

## EP WELLS DAILY OPERATIONS REPORT

Report 18

08/21/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1404H
Wellbore	UNIVERSITY 19 PW UNIT 1404H
WBS No/API No	30265150 / 4230133215.00

## Event Summary

Event Type	Drilling only	Event Start Date	06/16/2017	Days on Location	17.92
Objective	Drill - Wolfcamp B1 Shale	Original Spud Date	06/17/2017	Days Since Spud	15.58
Est. Days	22.00	Contractor	ENSIGN		
Work Unit	ENSIGN 775	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	STEVE SLOOP	Measured Depth(ft)	18,304.00
Engineer	BRANDON FOOTE	TVD(ft)	11,649.12
Other Supervisor	JOHNNIE BRASSELL	24 Hr Progress(ft)	397.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,800.10 / 2,772.10	Hole size(in)	6.125
THF Datum			
Daily NPT(hr/%)	17.00/70.83	Last Casing MD	7.000in@11,969.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	4.500in@21,085.00ft
Actual cost to date/AFE	1,667,315/2,770,860.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.60	LOT/FIT EMW(ppg)	
Daily Cost	55,557	Lithology	
		Formation/MD Top	

## HSE Summary

Last Incident	Date	Days	Last Incident	Date	Days	KPI's	
LWC RWC MTC FAC Last casing pressure test	06/19/2017		PSI NII HPI <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> <b>PS barrier bowtie review</b>	09/29/2015	692	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	0 10 16 1500
Safety Comments:	REVEIW OF PI&D AND EXPECTATIONS, 7 STEPS, UPDATED WIMMS						

## HSE Drills

Drills/Tests	Date	Days Since Last		
Last Derrick Inspection	08/21/2017	0	JSA's/Toolbox Talks	16
Last BOP function test	08/07/2017	14	Days Since Last Drill	2
Last BOP Test	08/28/2017			
Next BOP Test				

## Operations Summary

24 Hour Summary
DRLG F/ 17907' T/ 18287', C/O GASKET ON STAND PIPE, DRLG F/ 18287 T/ 18304', C/BU, TOH T/ 18050', BACK REAM T/ 16694', TOH T/ 6716', PULL ROT-HEAD INST TRIP NIP, TOH T/ 5274' L/D SHOCK SUB, TOH T/ 1793' L/D AGITATOR CONT T/ 103', L/D MOTOR & BIT, RIG SERVICE, M/U BHA #7, TIH T/ 1760', P/U AGITATOR CHECK PRESSURE DROP B/A 1600 / 2050 PSI, TIH T/ 5260'
Update Since Report Time
WASHING TO BOTTOM @ 15100'
24 Hour Forecast
COMPLETE TRIP, DRLG LATERAL SECTION AS PER PLAN EST TD +/- 21,085'

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	6.00	MNH1	DRL		18,287.00	0		ROTARY DRILL F/17907' T/18287' ( 380' @ 63 FPH) WOB: 25K RPM: SURF 100 MOTOR 402 BIT 502 PSI & FLOW: SPP 5600 GPM 270 DIFF 1200-1400 STRING WT: P/U 210 S/O 150 ROT 180 TORQUE: ON BTM 10-12K OFF BTM 5-8K MW: 13.4 PPG MOTOR: 0.00 REV/GAL GAS: BG 500 CG 3000
6:00	0.50	MNH1	SVC		18,287.00	0		C/O GASKET ON STAND PIPE IN SUBSTRUCTURE
6:30	0.50	MNH1	DRL		18,304.00	0		ROTARY DRILL F/18287' T/18304' ( 17' @ 34 FPH) WOB: 25K RPM: SURF 100 MOTOR 402 BIT 502 PSI & FLOW: SPP 5600 GPM 270 DIFF 1200-1400 STRING WT: P/U 210 S/O 150 ROT 180 TORQUE: ON BTM 10-12K OFF BTM 5-8K MW: 13.4 PPG MOTOR: 0.00 REV/GAL GAS: BG 500 CG 3000
7:00	2.00	MNH1	CDM		18,304.00	1		NPT-C/BU
9:00	0.50	MNH1	TOH		18,304.00	1		NPT- DOWN LINK MWD PUMP SLUG, TOH T/ 18050'
9:30	2.00	MNH1	TOH		18,304.00	1		NPT- BACK REAM & PUMP OUT OF HOLE T/ 16694'
11:30	5.50	MNH1	TOH		18,304.00	1		NPT- TOH T/ 6716'
17:00	0.50	MNH1	TOH		18,304.00	1		NPT- PULL ROT-HEAD INST TRIP NIP
17:30	0.50	MNH1	TOH		18,304.00	1		NPT- TOH T/ 5274' L/D SHOCK SUB
18:00	1.50	MNH1	TOH		18,304.00	1		NPT- TOH T/ 1793' L/D AGITATOR CONT T/ 103'
19:30	1.00	MNH1	BHA		18,304.00	1		NPT- L/D MOTOR & BIT(GRADE 1-2-DT-S-X-I-DL-PR)
20:30	0.50	MNH1	SVC		18,304.00	1		NPT- RIG SERVICE
21:00	0.50	MNH1	BHA		18,304.00	1		NPT- M/U BHA #7
21:30	0.50	MNH1	TIH		18,304.00	1		NPT- TIH T/ 1760'
22:00	0.50	MNH1	BHA		18,304.00	1		NPT- P/U AGITATOR CHECK PRESSURE DROP B/A 1600 / 2050 PSI
22:30	1.50	MNH1	TIH		18,304.00	1		NPT- TIH T/ 5260'
<b>Total</b>	<b>24.00</b>							

## 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
08/21/2017 07:00	SHELL	Directional (Motors/Tools)	18,304.00	CDM	EN	Mud Motor	0.00	0.00		OPEN
<b>Description:</b> C/BU. DOWN LINK MWD PUMP SLUG, TOH T/ 18050'. BACK REAM & PUMP OUT OF HOLE T/ 16694'. TOH T/ 6716'. PULL ROT-HEAD INST TRIP NIP. TOH T/ 5274' L/D SHOCK SUB. TOH T/ 1793' L/D AGITATOR CONT T/ 103'. L/D MOTOR & BIT(GRADE 1-2-DT-S-X-I-DL-PR). M/U BHA #7. TIH T/ 1760'. P/U AGITATOR CHECK PRESSURE DROP B/A 1600 / 2050 PSI. TIH T/ 5260'.						<b>Title:</b> TRIP DUE TO MOTOR PRESSURE SPIKES AND LOW P-RATE				
<b>Total</b>							<b>0.00</b>	<b>0.00</b>		

## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
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## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
17,856.00	89.64	162.18	11,647.10	-6,037.93	1,577.63	6,240.63	1.18	PTW MWD+HDGM_2016
17,951.00	89.84	162.68	11,647.53	-6,128.50	1,606.30	6,335.51	0.57	PTW MWD+HDGM_2016
18,045.00	89.53	164.13	11,648.05	-6,218.58	1,633.15	6,429.45	1.58	PTW MWD+HDGM_2016
18,139.00	89.82	166.02	11,648.58	-6,309.40	1,657.36	6,523.45	2.03	PTW MWD+HDGM_2016
18,234.00	89.81	166.77	11,648.89	-6,401.73	1,679.70	6,618.43	0.79	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/100ft <sup>2</sup> )			XS Lime(lbm/bbl)
Gels 10 s/m (lbf/100ft <sup>2</sup> )		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)	

## Gas Concentrations and Fluid Losses

Avg Connection Gas (gas unit)	Avg. trip gas (gas unit)	Losses Last 24 Hours/Cumulative...	
Max. connection gas (gas unit)	Max. trip gas (gas unit)	Surface Losses (bbl)	/0.00
Avg. background gas (gas unit)	Avg H2S Gas (gas unit)	Sub Surface Losses (bbl)	/0.00
Max. background gas (gas unit)	Max H2S Gas (gas unit)	Total Losses	0.00/0.00
		End vol. (bbl)	0.00

## Bulks Summary

Product	Quantity Onboard	Units	Daily Usage
Diesel	-10,364.00	GAL	0.00

## 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	BAKER HUGHES	DD405T			5272309	5x16	14,863.00	18,304.00	1-2- -S-X-I- -PR

## 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)
18,287.00	25.0/25.0	100	270.0	5,600.00	93.34	1.67	14.70	6.00	380.00	63.3	41.00	3,424.00	83.5
18,304.00	25.0/25.0	100	270.0	5,600.00	93.34	1.67	14.70	0.50	17.00	34.0	41.50	3,441.00	82.9

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
4" DP	414	13,035.19	4.000		3.340	XT-39			RIG
SHOCK SUB	1	11.14	5.000		2.750	XT-39			W1681970
(110 JTS) DRILL PIPE	110	3,469.93	5.000		3.250	XT-39			RIG
AGITATOR 1.4 PLATE & SHOCK SUB	1	22.24	5.000		2.750	XT-39			W1830287
(53 JTS) DRILL PIPE	53	1,667.63	5.000		3.250	XT-39			RIG
CROSSOVER SUB	1	1.95	5.000		2.750	XT-39			DR18060
FLOAT SUB	1	2.96	4.750		2.750	3-1/2 IF			NESFS4751 51

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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.
SCREEN SUB	1	3.98	4.875		2.750	3-1/2 IF			DR31955
NM SLICK COLLAR	1	29.12	4.500		2.560	3-1/2 IF			NESNM475445
GAP SUB	1	3.76	5.130			3-1/2 IF			VG4755094PTS
CENTRALIZER COLLAR	1	8.34	5.000			4.3 ACME			VC475012
LANDING SUB	1	3.43	5.130			4.3 ACME			VL475074
CROSSOVER	1	1.50	4.750		2.750	3-1/2 IF			VX475012
PONY SLICK COLLAR	1	11.01	4.630		2.750	3-1/2 IF			DR31741
BAKER MUD MOTOR, LOBES: 4/5. STG: 10. FIXED @ 1.8°.	1	30.82	5.187			3-1/2 IF			12129898
BIT #6 RUN #1 BAKER DD405T, 5X16's. SN: 5272309	1	1.00	6.125	6.125					5272309

## Drillstring Details

Date/Time in	Date/Time out			BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
08/19/2017 01:30	08/21/2017 20:30			6	131.25		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)
18,287.00	210.0	150.00	180.00	30.00	12,000.0	8,000.0	380.00
18,304.00	210.0	150.00	180.00	30.00	12,000.0	8,000.0	17.00

## 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: 16112 GAL  
FUEL USED (RIG): 2120 GAL  
FUEL USED (PITS): 0 GAL  
FUEL DELIVERED: 0 GAL