

EP WELLS DAILY OPERATIONS REPORT

Report 20

11/23/2017

Company PERMIAN
 Well Type Development
 Well UNIVERSITY 19 PW UNIT 1404H
 Wellbore UNIVERSITY 19 PW UNIT 1404H
 WBS No/API No 30266568 / 4230133215.00

Event Summary

Event Type	Completion only	Event Start Date	10/31/2017	Days on Location	20.00
Objective	Install Completion	Original Spud Date	06/17/2017		
Est. Days	65.00	Contractor	PERMIAN WELL SVC		
Work Unit	PERMIAN COMPLETIONS	Days To Release			
		Rig Phone/FAX No.			

Well Status

Supervisor	Andrew Veroba	Measured Depth(ft)	
Engineer	Bobby Ramos	TVD(ft)	
Other Supervisor	M. Hank Persaud	24 Hr Progress(ft)	
Depth Ref/Grd Elev/Water Depth(ft)	DFE: 2,800.10 / 2,772.10	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	3,418,474/5,029,301.00	Current MW / BH EMW(ppg)	/
Actual divided by AFE	0.68	LOT/FIT EMW(ppg)	
Daily Cost	87,833	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 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:						
Total hours: 1108						

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			19

Operations Summary

24 Hour Summary
Frac stages 44 - 50, completing frac ops.
Update Since Report Time
Frac ops complete. Swap to 19 C, D, & J wells.
24 Hour Forecast
Frac ops complete. Swap to 19 C, D, & J wells.

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
0:00	1.25	FRAC	WLT			0		Open well with 4550 psi. RIH. "Stage #44 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 @ 10966'. Bring on pumps at 11500'. Pump down as follows: 3 bpm @ 4000 psi 6 bpm @ 4200 psi 9 bpm @ 4750 psi Max:9 bpm. Max: 5800 psi. Set plug @ 13259' Perforate as follows: 13234' - 13235' 13189' - 13190' 13144' - 13145' 13099' - 13100' Stabilized pressure after perforating: 4500 psi Pump down volume: 31 bbl" POOH Shut in well with 4350 psi. Bleed off.
1:15	0.17	FRAC	WLF			0		Break lubricator. All shots fired. MU night cap. LD tools and stand lubricator. Secure crown and wing valves. Handover from WL to Frac.
1:25	0.13	FRAC	FRP			0		Frac prep.
1:33	1.32	FRAC	FRT			0		Stage 44 Summary University 19 PW Unit 1404H Interval 13099 - 13235 Open Well Pressure 4,312 psi Max Treating Pressure 9,258 psi Max Slurry Rate 61.1 bpm Average Treating Pressure 8,216 psi Average Slurry Rate 56.9 bpm Breakdown Pressure 7,071 psi Breakdown Rate 10.6 bpm Breakdown Volume 328 gal Avg HHP 11,458 hp Final ISIP 5,409 psi Frac Gradient 0.898 psi/ft Pad Volume 987 gal Main Body Volume 157,471 gal Flush Volume 24,822 gal 100 MAZ Sand Pumped 46,940 lbs 100 M Brown Sand Pumped 95,020 lbs 100 M Sand Pumped 278,260 lbs Proppant in Formation 420,220 lbs Avg Proppant Concentration 3.37 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,780 bbls Load to Recover w/o Acid 3,780 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,669 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 31 bbls pump down rate 9.0 bpm Max pump down pressure 5,818 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 1 Treatment Start Time 1:35 0:00 0:00 Treatment End Time 2:50 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer.

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								- Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 4:01 Hours/min
2:52	0.23	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 7000 psi
3:06	1.23	FRAC	WLT			0		Open well with 4700 psi. RIH. "Stage # 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 @ 10966'. Bring on pumps at 11500'. Pump down as follows: 3 bpm @ 4050 psi 6 bpm @ 4300 psi 9 bpm @ 4650 psi Max:9 bpm. Max: 5150 psi. Set plug @ 13079' Perforate as follows: 13054' - 13055' 13009' - 13010' 12964' - 12965' 12919' - 12920' Stabilized pressure after perforating: 4450 psi Pump down volume: 28 bbl" POOH Shut in well with 4350 psi. Bleed off.
4:20	0.17	FRAC	WLF			0		Break lubricator. All shots fired. MU night cap. LD tools and stand lubricator. Secure crown and wing valves. Handover from WL to Grease.
4:30	0.20	FRAC	GRS			0		Greasing.
4:42	0.13	FRAC	FRP			0		Frac prep.
4:50	1.28	FRAC	FRT			0		Stage 45 Summary University 19 PW Unit 1404H Interval 12919 - 13055 Open Well Pressure 4,292 psi Max Treating Pressure 9,117 psi Max Slurry Rate 61.0 bpm Average Treating Pressure 8,501 psi Average Slurry Rate 57.1 bpm Breakdown Pressure 7,123 psi Breakdown Rate 12.1 bpm Breakdown Volume 382 gal Avg HHP 11,897 hp Final ISIP 5,293 psi Frac Gradient 0.888 psi/ft Pad Volume 1,130 gal Main Body Volume 162,288 gal Flush Volume 25,032 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 328,360 lbs 100 M Sand Pumped 92,160 lbs Proppant in Formation 420,520 lbs Avg Proppant Concentration 3.26 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,892 bbls Load to Recover w/o Acid 3,892 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,784 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 28 bbls pump down rate 9.0 bpm

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Max pump down pressure 5,124 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 0 Treatment Start Time 4:50 0:00 0:00 Treatment End Time 6:05 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 1:59 Hours/min
6:07	0.35	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4750 psi. RIH.
6:28	1.40	FRAC	WLT			0		Stage 46 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 @ 10966'. Pump down as follows: 3bpm @ 4700 psi, 11545' 6bpm @ 4800 psi, 11610' 9bpm @ 5350 psi, 11690' Set plug @ 12,894ft Perforate as follows: 12,874' - 12,875' 12,829' - 12,830' 12,784' - 12,785' 12,739' - 12,740' Stabilized pressure after perf: 4940psi Pump down volume: 24 bbl POOH
7:52	0.33	FRAC	WLF			0		Bump up and SIW @ 4500 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and setting tool. Greased UVM and LMV. HO to Frac.
8:12	1.30	FRAC	FRT			0		Prime pumps and open well to frac stage 46. Stage 46 Summary University 19 PW Unit 1404H Interval 12739 - 12875 Open Well Pressure 4,422 psi Max Treating Pressure 9,165 psi Max Slurry Rate 60.9 bpm Average Treating Pressure 8,185 psi Average Slurry Rate 58.9 bpm Breakdown Pressure 7,528 psi Breakdown Rate 14.1 bpm Breakdown Volume 756 gal Avg HHP 11,816 hp Final ISIP 5,217 psi Frac Gradient 0.881 psi/ft Pad Volume 1,512 gal Main Body Volume 166,278 gal Flush Volume 24,780 gal 100 MAZ Sand Pumped 113,620 lbs 100 M Brown Sand Pumped 237,080 lbs 100 M Sand Pumped 69,560 lbs Proppant in Formation 420,260 lbs Avg Proppant Concentration 3.18 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,983 bbls Load to Recover w/o Acid 3,983 bbls 15% HCL Spearhead 0 gal

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Slickwater Fluid Pumped 3,879 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 24 bbls pump down rate 9.0 bpm Max pump down pressure 5,300 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 1 Treatment Start Time 8:15 0:00 0:00 Treatment End Time 9:30 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. -lost pump 10097 to mechanical issues Time for Prop on Perfs 10.0 minutes Time between Stages (TBF) 2:10 Hours/min
9:30	0.30	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4750 psi. RIH.
9:48	1.28	FRAC	FWL			0		Stage 47 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 @ 10966'. Pump down as follows: 3bpm @ 4700 psi, 11470' 6bpm @ 4800 psi, 11600' 9bpm @ 5350 psi, 11720' Set plug @ 12,722ft Perforate as follows: 12,694' – 12,695' 12,649' – 12,650' 12,604' – 12,605' 12,559' – 12,560' Stabilized pressure after perf: 5120psi Pump down volume: 23 bbl POOH
11:05	0.25	FRAC	FWL			0		Bump up and SIW @ 4550 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and setting tool. Greased wing valve. HO to Frac.
11:20	1.28	FRAC	FRT			0		Prime pumps and open well to frac stage 47. Stage 47 Summary University 19 PW Unit 1404H Interval 12559 - 12695 Open Well Pressure 4,319 psi Max Treating Pressure 8,961 psi Max Slurry Rate 61.6 bpm Average Treating Pressure 7,664 psi Average Slurry Rate 58.9 bpm Breakdown Pressure 7,355 psi Breakdown Rate 9.2 bpm Breakdown Volume 462 gal Avg HHP 11,064 hp Final ISIP 5,417 psi Frac Gradient 0.898 psi/ft Pad Volume 1,554 gal Main Body Volume 162,246 gal Flush Volume 24,570 gal 100 M AZ Sand Pumped 135,920 lbs 100 M Brown Sand Pumped 0 lbs 100 M Sand Pumped 285,540 lbs

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Proppant in Formation 421,460 lbs Avg Proppant Concentration 3.28 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,886 bbls Load to Recover w/o Acid 3,886 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,783 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 23 bbls pump down rate 8.0 bpm Max pump down pressure 5,600 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 1 Treatment Start Time 11:23 0:00 0:00 Treatment End Time 12:38 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. - lost pump 5 to mechanical issues Time for Prop on Perfs 10.0 minutes Time between Stages (TBF) 1:53 Hours/min
12:37	0.78	FRAC	SAF			0		SIW and bleed off pressure. Sound alarm and hold fire drill. Muster complete in 3 min 46 sec. Identify opportunities for improvement and hold AAR.
13:24	0.32	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4750 psi. RIH.
13:43	1.28	FRAC	WLT			0		Stage 48 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 @ 10966'. Pump down as follows: 3bpm @ 4500 psi, 11,500' 6bpm @ 4700 psi, 11,610' 9bpm @ 5100 psi, 11,770' Set plug @ 12,542ft Perforate as follows: 12,514' – 12,515' 12,469' – 12,470' 12,424' – 12,425' 12,379' – 12,380' Stabilized pressure after perf: 5050psi Pump down volume: 20 bbl POOH
15:00	0.33	FRAC	WLF			0		Bump up and SIW @ 4400 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and setting tool. Greased crown valve. HO to Frac.
15:20	1.30	FRAC	FRT			0		Prime pumps and open well to frac stage 48. Stage 48 Summary University 19 PW Unit 1404H Interval 12379 - 12515 Open Well Pressure 4,291 psi Max Treating Pressure 9,278 psi Max Slurry Rate 60.9 bpm Average Treating Pressure 8,036 psi Average Slurry Rate 57.2 bpm Breakdown Pressure 7,864 psi Breakdown Rate 12.4 bpm Breakdown Volume 462 gal

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Time Summary

Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Avg HHP 11,266 hp Final ISIP 5,325 psi Frac Gradient 0.891 psi/ft Pad Volume 966 gal Main Body Volume 160,104 gal Flush Volume 24,906 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 330,980 lbs 100 M Sand Pumped 91,900 lbs Proppant in Formation 422,880 lbs Avg Proppant Concentration 3.32 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,832 bbls Load to Recover w/o Acid 3,832 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,732 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 20 bbls pump down rate 8.0 bpm Max pump down pressure 5,400 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 0 Treatment Start Time 15:20 0:00 0:00 Treatment End Time 16:35 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. Time for Prop on Perfs 12.0 minutes Time between Stages (TBF) 2:41 Hours/min
16:38	0.23	FRAC	FWL			0		Pick up lubricator. Remove night cap. PU guns/plug. Stab lubricator. Fill lubricator. PT lubricator to 8kpsi. Open well with 4800 psi. RIH.
16:52	1.33	FRAC	WLT			0		Stage 49 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 @ 10966'. Pump down as follows: 3bpm @ 4700 psi, 11,550' 6bpm @ 4900 psi, 11,650' 9bpm @ 5300 psi, 11,720' Set plug @ 12,362ft Perforate as follows: 12,334' – 12,335' 12,289' – 12,290' 12,244' – 12,245' 12,199' – 12,200' Stabilized pressure after perf: 4995psi Pump down volume: 17 bbl POOH
18:12	0.13	FRAC	GRS			0		Greasing.
18:20	0.13	FRAC	WLF			0		Bump up and SIW @ 4550 psi. Bled off pressure and break lubricator/BOP's. Lowered Perf guns out of lubricator and confirmed all shots fired. N/U nightcap and close crown valve. L/D perf guns and setting tool. Greased crown valve. HO to Frac.
18:28	0.12	FRAC	FRP			0		Frac prep.
18:35	1.32	FRAC	FRT			0		Stage 49 Summary University 19 PW Unit 1404H Interval 12223 - 12359

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Start	Hours	PH	OPN	Detail	Drilled Depth (ft)	NPT level	Rig Rate	Description
								Open Well Pressure 4,313 psi Max Treating Pressure 9,126 psi Max Slurry Rate 61.1 bpm Average Treating Pressure 7,743 psi Average Slurry Rate 56.9 bpm Breakdown Pressure 7,112 psi Breakdown Rate 9.2 bpm Breakdown Volume 168 gal Avg HHP 10,798 hp Final ISIP 5,465 psi Frac Gradient 0.903 psi/ft Pad Volume 764 gal Main Body Volume 156,101 gal Flush Volume 24,192 gal 100 M AZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 94,560 lbs 100 M Sand Pumped 323,940 lbs Proppant in Formation 418,500 lbs Avg Proppant Concentration 3.37 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,734 bbls Load to Recover w/o Acid 3,734 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,637 bbls 20# Linear Fluid Pumped 80 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 17 bbls pump down rate 8.0 bpm Max pump down pressure 5,600 psi Fluid Temp 72.0 ?F Total Pump Time 1:15 hr:min Pumps Lost During Job 1 Treatment Start Time 18:37 0:00 0:00 Treatment End Time 19:52 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran two 40 bbl shots of gel with a 20 bbl spacer. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 2:01 Hours/min
19:54	0.27	FRAC	FWL			0		Handover from frac to wireline. Pick up lubricator. Remove night cap. PU tools. Stab lubricator. Fill lubricator. Pressure test lubricator to 7000 psi
20:10	1.23	FRAC	WLT			0		Open well with 5200 psi. RIH. "Stage # 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 @ 10966'. Bring on pumps at 11600'. Pump down as follows: 3 bpm @ 4475 psi 6 bpm @ 5675 psi bpm @ psi Max:6 bpm. Max: psi. Set plug @ 12156' Perforate as follows: 12147' - 12148' 12124' - 12125' 12096' - 12097' 12067' - 12068' Stabilized pressure after perforating: 4700 psi Pump down volume: 9 bbl" POOH

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								Shut in well with 4650 psi. Bleed off.
21:24	0.17	FRAC	WLF			0		Break lubricator. All shots fired. MU night cap. LD tools and stand lubricator. Secure crown and wing valves. Handover from WL to Frac.
21:34	0.22	FRAC	FRP			0		Frac prep.
21:47	1.30	FRAC	FRT			0		Stage 50 Summary University 19 PW Unit 1404H Interval 12064 - 12179 Open Well Pressure 4,669 psi Max Treating Pressure 8,941 psi Max Slurry Rate 61.1 bpm Average Treating Pressure 7,864 psi Average Slurry Rate 56.3 bpm Breakdown Pressure 8,872 psi Breakdown Rate 10.7 bpm Breakdown Volume 294 gal Avg HHP 10,852 hp Final ISIP 5,687 psi Frac Gradient 0.922 psi/ft Pad Volume 1,063 gal Main Body Volume 153,909 gal Flush Volume 24,192 gal 100 MAZ Sand Pumped 0 lbs 100 M Brown Sand Pumped 47,160 lbs 100 M Sand Pumped 376,200 lbs Proppant in Formation 423,360 lbs Avg Proppant Concentration 3.38 lb/gal Max Proppant Concentration 4.00 lb/gal Load to Recover (incl. pumpdown) 3,674 bbls Load to Recover w/o Acid 3,674 bbls 15% HCL Spearhead 0 gal Slickwater Fluid Pumped 3,665 bbls 20# Linear Fluid Pumped 0 bbls 20# Crosslink Fluid Pumped 0 bbls Pump down volume 9 bbls pump down rate 6.0 bpm Max pump down pressure 5,083 psi Fluid Temp 72.0 ?F Total Pump Time 1:14 hr:min Pumps Lost During Job 0 Treatment Start Time 21:49 0:00 0:00 Treatment End Time 23:03 0:00 0:00 Diverter Slurry bbls -Proppant was pumped as a ramp from 0.50 PPA to 3.5 PPA then a 3.5 PPA, and a 4.0 PPA step. - Ran NO 15% HCl this stage - This stage utilized a ball in seat plug. Time for Prop on Perfs 14.0 minutes Time between Stages (TBF) 1:56 Hours/min
23:05	0.67	FRAC	ROF			0		Hold rig down / rig up safety meeting.
23:45	0.25	FRAC	ROF			0		Lay down lubricator.
Total	24.00							