

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**David Martin**  
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Deputy Cabinet Secretary

**David R. Catanach, Division Director**  
Oil Conservation Division



Administrative Order WFX-944  
May 27, 2015

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Commission Order Nos. R-2617 and R-2633, Legacy Reserves Operating, LP (OGRID No. 240974) has made application to the Division for approval to add ten injection wells to its Langlie-Mattix Penrose Sand Unit (LMPSU) Waterflood Project in the Langlie Mattix; 7 RVRS-Q-Grayburg Pool (Pool code 37240) in Lea County, New Mexico.

These wells are being proposed for conversion to injection to complement existing injection wells for enhanced oil recovery in the Queen formation of the LMPSU. These perforations correlate with the Unitized interval described, in testimony for Case No. 2954, "*as the lower 100 feet of the Seven Rivers and all the Queen formation known locally as the Penrose sand throughout the unit area*".

**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.

**IT IS THEREFORE ORDERED THAT:**

Legacy Reserves Operating, LP, as operator, is hereby authorized to inject water into the following existing wells for the purpose of secondary recovery through plastic-lined tubing set into a packer:

API No.	Well Name	Unit	Sec	Twp	Rng	Footage N/S	Footage E/W	Approved Injection Interval (in ft.); type	Maximum Surface Injection Pressure
30-025-10407	Langlie-Mattix Penrose Sand Unit No. 42	K	22	22 S	37 E	1980 FSL	1980 FWL	3400 to 3685; open hole	680 psi
30-025-10480	Langlie-Mattix Penrose Sand Unit No. 134	E	27	22S	37 E	1980 FNL	660 FWL	3522 to 3645; perforations	704 psi
30-025-10482	Langlie-Mattix Penrose Sand Unit No. 136	G	27	22S	37 E	1980 FNL	1980 FEL	3403 to 3660; open hole	681 psi
30-025-23772	Langlie-Mattix Penrose Sand Unit No. 139	C	27	22S	37E	760 FNL	2080 FWL	3508 to 3660; perforations	702 psi
30-025-23771	Langlie-Mattix Penrose Sand Unit No. 141	O	22	22S	37E	460 FSL	2180 FEL	3502 to 3640; perforations	700 psi
30-025-10471	Langlie-Mattix Penrose Sand Unit No. 201	O	27	22 S	37 E	660 FSL	1980 FEL	3360 to 3666; open hole	672 psi
30-025-09062	Langlie-Mattix Penrose Sand Unit No. 211	M	27	22 S	37 E	660 FSL	660 FWL	3397 to 3670; open hole	679 psi
30-025-10477	Langlie-Mattix Penrose Sand Unit No. 222	K	27	22 S	37 E	1980 FSL	1980 FWL	3386 to 3665; open hole	677 psi
30-025-10488	Langlie-Mattix Penrose Sand Unit No. 231	P	28	22 S	37 E	330 FSL	330 FEL	3393 to 3690; open hole	679 psi
30-025-10401	Langlie-Mattix Penrose Sand Unit No. 523	M	22	22 S	37 E	660 FSL	660 FWL	3323 to 3628; perforations	665 psi

The approved maximum surface injection pressure shall be based on a gradient of 0.2 pounds per square inch (psi) and limited to the pressure listed for the individual wells in the previous table. The operator shall set the injection packer in individual wells no more than 100 feet above the shallowest perforation or open hole interval for the permitted injection interval.

*The operator shall complete the listed corrective actions for the following two proposed injection wells **prior to commencing injection operations**:*

**1. Langlie-Mattix Penrose Sand Unit Well No. 136 (API 30-025-10482)**

**Corrective Action:** Cement shall be emplaced for the 8<sup>5</sup>/<sub>8</sub>-inch intermediate casing from the estimated top of cement of 472 feet to the surface. If the remedial cement work for the 8<sup>5</sup>/<sub>8</sub>-inch casing is not able to be circulated to surface, the operator shall run a cement bond log (CBL) to determine the top of cement and determine the tie with the 16-inch surface casing.

**2. Langlie-Mattix Penrose Sand Unit Well No. 523 (API 30-025-10401)**

**Corrective Action:** *Cement shall be emplaced for the 8 $\frac{5}{8}$ -inch intermediate casing from the estimated top of cement of 234 feet to the surface. If the remedial cement work for the 8  $\frac{5}{8}$ -inch casing is not able to be circulated to surface, the operator shall run a CBL to determine the top of cement and determine the tie with the 13-inch surface casing.*

*The operator shall prepare a cementing program for each well and submit the program to the Division's District I office for approval. Following completion of the corrective actions, the operator shall submit to the Division's District I office a copy of each CBL with a summary of the results of the remedial action.*

**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 in each well 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 in each well shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The 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 these wells.

The wellhead injection pressure on these wells shall be limited as listed above. In addition, the injection wells 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 order 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 injection 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 wells, 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 Orders R-2617 and R-2633 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/mam

cc: Oil Conservation Division – Hobbs District Office  
Bureau of Land Management – Carlsbad Field Office  
Case No. 2954