

DATE IN 12/3/12	SUSPENSE	ENGINEER id/055	LOGGED IN	TYPE SWD	APP NO. PW05130454899
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**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify \_\_\_\_\_

CEG O'Brien LLC  
 APPLE 15 State SW #1  
 30-05-1VA  
 B/S/26S/28E/EDDY

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☒ Offset Operators, Leaseholders or Surface Owner
- [C] ☒ Application is One Which Requires Published Legal Notice
- [D] ☒ Notification and/or Concurrent Approval by BLM or SLO  
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

also seen  
 SWD-1192  
 MUMT G 5005  
 Del SWD  
 Cactus 1152, 000 BLM PA

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

BRIAN COLLINS Print or Type Name	 Signature	SENIOR OPERATIONS ENGINEER Title	27 Nov 12 Date
bcollins@concho.com e-mail Address			



RECEIVED OCD

2012 DEC -3 A 9:17

November 27, 2012

New Mexico Oil Conservation Division  
Attn: William V. Jones  
1220 South St. Francis Drive  
Santa Fe, NM 87505

RE: Application For Authorization To Inject  
Apple 5 State SWD No. 1  
Township 26 South, Range 28 East, N.M.P.M.  
Section 5: 990' FNL & 1980' FEL  
Eddy County, New Mexico

Dear Mr. Jones:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the Apple 5 State SWD No. 1 well as referenced above. Attached, for your review, is a copy of the C-108 application. Once we receive the newspaper publication and all certified return receipts, I will send you a copy.

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

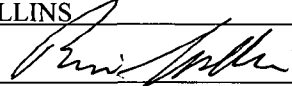
Sincerely,

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

Brian Collins  
Senior Operations Engineer

BC/bg  
Enclosures

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: COG OPERATING LLC  
ADDRESS: 2208 W. Main Street, ARTESIA, NM 88210  
CONTACT PARTY: BRIAN COLLINS PHONE: 575-748-6940
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: BRIAN COLLINS TITLE: Senior Operations Engineer  
SIGNATURE:  DATE: 27 Nov 12  
E-MAIL ADDRESS: bcollins@concho.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

C-108 Application for Authorization to Inject  
APPLE 5 STATE SWD #1  
Unit B, Sec 5 T26S R28E  
Eddy County, NM

COG Operating, LLC, proposes to drill the captioned well to 15400' for salt water disposal service into the Devonian from 14100' to 15400'. An APD will be submitted upon approval of this C-108.

- V. Map is attached.
- VI. No wells within the ½ mile radius area of review penetrate the proposed injection zone.
- VII.
  - 1. Proposed average daily injection rate = 7500 BWPD  
Proposed maximum daily injection rate = 25000 BWPD
  - 2. Closed system
  - 3. Proposed maximum injection pressure = 2820 psi  
(0.2 psi/ft. x 14100' ft.)
  - 4. Source of injected water will be Delaware Sand, Bone Spring Sand and Wolfcamp produced water. No compatibility problems are expected. Analyses of Delaware, Bone Spring and Wolfcamp waters from analogous source wells are attached. There are no Devonian receiving formation water analyses available in this area.
- VIII. The injection zone is the Devonian composed of limestone and dolomite from 14100' to 15400'. Any underground water sources will be shallower than 100' based on State Engineers records.
- IX. The Devonian injection interval might be acidized with approximately 40,000 gal. of 20% HCl acid.
- X. Well logs, if run, will be filed with the Division. There is only one Devonian penetration in this area, the SRO 102 SWD located in Sec. 16-26S-28E, and it was not logged in the Devonian.
- XI. There is one fresh water well within a mile of the proposed SWD well. Well could not be located on the site visit. Water analysis from a stock tank at this site is attached.
- XII. After examining the available geologic and engineering data, no evidence was found of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Proof of Notice is attached.

# **III.**

## **WELL DATA**

## INJECTION WELL DATA SHEET

OPERATOR: COG Operating, LLC

WELL NAME & NUMBER: Apple 5 State SWD 1

WELL LOCATION: 990' FNL 1980' FEL B 5 26 s 28e

FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

See Attached Schematic

WELL CONSTRUCTION DATASurface Casing

Hole Size: 26" Casing Size: 20" @ 400' ±

Cemented with: - sx. or 1200 ft<sup>3</sup>

Top of Cement: Surface Method Determined: Design

Intermediate Casing

Hole Size: 17 1/2" Casing Size: 13 3/8" @ 2300' ±

Cemented with: - sx. or 3200 ft<sup>3</sup>

Top of Cement: Surface Method Determined: Design

Production Casing

Hole Size: 8 3/4" Casing Size: Liner 7" @ 9200' ± - 14100' ±

Cemented with: - sx. or 1100 ft<sup>3</sup>

Top of Cement: 9200' ± Top Liner Method Determined: Design

Total Depth: 15400'

Injection Interval

14100' feet to 15400'

(Perforated or Open Hole; indicate which)

## INJECTION WELL DATA SHEET

Tubing Size: 4 1/2" Lining Material: IPC or Dupline ZO

Type of Packer: Nickel plated double grip retrievable

Packer Setting Depth: 14050' ±

Other Type of Tubing/Casing Seal (if applicable): *N/A*

## Additional Data

1. Is this a new well drilled for injection? X Yes        No

If no, for what purpose was the well originally drilled?

2. Name of the Injection Formation: Devonian

3. Name of Field or Pool (if applicable): Delaware River

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. *No*

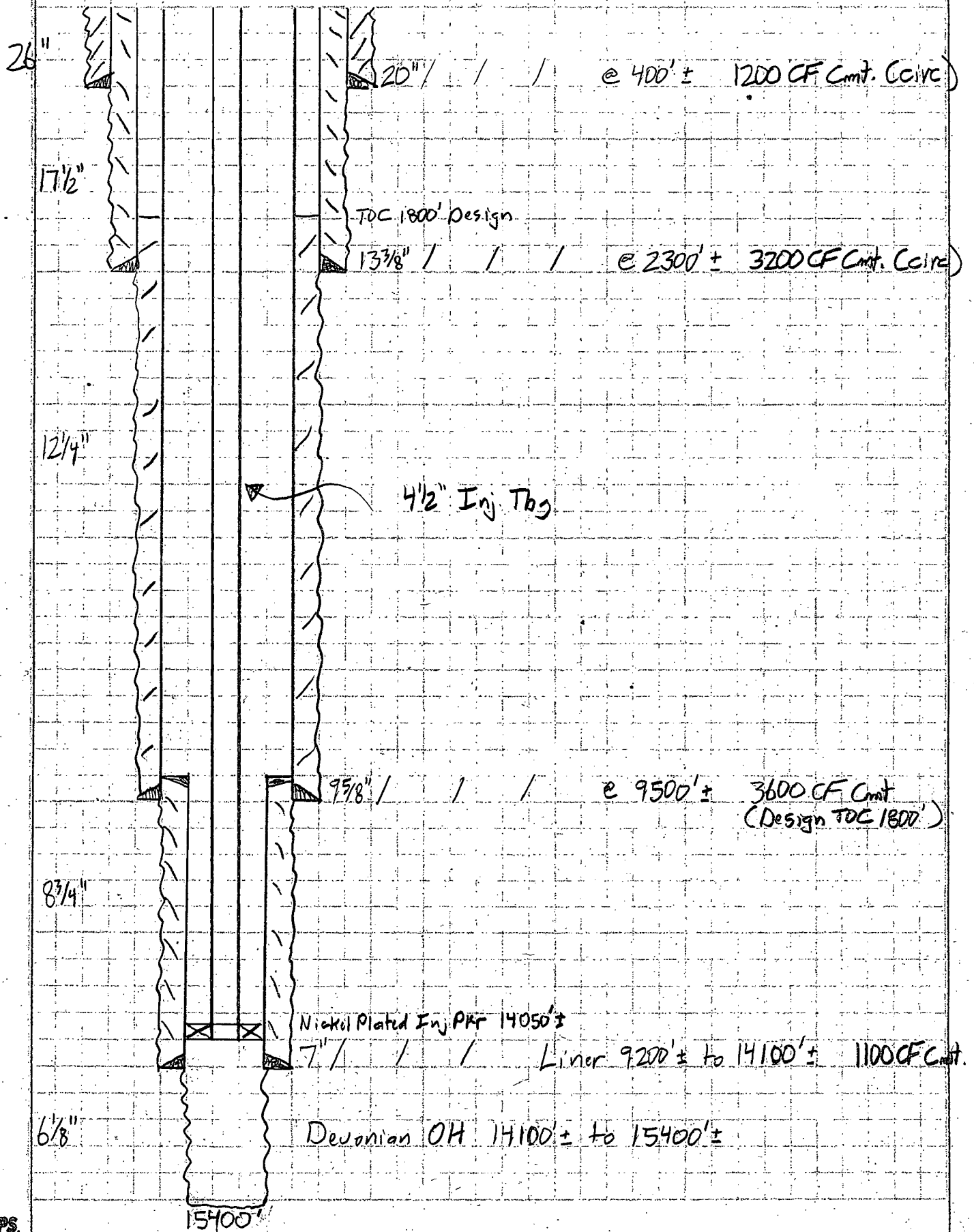
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

Underlying : None

Overlying: Morrow  $\pm 12300-12700'$  Atoka = Not Prod. Penn  $11150' \pm - 11225' \pm$   
Wolfcamp  $\pm 9500-10500'$  Bone Spring  $\pm 6200' - \pm 9000'$

30-D15-

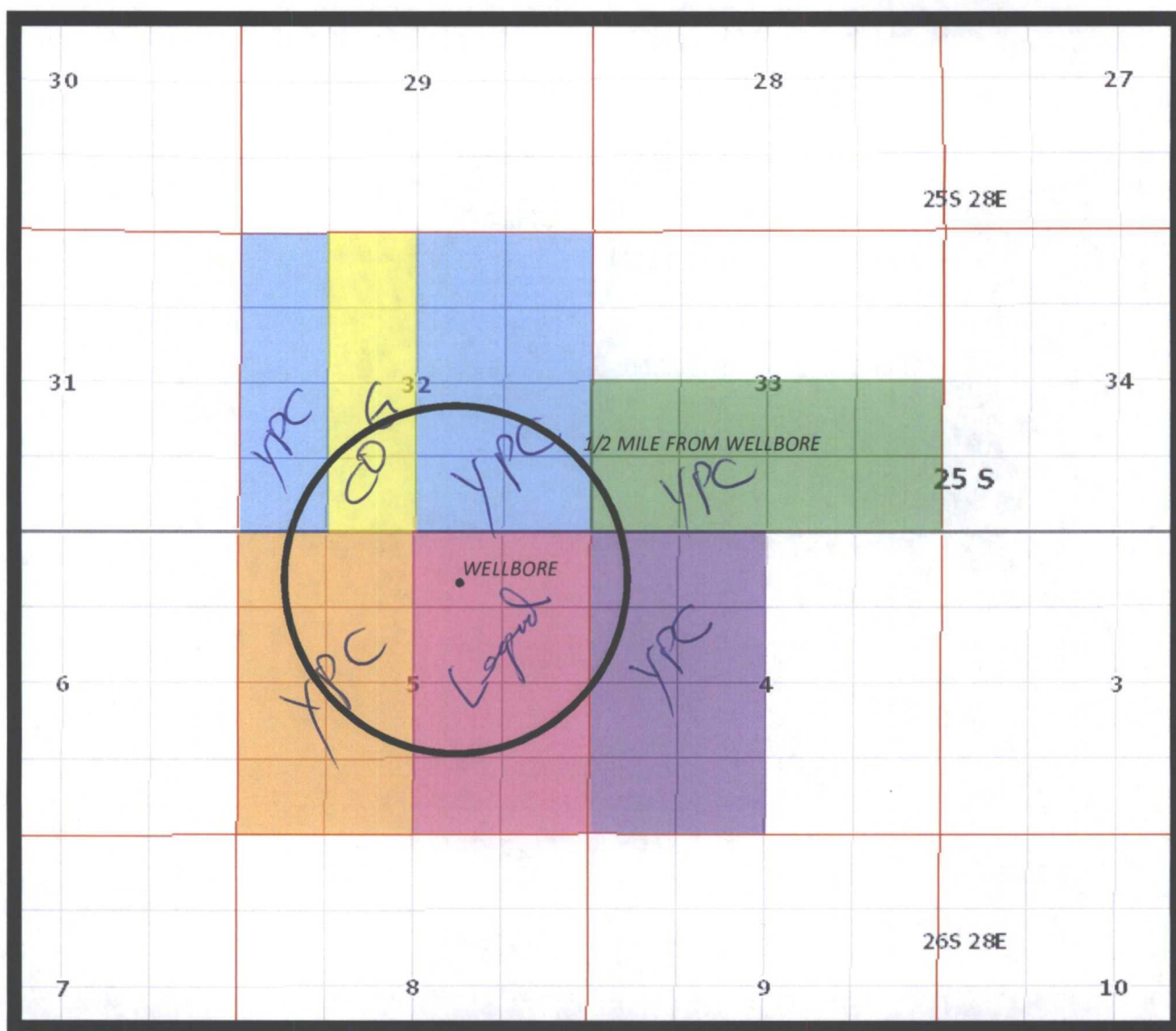
Apple 5 State SWD 1  
990' FNL, 1980' FEL  
B-5-26s-28e  
Eddy, NM










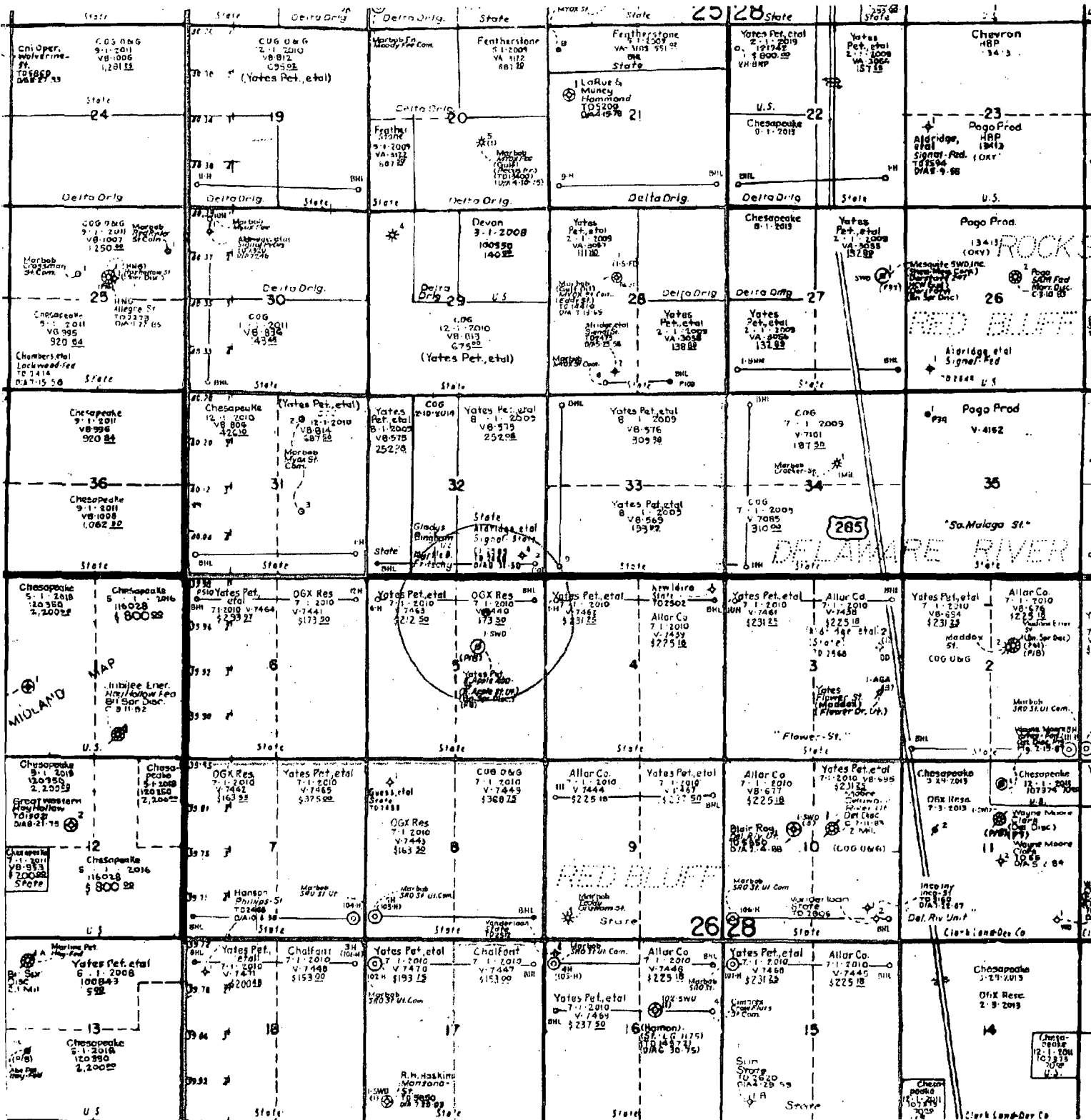
**V.**

**MAP**



	Yates Petroleum Corporation		Yates Petroleum Corporation
	COG Operating LLC		Legend Natural Gas II LP
	Yates Petroleum Corporation		Yates Petroleum Corporation

**Apple 5 State SWD No. 1**  
**990' FNL & 1980' FEL**  
**Sec. 5; T26s - R28e**  
**Eddy County, New Mexico**



COG Operating, LLC  
Apple 5 State SWD #1  
Unit B, Sec 5-T26S-R28E  
Eddy County, NM

# **VII.**

## **Water Analysis Produced and Receiving Formation Water**

WATER SAMPLES REPRESENTATIVE OF WATER BEING INJECTED INTO THE PROPOSED SWD WELL												
<b>Delaware</b>												
Lab Test #	Lease	Location	Salesman	Date Out	Sample Date	Specific Gravity	Ionic Strength	TDS	pH	conductivity	Ca (mg/L)	Mg (mg/L)
2011128362	Sly Hawk State	1	William D Polk	9/28/2011	9/13/2011	1.17	4.06	256802.26	6.50		26180.00	4101.14
<b>Bone Spring</b>												
Lab Test #	Lease	Location	Salesman	Date Out	Sample Date	Specific Gravity	Ionic Strength	TDS	pH	conductivity	Ca (mg/L)	Mg (mg/L)
2012108003	Boyles	24 1H	William D Polk	4/16/2012	4/3/2012	1.13	3.41	206441.81	6.69		3700.86	841.87
<b>Wolfcamp</b>												
Lab Test #	Lease	Location	Salesman	Date Out	Sample Date	Specific Gravity	Ionic Strength	TDS	pH	conductivity	Ca (mg/L)	Mg (mg/L)
2012105892	Augustus 10	1H		3/15/2012	3/8/2012	1.06	1.46	89771.55	6.60		3963.30	639.83

TH (CaCO3)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ba (mg/L)	Sr (mg/L)	Mn (mg/L)	Resistivity	HCO3 (mg/L)	CO3 (mg/L)	OH (mg/L)	SO4 (mg/L)	Cl (mg/L)	CO2 (mg/L)	H2S (mg/L)	
83379.63	62970.16	1133.12	38.78	20.06	1.64	905.03	9.33		73.00	0.00		70.00	161300.00	360.00	0.00	
TH (CaCO3)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ba (mg/L)	Sr (mg/L)	Mn (mg/L)	Resistivity	HCO3 (mg/L)	CO3 (mg/L)	OH (mg/L)	SO4 (mg/L)	Cl (mg/L)	CO2 (mg/L)	H2S (mg/L)	
13271.35	69386.15	1109.30	0.00	17.57	0.00	483.07	0.00		1403.00	0.00		700.00	128800.00	400.00	0.00	
TH (CaCO3)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ba (mg/L)	Sr (mg/L)	Mn (mg/L)	Resistivity	HCO3 (mg/L)	CO3 (mg/L)	OH (mg/L)	SO4 (mg/L)	Cl (mg/L)	CO2 (mg/L)	H2S (mg/L)	
13352.51	28320.32	350.70	0.00	17.85	1.77	707.79	0.00		220.00	0.00		950.00	54600.00	60.00	0.00	

**XI.**

**Fresh Water Sample  
Analyses**



# *New Mexico Office of the State Engineer*

## **Active & Inactive Points of Diversion**

(with Ownership Information)

---

No PODs found.

**PLSS Search:**

**Section(s):** 31, 32, 33

**Township:** 25S

**Range:** 28E

---

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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10/11/12 2:46 PM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



*New Mexico Office of the State Engineer*  
**Active & Inactive Points of Diversion**  
 (with Ownership Information)

(R=POD has been replaced  
and no longer serves this file

C=the file is closed)

e, (quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

q q q

WR File Nbr	Sub	(acre ft per annum)			County	POD Number	Code	Grant	C=the file is closed)	(quarters are smallest to largest)					(NAD83 UTM in meters)		
		basin	Use	Diversion						Owner	q	q	q	X	Y		
C 02478	CUB	PLS		3	MARTHA SKEEN	ED	C 02478				2	1	05	26S	28E	583848	3549325*

Couldn't find well  
on site visit.

Record Count: 1

**PLSS Search:**

**Section(s):** 4, 5, 6, 7, 8, 9      **Township:** 26S      **Range:** 28E

**Sorted by:** File Number

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

**POD Number**

C 02478

**Q64 Q16 Q4 Sec Tws Rng**

2 1 05 26S 28E

**X**

**Y**

583848 3549325\*

**Driller License:**

**Driller Name:** HEPLER BROS

**Drill Start Date:**

**Drill Finish Date:** 12/31/1916

**Plug Date:**

**Log File Date:**

**PCW Rcv Date:**

**Source:**

**Pump Type:**

**Pipe Discharge Size:**

**Estimated Yield: 5**

**Casing Size:** 6.00

**Depth Well:** 100 feet

**Depth Water:**

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

# HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY  
WATER ANALYSIS REPORT  
HOBBS, NEW MEXICO

COMPANY Marbob

REPORT W09-059

DATE July 30, 2009

DISTRICT Hobbs

Stock Tank Water

NE14 NW14 Sec. 5-26s-28e

SUBMITTED BY \_\_\_\_\_

WELL Stock Tanks DEPTH \_\_\_\_\_ FORMATION \_\_\_\_\_  
COUNTY \_\_\_\_\_ FIELD \_\_\_\_\_ SOURCE \_\_\_\_\_

SAMPLE	5-26S-28C	C-2160 5-S	C03413	
Sample Temp.	70 °F	70 °F	70 °F	°F
RESISTIVITY	15.8	3.41	3.41	
SPECIFIC GR.	1.000	1.002	1.002	
pH	8.57	8.12	7.89	
CALCIUM	700 mpl	1,000 mpl	1,150 mpl	mpl
MAGNESIUM	390 mpl	750 mpl	750 mpl	mpl
CHLORIDE	45 mpl	1,222 mpl	316 mpl	mpl
SULFATES	Light mpl	Moderate mpl	Moderate mpl	mpl
BICARBONATES	170 mpl	366 mpl	292 mpl	mpl
SOLUBLE IRON	0 mpl	0 mpl	0 mpl	mpl
KCL	Negative	Negative	Negative	
Sodium	mpl	mpl	mpl	0 mpl
TDS	mpl	mpl	mpl	0 mpl
OIL GRAVITY	@ °F	@ °F	@ °F	@ °F

REMARKS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MPL = Milligrams per liter  
Resitivity measured in: Ohm/m2/m

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Co.

ANALYST: JH



November 27, 2012

New Mexico State Land Office  
P O Box 1148  
Santa Fe, NM 87504-1148

Re: Application to Inject  
Apple 5 State SWD No. 1  
Township 26 South, Range 28 East, N.M.P.M.  
Section 5: 990' FNL & 1980' FEL  
Eddy County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian Collins".

Brian Collins  
Senior Operations Engineer

BC/bg  
Enclosures



November 27, 2012

Oil Conservation Division  
Attn: Richard Inge  
811 South 1<sup>st</sup> St.  
Artesia, NM 88210

RE: Application For Authorization To Inject  
Apple 5 State SWD No. 1  
Township 26 South, Range 28 East, N.M.P.M.  
Section 5: 990' FNL & 1980' FEL  
Eddy County, New Mexico

Dear Mr. Inge:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the Apple 5 State SWD No. 1 well as referenced above. Attached, for your review, is a copy of the C-108 application. Once we receive the newspaper publication and all certified return receipts, I will send you a copy.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian Collins".

Brian Collins  
Senior Operations Engineer

BC/bg  
Enclosures



November 27, 2012

Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, NM 88210

Re: Application to Inject  
Apple 5 State SWD No. 1  
Township 26 South, Range 28 East, N.M.P.M.  
Section 5: 990' FNL & 1980' FEL  
Eddy County, New Mexico

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

Sincerely,

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Brian Collins  
Senior Operations Engineer

BC/sw  
Enclosures



November 27, 2012

Legend Natural Gas III Limited Partnership  
410 W. Grand Parkway South, Suite 400  
Katy, TX 77494

Re: Application to Inject  
Apple 5 State SWD No. 1  
Township 26 South, Range 28 East, N.M.P.M.  
Section 5: 990' FNL & 1980' FEL  
Eddy County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

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

Brian Collins  
Senior Operations Engineer

BC/sw  
Enclosures



November 28, 2012

Artesia Daily Press  
P. O. Box 190  
Artesia, NM 88211-0190

Re: Legal Notice  
Salt Water Disposal Well  
Apple 5 State SWD No. 1

To Whom It May Concern:

Enclosed is a legal notice regarding New Mexico Oil Conservation Division C-108 Application for Authorization to Inject for a salt water disposal well.

Please run this notice and return the proof of notice to the undersigned at:

**COG Operating LLC, 2208 W. Main St., Artesia, NM 88210**

Sincerely,

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

Brian Collins  
Senior Operations Engineer

BC/bg  
Enclosures



**ARTESIA DAILY PRESS**  
**LEGAL NOTICES**

COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico, 88210, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Apple 5 State SWD No. 1 is located 990' FNL and 1980' FEL, Sec. 5, Township 26 South, Range 28 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian formation at a depth of 14100-15400' at a maximum surface pressure of 2820 psi and a maximum rate of 25,000 BWPD. This well is located approximately 14 miles south of Loving. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 575-748-6940.

Published in the Artesia Daily Press, Artesia, New Mexico  
\_\_\_\_\_, 2012.

# Affidavit of Publication

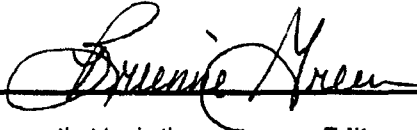
NO.

22392

STATE OF NEW MEXICO

County of Eddy:

Brienne Green



Editor

being duly sworn, says that he is the

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

## Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutive weeks/days on the same day as follows:

First Publication December 4, 2012

Second Publication \_\_\_\_\_

Third Publication \_\_\_\_\_

Fourth Publication \_\_\_\_\_

Fifth Publication \_\_\_\_\_

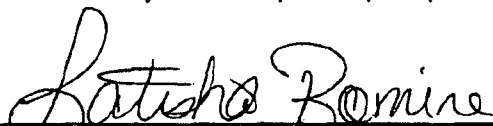
Subscribed and sworn to before me this

4th day of December 2012



OFFICIAL SEAL  
Latisha Romine  
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 3/12/2015



10th

Latisha Romine  
Notary Public, Eddy County, New Mexico

## Copy of Publication:

COG Operating LLC, 2208 W. Main Street, Artesia, NM 88210, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Apple 5 State SWD No. 1 is located 990' FNL and 1890' FEL, Sec. 5, Township 26 South, Range 28 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian formation at a depth of 14100-15400' at a maximum surface pressure of 2820 psi and a maximum rate of 25,000 BWPD. This well is located approximately 14 miles south of Loving. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 875-748-8840. Published in the Artesia Daily Press, Artesia, N.M., Dec. 4, 2012. Legal No 22392.

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NM OIL CONSERVATION DIVISION  
1220 S ST FRANCIS DR  
SANTA FE NM 87505

2. Article Number

(Transfer from service label)

7011 1570 0000 7781 3394

PS Form 3811, February 2004

Domestic Return Receipt

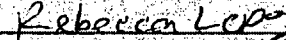
102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature


☐ Agent☐ Addressee

B. Received by (Printed Name)



C. Date of Delivery

D. Is delivery address different from item 1? ☒ YesIf YES, enter delivery address below: ☐ No

NOV 30 2012

3. Service Type

☒ Certified Mail☒ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NM STATE LAND OFFICE  
P O BOX 1148  
SANTA FE NM 87504-1148

2. Article Number

(Transfer from service label)

7011 1570 0000 7781 3424


PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature


☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☒ YesIf YES, enter delivery address below: ☐ No

DEC - 3 2012

3. Service Type

☒ Certified Mail☒ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

## 1. Article Addressed to:

Legend Natural Gas, III  
Attn: Kemper Williams  
15021 Katy Freeway  
Suite 200  
Houston, TX 77494

## 2. Article Number

(Transfer from service label)

7012 2210 0001 7108 8602

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

## A. Signature

X

☐ Agent☐ Addressee

## B. Received by (Printed Name)

L M Dees

## C. Date of Delivery

1-30-13

## D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

## 3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

## 4. Restricted Delivery? (Extra Fee)

☐ Yes

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

## 1. Article Addressed to:

YATES PETROLEUM CORPORATION  
105 S 4TH ST  
ARTESIA NM 88210

## 2. Article Number

(Transfer from service label)

7011 1570 0000 7781 3370

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

## A. Signature

X

☐ Agent☐ Addressee

## B. Received by (Printed Name)

J. Delgado

## C. Date of Delivery

11-30-12

## D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

## 3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

## 4. Restricted Delivery? (Extra Fee)

☐ Yes

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Friday, December 28, 2012 5:19 PM  
**To:** 'Bobbie Goodloe'; Brian Collins  
**Cc:** Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; Brooks, David K., EMNRD  
**Subject:** Disposal applications from COG Operating, LLC: proposed Reposado 2 State SWD #1, Apple 5 State SWD #1, and Willow 17 State SWD #1 all in Eddy County. (Devonian open holes)

*in Reply 1/2/13, COG MAINTAINS NOTICE is OK.*

Hello Bobbie and Brian,

These SWD applications look OK, and the only things I seem to be missing or would ask about:

Would you ask the Geologist to estimate the top of Devonian and base of Devonian in each of these wells?

And please send to me a copy of the latest actual newspaper notice and the certified mailer receipts (or receipt numbers) with dates of mailing to the affected parties.

For the Reposado 2 State SWD #1 it appeared that El Paso may not have been noticed?

For the Willow 17 State SWD #1 it appeared that Delta and Devon may not have been noticed?

There are no producing wells in the AOR of a proposed SWD well, so in this case there are no dedicated spacing units with "Operators of Record" at Devonian depths.

Therefore the certified notices should be going out to the Lessees of Devonian oil and gas rights or whomever controls the rights to the Devonian minerals within the AOR. If no lessees, then notices should be sent to mineral owners. Would you check with your favorite Landman to verify this is happening? If there are any gray areas, the COG Landman could call David Brooks (our Landman/Attorney) at 505-476-3450 to ensure all is well in this regard. I have found that Land people speak best to other land people and I may not understand the conversation!

I may only be here on Monday of next week – so HAPPY NEW YEAR!

....There are several SWD permits for COG and others drafted and waiting for the Director to sign when she returns from vacation (we believe on January 3<sup>rd</sup>).

Thank You!

Will Jones

*need Certified mailer / Actual Newspaper NOTICE*

## **Jones, William V., EMNRD**

---

**From:** Brian Collins <BCollins@concho.com>  
**Sent:** Wednesday, January 02, 2013 7:35 AM  
**To:** Jones, William V., EMNRD  
**Subject:** RE: Disposal applications from COG Operating, LLC: proposed Reposado 2 State SWD # 1, Apple 5 State SWD #1, and Willow 17 State SWD #1 all in Eddy County. (Devonian open holes)

Will: 

We'll get you some answers ASAP. I've got the estimated top of the Devonian from our geologists, but not the base. Due to geologic uncertainty on the tops and presence of good dolomite, I've filed for disposal intervals approx. 150' high to the estimated top of the Devonian and for gross injection interval thicknesses in the 1200' range. We'll actually set casing into the top of the Devonian (covering the Woodford shale) when we drill these wells. I'll visit with the geologists about estimated Devonian thicknesses. Thanks. --Brian

---

**From:** Jones, William V., EMNRD [<mailto:William.V.Jones@state.nm.us>]  
**Sent:** Friday, December 28, 2012 6:19 PM  
**To:** Bobbie Goodloe; Brian Collins  
**Cc:** Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; Brooks, David K., EMNRD  
**Subject:** Disposal applications from COG Operating, LLC: proposed Reposado 2 State SWD #1, Apple 5 State SWD #1, and Willow 17 State SWD #1 all in Eddy County. (Devonian open holes)

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**Jones, William V., EMNRD**

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**From:** Brian Collins <BCollins@concho.com>  
**Sent:** Wednesday, January 02, 2013 10:31 AM  
**To:** Jones, William V., EMNRD  
**Cc:** Dean Chumbley; Bobbie Goodloe  
**Subject:** RE: Disposal applications from COG Operating, LLC: proposed Reposado 2 State SWD #1, Apple 5 State SWD #1, and Willow 17 State SWD #1 all in Eddy County. (Devonian open holes)

Will:

Here's some answers to your notification questions:

Apple 5 State SWD 1: We've notified all the necessary lessees of record. COG operates all the wells that have been drilled within the AOR.

Willow 17 State SWD 1: We will notify Delta Drilling/Devon as lessees of record/mineral owners ASAP—our mistake. Devon owns Delta Drilling's surface and minerals in this area so the notice will be sent to Devon. COG operates all the wells that have been drilled within the AOR.

Reposado 2 State SWD 1: We didn't notify El Paso Natural Gas, but will send out notice ASAP—our mistake. Our notification list was for the lessees of record within the AOR.

If you still have notification questions, let me know and I'll have Dean Chumbley visit with you. Thanks for your patience.

Brian

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**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]  
**Sent:** Friday, December 28, 2012 6:19 PM  
**To:** Bobbie Goodloe; Brian Collins  
**Cc:** Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; Brooks, David K., EMNRD  
**Subject:** Disposal applications from COG Operating, LLC: proposed Reposado 2 State SWD #1, Apple 5 State SWD #1, and Willow 17 State SWD #1 all in Eddy County. (Devonian open holes)

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## Jones, William V., EMNRD

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**From:** Brian Collins <BCollins@concho.com>  
**Sent:** Tuesday, January 08, 2013 2:58 PM  
**To:** Jones, William V., EMNRD  
**Subject:** COG Devonian-Silurian-Ordovician SWD Applications--Remaining Requested Devonian Tops/Bases

Will:

Here's the rest of the Devonian tops/bases you requested. Our geologist noted that the tops are approximate and the bases are very approximate due to the lack of well control. When the wells are drilled and actually penetrate the Devonian, we'll set 7" to the top of the Devonian and drill the rest of the way as an open hole disposal interval. Thanks.

Reposado 2 State SWD 1 (2-26s-29e): Geologist pick for Devonian top = 15654' and base = 16,143'  
C108 application interval = 15,500-16,900'

Willow 17 State SWD 1 (17-25s-28e): Geologist pick for Devonian top = 14,323' and base = 14,723'  
C108 application interval = 14,000-15,300'

Apple 5 State SWD 1 (5-26s-28e): Geologist pick for Devonian top = 14,279' and base = 14,679'  
C108 application interval = 14,100-15,400'

**Brian Collins**  
Senior Operations Engineer - NM Basin  
COG OPERATING LLC  
2208 W Main St  
Artesia, New Mexico 88210-3720  
575.748.6924 W  
432-254-5870 C



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in 11/3/12 (not reply 1/18/13)  
Letter 12/28/12  
Injection Permit Checklist (11/15/2010)

2/14/13

(Last Notice/Return 1/30/13 Receipt)

WFX PMX SWD 1398 Permit Date 1/12 UIC Qtr 0/11/12

# Wells 1 Well Name(s) APPLE STATE SWD #1

API Num: 30-015-NA Spud Date: Not Yet New/Old: N (UIC primacy March 7, 1982)

Footages 990 FNL/1980 FEL Unit B Sec 5 Tsp 26S Rge 28E County DEBBY

General Location: NW of Red Bluff Res. (500 SWD-1192 9/16/09 Deland)

Operator: COG OPERATING, LLC Contact BRIAN COLLINS

OGRID: 229137 RULE 5.9 Compliance (Wells) 9/27/55 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed New Current Status: NOT Permitted

Planned Work to Well: Drill/EQUIP/ASP.

Diagrams: Before Conversion After Conversion Elogs in Imaging File: NOT drilled

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
New Existing Surface	26 - 20	400	-	1200 CF	Surf
New Existing Interm	17 1/2 - 13 1/8	2300	-	3200 CF	Surf
New Existing LongSt	12 1/4 - 9 1/8	9500	-	3600 CF	(into HIGHER ST.)
New Existing Liner	8 3/4 - 7"	9200' - 14,100'	-	1100 CF	To Liner Top
New Existing OpenHole	6 1/8	14,100' - 15,400'	-		

Depths/Formations: Depths, Ft. Formation Tops?

Formation(s) Above	14279	Dev	✓	modify later
Injection TOP:	14,100'	DEVONIAN	Max. PSI 2820	Open Hole ✓ Parts
Injection BOTTOM:	15,400'	"	Tubing Size 4 1/2"	Packer Depth 14550'
Formation(s) Below	14679	Base of Dev	✓	

Capitan Reef? (Potash?) Noticed? (WIP?) Noticed? Salado Top/Bot 2500-3000' Cliff House?

Fresh Water: Depths: < 400' Formation Wells? yes Analysis? yes Affirmative Statement ✓

Disposal Fluid Analysis? Sources: Dev/B.S./WC

Disposal Interval: Analysis? 140 Production Potential/Testing: NO SURVEILLANCE PROD OR TESTS

Notice: Newspaper Date 10/4/12 Surface Owner SIO Mineral Owner(s)

RULE 25.7(A) Affected Persons: YPC/Logan

AOR: Maps? Well List? Producing in Interval? NO Wellbore Diagrams?

Active Wells 0 Repairs? Which Wells?

P&A Wells 0 Repairs? Which Wells?

Issues: How Trace is DEV?

Request Sent Reply: