Administrative Order IPI-514
February 6, 2018

Ms. Nancy Fitwater
Linn Operating, LLC
600 Travis St., Suite 1400
Houston, TX 77002

RE: Injection Pressure Increase
Hale State Well No. 4
SWD; San Andres

Dear Madam:

Reference is made to your request on behalf of Linn Operating, LLC (OGRID 269324) received on October 30, 2017, to increase the maximum allowed surface tubing pressure on the following well(s):

Well No.	API Number	ULSTR	Order Allowing Injection	Existing Pressure Limit (psi)	Existing Tubing (OD inches)
Hale State No. 4	30-025-39785	D-31-17S-34E	SWD-1590	964	Tapered (see discussion)

It is our understanding that the requested pressure increase is needed to increase the rate of injection and this pressure increase will not result in the fracturing of the formation and confining strata.

Based on the results of the previous step rate injection test and supplemental nodal analysis, the following shall be the new pressure limit(s) while equipped with 2⅜-inch by 2⅞-inch tapered tubing string:

Well No.	Step Rate Test Date	New Pressure Limit (psi)	While Injecting	Injection Interval (feet)	Pressure Gradient (psi/ft)
Hale State No. 4	05/15/2016	1647	Water	4820 to 4892	0.34

In their application, the operator provided a nodal analysis using the tapered tubing string of the new well configuration and the step-rate test (SRT) conducted on May 15, 2016. The SRT was performed with the previous single size tubing of 2⅜-inch outside diameter. The nodal analysis with the new tubing size indicated a surface pressure of 1883 psia would be required to fracture the formation using the results of the SRT. Therefore, the Division is approving the maximum surface injection pressure of 1647 psia without a reduction of 50 psi usually applied as a buffer.

This approval is based on the provision that the tubing size, packer setting depth and completion interval for the well(s) does not change. Any future requested pressure increase will require resubmission of additional data and/or a new step-rate test. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in the well(s). This approval is subject to your being in compliance with all other Division rules, including but not limited to Division Rule 19.15.5.9 NMAC.

The Division Director may rescind any injection permit if it becomes apparent that the injected fluid is not being confined to the permitted disposal interval or is endangering any fresh water aquifer.

Sincerely,

HEATHER RILEY
Director

HR/prg

cc: Oil Conservation Division – Hobbs District Office
State Land Office - Oil, Gas and Minerals Division
Order SWD-1590
Well file 30-025-39785