

## EP WELLS DAILY OPERATIONS REPORT

Report 13

05/31/2017

Company	PERMIAN
Well Type	Development
Well	UNIVERSITY 19 PW UNIT 1504H
Wellbore	UNIVERSITY 19 PW UNIT 1504H ST01
WBS No/API No	30265014 / 4230133171.01

## Event Summary

Event Type	Completion only	Event Start Date	04/28/2017	Days on Location	12.00
Objective	Install Completion	Original Spud Date	02/02/2017		
Est. Days	25.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

## Well Status

Supervisor	Nick Morrison / Scott Wallace	Measured Depth(ft)	
Engineer	Justin Midgley	TVD(ft)	
Other Supervisor	Tommy Hurdle	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,761.75 / 2,736.10	Hole size(in)	
THF Datum			
Daily NPT(hr/%)	2.50/10.42	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	538,496/4,757,442.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.11	LOT/FIT EMW(ppg)	
Daily Cost	158,330	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)	6

## Safety Comments:

Total People - 96  
Total Hours Worked - 1142  
Total Hours driven - 188

Gaol Zero Day 6

## 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	11

## Operations Summary

24 Hour Summary
Frac Stg 3. Perf and Frac Stg 4. Perf Stg 5
Update Since Report Time
24 Hour Forecast
Continue Frac Ops

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## Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.25	FRAC	NOA			1		****NPT Extreme and Pro Torque and Test**** Attempted to pressure test for WL run on the 1503H. Leak was discovered on a chicksan. Replaced chicksan, isolated pumpdown and tested iron. Test good. Lined up to test WL lubricator and iron and had failed test. After troubleshooting discovered that a plug valve on the manifold was leaking. Replaced valve and attempted to test but unsuccessful. Removed the Pro test pump inline. Tested pro rion with pumpdown side got a good test. Isolated test pump and tested pump. Pumps check valve wasn't holding. Replaced parts and retested. Test good.
1:15	0.25	FRAC	OPO			0		Other Pad Ops
1:30	2.65	FRAC	FRT			0		<p>Stage 3 Summary University 19 PW Unit 1504H</p> <p>Interval 19986 - 20121</p> <p>Open Well Pressure 3,930 psi</p> <p>Max Treating Pressure 9,290 psi</p> <p>Max Slurry Rate 53.0 bpm</p> <p>Average Treating Pressure 8,599 psi</p> <p>Average Slurry Rate 49.0 bpm</p> <p>Breakdown Pressure 5,641 psi</p> <p>Breakdown Rate 10.0 bpm</p> <p>Breakdown Volume 16,296 gal</p> <p>Avg HHP 10,327 hp</p> <p>Final ISIP 5,340 psi</p> <p>Frac Gradient 0.895 psi/ft</p> <p>Pad Volume 14,196 gal</p> <p>Main Body Volume 214,494 gal</p> <p>Flush Volume 30,786 gal</p> <p>30/50 AZ Sand Pumped 0 lbs</p> <p>100 Mesh Sand Pumped 413,780 lbs</p> <p>Proppant in Formation 413,780 lbs</p> <p>Avg Proppant Concentration 2.60 lb/gal</p> <p>Max Proppant Concentration 4.00 lb/gal</p> <p>Load to Recover 5,107 bbls</p> <p>Load to Recover w/o Acid 5,095 bbls</p> <p>15% HCL Spearhead 504 gal</p> <p>Slickwater Fluid Pumped 5,018 bbls</p> <p>20# Linear Fluid Pumped 77 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 275 bbls</p> <p>pump down rate 12.5 bpm</p> <p>Max pump down pressure 6,341 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 2:38 hr:min</p> <p>Pumps Lost During Job 1</p> <p>Treatment Start Time 1:31 0:00 0:00</p> <p>Treatment End Time 4:09 0:00 0:00</p> <p>Diverter Slurry bbls</p> <p>Ran extended breakdown due to issues with acid tanker. Belly valve was not functioning properly. Lost pump 10076 due to packing pod 2.</p>
4:09	0.02	FRAC	FRT			0		SIW @ 4750. Bled off pressure and HO to WL
4:10	0.33	FRAC	SAF			0		Held safety stand on hand safety.
4:30	0.58	FRAC	FWL			0		<p>Pick up lubricator. Remove night cap. PU guns/plug.</p> <p>Stab lubricator. Fill lubricator.</p> <p>PT lubricator to 1k-8kpsi. Open well with psi 4200</p>
5:05	1.00	FRAC	WLT			0		<p>"Stage #4 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 @10881. Bring on pumps at 11200'. Pump down as follows:</p> <p>3bpm @ 4770psi @11200</p> <p>6bpm @ 4900psi @11400</p> <p>9bpm @ 5200psi @11500</p> <p>12bpm w/ 5430psi @11600</p> <p>Max Rate 12bpm w/ 6100psi</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Set plug @ 19966ft Perforate as follows: 19942' - 19943' 19897' - 19898' 19853' - 19854' 19808' - 19809' Stabilized pressure after perf: 4745psi Pump down volume: 202bbl"
6:05	1.25	FRAC	OPO			0		POOH w/ WL wait at 200' 0630: Held Pre-tower Safety Meeting.
7:20	1.97	FRAC	WLF			0		8:57 Shut in well with 4400 psi 9:14 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves. 9:18 Handover from WL to frac.
9:18	4.93	FRAC	OPO			0		Waiting on other pad operations
14:14	2.32	FRAC	FRT			0		Stage 4 Summary University 19 PW Unit 1504H Interval 19808 - 19943 Open Well Pressure 4,272 psi Max Treating Pressure 9,050 psi Max Slurry Rate 52.4 bpm Average Treating Pressure 8,715 psi Average Slurry Rate 49.8 bpm Breakdown Pressure 5,874 psi Breakdown Rate 10.0 bpm Breakdown Volume 20,286 gal Avg HHP 10,637 hp Final ISIP 5,530 psi Frac Gradient 0.911 psi/ft Pad Volume 24,150 gal Main Body Volume 228,144 gal Flush Volume 31,710 gal 30/50 AZ Sand Pumped 0 lbs 100 Mesh Sand Pumped 419,620 lbs Proppant in Formation 419,620 lbs Avg Proppant Concentration 2.45 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 5,432 bbls Load to Recover w/o Acid 5,420 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 5,380 bbls 20# Linear Fluid Pumped 40 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 227 bbls pump down rate 12.1 bpm Max pump down pressure 5,972 psi Fluid Temp 72.0 ?F Total Pump Time 2:19 hr:min Pumps Lost During Job 0 Treatment Start Time 14:14 0:00 0:00 Treatment End Time 16:33 0:00 0:00 Diverter Slurry bbls Ramp schedule from 0.5-2.0 PPA. All proppant placed.
16:33	0.28	FRAC	OPO			0		Wait on other pad operations
16:50	1.13	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 8000 psi Open well with 4716 psi. RIH.
17:58	0.07	FRAC	WLT			0		"Stage #5 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 11100'. Pump down as follows: 3 bpm @ 4870 psi

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								6 bpm @ 4900 psi11300 9 bpm @ 5300 psi11450 12 bpm @ 5800 psi11700 Max:12 bpm. Max: 6250 psi  Set plug @ 19790 ft Perforate as follows: 19764' - 19765' 19719' - 19720' 19675' - 19676' 19630' - 19631' Stabilized pressure after perforating: 4720 psi Pump down volume: 228 bbl"
18:02	0.70	FRAC	WLT			0		POOH 18:30 - Held Pre-Tower Safety Meeting. Discussed job scope, LSR's, Hand Safety, Communication, Handovers, 12Q and UnCAAP.
18:44	0.87	FRAC	OPO			0		Wait at 200 ft for frac
19:36	0.57	FRAC	WLF			0		Bump up and SIW @ 4820. 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 and Wing valve - grease time 8 min.
20:10	2.58	FRAC	WLF			0		Other Pad Ops
22:45	1.25	FRAC	NOA			1		***NPT Wait on weather. Lightning in the area.***
<b>Total</b>	<b>24.00</b>							

## 06.00 Update

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Description
0:00	0.75	FRAC	NOA			1	***NPT Wait on weather. Lightning in the area.***
0:45	0.25	FRAC	WLF			0	***End NPT weather*** Other Pad Ops
1:00	0.58	FRAC	WLF			0	Re-Head WL. Grease Crown and Hyd on frac tree.
1:35	0.58	FRAC	WLF			0	Other Pad Ops
2:10	0.22	FRAC	FRP			0	Frac Pressure tested iron to 9500 psi. Test good.
2:23	2.18	FRAC	FRT			0	
4:34	0.02	FRAC	FWL			0	SIW @ 4900 psi. Bled of pressure. HO to WL
4:35		FRAC	NOA			1	***NPT Wait on weather. Lightning in the area***

## 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
05/31/2017 22:45	SHELL	Wait On Weather		NOA	N		0.00	0.00		OPEN
<b>Description:</b> LIGHTNING IN THE AREA						<b>Title:</b> WOW				
<b>Total</b>							<b>0.00</b>	<b>0.00</b>		