

**EP WELLS DAILY OPERATIONS REPORT**

Report 43

05/29/2017

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	43.00
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	Wes Garver/Dennis McKay	Measured Depth(ft)	
Engineer	ALEJANDRO VILEGAS	TVD(ft)	
Other Supervisor	Matt J./Matt R.	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/%)	23.82/100.00	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	4,645,812/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.83	LOT/FIT EMW(ppg)	
Daily Cost	215,992	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 <b>GOAL ZERO DAYS</b> <b>PS BARRIER EVENT</b> PS barrier bowtie review			TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)
Safety Comments:						
Total man hours: 1162						

**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			14

**Operations Summary**

24 Hour Summary
Frac ops.
Update Since Report Time
24 Hour Forecast
Frac ops.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.08	FRAC	WLT			1		Stab lube fill lube. Press test to 8,000 psi.
0:05	0.65	FRAC	WLT			1		Equalize, OW, and RIH.
0:44	0.07	FRAC	WLT			1		"Stage #53 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 @ . Bring on pumps at 11500'. Pump down as follows: 4 bpm @ 4500 psi 8 bpm @ 5000 psi11700 12 bpm @ 5600 psi11800 Max:12 bpm. Max: 5950 psi  Set plug @ 12974 ft Perforate as follows: 12947' - 12948' 12920' - 12921' 12863' - 12864' 12819' - 12820' Stabilized pressure after perforating: 4650 psi Pump down volume: 37 bbl"
0:48	0.53	FRAC	WLT			1		POOH.
1:20	0.42	FRAC	WLT			1		Wait at 200' from surface for other pad ops.
1:45	0.08	FRAC	WLF			1		BU, SIW, bleed off lube and lines.
1:50	0.17	FRAC	WLF			1		Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves.
2:00	2.50	FRAC	WLF			1		HO from WL to frac. Wait on other pad ops.
4:30	0.58	FRAC	FRT			1		Pressure test iron. Leak on valve. Swap gasket and pressure test again. Test good.
5:05	1.70	FRAC	FRT			1		Stage 53 Summary University 19 PW Unit 1507H Interval 12819 - 12947 Open Well Pressure 4,313 psi Max Treating Pressure 9,104 psi Max Slurry Rate 80.8 bpm Average Treating Pressure 7,916 psi Average Slurry Rate 59.3 bpm Breakdown Pressure 6,637 psi Breakdown Rate 12.6 bpm Breakdown Volume 15,624 gal Avg HHP 11,505 hp Final ISIP 5,109 psi Frac Gradient 0.874 psi/ft Pad Volume 15,876 gal Main Body Volume 189,584 gal Flush Volume 24,150 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 422,380 lbs Proppant in Formation 422,380 lbs Avg Proppant Concentration 2.88 lb/gal Max Proppant Concentration 4.01 lb/gal Load to Recover 4,514 bbls Load to Recover w/o Acid 4,502 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,425 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 37 bbls pump down rate 12.0 bpm Max pump down pressure 5,950 psi Fluid Temp 72.0 ?F Total Pump Time 1:38 hr:min

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pumps Lost During Job 0 Treatment Start Time 5:09 0:00 0:00 Treatment End Time 6:47 0:00 0:00 Diverter Slurry bbls All Proppant placed, Pumped 500 gals of 15% HCL. Pumped 0.50 PPA to 3.00 PPA ramp, 3.00 PPA, 3.50 PPA, and 4.00 PPA.
6:47	0.05	FRAC	FWL			1		Shut in well. Bleed off lines and hand well to wireline.
6:50	0.42	FRAC	WLT			1		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4630psi.
7:15	0.88	FRAC	WLT			1		Stage #1507-#54 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 @10911. Bring on pumps at 11350'. Pump down as follows: 3bpm @ 4600psi @11350 6bpm @ 4700psi @11400 9bpm @ 4900psi @11450 12bpm w/ 5400psi @11500 12.5bpm w/ 5950psi @11550  Set plug @ 12797ft Perforate as follows: 12775' - 12776' 12731' - 12732' 12687' - 12688' 12642' - 12643' Stabilized pressure after perf: 4590psi Pump down volume: 28bbl
8:08	1.52	FRAC	WLT			1		POOH to 200', wait on adjacent operations.
9:39	0.17	FRAC	WLT			1		POOH Shut in well with 4600 psi. Bleed off. "Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves.  Grease UMW&Wing - 4min, no impact to critical path.  Handover from WL to frac. "
9:49	3.60	FRAC	WLT			1		Wait on adjacent well operations.
13:25	1.48	FRAC	FRT			1		RU pump six in line. Install spm restraints and set up to PT lines. While pressure testing lines, bleeds werre leaking to OTT. Bleed down pressure. Pause to discuss rigging down bleeds, discuss hammer swings and pinch points. RD and RU bleeds. Install spm restraints. Set up to PT again. Test good. Equalize pressure, gather valve team and open well.
14:54	1.72	FRAC	FRT			1		Stage 54 Summary University 19 PW Unit 1507H Interval 12642 - 12775 Open Well Pressure 4,233 psi Max Treating Pressure 9,192 psi Max Slurry Rate 60.8 bpm Average Treating Pressure 7,981 psi Average Slurry Rate 58.3 bpm Breakdown Pressure 7,323 psi Breakdown Rate 10.3 bpm Breakdown Volume 15,204 gal Avg HHP 11,404 hp Final ISIP 5,432 psi Frac Gradient 0.901 psi/ft Pad Volume 14,910 gal Main Body Volume 187,610 gal Flush Volume 23,268 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 421,380 lbs Proppant in Formation 421,380 lbs

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Avg Proppant Concentration 2.89 lb/gal Max Proppant Concentration 4.01 lb/gal Load to Recover 4,467 bbls Load to Recover w/o Acid 4,455 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,387 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 28 bbls pump down rate 12.5 bpm Max pump down pressure 5,950 psi Fluid Temp 72.0 ?F Total Pump Time 1:42 hr:min Pumps Lost During Job 2 Treatment Start Time 2:56 0:00 0:00 Treatment End Time 4:38 0:00 0:00 Diverter Slurry bbls All Proppant placed, Pumped 500 gals of 15% HCL. Pumped 0.50 PPA to 3.00 PPA ramp, 3.00 PPA, 3.50 PPA, and 4.00 PPA. Lost Pump (10043), D-ring. Lost Pump (507569), No wedding band connector on pony rd and plunger.
16:37	0.07	FRAC	FWL			1		SIW, bleed off pressure, HO to WL.
16:41	0.18	FRAC	WLT			1		Wait on other pad ops.
16:52	0.22	FRAC	WLT			1		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4650psi.
17:05	0.67	FRAC	WLT			1		"Stage #1507-#55 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 @10911. Bring on pumps at 11200'. Pump down as follows: 3bpm @ 4800psi @11200 6bpm @ 4900psi @11447 9bpm @ 5100psi @11350 11bpm w/ 6040psi @11450  Set plug @ 12620ft Perforate as follows: 12598' - 12599' 12554' - 12555' 12510' - 12511' 12466' - 12467' Stabilized pressure after perf: 4792psi Pump down volume: 27bbl"
17:45	1.17	FRAC	WLT			1		POOH to 200', wait on adjacent operations.
19:05	0.08	FRAC	WLF			1		BU, SIW, bleed off to 0 psi.
19:10	0.25	FRAC	WLF			1		Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves.
19:25	2.52	FRAC	WLF			1		HO from WL to frac. Wait on other pad operations.
21:56	1.93	FRAC	FRT			1		Frac stage # 55  Stage 55 Summary University 19 PW Unit 1507H Interval 12466 - 12598 Open Well Pressure 4,310 psi Max Treating Pressure 8,389 psi Max Slurry Rate 60.8 bpm Average Treating Pressure 7,852 psi Average Slurry Rate 58.6 bpm Breakdown Pressure 6,233 psi Breakdown Rate 9.4 bpm Breakdown Volume 798 gal Avg HHP 11,278 hp

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Final ISIP 5,104 psi Frac Gradient 0.873 psi/ft Pad Volume 26,502 gal Main Body Volume 230,156 gal Flush Volume 23,856 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 415,000 lbs Proppant in Formation 415,000 lbs Avg Proppant Concentration 2.89 lb/gal Max Proppant Concentration 4.02 lb/gal Load to Recover 5,480 bbls Load to Recover w/o Acid 5,468 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 5,401 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 27 bbls pump down rate 11.0 bpm Max pump down pressure 6,040 psi Fluid Temp 72.0 ?F Total Pump Time 1:56 hr:min Pumps Lost During Job 1 Treatment Start Time 21:56 0:00 0:00 Treatment End Time 23:52 0:00 0:00 Diverter Slurry bbls All Proppant placed, Pumped 500 gals of 15% HCL. Pumped 0.50 PPA to 3.00 PPA ramp, 3.00 PPA, 3.50 PPA, and 4.00 PPA. We did not observe a Ball Seat, Pumped 150 BBLS over well bore volume. OSR made calls to the Engineer, ok was given to continue the frac. Durning the sand ramp the Ball Seated at 1594 BBL . Lost Pump 10062 - D-Ring
23:52	0.12	FRAC	FWL			1		HO from Frac to WL.
<b>Total</b>	<b>23.82</b>							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.17	FRAC	FWL			1	PU, remove night cap, PU tools.
0:10	0.05	FRAC	WLT			1	Stab lubricator. Fill lubricator. Press test to 8,000 psi. RIH.
0:13	0.78	FRAC	WLT			1	"Stage #1507-#56 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 @10911. Bring on pumps at 11200'. Pump down as follows: 4bpm @ 4700psi @11300 8bpm @5000psi @11500 10bpm @ 5200psi @11600  Set plug @ 12444ft Perforate as follows: 12422' - 12423' 12378' - 12379' 12333' - 12334' 12289' - 12290' Stabilized pressure after perf: 4628psi Pump down volume: 24bbl"
1:00	0.55	FRAC	WLT			1	pooh with wireline assembly.
1:33	0.45	FRAC	WLT			1	Out of hole, wait on frac.
2:00	0.17	FRAC	WLF			1	Shut in well. Lay down guns and verify shots fired. Drop ball. Install night cap. Hand well to frac. Re-Head and grease frac manifold.