	7.000	3.250
2	ATC_SU	14186736	Near Bit Inclination	5.93	6.93	7.000	4.330
2	ATC_SU	14186736	Near Bit VSS	5.93	6.93	7.000	4.330
2	ATC_MWD	12914616	Gamma (single)	2.75	13.10	7.000	3.250
2	ATC_MWD	12914616	Directional (mag)	12.27	22.62	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
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 Runs 1, and 2 utilized a 6.75 inch NaviGamma Service (Directional and Gamma Ray) behind an 8.5 inch bit and Rotary Steerable Assembly from 2108 to 18415 feet MD (2108 to 7570 feet TVD).
3	Baker Hughes LWD run 2 utilized a 6.75 inch OnTrak service (Gamma Ray and Multiple Propagation Resistivity) behind and 8.5 inch bit and rotary steerable assembly to perform a MAD (measurement after drilling) Pass from 2098 to 7534 feet MD (2098 to 7254 feet TVD). The data collected during this run was ream logged after being drilled and presented independent of the drilled log.

Remarks

Number	Measured Depth	Hole Section	Run No.	Remark
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## Curve Mnemonics

Presented Curves	Description	Units
CACLM	Conductivity Attenuation - Corrected - 400kHz	mmho/m
RACLM	Resistivity Attenuation - Corrected - 400kHz	ohm.m
RPCHM	Resistivity Phase - Corrected - 2MHz	ohm.m
ROPA	Depth Averaged ROP 3 ft Average	ft/h
GRAM	Gamma Ray - Apparent - Memory 3 ft Average	API
TCDM	Downhole Temperature	degF











