

2/18/2014 | PRG | 2/18/2014 | SWD 474 | PMAM1404959265

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

SWD
 - COG OPERATING
 2.29.137
 Well
 - PINE SPRINGS
 2 State SWD #1
 30-015 - Pending
 Pool
 - SWD DEVONIAN -
 SILURIAN
 97869

[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 | *Brian Collins* | SENIOR OPERATIONS ENGINEER | 13 Feb 2014
 Print or Type Name | Signature | Title | Date

bcollins@concho.com
 e-mail Address

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: *Brian Collins* DATE: 13 Feb 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
PINE SPRINGS 2 STATE SWD 1
2500' FSL, 2500' FWL
Unit K, Sec 2, T26S, R25E
Eddy County, NM

COG Operating, LLC, proposes to drill the captioned well to dispose of produced water into the Devonian-Silurian-Ordovician from approximately 12450' to 14000'.

- 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 = 7000 BWPD ✓
Proposed maximum daily injection rate = 20,000 BWPD ✓
 - 2. Closed system
 - 3. Proposed maximum injection pressure = 2490 psi ✓
(0.2 psi/ft. x 12450' ft.)
 - 4. Source of injected water will be Delaware Sand, Bone Spring and Wolfcamp produced water. No compatibility problems are expected (we've seen no compatibility issues in a Devonian SWD located in Sec.16-26s-28e that takes the same produced water as the proposed SWD well). Analyses of Delaware, Bone Spring and Wolfcamp waters are attached. There are no Devonian-Silurian-Ordovician receiving formation water analyses available in this area.
- VIII. The injection zone is the Devonian-Silurian-Ordovician from 12450' to 14000'. The proposed injection formation is composed of limestone and porous dolomite. Any underground water sources will be shallower than 150' based on Office of State Engineer website.
- IX. The Devonian-Silurian-Ordovician injection interval will be acidized with approximately 40,000 gals of 20% HCl acid.
- X. Well logs, if run, will be filed with the Division. There are no nearby well logs available for the Devonian-Silurian-Ordovician section. ✓
- XI. There are no fresh water wells within a mile of the proposed SWD well.
- 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: Pine Springs 2 State SWD No. 1

WELL LOCATION: 2500' FSL 2500' FWL K 2 26s 25e
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20" @ ±200'
Cemented with: - sx. or ±600 ft³
Top of Cement: Surface Method Determined: Design

Intermediate Casings

Hole Size: 17 1/2" Casing Size: 13 3/8" @ ±1700'
12 1/4" Casing Size: 9 5/8" @ ±8500'
Cemented with: - sx. or ±2300 ft³
Surface Method Determined: Design
Top of Cement: 1200' Design

Production Casing

Hole Size: 8 3/4" Casing Size: 7" liner ±8200 - ±1245
Cemented with: - sx. or 950 ft³
Top of Cement: Top of liner ±8200' Method Determined: Design
Total Depth: ±14000'

Injection Interval

6 1/8" Open Hole ±12450' feet to ±14,000'

(Perforated or Open Hole; indicate which)

See Attached Proposed Schematic

INJECTION WELL DATA SHEET

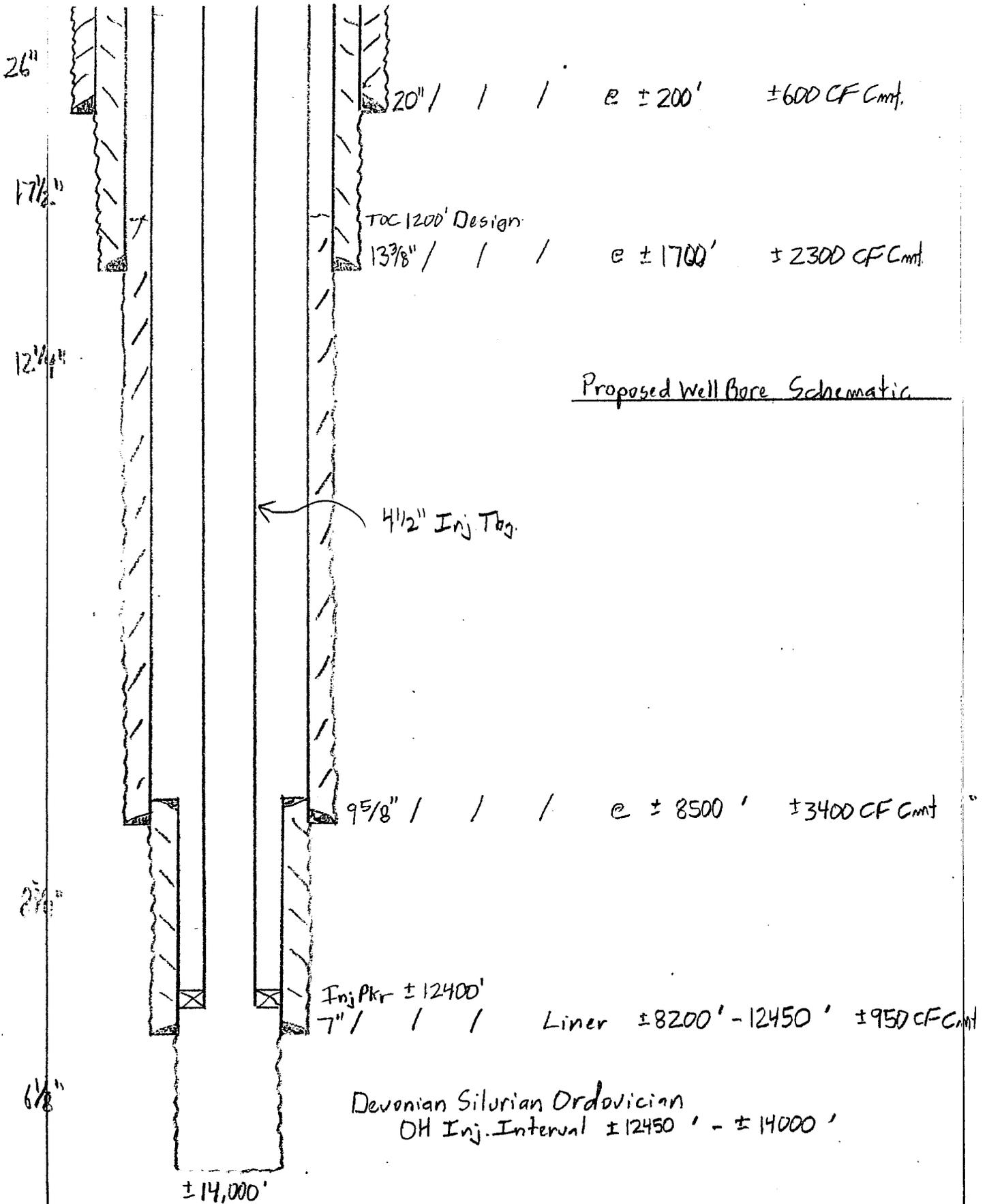
Tubing Size: 4 1/2" Lining Material: Glassbore / Duoline 20
Type of Packer: Nickel plated 10K retrievable double grip
Packer Setting Depth: ± 12400'
Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

1. Is this a new well drilled for injection? Yes No
If no, for what purpose was the well originally drilled? Oil & Gas
2. Name of the Injection Formation: Devonian - Silurian - Ordovician
3. Name of Field or Pool (if applicable): Cottonwood Spring
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. Yes - See wellbore schematic
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: Bone Spring 5580-8300'±, Wolfcamp 8500-9600'±
Upper Penn 9800-10250'±, Morrow 11350-11675'±

30-015-

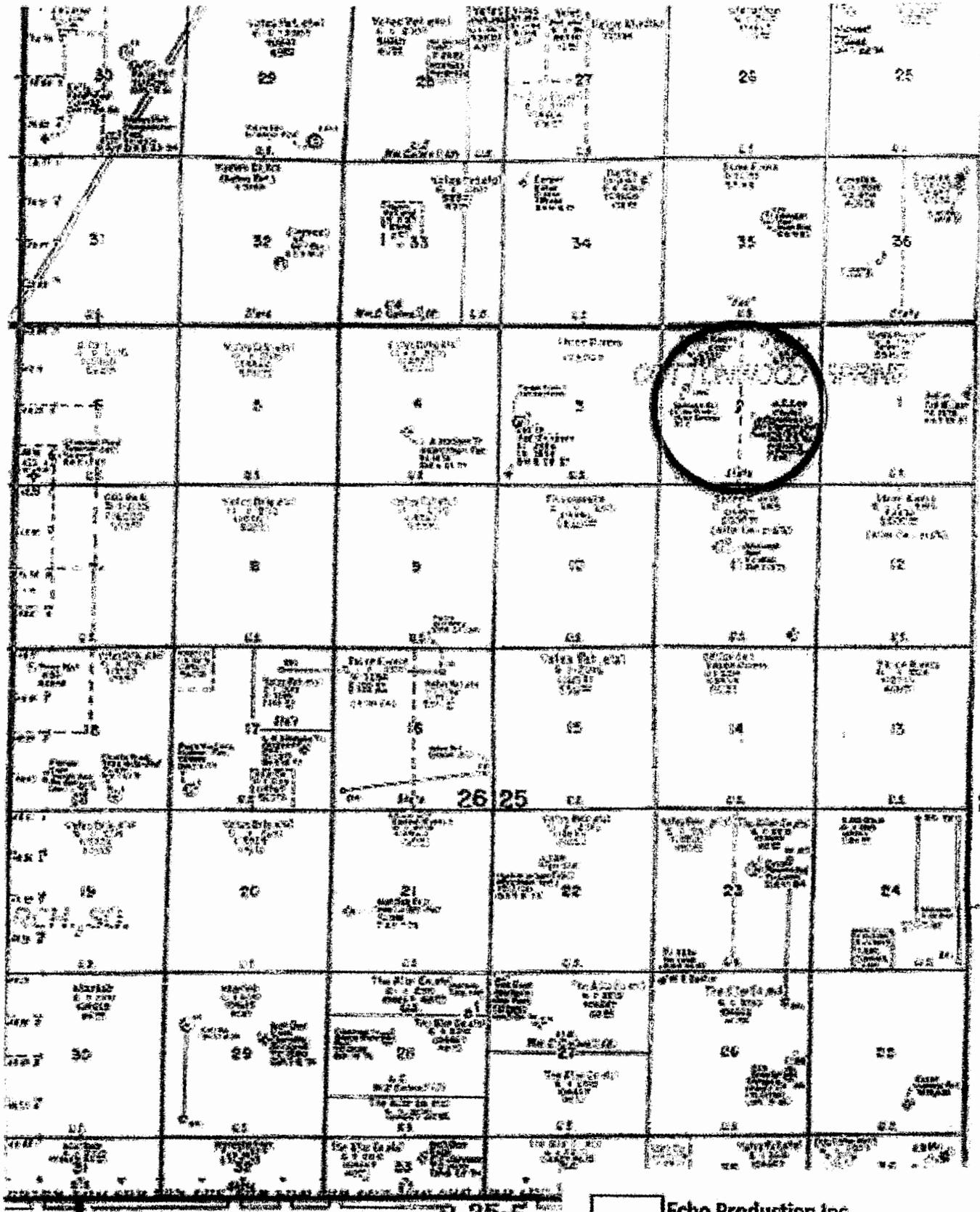
Pine Springs 2 Stage SWD 3
2500' FSL, 2500' FWL
K-Z-269-25e
Eddy, N/A



Proposed Well Bore Schematic

V.

MAP

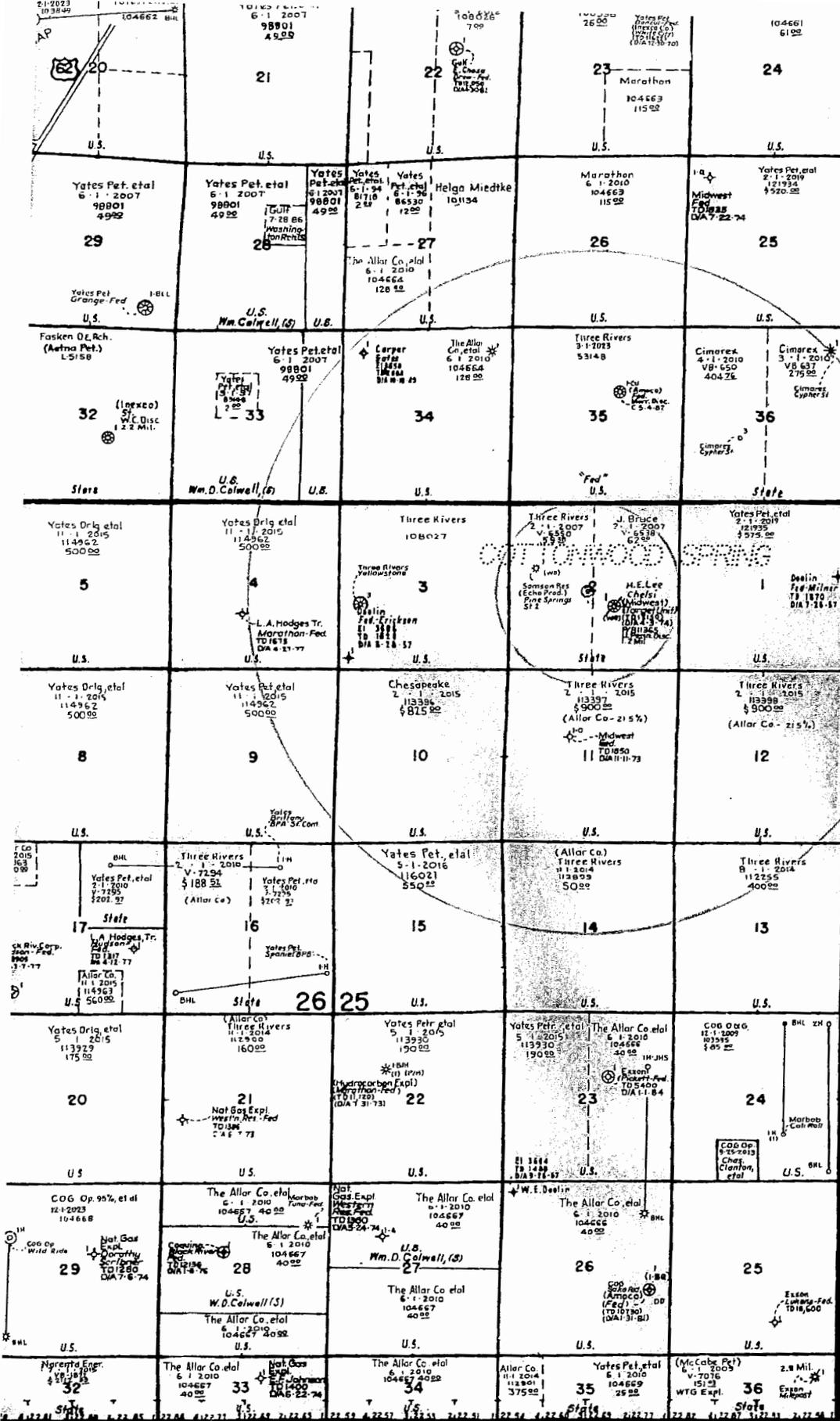


Pine Springs 2 State SWD No.1
2500' FSL, 2500' FWL
Unit K, Section 2, T26S, R25E
Eddy County, NM

 **Echo Production Inc.**
616 5th St.
Graham, TX 76450

*  **Three Rivers Operating Co. LLC**
1122 S. Capital of TX Hwy. Suite 325
Austin, TX 78746

* *Concho Operating, LLC purchased Three Rivers operating properties in 2012.*



R-25-E

T-26-S

Ownership Map

West Part Of

VII.

Water Analysis Produced and Receiving Formation Water

WATER SAMPLES REPRESENTATIVE OF WATER BEING INJECTED INTO THE PROPOSED SWD WELL

Delaware												
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
Bone Spring												
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
Wolfcamp												
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

ГН (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
ГН (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
ГН (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)

(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)

File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	Q	Q	Q	Sec	Tws	Range	X	Y
13783		STK		3 JOHN W. AND ANNE V. DUTTON	ED	<u>SD 03783</u>				4	4	4	36	25S	25E	562110	3549490*

> 1 mile away

ord Count: 1

PLSS Search:

Section(s): 34, 35, 36 **Township:** 25S **Range:** 25E

Sorted by: File Number

! location was derived from PLSS - see Help

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, billity, usability, or suitability for any particular purpose of the data.



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

No records found.

PLSS Search:

Section(s): 34, 35, 36

Township: 25S

Range: 25E

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.

2/12/14 9:26 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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

No PODs found.

PLSS Search:

Section(s): 1, 2, 3

Township: 26S

Range: 25E



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 1, 2, 3

Township: 26S

Range: 25E

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.

2/12/14 9:27 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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)

File Nbr	Sub-basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source				X	Y		
									q	q	q	q				
366	CUB	PLS		3 GUARANTY TITLE	ED	<u>C 02366</u>			6416	4	4	12	26S	25E	562027	3546345*
321	C	STK		3 GARY LOVELADY	ED	<u>C 03321</u>			Shallow	4	1	11	26S	25E	559375	3547431

> 1 mile away
Dry Hole

ord Count: 2

PLSS Search:

Section(s): 10, 11, 12 **Township:** 26S **Range:** 25E

Sorted by: File Number

If location was derived from PLSS - see Help

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

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 Number	POD Sub-Code	basin	County	Q Q Q	4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02366	CUB	ED	4 4	12	26S	25E	562027	3546345*			80	150	-70
C 03321	C	ED	4 1 1	11	26S	25E	559375	3547431			150	23	127

Average Depth to Water: **86 feet**

Minimum Depth: **23 feet**

Maximum Depth: **150 feet**

Record Count: 2

PLSS Search:

Section(s): 10, 11, 12

Township: 26S

Range: 25E

*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.



February 13, 2014

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

RE: Application For Authorization To Inject
Pine Springs 2 State SWD # 1
Township 26 South, Range 25 East, N.M.P.M.
Section 2: 2500' FSL & 2500' FWL
Eddy 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.

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/sw
Enclosures

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



February 13, 2014

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

RE: Application For Authorization To Inject
Pine Springs 2 State SWD #1
Township 26 South, Range 25 East, N.M.P.M.
Section 2: 2500' FSL & 2500' FWL
Eddy County, New Mexico

Dear Mr. Inge:

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LOCAL ADDRESS

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



February 13, 2014

New Mexico State Land Office
310 Old Santa Fe Trail,
Santa Fe, NM 87501

RE: Application For Authorization To Inject
Pine Springs 2 State SWD #1
Township 26 South, Range 25 East, N.M.P.M.
Section 2: 2500' FSL & 2500' FWL
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.

This well will not be a commercial SWD well. 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/bg
Enclosures



February 13, 2014

Echo Production Inc.
616 5th St.
Graham, TX 76450

RE: Application For Authorization To Inject
Pine Springs 2 State SWD #1
Township 26 South, Range 25 East, N.M.P.M.
Section 2: 2500' FSL & 2500' FWL
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 the surface owner or an operator within a half mile radius area of review. 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



February 13, 2014

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

Re: **Legal Notice**
Salt Water Disposal Well
Pine Springs 2 State SWD #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/sw
Enclosures

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

ARTESIA DAILY PRESS
LEGAL NOTICES

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 Pine Springs 2 State SWD No. 1 is located 2500' FSL & 2500' FWL, Section 2, Township 26 South, Range 25 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-Silurian-Ordovician formation at a depth of 12450' to 14000' at a maximum surface pressure of 2490 psi and a maximum rate of 20,000 BWPD. The proposed SWD well is located approximately 7 miles south of White's City. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 S. St. Francis Drive, 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, NM 88210, or call 575-748-6940.

Published in the Artesia Daily Press, Artesia, New Mexico
_____, 2014.



February 13, 2014

RECEIVED
FEB 13 2014

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

RE: Application For Authorization To Inject
Pine Springs 2 State SWD #1
Township 26 South, Range 25 East, N.M.P.M.
Section 2: 2500' FSL & 2500' FWL
Eddy 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.

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

Sincerely,

Brian Collins
Senior Operations Engineer

BC/sw
Enclosures



February 27, 2014

RECEIVED OGD

2014 MAR -3 PM 4: 20

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

RE: Affidavit of Publication
Pine Springs 2 State SWD #1
Pine Springs 2 State SWD #2
Cottonwood 2 State SWD #1

Dear Mr. Goetze:

I have included copies of the Affidavit of Publication for the wells listed above.
Please do not hesitate to contact me at (575) 748-6940 should you have any questions.

Sincerely,

Marissa Villa

Operations Engineering Technician

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> 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. 		<ul style="list-style-type: none"> Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee Received by Printed Name <input checked="" type="checkbox"/> Date of Delivery <input checked="" type="checkbox"/> In delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 	
1. Article Addressed to: Yates Petroleum Corporation 105 South 4 th Street Artesia, NM 88210 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 3935		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
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1. Article Addressed to: New Mexico Oil Conservation Division Attn: Philippe Goetze 1220 South St. Francis Drive Santa Fe, NM 87505 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 5007		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

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1. Article Addressed to: DXY USA, Inc. PO Box 4294 Houston, TX 77210-4294 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 3959		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

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1. Article Addressed to: Oil Conservation Division Attn: Richard Inge 811 South 1 st Street Artesia, NM 88210 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 3933		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

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1. Article Addressed to: DXY V-1 Co PO Box 27570 Houston, TX 77227-7570 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 3942		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

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1. Article Addressed to: New Mexico State Land Office 310 Old Santa Fe Trail Santa Fe, NM 87501 Cottonwood 2 State SWD #1 C108		3. Service Type <input checked="" 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	
2. Article Number (Transfer from service label) 7013 3020 0000 8750 3928		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PS Form 3811, July 2013 Domestic Return Receipt			

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<p>1. Article Addressed to:</p> <p>Echo Production, Inc. 616 5th Street Graham, TX 76450 Pine Springs 2 State SWD #1 C108</p>	<p>3. Service Type <input checked="" 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</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (transfer from service label)</p>	<p>7013 3020 0000 8750 3997</p>
<p>PS Form 3811, July 2013 Domestic Return Receipt</p>	

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<p>1. Article Addressed to:</p> <p>New Mexico Oil Conservation Division Attn: Phillips Goetze 1220 South St. Francis Drive Santa Fe, NM 87505 Pine Springs 2 State SWD #1 C108</p>	<p>3. Service Type <input checked="" 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</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (transfer from service label)</p>	<p>7013 3020 0000 8750 3766</p>
<p>PS Form 3811, July 2013 Domestic Return Receipt</p>	

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<p>1. Article Addressed to:</p> <p>Oil Conservation Division Attn: Richard Inge 811 South 1st Street Artesia, NM 88210 Pine Springs 2 State SWD #1 C108</p>	<p>3. Service Type <input checked="" 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</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (transfer from service label)</p>	<p>7013 3020 0000 8750 3973</p>
<p>PS Form 3811, July 2013 Domestic Return Receipt</p>	

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<p>2. Article Number (transfer from service label)</p>	<p>7013 3020 0000 8750 3980</p>
<p>PS Form 3811, July 2013 Domestic Return Receipt</p>	

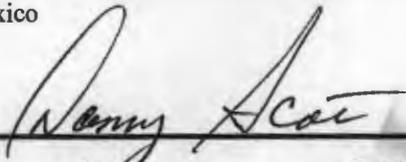
Affidavit of Publication

No. 22864

State of New Mexico

County of Eddy:

Danny Scott



being duly sworn, says that he is the **Publisher**

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/day on the same

day as follows:

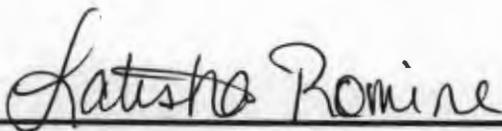
- First Publication February 19, 2014
- Second Publication _____
- Third Publication _____
- Fourth Publication _____
- Fifth Publication _____

Subscribed and sworn before me this 19th day of February 2014



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2015



Latisha Romine
Notary Public, Eddy County, New Mexico

Copy of Publication:

LEGAL NOTICE

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 Pine Springs 2 State SWD No. 1 is located 2500' FSL & 2500' FWL, Section 2, Township 26 South, Range 25 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-Silurian-Ordovician formation at a depth of 12450' to 14000' at a maximum surface pressure of 2490 psi and a maximum rate of 20,000 BWP/D. The proposed SWD well is located approximately 7 miles south of White's City. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 S. St. Francis Drive, 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, NM 88210, or call 575-748-6940.

Published in the Artesia Daily Press, Artesia, N.M., Feb. 19, 2014 Legal No 22864.



C-108 Review Checklist: Received 02/18/14 Add. Request: _____ Reply Date: _____ Suspended: _____ [Ver 13]

PERMIT TYPE: WFX / PMX / SWD Number: 1474 Permit Date: 04/10/14 Legacy Permits/Orders: NA

Well No. 1 Well Name(s): Pine Springs 2 State

API: 30-015 - Pending Spud Date: TBD New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 2500 FSL / 2500 FWL Lot - or Unit K Sec 2 Tsp 26S Rge 25E County Eddy

General Location: Near TX border along S boundary Eddy Pool: SWD: Devonian - (Ellenburger) Pool No.: 97869

BLM 100K Map: Carlsbad Operator: COG operating LLC OGRID: 229137 Contact: Brian

COMPLIANCE RULE 5.9: Total Wells: 3677 Inactive: 6 Fincl Assur [Yes] Compl. Order? No IS 5.9 OK? Yes Date: 15/09

WELL FILE REVIEWED Current Status: No case file - API pending

WELL DIAGRAMS: NEW: Proposed or RE-ENTER: Before Conv. After Conv. Logs in Imaging: requested CBL and

Planned Rehab Work to Well: NA - New wells; deep formations for injection logs - lithology

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx of (C)	Cement Top and Determination Method
Planned <input checked="" type="checkbox"/> or Existing <u>Surface</u>	<u>26/20</u>	<u>0 to 200</u>	<u>600</u>	<u>Car to surface</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Interm/Prod</u>	<u>17 1/2</u>	<u>0 to 1700</u>	<u>2300</u>	<u>Car to surface</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Interm/Prod</u>	<u>12 1/2</u>	<u>0 to 8500</u>	<u>3400</u>	<u>1200/calc*</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Prod/Liner</u>	<u>8 3/4 / 7</u>	<u>8200 to 12450</u>	<u>950</u>	<u>8200/TOL/calc*</u>
Planned <input type="checkbox"/> or Existing <u>Liner</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Planned <input checked="" type="checkbox"/> or Existing <u>OH/PERF</u>	<u>6 1/8</u>	<u>12450 to 14000</u>	<u>1550</u>	

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops*	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.		<u>Mississippian Ls</u>	<u>*</u>	Drilled TD <u>NA</u> PBDT <u>NA</u>
Confining Unit: Litho. Struc. Por.		<u>Woodford Sh</u>	<u>-</u>	NEW TD <u>14000</u> NEW PBDT <u>NA</u>
Proposed Inj Interval TOP:	<u>12450</u>	<u>Devonian</u>	<u>12630</u>	NEW Open Hole <input checked="" type="checkbox"/> or NEW Perfs <input type="checkbox"/>
Proposed Inj Interval BOTTOM:	<u>14000</u>	<u>Sil. / ord.</u>	<u>13600</u>	Tubing Size <u>4 1/2</u> in. Inter Coated? <u>Yes</u>
Confining Unit: Litho. Struc. Por.		<u>Ellenburger</u>	<u>14180</u>	Proposed Packer Depth <u>12600</u> ft
Adjacent Unit: Litho. Struc. Por.		<u>pe wash/pe</u>	<u>-</u>	Min. Packer Depth <u>12350</u> (100-ft limit)

AOR: Hydrologic and Geologic Information

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

FRESH WATER: Aquifer Unc. Alluvial/Valley Fill Max Depth < 150 ft HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: Carlsbad CAPITAN REEF: thru adj NA No. Wells within 1-Mile Radius? 16 FW Analysis NA

Disposal Fluid: Formation Source(s) Bone Spring/WC/Delaware Analysis? Yes On Lease Operator Only or Commercial

Disposal Int: Inject Rate (Avg/Max BWPD): 7000/20000 Protectable Waters? Request Source: salinity System: Closed or Open

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other Logs Requested 2-Mile Radius Pool Map

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

Penetrating Wells: No. Active Wells 0 Num Repairs? NA on which well(s)? - Diagrams? NA

Penetrating Wells: No. P&A Wells 0 Num Repairs? NA on which well(s)? - Diagrams? NA

NOTICE: Newspaper Date 02/19/014 Mineral Owner SLO Surface Owner SLO N. Date 02/18/14

RULE 26.7(A): Identified Tracts? Yes Affected Persons: OXY-1 / OXY USA / Yates N. Date 02/18/14

Permit Conditions: Issues: Unknown WQ for injection/Ellenburger top/CBL not proposed/No stratigraphy - no picks/no logs*

Add Permit Cond: - 1 mile CRI for cont. fines salinity & picks; Mudlog for HC potential

Goetze, Phillip, EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Wednesday, April 09, 2014 5:36 PM
To: Goetze, Phillip, EMNRD
Cc: Ward Whiteman
Subject: RE: COG C108 and Request for Higher Injection Pressure Letter Questions

Phillip:

I'm curious why the Ellenburger is excluded as a permissible disposal interval? Answers to your questions follow below.

There's very little deep well control in this area, but here's our geologist's projected picks for the two deep wells:

Pine Springs 2 State SWD 1 Devonian/Silurian/Ordovician (12450-14000') Sec 2-26s25e:

Devonian-12630'

Fusselman (Silurian)-13060'

Ellenburger (Ordovician)-14180'

I applied for an injection interval a little higher than the estimated top of Devonian and into the Silurian to account for geologic uncertainty and to ensure we cut plenty of dolomite for better permeability. Calling this formation the Devonian/Silurian/Ordovician was what Will Jones recommended a few years ago on these deep applications since we were likely penetrating the Silurian on "Devonian" SWDs.

Cottonwood 2 State SWD 1 Devonian/Silurian/Ordovician (13100-14600') Sec 2-26s-26e:

Devonian-13332'

Fusselman (Silurian)- not picked

Ellenburger (Ordovician)-not picked

I applied for an injection interval a little higher than the estimated top of Devonian and into the Silurian to account for geologic uncertainty and to ensure we cut plenty of dolomite for better permeability. I applied for a 1500' thick open hole disposal interval the same as the Pine Springs well shown above with the top reference depth 200'+ shallower than the projected top of the Devonian. This should put us into the Silurian at TD.

Our proposed total depths should keep us well above the Ellenburger. Our 7" casings will be set into the actual top of the Devonian on each well. Applying for the shallower top of the injection interval will keep us from having to re-permit in case the Devonian comes in a little shallower than projected. I've no problems if you want to issue the permit as Devonian/Silurian instead of Devonian/Silurian/Ordovician. Hope this answers your questions. Please call or email if you have any more questions. Thank you.

Brian Collins

Senior Operations Engineer
NM Basin Team

COG OPERATING LLC
2208 W. Main Street
Artesia, New Mexico 88210-3720
Phone # 575.748.6924
Email: bcollins@concho.com