

BAKER HUGHES			Natural Formation Evaluation Gamma Ray			
Scale: 1:240 Measured Depth			Company: Kerr-McGee Oil & Gas Onshore LP			
Status: Final Print			Well: Elliott 32N-18HZ			
API Number: 051233878400			Field: Weld County			
Permanent Datum (P.D.): Ground Leve			Region: Continental US		Country: United States	
Log Measured From: Kelly Bushing			Surface Location: Latitude: 40° 13' 39.338" N Longitude: 104° 55' 29.622" W		Other Services: Directional VSS	
Depth Reference: Driller's Depth			Section 18 TWN: 3N Range 67E		Elevations: KB: 4835.00 ft. DF: N/A GL: 4823.00 ft.	
Interval Logged			Dates		Magnetic Field Reference	
Top: 6400 ft. Date From: 24/Mar/14			Dip Angle: 66.89 °		Azi Reference North: True	
Bottom: 11737 ft. Date To: 31/Mar/14			Total		Mag to Reference	
Spud Date: 23/Mar/14			Field Strength: 52604.0 nT		North Correction: 8.65 °	
Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
13,500 in.	Surface	1069 ft.	9.625 in.	36.00 lb/ft	Surface	1069 ft.
8,750 in.	1069 ft.	7358 ft.	7.000 in.	26.00 lb/ft	Surface	7348 ft.
6,125 in.	7358 ft.	11797 ft.				
Mud Record			Deviation Record			
Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
LSND	Surface	11797 ft.	13,500 in.	1080 ft.	0.0 ° / 262.4 °	0.4 ° / 207.5 °
			8,750 in.	6278 ft.	0.4 ° / 207.5 °	85.9 ° / 269.2 °
			6,125 in.	4439 ft.	85.9 ° / 269.2 °	90.2 ° / 269.8 °
					/	/
					/	/
					/	/
Acquisition System Software Version			Other			
Advantage	2.20U4	Rig / Contractor: Ensign 138	/ Ensign Drilling			
PATS	6.4.1.34	Job No: 6247850	/ D&E			
		District / Unit: RMD				

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Log Run Summary													
LWD	BHA	Bit	Bit	Bit	Bit	Assembly	Logged Interval		Bit Depth Interval		Date / Time		Circ.
Run	Run	Run	Size	Type	Gauge	Type	Top	Bottom	From	To	Start	End	Time
No.	No.	No.	(in.)		Length		ft.)	ft.)	ft.)	ft.)			(hrs.)
1	1	1	8.750	PDC	3.000	Steerable	6400	7297	1080	7358	24/Mar/2014 22:40	26/Mar/2014 16:50	39.5
2	2	2	6.125	PDC	6.000	Steerable	7297	11737	7358	11797	27/Mar/2014 14:29	30/Mar/2014 14:29	40

Crew								
Name			Arrive	Depart	Name			Arrive
			Wellsite	Wellsite				Wellsite
Tyler Wall			24/Mar/2014	31/Mar/2014	Andrew Overbey			24/Mar/2014
Stephen Martinez			24/Mar/2014	31/Mar/2014				31/Mar/2014

Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
24/Mar/2014	21:00	1	1076	LSND	9.1	30	9.4	N/A	0.0/95.7	Active Pit	1450	N/A
25/Mar/2014	21:00	1	4336	LSND	8.4	28	9.2	N/A	0.0/99.3	Active Pit	800	N/A
26/Mar/2014	21:00	1	7358	LSND	10.0	41	9.3	N/A	0.0/95.7	Active Pit	1000	N/A
27/Mar/2014	21:00	2	7358	LSND	9.9	36	9.7	N/A	0.0/91.0	Active Pit	1000	N/A
28/Mar/2014	21:00	2	8106	LSND	9.3	41	9.4	N/A	0.0/92.8	Active Pit	1000	N/A
29/Mar/2014	21:00	2	10600	LSND	9.5	44	9.7	N/A	0.0/91.5	Active Pit	1400	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRIX	Gamma Ray Data Density	point
GRSI	Gamma Ray Sliding Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min
ROPA	Rate of Penetration, 3.0 ft. Avg.	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	Surface Weight on Bit, 1.0 ft. Avg.	klbs

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12440863	Directional	62.05	6.750	2.750
1	SRIG	12600751	Gamma	58.63	6.750	2.750
2	DIR	12093881	Directional	63.52	4.750	2.625
2	SRIG	10658453	Gamma	60.14	4.750	2.625

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

Comments

1.) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
2.) Baker Hughes run 1 utilized 6 3/4 inch NaviTrak services (Directional only) behind an 8 3/4 inch bit and steerable assembly from 1080 to 6459 feet MD (1080 to 6409 feet TVD).
3.) Baker Hughes run 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 6459 to 7358 feet MD (6409 to 6959 feet TVD).

4.) The interval from 1080 to 6459 feet MD (1080 to 6409 feet TVD) was not logged due to directional only services being provided through the straight-hole and nudge section for Baker Hughes run 1.

5.) Baker Hughes run 2 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 6 1/8 inch bit and steerable assembly from 7358 to 11797 feet MD (6959 to 6959 feet TVD).

Remarks

Number	Measured Depth (m.)	Hole Section (in.)	LWD Run No.	Remark
1	11765	6.125	2	The interval from 11737 to 11797 feet MD (6959 to 6959 feet TVD) was not logged due to sensor to bit offsets at well TD.

Curve Mnemonics

Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRSIM	Gamma Ray Sliding Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min
ROPA	AVERAGE Instantaneous ROP - 5 second ROP	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	AVERAGE Weight On Bit	klbf



Company : Kerr-McGee Oil & Gas Onshore LP

Well : Elliott 32N-18HZ

Interval : 6380.00 - 11800.00 feet

Created : 30/Mar/2014 9:10:59 AM



















































