

EP WELLS DAILY OPERATIONS REPORT

Report 33

10/18/2017

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	33.00
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	Tommy Hurdle	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	Nick Morrison	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/%)	0/0	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,638,575/4,701,640.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.77	LOT/FIT EMW(ppg)	
Daily Cost	206,915	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	32

Operations Summary

24 Hour Summary
Frac stage 45, 46, 47 WL stage 46, 47 R/D risers, N/D Hydraulic valve and goat head to prepare for CT.
Update Since Report Time
24 Hour Forecast
Rig down frac trees

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.92	FRAC	FRT			0		Stage 45 Summary University 19 PW Unit 1407H Interval 12415 - 12550 Open Well Pressure 4,530 psi Max Treating Pressure 9,535 psi Max Slurry Rate 59.4 bpm Average Treating Pressure 8,514 psi Average Slurry Rate 50.2 bpm Breakdown Pressure 8,750 psi Breakdown Rate 16.4 bpm Breakdown Volume 294 gal Avg HHP 10,476 hp Final ISIP 5,268 psi Frac Gradient 0.928 psi/ft Pad Volume 672 gal Main Body Volume 148,008 gal Flush Volume 24,570 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 420,460 lbs 100 M Sand Pumped 0 lbs Proppant in Formation 420,460 lbs Avg Proppant Concentration 3.60 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,539 bbls Load to Recover w/o Acid 3,539 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,444 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 15 bbls pump down rate 9.0 bpm Max pump down pressure 5,800 psi Fluid Temp 72.0 ?F Total Pump Time 1:17 hr:min Pumps Lost During Job 3 Treatment Start Time 23:37 0:00 0:00 Treatment End Time 0:54 0:00 1:17 Diverter Slurry bbls -Pumped sand in a 0.50 PPA - 4.0 PPA ramp. Then a 4.0 PPA step - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run acid this stage. - Ran a ball in place plug. - Lost pumps 10090, 10086, 10089 due to debree in manifold. Time for Prop on Perfs 17.0 minutes Time between Stages (TBF) 1.67 Hours/min
0:55	0.23	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 4850 psi. RIH.
1:09	0.70	FRAC	WLT			0		"Stage #46 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 @ 11122. Bring on pumps at 11500'. Pump down as follows: 3 bpm @ 4600 psi 6 bpm @ 5106 psi 7 bpm @ 5400 psi Max:7 bpm. Max: 5400 psi Set plug @ 12395 ft Perforate as follows: 12371' - 12372' 12326' - 12327' 12282' - 12283' 12237' - 12238'

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								Stabilized pressure after perforating: 5027 psi Pump down volume: 11 bbl"
1:51	0.65	FRAC	WLT			0		POOH
2:30	0.33	FRAC	WLF			0		Shut in well with 4550 psi Break lubricator. All shots fired. MU night cap. LD tools and lub. Secure crown and wing valves. Handover from WL to frac. Grease UMW and wing valve.9 minutes
2:50	0.25	FRAC	FRP			0		Align valves pressure test to 9700 psi. Bleed back to 5000 psi. open well with 4544 psi.
3:05	1.22	FRAC	FRT			0		<p>Stage 46 Summary University 19 PW Unit 1407H</p> <p>Interval 12237 - 12372</p> <p>Open Well Pressure 4,544 psi</p> <p>Max Treating Pressure 9,482 psi</p> <p>Max Slurry Rate 62.3 bpm</p> <p>Average Treating Pressure 8,487 psi</p> <p>Average Slurry Rate 55.1 bpm</p> <p>Breakdown Pressure 8,821 psi</p> <p>Breakdown Rate 16.7 bpm</p> <p>Breakdown Volume 294 gal</p> <p>Avg HHP 11,462 hp</p> <p>Final ISIP 5,229 psi</p> <p>Frac Gradient 0.924 psi/ft</p> <p>Pad Volume 462 gal</p> <p>Main Body Volume 150,822 gal</p> <p>Flush Volume 22,890 gal</p> <p>100 M AZ Sand Pumped 0 lbs</p> <p>100 M Brown Sand Pumped 420,020 lbs</p> <p>100 M Sand Pumped 0 lbs</p> <p>Proppant in Formation 420,020 lbs</p> <p>Avg Proppant Concentration 3.51 lb/gal</p> <p>Max Proppant Concentration 4.00 lb/gal</p> <p>Load to Recover 3,605 bbls</p> <p>Load to Recover w/o Acid 3,605 bbls</p> <p>15% HCL Spearhead 0 gal</p> <p>Slickwater Fluid Pumped 3,511 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 14 bbls</p> <p>pump down rate 9.0 bpm</p> <p>Max pump down pressure 5,400 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 1:13 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 3:05 0:00 0:00</p> <p>Treatment End Time 4:18 0:00 1:13</p> <p>Diverter Slurry bbls</p> <p>-Pumped sand in a 0.50 PPA - 4.0 PPA ramp. Then a 4.0 PPA step</p> <p>- Two 20# gel sweeps 40 bbls each were pumped prior to flush.</p> <p>- Did not run acid this stage.</p> <p>- Ran a ball in place plug.</p> <p>Time for Prop on Perfs 17.0 minutes</p> <p>Time between Stages (TBF) 1.67 Hours/min</p>
4:18	0.20	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 4900 psi. RIH.
4:30	0.67	FRAC	WLT			0		"Stage #47 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 @11122. Bring on pumps at 11600'. Pump down as follows: 3bpm @ 4660psi @11600

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								6bpm @ 4975psi @11700 7bpm @ 5450psi @11800 7bpm w/ 5700psi @ Set plug @ 12217ft Perforate as follows: 12193' - 12194' 12148' - 12149' 12104' - 12105' 12076' - 12077' Stabilized pressure after perf: 5100psi Pump down volume: 10bbl"
5:10	0.67	FRAC	WLT			0		POOH. Held pause at 1000'. Discussed coming off the well.
5:50	0.33	FRAC	WLF			0		Bump up and SIW @ 4600 psi. Bled off pressure. Break off lubricator/BOP's from well. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap on well and close crown valve. L/D perf guns. Set lubricator/BOP's on the stand. R/D WL truck to send in for line to be re-spoiled. HO to Frac
6:10	0.40	FRAC	FRP			0		Prime up and pressure test to 9500 psi. - Test Good. Bleed off the equalize. Open well @ 4600 psi.
6:34	1.25	FRAC	FRT			0		Stage 47 Summary University 19 PW Unit 1407H Interval 12069 - 12194 Open Well Pressure 4,671 psi Max Treating Pressure 9,185 psi Max Slurry Rate 60.9 bpm Average Treating Pressure 8,585 psi Average Slurry Rate 53.9 bpm Breakdown Pressure 7,246 psi Breakdown Rate 7.0 bpm Breakdown Volume 84 gal Avg HHP 11,341 hp Final ISIP 5,445 psi Frac Gradient 0.944 psi/ft Pad Volume 924 gal Main Body Volume 149,268 gal Flush Volume 24,276 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 375,320 lbs 100 M Sand Pumped 47,040 lbs Proppant in Formation 422,360 lbs Avg Proppant Concentration 3.56 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,564 bbls Load to Recover w/o Acid 3,564 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,474 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 10 bbls pump down rate 7.0 bpm Max pump down pressure 5,700 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 0 Treatment Start Time 6:34 0:00 0:00 Treatment End Time 7:49 0:00 1:15 Diverter Slurry bbls -Pumped sand in a 0.50 PPA - 4.0 PPA ramp. Then a 4.0 PPA step - Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Did not run acid this stage. - Ran a ball in place plug. Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 1.25 Hours/min
7:49	0.02	FRAC	FWL			0		SIW @ 4890 psi. Bleed off pressure.

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7:50	0.42	FRAC	GRS			0		Greased LMV, UMV, Wing and Crown valve.
8:15	0.25	FRAC	SAF			0		Held TBT to discuss R/D and R/U on our next set of wells.
8:30	15.50	FRAC	ROF			0		Align valves to confirm zero pressure. R/D WL equipment. Move grease unit. N/D risers off well. Remove hydraulic valves off well and nipple up crown valve. Pressure test tree 300 psi low 5 minutes and 9800 psi high for 10 minutes. chart test.
Total	24.00							