

EP WELLS DAILY OPERATIONS REPORT

Report 20

05/06/2017

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	20.00
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	W. Garver/ E. Huls	Measured Depth(ft)	
Engineer	ALEJANDRO VILEGAS	TVD(ft)	
Other Supervisor	T. Hurdle	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/%)	7.00/29.17	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,175,861/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.21	LOT/FIT EMW(ppg)	
Daily Cost	203,880	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)	10
Safety Comments:							
Total Employees - 98							
Total Man Hours - 1139							
Total Driving Hours - 103							

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	19

Operations Summary

24 Hour Summary
Frac Stg 8. Perf and Frac Stg 9, 10
Update Since Report Time
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	1.67	FRAC	FRT			0		Stage 8 Summary University 19 PW Unit 1507H Interval 20766 - 20900 Open Well Pressure 4,115 psi Max Treating Pressure 9,333 psi Max Slurry Rate 53.6 bpm Average Treating Pressure 8,826 psi Average Slurry Rate 49.1 bpm Breakdown Pressure 6,790 psi Breakdown Rate 9.5 bpm Breakdown Volume 21,504 gal Avg HHP 10,621 hp Final ISIP 5,200 psi Frac Gradient 0.881 psi/ft Pad Volume 20,748 gal Main Body Volume 212,138 gal Flush Volume 33,474 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 424,380 lbs Proppant in Formation 424,380 lbs Avg Proppant Concentration 2.67 lb/gal Max Proppant Concentration 4.02 lb/gal Load to Recover 5,051 bbls Load to Recover w/o Acid 5,039 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,753 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 206 bbls pump down rate 15.2 bpm Max pump down pressure 6,850 psi Fluid Temp 72.0 °F Total Pump Time 2:09 hr:min Pumps Lost During Job 0 Treatment Start Time 23:32 0:00 0:00 Treatment End Time 1:41 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 3.0 PPA, 3.0 PPA, 3.5.PPA and 4.0 PPA. Lost hopper due to sand hog 4 having issues during 4.0 PPA sand, swapped over to hog 3 and ran the design amount.
1:40	0.08	FRAC	FRT			0		SIW @ 4000 , bleed off pressure. HO to WL. Prep to frac stg 8 on the 1508H.
1:45	2.67	FRAC	OPO			0		Other Well Ops
4:25	0.75	FRAC	GRS			0		Grease Frac Manifold. WL Re-Head Line.
5:10	0.25	FRAC	WLT			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with psi.
5:25	1.58	FRAC	WLT			0		"Stage #9 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 @ 4,400psi @11,200 6bpm @ 4,500psi @11,250 9bpm @ 4,800psi @11,300 12bpm w/ 5,000psi @11,350 15bpm w/ 5,100psi @11,450 Max Rate 15bpm w/ 6,470psi Set plug @ 20,734ft Perforate as follows: 20,722' - 20,723' 20,678' - 20,679' 20,634' - 20,635' 20,590' - 20,591'

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								Stabilized pressure after perf: 4,00psi Pump down volume: 217 bbl" POOH wait on WL at 200' from Frac to finish
7:00	0.75	FRAC	WLF			0		Bump up and SIW @ 4170. Bled off pressure and break lubricator. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball, N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Move WL BOP's to next well. Greased UMW & Wing - grease time 8 min.
7:45	0.38	FRAC	WLF			0		Wait on WL, prep to frac stg.
8:08	0.08	FRAC	WLF			0		Prime up trucks, equalize pressure, gather valve team and open well. Frac stg 9
8:13	2.25	FRAC	WLF			0		<p>Stage 9 Summary University 19 PW Unit 1507H</p> <p>Interval 20590 - 20723</p> <p>Open Well Pressure 4,165 psi</p> <p>Max Treating Pressure 9,214 psi</p> <p>Max Slurry Rate 51.6 bpm</p> <p>Average Treating Pressure 8,768 psi</p> <p>Average Slurry Rate 47.6 bpm</p> <p>Breakdown Pressure 7,685 psi</p> <p>Breakdown Rate 10.0 bpm</p> <p>Breakdown Volume 20,622 gal</p> <p>Avg HHP 10,229 hp</p> <p>Final ISIP 5,083 psi</p> <p>Frac Gradient 0.871 psi/ft</p> <p>Pad Volume 21,966 gal</p> <p>Main Body Volume 214,154 gal</p> <p>Flush Volume 32,760 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 429,660 lbs</p> <p>Proppant in Formation 429,660 lbs</p> <p>Avg Proppant Concentration 2.92 lb/gal</p> <p>Max Proppant Concentration 4.02 lb/gal</p> <p>Load to Recover 5,099 bbls</p> <p>Load to Recover w/o Acid 5,087 bbls</p> <p>15% HCL Spearhead 500 gal</p> <p>Slickwater Fluid Pumped 4,790 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 217 bbls</p> <p>pump down rate 15.2 bpm</p> <p>Max pump down pressure 6,470 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 2:15 hr:min</p> <p>Pumps Lost During Job 2</p> <p>Treatment Start Time 8:13 0:00 0:00</p> <p>Treatment End Time 10:28 0:00 0:00</p> <p>Diverter Slurry bbls</p> <p>All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 3.0 PPA, 3.0 PPA, 3.5.PPA and 4.0 PPA. Lost Pump 10043 - Packing hole 1&2, Lost pump 10079 - Packing hole 4. the 3 gates over Bin 1 Hog 1 would not open, adjusted our plan and moved to different Bins to cover the needed sand volume</p>
10:28	0.03	FRAC	WLF			0		SIW, bleed off pressure, HO to WL.
10:30	3.60	FRAC	WLF			0		Wait on other ops.
14:06	0.25	FRAC	WLF			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4300psi.
14:21	0.85	FRAC	WLF			0		<p>"Stage #10 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 @10911. Bring on pumps at 11350'. Pump down as follows:</p> <p>3bpm @ 4100psi @11350</p> <p>6bpm @ 4400psi @11500</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								9bpm @ 4800psi @11600 12bpm w/ 5400psi @11700 15bpm w/ 6200psi @11824 15bpm w/ 6640psi @20000 Set plug @ 20561ft Perforate as follows: 20545' - 20546' 20501' - 20502' 20457' - 20458' 20413' - 20414' Stabilized pressure after perf: 4480psi Pump down volume: 209bbl"
15:12	1.63	FRAC	WLF			0		POOH.
16:50	0.17	FRAC	WLF			0		Bump up and SIW @ 4300. Bled off pressure and break lubricator. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball, N/U nightcap and close crown valve. L/D perf guns and P/U next set of guns for next run. Move WL BOP's to next well. Greased Crown & Hydraulic - grease time 6 min.
17:00	1.25	FRAC	FRT			1		****NPT GE**** Valve leaking on the 1508H UMW. Align valves and grease UMW. Conduct negative test. Test good.
18:15	0.25	FRAC	NOA			1		*****NPT STOP GE**** *****NPT START WEATHER**** High winds.
18:30	0.50	FRAC	SAF			1		Held Pre-Tower Safety meeting. Discussed job scope and focus areas. Covered LSR's, 12Q, UnCAAP, SWA , & High Winds.
19:00	1.50	FRAC	NOA			1		Shut down due to wind. 37 mph, 45 gusts. Winds are picking up. Moving forward to frac stg 10 on the 1507H
20:30	3.33	FRAC	FRT			1		Stage 10 Summary University 19 PW Unit 1507H Interval 20413 - 20546 Open Well Pressure 4,070 psi Max Treating Pressure 9,358 psi Max Slurry Rate 53.0 bpm Average Treating Pressure 8,830 psi Average Slurry Rate 48.7 bpm Breakdown Pressure 7,885 psi Breakdown Rate 9.5 bpm Breakdown Volume 17,892 gal Avg HHP 10,540 hp Final ISIP 5,130 psi Frac Gradient 0.875 psi/ft Pad Volume 19,404 gal Main Body Volume 248,174 gal Flush Volume 57,162 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 429,700 lbs Proppant in Formation 429,700 lbs Avg Proppant Concentration 3.14 lb/gal Max Proppant Concentration 4.04 lb/gal Load to Recover 5,909 bbls Load to Recover w/o Acid 5,897 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 5,603 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 214 bbls pump down rate 15.0 bpm Max pump down pressure 6,640 psi Fluid Temp 72.0 ?F Total Pump Time 2:48 hr:min Pumps Lost During Job 2 Treatment Start Time 20:22 22:36 0:00 Treatment End Time 21:57 23:49 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 3.0 PPA, 3.0 PPA.. During 3.0 PPA there was a drip noticed on high pressure side. We cut screws, flush the well and

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								shut down to fix the drip. Resumed back on to the stage after fixing the leak and ran design amount of sand with 0.5 PPA increments from 0.5 PPA to 4.0 PPA. Lost pump 7 (10067) due to communication issues. Lost pump 3 (10070) due to engine surging.
23:50	0.17	FRAC	OPO			1		Other Well Ops
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	3.00	FRAC	OPO			1	Other Well Ops
3:00	1.00	FRAC	GRS			1	Grease Frac Manifold and Re-head WL.
4:00		FRAC	WLT			1	Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with psi.

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
05/06/2017 17:00	GE OIL AND GAS PRESSURE CONTROL LP	Wellhead (Surface)		FRT	EN	Wellhead Surface	1.25	1.25		OPEN
Description: Valve leaking on the 1508H UMW						Title: LEAKS				
05/06/2017 18:15	SHELL	Wait On Weather		NOA	N		2.25	2.25		OPEN
Description: HIGH WINDS						Title: WOW				
Total							3.50	3.50		