

EP WELLS DAILY OPERATIONS REPORT

Report 48

08/23/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1504H
Wellbore	UNIVERSITY 19 PW UNIT 1504H ST01
WBS No/API No	30265014 / 4230133171.01

Event Summary

Event Type	Completion only	Event Start Date	04/28/2017	Days on Location	47.00
Objective	Install Completion	Original Spud Date	02/02/2017		
Est. Days	25.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Nick Morrison	Measured Depth(ft)	
Engineer	Bobby Ramos	TVD(ft)	
Other Supervisor	Tommy Hurdle	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,761.75 / 2,736.10	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	3,290,891/4,757,442.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.69	LOT/FIT EMW(ppg)	
Daily Cost	243,517	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	46

Operations Summary

24 Hour Summary
Frac Stg 18. Perf & Frac Stg 19, 20. Perf Stg 21
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	0.25	FRAC	OPO			0		Wait on other pad ops
0:15	0.13	FRAC	FRP			0		Prime pumps and equalize. Open well @ 4000 psi.
0:23	2.50	FRAC	FRT			0		<p>Stage 18 Summary University 19 PW Unit 1504H</p> <p>Interval 17316 - 17451</p> <p>Open Well Pressure 3,949 psi</p> <p>Max Treating Pressure 9,442 psi</p> <p>Max Slurry Rate 49.1 bpm</p> <p>Average Treating Pressure 8,853 psi</p> <p>Average Slurry Rate 42.4 bpm</p> <p>Breakdown Pressure 7,622 psi</p> <p>Breakdown Rate 11.5 bpm</p> <p>Breakdown Volume 17,052 gal</p> <p>Avg HHP 9,200 hp</p> <p>Final ISIP 5,361 psi</p> <p>Frac Gradient 0.897 psi/ft</p> <p>Pad Volume 17,934 gal</p> <p>Main Body Volume 223,608 gal</p> <p>Flush Volume 27,384 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 418,560 lbs</p> <p>Proppant in Formation 418,560 lbs</p> <p>Avg Proppant Concentration 2.45 lb/gal</p> <p>Max Proppant Concentration 3.50 lb/gal</p> <p>Load to Recover 5,475 bbls</p> <p>Load to Recover w/o Acid 5,463 bbls</p> <p>15% HCL Spearhead 504 gal</p> <p>Slickwater Fluid Pumped 5,232 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 151 bbls</p> <p>pump down rate 10.0 bpm</p> <p>Max pump down pressure 5,815 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 2:30 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 0:23 0:00 0:00</p> <p>Treatment End Time 2:53 0:00 2:30</p> <p>Diverter Slurry bbls</p> <p>Proppant pumped as a ramp from 0.5PPA-2.0PPA, then 2.0PPA, 2.5PPA, 3.0PPA, and 3.5PPA. All proppant placed.</p> <p>- 500gal of 15% HCl was placed and two 20# gel sweeps were pumped at 40 bbls each prior to flush.</p>
2:53	0.12	FRAC	FWL			0		SIW @ 5050 psi. Bleed off pressure and HO to WL. Held AAR to discuss frac stage
3:00	0.75	FRAC	FWL			0		Other Pad Ops
3:45	0.33	FRAC	FWL			0		<p>Pick up lubricator. Remove night cap. PU guns/plug.</p> <p>Stab lubricator. Fill lubricator.</p> <p>PT lubricator to 1k-8kpsi. Open well with 4600psi.</p> <p>RIH to 200' conduct checks.</p>
4:05	1.25	FRAC	WLT			0		<p>"Stage #19 Plug and Perf</p> <p>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 @ . Bring on pumps at 11500'.</p> <p>Pump down as follows:</p> <p>3 bpm @ 4500 psi</p> <p>6 bpm @ 4900 psi</p> <p>11.5 bpm @ 5700 psi</p> <p>12 bpm @ psi</p> <p>Max:11.5 bpm. Max: 5700 psi</p> <p>Set plug @ 17296 ft</p> <p>Perforate as follows:</p> <p>17272' - 17273'</p> <p>17227' - 17228'</p>

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								17183' - 17184' 17138' - 17139' Stabilized pressure after perforating: 4546 psi Pump down volume: 142 bbl"
5:20	1.47	FRAC	WLT			0		POOH
6:48	0.53	FRAC	WLF			0		Shut in well with 4600 psi Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. Handover from WL to frac. Grease UMV/wing valves. Lay down lubricator
7:20	1.87	FRAC	OPO			0		Othe pad operations Change out wl flow tubes and rehead.
9:12	0.27	FRAC				0		Align valves. equalize to 4500 psi. Open well with 4271 psi.
9:28	2.52	FRAC				0		Stage 19 Summary University 19 PW Unit 1504H Interval 17138 - 17273 Open Well Pressure 4,271 psi Max Treating Pressure 9,333 psi Max Slurry Rate 51.1 bpm Average Treating Pressure 8,802 psi Average Slurry Rate 41.6 bpm Breakdown Pressure 7,777 psi Breakdown Rate 9.5 bpm Breakdown Volume 16,254 gal Avg HHP 8,975 hp Final ISIP 5,108 psi Frac Gradient 0.875 psi/ft Pad Volume 17,010 gal Main Body Volume 213,486 gal Flush Volume 27,636 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 420,720 lbs Proppant in Formation 420,720 lbs Avg Proppant Concentration 2.58 lb/gal Max Proppant Concentration 3.00 lb/gal Load to Recover 5,225 bbls Load to Recover w/o Acid 5,213 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,991 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 142 bbls pump down rate 11.5 bpm Max pump down pressure 6,700 psi Fluid Temp 72.0 ?F Total Pump Time 2:31 hr:min Pumps Lost During Job 0 Treatment Start Time 9:28 0:00 0:00 Treatment End Time 11:59 0:00 2:31 Diverter Slurry bbls Proppant pumped as a ramp from 0.5PPA-2.5PPA, then 2.5PPA, 3.0PPA, and 3.5PPA. All proppant placed. 500gal of 15% HCl was placed and two 20# gel sweeps were pumped at 40 bbls each prior to flush.
11:59	3.20	FRAC	FWL			0		Other pad operations
15:11	0.27	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 8000 psi Open well with 4400 psi. RIH.
15:27	1.10	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 frac plug. Tie into liner top @ . Bring on pumps at 11300'.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pump down as follows: 3 bpm @ 4298 psi 6 bpm @ 4688 psi 10 bpm @ 5362 psi 12 bpm @ psi Max:10 bpm. Max: 6241 psi Set plug @ 17118 ft Perforate as follows: 17094' - 17095' 17049' - 17050' 17005' - 17006' 16960' - 16961' Stabilized pressure after perforating: 4488 psi Pump down volume: 140 bbl"
16:33	0.93	FRAC	WLT			0		POOH
17:29	0.15	FRAC	WLF			0		Shut in well with 4300 psi Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. Handover from WL to frac.
17:38	0.20	FRAC	WLF			0		Other pad operations
17:50	0.20	FRAC	FRP			0		Align valves. Pressure test to 9500 psi. Test good. equalize to 4500 psi. Open well with 4210 psi.
18:02	2.60	FRAC	FRT			0		Stage 20 University 19 PW Unit 1504H Interval 16960 - 17095 Open Well Pressure 4,210 psi Max Treating Pressure 9,527 psi Max Slurry Rate 51.6 bpm Average Treating Pressure 8,803 psi Average Slurry Rate 41.2 bpm Breakdown Pressure 7,968 psi Breakdown Rate 9.3 bpm Breakdown Volume 17,010 gal Avg HHP 8,889 hp Final ISIP 5,373 psi Frac Gradient 0.898 psi/ft Pad Volume 17,220 gal Main Body Volume 222,264 gal Flush Volume 27,006 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 420,340 lbs Proppant in Formation 420,340 lbs Avg Proppant Concentration 2.47 lb/gal Max Proppant Concentration 3.00 lb/gal Load to Recover 5,440 bbls Load to Recover w/o Acid 5,428 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 5,200 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 148 bbls pump down rate 10.0 bpm Max pump down pressure 6,241 psi Fluid Temp 72.0 ?F Total Pump Time 2:36 hr:min Pumps Lost During Job 1 Treatment Start Time 18:02 0:00 0:00 Treatment End Time 20:38 0:00 2:36 Diverter Slurry bbls Proppant pumped as a ramp from 0.5PPA-2.5PPA, then 2.5PPA, and 3.0PPA. All proppant placed. - 500gal of 15% HCl was placed and two 20# gel sweeps were pumped at 40 bbls each prior to flush.
20:38	0.12	FRAC	FWL			0		SIW @ 5156 psi. Bleed off pressure and HO to WL. Held AAR to discuss frac stage.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
20:45	0.42	FRAC	FWL			0		Other Pad Ops
21:10	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 psi. RIH to 200' conduct checks.
21:25	1.33	FRAC	WLT			0		"Stage #21 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 @10881. Bring on pumps at 11500'. Pump down as follows: 3bpm @ 4590psi @11500 6bpm @ 4900psi @11700 12bpm @ 5360psi @11800 12bpm w/ 6000psi @ Set plug @ 16940ft Perforate as follows: 16916' - 16917' 16871' - 16872' 16827' - 16828' 16782' - 16783' Stabilized pressure after perf: 4650psi Pump down volume: bbl"
22:45	1.08	FRAC	WLT			0		POOH to 200'
23:50	0.17	FRAC	WLT			0		Wait @ 200' for frac to finish.
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.08	FRAC	OPO			0	Wait at 200' for frac to finish
0:05	0.92	FRAC	WLF			0	Bump up and SIW @ 4500 psi. Greased UMW and LMV valve - grease time 10 min. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball, N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. HO to Frac. ***Changed out slobber hose for the WL lubricator.***
1:00	1.25	FRAC	FRP			0	Conducted pump maintenance. Prime up and pressure test to 9500 psi. Test Good. Equalize and open well @ 4355 psi.
2:15		FRAC	FRT			0	