

EP WELLS DAILY OPERATIONS REPORT

Report 23

12/05/2017

Company PERMIAN
 Well Type Development
 Well UNIVERSITY 19 D 0904H
 Wellbore UNIVERSITY 19 D 0904H
 WBS No/API No 30266560 / 4230133226.00

Event Summary

Event Type	Completion only	Event Start Date	10/31/2017	Days on Location	23.00
Objective	Install Completion	Original Spud Date	06/19/2017		
Est. Days	65.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Andrew Veroba	Measured Depth(ft)	
Engineer	Bobby Ramos	TVD(ft)	
Other Supervisor	Brett Oldenkamp	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,799.10 / 2,771.10	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	3.50/14.58	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	2,349,535/3,746,244.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.63	LOT/FIT EMW(ppg)	
Daily Cost	206,032	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:						
Man Hours: 1123						

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			22

Operations Summary

24 Hour Summary
Frac Stages 28,29,30 Perf Stages 28,29,30
Update Since Report Time
24 Hour Forecast
Continue Frac and Perf operations

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.07	FRAC	FWL			0		WOCO.
0:04	0.18	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 8000 psi
0:15	1.75	FRAC	WLT			0		Open well with 4650 psi. RIH. "Stage #28 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 @ 10990'. Bring on pumps at 11500'. Pump down as follows: 3 bpm @ 4400 psi 6 bpm @ 4600 psi 10 bpm @ 4900 psi Max:10 bpm. Max: 6250 psi. Set plug @ 13646' Perforate as follows: 13621' - 13622' 13576' - 13577' 13531' - 13532' 13486' - 13487' Stabilized pressure after perforating: 4550 psi Pump down volume: 38 bbl" POOH Shut in well with 4600 psi. Bleed off.
2:00	3.50	FRAC	WLF			1		*** Start NPT (WOW) at 0200 *** High wind speeds. *** End NPT (WOW) at
5:30	0.42	FRAC	WLF			0		Regroup pause. Break lubricator. All shots fired. MU night cap. LD tools and stand lubricator. Secure crown and wing valves. Handover from WL to Frac.
5:55	0.82	FRAC	WLF			0		WOCO.
6:44	1.25	FRAC	FRT			0		Stage 28 Summary University 19 D 0904H Interval 13486 - 13622 Open Well Pressure 4,210 psi Max Treating Pressure 9,055 psi Max Slurry Rate 60.7 bpm Average Treating Pressure 8,439 psi Average Slurry Rate 55.7 bpm Breakdown Pressure 7,950 psi Breakdown Rate 14.0 bpm Breakdown Volume 546 gal Avg HHP 11,521 hp Final ISIP 5,510 psi Frac Gradient 0.907 psi/ft Pad Volume 294 gal Main Body Volume 156,324 gal Flush Volume 25,074 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 139,600 lbs 100 M Sand Pumped 280,300 lbs Proppant in Formation 419,900 lbs Avg Proppant Concentration 3.36 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,760 bbls Load to Recover w/o Acid 3,760 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,642 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 38 bbls

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								pump down rate 10.0 bpm Max pump down pressure 6,269 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 1 Treatment Start Time 6:44 0:00 0:00 Treatment End Time 7:59 0:00 0:00 Diverter Slurry bbls - Proppant was pumped with a ramp of 0.50 - 3.5 PPA, then steps of 3.5 PPA, and 4.00 PPA - Did not pump acid this stage. - Ran 2 shots of gel with a 20 bbl spacer. - A ball in place plug was utilized - Pump 10073 was taken out during stage for mechanical issue Time for Prop on Perfs 15.0 minutes Time between Stages (TBF) 4:52 Hours/min
7:59	3.53	FRAC	FWL			0		Wait on concurrent operations.
11:31	0.23	FRAC	FWL			0		Hoist gun/plug into lubricator. Remove night cap. Stab and fill lubricator. Pressure test PCE to 8kpsi.
11:45	1.58	FRAC	WLT			0		Open well with 4200 psi and RIH. Conduct switch checks at 200'. Stage 29 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-in-place frac plug. Tie into liner top @ 10,990'. Bring on pumps at 11,600'. Pump down as follows: 3bpm @ 4398 psi 6bpm @ 4760 psi 10bpm @ 5529 psi Max pressure = 6613 psi Set plug @ 13,466ft Perforate as follows: 13,441' – 13,442' 13,396' – 13,397' 13,351' – 13,352' 13,306' – 13,307' Stabilized pressure after perf: 4897 psi Pump down volume: 39 bbl
13:20	0.17	FRAC	GRS			0		Bump up and grease UMW.
13:30	0.20	FRAC	WLF			0		SIW. 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 setting tool. Greased LMV. Ready for frac.
13:42	0.28	FRAC	WLF			0		Wait on concurrent operations. Wireline move to 910 well.
13:59	0.32	FRAC	FRP			0		Prime pumps and pressure test. Open well to frac.
14:18	1.30	FRAC	FRT			0		Stage 29 Summary University 19 D 0904H Interval 13306 - 13442 Open Well Pressure 4,285 psi Max Treating Pressure 9,180 psi Max Slurry Rate 60.6 bpm Average Treating Pressure 8,461 psi Average Slurry Rate 56.3 bpm Breakdown Pressure 7,543 psi Breakdown Rate 11.0 bpm Breakdown Volume 218 gal Avg HHP 11,675 hp Final ISIP 5,604 psi Frac Gradient 0.915 psi/ft Pad Volume 714 gal Main Body Volume 165,908 gal Flush Volume 24,990 gal

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 278,700 lbs 100 M Sand Pumped 142,360 lbs Proppant in Formation 421,060 lbs Avg Proppant Concentration 3.13 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,989 bbls Load to Recover w/o Acid 3,989 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,870 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 39 bbls pump down rate 10.0 bpm Max pump down pressure 6,630 psi Fluid Temp 72.0 ?F Total Pump Time 1:18 hr:min Pumps Lost During Job 1 Treatment Start Time 14:18 0:00 0:00 Treatment End Time 15:36 0:00 0:00 Diverter Slurry bbls - Proppant was pumped with a ramp of 0.50 - 3.0 PPA, then steps of 3.0 PPA, 3.5 PPA, and 4.00 PPA - Did not pump acid this stage. - Ran 2 shots of gel with a 20 bbl spacer. - A ball in place plug was utilized - Pump 507569 was taken out during the stage for mechanical issue Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 0:58 Hours/min
15:36	2.70	FRAC	FWL			0		Wait on concurrent operations.
18:18	0.17	FRAC	FWL			0		Hoist gun/plug into lubricator. Remove night cap. Stab and fill lubricator. Pressure test PCE to 8kpsi.
18:28	1.60	FRAC	WLT			0		"Stage #30 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 @ 10990'. Bring on pumps at 11450'. Pump down as follows: 3 bpm @ 4000 psi 6 bpm @ 4700 psi 11550 10 bpm @ 5000 psi 11600 Max: 10 bpm. Max: 6384 psi. Set plug @ 13286' Perforate as follows: 13261' - 13262' 13216' - 13217' 13171' - 13172' 13126' - 13127' Stabilized pressure after perforating: 5071 psi Pump down volume: 17 bbl" 1915 POOH
20:04	0.00	FRAC	WLF			0		1955 Shut in well with 4500 psi. Bleed off. 2000 Break lubricator. All shots fired. MU night cap. LD tools. Secure crown and wing valves. 2004 Handover from WL to Frac.
20:04	1.88	FRAC	FRT			0		Stage 30 Summary University 19 D 0904H Interval 13126 - 13262 Open Well Pressure 4,432 psi Max Treating Pressure 9,146 psi Max Slurry Rate 60.7 bpm

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Average Treating Pressure 8,055 psi Average Slurry Rate 55.3 bpm Breakdown Pressure 7,429 psi Breakdown Rate 9.0 bpm Breakdown Volume 332 gal Avg HHP 10,918 hp Final ISIP 5,684 psi Frac Gradient 0.922 psi/ft Pad Volume 1,092 gal Main Body Volume 161,864 gal Flush Volume 24,948 gal 100 MAZ Sand Pumped 47,360 lbs 100 M Brown Sand Pumped 92,940 lbs 100 M Sand Pumped 281,000 lbs Proppant in Formation 421,300 lbs Avg Proppant Concentration 3.27 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,885 bbls Load to Recover w/o Acid 3,885 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,774 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 31 bbls pump down rate 10.0 bpm Max pump down pressure 6,384 psi Fluid Temp 72.0 ?F Total Pump Time 1:19 hr:min Pumps Lost During Job 0 Treatment Start Time 20:37 0:00 0:00 Treatment End Time 21:56 0:00 0:00 Diverter Slurry bbls - Proppant was pumped with a ramp of 0.50 - 3.50 PPA, then steps of 3.50 PPA, and 4.00 PPA - Did not pump acid this stage. - Ran 2 shots of gel with a 20 bbl spacer. - A ball in place plug was utilized Time for Prop on Perfs 16.0 minutes Time between Stages (TBF) 0:47 Hours/min
21:57	2.05	FRAC	FWL			0		Conduct pump Maintenance and wait on other pad operations
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	3.10	FRAC	FWL			0	Conduct pump Maintenance and wait on other pad operations
3:06	0.20	FRAC	FWL			0	Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 0312 Stab lubricator. Fill lubricator. 0314 Pressure test lubricator to 8000 psi 0318 Open well with 4400 psi. RIH.
3:18		FRAC	WLT			0	

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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
12/05/2017 02:00		Wait On Weather		WLF	N		3.50	3.50	1	
Description: High wind speeds.						Title: Wind.				
Total							3.50	3.50		