

EP WELLS DAILY OPERATIONS REPORT

Report 21

10/06/2017

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	21.00
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	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/%)	0/0	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,293,042/4,701,640.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.28	LOT/FIT EMW(ppg)	
Daily Cost	212,828	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:							

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	20

Operations Summary

24 Hour Summary
FRAC STG 13,14,15 PERF STG 14,15,16
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	1.08	FRAC	FRT			0		Stage 13 Summary University 19 PW Unit 1407H Interval 18109 - 18244 Open Well Pressure 3,929 psi Max Treating Pressure 9,367 psi Max Slurry Rate 58.7 bpm Average Treating Pressure 8,752 psi Average Slurry Rate 51.4 bpm Breakdown Pressure 7,239 psi Breakdown Rate 9.6 bpm Breakdown Volume 294 gal Avg HHP 11,026 hp Final ISIP 5,472 psi Frac Gradient 0.947 psi/ft Pad Volume 11,172 gal Main Body Volume 211,260 gal Flush Volume 28,266 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 375,600 lbs 100 M Sand Pumped 46,300 lbs Proppant in Formation 421,900 lbs Avg Proppant Concentration 2.56 lb/gal Max Proppant Concentration 3.50 lb/gal Load to Recover 5,175 bbls Load to Recover w/o Acid 5,163 bbls 15% HCL Spearhead 504 gal Slickwater Fluid Pumped 4,938 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 145 bbls pump down rate 10.0 bpm Max pump down pressure 6,834 psi Fluid Temp 72.0 ?F Total Pump Time 1:58 hr:min Pumps Lost During Job 0 Treatment Start Time 23:05 0:00 0:00 Treatment End Time 1:03 0:00 1:58 Diverter Slurry bbls -Pumped sand in a 0.50 PPA -2.50 PPA ramp, 2.50 PPA hold, 3.00 and 3.50 PPA steps. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 500 gal shot of acid. - Ran a ball in place plug. - Time for Prop on Perfs 30.0 minutes
1:05	2.92	FRAC	FWL			0		WAIT ON OTHER PAD OPERATIONS
4:00	0.25	FRAC	FWL			0		400 Handover from frac to WL. 407 Pick up lubricator. Remove night cap. PU tools. 410 Stab lubricator. Fill lubricator. 413 PT lubricator to 8000psi 415 Open well with 4300psi.
4:15	1.33	FRAC	FWL			0		508 "Stage #14 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 @ 4200psi11550 6bpm @ 4400psi11680 9bpm @ 5000psi11220 bpm @ psi bpm @ psi 9bpm @ 6651psi Set plug @ 18089ft Perforate as follows: 18065' - 18066'

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								18020' - 18021' 17976' - 17977' 17931' - 17932' Stabilized pressure after perf: 5500psi Pump down volume: 130bbl" 512 POOH
5:35	0.50	FRAC	FWL			0		Wait @ 200ft for frac operations.
6:05	0.10	FRAC	FWL			0		Shut in well with 3908psi. Bleed off.Break lubricator. All shots fired.MU night cap. LD tools and lub.Secure crown and wing valves.Handover from WL to frac.
6:11	0.78	FRAC	FWL			0		Wait on other pad operations.
6:58	1.80	FRAC	FWL			0		<p>Stage 14 Summary University 19 PW Unit 1407H</p> <p>Interval 17931 - 18066</p> <p>Open Well Pressure 4,018 psi</p> <p>Max Treating Pressure 9,324 psi</p> <p>Max Slurry Rate 62.5 bpm</p> <p>Average Treating Pressure 8,690 psi</p> <p>Average Slurry Rate 52.8 bpm</p> <p>Breakdown Pressure 5,564 psi</p> <p>Breakdown Rate 10.0 bpm</p> <p>Breakdown Volume 126 gal</p> <p>Avg HHP 11,246 hp</p> <p>Final ISIP 5,133 psi</p> <p>Frac Gradient 0.915 psi/ft</p> <p>Pad Volume 4,032 gal</p> <p>Main Body Volume 196,140 gal</p> <p>Flush Volume 28,098 gal</p> <p>100 M AZ Sand Pumped 48,040 lbs</p> <p>100 M Brown Sand Pumped 233,300 lbs</p> <p>100 M Sand Pumped 139,780 lbs</p> <p>Proppant in Formation 421,120 lbs</p> <p>Avg Proppant Concentration 2.67 lb/gal</p> <p>Max Proppant Concentration 4.00 lb/gal</p> <p>Load to Recover 4,800 bbls</p> <p>Load to Recover w/o Acid 4,788 bbls</p> <p>15% HCL Spearhead 504 gal</p> <p>Slickwater Fluid Pumped 4,578 bbls</p> <p>20# Linear Fluid Pumped 80 bbls</p> <p>20# Crosslink Fluid Pumped 0 bbls</p> <p>Pump down volume 130 bbls</p> <p>pump down rate 9.0 bpm</p> <p>Max pump down pressure 6,651 psi</p> <p>Fluid Temp 72.0 ?F</p> <p>Total Pump Time 1:49 hr:min</p> <p>Pumps Lost During Job 0</p> <p>Treatment Start Time 6:57 0:00 0:00</p> <p>Treatment End Time 8:46 0:00 1:49</p> <p>Diverter Slurry bbls</p> <p>-Pumped sand in a 0.50 PPA -2.00 PPA ramp,2.00 PPA hold,2.50, 3.00,3.50 and 4.00 PPA steps.</p> <p>-Two 20# gel sweeps 40 bbls each were pumped prior to flush.</p> <p>- Pumped one 500 gal shot of acid.</p> <p>- Ran a ball in place plug.</p> <p>-</p>
8:46	4.10	FRAC	FWL			0		Wait on pad operatons.
12:52	1.40	FRAC	FWL			0		<p>"Stage #15 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 ball-drop frac plug. Tie into liner top @11016". Pump down as follows:</p> <p>3bpm @ 4350psi11380</p> <p>6bpm @ 4650psi11600</p>

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								9bpm @ 6000psi11730 10bpm @ 6400 psi 10bpm @ 6150psi Set plug @ 17911ft Perforate as follows: 17887' - 17888' 17842' - 17843' 17796' - 17797' 17756' - 17757' Stabilized pressure after perf: 5231psi Pump down volume: 110bbl" POOH
14:16	1.32	FRAC	FWL			0		Shut in well with 4600psi. Bleed off.Break lubricator. All shots fired.MU night cap. LD tools and lub.Secure crown and wing valves.Handover from WL to frac.
15:35	2.82	FRAC	FRT			0		Frac #15 Stage 15 Summary University 19 PW Unit 1407H Interval 17753 - 17888 Open Well Pressure 4,208 psi Max Treating Pressure 9,442 psi Max Slurry Rate 60.3 bpm Average Treating Pressure 8,883 psi Average Slurry Rate 48.8 bpm Breakdown Pressure 6,819 psi Breakdown Rate 10.0 bpm Breakdown Volume 210 gal Avg HHP 10,625 hp Final ISIP 5,488 psi Frac Gradient 0.948 psi/ft Pad Volume 2,142 gal Main Body Volume 182,112 gal Flush Volume 28,056 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 373,820 lbs 100 M Sand Pumped 47,940 lbs Proppant in Formation 421,760 lbs Avg Proppant Concentration 2.91 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover 4,446 bbls Load to Recover w/o Acid 4,438 bbls 15% HCL Spearhead 336 gal Slickwater Fluid Pumped 4,248 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 110 bbls pump down rate 10.0 bpm Max pump down pressure 6,347 psi Fluid Temp 72.0 ?F Total Pump Time 1:25 hr:min Pumps Lost During Job 0 Treatment Start Time 16:59 0:00 0:00 Treatment End Time 18:24 0:00 1:25 Diverter Slurry bbls -Pumped sand in a 0.50 PPA -3.00 PPA ramp,3.00 PPA hold,3.50 and 4.00 PPA steps. -Two 20# gel sweeps 40 bbls each were pumped prior to flush. - Pumped one 350 gal shot of acid. - Ran a ball in place plug. - - Time for Prop on Perfs 24.0 minutes
18:24	3.97	FRAC	FWL			0		WAIT ON OTHER PAD OPERATIONS

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
22:22	0.25	FRAC	FWL			0		2222 Handover from frac to WL. 2230 Pick up lubricator. Remove night cap. PU tools. 2232 Stab lubricator. Fill lubricator. 2237 PT lubricator to 8000psi 2241 Open well with 4300psi.
22:37	1.38	FRAC	WLT			0		2337 "Stage #16 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 @ 4100psi11600 6bpm @ 4600psi11680 9bpm @ 5000psi11250 10bpm @ 5800psi15732 bpm @ psi 10bpm @ 6107psi Set plug @ 17733ft Perforate as follows: 17709' - 17710' 17664' - 17665' 17620' - 17621' 17575' - 17576' Stabilized pressure after perf: 5440psi Pump down volume: 126bbl" 2343 POOH
Total	24.00							