

EP WELLS DAILY OPERATIONS REPORT

Report 37

05/23/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1507H
Wellbore	UNIVERSITY 19 PW UNIT 1507H
WBS No/API No	30265017 / 4230133144.00

Event Summary

Event Type	Completion only	Event Start Date	04/15/2017	Days on Location	37.00
Objective	Install Completion	Original Spud Date	01/22/2017		
Est. Days	21.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	C. Harper / C. Gregersen	Measured Depth(ft)	
Engineer	ALEJANDRO VILEGAS	TVD(ft)	
Other Supervisor	J.Phillips / T. Grega	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,769.50 / 2,743.50	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	5.00/20.83	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,567,305/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.64	LOT/FIT EMW(ppg)	
Daily Cost	209,674	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:	Please see University 19 PW Unit 1506H for 5/23/2016 for safety details on PAD						

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	8

Operations Summary

24 Hour Summary
Frac stages #38,39 & 40 , Perfroate stages # 39 & 40
Update Since Report Time
Continue zipper frac operations
24 Hour Forecast
Continue zipper frac operations

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.72	FRAC	FRT			0		Stage 38 Summary University 19 PW Unit 1507H Interval 15468 - 15601 Open Well Pressure 3,960 psi Max Treating Pressure 9,346 psi Max Slurry Rate 60.2 bpm Average Treating Pressure 8,455 psi Average Slurry Rate 50.6 bpm Breakdown Pressure 8,021 psi Breakdown Rate 12.5 bpm Breakdown Volume 20,370 gal Avg HHP 10,486 hp Final ISIP 5,412 psi Frac Gradient 0.900 psi/ft Pad Volume 20,832 gal Main Body Volume 259,178 gal Flush Volume 25,830 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 413,260 lbs Proppant in Formation 413,260 lbs Avg Proppant Concentration 2.23 lb/gal Max Proppant Concentration 4.04 lb/gal Load to Recover 6,171 bbls Load to Recover w/o Acid 6,159 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 6,026 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 93 bbls pump down rate 14.0 bpm Max pump down pressure 5,800 psi Fluid Temp 72.0 ?F Total Pump Time 2:31 hr:min Pumps Lost During Job 0 Treatment Start Time 23:12 0:00 0:00 Treatment End Time 1:43 0:00 0:00 Diverter Slurry bbls Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA, 4.0 PPA. Ran into high pressure during 4 PPA. Cut sand and ran a sweep of 528 bbls. Came back with sand in 0.5 increments from 0.5 PPA to 3 PPA.
1:43	0.12	FRAC	FWL			0		SI well @ 5288 psi. Bleed down pressure, H/O f/ frac t/ E-line
1:50	0.23	FRAC	WLT			0		01:43Pick up lubricator.Remove night cap. 01:43PU guns/plug. Stab lubricator. 01:53Fill lubricator. PT lubricator to 8kpsi. 02:04 Open well with 4870psi.
2:04	0.82	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 frac plug. Tie into liner top @10,911'. Bring on pumps at 11,200'. Pump down as follows: 3bpm @ 4800psi @11432' 6bpm @ 4900psi @11532' 9bpm @ 5200psi @11601' 14bpm @ 6000psi @11721' Max Rate 14bpm w/ 6000psi Set plug @ 15446ft Perforate as follows: 15424' - 15425' 15380' - 15381' 15336' - 15337' 15291' - 15292'

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Stabilized pressure after perf: 4787psi Pump down volume: 85bbl
2:53	0.87	FRAC	WLT			0		POOH w/Eline toolstring t/200' ELM
3:45	0.83	FRAC	WLT			0		Bump up and SIW @ psi. Bled off pressure and break lubricator. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball on UMW, N/U nightcap and close crown valve. L/D perf guns, Grease UMW & Manual wing.
4:35	0.42	FRAC	OPO			0		Wait on other pad operations.
5:00	5.00	FRAC	OPO			1		****NPT Keane Eline **** Fix bird nest on wireline spool *****NPT KEANE W/L END**** 10:00 TOTAL NPT = 5 HOURS Conduct day shift change meeting with all vendors .
10:00	0.83	FRAC				0		Wait on other pad Ops.
10:50	1.85	FRAC	FRT			0		Stage 39 Summary University 19 PW Unit 1507H Interval 15291 - 15424 Open Well Pressure 4,256 psi Max Treating Pressure 9,288 psi Max Slurry Rate 60.2 bpm Average Treating Pressure 8,470 psi Average Slurry Rate 55.9 bpm Breakdown Pressure 6,998 psi Breakdown Rate 9.0 bpm Breakdown Volume 17,976 gal Avg HHP 11,605 hp Final ISIP 5,193 psi Frac Gradient 0.881 psi/ft Pad Volume 16,968 gal Main Body Volume 194,414 gal Flush Volume 25,914 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 409,760 lbs Proppant in Formation 409,760 lbs Avg Proppant Concentration 2.73 lb/gal Max Proppant Concentration 3.52 lb/gal Load to Recover 4,629 bbls Load to Recover w/o Acid 4,617 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,491 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 86 bbls pump down rate 14.0 bpm Max pump down pressure 6,000 psi Fluid Temp 72.0 ?F Total Pump Time 1:46 hr:min Pumps Lost During Job 0 Treatment Start Time 10:55 0:00 0:00 Treatment End Time 12:41 0:00 0:00 Diverter Slurry bbls All Proppant pumped, Pumped 500 gals of 15% HCL. Pumped sand in Ramp from a 0.5 PPA to 3.0 PPA and stepped up from 3.0 PPA to 3.5 PPA with 0.5 increments. Due to pressure drop during 3.5 PPA the decision was made not to run 4.0 PPA
12:41	0.07	FRAC	FWL			0		SI well @ 5200 psi. Bleed down pressure, H/O f/ frac t/ E-line
12:45	4.90	FRAC	FWL			0		Wait on other pad Ops.
17:39	0.12	FRAC	WLT			0		17:39Pick up lubricator.Remove night cap. 17:41PU guns/plug. Stab lubricator. 17:44Fill lubricator. PT lubricator to 8kpsi. 17:46 Open well with 4870psi.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
17:46	0.90	FRAC	WLT			0		<p>Stage #40 Plug and Perf</p> <p>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 @10,911'. Bring on pumps at 11,200'.</p> <p>Pump down as follows: 3bpm @ 4500psi @11432' 6bpm @ 4700psi @11535' 9bpm @ 4800psi @11585' 12.5bpm @ 4800psi @11911'</p> <p>Max Rate 12.5bpm w/ 6500psi</p> <p>Set plug @ 15269ft Perforate as follows: 15247' - 15248' 15203' - 15204' 15159' - 15160' 15116' - 15117'</p> <p>Stabilized pressure after perf: 4965psi Pump down volume: 87bbl</p>
18:40	0.67	FRAC	WLT			0		Pooh E/Line toolstring t/200' ELM
19:20	0.25	FRAC	WLF			0		Bump up and SIW @ 4520 psi. Bled off pressure and break lubricator. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball on UMW, N/U nightcap and close crown valve. L/D perf guns, Grease Cap valve & Hydraulic .
19:35	0.83	FRAC	FRT			0		Wait on other pad operations
20:25	0.17	FRAC	FRP			0		Prime pumps & P/T iron t/ 9500 psi. (Good Test). Bleed down test pressure t/ equalize wellhead pressure.
20:35	1.78	FRAC	FRT			0		<p>Stage 40 Summary University 19 PW Unit 1507H Interval 15115 - 15248</p> <p>Open Well Pressure 4,426 psi Max Treating Pressure 9,112 psi Max Slurry Rate 60.5 bpm Average Treating Pressure 8,570 psi Average Slurry Rate 54.0 bpm Breakdown Pressure ` psi Breakdown Rate 9.3 bpm Breakdown Volume 17,346 gal Avg HHP 11,343 hp Final ISIP ` psi Frac Gradient 0.895 psi/ft Pad Volume 17,766 gal Main Body Volume 190,802 gal Flush Volume 25,536 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 407,060 lbs Proppant in Formation 407,060 lbs Avg Proppant Concentration 2.86 lb/gal Max Proppant Concentration 4.01 lb/gal Load to Recover 4,543 bbls Load to Recover w/o Acid 4,531 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,410 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 81 bbls pump down rate 12.5 bpm Max pump down pressure 6,424 psi Fluid Temp 72.0 ?F Total Pump Time 1:47 hr:min Pumps Lost During Job 0 Treatment Start Time 20:35 0:00 0:00</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Treatment End Time 22:22 0:00 0:00 Diverter Slurry bbls All Proppant pumped, Pumped 500 gals of 15% HCL. Pumped sand in Ramp from a 0.5 PPA to 3.0 PPA and stepped up from 3.0 PPA to 4.0 PPA with 0.5 increments.
22:22	0.05	FRAC	FWL			0		SI well @ 5100 psi. Bleed down pressure, H/O f/ Frac t/ E-line
22:25	1.58	FRAC	OPO			0		Wait on other PAD operations
Total	24.00							

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
05/23/2017 05:00	KEANE FRAC LP	Perforation		OPO	EN	Elect W/L Surface Equipment	5.00	5.00		OPEN
Description: FIX BIRDNEST IN WIRELINE						Title: WIRELINE PROBLEMS				
							Total	5.00	5.00	