

**EP WELLS DAILY OPERATIONS REPORT**

Report 49

08/27/2017

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 19 PW UNIT 1503H  
 Wellbore UNIVERSITY 19 PW UNIT 1503H  
 WBS No/API No 30265013 / 4230133170

**Event Summary**

Event Type	Completion only	Event Start Date	04/28/2017	Days on Location	48.00
Objective	Install Completion	Original Spud Date	01/29/2017		
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: 2,761.85 / 2,736.20	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	0.67/2.78	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,948,745/4,184,415.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.94	LOT/FIT EMW(ppg)	
Daily Cost	154,797	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	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection Last BOP function test Last BOP Test Next BOP Test			47

**Operations Summary**

24 Hour Summary
Frac Stg 39. Perf & Frac Stg 40. Perf Stg 41
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	1.23	FRAC	FRT			0		Stage 39 Summary University 19 PW Unit 1503H Interval 12538 - 12673 Open Well Pressure 3,744 psi Max Treating Pressure 8,885 psi Max Slurry Rate 61.4 bpm Average Treating Pressure 8,207 psi Average Slurry Rate 56.5 bpm Breakdown Pressure 6,867 psi Breakdown Rate 10.1 bpm Breakdown Volume 13,062 gal Avg HHP 11,365 hp Final ISIP 5,722 psi Frac Gradient 0.928 psi/ft Pad Volume 19,992 gal Main Body Volume 180,348 gal Flush Volume 24,948 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 420,440 lbs Proppant in Formation 420,440 lbs Avg Proppant Concentration 3.28 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 4,321 bbls Load to Recover w/o Acid 4,309 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,202 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 27 bbls pump down rate 9.0 bpm Max pump down pressure 6,576 psi Fluid Temp 72.0 ?F Total Pump Time 1:41 hr:min Pumps Lost During Job 0 Treatment Start Time 22:53 23:58 0:00 Treatment End Time 23:18 1:14 1:41 Diverter Slurry bbls Proppant pumped as a ramp from 0.50PPA - 4.00PPA, then a 4.00PPA hold. All proppant placed. - 500gal of 15% HCl was placed. -Two 40 bbl, 20# gel sweeps with a 20 bbl spacer were run prior to flush. -After seating the ball and displacing acid, we held Well Control Drill in the middle of operations to simulate live response. Discussed pressure release from wellhead and response. Stage was resumed and pumped per design.
1:14	0.10	FRAC	FWL			0		SIW @ 5335 psi. Bleed off pressure and HO to WL. Held aar on frac stage.
1:20	0.33	FRAC	OPO			0		Other Pad Ops
1:40	0.67	FRAC	FWL			1		***START NPT KEANE WL*** CCL had a short and required rebuild. ***END NPT***
2:20	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 4500 psi. RIH to 200' conduct checks.
2:35	0.83	FRAC	WLT			0		"Stage #40 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 @10950. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 4200psi @11600 6bpm @ 4600psi @11700 9bpm @ 4900psi @11800 9bpm w/ 5800psi

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								Set plug @ 12518ft Perforate as follows: 12494' - 12495' 12449' - 12450' 12405' - 12406' 12360' - 12361' Stabilized pressure after perf: 4250psi Pump down volume: 23bbl"
3:25	0.58	FRAC	WLT			0		POOH
4:00	0.58	FRAC	OPO			0		Wait at 200' for frac to finish
4:35	0.33	FRAC	WLF			0		Bump up and SIW @ 4050 psi. 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. Greased U/MV & L/MV valve - grease time 15 min. HO to Frac
4:55	1.58	FRAC	OPO			0		Other Pad Ops
6:30	0.50	FRAC	SAF			0		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.
7:00	5.25	FRAC	OPO			0		Other Pad Ops
12:15	1.50	FRAC	OPO			0		Stage 40 Summary University 19 PW Unit 1503H Interval 12360 - 12495 Open Well Pressure 3,459 psi Max Treating Pressure 8,887 psi Max Slurry Rate 61.4 bpm Average Treating Pressure 7,969 psi Average Slurry Rate 57.5 bpm Breakdown Pressure 6,995 psi Breakdown Rate 9.5 bpm Breakdown Volume 13,440 gal Avg HHP 11,231 hp Final ISIP 4,965 psi Frac Gradient 0.863 psi/ft Pad Volume 13,440 gal Main Body Volume 169,764 gal Flush Volume 24,528 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 420,540 lbs Proppant in Formation 420,540 lbs Avg Proppant Concentration 3.33 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 4,065 bbls Load to Recover w/o Acid 4,053 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 3,950 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 23 bbls pump down rate 9.0 bpm Max pump down pressure 5,800 psi Fluid Temp 72.0 ?F Total Pump Time 1:32 hr:min Pumps Lost During Job 0 Treatment Start Time 12:08 0:00 0:00 Treatment End Time 13:40 0:00 1:32 Diverter Slurry bbls All proppant placed. Stage pumped by design. -500 gal of 15% HCl displaced. -Two 20# gel sweeps pumped prior to flush.
13:45	7.58	FRAC	OPO			0		WAIT ON OTHER PAD OPER.
21:20	0.33	FRAC	WLT			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator.

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								PT lubricator to 1k-8kpsi. Open well with 3450 psi. RIH to 200' conduct checks.
21:40	0.83	FRAC	WLT			0		"Stage #41 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 @10950. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 3450psi @11600 6bpm @ 3900psi @11700 9bpm @ 4800psi @11800 9bpm w/ 6200psi  Set plug @ 12340ft Perforate as follows: 12316' - 12317' 12271' - 12272' 12225' - 12226' 12182' - 12183' Stabilized pressure after perf: 3650psi Pump down volume: 19bbbl"
22:30	0.75	FRAC	WLT			0		POOH
23:15	0.33	FRAC	WLF			0		Bump up and SIW @ 3450 psi. 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. Greased UMV and Wing valve - grease time 10 min. HO to Frac
23:35	0.42	FRAC	WLF			0		Other Pad Ops
<b>Total</b>	<b>24.00</b>							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	24.00	FRAC	WLF			0	Other Pad Ops

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
08/27/2017 01:40	KEANE FRAC LP	Perforation		FWL	EN	Elect W/line Perforating Equip	0.67	0.67		OPEN
<b>Description:</b> CCL had a short and required rebuild						<b>Title:</b> CCL had a short				
<b>Total</b>							<b>0.67</b>	<b>0.67</b>		