



December 5, 2014

New Mexico Oil Conservation Division  
Attn: Phillip Goetze  
1220 South St. Francis Drive  
Santa Fe, NM 87505

RE: Well Data Requested on C-108  
Cottonwood 2 State SWD #1  
Township 26 South, Range 26 East, N.M.P.M.  
Section 2: 400' FSL & 1400' FEL  
Eddy County, New Mexico

Dear Mr. Goetze:

The C-108 requires Concho to supply certain data to the Division. The data summary follows below.

Operator shall supply the Division with a copy of the mudlog: A copy of the mudlog is enclosed. There were no shows in the Devonian/Silurian/Ordovician section. The gas carried into the top of the Devonian is from the Pennsylvanian section above. We had a miscommunication and drilled too far into the Devonian before stopping to run a liner across the Penn section.

Operator shall supply the Division with an in-situ water salinity based on open-hole logs: The preliminary calculations result in extreme variability in the calculated salinities. We also had some lost circulation and seepage when drilling the Paleozoic section which probably contributes to the variability in salinity. We will submit this to you in the near future.

Notify District 2 if significant hydrocarbon shows occur while drilling the injection interval: There were no shows in the injection interval.

Supply a bond log or equivalent showing TOC for the 9-5/8" and 7" strings: Bond logs are enclosed along with a well bore schematic. The cement was circulated to surface on both stages on the 9-5/8" which was set at 5559', therefore no bond log was needed. We intended to set a 7" long string into the top of the Devonian, encountered unexpected pressure in the Penn section, the casing became stuck off bottom, the well bridged off near the bottom of the casing and the 7" was cemented from 10965' to 2250'. A 5-1/2" flush joint liner was run from 10825' to 13270' into the top of the Devonian. We circulated cement off of the top of the liner so the liner has complete cement coverage behind it.

Operator shall provide the formation tops in the injection interval:

Devonian 13,229'  
Silurian (Fusselman) 13,641'  
Ordovician (Montoya) 14,211' We stopped at 14,500' to stay out of the Simpson

CORPORATE ADDRESS

One Concho Center | 600 West Illinois Avenue | Midland, Texas 79701  
PHONE 432.683.7443 | FAX 432.683.7441

LOCAL ADDRESS

Concho West | 2208 West Main Street | Artesia, New Mexico 88210  
PHONE 575.748.6940 | FAX 575.748.6968



Please do not hesitate to contact me at (575) 748-6940 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Collins".

Brian Collins  
Operations Engineering Advisor

BC/sw  
Enclosures

Copy: Mr. Randy Dade, NMOCD Artesia

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State of New Mexico  
Energy, Minerals and Natural Resources Department

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Susana Martinez  
Governor

David Martin  
Cabinet Secretary

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, Division Director  
Oil Conservation Division



Administrative Order SWD-1473  
April 10, 2014

**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 Cottonwood 2 State SWD Well No. 1 with a location of 400 feet from the South line and 1400 feet from the East line, Unit letter O of Section 2, Township 26 South, Range 26 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of 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 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

The applicant, COG Operating, LLC (OGRID 229137), is hereby authorized to utilize its Cottonwood 2 State SWD Well No. 1 (API 30-015-Pending) with a location of 400 feet from the South line and 1400 feet from the East line, Unit letter O of Section 2, Township 26 South, Range 26 East, NMPM, Eddy County, for disposal of oil field produced water (UIC Class II only) through open hole into an interval consisting of the Devonian, Silurian, and Ordovician formations from approximately 13100 feet to approximately 14600 feet. *If the upper contact of the Ordovician Ellenburger formation is encountered prior to the lower limit of the approved injection interval at 14600 feet, then the total depth of the well (and injection interval) shall be reduced to include only the upper 100 feet of Ellenburger formation.* Injection will occur through internally-coated, 4 ½-inch or smaller tubing and a packer set within 100 feet of the permitted interval.

**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 permitted*

*disposal interval and an estimated insitu water salinity based on open-hole logs. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's district II and the operator shall be required to receive written permission prior to commencing disposal.*

*The operator shall also include a cement bond log (or equivalent) showing final top of cement for the 7-inch liner and 9 5/8-inch casing.*

*The operator shall also provide a summary of depths (picks) for formation tops in the injection interval to the Division's district II office prior to commencing disposal.*

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 2620 psig**. 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.

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 II 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 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 II 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.

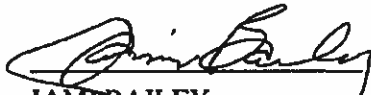
The injection authority granted under this order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

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

  
JAMTBAILEY  
Director

JB/prg

cc: Oil Conservation Division – Artesia District Office  
State Land Office – Oil, Gas and Minerals Division

[Administrative Application No. pMAM1404958721]

30-015- 42356

Cottonwood Z State SWP 1  
400' FSL, 1400' FEL  
O-2-26s-26e  
Eddy NM

Zero: 27' AGL  
KB: 3325.8'  
GL: 3298.8'

17 1/2"

13 3/8" / 54.5 / J55 / STC @ 403' 400sx" C" (circ 125sx)

12 1/4"

TOC ± 2250' CBL

LC @ 5312'

DV/ECP 4506'

1st: 250sx HLC + 100sx" C"  
(circ 67sx)

9 5/8" / 43.5 / HCP-110 / BTC @ 5559' 2nd: 1200sx Econncom + 200' C"  
(circ 201sx)

8 3/4"

+  
to  
13387'

5 shots 10965'

12 shots 11740'

5 shots 12130'

5 shots 12670'

In  
7"  
Csg

TOL 10825'

DV/ECP 12772'

7" / 29 / HCP-110 / LTC @ 12793' Cont From 10965' 800sx H.Y. / Cmt +  
200sx "H"

5 1/2" / 20 / P-110 / FJM

Liner 100sx HLC + 50sx "H" (circ 28sx)  
10825-13270'

8 3/4" + 4 5/8" @ 13387'

4 5/8"

13387'  
to  
TD

Devonian / Silurian / Ordovician  
OH 13270' - 14500'

14,500'