

State of New Mexico
Energy, Minerals and Natural Resources Department

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David R. Catanach, Division Director
Oil Conservation Division



Administrative Order WFX-945
April 13, 2015

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order Nos. R-5871, R-5897 (as amended), and R-6856 (as amended), ConocoPhillips Company (OGRID No. 217817; "ConocoPhillips") has made application to the Division for permission to add 11 new injection wells to its East Vacuum Grayburg-San Andres (EVGSA) Unit Waterflood Project located within the Vacuum Grayburg-San Andres Pool (Pool code 62180) in Lea County, New Mexico. These wells are being proposed as part of a pilot project to complement existing injection wells for enhanced oil recovery in the San Andres formation of the EVGSA Unit using water-alternating-gas (WAG) injection utilizing carbon dioxide combined with produced gas.

Additionally, ConocoPhillips has made application to approve the use of carbon dioxide combined with produced gas in the WAG injection for an existing well approved under Administrative Order WFX-912 issued June 21, 2013. As a result, the injection authority under WFX-912 is rescinded with the approval of this order.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections remain outstanding. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

The proposed expansion of the above-referenced waterflood project, will prevent waste, is in the best interests of conservation, will not impair correlative rights, and should be approved.

This administrative order that approves WAG injection for the 12 subject wells shall be effective for one (1) year following the commencement of injection into the first of the subject wells listed in this order. Within the one year period, ConocoPhillips shall make application for Division hearing to present results of the WAG operation that shall make the injection authority permanent for the 12 subject wells and to amend the exiting Division orders to accommodate future expansions. If applicant does not make application for Division hearing within the one-year time period, then the subject wells contained in this order will lose their injection authority *ipso facto*.

IT IS THEREFORE ORDERED THAT:

ConocoPhillips Company, as operator, is hereby authorized to inject water and gas (carbon dioxide and produced gas) through plastic-lined tubing set into a packer into the following subject wells for the purpose of secondary recovery:

API No.	Well Name [Applicant Well ID]	UL-S-T-R	Surface Footage N/S	Surface Footage E/W	Bottom Hole Footage N/S	Bottom Hole Footage E/W	Approved Injection Interval (TVD ft.) ¹	Maximum Surface Injection Pressure ²
30-025-34025	East Vacuum (GSA) Unit No. 400 [EVGBSAU 3308-400]	D-33-17S-35E	800' FNL	330' FWL	Same as surface	Same as surface	4057 to 5057	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 511W [EVGBSAU 3308-W511]	D-33-17S-35E	1073' FNL	418' FWL	Same as surface	Same as surface	4039 to 5039	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 512W [EVGBSAU 3202-W512]	H-32-17S-35E	1587' FSL	186' FEL	Same as surface	Same as surface	4048 to 5048	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 513W [EVGBSAU 3202-W513]	H-32-17S-35E	2455' FNL	442' FEL	2332' FNL	1054' FEL	4041 to 5041	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 516W [EVGBSAU 3374-W516]	L-33-17S-35E	2321' FSL	940' FWL	Same as surface	Same as surface	4059 to 5059	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 517W [EVGBSAU 3374-W517]	L-33-17S-35E	1815' FSL	405' FWL	1660' FSL	300' FWL	4081 to 5081	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 520W [EVGBSAU 3328-W520]	N-33-17S-35E	471' FSL	1759' FWL	Same as surface	Same as surface	4140 to 5140	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 521W [EVGBSAU 3345-W521]	N-33-17S-35E	991' FSL	2290' FWL	Same as surface	Same as surface	4120 to 5120	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 522W [EVGBSAU 2739-W522]	L-27-17S-35E	2310' FSL	1120' FWL	2338' FSL	895' FWL	4037 to 5037	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 523W [EVGBSAU 2738-W523]	F-27-17S-35E	2003' FNL	1529' FWL	2254' FNL	1540' FWL	4045 to 5045	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 525W [EVGBSAU 2739-W525]	J-27-17S-35E	1690' FSL	2230' FEL	Same as surface	Same as surface	4030 to 5030	W: 1350 psi CO ₂ : 1800 psi
30-025-Pending	East Vacuum (GSA) Unit No. 527W [EVGBSAU 2721-W527]	N-27-17S-35E	1168' FSL	2141' FWL	1015' FSL	2250' FWL	4040 to 5040	W: 1350 psi CO ₂ : 1800 psi

¹ Approved Injection Interval: estimated total vertical depth (TVD) in feet of Unitized Formation; ²MSIP:
W: water; CO₂: carbon dioxide and produced gas.

The approved maximum surface injection pressure shall be based on Division Order No. R-6856 (authorizing an average maximum bottom hole pressure of 3150 pounds per square inch (psi) for injection of carbon dioxide) and maximum pressures approved under Administrative Order PMX-177 with 1350 psi for water and 1800 psi for carbon dioxide and produced gas.

The operator shall set the injection packer in individual wells following Rule 11 of the Special Rules for this project approved under Division Order No. R-5897-A which directs "*a packer set as close as practically possible to the uppermost injection perforation or casing shoe (of an open hole completion); so long as the packer set point remains within the Unitized Formation as defined in the Unit Agreement, or as the same may be subsequently modified.*"

The Unitized Formation is defined in Ordering Paragraph (3) of Commission Order No. R-5871, dated November 27, 1978. The upper limit of the Unitized Formation is determined by correlation to the depth of 4050 feet (103 feet subsea) on the Lane Wells Acoustilog, Run No. 1, dated April 14, 1964, in the New Mexico State K Well No. 19 (API No. 30-025-20710), located in Unit letter P, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected fluid enters only the approved injection interval and is not permitted to escape to other formations or onto the surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

All wells shall pass an initial mechanical integrity test ("MIT") prior to initially commencing injection and prior to resuming injection each time any injection packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on these wells shall be limited as listed above. In addition, the injection well or header system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressures to the maximum allowable pressures for these wells.

Subject to the limitations within the hearing orders permitting this project, the Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluids from the approved injection interval. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District I office of the date and time of the installation of injection equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of injection to the District I office. The operator shall submit monthly reports of the disposal

operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the District I office of any failure of the tubing, casing or packer in the approved injection well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein. The subject wells shall be governed by all provisions of Order Nos. R-5871, R-5897 (as amended), R-6856 (as amended) and associated administrative orders.

The injection authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into at least one of the subject wells, provided however, the Division, upon written request by the operator received prior to the two-year deadline, may grant an extension thereof for good cause shown.



DAVID R. CATANACH
Director

DRC/prg

cc: Oil Conservation Division – Hobbs District
State Land Office – Oil, Gas and Minerals Division
Case Nos. 7426 and 14775
Well File 30-025-34025