

EP WELLS DAILY OPERATIONS REPORT

Report 49

08/24/2017

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	48.00
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/%)	5.90/24.58	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,451,385/4,757,442.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.73	LOT/FIT EMW(ppg)	
Daily Cost	160,495	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	47

Operations Summary

24 Hour Summary
Frac Stg 21. Perf & Frac Stg 22. Perf Stg 23.
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	0.08	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	1.28	FRAC	FRP			0		Conducted pump maintenance. Prime up and pressure test to 9500 psi. Test Good. Equalize and open well @ 4355 psi.
2:17	2.67	FRAC	FRT			0		<p>Stage 21 Summary University 19 PW Unit 1504H</p> <p>Interval 16782 - 16917</p> <p>Open Well Pressure 4,365 psi</p> <p>Max Treating Pressure 9,510 psi</p> <p>Max Slurry Rate 54.5 bpm</p> <p>Average Treating Pressure 8,852 psi</p> <p>Average Slurry Rate 46.8 bpm</p> <p>Breakdown Pressure 7,167 psi</p> <p>Breakdown Rate 10.0 bpm</p> <p>Breakdown Volume 16,548 gal</p> <p>Avg HHP 10,154 hp</p> <p>Final ISIP 5,413 psi</p> <p>Frac Gradient 0.901 psi/ft</p> <p>Pad Volume 11,172 gal</p> <p>Main Body Volume 228,900 gal</p> <p>Flush Volume 35,826 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 422,660 lbs</p> <p>Proppant in Formation 422,660 lbs</p> <p>Avg Proppant Concentration 2.66 lb/gal</p> <p>Max Proppant Concentration 3.50 lb/gal</p> <p>Load to Recover 5,582 bbls</p> <p>Load to Recover w/o Acid 5,570 bbls</p> <p>15% HCL Spearhead 504 gal</p> <p>Slickwater Fluid Pumped 5,358 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 132 bbls</p> <p>pump down rate 11.5 bpm</p> <p>Max pump down pressure 6,000 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 2:28 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 2:17 2:56 0:00</p> <p>Treatment End Time 2:44 4:57 2:28</p> <p>Diverter Slurry bbls</p> <p>Proppant pumped as a ramp from 0.5PPA-2.5PPA, then 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> <p>-We were unsuccessful in the first attempt to pump acid so the ball was seated and we shut down momentarily to replace an acid T valve. Acid was pumped successfully, and the stage was resumed.</p> <p>Regards,</p>
4:57	0.13	FRAC	FWL			0		SIW @ 5086 psi. Bleed off pressure and HO to WL. Held AAR to discuss frac stage.
5:05	0.25	FRAC	FWL			0		Other Pad Ops
5:20	0.42	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 4700 psi.</p> <p>RIH to 200' conduct checks.</p>

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
5:45	1.08	FRAC	WLT			0		"Stage #22 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 @ 4600psi @11500 6bpm @ 4750psi @11600 12bpm @ 5070psi @11700 12bpm w/ 5800psi @ Set plug @ 16762ft Perforate as follows: 16738' - 16739' 16693' - 16694' 16649' - 16650' 16604' - 16605' Stabilized pressure after perf: 4490psi Pump down volume: bbl"
6:50	0.67	FRAC	WLT			0		POOH to 200'
7:30	0.70	FRAC	OPO			0		Wait at 200 ft for frac
8:12	0.12	FRAC	WLF			0		Shut in well with 44500 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 UMW/wing valve/03 zipper manifold
8:19	1.68	FRAC	OPO			0		Other pad Operations
10:00	0.13	FRAC	WLF			0		Align vales pressure test to 9500 psi. Test good, bleed back to 4500 psi. Openn well with 4201 psi.
10:08	2.12	FRAC	FRT			0		Stage 22 Summary University 19 PW Unit 1504H Interval 16604 - 16739 Open Well Pressure 4,210 psi Max Treating Pressure 9,376 psi Max Slurry Rate 56.4 bpm Average Treating Pressure 8,707 psi Average Slurry Rate 48.7 bpm Breakdown Pressure 7,370 psi Breakdown Rate 9.8 bpm Breakdown Volume 15,960 gal Avg HHP 10,393 hp Final ISIP 5,296 psi Frac Gradient 0.891 psi/ft Pad Volume 16,338 gal Main Body Volume 198,702 gal Flush Volume 27,132 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 418,040 lbs Proppant in Formation 418,040 lbs Avg Proppant Concentration 2.82 lb/gal Max Proppant Concentration 3.50 lb/gal Load to Recover 4,854 bbls Load to Recover w/o Acid 4,842 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,639 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 123 bbls pump down rate 11.5 bpm Max pump down pressure 5,800 psi Fluid Temp 72.0 ?F Total Pump Time 2:05 hr:min Pumps Lost During Job 0 Treatment Start Time 10:08 0:00 0:00 Treatment End Time 12:13 0:00 2:05 Diverter Slurry bbls

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Wellbore UNIVERSITY 19 PW UNIT 1504H ST01

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								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.
12:15	0.20	FRAC	FWL			0		Other pad operations
12:27	0.28	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 4875 psi. RIH.
12:44	1.10	FRAC	WLT			0		"Stage #23 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 11200'. Pump down as follows: 3 bpm @ 4631 psi 6 bpm @ 4847 psi 10 bpm @ 5485 psi 12 bpm @ psi Max:10 bpm. Max: 6243 psi Set plug @ 16582 ft Perforate as follows: 16560' - 16561' 16551' - 16552' 16471' - 16472' 16426' - 16427' Stabilized pressure after perforating: 4733 psi Pump down volume: 121 bbl"
13:50	0.75	FRAC	WLT			0		POOH to 200'
14:35	0.50	FRAC				0		Wait at 200 ft for frac
15:05	0.08	FRAC	WLF			0		Shut in well with 3550 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 hydraulic and crown valve
15:10	0.48	FRAC	WLF			0		Other pad operations
15:39	0.85	FRAC	FRT			0		Align valves, pressure test to 9500 psi. Equalize to 4500 psi. Open well with 4386 psi. Pump and seat ball. Shut down for weather
16:30	1.37	FRAC	FRT			0		Shut down for weather.
17:52	0.23	FRAC	FRT			0		Bring pump back on line. Notice inline densitometer malfunction. Shut down
18:06	3.40	FRAC	FRT			1		***Start NPT KEANE Frac*** Went to flush and shut in well. Bleed off pressure. Attempted to make repairs and re-calibrate was unsuccessful. Wait on new densitometer to arrive
21:30	2.50	FRAC	FRT			1		***Continue NPT on KEANE*** Parts arrived on location. Install and calibrate.
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.75	FRAC	FRT			1	***Continue NPT on KEANE*** Parts arrived on location. Install and calibrate. Prime up and pressure test to 9500 psi. Test Good.
0:45	0.15	FRAC	FRP			0	Equalize and open well @ 4901 psi.
0:54	2.38	FRAC	FRT			0	Stage 23 Summary University 19 PW Unit 1504H Interval 16426 - 16561

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Wellbore UNIVERSITY 19 PW UNIT 1504H ST01

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
							Open Well Pressure 4,386 psi Max Treating Pressure 9,426 psi Max Slurry Rate 56.6 bpm Average Treating Pressure 8,541 psi Average Slurry Rate 45.1 bpm Breakdown Pressure 7,026 psi Breakdown Rate 9.2 bpm Breakdown Volume 16,506 gal Avg HHP 9,441 hp Final ISIP 5,473 psi Frac Gradient 0.907 psi/ft Pad Volume 28,434 gal Main Body Volume 311,640 gal Flush Volume 67,746 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 420,260 lbs Proppant in Formation 420,260 lbs Avg Proppant Concentration 2.33 lb/gal Max Proppant Concentration 3.50 lb/gal Load to Recover 7,541 bbls Load to Recover w/o Acid 7,529 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 7,328 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 121 bbls pump down rate 10.0 bpm Max pump down pressure 5,975 psi Fluid Temp 72.0 ?F Total Pump Time 3:17 hr:min Pumps Lost During Job 0 Treatment Start Time 15:47 17:39 0:54 Treatment End Time 16:30 18:01 3:17 Diverter Slurry bbls Proppant pumped as 0.5PPA steps from 0.5-3.5PPA. All proppant placed. - 500gal of 15% HCl was placed and two 20# gel sweeps were pumped at 40 bbls each prior to flush. - After displacing HCl, we flushed the wellbore and shut down for bad weather conditions. - After resuming operations we noticed the inline densometer wasn't working. After cutting proppant, the E-tech informed us that it would be necessary to shut down operations to perform repairs needed to the inline densometer.
3:17	0.02	FRAC	FWL			0	SIW @ 5110 psi. Bleed off pressure and HO to WL.
3:18	0.28	FRAC	FWL			0	Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4900 psi. RIH to 200' conduct checks.
3:35		FRAC	WLT			0	

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
08/24/2017 18:06	KEANE FRAC LP	Wait On Equipment		FRT	EN	Stimulation Surface Equipment	6.65	6.65		OPEN
Description: inline densitometer malfunction						Title: WOE				
Total							6.65	6.65		