

Initial Application Part I

Received: 08/05/2019

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

RECEIVED: 08/05/2019	REVIEWER:	TYPE: SWD	APP NO: pMAM1921744538
----------------------	-----------	-----------	------------------------

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & 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

Applicant: COG OPERATING, LLC **OGRID Number:** 229137
Well Name: MORTARBOARD 1 FEE SWD #1 **API:** _____
Pool: _____ **Pool Code:** 97869

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
 A. Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD
- B. Check one only for [I] or [II]
 [I] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
 [II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

SWD-2229

- 2) **NOTIFICATION REQUIRED TO:** Check those which apply.
- A. ☒ Offset operators or lease holders
 - B. ☐ Royalty, overriding royalty owners, revenue owners
 - C. ☒ Application requires published notice
 - D. ☐ Notification and/or concurrent approval by SLO
 - E. ☐ Notification and/or concurrent approval by BLM
 - F. ☒ Surface owner
 - G. ☒ For all of the above, proof of notification or publication is attached, and/or,
 - H. ☐ No notice required

FOR OCD ONLY

- ☐ Notice Complete
☐ Application
 Content
 Complete

- 3) **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.

PAUL PORTER

Print or Type Name

AUGUST 1, 2019

Date

575-748-6940


Phone Number

PPorter@concho.com

e-mail Address

Signature

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: One Concho Center, 600 W. Illinois Ave., Midland, TX 79701
CONTACT PARTY: Paul Porter 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: Paul Porter TITLE: General Manager of New Mexico
SIGNATURE:  DATE: August 1, 2019
E-MAIL ADDRESS: PPorter@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: _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108 Application for Authorization to Inject
Mortarboard 1 Fee SWD 1
1605' FSL, 210' FWL
Unit L, Section 1, T24S, R34E
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 16,800' for salt water disposal service into the Devonian/Silurian from approximately 15,000' to 16,800'.

Should this well undergo a mechanical integrity issue while in service in the future, it will be taken out of service immediately per UIC rules and repaired as quickly as possible. The water going to this well will be diverted to other SWD wells via pipeline if applicable; otherwise it will be trucked to other SWD wells. If necessary, producing wells serviced by this SWD well will be curtailed and/or shut-in until this well is repaired.

- III. Well data is attached. A fishing risk assessment is attached.
- IV. This is not an expansion of an existing project.
- V. Map is attached.
- VI. No wells within the 1 mile radius area of review penetrate the proposed injection zone.
- VII.
 - 1. Proposed average daily injection rate = 25,000 BWPD
Proposed maximum daily injection rate = 40,000 BWPD
 - 2. Closed system
 - 3. Proposed maximum injection pressure = 3000 psi
(0.2 psi/ft. x 15,000' ft.)
 - 4. Source of injected water will be Delaware, Bone Spring and Wolfcamp produced water. No compatibility problems are expected. Analyses of Delaware, Bone Spring and Wolfcamp waters from analogous source wells are attached. An appropriate chemical treatment program will be put in place should scale formation become apparent.
- VIII. The injection zone is the Devonian/Silurian, a mixture of non-hydrocarbon bearing limestone and dolomite from 15,000' to 16,800'. Any underground water sources will be shallower than 854', the estimated top of the Rustler Anhydrite. The estimated top of the Devonian is 15,180' and the Fusselman is 15,929'. The proposed permitted injection interval has been expanded upwards and downwards to account for geologic uncertainty.
- IX. The Devonian/Silurian injection interval will be acidized with approximately 40,000 gals of 20 % HCl acid.
- X. Well logs will be filed with the Division. A section of open hole log across the Devonian from the Antelope Ridge Unit 9 located about 2.5 miles west in Unit P, Section 33, T23S, R34E is attached.

- XI. There is one fresh water well within a mile of the proposed SWD well from the NMOSE records. Water analysis is attached for POD C-02387 located NW/4, Sec 11, T24S, R34E, Lea Co.
- 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.

_____, Facilities Engineering Advisor, _____

A seismicity assessment is attached.

- XIII. Proof of Notice is attached.

COG Operating LLC
Mortarboard 1 Fee SWD #1
C-108 Attachment
May 23, 2019

Statement Regarding Seismicity and Disposal Well Location

COG Operating LLC interpreted faults based on licensed 3D seismic data in the area around our proposed SWD. Our investigation of the deep formations does not indicate nearby faults or structures in the immediate area that would increase the chances of induced seismicity.

A recent paper by Snee and Zoback titled, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The authors evaluated the strike-slip probability of known Permian Basin faults. The nearest fault is located approximately 0.63 miles Southwest of our proposed SWD (see map). The study predicts that this fault has a less than 10% probability of being critically stressed as to create an induced seismicity event. The primary reason for the low probability is the relationship of the strike of the fault to the regional maximum stress orientation (N 75 degrees E).

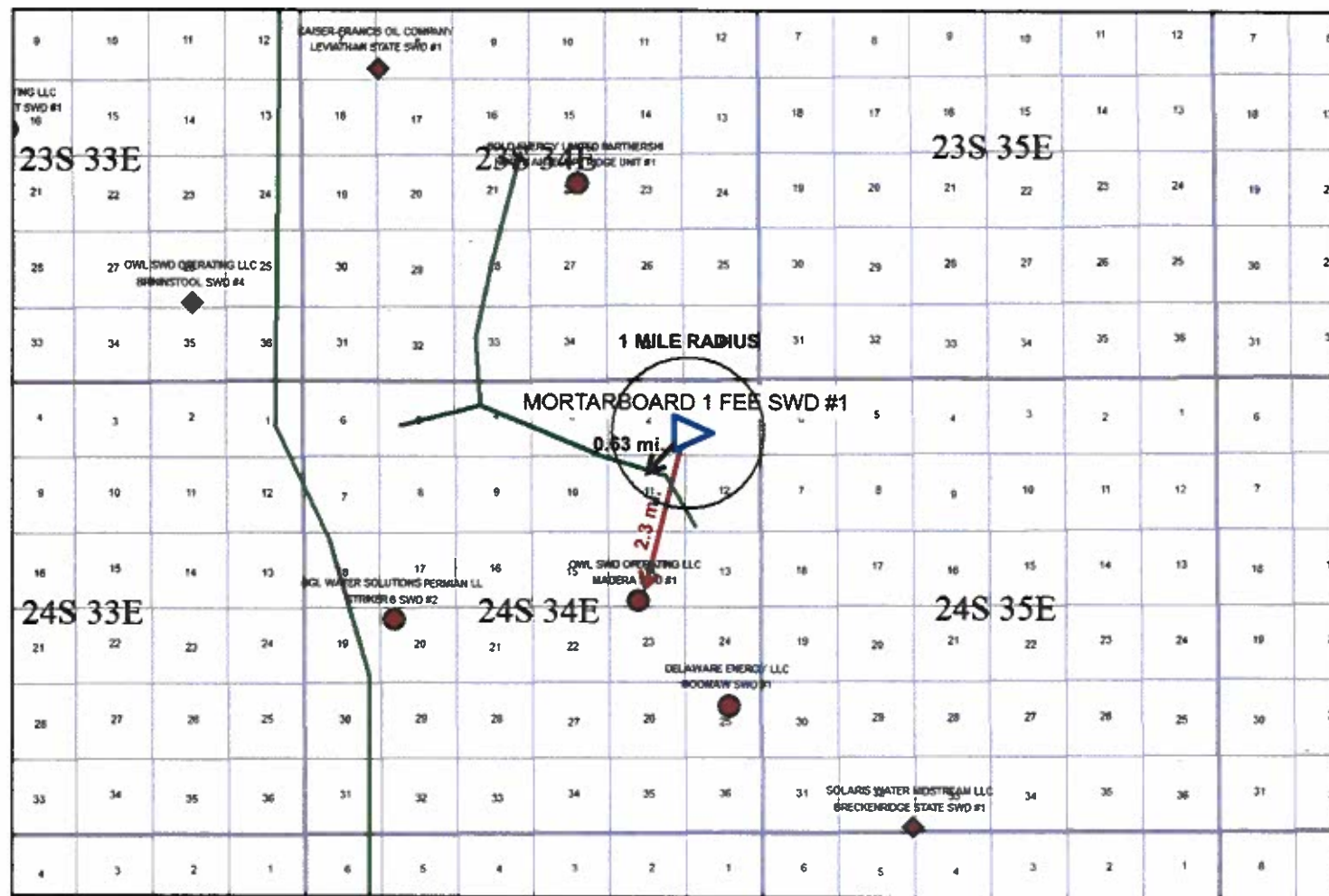
The proposed Mortarboard 1 Fee SWD #1 is located 2.3 miles away from the nearest active Devonian SWD well (see map) and no active, permitted or pending Devonian SWD applications within the one mile radius.

Regards,

Carrie M. Martin









Staff Geologist
COG Operating LLC
cmartin@concho.com
432-221-0479

MORTARBOARD 1 FEE SWD #1



LEGEND

Devonian SWD Status

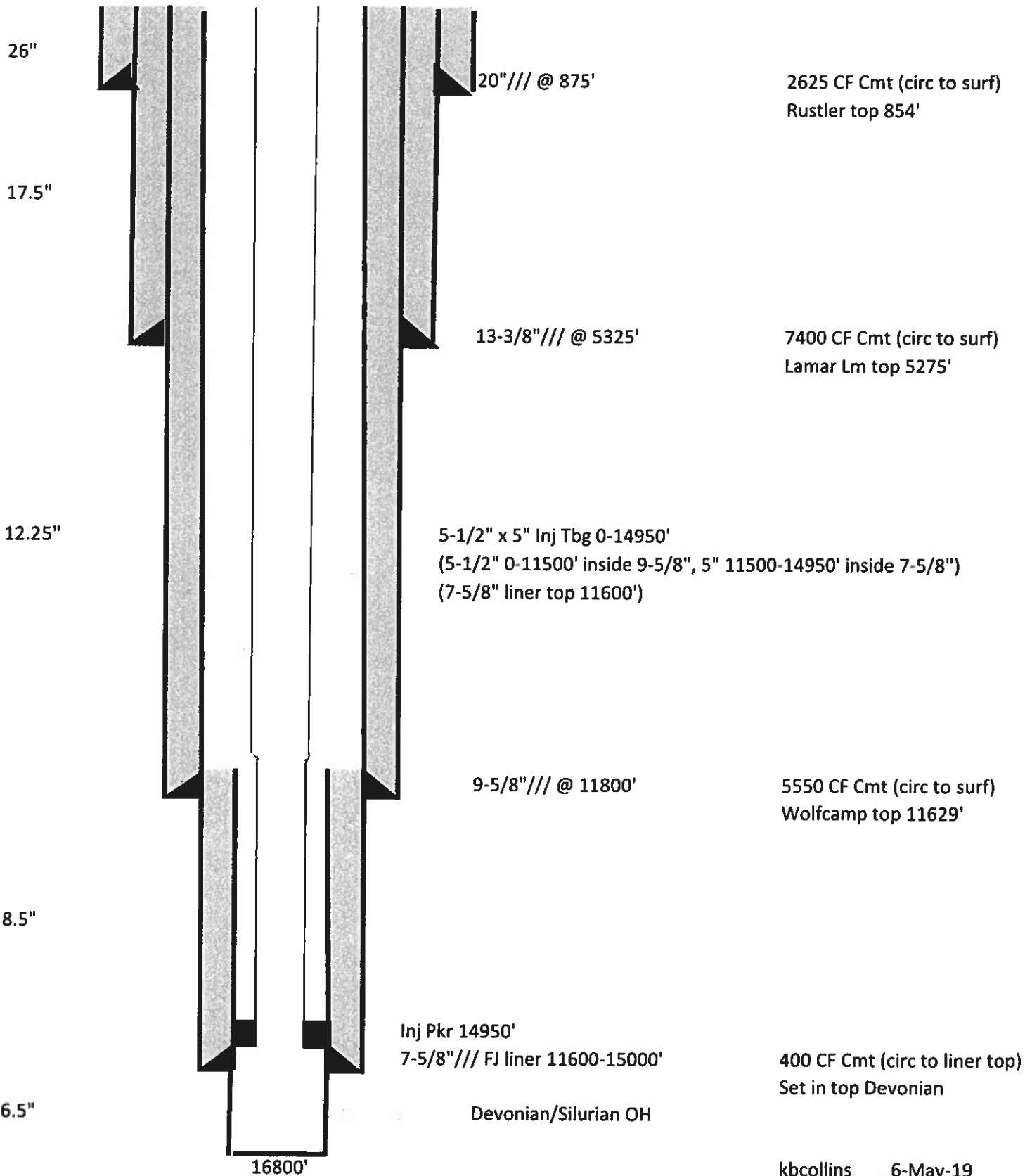
-  SWD
-  PLUGGED
-  ABANDONED
-  DRILLING
-  LOC
-  TA
-  PROPOSED SWD
-  Snee, Zoback Faults (Low Fault Slip Potential)

III.

WELL DATA

Mortarboard 1 Fee SWD 1
1605' FSL, 210' FWL
L-1-24s-34e
Lea, NM
30-025-xxxxx

Zero:
KB elev:
GL elev: 3409'



INJECTION WELL DATA SHEET

Operator: COG Operating, LLC
Well Name & Number: Mortarboard 1 Fee SWD 1
Well Location: 1605' FSL, 210' FWL, Unit L, Section 1, T24S, R34E

Wellbore Schematic: See attached schematic

Surface Casing:

Hole Size: 26"
Casing Size: 20" @ 875'
Cemented with: 2625 cubic feet
Top of Cement: Surface by design

Intermediate Casing:

Hole Size: 17-1/2"
Casing Size: 13-3/8" @ 5325'
Cemented with: 7400 cubic feet
Top of Cement: Surface by design

Intermediate Casing:

Hole Size: 12-1/4"
Casing Size: 9-5/8" @ 11800'
Cemented with: 5550 cubic feet
Top of Cement: Surface by design

Production Casing:

Hole Size: 8-1/2"
Casing Size: 7-5/8" flush joint liner @ 11600-15000'
Cemented with: 400 cubic feet
Top of Cement: Liner top by design

Injection Interval:

15000' to 16800' (6-1/2" open hole)

Injection Tubing/Packer:

Tubing Size: 5-1/2" 0-11500' inside 9-5/8" casing, 5" from 11500-14950' inside 7-5/8" casing
Lining Material: Internally fiberglass lined
Type of Packer: Nickel plated or CRA 10K permanent packer
Packer Setting Depth: 14950'
Other Type of Tubing/Casing Seal: Not Applicable

Additional Data:

1. Is this a new well drilled for injection? Yes
If no, for what purpose was well originally drilled? N/A
2. Name of Injection Formation: Devonian/Silurian
3. Name of Field or Pool (if applicable): SWD: Devonian
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:

Overlying: Possible Delaware 5325-8800', Bone Spring 8850-11600', Wolfcamp 11600-12000', possible Strawn 12150'+, possible Atoka 12350'+, possible Morrow 12900'+

Underlying: None

**Fishing Risk Assessment
Mortarboard 1 Fee SWD 1**

Note: All fishing procedures are subject to well conditions. Expert judgement and experience are required and there are too many combinations of possible fishing operations options to list below. Fishing techniques are determined on a case-by-case, day-by-day basis.

5" Injection Tubing Inside of 7-5/8" Casing

7-5/8"/39ppf casing: ID = 6.625", Drift ID = 6.500"

5"/18ppf/L80/TCPC FG-lined injection tubing: Tube/body OD = 5.000", Cplg OD = 5.700"

Clearance between body OD of tubing and drift ID of casing = 1.500"

The proposed downhole configuration allows for effective, straightforward tubing fishing operations.

Tubing will have a floating seal assembly landed in seal bore extensions below the packer which will allow a simple straight pull to separate the tubing from the packer.

For washover operations:

- 6-3/8" washpipe: OD = 6.375", ID = 5.625", Drift ID = 5.500"
- OD of washpipe is less than drift ID of casing (6.500" drift ID vs 6.375" washpipe OD)
- Drift ID of washpipe is greater than OD of 5" tubing (5.500" drift ID vs 5.000" Tubing OD)
- Drift ID of washpipe is slightly less than coupling OD of 5" tubing (washpipe 5.500" drift ID vs 5.700" tubing coupling OD---0.200" difference). If necessary to wash over the coupling, would use a mill on the end of the washpipe to mill off the 0.200" dimensional difference in such a way:
 1. To allow a 6.625" Series 150 spiral grapple overshot turned down from 6.625" OD to 6.5" OD to catch the milled down coupling (mill coupling to 5.5" or less OD).
 2. To allow a 5.875" OD Series 150 spiral grapple overshot to catch the 5" body of the tubing (mill coupling to 5" tube OD).

For fishing operations with overshot:

- 5" tube/body can be fished with 5.875" OD Series 150 spiral grapple overshot (5.875" overshot OD vs 6.5" casing drift ID).
- 5.700" OD TCPC coupling can be milled down and fished as described above in "washover operations."

For fishing operations with spear:

- Fiberglass liner can be milled out, or torn out with a spear, to allow a releasable spear assembly to grasp the ID of the injection tubing.

**Fishing Risk Assessment
Mortarboard 1 Fee SWD 1**

Note: All fishing procedures are subject to well conditions. Expert judgement and experience are required and there are too many combinations of possible fishing operations options to list below. Fishing techniques are determined on a case-by-case, day-by-day basis.

5-1/2" Injection Tubing Inside of 9-5/8" Casing

9-5/8"/53.5 ppf casing: ID = 8.535", Drift ID = 8.379"

5-1/2"/20ppf/P110/TCPC FG-lined injection tubing: Tube/body OD = 5.500", Cplg OD = 6.250"

Clearance between body OD of tubing and drift ID of casing = 2.879"

The proposed downhole configuration allows for effective, straightforward tubing fishing operations.

Tubing will have a floating seal assembly landed in seal bore extensions below the packer which will allow a simple straight pull to separate the tubing from the packer.

For washover operations:

- 7-3/8" washpipe: OD = 7.375", ID = 6.625", Drift ID = 6.500"
- OD of washpipe is less than drift ID of casing (8.379" drift ID vs 7.375" washpipe OD)
- Drift ID of washpipe is greater than OD of 5-1/2" tubing (6.500" drift ID vs 5.500" Tubing OD)
- Drift ID of washpipe greater than OD of 5-1/2" tubing coupling (6.500" drift ID vs 6.250" Tubing Coupling OD)

For fishing operations with overshot:

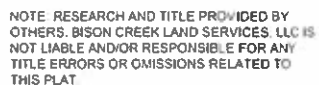
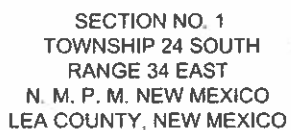
- 5-1/2" tube/body can be fished with 6.625" OD Series 150 spiral grapple overshot (6.625" overshot OD vs 8.379" casing drift ID).
- 6.250" OD TCPC coupling can be fished with 7.375" OD Series 150 spiral grapple overshot (7.375" overshot OD vs 8.379" casing drift ID).

For fishing operations with spear:

- Fiberglass liner can be milled out, or torn out with a spear, to allow a releasable spear assembly to grasp the ID of the injection tubing.

V.

MAP



SCALE: 1" = 2000'

2000 1000 0 2000 4000

GRAPHIC SCALE



WWW.NMS1.ORG

NEW MEXICO DAMAGE PREVENTION
CONSTRUCTION NOTE: UNDER GROUND UTILITIES MUST
BE VERIFIED BY CONTRACTOR PRIOR TO EXCAVATING

CONCHO OPERATING, L.L.C.
EXHIBIT OF PROPOSED
MORTARBOARD 1 FEE SWD #1
{1 MILE RADIUS}
LOCATED IN
SECTION 1,
TOWNSHIP 24 SOUTH,
RANGE 34 EAST,
N. M. P. M. NEW MEXICO



COPYRIGHT 2015

BISON CREEK LAND SERVICES, LLC 24443 INTERSTATE 20, WILLS POINT, TEXAS 75169 PHONE: (903) 873 - 3600

Mortarboard 1 Fee SWD #1

located in 1-24S-34E, Lea County, New Mexico

Affected Persons

No.	Name	Address	Phone Number	Owner Type	S-T-R	Notes
1	Quail Ranch, LLC	One Concho Center 600 West Illinois Avenue Midland, TX 79701	432-221-0500	Drillsite Surface Owner	W2 1-24S-34E	
2	COG Operating, LLC	One Concho Center 600 West Illinois Avenue Midland, TX 79701	432-221-0500	Operator	E2W2 1-24S-34E E2NW4 & W2SW4 12-24S-34E	APIs: 30-025-44725 30-025-43286
3	OXY USA Inc.	P.O. Box 4294 Houston, TX 77210	713-366-5716	Operator	E2 1-24S-34E E2W2 & E2 12-24S-34E	APIs: 30-025-32190
4	Mewbourne Oil Company	P.O. Box 570 Hobbs, NM 88241	575-393-5905	Operator	All 36-23S-34E S2 35-23S-34E	APIs: 30-025-42436 30-025-43885 30-025-42446 30-025-43929 30-025-24517 30-025-41984 30-025-40981 30-025-40982
5	Cimarex Energy Co	600 N. Marienfeld St. Suite 600 Midland, TX 79701	432-620-1936	Operator	All 2-24S-34E	APIs: 30-025-24319 30-025-37774 30-025-24319 30-025-24414 30-025-44723 30-025-44724
6	Chevron Midcontinent, LP	6301 Deauville Blvd. Midland, TX 79706	432-687-7866	Operator	W2W2 & E2E2 11-24S-34E W2NW4 & NW4SW4 1-24S-34E	API: 30-025-42318
7	Franklin Mountain Energy 2, LLC	2401 E 2nd Avenue, Ste 300 Denver, Co 80206	602-325-4962	Leasehold Interest	SW4SW4 1-24S-34E W2NW4 12-24S-34E	

8	COG Operating, LLC	One Concho Center 600 West Illinois Avenue Midland, TX 79701	432-221-0500	Working Interest/ Leasehold	W2 6-24S-35E E2W2 & W2E2 11-24S-34E E2 1-24S-34E E2W2 & E2 12-24S-34E	Leasehold interest in 11-24S-34E
9	OXY USA Inc.	P.O. Box 4294 Houston, TX 77210	713-366-5716	Working Interest	E2W2 & E2 1-24S-34E E2W2 & E2 12-24S-34E W2 6-24S-35E	
10	Tap Rock Resources, LLC	602 Park Point Drive Suite 200 Golden, CO 80401	720-772-5090	Working Interest/ Leasehold	SE4SW4 1-24S-34E E2W2 & W2E2 11-24S-34E	Leasehold interest in 11-24S-34E
11	Delaware Hops, LLC	50 Kennedy Plaza 18th Floor Providence, RI 02903	401-751-1700	Working Interest	SE4SW4 1-24S-34E	
12	Energen Resources Corporation	3510 N A Street Midland, TX 79705	432-687-1155	Working Interest/ Leasehold	SE4SW4 1-24S-34E E2W2 & W2E2 11-24S-34E W2NW4 12-24S-34E	Leasehold interest in 11-24S-34E & 12- 24S-34E
13	Chevron USA, Inc.	15 Smith Road Midland, Texas 79705	432-498-8600	Working Interest	SE4SW4 1-24S-34E	
14	Marathon Oil Permian, LLC	5555 San Felipe Houston, TX 77056	713-629-6600	Working Interest	SE4SW4 1-24S-34E E2W2 & W2E2 11-24S-34E W2NW4 12-24S-34E	Leasehold interest in 11-24S-34E & 12- 24S-34E
15	David H. Arrington	500 W. Wall Street Suite 300 Midland, TX 79701	432-682-6685	Working Interest	SE4SW4 1-24S-34E	
16	Crown Oil Partners VI, LLC	P.O. Box 50820 Midland, TX 79710	432-683-2950	Leasehold Interest	E2W2 & W2E2 11-24S-34E	
17	Crump Energy Partners III, LLC	P.O. Box 50820 Midland, TX 79710	432-687-2008	Leasehold Interest	E2W2 & W2E2 11-24S-34E	
18	OneEnergy Partners Operating LLC	2929 Allen Parkway Suite 200 Houston, TX 77019	713-714-6482	Leasehold Interest	E2W2 & W2E2 11-24S-34E	
19	Featherstone Development Corporation	PO Box 429 Roswell, NM 88202- 0429	575-623-2432	Leasehold Interest	E2W2 & W2E2 11-24S-34E	

20	BMOG, LLC	500 West Main Street, Suite 1200 Fort Worth, TX 76102	Unknown	Leasehold Interest	W2NW4 12-24S-34E	
21	United States of America, through the Bureau of Land Management	New Mexico State Office 301 Dinosaur Trail Santa Fe, NM 87508	505-954-2000 blm_nm_commen ts@blm.gov	Mineral	N2, SE4, N2SW4 1-24S- 34E S2, NE4 & E2NW4 12- 24S-34E W2 6-24S-35E E2E2 & W2W2 11-24S- 34E	
22	State of New Mexico Commissioner of Public Lands	310 Old Santa Fe Trail Santa Fe, NM 87501	505-827-5760	Mineral	All 36-23S-34E S2 35-23S-34E All 2-24S-34E	
23	Energen Resources Corporation	3510 N A Street Midland, TX 79705	432-687-1155	Unleased Mineral	E2W2 & W2E2 11-24S-34E	Leasehold interest in 11- 24S-34E
24	Rubert "Bert" Madera	125 Belavia Circle Ruidoso, NM 88345	575-390-2861	Mineral	E2W2 & W2E2 11-24S-34E	Included out of an abundance of caution- see Title Note 3 in Ownership Report
25	Black Stone Minerals Company LP	1001 Fannin #2020 Houston, TX 77002- 6715	713-445-3200	Unleased Mineral	E2W2 & W2E2 11-24S-34E	
26	Matagorda B1, LP	1001 Fannin #2020 Houston, TX 77002- 6715	713-445-3200	Unleased Mineral	E2W2 & W2E2 11-24S-34E	
27	David W. Lawrence and Meg Depender Lawrence	7151 Crowley Court San Diego, CA 92119	619-655-0001	Unleased Mineral	SE4SW4 1-24S-34E	
28	Anne Elizabeth Lawrence	5909 Beverly Dr East #2130 Benbrook, TX 76132	337-581-8109	Unleased Mineral	SE4SW4 1-24S-34E	
29	Ann Akin aka Ann Allison, ssp	5115 2nd St #6 Lubbock, TX 79416	806-778-2352	Unleased Mineral	W2NW4 12-24S-34E	
30	David H. Arrington	500 W. Wall Street Suite 300 Midland, TX 79701	432-682-6685	Unleased Mineral	W2NW4 12-24S-34E	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name MORTARBOARD 1 FEE SWD	
⁷ OGRID No.	⁸ Operator Name COG OPERATING, LLC	⁶ Well Number 1 ⁹ Elevation 3409'

" Surface Location

U/L or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
L	1	24S	34E		1605	SOUTH	210	WEST	LEA


" Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N 89°33'02" E 2639.67'

N 89°32'14" E 2640.68'

<p>¹⁶ C</p> <p>GEODETTIC DATA NAD 83 GRID - NM EAST</p> <p>SURFACE LOCATION N 453560.1 - E 820143.0</p> <p>LAT: 32.24369420° N LONG: 103.43154908° W</p> <p>GEODETTIC DATA NAD 27 GRID - NM EAST</p> <p>SURFACE LOCATION N 453180.1 - E 779614.9</p> <p>LAT: 32.24441203° N LONG: 103.56474871° W</p> <p>B</p> <p>210'</p> <p>S.L. SEE DETAIL "A"</p> <p>1605'</p> <p>A</p>	<p>D</p> <p>DETAIL "A"</p> <p>3408.2' 400' 3406.1'</p> <p>400' O S.L.</p> <p>3410.7' 3408.3'</p> <p>E</p>	<p>" OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order hereinafter entered by the division</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>	
		<p>CORNER DATA NAD 83 GRID - NM EAST</p> <p>A: FOUND 2" CAPPED IRON PIPE N 457239.9 - E 819888.0</p> <p>B: FOUND 1" CAPPED IRON PIPE N 457260.6 - E 822527.8</p> <p>C: FOUND 3" CAPPED IRON PIPE N 457281.9 - E 825168.2</p> <p>D: FOUND 1" CAPPED IRON PIPE N 454642.6 - E 825191.2</p> <p>E: FOUND 3" CAPPED IRON PIPE N 452002.7 - E 825215.3</p> <p>F: FOUND 1" CAPPED IRON PIPE N 451976.8 - E 822584.7</p> <p>G: FOUND 3" CAPPED IRON PIPE N 451953.3 - E 819953.0</p> <p>H: FOUND 1" CAPPED IRON PIPE N 454593.5 - E 819920.0</p> <p>F</p> <p>S 00°29'59" E 2639.46'</p>	<p>"SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual survey made by me or under my supervision, and that the same is true and correct to the best of my belief</p> <p>5-3-2019 Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p> <p>12351 Certificate Number</p> <p></p>
<p>S 89°29'19" W 2631.79'</p>	<p>S 89°26'08" W 2630.75'</p>		

VI.

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

VII.

Water Analysis Produced and Receiving Formation Water



Permian Basin Area Laboratory
2101 Market Street,
Midland, Texas 79703

Delaware Sand

Upstream Chemicals

REPORT DATE: 5/11/2018

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER: COG OPERATING LLC
DISTRICT: NEW MEXICO
AREA/LEASE: KING TUT
SAMPLE POINT NAME: KING TUT FED 3H BTRY
SITE TYPE: FACILITY
SAMPLE POINT DESCRIPTION: TRANSFER PUMP

ACCOUNT REP: KENNETH MORGAN
SAMPLE ID: 201701012804
SAMPLE DATE: 3/21/2017
ANALYSIS DATE: 3/24/2017
ANALYST: SVP

COG OPERATING LLC, KING TUT, KING TUT FED 3H BTRY

FIELD DATA			ANALYSIS OF SAMPLE							
			ANIONS:		mg/L	meq/L	CATIONS:		mg/L	meq/L
Initial Temperature (°F):		250	Chloride (Cl):		152606.2		4304.8	Sodium (Na ⁺):	74498.5	3241.9
Final Temperature (°F):		80	Sulfate (SO ₄ ²⁻):		461.4		9.6	Potassium (K ⁺):	1381.8	35.3
Initial Pressure (psi):		100	Borate (H ₂ BO ₃):		170.9		2.8	Magnesium (Mg ²⁺):	2495.8	205.4
Final Pressure (psi):		15	Fluoride (F ⁻):		ND			Calcium (Ca ²⁺):	15329.6	765.0
			Bromide (Br ⁻):		ND			Strontium (Sr ²⁺):	724.2	16.5
pH:			Nitrite (NO ₂ ⁻):		ND			Barium (Ba ²⁺):	1.8	0.0
pH at time of sampling:		6.8	Nitrate (NO ₃ ⁻):		ND			Iron (Fe ²⁺):	43.2	1.5
			Phosphate (PO ₄ ³⁻):		ND			Manganese (Mn ²⁺):	2.6	0.1
			Silica (SiO ₂):		ND			Lead (Pb ²⁺):	0.0	0.0
								Zinc (Zn ²⁺):	0.0	0.0
ALKALINITY BY TITRATION:			mg/L	meq/L						
Bicarbonate (HCO ₃ ⁻):	36.6	0.6					Aluminum (Al ³⁺):	0.0	0.0	
Carbonate (CO ₃ ²⁻):	ND						Chromium (Cr ³⁺):	ND		
Hydroxide (OH ⁻):	ND						Cobalt (Co ²⁺):	ND		
			ORGANIC ACIDS:		mg/L	meq/L	Copper (Cu ²⁺):	0.0	0.0	
aqueous CO ₂ (ppm):	1050.0		Formic Acid:		ND		Molybdenum (Mo ²⁺):	0.0	0.0	
aqueous H ₂ S (ppm):	0.0		Acetic Acid:		ND		Nickel (Ni ²⁺):	ND		
aqueous O ₂ (ppb):	ND		Propionic Acid:		ND		Tin (Sn ²⁺):	ND		
			Butyric Acid:		ND		Titanium (Ti ²⁺):	ND		
Calculated TDS (mg/L):	247582		Valeric Acid:		ND		Vanadium (V ²⁺):	ND		
Density/Specific Gravity (g/cm ³):	1.1573						Zirconium (Zr ²⁺):	ND		
Measured Specific Gravity	1.1683						Lithium (Li):	ND		
Conductivity (mmhos):	ND									
Resistivity:	ND						Total Hardness:	49434	N/A	
MCF/D:	No Data									
BOPD:	No Data									
BWPD:	No Data									
			Anion/Cation Ratio:				1.01	ND = Not Determined		

Bone Spring



Permian Basin Area Laboratory
2101 Market Street,
Midland, Texas 79703

Upstream Chemicals

REPORT DATE: 5/16/2018

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER:	COG OPERATING LLC	ACCOUNT REP:	KENNETH MORGAN
DISTRICT:	NEW MEXICO	SAMPLE ID:	201501048297
AREA/LEASE:	WINDWARD	SAMPLE DATE:	12/11/2015
SAMPLE POINT NAME:	WINDWARD FED 2H	ANALYSIS DATE:	12/16/2015
SITE TYPE:	WELL SITES	ANALYST:	SAMUEL NEWMAN
SAMPLE POINT DESCRIPTION:	WELL HEAD		

COG OPERATING LLC, WINDWARD, WINDWARD FED 2H

FIELD DATA			ANALYSIS OF SAMPLE				
			ANIONS:		CATIONS:		
			mg/L	meq/L		mg/L	meq/L
Initial Temperature (°F):	250	Chloride (Cl ⁻):	89914.5	2536.4	Sodium (Na ⁺):	46148.7	2008.2
Final Temperature (°F):	82	Sulfate (SO ₄ ²⁻):	1031.7	21.5	Potassium (K ⁺):	902.9	23.1
Initial Pressure (psi):	100	Borate (H ₂ BO ₃):	187.2	3.0	Magnesium (Mg ²⁺):	855.0	70.4
Final Pressure (psi):	15	Fluoride (F ⁻):	ND		Calcium (Ca ²⁺):	6890.6	343.8
		Bromide (Br ⁻):	ND		Strontium (Sr ²⁺):	278.9	6.4
pH:		Nitrite (NO ₂ ⁻):	ND		Barium (Ba ²⁺):	0.0	0.0
pH at time of sampling:	7.1	Nitrate (NO ₃ ⁻):	ND		Iron (Fe ²⁺):	89.1	3.2
		Phosphate (PO ₄ ³⁻):	ND		Manganese (Mn ²⁺):	1.8	0.1
		Silica (SiO ₂):	ND		Lead (Pb ²⁺):	ND	ND
					Zinc (Zn ²⁺):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L					
Bicarbonate (HCO ₃ ⁻):	170.0	2.8			Aluminum (Al ³⁺):	ND	ND
Carbonate (CO ₃ ²⁻):	ND				Chromium (Cr ³⁺):	ND	ND
Hydroxide (OH ⁻):	ND				Cobalt (Co ²⁺):	ND	ND
					Copper (Cu ²⁺):	ND	ND
aqueous CO ₂ (ppm):	240.0	Formic Acid:	ND		Molybdenum (Mo ²⁺):	ND	ND
aqueous H ₂ S (ppm):	0.0	Acetic Acid:	ND		Nickel (Ni ²⁺):	ND	ND
aqueous O ₂ (ppb):	ND	Propionic Acid:	ND		Tin (Sn ²⁺):	ND	ND
		Butyric Acid:	ND		Titanium (Ti ²⁺):	ND	ND
Calculated TDS (mg/L):	146283	Valeric Acid:	ND		Vanadium (V ²⁺):	ND	ND
Density/Specific Gravity (g/cm ³):	1.0934				Zirconium (Zr ²⁺):	ND	ND
Measured Specific Gravity	1.1045				Lithium (Li):	ND	ND
Conductivity (mmhos):	ND						
Resistivity:	ND				Total Hardness:	21067	N/A
MCF/D:	No Data						
BOPD:	No Data						
BWPD:	No Data	Anion/Cation Ratio:	1.04		ND = Not Determined		

SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA, FURTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
82°F	15 psi		0.000	1.43	35.518	-0.18	0.000	-0.34	0.000
101°F	24 psi		0.000	1.48	36.271	-0.17	0.000	-0.25	0.000
119°F	34 psi		0.000	1.54	37.269	-0.16	0.000	-0.16	0.000
138°F	43 psi		0.000	1.60	38.261	-0.15	0.000	-0.06	0.000
157°F	53 psi		0.000	1.66	39.182	-0.15	0.000	0.04	39.216
175°F	62 psi		0.000	1.72	40.019	-0.14	0.000	0.14	133.848
194°F	72 psi		0.000	1.78	40.776	-0.13	0.000	0.24	211.707
213°F	81 psi		0.000	1.84	41.510	-0.13	0.000	0.35	274.678
231°F	91 psi		0.000	1.90	42.195	-0.13	0.000	0.45	324.816
250°F	100 psi		0.000	1.96	42.808	-0.12	0.000	0.56	364.191

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
82°F	15 psi	0.16	51.545	-1.13	0.000	-7.50	0.000	1.18	30.476
101°F	24 psi	0.17	54.187	-1.14	0.000	-7.61	0.000	1.28	32.451
119°F	34 psi	0.18	56.250	-1.15	0.000	-7.69	0.000	1.38	34.487
138°F	43 psi	0.18	58.374	-1.16	0.000	-7.75	0.000	1.47	36.277
157°F	53 psi	0.19	60.980	-1.17	0.000	-7.79	0.000	1.55	37.770
175°F	62 psi	0.21	64.301	-1.17	0.000	-7.81	0.000	1.61	38.985
194°F	72 psi	0.22	68.407	-1.18	0.000	-7.83	0.000	1.66	39.950
213°F	81 psi	0.24	73.238	-1.18	0.000	-7.84	0.000	1.70	40.777
231°F	91 psi	0.26	78.634	-1.18	0.000	-7.83	0.000	1.73	41.446
250°F	100 psi	0.29	84.362	-1.18	0.000	-7.82	0.000	1.75	41.931

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.

Note 3: Saturation index predictions on this sheet use pH and alkalinity; %CO₂ is not included in the calculations.

ScaleSoftPit™
SSP2010

Comments:



Permian Basin Area Laboratory
2101 Market Street,
Midland, Texas 79703

Wolfcamp

Upstream Chemicals

REPORT DATE: 5/11/2018

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER: COG OPERATING LLC ACCOUNT REP: LARRY G HINES
DISTRICT: WATER MANAGEMENT - PERMIAN SAMPLE ID: 201801021234
AREA/LEASE: VIKING HELMET STATE SAMPLE DATE: 4/11/2018
SAMPLE POINT NAME: VIKING HELMET STATE COM 24H ANALYSIS DATE: 4/16/2018
SITE TYPE: WELL SITES ANALYST: SP
SAMPLE POINT DESCRIPTION: WELL HEAD

COG OPERATING LLC, VIKING HELMET STATE, VIKING HELMET STATE COM 24H

FIELD DATA			ANALYSIS OF SAMPLE					
			ANIONS:		mg/L		CATIONS:	
					meq/L			
Initial Temperature (°F):	250	Chloride (Cl ⁻):	80548.2	2272.2	Sodium (Na ⁺):	46716.0	2032.9	
Final Temperature (°F):	88	Sulfate (SO ₄ ²⁻):	1551.7	32.3	Potassium (K ⁺):	887.5	22.7	
Initial Pressure (psi):	100	Borate (H ₃ BO ₃):	170.8	2.8	Magnesium (Mg ²⁺):	684.8	56.4	
Final Pressure (psi):	15	Fluoride (F ⁻):	ND		Calcium (Ca ²⁺):	5224.8	260.7	
pH:		Bromide (Br ⁻):	ND		Strontium (Sr ²⁺):	209.4	4.8	
pH at time of sampling:	6.8	Nitrite (NO ₂ ⁻):	ND		Barium (Ba ²⁺):	0.0	0.0	
		Nitrate (NO ₃ ⁻):	ND		Iron (Fe ²⁺):	126.5	4.5	
		Phosphate (PO ₄ ³⁻):	ND		Manganese (Mn ²⁺):	3.4	0.1	
		Silica (SiO ₂):	ND		Lead (Pb ²⁺):	0.0	0.0	
					Zinc (Zn ²⁺):	0.0	0.0	
ALKALINITY BY TITRATION:	mg/L	meq/L						
Bicarbonate (HCO ₃ ⁻):	342.0	5.6			Aluminum (Al ³⁺):	0.0	0.0	
Carbonate (CO ₃ ²⁻):	ND				Chromium (Cr ³⁺):	ND		
Hydroxide (OH ⁻):	ND				Cobalt (Co ²⁺):	ND		
					Copper (Cu ²⁺):	0.0	0.0	
					Molybdenum (Mo ²⁺):	0.0	0.0	
aqueous CO ₂ (ppm):	220.0	Formic Acid:	ND		Nickel (Ni ²⁺):	ND		
aqueous H ₂ S (ppm):	0.0	Acetic Acid:	ND		Tin (Sn ²⁺):	ND		
aqueous O ₂ (ppb):	ND	Propionic Acid:	ND		Titanium (Ti ²⁺):	ND		
		Butyric Acid:	ND		Vanadium (V ⁴⁺):	ND		
Calculated TDS (mg/L):	136294	Valeric Acid:	ND		Zirconium (Zr ²⁺):	ND		
Density/Specific Gravity (g/cm ³):	1.0879				Lithium (Li):	ND		
Measured Specific Gravity	1.0961							
Conductivity (mmhos):	ND							
Resistivity:	ND				Total Hardness:	16122	N/A	
MCF/D:	No Data							
BOPD:	No Data							
BWPD:	No Data							
		Anion/Cation Ratio:		0.97		ND = Not Determined		

SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA; FUTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
88°F	15 psi		0.000	1.26	69.277	-0.13	0.000	-0.27	0.000
106°F	24 psi		0.000	1.31	70.705	-0.12	0.000	-0.18	0.000
124°F	34 psi		0.000	1.38	72.857	-0.11	0.000	-0.09	0.000
142°F	43 psi		0.000	1.46	75.061	-0.10	0.000	0.00	4.176
160°F	53 psi		0.000	1.54	77.135	-0.10	0.000	0.10	142.433
178°F	62 psi		0.000	1.62	79.035	-0.09	0.000	0.20	260.388
196°F	72 psi		0.000	1.70	80.758	-0.08	0.000	0.30	359.322
214°F	81 psi		0.000	1.78	82.441	-0.08	0.000	0.40	440.907
232°F	91 psi		0.000	1.87	84.028	-0.07	0.000	0.50	507.127
250°F	100 psi		0.000	1.95	85.448	-0.07	0.000	0.61	560.114

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
88°F	15 psi	0.19	50.203	-1.20	0.000	-7.79	0.000	1.31	61.325
106°F	24 psi	0.20	52.071	-1.21	0.000	-7.88	0.000	1.40	64.099
124°F	34 psi	0.21	53.663	-1.22	0.000	-7.92	0.000	1.51	67.134
142°F	43 psi	0.22	55.383	-1.22	0.000	-7.94	0.000	1.61	69.838
160°F	53 psi	0.23	57.491	-1.23	0.000	-7.95	0.000	1.71	72.110
178°F	62 psi	0.24	60.125	-1.23	0.000	-7.94	0.000	1.79	73.969
196°F	72 psi	0.26	63.318	-1.24	0.000	-7.93	0.000	1.85	75.466
214°F	81 psi	0.28	67.017	-1.24	0.000	-7.91	0.000	1.91	76.785
232°F	91 psi	0.30	71.103	-1.24	0.000	-7.88	0.000	1.97	77.898
250°F	100 psi	0.33	75.415	-1.24	0.000	-7.84	0.000	2.01	78.761

Note 1 When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered

Note 2 Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales

Note 3 Saturation Index predictions on this sheet use pH and alkalinity. SiO₂ is not included in the calculations

ScaleSoft Pitzer™
SSP2010

Comments:

Devonian (Receiving Formation)

Sec 19-19s-32e

February, 2017

8.0 RESERVOIR CHARACTERISTICS

8.1 FORMATION FLUID CHEMISTRY

Following the drilling of the 6-inch open-hole section the injection zone was swabbed and 10 samples were sent to Cardinal Laboratories in Hobbs, NM. The laboratory report and analysis, along with a summary table of the results that depict the concentrations of all analytes is included in Appendix D. The average concentrations for major constituents within the formation water in the entire injection interval are as follows:

Chloride: 23,700 mg/L
TDS: 42,750 mg/L
Diesel Range Organics: 5.7 mg/L
Extended Range Organics: 2.7 mg/L
pH: 6.5
Total Alkalinity: 613 mg/L

The maximum concentrations for major constituents within the formation water in the entire injection interval are as follows:

Chloride: 27,000 mg/L
TDS: 44,700 mg/L
Diesel Range Organics: 20.5 mg/L
Extended Range Organics: 5.6 mg/L
pH: 6.7
Total Alkalinity: 670 mg/L

The results of the formation water analysis support and confirm the conclusions presented from the geophysical logs, mud log, and sidewall cores that the injection zone clearly does not contain recoverable hydrocarbons. Included in Appendix D is Geolex's No Recoverable Hydrocarbon Summary report, which was required by the BLMs COA, and submitted to the BLM and NMOCD.

X.

**Log Section Across
Proposed Devonian
Injection Interval**

P-33-T23S-R34E

1286FS 660FE

CITATION OIL & GAS CORP

ANTELOPE RIDGE UNIT #9



30-025-28863

E&P Inc

e Ut #9

Numberberger

 SIMULATED NEUTRON
 COMPENSATED NEUTRON
 LITHO DENSITY

COMPANY SHELL WESTERN EXPLORATION			
72595.1 AND PRODUCTION INC.			
WELL ANTELOPE RIDGE UNIT NO. 9			
FIELD ANTELOPE RIDGE			
COUNTY	LEA	STATE	NEW MEXICO
LOCATION 1285' FSL & 660' FEL			
API SERIAL NO.	SEC	TWP.	RANGE
43	23-S	34-E	
Other Services: BHC DLL/MSFL NGT ML 7			

 Permanent Datum: G.A.L.
 Log Measured From: K.B. 25.25 Ft. Above Perm. Datum
 Drilling Measured From: K.B.

 Elev.: 3497.5
 K.B. 3523
 D.F. 3522
 G.L. 3497.5

Date	8-13-85	9-15-85	1-4-86
Run No.	ONE(LDT)	TWO (LDT)	THREE(FDC)
Depth-Driller	11670	13971	17787
Depth-Logger	11664	13960	17780
Bm. Log Interval	11661	13800	17772
Top Log Interval	SURFACE	11650	12000
Casing-Driller	13 3/8 5156	5/8 @ 11665	5.5 @ 15916
Casing-Logger	5149	11650	15912
Bit Size	12 1/4	8 1/2	4.5
Type Fluid in Hole	CUT BRINE	BRINE CUT W/DISAC	
Dens. Visc.	9.3 28	13.4 60	8.9 29
pH Fluid Loss	9.0 NC ml	9 5 ml	11 8.4 ml
Source of Sample	PIT	PIT	CIRCULATED
Rm @ Meas. Temp.	.056 @ 84°F	.24 @ 74°F	.099 @ 75°F
Rmf @ Meas. Temp.	.056 @ 84°F	.18 @ 74°F	.094 @ 75°F
Rmc @ Meas. Temp.	@ @ °F	@ @ °F	@ @ °F
Source: Rmf Rmc	M C	M	
Rm @ BHT	.032 @ 153°F	.10 @ 187°F	.033 @ 239°F
Circulation Stopped	0400	0830	2100 1-3
Logger on Bottom	1630	1700	1810 1-4
Max. Rec. Temp.	153 °F	1700 °F	239 °F
Equip. Location	8067 HOBBS	8382 HOBBS	8346 MONA
Recorded By	GRAFFAGNA	JOHNSON	HAUTZENROEDER
Witnessed By	JOHNSTON	MIZENKO	VARNER/ALLISON

FOLD HERE

The well name, location and borehole reference data were furnished by the customer.

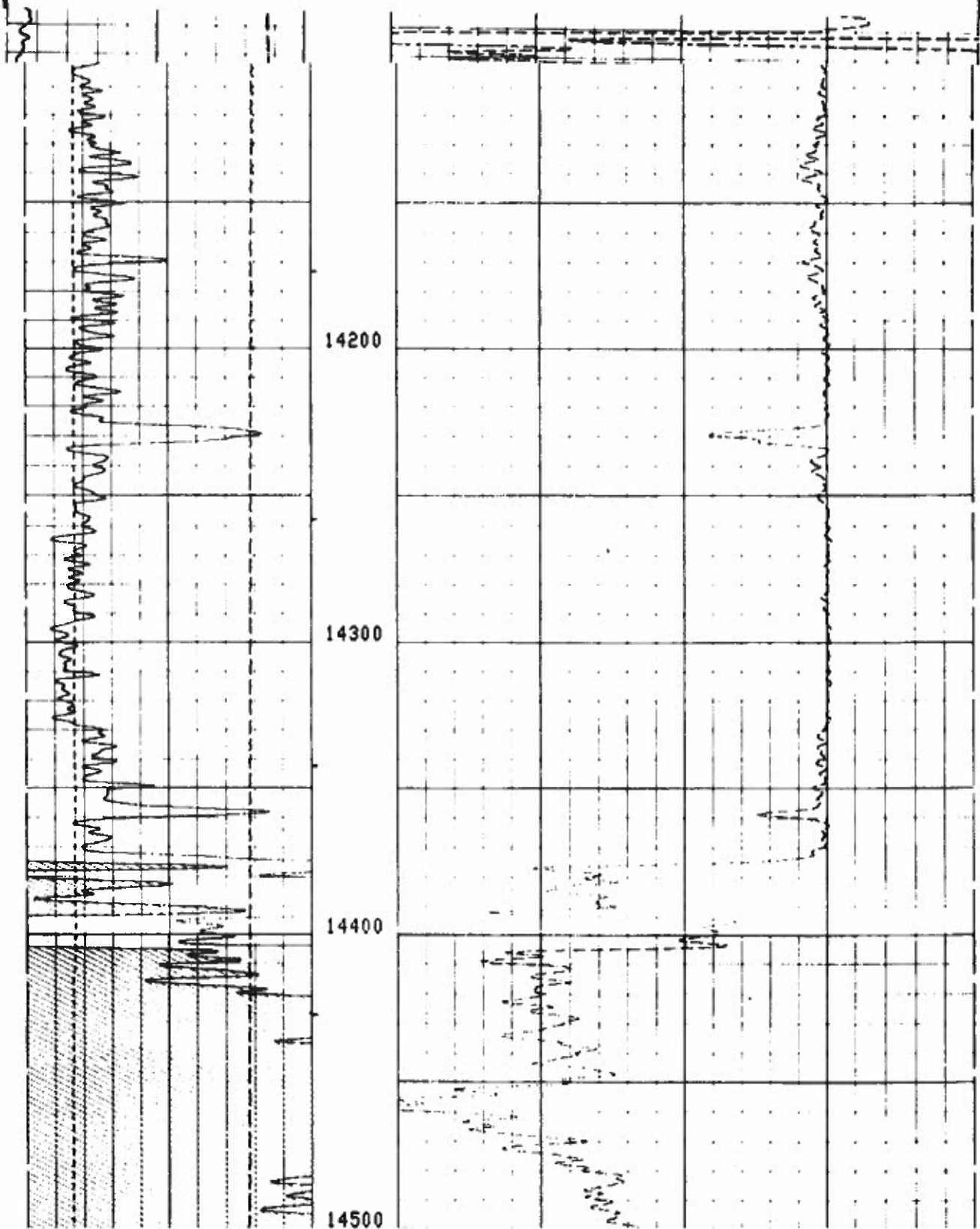
RUN NO.	ONE(LDT)	TWO(LDT)	Type Log	Depth
Service Order No.	452445	476018		
Program Tape No.	26.2	26.2		
Fluid Level	FULL	FULL		
EQUIPMENT DATA				
Module	613	439		
Telemetry Cart	827	651		
Dens. Cart.	928	785		
Dens. Skid.	1843	1730		
Dens. Sonde	2722	1974		
Dens. Source	7274	6472		
Dens. Calibrator				
Neut. Cart.	442	420		
Neut. Source	535	2322		
Neut. Calibrator	3295	2621		
GR Cart	NGT-727	30		
Centralizers:	Type	BOWSPRING		
Enter Spring		**		
REMARKS: RUN TWO: * DRISPAK/KCL ** BOWSPRING AND CALIPER LDT LOOPS WENT UNSTABLE @ 13150, CLIENT ELECTED NOT TO RUN A NEW LDT. TOOL STICKING. TO GET TOOL FREE THE CALIPER WAS CLOSED THEN REOPENED. THIS AFFECTED THE CAL- IPER DATA IN SEVERAL PLACES.				

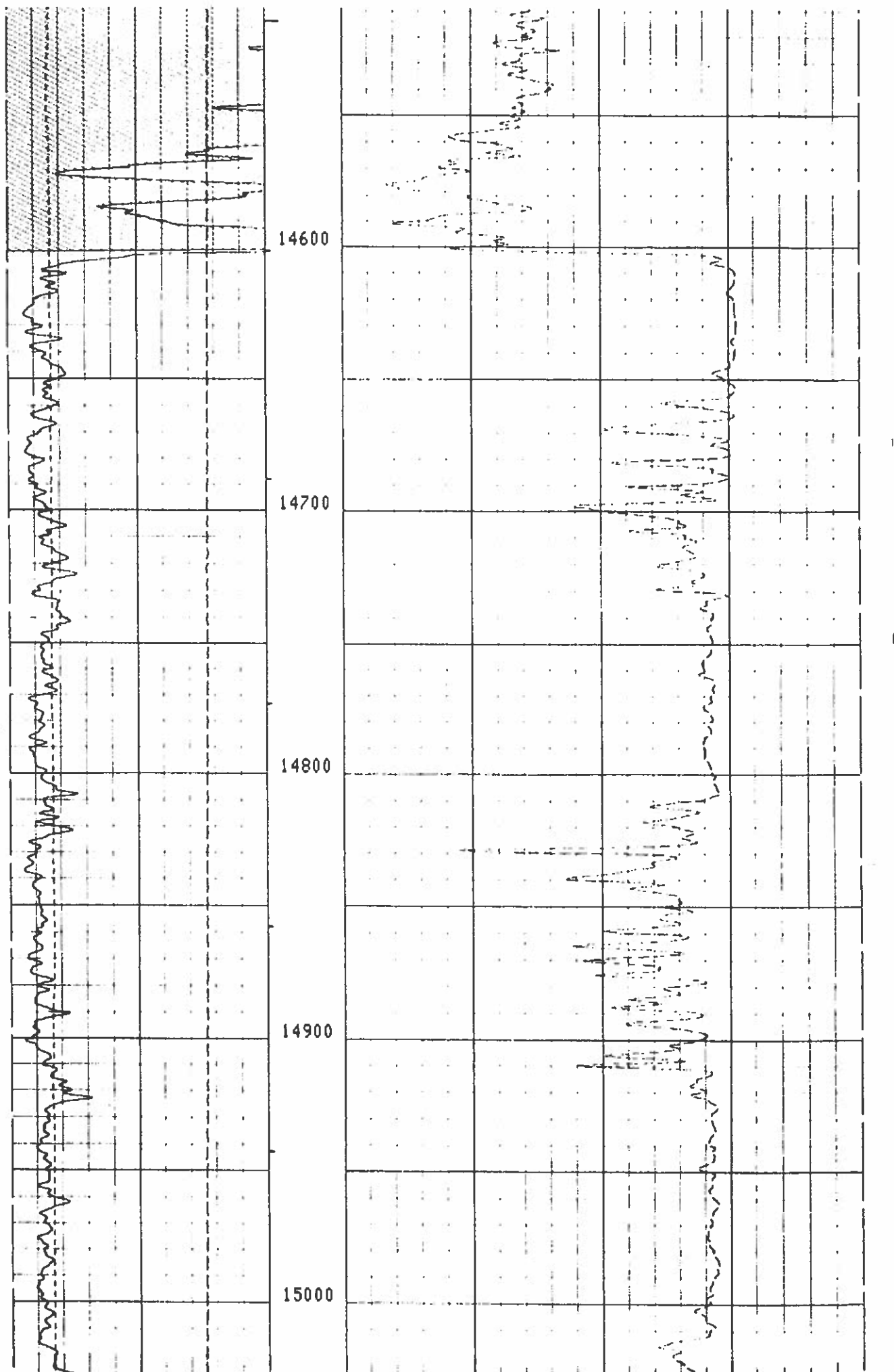
RUN NO.		THREE(FDC)		W.O. NO. 390101								
Service Order No.		476984		Type Log	Depth							
Fluid Level		FULL										
Salinity, PPM CL.		58,000		THERMOMETER #1 238°F								
Speed - F.P.M.		30		#2 239°F								
EQUIPMENT DATA		2 3/4" TOOL		3 3/8" TOOL								
Dens. Panel	174	NLM	54									
Dens. Carl.	143	PGC	1818									
Dens. Skid.	131	PGH	88									
Dens. Sonde		PLS	51	REMARKS:								
Dens. Source	J 8057	GSR	8014	SLIM HOLE DENSITY/NEUTRON 2 3/4								
Dens. Calibrator	139-142	SFT	4611	OD.								
Neut. Panel	174	NLM	54									
Neut. Carl.	132		2512	DENSITY IS NOT SKID TYPE,								
Neut. Source	3126		2338	DENSITY AFFECTED BY HOLE RUGOS-								
Neut. Calibrator			2556	ITY.								
GR Carl.	147		1212									
Memorizer Panel	CALIPER 116			SLIM HOLE FDC/CNL/GR DIED AT								
Tape Recorder (TTR)	1LE-B 162			16320' DUE TO TELEMETRY ERRORS:								
Depth Encoder (DRE)				LOG BELOW 16320' POSSIBLY SUS-								
Pressure Wheel (CPW)				PECT.								
Centralizers:	Type	BOWSPRING	BOWSPRING	REGULAR SLIM HOLE FDC/CNL/GR								
Enter Spring,	No.	2	2	(3 3/8" OD) LOGGED FROM 17,000'								
Standoffs,	S. O. - Inches			- SPLICED AT 16970'. REGULAR								
In-line, or None				CNL (3 3/8") LOGGED THRU CAS-								
CALIBRATION DATA												
GR	BKG. CPS											
	Source CPS											
	Sens. - Cal											
	T. C. - Cal											
CNL	Short Spacing - Before Log											
	Long Spacing - Before Log											
	Short Spacing - After Log											
	Long Spacing - After Log											
FDC	P1 - Before Log											
	P2 - Before Log											
	P1 - After Log											
	P2 - After Log											
LOGGING DATA												
DEPTH		CNP			FDC			GR				
Top	Bottom	Porosity Scale	Matrix	Auto Corr. or Hole Size Setting	Porosity Scale	Grain Density	Liquid Density	Hole Fluid	Sens. Logged	T. C.	Zero. Div. Left	Scale Per 100 Div.
CSG	TD	30 -10	LIME	AUTO	30 - 10	2.71	1.1	BRINE	1	1	0	100
12000	CSG	30 -10	LIME	CASED HOLE					1	1	0	100
				CNL								
<p>All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretations and we shall not except in the case of gross or willful negligence on our part be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.</p>												

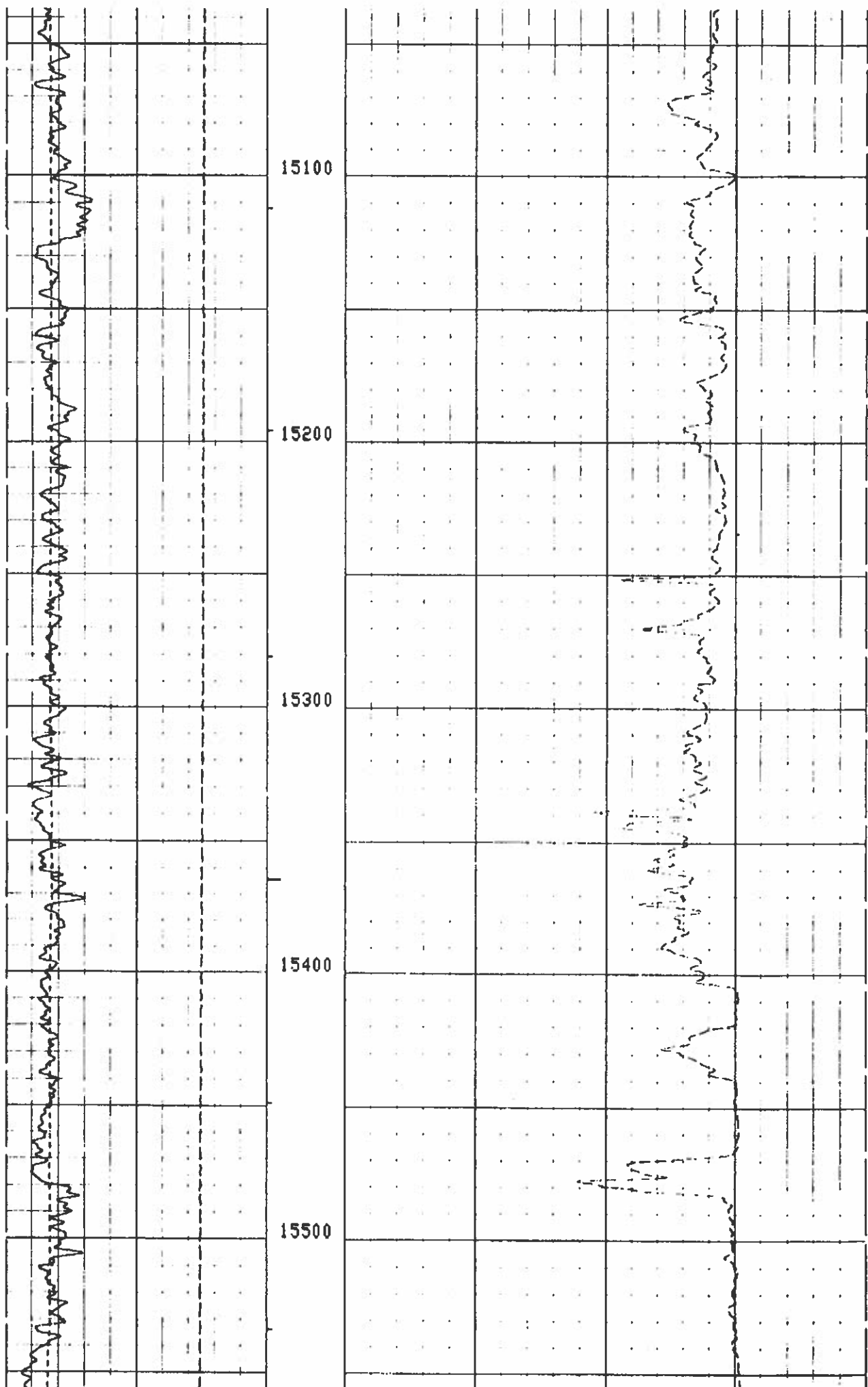
CHANGED PARAMETERS							
NAME	VALUE	UNIT	DEPTH (F)	NAME	VALUE	UNIT	DEPTH (F)
BHS	CASE		5133.0				
	SGR (GAPI)						
	150.00	300.00					
	SGR (GAPI)						
	0.0	150.00					
	GRD (GAPI)						

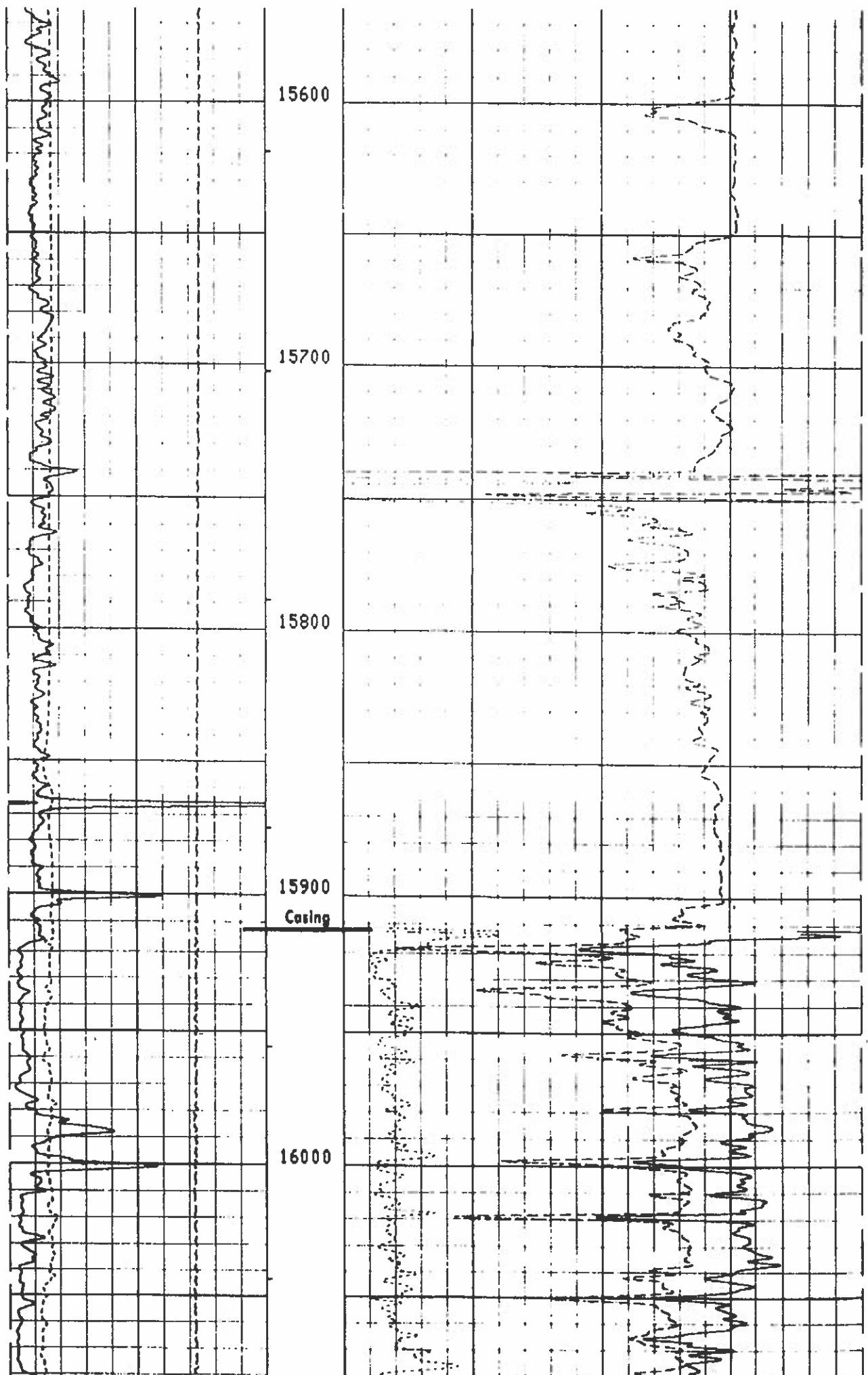
TENS(LB)		Run 1	NPHI	
10000. 0.0			.70000	.30000
CALI(IN)			NPHI	
20.000 10.000			.30000	-.1000
CGR (GAPI)			RHOB(G/C3)	
0.0 150.00			2.0000	3.0000

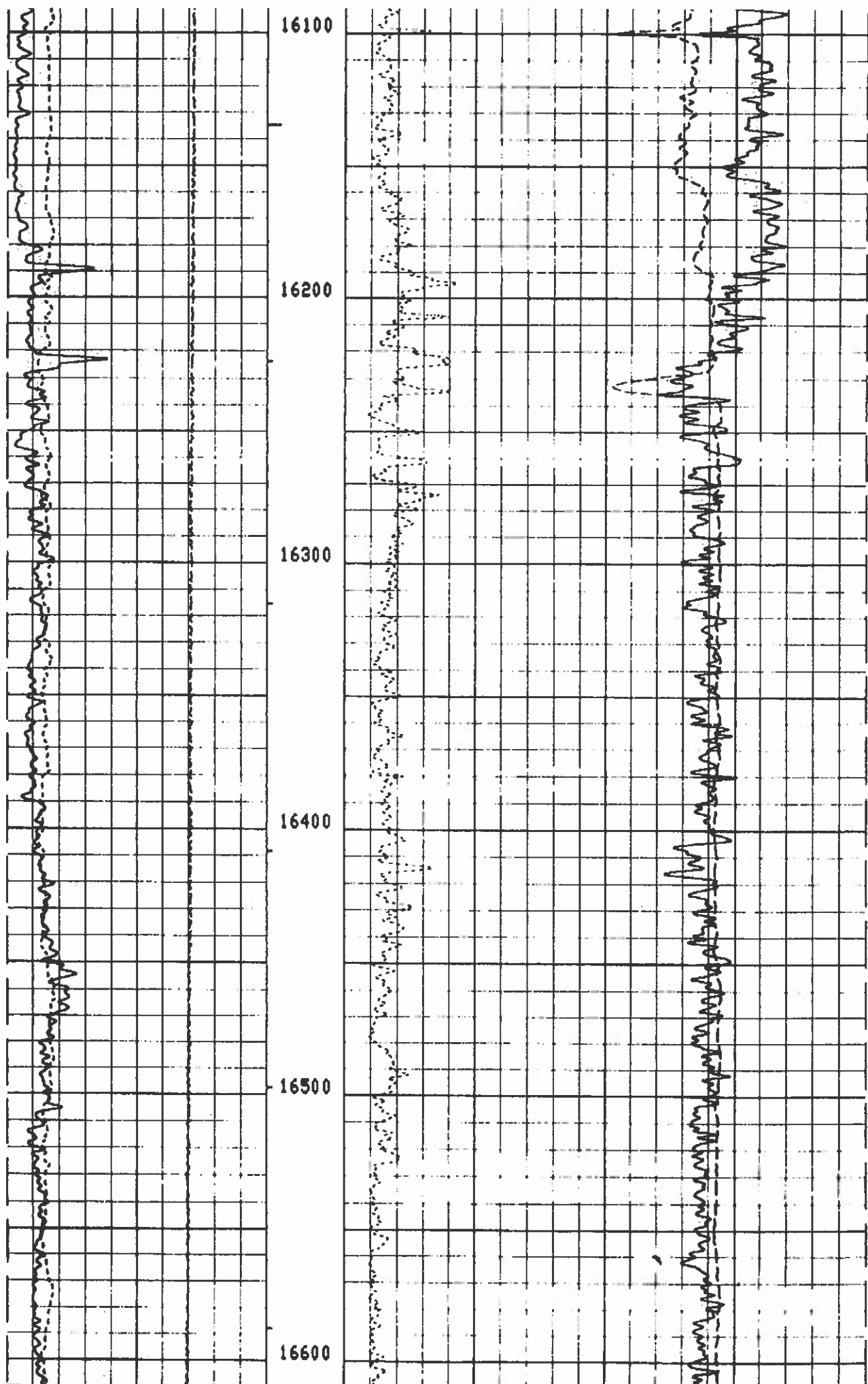
FILE 3 14-AUG-85 02:01

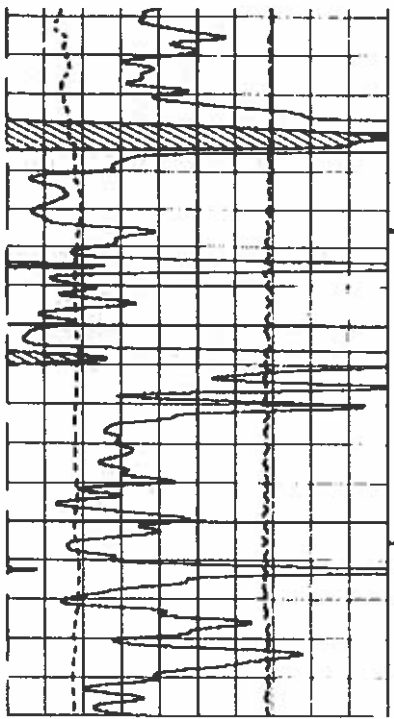






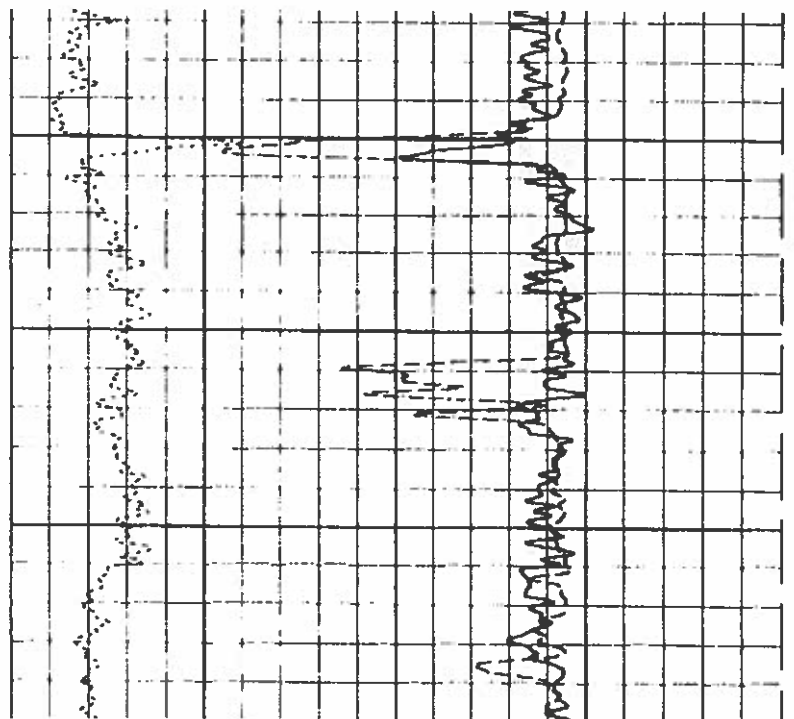






16700

16800



XI.

Fresh Water Sample Analyses

**There Is One FW Well
Within 1 Mile from
NMOSE Records**



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	COG Operating LLC - NM	Sample #:	91064
Area:	Delaware Basin - South	Analysis ID #:	88201
Lease:	Water Well		
Location:	C02387 11-24S-34E		0
Sample Point:	Stock Tank		

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling Date:	4/29/2019	Chloride:	612.4	Sodium:	166.1
Analysis Date:	5/7/2019	Bicarbonate:	226.9	Magnesium:	119.6
Analyst:	Catalyst	Carbonate:		Calcium:	238.5
TDS (mg/l or g/m3):	1784.9	Sulfate:	400.0	Potassium:	11.1
Density (g/cm3):	1.004	Borate*:	4.6	Strontium:	5.5
		Phosphate*		Barium:	0.2
Hydrogen Sulfide:		*Calculated based on measured elemental boron and phosphorus.		Iron:	0.0
Carbon Dioxide:				Manganese:	0.003
Comments:				Conductivity (micro-ohms/cm):	2702
				Resistivity (ohm meter):	3.7010
		pH at time of sampling:	6.81		
		pH at time of analysis:			
		pH used in Calculation:	6.81		
		Temperature @ lab conditions (F):	75		

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.17	0.00	-0.85	0.00	-0.92	0.00	-0.78	0.00	0.89	0.00
100	-0.04	0.00	-0.85	0.00	-0.85	0.00	-0.76	0.00	0.75	0.00
120	0.11	4.20	-0.84	0.00	-0.76	0.00	-0.74	0.00	0.63	0.00
140	0.26	9.80	-0.82	0.00	-0.65	0.00	-0.70	0.00	0.54	0.00
160	0.42	16.09	-0.79	0.00	-0.52	0.00	-0.65	0.00	0.47	0.00
180	0.58	22.04	-0.76	0.00	-0.38	0.00	-0.60	0.00	0.42	0.00
200	0.76	27.99	-0.73	0.00	-0.22	0.00	-0.55	0.00	0.39	0.00
220	0.93	33.59	-0.69	0.00	-0.06	0.00	-0.49	0.00	0.38	0.00



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, C=the file is closed)			(quarters are 1=NW 2=NE 3=SW 4=SE)			(quarters are smallest to largest)			(NAD83 UTM in meters)				
WR File Nbr	Sub	basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q	q	q	Sec	Tws	Rng	X	Y
C 02187	62'	CUB	STK		3 QUAIL RANCH LLC	LE	C 02187				64164	4	11	24S	34E			646513	3567613*

Record Count: 1

PLSS Search:

Section(s): 1, 2, 11, 12 Township: 24S 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.

4/10/19 10:23 AM

ACTIVE & INACTIVE POINTS OF DIVERSION



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)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 02387			1	11	24S	34E	646513	3567613*

Driller License:**Driller Company:**

Driller Name: UNKNOWN

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: 3 GPM

Casing Size: 6.00

Depth Well: 62 feet

Depth Water: 40 feet

***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.

4/10/19 10:24 AM

POINT OF DIVERSION SUMMARY



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, C=the file is closed)		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)	
WR File Nbr	Sub	basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source
CP 01708	CP	EXP			0 LIMESTONE LIVESTOCK LLC	LE	CP 01708.POD1	NA			64 16 4
											2 1 36 23S 34E 648262 3571205

Record Count: 1

> 1 mi. away

PLSS Search:

Section(s): 35, 36 Township: 23S 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.

4/10/19 10:22 AM

ACTIVE & INACTIVE POINTS OF DIVERSION

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).

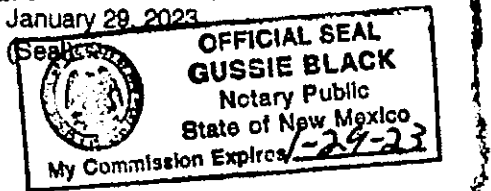
Beginning with the issue dated
May 18, 2019
and ending with the issue dated
May 18, 2019.


Publisher

Sworn and subscribed to before me this
18th day of May 2019.


Business Manager

My commission expires
January 29, 2023



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 NOTICES MAY 18, 2019

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 Montarboard 1-Fee SWD No. 1, is located 1606' F8L and 210' FWL, Section 1, Township 24 South, Range 34 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/Silurian formation at an estimated depth of 15,000' to 16,800' at a maximum surface pressure of 3000 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 17.5 miles west-northwest of Jala. 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. #34174

02107967

00228545

COG OPERATING LLC
600 W. ILLINOIS AVENUE
MIDLAND, TX 79701

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 Mortarboard 1 Fee SWD No. 1, is located 1605' FSL and 210' FWL, Section 1, Township 24 South, Range 34 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/Silurian formation at an estimated depth of 15,000' to 16,800' at a maximum surface pressure of 3000 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 17.5 miles west/northwest of Jal. 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
_____, 2019.



August 1, 2019

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. McMillan

All Notices were mailed out to the affected parties on August 1, 2019.
Please do not hesitate to contact me at (575) 748-6941 should you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Marissa Villa", written over a faint circular stamp.

Marissa Villa
Operations Engineering Technician
COG Operating, LLC
2208 West Main
Artesia, NM 88210
Office: 575.748.6941
Fax: 575.746.2523

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P 432.683.7443 | F 432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P 575.748.6940 | F 575.746.2096

7017 3040 0000 2540 1293

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$
 Extra
☐ Return
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Anne Elizabeth Lawrence
 5909 Beverly Dr East # 2130
 Benbrook, TX 76132

Postage

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$
 Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Matagorda B1, LP
 1001 Fannin # 2020
 Houston, TX 77002-6715

Postage

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$
 Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Rubert "Bert" Madera
 125 Belavia Circle
 Ruidoso, NM 88345

Postage

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7017 3040 0000 2540 1279

7017 3040 0000 2540 1255

7017 3040 0000 2540 1309

7017 3040 0000 2540 1286

7017 3040 0000 2540 1262

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

Mark

Ann Akin aka Ann Allison, ssp
 5115 2nd St # 6
 Lubbock, TX 79416

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

David W. Lawrence and Meg

Depender Lawrence

7151 Crowley Court

San Diego, CA 92110

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

Black Stone Minerals Company LP

1001 Fannin # 2020

Houston, TX 77002-6715

\$
 Total Postage and Fees

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7017 3040 0000 2540 1231

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

Extra Serv

☐ Return

☐ Return

☐ Certif

☐ Adult S

☐ Adult S

Postage

\$

Total Po

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

Extra Serv

☐ Return

☐ Return

☐ Certif

☐ Adult S

☐ Adult S

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified

\$

Extra S

☐ Ret

☐ Ret

☐ Cer

☐ Ad

☐ Ad

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7017 3040 0000 2540 1217

7017 3040 0000 2540 1194

7017 3040 0000 2540 1248

7017 3040 0000 2540 1224

7017 3040 0000 2540 1201

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified M

\$

Extra Serv

☐ Return

☐ Return

☐ Certif

☐ Adult S

☐ Adult S

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

\$

Extra Serv

☐ Return

☐ Return

☐ Certif

☐ Adult S

☐ Adult S

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified

\$

Extra S

☐ Ret

☐ Ret

☐ Cer

☐ Ad

☐ Ad

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

State of New Mexico
 Commissioner of Public Lands
 310 Old Santa Fe Trail
 Santa Fe, NM 87501

BMOG, LLC
 500 West Main Street, Suite 1200
 Fort Worth, TX 76102

OneEnergy Partners Operating LLC
 2929 Allen Parkway Suite 200
 Houston, TX 77019

United States of America.
 Through the Bureau of Land Management
 New Mexico State Office
 301 Dinosaur Trail
 Santa Fe, NM 87508

Featherstone Development
 Corporation
 PO Box 429
 Roswell, NM 88202-0429

Crump Energy Partners III, LLC
 P.O. Box 50820
 Midland, TX 79710

7017 3040 0000 2540 1170

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

David H. Arrington
500 W. Wall Street Suite 300
Midland, TX 79701

7017 3040 0000 2540 1156

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Chevron USA, Inc.
15 Smith Road
Midland, Texas 79705

7017 3040 0000 2540 1132

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Delaware Hops, LLC
50 Kennedy Plaza 18th Floor
Providence, RI 02903

7017 3040 0000 2540 1167

U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Crown Oil Partners VI, LLC
P.O. Box 50820
Midland, TX 79710

7017 3040 0000 2540 1163

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Marathon Oil Permian, LLC
5555 San Felipe
Houston, TX 77056

7017 3040 0000 2540 1149

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$

Extra Service
☐ Return Receipt
☐ Return Receipt
☐ Certified Mail
☐ Adult Signature
☐ Adult Signature

Postage
\$

Total Postage and Fees
\$

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Energizer Resources Corporation
3510 N A Street
Midland, TX 79705

7017 3040 0000 2540 1116

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail Fee

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail Fee

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

ONY USA Inc.
P.O. Box 4294
Houston, TX 77210

7017 3040 0000 2540 1743

7017 3040 0000 2540 1125

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail Fee

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail Fee

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.**OFFICIAL USE**

Certified Mail

\$

Extra Serv

☐ Return☐ Return☐ Certifi☐ Adult☐ Adult

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Mewbourne Oil Company
P.O. Box 570
Hobbs, NM 88241

7017 3040 0000 2540 1750

7017 3040 0000 2540 1729

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee \$	
Extra Service <input type="checkbox"/> Return R <input type="checkbox"/> Return R <input type="checkbox"/> Certified <input type="checkbox"/> Adult Sig <input type="checkbox"/> Adult Sig	
Postage \$	
Total Postage and Fees \$	
Sent To	
Street and Apt. No., or PO Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

Oil Conservation Division
Attn: Paul Kautz
1625 North French Dr.
Hobbs, NM 88240

9217 0452 0000 0400 1736

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee \$	
Extra Service <input type="checkbox"/> Return R <input type="checkbox"/> Return R <input type="checkbox"/> Certified <input type="checkbox"/> Adult Sig <input type="checkbox"/> Adult Sig	
Postage \$	
Total Postage and Fees \$	
Sent To	
Street and Apt. No., or PO Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

Quail Ranch, LLC
One Concho Center
600 West Illinois Avenue
Midland, TX 79701

7017 3040 0000 2540 1712

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee \$	
Extra Service <input type="checkbox"/> Return R <input type="checkbox"/> Return R <input type="checkbox"/> Certified <input type="checkbox"/> Adult Sig <input type="checkbox"/> Adult Sig	
Postage \$	
Total Postage and Fees \$	
Sent To	
Street and Apt. No., or PO Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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



August 1, 2019

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

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
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 all the certified return receipts we will send you a copy.

Our geologic prognosis has the top of the Devonian at 15180' and Fusselman at 15929'. We're permitting the injection interval 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.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Oil Conservation Division
Attn: Paul Kautz
1625 North French Dr.
Hobbs, NM 88240

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Kautz:

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.

Our geologic prognosis has the top of the Devonian at 15180' and Fusselman at 15929'. We're permitting the injection interval 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.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Quail Ranch, LLC
One Concho Center
600 West Illinois Avenue
Midland, TX 79701

**RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

OXY USA Inc.
P.O. Box 4294
Houston, TX 77210

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Mewbourne Oil Company
P.O. Box 570
Hobbs, NM 88241

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Cimarex Energy Co
600 N. Marienfeld St. Suite 600
Midland, TX 79701

**RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Chevron Midcontinent, LP
6301 Deauville Blvd.
Midland, TX 79706

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Franklin Mountain Energy 2, LLC
2401 E 2nd Avenue, Ste 300
Denver, CO 80206

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P 432.683.7443 | F 432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P 575.748.6940 | F 575.746.2096



August 1, 2019

Tap Rock Resources, LLC
602 Park Point Drive Suite 200
Golden, CO 80401

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Delaware Hops, LLC
50 Kennedy Plaza 18th Floor
Providence, RI 02903

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", with a stylized flourish at the end.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Energen Resources Corporation
3510 N A Street
Midland, TX 79705

**RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Chevron USA, Inc.
15 Smith Road
Midland, Texas 79705

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Marathon Oil Permian, LLC
5555 San Felipe
Houston, TX 77056

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

David H. Arrington
500 W. Wall Street Suite 300
Midland, TX 79701

**RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Crown Oil Partners VI, LLC
P.O. Box 50820
Midland, TX 79710

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Crump Energy Partners III, LLC
P.O. Box 50820
Midland, TX 79710

**RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

OneEnergy Partners Operating LLC
2929 Allen Parkway Suite 200
Houston, TX 77019

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Featherstone Development Corporation
PO Box 429
Roswell, NM 88202-0429

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

BMOG, LLC
500 West Main Street, Suite 1200
Fort Worth, TX 76102

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

United States of America,
Through the Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

State of New Mexico
Commissioner of Public Lands
310 Old Santa Fe Trail
Santa Fe, NM 87501

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink that reads "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Rubert "Bert" Madera
125 Belavia Circle
Ruidoso, NM 88345

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", with a stylized flourish extending from the end.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Black Stone Minerals Company LP
1001 Fannin #2020
Houston, TX 77002-6715

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Matagorda B1, LP
1001 Fannin #2020
Houston, TX 77002-6715

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P 432.683.7443 | F 432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P 575.748.6940 | F 575.746.2096



August 1, 2019

David W. Lawrence and Meg Depender Lawrence
7151 Crowley Court
San Diego, CA 92119

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter", written over a horizontal line.

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures

CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P432.683.7443 | F432.683.7441

ARTESIA WEST OFFICE

2208 MAIN STREET | ARTESIA, NEW MEXICO 88210
P575.748.6940 | F575.746.2096



August 1, 2019

Anne Elizabeth Lawrence
5909 Beverly Dr East #2130
Benbrook, TX 76132

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures



August 1, 2019

Ann Akin aka Ann Allison, ssp
5115 2nd St #6
Lubbock, TX 79416

RE: Application For Authorization To Inject
Mortarboard 1 Fee SWD #1
1605' FSL, 210' FWL
Unit L, Section 1, Township 24 South, Range 34 East, N.M.P.M.
Lea 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 affected person within a one 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 blue ink, appearing to read "Paul Porter".

Paul Porter
General Manager of New Mexico

PP/mv
Enclosures