

**EP WELLS DAILY OPERATIONS REPORT**

Report 20

10/05/2017

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 19 PW UNIT 1407H  
 Wellbore UNIVERSITY 19 PW UNIT 1407H  
 WBS No/API No 30266571 / 4230133203

**Event Summary**

Event Type	Completion only	Event Start Date	09/03/2017	Days on Location	20.00
Objective	Install Completion	Original Spud Date	05/11/2017		
Est. Days	31.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

**Well Status**

Supervisor	Tina	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	Morgan, Brett O	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,792.70 / 2,766.70	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	11.42/47.57	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,080,214/4,701,640.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.23	LOT/FIT EMW(ppg)	
Daily Cost	91,761	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> 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	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection Last BOP function test Last BOP Test Next BOP Test			19

**Operations Summary**

24 Hour Summary
PERF STG 13 FRAC STG 12
Update Since Report Time
24 Hour Forecast
CONTINUE PAD OPERATIONS

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	2.90	FRAC	WLF			0		WAIT ON OTHER PAD OPERATIONS
2:54	2.02	FRAC	FRT			0		Stage 12 Summary University 19 PW Unit 1407H Interval 18287 - 18422 Open Well Pressure 4,144 psi Max Treating Pressure 9,476 psi Max Slurry Rate 54.0 bpm Average Treating Pressure 8,871 psi Average Slurry Rate 47.0 bpm Breakdown Pressure 7,277 psi Breakdown Rate 9.0 bpm Breakdown Volume 294 gal Avg HHP 10,219 hp Final ISIP 5,370 psi Frac Gradient 0.937 psi/ft Pad Volume 882 gal Main Body Volume 208,320 gal Flush Volume 28,350 gal 100 MAZ Sand Pumped 192,260 lbs 100 M Brown Sand Pumped 92,620 lbs 100 M Sand Pumped 142,240 lbs Proppant in Formation 427,120 lbs Avg Proppant Concentration 2.48 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 5,103 bbls Load to Recover w/o Acid 5,091 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,868 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 143 bbls pump down rate 10.2 bpm Max pump down pressure 6,740 psi Fluid Temp 72.0 ?F Total Pump Time 2:01 hr:min Pumps Lost During Job 0 Treatment Start Time 2:54 0:00 0:00 Treatment End Time 4:55 0:00 2:01 Diverter Slurry bbls -Pumped sand in a 0.50 PPA -2.00 PPA ramp, 2.00 PPA hold, 2.50, 3.00, 3.50 and 4.00 PPA steps. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 500 gal shot of acid. - Ran a ball in place plug.  Time for Prop on Perfs 24.0 minutes  BLDR STARTED LEAKING ON MANIFOLD FINISHED THE JOB WITH THIS BLDR FIXING AFTER
4:55	7.08	FRAC	FRT			1		***NPT FMC WELL HEAD VALVE STIM PACKING LEAKING START NEGATIVE TEST AT 05:40 4803 PSI SHUT IN
12:00	4.33	FRAC	FRT			1		Begin to rig off frac riser from goathead. Remove frac tree and install new upper master valve. Torque to spec. Pressure test upper tree assembly 500 psi low and 9800psi high. Test good. Rig in frac risers back to goat head. ***** END OF NPT TIME***
16:20	2.42	FRAC	FRT			0		.Pick up lubricator. Remove night cap. PU tools.Stab lubricator. Fill lubricator.PT lubricator to 8000psi.Open well with 4300psi.
18:45	1.17	FRAC	FWL			0		1845 Handover from frac to WL. 1853 Pick up lubricator. Remove night cap. PU tools. 1902 Stab lubricator. Fill lubricator. 1905 PT lubricator to 8000psi 1955 Open well with 4900psi.
19:55	1.75	FRAC	WLT			0		2040 "Stage #13 Plug and Perf RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60*

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								phased perforating guns and Downhole Technology Boss Hog composite ball-drop frac plug. Tie into liner top @11122". Pump down as follows: 3bpm @ 400psi11500 6bpm @ 430psi11569 9bpm @ 480psi11650 10bpm @ 6500psi15600 bpm @ psi 10bpm @ 6834psi  Set plug @ 18267ft Perforate as follows: 18243' - 18244' 18198' - 18199' 18154' - 18155' 18109' - 18110' Stabilized pressure after perf: 4970psi Pump down volume: 145bbl" 2045 POOH
21:40	0.20	FRAC	WLF			0		2140 Shut in well with 4009psi. Bleed off. 2150 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. 2152 Handover from WL to frac.
21:52	1.22	FRAC	WLF			0		FIX LEAK IN PUMP DOWN IRON PRESSURE TEST IRON
23:05	0.92	FRAC	FRT			0		START FRAC # 13
<b>Total</b>	<b>24.00</b>							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	1.08	FRAC	FRT			0	Stage 13 Summary University 19 PW Unit 1407H Interval 18109 - 18244 Open Well Pressure 3,929 psi Max Treating Pressure 9,367 psi Max Slurry Rate 58.7 bpm Average Treating Pressure 8,752 psi Average Slurry Rate 51.4 bpm Breakdown Pressure 7,239 psi Breakdown Rate 9.6 bpm Breakdown Volume 294 gal Avg HHP 11,026 hp Final ISIP 5,472 psi Frac Gradient 0.947 psi/ft Pad Volume 11,172 gal Main Body Volume 211,260 gal Flush Volume 28,266 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 375,600 lbs 100 M Sand Pumped 46,300 lbs Proppant in Formation 421,900 lbs Avg Proppant Concentration 2.56 lb/gal Max Proppant Concentration 3.50 lb/gal Load to Recover 5,175 bbls Load to Recover w/o Acid 5,163 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,938 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 145 bbls pump down rate 10.0 bpm Max pump down pressure 6,834 psi Fluid Temp 72.0 ?F Total Pump Time 1:58 hr:min

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06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
							Pumps Lost During Job 0 Treatment Start Time 23:05 0:00 0:00 Treatment End Time 1:03 0:00 1:58 Diverter Slurry bbls -Pumped sand in a 0.50 PPA -2.50 PPA ramp,2.50 PPA hold, 3.00 and 3.50 PPA steps. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 500 gal shot of acid. - Ran a ball in place plug.  - Time for Prop on Perfs 30.0 minutes

**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	
10/05/2017 04:55	FMC TECHNOLOGIES INC	Wellhead (Surface)		FRT	EN	Frac Wellhead	11.42	11.42	2	OPEN	
<b>Description:</b> Begin to rig off frac riser from goathead. Remove frac tree and install new upper master valve. Torque to spec. Pressure test upper tree assembly 500 psi low and 9800psi high. Test good. Rig in frac risers back to goat head.							<b>Title:</b> LEAK IN UMV				
							<b>Total</b>	<b>11.42</b>	<b>11.42</b>		