

## EP WELLS DAILY OPERATIONS REPORT

Report 20

08/23/2017

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	19.92
Objective	Drill - Wolfcamp B1 Shale	Original Spud Date	06/17/2017	Days Since Spud	17.58
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)	21,101.00
Engineer	BRANDON FOOTE	TVD(ft)	11,611.78
Other Supervisor	JOHNNIE BRASSELL	24 Hr Progress(ft)	1,553.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,800.10 / 2,772.10	Hole size(in)	6.125
THF Datum			
Daily NPT(hr/%)	1.00/4.17	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	1,917,571/2,770,860.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.69	LOT/FIT EMW(ppg)	
Daily Cost	198,595	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	694	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	0 9 16 1500
Safety Comments:	JSA vs 7 STEPS, REVIEW OF STEP 1, IS A PLAN WHICH IS JSA.						

## Drills

Drill Category	Drill Type	Detection (sec)	Complete (sec)	Crew drilled	Pass / Fail	PIC	Comments
Well Control Crew	Pit	15.00	45.00	Night	Pass	J. BRASSELL	REVIEW, CREW

## HSE Drills

Drills/Tests	Date	Days Since Last		
Last Derrick Inspection	08/21/2017	2	JSA's/Toolbox Talks	17
Last BOP function test	08/07/2017	16	Days Since Last Drill	4
Last BOP Test	08/28/2017			
Next BOP Test				

## Operations Summary

24 Hour Summary
SLIDE & DRLG F/ 19548' T/ 19818', PUMP CLEAN UP CYCLE, SLIDE F/ 19818' T/ 19829', TOTAL RIG POWER LOSS DUE TO DAY TANK EMPTY, SLIDE & DRLG F/ 19829' T/ 21101'
Update Since Report Time
PUMPING CLEAN UP CYCLES, TD WELL @ 0030 21139', NOTE: TRRC CONTACTED @18:30 ON OUR INTENTIONS FOR 4.5 LINER & CMT JOBS OPER #5 DEE.

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## 24 Hour Forecast

PUMP CLEAN UP CYCLE, TOH, L/D BHA, R/U AND RUN 4.5 LINER, TIH

## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.50	MNH1	DRL		19,575.00	0		SLIDE DRILL F/19548' T/19575' ( 27' @ 18 FPH) WOB: 30-40K RPM: SURF 0 MOTOR 222 BIT 222 PSI & FLOW: SPP 5675 GPM 275 DIFF 100-200 STRING WT: P/U 265 S/O 150 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
1:30	3.00	MNH1	DRL		19,809.00	0		ROTARY DRILL F/19575' T/19809' ( 234' @ 78 FPH) WOB: 25K RPM: SURF 100 MOTOR 222 BIT 312 PSI & FLOW: SPP 5750 GPM 275 DIFF 800-1000 STRING WT: P/U 300 S/O 150 ROT 180 TORQUE: ON BTM 9-10K OFF BTM 5-8K MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
4:30	1.00	MNH1	DRL		19,818.00	0		SLIDE DRILL F/19809' T/19818' ( 9' @ 9 FPH) WOB: 30-40K RPM: SURF 0 MOTOR 222 BIT 222 PSI & FLOW: SPP 5675 GPM 275 DIFF 50-150 STRING WT: P/U 300 S/O 150 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
5:30	1.50	MNH1	CDM		19,818.00	0		PUMP CLEAN UP CYCLE
7:00	1.50	MNH1	DRL		19,829.00	0		SLIDE DRILL F/19818' T/19829' ( 9' @ 9 FPH) WOB: 30-40K RPM: SURF 0 MOTOR 222 BIT 222 PSI & FLOW: SPP 5675 GPM 275 DIFF 50-150 STRING WT: P/U 300 S/O 150 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
8:30	1.00	MNH1	NOA		19,829.00	1		NPT- ENSIGN, WHILE TRANSFERING FUEL TO MUD PITS FOR SWEEPS CAUSED A DROP IN DAY TANK LEVEL, WHICH CAUSED ENGINES TO SHUT DOWN, REFILL DAY TANK START MOTORS BACK UP.
9:30	2.50	MNH1	DRL		19,873.00	0		SLIDE DRILL F/19829' T/19873' ( 44' @ 17 FPH) WOB: 35K RPM: SURF 0 MOTOR 222 BIT 222 PSI & FLOW: SPP 5700 GPM 275 DIFF 100-150 STRING WT: P/U 300 S/O 150 ROT TORQUE: ON BTM OFF BTM MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
12:00	12.00	MNH1	DRL		21,101.00	0		ROTARY DRILL F/19873' T/ 21101' ( 1228' @ 102 FPH) WOB: 25K RPM: SURF 100 MOTOR 222 BIT 312 PSI & FLOW: SPP 5750 GPM 275 DIFF 800-1000 STRING WT: P/U 300 S/O 150 ROT 180 TORQUE: ON BTM 9-10K OFF BTM 5-8K MW: 13.4 PPG MOTOR: 0.81 REV/GAL GAS: BG 500 CG 3000
<b>Total</b>	<b>24.00</b>							

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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
08/23/2017 08:30	ENSIGN UNITED STATES DRILLING INC	Rig/Work Unit Misc	19,829.00	NOA	N			1.00	1	OPEN
Description: FUEL SUPPLY LOST TO EQUIPMENT						Title: ENGINE SHUT DOWN				
Total								1.00		

## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
20,785.00	92.61	158.59	11,628.03	-8,827.26	2,456.04	9,162.49	1.29	PTW MWD+HDGM_2016
20,880.00	93.09	158.33	11,623.30	-8,915.51	2,490.88	9,256.90	0.57	PTW MWD+HDGM_2016
20,974.00	93.07	158.79	11,618.25	-9,002.88	2,525.19	9,350.30	0.49	PTW MWD+HDGM_2016
21,068.00	92.98	157.79	11,613.29	-9,090.09	2,559.91	9,443.67	1.07	PTW MWD+HDGM_2016
21,091.00	92.43	158.08	11,612.20	-9,111.38	2,568.54	9,466.50	2.70	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)		LCM (lbm/bbl)	XS Lime(lbm/bbl)
Gels 10 s/m (lbf/100ft²)		ECD (ppg)	ES (Volts)
API/HTHP WL (cc/30min)		H2S (gas unit)	R600/300 (°)
FC/HTHP FC (32nd")		KCl (%)	R200/100 (°)
WPS (ppm)			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	-13,905.00	GAL	2,351.00

## 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
7	6.125	BAKER HUGHES	DD405T			5272302	5x16	18,304.00		-----

## 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	503	15,838.29	4.000		3.340	XT-39			RIG

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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.
SHOCK SUB	1	11.14	5.000		2.750	XT-39			1522746
(110 JTS) DRILL PIPE	110	3,469.93	5.000		3.250	XT-39			RIG
AGITATOR 1.4 PLATE	1	21.45	5.000		2.750	XT-39			W1748799
(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
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			NESNM4754 45
GAP SUB	1	3.76	5.130			3-1/2 IF			VG4755094 PTS
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
PHOENIX 24X MUD MOTOR, LOBES: 6/7. STG: 6.4. FIXED @	1	25.51	5.375			3-1/2 IF			24XH-51302 2-PTS
BIT #7 RUN #1 BAKER DD405T, 5X16's. SN: 5272302	1	1.00	6.125	6.125					5272302

## Drillstring Details

Date/Time in	Date/Time out	BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
08/21/2017 20:30		7	125.15		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: 19292 GAL  
FUEL USED (RIG): 3378 GAL  
FUEL USED (PITS): 2351 GAL  
FUEL DELIVERED: 7001 GAL