

EP WELLS DAILY OPERATIONS REPORT

Report 33

05/19/2017

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	33.00
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/%)	1.75/7.69	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	2,973,601/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.53	LOT/FIT EMW(ppg)	
Daily Cost	212,810	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 safety details for PAD operations.						

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	4

Operations Summary

24 Hour Summary
Frac Stages 30 - 32, and Perforate Stages 31 - 33
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	0.48	FRAC	FRT			0		Stage 30 Summary University 19 PW Unit 1507H Interval 16881 - 17013 Open Well Pressure 3,760 psi Max Treating Pressure 9,132 psi Max Slurry Rate 57.4 bpm Average Treating Pressure 8,459 psi Average Slurry Rate 50.1 bpm Breakdown Pressure 7,500 psi Breakdown Rate 9.8 bpm Breakdown Volume 18,648 gal Avg HHP 10,387 hp Final ISIP 5,349 psi Frac Gradient 0.894 psi/ft Pad Volume 18,018 gal Main Body Volume 184,796 gal Flush Volume 26,334 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 414,720 lbs Proppant in Formation 414,720 lbs Avg Proppant Concentration 3.03 lb/gal Max Proppant Concentration 4.04 lb/gal Load to Recover 4,400 bbls Load to Recover w/o Acid 4,388 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,218 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 130 bbls pump down rate 16.0 bpm Max pump down pressure 6,200 psi Fluid Temp 72.0 ?F Total Pump Time 1:50 hr:min Pumps Lost During Job 0 Treatment Start Time 22:39 0:00 0:00 Treatment End Time 0:29 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA.
0:29	0.03	FRAC	FWL			0		SI well @ 5365 psi. Bleed down pressure. Hand well over t/ wireline.
0:31	0.28	FRAC	WLT			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4775 psi.
0:48	0.88	FRAC	WLT			0		Stage #31 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 @ 4500psi @11301' 6bpm @ 4800psi @11432' 9bpm @ 5000psi @11511' 14bpm @ 5700psi @11672' Max Rate 14bpm w/ 5730psi Set plug @ 16859ft Perforate as follows: 16837' - 16836' 16793' - 16792' 16748' - 16747' 16704' - 16703' Stabilized pressure after perf: 4675psi Pump down volume: 120bbl

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
1:41	0.60	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
2:17	0.37	FRAC	OPO			0		Wait on other pad operations
2:39	0.10	FRAC	WLF			0		Bump up and SIW @ 4310 psi. 0047 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 Crown, and 7" Hydraulic . Grease time 5 min.
2:45	2.25	FRAC	WLF			0		Wait on other pad operations
5:00	0.18	FRAC	FRP			0		Prime pumps & equalize.
5:11	1.87	FRAC	FRT			0		Stage #31 Frac Ops Stage 31 Summary University 19 PW Unit 1507H Interval 16704 - 16838 Open Well Pressure 4,090 psi Max Treating Pressure 9,165 psi Max Slurry Rate 58.3 bpm Average Treating Pressure 8,637 psi Average Slurry Rate 52.1 bpm Breakdown Pressure 7,300 psi Breakdown Rate 9.8 bpm Breakdown Volume 18,816 gal Avg HHP 11,029 hp Final ISIP 5,531 psi Frac Gradient 0.910 psi/ft Pad Volume 19,362 gal Main Body Volume 186,854 gal Flush Volume 26,964 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 416,290 lbs Proppant in Formation 416,290 lbs Avg Proppant Concentration 3.06 lb/gal Max Proppant Concentration 4.01 lb/gal Load to Recover 4,449 bbls Load to Recover w/o Acid 4,437 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,277 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 120 bbls pump down rate 14.0 bpm Max pump down pressure 6,100 psi Fluid Temp 72.0 ?F Total Pump Time 1:48 hr:min Pumps Lost During Job 0 Treatment Start Time 5:15 0:00 0:00 Treatment End Time 7:03 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA.
7:03	0.17	FRAC	FWL			0		SI well @ 5100 psi. Bleed down pressure. Hand well over t/ wireline.
7:13	0.42	FRAC	WLT			0		7:20 Pick up lubricator. 7:34 Remove night cap. PU guns/plug. 7:36 Stab lubricator. 7:38 Fill lubricator. PT lubricator to 8kpsi. 7:38 Open well with 4850 psi.
7:38	0.98	FRAC	WLT			0		Stage #32 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 @ 4600psi @11300'

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								6bpm @ 4800psi @11400' 9bpm @ 5000psi @11500' 12bpm @ 5300psi @11600' Rate 12.5 bpm w/ 5730psi Set plug @ 16682ft Perforate as follows: 16660' - 16661' 16616' - 16617' 16572' - 16573' 16528 - 16529' Stabilized pressure after perf: 4740psi P ump down volume: 119bbl
8:37	1.05	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
9:40	0.33	FRAC	WLF			0		9:40 While bumping up, wireline pulled into something and pulled up to 1200 lbs at a depth that correlated just below tool trap. Pause and assess issue. Able to pull up above tool trap slowly and controlled. 9:53 Bump up and SIW @ 4500 psi. 9:55 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 LMV . Grease time 5 min.
10:00	1.50	FRAC	WLF			0		Rehead and trouble shoot issues tagging up with wireline early.
11:30	2.50	FRAC	OPO			0		Wait on other pad operations
14:00	0.17	FRAC	FRP			0		Prime pumps & equalize.
14:10	2.18	FRAC	FRT			0		Stage 32 Summary University 19 PW Unit 1507H Interval 16530 - 16660 Open Well Pressure 4,153 psi Max Treating Pressure 9,320 psi Max Slurry Rate 60.3 bpm Average Treating Pressure 8,622 psi Average Slurry Rate 48.1 bpm Breakdown Pressure 7,203 psi Breakdown Rate 9.5 bpm Breakdown Volume 11,802 gal Avg HHP 10,165 hp Final ISIP 5,256 psi Frac Gradient 0.886 psi/ft Pad Volume 11,382 gal Main Body Volume 170,096 gal Flush Volume 1,680 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 409,500 lbs Proppant in Formation 409,500 lbs Avg Proppant Concentration 3.18 lb/gal Max Proppant Concentration 4.03 lb/gal Load to Recover 4,050 bbls Load to Recover w/o Acid 4,038 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 3,879 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 119 bbls pump down rate 12.5 bpm Max pump down pressure 6,345 psi Fluid Temp 72.0 ?F Total Pump Time 1:57 hr:min Pumps Lost During Job 0 Treatment Start Time 14:24 0:00 0:00 Treatment End Time 16:21 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA, 4.0 PPA

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
16:21	0.13	FRAC	FRT			0		SI well @ 5256 psi. Bleed down pressure. Hand well over t/ wireline.
16:29	0.23	FRAC	WLT			0		16:33 Pick up lubricator. 16:36 Remove night cap. PU guns/plug. Stab lubricator. 16:40 Fill lubricator. PT lubricator to 8kpsi. 16:43 Open well with 4850 psi.
16:43	0.78	FRAC	WLT			0		Stage #33 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 11,450'. Pump down as follows: 3bpm @ 4500psi @11500' 6bpm @ 4700psi @11550' 9bpm @ 4900psi @11600' 12bpm @ 5000psi @11700' Rate 12.5 bpm w/ 6340psi Set plug @ 16506ft Perforate as follows: 16481' - 16482' 16438' - 16439' 16395' - 16396' 16351 - 16352' Stabilized pressure after perf: 4720psi Pump down volume: 111bbl
17:30	1.17	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
18:40	0.25	FRAC	WLF			0		18:40 While bumping up, wireline pulled into something and pulled up to 1200 lbs at a depth that correlated just below tool trap. Pause and assess issue. Able to pull up above tool trap slowly and controlled. 18:53 Bump up and SIW @ 4500 psi. 18:55 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 LMV. Grease time 5 min.
18:55	0.08	FRAC	OPO			0		Wait on other pad operations
19:00	1.00	FRAC	FRT			1		****Start NPT Wellhead GE**** Leaking connection @ zipper manifold. re torque bolts on bottom spool on 8H zipper manifold skid. Ptest low of 4800psi and high of 9500psi hold for 10min/each. **** (Good Test) ****End NPT Wellhead GE****
20:00	1.25	FRAC	OPO					Wait on other pad operations.
21:15	0.50	FRAC	OPO			1		****Start NPT on Keane Frac***** T-belt issues during stimulation of 1906H wellbore. *****End NPT on Keane Frac *****
21:45	0.25	FRAC	GRS			1		Re-head E-line unit, and grease zipper manifold.
22:00	0.08	FRAC	FRP			0		Prime pumps & equalize.
22:05	1.92	FRAC	FRT			0		Stage 33 frac, completions of stage 33 was on 5/20/2017. Please see University 19 PW Unit 1507H report on 5/20/2017 for stage details
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	1.18	FRAC	FRT			0	Stage #33 Summary University 19 PW Unit 1507H Interval 16351 - 16481 Open Well Pressure 4,095 psi Max Treating Pressure 9,233 psi Max Slurry Rate 59.5 bpm Average Treating Pressure 8,450 psi

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06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
							Average Slurry Rate 53.7 bpm Breakdown Pressure 7,038 psi Breakdown Rate 9.6 bpm Breakdown Volume 18,060 gal Avg HHP 11,122 hp Final ISIP 5,248 psi Frac Gradient 0.886 psi/ft Pad Volume 18,312 gal Main Body Volume 178,706 gal Flush Volume 26,166 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 422,080 lbs Proppant in Formation 422,080 lbs Avg Proppant Concentration 3.22 lb/gal Max Proppant Concentration 4.02 lb/gal Load to Recover 4,255 bbls Load to Recover w/o Acid 4,243 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,092 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 111 bbls pump down rate 12.5 bpm Max pump down pressure 6,340 psi Fluid Temp 72.0 ?F Total Pump Time 1:40 hr:min Pumps Lost During Job 0 Treatment Start Time 23:31 0:00 0:00 Treatment End Time 1:11 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA, 4.0 PPA
1:11	0.02	FRAC	FWL			0	SI well @ 4840 psi. Bleed down pressure, H/O well f/ frac t/ E-line
1:27	0.22	FRAC	WLT			0	Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4805psi.
1:40	0.75	FRAC	WLT			0	Stage #34 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 @ 4600psi @11311' 6bpm @ 4900psi @11451' 9bpm @ 5300psi @11573' 14bpm @ 6100psi @11678' Max Rate 14bpm w/ 5400psi Set plug @ 16329ft Perforate as follows: 16307' - 16308' 16263' - 16264' 16219' - 16220' 16174' - 16175' Stabilized pressure after perf: 4854psi Pump down volume: 107bbl
2:25	0.62	FRAC	WLT			0	POOH w/ Eline toolstring t/200' ELM
3:25		FRAC				0	Wait on other pad operations

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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
05/19/2017 19:00	GE OIL AND GAS PRESSURE CONTROL LP	Wellhead (Surface)		FRT	EN	Wellhead/Xmas Tree Interface	1.00	1.00	1	OPEN
Description: Leaking connection @ zipper maniofld. re torque bolts on bottom spool on 8H zipper manifold skid. Ptest low of 4800psi and high of 9500psi hold for 10min/each. **** (Good Test)						Title: Leaking connection @ zipper maniofld.				
05/19/2017 21:15	KEANE FRAC LP	Sand Control		OPO	EN	Sand Control Equipment	0.50	0.50		OPEN
Description: During ramp up t/ 4# PPA sand, T-belt started having issues supplying blender fast enough due to sand on ground beneath T-Belt. Decison made to flush wellbore. Cleane sand from below T-belt and restart stage.						Title: T-Belt Malfunctioning				
Total							1.50	1.50		