

## EP WELLS DAILY OPERATIONS REPORT

Report 4

08/12/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1804H
Wellbore	UNIVERSITY 19 PW UNIT 1804H
WBS No/API No	30267993 / 4230133264.00

## Event Summary

Event Type	Drilling only	Event Start Date	08/09/2017	Days on Location	4.00
Objective	Drill - New Well	Original Spud Date	08/10/2017	Days Since Spud	2.81
Est. Days	3.00	Contractor	PRECISION		
Work Unit	PRECISION 826	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	TREY HARGETT	Measured Depth(ft)	4,965.00
Engineer	JESSICA TRAVELER	TVD(ft)	4,952.20
Other Supervisor	DALY MOSBROKER	24 Hr Progress(ft)	659.00
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,778.90 / 2,762.90	Hole size(in)	12.250
THF Datum			
Daily NPT(hr/%)	2.50/10.42	Last Casing MD	20.000in@136.00ft
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	9.625in@4,500.00ft
Actual cost to date/AFE	106,467/371,955.00	Current MW / BH EMW(ppg)	9.90/
Actual divided by AFE	0.29	LOT/FIT EMW(ppg)	
Daily Cost	49,833	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>	04/04/2017	130	TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	

## Safety Comments:

GOAL ZERO DAYS: 132  
 DAYS SINCE LAST LTI: 132  
 DAYS SINCE LAST HIPO: 105  
 DAYS SINCE LAST MTC: 132  
 MAN HOURS: 371

## HSE Drills

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill	
Last Derrick Inspection Last BOP function test Last BOP Test Next BOP Test			3	

## Operations Summary

24 Hour Summary
DRILL TO 4381', RIG SERVICE, DRILL TO 4913', RIG SERVICE, DRILL TO TD AT 4965', CLEAN HOLE, TRIP OUT F/ 4965' TO 4837', REPAIR DP SLIPS, TRIP OUT HOLE, LD BHA, RD CONDUCTOR/FLOW LINE, RU AND RUN 9-5/8" CASING TO 988'
Update Since Report Time
0000 TO 0430 RUN CASING F/ 988' TO 2741' (L/D 3 Joints from bad MU)
24 Hour Forecast
RUN 9-5/8" CASING, LAND OUT, INSTALL CLAMP, RU CEMENT HEAD, RELEASE RIG, CEMENT OFF LINE.

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.00	SRF1	DRL		4,381.00	0		** REDUCED RATE** MP #2 DOWN ROTARY DRILLING / SLIDING F/ 4306' T/ 4381', (75' FOOTAGE @ 75 FPH) WOB: 45 -50 K RPM: SURFACE 85 MOTOR 83 BIT 168 PSI & FLOW: SPP 1770 GPM 500 TORQUE: ON BOTTOM 17- 23K OFF BOTTOM 7 - 8K STRING WEIGHT: UP 190K DOWN 148K ROTATING 165K MW: 9.9 PPG MOTOR REVS/GAL: .166
1:00	0.50	SRF1	SVC		4,381.00	0		RIG SERVICE
1:30	3.00	SRF1	DRL		4,573.00	0		ROTARY DRILLING / SLIDING F/ 4381' T/ 4573', (192' FOOTAGE @ 64 FPH) WOB: 45 -50 K RPM: SURFACE 85 MOTOR 146 BIT 231 PSI & FLOW: SPP 3728 GPM 880 TORQUE: ON BOTTOM 17- 19K OFF BOTTOM 7 - 8K STRING WEIGHT: UP 182K DOWN 158K ROTATING 171K MW: 9.9 PPG MOTOR REVS/GAL: .166
4:30	1.00	SRF1	CDM		4,573.00	1		CIRC SLOW WHILE REPAIR AXIS RENTAL TRANSFER PUMPS
5:30	0.50	SRF1	DRL		4,578.00	0		ROTARY DRILLING / SLIDING F/ 4573' T/ 4578', (5' FOOTAGE @ 10 FPH) SLIDING WOB: 45 -50 K RPM: SURFACE 85 MOTOR 146 BIT 231 PSI & FLOW: SPP 3728 GPM 880 TORQUE: ON BOTTOM 17- 19K OFF BOTTOM 7 - 8K STRING WEIGHT: UP 182K DOWN 158K ROTATING 171K MW: 9.9 PPG MOTOR REVS/GAL: .166
6:00	3.00	SRF1	DRL		4,913.00	0		ROTARY DRILLING / SLIDING F/ 4578' T/ 4913', (335' FOOTAGE @ 112 FPH) WOB: 45 -50 K RPM: SURFACE 85 MOTOR 146 BIT 231 PSI & FLOW: SPP 3728 GPM 880 TORQUE: ON BOTTOM 17- 19K OFF BOTTOM 7 - 8K STRING WEIGHT: UP 182K DOWN 158K ROTATING 171K MW: 9.9 PPG MOTOR REVS/GAL: .166
9:00	0.50	SRF1	SVC		4,913.00	0		RIG SERVICE
9:30	1.00	SRF1	DRL		4,965.00	0		ROTARY DRILLING / SLIDING F/ 4913' T/ TD @ 4965', (52' FOOTAGE @ 52 FPH) WOB: 45 -50 K RPM: SURFACE 85 MOTOR 150 BIT 235 PSI & FLOW: SPP 3350 GPM 900 TORQUE: ON BOTTOM 17- 19K OFF BOTTOM 7 - 8K STRING WEIGHT: UP 202K DOWN 158K ROTATING 171K MW: 9.9 PPG MOTOR REVS/GAL: .166
10:30	0.50	SRF1	CBU		4,965.00	0		CIRC HOLE CLEAN, PUMP CALIPER SWEEPS, CALCULATED WASH OUT AT 127.5 BBLs
11:00	0.50	SRF1	TOH		4,965.00	0		TRIP OUT HOLE F/ 4965' TO 4837'
11:30	1.50	SRF1	TOH		4,965.00	1		DOWN TIME, REPAIR 5" DP SLIPS
13:00	5.00	SRF1	TOH		4,965.00	0		TRIP OUT HOLE F/ 4837' TO 706'
18:00	0.50	SRF1	TOH		4,965.00	0		PULL OUT HOLE W/ (12) 5" HWDP
18:30	0.50	SRF1	TOH		4,965.00	0		REMOVE ROTATING HEAD RUBBER
19:00	0.50	SRF1	TOH		4,965.00	0		PULL OUT HOLE W/ (12) 7" DC's

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
19:30	1.50	SRF1	TOH		4,965.00	0		LD BHA-DIRECTIONAL TOOLS, MUD MOTOR AND BIT  12-1/4" BAKER HUGHES, T606FX, SER# 7163140, TFA 1.49, IN HOLE AT 140', OUT 4965', DRILL 4825 ft/ 45 HRS BIT GRADE 1 / 3 / CT / S / X / 0 / CT / TD
21:00	0.50	SRF1	TOH		4,965.00	0		CLEAN AND CLEAR RIG FLOOR
21:30	0.00	SRF1	RIC		4,965.00	0		ND CONDUCTOR/FLOW LINE, RU AXIS CELLAR PUMPS, PUMP OUT CELLAR, REMOVE 4" BALL VALVES
21:30	2.50	SRF1	CLR		4,965.00	0		MU 2 JOINT SHOE TRACK, RUN 9-5/8" CASING TO 988' (22 JOINTS)
<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
08/12/2017 04:30	AXIS OILFIELD RENTALS LLC	Rig/Work Unit Misc	4,573.00	CDM	N		1.00	1.00		OPEN
<b>Description:</b> REPAIR AXIS RENTAL TRANSFER PUMPS						<b>Title:</b> REPAIR AXIS RENTAL TRANSFER PUMPS				
08/12/2017 11:30	PRECISION DRILLING COMPANY LP	Rig/Work Unit Misc	4,965.00	TOH	N		1.50	1.50		OPEN
<b>Description:</b> REPAIR 5" DP SLIPS						<b>Title:</b> REPAIR 5" DP SLIPS				
<b>Total</b>							<b>2.50</b>	<b>2.50</b>		

## Deepest 5 Surveys

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V.Sec (ft)	DLeg (°/100ft)	Tool
16.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	PTW MWD+HDGM+AXIAL_2016
177.00	1.19	200.24	176.99	-1.57	-0.58	-1.58	0.74	PTW MWD+HDGM+AXIAL_2016
271.00	1.10	180.71	270.97	-3.39	-0.93	-3.41	0.42	PTW MWD+HDGM+AXIAL_2016
364.00	1.57	344.28	363.96	-3.05	-1.28	-3.09	2.84	PTW MWD+HDGM+AXIAL_2016
457.00	4.29	357.21	456.83	1.65	-1.80	1.60	2.99	PTW MWD+HDGM+AXIAL_2016

## Fluid Details

Mud type	NaCl Brine	Oil/Water (%)	pH/Pm (cc)	9.00/0.20
MD (ft)	4,965.00	TS/HGS/LGS (%)	Pf/Mf (cc)	0.20/0.25
Mud Density (ppg)	9.90	Sand (%)	Ca+ (ppm)	175,000
Vis (s/qt)	30.00		Cl- (ppm)	
PV/YP (cp/lbf/100ft²)	1.00/3.000	MBT (lbm/bbl)		
Gels 10 s/m (lbf/100ft²)	1.000/1.000	LCM (lbm/bbl)		
API/HTHP WL (cc/30min)	100.0/	ECD (ppg)	9.900	R600/300 (°)
FC/HTHP FC (32nd")		H2S (gas unit)		R200/100 (°)
		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
1	12.250	BAKER OIL TOOL	T606FX			7163140	6x18	136.00		1-3-CT-S-X-I-CT-TD

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## 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)
4,381.00	45.0/50.0	85	500.0	1,770.00	102.53	5.79	29.90	1.00	75.00	75.0	43.50	4,195.00	96.4
4,573.00	45.0/50.0	85	880.0	3,728.00	317.60	8.52	163.03	3.00	192.00	64.0	46.50	4,387.00	94.3
4,578.00	45.0/50.0	85	880.0	3,728.00	317.60	8.52	163.03	0.50	5.00	10.0	47.00	4,392.00	93.4
4,913.00	45.0/50.0	85	880.0	3,728.00	317.60	8.52	163.03	3.00	335.00	111.7	50.00	4,727.00	94.5
4,965.00	45.0/50.0	85	900.0	3,350.00	332.20	9.92	174.40	1.00	52.00	52.0	51.00	4,779.00	93.7

## Drillstring Components

Item description	# Jts	Length (ft)	OD (in)	Max OD (in)	ID (in)	Connection Name	Weight (ppf)	Grade	Serial no.
5" DP	1	4,102.91	5.000		4.276	4 1/2 IF			RIG
12 JTS HWDP	12	375.59	5.000		2.650	4 1/2 IF			RIG
12 JTS DC	12	372.38	7.000		2.650	4 1/2 IF			RIG
X/O SUB	1	2.36	8.010		2.840	6 5/8 REG			DR18158
FILTER SUB	1	4.01	8.030		3.260	6 5/8 REG			DR34930
8" SHOCK SUB	1	11.46	7.980		2.810	6 5/8 REG			SD900380
SLICK COLLAR NM	1	29.95	8.070		3.240	6 5/8 REG			SL800032
SLICK COLLAR NM	1	29.47	7.890		3.270	6 5/8 REG			NESNM8000 26
MULESHOE SUB	1	2.73	7.960		2.850	6 5/8 REG			0030
STABILIZER	1	5.35	7.950		3.260	6 5/8 REG			DR28815
Mud Motor 775 NOV 24X 7/8 4.0 1.5 ABH	1	27.29	7.940			6 5/8 REG			24X-775432-PTS
RUN #1 BIT #1 12.25" BAKER T606FX (6X18's) SN: 7163140	1	1.50	12.250	12.250		6 5/8 REG			7163140

## Drillstring Details

Date/Time in	Date/Time out			BHA no.	BHA Length (ft)	Min. ID (in)	Purpose
08/10/2017 02:00				1	862.09		DRILL 12.25" SURFACE HOLE
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)
4,381.00	190.0	148.00	165.00	25.00	23,000.0	8,000.0	75.00
4,573.00	182.0	158.00	171.00	11.00	19,000.0	8,000.0	192.00
4,578.00	182.0	158.00	171.00	11.00	19,000.0	8,000.0	5.00
4,913.00	182.0	158.00	171.00	11.00	19,000.0	8,000.0	335.00
4,965.00	202.0	158.00	171.00	31.00	19,000.0	8,000.0	52.00

## 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		BPMMP / BSF-1000 TRIPLEX	12.00						
2		BPMMP / BSF-1000 TRIPLEX	12.00						

## Remarks

FUEL ON LOCATION: 5,264 GAL  
FUEL USED LAST 24: 1974 GAL  
FUEL DELIVERED: 0 GAL