

EP WELLS DAILY OPERATIONS REPORT

Report 28

11/05/2017

Company PERMIAN
 Well Type Development
 Well UNIVERSITY 19 PW UNIT 1406H
 Wellbore UNIVERSITY 19 PW UNIT 1406H
 WBS No/API No 30266570 / 4230133213.00

Event Summary

Event Type	Completion only	Event Start Date	09/03/2017	Days on Location	28.00
Objective	Install Completion	Original Spud Date	04/30/2017		
Est. Days	31.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Hank Persaud/Brett Oldekamp	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	Tina Grega / Andrew Veroba	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,793.00 / 2,767.00	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	3,041,565/4,377,702.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.69	LOT/FIT EMW(ppg)	
Daily Cost	216,100	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:						
Manhours = 1104						

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			27

Operations Summary

24 Hour Summary
Frac stages 36,37, 38 Wireline stages 37, 38
Update Since Report Time
Midnight: picking up wireline for stage 39.
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	15.08	FRAC	WLF			0		Waiting on other pad ops.
14:05	0.08	FRAC	WLF			0		Equalize and Open Well @ 3834psi
14:10	1.53	FRAC	FRT			0		Stage 36 Summary University 19 PW Unit 1406H Interval 13210 - 13343 Open Well Pressure 3,834 psi Max Treating Pressure 9,129 psi Max Slurry Rate 60.0 bpm Average Treating Pressure 8,238 psi Average Slurry Rate 52.3 bpm Breakdown Pressure 8,390 psi Breakdown Rate 5.3 bpm Breakdown Volume 445 gal Avg HHP 10,560 hp Final ISIP 5,691 psi Frac Gradient 0.919 psi/ft Pad Volume 5,418 gal Main Body Volume 159,878 gal Flush Volume 25,452 gal 100 MAZ Sand Pumped 144,540 lbs 100 M Brown Sand Pumped 75,020 lbs 100 M Sand Pumped 200,080 lbs Proppant in Formation 419,640 lbs Avg Proppant Concentration 3.44 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,840 bbls Load to Recover w/o Acid 3,834 bbls 15% HCL Spearhead 253 gal Slickwater Fluid Pumped 3,721 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 33 bbls pump down rate 10.0 bpm Max pump down pressure 5,986 psi Fluid Temp 72.0 ?F Total Pump Time 1:32 hr:min Pumps Lost During Job 0 Treatment Start Time 14:09 0:00 0:00 Treatment End Time 15:41 0:00 1:32 Diverter Slurry bbls -Ramped with .5 PPA - 4.0 PPA, then a 4.0 PPA hold. - Ran 250 gal shot of acid. - Ran 40-20-40 gel. - Ran ball in place plug. Time for Prop on Perfs 25.5 minutes Time between Stages (TBF) 0:23 Hours/min
15:42	0.05	FRAC	FWL			0		Close in well @ 5409 Hand Over to Wireline
15:45	1.25	FRAC	WLT			0		1545 Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 1618 Stab lubricator. Fill lubricator. 1658 Pressure test lubricator to 8000 psi 1700 Open well with 4700 psi. RIH.
17:00	1.53	FRAC	WLT			0		Stage 37 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 ball-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 3900 psi, 11725' 6bpm @ 4600 psi, 11800' 10bpm @ 4800 psi, 11850' Set plug @ 13,190ft Perforate as follows: 13,166 – 13,167'

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								13,122' – 13,123' 13,078' – 13,079' 13,034' – 13,035' Stabilized pressure after perf: 4653psi Pump down volume: 27bbl" POOH
18:32	0.47	FRAC	WLT			0		Bump up and SIW @ 4650 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Greased LMV - grease time 10 min. HO to Frac
19:00	0.25	FRAC	FRT			0		Prime and pressure test to 9500 psi - Test Good. Bleed down to equalize. Open well.
19:15	1.13	FRAC	FRT			0		Stage 37 Summary University 19 PW Unit 1406H Interval 13034 - 13167 Open Well Pressure 4,554 psi Max Treating Pressure 9,306 psi Max Slurry Rate 60.5 bpm Average Treating Pressure 8,388 psi Average Slurry Rate 53.1 bpm Breakdown Pressure 7,837 psi Breakdown Rate 10.6 bpm Breakdown Volume 252 gal Avg HHP 10,917 hp Final ISIP 5,183 psi Frac Gradient 0.876 psi/ft Pad Volume 1,386 gal Main Body Volume 148,722 gal Flush Volume 24,948 gal 100 MAZ Sand Pumped 47,360 lbs 100 M Brown Sand Pumped 31,000 lbs 100 M Sand Pumped 341,820 lbs Proppant in Formation 420,180 lbs Avg Proppant Concentration 3.60 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,568 bbls Load to Recover w/o Acid 3,568 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,461 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 27 bbls pump down rate 10.0 bpm Max pump down pressure 6,087 psi Fluid Temp 72.0 ?F Total Pump Time 1:18 hr:min Pumps Lost During Job 0 Treatment Start Time 19:03 0:00 0:00 Treatment End Time 20:21 0:00 1:18 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Ran 40-20-40 gel. - Ran ball in place plug.
20:23	0.33	FRAC	WLT			0		20:23 Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 20:35 Stab lubricator. Fill lubricator. 20:38 Pressure test lubricator to 8000 psi 20:43 Open well with 4900 psi. RIH.
20:43	1.33	FRAC	WLT			0		Stage 38 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 ball-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4547 psi, 11650' 6bpm @ 4651 psi, 11740' 9bpm @ 5207 psi, 11820'

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Set plug @ 13014ft Perforate as follows: 12,990' – 12,991' 12,944' – 12,945' 12,904' – 12,905' 12,860' – 12,861' Stabilized pressure after perf: 4338psi Pump down volume: 24bbl POOH
22:03	0.28	FRAC	WLT			0		Bump up and SIW @ 4500 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Greased UMW and wing valve - grease time 10 min. HO to Frac
22:20	0.33	FRAC	FRT			0		Prime pumps, pressure test to 9500 psi. Equalize. Open well, 4372 psi.
22:40	1.20	FRAC	WLT			0		Stage 38 Summary University 19 PW Unit 1406H Interval 12858 - 12991 Open Well Pressure 4,372 psi Max Treating Pressure 8,858 psi Max Slurry Rate 60.7 bpm Average Treating Pressure 8,149 psi Average Slurry Rate 55.7 bpm Breakdown Pressure 7,752 psi Breakdown Rate 12.3 bpm Breakdown Volume 420 gal Avg HHP 11,125 hp Final ISIP 5,204 psi Frac Gradient 0.878 psi/ft Pad Volume 840 gal Main Body Volume 148,848 gal Flush Volume 24,696 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 76,420 lbs 100 M Sand Pumped 343,600 lbs Proppant in Formation 420,020 lbs Avg Proppant Concentration 3.58 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,568 bbls Load to Recover w/o Acid 3,568 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,464 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 24 bbls pump down rate 9.0 bpm Max pump down pressure 5,938 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 0 Treatment Start Time 22:36 0:00 0:00 Treatment End Time 23:51 0:00 1:15 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a 20 Bbl spacer - Ran ball in place plug.
23:52	0.13	FRAC	WLT			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools.
Total	25.00							

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06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.15	FRAC	WLT			0	Stab and fill wireline lubricator. PT lubricator to 8,000psi. Open well with 4800 psi. RIH.
0:09	1.52	FRAC	WLT			0	Stage 39 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 ball-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4617 psi, 11630' 6bpm @ 4815 psi, 11760' 9bpm @ 5159 psi, 11835' Set plug @ 12,838ft Perforate as follows: 12,814 – 12,815' 12,770' – 12,771' 12,726' – 12,727' 12,681' – 12,682' Stabilized pressure after perf: 5072psi Pump down volume: 22bbl
1:40	0.58	FRAC	WLT			0	Bump up and SIW @ 4700 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Greased Hydraulic and crown valve - grease time 10 min. HO to Frac
2:15	0.25	FRAC	FRT			0	Prime up and equalize to well.
2:30	1.37	FRAC	FRT			0	Stage 39 Summary University 19 PW Unit 1406H Interval 12681 - 12815 Open Well Pressure 4,811 psi Max Treating Pressure 9,119 psi Max Slurry Rate 62.3 bpm Average Treating Pressure 8,087 psi Average Slurry Rate 52.4 bpm Breakdown Pressure 8,072 psi Breakdown Rate 13.2 bpm Breakdown Volume 420 gal Avg HHP 10,386 hp Final ISIP 5,154 psi Frac Gradient 0.874 psi/ft Pad Volume 1,092 gal Main Body Volume 150,486 gal Flush Volume 24,654 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 59,560 lbs 100 M Sand Pumped 361,860 lbs Proppant in Formation 421,420 lbs Avg Proppant Concentration 3.56 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,605 bbls Load to Recover w/o Acid 3,605 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,503 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 22 bbls pump down rate 9.0 bpm Max pump down pressure 5,480 psi Fluid Temp 72.0 ?F Total Pump Time 1:19 hr:min Pumps Lost During Job 0 Treatment Start Time 2:30 0:00 0:00 Treatment End Time 3:49 0:00 1:19 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a

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06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
							20 Bbl spacer - Ran ball in place plug.
3:52	0.30	FRAC	WLT			0	3:52 Pick up lubricator. Remove night cap. PU guns/plug. 3:53 Stab lubricator. Fill lubricator. 4:02 PT lubricator 8,000 psi. Open well with 4850 psi. RIH
4:10		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 ball-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4555 psi, 11650' 6bpm @ 4889 psi, 11770' 9bpm @ 5335 psi, 11845' Set plug @ 12,661ft Perforate as follows: 12,637 – 12,638' 12,593' – 12,594' 12,549' – 12,550' 12,505' – 12,506' Stabilized pressure after perf: 5081psi Pump down volume: 19bbl POOH