

EP WELLS DAILY OPERATIONS REPORT

Report 29

11/06/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1406H
Wellbore	UNIVERSITY 19 PW UNIT 1406H
WBS No/API No	30266570 / 4230133213.00

Event Summary

Event Type	Completion only	Event Start Date	09/03/2017	Days on Location	29.00
Objective	Install Completion	Original Spud Date	04/30/2017		
Est. Days	31.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Hank Persaud/Brett Oldekamp	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	Tina Grega / Andrew Veroba	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,793.00 / 2,767.00	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	3.17/14.39	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,379,203/4,377,702.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.77	LOT/FIT EMW(ppg)	
Daily Cost	337,699	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:							
Manhours 1,222 hours							

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	28

Operations Summary

24 Hour Summary
Frac stages 39, 40, 41, 42, 43 Wireline stages 39, 40, 41, 42, 43
Update Since Report Time
Rigging out frac
24 Hour Forecast
Rig out and move off location.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.15	FRAC	WLT			0		Stab and fill wireline lubricator. PT lubricator to 8,000psi. Open well with 4800 psi. RIH.
0:09	1.52	FRAC	WLT			0		Stage 39 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-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4617 psi, 11630' 6bpm @ 4815 psi, 11760' 9bpm @ 5159 psi, 11835' Set plug @ 12,838ft Perforate as follows: 12,814 – 12,815' 12,770' – 12,771' 12,726' – 12,727' 12,681' – 12,682' Stabilized pressure after perf: 5072psi Pump down volume: 22bbl
1:40	0.58	FRAC	WLF			0		Bump up and SIW @ 4700 psi. 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 P/U next set of guns for next run. Greased Hydraulic and crown valve - grease time 10 min. HO to Frac
2:15	0.25	FRAC	FRT			0		Prime up and equalize to well.
2:30	1.37	FRAC	FRT			0		Stage 39 Summary University 19 PW Unit 1406H Interval 12681 - 12815 Open Well Pressure 4,811 psi Max Treating Pressure 9,119 psi Max Slurry Rate 62.3 bpm Average Treating Pressure 8,087 psi Average Slurry Rate 52.4 bpm Breakdown Pressure 8,072 psi Breakdown Rate 13.2 bpm Breakdown Volume 420 gal Avg HHP 10,386 hp Final ISIP 5,154 psi Frac Gradient 0.874 psi/ft Pad Volume 1,092 gal Main Body Volume 150,486 gal Flush Volume 24,654 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 59,560 lbs 100 M Sand Pumped 361,860 lbs Proppant in Formation 421,420 lbs Avg Proppant Concentration 3.56 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,605 bbls Load to Recover w/o Acid 3,605 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,503 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 22 bbls pump down rate 9.0 bpm Max pump down pressure 5,480 psi Fluid Temp 72.0 ?F Total Pump Time 1:19 hr:min Pumps Lost During Job 0 Treatment Start Time 2:30 0:00 0:00 Treatment End Time 3:49 0:00 1:19 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold.

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								- Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a 20 Bbl spacer - Ran ball in place plug.
3:52	0.30	FRAC	WLT			0		3:52 Pick up lubricator. Remove night cap. PU guns/plug. 3:53 Stab lubricator. Fill lubricator. 4:02 PT lubricator 8,000 psi. Open well with 4850 psi. RIH
4:10	1.38	FRAC	WLT			0		Stage 40 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-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4555 psi, 11650' 6bpm @ 4889 psi, 11770' 9bpm @ 5335 psi, 11845' Set plug @ 12,661ft Perforate as follows: 12,637 – 12,638' 12,593' – 12,594' 12,549' – 12,550' 12,505' – 12,506' Stabilized pressure after perf: 5081psi Pump down volume: 19bbl POOH
5:33	0.28	FRAC	WLF			0		Bump up and SIW @ 4700 psi. 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 P/U next set of guns for next run. Greased LMV - grease time 10 min. HO to Frac
5:50	1.67	FRAC	FRT			1		***NPT*** wait on sand.
7:30	0.10	FRAC	FRT			0		Prime up and Euialize. Open well @ 4978psi
7:36	1.38	FRAC	WLT			0		Stage 40 Summary University 19 PW Unit 1406H Interval 12505 - 12638 Open Well Pressure 4,978 psi Max Treating Pressure 8,939 psi Max Slurry Rate 60.0 bpm Average Treating Pressure 8,022 psi Average Slurry Rate 50.3 bpm Breakdown Pressure 8,011 psi Breakdown Rate 9.3 bpm Breakdown Volume 294 gal Avg HHP 9,890 hp Final ISIP 5,278 psi Frac Gradient 0.884 psi/ft Pad Volume 2,310 gal Main Body Volume 150,234 gal Flush Volume 24,738 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 95,480 lbs 100 M Sand Pumped 324,160 lbs Proppant in Formation 419,640 lbs Avg Proppant Concentration 3.60 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,596 bbls Load to Recover w/o Acid 3,596 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,497 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 19 bbls pump down rate 9.0 bpm Max pump down pressure 5,672 psi Fluid Temp 72.0 ?F Total Pump Time 1:24 hr:min

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Pumps Lost During Job 0 Treatment Start Time 7:35 0:00 0:00 Treatment End Time 8:59 0:00 1:24 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a 20 Bbl spacer - Ran ball in place plug. Time for Prop on Perfs 23.0 minutes Time between Stages (TBF) 3:46 Hours/min
8:59	0.30	FRAC	FWL			0		0902 Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 0912 Stab lubricator. Fill lubricator. 0915 Pressure test lubricator to 8000 psi 0917 Open well with 4900 psi. RIH.
9:17	0.92	FRAC	WLT			0		"Stage #41 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 @ 11069. Bring on pumps at 11700'. Pump down as follows: 3 bpm @ 4400 psi 6 bpm @ 4600 psi 11750 bpm @ psi Max:6 bpm. Max: 5414 psi Set plug @ 12488 ft Perforate as follows: 12461' - 12462' 12417' - 12418' 12373' - 12374' 12329' - 12330' Stabilized pressure after perforating: 4785 psi Pump down volume: 13 bbl" POOH
10:12	0.80	FRAC	WLF			0		1054 Shut in well with 4700 psi. Bleed off. 1057 Break lubricator. All shots fired. MU night cap. LD tools and lub. Secure crown and wing valves. 1100 Handover from WL to frac.
11:00	0.83	FRAC	FRT			1		***NPT***
11:50	0.08	FRAC	FRT			0		Data Van Lost all Power
11:55	1.22	FRAC	FRT			0		Equalize and open Well @ 4561
								Stage 41 Summary University 19 PW Unit 1406H Interval 12329 - 12462 Open Well Pressure 4,561 psi Max Treating Pressure 9,061 psi Max Slurry Rate 60.4 bpm Average Treating Pressure 7,699 psi Average Slurry Rate 55.6 bpm Breakdown Pressure 8,140 psi Breakdown Rate 9.8 bpm Breakdown Volume 252 gal Avg HHP 10,492 hp Final ISIP 5,394 psi Frac Gradient 0.894 psi/ft Pad Volume 2,226 gal Main Body Volume 150,570 gal Flush Volume 24,570 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 43,440 lbs 100 M Sand Pumped 377,360 lbs Proppant in Formation 420,800 lbs Avg Proppant Concentration 3.58 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,598 bbls

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Load to Recover w/o Acid 3,598 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,505 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 13 bbls pump down rate 6.0 bpm Max pump down pressure 5,414 psi Fluid Temp 72.0 ?F Total Pump Time 1:16 hr:min Pumps Lost During Job 0 Treatment Start Time 11:52 0:00 0:00 Treatment End Time 13:08 0:00 1:16 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a 20 Bbl spacer - Ran ball in place plug. Time for Prop on Perfs 15.0 minutes Time between Stages (TBF) 2:53 Hours/min
13:08	0.27	FRAC	FWL			0		1310 Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 1317 Stab lubricator. Fill lubricator. 1322 Pressure test lubricator to 8000 psi 1324 Open well with 4900 psi. RIH.
13:24	0.83	FRAC	WLT			0		"Stage #42 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 @ 11069. Bring on pumps at 11650'. Pump down as follows: 3 bpm @ 4700 psi 6 bpm @ 5400 psi bpm @ psi Max:6 bpm. Max: 5316 psi Set plug @ 12309 ft Perforate as follows: 12285' - 12286' 12241' - 12242' 12197' - 12198' 12153' - 12154' Stabilized pressure after perforating: 5000 psi Pump down volume: 12 bbl" POOH
14:14	0.77	FRAC	WLF			0		1456 Shut in well with 4800 psi. Bleed off. 1500 Break lubricator. All shots fired. MU night cap. LD tools and lub. Secure crown and wing valves. 1500 Handover from WL to frac.
15:00	0.67	FRAC	FRT			1		***NPT***
15:40	1.33	FRAC	FRT			0		Wait on computers in Data Van equalize and open well @4655psi Stage 42 Summary University 19 PW Unit 1406H Interval 12153 - 12286 Open Well Pressure 4,665 psi Max Treating Pressure 8,739 psi Max Slurry Rate 61.2 bpm Average Treating Pressure 7,889 psi Average Slurry Rate 55.6 bpm Breakdown Pressure 7,594 psi Breakdown Rate 9.6 bpm Breakdown Volume 210 gal Avg HHP 10,751 hp Final ISIP 5,381 psi Frac Gradient 0.893 psi/ft Pad Volume 2,268 gal

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Main Body Volume 151,452 gal Flush Volume 24,360 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 329,540 lbs 100 M Sand Pumped 90,800 lbs Proppant in Formation 420,340 lbs Avg Proppant Concentration 3.55 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,618 bbls Load to Recover w/o Acid 3,618 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,526 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 12 bbls pump down rate 6.0 bpm Max pump down pressure 5,316 psi Fluid Temp 72.0 ?F Total Pump Time 1:17 hr:min Pumps Lost During Job 0 Treatment Start Time 15:41 0:00 0:00 Treatment End Time 16:58 0:00 1:17 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - Two 20# gel sweeps were pumped at a volume of 40 Bbls each with a 20 Bbl spacer - Ran ball in place plug. Time for Prop on Perfs 16.0 minutes Time between Stages (TBF) 2:33 Hours/min
17:00	0.23	FRAC	FWL			0		1700 Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. 1709 Stab lubricator. Fill lubricator. 1712 Pressure test lubricator to 8000 psi 1714 Open well with 4850 psi. RIH.
17:14	1.37	FRAC	WLT			0		Stage 43 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-drop frac plug. Tie into liner top @ 11069'. Pump down as follows: 3bpm @ 4300 psi, 11750' 6bpm @ 4600 psi, 11800' Set plug @ 12,133ft Perforate as follows: 12,109 – 12,110' 12,065' – 12,066' 12,023' – 12,024' 11,977' – 11,978' Stabilized pressure after perf: 4996psi Pump down volume: 7bbl POOH
18:36	0.40	FRAC	WLT			0		Bump up and SIW @ 4800 psi. 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 P/U next set of guns for next run. Greased Hydraulic and crown valve - grease time 10 min. HO to Frac.
19:00	0.50	FRAC	FRT			0		NPT: Wait on sand.
19:30	0.67	FRAC	FRT			0		Prime pumps and pressure test. Leak observed on pump #2 bleedoff. Bleed down and repair. Retest to 9500 psi. Test good. Equalize and open up to well at 4765 psi.
20:10	1.23	FRAC	FRT			0		Stage 43 Summary University 19 PW Unit 1406H Interval 11977 - 12110

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Open Well Pressure 4,765 psi Max Treating Pressure 9,115 psi Max Slurry Rate 60.8 bpm Average Treating Pressure 8,140 psi Average Slurry Rate 54.7 bpm Breakdown Pressure 7,861 psi Breakdown Rate 12.5 bpm Breakdown Volume 420 gal Avg HHP 10,913 hp Final ISIP 5,487 psi Frac Gradient 0.902 psi/ft Pad Volume 504 gal Main Body Volume 141,540 gal Flush Volume 25,326 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 372,740 lbs 100 M Sand Pumped 44,360 lbs Proppant in Formation 417,100 lbs Avg Proppant Concentration 3.62 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 3,377 bbls Load to Recover w/o Acid 3,377 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,370 bbls 20# Linear Fluid Pumped 0 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 7 bbls pump down rate 6.0 bpm Max pump down pressure 5,180 psi Fluid Temp 72.0 ?F Total Pump Time 1:14 hr:min Pumps Lost During Job 0 Treatment Start Time 20:10 0:00 0:00 Treatment End Time 21:24 0:00 1:14 Diverter Slurry bbls -Proppant was pumped as a ramp from .5 PPA to 4.0 PPA, then a 4.0 PPA hold. - no gel was pumped on this stage - Ran ball in place plug. -We started stage #43 with 12 pumps and finished with 12 pumps.
21:24	0.60	FRAC	FRT			0		Greased UMW. SIW at 4942 psi and bled off pressure. Greased LMV, 3" and 2" wing valves. Held rig down Pauses.
22:00		FRAC	FRT			1		Break wireline and lubricator, rig out wireline. Take slings off temporary pipework and rig out standing iron. Begin torquing off frac tree from 0908, 0909, 1406 wells.
Total	22.00							

06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	2.75	FRAC	FRT			1	Rigged out wireline. Closed intermediate casing valve, rigged off flowback iron and capped. Rigged frac iron off buffalo heads. Bleed off manifolds and wrap up hydraulic hoses. Continue rigging out standing iron and mobilizing pumps, missile and blenders off location.
2:45	1.50	FRAC	FRT			1	Break out hydraulic valves and goat heads from 0908, 0909, 1406 wells.
4:15		FRAC	FRT			1	Hold pre-lift Pause and lift hydraulic valves and goat heads off 0908, 0909, 1406 wells. Install 4-1/16" 10Kpsi crown valves to top of flow cross. Continue rigging out standing iron and mobilizing pumps off location.

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06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
							Install new 3" 10Kpsi hydraulic valve to 0909 well. Break out and lift hydraulic and manual valves from zipper manifold.

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
11/06/2017 05:50	KEANE FRAC TX LLC	Wait On Equipment/ Materials		FRT	N		1.67	1.67	1	OPEN
Description: Shortage of trucks available for timely delivery of sand.						Title: Wait on sand				
11/06/2017 11:00	KEANE FRAC TX LLC	Stimulation		FRT	EN	Stimulation Surface Equipment	0.83	0.83	1	OPEN
Description: Data Van Lost all Power. Had to wait for them to fix Problem and reboot everything.						Title: Data Van				
11/06/2017 15:00	KEANE FRAC TX LLC	Stimulation		FRT	EN	Stimulation Surface Equipment	0.67	0.67	1	OPEN
Description: Wait on Computers in Data Van						Title: Data Van				
Total							3.17	3.17		