State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary Jami Bailey, Division Director Oil Conservation Division



Administrative Order IPI-471 September 24, 2014

Linn Operating, Inc. 600 Travis, Suite 5100 Houston, Texas 77002 Attn: Ms. Laura Moreno

RE: <u>Injection Pressure Increase</u>

Injection Authority: Division Order No. 10094 and Administrative Order WFX-742;

Caprock Maljamar Unit Waterflood Project

Pool: Maljamar; Grayburg-San Andres (Pool Code: 43329) Caprock Maljamar Unit No. 283 API 30-025-34193

Unit letter O, Sec 28, T17S, R33E, NMPM, Lea County, New Mexico

Dear Ms. Moreno:

Reference is made to your request on behalf of Linn Operating, Incorporated (OGRID 269324) received by the Division on September 5, 2014, to increase the maximum allowed surface tubing pressure on the above named well.

This well was permitted by the Division for water injection for enhanced oil recovery in the Grayburg and San Andres formations by Administrative Order WFX-742 approved September 6, 1994. That order allowed injection through perforations from 4415 feet to 4652 feet at a maximum surface injection pressure of 883 psi. An increase in injection pressure was approved by Administrative Order IPI-436 based on a step-rate test conducted on adjacent well (Caprock Maljamar Unit No. 98). Order IPI-436 permitted a surface injection pressure increase to 2082 psi.

It is our understanding that this well will not take a sufficient volume of fluid at the current pressure limit and a higher pressure limit is needed for improving the effectiveness of the waterflood operation. It is also understood that an increase will not result in the fracturing of the formation and confining strata.

Based on a step-rate test for this well conducted on July 17, 2014, through 2 3/8-inch tubing, you are hereby authorized to inject at the following maximum surface tubing pressure:

Caprock Maljamar Unit Well No. 283

API 30-025-34193

2894 psi

This Order supersedes the maximum surface tubing pressure approved for the Caprock Maljamar Unit Well No. 283 under Administrative Order IPI-436. Order IPI-436 remains in full effect for the five remaining injection wells listed in the Order.

This approval is based on the provision that the tubing size, packer setting depth and completion interval for this well does not change. Any future requested pressure increase will require resubmission of additional data and 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 this well. 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 this permitted injection pressure increase 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,

JAMI BAILEY

Director

JB/prg

cc: Oil Conservation Division – Hobbs District Office

Administrative Order WFX-742

Well file 30-025-34193