

EP WELLS DAILY OPERATIONS REPORT

Report 30

05/16/2017

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	30.00
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.Hurdle / 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/%)	1.18/4.93	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	2,524,113/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.45	LOT/FIT EMW(ppg)	
Daily Cost	218,977	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 for safety details						

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	1

Operations Summary

24 Hour Summary
Frac Stages 24-27, Perf Stages 25-27
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	0.58	FRAC	OPO			0		Wellbore SI and Secure, other PAD operations
0:35	0.03	FRAC	FRT			0		Prime pumps & equalize
0:37	2.05	FRAC				0		<p>Stage 24 Summary University 19 PW Unit 1507H</p> <p>Interval 17940 - 18074</p> <p>Open Well Pressure 4,150 psi</p> <p>Max Treating Pressure 9,248 psi</p> <p>Max Slurry Rate 54.1 bpm</p> <p>Average Treating Pressure 8,808 psi</p> <p>Average Slurry Rate 48.3 bpm</p> <p>Breakdown Pressure 7,289 psi</p> <p>Breakdown Rate 10.2 bpm</p> <p>Breakdown Volume 19,320 gal</p> <p>Avg HHP 10,427 hp</p> <p>Final ISIP 5,169 psi</p> <p>Frac Gradient 0.879 psi/ft</p> <p>Pad Volume 18,942 gal</p> <p>Main Body Volume 209,030 gal</p> <p>Flush Volume 30,744 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 417,680 lbs</p> <p>Proppant in Formation 417,680 lbs</p> <p>Avg Proppant Concentration 2.81 lb/gal</p> <p>Max Proppant Concentration 4.00 lb/gal</p> <p>Load to Recover 4,977 bbls</p> <p>Load to Recover w/o Acid 4,965 bbls</p> <p>15% HCL Spearhead 500 gal</p> <p>Slickwater Fluid Pumped 4,733 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 152 bbls</p> <p>pump down rate 14.0 bpm</p> <p>Max pump down pressure 6,400 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 2:03 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 0:37 0:00 0:00</p> <p>Treatment End Time 2:40 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.</p>
2:40	0.03	FRAC	FWL			0		SIW @ 5149 psi. Bleed off pressure and HO to WL
2:42	0.42	FRAC	WLT			0		<p>Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator.</p> <p>Fill lubricator. PT lubricator to 8kpsi. Open well with 4466 psi.</p>
3:07	0.78	FRAC	WLT			0		<p>Stage #25 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 @10,911'. Bring on pumps at 11,200'.</p> <p>Pump down as follows:</p> <p>3bpm @ 4400psi @11200'</p> <p>6bpm @ 4650psi @11350'</p> <p>14bpm @ 5400psi @11650'</p> <p>Max Rate 14bpm w/ 6110psi</p> <p>Set plug @ 17918ft</p> <p>Perforate as follows:</p> <p>17896' - 17897'</p> <p>17852' - 17853'</p> <p>17808' - 17809'</p> <p>17764' - 17765'</p>

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Stabilized pressure after perf: 4412psi Pump down volume: 146bbl
3:54	0.70	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
4:36	1.40	FRAC	OPO			0		Wait on other pad operations
6:00	0.25	FRAC	WLT			0		Bump up and SIW @ 4260 psi. 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 and P/U next set of guns for next run. Move WL BOP's to next well. Grease Swab and 7" Hydraulic. Grease time 5 min.
6:15	0.25	FRAC	OPO			0		Wait on other pad operations
6:30	0.25	FRAC	SAF			0		Hold pre-job safety meeting w/ day light personel.
6:45	2.75	FRAC	OPO			0		Wait on other pad operations
9:30	2.08	FRAC	FRT			0		Stage 25 Summary University 19 PW Unit 1507H Interval 17764 - 178976 Open Well Pressure 3,920 psi Max Treating Pressure 9,155 psi Max Slurry Rate 56.3 bpm Average Treating Pressure 8,677 psi Average Slurry Rate 49.0 bpm Breakdown Pressure 7,329 psi Breakdown Rate 10.0 bpm Breakdown Volume 19,068 gal Avg HHP 10,421 hp Final ISIP 4,977 psi Frac Gradient 0.862 psi/ft Pad Volume 18,480 gal Main Body Volume 203,360 gal Flush Volume 30,954 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 422,980 lbs Proppant in Formation 422,980 lbs Avg Proppant Concentration 2.92 lb/gal Max Proppant Concentration 4.04 lb/gal Load to Recover 4,842 bbls Load to Recover w/o Acid 4,830 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,586 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 164 bbls pump down rate 14.0 bpm Max pump down pressure 6,400 psi Fluid Temp 72.0 °F Total Pump Time 2:02 hr:min Pumps Lost During Job 1 Treatment Start Time 9:30 0:00 0:00 Treatment End Time 11:32 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 Pump 10075 - Packing hole #2
11:35	0.20	FRAC	FWL			0		SIW @ 4810 psi. Bleed off pressure and HO to WL
11:47	0.22	FRAC	WLT			0		11:53 Pick up lubricator. Remove night cap. PU guns/plug. 11:56 Stab lubricator. 11:58 Fill lubricator. PT lubricator to 8kpsi. 12:00 Open well with 4550 psi.
12:00	0.83	FRAC	WLT			0		Stage #26 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'.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pump down as follows: 3bpm @ 4700psi @11300' 14bpm @ 5200psi @11500' Max Rate 14.2bpm w/ 6310 psi Set plug @ 17742ft Perforate as follows: 17720' - 17721' 17625' - 17626' 17631 - 17632' 17587' - 17588' Stabilized pressure after perf: 4250psi Pump down volume: 143bbl
12:50	1.98	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
14:49	0.12	FRAC	WLT			0		14:49 Bump up and SIW @ 4250 psi. 14:53 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 and P/U next set of guns for next run. Move WL BOP's to next well. Grease Swab and 7" Hydraulic LMV. Grease time 5 min.
14:56	3.07	FRAC	OPO			0		Wait on other pad operations
18:00	0.50	FRAC	FRT			0		Stage 26 frac
18:30	0.42	FRAC	FRT			0		Hold pre-job safety meeting w/ night time vendors. Discussion points included: 3 Golden Rules, 12 LSR, Process safety barriers, and zipper frac operations ***1855 Start NPT on Keane Frac***** Leaking High pressure pump iron ***** Cut screws and begin flush
18:55	1.08	FRAC	FRT			1		*****NPT continue Keane Frac ***** Flush wellbore w/ 8.3 ppg F/W. and repair leaking iron.
20:00	0.08	FRAC	FRT			1		***** NPT continues on Keane Frac ***** P/T iron t/ 9500 psi. (Good Test). Bleed down test pressure t/ 5000 psi. Open Well and begin Frac Stage #26. NPT will end once sand hits perforations.
20:05	0.02	FRAC	FRT			1		***** NPT Ends on Keane Frac***** Sand at perforations from previous frac of stage #26
20:06	0.77	FRAC	FRT			0		Stage 26 Summary University 19 PW Unit 1507H Interval 17587 - 17720 Open Well Pressure 3,942 psi Max Treating Pressure 9,434 psi Max Slurry Rate 60.0 bpm Average Treating Pressure 8,632 psi Average Slurry Rate 52.3 bpm Breakdown Pressure 7,541 psi Breakdown Rate 10.3 bpm Breakdown Volume 19,026 gal Avg HHP 11,065 hp Final ISIP 5,368 psi Frac Gradient 0.896 psi/ft Pad Volume 19,698 gal Main Body Volume 282,824 gal Flush Volume 53,550 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 412,200 lbs Proppant in Formation 412,200 lbs Avg Proppant Concentration 2.94 lb/gal Max Proppant Concentration 4.01 lb/gal Load to Recover 6,734 bbls Load to Recover w/o Acid 6,722 bbls 15% HCL Spearhead 500 gal

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Slickwater Fluid Pumped 6,499 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 143 bbls pump down rate 14.2 bpm Max pump down pressure 6,310 psi Fluid Temp 72.0 °F Total Pump Time 2:35 hr:min Pumps Lost During Job 0 Treatment Start Time 17:32 19:53 0:00 Treatment End Time 19:08 20:52 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 sand the T-Belt shut down, we cut sand screws and went to flush. Once we got the T-Belt up and running we pumped sand in steps from 1.0 PPA, 2.0 PPA, 3.0 PPA, 3.5 PPA, 4.0 PPA. Shut down on 3# 100 mesh because of high pressure leak on a chic. Resumed operations with a 0.5# step increase from 0.5# to 4#.
20:52	0.05	FRAC	FRT			0		SI well w/ 4806 psi. Bleed off pressure, handover well t/ W/L
20:55	0.25	FRAC	WLT			0		21:00 Pick up lubricator. Remove night cap. PU guns/plug. 21:03 Stab lubricator. 21:06 Fill lubricator. PT lubricator to 8kpsi. 21:10 Open well with 4806 psi.
21:10	0.83	FRAC	WLT			0		Stage #27 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 @ 4886 psi @11277' 14bpm @ 5500 psi @11593' Max Rate 14.bpm w/ 5900 psi Set plug @ 17565ft Perforate as follows: 17543' - 17543' 17499' - 17498' 17455' - 17454' 17411' - 17410' Stabilized pressure after perf: 4783psi Pump down volume: 145bbl
22:00	0.68	FRAC	WLT			0		POOH w/ E-line toolstring t/ 200' ELM
22:41	0.87	FRAC	OPO			0		Stndby waiting on frac ops of 1508H
23:33	0.35	FRAC	FRT			0		2333 Bump up and SIW @ 4930 psi. 2335 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 and P/U next set of guns for next run. Move WL BOP's to next well. Grease MMV and wing. Grease time 5 min.
23:54	0.10	FRAC				0		Wait on other pad operations
Total	24.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00		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
05/16/2017 18:55	KEANE FRAC LP	Stimulation		FRT	EN	High Pressure Pipework	1.18	1.18	1	OPEN
Description: Leaking High Pressure Iron						Title: Leaking High Pressure Iron				
Total							1.18	1.18		