

## EP WELLS DAILY OPERATIONS REPORT

Report 16

07/30/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 H 0908H
Wellbore	UNIVERSITY 19 H 0908H
WBS No/API No	30257350 / 4230133234.00

## Event Summary

Event Type	Drilling only	Event Start Date	05/08/2017	Days on Location	15.63
Objective	Drill - Wolfcamp B1 Shale	Original Spud Date	05/08/2017	Days Since Spud	14.02
Est. Days	22.00	Contractor	PRECISION		
Work Unit	PRECISION 559	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	THERON KNIGHT	Measured Depth(ft)	16,013.00
Engineer	YERMEK TYNYSHBAYEV	TVD(ft)	11,689.61
Other Supervisor	JAMES WHITTINGTON	24 Hr Progress(ft)	1,025.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,792.80 / 2,766.80	Hole size(in)	6.125
THF Datum			
Daily NPT(hr/%)	5.00/20.83	Last Casing MD	7.000in@12,111.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@
Actual cost to date/AFE	1,238,140/2,467,033.93	Current MW / BH EMW(ppg)	13.50/
Actual divided by AFE	0.50	LOT/FIT EMW(ppg)	
Daily Cost	50,810	Lithology	
		Formation/MD Top	

## HSE Summary

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test			PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	10/12/2016	291	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	
Safety Comments:							

## Drills

Drill Category	Drill Type	Detection (sec)	Complete (sec)	Crew drilled	Pass / Fail	PIC	Comments
Well Control Crew	BOP	40.00	300.00	Night	Pass	MICHAEL MANUEL	

## HSE Drills

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	7
Last Derrick Inspection	07/26/2017	4		
Last BOP function test	07/26/2017	4		
Last BOP Test	08/16/2017			
Next BOP Test				

## Operations Summary

24 Hour Summary
CONTINUE TO DRILL AND SLIDE FROM 14,988' TO 15,926' C/O LEAKING ROTATING HEAD. CONTINUE TO DRILL AND SLIDE FROM 15926' TO 16,013'. OBSERVED TOPDRIVE SWIVEL PACKING LEAKING, POOH 5 STANDS TO 15,564'. REPAIR TOP DRIVE SWIVEL PACKING. TIH TO 15,744'.
Update Since Report Time
WASH DOWN FROM 15,744' TO 16,013'. CONTINUE TO DRILL LATERAL FROM 16,013'

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24 Hour Forecast
CONTINUE TO DRILL LATERAL.

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	4.50	MNH1	DRL		15,188.00	0		SLIDE FROM 14,988' TO 15,118', 130'@ 29 FT/HR MOTOR RPM 240 WOB 30K SPP 5100 PSI, 285 GPM, 32% FLOW P/U 214K, S/O 115K, ROT/WT 160K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS -1350 UNITS NO FLARE
4:30	0.50	MNH1	SVC		15,188.00	0		SERVICE RIG.
5:00	1.50	MNH1	DRL		15,168.00	0		SLIDE FROM 15,118' TO 15,168', 50'@ 33 FT/HR MOTOR RPM 240 WOB 30K SPP 5100 PSI, 285 GPM, 32% FLOW P/U 214K, S/O 115K, ROT/WT 160K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS -1350 UNITS NO FLARE
6:30	2.00	MNH1	DRL		15,297.00	0		DRILL FROM 15,168' TO 15,297', 129'@ 65 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 25K SPP 5780 PSI, 288 GPM, 34% FLOW ON BOTTOM TQ12K, OFF BOTTOM TQ 8K P/U 226K, S/O 140K, ROT/WT 162K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS -418 UNITS NO FLARE
8:30	2.50	MNH1	DRL		15,387.00	0		SLIDE FROM 15,297' TO 15,387', 90'@ 36 FT/HR MOTOR RPM 240 WOB 17K SPP 5400 PSI, 288 GPM, 30% FLOW P/U 226K, S/O 109K, ROT/WT 160K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS -641 UNITS NO FLARE
11:00	1.50	MNH1	DRL		15,505.00	0		DRILL FROM 15,387' TO 15,505', 118'@ 79 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 26K SPP 6200 PSI, 288 GPM, 30% FLOW ON BOTTOM TQ14.8K, OFF BOTTOM TQ 8.5K P/U 226K, S/O 109K, ROT/WT 162K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 735 UNITS NO FLARE
12:30	1.50	MNH1	DRL		15,531.00	0		SLIDE FROM 15,505' TO 15,531', 26' @ 17 FT/HR MOTOR RPM 230 WOB 24K SPP 5450 PSI, 288 GPM, 28% FLOW P/U 226K, S/O 109K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS -711 UNITS NO FLARE
14:00	2.50	MNH1	DRL		15,743.00	0		DRILL FROM 15,531' TO 15,743', 212' @ 85 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 25K SPP 6100 PSI, 288 GPM, 30% FLOW ON BOTTOM TQ14,800 OFF BOTTOM TQ 8,500 P/U 226K, S/O 109K, ROT/WT 162K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 572 UNITS

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								NO FLARE
16:30	0.50	MNH1	SVC		15,743.00	0		SERVICE RIG, FUNCTION ORBIT VALVE
17:00	1.50	MNH1	DRL		15,926.00	0		DRILL FROM 15,743' TO 15,926', 183' @ 122 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 25K SPP 6100 PSI, 288 GPM, 30% FLOW ON BOTTOM TQ14,800 OFF BOTTOM TQ 8,500 P/U 225K, S/O 109K, ROT/WT 163K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 1150 UNITS NO FLARE
18:30	1.00	MNH1	SVC		15,926.00	1		NPT-C/O ROTATING HEAD DUE TO LEAK.
19:30	0.50	MNH1	DRL		16,013.00	0		DRILL FROM 15,926' TO 16,013', 89' @ 175 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 25K SPP 6100 PSI, 288 GPM, 30% FLOW ON BOTTOM TQ14,800 OFF BOTTOM TQ 8,500 P/U 225K, S/O 109K, ROT/WT 163K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 1150 UNITS NO FLARE
20:00	3.50	MNH1	SVC		16,013.00	1		NPT-OBSERVED TOP DRIVE SWIVEL PACKING LEAK, POOH 5 STANDS TO 15,566'. C/O SWIVEL PACKING.
23:30	0.50	MNH1	TIH		16,013.00	1		NPT-TIH TO 15,744'
<b>Total</b>	<b>24.00</b>							

## 06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.50	MNH1	TIH		16,015.00	1	WASH DOWN FROM 15,744' TO BOTTOM 16,015'.
0:30	3.00	MNH1	DRL		16,290.00	1	DRILL FROM 16,015' TO 16,290', 89' @ 175 FT/HR RPM SURFACE 70, MOTOR RPM 230, BIT RPM 300 WOB 25K SPP 6120 PSI, 286 GPM, 32% FLOW ON BOTTOM TQ14,800 OFF BOTTOM TQ 8,500 P/U 225K, S/O 100K, ROT/WT 163K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 1150 UNITS NO FLARE
3:30		MNH1	DRL		16,290.00	1	SLIDE FROM 16,290' TO 16,350', 26' @ 17 FT/HR MOTOR RPM 230 WOB 25K SPP 6120 PSI, 288 GPM, 28% FLOW P/U 226K, S/O 109K MUD WT 13.5 PPG MOTOR REV .80 RPG GAS - 1150 UNITS NO FLARE

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## NPT Summary

Start Date/Time	Responsible Company	NPT Code	Failure MD (ft)	Ops Code	Type*	Equipment Type	Net time (hr)	Gross time (hr)	Severity	Status
07/30/2017 18:30	BLACK GOLD RENTAL TOOLS INC	Rig/Work Unit Misc	15,926.00	SVC	EN	BOP Surface	1.00	1.00	1	OPEN
Description: C/O ROTATING HEAD ELEMENT						Title: ROTATING HEAD LEAK				
07/30/2017 20:00	PRECISION DRILLING COMPANY LP	Rig/Work Unit Misc	16,015.00	SVC	EN	Top Drive/Power Swivel	4.50	4.50	1	OPEN
Description: C/O TOP DRIVE SWIVEL PACKING						Title: TOP DRIVE SWIVEL PACKING LEAK				
Total							5.50	5.50		

## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
15,606.00	91.32	338.01	11,691.43	3,794.51	-14.04	3,646.30	2.06	PTW MWD_2016
15,695.00	90.79	336.30	11,689.79	3,876.51	-48.59	3,734.70	2.01	PTW MWD_2016
15,785.00	90.35	336.02	11,688.90	3,958.83	-84.96	3,823.91	0.58	PTW MWD_2016
15,875.00	89.44	336.73	11,689.06	4,041.28	-121.03	3,913.17	1.28	PTW MWD_2016
15,964.00	89.99	336.88	11,689.51	4,123.09	-156.08	4,001.52	0.64	PTW MWD_2016

## Fluid Details

Mud type	Invermul	Oil/Water (%)	56.50/17.00	POM (cc)	3.11 457.0	
MD (ft)	15,358.00	TS/HGS/LGS (%)	24.50//	CaCl2 (%)		
Mud Density (ppg)	13.50	Sand (%)	0.20	Caom/Clom (ppm)		
Vis (s/qt)	57.00	Oil/Water Ratio (%)	76.90/23.10	ACT		
PV/YP (cp/lbf/100ft²)	27.00/12.000	LCM (lbm/bbl)	15.800	XS Lime(lbm/bbl)		
Gels 10 s/m (lbf/100ft²)	8.000/15.000	ECD (ppg)		ES (Volts)		
API/HTHP WL (cc/30min)	0.0/	H2S (gas unit)		R600/300 (°)		
FC/HTHP FC (32nd")	0.0/5.0	KCl (%)		R200/100 (°)		
WPS (ppm)	264,734	Ditch Magnet in Last 24hrs/Cum. (gm)		R6/3 (°)		
FL temp. (°F)						

## Bit Details

Bit no.	Size (in)	Manufacturer	Model no.	Class	IADC code	Serial no.	Size (32nd")	MD in (ft)	MD out (ft)	IADC Dull Grade
6	6.125	SMITH BITS	X516			JM9909	5x16	12,201.00		-----

## Bit Operations

MD (ft)	WOB Min/Max (kip)	Current RPM (rpm)	Flow rate (gpm)	SPP (psi)	P bit (psi)	% @ Bit	HHP (hp)	Hours (hr)	Footage (ft)	ROP (ft/hr)	Hours cum (hr)	Footage cum. (ft)	ROP cum. (ft/hr)
15,118.00	30.0/30.0	0	285.0	5,100.00	104.78	2.05	17.42	4.50	130.00	28.9	41.50	2,917.00	70.3
15,168.00	30.0/30.0	0	285.0	5,100.00	104.78	2.05	17.42	1.50	50.00	33.3	43.00	2,967.00	69.0
15,297.00	25.0/25.0	70	288.0	5,780.00	107.00	1.85	17.98	2.00	129.00	64.5	45.00	3,096.00	68.8
15,387.00	17.0/17.0	0	288.0	5,400.00	107.00	1.98	17.98	2.50	90.00	36.0	47.50	3,186.00	67.1
15,505.00	26.0/26.0	70	288.0	6,200.00	107.00	1.73	17.98	1.50	118.00	78.7	49.00	3,304.00	67.4
15,531.00	24.0/24.0	0	288.0	5,450.00	107.00	1.96	17.98	1.50	26.00	17.3	50.50	3,330.00	65.9
15,743.00	25.0/25.0	70	288.0	6,100.00	107.00	1.75	17.98	2.50	212.00	84.8	53.00	3,542.00	66.8
15,926.00	25.0/25.0	70	288.0	6,100.00	107.00	1.75	17.98	1.50	183.00	122.0	54.50	3,725.00	68.3
16,013.00	25.0/25.0	70	288.0	6,100.00	107.00	1.75	17.98	0.50	87.00	174.0	55.00	3,812.00	69.3

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
4" DRILL PIPE	360	11,309.32	4.000		3.340	XT-39			RIG
SHOCK SUB	1	10.93	5.000		2.000	XT-39			W1278617-1

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## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
64 JTS 4" DP	64	2,872.72	4.000		3.340	XT-39			RIG
AGITATOR	1	22.35	5.000		2.000	XT-39			W1857351-1 /W894011-2
38 JTS 4" DP	38	1,702.77	4.000		3.340	XT-39			RIG
CROSSOVER	1	2.70	4.800		2.630	XT-39			DR28568
FLOAT SUB	1	1.58	4.625		2.688	3 1/2 IF			NESFS4752 41
FILTER SUB	1	2.88	4.688		2.250	3 1/2 IF			DR20599
NMDC	1	30.12	4.540		2.688	3 1/2 IF			NESNM4755 61
475 GAP SUB	1	3.78	5.100			3 1/2 IF			VG475082P TS
475 CENTRALIZER COLLAR ASSY	1	8.34	5.110			3 1/2 IF			VC475054
475 LANDING SUB	1	3.43	5.080			3 1/2 IF			VL475046
475 X/O SUB	1	1.38	4.760			3 1/2 IF			VX475014
NMPC	1	13.95	4.688		2.688	3 1/2 IF			NESPC4754 036
5" PHX FBH MUD MOTOR 6/7 LOBE. STAGE 6.4. SET @ 1.75°	1	25.92	5.020			3 1/2 IF			24XH-51301 2-PTS
BIT #6 RUN #1 6.125" SMITH X516 (5X16'S) SN: JM9909	1	0.83	6.125	6.125		3 1/2 REG			JM9909

## Drillstring Details

Date/Time in		Date/Time out		BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
07/27/2017 20:00				6	128.19		DRILL 6.125" PRODUCTION SECTION
MD (ft)	SW Up (kip)	SW Down (kip)	SW Rotn (kip)	Drag (kip)	Tq On Btm (ft-lbf)	Tq Off Btm (ft-lbf)	Footage (ft)
15,118.00	214.0	115.00	0.00	214.00	0.0	0.0	130.00
15,168.00	214.0	115.00	0.00	214.00	0.0	0.0	50.00
15,297.00	226.0	140.00	162.00	64.00	12,000.0	8,000.0	129.00
15,387.00	226.0	109.00	0.00	226.00	0.0	0.0	90.00
15,505.00	226.0	109.00	162.00	64.00	14,800.0	8,500.0	118.00
15,531.00	226.0	109.00	0.00	226.00	0.0	0.0	26.00
15,743.00	226.0	109.00	162.00	64.00	14,800.0	8,500.0	212.00
15,926.00	225.0	109.00	163.00	62.00	14,800.0	8,500.0	183.00
16,013.00	225.0	109.00	163.00	62.00	14,800.0	8,500.0	87.00

## Remarks

DIESEL ON LOCATION: 11,347 GAL  
DIESEL DELIVERED: 0000 GAL  
DIESEL USED: 3,724 GAL  
LNG USED: 104.77 MSCF