

**EP WELLS DAILY OPERATIONS REPORT**

Report 38

07/18/2017

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 19 PW UNIT 1504H  
 Wellbore UNIVERSITY 19 PW UNIT 1504H  
 WBS No/API No 30265014 / 4230133171.00

**Event Summary**

Event Type	Completion only	Event Start Date	04/28/2017	Days on Location	37.00
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	Bruce Smiley, Jeff Pontell	Measured Depth(ft)	
Engineer	Joddie Carlile	TVD(ft)	
Other Supervisor	Mike Reber	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/%)	24.00/100.00	Last Casing MD	
Days Ahd(-) Bhnd(+)(50/50)		Next Casing MD	
Actual cost to date/AFE	1,964,038/4,757,442.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.41	LOT/FIT EMW(ppg)	
Daily Cost	92,643	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:						
340 man hours						
54 driving hours						

**Drills**

Drill Category	Drill Type	Detection (sec)	Complete (sec)	Crew drilled	Pass / Fail	PIC	Comments
Coiled Tubing	Surface rig-up leak above BOP (Lub./stuffing box,		116.00	Night	Pass	MIKE REBER	
Coiled Tubing	Surface rig-up leak above BOP (Lub./stuffing box,		135.00	Day	Pass	BRUCE SMILEY/JEFF	107 S MUSTER

**HSE Drills**

Drills/Tests	Date	Days Since Last	JSA's/Toolbox Talks Days Since Last Drill
Last Derrick Inspection Last BOP function test Last BOP Test Next BOP Test			36

**Operations Summary**

24 Hour Summary
POOH with BHA #6, bump up, bleed, BD tools/fish, injection test, cleanout plug that did not come back with fish, RD CT package

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Update Since Report Time
Continue RD CT package
24 Hour Forecast
Release equipment, haul work fluid to disposal

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description																																																
0:00	2.25	WOR	OPO			1		00:30 3,370' current depth, POOH at 90 ft/min, .75 bpm / 3,800 WH and maintain  01:15 200' current depth, wait 30 min for guns to cool, go to radio silence and confirm no phones on location.  01:45 POOH and bump up, shut (2) 7-1/16" 10K FV and confirm, bleed off to gas buster, final well pressure 3,800 psi																																																
2:15	0.25	WOR	OPO			1		02:00 BOP DRILL, muster #1 at entrance to location, head count, all hands present by sign in sheet, muster time 1 minute 56 seconds, dscuss pinhole, prevailing winds, buddy system, work yourself around side of location if on other side, good drill, enter into Wellview and email field sups and HSE.																																																
2:30	0.50	WOR	OPO			1		Keane WL on location, on site orientation for crew, review expectations and policy, discuss recent LWC-finger incident  02:40 Pro torque break bolts on 5-1/18" 15K flange, don't lift lube off well  02:50 PAUSE, Keane WL opens explosive permit, review live guns BD procedure and recovery of same, minimal personnel in no go zone, prep to lift lube off well with expectation of live guns at surface, 12 questions for safe lift, PU lube off 15K Quad BOP's and swing to side																																																
3:00	4.00	WOR	OPO			1		Lower BHA #6 3.75" overshot dressed with 2.75" spiral grapple out of lubricator, Boss Hog setting sleeve comes through bottom of lubricator. The 4-1/2" Boss Hog plug was not recovered, all WL tools where recovered except the plug, calipered the OD of the CCL, 2.748' at top, 2.756" middle, 2.7565" bottom, tools showed light to heavy washover indications during burn shoe run, distance matched with 15.7' swallowed by washpipe, BD and recover Keane WL tools as follows  <table border="0"> <thead> <tr> <th>Tool</th> <th>OD (")</th> <th>L (')</th> </tr> </thead> <tbody> <tr> <td>Cable Head</td> <td>1.435"</td> <td>.61'</td> </tr> <tr> <td>CCL</td> <td>2.756"</td> <td>1.5'</td> </tr> <tr> <td>BART</td> <td>2.735"</td> <td>2.44'</td> </tr> <tr> <td>Quick change</td> <td>1.65"</td> <td>.44'</td> </tr> <tr> <td>Quick change</td> <td>2.75"</td> <td>.67'</td> </tr> <tr> <td>Top sub</td> <td>2.75"</td> <td>.17'</td> </tr> <tr> <td>Gun barrel</td> <td>2.75"</td> <td>2'</td> </tr> <tr> <td>Plug shoot adapter</td> <td>2.75"</td> <td>.58'</td> </tr> <tr> <td>#10 firing head</td> <td>2.75"</td> <td>1.5'</td> </tr> <tr> <td>Baker #10 set tool</td> <td>2.75"</td> <td>3.79'</td> </tr> <tr> <td>Setting sleeve</td> <td>3.63"</td> <td>1.67'</td> </tr> <tr> <td>TOTAL LENGTH</td> <td>21.37'</td> <td></td> </tr> </tbody> </table> 03:45 Lift lube to well and 6 bolt and torque, close #1 (Quad blinds) and #5 (combo blind / shears) and confirm visually, assemble valve team and walk lines, line up to establish injection rate down 2" kill side and isolate 3" side. set kicks at 7,000 psi  04:30 Roll pump on at 1.25 bpm / 4,000 psi and confirm injection, bring rate to 2.75 bpm / 4,690 psi to 5,300 psi and pump lateral volume of 130 bbls, set kicks at 7,500 psi, increase rate to 6.0 bbls/min / 5,800 psi to 6,200 psi, increase rate to 8.0 bpm / 6,600 psi, pump total volume of 600 bbls, SD, ISIP from pump gauge 5,700 psi.  07:00 Injection confirmed at max rate 8.0 bpm / 6,600 psi / 600 bbls total pumped, prep to MU tools, RIH with cleanout run.	Tool	OD (")	L (')	Cable Head	1.435"	.61'	CCL	2.756"	1.5'	BART	2.735"	2.44'	Quick change	1.65"	.44'	Quick change	2.75"	.67'	Top sub	2.75"	.17'	Gun barrel	2.75"	2'	Plug shoot adapter	2.75"	.58'	#10 firing head	2.75"	1.5'	Baker #10 set tool	2.75"	3.79'	Setting sleeve	3.63"	1.67'	TOTAL LENGTH	21.37'										
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7:00	0.50	WOR	OPO			1		Perform BOP drill with day crew. Muster time 107 s, roll call time 135 s. Discuss roles and responsibilities in multiple different scenarios. Discuss other drills including H2S and leaking dual																																																

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								flapper check valves in string. Discuss expectations moving forward.																																												
7:30	1.28	WOR	OPO			1		MU BHA #7 for cleanout to last known plug set depth as follows:  <table border="0"> <tr> <td>Tool</td> <td>OD (")</td> <td>L (')</td> <td>ID (")</td> </tr> <tr> <td>Slip type connector</td> <td>3.125</td> <td>.96</td> <td>1-3/8</td> </tr> <tr> <td>Dual BPV sub</td> <td>2.875</td> <td>1.42</td> <td>N/A</td> </tr> <tr> <td>Accelerator</td> <td>2.89</td> <td>5.89</td> <td>15/16</td> </tr> <tr> <td>Bidirectional jars</td> <td>2.89</td> <td>5.61</td> <td>15/16</td> </tr> <tr> <td>Hydraulic disconnect</td> <td>2.88</td> <td>2.13</td> <td>11/16</td> </tr> <tr> <td>Circulating sub</td> <td>2.874</td> <td>1.33</td> <td>.6</td> </tr> <tr> <td>Agitator</td> <td>2.876</td> <td>4.31</td> <td>N/A</td> </tr> <tr> <td>Motor</td> <td>2.875</td> <td>13.59</td> <td>N/A</td> </tr> <tr> <td>Crossover</td> <td>3.15</td> <td>.99</td> <td>1.36</td> </tr> <tr> <td>Roller cone bit</td> <td>3.75</td> <td>.45</td> <td>N/A</td> </tr> </table> <p>TOTAL LENGTH 36.68 FT.</p> <p>Function test motor at 1.5 bbl/min x 1250 psi, 2.5 bbl/min x 2400 psi.</p>	Tool	OD (")	L (')	ID (")	Slip type connector	3.125	.96	1-3/8	Dual BPV sub	2.875	1.42	N/A	Accelerator	2.89	5.89	15/16	Bidirectional jars	2.89	5.61	15/16	Hydraulic disconnect	2.88	2.13	11/16	Circulating sub	2.874	1.33	.6	Agitator	2.876	4.31	N/A	Motor	2.875	13.59	N/A	Crossover	3.15	.99	1.36	Roller cone bit	3.75	.45	N/A
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8:47	0.70	WOR	OPO			1		Swing over lubricator and tools, stab on quad BOPs. NU.																																												
9:29	0.65	WOR	OPO			1		Discuss 9QFSPT, walk the line, break circulation to OTT. Test stack and return line to 500 psi low 5 min, 8200 psi high 10 min. Test trips. All good tests, equalize to well, open up and RIH. Opening WHP 4000 psi.																																												
10:08	3.02	WOR	OPO			1		RIH with Circ P 4100 psi, WHP 4000, 95 ft/min in vertical, wt check 7000 ft CTM 18k lbf.  Bring pump on minimum rate .75 bbl/min at 8000 ft CTM, Circ P 4300 psi, WHP 4000 psi, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.  Wt check 10800 ft CTM 34k lbf. Enter curve at 35 ft/min. Continue to pump minimum rate .75 bbl/min, Circ P 4300 psi, WHP 4000 psi, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.																																												
13:09	1.58	WOR	OPO			1		At 11500 ft CTM, bring pump rate to 2.5 bbl/min, Circ P 5900 psi WHP 4000 psi, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.  RIH through curve at 35 ft/min  Continue in lateral with following parameters: <ul style="list-style-type: none"> <li>- 13000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5600 psi WHP 4000 psi, 80 ft/min, 18k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> <li>- 14000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5600 psi WHP 4000 psi, 80 ft/min, 17k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> <li>- 15000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4100 psi, 80 ft/min, 16k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> <li>- 16000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4000 psi, 80 ft/min, 17k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> <li>- 17000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4000 psi, 80 ft/min, 16k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> <li>- 18000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4000 psi, 80 ft/min, 14k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.</li> </ul>																																												
14:44	0.13	WOR	OPO			1		Continue RIH at 18688 ft CTM, observe wt fluctuations appear to be pushing debris/plug parts. Minimal torque/pressure signature. Continue RIH to expected plug depth.																																												
14:52	0.15	WOR	OPO			1		Send 10 bbl, 80 visc sweep timed to reach end of coil when tagging target depth 19610 ft CTM.  Continue RIH with following parameters: <ul style="list-style-type: none"> <li>- 19000 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP</li> </ul>																																												

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								4000 psi, 65 ft/min, 13.5k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR. - 19300 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4000 psi, 65 ft/min, 13k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR. - 19500 ft CTM, 2.5 bbl/min bbl in - bbl out, Circ P 5700 psi WHP 4000 psi, 65 ft/min, 10k lbf running wt, .2 gal/10 bbl PoP, .08 gal/10 bbl FR.																																												
15:01	0.38	WOR	OPO			1		Tag plug RIH at 19553 ft CTM indicated by 700 psi differential. Drop rate to 1 bbl/min, come off plug with 47k lbf pickup 10 ft, bring rate back to 2.5 bbl/min.  Creep 15 ft/min burning through plug to 19581 ft CTM, pumping 2.75 bbl/min and setting minimal wt down allowing agitator to give back pipe wt.  Pick up to 19590 ft CTM and repeat, see multiple pressure increases on way, maintaining positive wt.																																												
15:24	0.22	WOR	OPO			1		At 19590 ft CTM, through plug and perms, gel sweep at bit. Continue RIH, 5-10 ft/min maintaining positive wt.  Tag plug at 19606 ft CTM, drop rate and PU 10' off plug.																																												
15:37	1.95	WOR	OPO			1		Begin POOH at 50 ft/min, PU 48k lbf, pumping 2.75 bbl/min, bbl in - bbl out accounting for pipe displacement, Circ P 5900 psi WHP 4000 psi. POOH to allow sweep to stay well ahead of bit.																																												
17:34	0.62	WOR	OPO			1		POOH at 35 ft/min in curve between 11850 ft CTM and 10850 ft CTM.																																												
18:11	0.82	WOR	OPO			1		POOH at 80 ft/min in vertical. Increase speed, reduce rate to 2.5 bbl/min, bbl in - bbl out, Circ P 5500 psi WHP 3800 psi.																																												
19:00	3.25	WOR	OPO			1		6070' current depth, POOH at 80 ft/min / 2.5 bpm / 5,500 psi / 3,850 psi  20:29 Bump up, close LFV 31 turns and confirm, bleed off to gas buster, close in UFV 31 truns and confirm, final well pressure 3,900 psi.  20:40 12 questions for safe lift, discuss BD tools and (7) 10' 15K lubricator sticks, Pro torque BD bolts on 5-1/8" 15K lube on top of Quad BOP's, swing to side, lower tools and BD BHA #6 - cleanout run as follows  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BREAK DOWN/LOAD OUT</th> <th>OD (")</th> <th>L (')</th> <th>ID (")</th> </tr> </thead> <tbody> <tr> <td>Slip type connector</td> <td>3.125</td> <td>.96</td> <td>1-3/8</td> </tr> <tr> <td>Dual BPV sub</td> <td>2.875</td> <td>1.42</td> <td>N/A</td> </tr> <tr> <td>Accelerator</td> <td>2.89</td> <td>5.89</td> <td>15/16</td> </tr> <tr> <td>Bidirectional jars</td> <td>2.89</td> <td>5.61</td> <td>15/16</td> </tr> <tr> <td>Hydraulic disconnect</td> <td>2.88</td> <td>2.13</td> <td>11/16</td> </tr> <tr> <td>Circulating sub</td> <td>2.874</td> <td>1.33</td> <td>.6</td> </tr> <tr> <td>Agitator</td> <td>2.876</td> <td>4.31</td> <td>N/A</td> </tr> <tr> <td>Motor</td> <td>2.875</td> <td>13.59</td> <td>N/A</td> </tr> <tr> <td>Crossover</td> <td>3.15</td> <td>.99</td> <td>1.36</td> </tr> <tr> <td>Roller cone bit</td> <td>3.75</td> <td>.45</td> <td>N/A</td> </tr> </tbody> </table> All tools in good shape, no visble marks on 3.75" tri cone bit, load out tools  21:15 Vac out Emerald Surf lines, RD Emerald Surf	BREAK DOWN/LOAD OUT	OD (")	L (')	ID (")	Slip type connector	3.125	.96	1-3/8	Dual BPV sub	2.875	1.42	N/A	Accelerator	2.89	5.89	15/16	Bidirectional jars	2.89	5.61	15/16	Hydraulic disconnect	2.88	2.13	11/16	Circulating sub	2.874	1.33	.6	Agitator	2.876	4.31	N/A	Motor	2.875	13.59	N/A	Crossover	3.15	.99	1.36	Roller cone bit	3.75	.45	N/A
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22:15	1.75	WOR	OPO			1		BD 70' of 5-1/8" 15K lubricator, rack 40' of lube in STEP rack, release 30' of rental and load out same  22:30 Vac out 2" temp pipe, BD and rack, continue RD pump truck  23:55 30' of 5-1/8" 15K lube BD and moved to side of location, continue RD STEP 5-1/8" lube at report time																																												
<b>Total</b>	<b>24.00</b>																																																			