

EP WELLS DAILY OPERATIONS REPORT

Report 18

06/05/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1503H
Wellbore	UNIVERSITY 19 PW UNIT 1503H
WBS No/API No	30265013 / 4230133170

Event Summary

Event Type	Completion only	Event Start Date	04/28/2017	Days on Location	17.00
Objective	Install Completion	Original Spud Date	01/29/2017		
Est. Days	25.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Nick Morrison	Measured Depth(ft)	
Engineer	Justin Midgley	TVD(ft)	
Other Supervisor	Tommy Hurdle	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,761.85 / 2,736.20	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	4.30/17.92	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,596,033/4,184,415.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.38	LOT/FIT EMW(ppg)	
Daily Cost	225,872	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)	6

Safety Comments:

Total People - 90
Total Hours Worked - 1170
Total Hours driven - 188

Gaol Zero Day 11

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	16

Operations Summary

24 Hour Summary
Frac Stg 16. Perf and Frac Stg 17, 18. Perf Stg 19
Update Since Report Time
24 Hour Forecast
MIRU CT. Conduct fishing ops on the 1504H

EP WELLS DAILY OPERATIONS REPORT

Report 18

06/05/2017

Well UNIVERSITY 19 PW UNIT 1503H
Wellbore UNIVERSITY 19 PW UNIT 1503H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.42	FRAC	FRP			0		Changed out o-ring on the 1503H manifold. Prime up pump trucks and pressure test to 9800 psi. Test good. Equalize and open well at 4350 psi.
0:25	1.20	FRAC	FRT			0		<p>Stage 16 Summary University 19 PW Unit 1503H Interval 16632 - 16767</p> <p>Open Well Pressure 4,305 psi Max Treating Pressure 9,254 psi Max Slurry Rate 60.5 bpm Average Treating Pressure 8,580 psi Average Slurry Rate 57.0 bpm Breakdown Pressure 5,794 psi Breakdown Rate 10.0 bpm Breakdown Volume #VALUE! gal Avg HHP 11,987 hp Final ISIP 5,179 psi Frac Gradient 0.881 psi/ft Pad Volume 32,592 gal Main Body Volume 243,012 gal Flush Volume 35,364 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 410,240 lbs Proppant in Formation 410,240 lbs Avg Proppant Concentration 2.76 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 5,786 bbls Load to Recover w/o Acid 5,774 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 5,694 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 149 bbls pump down rate 12.1 bpm Max pump down pressure 6,250 psi Fluid Temp 72.0 ?F Total Pump Time 2:25 hr:min Pumps Lost During Job 0</p> <p>Treatment Start Time 21:47 22:35 0:25 Treatment End Time 22:26 23:15 1:31 Diverter Slurry bbls</p> <p>Ramp schedule from 0.5-3.0 PPA. All proppant placed. We did not observe the ball seat, so we shut down when acid reached perfs to make a decision on how to proceed. Opening pressure was 4305 psi and when we shut down to make a decision, the pressure was 5405 psi. OSR decided to continue on with the stage. During 3.5# stage, the decision was made to cut sand and flush the well in order to shut down for lightening. While equalizing to resume the stage, a small leak was noticed on the zipper manifold. The leak was fixed and we pressure tested before opening the well back up. After resuming, we stepped sand up in 0.5# increments until we reached 4# sand.</p>
1:37	0.02	FRAC	FWL			0		SIW @ 4938 psi. Bleed off pressure and HO to WL
1:38	0.10	FRAC	FWL			0		Other Well Ops
1:44	0.35	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 1k-8kpsi. Open well with 4700 psi.
2:05	0.92	FRAC	WLT			0		<p>"Stage #17 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 @10950. Bring on pumps at 11200'. Pump down as follows: 3bpm @ 4476psi @11200 6bpm @ 4570psi @11250 9bpm @ 4877psi @11350 12bpm w/ 5255psi @11450 Max Rate 12bpm w/ 5785psi</p>

EP WELLS DAILY OPERATIONS REPORT

Report 18

06/05/2017

Well UNIVERSITY 19 PW UNIT 1503H
Wellbore UNIVERSITY 19 PW UNIT 1503H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Set plug @ 16612ft Perforate as follows: 16588' - 16589' 16543' - 16544' 16499' - 16500' 16454' - 16455' Stabilized pressure after perf: 4485psi Pump down volume: 120bbl"
3:00	0.58	FRAC	WLT			0		POOH to 200'
3:35	1.28	FRAC	OPO			0		Wait at 200' for frac to finish
4:52	0.53	FRAC	WLF			0		Bump up and SIW @ 4200. 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 valve - grease time 10 min.
5:24	0.12	FRAC	FRP			0		Prime up pump trucks. Equalize and open the well at 4390 psi
5:31	1.73	FRAC	FRT			0		Stage 17 Summary University 19 PW Unit 1503H Interval 16454 - 16589 Open Well Pressure 4,212 psi Max Treating Pressure 9,213 psi Max Slurry Rate 60.7 bpm Average Treating Pressure 8,589 psi Average Slurry Rate 56.7 bpm Breakdown Pressure 5,058 psi Breakdown Rate 10.0 bpm Breakdown Volume 18,354 gal Avg HHP 11,936 hp Final ISIP 5,262 psi Frac Gradient 0.889 psi/ft Pad Volume 20,496 gal Main Body Volume 188,916 gal Flush Volume 34,902 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 412,940 lbs Proppant in Formation 412,940 lbs Avg Proppant Concentration 3.11 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 4,498 bbls Load to Recover w/o Acid 4,486 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,406 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 120 bbls pump down rate 12.3 bpm Max pump down pressure 5,784 psi Fluid Temp 72.0 ?F Total Pump Time 1:44 hr:min Pumps Lost During Job 0 Treatment Start Time 5:31 0:00 0:00 Treatment End Time 7:15 0:00 0:00 Diverter Slurry bbls Ramped from 0.5# to 3.5#. All sand placed.
7:15	0.30	FRAC	FWL			0		SIW @ 4381 psi. Bleed off pressure and HO to WL
7:33	0.30	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 7500 psi Open well with 4381 psi. RIH.
7:51	0.95	FRAC	WLT			0		"Stage #18 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

EP WELLS DAILY OPERATIONS REPORT

Report 18

06/05/2017

Well UNIVERSITY 19 PW UNIT 1503H
Wellbore UNIVERSITY 19 PW UNIT 1503H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								composite frac plug. Tie into liner top @ . Bring on pumps at 11300'. Pump down as follows: 3 bpm @ 4630 psi 6 bpm @ 4850 psi 9 bpm @ 5150 psi 12 bpm @ 5800 psi Max:12.1 bpm. Max: 6340 psi Set plug @ 16434 ft Perforate as follows: 16410' - 16411' 16365' - 16366' 16321' - 16322' 16276' - 16277' Stabilized pressure after perforating: 4492 psi Pump down volume: 132 bbl"
8:48	0.60	FRAC	WLT			0		Pooh
9:24	1.17	FRAC	OPO			0		Wait at 200 ft for frac
10:34	0.12	FRAC	WLF			0		Bump up. Shut in well with 4103 psi Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. Handover from WL to frac.
10:41	0.40	FRAC	FRP			0		Prime up pressure test. Equalize well
11:05	1.72	FRAC	FRT			0		Stage 18 Summary University 19 PW Unit 1503H Interval 16276 - 16411 Open Well Pressure 4,219 psi Max Treating Pressure 9,165 psi Max Slurry Rate 60.5 bpm Average Treating Pressure 8,768 psi Average Slurry Rate 54.7 bpm Breakdown Pressure 6,154 psi Breakdown Rate 10.0 bpm Breakdown Volume 18,270 gal Avg HHP 11,755 hp Final ISIP 5,124 psi Frac Gradient 0.877 psi/ft Pad Volume 18,774 gal Main Body Volume 189,420 gal Flush Volume 34,902 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 423,160 lbs Proppant in Formation 423,160 lbs Avg Proppant Concentration 3.14 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 4,510 bbls Load to Recover w/o Acid 4,498 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,418 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 132 bbls pump down rate 12.5 bpm Max pump down pressure 6,340 psi Fluid Temp 72.0 ?F Total Pump Time 1:42 hr:min Pumps Lost During Job 0 Treatment Start Time 11:05 0:00 0:00 Treatment End Time 12:47 0:00 0:00 Diverter Slurry bbls Ramp from 0.5-3.0 PPA. All proppant placed.
12:48	0.15	FRAC	FWL			0		Close in well and bleed pressure to 0 psi.
12:57	1.28	FRAC	FWL			0		Handover from frac to wireline. ReHead Eline, Grease Crown valves

EP WELLS DAILY OPERATIONS REPORT

Report 18

06/05/2017

Well UNIVERSITY 19 PW UNIT 1503H
Wellbore UNIVERSITY 19 PW UNIT 1503H

Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 7500 psi Open well with 4220 psi. RIH.
14:14	1.08	FRAC	WLT			0		"Stage #19 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 11290'. Pump down as follows: 3 bpm @ 4480 psi 6 bpm @ 4750 psi 9 bpm @ 5260 psi 12 bpm @ 6360 psi Max:12.1 bpm. Max: 6450 psi Set plug @ 16256 ft Perforate as follows: 16232' - 16233' 16187' - 16188' 16143' - 16144' 16098' - 16099' Stabilized pressure after perforating: 4510 psi Pump down volume: 126 bbl"
15:19	0.75	FRAC	WLT			0		POOH
16:04	0.13	FRAC	WLF			0		POOH Shut in well with 4054 psi Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. Handover from WL to frac.
16:12	4.30	FRAC	FRT			1		*****NPT Keane frac***** Waiting on sand trucks. 225,000 lbs short of having a full stage, due to sand facilities shut down in Odessa had to reroute trucks to New Mexico.
20:30	2.67	FRAC	OPO			0		Other Pad Ops
23:10	0.25	FRAC	OPO			0		Prime up pumps. Equalize and open well @ 4040 psi
23:25	0.58	FRAC	WLF			0		Frac Stg 19
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00		FRAC	WLF			0	Frac Stg 19

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
06/05/2017 16:12	KEANE FRAC LP	Stimulation		FRT	N		4.30	4.30		OPEN
Description: WL below 200' on the 1503H waiting on sand trucks. 225,000 lbs short of having a full stage, due to sand facilities shut down in Odessa had to reroute trucks to New Mexico.						Title: WOT				
Total							4.30	4.30		