

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

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order SWD-1521
March 23, 2015

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, COG Operating, LLC (the "operator") seeks an administrative order for its proposed West Pearl 36 State SWD Well No. 2 with a proposed location 990 feet from the North line and 740 feet from the East line, Unit letter A of Section 36, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico, for produced water disposal purposes.

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 have been received within the prescribed waiting period. 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.

IT IS THEREFORE ORDERED THAT:

The applicant, COG Operating, LLC (OGRID 229137) is hereby authorized to utilize its proposed West Pearl 36 State SWD Well No. 2 (API No. 30-025-pending) with a proposed location 990 feet from the North line and 740 feet from the East line, Unit letter A of Section 36, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water (UIC Class II only) through an open-hole interval within the Devonian and Silurian formations formation from approximately 14300 feet to approximately 16000 feet. Injection shall occur through internally-coated tubing and a packer set a maximum of 100 feet above the top of the open-hole interval. Injection will occur through internally-coated, 4 ½-inch or smaller tubing and a packer set within 100 feet of the open-hole interval.

If the upper contact of the Ordovician Montoya formation is encountered prior to the lower limit of the approved injection interval at 16000 feet, then the total depth of the well (and injection interval) shall be plugged back to the depth of the upper contact with the Ordovician system.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the

surface. This includes the well construction proposed and described in the application.

The operator shall supply the Division with a copy of a mudlog over the approved disposal interval and an insitu water salinity either estimated based on open-hole logs or by analysis of fluid from the completed injection interval. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District I office and the operator shall be required to receive written permission prior to commencing disposal. The operator shall supply both the Division's District I office and Santa Fe Bureau office with a copy of the log and salinity information prior to commencing disposal.

The operator shall run a cement bond log (or equivalent) to determine the top of cement and the quality of cement placement for the 7-inch liner and for the 9 $\frac{5}{8}$ -inch casing, if cement is not circulated to surface.

The operator shall also provide a summary of depths (picks) for formation tops in the injection interval to the Division's District I office prior to commencing disposal. If the final determination of formation tops (based on geophysical logs) does not correlate to the approved disposal interval, then the operator shall apply to amend the order for a corrected description.

Within one year after commencing disposal, the operator shall submit to the Division copies of an injection survey over the entire injection interval run on this well consisting of a temperature log, or equivalent, run under representative disposal rates.

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.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal 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 the well shall be limited to **no more than 2860 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well. If requested by the Division's District I office, the operator shall install and maintain a chart recorder showing casing and tubing pressures.

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 disposed fluid from the target formation. 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 disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's 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 Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District I office of any failure of the tubing, casing or packer in the 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 disposal 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.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

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.



DAVID R. CATANACH
Director

DC/mam

cc: Oil Conservation Division – Hobbs District Office
New Mexico State Land Office – Oil, Gas and Minerals Division



C-108 Review Checklist: Received 11/29/2014 Add. Request 1/30/15 Reply Date: 3/23/15 Suspended: NA [Ver 13]

PERMIT TYPE: WFX / PMX / SWD Number: 1521 Permit Date: 3/23/2015 Legacy Permits/Orders: NA

Well No. 2 Well Name(s): West Pearl 36 State

API: 30-0 25-Pending Spud Date: TBD New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 990 FNL, 740 FEL Lot or Unit A Sec 36 Tsp 19S Rge 34E County Lea

General Location: 5mi SW of Arkansas Jct. / 4mi SW 100 sup. Devotion Pool No.: 9601

BLM 100K Map: Hobbs Operator: COG OPERATING, LLC OGRID: 229137 Contact: BRIAN COLLINS

COMPLIANCE RULE 5.9: Total Wells: 3785 Inactive: 0 Fincl Assur: Y Compl. Order? N IS 5.9 OK? Y Date: 1/16/2015

WELL FILE REVIEWED Y Current Status: Proposed - No APP filed

WELL DIAGRAMS: NEW: Proposed X or RE-ENTER: Before Conv. 0 After Conv. 0 Logs in Imaging:

Planned Rehab Work to Well: Need CBL

Well Construction Details:		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned <u>Y</u> or Existing <u> </u> Surface		<u>26" / 20"</u>	<u>1850</u>	<u>5000/L</u>	<u>SURFACE/Circ</u>
Planned <u>Y</u> or Existing <u> </u> Intern/Prod		<u>17 1/2" / 13 1/8"</u>	<u>3500</u>	<u>4000/L</u>	<u>SURFACE/Circ</u>
Planned <u> </u> or Existing <u> </u> Intern/Prod		<u>12 3/4" / 9 1/8"</u>	<u>11100</u>	<u>4330</u>	<u>SURFACE</u>
Planned <u>Y</u> or Existing <u> </u> Prod/Liner		<u>8 1/2" / 7"</u>	<u>14300</u>	<u>650</u>	<u>10900 / Design</u>
Planned <u> </u> or Existing <u> </u> Liner		<u> </u>	<u> </u>	<u> </u>	<u> </u>
Planned <u>Y</u> or Existing <u> </u> (OH) PERF		<u>14300' - 16000'</u>	<u>1700</u>		

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.			
Confining Unit: Litho. Struc. Por.			
Proposed Inj Interval TOP:	<u>14300</u>	<u>Devotion /</u>	
Proposed Inj Interval BOTTOM:	<u>16000</u>	<u>Silurian</u>	
Confining Unit: Litho. Struc. Por.		<u>12 Ord. / Simpson - Montoya</u>	
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:	
Drilled TD <u>16000</u>	PBTD <u>16000</u>
NEW TD <u> </u>	NEW PBTD <u> </u>
NEW Open Hole <u>Y</u> or NEW Perfs <u>0</u>	
Tubing Size <u>4 1/2</u> in.	Inter Coated? <u>Y</u>
Proposed Packer Depth <u>14250</u> ft	
Min Packer Depth <u>14200</u> (100-ft limit)	
Proposed Max. Surface Press. <u>2860</u> psi	
Admin. Inj. Press. <u>2860</u> (0.2 psi per ft)	

AOR: Hydrologic and Geologic Information

POTASH: R-111-P NA Noticed? NA BLM Sec Ord NA WIPP NA Noticed? NA SALT/SALADO T: B: CLIFF HOUSE NA

FRESH WATER: Aquifer OGALLALA Max Depth 120 HYDRO AFFIRM STATEMENT By Qualified Person NA

NMOSE Basin: Capitan CAPITAN REEF: thru add NA No. Wells within 1-Mile Radius? 0 FW Analysis NA

Disposal Fluid: Formation Source(s) Devotion / Silurian Analysis? YES On Lease 0 Operator Only Y or Commercial NA

Disposal Int: Inject Rate (Avg/Max BWPD): 25,000 Protectable Waters: UNK Source: None System: Closed Y or Open 0

HC Potential: Producing Interval? NA Formerly Producing? NA Method: Logs/DST/P&A/Other UNK 2-Mile Radius Pool Map NA

AOR Wells: 1/2-M Radius Map? NA Well List? NA Total No. Wells Penetrating Interval: 0 Horizontals?

Penetrating Wells: No. Active Wells NA Num Repairs? on which well(s)? Diagrams?

Penetrating Wells: No. P&A Wells NA Num Repairs? on which well(s)? Diagrams?

NOTICE: Newspaper Date 11/21/2014 Mineral Owner NMSLO Surface Owner NMSLO N. Date 11/25/2014

RULE 26.7(A): Identified Tracts? YES Affected Persons: Mobil Prod. / Chevron USA / EOG / Magnum Hunter / Rubicon N. Date 11/25/2014

Permit Conditions: Issues: Limit Ellenburger, HC potential

Add Permit Cond: Set depth limits; CBL - 7", salinity calc, mudlog
Diags