

FORGE Energy
UL 21 Pahaska 1H
API Number: 42-495-33740

10/26/2016

Rig Name:

07:00 HPJM

07:15 Install 1502 Adapter Flanges to Well Head. RU Pump Truck test lines to 1000 PSI no leaks. Load hole w/ 15 bbls fresh water. Start pumping 1.5.bpm @ 1200 psi broke back to 500 psi. Pumped 5 more bbls shut down zero psi. Pump 3 bpm @ 250 psi pumped 15 bbls shut down. Zero psi. 37 bbls total pumped
12:00 Shut in psi zero. RD pump truck. Weld cap on mouse hole, plumb in surface and intermediate. Well secure. Sdfn.

10/27/2016

Rig Name:

07:00 HPJSM

07:15 Rig up Schlumberger Crain & Wire Line, Oil States Lubricator, KLX test pump
10:15 Wait on BOP and tool trap for Lubricator. set two tanks , filled with fresh water w/ KCL and bio
14:45 Rig up Oil States Lubricator & BOP and tool trap. Load & test Lubricator & BOP to 4500 Psi , open well w/ zero psi , Start setting and RU 2 trailers and 1 safety trailer
16:00 RIH with CCL , 3 3/4" gauge ring & junk basket. Got down to 12,100' 47 deg. Marker joint @ 11,627 - 11,649. Top of liner @ 11,483. POOH. Bump up lubricator shut in lay down lubricator & tools.

10/28/2016

Rig Name:

07:00 Job Safety Meeting.

07:15 Rig Up Schlumberger Wireline, Oil States Lubricator, & CER. To run 5 3/4" Gauge Ring. Load test Lubricator to 4500 psi.
08:00 5 3/4" Gauge Ring would not go past well head , got off the well and LD GR and junk basket , Rig up to run USIT Log. Test Lubricator , RIH with USIT log to 12,100' , log out of the hole . Smaller gauge rings being brought out.
09:45 Bump up USIT Log in lubricator. Laid down tools. Visually inspected inside of well head. It was clean & clear. TOC:6,534' TOL: 11,483'
14:30 Rig up 5 3/4" gauge ring & junk basket. PSI test Lubricator. RIH with gauge ring to TOL 11,483' , POOH
17:30 OOH with WL , shut well in w/ zero psi , RDMO Schlumberger WL and crane , oilstates lube , SDFN

10/29/2016

Rig Name:

07:00 Pre Job Safety Meeting.

07:15 Rigged up Pro Petro & Renegade Wire Line and deficit equipment. Dropped Baker Hughes Standing Valve. Tested lines to 10,000 psi
09:15 Wait on pressure test limits information on 7" casing & liner hanger.
12:45 PSI test 7" casing to 9800 PSI @ 1.5 BPM. Tested good. Bleed off well.
13:30 Rig up Renegade Wireline to retrieve Standing Valve. CER psi test lubricator to 9,000 PSI. TIH to retrieve standing valve. Tag 11,531' pulled up to check string weight 1800 lbs. Went back down @ 75' Min and latched up. Pulled up released at 3600 Lbs. TOH 1840 lbs. string weight , ooh with standing valve and bha
15:30 Pro Petro displaced 4 1/2 casing with 81 bbls. 2% Kcl & Biocide water. At 10.7 BPM @ 7020 PSI. Pumped 2000 gals 15 % NEFE and Flush with 2% Kcl & Biocide water at 13 BPM at 7470 psi w/ 500 bbls. ISIP 6508 5 min. 5272 10 min. 5260 15 min 5253.
17:00 Pick up 4.1/2 bridge plug, Scaloped guns, GR logging tool , sinker bars and ccl. CER test lubricator to 9000 Psi. Not enough weight to RIH. Weight 470 lbs , Well Secure SICP 5220. Sdfn.

10/30/2016

Rig Name:

07:00 HPJSM

07:15 PU 4.5 Halliburton Obsidian BP , baker 10 setting tool , 3-scalloped guns , GR in lubricator , NU over hole , test lube to 9000 psi , equalize and TIH , tie into MJ @ 11,627' TIH , start pumping bha down hole , 3bpm @ 5400 psi , 6 bpm @ 6000 psi , 9 bpm @ 6350 psi , 12 bpm @ 6860 psi @ 300 fpm , slowed line speed to 240 fpm @ 10.3 bpm - 6530 psi to catch MJ's , @16,335' hit dead stop , psi came up to 7150 , shut pumps down
10:00 Bled well down to 5000 psi , started surging well and working WL , surged well down to 500 psi , kept working WL pulling 2000# with no movement , pressured up to 7800 psi , held solid , bled down to 5000 psi , surged well to down 600 psi , pressured up to 2500 psi pulled 2700# and pulled free , logged up slow and started catching collars , logged GR up to 7" , then TOO H , Shut well in and bled off psi to zero
14:00 Broke lube off wellhead , and LD BHA , BP was not on setting tool , Shear pins

were sheared off , setting tool was not stroked , WL engineer ruptured disc on setting tool to check for bleed off , zero psi
15:00 RD Propetro , Renegade WL and CER test , clear location to prep for coil tubing cleanout
18:00 RU CER Test Pump & RU Frac/Tree. Frac/Tree consist of 7/16" Hyd. Valve, 7 1/16" Flow Cross with 2" Hyd. valve, 2" wing valve & 3" Hyd. valve & 3" wing valve, 7 1/16" wing valve, 7 1/16" Frac Head and 5 1/8" wing valve. PSI test tree to 11,000 PSI and chart PSI. Tested good. PSI Test tree to 250 PSI and chart PSI. Tested good. Conducted 3 other PSI test charted to 11,000 psi & 250 psi. All tested good.
00:00 Rig down CER test pump

10/31/2016

Rig Name:

07:00 PJSM
07:15 set half pits , set anchors and replaced one light plant that would not start
16:00 CTP staged equipment on location , sdfn

11/01/2016

Rig Name:

06:00 HPJSM
06:15 MIRU CTP coil unit , Rockwater Flowback , Standard Safety , Blackstar chemical plant
09:15 NU BOP's to well,function test bop's,RU/lubricater ,load coil , pull test weld-on connector-30'000#,test coil to 4500 psi
11:15 Made up BHA: 3.3/4 butterfly mill , motor , agitator , circ sub , disconnect , jars , Dual BP valve , weld on coil connect , test motor 3.5bpm,NU lube ,load lubricater & lines,test to 7500psi,Open well 150 psi , TIH , 1 bpm in and out , CP 295 psi
13:15 Weight check @ 11,350' , 55k up and 20k down , at 13,247' had to change out incoder on counter , lost communication on reel on computer monitor (took 10 min) , TIH to 16,000' weight check 65k up and 22k down , 3.5 bpm in and out , CP 4220 psi , WH 1000 psi holding back pressure
15:15 Tag plug @ 16,335' , WH 1000 psi , 3.5 bpm in and out , WOB 1-2k , CP 4380 psi , drill time 5 min , sent 10 bbl sweep , worked thru spot three times , clean , TIH
16:15 Tagged PBTD @ 16,961' , drilled on stump for 5 min , made .5' , WOB 2k , CP 3258 psi , 5 min , WH 173 psi FULL Open , had no indications of drilling , picked up to 16,940' , TIH tag up in same spot , had no indications of drilling , PU cleared 20bbl sweep out EOT , start TOOH
17:30 Send 20 bbl sweep to sweep curve. Pump 2% KCL & Biocide water behind sweep. TOOH to 12,200' wait on 20 bbl sweep to circulate. Shift change @ 18:00.HPJSM.
18:30 Circulated 20 bbl sweep out 3.5 BPM in and out @ 3800 CP PSI & 45 PSI WH full open. Check Plug Catcher had small to medium size plug parts.Fluid returns were clean.
21:30 Pump injection test. 9.25 BPM @ 6660 PSI. Pump 500 bbls 2% KCL & Biocide water. Ending rate 8.5 BPM & 7300 PSI. Bleed PSI off to O PSI. Floats holding.
00:00 POOH w/Coil Tubing & BHA.
01:30 OOH Rig Down move out Coil Tubing, BHA,& Blackstar.
04:00 Flange up & torque Frac Head.PSI Test & chart tree to 11,000 PSI and 250 PSI. Tested good. RU Renegade Wire Line. Shift change.

11/02/2016

Rig Name:

06:00 HPJSM
06:15 Rigged up Pro Petro & Renegade Wire Line and defit equipment , test pumps and lines to 10,000 psi
09:15 MU lubricator and BHA , PU lubricator , BP , scalloped guns , weight bar , GR , NU lube and test to 9500 psi , TIH
11:00 tied in with marker jnt at 11,627' , @ 12,065' started pumping 3 bpm , psi climbed to 8100 psi and broke over to 6770 psi , bled itself to 5200 psi , started pumping at 5 bpm pressured up to 8900 psi , dropped rate back to 4.2 bpm pressured up to 9478 psi , dropped rate to 3.8 bpm , WL stopped at 14,639' , bled back to 5280 psi , started pumping at 5 bpm , pressured up to 9400 psi @ 14,667' , tripped pop offs , reset pop offs to 9600 psi , well bled back to 5350 psi , tried pumping again at 5.2 bpm pressured up and tripped pop offs @ 9600 psi @14,725' , TOOH ,
13:00 OOH w/ WL , LD BHA , shut well in , WH 5130 psi , bled well down to zero psi , well flowing 1-1.5 bpm , shut well in , built up 1000 psi in 4 min , 1750 psi in 7 min , RD WL and Propetro
15:00 Renegade and Propetro off location , CTP coil unit rigging up
18:00 HPJSM with night shift crew.
18:15 RU Halliburton 4.5" Obsidian Bridge Plug w/5 shire pins,KLX 2 3/8" Weldon Conn,2 7/8" Dual Back Pressure valve, TCP Disconnect 3/4" Ball, Crossover, & #10 Setting Tool on to 2 3/8" Coil TBG. PSI test Lub. to 7500 PSI & 250 PSI. Equalize and open well head 5000 PSI. RIH w/ Coil & BHA. Break Circulation

and start pumping at .8 BPM treated water, FR & POP.5000' .8 bpm in, .8 bpm out, CP 377 WH 19 psi. RIH @ 100'/min & 30 ft/min at Liner Hanger & Liner. Weight check at 11,350' 60K up & 34K down CP 282 WH 8, .8 bpm in .8 bpm out. POP & FR EOT @ 11,483' TOL.

- 23:30 Tagged PBDT W/ CT & BHA @ 16,961' PU to 16,941' SW 70K. Drop Ball pump 2 bpm heard ball clear CT. Pumped 70 bbls treated water CP 300 psi WH 30 psi slow rate to 1 bpm ball seated at 90 bbls pumped walked psi up to CP 3000 psi sheared plug WHP 250 psi. PU to 16,930' go down tag plug at 16,941 put 2 points on plug. Positive test plug to 5300 PSI CP, 5000 WH PSI at flow back manifold. Held for 15 min. Tested good. Hold PSI. POOH @ 60'/min. SW 53K to 11,200' to do negative test.
- 04:00 POOH to 11,200' do negative test. Bleed psi from 5000 psi to 3000 psi hold for 15 min. Tested good. Bleed psi to 1000 psi hold for 15 min. Tested good. Bleed psi to 0 hold for 15 min. Shift change.

11/03/2016

Rig Name:

- 06:00 PJSM
- 06:15 Perform 15 min negative test at zero psi , tested good , TOOH with setting tools and coil
- 06:30 OOH with coil , break out setting tool , MU 3 scalloped guns , x-over , TCP disconnect , dual BPV , weld-on connector , TIH
- 10:15 @ 6000' had 3000' differential between incoder and mechanical depth indicator , TOOH , changed computers , incoder working , TIH
- 11:15 Tagged PBDT @ 16,941' , PU got on depth gun 1 @ 16,938-16,939 , launched ball in reel , pressure up casing to 5000 psi holding back pressure , pumped ball down at 2.5 bpm , pumped 90 bbls , 5/8 ball hit seat in firing head , fired at 2800 psi , PU to gun 2 @ 16,888-16,889 , gun fired in 6 min , PU to gun 3 @ 16,838-16,839 , gun fired in 6 min , witness guns with seismometer , TOOH with coil and spent guns
- 14:15 Bump up in lube , OOH confirm all shots fired , Shift change.
- 18:00 PJSM. RU to PSI Test Int. Pumped 2 BPM PSI to 500 PSI pumped 2.5 BBLs Treated Water. Closed in valve holding 500 PSI. RU to Pump DFIT test. PSI Test to 8K. Open well WHP 2400 PSI. Walked rate up to 5 BPM using DFIT flow meter 7000 PSI Did not see any break in PSI. Pumped 42 BBLs Treated water. Done a hard shut down ISIP 6750 PSI. Shut well in. Lock out Tag Out Tags were placed on Manual vales used for DFIT Test. RD CTS.
- 20:00 CT off loc. CER NU Goat Head. PSI test to 11,000 PSI and at 250 PSI. All test held for 15 min. & charted.

11/04/2016

Rig Name:

- 06:00 HPJSM
- 06:15 set freshwater working tanks and acid tank with containment , emptied flowback tank from clean out , sdfn

11/05/2016

Rig Name:

- 07:00 PJSM
- 07:15 Off load fresh water in acid tank , rig up rockwater manifolds and lines , sdfn

11/06/2016

Rig Name:

- 07:00 PJSM
- 07:15 Lay water transfer lines and set pumps , set crossovers , installed manifold and down joints at back of freshwater tanks , filled tanks , max rate 69 bpm , 80,000 usable bbls at pit

11/07/2016

Rig Name:

- 07:00 PJSM
- 07:15 RU Fesco WL and CER Test ,checked pit level , 130,000 bbls , water being transferred to pit 50,000 bpd
- 16:00 PJSM , RU Propetro frac , perform bucket test , test lines and pumps to 9848 psi , set pop offs at 9763 psi , set intermediate casing to 2000 psi

11/08/2016

Rig Name:

- 06:00 PJSM
- 06:15 Stage1 Frac: Open Well SICP 4543 psi. Pump Stage #1. Initial ISIP 6244 . 5 min 5558. Pumped 3,000 gals 15% HCl, pumped 364,644 gals of Slickwater, w/ 71,941 lbs 100 mesh, 164,412 lbs 40/70 White, Max psi: 9640 psi, Avg psi: 8910 psi, Max rate: 80.0 bpm, Avg rate: 61.0 bpm, .89 Frac. Gradient. Approx load to rec 8682 bbls. ISIP: 5551 psi, 5 min: 5402 psi, 10 min: 5397 psi, 15 min: 5367 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed.

11:30 PU lube and BHA , test good , left 5400 psi on lube to open up to well , 5200 psi on well , could not get downward movement , had to get off well to add weight and rehead

14:00 Stage #2 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5000 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/6000 psi, 260 FPM, Spot CBP @ 16,814'. 5200 psi SIP, Set CBP @ 16,814', PU & Fire Gun #1 @ 16,788'-16,789', 11 Shots. P/U and Fire Gun #2 @ 16,738'- 16,739', 10 Shots. P/U & Fire Gun #3 @ 16,688'- 16,689', 10 Shots. P/U & Fire Gun #4 @ 16,638'- 16,639', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - X Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 6000 PSI , Total bbl pumped 257 bbl. Drop 2.125" Obsidian Frac Ball. (had issues with computer panel and incoader on digital reading , was not able to ccl log out , will log out on stage 3)

18:00 Stage2 Frac: Open Well SICP 5128 psi. Pump Stage #2. Initial ISIP 5823 . 5 min 5424 psi. Pumped 6,048 gals 15% HCl, pumped 515,298 gals of Slickwater, w/ 95,740 lbs 100 mesh, 216,480 lbs 40/70 White, Max psi: 9713 psi, Avg psi: 8910 psi, Max rate:81.5 bpm, Avg rate: 75.5 bpm, .91 Frac. Gradient. Approx load to rec: 12,423 bbls. ISIP: 5797 psi, 5 min: 5538 psi, 10 min: 5469 psi, 15 min: 5427 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed. (At 19:30 pop offs going off at 9600 psi , washed out , had to wait 2 hours to get replacement on location)

02:00 Stage #3 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5000 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/5915 psi, 300 FPM, Spot CBP @ 16,621'. 5200 psi SIP, Set CBP @ 16,621', PU & Fire Gun #1 @ 16,595'-16,596', 11 Shots. P/U and Fire Gun #2 @ 16,538'- 16,539', 10 Shots. P/U & Fire Gun #3 @ 16,488'- 16,489', 10 Shots. P/U & Fire Gun #4 @ 16,438'- 16,439', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - X Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 5915 PSI , Total bbl pumped 251 bbl. Drop 2.125" Obsidian Frac Ball. Log out of the hole

11/09/2016

Rig Name:

06:00 PJSM

06:15 Stage3 Frac: Open Well SICP 5064 psi. Pump Stage #3. Initial ISIP 7648 . 5 min 5807 psi. Pumped 4000 gals 15% HCl, pumped 451,332 gals of Slickwater, w/ 97,640 lbs 100 mesh, 220,220 lbs 40/70 White, Max psi: 9781 psi, Avg psi: 8680 psi, Max rate: 81.9 bpm, Avg rate: 80.5 bpm, .90 Frac. Gradient. Approx load to rec: 10,746 bbls. ISIP: 5669 psi, 5 min: 5512 psi, 10 min: 5432 psi, 15 min: 5390 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed.

09:45 Stage #4 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5220 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/5800 psi, 280 FPM, Spot CBP @ 16,414'. 5200 psi SIP, Set CBP @ 16,414', PU & Fire Gun #1 @ 16,386'-16,387'(Moved up 2' from collar), 11 Shots. P/U and Fire Gun #2 @ 16,338'- 16,339', 10 Shots. P/U & Fire Gun #3 @ 16,288'- 16,289', 10 Shots. P/U & Fire Gun #4 @ 16,238'- 16,239', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 5958 PSI , Total bbl pumped 238 bbl. Drop 2.125" Obsidian Frac Ball.

11:30 Stage4 Frac: Open Well SICP 5154 psi. Pump Stage #4. Initial ISIP 9248 . 5 min 5706 psi. Pumped 4000 gals 15% HCl, pumped 447,132 gals of Slickwater, w/ 97,240 lbs 100 mesh, 218,800 lbs 40/70 White, Max psi: 9714 psi, Avg psi: 8704 psi, Max rate: 81.2 bpm, Avg rate:76.7 bpm, .89 Frac. Gradient. Approx load to rec: 10,646 bbls. ISIP: 5521 psi, 5 min: 5497 psi, 10 min: 5424 psi, 15 min: 5422 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed.

15:00 Stage #5 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5600 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/5670 psi, 280 FPM, Spot CBP @ 16,214'. 5200 psi SIP, Set CBP @ 16,214', PU & Fire Gun #1 @ 16,188'-16,189', 11 Shots. P/U and Fire Gun #2 @ 16,134'- 16,135'(Moved up 4' from collar), 10 Shots. P/U & Fire Gun #3 @ 16,088'- 16,089', 10 Shots. P/U & Fire Gun #4 @ 16,038'- 16,039', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 5804 PSI , Total bbl pumped 208 bbl. Drop 2.125"

Obsidian Frac Ball.

18:00 PJSM

18:00 Stage5 Frac: Open Well SICP 5061 psi. Pump Stage #5. Initial ISIP 5724 . 5 min 5505 psi. Pumped 4000 gals 15% HCl, pumped 11,538 gals of Slickwater, w/ 97,240 lbs 100 mesh, 220,420 lbs 40/70 White, Max psi: 9744psi, Avg psi: 8587 psi, Max rate: 81.4 bpm, Avg rate:79.5 bpm, .91 Frac. Gradient. Approx load to rec: 55,683 bbls. ISIP: 5800 psi, 5 min: 5587 psi, 10 min: 5526 psi, 15 min: 5499 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

Lost fluid on pump during pad swapped out & continued frac.

21:15 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" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5200 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/5851 psi, 280 FPM, Spot CBP @ 16014'. 5200 psi SIP, Set CBP @ 16,014', PU & Fire Gun #1 @ 15,988'-15,989', 11 Shots. P/U and Fire Gun #2 @ 15,938'-15,939' 10 Shots. P/U & Fire Gun #3 @ 15,888'-15,889', 10 Shots. P/U & Fire Gun #4 @ 15,838'-15,839, 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 5851 PSI , Total bbl pumped 215 bbl. Drop 2.125" Obsidian Frac Ball Grease frac stack

23:15

00:30 Stage6 Frac: Open Well SICP 5140 psi. Pump Stage #6. Initial ISIP 5748 . 5 min 5491 psi. Pumped 4000 gals 15% HCl, pumped 11,287 gals of Slickwater, w/ 97720 lbs 100 mesh, 220480 lbs 40/70 White, Max psi: 9688psi, Avg psi: 8748 psi, Max rate: 82.8 bpm, Avg rate:80.7 bpm, .92 Frac. Gradient. Approx load to rec: 67,279 bbls. ISIP: 5900psi, 5 min: 5659 psi, 10 min: 5598 psi, 15 min: 5562 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. (had leak on press lineside while on 1.25# shut down to repair,started backup &flushed well & started back on .6# 40/70 no more problems.

05:00 TIO with WL

11/10/2016

Rig Name:

06:00 Stage #7 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,370 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 ppm W/5,700 psi, 280 FPM, Spot CBP @ 15,814. 5,200 psi SIP, Set CBP @ 15,814 PU & Fire Gun #1 @ 15,788-15,789, 11 Shots. P/U and Fire Gun #2 @ 15,738-15,739, 10 Shots. P/U & Fire Gun #3 @ 15,678-15,679, 10 Shots. P/U & Fire Gun #4 @ 15,638-15,639, 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 5,900 PSI , Total bbl pumped 206 bbl. Drop 2.125" Obsidian Frac Ball

08:30 Stage7 Frac: Open Well SICP 5,232 psi. Pump Stage #7. Initial ISIP 5,929 psi. FG 0.93 psi/ft. Pumped 4,032 gals 15% HCl, pumped 10,681 gals of Slickwater, w/ 97,760 lbs 100 mesh, 220,760 lbs 40/70 White, Max psi: 9,825, Avg psi: 8,556 psi, Max rate: 80.8 bpm, Avg rate: 79.7 bpm, 0.91 Frac. Gradient. Approx load to rec: 78,175 bbls. ISIP: 5,790 psi, 5 min: 5,606 psi, 10 min: 5,547 psi, 15 min: 5,511 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

12:00 Stage #8 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,400 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/5,800 psi, 280 FPM, Spot CBP @ 15,614. 5,200 psi SIP, Set CBP @ 15,614 PU & Fire Gun #1 @ 15,588-15,589, 11 Shots. P/U and Fire Gun #2 @ 15,538-15,539, 10 Shots. P/U & Fire Gun #3 @ 15,488-15,489, 10 Shots. P/U & Fire Gun #4 @ 15,438-15,439, 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bbm , Max Pressure 6,000 PSI , Total bbl pumped 151 bbl. Drop 2.125" Obsidian Frac Ball

14:30 ,Stage 8 Frac: Open Well SICP 5,275 psi. Pump Stage #8. Initial ISIP 5,877 psi. FG 0.93 psi/ft. Pumped 4032 gals 15% HCl, pumped 469,434 gals of Slickwater, w/ 97,340 lbs 100 mesh, 187,520 lbs 40/70 White, Max psi: 9356, Avg psi: 8798 psi, Max rate: 80.9 bpm, Avg rate: 79.4 bpm, 0.92 Frac. Gradient. Approx load to rec: 11,177 bbls. ISIP: 5908 psi, 5 min: 5564 psi, 10 min: 5497 psi, 15 min: 5457 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. @ 17:15 WHEN ON 1.75 HAD A INLET FLANGE ON THE FRAC HEAD WASH OUT , HAD TO SHUT DOWN , CER HAD TO MAKE 2 HOTSHOTS , SENT OUT THE WRONG FLANGE THE FIRST TIME , FLOWED BACK 530 BBLS (WELLBORE 480 BBLS + 50 BBLS)OPENING SICP 4600 , STARTED FLOWING 4 BPM @ 4400 PSI , 5 BPM AT 4100 PSI , SAND CLEANED UP CONTINUE FLOWING 5 BPM @ 4500 PSI , SHUT IN PSI 4800 , CHANGED OUT FLANGE , TESTED LINES , PUMPS AND FLANGE , FLUSHED WELLBORE WITH TOTAL OF 1897 BBLS , MAX PSI: 8384 , AVG PSI:7264 . MAX RATE:60.5 . AVG RATE: 11.2 . @ 17:30 PJSM

02:30 Stage #9 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5180 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6400 psi, 230 FPM, Spot CBP @ 15,407'. 5,372 psi SIP, Set CBP @ 15,407' PU & Fire Gun #1 @ 15,381'-15,382, 11 Shots. P/U and Fire Gun #2 @ 15,345'-15,346', 10 Shots. P/U & Fire Gun #3 @ 15,295'-15,296', 10 Shots. P/U & Fire Gun #4 @ 15,240'-15,241'(MOVED DOWN 4' FROM COLLAR), 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging tls. Verified all shots fired , Max Rate 14 bbm , Max Pressure 6878 PSI , Total bbl pumped 220 bbl. Drop 2.125" Obsidian Frac Ball

11/11/2016

Rig Name:

06:00 Stage 9 Frac: Open Well SICP 5,100 psi. Pump Stage #9. Initial ISIP 5,929 psi. FG 0.93 psi/ft. Pumped 4,032 gals 15% HCl, pumped 451,794 gals of Slickwater, w/ 97,120 lbs 100 mesh, 220,420 lbs 40/70 White, Max psi: 9,643, Avg psi: 8,512 psi, Max rate: 81.1 bpm, Avg rate: 79.4 bpm, 0.92 Frac. Gradient. Approx load to rec: 100,590 bbls. ISIP: 5,875 psi, 5 min: 5,613 psi, 10 min: 5,557 psi, 15 min: 5,518 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

11:30 Stage #10 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,340 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 5,800 psi, 230 FPM, Spot CBP @ 15,210'. 5,340 psi SIP, Set CBP @ 15,210' PU & Fire Gun #1 @ 15,184'-15,185, 11 Shots. P/U and Fire Gun #2 @ 15,138'-15,139', 10 Shots. P/U & Fire Gun #3 @ 15,088'-15,089', 10 Shots. P/U & Fire Gun #4 @ 15,038'-15,039', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging tls. Verified all shots fired , Max Rate 14 bbm, Max Pressure 6,100 PSI , Total bbl pumped 126 bbl. Drop 2.125" Obsidian Frac Ball

14:30 Stage 10 Frac: Open Well SICP 5,320 psi. Pump Stage #10. Initial ISIP 6,093 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 488,628 gals of Slickwater, w/ 96,760 lbs 100 mesh, 220,540 lbs 40/70 White, Max psi: 9,663, Avg psi: 8,553 psi, Max rate: 82.8 bpm, Avg rate: 79.3 bpm, 0.93 Frac. Gradient. Approx load to rec: 112,456 bbls. ISIP: 5,987 psi, 5 min: 5,667 psi, 10 min: 5,606 psi, 15 min: 5,566 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed (Shut down due to riser shaking/flushed well prior to shut down. Frac realigned riser, continued job)

18:30 PJSM , Stage #11 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,500 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6,247 psi, 280 FPM, Spot CBP @ 15,016'. 5,558 psi SIP, Set CBP @ 15,016' (moved 2'down from collar) PU & Fire Gun #1 @ 14,988'-14,989', 11 Shots. P/U and Fire Gun #2 @ 14,938'- 14,939', 10 Shots. P/U & Fire Gun #3 @ 14,888'- 14,889', 10 Shots. P/U & Fire Gun #4 @ 14,838'- 14,839', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging tls. Verified all shots fired , Max Rate 14 bbm, Max Pressure 6,287 PSI , Total bbl pumped 194 bbl. Drop 2.125" Obsidian Frac Ball

22:30 Stage 11 Frac: Open Well SICP 5,325 psi. Pump Stage #11. Initial ISIP 5,945 psi. FG 0.92 psi/ft. Pumped 4,032 gals 15% HCl, pumped 432,138 gals of Slickwater, w/ 97,400 lbs 100 mesh, 220,500 lbs 40/70 White, Max psi: 9,477, Avg psi: 8,681 psi, Max rate: 82.6 bpm, Avg rate: 81.9 bpm, 0.91 Frac. Gradient. Approx load to rec: 123,035 bbls. ISIP: 5,833 psi, 5 min: 5,642 psi, 10 min: 5,597 psi, 15 min: 5,565 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed.

01:30 Stage #12 Pump Down. P/U 4 ½" Obsidian Ball Drop Frac Plug for 4 ½, 13.50# Csg on Baker 10 setting tool & 3-1/8" - 4 Cluster Perf Assy w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,492 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6,412 psi, 278 FPM, Spot CBP @ 14,814'. 5,578 psi SIP, Set CBP @ 14,814' PU & Fire Gun #1 @ 14,788'-14,789', 11 Shots. P/U and Fire Gun #2 @ 14,738'- 14,739', 10 Shots. P/U & Fire Gun #3 @ 14,688'- 14,689', 10 Shots. P/U & Fire Gun #4 @ 14,638'- 14,639', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging tls. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6,391 PSI , Total bbl pumped 152 bbl. Drop 2.125" Obsidian Frac Ball

04:45 Start frac stage 12 , opening PSI 5371

11/12/2016

Rig Name:

06:00 PJSM

06:15 Stage 12 Frac: Open Well SICP 5,371 psi. Pump Stage #12. Initial ISIP 6098 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 480,144 gals of Slickwater, w/ 96,300 lbs 100 mesh, 221,320 lbs 40/70 White, Max psi: 9673 , Avg psi: 8644 psi, Max rate: 80.5 bpm, Avg rate: 79.1 bpm, 0.91 Frac. Gradient. Approx load to rec: 11,432 bbls. ISIP: 5743 psi, 5 min: 5605 psi, 10 min: 5559 psi, 15 min: 5525 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

08:00 Stage #13 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5350 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6000 psi, 315 FPM, Spot CBP @ 14,609'. 5400 psi SIP, Set CBP @ 14,609' PU & Fire Gun #1 @ 14,583'-14,584 , 11 Shots. P/U and Fire Gun #2 @ 14,528'- 14,529', 10 Shots. P/U & Fire Gun #3 @ 14,484'-14,485'(moved up 4' from collar), 10 Shots. P/U & Fire Gun #4 @ 14,433'-14,434', 9 Shots(All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6200 PSI , Total bbl pumped 116 bbl. Drop 2.125" Obsidian Frac Ball

10:30 Acid transport was late to location , rolled acid

12:00 Stage 13 Frac: Open Well SICP 5,285 psi. Pump Stage #13. Initial ISIP 6098 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 425,082 gals of Slickwater, w/ 97,320 lbs 100 mesh, 220,140 lbs 40/70 White, Max psi: 9700 , Avg psi: 8389 psi, Max rate: 82.1 bpm, Avg rate: 78.0 bpm, 0.91 Frac. Gradient. Approx load to rec: 10,121 bbls. ISIP: 5820 psi, 5 min: 5605 psi, 10 min: 5556 psi, 15 min: 5524 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

15:00 Had washout on flange on frac head at the end of flush , changed out flange and added another riser to frac head

20:00 Stage #14 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,135 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 12 bpm W/ 6,030 psi, 275 FPM, Spot CBP @ 14,343'. 5,457 psi SIP, Set CBP @ 14,343' PU & Fire Gun #1 @ 14,317'-14,318' , 11 Shots. P/U and Fire Gun #2 @ 14,267'- 14,268', 10 Shots. P/U & Fire Gun #3 @ 14,221' - 14,222'(moved down 4' from collar), 9 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 12 bpm, Max Pressure 6,272 PSI , Total bbl pumped 116 bbl. Drop 2.125" Obsidian Frac Ball

22:15 Stage 14 Frac: Open Well SICP 5,118 psi. Pump Stage #14. Initial ISIP 6,183 psi. FG 0.94 psi/ft. Pumped 3,024 gals 15% HCl, pumped 347,718 gals of Slickwater, w/ 73,380 lbs 100 mesh, 163,360 lbs 40/70 White, Max psi: 9,290 , Avg psi: 7,844 psi, Max rate: 69.5 bpm, Avg rate: 60.4 bpm, 0.92 Frac. Gradient. Approx load to rec: 8,351 bbls. ISIP: 5,932 psi, 5 min: 5,651 psi, 10 min: 5,596 psi, 15 min: 5,563 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

01:00 Stage #15 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,321 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 5,938 psi, 288 FPM, Spot CBP @ 14,193'. 5,525 psi SIP, Set CBP @ 14,193' PU & Fire Gun #1 @ 14,167'-14,168' , 11 Shots. P/U and Fire Gun #2 @ 14,117'- 14,118', 10 Shots. P/U & Fire Gun #3 @ 14,067' -14,068' 10 Shots. P/U & Fire Gun #4 @ 14,017'-14,018', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6,004 PSI , Total bbl pumped 118 bbl. Drop 2.125" Obsidian Frac Ball

04:00 Stage #15 was started Open well SICP 5,342 psi

11/13/2016

Rig Name:

06:00 PJSM

06:15 Stage 15 Frac: Open Well SICP 5,342 psi. Pump Stage #15. Initial ISIP 6149 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 427,938 gals of Slickwater, w/ 97,620 lbs 100 mesh, 220,320 lbs 40/70 White, Max psi: 9759 , Avg psi: 8521 psi, Max rate: 82.5 bpm, Avg rate: 81.1 bpm, 0.93 Frac. Gradient. Approx load to rec: 10,189 bbls. ISIP: 5982 psi, 5 min: 5700 psi, 10 min: 5655 psi, 15 min: 5618 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

07:00 Stage #16 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,430 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6,000 psi, 280 FPM, Spot CBP @ 13,983'. 5454 psi SIP, Set CBP @ 13,983'(moved up 10' to stay out of

collar) PU & Fire Gun #1 @ 13,967'-13,968' , 11 Shots. P/U and Fire Gun #2 @ 13,917'- 13,918', 10 Shots. P/U & Fire Gun #3 @ 13,867' -13,868' 10 Shots. P/U & Fire Gun #4 @ 13,817'-13,818', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6,300 PSI , Total bbl pumped 84 bbl. Drop 2.125" Obsidian Frac Ball , Grease frac stack and torque

11:00 Stage 16 Frac: Open Well SICP 5,334 psi. Pump Stage #16. Initial ISIP 6069 psi. FG 0.93 psi/ft. Pumped 4,032 gals 15% HCl, pumped 431,172 gals of Slickwater, w/ 97,760 lbs 100 mesh, 220,560 lbs 40/70 White, Max psi: 9405 , Avg psi: 8442 psi, Max rate: 80.7 bpm, Avg rate: 79.7 bpm, 0.92 Frac. Gradient. Approx load to rec: 10,266 bbls. ISIP: 5933 psi, 5 min: 5657 psi, 10 min: 5597 psi, 15 min: 5561 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

14:30 Stage #17 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,500 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6,000 psi, 280 FPM, Spot CBP @ 13,793'. 5346 psi SIP, Set CBP @ 13,793' PU & Fire Gun #1 @ 13,767'-13,768' , 10 Shots. P/U and Fire Gun #2 @ 13,717'- 13,718', 9 Shots. P/U & Fire Gun #3 @ 13,667' -13,668' 8 Shots. P/U & Fire Gun #4 @ 13,617'-13,618', 7 Shots P/U & Fire Gun #5 @ 13,567'-13,568', 6 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 5 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6,300 PSI , Total bbl pumped 89 bbl. Drop 2.125" Obsidian Frac Ball , Grease frac stack and torque

17:00 @ 17:30 HPJSM , Stage 17 Frac: Open Well SICP 5280 psi. Pump Stage #17. Initial ISIP 6,235 psi. FG 0.95 psi/ft. Pumped 5,040 gals 15% HCl, pumped 531,636 gals of Slickwater, w/ 121,220 lbs 100 mesh, 275,320 lbs 40/70 White, Max psi: 9,701 , Avg psi: 8,699 psi, Max rate: 95.8 bpm, Avg rate: 91.2 bpm, 0.93 Frac. Gradient. Approx load to rec: 12,658 bbls. ISIP: 6,078 psi, 5 min: 5,746 psi, 10 min: 5,664 psi, 15 min: 5,625 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

20:15 Stage #18 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,361 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 12 bpm W/ 5,822 psi, 276 FPM, Spot CBP @ 13,543'. 5,455 psi SIP, Set CBP @ 13,543' PU & Fire Gun #1 @ 13,517'-13,518' , 11 Shots. P/U and Fire Gun #2 @ 13,467'- 13,468', 10 Shots. P/U & Fire Gun #3 @ 13,417' -13,418' 10 Shots. (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 3 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 12 bpm, Max Pressure 6,306 PSI , Total bbl pumped 80 bbl. Drop 2.125" Obsidian Frac Ball.

22:45 Stage 18 Frac: Open Well SICP 5,374 psi. Pump Stage #18. Initial ISIP 6,045 psi. FG 0.93 psi/ft. Pumped 3,024 gals 15% HCl, pumped 331,128 gals of Slickwater, w/ 73,200 lbs 100 mesh, 165,420 lbs 40/70 White, Max psi: 9,598 , Avg psi: 8,224 psi, Max rate: 81.1 bpm, Avg rate: 7.9 bpm, 0.93 Frac. Gradient. Approx load to rec: 7,884 bbls. ISIP: 6,029 psi, 5 min: 5,764 psi, 10 min: 5,697 psi, 15 min: 5,658 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

01:30 Stage #19 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,470 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 12 bpm W/ 5,862 psi, 235 FPM, Spot CBP @ 13,393'. 5,510 psi SIP, Set CBP @ 13,393' PU & Fire Gun #1 @ 13,367'-13,368' , 11 Shots. P/U and Fire Gun #2 @ 13,317'- 13,318', 10 Shots. P/U & Fire Gun #3 @ 13,267' -13,268' 10 Shots. P/U & Fire Gun #4 @ 13,217'-13,218', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 12 bpm, Max Pressure 6,020 PSI , Total bbl pumped 81 bbl. Drop 2.125" Obsidian Frac Ball , Fesco re-headed prior to TIH.

03:45 Stage 19 Frac: Open Well SICP 5,370 psi. Start Stage #19. Pump time delayed due to a cracked fluid end, and swapping out a pump. 12 of 12 pumps inline.

11/14/2016

Rig Name:

06:00 PJSM

06:15 Stage 19 Frac: Open Well SICP 5,370 psi. Pump Stage #19. Initial ISIP 6338 psi. FG 0.96 psi/ft. Pumped 4,032 gals 15% HCl, pumped 421,428 gals of Slickwater, w/ 97,300 lbs 100 mesh, 219,840 lbs 40/70 White, Max psi: 9724 , Avg psi: 8338 psi, Max rate: 82.4 bpm, Avg rate: 80.6 bpm, 0.93 Frac. Gradient. Approx load to rec: 10,034 bbls. ISIP: 5933 psi, 5 min: 5753 psi, 10 min: 5687 psi, 15 min: 5647 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

07:15 Stage #20 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5,600 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 14 bpm W/ 6,300 psi, 280 FPM, Spot CBP @ 13,193'. 5900 psi SIP, Set CBP @ 13,193' PU & Fire Gun #1 @ 13,167'-13,168', 11 Shots. P/U and Fire Gun #2 @ 13,117'- 13,118', 10 Shots. P/U & Fire Gun #3 @ 13,067' -13,068' 10 Shots. P/U & Fire Gun #4 @ 13,017'-13,018', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 14 bpm, Max Pressure 6,500 PSI , Total bbl pumped 58 bbl. Drop 2.125" Obsidian Frac Ball

10:15 Wait on Propetro frac to repair pump , blown packing

12:30 Stage 20 Frac: Open Well SICP 5315 psi. Pump Stage #20. Initial ISIP 6188 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 472,836 gals of Slickwater, w/ 97,460 lbs 100 mesh, 230,460 lbs 40/70 White, Max psi: 9732 , Avg psi: 8125 psi, Max rate: 82.6 bpm, Avg rate: 78.9 bpm, 0.94 Frac. Gradient. Approx load to rec: 11,258 bbls. ISIP: 6100 psi, 5 min: 5794 psi, 10 min: 5710 psi, 15 min: 5681 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed , Had to shut down and change some lines around on manifold , riser shaking , changed out rubber at inlet port on frac stack

17:00 PJSM , Stage #21 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5600 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 12 bpm W/ 5800 psi, 280 FPM, Spot CBP @ 12,993'. 5900 psi SIP, Set CBP @ 12,993' PU & Fire Gun #1 @ 12,967'-12,968' , 11 Shots. P/U and Fire Gun #2 @ 12,917'- 12,918', 10 Shots. P/U & Fire Gun #3 @ 12,867' -12,868' 10 Shots. P/U & Fire Gun #4 @ 12,817'-12,818', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 12 bpm, Max Pressure 6041 PSI , Total bbl pumped 59 bbl. Drop 2.125" Obsidian Frac Ball

19:30 Stage 21 Frac: Open Well SICP 5,453 psi. Pump Stage #21. Initial ISIP 6,145 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 437,556 gals of Slickwater, w/ 100,120 lbs 100 mesh, 231,000 lbs 40/70 White, Max psi: 9398 , Avg psi: 8107 psi, Max rate: 80.9 bpm, Avg rate: 79.5 bpm, 0.94 Frac. Gradient. Approx load to rec: 10,418 bbls. ISIP: 6097 psi, 5 min: 5770 psi, 10 min: 5696 psi, 15 min: 5650 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed

22:30 Stage #22 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 w/CCL. Test Lubricator to 9,500 PSI. Open Well SICP 5200 psi. RIH & get on depth w/ MJ @ 11,627'-11,649'. RIH & Pump Down @ 12 bpm W/ 5800 psi, 280 FPM, Spot CBP @ 12,793'. 5850 psi SIP, Set CBP @ 12,793' PU & Fire Gun #1 @ 12,767'-12,768' , 11 Shots. P/U and Fire Gun #2 @ 12,717'- 12,718', 10 Shots. P/U & Fire Gun #3 @ 12,667' -12,668' 10 Shots. P/U & Fire Gun #4 @ 12,617'-12,618', 9 Shots (All Scalloped Perf Guns, 6 SPF, 60 Degree Phasing, 19 Gram Charge,.38 EHD.)POOH, LD w/ Baker 10 setting tool & 3 1/8" - 4 Cluster spent Perf Assy & logging t/s. Verified all shots fired , Max Rate 12 bpm, Max Pressure 6012 PSI , Total bbl pumped 48 bbl. Drop 2.125" Obsidian Frac Ball

01:00 Stage 22 Frac: Open Well SICP 5,303 psi. Pump Stage #22. Initial ISIP 6,144 psi. FG 0.94 psi/ft. Pumped 4,032 gals 15% HCl, pumped 432,810 gals of Slickwater, w/ 100,780 lbs 100 mesh, 230,060 lbs 40/70 White, Max psi: 9304 , Avg psi: 8200 psi, Max rate: 80.9 bpm, Avg rate: 79.8 bpm, 0.95 Frac. Gradient. Approx load to rec: 10,305 bbls. ISIP: 6229 psi, 5 min: 5845 psi, 10 min: 5781 psi, 15 min: 5745 psi, 13-3/8" X 9-5/8" 0 psi, 7" X 9-5/8" 0 psi. Frac pumped as designed. SWI. Total load to recover: 237,338 bbls

04:30 HPJSM, RD Pro Petro frac fleet, Fesco Wireline, & CER test pump.

11/15/2016

Rig Name:

06:00 PJSM

06:15 RDMO frac

10:30 @ 12:00 PJSM , coil tubing , CCI chemical plant , standard safety , rockwater , KLX tools on location , start spotting equipment

14:30 function test bop , nu bop to wellhead , mu lubricator , ru plug catcher , and safety equipment

16:30 set sand x and two open top pits , rig up flowlines to sand x , spot and ru CCI chemical plant

18:00 HPJSM, continue RU Rockwater drillout iron & CCI chemical plant.

19:00 Pull test coil connector to 35K, load coil w/ 80 bbls of f/w, test weld on coil connector, 2 7/8 BPV, jars, 2 7/8 hydraulic disconnect & 2 7/8 circulating sub to 3,000 psi w/ a good test. MU agitator, 2 7/8 motor & 3 3/4 butterfly mill, test motor 2.5 bpm @ 2,000 psi. Test coil, BOP stack & Rockwater flowback iron to

7,500 psi w/ a good test.

22:00 @ 21:45- Open well- 5,000 psi, RIH w/ KLX BHA @ 50 fpm, .25 bpm in & out. BHA consists of: 2 3/8" weld on coil connector, 2 7/8" BPV, 2 7/8" terra force jars, 2 7/8" hydraulic disconnect (7/8" ball), 2 7/8" circulating sub (5/8" ball), 2 7/8" NOV agitator (150 gpm), 2 7/8" NOV motor, & 3 3/4" butterfly mill. Total length of BHA: 28.65'. @ 23:30- @ 11,400', perform weight check, 20K up, 5K down. Continue RIH down to plug #1. Circulating psi- 7,000, WH psi- 5,200, 2.5 bpm in & 3 bpm out.

00:00 Tag Plug #1 @ 12,793'. 2-3k WOB, Circulating pressure 6,400 psi, WH pressure 4,860 psi. 2.5 bpm in & 3 bpm out. Thru plug in 10 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

00:30 Tag Plug #2 @ 12,993'. 2-3k WOB, Circulating pressure 6,100 psi, WH pressure 4,800 psi. 2.5 bpm in & 3 bpm out. Thru plug in 18 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

01:15 Tag Plug #3 @ 13,193'. 2-3k WOB, Circulating pressure 6,150 psi, WH pressure 4,700 psi. 2.5 bpm in & 3 bpm out. Thru plug in 10 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

02:00 Tag Plug #4 @ 13,393'. 2-3k WOB, Circulating pressure 6,500 psi, WH pressure 4,700 psi. 2.5 bpm in & 3 bpm out. Thru plug in 20 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

02:45 Tag Plug #5 @ 13,590'. 2-3k WOB, Circulating pressure 6,270 psi, WH pressure 4,600 psi. 2.5 bpm in & 3 bpm out. Thru plug in 16 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

03:30 Tag Plug #6 @ 13,793'. 2-3k WOB, Circulating pressure 6,800 psi, WH pressure 4,500 psi. 3 bpm in & 3.5 bpm out. Thru plug in 21 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

04:15 Tag Plug #7 @ 13,993'. 2-3k WOB, Circulating pressure 6,650 psi, WH pressure 4,600 psi. 3 bpm in & 3.5 bpm out. Thru plug in 26 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

05:15 Tag Plug #8 @ 14,193'. 2-3k WOB, Circulating pressure 6,800 psi, WH pressure 4,600 psi. 3 bpm in & 3.5 bpm out. Thru plug in 27 minutes. Send 10 bbl polymer sweep. Continue RIH with coil.

11/16/2016

Rig Name:

06:00 PJSM

06:15 Tag Plug #9 @ 14,343'. 2-3k WOB, Circulating pressure 6,700 psi, WH pressure 4,480 psi. 3 bpm in & 3.5 bpm out. Thru plug in 59 minutes. Send 20 bbl dyed polymer sweep. Continue RIH with coil to plug #10 , Tag @ 14,609' , let sweep get out of coil , start short trip

08:00 short trip pulling 32' per minute , WH 4500 psi , CP 6400 psi , sent 10 bbl sweep for curve sweep , @ 9:45 eot @11,500' , blue dyed sweep from plug 9 to surface , checked plug catcher had sand and plug parts , checked screen at sand x , had fine plug parts , curve sweep to surface TIH

12:00 Tag Plug #10 @ 14,609'. 2-3k WOB, Circulating pressure 6,700 psi, WH pressure 4,580 psi. 3 bpm in & 3.5 bpm out. Thru plug in 48 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

13:30 Tag Plug #11 @ 14,814'. 2-3k WOB, Circulating pressure 6,637 psi, WH pressure 4,545 psi. 3 bpm in & 3.5 bpm out. Thru plug in 48 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

15:00 Tag Plug #12 @ 15,016'. 2-3k WOB, Circulating pressure 6,800 psi, WH pressure 4,450 psi. 3 bpm in & 3.5 bpm out. Thru plug in 44 minutes. Send 20 bbl blue dyed polymer sweep. Continue RIH with coil

16:30 Tag Plug #13 @ 15,210'. 2-3k WOB, Circulating pressure 6,730 psi, WH pressure 4,370 psi. 3 bpm in & 3.5 bpm out. Thru plug in 40 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

18:00 HPJSM, Tag Plug #14 @ 15,407'. 2-3k WOB, Circulating pressure 6,700 psi, WH pressure 4,400 psi. 3 bpm in & 3.5 bpm out. Thru plug in 81 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

20:00 Tag Plug #15 @ 15,607'. 2-3k WOB, Circulating pressure 6,750 psi, WH pressure 4,400 psi. 3 bpm in & 3.5 bpm out. Thru plug in 100 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

22:00 Tag Plug #16 @ 15,807'. 2-3k WOB, Circulating pressure 6,800 psi, WH pressure 4,400 psi. 3 bpm in & 3.5 bpm out. Drilled on plug for 91 minutes, @ 00:30 decision was made to POOH to inspect and change out BHA. Send 10 bbl polymer sweep, wait for sweep to clear reel plus 5 minutes, POOH @ 30 fpm w/ no issues. Out of hole w/ coil & BHA @ 04:30. Break & lay down old BHA, MU new 3.73" butterfly mill and 2 7/8 NOV motor. Test motor 2.5 bpm @ 2,000 psi. @ 05:30- Test coil, BOP stack, & flowback iron to 7,500 psi w/ a good test. Open well- 4,500 psi, start RIH w/ new BHA @ 50 fpm, .25 bpm in & out.

11/17/2016

Rig Name:

06:00 PJSM

06:15 TIH , Perform weight check @ 11,300' , 36K up, 17K down 11,350'. Continue RIH down to plug #16. Circulating psi- 6500 , WH psi- 4400 , 3 bpm in & 3.5 bpm out.

08:30 Tag Plug #16 @ 15,814'. 2-3k WOB, Circulating pressure 6,700 psi, WH pressure 4,400 psi. 3 bpm in & 3.5 bpm out. Thru plug in 2 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

09:30 Tag Plug #17 @ 16,014'. 2-3k WOB, Circulating pressure 6,730 psi, WH pressure 4,480 psi. 3 bpm in & 3.5 bpm out. Thru plug in 13 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

10:30 Tag Plug #18 @ 16,214'. 2-3k WOB, Circulating pressure 6,738 psi, WH pressure 4,460 psi. 3 bpm in & 3.5 bpm out. Thru plug in 12 minutes. Send 20 bbl polymer sweep. Continue RIH with coil

11:30 Tag Plug #19 @ 16,414'. 2-3k WOB, Circulating pressure 6760 psi, WH pressure 4320 psi. 3 bpm in & 3.5 bpm out. Thru plug in 14 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

12:30 Tag Plug #20 @ 16,621'. 2-3k WOB, Circulating pressure 6811 psi, WH pressure 4340 psi. 3 bpm in & 3.5 bpm out. Thru plug in 5 minutes. Send 10 bbl polymer sweep. Continue RIH with coil

14:00 Tag Plug #21 @ 16,814'. 2-3k WOB, Circulating pressure 6700 psi, WH pressure 4350 psi. 3 bpm in & 3.5 bpm out. Thru plug in 24 minutes. Send 20 bbl blue dyed polymer sweep. Continue RIH with coil to tag PBTD , Tagged PBTD @ 16941' , let sweep out eot , start TOO

15:30 TOO with coil and BHA , CP: 6900 psi , WH: 4350 psi , 32' per min w/ no issues. @ 20:15- Out of hole w/ CT & BHA. SWI: SICP- 4,400 psi. Break and LD KLX BHA.

21:00 Blow reel dry w/ N2. RD Legend CTU, Standard Safety, & CCI chemical plant. Off location @ 23:30.

23:30 Well is shut in and secure, will RU for flowback operations @ 08:00am.

11/18/2016

Rig Name:

06:00 PJSM

06:15 RU test pump to frac stack , test lower master valve to 10,000 psi , charted for 15 minutes , tested good , ND frac to lower master valve , NU production tree and test , tested good

14:15 Set 4 frac tanks (2 flowback tanks , 2 oil tanks) , set 2 sand traps , set 3 phase separator , lay flowlines , test lines (fixed 2 leaks) , tested good

18:00 HPJSM, Open well on 10 choke and begin flowing well. SICP- 4,380

11/19/2016

Rig Name:

06:00 PJSM , continue to flowback well

18:00 PJSM , continue to flowback well

11/20/2016

Rig Name:

06:00 PJSM , continue to flowback well

18:00 PJSM , continue to flowback well

11/21/2016

Rig Name:

06:00 HPJSM, continue to flowback well.

18:00 HPJSM, continue to flowback well.

11/22/2016

Rig Name:

06:00 HPJSM, continue to flowback well.

18:00 HPJSM, continue to flowback well.

11/23/2016

Rig Name:

06:00 HPJSM, continue to flowback well.

18:00 HPJSM, continue to flowback well.

11/24/2016

Rig Name:

06:00 HPJSM, continue to flowback well. @ 17:00- turn well over to production.

Rental equipment released.