

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Received 8/07/2018

NMOCD Dist 2

Form C-103

Revised July 18, 2013

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-44416
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other: Devonian Injection		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator NGL Water Solutions Permian LLC		6. State Oil & Gas Lease No.
3. Address of Operator 1509 W Wall St, Ste 306, Midland, TX 79701		7. Lease Name or Unit Agreement Name Striker 2 SWD
4. Well Location Unit Letter <u>D</u> : <u>1025</u> feet from the <u>North</u> line and <u>440</u> feet from the <u>West</u> line Section <u>23</u> Township <u>24S</u> Range <u>31E</u> NMPM County <u>Eddy</u>		8. Well Number #1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3564.62 GR		9. OGRID Number 372338
		10. Pool name or Wildcat

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input checked="" type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/> Side Track Original Wellbore		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Start as soon as possible after 08/07/2018

Set a cement plug if required by the NMOCD in the 9 5/8" casing

Set a bridge plug in the casing at or above 11240'. Set a whipstock in the 9 5/8" casing and mill a window in the casing at or above 11238'.

Drill out of window with 8.5" PDC and directional tools and establish new wellbore 100' away from existing wellbore.

Drill to TD of 16750' and run 7 5/8" 39# VAM SLIJII Q 125 liner from 10739' or above to 16700' +/-.

Cement liner in place and set liner top with Halliburton Versatech Liner Hanger with 5 elastomeric seals. Cement from 16700 +/- to liner top at 10739' or above.

Pressure test liner and drill out with 6 1/2" bit from shoe of 7 5/8" liner to TD of section at 17850' +/-.

Log well with triple combo and other logs as specified by project geologist.

Change well over to fresh water, run injection packer and set within 100' of shoe of 7 5/8" liner.

Run in hole with injection tubing, circulate in packer fluid, stab into packer and land string in wellbore

Spud Date:

4.29.18

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Sarah Jordan TITLE Manager of Regulatory Compliance DATE 8-7-18

Type or print name Sarah Jordan E-mail address: sarah.jordan@nglep.com PHONE: 432/685-0005

For State Use Only

APPROVED BY: Mike Sanchez TITLE AO/I DATE 8/07/2018

Conditions of Approval (if any):

*SEE ATTACHED CONDITIONS OF APPROVAL

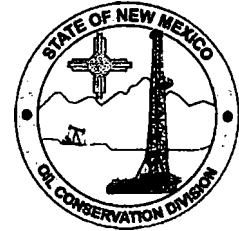
State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division



Underground Injection Control Program

August 7, 2018

RE: NGL Water Solutions Permian, LLC
Operator Proposed Changes to the Well Design for the Striker 2 SWD 001
API 30-015-44416; UL D, Sec 23, T24S, R31E, NMPM, Eddy County, New Mexico

Conditions of approval for proposal to sidetrack above referenced well:

1. The approved tubing in the SWD order (SWD-1721) for the 7 5/8-inch FJ casing is 4 1/2-inch diameter. This shall not be changed.
2. NGL Solutions (the operator) shall review the AOR and 1/2-mile notification information provided in the C-108 application, and provide a letter identifying any changes in this information based on the new bottom hole location of this well (the lateral relocation by an estimated 100 feet).
3. Prior to commencing injection operation, the operator shall provide copies of a CBL to the District and to the Engineering Bureau (Santa Fe) for the side track, at a minimum, starting at the tie-in with the 9 5/8-inch casing and continuing to the shoe of the 7 5/8-inch FJ casing. After receipt of the CBL by the Division, the operator shall be required to obtain the approval of the District prior to commencing injection.
4. The frequency of the internal mechanical integrity testing (MIT) shall be changed from every five (5) year interval, to annually, until further notice.
5. The Bureau shall retain these conditions to be included in the amended order once the operator submits the final formation top depths for correction of the interval described in order SWD-1721.

Be advised that the Division has concerns with the sidetrack occurring in the lower Bone Spring and a successful cementing of the casing is vital for approved use of this well. Of particular concern is, previously permitted production wells in the 3rd Bone Spring formation in close proximity to this well bore.

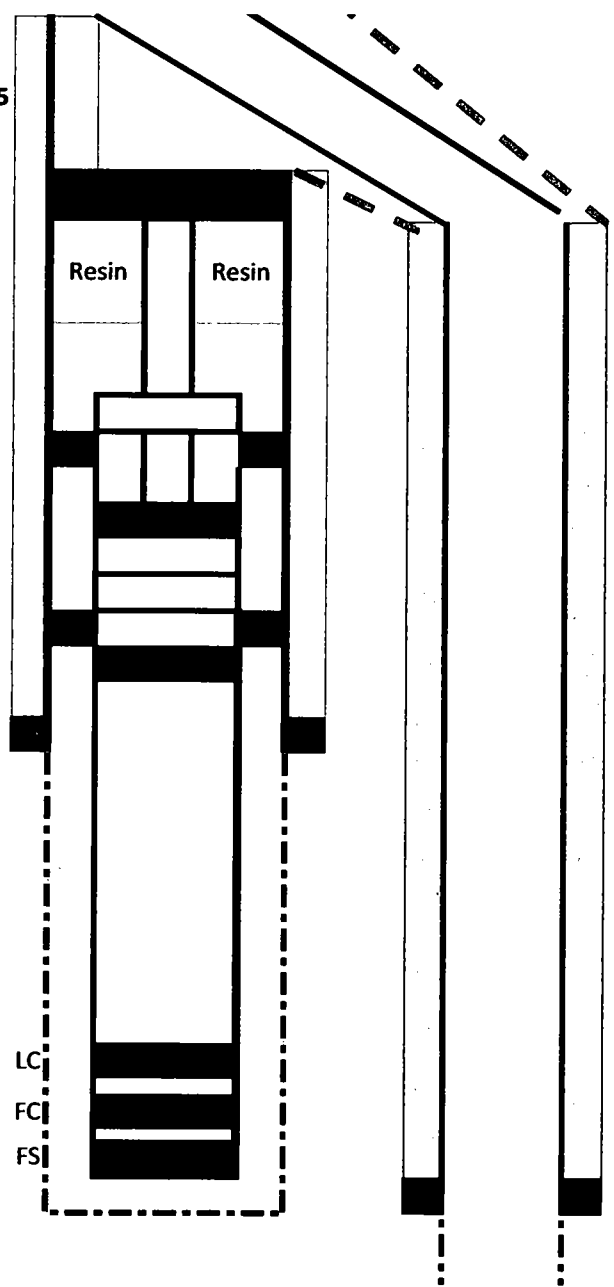
If there are any questions or concerns, please contact me or the Santa Fe Engineering Bureau.

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 X108

OCD approval does not relieve the operator of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other local, state, federal, rules, regulations or laws.

Proposed

Window - 11238 - 11225		
WF Whipstock	11239	
Bridge Plug	11240	
9-5/8" Collar - 11243'	11258	
DP - 4" 14ppf S135, XT39 Conn	11426	
7-5/8" 39ppf, Q125 FJ, 2nd Liner Top	11599	
2nd Liner		
Cement Retainer	11775	
7-5/8" 39ppf Q125, FJ Liner PBR	11,805	
Liner Packer Leaking	11822	
Bridge Plug	11839	
Wolfcamp	11733'	MD
9-5/8" 53.5#, P110, BTC Shoe	12113	
Penn	13386'	
Strawn	13744'	
Atoka	13815'	
Morrow	14481'	
Morrow Lime	14610'	
Morrow Clastic	14808'	
Morrow D	15,397'	
Mississippian SH	15,487'	
Barnett	15,947'	
Mississippian Lime	16,231'	
Woodford	16,530'	
Devonian	16,691'	
7-5/8", Q125, 39ppf,	16687'	
Vam SLJ11 Conn	d Int TD 16750'	
8.5" Hole		



NGL Water Solutions Permian LLC
Wolfcamp 11733

Striker 2 SWD #1

11805 Liner Hanger with elastomeric seal.

After liner cement job liner packer failed.

Liner top leaking

12113 9 5/8" 53.5# P-110 BTC

Cmt'd in 3 stgs cmt'd to surface

Wolfcamp B 12300

Wolfcamp C 12910

Wolfcamp D 13300

Pennsylvanian 13386

Strawn 13744

Atoka 13813

Morrow 14481

Morrow Lime 14610

Morrow Clastic 14808

Morrow D 15397

Mississippian SH 15487

Barnett 15947

Mississippian Lime 16231

Woodford 16530

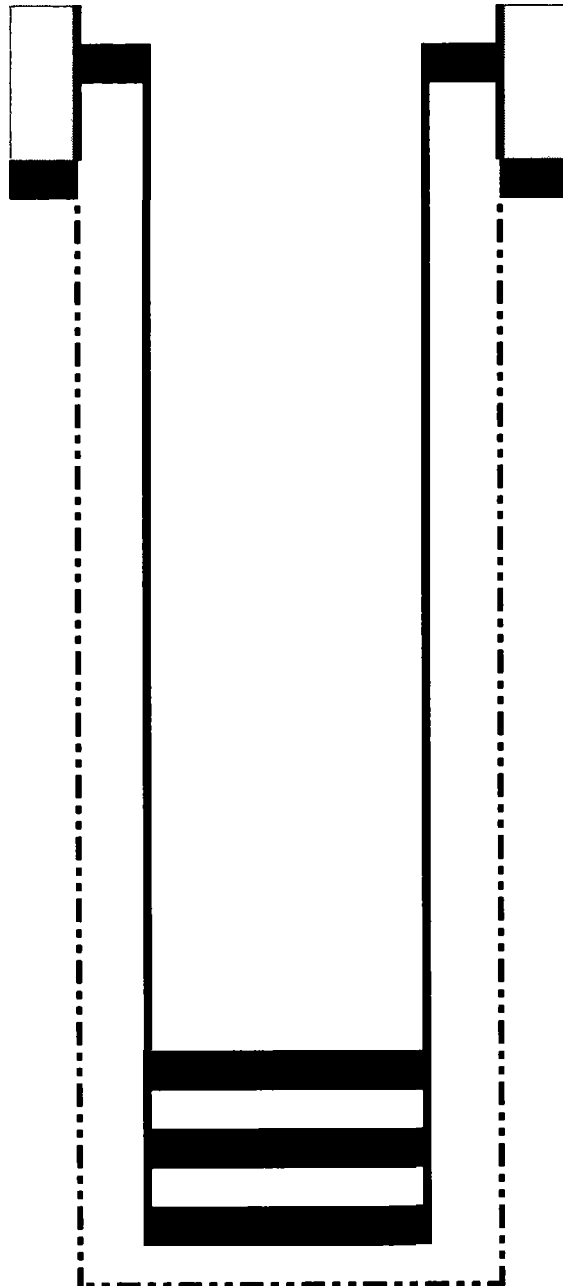
16604 Latch down plug bumped to 6K

16647 Float Collar

16687 7 5/8" 39 # Q125 Vam SLIJ 11 Connection

Devonian 16691

T.D. 8.5" OH 16750



7/15

NGL Water Solutions Permian LLC

Striker 2 SWD #1

Wolfcamp 11733

Wolfcamp B 12300

Wolfcamp C 12910

Wolfcamp D 13300

Pennsylvanian 13386

Strawn 13744

Atoka 13813

Morrow 14481

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Mississippian SH 15487

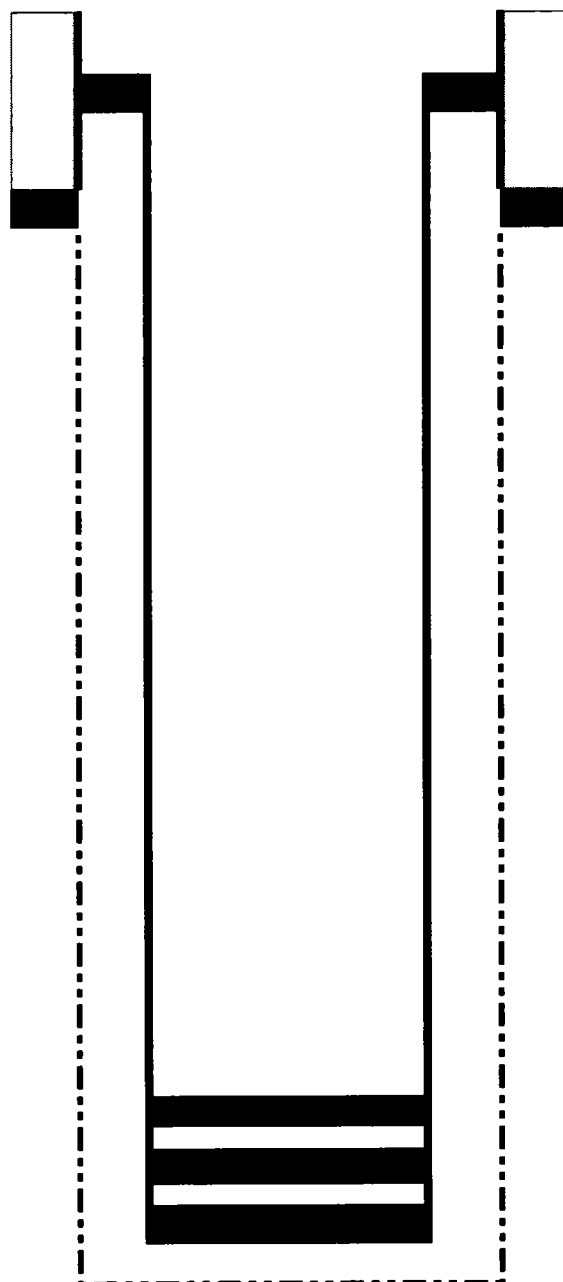
Barnett 15947

Mississippian Lime 16231

Woodford 16530

Devonian 16691

T.D. 8.5" OH 16750



11805 Liner Hanger with elastomeric seal.
After liner cement job liner packer failed.
Liner top leaking
12113 9 5/8" 53.5# P-110 BTC
Cmt'd in 3 stgs cmt'd to surface

16604 Latch down plug bumped to 6K

16647 Float Collar

16687 7 5/8" 39 # Q125 Vam SLIJ 11 Connection

Attempted squeeze jobs on liner top. Two jobs under retainers. Total bbls placed 600 with 83 circulated out. Total net bbls placed 537 bbls. Ran bond log after drilling out float equipment. There is cement bonding in the liner below the 9 5/8" casing shoe. Result: Liner top still not sealed

7/6/2018

Pump 20 bbls brine, pump 12 bbls acid, pump 48 bbls acid, pump 12 bbls acid, pump 20 bbls brine, pumped 200 bbls 710 sacks of 15.8 ppg cement, pump 20 bbls fresh H2O, pumped 143 bbls 14.2 ppg mud, sting out of retainer, well flowing, pump 800 bbls mud, observed 63 bbls cement to surface, shut in well with 1,400 psi.

7/12/2018

Circulated btms up. Displaced string with 180bbls brine and retainer setting depth (11,703'). Set retainer at 11808 and rigged up Halliburton pumping lines. Safety mtg with Halliburton crew, Latshaw crew, IPT personnel, Wford tool hand, ADA crew. Commenced job by psi test to 7,000 psi followed by injection rate as follow: .5 bpm broke @ 3,097 psi pumped 1 bbl, 1 bpm broke @ 3,020 pumped 1 bbl, 1.5 bpm broke @ 3,046 pumped 1.8 bbls, 2 bpm broke @ 3,152 pumped 2.1 bbls, 2.5 bpm broke @ 3,207 pumped 2.9 bbls, 3 bpm broke @ 3,352 pumped 2.9 bbls, 3.5 bpm broke @ 3,462 pumped 3 bbls, 4 bpm broke @ 3,526 pumped 2.8 bbls, 4.5 bpm broke @ 3,606 pumped 6.1 bbls 5 bpm broke @ 3,725 pumped 3.9 bbls, 5.5 bpm broke @ 4,039 pumped 6.3. Total bbls pumped away 35.5 bbls. NOTE: First 10 bbls with out back psi to check communication, looked good, applied 2,000 psi on the back side. Commenced cement job by pumping 1,550 sks of 15.6# 1.587 yield 6.67 gal/sk 438 bbls slurry cement @ 4.6 bpm with pressure started @ 4,000 psi and decreasing to 2,900 through-out the job, followed by 170 bbls of 15.3# WBM pumping 20 bbls @ 1.7 bpm up to 3 bpm with 2,200 psi decreasing to 1,600 psi. Shut down pumps and pressure decreased to 392 psi. No indication of any pressure increase during job.

7/15/2018

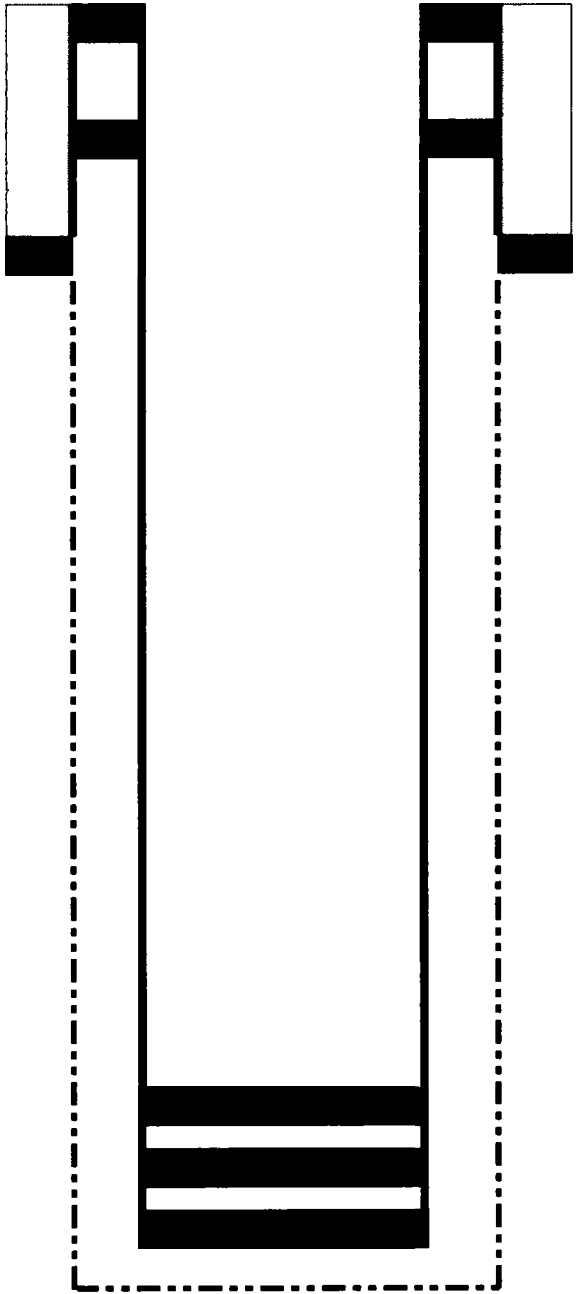
Commenced reaming back to 11,808 with 2-10k WOB. At 11,808' continued to drill on cement retainer with 2-25k WOB without achieving any torque. Stopped drilling and began reciprocating and rotating on top of retainer. After several attempts of working the string the torque began to fluctuate between 7 - 14k ft/lbs. Continued working string applying 10-30k WOB until steady torque and ROP was achieved. Continued drilling until 11,810' broke thru and washed to 11,838. Tripped in hole from 11,838' to 14,076'. No indications of any obstructions being pushed down hole. Tripped in hole from 14,076' and tagged up at 16,404'. Broke circulation and washed down from 16,404' to landing collar at 16,592'. 50' fill with no issue to wash away.

7/25

NGL Water Solutions Permian LLC

Striker 2 SWD #1

Wolfcamp	11733
Wolfcamp B	12300
Wolfcamp C	12910
Wolfcamp D	13300
Pennsylvanian	13386
Strawn	13744
Atoka	13813
Morrow	14481
Morrow Lime	14610
Morrow Clastic	14808
Morrow D	15397
Mississippian SH	15487
Barnett	15947
Mississippian Lime	16231
Woodford	16530
Devonian	16691
T.D. 8.5" OH	16750



- 11599 Liner Hanger with Halliburton liner top
Scab liner ran after two squeezes totaling
600 bbls of cement did not hold.
- 11805 Liner Hanger with elastomeric seal.
After liner cement job liner packer failed.
Liner top leaking
- 12113 9 5/8" 53.5# P-110 BTC
Cmt'd in 3 stgs cmt'd to surface
- 16604 Latch down plug bumped to 6K
- 16647 Float Collar
- 16687 7 5/8" 39 # Q125 Vam SLIJ
11 Connection

7/25

Running scab liner with Halliburton expandable casing liner top.

Result: Liner top sealed but still have persistent gas leak where scab liner is stabbed into the PBR of the lower liner.

7/21/2018 Scab liner cement job

Commenced cement job by psi testing lines to 8,000 psi (Replaced 2 valves) follow by 5 bbls of FW followed by
73 sks of 15.4# 1.52 Yield 7.76 gal/sx 10 bbls slurry of Tuned Spacer followed by 50 sks of 15.6# 1.58 Yield 6.65
gal/sk 16 bbls slurry of Primary Cement pumping @ 3 bpm. Dropped dart and displaced with 5 bbls of 15.3# mud
followed by 10 bbls of Tuned Spacer III followed by 207 bbls of 15.3# mud pumped @ 6 bpm with 1,400 psi
Dart went through hanger @ 207 bbls pressure dropped to 620 psi followed by 8 bbls of 15.3# mud with 620 psi
bumped plug @ 04:47 hrs to 900 psi. Total displaced 215 bbls.

Set hanger and got slight amount of cement back.

7/25/2018

Displaced wellbore with FW pumping 4,700 strokes pumping 230 gpm with 2,200 psi, with psi decreasing as 15.3# mud exit
the wellbore FCP @ 1,600 psi pumping 300 gpm. Flow check for 15 min No FLOW well static.
RIH F/ 8,400' T/ 11,762' Tagged. TOL @ 11,603' seen a small bubble as went through Polish Bore tieback Receptacle
Commenced to washed down F/ 11,762' T/ 11,810'. Tagged some really hard to drill @ 11,764' - 11,766' WOB up
to 15K with 220 diff pumping 268 gpm and 20 - 35 RPM, it felt like FC possibly, able to some what wash down to
11,810 with not much trouble, Had a new driller on rig took a little longer to make a hook, notice some flow
Trouble shoot with derrick man, went to shakesr everything shut off - pumps off well Flowing. Shut well in with ADA and
rotating head was leaking, Close upper pipe rams with 5" DP Close super choke opened HCR with 1,100 casing pressure.

8/5

NGL Water Solutions Permian LLC
Striker 2 SWD #1

Wolfcamp

11733

Wolfcamp B

12300

Wolfcamp C

12910

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Pennsylvanian

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Atoka

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Morrow D

15397

Mississippian SH

15487

Barnett

15947

Mississippian Lime

16231

Woodford

16530

Devonian

16691

T.D. 8.5" OH

16750

11260 Top of fish in resin as if 8/5/2018

11426

11599 Liner Hanger with Halliburton liner top

Scab liner ran after two squeezes

11755 Bottom of 4" 14# S135 XT-39 Drillpipe

11775 Cement retainer

11805 Liner Hanger with elastomeric seal.

After liner cement job liner packer failed.

11839 Bridge plug

12113 9 5/8" 53.5# P-110 BTC

Cmt'd in 3 stgs cmt'd to surface

16604 Latch down plug bumped to 6K

16647 Float Collar

16687 7 5/8" 39 # Q125 Vam SLIJ 11 Connection

Attempted to squeeze PBR junction between the scab liner and lower liner.

Result: Due to an error in displacement calculation the resin was incorrectly placed and flash set before we could circulate it out.

Drillpipe is stuck in hole with top at 11260'. Have tried to wash over with limited success (made 12') and attempted to mill out pipe and resin with no better results made 3' using 2 mills.

7/30/2018

Pump "Well-Loc" and flushes down DP, sting into CCR with 20K set down @ 11,727', begin pumping and at 1,200 psi observed returns, with pressure dropping to 250 psi. Set down to 25K on retainer and try pumping with returns observed. Shut down, continue to set down with decrease in weight on CCR. Pick up 5" single DP and continue to RIH, pick up 15' pup joint and RIH to 11,771', observed 20K set down on CCR
Begin pumping with Halliburton, observed annular and DP pressure continuing to raise to 4,900 psi, with no injection rate. Decision to shut VBR's and try to inject @ 5,800 PSI with no results. Sting out and try to circulate out "Well-Loc, unable to get returns 4,500 @ .5 bbl/per minute, pick up and observed overpull from 220K string weight to 320K overpulls, work pipe with no movement, unable to circulate
Continue to work pipe, calling into Latshaw to approve to pull up to 550K with toolpusher running rig, pull up to 550K, not movement, lay out 15' pup joint, pick up single 5" DP to work pipe, work pipe from 220K to 350K with no results while awaiting Dialog wireline "freepoint tools"

8/3/2018

Washed and reamed down over fish at 11,243.81' and continued to 11,254.56'. Observed torque spikes of 12-16k ft-lbs with pipe stalling.
Attempted to wash over fish with no luck, made it to 11,255.75' commenced to apply weight 2K up to 8K with 80 RPM
and 200 gpm with 695 psi, sat there for 30 min with no progress, adjusted parameters up to 10 WOB with no luck, PU
and we got hung up @ 11,251' PU to 340K pumping 400 gpm with 2,100 psi work pipe free, continue to work pipe
with 255 - 400 gpm and 1,125 - 2,200 psi as we circulate sweep surface to surface with 7,200 strokes. Condition mud MW 15.2 in/out

8/5/2018

PU last stand and washed down to bottom, tagged @ 11,257.47' pumped high vis sweep and circulate above fish pumping
427 gpm with 2,064 psi, when sweep left bit we commenced to mill ahead with 2 points and 300 gpm with 1,247 psi
precautionary increasing weight up to 30K with very little to none diff psi, adjusted parameters to achieve better penetration
with no progress being made, continue to adjust parameters. No luck no progress being made in 2 hrs. - no diff with 30K WOB.
Trouble shoot and discuss with Tool hand on site and it was decided to POOH. Made it to 11,259.6