

## EP WELLS DAILY OPERATIONS REPORT

Report 35

05/21/2017

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	35.00
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. 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/%)	2.08/8.68	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	3,336,923/5,609,575.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.59	LOT/FIT EMW(ppg)	
Daily Cost	148,833	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:	Please see University 19 PW Unit 1506H safety details for daily safety numbers on PAD operations.						

## 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	6

## Operations Summary

24 Hour Summary
Frac stages #36 & #37 , and Perforate stages #37 & #38
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	0.20	FRAC	WLT			0		Continue POOH t/ 200' ELM w/ E-line toolstring
0:12	0.55	FRAC				0		Bump up and SIW @ 4500 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, Grease.
0:45	3.68	FRAC				0		Wait on other pad operations
4:26	1.78	FRAC				0		<p>Stage 36 Summary University 19 PW Unit 1507H</p> <p>Interval 15821 - 15954</p> <p>Open Well Pressure 4,240 psi</p> <p>Max Treating Pressure 9,201 psi</p> <p>Max Slurry Rate 58.7 bpm</p> <p>Average Treating Pressure 8,780 psi</p> <p>Average Slurry Rate 50.1 bpm</p> <p>Breakdown Pressure 6,648 psi</p> <p>Breakdown Rate 9.1 bpm</p> <p>Breakdown Volume 17,892 gal</p> <p>Avg HHP 10,781 hp</p> <p>Final ISIP 5,246 psi</p> <p>Frac Gradient 0.885 psi/ft</p> <p>Pad Volume 18,060 gal</p> <p>Main Body Volume 176,564 gal</p> <p>Flush Volume 25,284 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 424,260 lbs</p> <p>Proppant in Formation 424,260 lbs</p> <p>Avg Proppant Concentration 3.31 lb/gal</p> <p>Max Proppant Concentration 4.02 lb/gal</p> <p>Load to Recover 4,204 bbls</p> <p>Load to Recover w/o Acid 4,192 bbls</p> <p>15% HCL Spearhead 500 gal</p> <p>Slickwater Fluid Pumped 4,051 bbls</p> <p>20# Linear Fluid Pumped 40 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 101 bbls</p> <p>pump down rate 14.0 bpm</p> <p>Max pump down pressure 6,200 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 1:47 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 4:26 0:00 0:00</p> <p>Treatment End Time 6:13 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 - 4.0 PPA, 4.0 PPA.</p>
6:13	0.03	FRAC	FWL			0		SI well @ 5000 psi. Bleed down pressure, H/O well f/ frac t/ E-line
6:15	1.00	FRAC	FWL			0		Wireline re-head, grease manifold and re-gen truck.
7:15	2.08	FRAC	WLF			1		*****NPT START KEANE W/L*** Continue to Re-Gen truck.
9:20	0.33	FRAC	WLT			0		<p>9:30 Pick up lubricator. Remove night cap. PU guns/plug.</p> <p>9:35 Stab lubricator. Fill lubricator.</p> <p>9:38 PT lubricator to 8kpsi.</p> <p>9:40 Open well with 4300 psi.</p>
9:40	0.93	FRAC	WLT			0		<p>Stage #37 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 @ 4200psi @11300'</p> <p>6bpm @ 4300psi @11400'</p> <p>9bpm @ 4800psi @11500'</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								12.2bpm @ 5300psi @ 11600' Max Rate 12.5bpm w/ 6510psi  Set plug @ 15791ft Perforate as follows: 15777' - 15778' 15733' - 15774' 15689' - 15690' 15645' - 15646' Stabilized pressure after perf: 4550psi Pump down volume: 120 bbl
10:36	0.75	FRAC	WLT			0		POOH w/ Eline toolstring t/200' ELM
11:21	0.15	FRAC	WLF			0		Bump up and SIW @ 4250 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, Grease UMW & Manual wing.
11:30	4.50	FRAC	OPO			0		Wait on other pad Ops.
16:00	4.22	FRAC	FRP		33.00	0		Prime pumps & equalize t/ wellhead pressure.
20:13	1.73	FRAC	FRT			0		Stage 37 Summary University 19 PW Unit 1507H Interval 15645 - 15777 Open Well Pressure 4,026 psi Max Treating Pressure 9,197 psi Max Slurry Rate 59.3 bpm Average Treating Pressure 8,743 psi Average Slurry Rate 50.5 bpm Breakdown Pressure 7,055 psi Breakdown Rate 9.6 bpm Breakdown Volume 17,556 gal Avg HHP 10,822 hp Final ISIP 5,334 psi Frac Gradient 0.893 psi/ft Pad Volume 17,934 gal Main Body Volume 181,520 gal Flush Volume 26,796 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 413,120 lbs Proppant in Formation 413,120 lbs Avg Proppant Concentration 3.30 lb/gal Max Proppant Concentration 4.02 lb/gal Load to Recover 4,322 bbls Load to Recover w/o Acid 4,310 bbls 15% HCL Spearhead 500 gal Slickwater Fluid Pumped 4,150 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 120 bbls pump down rate 12.5 bpm Max pump down pressure 6,510 psi Fluid Temp 72.0 ?F Total Pump Time 1:44 hr:min Pumps Lost During Job 0 Treatment Start Time 20:13 0:00 0:00 Treatment End Time 21:57 0:00 0:00 Diverter Slurry bbls All sand placed. Pumped 500 gals of 15% HCL, Pumped sand in Ramp from 0.5 PPA - 4.0 PPA, 4.0 PPA.
21:57	0.05	FRAC	FWL			0		SI well @ 5140 psi. Bleed down pressure. H/O f/ frac t/ Eline.
22:00	0.30	FRAC	WLT			0		22:08 Pick up lubricator. Remove night cap. PU guns/plug. 22:11 Stab lubricator. Fill lubricator. 22:15 PT lubricator to 8kpsi. 22:18 Open well with 4811 psi.
22:18	0.77	FRAC	WLT			0		Stage #38 Plug and Perf  RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								<p>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:  3bpm @ 4700psi @11372'  6bpm @ 5000psi @11523'  9bpm @ 5100psi @11500'  14bpm @ 5500psi @116200'  Max Rate 14bpm w/ 5810psi</p> <p>Set plug @ 15616ft Perforate as follows:  15601' - 15602'  15556' - 15557'  15512' - 15513'  15468' - 15469'</p> <p>Stabilized pressure after perf: 4725psi  Pump down volume: 93 bbl</p>
23:04	0.50	FRAC	WLT			0		POOH w/Eline toolstring t/ 200' ELM
23:34	0.27	FRAC	WLT			0		Bump up and SIW @ 4540 psi. Bled off pressure and break lubricator. Lowered Perf guns out of lubricator and confirmed all shots fired. Drop ball on UMV, N/U nightcap and close crown valve. L/D perf guns, Grease Lower master valve.
23:50	0.17	FRAC	WLF			0		Wait on other pad operations.
<b>Total</b>	<b>24.00</b>							

## 06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	2.00	FRAC	WLF			0	<p>*****Start NPT on Keane Frac*****</p> <p>During stage #37 of 1508H frac, T-Belt bearings failed. Completed all possible E-line runs. Greased zipper manifold and re-headed E-line</p>
2:00		FRAC	GRS			0	<p>***** NPT Continues on Keane Frac*****</p> <p>Re-head complete and greasing of zipper manifold complete. Wait on back-up T-belt delivery.</p>

## 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
05/21/2017 07:15	KEANE FRAC LP	Perforation		WLF	EN	Elect W/L Surface Equipment	2.08	2.08	1	OPEN
<b>Description:</b> TRUCK REGEN						<b>Title:</b> WAITING ON WIRELINE				
							<b>Total</b>	<b>2.08</b>	<b>2.08</b>	