




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+ (%)
2017-10-15 17:00	1	2032.00	Oil Based Mud	9.2	9	N/A	N/A	81.9/18.1	Active Pit	27500	0.00
2017-10-16 05:00	1	4680.00	Oil Based Mud	9.0	9	N/A	N/A	82.5/17.5	Active Pit	29000	0.00
2017-10-16 17:00	1	8351.00	Oil Based Mud	9.2	10	N/A	N/A	83.4/16.6	Active Pit	27000	0.00
2017-10-17 05:00	1	11052.00	Oil Based Mud	9.3	10	N/A	N/A	84.2/15.8	Active Pit	25000	0.00
2017-10-17 17:00	1	14624.00	Oil Based Mud	9.3	10	N/A	N/A	84.2/15.8	Active Pit	25000	0.00
2017-10-18 05:00	1	17318.00	Oil Based Mud	9.2	10	N/A	N/A	84.4/15.6	Active Pit	23000	0.00

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	14178990	Near Bit Inclination	5.93	6.74	7.000	4.330
1	ATC_SU	14178990	Near Bit VSS	5.93	6.74	7.000	4.330
1	ATC_MWD	12706130	Gamma (single)	2.20	12.35	7.000	3.250
1	ATC_MWD	12706130	Directional (mag)	12.27	22.42	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. Due to lack of control by Baker Hughes, calibration and measurements could not be independently verified.											
2 Baker Hughes LWD run 1 utilized a 6.75 inch NaviGamma service (Gamma Ray and Directional) behind an 8.5 inch bit and rotary steerable assembly from 2032 to 17318 feet MD (2032 to 6966 feet TVD).											
3 Periodic gaps in gamma data are due to drilling ahead while downlinking.											

Remarks				
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	17306.00	8.500	1	The interval from 17306 to 17318 feet MD (6966 feet TVD) was not logged due to sensor offset at well TD.

	Company	Noble Energy									
	Well	Hullabaloo Y21-726									
	Interval	Date From:	2017-10-15 21:25:00				Top:	2032.00			
	Created	Date To:	2017-10-18 03:10:00				Bottom:	17318.00			
		2017-10-19 01:19:05									

<div>Gamma Ray - Apparent 3 ft Average GRAM</div> <div>0150</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent - Up Quadrant 3 ft Average GRAUM</div> <div>0150</div> <div>API</div> <div>Azimuthal Gamma Ray - Apparent - Down Quadrant 3 ft Average GRADM</div> <div>0150</div> <div>API</div> <div>True Vertical Depth TVD</div> <div>75001500</div> <div>ft</div>	MD 1:1200 feet	Depth Averaged ROP 10 ft Average ROPA		Weight On Bit, Average 1 ft Average WOBA	
		10000		050	
		ft/h		klb	
		Gamma Time Since Drilled GRTX		Downhole Temperature TCDM	
		0600		0300	
		min		degF	

