

FORGE Energy
UL 20 Flathead 2H
API Number: 42-495-33782

05/03/2017

Rig Name:

- 08:30 PJSM , CER NU 2 - 2 1/16 x 10k 1502 companion flanges , NU 2 1/16 x 5k 1502 companion flange for Intermediate Csg , Right Light delivered Forklift , Manlift , 2 Porta Potty's , Trash trailer , 1 - LP
- 11:30 Mendford Trucking emptied cellar , M & V Roustabouts plumbed surface bleedoff line and taped , Backhoe filled cellar , Surface Csg Pressure 0 , Intermediate SICP 0
- 14:30 DTR delivered and spotted 2 - Frac tanks and washed both tanks out.

Note: WH Master Valve - 7 1/16" 15k DSC FLSR Manual Gate Valve SE PU EENL PSL3 P Hyd with Tal

05/04/2017

Rig Name:

- 08:00 Surface Casing Pressure 0 , Intermediate SICP 0
- 10:00 PJSM , RU Outlaw pump truck , pressure test line 2500 psi , Open Intermediate , Load 9 5/8" x 7" w/ 16 bbls. , Start pumping in at .75 bpm , 300 psi , pumped 5 bbls , increased rate to 3 bpm at 500 psi , pumped 10 bbls , SD , ISIP 100 psi , 5 min 100 psi , 10 min 100 psi , 15 min 100 psi , Shut valve , RD Outlaw pump truck
- 11:15 Battle welder cutoff mousehole and welded cover for mouse hole.

05/05/2017

Rig Name:

- 08:00 Standard Safety delivered Light package , Shower trailer and setup.
- 10:30 Hobbs Anchors set and tested anchors.

05/06/2017

Rig Name:

- 07:30 PJSM , Halliburton , KLX , ND 7 1/16" 15k Blanking cap , NU 7 1/16" 15k WL Adapter flange
- 09:30 Rockwater NU Flowback manifold and iron, Wait on bigger crane and 7" Lube
- 12:00 Wait on Crane , 7" Lube
- 14:45 RU Halliburton WL , Crane , Oilstates 7" Lube , BOP , Make up 5.78" GR/JB , PU 7" Lube , Make up 7" Lube , BOP , Attempt to pressure test lube , Packoff leaking
- 17:30 Oilstates worked on Packoff , Inner oring on bladder bad , LD Lube , Changeout oring , PU 7" Lube , 5.78" GR/JB
- 19:00 Make up 7" Lube to WH , Pressure test lube 1500 psi - Test ok , open WH , RIH w/ 5.78" GR/JB , Tag at 11,420' WLM , POOH w/WL , Out of hole , Shut-In well , LD Lube and tools , Oilbase mud on GR/JB , Oilbase mud In GR/JB
- 21:30 SD Equipment

05/07/2017

Rig Name:

- 07:00 PJSM , PU and install tool trap , PU 7" lube , Halliburton calibrated CAST-M tool , PU tools , make up 7" lube to WH , Pressure test lube 1500 psi - test ok , Open WH , RIH w/ WL , Stop at 50' and check tools , RIH w/ WL , 12:00 Start CAST-M log from 11,446' to Surface
- 21:45 Out of Hole w/ Halliburton CAST-M tool , Shut-In well , LD tools , Est Top of Cement 10,834 , Csg Wear looked good , Emailed log to office. SD Equipment

05/08/2017

Rig Name:

- 07:00 PJSM , Callibrate Halliburton RCBL tool , Move Oil States pressure control trailer
- 08:30 ProPetro RU , PU Halliburton CBL tool , Make up 7" Lube to WH , Pressure test Lube 1500 psi - Test ok , Open WH
- 09:00 RIH w/ RCBL tool , In hole , Make correlating pass , Pressure up 1000 psi on csg , Start logging up w/ RCBL tool from 11,472' , Log to 5000' , Est. Top of Cement 9298' , Bled off pressure , POOH w/ WL , Out of hole w/ WL , Shut-In well , LD tools and Lube.
- 13:15 Rig Down Halliburton , Oil States , NU 7 1/16" 15k blanking flange. RU ProPetro , Email RCBL data
- 14:15 RU ProPetro
- 15:15 PJSM , Break circulation , Start pressure testing lines , needle valve on Flowback manifold leaking , changeout needle valve , Pressure up 3k on lines - manifold leaking , repair leaks on manifold , Pressure test lines and manifold 10k and hold for 10 min - test ok.
- 17:45 Load Csg w/ 1/2 bbl , Start Step rate test Presure up to 5300 psi , 5800 psi , 6300 psi , 6800 psi , 7400 psi , 7800 psi , 8300 psi - Holding at each step for 5 min each , Pressure up to 8657 psi - TTS Opened , Monitor pressure decline , At 5 min 5357 psi , Start Injecting 2 bpm at 6100 psi , working rate up to 10.4

bpm at 6874 psi , At 130 bbls pumped since sleeve opened , Start 2000 gals 15% NEFE Acid , Finish Acid , Stage to kcl/Bio flush , 10.3 bpm at 7050 psi , At 200 bbls flush pumped 10.6 bpm at 6750 psi , Acid on Zone at 481 bbls flush pumped , 10.5 bpm at 6900 psi , At 529 bbls flush pumped - All Acid through TTS , Increase rate to 11.5 bpm at 6650 psi , Overflush 25 bbls , 554 bbls kcl/bio flush , ISIP 6130 psi , 5 min 5622 psi , 10 min 5570 psi , 15 min 5530 psi , ND Blanking flange to drop 3.65" SLB dissolvable ball.

20:45 Load and Drop 3.65" SLB dissolvable ball , Verify ball dropped.

21:00 Wait on 3.65" SLB Dissolvable ball to fall

22:15 Start pumping ball down at 13 bpm at 6768 psi , Pump ball on seat at 99 bbls pumped , 8000 psi , Pressure up to 8680 psi and hold for 5 min - test ok , Step up to 9821 psi and held for 30 min. , Pressure 9825 psi at 30 min - test ok , Bled off well to 5422 psi to see ball unseat , Shut-In wing valves , SIFN

00:00 SD Equipment , Email plots in.

05/09/2017

Rig Name:

14:00 Right Light repaired Light Plant , ProPetro delivered chemical , filled units w/ diesel , Mendford trucking filled frac tanks w/ kcl/bio water , Oil State pu pressure control trailer. Fesco spotted and RU WL unit , Crane , Pressure control trailer , ND 7 1/16" 15k blanking cap , NU 7 1/16" 15k spool , bop , tool trap , blanking cap , RU 7" Lube , Reheaded Rope socket , Make up tool string.SD

05/10/2017

Rig Name:

07:30 PJSM , Pressure test lines 10k , repair leak , Pressure test lines 10k - test ok , Open WH w/ 6730 psi (DFIT Gauge) , 6471 psi in ProPetro van , Start pumping , Pressure up 8000 psi and hold , pumped 1.8 bbl ttl , Call in to SLB for Recommendations , Bled pressure to 4700 psi on Csg through manifold , Pressure increased to 4900 psi , (Ball popped off seat) , continued bleeding pressure to 3800 psi , Shut-In manifold , Pressure built to 4700 psi , Start injecting at 3 bpm - 5890 psi , working up to 14 bpm at 7180 psi , pumped 100 bbls ttl , SD

12:00 PU 7" Lube , Stage 1 Obsidian CBP and Guns , Make up Lube to WH , pressure test lube 9k - test ok , bleed down pressure to 5600 psi , Open WH w/ 5600 psi , RIH 200' and check switches , RIH w/ Stage 1 CBP Plug and Guns , Tie into MJ at 11,554' , Pumpdown at 9 Bpm - 265 fpm , SD at 19,310' , Pullup and set Obsidian CBP at 19,305' , Pullup , Test CBP 8500 psi for 5 min - Test ok , Pullup and attempt to fire Gun #1 , Gun #1 would not fire , Call in to Completions Supt , Fire gun #2 in Gun #1 spot at 19,288.5 - 19,289.5 , 10 shots ttl , 6 spf , 60 degree phasing , Pullup and fire gun 3 in gun #2 spot , 19,246' - 19,247' , 9 shots , 6 spf , 60 degree phasing. Pumped 269 bbls during Pumpdown.

15:45 POOH logging w/ GR/CCL Log , Logged to 11,000' , POOH w/ WL , Out of hole w/ setting tool and guns , Verified all shots fired , on guns 2 and 3 , No shots fired on gun #1

18:45 Line up ProPetro , Start injecting to establish rate , 6150 psi at 5 bpm , 9 BPM at 6700 psi , 10 bpm at 6830 psi , 12.7 bpm at 7150 psi , SD , pumped 100 bbls ttl , ISIP 7086 PSI , 5 min 5450 psi , 10 min 5390 psi , 15 min 5353 psi , Shut-In well , Bleed off lines

19:15 SD equipment , Email in GR/CCL data , Propetro Pumpdown data , Injection rate data

05/11/2017

Rig Name:

07:00 PJSM , Make up Gun #3 Stage 1 w/ Dummy Plug , Make up 7" Lube , Pressure test lube 9k - test ok , Bled pressure down to 5400 psi , Open WH w/ 5386 psi on DFIT gauge , RIH w/ Gun #3 and dummy plug , Tie into MJ at 11,554' , Pumpdown at 9 bpm , 6500 psi , 250 FPM , Stop at 19,225' , Pullup and fire Stage 1 Gun #3 , 19,199'-19,200' , 11 shots , 6 spf , 60 Degree phasing , Pullup 2' , Hung up , Pumped and got free , POOH W/WL , Out of hole w/WL , Shut-In , LD 7" Lube and Gun , Verified all shots fired. Pumped 308 bbls during pumpdown , 381 bbls Ttl.

11:45 Line up ProPetro , Pump 30 bbls Ttl , 4.2 bpm at 5960 psi , Did hard SD to start DFIT test. ISIP 5837 psi , 5 min 5563 psi , 10 min 5514 psi , 15 min 5483 psi , Pumped 411 bbls Ttl.

12:15 ND 7 1/16" 15k WL Adapter flange , NU 7 1/16" 15k Blanking flange. RDMO ProPetro , Fesco , KLX , Met w/ C&J Frac Rep , Marked where to spot Frac Tanks , Acid Tanks

05/12/2017

Rig Name:

08:30 PJSM

09:00 CER on location @ 08:30, NU 15K frac stack, RU KLX, torque stack to recommended specs, test stack, 250 psi low (held for 10 min, good test), 12,500 psi high (held for 10 min, good test). C-J staged in sand cans & T-belt. DTR set Frac tanks.

05/13/2017

Rig Name:

08:30 PJSM

09:00 Set & RU sand movers & T-belt , MIRU Office trailer & house trailers , Cont to RU Water Transfer , MIRU flowback iron.

05/14/2017

Rig Name:

07:00 PJSM

07:30 MIRU KLX test pump , test flow back iron 9500 psi (good test).

08:30 wait on C&J equipment to arrive on location.

10:00 MIRU C&J frac equipment (80% rigged up) SDFN

05/15/2017

Rig Name:

08:00 PJSM

08:30 Cont to RU C&J frac Equipment & preform bucket test (good test).

MIRU KLX wireline , NU wireline BOP , Cont to lay water transfer water lines.

17:30 Resource water transfer layed 6 mi of layflat line , tied into 2 booster pumps , Laid line to Frac tanks at Flathead 1H , Still need to run layflat from Flathead 1H to manifold on Flathead 2H and fill tanks in am.

21:45 Wait on Frac

05:30 PJSM

05/16/2017

Rig Name:

06:00 PJSM

06:30 Cont to lay water transfer lines.

13:30 Load frac tanks, prime pumps & test frac lines 11,000 psi. Cont filling tanks.

18:00 PJSM

18:30 Set Popoff at 9750 psi , Pressure test Lines , Upper Master , WL BOP 9800 psi
19:15 Stage 1 Frac Open Well w/ 5,178 psi. Pumped 3045 gals 15% HCl , NEFE Acid , pumped 392,570 gals of Slickwater, w/ 73,000 lbs 100 mesh, 165,100 lbs 40/70 White, Max psi 9195 psi, Avg psi 8611 psi, Max rate: 60.9 bpm, Avg rate: 59.5 bpm, 0.91 Frac Gradient , Approx load to rec: 9356 bbls. ISIP: 5899 psi, 5 min: 5727 psi, 10 min: 5672 psi, 15 min: 5635 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi

22:45 PU 3 1/8" Scalloped Guns , Obsidian CFP , Make up Lube to WH , Pressure test lube 9500 psi , bled pressure to 5600 psi to equalize , Stuck in greasehead , bled pressure off , Break off lube and LD , Broke greasehead apart , freed up , PU Lube , add 7' of 3 1/8" wt bar , PU 3 1/8" Scalloped Guns and Obsidian CFP , Make up lube to WH , Pressure test lube 9500 psi bled pressure to 5600 psi to equalize , Stuck in greasehead , bled pressure off , Break off lube and LD , Broke greasehead , tolerance is too tight between fishing neck of rope socket and bottom of greasehead.

01:30 Wait on Greasehead coming from Hobbs , NM

04:00 Greasehead on location , Change out Greasehead , Build Rope socket.

05:30 PJSM Days , PU Lube , PU Stage 2 - 3 1/8" Guns and Obsidian CFP , Pressure Test Lube 9500 psi , Bled down to 5400 psi to equalize , Open WH w/ 5300 psi , RIH w/ Stage 2 Plug and Guns

05/17/2017

Rig Name:

06:00 (PJSM 05:30). Stage #2 Pump Down. P/U 4 1/2" Obsidian Ball Drop Frac Plug for 4 1/2, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well SICP 5,300 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 10 bpm @ 6,659 psi, 295 FPM, Spot & Set frac plug @ 19,177'. 5,380 psi SIP, PU & Fire Gun #1 @ 19,153'- 19,154', 11 Shots. P/U and Fire Gun #2 @ 19,106'- 19,107', 10 Shots. P/U & Fire Gun #3 @ 19,060'- 19,061', 10 Shots, P/U & Fire Gun #4 @ 19,013' - 19,014', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy . Verified all shots fired , Max Rate 10 bpm , Max Pressure 6,718 PSI , Total bbl pumped 254 bbl. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand.

08:30 Stage 2 Frac: Open Well SICP 5,320 psi. Pump Stage #2. Pumped 4,000 gals 7 1/2% HCL, 528,738 gals of Slickwater, w/ 96,800 lbs 100 mesh, (During 0.50 ppg 100 mesh pop off washed out over flush well 100 bbls shutdown & replace pop off) , 220,420 lbs 40/70 White, Max psi: 9,543 psi, Avg psi: 9,293 psi, Max rate: 70.3 bpm, Avg rate: 66.3 bpm, .92 Frac. Gradient. Approx load to rec: 12,589 bbls. ISIP: 5,985 psi, 5 min: 5,826 psi, 10 min: 5,769 psi, 15 min: 5,748 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi . Breakdown 7945 psi.

13:45 Stage #3 Pump Down. P/U 4 1/2" Obsidian Ball Drop Frac Plug for 4 1/2, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well SICP 5,800 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 11 bpm @ 6,685 psi, 320 FPM, Spot & Set frac plug @ 18.986'. 5.690 psi SIP. PU & Fire Gun #1 @ 18.967'- 18.968'. 11 Shots. P/U

and Fire Gun #2 @ 18,920'- 18,921', 10 Shots. P/U & Fire Gun #3 @ 18,874'- 18,875', 10 Shots, P/U & Fire Gun #4 @ 18,827' - 18,828', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy . Verified all shots fired , Max Rate 11 bpm , Max Pressure 7015 PSI , Total bbl pumped 233 bbl. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand.

16:00 Stage 3 Frac Open Well w/ 5545 psi. Pumped 8146 gals 7.5% HCl , NEFE Acid , pumped 429,619 gals of Slickwater, 2130 gals of 10# Linear Gel , 97,000 lbs 100 mesh, 221,040 lbs 40/70 White, Max pressure 9751 psi, Avg psi 9211 psi, Max rate: 67.6 bpm, Avg rate: 62.5 bpm, 0.96 Frac Gradient , Approx load to rec: 10,299 bbls. ISIP: 6451 psi, 5 min: 5925 psi, 15 min: 5825 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi (17:30 PJSM Nights)

20:00 WL SD due to high winds , Unsafe to operate crane. Rig up KLX FRV system , Set mechanical popoff at 2750 psi , Set KLX FRV electronic popoff at 2500 psi.

23:00 Continue to be SD due to high winds , unsafe to operate crane.

00:30 Stage #4 Pump Down. P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy , Test Lubricator to 9,500 PSI , Open Well w/ 5550 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 10 bpm @ 7640 psi, 250 FPM, Spot & Set frac plug @ 18,801' , 6556 psi SIP, PU & Fire Gun #1 @ 18,781'- 18,782', 11 Shots , P/U and Fire Gun #2 @ 18,734'- 18,735', 10 Shots , P/U & Fire Gun #3 @ 18,688'- 18,689', 10 Shots , P/U & Fire Gun #4 @ 18,641' - 18,642', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy . Verified all shots fired , Total bbl pumped 292 bbl. Drop 2.125" Obsidian Frac Ball. No sand in setting tool.

03:15 Stage 4 Frac ongoing

05/18/2017

Rig Name:

06:00 (PJSM 5:30)Stage 4 Frac Open Well w/ 5493 psi. Pumped 8044 gals 7.5% HCl , NEFE Acid , pumped 422,310 gals of Slickwater, 2150 gals of 10# Linear Gel , 97,380 lbs 100 mesh, 220,860 lbs 40/70 White, Max pressure 9410 psi, Avg psi 9095 psi, Max rate: 70.6 bpm, Avg rate: 66.3 bpm, 0.94 Frac Gradient , Approx load to rec: 10,055 bbls. ISIP: 6179 psi, 5 min: 5937 psi, 10 min: 5869 psi, 15 min: 5825 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8900 psi

06:30 Stage #5 Pump Down. P/U 4 1/2" Obsidian Ball Drop Frac Plug for 4 1/2, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH. Open Well SICP 5,745 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 12 bpm @ 6,810 psi, 320 FPM, Spot & set frac plug @ 18,631'. 6,265 psi SIP, PU & Fire Gun #1 @ 18,602'- 18,603', 11 Shots. P/U and Fire Gun #2 @ 18,548'- 18,549', 10 Shots. P/U & Fire Gun #3 @ 18,502'- 18,503', 10 Shots, P/U & Fire Gun #4 @ 18,455' - 18,456', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy . Verified all shots fired , Max Rate 12 bpm , Max Pressure 7,128 PSI , Total bbl pumped 255 bbl. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand.

09:15 Stage 5 Frac Open Well w/ 5623 psi. Pumped 7896 gals 7.5% HCl , NEFE Acid , pumped 277,956 gals of Slickwater, No 10# Linear Gel , 97,880 lbs 100 mesh, 48,080 lbs 40/70 White, Max pressure 9718 psi, Avg psi 9455 psi, Max rate: 61.1 bpm, Avg rate: 58.7 bpm, 0.94 Frac Gradient , Approx load to rec: 6,618 bbls. ISIP: 6218 psi, 5 min: 6061 psi, 10 min: 6004 psi, 15 min: 5966 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8273 psi

12:15 Stage #6 Pump Down. P/U 4 1/2" Obsidian Ball Drop Frac Plug for 4 1/2, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH. Open Well SICP 5,800 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 10 bpm @ 7,078 psi, 250 FPM, Spot & set frac plug @ 18,430'. 6,121 psi SIP, PU & Fire Gun #1 @ 18,409'- 18,410', 11 Shots. P/U and Fire Gun #2 @ 18,362'- 18,363', 10 Shots. P/U & Fire Gun #3 @ 18,316'- 18,317', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD w/ Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy . Verified all shots fired , Max Rate 12 bpm , Max Pressure 7,078 PSI , Total bbl pumped 249 bbl. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand.

14:45 Stage 6 Frac , Open Well w/ 5784 psi. Pumped 7861 gals 7.5% HCl , NEFE Acid , pumped 328,964 gals of Slickwater, 2294 gals 10# Linear Gel , 72,000 lbs 100 mesh, 166,180 lbs 40/70 White, Max pressure 9868 psi, Avg psi 9,274 psi, Max rate: 61.5 bpm, Avg rate: 60.3 bpm, 0.95 Frac Gradient , Approx load to rec: 8083 bbls. ISIP: 6339 psi, 5 min: 5895 psi, 10 min: 5834 psi, 15 min: 5801 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8188 psi , PJSM Nights 17:30

18:30 Stage #7 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5762 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump

- Down @ 11 bpm @ 7275 psi, 250 FPM, Stop at 18,311' , Pull up & set frac plug @ 18,291', 6236 psi SIP, PU & Fire Gun #1 @ 18,269'- 18,270', 11 Shots. P/U and Fire Gun #2 @ 18,223'- 18,224', 10 Shots. P/U & Fire Gun #3 @ 18,176'- 18,177', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy . Verified all shots fired , Max Rate 11 bpm , Max Pressure 7419 PSI , Total bbl pumped 267 bbls. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand , Cleanout FRV System.
- 21:30 Stage 7 Frac , Open Well w/ 5770 psi. Pumped 6048 gals 7.5% HCl , NEFE Acid , pumped 349,043 gals of Slickwater, 2287 gals 10# Linear Gel , 72,240 lbs 100 mesh, 169,060 lbs 40/70 White, Max pressure 9560 psi, Avg psi 9289 psi, Max rate: 60.6 bpm, Avg rate: 57.6 bpm, 0.97 Frac Gradient , Approx load to rec: 8354 bbls. ISIP: 6587 psi, 5 min: 6082 psi, 10 min: 5854 psi, 15 min: 5823 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 9343 psi
- 01:00 Stage #8 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5780 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7500 psi, 250 FPM, Stop at 18,169' , Pull up & set frac plug @ 18,149', 6040 psi SIP, PU & Fire Gun #1 @ 18,130'- 18,131', 11 Shots. P/U and Fire Gun #2 @ 18,083'- 18,084', 10 Shots. P/U & Fire Gun #3 @ 18,037'- 18,038', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy . Verified all shots fired , Max Rate 11 bpm , Max Pressure 7818 PSI , Total bbl pumped 270 bbls. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand , Cleanout FRV System
- 03:30 Stage 8 Frac ongoing

05/19/2017

Rig Name:

- 06:00 PJSM 05:30) Stage 8 Frac , Open Well w/ 5805 psi. Pumped 6090 gals 7.5% HCl , NEFE Acid , pumped 312,953 gals of Slickwater, 2089 gals 10# Linear Gel , 72,940 lbs 100 mesh, 165,160 lbs 40/70 White, Max pressure 9667 psi, Avg psi 9342 psi, Max rate: 60.4 bpm, Avg rate: 58.1 bpm, 0.94 Frac Gradient , Approx load to rec: 7646 bbls. ISIP: 6240 psi, 5 min: 6014 psi, 10 min: 5771 psi, 15 min: 5740 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8900 psi
- 07:00 Stage #9 Pump Down , P/U 4.5" Obsidian Bridge Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5650 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 7850 psi, 320 FPM, Spot & set frac plug @ 18,017', 5740 psi SIP, Test CBP to 7050 psi (good test), release pressure down to 6500 psi , PU & Fire Gun #1 @ 17,990'- 17,991', 11 Shots. P/U and Fire Gun #2 @ 17,944'- 17,945', 10 Shots. P/U & Fire Gun #3 @ 17,897'- 17,898', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy . Verified all shots fired 30 holes, Max Rate 12 bpm , Max Pressure 7853 PSI , Total bbl pumped 219 bbls. Tools clean, no sand , Cleanout FRV System
- 09:30 Stage 9 Frac , Open Well w/ 4475 psi. Pumped 5964 gals 7.5% HCl , NEFE Acid , pumped 316,411 gals of Slickwater, 2159 gals 10# Linear Gel , 73,000 lbs 100 mesh, 165,040 lbs 40/70 White, Max pressure 9687 psi, Avg psi 9076 psi, Max rate: 60.4 bpm, Avg rate: 59.4 bpm, 0.94 Frac Gradient , Approx load to rec: 7993 bbls. ISIP: 6187 psi, 5 min: 5851 psi, 10 min: 5828 psi, 15 min: 5820 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break No ball.
- 12:30 Stage #10 Pump Down. P/U 4 1/2" Obsidian Ball Drop Frac Plug for 4 1/2, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH. Open Well SICP 5,925 psi. RIH & get on depth w/ MJ @ 11,555'. RIH & Pump Down @ 11 bpm @ 7,800 psi, 288 FPM, Spot & set frac plug @ 17,877'. 6,225 psi SIP, PU & Fire Gun #1 @ 17,851'- 17,852', 11 Shots. P/U and Fire Gun #2 @ 17,804'- 17,805', 10 Shots. P/U & Fire Gun #3 @ 17,758'- 17,759', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, SWI, LD w/ Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy . Verified all shots fired , Max Rate 11 bpm , Max Pressure 7,980 PSI , Total bbl pumped 228 bbl. Drop 2.125" Obsidian Frac Ball. Tools clean, no sand.
- 14:45 Stage 10 Frac , Open Well w/ 5719 psi. Pumped 6090 gals 7.5% HCl , NEFE Acid , pumped 319,188 gals of Slickwater, 1990 gals 10# Linear Gel , 73,660 lbs 100 mesh, 164,020 lbs 40/70 White, Max pressure 9700 psi, Avg psi 9161 psi, Max rate: 60.5 bpm, Avg rate: 59.3 bpm, 0.96 Frac Gradient , Approx load to rec: 7639 bbls. ISIP: 6432 psi, 5 min: 6044 psi, 10 min: 5799 psi, 15 min: 5765 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi , Break 8596 psi ,(Stage Frac as designed) PJSM Nights 17:30
- 18:30 Stage #11 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5760 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7500 psi, 250 FPM, Stop at 17,756' , Pull up & set frac plug

- @ 17,736', 6100 psi SIP, PU & Fire Gun #1 @ 17,711'- 17,712', 11 Shots. P/U and Fire Gun #2 @ 17,665'- 17,666', 10 Shots. P/U & Fire Gun #3 @ 17,618'- 17,619', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 7623 PSI , Total bbl pumped 250 bbls. Load 2.125" Obsidian Frac Ball. Tools clean, no sand , Cleanout FRV System
- 21:00 CER Greased Frac valves , Pressure test line 11k , Set popff at 9800 psi , Drop 2.125" Obsidian Frac Ball.
- 22:00 Stage 11 Frac , Open Well w/ 5668 psi. Pumped 6048 gals 7.5% HCl , NEFE Acid , pumped 318,817 gals of Slickwater, 2655 gals 10# Linear Gel , 72,760 lbs 100 mesh, 166,200 lbs 40/70 White, Max pressure 9522 psi, Avg psi 8964 psi, Max rate: 59.9 bpm, Avg rate: 59.3 bpm, 0.95 Frac Gradient , Approx load to rec: 7638 bbls. ISIP: 6330 psi, 5 min: 5939 psi, 10 min: 5839 psi, 15 min: 5797 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi , Break 8263 psi , (Stage Frac as designed)
- 01:00 Stage #12 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5827 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7500 psi, 250 FPM, Stop at 17,611' , Pull up & set frac plug @ 17,596', 6330 psi SIP, PU & Fire Gun #1 @ 17,572'- 17,573', 11 Shots. P/U and Fire Gun #2 @ 17,525'- 17,526', 10 Shots. P/U & Fire Gun #3 @ 17,479'- 17,480', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 7596 PSI , Total bbl pumped 243 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System
- 03:30 Stage 12 Frac Ongoing

05/20/2017

Rig Name:

- 06:00 PJSM 05:30) Stage 12 Frac , Open Well w/ 5747 psi. Pumped 6086 gals 7.5% HCl , NEFE Acid , pumped 313,456 gals of Slickwater, 2096 gals 10# Linear Gel , 74,760 lbs 100 mesh, 165,980 lbs 40/70 White, Max pressure 9695 psi, Avg psi 9033 psi, Max rate: 61.5 bpm, Avg rate: 59.1 bpm, 0.95 Frac Gradient , Approx load to rec: 7901 bbls. ISIP: 6318 psi, 5 min: 5899 psi, 10 min: 5891 psi, 15 min: 5804 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8089 psi
- 06:30 Stage #13 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5750 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 6750 psi, 320 FPM, Spot & set frac plug @ 17,456', 6120 psi SIP, PU & Fire Gun #1 @ 17,432'- 17,433', 11 Shots. P/U and Fire Gun #2 @ 17,386'- 17,387', 10 Shots. P/U & Fire Gun #3 @ 17,339'- 17,340', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 12 bpm , Max Pressure 6904 PSI , Total bbl pumped 170 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System
- 09:00 Stage 13 Frac , Open Well w/ 5880 psi. Pumped 5880 gals 7.5% HCl , NEFE Acid , pumped 308,611 gals of Slickwater, 2105 gals 10# Linear Gel , 73,920 lbs 100 mesh, 156,840 lbs 40/70 White, Max pressure 9754 psi, Avg psi 9011 psi, Max rate: 60.9 bpm, Avg rate: 60.3 bpm, 0.94 Frac Gradient , Approx load to rec: 7781 bbls. ISIP: 6256 psi, 5 min: 6070 psi, 10 min: 5848 psi, 15 min: 5833 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7571 psi
- 12:00 Stage #14 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5900 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 7400 psi, 283 FPM, Spot & set frac plug @ 17,322', 7180 psi SIP, PU & Fire Gun #1 @ 17,298'- 17,299', 11 Shots. P/U and Fire Gun #2 @ 17,251'- 17,252', 10 Shots. P/U & Fire Gun #3 @ 17,192'- 17,193', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 12 bpm , Max Pressure 7704 PSI , Total bbl pumped 161 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System
- 14:00 Stage 14 Frac , Open Well w/ 5825 psi. Pumped 6168 gals 7.5% HCl , NEFE Acid , pumped 368,093 gals of Slickwater, 2059 gals 10# Linear Gel , 73,000 lbs 100 mesh, 166,980 lbs 40/70 White, Max pressure 9599 psi, Avg psi 9200 psi, Max rate: 60.4 bpm, Avg rate: 59.2 bpm, 0.94 Frac Gradient , Approx load to rec: 9210 bbls. ISIP: 6287 psi, 5 min: 5816 psi, 10 min: 5765 psi, 15 min: 5738 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8564 psi
- 17:30 Stage #15 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9.500 PSI. Closed around valve that is hooked up to EFRV unit before RIH .

- Open Well w/ 5900 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 6941 psi, 250' FPM, Spot frac plug @ 17,197', Pullup and set frac plug at 17,177' , 5875 psi SIP, PU & Fire Gun #1 @ 17,153'- 17,154', 11 Shots. P/U and Fire Gun #2 @ 17,107'- 17,108', 10 Shots. P/U & Fire Gun #3 @ 17,060'- 17,061', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 6966 PSI , Total bbl pumped 235 bbls. Load 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System+
- 19:30 Frac changed out pump #8 , changeout bleeders on one side , changeout wheel valve for popoff , Drop 2.125" Obsidian Frac Ball.
- 20:30 Stage 15 Frac , Open Well w/ 5666 psi. Pumped 6048 gals 7.5% HCl , NEFE Acid , pumped 315,306 gals of Slickwater, 2206 gals 10# Linear Gel , 72,960 lbs 100 mesh, 165,940 lbs 40/70 White, Max pressure 9510 psi, Avg psi 8878 psi, Max rate: 60.4 bpm, Avg rate: 59.1 bpm, 0.93 Frac Gradient , Approx load to rec: 7716 bbls. ISIP: 6188 psi, 5 min: 5851 psi, 10 min: 5759 psi, 15 min: 5740 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8302 psi , Stage pumped as designed
- 23:45 Stage #16 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5704 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7200 psi, 250' FPM, Spot frac plug @ 17,058', Pullup and set frac plug at 17,038' , 6200 psi SIP, PU & Fire Gun #1 @ 17,014'- 17,015', 11 Shots. P/U and Fire Gun #2 @ 16,967'- 16,968', 10 Shots. P/U & Fire Gun #3 @ 16,781'- 16,782', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 7388 PSI , Total bbl pumped 227 bbls , Load 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System
- 02:45 Grease upper master valve , Pressure test line 11k , Repair Leaks , Retest , Set popoff 9800 psi , Drop 2.125" Obsidian Frac Ball
- 03:45 Stage 16 Frac Ongoing

05/21/2017

Rig Name:

- 06:00 (PJS 5:30) Stage 16 Frac , Open Well w/ 5690 psi. Pumped 6048 gals 7.5% HCl , NEFE Acid , pumped 315,468 gals of Slickwater, 2052 gals 10# Linear Gel , 73,000 lbs 100 mesh, 165,180 lbs 40/70 White, Max pressure 9652 psi, Avg psi 9309 psi, Max rate: 60.4 bpm, Avg rate: 59.5 bpm, 0.95 Frac Gradient , Approx load to rec: 7961 bbls. ISIP: 6332 psi, 5 min: 5919 psi, 10 min: 5846 psi, 15 min: 5820 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8015 psi , Stage pumped as designed
- 07:00 Stage #17 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5860 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 8300 psi, 295 fpm Spot & set frac plug @ 16,898', 7250 psi SIP, PU & Fire Gun #1 @ 16,874'- 16,875', 11 Shots. P/U and Fire Gun #2 @ 16,828'- 16,829', 10 Shots. P/U & Fire Gun #3 @ 16,781'- 16,782', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 12 bpm , Max Pressure 8998 PSI , Total bbl pumped 152 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand , Cleanout FRV System
- 09:00 Stage 17 Frac , Open Well w/ 5841 psi. Pumped 5880 gals 7.5% HCl , NEFE Acid , pumped 323,958 gals of Slickwater, 2130 gals 10# Linear Gel , 74,020 lbs 100 mesh, 165,160 lbs 40/70 White, Max pressure 9552 psi, Avg psi 9088 psi, Max rate: 62.1 bpm, Avg rate: 59.1 bpm, 0.97 Frac Gradient , Approx load to rec: 8169 bbls. ISIP: 6630 psi, 5 min: 6023 psi, 10 min: 5942 psi, 15 min: 5920 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8290 psi , Stage pumped as designed
- 12:00 Stage #18 Pump Down , P/U 4.5" Obsidian Solid bridge Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5950 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 7600 psi, 435 fpm Spot & set CBP @ 16,759', 6850 psi SIP, Test 7800 , release pressure to 6500 psi PU & Fire Gun #1 @ 16,735'- 16,736', 11 Shots. P/U and Fire Gun #2 @ 16,688'- 16,689', 10 Shots. P/U & Fire Gun #3 @ 16,642'- 16,643', 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 12 bpm , Max Pressure 7703 PSI , Total bbl pumped 130 bbls. Tools clean, no sand , Cleanout FRV System
- 14:00 Stage 18 Frac , Open Well w/ 5827 psi. Pumped 5860 gals 7.5% HCl , NEFE Acid , pumped 311,560 gals of Slickwater, 2158 gals 10# Linear Gel , 73,940

- lbs 100 mesh, 166,200 lbs 40/70 White, Max pressure 9702 psi, Avg psi 9213 psi, Max rate: 63.2 bpm, Avg rate: 59.1 bpm, 0.95 Frac Gradient , Approx load to rec: 7860 bbls. ISIP: 6397 psi, 5 min: 5980 psi, 10 min: 5820 psi, 15 min: 5800 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break No Ball , Stage pumped as designed
- 17:00 Stage #19 Pump Down , P/U 4.5" Obsidian CFP for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to EFRV unit before RIH , Open Well w/ 5800 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7652 psi, 250 fpm Stop at 16,639' , Pullup & set CFP @ 16,619' , 6068 psi SIP , PU & Fire Gun #1 @ 16,595'- 16,596' , 11 Shots. P/U and Fire Gun #2 @ 16,549'- 16,550' , 10 Shots. P/U & Fire Gun #3 @ 16,502'- 16,503' , 9 Shots , (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 7807 PSI , Total bbl pumped 190 bbls. Tools clean , no sand , Load 2.125" Obsidian Frac Ball , KLX worked on FRV System , Could not repair unit , Dissconnect sensor and Frac line from FRV unit. Open line from Intermediate to reserve. Drop 2.125" Obsidian Frac Ball.(Night PJSM 17:30)
- 19:30 Stage 19 Frac , Open Well w/ 5714 psi. Pumped 6004 gals 7.5% HCl , NEFE Acid , pumped 316,770 gals of Slickwater, 2088 gals 10# Linear Gel , 72,640 lbs 100 mesh, 167,160 lbs 40/70 White, Max pressure 9534 psi, Avg psi 8672 psi, Max rate: 60.5 bpm, Avg rate: 57.3 bpm, 0.94 Frac Gradient , Approx load to rec: 7746 bbls. ISIP: 6288 psi, 5 min: 5897 psi, 10 min: 5845 psi, 15 min: 5823 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8452 psi , Stage pumped as Designed.
- 22:30 Stage #20 Attempted Pump Down , P/U 4.5" Obsidian CFP for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5796 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 3 bpm @ 5870 psi , Step up to 6 bpm at 7200 psi , but pressure continued to climb to 9000 psi at 6 bpm , Depth at 12,400' , pumped 11 bbls , SD pumps , POOH w/ wl to 10,400' , Start injecting at 3 bpm , pressure steady increasing to 8300 psi , drop rate to 2.2 bpm at 7380 psi , pumped 24 bbls , SD POOH w/WL , Out of hole w/ WL , Shut-In well , check Obsidian CFP - OK , LD guns
- 01:30 Open well to Flowback manifold w/ 6000 psi , open on 22/64" choke , 5150 psi , flowing back at 3.8 bpm , 01:00 5300 psi on 26/64" choke , flowed back 91 bbls , Shut-In manifold
- 02:00 Open well w/ 5655 psi , pumped 164 bbls slickwater at 4.6 bpm at 7800 psi , Stage to 50 bbls 10# linear gel , flush w/ 519 bbls slickwater , Final rate 9065 psi at 25 bpm. ISIP 6880 PSI
- 04:00 Stage #20 Pump Down , P/U 4.5" Obsidian CFP for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI , Open Well w/ 5650 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 11 bpm @ 7650 psi, 250 fpm , Stop at 16,499' , Pullup & set CFP @ 16,484' , 6300 psi SIP , PU & Fire Gun #1 @ 16,456'- 16,457' , 11 Shots. P/U and Fire Gun #2 @ 16,409'- 16,410' , 10 Shots. P/U & Fire Gun #3 @ 16,363'- 16,364' , 9 Shots , (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired , Max Rate 11 bpm , Max Pressure 7700 PSI , Total bbl pumped 187 bbls. Tools clean , no sand , Drop 2.125" Obsidian Frac Ball

05/22/2017

Rig Name:

- 06:00 Stage 20 Frac , Open Well w/ 5724 psi. Pumped 5884 gals 7.5% HCl , NEFE Acid , pumped 354,410 gals of Slickwater, 4231 gals 10# Linear Gel , 72,720 lbs 100 mesh, 166,080 lbs 40/70 White, Max pressure 9610 psi, Avg psi 9067 psi, Max rate: 67.4 bpm, Avg rate: 64.8 bpm, 0.93 Frac Gradient , Approx load to rec: 8951 bbls. ISIP: 6136 psi, 5 min: 5832 psi, 10 min: 5787 psi, 15 min: 5775 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8055 psi , Stage pumped as Designed.
- 09:30 Stage #21 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to FRV , FRV valve is broke down , Open Well w/ 5785 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 7100 psi, 395 fpm Spot & set frac plug @ 16,345' , 6790 psi SIP , PU & Fire Gun #1 @ 16,321'- 16,322' , 11 Shots. P/U and Fire Gun #2 @ 16,270'- 16,271' , 10 Shots. P/U & Fire Gun #3 @ 16,223'- 16,224' , 9 Shots, (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired 30 holes , Max Rate 12 bpm , Max Pressure 7276 PSI , Total bbl pumped 119 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand.
- 11:30 Stage 21 Frac , Open Well w/ 5755 psi. Pumped 6200 gals 7.5% HCl , NEFE Acid , pumped 314,534 gals of Slickwater, 2120 gals 10# Linear Gel , 72,780 lbs 100 mesh, 165,980 lbs 40/70 White, Max pressure 9524 psi, Avg psi 8850

psi, Max rate: 71.3 bpm, Avg rate: 68.4 bpm, 0.97 Frac Gradient , Approx load to rec: 7954 bbls. ISIP: 6625 psi, 5 min: 6072 psi, 10 min: 5845 psi, 15 min: 5815 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8731 psi , Stage pumped as Designed.

14:30 Stage #22 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Closed ground valve that is hooked up to FRV , FRV valve is broke down , Open Well w/ 5850 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 6600 psi, 320 fpm Spot & set frac plug @ 16,201', 6620 psi SIP, PU & Fire Gun #1 @ 16,174'- 16,175', 11 Shots. P/U and Fire Gun #2 @ 16,128'- 16,129', 10 Shots. P/U & Fire Gun #3 @ 16,084'- 16,085', 10 Shots, P/U and Fire Gun #4 @ 16,037'- 16,038', 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12 bpm , Max Pressure 6600 PSI , Total bbl pumped 114 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand.

16:15 SD waiting on Oxy to make repair on communicating well.

18:00 17:30 PJSM , (Waiting) Oxy plumbed frac tanks to flowback communicating well

20:30 (Waiting) Oxy , University 20-26 1H , Opened up to Frac Tanks flowing well down , pressure over 4000 psi , 23:00 Flowing Back 50-60 BPH , Flowing pressure over 4000 psi

23:00 (Waiting) Oxy - University 20-26 1H , 01:00 Flowing back 30 BPH , Flowing back over 4000 psi

01:00 (Waiting) Oxy - University 20-26 1H , 04:00 Flowing back 30 BPH , Flowing back over 4000 psi

04:00 (Waiting) SICP 5320 psi , Oxy last update at 4 am , Oxy continuing to Flowback University 20-26 1H.

05/23/2017

Rig Name:

06:00 PJSM

06:30 No activity, standby. Wait for Oxy to get communicating well under control

18:00 PJSM

18:30 Standby , Wait for Oxy to get communicating well under control

23:15 Pressure test lines 11k - Test OK

23:30 Stage 22 Frac , Open Well w/ 5299 psi. Pumped 8058 gals 7.5% HCl , NEFE Acid , pumped 411,942 gals of Slickwater, 2251 gals 10# Linear Gel , 97,040 lbs 100 mesh, 220,180 lbs 40/70 White, Max pressure 9763 psi, Avg psi 9163 psi, Max rate: 80 bpm, Avg rate: 75.8 bpm, 0.93 Frac Gradient , Approx load to rec: 10,067 bbls. ISIP: 6166 psi, 5 min: 5845 psi, 10 min: 5784 psi, 15 min: 5754 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8378 psi , Stage pumped as designed.

03:00 Stage #23 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5700 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 10 bpm @ psi, 250 fpm Spot CFP at 16,035' , Pullup and set CFP @ 16,015', 5888 psi SIP, PU & Fire Gun #1 @ 15,989'- 15,990', Moved 2' due to collar , 11 Shots. P/U and Fire Gun #2 @ 15,942'- 15,943', Moved 2' due to collar , 10 Shots. P/U & Fire Gun #3 @ 15,894'- 15,895', Moved 4' due to collar , 10 Shots, P/U and Fire Gun #4 @ 15,849'- 15,850', Moved 2' due to collar , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD)POOH, SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 11 bpm , Max Pressure 6678 PSI , Total bbl pumped 136 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand

05:15 Stage 23 Frac Ongoing

05/24/2017

Rig Name:

06:00 (PJSM 5:30)Stage 23 Frac , Open Well w/ 5648 psi. Pumped 7980 gals 7.5% HCl , NEFE Acid , pumped 419,543 gals of Slickwater, 2095 gals 10# Linear Gel , 95,960 lbs 100 mesh, 221,220 lbs 40/70 White, Max pressure 9327 psi, Avg psi 8983 psi, Max rate: 83.4 bpm, Avg rate: 78.6 bpm, 0.94 Frac Gradient , Approx load to rec: 10,583 bbls. ISIP: 6265 psi, 5 min: 5828 psi, 10 min: 5788 psi, 15 min: 5758 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7815 psi , Stage pumped as designed.

08:15 Stage #24 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5750 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 12 bpm @ 7100 psi, 330 fpm , Spot & set CFP at 15,829' , 5800 psi SIP, PU & Fire Gun #1 @ 15,805'- 15,806', 11 Shots. P/U and Fire Gun #2 @ 15,755'- 15,756' , 10 Shots. P/U & Fire Gun #3 @ 15,707'- 15,708' , 10 Shots, P/U and Fire Gun #4 @ 15,663'- 15,664' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12 bpm , Max Pressure 7134 PSI , Total bbl pumped 162 bbls. Droop 2.125" Obsidian Frac Ball . Tools clean. no sand

- 10:00 Stage 24 Frac , Open Well w/ 5728 psi. Pumped 8190 gals 7.5% HCl , NEFE Acid , pumped 413,438 gals of Slickwater, 2110 gals 10# Linear Gel , 95,800 lbs 100 mesh, 221,660 lbs 40/70 White, Max pressure 9583 psi, Avg psi 9170 psi, Max rate: 83.5 bpm, Avg rate: 80.2 bpm, 0.92 Frac Gradient , Approx load to rec: 10,454 bbls. ISIP: 6045 psi, 5 min: 5781 psi, 10 min: 5750 psi, 15 min: 5737 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7694 psi , Stage pumped as designed.
- 13:00 Stage #25 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5730 psi. RIH & get on depth w/ MJ @ 11,555' , Pump down to CFP setting depth unable to set Plug , POOH.
- 15:00 Stage 25 2nd pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5550 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 12 bpm @ 6730 psi, 310 fpm , Spot & set CFP at 15,643' , 5800 psi SIP, PU & Fire Gun #1 @ 15,619'- 15,620' , 11 Shots. P/U and Fire Gun #2 @ 15,572'- 15,573' , 10 Shots. P/U & Fire Gun #3 @ 15,526'- 15,527' , 10 Shots, P/U and Fire Gun #4 @ 15,479'- 15,480' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12 bpm , Max Pressure 6853 PSI , Total bbl pumped 302 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand
- 17:30 PJSM --Stage 25 Frac , Open Well w/ 5744 psi. Pumped 7854 gals 7.5% HCl , NEFE Acid , pumped 398,617 gals of Slickwater, 2323 gals 10# Linear Gel , 97,920 lbs 100 mesh, 217,260 lbs 40/70 White, Max pressure 9526 psi, Avg psi 8881 psi, Max rate: 80.2 bpm, Avg rate: 78.6 bpm, 0.94 Frac Gradient , Approx load to rec: 9749 bbls. ISIP: 6200 psi, 5 min: 5979 psi, 10 min: 5926 psi, 15 min: 5905 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7385 psi , Stage pumped as designed
- 20:15 Stage #26 Pump Down , P/U 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5820 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 10 bpm @ 6530 psi, 250-260 fpm , Spot CFP at 15,477' Pullup and set CFP at 15,457' , 5864 psi SIP, PU & Fire Gun #1 @ 15,433'- 15,434' , 11 Shots. P/U and Fire Gun #2 @ 15,386'- 15,387' , 10 Shots. P/U & Fire Gun #3 @ 15,340'- 15,341' , 10 Shots, P/U and Fire Gun #4 @ 15,293'- 15,294' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 10 bpm , Max Pressure 6586 PSI , Total bbl pumped 125 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand
- 22:45 Stage 26 Frac , Open Well w/ 5734 psi. Pumped 7980 gals 7.5% HCl , NEFE Acid , pumped 396,823 gals of Slickwater, 2013 gals 10# Linear Gel , 97,100 lbs 100 mesh, 220,940 lbs 40/70 White, Max pressure 9532 psi, Avg psi 8817 psi, Max rate: 81.2 bpm, Avg rate: 79.8 bpm, 0.93 Frac Gradient , Approx load to rec: 9701 bbls. ISIP: 6161 psi, 5 min: 5932 psi, 10 min: 5887 psi, 15 min: 5855 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8162 psi , Stage pumped as designed
- 01:15 Stage #27 Pump Down , P/U 4.5" Obsidian CBP for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5812 psi. RIH & get on depth w/ MJ @ 11,555' , RIH & Pump Down @ 10 bpm @ 6350 psi, 270-280 fpm , Spot CBP at 15,291' Pullup and set CBP at 15,271' , 5733 psi SIP, Did not test plug , PU & Fire Gun #1 @ 15,247'- 15,248' , 11 Shots. P/U and Fire Gun #2 @ 15,200'- 15,201' , 10 Shots. P/U & Fire Gun #3 @ 15,154'- 15,155' , 10 Shots, P/U and Fire Gun #4 @ 15,102'- 15,103' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 10 bpm , Max Pressure 6415 PSI , Total bbl pumped 121 bbls , Tools clean, no sand
- 03:45 Stage 27 Frac Ongoing

05/25/2017

Rig Name:

- 06:00 (PJSM 5:30)Stage 27 Frac , Open Well w/ 5659 psi. Pumped 7980 gals 7.5% HCl , NEFE Acid , pumped 405,342 gals of Slickwater, 2100 gals 10# Linear Gel , 97,000 lbs 100 mesh, 217,580 lbs 40/70 White, Max pressure 9686 psi, Avg psi 8960 psi, Max rate: 80.2 bpm, Avg rate: 79.1 bpm, 0.93 Frac Gradient , Approx load to rec: 10,236 bbls. ISIP: 6109 psi, 5 min: 5898 psi, 10 min: 5842 psi, 15 min: 5805 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break No ball psi , Stage pumped as designed.
- 06:45 Stage 28 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5800 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 12 bpm @ 6330 psi, 310 fpm , Spot & set CFP at 15,085' , 5760 psi SIP, PU & Fire Gun #1 @ 15,061'- 15,062' , 11 Shots. P/U

and Fire Gun #2 @ 15,014'- 15,015' , 10 Shots. P/U & Fire Gun #3 @ 14,968'- 14,969' , 10 Shots, P/U and Fire Gun #4 @ 14,921'- 14,922' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge, .38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12 bpm , Max Pressure 6491 PSI , Total bbl pumped 124 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand

08:30 Stage 28 Frac , Open Well w/ 5582 psi. Pumped 8086 gals 7.5% HCl , NEFE Acid , pumped 413,300 gals of Slickwater, 2100 gals 10# Linear Gel , 96,960 lbs 100 mesh, 221,060 lbs 40/70 White, Max pressure 9376 psi, Avg psi 8939 psi, Max rate: 81.6 bpm, Avg rate: 79.5 bpm, 0.93 Frac Gradient , Approx load to rec: 10,438 bbls. ISIP: 6071 psi, 5 min: 5861 psi, 10 min: 5813 psi, 15 min: 5745 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8326 psi , Stage pumped as designed.

11:30 Stage 29 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5775 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 12 bpm @ 6300 psi, 300 fpm , Spot & set CFP at 14,899' , 5760 psi SIP, PU & Fire Gun #1 @ 14,875'- 14,876' , 11 Shots. P/U and Fire Gun #2 @ 14,828'- 14,829' , 10 Shots. P/U & Fire Gun #3 @ 14,777'- 14,778' , 10 Shots, P/U and Fire Gun #4 @ 14,735'- 14,736' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge, .38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12 bpm , Max Pressure 6496 PSI , Total bbl pumped 118 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand

13:15 Stage 29 Frac , Open Well w/ 5656 psi. Pumped 8000 gals 7.5% HCl , NEFE Acid , pumped 414,386 gals of Slickwater, 2150 gals 10# Linear Gel , 98,180 lbs 100 mesh, 220,860 lbs 40/70 White, Max pressure 9322 psi, Avg psi 8831 psi, Max rate: 81.6 bpm, Avg rate: 79.2 bpm, 0.94 Frac Gradient , Approx load to rec: 10,467 bbls. ISIP: 6198 psi, 5 min: 5959 psi, 10 min: 5908 psi, 15 min: 5908 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7339 psi , Stage pumped as designed.

16:45 Stage 30 pump down run (Revised) , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5892 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 12 bpm @ 6675 psi, 292 fpm , Line speed suddenly increased at 14,500 , Pressure spike on pressure to 7672 psi , Stop and stuck at 14,597' (CFP Depth), SD pump , Work WL , start pumping work up to 6.6 bpm at 7800 psi , pressure slowly decreased to 7270 psi at 6.6 bpm , Work WL 800# to 3000# line ten , Called into office (Stage Revised) Set CFP at 14,597' , 5782 psi SIP, PU 5' off plug , Start pumping 2 bpm at 5900 psi , Pullup & Fire Gun #1 @ 14,585'- 14,586' , 11 Shots , P/U and Fire Gun #2 @ 14,555'- 14,556' , 10 Shots. P/U & Fire Gun #3 @ 14,526'- 14,527' , 10 Shots, P/U and Fire Gun #4 @ 14,496'- 14,497' , 9 Shots , SD Pump. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge, .38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 12.5 bpm , Max Pressure 7800 PSI , Total bbl pumped 181 bbls. Drop 2.125" Obsidian Frac Ball , Tools and setting tool had sand in them.

20:15 Stage 30 Frac , Open Well w/ 5710 psi. Pumped 8051 gals 7.5% HCl , NEFE Acid , pumped 397,756 gals of Slickwater, 4071 gals 10# Linear Gel , 96,860 lbs 100 mesh, 209,300 lbs 40/70 White, Max pressure 9798 psi, Avg psi 8755 psi, Max rate: 81.0 bpm, Avg rate: 78.7 bpm, 0.93 Frac Gradient , Approx load to rec: 9777 bbls. ISIP: 6121 psi, 5 min: 5941 psi, 10 min: 5902 psi, 15 min: 5868 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8246 psi , Stage pumped as designed.

23:00 Stage 31 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5860 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 10 bpm @ 6400 psi, 250 fpm , Spot CFP at 14,501' , Pullup and set CFP at 14,481' , 5750 psi SIP, PU & Fire Gun #1 @ 14,457'- 14,458' , 11 Shots. P/U and Fire Gun #2 @ 14,415'- 14,417' , (Moved 2' due to collar) 10 Shots. P/U & Fire Gun #3 @ 14,380'- 14,381' , (Moved 2' due to collar) 10 Shots, P/U and Fire Gun #4 @ 14,338'- 14,339' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge, .38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 10 bpm , Max Pressure 6403 PSI , Total bbl pumped 97 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand

01:15 Stage 31 Frac , Open Well w/ 5731 psi. Pumped 8065 gals 7.5% HCl , NEFE Acid , pumped 398,937 gals of Slickwater, 1994 gals 10# Linear Gel , 95,780 lbs 100 mesh, 220,160 lbs 40/70 White, Max pressure 9202 psi, Avg psi 8555 psi, Max rate: 80.0 bpm, Avg rate: 78.2 bpm, 0.94 Frac Gradient , Approx load to rec: 9756 bbls. ISIP: 6313 psi, 5 min: 5928 psi, 10 min: 5889 psi, 15 min: 5866 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 6974 psi , Stage pumped as designed

04:00 Stage 32 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" ,

13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5840 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 6500 psi, 250-260 fpm , Spot CFP at 14,343' , Pullup and set CFP at 14,323' , 5850 psi SIP, PU & Fire Gun #1 @ 14,299'- 14,300' , 11 Shots. P/U and Fire Gun #2 @ 14,259'- 14,260' , 10 Shots. P/U & Fire Gun #3 @ 14,224'- 14,225' , 10 Shots, P/U and Fire Gun #4 @ 14,172'- 14,173' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) , Max Rate 10 bpm , Max Pressure 6777 PSI , Total bbl pumped 80 bbls.

05/26/2017

Rig Name:

- 06:00 (PJSM 5:30) , POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Drop 2.125" Obsidian Frac Ball , Tools clean, no sand
- 06:30 Stage 32 Frac , Open Well w/ 5726 psi. Pumped 8094 gals 7.5% HCl , NEFE Acid , pumped 407,939 gals of Slickwater, 2119 gals 10# Linear Gel , 97,780 lbs 100 mesh, 221,800 lbs 40/70 White, Max pressure 9692 psi, Avg psi 8915 psi, Max rate: 82.3 bpm, Avg rate: 80.7 bpm, 0.94 Frac Gradient , Approx load to rec: 10,308 bbls. ISIP: 6293 psi, 5 min: 5957 psi, 10 min: 5916 psi, 15 min: 5888 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8420 psi , Stage pumped as designed.
- 09:30 Stage 33 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5850 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 10 bpm @ 6600 psi, 250 fpm , Spot & set CFP at 14,155' , 5835 psi SIP, PU & Fire Gun #1 @ 14,131'- 14,132' , 11 Shots. P/U and Fire Gun #2 @ 14,084'- 14,085' , 10 Shots. P/U & Fire Gun #3 @ 14,038'- 14,039' , 10 Shots, P/U and Fire Gun #4 @ 13,991'- 13,992' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 10 bpm , Max Pressure 6661 PSI , Total bbl pumped 94 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand
- 11:00 Stage 33 Frac , Open Well w/ 5746 psi. Pumped 7833 gals 7.5% HCl , NEFE Acid , pumped 413,734 gals of Slickwater, 2087 gals 10# Linear Gel , 96,080 lbs 100 mesh, 220,380 lbs 40/70 White, Max pressure 9495 psi, Avg psi 8996 psi, Max rate: 82.4 bpm, Avg rate: 78.5 bpm, 0.93 Frac Gradient , Approx load to rec: 10,444 bbls. ISIP: 6160 psi, 5 min: 5916 psi, 10 min: 5872 psi, 15 min: 5850 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 7724 psi , Stage pumped as designed.
- 14:00 Stage 34 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5825 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 10 bpm @ 6675 psi, 258 fpm , Spot & set CFP at 13,969' , 5800 psi SIP, PU & Fire Gun #1 @ 13,945'- 13,946' , 11 Shots. P/U and Fire Gun #2 @ 13,891'- 13,892' , 10 Shots. P/U & Fire Gun #3 @ 13,845'- 13,846' , 10 Shots, P/U and Fire Gun #4 @ 13,805'- 13,806' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 10 bpm , Max Pressure 6871 PSI , Total bbl pumped 81 bbls. Drop 2.125" Obsidian Frac Ball , Tools clean, no sand
- 16:00 (PJSM 17:30) Stage 34 Frac , Open Well w/ 5723 psi. Pumped 8051 gals 7.5% HCl , NEFE Acid , pumped 509,397 gals of Slickwater, 2302 gals 10# Linear Gel , 98,260 lbs 100 mesh, 220,940 lbs 40/70 White, Max pressure 9979 psi, Avg psi 8439 psi, Max rate: 82.7 bpm, Avg rate: 74.3 bpm, 0.92 Frac Gradient , Approx load to rec: 12,425 bbls. ISIP: 6031 psi, 5 min: 5834 psi, 10 min: 5774 psi, 15 min: 5751 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 8523 psi
- 19:30 Stage 35 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5" , 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5713 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 6500 psi, 250 fpm , Spot CFP at 13,793' , Pullup and set CFP at 13,783' , 5719 psi SIP, PU & Fire Gun #1 @ 13,759'- 13,760' , 11 Shots. P/U and Fire Gun #2 @ 13,712'- 13,713' , 10 Shots. P/U & Fire Gun #3 @ 13,666'- 13,667' , 10 Shots, P/U and Fire Gun #4 @ 13,619'- 13,620' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 9 bpm , Max Pressure 7016 PSI , Total bbl pumped 60 bbls. Load 2.125" Obsidian Frac Ball , Tools clean , no sand
- 21:15 CER Greased Frac valves , Pressure test lines 11k , Set popoff at 9800 psi , Drop 2.125" Obsidian Frac Ball.
- 22:45 Stage 35 Frac , Open Well w/ 5599 psi. Pumped 7889 gals 7.5% HCl , NEFE Acid , pumped 440,322 gals of Slickwater, 2113 gals 10# Linear Gel , 97,740 lbs 100 mesh, 220,440 lbs 40/70 White, Max pressure 9118 psi, Avg psi 8213 psi, Max rate: 82.0 bpm, Avg rate: 78.1 bpm, 0.93 Frac Gradient , Approx load to rec: 10.736 bbls. ISIP: 6118 psi. 5 min: 5803 psi. 10 min: 5734 psi. 15 min:

5702 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi Break 9090 psi
02:00 Stage 36 Pumpdown , P/U New 4.5" Obsidian CBP for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5700 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 6500 psi, 250 fpm , Spot CFP at 13,607' , SIP 5432 PSI , Pullup and set CBP at 13,597' , Pressure test 7800 psi for 5 min. - Test OK , Bled pressure to 6500 psi , PU & Fire Gun #1 @ 13,573'- 13,574' , 11 Shots. Pressure declined to 5600 psi , P/U and Fire Gun #2 @ 13,526'- 13,527' , 10 Shots. P/U & Fire Gun #3 @ 13,480'- 13,481' , 10 Shots, P/U and Fire Gun #4 @ 13,433'- 13,434' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 9 bpm , Max Pressure 6177 PSI , Total bbl pumped 55 bbls , Tools clean , no sand
04:15 Stage 36 Frac Ongoing

05/27/2017

Rig Name:

06:00 Stage 36 Frac , Open Well w/ 5,520 psi. Break 6,807 psi Pumped 190 bbl 7.5% HCl , NEFE Acid , pumped 492,026 gals of Slickwater, 2,150 gals 10# Linear Gel , 97,680 lbs 100 mesh, 220,240 lbs 40/70 White, Max pressure 9,684 psi, Avg psi 8,166 psi, Max rate: 83 bpm, Avg rate: 77 bpm, 0.92 psi/ft Frac Gradient , Approx load to rec: 11,956 bbls. ISIP: 6,047 psi, 5 min: 5,827 psi, 10 min: 5,777 psi, 15 min: 5,710 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi
08:00 Stage 37 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5,700 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 5,975 psi, 250 fpm , Spot & set CFP at 13,411' , PU & Fire Gun #1 @ 13,387'-88' , 11 Shots. P/U and Fire Gun #2 @ 13,340'-41' , 10 Shots. P/U & Fire Gun #3 @ 13,294'-95' , 10 Shots, P/U and Fire Gun #4 @ 13,247'-48' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 40 holes , Max Rate 9 bpm , Max Pressure 6,500 PSI, Total bbl pumped 73 bbls. No sand in tools.
10:00 Stage 37 Frac, Open Well w/ 5,492 psi. Drop 2.125" Obsidian Frac Ball Break 6,824 psi Pumped 185 bbl 7.5% HCl , NEFE Acid , pumped 413,016 gals of Slickwater, 2,100 gals 10# Linear Gel , 96,180 lbs 100 mesh, 220,540 lbs 40/70 White, Max pressure 8,679 psi, Avg psi 8,119 psi, Max rate: 82 bpm, Avg rate: 81 bpm, 0.92 psi/ft Frac Gradient , Approx load to rec: 10,068 bbls. ISIP: 6,022 psi, 5 min: 5,793 psi, 10 min: 5,716 psi, 15 min: 5,677 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi
13:00 Stage 38 pump down run , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5,600 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 5,795 psi, 250 fpm , Spot & set CFP at 13,225' , PU & Fire Gun #1 @ 13,201'-02' , 9 Shots. P/U and Fire Gun #2 @ 13,154'-55' , 9 Shots. P/U & Fire Gun #3 @ 13,108'-09' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired 27 holes, Max Rate 9 bpm, Max Pressure 6,500 PSI, Total bbl pumped 58 bbls. No sand in tools.
15:00 Stage 38 Frac, Open Well w/ 5,442 psi. Drop 2.125" Obsidian Frac Ball Break 8,881 psi Pumped 6040 gals 7.5% HCl , NEFE Acid , pumped 305,801 gals of Slickwater, 2,319 gals 10# Linear Gel , 71,000 lbs 100 mesh, 166,220 lbs 40/70 White, Max pressure 9179 psi, Avg psi 8,292 psi, Max rate: 69.9 bpm, Avg rate: 68.7 bpm, 0.93 psi/ft Frac Gradient , Approx load to rec: 7499 bbls. ISIP: 6,177 psi, 5 min: 5,795 psi, 10 min: 5,765 psi, 15 min: 5,738 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi , Stage pumped as designed. (PJSM 17:30 Nights)
18:00 Stage 39 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 3 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5,660 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 7.5 bpm @ 6288 psi, 230-240 fpm , Spot CFP at 13,095' , SIP 5679 psi , Pull up and set CFP at 13,085' , PU & Fire Gun #1 @ 13,061'-13,062' , 9 Shots. P/U and Fire Gun #2 @ 13,015'-13,016' , 9 Shots. P/U & Fire Gun #3 @ 12,968'-12,969' , 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy , Verified all shots fired 27 holes, Max Rate 7.5 bpm, Max Pressure 6415 PSI, Total bbl pumped 35 bbls. No sand in tools
20:15 Stage 39 Frac, Open Well w/ 5549 psi. Drop 2.125" Obsidian Frac Ball Break 8735 psi Pumped 5549 gals 7.5% HCl , NEFE Acid , pumped 307,549 gals of Slickwater, 2112 gals 10# Linear Gel , 72,940 lbs 100 mesh, 165,720 lbs 40/70 White, Max pressure 9247 psi, Avg psi 8628 psi, Max rate: 71.4 bpm, Avg rate: 68.6 bpm, 0.94 psi/ft Frac Gradient , Approx load to rec: 7502 bbls. ISIP: 6212 psi, 5 min: 5827 psi, 10 min: 5786 psi, 15 min: 5768 psi. 13-3/8" X 9-5/8" 0

- psi, 7" X 9-5/8" 0 psi , Stage pumped as designed.
- 23:15 Stage 40 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5700 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 8 bpm @ 6100 psi, 230-240 fpm , Spot CFP at 12,956' , Pullup and set CFP at 12,946' , 5733 psi SIP, PU & Fire Gun #1 @ 12,922'- 12,923', 10 Shots. P/U and Fire Gun #2 @ 12,875'- 12,876' , 9 Shots. P/U & Fire Gun #3 @ 12,829'- 12,830', 9 Shots, P/U and Fire Gun #4 @ 12,782'- 12,783', 8 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 36 holes , Max Rate 8 bpm , Max Pressure 6313 PSI , Total bbl pumped 33 bbls. Load 2.125" Obsidian Frac Ball , Tools clean , no sand
- 01:00 CER Greased frac valves , Pressure test lines 11k
- 02:00 Stage 40 Frac, Open Well w/ 5618 psi. Drop 2.125" Obsidian Frac Ball Break at 7783 psi Pumped 8032 gals 7.5% HCl , NEFE Acid , pumped 418,133 gals of Slickwater, 2277 gals 10# Linear Gel , 96,780 lbs 100 mesh, 220,400 lbs 40/70 White, Max pressure 9211 psi, Avg psi 8397 psi, Max rate: 80.2 bpm, Avg rate: 79.0 bpm, 0.93 psi/ft Frac Gradient , Approx load to rec: 10,157 bbls. ISIP: 6177 psi, 5 min: 5794 psi, 10 min: 5759 psi, 15 min: 5730 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi
- 05:00 Stage 41 Pumpdown , P/U New 4.5" Obsidian Ball Drop Frac Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5700 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 6,400psi, 230-240 fpm , Spot CFP at 12,766' , Pullup and set CFP at 12,756' , PU & Fire Gun #1 @ 12,732'- 12,733', 10 Shots. P/U and Fire Gun #2 @ 12,681'- 12,682' , 9 Shots. P/U & Fire Gun #3 @ 12,631'- 12,632', 9 Shots, P/U and Fire Gun #4 @ 12,580'- 12,581', 8 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , Max Rate 9 , bpm , Max Pressure 6,881 PSI , Total bbl pumped 34 bbls

05/28/2017

Rig Name:

- 06:00 Stage 41 Frac, Open Well w/ 5,672 psi. Drop 2.125" Obsidian Frac Ball Break 6,771 psi Pumped 193 bbl 7.5% HCl , NEFE Acid , pumped 406'750 gals of Slickwater, 2,100 gals 10# Linear Gel , 99,880 lbs 100 mesh, 99,880 lbs 40/70 White, Max pressure 8,747 psi, Avg psi 8,130 psi, Max rate: 86 bpm, Avg rate: 85 bpm, 0.92 psi/ft Frac Gradient , Approx load to rec: 10,289 bbls. ISIP: 5,983 psi, 5 min: 5,754 psi, 10 min: 5,718 psi, 15 min: 5,672 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi
- 09:00 Stage 42 pump down run , P/U New 4.5" Obsidian Bridge Plug for 4.5", 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy . Test Lubricator to 9,500 PSI. Open Well w/ 5,620 psi. RIH & get on depth w/ MJ @ 11,555' RIH & Pump Down @ 9 bpm @ 6,100 psi, 250 fpm , Spot & set CBP at 12,560', tested to casing and plug to 7,500 psi, PU & Fire Gun #1 @ 12,528'-29', 9 Shots. P/U and Fire Gun #2 @ 12,475'-76', 9 Shots. P/U & Fire Gun #3 @ 12,423'-24', 9 Shots. P/U & Fire Gun #4 @ 12,370'-71', 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD) POOH , SWI, LD Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy , Verified all shots fired 36 holes, Max Rate 9 bpm, Max Pressure 6,208 PSI, Total bbl pumped 29 bbls. No sand in tools. Rig down WL during frac.
- 11:00 Stage 42 Frac, Open Well w/ 4,996 psi. Pumped 198 bbl 7.5% HCl , NEFE Acid , pumped 406'854 gals of Slickwater, 99,020 lbs 100 mesh, 221,820 lbs 40/70 White, Max pressure 8,258 psi, Avg psi 8,810 psi, Max rate: 88 bpm, Avg rate: 85 bpm, 0.92 psi/ft Frac Gradient , Approx load to rec: 10,027 bbls. ISIP: 5,943 psi, 5 min: 5,751 psi, 10 min: 5,728 psi, 15 min: 5,651 psi. 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi , Total load to recover : 392,782 bbls
- 14:00 Rig down C&J Frac crew and associated equipment. CER ND 5 1/8" Crown valve and Goahead , NU 7 1/16" 15k blanking flange. Rockwater rigged up plug catcher and flowback iron , Key delivered and spotted Sandex and hooked up generator.
- 20:00 DTR spotted 1/2 pits , Cetic CT spotted CT reel , Control unit , CT Pump , Crane , Standard safety rigging up Fans , Air trailer , Nichols rigging up mixing plant
- 22:00 Cetic RU Crane , ND 7 1/16" 15k Blanking flange , NU 7 1/16" 15k spool , 5 1/8" 15k BOP , 30' of 5 1/8" 15k Lube , Function test BOP , Nichols chemical plant rigged up , Standard Safety rigged up.
- 01:00 Check and torque up nuts and bolts on Injector Head and Lube , Load 2 5/8" CT w/ 102 bbls treated water
- 03:00 Pull Test Weld on Coil connector 35k , Pressure test connector 2500 psi , Make up Baker Hughes BHA , Test Motor 3.5 BPM at 2800 psi w/ JZ sealed bearing Tri Cone Bit. BHA: 3.75 JZ Sealed Bearing Tri Cone Bit, 2 7/8" Xtreme Motor 40-160 GPM, 2 7/8" Tempress Filter Sub, 2 7/8" Dual Actuated Circ. Sub.(.625 Ball Required), 2 7/8" TJ Hyd. Disconnect (.750 Ball Required), 2 7/8" Global Jars, 2 7/8" Dual Flapper Valve, & Weld on TGB. Connector. Total Length 29.87

04:00 NU 5 1/8" 15k Lube Flange to BOP'S , Anchor down
04:30 Safety Meeting/JSA , Break circulation through flowback manifold , Pressure test lube and Flowback iron 9500 psi - repair leak , Pressure test lube and Flowback iron 9500 psi - repair leak , Pressure test lube and Flowback iron 9500 psi (05:30 PJSM Day's)

05/29/2017

Rig Name:

06:00 PJSM, finish rigging up, repair leaks. Pressure test wellbore to 9,500 psi. Good test.

06:30 RIH with coil and motor to liner top @ 11,460'. 80 fpm. pumping 1 bpm @ 5,300 psi in and 1 bpm 5,225 psi. Weight check 30k up, 10k down. Enter into liner hanger with no issues.

11:00 TIH from liner top to first plug. Drill plug #1 @ 12,548' in 8 minutes. Pumping 3.5 bpm @ 6,600 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 2k WOB. Pump 10 bbl 100 visc sweep.

12:00 Wash down to plug #2. Drill plug #2 @ 12,720' in 12 minutes. Pumping 3.5 bpm @ 6,600 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 2k WOB. Pump 10 bbl 100 visc sweep.

13:00 Wash down to plug #3. Drill plug #3 @ 12,927' in 12 minutes. Pumping 3.5 bpm @ 6,600 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 2k WOB. Pump 10 bbl 100 visc sweep.

14:00 Wash down to plug #4. Drill plug #4 @ 13,064' in 9 minutes. Pumping 3.5 bpm @ 6,600 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and sand in returns (sweep was 20 minutes slower to surface). No H2s.

15:00 Wash down to plug #5. Drill plug #5 @ 13,202' in 12 minutes. Pumping 3.5 bpm @ 6,600 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and heavy sand in returns (sweep was 15 minutes slower to surface). No H2s. **pumped a 10-10-10 sweep.

16:00 Wash down to plug #6. Drill plug #6 @ 13,387' in 10 minutes. Pumping 3.5 bpm @ 6,800 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and heavy sand in returns (sweep was 15 minutes slower to surface). No H2s.

17:00 Heavy sand in returns. Stopped making hole. Pulled up to check weight and pulled 57k into the string. Pumped another 10-10-10 sweep. Cleaning up wellbore. Heavy sand in returns then cleaning up. Wash down to plug #6. Drill plug #7 @ 13,568' in 9 minutes. Pumping 3.5 bpm @ 6,800 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and heavy sand in returns (sweep was 15 minutes slower to surface). No H2s.

18:00 (PJSM 17:30) Tag plug #8. @ 13,783' in 9 minutes. FR .25 gpt , Pumping 3.5 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and heavy sand in returns (Plug #6 sweep was on time to surface). No H2s. Wash sand to plug #9

18:30 Tag plug #9. @ 13,969' in 5 minutes. FR 0.25 gpt , Pumping 3.5 bpm @ 7,500 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and heavy sand in returns. No H2s. Wash down to plug #10

19:00 Tag plug #10. @ 14,155' in 6 minutes. FR 0.25 gpt , Pumping 3.5 bpm @ 7,500 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and lite sand in returns. No H2s. Wash sand to plug #11

19:30 Tag plug #11. @ 14,323' in 9 minutes. FR 0.25 gpt , Pumping 3.5 bpm @ 7,500 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 1.5k WOB. Pump 10/10/10 bbl 100 visc sweep. Mulched Obsidian plug parts and lite sand in returns (Plug #7 sweep was on time to surface). No H2s. Wash sand to plug #12

20:00 Tag plug #12. @ 14,481' in 3 minutes. FR 0.25 gpt Pumping 3.5 bpm @ 7,300 psi down the coil. Recovering returns, 3.5 bpm @ 5,200 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and lite sand in returns (Plug #8 sweep was on time to surface). No H2s. Wash sand to plug #13

20:30 Did not see plug #13. @ 14,609'. FR 0.25 gpt Dropped Pump rt to 3.25 bpm @ 6,850 psi down the coil. Recovering returns, 3.7 bpm @ 5,000 psi. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and lite sand in returns (Plug #9 sweep was on time to surface). No H2s. Increase FR to 0.50 gpt Wash sand to plug #14

21:00 Tag plug #14. @ 14,899' in 4 minutes. FR .50 gpt Pumping 3.25 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,500 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and lite sand in returns (Plug #10 sweep was on time to surface). No H2s. Wash sand to plug #15

21:30 Tag plug #15. @ 15,085' in 4 minutes. FR .50 gpt Pumping 3.25 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,650 psi. 1.5k WOB. Pump 10/10/10 bbl 100 visc sweep. Circulate sweeps above curve , Mulched Obsidian

plug parts and med sand in returns (Plug #11 & #12 sweeps were on time to surface). No H2s. Wash sand to plug #16

23:00 Tag plug #16. @ 15,271' in 5 minutes. FR .50 gpt Pumping 3.25 bpm @ 6,800 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and med sand in returns (Plug #13 sweep was on time to surface). No H2s. Wash sand to plug #17

23:30 Tag plug #17. @ 15,457' in 8 minutes. FR .50 gpt Dropped Pump RT to 3.00 bpm @ 6,950 psi down the coil. Recovering returns, 3.3 bpm @ 4,710 psi. 1.5k WOB. Pumped 10 bbl 100 visc sweep. Mulched Obsidian plug parts and med sand in returns (Plug #14 sweep was on time to surface). No H2s. Increase FR to 0.75 gpt , Wash sand to plug #18

00:00 Tag plug #18. @ 15,643' in 3 minutes. FR .75 gpt Pumping 3.00 bpm @ 6,800 psi down the coil. Recovering returns, 3.5 bpm @ 4,600 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and Heavy sand in returns . No H2s. Wash sand to plug #19

00:30 Tag plug #19. @ 15,829' in 5 minutes. FR .75 gpt Pumping 3.00 bpm @ 6,650 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 1.5k WOB. Pump 10/10/10 bbl 100 visc sweep. Circulate sweeps above curve , Mulched Obsidian plug parts and Heavy sand in returns (Plug #15, #16 & #17 sweep was on time to surface). . No H2s. Wash sand to plug #20

02:15 Tag plug #20. @ 16,015' in 4 minutes. FR .75 gpt Pumping 3.00 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 1.5k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and Heavy sand in returns (Plug #18 sweep was on time to surface). . No H2s. Circulate well while flowback working on manifold.

03:15 Pumped 10/10/10 bbl 100 visc Sweeps make short trip pulling 30 fpm to top of curve, while flowback makes repairs to manifolds. (Plugs #19 & #20 sweeps were on time to surface).

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Rig Name:

06:00 Finished short trip of lateral. RIH @ 60 fpm, 3 bpm @ 6,700 psi "in", 3.5 bpm @ 4,900 psi "out". Tagged plug #21 @ 16,201'.

08:00 Drill plug #21. @ 16,201' in 6 minutes. FR .75 gpt Pumping 3.00 bpm @ 6,850 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Heavy sand in returns. No H2s.

09:00 Swapped over to clean fresh water, condition wellbore with clean water. Wash down and drill plug #22. @ 16,345' in 8 minutes. FR .75 gpt Pumping 3.00 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,825 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Heavy sand in returns. No H2s.

09:30 Wash down and drill plug #23. @ 16,484' in 4 minutes. Pumping 3.00 bpm @ 6,700 psi down the coil. Recovering returns, 3.5 bpm @ 4,825 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Heavy sand in returns. No H2s. (Pressure reduction due to conditioning the wellbore with clean water).

10:00 Wash down and drill plug #24. @ 16,619' in 13 minutes. Pumping 3.5 bpm @ 6,650 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

10:30 Wash down and drill plug #25. @ 16,759' in 6 minutes. Pumping 3.5 bpm @ 6,800 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

11:00 Wash down and drill plug #26. @ 16,898' in 9 minutes. Pumping 3.5 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,800 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

11:30 Wash down and drill plug #27. @ 17,038' in 5 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,800 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

12:00 Wash down and drill plug #28. @ 17,177' in 6 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

12:30 Wash down and drill plug #29. @ 17,322' in 5 minutes. Pumping 3.5 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

13:00 Wash down and drill plug #30. @ 17,322' in 4 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

13:30 Wash down and drill plug #31. @ 17,596' in 6 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

14:00 Wash down and drill plug #32. @ 17,736' in 6 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,800 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

14:30 Wash down and drill plug #33. @ 17,877' in 8 minutes. Pumping 3.5 bpm @ 6,950 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

15:00 Wash down and drill plug #34. @ 18,017' in 5 minutes. Pumping 3.5 bpm @

6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

15:30 Wash down and drill plug #35. @ 18,149' in 5 minutes. Pumping 3.5 bpm @ 6,900 psi down the coil. Recovering returns, 3.5 bpm @ 4,900 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

16:00 Wash down and drill plug #36. @ 18,291' in 12 minutes. Pumping 3.5 bpm @ 7,000 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

16:30 Wash down and drill plug #37. @ 18,547' in 8 minutes. Pumping 3.5 bpm @ 7,100 psi down the coil. Recovering returns, 3.5 bpm @ 4,800 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

17:00 Wash down and drill plug #38. @ 18,631' in 5 minutes. Pumping 3.5 bpm @ 7,100 psi down the coil. Recovering returns, 3.5 bpm @ 4,850 psi. 2.0k WOB. Pump 10 bbl sweep. Mulched Obsidian plug parts and Sand in returns. No H2s.

17:30 (PJSM 5:30) Tag plug #39. @ 18,773' in 8 minutes. FR .25 gpt Pumping 3.50 bpm @ 7,300 psi down the coil. Recovering returns, 3.5 bpm @ 4,750 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and Heavy sand in returns . No H2s. Wash sand to plug #40

18:30 .Tag plug #40. @ 18,991' in 9 minutes. FR .25 gpt Pumping 3.50 bpm @ 7,300 psi down the coil. Recovering returns, 3.5 bpm @ 4,750 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and Heavy sand in returns . No H2s. Wash sand to plug #41

19:30 Tag plug #41. @ 19,177' in 13 minutes. FR .25 gpt Pumping 3.50 bpm @ 6,850 psi down the coil. Recovering returns, 3.5 bpm @ 4,700 psi. 2k WOB. Pump 10 bbl 100 visc sweep. Mulched Obsidian plug parts and Heavy sand in returns . No H2s. Wash sand to PBTD at 19,305' , pumped 10/10/10 wait on sweep to clear coil tbg.

21:00 POOH 30 FPM pumping 10/10/10 sweep at bottom of curve , cont OOH pumping 3.50 bpm @ 6,850 psi down the coil. Recovering, 3.5 bpm @ 4,700 psi. Bump up coil SWI , ND off frac stack ND BHA. NU back on stack blow real dry w/ N2. SICP 4800 PSI.

05/31/2017

Rig Name:

06:00 Rig down Coil Tubing Unit.

09:30 Pressure test primary frac valve. Had pump failures and leaks. Greased frac valves upon delivery of grease unit. Pressure tested top of primary frac valve to 10,000 psi and charted for 15 minutes.

12:00 ND frac stack (leaving primary manual frac valve). CER knuckle boom truck broke down (hydraulics), upon repair finish NDFV, NU Production Tree (VLV,AOZE,2-9/16 10M FE EE1-0,5 (6A LU EE1-0,5 PSL3 PR1) HARDFACED TRIM). Hand over to production. Emptied out all tanks of water, and removed sand from pits. Released all rentals. End of report. TOTAL LOAD TO RECOVER: 392,684 BBL. Turn lover Welll to Production.

16:00 Ditch Location & Lay Flowline to Well. RU 15k Flow Back Lines, 9 Valve 15k Choke Manifold, 10k Sand Seperator. SDFN

06/01/2017

Rig Name:

07:30 PJSM/JSA. Location Inspection.

08:00 PJSM. RU Test Pump & Grease Unit. Grease All Production Tree Valves, Master Frac Valve, & Tbg Head Valves. W/ Main Master Valve Closed Perform Shell Test on Production Tree, Flow Lines, 10K Sand Seperator, & Choke Manifold, 250 psi low/9000 psi high. Repair Leaks. in Flow Lines to Sand Seperator. Repair Leking Valve in Choke Manifold. Flush Tbg Head Valve with FW & Regrease Valve. Retest to 9000 psi. Isolate & test All Tree Valves to 9000 psi. Isolate & Test Choke Manifold Valves to 9000 psi. Isolate & Test Sand Seperator to 9000 psi. Test Tbg Head Valves to 9000 psi. All Tests Charted and Good. Release Test Pump & Grease Unit.

13:00 Install & Program Scada Controls & Pressure Transmitters. Back Fill all Ditches. Perform Final Inspections on Battery & Location. Check Scada Functions. Open Well & 18:50 & Begin Flow Back Ops. Monitor Flow Back.