

## EP WELLS DAILY OPERATIONS REPORT

Report 17

10/02/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1407H
Wellbore	UNIVERSITY 19 PW UNIT 1407H
WBS No/API No	30266571 / 4230133203

## Event Summary

Event Type	Completion only	Event Start Date	09/03/2017	Days on Location	17.00
Objective	Install Completion	Original Spud Date	05/11/2017		
Est. Days	31.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	Tina	Measured Depth(ft)	
Engineer	Alex Villegas	TVD(ft)	
Other Supervisor	J.Steele, Morgan, Brett.O	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,792.70 / 2,766.70	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	3.58/14.93	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	659,308/4,701,640.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.14	LOT/FIT EMW(ppg)	
Daily Cost	164,047	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> <b>PS barrier bowtie review</b>			TRCF LWCF Safety Cards - Safe Safety Card - Unsafe SSE% Last casing pressure(psi)	
Safety Comments:							

## 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 6,7 PERF STG 6,7,8
Update Since Report Time
24 Hour Forecast
CONTINUE FRAC OPERATIONS

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	0.20	FRAC	FWL			0		0 Handover from frac to WL. 0 Pick up lubricator. Remove night cap. PU tools. 5 Stab lubricator. Fill lubricator. 10 PT lubricator to 8000psi 12 Open well with 4500psi.
0:12	1.27	FRAC	WLT			0		122 "Stage #6 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 @11122". Pump down as follows: 3bpm @ 4500psi11800 6bpm @ 4700psi11900 9bpm @ 5200psi12000 10bpm @ 5800psi12200 11bpm @ 6600psi15000 11bpm @ 6853psi  Set plug @ 19513ft Perforate as follows: 19488' - 19489' 19444' - 19445' 19399' - 19400' 19355' - 19356' Stabilized pressure after perf: 6035psi Pump down volume: 170bbl" 128 POOH
1:28	1.25	FRAC	WLF			0		233 Shut in well with 4400psi. Bleed off. 240 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. 243 Handover from WL to frac.
2:43	2.62	FRAC	FRT			0		Stage 6 Summary University 19 PW Unit 1407H Interval 19355 - 19489 Open Well Pressure 4,321 psi Max Treating Pressure 9,445 psi Max Slurry Rate 53.8 bpm Average Treating Pressure 9,032 psi Average Slurry Rate 44.3 bpm Breakdown Pressure 8,732 psi Breakdown Rate 9.0 bpm Breakdown Volume 294 gal Avg HHP 9,807 hp Final ISIP 5,589 psi Frac Gradient 0.958 psi/ft Pad Volume 2,310 gal Main Body Volume 199,542 gal Flush Volume 29,064 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 419,960 lbs 100 M Sand Pumped 0 lbs Proppant in Formation 419,960 lbs Avg Proppant Concentration 2.60 lb/gal Max Proppant Concentration 3.50 lb/gal Load to Recover 4,921 bbls Load to Recover w/o Acid 4,909 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,659 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 170 bbls pump down rate 11.3 bpm Max pump down pressure 6,853 psi Fluid Temp 72.0 ?F Total Pump Time 2:05 hr:min Pumps Lost During Job 0 Treatment Start Time 3:13 0:00 0:00 Treatment End Time 5:18 0:00 2:05

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Diverter Slurry                      bbls  -Pumped sand in a 0.50 PPA -2.50 PPA ramp,2.50 PPA, 3.00 PPA, 3.50 PPA steps. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 500gal shot of acid. - Ran a ball in place plug.  Time for Prop on Perfs                      34.0 minutes
5:20	2.53	FRAC	FRT			0		Wait on other pad operations
7:52	0.80	FRAC	WLF			0		Handover from frac to WL. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. PT lubricator to 8000psi Open well with 4250psi.
8:40	1.20	FRAC	WLT			0		"Stage #7 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 @11122". Pump down as follows: 3bpm @ 4500psi11800 6bpm @ 4700psi11900 9bpm @ 5300psi 11.5bpm @ 6700psi 11.5bpm @ 6850psi  Set plug @ 19335ft Perforate as follows: 19310' - 19311' 19266' - 19267' 19221' - 19221' 19177' - 19177' Stabilized pressure after perf: 5569psi Pump down volume: 184bbl"                      POOH
9:52	1.00	FRAC	WLT			0		Wait @ 200ft for frac ops to finish
10:52	0.92	FRAC	WLF			0		Shut in well with 4400psi. Bleed off.Break lubricator. All shots fired. MU night cap. LD tools and lub. Secure crown and wing valve. Handover from WL to frac.
11:47	2.45	FRAC	FRT			0		Stage 7 Summary                      University 19 PW Unit 1407H Interval 19177 - 19311 Open Well Pressure                      4,360      psi Max Treating Pressure                      9,639      psi Max Slurry Rate                      60.4 bpm Average Treating Pressure                      9,121      psi Average Slurry Rate                      47.0 bpm Breakdown Pressure                      7,886      psi Breakdown Rate                      5.7 bpm Breakdown Volume                      126 gal Avg HHP                      10,507      hp Final ISIP                      5,323      psi Frac Gradient                      0.933      psi/ft Pad Volume                      2,478      gal Main Body Volume                      263,970      gal Flush Volume                      30,954      gal 100 MAZ Sand Pumped                      0      lbs 100 M Brown Sand Pumped                      326,320      lbs 100 M Sand Pumped                      94,040      lbs Proppant in Formation                      420,360      lbs Avg Proppant Concentration                      1.98 lb/gal Max Proppant Concentration                      3.50 lb/gal Load to Recover                      6,469      bbls Load to Recover w/o Acid                      6,457      bbls 15% HCL Spearhead                      504      gal Slickwater Fluid Pumped                      6,193      bbls 20# Linear Fluid Pumped                      80      bbls

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								20# Crosslink Fluid Pumped 0 bbls Pump down volume 184 bbls pump down rate 11.5 bpm Max pump down pressure 6,700 psi Fluid Temp 72.0 ?F Total Pump Time 2:27 hr:min Pumps Lost During Job 0 Treatment Start Time 11:47 0:00 0:00 Treatment End Time 14:14 0:00 2:27 Diverter Slurry bbls  -Pumped sand in a 0.50 PPA -2.50 PPA ramp, 2.50 PPA, 3.00 PPA. On 3 PPA sand we had to drop rate due to increasing pressure, came off of sand, and ran 300 bbl of pad. Resume sand at .5 PPA, 1 PPA, 1.5 PPA, 2 PPA hold. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 500gal shot of acid. - Ran a ball in place plug.
14:14	3.77	FRAC	FRT			0		Wait on other operations.
18:00	1.00	FRAC	FRT			0		REHEAD WIRE LINE
19:00	3.58	FRAC	FWL			1		***NPT KEANE WIRE LINE RE HEADING AND CHANGING GREASE HEAD NEW GREASE HEAD HAD ALL THE WRONG SIZE PIECES HAD TO REBUILD OLD ONE
22:35	0.43	FRAC	FWL			0		***END NPT KEANE WIRE LINE 1800 Handover from frac to WL. 2235 Pick up lubricator. Remove night cap. PU tools. 2254 Stab lubricator. Fill lubricator. 2257 PT lubricator to 8000psi 2301 Open well with 4300psi.
23:01	0.98	FRAC	WLT			0		2301 Open well with 4300psi. 16 "Stage #8 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 @11016". Pump down as follows: 3bpm @ 4300psi11500 6bpm @ 4500psi11680 9bpm @ 4800psi11800 10bpm @ 5100psi14880 bpm @ psi 10.3bpm @ 6594psi  Set plug @ 19152ft Perforate as follows: 19132' - 19133' 19088' - 19089' 19043' - 19044' 18999' - 19000' Stabilized pressure after perf: 5480psi Pump down volume: 166bbl"
<b>Total</b>	<b>24.00</b>							

## 06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00		FRAC	WLT			0	FINISH PERFORATING

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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
10/02/2017 19:00	KEANE FRAC LP	Perforation		FWL	EN	Elect W/L Surface Equipment	3.58	3.58		OPEN
<b>Description:</b> WIRE LINE RE HEADING AND CHANGING GREASE HEAD NEW GREASE HEAD HAD ALL THE WRONG SIZE PIECES HAD TO REBUILD OLD ONE						<b>Title:</b> GREASE HEAD HAD ALL THE WRONG SIZE PIECES				
<b>Total</b>							<b>3.58</b>	<b>3.58</b>		