

11/25/2014 DATE IN	SUSPENSE	PRG ENGINEER	11/25/2014 LOGGED IN	SWD TYPE	PMAM1432959504 APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

NO NOTIFICATION  
OF FUMS 02

## 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 \_\_\_\_\_

#### [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

#### [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

Operations Engineering Advisor  
Title

Date

bcollins@concho.com  
e-mail Address

19 Nov 2014

2014 NOV 25 PM 3:15

RECEIVED OGD

- SWD 1528  
- COG OPERATING LLC  
229137  
- Lightning State SWD #2  
30-025-Pending  
- SWD, Devonian  
96101



November 19, 2014

RECEIVED OCD

2014 NOV 25 P 3: 15

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

RE: Application For Authorization To Inject  
Lightning 1 State SWD #2  
Township 21 South, Range 33 East, N.M.P.M.  
Section 1: 3780' FSL & 2300' FWL  
Lea County, New Mexico

Dear Mr. Goetze:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. 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.

Our geologic prognosis has the top of the Devonian at 15174', Fusselman at 15563', and Simpson at 16555'. I'm permitting the injection interval a couple of hundred feet shallower and deeper than the prognosis just in case the formation tops are different than expected due to the lack of deep well control in this area. We will likely call TD about 1250' to 1500' below the actual top of the Devonian when we drill the well.

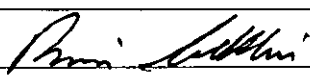
Please do not hesitate to contact me at (575) 748-6940 should you have any questions.

Sincerely,

Brian Collins  
Operations Engineering Advisor

BC/sw  
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 West Main St, 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: Operations Engineering Advisor  
SIGNATURE:  DATE: 19 Nov 2014  
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  
LIGHTNING 1 STATE SWD #2  
3780' FSL, 2300' FWL  
Unit N, Section 1, T21S, R33E  
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 16,700' for salt water disposal service into the Devonian/Silurian/Upper Ordovician from approximately 14,975' to 16,700'. A drilling permit 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 = 17,300 BWPD  
Proposed maximum daily injection rate = 25,000 BWPD
  - 2. Closed system
  - 3. Proposed maximum injection pressure = 2995 psi  
(0.2 psi/ft. x 14,975' 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.
- VIII. The injection zone is the Devonian/Silurian/Upper Ordovician, a mixture of non-hydrocarbon bearing limestone and dolomite from 14975' to 16700'.  
Any underground water sources will be shallower than 1762', the estimated top of the Rustler Anhydrite.
- IX. The Devonian/Silurian/Upper Ordovician injection interval will be acidized with approximately 40,000 gals of 20 % HCl acid.
- X. Well logs will be filed with the Division. There are no nearby Devonian penetrations so no analog well logs are available.
- XI. There are a few fresh water wells within a mile of the proposed SWD well. Water analyses are attached for two of the wells, one deep and one shallow.
- 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, LLCWELL NAME & NUMBER: Lightning 1 State SWD No. 2WELL LOCATION: 3780' FSL, 2300' FWL N 1 21s 33e  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 26"  
17 1/2"

Casing Size: 20" e ± 1800'  
13 7/8" e ± 5700'

Cemented with: = sx. or ± 5000 ft<sup>3</sup>  
± 7000

Top of Cement: Surface Method Determined: Design  
Surface

Intermediate Casing

Hole Size: 12 1/4"

Casing Size: 9 5/8" e ± 11700'

Cemented with: = sx. or ± 4500 ft<sup>3</sup>

Top of Cement: Surface Method Determined: Design

Production Casing

Hole Size: 8 1/2"

Casing Size: 7" liner ± 11500' - ± 14975'

Cemented with: = sx. or ± 700 ft<sup>3</sup>

Top of Cement: Top of Liner Method Determined: Design

Total Depth: ± 16,700'

Injection Interval

± 14,975' feet to ± 16,700'

(Perforated or Open Hole indicate which)

See Attached Wellbore Schematic

## INJECTION WELL DATA SHEET

Tubing Size: 4 1/2" Lining Material: Dualine 20 / CLS Glassbore  
Type of Packer: Nickel plated 10K double grip retrievable or permanent packer  
Packer Setting Depth: ± 14925'  
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 / Silurian / Upper Ordovician  
3. Name of Field or Pool (if applicable): -  
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: Yates & Rivers ± 3700' - 3900'; Bone Spring ± 845'

30-025-

Lightning 1 State SWD 2  
3780' FSL, 2300' FWL  
N-1-21s-33e  
Lea, NM

26"

20" / /

e ±1800' ±5000 CF Cmt

17 1/2"

SWD #1

Capitol

(~4060 to 5601)

13 3/8" / /

e ±5700' ±7000 CF Cmt

12 1/4"

4 1/2" Inj. Tbg.

9 5/8" / /

e ±11700' ±4500 CF Cmt

8 1/2"

Inj. Pkr e ±14925'

7" / /

Liner @ ±11,500 - ±14,975' ±700 CF Cmt

6 1/8"

Devonian/Silurian/Ordovician  
OH Inj. Interval  
±14,975' - ±16700'

16700'

"Not To Scale"



**V.**

**MAP**

Lightning 1 State SWD #1  
8780' FSL & 2800' FWL  
Sec. 1 T21S - R38E

COG Operating LLC  
600 W. Illinois Ave.  
Midland, TX 79701

Chase Oil Corporation  
11852 Lovington Highway  
Artesia, NM 88210

Area: 2.04 sq km  
Perimeter: 3.14 mi

Latitude: 32.523171 Longi

# VI.

**No Wells Penetrate  
Proposed Disposal  
Interval Within Half  
Mile Area of Review**

# **VII.**

## **Water Analysis Produced Formation Water**

**No Water Analyses  
Available for Receiving  
Formation**

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

**X.**

**No Log Available Across  
Proposed  
Devonian/Silurian/Upper  
Ordovician Injection Interval**

# **XI.**

## **Fresh Water Sample Analyses**





# New Mexico Office of the State Engineer

## Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)						(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE) C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)											
WR File Nbr.	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q	q	q	Sec	Tws	Rng	X	Y
CP 00799		PLS	3	DANIEL C. BERRY	LE	CP 00799				4	3	4	34	20S	34E	636666	3599364
CP 01288		EXP	0	BERRY RANCH	LE	CP 01288 POD1				4	4	2	34	20S	34E	637134	3600204
CP 01289		COM	0	ATKINS ENGR ASSOC INC	LE	CP 01289 POD1			Artesian	4	4	2	34	20S	34E	637037	3600261
CP 01327		PRO	0	COG OPERATING	LE	CP 01289 POD1			Artesian	4	4	2	34	20S	34E	637037	3600261
CP 01328		PRO	0	COG OPERATING	LE	CP 01289 POD1			Artesian	4	4	2	34	20S	34E	637037	3600261
CP 01329		PRO	0	COG OPERATING	LE	CP 01289 POD1			Artesian	4	4	2	34	20S	34E	637037	3600261
CP 01330		COM	0	BERRY RANCH/GLENN'S WW SERV INC	LE	CP 01330 POD1			Artesian	3	2	1	34	20S	34E	636197	3600483
CP 01334		COM	0	ATKINS ENGR ASSOC INC	LE	CP 01334 POD1			Artesian	3	2	4	35	20S	34E	638402	3599879
CP 01335		COM	0	ATKINS ENGR ASSOC INC	LE	CP 01335 POD1		NON	Artesian	4	1	4	35	20S	34E	638205	3599736
CP 01346		PRO	0	COG OPERATING	LE	CP 01330 POD1			Artesian	3	2	1	34	20S	34E	636197	3600483
CP 01347		PRO	0	COG OPERATING	LE	CP 01330 POD1			Artesian	3	2	1	34	20S	34E	636197	3600483
CP 01348		PRO	0	COG OPERATING	LE	CP 01330 POD1			Artesian	3	2	1	34	20S	34E	636197	3600483
CP 01352		COM	0	BERRY RANCH/GLENN'S WW SERV INC	LE	CP 01352 POD1		NON	Artesian	3	1	4	34	20S	34E	636559	3599716
CP 01369		PRO	0	COG OPERATING	LE	CP 01334 POD1			Artesian	3	2	4	35	20S	34E	638402	3599879
CP 01370		PRO	0	COG OPERATING	LE	CP 01334 POD1			Artesian	3	2	4	35	20S	34E	638402	3599879
CP 01371		PRO	0	COG OPERATING	LE	CP 01334 POD1			Artesian	3	2	4	35	20S	34E	638402	3599879
CP 01372		PRO	0	COG OPERATING	LE	CP 01352 POD1		NON	Artesian	3	1	4	34	20S	34E	636559	3599716
CP 01373		PRO	0	COG OPERATING	LE	CP 01352 POD1		NON	Artesian	3	1	4	34	20S	34E	636559	3599716

All greater  
than 1 mile  
away.

All greater  
than 1 mile  
away.

\*UTM location was derived from PLSS - see Help

										(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE) C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)									
(acre ft per annum)																			
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	6416 4	Sec	Tws	Rng	X	Y				
CP 01374		PRO	0	COG OPERATING	LE	CP 01352 POD1		NON	Artesian	3	1	4	34	20S	34E	636559	3599716	42	
CP 01375		PRO	0	COG OPERATING	LE	CP 01335 POD1		NON	Artesian	4	1	4	35	20S	34E	638205	3599736	42	
CP 01376		PRO	0	COG OPERATING	LE	CP 01335 POD1		NON	Artesian	4	1	4	35	20S	34E	638205	3599736	42	
CP 01377		PRO	0	COG OPERATING	LE	CP 01335 POD1		NON	Artesian	4	1	4	35	20S	34E	638205	3599736	42	
CP 01389		EXP	0	BERRY RANCH/GLENN'S WW SERV INC	LE	CP 01389 POD1				1	1	1	34	20S	34E	635725	3600733	42	
CP 01391		EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01391 POD1				1	4	2	34	20S	34E	636834	3600363	42	
-----																			

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)  
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

All greater than 1 mile away

Record Count: 24

PLSS Search:

Section(s): 31-36

Township: 20S

Range: 34E

Sorted by: File Number

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.

11/12/14 5:06 PM

Page 2 of 2

ACTIVE & INACTIVE POINTS OF DIVERSION



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

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

-\*UTM location was derived from PLSS.- see Help

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)  
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	6416 4	Sec	Tws	Rng	X	Y	
CP 01333		PRO	0	COG OPERATING	LE	CP 01317 POD1		NON	Artesian	1	3	2	02	21S	33E	636884 3598450
CP 01336		PRO	0	COG OPERATING	LE	CP 01316 POD1			Artesian	3	2	4	02	21S	33E	637431 3597709
CP 01337		PRO	0	COG OPERATING	LE	CP 01316 POD1			Artesian	3	2	4	02	21S	33E	637431 3597709
CP 01338		PRO	0	COG OPERATING	LE	CP 01316 POD1			Artesian	3	2	4	02	21S	33E	637431 3597709

Record Count: 22

**PLSS Search:**

**Section(s):** 1, 2, 11, 12      **Township:** 21S      **Range:** 33E

**Sorted by:** File Number

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: Cog  
LEASE: Berry Ranch  
NE/4 Sec 2-21s-33e, Lea Co.  
FW collected at water station at Berry Ranch

REPORT W12-200  
DATE September 11, 2012  
DISTRICT Hobbs

SUBMITTED BY Brian Collins

## TANK SAMPLE

Sample Temp.	70 °F	°F	°F	°F	°F
RESISTIVITY	0.6				
SPECIFIC GR.	1.007				
pH	8.24	mg/L			
CALCIUM	250	mpl	mpl	mpl	mpl
MAGNESIUM	130	mpl	mpl	mpl	mpl
CHLORIDE	6582	mpl	mpl	mpl	mpl
SULFATES	<400	mpl	mpl	mpl	mpl
BICARBONATES	335	mpl	mpl	mpl	mpl
SOLUBLE IRON	0	mpl	mpl	mpl	mpl
KCL					
Sodium		mpl	mpl	mpl	mpl
TDS		mpl	mpl	mpl	mpl
OIL GRAVITY		@ 60 °F	@ 60 °F	@ 60 °F	@ 60 °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: SB

STATE ENGINEER OFFICE  
WELL RECORDSANTA FE  
67455

## Section 1. GENERAL INFORMATION

(A) Owner of well Berry Ranch Owner's Well No. \_\_\_\_\_  
 Street or Post Office Address Box 67  
 City and State Alamogordo, New Mexico 88231

Well was drilled under Permit No. CP-579 and is located in the:

a. 1/4 1/4 NE 1/4 of Section 2 Township 21-S Range 33-E N.M.P.M.

ORIGINAL DOCUMENT IS OF POOR QUALITY  
 FOR LEGIBLE MICROFILM

b. of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
 c. of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
 Subdivision, recorded in \_\_\_\_\_ County.

d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
 the \_\_\_\_\_ Grant.

(B) Drilling Contractor K. L. Van Roy License No. SB-268

Address P.O. Box 7 Oil Center, New Mex. 88266

Drilling Began Nov. 21, 1979 Completed Nov. 22, 1979 Tools Spudger Size of hole 8 in.

Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well 100 ft.

## Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
100	102	2	water sand.	

## Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
6"	welded		0	125	125 HARBY	none	105	120

## Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

## Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
 Address \_\_\_\_\_  
 Plugging Method \_\_\_\_\_  
 Date Well Plugged \_\_\_\_\_  
 Plugging approved by: \_\_\_\_\_

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

## FOR USE OF STATE ENGINEER ONLY

Date Received April 2, 1980

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

File No. CP-579Use DOM & STKLocation No. 21.33.2.22000

[illegible]

STATE ENGINEER OFFICE  
ROSLAND, N. J.

W. L. Van Noy  
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

# HALLIBURTON

## PERMAIN BASIN OPERATIONS LABORATORY WATER ANALYSIS REPORT HOBBS, NEW MEXICO

COMPANY: Glenns Water Well Services  
LEASE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

REPORT W14-109  
DATE \_\_\_\_\_  
DISTRICT \_\_\_\_\_

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

TANK SAMPLE	Rock #1	Ben Lilly Pit	
Sample Temp.	70 °F	70 °F	<p>This is a combination of:</p> <p>CP-1290 - Taco</p> <p>CP-1289 - SKeen #1</p> <p>CP-1317 - Lea</p>
RESISTIVITY	15.8	15.8	
SPECIFIC GR.	1.001	1.001	
pH	8.61	8.44	
CALCIUM	25 mpl	35 mpl	
MAGNESIUM	20 mpl	15 mpl	
CHLORIDE	55 mpl	90 mpl	
SULFATES	<800 mpl	<800 mpl	
BICARBONATES	329 mpl	347 mpl	
SOLUBLE IRON	0 mpl	0 mpl	
KCL	N	N	
Sodium	_____ mpl	_____ mpl	
TDS	_____ mpl	_____ mpl	
OIL GRAVITY	_____ @ 60°F	_____ @ 60°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: TR/JH





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) CP - 1317				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) Berry Ranch/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) (575)398-2424			
	WELL OWNER MAILING ADDRESS P.O. Box 692				CITY Tatum		STATE NM	ZIP 88267
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 30	SECONDS 53.76 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS								
2. OPTIONAL	(2.5 ACRE) ¼	(10 ACRE) NW ¼	(40 ACRE) SW ¼	(160 ACRE) NE ¼	SECTION 2	TOWNSHIP 21	RANGE 33	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY				MAP NUMBER	TRACT NUMBER		
3. DRILLING INFORMATION	LICENSE NUMBER WD 421		NAME OF LICENSED DRILLER Corky Glenn		NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.			
	DRILLING STARTED 5/9/14		DRILLING ENDED 5/15/14		DEPTH OF COMPLETED WELL (FT) 1250'	BORE HOLE DEPTH (FT) 1250'	DEPTH WATER FIRST ENCOUNTERED (FT) 1025'	
	COMPLETED WELL IS: <input checked="" type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT)		
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	
	0 40'		20"	16"	none	15 1/2"	.250	
	0 1017'		14 3/4"	9 5/8"	Thread and collar	8.921"	.352	
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)			YIELD (GPM)	
	1025' 1212'		187'	Brown Sand Rock, Santa Rosa Sand			50	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA					TOTAL ESTIMATED WELL YIELD (GPM)			

2014 MAY 27 AM 10:45

FOR OSE INTERNAL USE		WELL RECORD & LOG (Version 6/9/08)	
FILE NUMBER	CP-1317	POD NUMBER	1
LOCATION	Expl	TRN NUMBER	545000
		PAGE 1 OF 2	

<b>5. SEAL AND PUMP</b>	TYPE OF PUMP: <input checked="" type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:						
	<b>ANNULAR SEAL AND GRAVEL PACK</b>	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	40'				
	0	1017'	20"	cemented	2 yds	Top Pour	
			14 3/4"	Float and shoe cemented to surface	740 sacks	Circulated	


  

<b>6. GEOLOGIC LOG OF WELL</b>	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?		
	FROM	TO			<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	0	2	2	Soil	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	2	29	27	Caleche	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	29	115	86	Sand	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	115	320	205	Red Clay with Rock Ledges	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	320	728	408	Red Clay and Brown Shale	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	728	760	32	Red Clay	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	760	1025	265	Red and Brown Shale(some Blue)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	1025	1048	23	Brown Sand Rock	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
	1048	1212	164	Santa Rosa Sand	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
	1212	1250	38	Brown Shale and Sand Rock	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
					<input type="checkbox"/> YES	<input type="checkbox"/> NO	
					<input type="checkbox"/> YES	<input type="checkbox"/> NO	
					<input type="checkbox"/> YES	<input type="checkbox"/> NO	
	ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL						

<b>7. TEST &amp; ADDITIONAL INFO</b>	WELL TEST	METHOD: <input type="checkbox"/> BAILER <input checked="" type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:	
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.	
	ADDITIONAL STATEMENTS OR EXPLANATIONS: 0 to 1017' drilled with mud. 1017' to 1250' drilled with air and foam.		

<b>8. SIGNATURE</b>	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER	5/22/2014 DATE

FOR USE INTERNAL USE		WELL RECORD & LOG (Version 6/9/08)	
FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION		PAGE 2 OF 2	



# 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, (quarters are 1=NW 2=NE 3=SW 4=SE) C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)									
WR File Nbr		Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q	q	q	Sec	Tws	Range	X	Y	
CP 00611			PRO	0	DALE CROCKETT	LE	CP 00611			Shallow	2	1	06	21S	34E		639838	3598306*	
CP 00791			SAN	3	ENRON GAS PROCESSING CO.	LE	CP 00791			Shallow	4	2	4	06	21S	34E		640754	3597413*

-----

More than 1 mile away

Record Count: 2

**PLSS Search:**

Section(s): 6, 7

Township: 21S

Range: 34E

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.

11/12/14 5:06 PM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



November 17, 2014

Hobbs News-Sun  
P.O. Box 850  
Hobbs, NM 88240

Re: Legal Notice  
Salt Water Disposal Well  
Lightning 1 State SWD #2

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 cursive script, appearing to read "Brian Collins".

Brian Collins  
Operations Engineering Advisor

BC/sw  
Enclosures

**HOBBS NEWS-SUN**  
**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 Lightning 1 State SWD No. 2 is located 3780' FSL and 2300' FWL, Section 1, Township 21 South, Range 33 East, Lea 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 14,975' to 16,700' at a maximum surface pressure of 2995 psi and a maximum rate of 25,000 BWPD. The proposed SWD well is located approximately 25 miles west of Eunice. 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 Hobbs News-Sun Hobbs, New Mexico  
\_\_\_\_\_, 2014.



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW#### in the  
POD suffix indicates the  
POD has been replaced  
& no longer serves a  
water right file.)



(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD															
Sub-															
Q Q Q															
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column	
CP 00611			LE	2	1	06	21S	34E	639838	3598306*		118	112	6	
CP 00791			LE	4	2	4	06	21S	34E	640754	3597413*		85	55	30

Average Depth to Water: 83 feet

Minimum Depth: 55 feet

Maximum Depth: 112 feet

Record Count: 2

PLSS Search:

Section(s): 6

Township: 21S

Range: 34E

\*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.


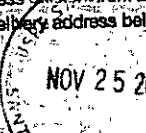
**Important Reminders:**

- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years
- Certified Mail may ONLY be combined with First-Class Mail or Priority Mail.
- NO INSURANCE COVERAGE is PROVIDED with Certified Mail. For valuables, please consider insured or Registered Mail.
- For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested" to receive a fee waiver for a duplicate return receipt, a USPS postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement, "Restricted Delivery".
- If a postmark on the Certified Mail receipt is desired, please stamp on the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and return it to the post office.**

- ☐ 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.

New Mexico State Land Office  
310 Old Santa Fe Trail,  
Santa Fe, NM 87501  
Lightning 1 State SWD #2

A. Signature 		<input type="checkbox"/> Agent
X		<input type="checkbox"/> Addressee
B. Received by (Printed Name)		C. Date of Delivery
D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below <input type="checkbox"/> No		
		
3. Service Type		
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Priority Mail Express™	
<input type="checkbox"/> Registered	<input type="checkbox"/> Return Receipt for Merchandise	
<input type="checkbox"/> Insured Mail	<input type="checkbox"/> Collect on Delivery	
4. Restricted Delivery? (Extra Fee)		<input type="checkbox"/> Yes

NOV 25 2014

**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:

New Mexico Oil Conservation Division  
Attn: Phillip Goetze  
1220 South St. Francis Drive  
Santa Fe, NM 87505  
Lightning 1 State SWD #2

2. Article Number  
(Transfer from service label)

7013 3020 0000 8749 1843

PS Form 3811, July 2013

Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

STAFF MTS

C. Date of Delivery

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

NOV 24 2014

Mail ☒ Priority Mail Express™☐ Return Receipt for Merchandise  
☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee)

☐ Yes

7013 3020 0000 874

Postage \$

Certified Fee

Return Receipt Fee  
(Endorsement Required)

Restricted Delivery Fee

Postmark  
Here

New Mexico Oil Conservation Division  
Attn: Phillip Goetze  
1220 South St. Francis Drive  
Santa Fe, NM 87505  
Lightning 1 State SWD #2

PS Form 3800, August 2006

See Reverse for Instructions



Form 3800, August 2006 (Reverse) PSN 7530-02-000-9047

**IMPORTANT: Save this receipt and present it when making an inquiry.**

If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "Restricted Delivery."

For an additional fee, a USPS® postmark on your Certified Mail receipt is required.

For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested" to receive a fee waiver for a duplicate return receipt, a USPS® postmark on your Certified Mail receipt is required.

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**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:

Chase Oil Corporation  
11352 Lovington Highway  
Artesia, NM 88210  
Lightning 1 State SWD #2

2. Article Number  
(Transfer from service label)

7013 3020 0000 8749 1867

PS Form 3811, July 2013

Domestic Return Receipt

A. Signature

X *Kim Rodriguez*

- ☐ Agent
- ☐ Addressee

B. Received by (Printed Name)

*Kim Rodriguez*

C. Date of Delivery

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

3. Service Type

- ☐ Certified Mail®
- ☐ Registered
- ☐ Insured Mail
- ☐ Priority Mail Express®
- ☐ Return Receipt for Merchandise
- ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee)

☐ Yes

**IMPORTANT: Save this receipt and present it when making an inquiry.**

Certified Mail may ONLY be combined with First-Class Mail or Priority Mail. Certified Mail is not available for any class of international mail. NO INSURANCE COVERAGE IS PROVIDED with Certified Mail. For valuables, please consider insured or Registered Mail. For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS® postmark on your Certified Mail receipt is required. For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "Restricted Delivery". If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail. If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**Important Reminders:**

A record of delivery kept by the Postal Service for two years.  
A unique identifier for your mailpiece.  
A mailing receipt.

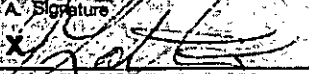
**Certified Mail Provides:**

**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:**

Oil Conservation Division  
Attn: Paul Kautz  
1625 North French Dr.  
Hobbs, NM 88240  
Lightning 1 State SWD #2

A. Signature 		<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
B. Received by (Printed Name) Paul Kautz	C. Date of Delivery 11-21-14	
D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No		
3. Service Type <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Priority Mail Express™ <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> Collect on Delivery		
4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes		

# Affidavit of Publication


STATE OF NEW MEXICO  
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

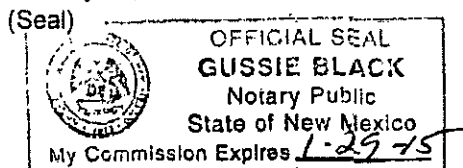
Beginning with the issue dated  
November 21, 2014  
and ending with the issue dated  
November 21, 2014.

  
\_\_\_\_\_  
Publisher

Sworn and subscribed to before me this  
21st day of November 2014.

  
\_\_\_\_\_  
Business Manager

My commission expires  
January 29, 2015



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

**LEGAL NOTICE**  
November 21, 2014

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 Lightning 11 State SWD No. 2, is located 3780' FSU and 2900' FWL Section 1, Township 21, South Range 33 East, Lea 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 14,975' to 16,700' at a maximum surface pressure of 2895 psi and a maximum rate of 25,000 BWP/D. The proposed SWD well is located approximately 25 miles west of Etna. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 4220 South Saint Francis Street, Santa Fe, New Mexico 87505, within fifteen (15) days of this notice. Any questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 575-748-8940. #28580

67112034

00147945

BRIAN COLLINS  
COG OPERATING LLC  
2208 W. MAIN ST.  
ARTESIA, NM 88210

PERMIT TYPE: WFX / PMX / SWD Number: \_\_\_\_\_ Permit Date: \_\_\_\_\_ Legacy Permits/Orders: NoneWell No. 2 Well Name(s): Lightwing 1 State SWDAPI: 30-0 25-Pending Spud Date: \_\_\_\_\_ New or Old: N (UIC Class II Primacy 03/07/1982)Footages 3780' FSL Lot 14 or Unit \_\_\_\_\_ Sec 1 Tsp 21S Rge 33E County LeqGeneral Location: \_\_\_\_\_ Pool: SWD: Dominion - Montoya Pool No.: \_\_\_\_\_BLM 100K Map: \_\_\_\_\_ Operator: COG Operating, LLC OGRID: 229137 Contact: Brian CollinsCOMPLIANCE RULE 5.9: Total Wells: 3790 Inactive: 0 Fincl Assur: Y Compl. Order? No IS 5.9 OK? Yes Date: 2-02-2015WELL FILE REVIEWED ☒ Current Status: Proposed - no APD filed 2-20-2015WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: \_\_\_\_\_Planned Rehab Work to Well: CBL 9'48" / 9'7"

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned <input checked="" type="checkbox"/> or Existing _____ Surface	<u>24" / 20"</u>	<u>1800</u>	<u>5000</u>	<u>SURFACE / C/C</u>
Planned <input checked="" type="checkbox"/> or Existing _____ Interm/Prod	<u>17 1/2" / 13 3/8"</u>	<u>5700</u>	<u>No</u>	<u>SURFACE / C/C</u>
Planned <input checked="" type="checkbox"/> or Existing _____ Interm/Prod	<u>12 1/4" / 9 5/8"</u>	<u>11700</u>	<u>No</u>	<u>SURFACE / C/C</u>
Planned <input checked="" type="checkbox"/> or Existing _____ Prod/Liner	_____	_____	<u>No</u>	_____
Planned <input checked="" type="checkbox"/> or Existing _____ Liner	<u>8 1/2" / 7"</u>	<u>14975</u>	<u>No</u>	<u>11700 / DESIGN</u>
Planned _____ or Existing <input checked="" type="checkbox"/> OH PERF	<u>14975</u>	<u>16700</u>	<u>In Length</u> <u>1725</u>	_____

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.			NEW TD _____ NEW PBTD _____
Confining Unit: Litho. Struc. Por.			NEW Open Hole <input type="checkbox"/> or NEW Perfs <input type="checkbox"/>
Proposed Inj Interval TOP: <u>14975</u>		<u>Dominion</u>	Tubing Size <u>4 1/2</u> in. Inter Coated? <u>Y</u>
Proposed Inj Interval BOTTOM: <u>16700</u>		<u>Fursellman / Montoya</u>	Proposed Packer Depth <u>14925</u> ft
Confining Unit: <u>Litho.</u> Struc. Por.		<u>Elkburg</u>	Min. Packer Depth <u>14875</u> (100-ft limit)
Adjacent Unit: Litho. Struc. Por.		<u>DE/GW</u>	Proposed Max. Surface Press. <u>2995</u> psi
AOR: Hydrologic and Geologic Information			Admin. Inj. Press. <u>2995</u> (0.2 psi per ft)

POTASH: R-111-P ☒ Noticed? ENMSLO BLM Sec Ord ☒ WIPP ☒ Noticed? NA SALT/SALADO T: \_\_\_\_\_ B: \_\_\_\_\_ CLIFF HOUSEFRESH WATER: Aquifer Ogallala Max Depth 118 HYDRO AFFIRM STATEMENT By Qualified Person ☒NMOSE Basin: CAPITAN CAPITAN REEF: thru ☒ adj ☐ NAO ☐ No. Wells within 1-Mile Radius? Yes FW Analysis: Yes Benny PackerDisposal Fluid: Formation Source(s) Bonespring, WULFcamp Analysis? \_\_\_\_\_ On Lease ☐ Operator Only ☒ or Commercial ☐Disposal Int: Inject Rate (Avg/Max BWPD): 23,000 BWPD Protectable Waters? Low Prob Source: \_\_\_\_\_ System: Closed ☒ or Open ☐HC Potential: Producing Interval: UNK Formerly Producing? No Method: Logs/DST/P&A/Other Mudlog 2-Mile Radius Pool Map HAAOR Wells: 1/2-M Radius Map? Yes Well List? No Total No. Wells Penetrating Interval: 0 Horizontals? 0Penetrating Wells: No. Active Wells NA Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? NAPenetrating Wells: No. P&A Wells NA Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? NANOTICE: Newspaper Date NOV. 27 Mineral Owner NMSLO Surface Owner NMSLO N. Date NOV. 25RULE 26.7(A): Identified Tracts? Y Affected Persons: Chase N. Date \_\_\_\_\_Permit Conditions: Issues: CBL 9'48" / 9'7" mudlog, formation topsAdd Permit Cond: CBLs / Salinity Calc. / mudlog / formation / injection survey

\* Mineral estate owner (NMSLO) notified; no potash leases on state land within one mile; Fed.