

## EP WELLS DAILY OPERATIONS REPORT

Report 13

11/16/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1404H
Wellbore	UNIVERSITY 19 PW UNIT 1404H
WBS No/API No	30266568 / 4230133215.00

## Event Summary

Event Type	Completion only	Event Start Date	10/31/2017	Days on Location	13.00
Objective	Install Completion	Original Spud Date	06/17/2017		
Est. Days	65.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	John Bevans	Measured Depth(ft)	
Engineer	Bobby Ramos	TVD(ft)	
Other Supervisor	WW Horton	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,800.10 / 2,772.10	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	0/0	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,655,989/5,029,301.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.33	LOT/FIT EMW(ppg)	
Daily Cost	170,163	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>			TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	
Safety Comments:							
14 JSA's							
8 safework permits							
88 EE's							

## HSE Drills

Drills/Tests	Date	Days Since Last		
Last Derrick Inspection			JSA's/Toolbox Talks	14
Last BOP function test			Days Since Last Drill	12
Last BOP Test				
Next BOP Test				

## Operations Summary

24 Hour Summary
Perf and frac 18, 19
Update Since Report Time
Wait on adj, well operations.
24 Hour Forecast
Continue perf and fra operations.

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.25	FRAC	WLT			0		Shut in well break lubricator and hand over to frac.
0:15	2.83	FRAC	WLT			0		Perf.f stge 19 1626 Handover from frac to WL. 1215 Pick up lubricator. Remove night cap. PU tools. 1235 Stab lubricator. Fill lubricator. 1245 PT lubricator to 8000psi 1250 Open well with 4500psi. 145 "Stage #19 Plug and Perf RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Boss Hog composite ball-drop frac plug. Tie into liner top @10996'. Pump down as follows: 3bpm @ 4555psi11500 6bpm @ 4884psi11700 9bpm @ 5221psi11800 10bpm @ 6064psi12500 bpm @ psi 10bpm @ 5757psi  Set plug @ 17759ft Perforate as follows: 17734' - 17735' 17689' - 17690' 17644' - 17645' 17599' - 17600' Stabilized pressure after perf: 4550psi Pump down volume: 125bbl" 2114 POOH 0 Shut in well with 4400psi. Bleed off. 16 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. 20 Handover from WL to frac.
3:05	1.67	FRAC	WLT			0		Prime up ,pressure test lines, had leak repaired and retest.
4:45	1.88	FRAC	FRT			0		Stage 19 Summary University 19 PW Unit 1404H Interval 17599 - 17735 Open Well Pressure 4,246 psi Max Treating Pressure 9,186 psi Max Slurry Rate 53.0 bpm Average Treating Pressure 8,471 psi Average Slurry Rate 40.6 bpm Breakdown Pressure 7,354 psi Breakdown Rate 7.0 bpm Breakdown Volume 462 gal Avg HHP 8,429 hp Final ISIP 5,096 psi Frac Gradient 0.871 psi/ft Pad Volume 1,050 gal Main Body Volume 156,702 gal Flush Volume 27,846 gal 100 MAZ Sand Pumped 279,400 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 140,880 lbs Proppant in Formation 420,280 lbs Avg Proppant Concentration 3.46 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,856 bbls Load to Recover w/o Acid 3,856 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,651 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 125 bbls pump down rate 10.0 bpm Max pump down pressure 6,752 psi Fluid Temp 72.0 ?F Total Pump Time 1:50 hr:min

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pumps Lost During Job 0 Treatment Start Time 4:48 0:00 0:00 Treatment End Time 6:38 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA, then a 3.50 PPA and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug.  Time for Prop on Perfs 18.0 minutes Time between Stages (TBF) 2:18 Hours/min
6:38	0.37	FRAC	FWL			0		Shut in well w/ 4236 psi. Handover from Frac to WL. Wait on other pad ops.
7:00	0.20	FRAC	FWL			0		Remove night cap. PU tools. Stab lubricator. Fill lubricator.
7:12	0.05	FRAC	FWL			0		Pressure test lubricator to 8000 psi. Good test
7:15	0.85	FRAC	WLT			0		WL Start perf University 1404H Stage 20 Tie into liner top at 10966 ft Initial WHP 4650 psi  Pumpdown Pressures 3bpm 4700 6bpm 4900 psi 9bpm 5200 psi 9bpm 5300 psi 9bpm psi  Max Pressure 5400 psi Total Fluid to recover 111 bbls  Plug set @ 17579 ft Boss Hog Composite Frac Plug/ Ball in place plug Plug OD 3.65 in Pre-set Tension 2200 lbs Post-set Tension 1755 lbs  Pre-Perf Pressure 5000 psi  Perforation Summary: (4 count) 1' Keane Guns: 2.75" OD HSC at 6 spf @ 60 deg phasing  17554' - 17555' 6 shots 17509' - 17510' 6 shots 17464' - 17465' 6 shots 17419' - 17420' 6 shots  Post-Perf Pressure 4800 psi WL POOH 8:06
8:06	0.83	FRAC	WLF			0		POOH with Wireline.
8:56	0.22	FRAC	WLF			0		Bump up. Grease valve. Shut in well with 4550 psi. Bleed off. Break lubricator. All shots fired. MU night cap. Secure crown and wing valves. Rehead wireline
9:09	0.48	FRAC	WLF			0		Handover from WL to frac. Wait on other pad ops.
9:38	1.85	FRAC	WLF			0		Stage 20 Summary University 19 PW Unit 1404H Interval 17419 - 17555 Open Well Pressure 4,340 psi Max Treating Pressure 9,380 psi Max Slurry Rate 46.4 bpm Average Treating Pressure 8,553 psi Average Slurry Rate 41.1 bpm Breakdown Pressure 8,104 psi Breakdown Rate 10.2 bpm

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Breakdown Volume 336 gal Avg HHP 8,616 hp Final ISIP 5,209 psi Frac Gradient 0.881 psi/ft Pad Volume 1,092 gal Main Body Volume 161,364 gal Flush Volume 27,678 gal 100 MAZ Sand Pumped 132,420 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 288,300 lbs Proppant in Formation 420,720 lbs Avg Proppant Concentration 3.34 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,953 bbls Load to Recover w/o Acid 3,953 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,762 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 111 bbls pump down rate 9.0 bpm Max pump down pressure 5,500 psi Fluid Temp 72.0 ?F Total Pump Time 1:52 hr:min Pumps Lost During Job 0 Treatment Start Time 9:38 0:00 0:00 Treatment End Time 11:30 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA, then a 3.5 PPA step and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug.  Time for Prop on Perfs 15.0 minutes Time between Stages (TBF) 0:48 Hours/min
11:29	0.32	FRAC	FWL			0		Shut in well w/ 5089 psi. Handover from Frac to WL. Wait on other pad ops.
11:48	0.73	FRAC	FWL			0		Remove night cap. PU tools. Stab lubricator. Fill lubricator.
12:32	0.12	FRAC	FWL			0		Pressure test lubricator to 8000 psi. Good test
12:39	0.83	FRAC	WLT			0		WL Start perf University 1404H Stage 21 Tie into liner top at 10966 ft Initial WHP 4550 psi  Pumpdown Pressures 3bpm 4400 6bpm 4700 psi 9bpm 5000 psi 9bpm 5400 psi 9bpm psi  Max Pressure 5600 psi Total Fluid to recover 109 bbls  Plug set @ 17394 Plus 5' Boss Hog Composite Frac Plug/ Ball in place plug Plug OD 3.65 in Pre-set Tension 2080 lbs Post-set Tension 1668 lbs  Pre-Perf Pressure 4800 psi  Perforation Summary: (4 count) 1' Keane Guns: 2.75" OD HSC at 6 spf @ 60 deg phasing

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								17374' - 17375' 6 shots 17329' - 17330' 6 shots 17284' - 17285' 6 shots 17239' - 17240' 6 shots  Post-Perf Pressure 4815 psi WL POOH 13:29
13:29	4.52	FRAC	WLT			0		Pooh with wireline to surface & standby for other pad ops. Safety meeting, go over jsa's and permits, discuss 12 LSR's, L&H, ERP's, good communication and LFI, UNCAAP(7 steps) and expectations.
18:00	2.00	FRAC	WLT			0		Wait on adjacent well operations., pull to surface and laydown wireline and wait on adjacent well operations
20:00	4.00	FRAC	WLT			0		Wait on adjacent well operations.
<b>Total</b>	<b>24.00</b>							

## 06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00		FRAC	WLT			0	Wait on adjacent well operations.