

## EP WELLS DAILY OPERATIONS REPORT

Report 14

09/07/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 D 0904H
Wellbore	UNIVERSITY 19 D 0904H
WBS No/API No	30265147 / 4230133226.00

## Event Summary

Event Type	Drilling only	Event Start Date	06/19/2017	Days on Location	11.23
Objective	Drill - Wolfcamp B1 Shale	Original Spud Date	06/19/2017	Days Since Spud	10.82
Est. Days	21.00	Contractor	ENSIGN		
Work Unit	ENSIGN 775	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	BIM JOHNSON	Measured Depth(ft)	15,595.00
Engineer	BRANDON FOOTE	TVD(ft)	11,647.85
Other Supervisor	TANNER MANUEL	24 Hr Progress(ft)	1,981.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,799.10 / 2,771.10	Hole size(in)	6.125
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	7.000in@11,925.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@18,415.00ft
Actual cost to date/AFE	1,360,533/2,503,951.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.54	LOT/FIT EMW(ppg)	
Daily Cost	56,050	Lithology	
		Formation/MD Top	

## HSE Summary

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test	06/23/2017		PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	09/29/2015	709	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	1500
Safety Comments:							
NO HSE ISSUES							
MAN HRS: 271							

## HSE Drills

Drills/Tests	Date	Days Since Last		
Last Derrick Inspection	07/11/2017	58	JSA's/Toolbox Talks	13
Last BOP function test	06/28/2017	71	Days Since Last Drill	
Last BOP Test	07/19/2017			
Next BOP Test				

## Operations Summary

24 Hour Summary
ROTATE & SLIDE F/ 13614' - T/ 15595'.
Update Since Report Time
ROTATE & SLIDE F/ 15595' - T/ 15730'.
24 Hour Forecast
CONTINUE DRILLING LATERAL SECTION.

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	3.50	MNH1	DRL		13,961.00	0		ROTARY DRILL F/13614' T/13961' (347' @ 99 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 230 S/O 185 ROT 190 TORQUE: ON BTM 9K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 100 CG 1100
3:30	0.50	MNH1	DRL		13,991.00	0		SLIDE DRILL F/13961' T/13991' (30' @ 60 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 230 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 100 CG 1000
4:00	1.00	MNH1	DRL		14,047.00	0		ROTARY DRILL F/13991' T/14047' (56' @ 56 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 230 S/O 185 ROT 190 TORQUE: ON BTM 9K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 100 CG 1100
5:00	0.50	MNH1	DRL		14,067.00	0		SLIDE DRILL F/14047' T/14067' (20' @ 40 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 230 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 100 CG 1000
5:30	2.50	MNH1	DRL		14,331.00	0		ROTARY DRILL F/14067' T/14331' (264' @ 106 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 245 S/O 185 ROT 190 TORQUE: ON BTM 9K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 400 CG 2500
8:00	1.00	MNH1	DRL		14,381.00	0		SLIDE DRILL F/14331' T/14381' (50' @ 50 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 245 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 400 CG 1800
9:00	0.50	MNH1	DRL		14,426.00	0		ROTARY DRILL F/14381' T/14426' (45' @ 90 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 245 S/O 185 ROT 190 TORQUE: ON BTM 9K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 400 CG 1100
9:30	1.50	MNH1	DRL		14,469.00	0		SLIDE DRILL F/14426' T/14469' (43' @ 29 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 245 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 300 CG 2300
11:00	1.00	MNH1	DRL		14,520.00	0		ROTARY DRILL F/14469' T/14520' (51' @ 51 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 245 S/O 185 ROT 190 TORQUE: ON BTM 9K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 600 CG 900
12:00	0.50	MNH1	DRL		14,541.00	0		SLIDE DRILL F/14520' T/14541' (21' @ 42 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 245 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 400 CG 1600
12:30	6.00	MNH1	DRL		15,086.00	0		ROTARY DRILL F/14541' T/15086' (545' @ 91 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 245 S/O 185 ROT 190 TORQUE: ON BTM 10-11K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 600 CG 2800
18:30	0.50	MNH1	DRL		15,106.00	0		SLIDE DRILL F/15086' T/15106' (20' @ 40 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 245 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 600 CG 2800
19:00	4.00	MNH1	DRL		15,558.00	0		ROTARY DRILL F/15106 T/15558' (452' @ 113 FPH ) WOB: 30K RPM: SURF 80 MOTOR 243 BIT 323 PSI & FLOW: SPP 4900 GPM 304 DIFF 1000 STRING WT: P/U 245 S/O 185 ROT 190 TORQUE: ON BTM 10-11K OFF BTM 4K MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 600 CG 2800
23:00	1.00	MNH1	DRL		15,595.00	0		SLIDE DRILL F/15558' T/15595' (37' @ 37 FPH ) WOB: 30K RPM: SURF MOTOR 243 BIT 243 PSI & FLOW: SPP 4900 GPM 304 DIFF 900 STRING WT: P/U 245 S/O 185 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: .8 REV/GAL GAS: BG 500 CG 1900
<b>Total</b>	<b>24.00</b>							

## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
15,117.00	89.17	344.10	11,645.84	2,855.33	-1,120.92	3,053.48	2.08	PTW MWD+HDGM_2016

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MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
15,212.00	91.59	346.96	11,645.21	2,947.29	-1,144.65	3,148.43	3.94	PTW MWD+HDGM_2016
15,306.00	88.32	342.30	11,645.28	3,037.89	-1,169.56	3,242.38	6.06	PTW MWD+HDGM_2016
15,401.00	90.16	345.47	11,646.54	3,129.14	-1,195.92	3,337.36	3.86	PTW MWD+HDGM_2016
15,495.00	89.44	351.76	11,646.87	3,221.24	-1,214.46	3,431.01	6.74	PTW MWD+HDGM_2016

## Fluid Details

Mud type	Invermul	Oil/Water (%)	POM (cc)
MD (ft)		TS/HGS/LGS (%)	CaCl2 (%)
Mud Density (ppg)		Sand (%)	Caom/Clom (ppm)
Vis (s/qt)		Oil/Water Ratio (%)	ACT
PV/YP (cp/lbf/100ft²)			XS Lime(lbm/bbl)
Gels 10 s/m (lbf/100ft²)		LCM (lbm/bbl)	ES (Volts)
API/HTHP WL (cc/30min)		ECD (ppg)	R600/300 (°)
FC/HTHP FC (32nd")		H2S (gas unit)	R200/100 (°)
WPS (ppm)		KCl (%)	R6/3 (°)
FL temp. (°F)		Ditch Magnet in Last 24hrs/Cum. (gm)	

## 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
5	6.125	BAKER HUGHES	TD405FX			5271315	5x16	11,940.00		-----

## 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)

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
4" DP	360	11,340.83	4.000		3.340	XT-39			RIG
SHOCK SUB	1	11.15	5.000			XT-39			SHTLO500-0061
(78 JTS) DP	78	2,459.91	5.250		3.250	XT-39			RIG
AGITATOR 1.40 PLATE & SHOCK SUB	1	22.36	5.000			XT-39			W1665958-1
(53 JTS) DP	53	1,667.63	5.250		3.250	XT-39			RIG
CROSSOVER SUB	1	1.95	5.000		2.750	XT-39			DR18060
SCREEN SUB	1	3.98	4.880		2.750	3-1/2 IF			DR31955
FLOAT SUB	1	2.96	4.750		2.750	4-1/2 XH			NESFS475151
NON-MAG SLICK COLLAR	1	29.12	4.500		2.560	3-1/2 IF			NESNM475445
VELOCITY GAP SUB	1	3.79	5.125		3.250	3-1/2 IF			VG475120P TS
VELOCITY CENTRALIZER SUB	1	8.33	5.125		4.250	3-1/2 IF			VC475049
VELOCITY LANDING SUB	1	3.42	5.000		3.000	3-1/2 IF			VL475093
VELOCITY CROSSOVER	1	1.64	5.000		2.750	3-1/2 IF			X475112
SLICK PONY COLLAR	1	11.01	4.630		2.750	3-1/2 IF			DR31741
5" PHOENIX 24XMUD MOTOR, 6/7 LOBES. 6.4 STG. FIXED @	1	25.92	5.375			3-1/2 IF			24XH513010
BIT #5 RUN #1 BAKER TD405FX, SN: 5271315. 5x16's	1	1.00	6.125	6.125					5271315

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## Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
09/05/2017 15:30		5	126.63		DRILL 6.125" PRODUCTION SECTION

## PUMP/HYDRAULIC DATA

Pump No.	Type	Make/Model	Stroke (in)	Liner size (in)	Efficiency (%)	Pressure (psi)	SPM (spm)	Output (gpm)	Kill SPM/Pressure/Depth (spm/psi/ft)
1		GARDENER-DENVER / PZ-11-1600	11.00						
2		GARDENER-DENVER / PZ-11-1600	11.00						

## Remarks

FUEL ON LOCATION: 15688 GAL  
FUEL DELIVERED: GAL  
FUEL USED: 4876 GAL