

## EP WELLS DAILY OPERATIONS REPORT

Report 17

10/25/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1406H
Wellbore	UNIVERSITY 19 PW UNIT 1406H
WBS No/API No	30266570 / 4230133213.00

## Event Summary

Event Type	Completion only	Event Start Date	09/03/2017	Days on Location	17.00
Objective	Install Completion	Original Spud Date	04/30/2017		
Est. Days	31.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	Tommy Hurdle	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	Tine Grega	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,793.00 / 2,767.00	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	1,131,079/4,377,702.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.26	LOT/FIT EMW(ppg)	
Daily Cost	16,364	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:							

## HSE Drills

Drills/Tests	Date	Days Since Last		
Last Derrick Inspection Last BOP function test Last BOP Test Next BOP Test			JSA's/Toolbox Talks Days Since Last Drill	16

## Operations Summary

24 Hour Summary
Frac Stages - WL Stages -
Update Since Report Time
24 Hour Forecast
Continue Frac Ops

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	12.58	FRAC	OPO			0		Other Pad Ops. Look at 0908H report for CT status.
12:25	0.13	FRAC	OPO			0		Prime up and equalize. Open well 3974 psi.
12:33	1.58	FRAC	FRT			0		<p>Stage 14 Summary University 19 PW Unit 1406H Interval 17086 - 17220</p> <p>Open Well Pressure 3,974 psi Max Treating Pressure 9,495 psi Max Slurry Rate 52.7 bpm Average Treating Pressure 8,937 psi Average Slurry Rate 43.5 bpm Breakdown Pressure 8,351 psi Breakdown Rate 14.7 bpm Breakdown Volume 630 gal Avg HHP 9,528 hp Final ISIP 5,230 psi Frac Gradient 0.880 psi/ft Pad Volume 462 gal Main Body Volume 153,258 gal Flush Volume 27,594 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 420,240 lbs Proppant in Formation 420,240 lbs Avg Proppant Concentration 3.52 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,757 bbls Load to Recover w/o Acid 3,757 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,569 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 108 bbls pump down rate 10.0 bpm Max pump down pressure 6,457 psi Fluid Temp 72.0 ?F Total Pump Time 1:35 hr:min Pumps Lost During Job 0 Treatment Start Time 12:33 0:00 0:00 Treatment End Time 14:08 0:00 1:35 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.0 PPA, then a step of 4.0 PPA - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run 15% HCl this stage - Ran ball in place plug</p> <p>Time for Prop on Perfs 16.0 minutes Time between Stages (TBF) 2days, 3:44 Hours/min</p>
14:08	0.08	FRAC	FWL			0		SIW @ 5102 psi. Bleed off pressure and HO to WL. Held pause to discuss AAR on frac stage.
14:13	0.37	FRAC	FWL			0		Other Pad Ops
14:35	0.33	FRAC	FWL			0		<p>Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4720 psi. RIH to 200' conduct checks.</p>
14:55	0.92	FRAC	WLT			0		<p>"Stage #15 Plug and Perf RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Downhole Technology Boss Hog composite frac plug. Tie into liner top @11069. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 4500psi @11600 6bpm @ 4800psi @11700 10bpm @ 5400psi @11800 10bpm w/ 6677psi</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Set plug @ 17066ft Perforate as follows: 17042' - 17043' 16998' - 16999' 16954' - 16955' 16910' - 16911' Stabilized pressure after perf: 5525psi Pump down volume: 94bbl"
15:50	1.00	FRAC	WLT			0		POOH. Held pause at 1000' from surface. Discussed coming off the well.
16:50	0.33	FRAC	WLF			0		Bump up and SIW @ 4510 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Greased UMW & Wing valve - grease time 10 min. HO to Frac
17:10	0.75	FRAC	WLF			0		Other Pad Ops  1730 - Held Pre-Tower Safety Meeting. Covered focus areas - SSE, Barrier Ownership, Hands Free and DROPS. After pre-tower crews held respective TBT for their areas. Then conducted their handovers.
17:55	0.08	FRAC	FRP			0		Prime up and equalize. Open well @ 4700 psi.
18:00	1.98	FRAC	FRT			0		Stage 15 Summary University 19 PW Unit 1406H Interval 16910 - 17043 Open Well Pressure 4,692 psi Max Treating Pressure 9,435 psi Max Slurry Rate 49.4 bpm Average Treating Pressure 8,970 psi Average Slurry Rate 38.3 bpm Breakdown Pressure 7,857 psi Breakdown Rate 6.3 bpm Breakdown Volume 265 gal Avg HHP 8,420 hp Final ISIP 5,141 psi Frac Gradient 0.872 psi/ft Pad Volume 1,848 gal Main Body Volume 163,031 gal Flush Volume 27,426 gal 100 MAZ Sand Pumped 420,260 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 0 lbs Proppant in Formation 420,260 lbs Avg Proppant Concentration #VALUE! lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,976 bbls Load to Recover w/o Acid 3,976 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,802 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 94 bbls pump down rate 10.0 bpm Max pump down pressure 6,677 psi Fluid Temp 72.0 ?F Total Pump Time 1:55 hr:min Pumps Lost During Job 0 Treatment Start Time 18:04 0:00 0:00 Treatment End Time 19:59 0:00 1:55 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.0 PPA, then a 3.0 PPA step. - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run 15% HCl this stage - Ran ball in place plug

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
19:59	0.22	FRAC	FRT			0		SIW @ 5141 psi. Bleed off pressure and HO to WL. Held pause to discuss AAR on frac stage.
20:12	0.38	FRAC	FRT			0		Other Pad Ops
20:35	0.20	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4650 psi. RIH to 200' conduct checks.
20:47	1.47	FRAC	WLT			0		"Stage #16 Plug and Perf RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Downhole Technology Boss Hog composite frac plug. Tie into liner top @11069. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 4570psi @11600 6bpm @ 5080psi @11700 9bpm @ 5400psi @11800 9bpm w/ 5700psi  Set plug @ 16890ft Perforate as follows: 16866' - 16867' 16822' - 16823' 16778' - 16779' 16734' - 16735' Stabilized pressure after perf: 5069psi Pump down volume: 99bbl"
22:15	0.23	FRAC	WLT			0		POOH. Held pause at 1000' from surface. Discussed coming off the well.
22:29	0.17	FRAC	WLF			0		Bump up and SIW @ 4550 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Greased UMW & Wing valve - grease time 10 min. HO to Frac
22:39	0.02	FRAC	WLF			0		Wait on other pad operations
23:25		FRAC	WLF			0		Prime up and equalize. Open well @ 4700 psi.
<b>Total</b>	<b>22.83</b>							