

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

Form C-103
Revised July 18, 2013

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

WELL API NO. 30-015-44530

5. Indicate Type of Lease

STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Alpha SWD

8. Well Number 002

9. OGRID Number 372338

10. Pool name or Wildcat Devonian

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.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other Saltwater Disposal

2. Name of Operator NGL Water Solutions Permian, LLC

3. Address of Operator 3773 Cherry Creek N. Drive, Suite 1000, Denver, CO 80209

4. Well Location

Unit Letter C : 353 feet from the North line and 2398 feet from the west line

Section 18

Township 23 S

Range 28 E

NMPM 6

County Eddy

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

DOWNHOLE COMMINGLE ☐

CLOSED-LOOP SYSTEM ☐

OTHER: ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P AND A ☐

CASING/CEMENT 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.

Step Rate Test to be performed following the attached SRT Procedure.

Looking to start as soon as approval is granted any notice to the state if needed is given.

Spud Date:

Rig Release Date:

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

SIGNATURE

TITLE

DATE

Type or print name Joseph Vargo E-mail address: joseph.vargo@nglep.com PHONE: 303-815-1010

For State Use Only

APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

Proposed Step Rate Test

Alpha SWD # 2 (API # 30-015-44530)(SWD-1711)

NGL Water Solutions Permian LLC (OGRID # 372338)

SWD: Silurian-Devonian Pool

SWD Permit # SWD-1711

Injection Interval: 13275-14465'

Current Maximum Injection Pressure: 2655 psi

Maximum Daily Volume: 50,000 Bbls/day

Casing: 20" 94# J-55 @ 472'

13-3/8" 68# L-80 @ 2515'

9-5/8" 53.5# HCL80 @ 9234'

7-5/8" 39# P-110 Liner: 8746-13593'

Completion Interval: 13593-14747' openhole

Tubing: 121 Joints 5-1/2" and 339 Joints 7"

Packer: Permanent @ 13540'

Procedure:

1. Move frac tanks to location. Have 6000 Bbls of water available.
2. Shut well in for 48 hours prior to performing step rate test.
3. Disconnect flowline.
4. Move in pump trucks and connect manifold to well head. Have a pressure recording device on the well head and record data in a CSV file, with a data point every second.
5. Run tandem BHP recording devices. Set BHP recording devices at +/- 13580'.
6. Have BHP recording devices on bottom for at least 1 hour before pumping, to measure shut-in BHP.
7. Pump at the following rates. Each step needs to be for 30 minutes. It is important that the step durations are approximately for the same time period. At the end of the last step shut down so that ISIP will be recorded in the CSV file for 15 minutes. Maximum surface injection pressure during test is 5000 psi.
 - a. 4 Bbl/min

Proposed Step Rate Test

Alpha SWD # 2 (API # 30-015-44530)(SWD-1711)

NGL Water Solutions Permian LLC (OGRID # 372338)

Page 2

- b. 8 Bbl/min
 - c. 12 Bbl/min
 - d. 16 Bbl/min
 - e. 24 Bbl/min
 - f. 30 Bbl/min
 - g. 35 Bbl/min
 - h. 40 Bbl/min
8. Pull BHP recording devices and download data.
 9. Rig down pumping equipment.
 10. Connect flowline.
 11. Return well to injection.

Prepared by Rick Johnston 512-380-0800

Alpha SWD # 2
Step Rate Test

30 Minute Time Steps

<u>Rate</u> <u>(Bbls/min)</u>	<u>Rate</u> <u>(Bbl/day)</u>	<u>Water</u> <u>Needed</u> <u>(Bbls)</u>	<u>Step #</u>
4	5,760	120	1
8	11,520	240	2
12	17,280	360	3
16	23,040	480	4
24	34,560	720	5
30	43,200	900	6
35	50,400	1,050	7
40	57,600	1,200	8
Total =		5,070	

From: [McClure, Dean, EMNRD](#)
To: ["Joe Vargo"](#)
Cc: [Rose-Coss, Dylan H, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Venegas, Victoria, EMNRD](#)
Subject: RE: Alpha - Step Rate Test Procedure
Date: Thursday, October 29, 2020 2:12:00 PM
Attachments: [AAC3-28-17.pdf](#)

Hello Mr. Vargo,

Your procedure looks good.

I think our covid policy may exclude witnessing SRTs for the time being, but please give the district office notice at least 72 hours prior to conducting the test in case they do wish to witness the test.

Once you have the results, please submit them in a packet with a completed administrative application checklist. I presume you intend to fill your frac tanks using the same source water as you are typically injecting, but if not I will need to know if there are any relevant rheology differences between your test and injection fluids. Additionally, I will need to know the weight of the fluids regardless of whether you are using the same fluid to test with as you are injecting.

Regarding the raw data, I will not need it in the resolution proposed in your procedure, but I will want ~ a data point per minute submitted in excel format along with your results. Ideally, the surface and bottom hole pressures will already be correlated, but provided the time stamps are accurate between the two, I can combine them myself as well.

The packet may be submitted via email to OCD.Engineer@state.nm.us

Dean McClure
Petroleum Engineer, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
(505) 469-8211

From: Joe Vargo <Joseph.Vargo@nglep.com>
Sent: Thursday, October 29, 2020 8:34 AM
To: McClure, Dean, EMNRD <Dean.McClure@state.nm.us>
Subject: [EXT] FW: Alpha - Step Rate Test Procedure

Hi Mr. McClure,

I wasn't sure who to speak with on this so Mr. Robert Hamlet passed me along to you and Dylan Rose-Cross.

I just wanted to follow up on the mailing of a step rate test procedure for approval.

This is for our Alpha SWD in which we want to test to see if we can possibly receive an increased injection rate.

This was mailed to the Artesia District Office. If it should be filed or mailed through a different medium(eDocs or Santa Fe?), please let me know.

Thanks much,

Joe Vargo

(c) 406-868-9799

(o) 303-815-1010 x 3652

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

Sent: Thursday, October 29, 2020 7:56 AM

To: Joe Vargo <Joseph.Vargo@nglep.com>

Cc: Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>

Subject: RE: Alpha - Step Rate Test Procedure

Joe,

This pertains to engineering. Please contact Dylan Rose-Coss at DylanH.Rose-Coss@state.nm.us or Dean McClure at Dean.McClure@state.nm.us.

Thanks

From: Joe Vargo <Joseph.Vargo@nglep.com>

Sent: Wednesday, October 28, 2020 3:07 PM

To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>

Subject: [EXT] Alpha - Step Rate Test Procedure

Good Afternoon,

I mailed the attached SRT procedure to the office for sign off approval on Oct 2, 2020.

Should I file this through eDocs instead? Looking to perform this as soon as we can.

Just looking for approval of the procedure for this well in an attempt to gain more psi on the well.

Thank you

Joe Vargo

(c) 406-868-9799

(o) 303-815-1010 x 3652