

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+ (%)
2017-09-09 20:09	2	1720.00	Oil Based Mud	9.5	30	N/A	8.0	70/30	Active Pit	32500	0.00
2017-09-10 07:12	2	3130.35	Oil Based Mud	10.0	60	N/A	10.0	62/38	Active Pit	36913	0.00
2017-09-11 05:42	2	7803.17	Oil Based Mud	9.7	65	N/A	10.0	73/27	Active Pit	37872	0.00
2017-09-12 05:55	2	10997.00	Oil Based Mud	9.9	53	N/A	10.0	73/27	Active Pit	37872	0.00
2017-09-13 07:09	2	15994.86	Oil Based Mud	9.8	62	N/A	10.0	73/27	Active Pit	37872	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)
2017-09-11 16:58	2	1720.00	180.0	100.000	N/A	N/A	180.0	100.000	N/A	N/A
2017-09-13 16:59	2	17436.42	230.0	100.000	N/A	N/A	230.0	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	NaviTrak	13191954	Directional (mag)	12.89	54.52	8.000	0.000
1	NaviTrak	13191954	VSS	12.89	54.52	8.000	0.000
2	ATC_SU	1215165	Near Bit VSS	5.93	6.70	7.000	4.330
2	ATC_SU	1215165	Near Bit Inclination	5.93	6.70	7.000	4.330
2	ATC_MWD	12211066	Gamma (single)	2.73	12.87	7.000	3.250
2	ATC_MWD	12211066	Directional (mag)	12.26	22.40	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
NTK	NaviTrak	Probe Based Directional Module, NaviTrak 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. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD Runs 2 utilized 6 3/4 inch Navigamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1720 to 17436 feet MD (1680 to 7138 feet TVD).
3	Due to instances of loss of communication with Pason WITS computer, there were some gaps on the logs.

Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1720.00	8.500	2	Baker Hughes LWD began logging services at 1720 feet MD (1680 feet TVD) per client request.
2	10250.00	8.500	2	Region drilled when WITS reception problems from Pason Computer led to big depth gap.
3	17423.00	8.500	2	The interval from 17423 to 17436 feet MD (7138 feet TVD) was not logged due to sensor to bit offset at well TD.

Curve Mnemonics

Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	OnTrak - Gamma Ray - Apparent - Memory 3 ft Average	API
TCDM	Downhole Temperature	degF



Company

Well

Interval

Created

Verdad Oil & Gas Corporation

WARNER 01N-64W-17-1H

Date From: 2017-09-08 13:58:48

Date To: 2017-09-13 16:01:27

Created 2017-09-15 10:37:51

Top: 1700.00

Bottom: 17436.00



























