

EP WELLS DAILY OPERATIONS REPORT

Report 18

10/26/2017

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	18.00
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	1,570,380/4,377,702.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.36	LOT/FIT EMW(ppg)	
Daily Cost	295,265	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 GOAL ZERO DAYS PS BARRIER EVENT PS barrier bowtie review			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	17

Operations Summary

24 Hour Summary
Daily Fracs = 16,17,18,19 Daily perms =17,18,19
Update Since Report Time
24 Hour Forecast
Continue zipper fracing

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.22	FRAC	FRT			0		Stage 16 Summary University 19 PW Unit 1406H Interval 16734 - 16867 Open Well Pressure 4,328 psi Max Treating Pressure 9,295 psi Max Slurry Rate 55.0 bpm Average Treating Pressure 8,781 psi Average Slurry Rate 45.5 bpm Breakdown Pressure 8,232 psi Breakdown Rate 13.7 bpm Breakdown Volume 307 gal Avg HHP 9,793 hp Final ISIP 5,206 psi Frac Gradient 0.878 psi/ft Pad Volume 378 gal Main Body Volume 154,615 gal Flush Volume 27,300 gal 100 M AZ Sand Pumped 146,340 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 274,220 lbs Proppant in Formation 420,560 lbs Avg Proppant Concentration 3.54 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,780 bbls Load to Recover w/o Acid 3,780 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,561 bbls 20# Linear Fluid Pumped 120 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 99 bbls pump down rate 9.0 bpm Max pump down pressure 5,700 psi Fluid Temp 72.0 ?F Total Pump Time 1:36 hr:min Pumps Lost During Job 0 Treatment Start Time 23:37 0:00 0:00 Treatment End Time 1:13 0:00 1:36 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.0 PPA, then a 4 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
1:13	0.38	FRAC	FRT			0		SIW @ 5008 psi. Bleed off pressure and HO to WL. Held pause to discuss AAR on frac stage.
1:36	0.10	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4750 psi. RIH to 200' conduct checks.
1:42	0.95	FRAC	WLT			0		"Stage #17 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 @ 4900psi @11700 9bpm @ 5000psi @11800 9bpm w/ 5400psi Set plug @ 16714ft Perforate as follows: 16690' - 16691' 16646' - 16647' 16602' - 16603' 16558' - 16559' Stabilized pressure after perf: 5180psi Pump down volume: 115bbl"

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2:39	0.60	FRAC	WLT			0		POOH. Held pause at 1000' from surface. Discussed coming off the well.
3:15	0.25	FRAC	WLT			0		Bump up and SIW @ 4850 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 hydra/wing valve - grease time 10 min. HO to Frac
3:30	2.50	FRAC	WLF			0		Laydown lube and re-head rope socket. Grease zipper manifold. Replace outrigger mats on crane.
6:00	0.30	FRAC	FRP			0		Prime and pressure test to 9500 psi - Test Good. Bleed down to equalize. Open well @ 4288 psi.
6:18	1.50	FRAC	FRT			0		<p>Stage 17 Summary University 19 PW Unit 1406H Interval 16558 - 16691</p> <p>Open Well Pressure 4,285 psi Max Treating Pressure 9,496 psi Max Slurry Rate 56.5 bpm Average Treating Pressure 9,005 psi Average Slurry Rate 46.3 bpm Breakdown Pressure 8,434 psi Breakdown Rate 8.8 bpm Breakdown Volume 336 gal Avg HHP 10,219 hp Final ISIP 5,603 psi Frac Gradient 0.912 psi/ft Pad Volume 1,554 gal Main Body Volume 153,048 gal Flush Volume 27,216 gal 100 MAZ Sand Pumped 14,000 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 408,420 lbs Proppant in Formation 422,420 lbs Avg Proppant Concentration 3.59 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,759 bbls Load to Recover w/o Acid 3,759 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,564 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 115 bbls pump down rate 9.0 bpm Max pump down pressure 5,400 psi Fluid Temp 72.0 ?F Total Pump Time 1:30 hr:min Pumps Lost During Job 0 Treatment Start Time 6:18 0:00 0:00 Treatment End Time 7:48 0:00 1:30 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.0 PPA, AND A 4.0 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</p> <p>Time for Prop on Perfs 21.0 minutes Time between Stages (TBF) 2:58 Hours/min</p>
7:48	0.08	FRAC	FWL			0		SIW @ 5194 psi. Bleed off pressure and HO to WL. Held AAR to discuss frac stage
7:53	0.37	FRAC	FWL			0		Other Pad Ops
8:15	0.33	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4710 psi. RIH to 200' conduct checks.
8:35	0.83	FRAC	WLT			0		"Stage #18 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

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								<p>composite frac plug. Tie into liner top @11069. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 4500psi @11600 6bpm @ 4700psi @11700 10bpm @ 5400psi @11800 10bpm w/ 6046psi @</p> <p>Set plug @ 16538ft Perforate as follows: 16514' - 16515' 16468' - 16469' 16423' - 16424' 16382' - 16383' Stabilized pressure after perf: 5275psi Pump down volume: 86bbl"</p>
9:25	0.83	FRAC	WLT			0		POOH. Held pause at 1000' from surface to discuss coming off the well.
10:15	0.42	FRAC	WLF			0		Bump up and SIW @ 4680 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. Greas UMV & Wing valve - grease time 10 min. HO to Frac
10:40	0.33	FRAC	WLF			0		Other Pad Ops
11:00	0.12	FRAC	FRP			0		Prime and equalize. Open well @ 4004 psi.
11:07	1.50	FRAC	FRT			0		<p>Stage 18 Summary University 19 PW Unit 1406H Interval 16382 - 16515 Open Well Pressure 4,804 psi Max Treating Pressure 9,488 psi Max Slurry Rate 58.6 bpm Average Treating Pressure 8,975 psi Average Slurry Rate 48.4 bpm Breakdown Pressure 8,175 psi Breakdown Rate 9.6 bpm Breakdown Volume 252 gal Avg HHP 10,647 hp Final ISIP 5,592 psi Frac Gradient 0.911 psi/ft Pad Volume 966 gal Main Body Volume 158,214 gal Flush Volume 27,174 gal 100 MAZ Sand Pumped 43,900 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 375,940 lbs Proppant in Formation 419,840 lbs Avg Proppant Concentration 3.39 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,853 bbls Load to Recover w/o Acid 3,853 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,687 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 86 bbls pump down rate 10.0 bpm Max pump down pressure 6,046 psi Fluid Temp 72.0 ?F Total Pump Time 1:30 hr:min Pumps Lost During Job 0 Treatment Start Time 11:07 0:00 0:00 Treatment End Time 12:37 0:00 1:30 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.0 PPA, followed by a 4.0 PPA step. - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run 15% HCL this stage</p>

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								- Ran ball in place plug
								Time for Prop on Perfs 19.0 minutes Time between Stages (TBF) :50 Hours/min
12:37	0.05	FRAC	FWL			0		SIW @ 5226 psi. Bleed off pressure and HO to WL. Held pause for AAR on frac stage.
12:40	2.67	FRAC	FWL			0		Other Pad Ops
15:20	0.25	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4700 psi. RIH to 200' conduct checks.
15:35	0.83	FRAC	WLT			0		"Stage #19 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 @ 4600psi @11600 6bpm @ 4700psi @11700 10bpm @ 5100psi @11800 10bpm w/ 6235psi @ Set plug @ 16362ft Perforate as follows: 16338' - 16339' 16294' - 16295' 16250' - 16251' 16205' - 16206' Stabilized pressure after perf: 5450psi Pump down volume: 83bbl"
16:25	0.75	FRAC	WLT			0		POOH. Held pause at 1000' form surface. Discuss coming off the well.
17:10	0.25	FRAC	WLF			0		Bump up and SIW @ 4200 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 Crown and Hyd valve - grease time 10 min. HO to Frac
17:25	0.25	FRAC	WLF			0		Other Pad Ops
17:40	0.58	FRAC	WLF			0		Waiting on sand
18:15	0.28	FRAC	WLF			0		Prime and equalize. Open well @ 4450 psi.
18:32	1.57	FRAC	WLF			0		Stage 19 Summary University 19 PW Unit 1406H Interval 16205 - 16339 Open Well Pressure 4,447 psi Max Treating Pressure 9,393 psi Max Slurry Rate 55.6 bpm Average Treating Pressure 8,898 psi Average Slurry Rate 45.6 bpm Breakdown Pressure 8,369 psi Breakdown Rate 13.6 bpm Breakdown Volume 286 gal Avg HHP 9,945 hp Final ISIP 5,376 psi Frac Gradient 0.893 psi/ft Pad Volume 588 gal Main Body Volume 155,350 gal Flush Volume 26,964 gal 100 MAZ Sand Pumped 55,180 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 365,660 lbs Proppant in Formation 420,840 lbs Avg Proppant Concentration 3.47 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,782 bbls Load to Recover w/o Acid 3,782 bbls

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								15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,619 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 83 bbls pump down rate 10.0 bpm Max pump down pressure 6,237 psi Fluid Temp 72.0 ?F Total Pump Time 1:34 hr:min Pumps Lost During Job 0 Treatment Start Time 18:32 0:00 0:00 Treatment End Time 20:06 0:00 1:34 Diverter Slurry bbls - Proppant was pumped as a ramp from 0.50 PPA to 4.00 PPA, followed by a 4.00 PPA hold. - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run 15% HCl this stage - Ran ball in place plug
20:06	3.28	FRAC	WLF			0		Wait on pad operations.
23:23	0.22	FRAC	WLF			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi 5 min low and 10 min high. Open well with 4630 psi. RIH to 200' conduct checks.
23:36	0.40	FRAC	WLF			0		RIH Perf # 20
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	1.50	FRAC	WLT			0	"Stage 20 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 ball-drop frac plug. Tie into liner top @11069". Pump down as follows: 3bpm @ 4700psi11380 6bpm @ 4900psi11600 9bpm @ 5300psi11730 9bpm @ 5900psi Set plug @ 16185ft Perforate as follows: 16161' - 16162' 16117' - 16118' 16073' - 16074 16029' - 16030 Stabilized pressure after perf: 5100psi Pump down volume: 86bbl" POOH
1:30	0.25	FRAC	WLT			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 LMV valve - grease time 10 min. HO to Frac
1:45	1.17	FRAC	WLT			0	Wait on pad ops.
2:55	0.08	FRAC	WLT			0	Prime and pressure test to 9500 psi - Test Good. Bleed down to equalize. Open well @ 4456 psi.