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

Form C-103
Revised July 18, 2013

WELL API NO. 30-025-38600 ✓	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
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.)	7. Lease Name or Unit Agreement Name Pick SWD
1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD	8. Well Number 2 ✓
2. Name of Operator COG Operating LLC ✓	9. OGRID Number 229137
3. Address of Operator 2208 W. Main Street, Artesia, NM 88210	10. Pool name or Wildcat SWD; Delaware
4. Well Location Unit Letter J : 2310 feet from the South line and 2310 feet from the East line Section 23 Township 18S Range 33E NMPM Lea County	
	11. Elevation (*Show whether DR, RKB, RT, GR, etc.*) 3871'

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☒	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
OTHER: ☐		OTHER: ☐	

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.

Please see attachment for procedure to plug and abandon this well.

REVIEWED P/A OPTIONS WITH COG/
BRIAN COLLINS 6/3/2014

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

SIGNATURE Stormi Davis TITLE: Regulatory Analyst DATE: 6/4/14

Type or print name: Stormi Davis E-mail address: sdavis@concho.com PHONE: (575) 748-6946

For State Use Only

APPROVED BY: Maley B Brown TITLE Dist. Supervisor DATE 6/5/2014

Conditions of Approval (if any):

JUN 06 2014

Revised 3 June 14

Pick State 2 SWD
2310' fsl, 2310' fel
J-23-18s-33e
Lea Co., NM
30-025-38600

Plug and Abandonment Procedure
7 Apr 14

Basic Data:

8-5/8" @ 1566', Circ. Cmt.
5-1/2" @ 6503', DV @ 4070', Circ. Cmt. Both Stgs, Bradenhead 37 sx.
2-7/8"/6.5/J55/EUE Duoline 20, PLT Inj Pkr @ 5711'

Injection zone Delaware Sand 5757-6414'
Sqzd Delaware Sand perfs 5304-5348'
Water flow reported at 2461' in salt section when well was drilled.

5-1/2"/15.5ppf/J55/LTC Burst=4810 psi, 3848 psi at 80% Nom. ID=4.950" Drift ID=4.825" (.0238 B/F)
2-7/8"/6.5/J55/EUE Duoline 20, Flare ID=2.195", Liner ID=2.251", 7.0 ppf nominal tubing wt.

Class C Cement: 14.8 ppg, 1.32 cfps, 6.3 gwps

Objective: Plug and abandon well. Well has pressure on the tubing x casing annulus and will flow water. Encountered significant water flow at about 2461' when well was drilled. See wellbore schematic.

Formation Tops:

Top of Salt: 1700'
Base of Salt: 2908'
Yates: 3074'
Queen: 4277'
Penrose: 4718'
Delaware Sand: 5297'

Procedure:

1. Set approx. 3 frac tanks and hook them up to the tubing x casing annulus. Open tubing x casing annulus to the tanks and see if flow out annulus gradually loses pressure and rate. Would be desirable to get wide-open flow-back rate to less than 1-2 BPM for well operations.

2. Notify NMOCD Hobbs (Maxey Brown, 575.393.6161) at least 24 hrs before starting plugging operations.

3. MIRU WSU, open-top steel pit and NU hydraulic double ram BOP (2-7/8" pipe, blind rams), unseat packer and TOOH laying down the injection string and packer. Use transfer pump and pump the water flow to the frac tanks while working on well. Might need to use stripper head. Take delivery of 2-7/8" work string.

4. RIH with 4.75" bit and scraper to 5700'. Let's discuss if the scraper hangs up anywhere.

5. RIH with packer and RBP and verify the location of the suspected casing leak(s). Leak might be close to 2500'. Pump into leak to establish injection rate and pressure.

Note: If the leak is in the salt section near 2500' it's likely that a decision will be made to continue with plugging operations. If the leak is elsewhere, a decision might be made to repair it and return the well to injection—let's discuss. A cementing outline will be issued if needed.

Note: Depending on the strength of the water flow, the well may be plugged two different ways—let's discuss. Both plugging scenarios are show below.

Scenario 1: Strong Water Flow Out of Annulus

6. Assuming decision is made to continue plugging operations, RIH with cement retainer on tubing to approx. 3900', set retainer, RU squeeze manifold, sting out, pump 25 bbls fresh water down tubing to clear tubing, sting into retainer, close pipe rams, establish injection and pump 250 sx. Class C neat to place cement from the retainer at 3900' down to the top Delaware injection perf at 5757'.

LEAVE MINIMUM 35' CMT ON RETAINER.

If running squeeze is obtained, sting out of retainer and reverse circulate cement out of tubing. If problems occur in reverse circulating, POOH as fast as possible with tubing.

If seeing the injection pressure increasing, flush cement to the retainer, verify that there is a positive shut-in pressure and no evidence of cement movement below retainer (trying to go on vacuum), sting out of retainer, reverse circulate any cement out of tubing, and lay down stinger.

If no significant pressure buildup occurs while cementing, flush cement 1-2 bbls below retainer, sting out, reverse circulate to ensure there's no cement inside tubing, WOC for 3-4 hrs, sting back into retainer and pressurize tubing to 1000-1500 psi. If the pressure doesn't bleed off, sting out of retainer, spot 25 sx Class C neat on top of retainer and TOOH to lay down stinger. If the pressure leaks off, resqueeze with 100 sx Class C neat.

Note: 250 sx cement is 38% more than is required to fill the 5-1/2" casing from the retainer at 3900' to the top Delaware injection perf at 5757'. This plug will cover the DV tool at 4070', Queen at 4277', Penrose at 4718', Delaware Sand at 5297', squeezed Delaware Sand perfs 5304-5348' and place cement well into the Delaware Sand disposal interval 5757-6414'.

7. With end of tubing just above the cement retainer at 3900', spot 40 bbls mud laden fluid on bottom (9 ppg brine with 25 sx salt gel per 100 bbls of brine). This will place mud from the retainer at 3900' up to 2400'.

8. POOH laying down tubing as necessary. With end of tubing at 3008', spot 25 sx Class C neat to cover base of salt at 2908'. Pull 10 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 2900', re-spot plug. POOH with tubing laying down as necessary for next step.

9. Assuming there's a casing leak at approx. 2500', RIH with CIBP on tubing to 2400', set CIBP and see if water flow has stopped. Assuming water flow has stopped, spot 25 sx Class C with 2% CaCl2 on top of CIBP. (CIBP must be set within 100' of the top of the leak)

10. POOH laying down tubing as necessary. With end of tubing at 1800', spot 40 bbls mud laden fluid on bottom. Spot 40 sx Class C with 2% CaCl2 to cover top of salt at 1700' and 8-5/8" casing shoe at 1566'. Pull 15 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 1500', re-spot plug.

11. POOH with tubing laying down as necessary for next step. With end of tubing at 200', spot 25 sx Class C neat from 200' to surface.

12. Cut off well head and weld plate onto 8-5/8" stub. Weld a rectangular plate onto casing stub plate such that the two plates are approx. 3' below ground level. The following information needs to be placed on the rectangular plate:

    COG Operating LLC, Pick State 2 SWD, 2310' fsl, 2310' fel, Unit J, Sec. 23, T18S, R33E, date well plugged

13. Cut off anchors, and reclaim location per NMOCD specs.

Scenario 2: Small Water Flow Out of Annulus

14. Assuming decision is made to continue plugging operations, RIH with open ended tubing to 5807' and spot 25 sx. Class C neat to place cement from 5807-5707' (50' above and below top injection perf at 5757'). Pull 10 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 5707', re-spot plug.

15. With end of tubing just above the cement plug at 5707-5807', spot 75 bbls mud laden fluid on bottom (9 ppg brine with 25 sx salt gel per 100 bbls of brine). This will place mud from the plug at 5707' up to 2400'.

16. POOH laying down tubing as necessary. With end of tubing at 5350', spot 25 sx Class C neat to cover top squeezed Delaware perf at 5304'. Pull 10 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 5250', re-spot plug. POOH with tubing laying down as necessary for next step.

17. POOH laying down tubing as necessary. With end of tubing at 4330', spot 40 sx Class C neat to cover top of Queen at 4277' and DV tool at 4070'. Pull 15 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 4020', re-spot plug. POOH with tubing laying down as necessary for next step.

18. POOH laying down tubing as necessary. With end of tubing at 3008', spot 25 sx Class C neat to cover base of salt at 2908'. Pull 10 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 2900', re-spot plug. POOH with tubing laying down as necessary for next step.

19. Assuming there's a casing leak at approx. 2500', RIH with CIBP on tubing to 2400', set CIBP and see if water flow has stopped. Assuming water flow has stopped, spot 25 sx Class C with 2% CaCl2 on top of CIBP. (CIBP must be set within 100' of the top of the leak)

20. POOH laying down tubing as necessary. With end of tubing at 1800', spot 40 bbls mud laden fluid on bottom. Spot 40 sx Class C with 2% CaCl2 to cover top of salt at 1700' and 8-5/8" casing

shoe at 1566'. Pull 15 stands, WOC for 3-4 hrs (check to see if surface sample is getting hard) and tag plug. If plug tagged deeper than 1500', re-spot plug.

21. POOH with tubing laying down as necessary for next step. With end of tubing at 200', spot 25 sx Class C neat from 200' to surface.

22. Cut off well head and weld plate onto 8-5/8" stub. Weld a rectangular plate onto casing stub plate such that the two plates are approx. 3' below ground level. The following information needs to be placed on the rectangular plate:

    COG Operating LLC, Pick State 2 SWD, 2310' fsl, 2310' fel, Unit J, Sec. 23, T18S, R33E, date well plugged

23. Cut off anchors, and reclaim location per NMOCD specs.

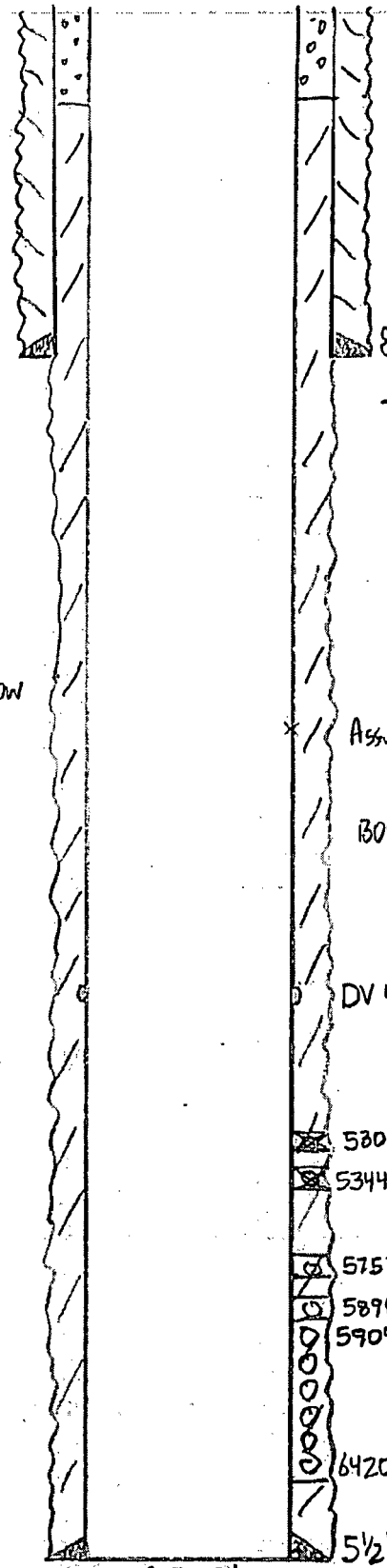
Kbc/pick st 2 swd p&a proc 3 jun 14

30-025-38609

Rick State # 2 SWD
2310' FSL, 2310' FEL
J-23-18S-33E
Lea, NM

Zero: 12' AGL
KB: 3883'
GL: 3871'

SWD-1155
5757-6420'
1151 psi max



BEFORE

Comments:
Wtr Flow 2461' when drld
TOS 1700'
BOS 2908'
Yates 3074'
Qn 4277'
Penrose 4718'
Del Sd 5297'

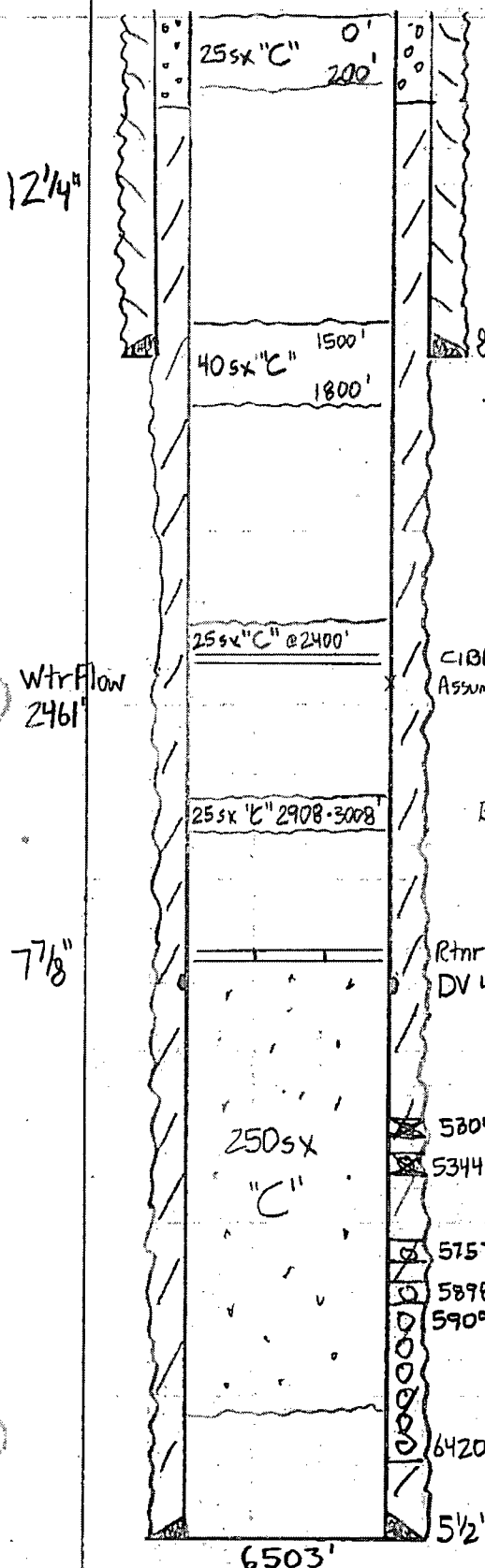
1st: 360sx Super H (circ)
2nd: 600sx HLC + 175sx Super H (circ)
+ 37sx "C" down annulus

30-025-38600

Pick State #2 SWD
2310' FSL, 2310' FEL
J-23-18S-33E
Lea, NM

Zero: 12' AGL
KB: 3883'
GL: 3871'

SWD-1155
5757-6420'
1151 psi max



Scenario 1: Strong Water Flow

AFTER

Comments:
Wtr Flow 2461' when drld
TOS 1700'
BOS 2908'
Yates 3074'
Qn 4277'
Penrose 4718'
Del. Sd 5297'

1st: 360sx Super H (circ)
2nd: 600sx HLC + 175sx Super H (circ)
+ 37sx "C" down annulus

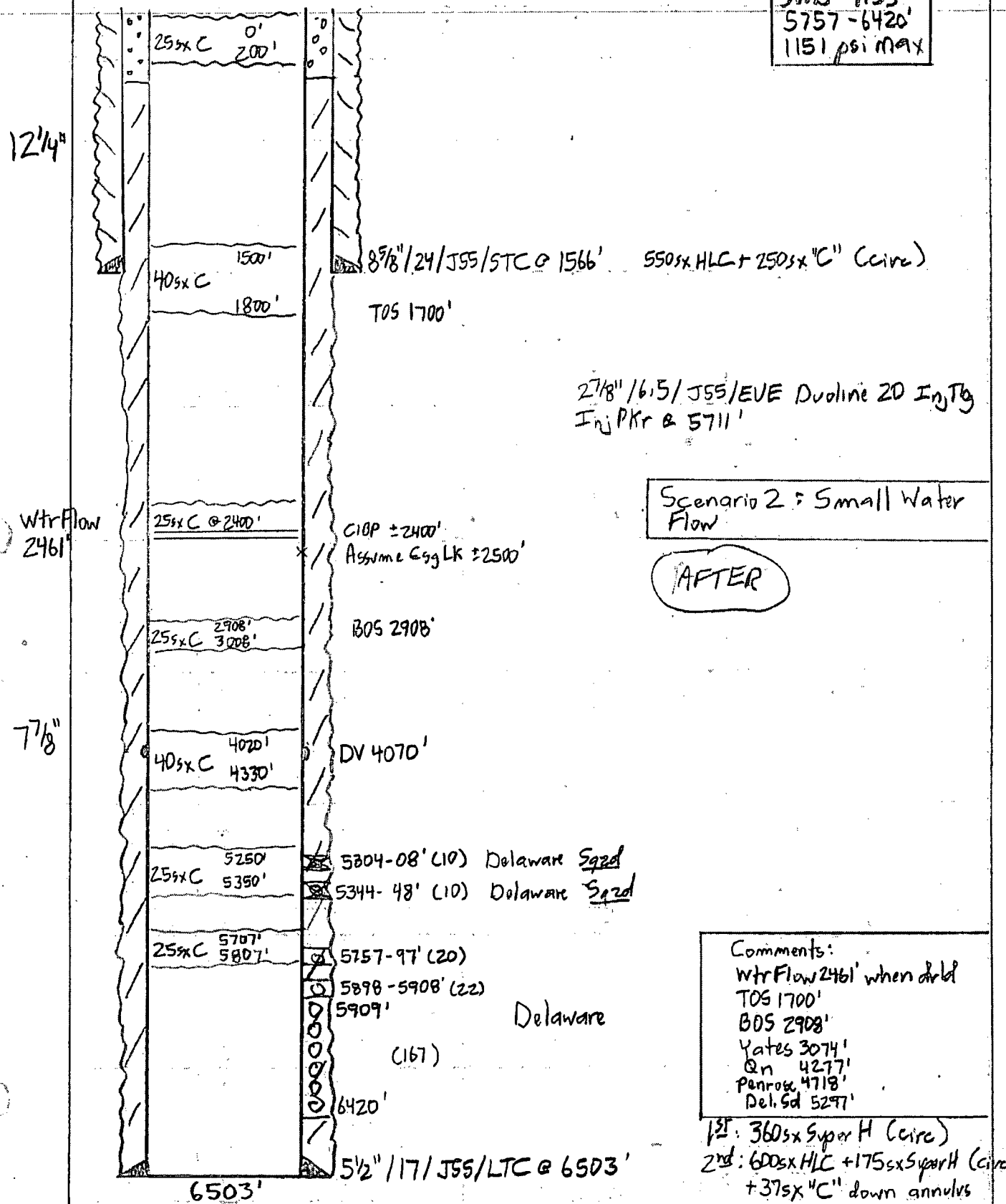
TOPS 35500

30-025-38600

Rick State # 2 SWD
2310' FSL, 2310' FEL
J-23-18S-33E
Lea, NM

Zero: 12' AGL
KB: 3883'
GL: 3871'

SWD-1155
5757-6420'
1151 psi max



Scenario 2: Small Water Flow

AFTER

Comments:
Wtr Flow 2461' when drld
TOS 1700'
BOS 2908'
Yates 3074'
Qn 4277'
Penrose 4718'
Del. Sd 5297'

1st: 360sx Super H (circ)
2nd: 600sx HLC + 175sx Super H (circ)
+ 37sx "C" down annulus

TOPS
35500