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State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

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. 30-015-46767
1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD		5. Indicate Type of Lease STATE ☐ FEE ☒
2. Name of Operator Solaris Water Midstream, LLC		6. State Oil & Gas Lease No.
3. Address of Operator 9651 Katy Freeway, Suite 400, Houston, TX 77024		7. Lease Name or Unit Agreement Name Pecos River 11 SWD
4. Well Location Unit Letter <u>J</u> : <u>1590</u> feet from the <u>South</u> line and <u>2415</u> feet from the <u>East</u> line Section <u>11</u> Township <u>22S</u> Range <u>27E</u> NMPM County <u>Eddy</u>		8. Well Number <u>1</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3,084' GR		9. OGRID Number 371643
		10. Pool name or Wildcat SWD; Devonian

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

NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK ☐	REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐	ALTERING CASING ☐
PULL OR ALTER CASING ☐	COMMENCE DRILLING OPNS. ☐
DOWNHOLE COMMINGLE ☐	P AND A ☐
CLOSED-LOOP SYSTEM ☐	CASING/CEMENT JOB ☐
OTHER: Acid Job ☒	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.

1/24/2025: Jet 154 ft of open hole, acidize OH 12950' to 13,827' (Packer at 12,900') with 20,000 gallons of 20% HCL, additives & 20,000# of rock salt for diversion.

Spud Date:

01/11/2021

Rig Release Date:

02/12/2021

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

SIGNATURE Lauren N. Bean TITLE Sr. Engineering Tech DATE 01/15/2025

Type or print name Lauren N. Bean E-mail address: lauren.bean@ariswater.com PHONE: 281-732-8785

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Date: 1/14/2025
Well: Pecos River 11 SWD # 1
Engineer: Jason Rubin

Well Information:

API #: 30-015-46767
 Surface Location: 1590' FSL & 2415' FEL, Sec. 11, T22S, R27E
 Injection Casing: 9-5/8", 40#, HCL80, LTC (0 to 9,145') & 7-5/8", 39#, P110 UFJ Liner (8,777 to 12,940')
 Injection Tubing 1: 7", 29#, HCP110, Liberty FJM, CLS (W/ GRE Liner), ID: 6.059", 0 to 8,643'
 Injection Tubing 2: 5-1/2", 17#, HCP110, Liberty FJM, CLS (W/ GRE Liner), ID: 4.767", 8,643' to 12,900'
 Packer: 12,900 FT; KB 25'
 TD/BHST: 13,827 FT/ 209 F
 TOC: Cemented to Surface
 Formation Name: Devonian
Permit Pressure: 2,570 psi

Introduction:

This program presents the proposed steps for performing a perforating and rock salt acid job on the Pecos River 11 SWD #1.

The objectives of this program are:

- Jet 154 ft of open hole utilizing 3-1/8" gas gun.
- Pump 20,000 gallons of 20% HCL/AcidToI blend with inhibitor across the open hole interval at approximately 14 to 15 BPM
- Divert acid by using 20,000 pounds of rock salt
- Over flush acid to bottom of open hole with approximately 24,721 gallons of fresh water (150 bbl over flush). Let the well sit for a minimum of 1 hour following treatment to allow rock salt to dissolve and let acid sit in the formation.



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Job Prep:

1. Verify max pressure to be used for the job. This will be the LOWEST value of the following and DE-RATED to 90% of the listed pressure rating.
 - a. Injection tree working pressure rating = 5,000 PSI
 - b. Tubing burst pressure (5.5") = 10,640 PSI
 - c. Surface pressure equipment rating = 3,000 PSI
 - d. Isolating valve pressure rating = 5,000 PSI
 - e. **MASIP = 2,570 PSI**
- Verified by Aris Personnel Onsite? _____
2. Ensure the proper companion flange for the top of the tree is available to match up to the connection for the pump truck lines.
 - a. **NOTE: WL needs 5.5" HP Connection in center of goathead**
 - b. **Acid Company needs 2, 3" 1502 connections on goathead**
3. Set portable containment for acid tanks. MIRU 5 lined acid tanks, 2 for mixing acid, 1 for contingency, 2 for flowback (**Do not manifold together**), 2 freshwater tanks, 1 10# brine tank & 10 produced water tanks that will be manifolded together.
 - a. **(Make sure tanks are clearly labeled to avoid possible cross contamination.)**
4. Bring 2 trucks filled with 200 bbls of 10# brine water and place into the brine tank. Bring 8 trucks filled with 800 bbls of fresh water. Fill 1 of the lined acid tanks with 100 bbls of fresh water for 20% HCL and the other acid tank with 100 bbls of fresh water for the 20% acidTol blend. Split the remaining 600 bbls of freshwater into each freshwater tank (300 bbls each tank). Fill 10 Frac Tanks with 5000 bbls of produced water from the tank farm
5. Ensure the area around wellhead is clear of obstacles that would impede access to the injection tree for pump trucks, frac tanks, vac trucks, and any hard lines necessary for job.
6. Ensure the acid company brings an in-line pop-off for their injection line.
 - a. Set pressure release to the lower of the max job pressure as recommended by acid company or the lowest MAOP equipment in the system. **Set popoff at 2,500 PSI based on minimum working pressure rating defined in step 1.**



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

7. Prior to performing the scope, ARIS Superintendent must sign off on the scope provided by the vendor. The pre-job checklist is to be completed/signed by ARIS on-site representative and the vendor on-site supervisor.
8. **Conduct pre-job safety meeting.** Discuss overall procedure, ND/NU procedure, muster points, acid safety, nearest hospital, and anything else that may be a hazard before, during, or after.
9. **Chemical showers (provided by Cudd) are required for all acid stimulation jobs**

Pre-Job Prep/Mini SRT (Internal Equipment):

10. Stop injecting into the well 6 hours prior to performing mini step rate test.
11. After a minimum of 6 hours, run mini step rate test as shown in figure 1 below utilizing facility equipment and saltwater. **Do not exceed MASIP of 2,570 psi.**

Figure 1: Mini SRT(Internal)

Well:	Pecos River 11 SWD #1		Max Pressure(PSI)		2570
Step #	Time(Mins)	Rate(BPM)	Rate(BPD)	Total Vol(BBL)	Total Vol(Gal)
1	20	5.90	8500	118.06	4958.3
2	20	7.99	11500	159.72	6708.3
3	20	10.07	14500	201.39	8458.3
4	20	12.15	17500	243.06	10208.3
5	20	14.24	20500	284.72	11958.3
6	20	16.32	23500	326.39	13708.3
7	20	18.40	26500	368.06	15458.3
Total	140			1701.4	71458.3

12. Shut in well. Install goathead with connections for wireline and acid crew. Rig up high-pressure piping from goathead to flowback tanks and prepare for perforating work.



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Tag Bottom & Perforating Procedure:

13. Stop injecting into the well 2 hours prior to adjusting any valves at the wellhead.
14. MIRU WL truck, RIH with GR/CCL log, 3.375" gauge ring and junk basket. Tag bottom, log up, correlate depth to GR log, correlate depth to packer, then POOH.
15. RIH with gas gun, correlate depth, then make approximately 16 perforating runs with 3-1/8" gas gun based on the depths shown in figure 2 below: **NOTE: WELL MUST BE FULLY OPEN TO FLOWBACK TANK BEFORE INITIATING EACH PERFORATING GUN RUN. FLOWBACK WILL LAST FOR 1 MINUTE.**

Figure 2: Perforating Schedule

Table 1: Perforation Schedule			
Run #	Top	BTM	FT
1 & 2	12950	12970	20
3	12970	12980	10
4 & 5	13092	13112	20
6	13112	13118	6
7 & 8	13230	13250	20
9	13250	13260	10
10 to 15	13312	13372	60
16	13372	13380	8
Total Perforating FT			154

16. When finished perforating, tag bottom and record depth, then POOH with WL
17. RDMO Wireline crew, then close master valves on wellhead.



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Acid Job & Pre/Post Acid SRT Procedure:

18. Stop injecting into the well a minimum of 3 hours prior to adjusting any valves at the wellhead. Record static wellhead pressure.
19. Acid company will arrive on location between 5 and 6 am the day of the job to mix down 20,000 gallons of acid in lined tanks according to specifications.
20. Close master valve on the wellhead. Make sure the wing valve is closed. Bleed off excess pressure by removing PT sensor from top cap of injection tree. Take care not to damage the sensor or wiring.
21. Isolate H-Pumps and as much surface piping as possible. Typically, this would be at the wing valve on the injection tree which isolates all surface equipment.
 - a. Any surface equipment that will be exposed to job pressure must be considered in step #1 of this procedure.
 - b. If surface piping has already been isolated, proceed directly to step 23.
22. **Open casing valve (tubing annulus)** and leave it open for the entirety of the job. If a breach of the tubing or packer occurs, pressure will automatically be released via this valve. Install piping to ensure flow is directed into the cellar in the event of a breach.
 - c. Ensure no one is standing near or in front of this valve during the job as a large amount of pressure could be released at any time should a failure occur!
23. With master valve still closed, MIRU pump trucks, acid trucks, and all other related equipment. Connect the bleedoff line to an empty lined frac tank.
24. Before pumping fluid, make sure the wing valve is closed and all valves have been properly locked and tagged out.
25. Prime up/Pressure test lines as recommended by the acid company. This pressure should be 10% ABOVE the max pressure for the job.
26. Set digital kick-outs on pump truck to maximum job pressure **of 2,570 PSI**



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

27. Open master valve, pump pre-acid mini SRT with salt water per schedule as shown in figure 3 below: **Do not exceed MASIP of 2,570 psi.**

Figure 3: Pre-Acid Mini SRT(External)

Well:	Pecos River 11 SWD #1		Max Pressure(PSI)		2570
Step #	Time(Mins)	Rate(BPM)	Rate(BPD)	Total Vol(BBL)	Total Vol(Gal)
1	15	3.47	5000	52.08	2187.5
2	15	6.94	10000	104.17	4375.0
3	15	10.42	15000	156.25	6562.5
4	15	13.89	20000	208.33	8750.0
5	15	17.36	25000	260.42	10937.5
6	15	20.83	30000	312.50	13125.0
7	15	24.31	35000	364.58	15312.5
8	15	27.78	40000	416.67	17500.0
Total	120			1875.0	78750.0

28. After completing the mini SRT, perform hard shut down, record the ISIP, 5 min, 10 min, and 15 min shut-in surface pressures.

29. Once the 15 min shut-in pressure has been recorded, pump acid job per schedule as shown in figure 5 located in the appendix.

30. After over flushing the wellbore with fresh water (per the pump schedule), shut down the pumps. Record ISIP, 5 min, 10 min, and 15 min shut-in surface pressures.

31. Wait 1 hour, then displace fluid in the well with two wellbore volumes of salt water (approximately 900 BBLS).

32. Shut in well for 4 hours, pump post-acid mini SRT with salt water per schedule as shown in figure 4 as shown below: **Do not exceed MASIP of 2,570 psi.**



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Figure 4: Post-Acid Mini SRT(External)

Well:	Pecos River 11 SWD #1		Max Pressure(PSI)		2570
Step #	Time(Mins)	Rate(BPM)	Rate(BPD)	Total Vol(BBL)	Total Vol(Gal)
1	15	3.47	5000	52.08	2187.5
2	15	6.94	10000	104.17	4375.0
3	15	10.42	15000	156.25	6562.5
4	15	13.89	20000	208.33	8750.0
5	15	17.36	25000	260.42	10937.5
6	15	20.83	30000	312.50	13125.0
7	15	24.31	35000	364.58	15312.5
8	15	27.78	40000	416.67	17500.0
Total	120			1875.0	78750.0

33. After completing the mini SRT, perform hard shut down, record the ISIP, 5 min, 10 min, and 15 min shut-in surface pressures.
34. Shut-in well and release pressure from all surface lines and equipment.
35. **Shut casing valve.**
36. RDMO all pump trucks and equipment for acid job. Neutralize any acid remaining in lined tanks with soda ash (provided by acid company). Utilize a vacuum truck to dispose of waste at company authorized by Aris. Ensure all other frac tanks are emptied prior to removal from location.
37. Remove top companion flange and re-install PT sensor. Reconnect all facility piping.
38. Ensure all broken connections are re-torqued properly.
39. Return well to injection taking care to watch for leaks around injection tree.



Procedure: Acid Treatment with Rock Salt Diversion Pecos River 11 SWD #1

Appendix:

Figure 5 – Pump Schedule

Figure 6 – Wellhead Diagram

Figure 7 – Wellbore Schematic

Aris Representative Signature

Solaris Water

Well Name: Pecos River 11 SWD #1
Spud: 2021

20" 94# J-55 BTC
Set @ 400'

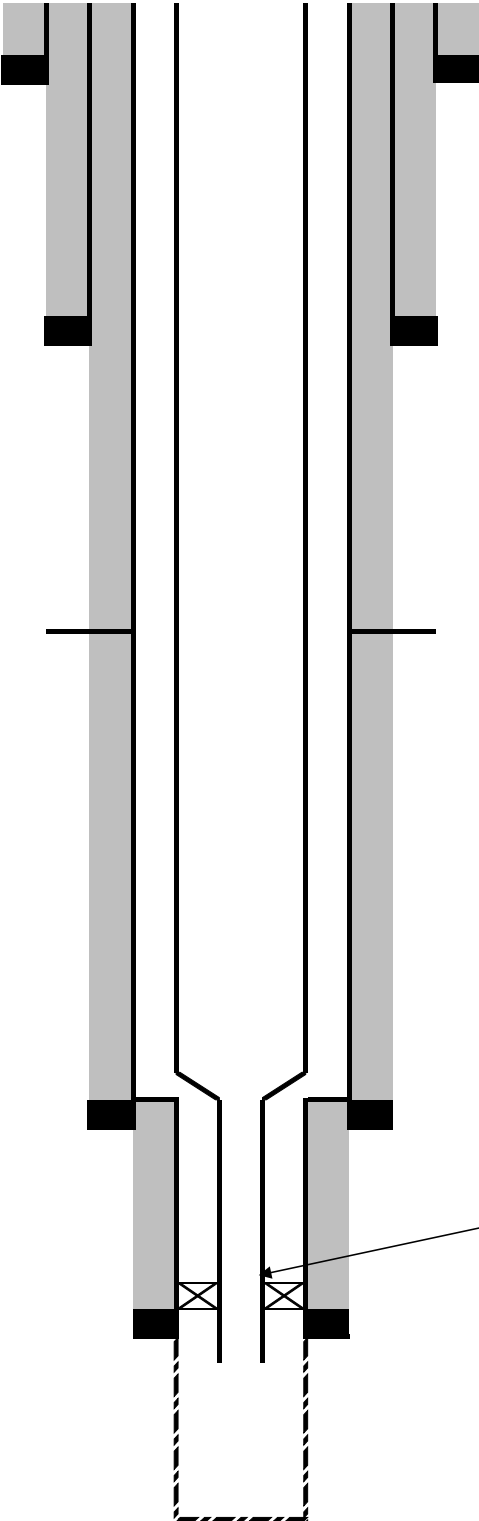
13 3/8" 54.5# & 61# J55 STC
Set @ 2,025'

ECP/DV Tool @ 4500'
Cmt 2nd stg w/ 1000 sx

9 5/8" 40# HCL80 LTC
Set @ 9,145'
Cmt 1st stg w/ 1400 sx

7 5/8" 39# P-110 UFJ Liner
Set from 8,777'-12,940'
Cmt w/ 340 sx

6 1/2" Open Hole
TD @ 13,827'

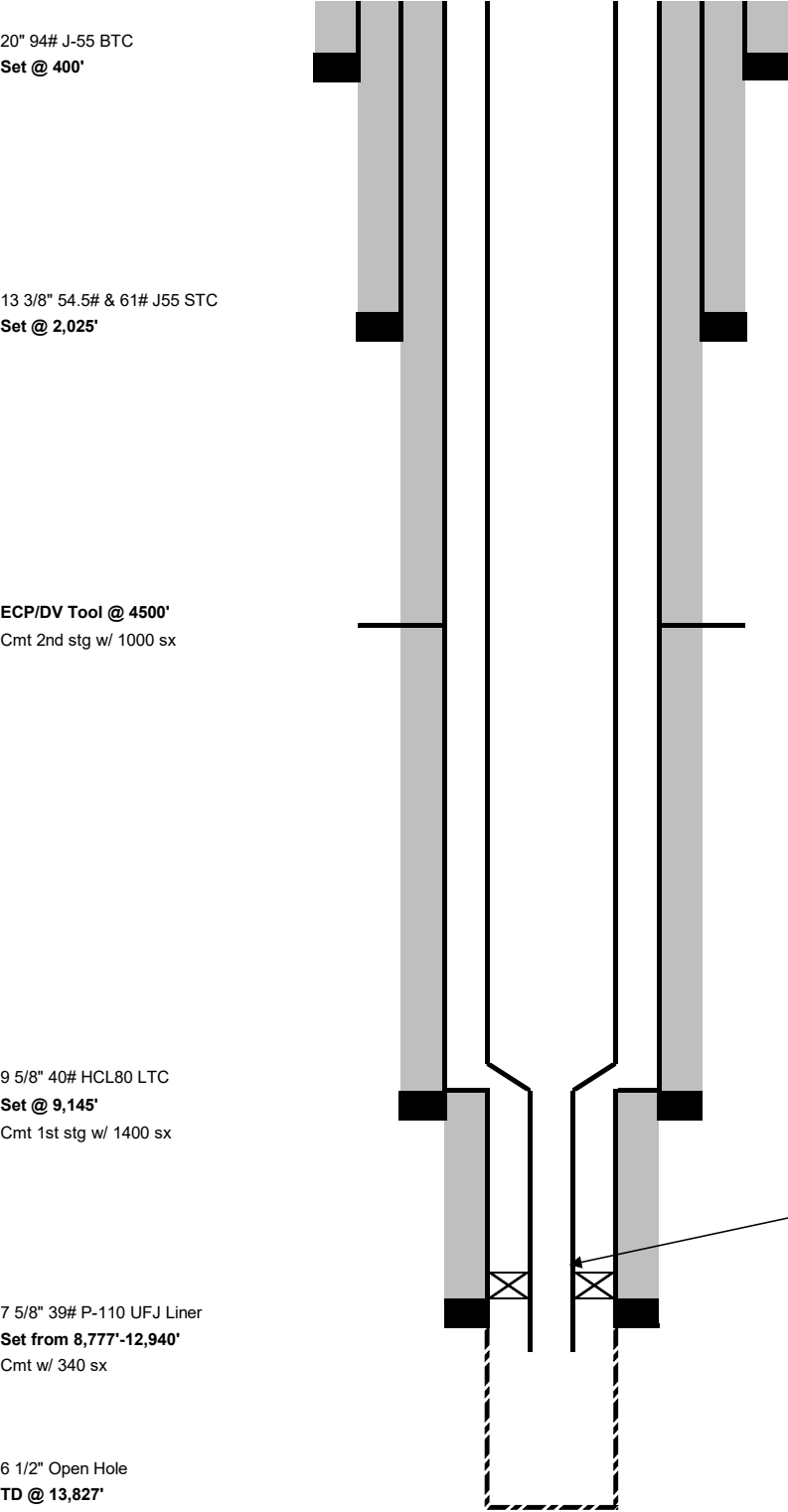


Injection String
7", 29#, HCP-110, Liberty FJM CLS, GRE
5 1/2", 17#, HCP110, Liberty FJM, CLS GRE
XO @ 8,645'
Dual Bore Permapak Pkr Set @ 12,900'

cwg 03/01/2021

Solaris Water

Well Name: Pecos River 11 SWD #1
Spud: 2021



cwg 03/01/2021

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 420820

CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 420820
	Action Type: [C-103] NOI Workover (C-103G)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	In your procedure, there was no mention of the BOP. Please ensure that the wireline company utilizes it. The planned 'mini SRT' to determine the efficiency of the acid job is acceptable with OCD. However, in your post-workover report, please note the fracture pressure achieved before you exceeded the prescribed MASIP of 2570 psi.	1/21/2025