

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 16426
ORDER NO. R-20307**

**APPLICATION OF NGL WATER SOLUTIONS PERMIAN, LLC TO AMEND
ADMINISTRATIVE ORDER SWD-1724 AND SWD-1711 FOR SALT WATER
DISPOSAL WELLS IN EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on October 4, 2018, at Santa Fe, New Mexico, before Examiners Michael A. McMillan and Phillip R. Goetze.

NOW, on this 31st day of December 2018, the Division Director, having considered the testimony, the record and the recommendations of the Examiners,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and of the subject matter.

(2) NGL Water Solutions Permian, LLC (“Applicant” or “NGL”) seeks an order approving the modification of the tubing size for two Underground Injection Control (UIC) Class II disposal wells with approved separate administrative orders granting authority to inject.

(3) The wells which were the subject of the Hearing are the following (“subject wells”) collectively:

Striker 1 SWD Well No. 1, API No. 30-015-44406 (“Striker Well No. 1”)

SHL: 1015 feet from the North line and 1395 feet from the East line,
(Unit B) of Section 15, Township 23 South, Range 28 East, NMPM.
Administrative Application SWD-1724, issued on August 23, 2018;

Approved injection interval 13,750 feet to 15,100 feet within Silurian and Devonian formations;

Alpha SWD Well No. 2, API No. 30-015-44530 (“Alpha Well No. 2”)

SHL: 353 feet from the North line and 2433 feet from the West line, (Unit C) of Section 18, Township 23 South, Range 28 East, NMPM. Administrative Application SWD-1711, issued on July 13, 2018; Approved injection interval 13,275 feet to 14,465 feet within Silurian and Devonian formations;

(4) Applicant seeks a modification of the tubing size for the Striker Well No.1 and Alpha Well No. 2 by amending the administrative order to approve the use of a tapered 7-inch tubing inside the surface and intermediate casing and 5½-inch tubing in the liner.

(5) Applicant appeared at the hearing through counsel and presented engineering evidence and supplemental affidavit to the effect that:

- (a) Applicant is an operator of multiple disposal wells in New Mexico;
- (b) NGL is requesting for the Alpha Well No.1 a tapered tubing, with a 7-inch tubing inside the surface and intermediate casings and 5-¹/₂ tubing inside the liner. The administrative order approved 5-¹/₂ tubing inside the surface and intermediate casings, and approved 4-¹/₂ tubing inside the liner;
- (c) Applicant stated that the Alpha Well No. 2 is to be located 236 feet from the North line and 2433 feet from the West line (Unit C) of Section 18, Township 23 South, Range 28 East, NMPM, Eddy County New Mexico. The administrative order approved a location of 353 feet from the North line and 2398 feet from the West line (Unit C) of Section 18, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico;
- (d) NGL is requesting a maximum injection rate of 50,000 Barrels of Water Per Day for each of the subject wells;
- (e) NGL is requesting for the Striker Well No.1 a tapered tubing, with a 7-inch tubing inside the surface and intermediate casings and 5-¹/₂-inch tubing inside the liner. The administrative order for said well approved 5-¹/₂-inch tubing inside the surface and intermediate casings, and approved 4-¹/₂-inch tubing inside the liner;
- (f) Applicant stated the reason for the proposed increased tubing size in the subject wells is to reduce friction pressure and therefore allow for more water to be injected at lower pressure;

- (g) the subject wells will be located no closer than one-mile to another disposal well;
- (h) Applicant stated that for each of the subject wells, the well will be equipped on bottom with a 7-5/8-inch outside diameter, 39 pound per foot liner and 9-5/8-inch outside diameter [intermediate] casing extending from the liner to the surface;
- (i) the Applicant performed numerous nodal analysis evaluations using a variety of injection rates and multiple tubing configurations which verified the selection of the 5½-inch tubing size. Further, the increased tubing size will not cause fractures in the Devonian-Silurian formation;
- (j) Applicant stated that there will be minimal impact on reservoir pressures and that most injected fluids will not travel one mile from the well in 20 years;
- (k) Applicant provided an affidavit from a geologist who stated there is a permeability barrier above and below the injection interval;
- (l) Disposal into the approved injection interval poses no threat to groundwater;
- (m) Geologist stated that the nearest fault is over eight miles away;
- (n) Applicant also provided an affidavit from a seismic monitoring expert who stated that the subject wells are in a region of little seismic activity;
- (o) Applicant also provided an affidavit from a fishing expert who stated that the subject wells can be successfully fished with the proposed well bore design;
- (p) the Applicant provided notice of this application to "*affected persons*" by certified mail, return receipt requested and with publication in a newspaper of general circulation in the county of the subject wells. The list of affected persons was compiled from the parties notified in the Form C-108 application for administrative order SWD-1695 and administrative order SWD-1711.

(6) No other party appeared at the hearing, or otherwise opposed the granting of this application.

The Division concludes as follows:

(7) The Division is responsible for the orderly development and production of hydrocarbon resources including the authority to regulate the disposition of produced water as described in NMSA 1978, Section 70-2-12(B)(15). It is obligated to prevent waste, to protect correlative rights, and to protect human health and the environment.

(8) The Division supports the use of Devonian and Silurian formations as suitable disposal intervals to lessen the potential impact upon production of hydrocarbon resources and associated correlative rights that occur in shallower Permian formations. The Division recognizes the necessity to increase the efficiency of these deeper disposal wells with their increased cost associated with the deeper disposal interval.

(9) After the Hearing, it was determined that Alpha Well No. 1 [not a Subject Well] has been approved for a similar tapered tubing design as being proposed in this case. The original administrative order for said well approved 5-1/2-inch tubing inside the surface and intermediate casings and 5-inch tubing inside the liner.

(10) After the Hearing, it was determined that the Black River Water Management Company, LLC Rustler Break SWD Well No. 3 (API-30-015-44303) which is an active Silurian-Devonian injection well is within one-mile radius of the Alpha Well No. 2 [Subject Well].

(11) Based on testimony at Hearing, the injected fluids from Black River Water Management Company, into the LLC Rustler Break SWD Well No. 3 should not adversely affect injection into the Alpha Well No.2 and vice versa.

(12) Under Division Order No. R-14392 (Case No. 15654), the Division determined that the increase in tubing size and the corresponding increase in injection rates required additional information not previously incorporated into an administrative application for tubing modifications. This included, but was not limited to, the following specific subjects:

- (a) the potential cumulative impacts to a common injection interval utilized by multiple disposal wells located near each other;
- (b) the consideration that the area of review for penetrating wells based on a one-half mile radius from the disposal well's surface location was adequate;
- (c) the consideration that the notification of affected persons based on a one-half mile radius from the disposal well's surface location was protective of correlative rights;
- (d) addressing the induced-seismicity issue, especially with regards to the potential impacts of increased injection volumes into reservoirs with faulting and the determination of a lower confining layer to ensure injection fluids do not migrate out the permitted interval; and

- (e) the use of the larger diameter tubing in UIC Class II wells and the development of “best management practices” for all future applications with similar requests.

(13) The Applicant offered evidence or testimony to sufficiently respond to the items of concerns brought forth by the Division in its findings in Division Order No. R-14392. This included expanding the area of reviews for penetration wells and notification and conducting a risk assessment for the potential of induced seismicity related to the Subject Well’s operation with a larger disposal rate.

(14) The Division also notes the Oil Conservation Commission in Case No. 15654 *de novo* and the resulting Order No. R-14392-A found that these responses for this application are specific to a unique disposal well and, under current procedures, each similar application would be considered based on its own merits.

(15) To avoid the drilling of additional wells, protect correlative rights, and prevent waste while affording the Applicant the opportunity to fully utilize the disposal potential of the Subject Well in a manner that safeguards the public health and the environment, this application should be approved.

IT IS THEREFORE ORDERED THAT:

(1) The application by NGL Water Solutions Permian, LLC (the “Operator”) seeking the use of a 7-inch by 5-1/2-inch tapered internally-coated disposal tubing string in both the Striker 1 SWD Well No. 1 (“Striker Well No. 1”; API No. 30-015-44406) and the Alpha Well No. 2 (“Alpha Well No. 2”; API No. 30-015-44530), is hereby approved.

(2) The 5-1/2-inch lower tubing is only approved so long as the 7-5/8-inch outside diameter liner in the lower portion of the well is no heavier than 39 pounds per foot; else, the lower portion of the tapered tubing shall be smaller in outside diameter than 5-1/2-inch OD.

(3) The wells which were the subject of the Hearing are the following (“subject wells”) collectively:

Striker 1 SWD Well No. 1, API No. 30-015-44406 (“Striker Well No. 1”)

SHL: 1015 feet from the North line and 1395 feet from the East line, (Unit B) of Section 15, Township 23 South, Range 28 East, NMPM. Administrative Application SWD-1724, issued on August 23, 2018; Approved injection interval 13,750 feet to 15,100 feet within Silurian and Devonian formations;

Alpha SWD Well No. 2, API No. 30-015-44530 (“Alpha Well No. 2”)

SHL: 236 feet from the North line and 2433 feet from the West line, (Unit C) of Section 18, Township 23 South, Range 28 East, NMPM.

Administrative Application SWD-1711, issued on July 13, 2018;
Approved injection interval 13,275 feet to 14,465 feet within
Silurian and Devonian formations;

(4) The Division further stipulates the following "best management practices" shall be included as conditions of the approved application:

- (a) The Operator shall complete a step-rate test prior to commencing injection with the new tubing in place and after completing a successful mechanical integrity test.
- (b) The Subject Well shall be included in a Supervisory Control and Data Acquisition (SCADA) system for operation as an injection well.
- (c) The Operator shall first contact the Division's District II supervisor for approval of proposed remedial actions prior to initiating any recovery attempts should a failure of tubing occur with a loss of a tubing section within the Subject Wells.
- (d) The Operator shall review the well performance every fifth calendar year (five-year cycle initiated with the commencement of injection with the new tubing size). This evaluation shall consider, at a minimum, any pressure increases in the reservoir, a review of the accuracy of induced-seismicity risk assessment model using data obtained during the operation of the Subject Well, and a summary of any issues that required modification of the well's operation.
- (e) The Operator shall submit all well tests and performance reports to Division's District II attached to a Form C-103 and made part of the well file for future availability.

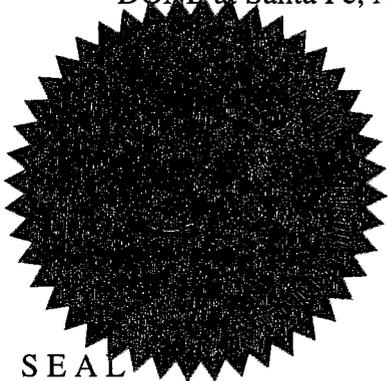
(5) As per the application, Striker Well No.1 and Alpha Well No. 2 shall each be limited to 50,000 Barrels of Water Per Day maximum injection rate.

(6) All provisions of this order shall be transferable and shall remain in full force and effect with any assignment of the Striker Well No.1 and Alpha Well No. 2 to a new operator.

(7) All other provisions of administrative order SWD-1724 for the Striker Well No. 1 remain in full force and effect including packer setting depths and pressure limitations. Likewise, all other provisions of administrative order SWD-1711 for the Alpha Well No. 2 shall remain in full force and effect including packer setting depths and pressure limitations.

(8) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Handwritten signature of Heather Riley

HEATHER RILEY
Director