## Additional

## Information

Proof of Notification by applicant on 2/18/20

RECEIVED:	REVIEWER:	TYPE:	APP NO:

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSER' - Geological & Engineerin 1220 South St. Francis Drive, Sar	ng Bureau –
ADMINISTRATIVE APPLICA	
THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLI REGULATIONS WHICH REQUIRE PROCESSING AT T	
	00000
Applicant: COG Operating, LLC	OGRID Number: <u>229137</u> API:
Pool:	Pool Code:
SUBMIT ACCURATE AND COMPLETE INFORMATION REQ INDICATED BE	UIRED TO PROCESS THE TYPE OF APPLICATION
1) TYPE OF APPLICATION: Check those which apply for A. Location – Spacing Unit – Simultaneous Dedicat  NSP (PROJECT AREA)	ion
[ II ] Injection – Disposal – Pressure Increase – En	OLS OLM hanced Oil Recovery EOR PPR FOR OCD ONLY
A. ☐ Offset operators or lease holders  B. ☐ Royalty, overriding royalty owners, revenue of the control of the	Notice Complete  Application Content Complete
G. For all of the above, proof of notification or p	publication is attached, and/or,
3) <b>CERTIFICATION:</b> I hereby certify that the information administrative approval is <b>accurate</b> and <b>complete</b> to understand that <b>no action</b> will be taken on this appliance notifications are submitted to the Division.	o the best of my knowledge. I also
Note: Statement must be completed by an individual w	with managerial and/or supervisory capacity.
Brian Collins	19F.b.2019 Date
Print or Type Name	575-748-6940
0	Phone Number
Jani Mellini	bcollins@concho.com

Signature

e-mail Address

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

#### Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

FORM C-108 Revised June 10, 2003

#### **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: Brian CollinsPHONE: 575-748-6940
Ш.	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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: _Brian CollinsTITLE: Facilities Engineering Advisor
	SIGNATURE:
*	E-MAIL ADDRESS: _bcollins@concho.com

#### 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 Columbus Fee SWD 1 1165' FNL, 1895' FWL Unit C, Section 3, T26S, R33E Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 19,450' for salt water disposal service into the Devonian/Silurian from approximately 17,450' to 19,450'. A drilling permit will be submitted upon approval of this C-108.

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 = 3490 psi (0.2 psi/ft. x 17,450' 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 17,450' to 19,450'. Any underground water sources will be shallower than 931', the estimated top of the Rustler Anhydrite. The estimated top of the Devonian is 17,715' and the Fusselman is 18,581'. 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/Silurian from the Mesquite SWD Vaca Draw Federal SWD 1 located about 2.4 miles north in Unit P, Section 21, T25S, R33E is attached.

- XI. There are POD's on the OSE website for five fresh water wells within a mile of the proposed SWD well, all located in the SE/4 Se/4 Section 3 T26S R33E. Water analysis is attached.
- XII. After examining the available geologic and engineering data, no evidence was found of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

Shui Sellin', Facilities Engineering Advisor, 19 Feb 2019

A seismicity assessment is attached.

XIII. Proof of Notice is attached.

COG Operating LLC Columbus Fee SWD #1 C-108 Attachment December 17, 2018

#### 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 4.5 miles E-NE 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).

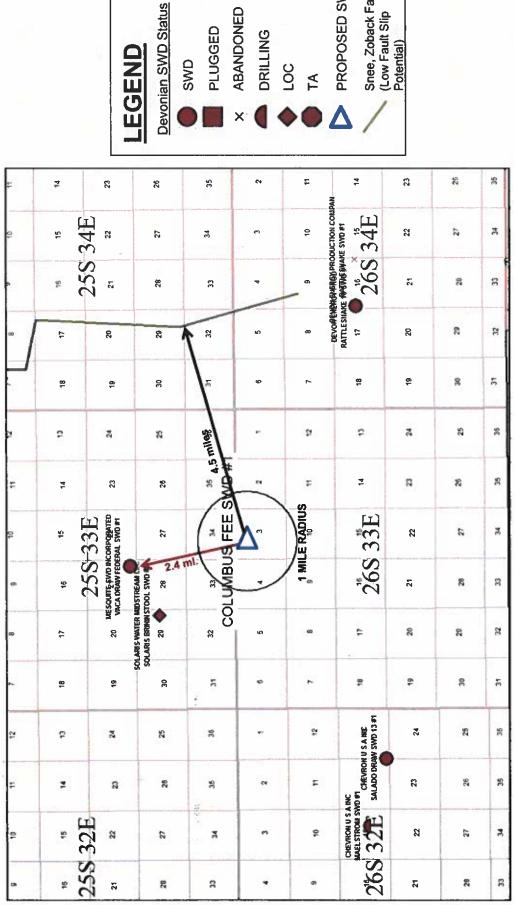
The proposed Columbus Fee SWD #1 is located 2.4 miles away from the nearest active Devonian SWD well (see map) and no active, permitted or pending Devonian SWD applications within the one mile radius.

Regards,

Carrie M. Martin

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

# **COLUMBUS FEE SWD #1**





Snee, Zoback Faults (Low Fault Slip Potential)

PROPOSED SWD

ABANDONED PLUGGED

SWD

DRILLING

200 ۲



## III.

### **WELL DATA**

#### INJECTION WELL DATA SHEET

Operator:

COG Operating, LLC

Well Name & Number: Columbus Fee SWD 1

Well Location:

1165' FNL, 1895' FWL, Unit C, Section 3, T26S, R33E

Wellbore Schematic: See attached schematic

#### Surface Casing:

Hole Size: 26"

Casing Size: 20" @ 1000'

Cemented with: 3000 cubic feet Top of Cement: Surface by design

#### Intermediate Casing:

Hole Size: 17-1/2"

Casing Size: 13-3/8" @ 4970' Cemented with: 5175 cubic feet Top of Cement: Surface by design

#### Intermediate Casing:

Hole Size: <u>12-1/4</u>"

Casing Size: 9-5/8" @ 12300' Cemented with: 5775 cubic feet Top of Cement: Surface by design

#### **Production Casing:**

Hole Size: 8-1/2"

Casing Size: 7-5/8" flush joint liner @ 12100-17450'

Cemented with: 625 cubic feet Top of Cement: Liner top by design

#### Injection Interval:

17450' to 19450' (6-1/2" open hole)

#### Injection Tubing/Packer:

Tubing Size: 5-1/2" 0-12000' inside 9-5/8" casing, 5" from 12000-17400' inside 7-5/8" casing

Lining Material: Internally fiberglass lined

Type of Packer: Nickel plated or CRA 10K permanent packer

Packer Setting Depth: 17400'

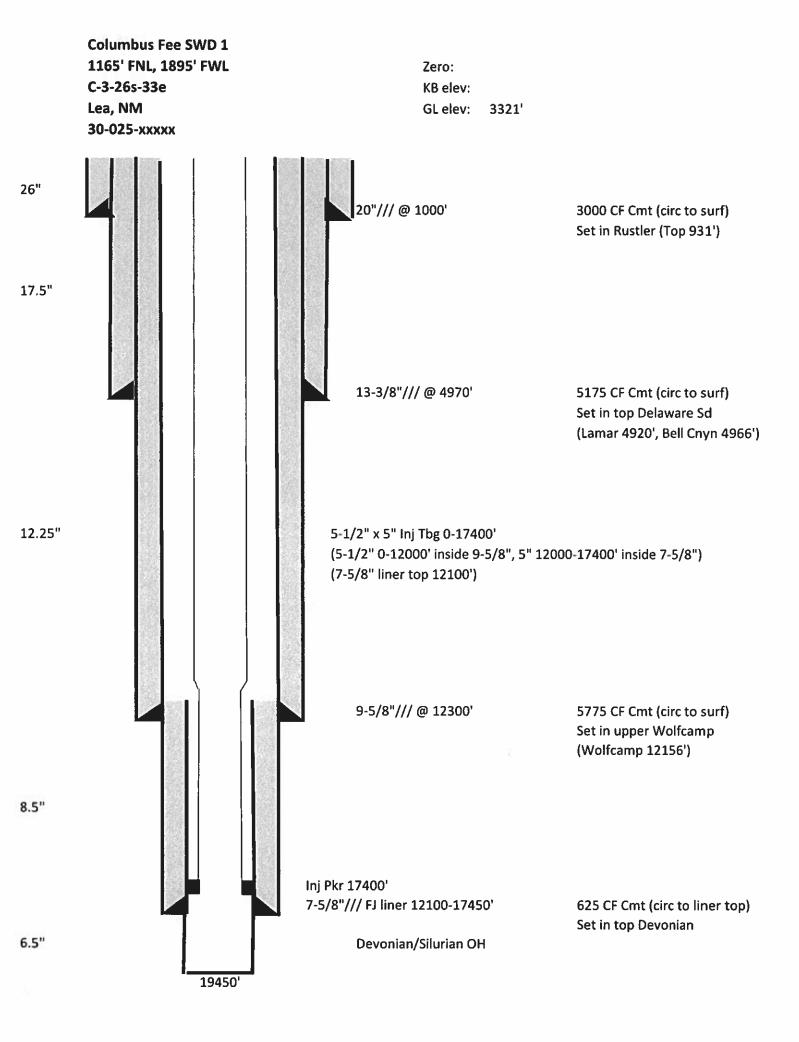
Other Type of Tubing/Casing Seal: Not Applicable

#### 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 4970-9050', Bone Spring 9050-12150', Wolfcamp 12150-14000', possible Strawn 14300'+, possible Atoka 14475'+, possible Morrow 15025'+

Underlying: None



#### Fishing Risk Assessment Columbus 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 Columbus 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:

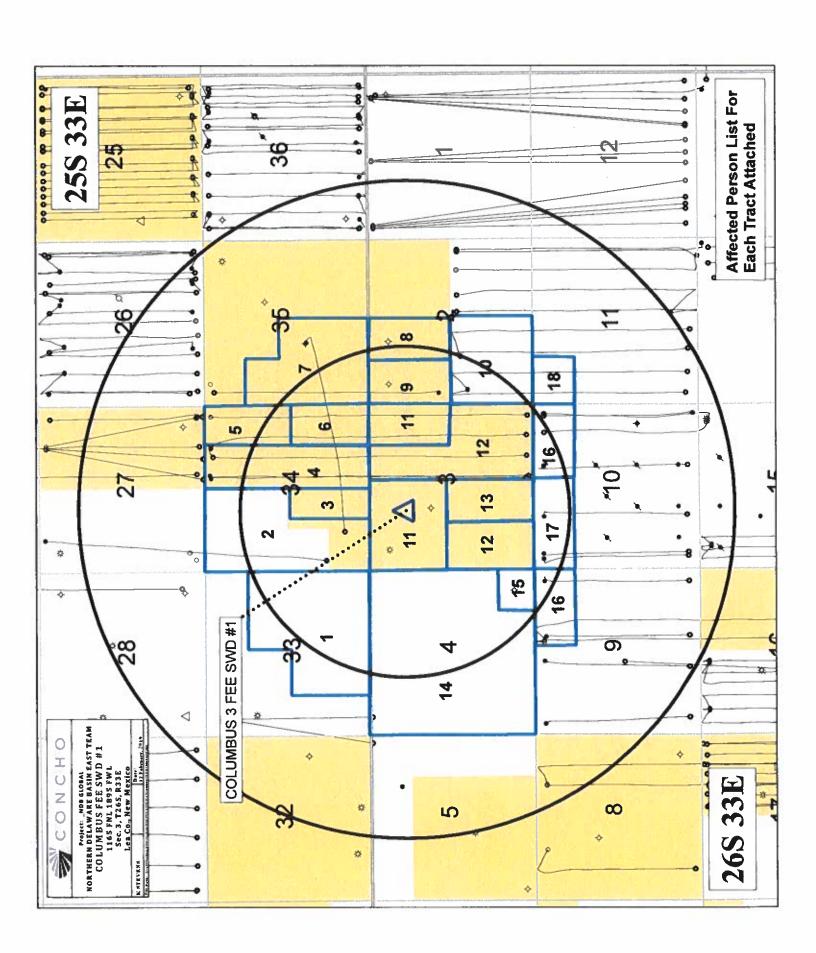
- 5-1/2" tube/body can be fished with 6.625" OD Series 150 spiral grapple overshot (6.625" overshot OD vs 8.379" casing drift ID).
- 6.250" OD TCPC coupling can be fished with 7.375" OD Series 150 spiral grapple overshot (7.375" overshot OD vs 8.379" casing drift ID).

#### 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**



## C-108 Application for Authorization to Inject Columbus Fee SWD 1 1165' FNL, 1895' FWL Unit C, Section 3, T26S, R33E Lea County, NM

#### List of Affected Persons Within 1Mile Radius Area of Review By Tract

#### **Surface Owner:**

Dinwiddie Cattle Co., LLC Intrepid Potash

#### **Affected Persons Tract 1:**

Magnum Hunter Production Inc.

#### **Affected Persons Tract 2:**

BTA Oil Producers COG Operating, LLC Concho Oil & Gas, LLC MECO IV, LLC Muleshoe Crude, LP Sagebrush Interests, LLC RSC Resources, LP

#### **Affected Persons Tract 3:**

BTA Oil Producers COG Operating, LLC Concho Oil & Gas, LLC MECO IV, LLC Muleshoe Crude, LP Sagebrush Interests, LLC RSC Resources, LP

#### Affected Persons Tract 4: Castello Enterprises, Inc.

COG Operating LLC
Concho Oil & Gas, LLC
Muleshoe Crude, LP
MECO IV, LLC
RGH Land, Inc.
Michael T. Hooper GST Trust, Michael T, Hooper, Trustee
Deborah H. Wachsmuth GST Trust, Deborah H. Wachsmuth, Trustee
Jack P. Hooper GST Trust, Jack P. Hooper, Trustee
RSC Resources, L.P.
Sagebrush Interest, LLC

#### **Affected Persons Tract 5:**

RSC Resources, LP Peregrine Production, LLC REX Resources, L.P.

COG Operating, LLC

Concho Oil & Gas, LLC, a Texas limited liability company

Muleshoe Crude, L.P., a Texas limited partnership

Cowhouse Crude, L.P., a Texas limited partnership

Magnum Producing, LP

MRC Permian Company

MECO IV, LLC

Endeavor Energy Resources, L.P.

Bradley S. Bates

WBA Resources, Ltd

Newkumet Exploration, Inc.

Sagebrush Interests, LLC

Featherstone Development Corporation

MHM Resources, L.P.

#### **Affected Persons Tract 6:**

COG Operating LLC

Concho Oil & Gas, LLC

Sagebrush Interests, LLC

RSC Resources, L.P.

Muleshoe Crude, L.P.

Meco IV, LLC

#### **Affected Persons Tract 7:**

COG Operating, LLC

Concho Oil & Gas, LLC

MECO IV, LLC

Muleshoe Crude, LP

Sagebrush Interests, LLC

RSC Resources, LP

#### **Affected Persons Tract 8:**

Sagebrush Interests, LLC

RSC Resources, L.P.

WBA Resources, Ltd.

Muleshoe Crude, L.P.

Meco IV, LLC

Endeavor Energy Resources, L.P.

Petras Energy L.P.

#### **Affected Persons Tract 9:**

Sagebrush Interests, LLC

RSC Resources, L.P.

WBA Resources, Ltd.

Muleshoe Crude, L.P.

Meco IV, LLC

Petras Energy L.P.

#### **Affected Persons Tract 10:**

EOG Resources Inc.

#### **Affected Persons Tract 11:**

Concho Operating, LLC

WBA Resources, Ltd.

Endeavor Energy Resources, L.P.

Petras Energy, LP

Newkumet Exploration, Inc.

Bradley S. Bates

Muleshoe Crude, LP

RSC Resources, LP

R&R Royalty, Ltd.

Sagebrush Interests, LLC

#### **Affected Persons Tract 12:**

COG Operating LLC

Concho Oil & Gas, LLC

Muleshoe Crude, LP

MECO IV, LLC

RSC Resources, L.P.

Sagebrush Interests, LLC

Maven Royalty Fund, LP

Norman C. Case, a married individual as his separate estate

Tonkin Mineral Interest, LLC, a New Mexico limited liability company

MHM Resources, LP

Pheasant Energy, LLC

J. Hiram Moore, Ltd., a Texas limited partnership

RGH Land Inc.

Michael T. Hooper GST Trust, Michael T, Hooper, Trustee

Deborah H. Wachsmuth GST Trust, Deborah H. Wachsmuth, Trustee

Jack P. Hooper GST Trust, Jack P. Hooper, Trustee

Norma Markham Berman Valente, aka Norma Berman Valente, a married person dealing with her sole and separate property

Sandra Rudy Brown, Attorney-in-fact for Moses M. Rudy and Mildred S. Rudy, Co-Trustees of the M.

M. & M. S. Rudy Trust

Houston Arts Combined Endowment Foundation, a non-profit organization

Wells Fargo Bank, N.A., Agent

Stephen D. Susman

Thomas Susman

Tara Susman-Pena

Micah Susman

Daily Lacy Lambert

Stacy S. Kuhn

Shana BatSheva Vaknin

Harry Susman c/o Susman Godfrey, LLP

Carolyn A. Taylor, Marilyn S. Taylor As tenants in common with rights of survivorship

Jack A. Taylor, dealing in his sol and separate property

R&R Royalty, Ltd

#### Bradley S. Bates

#### **Affected Persons Tract 13:**

R&R Royalty, Ltd.

#### **Affected Persons Tract 14:**

Matador E&P Company, Inc.

#### **Affected Persons Tract 15:**

Magnum Hunter Production Inc.

#### **Affected Persons Tract 16:**

Mewbourne Oil Company
Mewbourne Energy Partners 13-A LP
CWM 2000-B Ltd
CWM 2000-B II Ltd
3MG Corporation
Mewbourne Development Corporation

#### **Affected Persons Tract 17:**

Mewbourne Oil Company
Petras Energy LP
Endeavor Energy Resources LP
Muleshoe Crude LP
WBA Resources Ltd.
Peregrine Production LLC
Newkumet Exploration Inc.
RSC Resources LP
Sagebrush Interest LLC

#### **Affected Persons Tract 18:**

EOG Resources, Inc.

## C-108 Application for Authorization to Inject Columbus Fee SWD 1 1165' FNL, 1895' FWL Unit C, Section 3, T26S, R33E Lea County, NM

#### List of Affected Persons Within 1 Mile Radius Area of Review

#### Surface Owner:

Dinwiddie Cattle Co., LLC Attn: Tommy Dinwiddie P.O. Box 963 Capitan, NM 88316

Intrepid Potash Attn: Alex Wagner 1001 17<sup>th</sup> St., Suite 1050 Denver, CO 80202

#### **Affected Persons:**

EOG Resources, Inc. 5509 Champions Drive Midland, TX 79706

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

Sagebrush Interests, LLC 10260 Westheimer Road, Suite 400 Houston, TX 77042

RSC Resources, L.P. 6824 Island Circle Midland, TX 79707

WBA Resources, Ltd. 110 West Louisiana Avenue, Suite 300 Midland, TX 79701

Muleshoe Crude, L.P. 101 Blackberry Court Midland, TX 79705 Meco IV, LLC 1200 17th Street, Suite 975 Denver, CO 80202

Endeavor Energy Resources, L.P. 110 North Marienfeld Street, Suite 200 Midland, TX 79701

Petras Energy L.P. P.O. Box 4127 Midland, TX 79704

Petras Energy, LP 6 Desta Drive Midland, TX 79705

Newkumet Exploration, Inc. 500 West Texas Avenue #1410 Midland, TX 79701

Newkumet Exploration Inc. P. O. Box 11330 Midland, TX 79702

Bradley S. Bates 101 Blackberry Court Midland, TX 79705

R&R Royalty, Ltd. 500 North Shoreline Boulevard, Suite 322 Corpus Christy, TX 78401

Concho Oil & Gas, LLC 600 West Illinois Avenue Midland, TX 79701

Maven Royalty Fund, LP 620 Texas Street, Suite 300 Shreveport, LA 71101

Norman C. Case, a married individual as his separate estate 26828 Maple Valley Highway, #259 Maple Valley, WA 98038

Tonkin Mineral Interest, LLC, a New Mexico limited liability company 1524 Park Avenue, SW Albuquerque, NM 87104

MHM Resources, LP P. O. Box 51570 Midland, TX 79710-1570

Pheasant Energy, LLC 1204 West 7th Street, #200 Fort Worth, TX 76102

J. Hiram Moore, Ltd., a Texas limited partnership 1204 West 7th Street, #200 Fort Worth, TX 76102

RGH Land Inc. 3212 Chelsea Place Midland, TX 79705

Michael T. Hooper GST Trust, Michael T, Hooper, Trustee P. O. Box 221950 El Paso, TX 79913

Deborah H. Wachsmuth GST Trust, Deborah H. Wachsmuth, Trustee P. O. Box 17006 San Antonio, TX 78217-0006

Jack P. Hooper GST Trust, Jack P. Hooper, Trustee 5511 East 89th Court Tulsa, OK 74137

Norma Markham Berman Valente, aka Norma Berman Valente, a married person dealing with her sole and separate property
3505 Bohannon Drive
Glen Allen, VA 23060-7213

Sandra Rudy Brown, Attorney-in-fact for Moses M. Rudy and Mildred S. Rudy, Co-Trustees of the M. M. & M. S. Rudy Trust c/o Ms. Sandra Rudy Brown 7970 Fredericksburg Road, Suite 101-367 San Antonio, TX 78229

Houston Arts Combined Endowment Foundation, a non- profit organization Wells Fargo Bank, N.A., Agent 750 East Mulberry Avenue, Suite 402 San Antonio, TX 78212

Stephen D. Susman 2121 Kirby Drive, Unit #85 Houston, TX 77019 Thomas Susman 3901 Argyle Terrace, NW Washington, DC 20011

Tara Susman-Pena 6106 42nd Place Hyattsville, MD 20781

Micah Susman 5206 Meadow Creek Drive Austin, TX 78745

Daily Lacy Lambert 115 Central Park West, Apartment 2G New York, NY 10023

Stacy S. Kuhn 410 East 57th Street, Apartment 10A New York, NY 10022

Shana BatSheva Vaknin 1127 South Alfred Street Los Angeles, CA 90035

Harry Susman c/o Susman Godfrey, LLP 2 Woods Edge Lane Houston, TX 77024

Carolyn A. Taylor Marilyn S. Taylor As tenants in common with rights of survivorship 1702 Curry Road Carlsbad, NM 88220

Jack A. Taylor, dealing in his sol and separate property 2001 McKinley Street Carlsbad, NM 88220

Magnum Hunter Production Inc. 600 East Los Colinas Boulevard, Suite 1100 Irving, TX 75039

Magnum Hunter Production Inc. 600 N. Marienfeld Ave., Suite 600 Midland, TX 79701

Matador E&P Company, Inc. 5400 LBJ Fwy., Suite 1500 Dallas, TX 75240

Mewbourne Oil Company 3620 Old Bullard Road Tyler, TX 75701

Mewbourne Oil Company P.O. Box 7698 Tyler, TX 75711

Mewbourne Energy Partners 13-A LP P.O. Box 7698 Tyler, TX 75711

CWM 2000-B Ltd P.O. Box 7698 Tyler, TX 75711

CWM 2000-B II Ltd P.O. Box 7698 Tyler, TX 75711

3MG Corporation P.O. Box 7698 Tyler, TX 75711

Mewbourne Development Corporation P.O. Box 7698 Tyler, TX 75711

Peregrine Production LLC 3201 North Pecos Street, Suite 202 Midland, TX 79702

BTA Oil Producers 104 S Pecos Street Midland, TX 79701

Castello Enterprises, Inc. P.O. Box 8426 Midland, TX 79708

REX Resources, L.P. 6824 Island Circle Midland, TX 79707

Cowhouse Crude, L.P., a Texas limited partnership 101 Blackberry Court Midland, TX 79705

Magnum Producing, LP 500 N. Shoreline Ste. 322 Corpus Christi, TX 78471

MRC Permian Company 5400 LBJ Freeway, Ste. 1500 Dallas, TX 75240

Featherstone Development Corporation 400 N Pennsylvania Ave. suite 850 Roswell, NM 88201

#### SECTION 3, TOWNSHIP 26 SOUTH, RANGE 33 EAST, N.M.P.M., LEA COUNTY NEW MEXICO 600' NW COR. NE COR. 200' NORTH WELL PAD WELL PAD OFFSET 3320.1 3318.11 3318.5 COLUMBUS FEE SWD #1 200' WEST 200' EAST OFFSET Ф OFFSET Θ 3321.1' 3321.8' NAD 83 NME $LAT. = 32.076557^{\circ} N$ LONG. = 103.562604° W ELEV - 3321.0200' SOUTH SW COR. SE COR. OFFSET WELL PAD WELL PAD 3321.4 3322.7 3321.4" ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED, 600'

DIRECTIONS TO LOCATION:

BEGINNING AT THE INTERSECTION OF BATTLEAXE RD. AND PIPELINE RD. GO WESTERLY ON PIPELINE RD. FOR APPROX.

1.2 MI.; THEN GO RIGHT (NORTHERLY) ON A CALICHE RD. FOR APPROX. 0.8 MI. TO THE BEGINNING OF THE PROPOSED ROAD; THE PROPOSED WELL LIES APPROX. 1,500 FEET TO THE EAST.

HARCROW SURVEYING, LLC 2314 W. MAIN ST, ARTESIA, N.M. 88210 PH: (575) 746-2158 FAX: (575) 746-2158 Texas Firm No. 10194089 c.harcrow@harcrowsurveying.com



100	0	100	200 Feet
		1"=100'	

#### COG OPERATING, LLC

COLUMBUS FEE SWD #1
LOCATED 1165 FEET FROM THE NORTH LINE
AND 1895 FEET FROM THE WEST LINE OF SECTION 3,
TOWNSHIP 26 SOUTH, RANGE 33 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

SURVEY DATE: OCTOBER 10, 2018 PAGE: 1 OF 1
DRAFTING DATE: OCTOBER 25, 2018

APPROVED BY: CH DRAWN BY: JH FILE: 18-1285

## 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

#### **Upstream Chemicals**

REPORT DATE:

5/11/2018

#### **COMPLETE WATER ANALYSIS REPORT SSP v.2010**

CUSTOMER: DISTRICT:

AREA/LEASE: SAMPLE POINT NAME SITE TYPE:

SAMPLE POINT DESCRIPTION:

COG OPERATING LLC NEW MEXICO KING TUT KING TUT FED 3H 8TRY FACILITY

TRANSFER PUMP

ACCOUNT REP: SAMPLE ID: SAMPLE DATE: ANALYSIS DATE: ANALYST:

KENNETH MORGAN 201701012804 3/21/2017 3/24/2017 SVP

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

FIELD	DATA				ANALYSIS OF 5	AMPLE		
		- 2	ANIONS:	mg/L	meq/L	CATIONS:	mg/L	meg/L
Initial Temperature (°F):		250	Chloride (Ci'):	152606.2	4304.8	Sodium (Na*):	74498.5	3241.9
Final Temperature (°F):		80	Sulfate (SO,2):	461.4	9.6	Potassium (K*):	1381.8	35,3
Initial Pressure (psi):		100	Borate (H <sub>1</sub> BO <sub>2</sub> ):	170.9	2.8	Magnesium (Mg <sup>2</sup> *):	2495.8	205.4
Final Pressure (psi):		15	Fluoride (F):	ND		Calcium (Ca <sup>2</sup> '):	15329.6	765.0
			Bromide (Br'):	ND		Strontium (Sr2*):	724.2	16.5
pH:			Nitrite (NO <sub>2</sub> ):	ND		Barium (Ba <sup>2+</sup> ):	1.6	0.0
pH at time of sampling:		6.8	Nitrate (NO <sub>3</sub> ):	ND		iron (Fe <sup>2*</sup> ):	43.2	1.5
			Phosphate (PO <sub>4</sub> <sup>3</sup> ):	ND		Manganese (Mn <sup>2</sup> *):	2.6	0.1
			Silica (SiO <sub>2</sub> ):	ND		Lead (Pb²*):	0.0	0.0
						Zinc (Zn2°):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L						
Bicarbonate (HCO <sub>3</sub> '):	36.6	0.6				Aluminum (Al <sup>1</sup> '):	0.0	0.0
Carbonate (CO <sub>3</sub> <sup>2</sup> '):	ND					Chromium (Cr3+):	ND	
Hydroxide (OH'):	ND					Cobalt (Co <sup>2+</sup> ):	ND	
			ORGANIC ACIDS:	mg/L	meg/L	Copper (Cu2°):	0.0	0.0
aqueous CO <sub>2</sub> (ppm):		1050.0	Formic Acid:	ND		Molybdenum (Mo <sup>2+</sup> ):	0.0	0.0
aqueous H <sub>2</sub> S (ppm):		0.0	Acetic Acid:	ND		Nickel (NIZ*):	ND	
aqueous O2 (ppb):		ND	Propionic Acid:	ND		Tin (Sn2+):	ND	
			Butyric Acid:	ND		Titanium (Ti <sup>2*</sup> )	ND	
Calculated TDS (mg/L):		247582	Valeric Acid:	ND		Vanadium (V2*):	ND	
Density/Specific Gravity (g.	/cm³):	1,1573				Zirconium (Zr2+):	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 B	etermined	

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

Cond	itions	Barite (	BaSO <sub>4</sub> )	Calcite (	(CaCO3)	Gypsum (Ci	120 <sup>4</sup> -SH <sup>5</sup> O)	Anhydrite	(CaSO)
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.40	0.646	1.16	7.579	-0.15	0.000	-0.23	0.000
99°F	24 ps	0.28	0.509	1.18	7.675	-0.14	0.000	-0.14	0.000
118"F	34 psi	0.16	0.334	1.20	7.774	-0.14	0.000	-0.06	0.000
137°F	43 psi	0.05	0.115	1.22	7.857	-0.15	0.000	0.03	13.651
156*F	S3 psi	-0.06	0.000	1.23	7.925	-0.15	0.000	0.11	51,143
174°F	62 psi	-0.16	0.000	1.24	7.980	-0.16	0.000	0.20	82.865
193°F	72 psi	-0.25	0.000	1.25	8.022	-0.17	0.000	0.28	109.409
212°F	81 psi	-0.34	0.000	1.25	8.058	-0.19	0.000	0.37	131.297
231°F	91 psi	-0.42	0.000	1.26	8.083	-0.20	0.000	0.46	149.069
250°F	100 psi	-0.50	0.000	1.26	8.095	-0.22	0.000	0.55	163.281
Cond	Itions	Celestite	(2420)	Halite	(NaCl)	Iron Sulf	lde (FeS)	Iron Carbon	ate (FeCO <sub>3</sub> )
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb
80°F	15 psi	0.34	123.094	-0.45	0.000	-7.90	0.000	0.19	1.935
99°F	24 psi	0.34	125.716	-0.46	0.000	-8.04	0.000	0.27	2.698
118"F	34 psi	0.35	126.379	-0.48	0.000	-8.15	0.000	0.34	3.330
137°F	43 psi	0.35	126.223	-0.49	0.000	-8 24	0.000	0.39	3.801
156°F	53 psi	0.35	126.022	-0.50	0.000	-8.32	0.000	0.43	4.122
174°F	62 psi	0.35	126.264	-0.51	0.000	-8.38	0.000	0.45	4.307
193°F	72 psi	0.35	127.203	-0.53	0.000	-8.43	0.000	0.45	4.367
212°F	81 psi	0.36	128.885	-0.54	0.000	-8.47	0.000	0.44	4.316
231"F	91 psi	0.36	131.186	-0.55	0.000	-8.51	0.000	0.42	4.148
250°F	100 psi	0.37	133.846	-0.56	0.000	-8.54	0.000	0.38	3.848

Note 1 When assessing the seventy 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 num of the amounts of the eight (8) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalinity %CO<sub>2</sub> is not included in the calculations

ScaleSoftPitzer114 SSP2010





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:
DISTRICT:
AREA/LEASE:
SAMPLE POINT NAME
SITE TYPE:

SAMPLE POINT DESCRIPTION:

COG OPERATING LLC
NEW MEXICO
WINDWARD
WINDWARD FED 2H
WELL SITES
WELL HEAD

ACCOUNT REP: SAMPLE ID: SAMPLE DATE: ANALYSIS DATE: ANALYST: KENNETH MORGAN 201501048297 12/11/2015 12/16/2015 SAMUEL NEWMAN

#### COG OPERATING LLC, WINDWARD, WINDWARD FED 2H

FIELE	DATA		ACTOR SECTION AND ASSESSMENT	THE STREET	ANALYSIS OF S	AMPLE	SERVICE.	
			ANIONS:	mg/L	meq/L	CATIONS:	mg/L	meq/L
Initial Temperature (°F):		250	Chloride (CI):	89914.5	2536.4	Sodium (Na*):	46148.7	2008.2
Final Temperature (°F):		82	Sulfate (SO <sub>4</sub> <sup>2</sup> ):	1031.7	21.5	Potassium (K*):	902.9	23.1
Initial Pressure (psi):		100	Borate (H,BO <sub>3</sub> ):	187.2	3.0	Magnesium (Mg <sup>2</sup> ):	855.0	70.4
Final Pressure (psi):		15	Fiuoride (F'):	ND		Calcium (Ca <sup>2+</sup> ):	6890.6	343.8
			Bromide (Br'):	ND		Strontium (Sr2+):	278.9	6.4
pH:			Nitrite (NO <sub>2</sub> '):	ND		Barium (Ba <sup>2*</sup> ):	0.0	0.0
pH at time of sampling:		7.1	Nitrate (NO <sub>3</sub> '):	ND		iron (Fe <sup>2</sup> '):	89.1	3.2
			Phosphate (PO <sub>4</sub> <sup>1</sup> ):	ND		Manganese (Mn2"):	1.8	0.1
			Silica (SiO <sub>2</sub> ):	ND		Lead (Pb²*):	ND	
						Zinc (Zn²*):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L						
Bicarbonate (HCO3):	170.0	2.8				Aluminum (Al <sup>3+</sup> ):	ND	
Carbonate (CO <sub>3</sub> <sup>2</sup> ):	ND					Chromium (Cr11):	ND	
Hydroxide (OH):	ND					Cobalt (Co2"):	ND	
			ORGANIC ACIDS:	mg/L	meq/L	Copper (Cu <sup>2+</sup> ):	ND	
aqueous CO <sub>2</sub> (ppm):		240.0	Formic Acid:	ND		Molybdenum (Mo <sup>2*</sup> ):	ND	
aqueous H <sub>2</sub> S (ppm):		0.0	Acetic Acid:	ND		Nicket (Ni2"):	ND	
aqueous O2 (ppb):		ND	Propionic Acid:	ND		Tin (Sn²*):	ND	
			Butyric Acid:	ND		Titanium (Ti <sup>2</sup> "):	ND	
Calculated TDS (mg/L):		146283	Valeric Acid:	ND		Vanadium (V2"):	ND	
Density/Specific Gravity (	g/cm³):	1.0934				Zirconium (Zr2*):	ND	
Measured Specific Gravity	1	1.1045				Lithium (Li):	ND	
Conductivity (mmhos):		ND						
Resistivity:		NO				Total Hardness:	21067	N/A
MCF/D:		No Data						
BOPD:		No Data						
BWPD:		No Data	Anion/Cation Ratio:		1.04	ND = Not D	etermined	

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

Села	Liona	naute (	B45U4)	Calcite	Cacop	Gypsum (C	1304-5H <sup>1</sup> O)	Annyarite	s (cesof)
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
B2°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 ps		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
Cond	itions	Celestite	(SrSO <sub>4</sub> )	Halite	(NaCl)	Iron Sulf	ide (FeS)	Iron Carbon	ate (FeCO <sub>3</sub> )
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
22105	91 psi	0.26	78.634	-1.18	0.000	-7.83	0.000	1.73	41.446
231°F	3 i psi								

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

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

Note 3 Saturation Index predictions on this sheet use pH and alkalinity: %CO<sub>2</sub> is not included in the calculations





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

#### **Upstream Chemicals**

REPORT DATE:

5/11/2018

#### COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER: DISTRICT: AREA/LEASE: SAMPLE POINT NAME

COG OPERATING LLC WATER MANAGEMENT - PERMIAN VIKING HELMET STATE VIKING HELMET STATE COM 24H WELL SITES SAMPLE POINT DESCRIPTION: WELL HEAD

ACCOUNT REP: SAMPLE ID: SAMPLE DATE: ANALYSIS DATE: ANALYST:

LARRY G HINES 201801021234 4/11/2018 4/16/2018 SP

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

FIELE	DATA				ANALYSIS OF S	AMPLE	A LOCAL DESIGNATION OF THE PARTY OF THE PART	
200			ANIONS:	mg/L	meq/L	CATIONS:	mg/L	meq/L
Initial Temperature (°F):		250	Chloride (Ci'):	80548.2	2272.2	Sodium (Na*):	46716.0	2032.9
Final Temperature (°F):		88	Sulfate (SO <sub>4</sub> <sup>2</sup> ):	1551.7	32.3	Potassium (K*):	887.5	22.7
Initial Pressure (psi):		100	Borate (H,BO <sub>3</sub> ):	170.8	2.8	Magnesium (Mg <sup>2*</sup> ):	684.8	56.4
Final Pressure (psi):		15	Fluoride (F):	ND		Calcium (Ca <sup>2*</sup> ):	5224.8	260.7
r make a sili re-			Bromide (Br):	ND		Strontium (Sr <sup>2</sup> *):	209.4	4.8
pHt			Nitrite (NO <sub>2</sub> ):	ND		Barlum (Ba <sup>2</sup> *):	0.0	0.0
pH at time of sampling:		6.8	Nitrate (NO <sub>1</sub> ):	ND		Iron (Fe <sup>2+</sup> ):	126.5	4.5
50000			Phosphate (PO,1):	ND		Manganese (Mn <sup>2</sup> *):	3.4	0.1
			Silica (SiO <sub>2</sub> ):	ND		Lead (Pb2*):	0.0	0.0
						Zinc (Zn²*):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L						
Bicarbonate (HCO, ):	342.0	5.6				Aluminum (Al <sup>3</sup> *):	0.0	0.0
Carbonate (CO <sub>1</sub> <sup>2</sup> ):	ND					Chromium (Cr1+):	ND	
Hydroxide (OH):	ND					Cobalt (Co2'):	ND	
,			ORGANIC ACIDS:	mg/L	meq/l	Copper (Cu2+):	0.0	0.0
aqueous CO <sub>2</sub> (ppm):		220.0	Formic Acid:	ND		Molybdenum (Mo <sup>2*</sup> ):	0.0	0.0
aqueous H,S (ppm):		0.0	Acetic Acid:	ND		Nickel (Ni <sup>2</sup> *):	ND	
aqueous O2 (ppb):		ND	Propionic Acid:	ND		Tin (Sn2*):	ND	
			Butyric Acid:	ND		Titanium (Ti <sup>2+</sup> ):	ND	
Calculated TDS (mg/L):		136294	Valeric Acid:	ND		Vanadium (V2+):	ND	
Density/Specific Gravity	(o/cm³):	1.0879				Zirconium (Zr2*):	ND	
Measured Specific Gravit	_	1.0961				Lithlum (Li):	ND	
Conductivity (mmhos):		ND	•					
Resistivity:		NE	1			Total Hardness:	16122	N/A
MCF/D:		No Data	ı					
BOPD:		No Data						
BWPD:		No Date	Anion/Cation Ratio:		0.97	ND = Not	Determined	

SCALE PREDICTIONS RASED ON FIFTH PROVINCE DATA	FUTHER MODELING MAY BE RECHIRED FOR VALIDATION OF SCALE PREDICTION RESULTS.

Condi	itions	Barite (	BaSO <sub>a</sub> )	Calcite (	CaCO <sub>3</sub> )	Gypsum (Ca	SO <sub>4</sub> -2H <sub>2</sub> O)	Anhydrite	(CaSO <sub>4</sub> )
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	-0.06	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
Cond	itions	Celestite	(5/504)	Halite	(NaCl)	Iron Sult	ide (FeS)	fron Carbon	ute (FeCO <sub>3</sub> )
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (pt)
88°F	15 psr	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	-123	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 ps	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	201	78.761

Note 1. When assessing the severity of the scale problem, both the seturation 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 (B) scales

Note 3. Saturation Index predictions on this sheet use pH and alkalimity; %CO<sub>2</sub> is not included in the calculations

SculeSoftPitzerTu SNP2010

#### Devonian (Receiving Formation) Sec 19-195-32e

Geolex, Inc.

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:

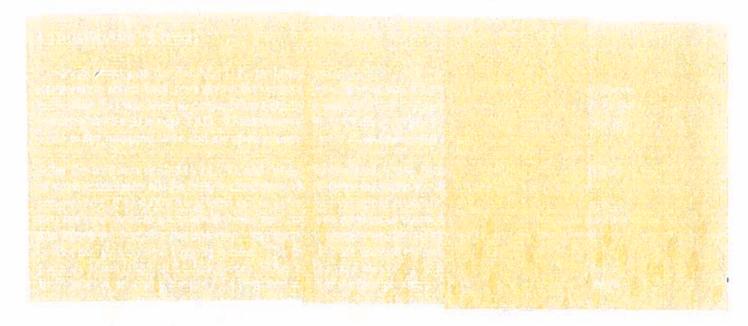
Chloride: 27,000 mg/L TDS: 44,700 mg/L

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

SEEV	RUSHAT SHANGAREEV	4	MICHAEL RATHS	Recorded By
		4		Equipment / Base
		0	13242	
		089 T	270.00	Max Recorded Temp
			4 HOURS	Time Since Circulation
		ohm-m	0.208 @270.0	Rm @ BHT
		CALC	0.8019	Source Rmf / Rmc
		ohm-m	1.01 @ 65.9	Rmc @ Measured Temp
		ohm-m	0.61 @ 65.9	Rmf @ Measured Temp
		ohm-m	0.81 @ 65.9	Rm @ Measured Temp
			ACTIVE TANK	Sample Source
	(6)	l G	8.00	PH / Fluid Loss
		28.00 CP	8.40 lb/USg	Density / Viscosity
			WBW	Hole Fluid Type
		inches	6.500	Bit Size
		feet	17491.00	Casing Logger
		feet	17490.00	Casing Driller
		feet	17491.00	Last Reading
8		feet	19039.00	First Reading
		feet	19041.00	Depth Logger
		feet	19035.00	Depth Driller
1			4362-172728084	Service Order
			ONE	Run Number
			28-JAN-2017	Date
Ç	- GL		0 (23)	Drilling measured From No (23)
33	무현			Log Measured From KB
	Elevations:		vation 3350 feet	Permanent Datum GL, Elevation 3350 feet
2	MICRO-IMAGER	MICRO-LOG	-103.570456 FOCUSSED 30-025-23895 MICRO-LOG	Longitude -1: API Number 30-
YIK.	PHOTO-DENSITY	ON I		
į		ervices	RGE 33E Other Services	SEC 21 TWP 25S R
	DECEIVED	RGE 33E	SEC 21, T-25S RGE	PERMIT NUMBER SE
				LOCATION 65
	MAR 13 201/	EXICO	U.S.A./ NEW MEXICO	COUNTRY/STATE U.
	1101		LEA COUNTY	PROVINCE/COUNTY LE
7	LOBBS COL	Z	SWD DEVONIAN	FIELD SY
7	SWD#1	ERAL	<b>VACA DRAW FEDERAL</b>	WELL VA
	60	D, INC.	MESQUITE SWD,	COMPANY
Ą	SPECTRAL GAMMA RAY	SPECTE	ם	Weatherford
	COMPOSITE LOG	CON		

255	the contract of the		****	
	11	BOREHOLE RECO	ORD	Last Edited: 29-JAN-2017 22:20
Bit Size		Depth From feet		Depth To feet
- 0.00	8.750	0.00		17491.00
	6.500	17491.00		19042.00
	7.	CASING RECOR	RD	
Туре	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	7.625	0.00	17491.00	39.00

#### REMARKS

- 1) ALL WEATHERFORD DEPTH CONTROL PROCEDURES WERE FOLLOWED.
- 2) TOOLS RAN: MAI-MFE-MIE-MIM-SKJ-MPD-MVC-MDN-MML-SGS-MCG-SHA-CBH
- 3) HARDWARE : CENTRALIZER MANDREL ON BOTTOM OF MAI OVERBODY CENTRALIZERS ON MIM AND MIE
- 4) 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.
- 5) SDECTOAL CAMMA AND NEUTRON LOGGED TO SURFACE ALL OTHER TOOLS LOGGED TO CASING SHOE

AS PER CLIENT'S REQUEST.

- 6) BOREHOLE SIZE AND RUGOSITY AFFECTING LOG QUALITY.
- 7) LCM WILL AFFECT TOOL READINGS.
- 8) TWO RUNS WERE NEEDED TO BECAUSE OF CMI TOOL FAILURE
- 8) ANNULAR HOLE VOLUME CALCULATED WITH A 5.5 IN. FUTURE CASING DIAMETER FROM TD TO CASING SHOE ANNULAR HOLE VOLUME: 71 CU. FT.

HOLE VOLUME: 325 CU. FT

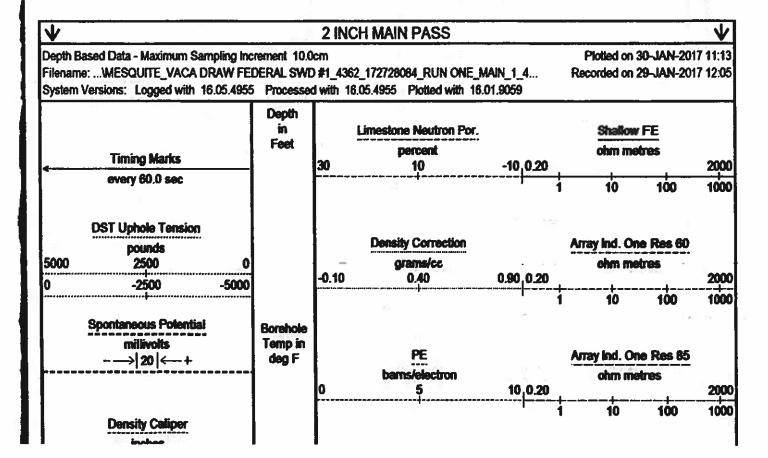
- 9) SERVICE ORDER # 4362-172728084
- 10) RIG: PRECISION #590
- 11) CREW AT YOUR SERVICE ENGINEERS: MICHAEL RATHS

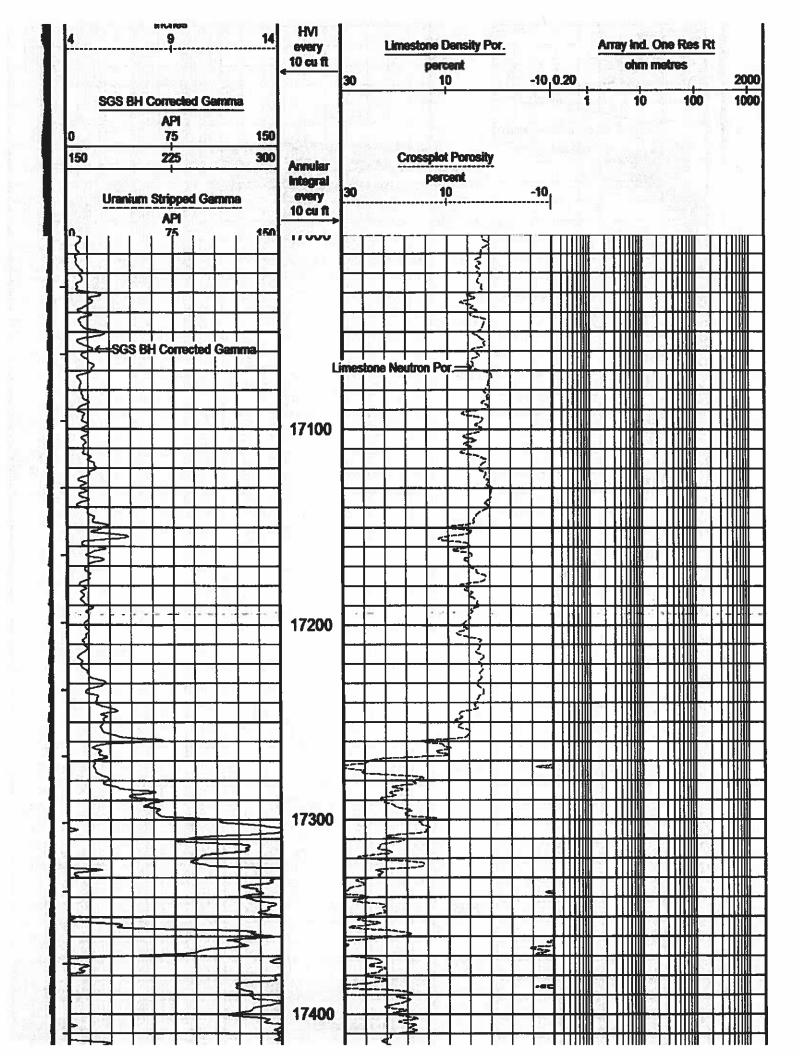
**RUSHAT SHANGAREEV** 

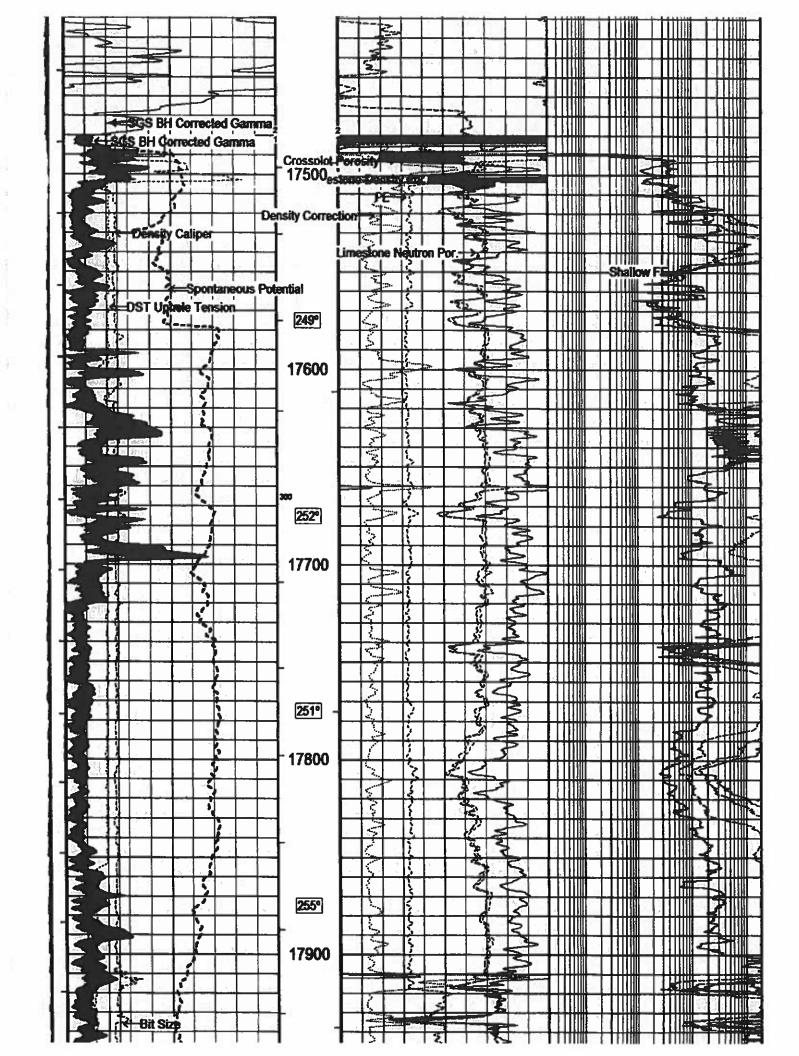
OPERATORS: BRIAN GRAHMANN
HECTOR CARRILLO

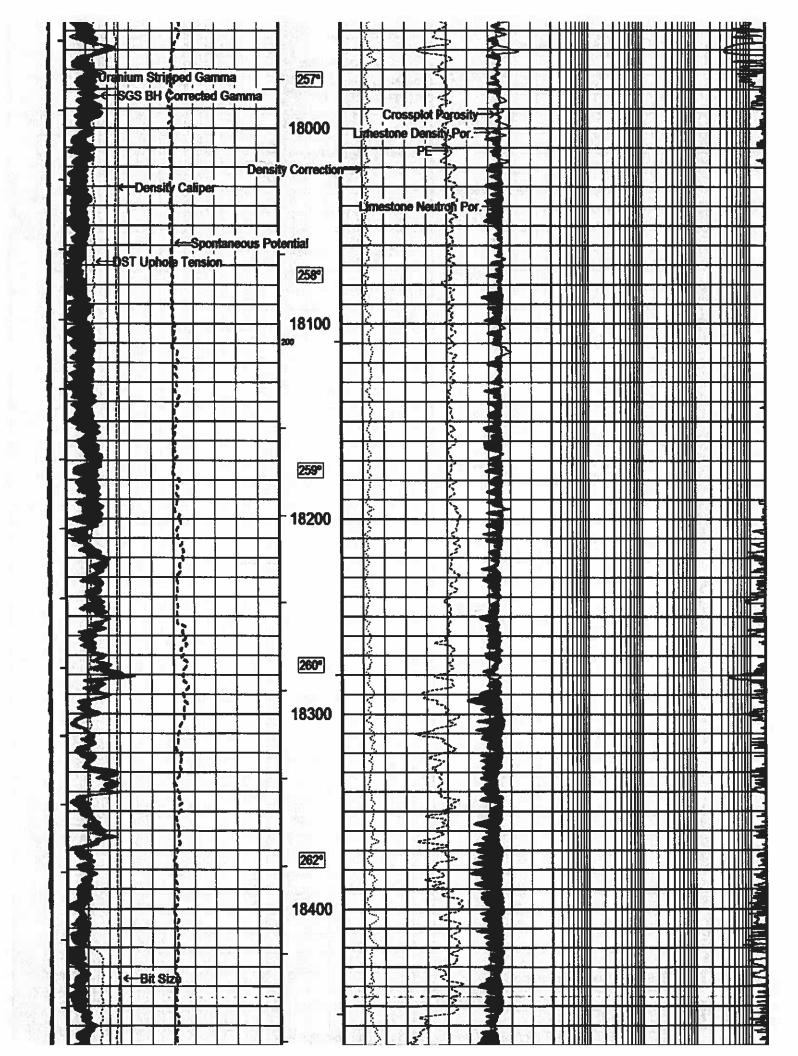
SALES ENGINEER: JEFF ANDERSON

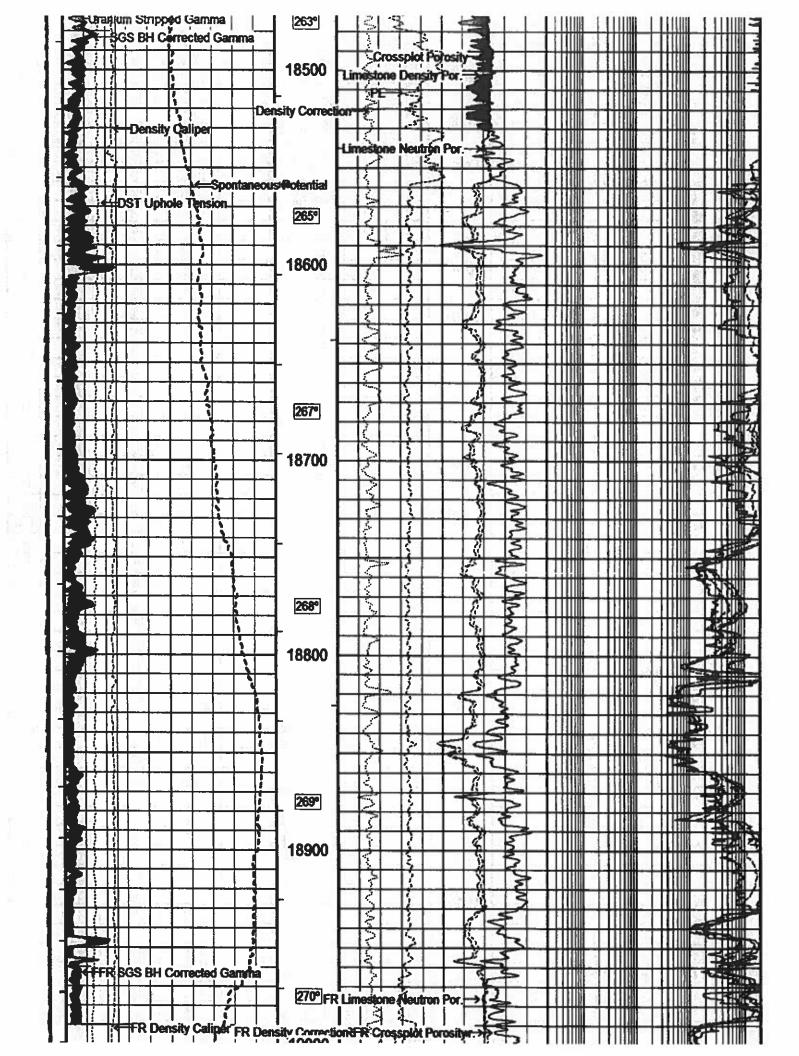
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL. TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR IT'S CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

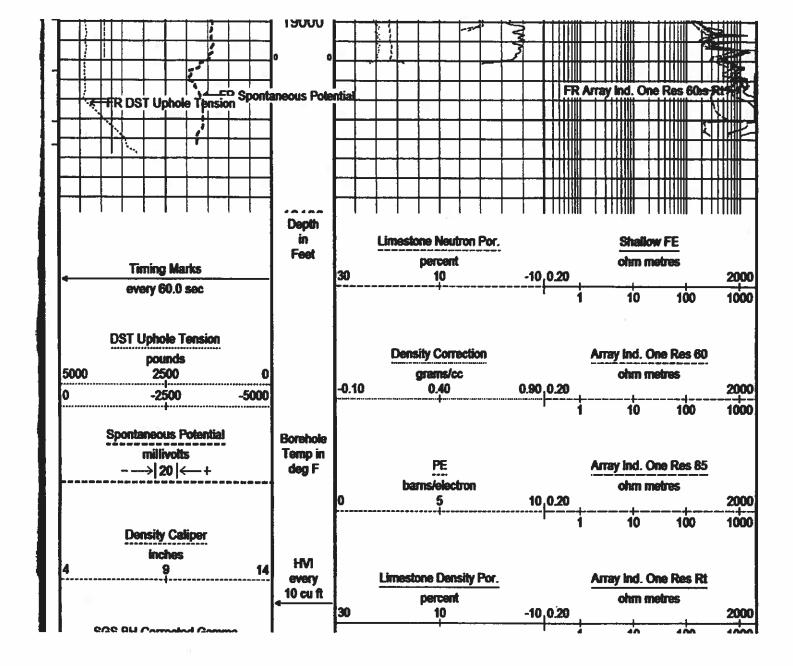












## XI.

# Fresh Water Sample Analyses

## Fresh Water Well SE/4 SE/4 Sec 3-265-33e



Permian Basin Area Laboratory 2101 Market Street, Midland, Texas 79703 **Upstream Chemicals** 

REPORT DATE:

12/19/2018

#### COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER:
DISTRICT:
AREA/LEASE:
SAMPLE POINT NAME
SITE TYPE:
SAMPLE POINT DESCRIPTION:

COG OPERATING LLC
WATER MANAGEMENT - PERMIAN
COLUMBUS
COLUMBUS SWD
FACILITY
NOT PROVIDED

ACCOUNT REP: SAMPLE ID: SAMPLE DATE: ANALYSIS DATE: ANALYST: LARRY G HINES 201801082545 12/12/2018 12/19/2018 JL

#### **COG OPERATING LLC, COLUMBUS, COLUMBUS SWD**

FIELD	DATA				ANALYSIS OF	SAMPLE		
The latest to the	7		ANIONS:	mg/L	meq/L	CATIONS:	mg/L	meq/L
Initial Temperature (°F):		250	Chloride (Cl'):	55.5	1.6	Sodium (Na*):	107.3	4.7
Final Temperature ('f):		80	Sulfate (SO,27):	192.4	4.0	Potassium (K*):	9.2	0.2
Initial Pressure (psl):		100	Borate (H <sub>3</sub> BO <sub>3</sub> ):	2.4	0.0	Magnesium (Mg²*):	42.1	3.5
Final Pressure (psl):			Fluoride (F):	ND		Calcium (Ca <sup>2*</sup> ):	86.4	4.3
			Bromide (Br'):	ND		Strontium (Sr2*):	2.0	0.0
pHt			Nitrite (NO <sub>2</sub> '):	ND		Barium (Ba <sup>2+</sup> ):	0.0	0.0
pH at time of sampling:		7.9	Nitrate (NO <sub>3</sub> ):	ND		fron (Fe <sup>2</sup> *):	0.3	0.0
			Phosphate (PO <sub>4</sub> ):	ND		Manganese (Mn <sup>2</sup> *):	0.0	0.0
			Silica (SIO <sub>2</sub> ):	ND		Lead (Pb <sup>2*</sup> ):	0.0	0.0
						Zinc (Zn²+):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L						
Bicarbonate (HCO <sub>3</sub> ):	220.0	3.6				Aluminum (Al1+):	0.0	0.0
Carbonate (CO,²'):	ND					Chromium (Cr3+):	ND	
Hydroxide (OH'):	ND					Cobalt (Co2+):	- ND	
			ORGANIC ACIDS:	mg/L	meq/L	Copper (Cu2+):	0.0	0.0
aqueous CO <sub>2</sub> (ppm):		0.0	Formic Acid:	ND		Molybdenum (Mo <sup>2</sup> *):	0.0	0.0
aqueous H <sub>2</sub> S (ppm):		0.0	Acetic Acid:	ND		Nickel (Ni <sup>2+</sup> ):	ND	
aqueous O2 (ppb):		ND	Propionic Acid:	ND		Tin (Sn²'):	ND	
			Butyric Acid:	ND		Titanium (Ti²'):	ND	
Calculated TDS (mg/L):		715	Valeric Acid:	ND		Vanadium (V <sup>2</sup> *):	ND	
Density/Specific Gravity (g/cm³): 0.9977						Zirconium (Zr2°):	ND	
Measured Specific Gravity		1.0008				Lithium (Li):	ND	
Conductivity (mmhos): ND								
Resistivity: ND						Total Hardness:	392	N/A
MCF/D: No Data								
BOPD: No Data								
BWPD:		No Data	Anion/Cation Ratio:		0.72	ND = Not E	etermined	

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

Conditions		Barite (BaSO <sub>4</sub> )		Calcite (	(CaCO <sub>3</sub> )	Gypsum (C	SO4.2H2O)	Anhydrite (CaSO <sub>4</sub> )		
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	
80°F	15 psi	Carlotte Control	0.000	0.63	14.353	-1.22	0.000	-1.47	0.000	
99°F	24 psi		0.000	0.71	16.196	-1.22	0.000	-1.39	0.000	
118°F	34 psi		0.000	0.81	18.911	-1.20	0.000	-1.28	0.000	
137°F	43 psi		0.000	0.93	21.995	-1.17	0.000	-1.17	0.000	
156°F	53 psi		0.000	1.06	25.241	-1.13	0.000	-1.04	0.000	
174°F	62 psi		0.000	1.19	28.527	-1.08	0.000	-0.89	0.000	
193°F	72 psi		0.000	1.33	31.772	-1.03	0.000	-0.74	0.000	
212'F	81 psi		0.000	1.47	35.097	-0.97	0.000	-0.58	0.000	
231°F	91 psi		0.000	1.61	38.286	-0.91	0.000	-0.41	0.000	
250°F	100 psi		0.000	1.74	41.266	-0.84	0.000	-0.24	0.000	
		57 50 00 00 00 00 00 00 00 00 00 00 00 00								

Condi	tions	Celestite	(21207).	Halite .	(NaCl)	Iron Sulf	ide (FeS)	Iron Carbonate (FeCO <sub>2</sub> )		
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Ant (ptb)	
80°F	15 psi	-1.17	0.000	-6.83	0.000	-8.76	0.000	-0.10	0.000	
99°F	24 psi	-1.16	0.000	-6.86	0.000	-8.84	0.000	0.04	0.018	
118°F	34 psi	-1.13	0.000	-6.87	0.000	-8.86	0.000	0.21	0.073	
137°F	43 psi	-1.09	0.000	-6.87	0.000	-8.85	0.000	0.38	0.112	
156°F	53 psi	-1.03	0.000	-6.87	0.000	-8.82	0.000	0.54	0.138	
174°F	62 psi	-0.96	0.000	-6.87	0.000	-8.76	0.000	0.70	0.155	
193°F	72 psi	-0.87	0.000	-6.86	0.000	-8.69	0.000	0.85	0.167	
212'F	81 psi	-0.77	0.000	-6.84	0.000	-8.60	0.000	1.00	0.175	
231'F	91 psi	-0.66	0.000	-6.82	0.000	-8.51	0.000	1.14	0.180	
250°F	100 psi	-0.54	0.000	-6.80	0.000	-8.40	0.000	1.27	0.183	

Note 1: When assessing the severity of the scale problem, both the seturation index 🚰 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 (4) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalimity, %CO2 is not included in the calculations

ScaleSoftPitzerTM



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

(with Ownership Information)

Companies   Comp											R=POD has been replaced and to longer serves this file.		rs are 1=	NW 2*	NE 3=SW	4-SE)	
WR File Nbr CUB PLS 3 DINVIDDLE CATTLE CO LE CO2286 SIL 4 4 0 3 265 31E 63649 3548714 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6					(acre ft per annum)						=the file is closed)	(quart	ers aire sir	allest	to largest)	(NAD83 UTM	in meters)
CO2285 CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2286 CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2286			Sub							Well			999	1			
CO2286 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2287 LE CO2287 LE CO2287 LE CO2287 LE CO2287 LE CO2287 LE CO2288 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2289 CO2289 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2289 CO2289 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2289 CO2289 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2289 CO2289 CUB PLS 3 DINWIDDLE CATTLE CO. LE CO2289 CO2289 CUB PLS CO2289 CUB P										Tag	Code Grant					•	_
CO2247  C STK  3 DINWIDDLE CATTLE CO.  LE CO2247  LE CO2247  LE CO2247  LE CO2248  CUB PLS  3 DINWIDDLE CATTLE CO  LE CO2248  CUB PLS  3 DINWIDDLE CATTLE CO  LE CO2248  CUB PLS  3 DINWIDDLE CATTLE CO  LE CO2249  MAI: QWGY  Shallow I 4 4 03 265 33E 63645 3548679  Shallow I 4 4 03 265 33E 636612 3548855  CO33495  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3496  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3496  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3496  C PRO  0 EOG RESOURCES, INC.  LE CO2248  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 63645 3548758 ©  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 63645 3548758 ©  CO3496  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548758 ©  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548758 ©  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548758 ©  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548758 ©  CO3497  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548770 ©  CO3500  CO3500  C PRO  0 EOG RESOURCES, INC.  LE CO2244  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636538 3548700 ©  CO3500  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636615 3548700 ©  CO3500  C PRO  0 EOG RESOURCES, INC.  LE CO2248  A 4 4 03 265 33E 636615 3548700 ©  C PRO  0 EOG RESOURCES, INC.  LE CO2248  C PRO  0		C 02285	CUB	PLS	3 DINWIDDIE CATTLE CO	20	LE	C 02285 PC	OD1			Shallow	144	03	26S 33E	636612	3548855
LE C02287 POD2  4 4 4 03 265 33E 636612 3548675° ©  C02280 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C02280 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C02291 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C02291 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C02291 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C02291 CUB PLS 3 DINWIDDLE CATTLE CO LE C02280  C03494 C PRO 0 EOG RESOURCES, INC LE C02285 POD1  C03495 C PRO 0 EOG RESOURCES, INC LE C02286  C03496 C PRO 0 EOG RESOURCES, INC LE C02286  C03497 C PRO 0 EOG RESOURCES, INC LE C02288  C03497 C PRO 0 EOG RESOURCES, INC LE C02288  C03498 C PRO 0 EOG RESOURCES, INC LE C02288  C03499 C PRO 0 EOG RESOURCES, INC LE C02288  C03499 C PRO 0 EOG RESOURCES, INC LE C02288  C03490 C PRO 0 EOG RESOURCES, INC LE C02288  C03490 C PRO 0 EOG RESOURCES, INC LE C02288  C03490 C PRO 0 EOG RESOURCES, INC LE C02288  C03490 C PRO 0 EOG RESOURCES, INC LE C02290  C03490 C PRO 0 EOG RESOURCES, INC LE		C 022×6	CUB	PLS	3 DINWIDDLE CATTLE CO.	195	LE	<u>C 02286</u>		196		2	3 4 4	03	26S 33E	636469	3548714
CO2289 CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2289  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2284  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2284  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2285  CUB PLS 3 DINWIDLE CATTLE CO  LE CO2285  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2285  CUB PLS 4 4 4 0 3 265 33E 636612  Shallow 1 4 4 0 3 265 33E 636612  Shallow 1 4 4 0 3 265 33E 636612  Shallo	6	C 02287	C	STK	3 DINWIDDLE CATTLE CO.	19	LE	<u>C 02287</u>		1		13	3 4 4	03	26S 33E	636427	3548708
CO2280 CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2280  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2290  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2290  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2291  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2294  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2295  CUB PLS 3 DINWIDLE CATTLE CO  LE CO2295  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2295  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2295  CUB PLS 3 DINWIDDLE CATTLE CO  LE CO2295  CUB PLS 3 DINWIDLE CATTLE CO							LE	C 02287 PC	DD2				4 4 4	03	26S 33E	636612	3548675*
C 02290 CUB PLS 3 DINWIDDLE CATTLE CO LE C 02294 \		<u>C 02280</u>	CUB	PLS	3 DINWIDDLE CATTLE CO		LE	C-02288					4 4 4	03	26S 33E	636645	3548758
C 02294 CUB PLS 3 DINWIDDIE CATTLE CO  LE C02294 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		C 02289	CUB	PLS	3 DINWIDDLE CATTLE CO		LE	<u>C 02289</u>					4 4 4	03	26S 33E	636612	3548675*
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C 93495 C PRO 0 EOG RESOURCES, INC. LE C02286 3 4 4 03 26S 33E 636469 3548714 3		C 02294	CUB	PLS	3 DINWIDDIE CATTLE CO		LE	<u>C 02294</u>	> 1 mi	- away	•		4 4 3	u	26S 33E	637465	3547003
C 93496 C PRO 0 EOG RESOURCES, INC. LE C02247  C 03497 C PRO 0 EOG RESOURCES, INC. LE C02248  C 03498 C PRO 0 EOG RESOURCES, INC. LE C02248  C 03500 C PRO 0 EOG RESOURCES, INC. LE C02249  C 03500 C PRO 0 EOG RESOURCES, INC. LE C02249  LE C02249		<u>C 03494</u>	c	PRO	0 EOG RESOURCES, INC		LE	C 02285 PC	OD1	,		Shallow	144	03	26S 33E	636612	3548855
C 03497 C PRO 0 EOG RESOURCES, INC LE C 02248 4 4 4 03 265 33E 636645 3548758 C PRO 0 EOG RESOURCES, INC LE C 02240 4 4 4 03 265 33E 636538 3548770 C 03500 C PRO 0 EOG RESOURCES, INC LE C 02294 >   mi, qwqy 4 4 3 11 265 33E 637465 3547003 C		C03495	c	PRO	0 EOG RESOURCES, INC.		LE	C 02286					3 4 4	03	26S 33E	636469	3548714
C 03498 C PRO 0 EOG RESOURCES, INC. LE C02290  LE C02294 > Imi, 9Way  4 4 4 03 26S 33E 636538 3548770		<u>C 03496</u>	c	PRO	0 EOG RESOURCES, INC.		LE	C 02287					3 4 4	03	26S 33E	636427	3548708
C 03500 C PRO 0 EOG RESOURCES, INC LE C 02294 > [mi, 9way 4 4 3 11 265 33E 637465 3547003		C 03497	c	PRO	0 EOG RESOURCES, INC		LE	C 022#8					4 4 4	03	26S 33E	636645	3548758
		C 03498	c	PRO	0 EOG RESOURCES, INC		LE	<u>C 02290</u>					444	03	26S 33E	636538	3548770
		<u>C 93500</u>	c	PRO	0 EOG RESOURCES, INC		LE	<u>C 02294</u>	> 1 m	nii gwa	ry		4 4 3	11	26S 33E	637465	3547003
																A	

PLSS Search;

Section(s): 2, 3, 4, 9, 10, 11 Township: 26S

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

12/4/18 10:45 AM

**ACTIVE & INACTIVE POINTS OF DIVERSION** 

<sup>\*</sup>UTM location was derived from PLSS - see Help



## **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

C 02285 POD1

26S 33E

X

3548855 636613



**Driller License:** 

**Driller Company:** 

Driller Name:

**Drill Start Date:** 

**Drill Finish Date:** 

12/31/1982

Plug Date:

Log File Date:

**PCW Rcv Date:** 

Source:

Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield: 18 GPM

Casing Size:

8.00

Depth Well:

220 feet

Depth Water:

220 feet

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.

12/4/18 10:51 AM



## **Point of Diversion Summary**

26S 33E

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

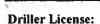
Q64 Q16 Q4 Sec Tws Rng

X

C 02286

636470 3548714





Well Tag

**Driller Company:** 

Driller Name:

**Drill Start Date:** Drill Finish Date:

12/31/1974

Plug Date:

Log File Date:

**PCW Rcv Date:** 

Source:

Pipe Discharge Size:

Estimated Yield: 18 GPM

Pump Type: Casing Size:

8.00

**POD Number** 

Depth Well:

220 feet

Depth Water:

175 feet

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

12/4/18 10:51 AM



## **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Q64 Q16 Q4 Sec Tws Rng 03 26S 33E

636427 3548708



Driller License:

**POD Number** 

8.00

C 02287

**Driller Company:** 

**Driller Name:** 

Well Tag

**Drill Start Date:** 

**Drill Finish Date:** 

Plug Date:

Log File Date:

PCW Rcv Date:

Source:

Pump Type:

Pipe Discharge Size:

Casing Size:

Depth Well:

220 feet

Depth Water:

**Estimated Yield:** 

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

12/4/18 10:51 AM



## **Point of Diversion Summary**

33E

**26S** 

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

**POD Number** Q64 Q16 Q4 Sec Tws Rng

X

C 02288

636646 3548758



**Driller License:** 

**Driller Company:** 

Driller Name:

Well Tag

**Drill Start Date:** 

**Drill Finish Date:** 

12/31/1982

Plug Date:

Log File Date:

PCW Rcv Date:

Source:

Pump Type:

Casing Size:

8.00

Pipe Discharge Size: Depth Well:

220 feet

Depth Water:

Estimated Yield: 18 GPM

180 feet

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.

12/4/18 10:50 AM



## **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Q64 Q16 Q4 Sec Tws Rng

X

26S 33E

636612 3548675\*



**Driller License:** 

**Driller Company:** 

Driller Name:

Well Tag

**Drill Start Date:** 

**Drill Finish Date:** 

12/31/1949

**Plug Date:** 

Log File Date:

**PCW Rcv Date:** 

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield: 18 GPM

Casing Size:

8.00

**POD Number** 

C 02289

Depth Well:

200 feet

Depth Water:

160 feet

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

12/4/18 10:52 AM

<sup>\*</sup>UTM location was derived from PLSS - see Help



## **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

**POD Number** Well Tag

X

C 02290

Q64 Q16 Q4 Sec Tws Rng 26S 33E

636538



Driller License:

**Driller Company:** 

Driller Name:

**Drill Start Date:** 

**Drill Finish Date:** 

12/31/1949

Plug Date:

Log File Date:

**PCW Rcv Date:** 

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield: 18 GPM

**Casing Size:** 

8.00

Depth Well:

200 feet

Depth Water:

160 feet

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

12/4/18 10:50 AM



## **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

X

**POD Number** C 02294

Q64 Q16 Q4 Sec Tws Rng 26S 33E 11

637465 3547003

**Driller License:** 

**Drill Start Date:** 

122

**Driller Company:** 

UNKNOWN

Driller Name:

Well Tag

**UNKNOWN** 

**Drill Finish Date:** 

12/31/1949

Plug Date:

Log File Date:

**PCW Rcv Date:** 

Pump Type:

Pipe Discharge Size:

Source:

Estimated Yield: 15 GPM

Casing Size:

6.00

Depth Well:

200 feet

Depth Water:

145 feet

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

12/4/18 10:48 AM



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

(with Ownership Information)





No PODs found.







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

12/4/18 10:44 AM

ACTIVE & INACTIVE POINTS OF DIVERSION

#### 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 Columbus Fee SWD No. 1, is located 1165' FNL and 1895' FWL, Section 3, Township 26 South, Range 33 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian/Silurian formation at an estimated depth of 17,450' to 19,450' at a maximum surface pressure of 3490 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 22 miles west 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 Hob	bs, New Mexico
, 2018.	

#### **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 December 08, 2018 and ending with the issue dated December 08, 2018.

Publisher

Sworn and subscribed to before me this 8th day of December 2018.

Business Manager

January 29 2019
(Seal)

OFFICIAL SEAL

GUSSIE BLACK

Notary Public

State of New Mexico

My Commission Expires

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 DECEMBER 8, 2018

GOG Operating LLC, 2208 W. Main Street, Artesia, New Mexico, 88210, has filed Form C-108 (Application for Authorization for Infect) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Columbus Fae SWD No. 1, slocated 1165; FNL and, 1805; FWL, Section 3, Township 26 Solith, Rangel 33 East, Lea County, New Mexico, Disposal water will be sourced from allea wells be producing from the Delaware, Bone Spring and Wolcamp formations. The disposal water will be in jected into it the Devonian/Silurian formation at an aximum surface pressure of 3490 position of the Devonian/Silurian formation at a maximum rate of 40 000 BWPD. The proposed SWD well is located approximately 22 miles west 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 of comments may contact Brain Collins at COG Operating LLCs, 2208 W. Main Sireet, Artesia, New Mexico, 8210, or call 575-748-8940.

Published in the Hobbs News-Sun Hobbs, New Mexico;2018.

67112034

00221961

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

#### **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 December 08, 2018 and ending with the issue dated December 08, 2018.

Sworn and subscribed to before me this 8th day of December 2018.

Business Manager

My commission expires OFFICIAL SEAL GUSSIE BLACK **Notary Public** State of New Mexico My Commission —.

This newspaper is duly qualified to publish ments within the

This newspaper is duly qualified to publish meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

Material Co

LEGAL NOTICES DECEMBER 8, 2018

COG Operating LLC, 2208
W. Main Street, Artesia, New
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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 Columbus Fee
SWD No. 1, is located 1165
FNL and 1895 FWL, Section
3, Township 26 South,
Range 33 East, Lea County,
New Mexico. Disposal water
will be sourced from area
wells producing from the wells producing from the Delaware, Bone Spring and Wolfcamp formations. The Wolfcamp formations. The disposal water will be injected into the Devonian/Silurian formation at an estimated depth of 17,450' to 19,450' at a maximum surface pressure of 2000 surface pressure of 3490 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is proposed SWD well is located approximately 22 miles west 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 nuestions or comments may 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, 2018. #33508

67112034

00221961

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



February 18, 2020

Bureau of Land Management 620 East Greene Street Carlsbad, NM 88220

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 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,

**Brian Collins** 

Facilities Engineering Advisor

Willen

BC/mv Enclosures

CORPORATE ADDRESS



BTA Oil Producers 104 S Pecos Street Midland, TX 79701

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 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,

**Brian Collins** 

Facilities Engineering Advisor



Dinwiddie Cattle Co., LLC Attn: Tommy Dinwiddie P.O. Box 963 Capitan, NM 88316

RE: <u>Application For Authorization To Inject</u>

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

· buller



Intrepid Potash Attn: Alex Wagner 1001 17<sup>th</sup> St., Suite 1050 Denver, CO 80202

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

Miller



EOG Resources, Inc. 5509 Champions Drive Midland, TX 79706

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.
Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor



Sagebrush Interests, LLC 10260 Westheimer Road, Suite 400 Houston, TX 77042

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor

Weller



RSC Resources, L.P. 6824 Island Circle Midland, TX 79707

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor

feeler



WBA Resources, Ltd. 110 West Louisiana Avenue, Suite 300 Midland, TX 79701

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor

feller



Muleshoe Crude, L.P. 101 Blackberry Court Midland, TX 79705

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor



MHM Resources, LP P. O. Box 51570 Midland, TX 79710-1570

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Pheasant Energy, LLC 1204 West 7th Street, #200 Fort Worth, TX 76102

RE: Application For Authorization To Inject

> Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

Sulle

BC/mv **Enclosures** 

P 432 683 7443 | F 432.683.7441



J. Hiram Moore, Ltd 1204 West 7th Street, #200 Fort Worth, TX 76102

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

Brian Collins

Facilities Engineering Advisor



RGH Land Inc. 3212 Chelsea Place Midland, TX 79705

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

Me



Michael T. Hooper GST Trust P. O. Box 221950 El Paso, TX 79913

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

leller



Deborah H. Wachsmuth GST Trust, P.O. Box 17006 San Antonio, TX 78217-0006

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M. Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

BC/mv **Enclosures** 

P 432.683 7443 | F 432.683.7441



Jack P. Hooper GST Trust 5511 East 89th Court Tulsa, OK 74137

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

lulla.



Norma Markham Berman Valente 3505 Bohannon Drive Glen Allen, VA 23060-7213

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

To Whom It May Concern:

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

feller



Sandra Rudy Brown 7970 Fredericksburg Road, Suite 101-367 San Antonio, TX 78229

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Houston Arts Combined Endowment Foundation 750 East Mulberry Avenue, Suite 402 San Antonio, TX 78212

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Stephen D. Susman 2121 Kirby Drive, Unit #85 Houston, TX 77019

RE: **Application For Authorization To Inject** 

> Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

Brian Collins

Facilities Engineering Advisor



Matador E&P Company, Inc. 5400 LBJ Fwy., Suite 1500 Dallas, TX 75240

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M. Lea County, New Mexico

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Sincerely,

Brian Collins

Facilities Engineering Advisor

Melli



Mewbourne Oil Company 3620 Old Bullard Road Tyler, TX 75701

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Mewbourne Oil Company P.O. Box 7698 Tyler, TX 75711

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Mewbourne Energy Partners 13-A LP P.O. Box 7698 Tyler, TX 75711

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

huller



CWM 2000-B Ltd P.O. Box 7698 Tyler, TX 75711

**Application For Authorization To Inject** RE:

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

Lulew



CWM 2000-B II Ltd P.O. Box 7698 Tyler, TX 75711

RE: Application For Authorization To Inject

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



3MG Corporation P.O. Box 7698 Tyler, TX 75711

RE: Application For Authorization To Inject

Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C Section 3 Township 26

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

· belle



Mewbourne Development Corporation P.O. Box 7698 Tyler, TX 75711

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M. Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

ni Sudii



Peregrine Production LLC 3201 North Pecos Street, Suite 202 Midland, TX 79702

RE: Application For Authorization To Inject

> Columbus Fee SWD #1 1165' FNL. 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

Brian Collins

Facilities Engineering Advisor

BC/mv **Enclosures** 

P 432 683 7443 | F 432 683 7441



Castello Enterprises, Inc. P.O. Box 8426 Midland, TX 79708

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



REX Resources, L.P. 6824 Island Circle Midland, TX 79707

RE: Application For Authorization To Inject

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

luller



Meco IV, LLC 1200 17th Street, Suite 975 Denver, CO 80202

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C. Section 3. Township 26 So

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Endeavor Energy Resources, L.P. 110 North Marienfeld Street, Suite 200 Midland, TX 79701

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL. 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

lulla



Petras Energy L.P. P.O. Box 4127 Midland, TX 79704

RE: Application For Authorization To Inject

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Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Facilities Engineering Advisor

letter



Petras Energy, LP 6 Desta Drive Midland, TX 79705

RE: Application For Authorization To Inject

Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C. Section 3. Township

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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**Brian Collins** 

Facilities Engineering Advisor



Newkumet Exploration, Inc. 500 West Texas Avenue #1410 Midland, TX 79701

RE: Application For Authorization To Inject

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Newkumet Exploration Inc. P. O. Box 11330 Midland, TX 79702

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**Brian Collins** 

Facilities Engineering Advisor

Melle



Bradley S. Bates 101 Blackberry Court Midland, TX 79705

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



R&R Royalty, Ltd. 500 North Shoreline Boulevard, Suite 322 Corpus Christy, TX 78401

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C. Section 3. Township 26 Se

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

Brian Collins

Facilities Engineering Advisor



Maven Royalty Fund, LP 620 Texas Street, Suite 300 Shreveport, LA 71101

RE: Application For Authorization To Inject

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**Brian Collins** 

Facilities Engineering Advisor

BC/mv Enclosures

P 432.683 7443 | F 432.683 7441



Norman C. Case 26828 Maple Valley Highway, #259 Maple Valley, WA 98038

**Application For Authorization To Inject** RE:

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Tonkin Mineral Interest, LLC 1524 Park Avenue, SW Albuquerque, NM 87104

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C. Section 3. Township

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Thomas Susman 3901 Argyle Terrace, NW Washington, DC 20011

RE: Application For Authorization To Inject

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Tara Susman-Pena 6106 42nd Place Hyattsville, MD 20781

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Micah Susman 5206 Meadow Creek Drive Austin, TX 78745

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Daily Lacy Lambert 115 Central Park West, Apartment 2G New York, NY 10023

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Stacy S. Kuhn 410 East 57th Street, Apartment 10A New York, NY 10022

RE: Application For Authorization To Inject

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Lea County, New Mexico

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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,

**Brian Collins** 

Facilities Engineering Advisor



Shana BatSheva Vaknin 1127 South Alfred Street Los Angeles, CA 90035

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Harry Susman c/o Susman Godfrey, LLP 2 Woods Edge Lane Houston, TX 77024

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Carolyn A. Taylor 1702 Curry Road Carlsbad, NM 88220

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M. Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Marilyn S. Taylor 1702 Curry Road Carlsbad, NM 88220

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Jack A. Taylor 2001 McKinley Street Carlsbad, NM 88220

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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

Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Magnum Hunter Production Inc. 600 East Los Colinas Boulevard, Suite 1100 Irving, TX 75039

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor

Inder



Magnum Hunter Production Inc. 600 N. Marienfeld Ave., Suite 600 Midland, TX 79701

RE: **Application For Authorization To Inject** 

> Columbus Fee SWD #1 1165' FNL, 1895' FWL

Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Cowhouse Crude, L.P. 101 Blackberry Court Midland, TX 79705

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



Magnum Producing, LP 500 N. Shoreline Ste. 322 Corpus Christi, TX 78471

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



MRC Permian Company 5400 LBJ Freeway, Ste. 1500 Dallas, TX 75240

RE: Application For Authorization To Inject
Columbus Fee SWD #1
1165' FNL, 1895' FWL
Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

**Brian Collins** 

**Facilities Engineering Advisor** 



Featherstone Development Corporation 400 N Pennsylvania Ave. suite 850 Roswell, NM 88201

RE: <u>Application For Authorization To Inject</u> Columbus Fee SWD #1

Columbus Fee SWD # I 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M.

Lea County, New Mexico

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Sincerely,

**Brian Collins** 

Facilities Engineering Advisor



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

RE: <u>Application For Authorization To Inject</u>

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 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. Once we receive all the certified return receipts, we will send you a copy.

Our geologic prognosis has the top of the Devonian at 17715' and Fusselman at 18581'. 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,

**Brian Collins** 

Facilities Engineering Advisor

Cullin



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

RE: Application For Authorization To Inject

Columbus Fee SWD #1 1165' FNL, 1895' FWL Unit C, Section 3, Township 26 South, Range 33 East, N.M.P.M. Lea County, New Mexico

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Facilities Engineering Advisor

Miller

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# 2. Article Number (Transfer from service label) 7017 2620 0000 6100 A PS Form 3811, July 2015 PSN 7530-02-000-9053 3201 North Pecos Street, Suite 202 SENDER: COMPLETE THIS SECTION Attach this card to the back of the mailpiece, Print your name and address on the reverse Complete items 1, 2, and 3. so tha or on the front if space permits. Peregrine Production LLC 9590 9402 2310 6225 6561 65 0292 Columbus Fee SWD 1 Midland, TX 79702 at we can return the card to you. 6909 00T9 0000 8100 8064 7017 SP50 0000 Return Re Return Re Certified 1 Adult Stgr City, Siane, ZIP-4. Street and Apt. No., or PO Box No Total Postage and Fees Postage PS Form 3800, April 2015 PSN 7530-02-000-90-7 Sent To Extra Service Certified Mail Fee For delivery information, visit our website at www.usps.com Domestic Mail Only CERTIFIED MAIL® RECEIPT 3201 North Pecos Street, Suite 202 Peregrine Production LLC Midland, TX 79702 3. Service Type Adult Signature Adult Signature Certified Mail Certified Mail Restricted Delivery Collect on Delivery Collect on Delivery Collect on Delivery Restricted Delivery Insured Mail Insured Mail Restricted Delivery D. Is delivery address different from item 1? Yes If YES, enter delivery address below: B. Received by (Printed Name) COMPLETE THIS SECTION ON DELIVERY A. Signature See Reverse for Instructions ☐ Priority Mail Express® ☐ Registered Mail™ ☐ Registered Mail Restrictec ☐ Bedivery Domestic Return Receipt ☐ Signature Confirmation ☐ Signature Confirmation Restricted Delivery Return Receipt for Merchandise C. Date of Delivery PEREZ 7 ☐ Agent☐ Addressee BC: VEST MAIN STREET VA. NM 88210 Z N-T-9-CHO 3201 North Pecos Street, Suite 202 Peregrine Production LLC Midland, 7X 79 MADINA MARKED MA 000005055-1N TO SENDER TO FORWARD TO FORWARD 03/10/19

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Michael T. Hooper GST Trust P.O. Box 221950 El Paso, TX 79913

Columbus Fee SWD 1



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- C. Date of Delivery
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SENDER: COMPLETE THIS SECT  Complete items 1, 2, and 3.  Print your name and address on to so that we can return the card to so that we can return the card to the back of the or on the front if space permits.  Maven Royalty Fund, LP 620 Texas Street, Suite 300 Shreveport, LA 71101 Columbus Fee SWD 1	the reverse	O. April 2015 PSN 7530-02-000-9047  COMPLETE THIS SECTION O  A. Signature  X  B. Received by (Printed Name)  D. Is delivery address different fr if YES, enter delivery address	☐ Agent ☐ Address C. Date of Delive
9590 9402 3634 7305 814 7017 2620 0000	abel)	3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail Restricted Delivery Collect on Delivery Restricted Delivery Ill Restricted Delivery	☐ Priority Mail Express®☐ Registered Mail™☐ Registered Mail Restrict Delivery☐ Return Receipt for Merchandise☐ Signature Confirmation☐ Signature Confirmation Restricted Delivery
PS Form 3811, July 2015 PSN 7530-0	02-000-9053	pai :	Domestic Return Receip

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SENDER: COMPLETE THIS SECTION  Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the malipiece or on the front if space permits.  Norman C. Case 26828 Maple Valley Highway, #259 Maple Valley, WA 98038 Columbus Fee SWD 1	☐ Addresse
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	CORRECT RECEIPT

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SENDER: COMPLETE THIS SECTION  Complete items 1, 2, and 3. Print your name and address on the reverso that we can return the card to you. Attach this card to the back of the maliple or on the front if space permits.  Jack P. Hooper GST Trust 5511 East 89th Court Tulsa, OK 74137 Columbus Fee SWD 1	Addresse
9590 9402 3634 7305 8147 76  2. Article Number (Transfer from service label) 7017 2620 0000 610  PS Form 3811, July 2015 PSN 7530-02-000-9	Contract Con

SENDER: COMPLETE THIS SECTION  Complete items 1, 2, and 3.  Print your name and address on the reverse so that we can return the card to you.  Attach this card to the back of the mailpiece, or on the front if space permits.  Pheasant Energy, LLC  1204 West 7th Street, #200 Fort Worth, TX 76102  Columbus Fee SWD 1	
Print your name and address on the reverse so that we can return the card to you.  Attach this card to the back of the mailpiece, or on the front if space permits.  Pheasant Energy, LLC  1204 West 7th Street, #200 Fort Worth, TX 76102	
Columbus Fee SWD 1	Pelive 19
3. Service Type   Priority Mail Exp   Registered Mail   Registered	a Restric or
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	Domestic Mail Only  For delivery information, visit our website at www.usps.co  OFFICIAL US	
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		For delive For delive Cortified Mail S Extra Se   Retur   Cortif   Adult   Adult   Adult   Total Postage   Sent To   Street and Api   City, State, Zi	Newkumet Exploration, Inc. 500 West Texas Avenue #14 Midland, TX 79701  and Fees t No., or PO Box No.	WW.usps.com . USE
	NDER: COMPLETE THIS SEC Complete items 1, 2, and 3. Print your name and address or so that we can return the card it Attach this card to the back of or or on the front if space permits.  Newkumet Exploration, In 500 West Texas Avenue #10 Midland, TX 79701 Columbus Fee SWD 1	n the reverse to you. the mailpiece,	D. Is delivery address different from If YES, enter delivery address	Agent Address C. Date of Delive
2	9590 9402 3634 7305 8 Article Number (Transfer from service 7017 2620 000	e laheli	3. Service Type  Adult Signature Adult Signature Restricted Delivery Certified Mail Restricted Delivery Collect on Delivery Collect on Delivery Restricted Delivery I Collect on Delivery Restricted Delivery II Collect on Delivery Restricted Delivery II Collect on Delivery Restricted Delivery	☐ Priority Mail Express® ☐ Registered Mail™ ☐ Registered Mail Restricted Pelivery ☐ Return Receipt for Merchandise ☐ Signature Confirmation ☐ Restricted Delivery ☐ Restricted Delivery
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	PS Form 380	0, April 2015 PSN 7530-02-000-9047 Se	ee Reverse for Instructions
	234 M		
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2. Adda a blumbar (Timester from carrie			☐ Signature Confirmation
7017 2620 00	00 8100 8	293 Restricted Delivery	Restricted Delivery

	CERT Domestic For deliver Cardined Mail File Street and Apt. City, State, 214	MRC Permian Company 5400 LBJ Freeway, Ste. 1500 Dallas, TX 75240	
SENDER: COMPLETE THIS SEC  Complete items 1, 2, and 3.  Print your name and address on so that we can return the card to attach this card to the back of the or on the front if space permits.  MRC Permian Company 5400 LBJ Freeway, Ste. 1500 Dallas, TX 75240 Columbus Fee SWD 1	the reverse you. e mailplece,	A. Signature X B. Received by (Printed Name) D. Is delivery address different from If YES, enter delivery address	Agent  Addresse  C. Date of Deliver  mitem 1? Yes
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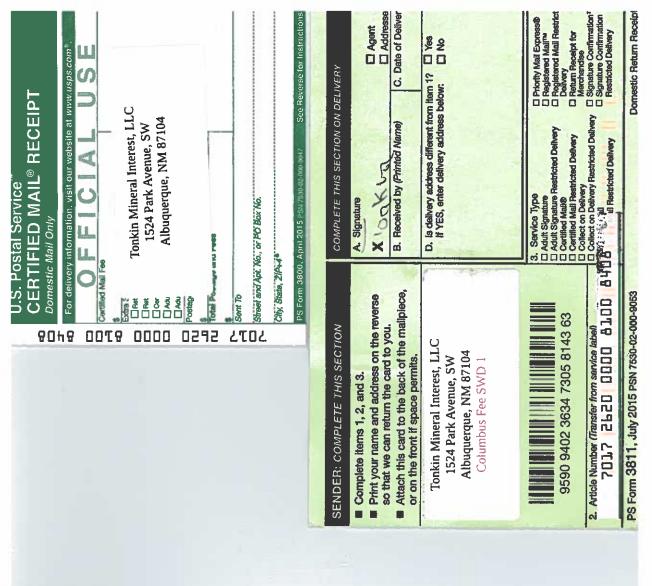
7017 2620 0000 81	CERTIFIED MAIL® RECEIPT  Domestic Mail Only  For delivery information, visit our website at www.usps.com®  OFFICIAL USE  Cartified Mail Fee  Section 1702 Curry Road  Carlsbad, NM 88220  Carlsbad, NM 88220  Control Feet Mail Feet  Section 1702  City, State, 2/P-4*  PS Form 3800, April 2015 PSN 7530-02-000-9047  See Reverse for Instructions
SENDER: COMPLETE THIS SECTION  Complete items 1, 2, and 3.  Print your name and address on the reso that we can return the card to you.  Attach this card to the back of the maior on the front if space permits.  Marilyn S. Taylor 1702 Curry Road Carlsbad, NM 88220 Columbus Fee SWD 1	Addresse
9590 9402 3634 7305 8149 8  2. Article Number (Transfer from service (abel) 7017 2620 0000 8100 (	3. Service Type  ☐ Adult Signature ☐ Adult Signature ☐ Registered Mall™ ☐ Registered Mall™ ☐ Registered Mall™ ☐ Registered Mall™
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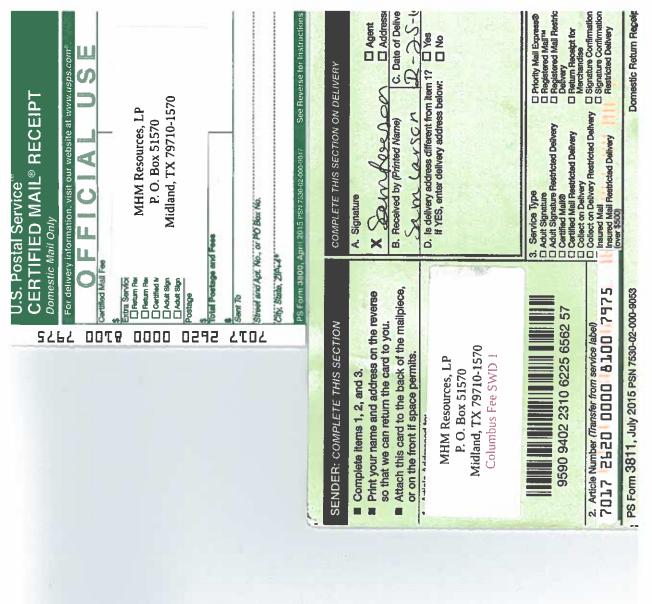


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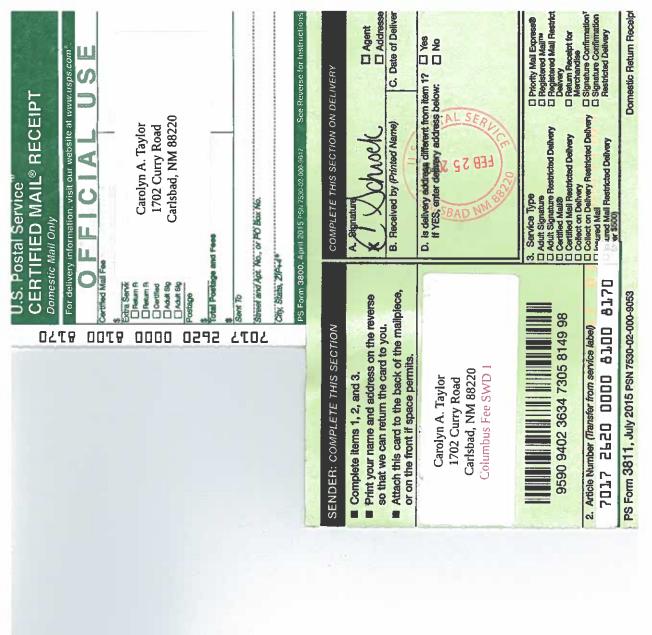
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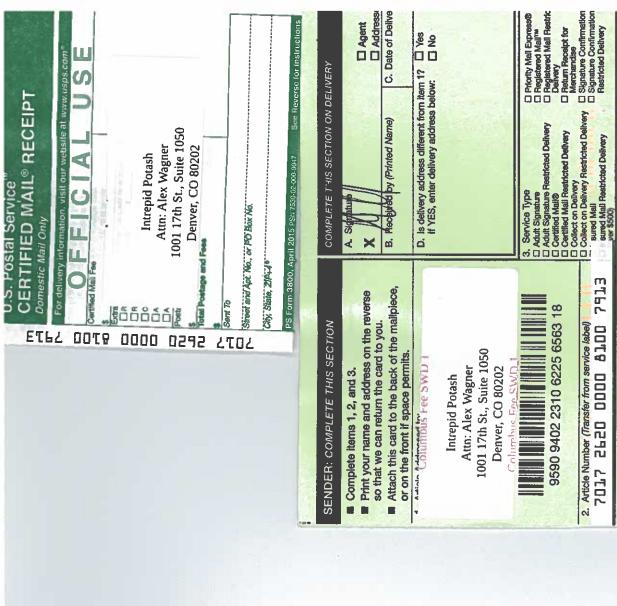
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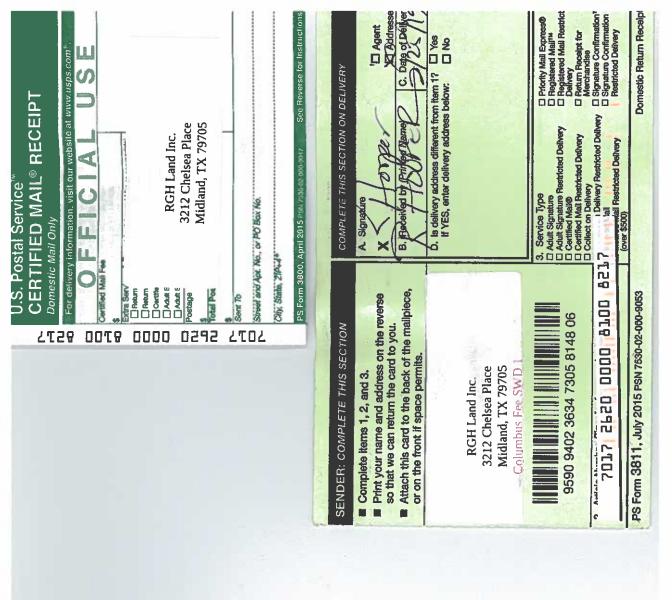
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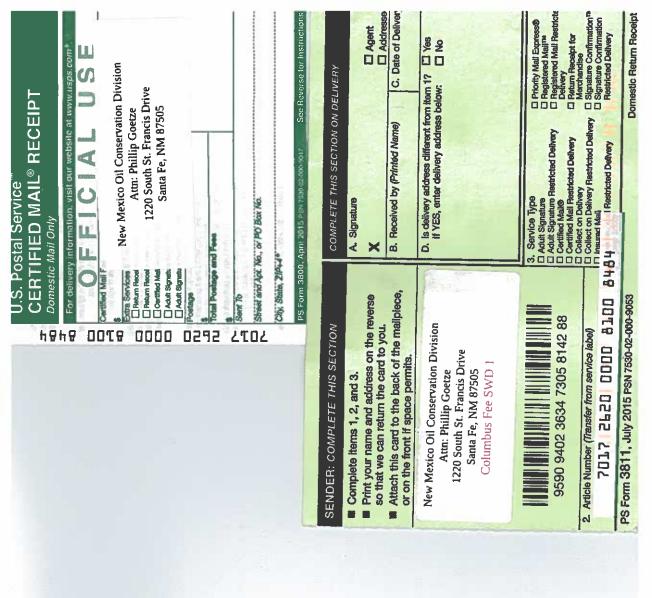




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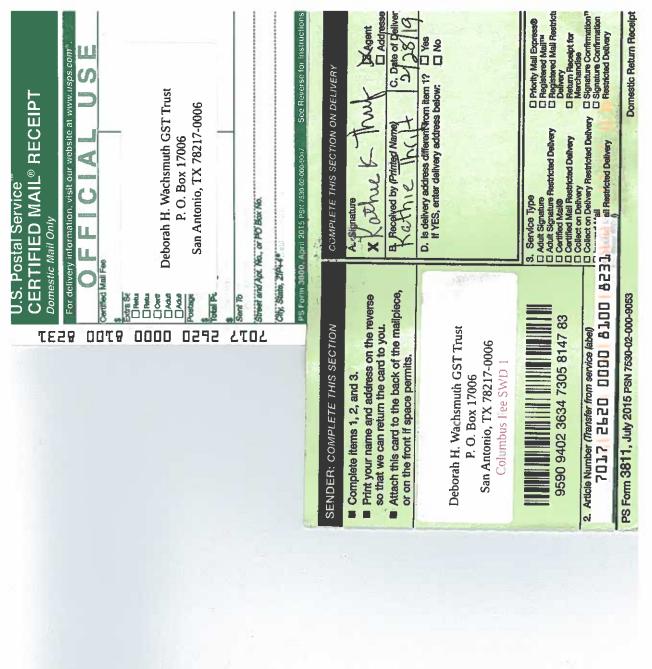


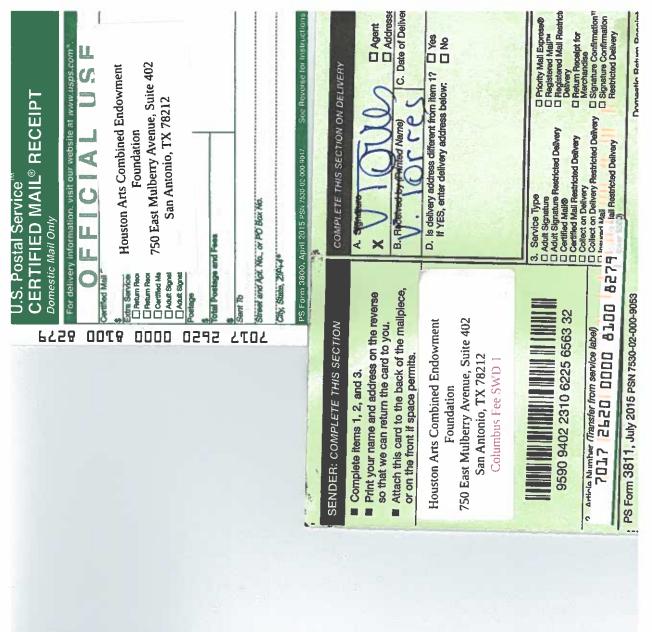
Street and Apr. No., or PO Box No.	Oil Conservation Division Preversed Attn: Paul Kautz Preversed 1625 North French Dr. Preversed Hobbs, NM 88240 Preversed Preve	CERTIFIED MAIL® RECEIPT  Domestic Mail Only  For delivery information, visit our website at twww.usps.com  OFFICIAL USE
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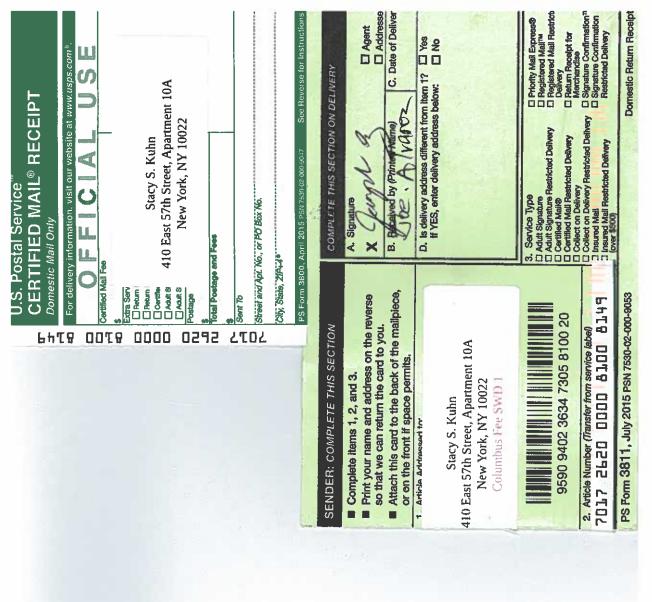
SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse	A. Signature
<ul> <li>So that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	B. Received by (Printed Name) C. Date of Delivery
Oil Conservation Division Attn: Paul Kautz 1625 North French Dr. Hobbs, NM 88240 Columbus Fee SWD 1	D. is delivery address different from item 1? [1] Yes If YES, enter delivery address below: [1] No
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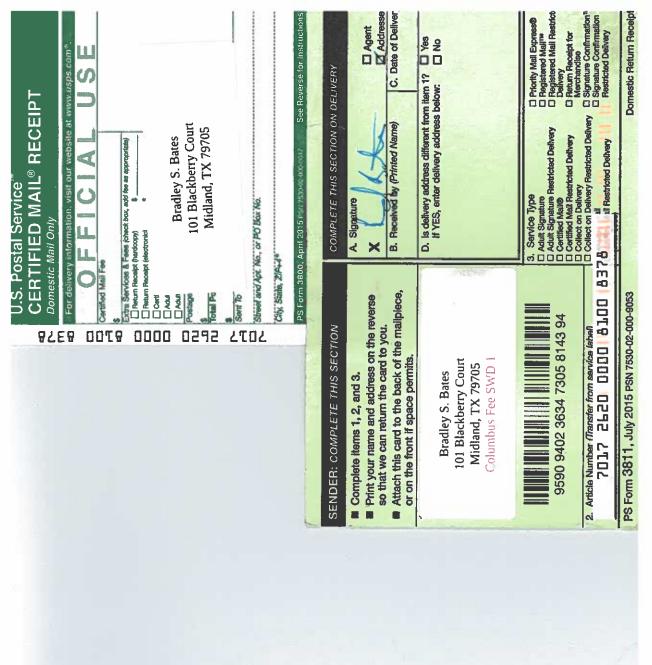
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PS Form 3811, July 2015 PSN 7530-02-000-9053

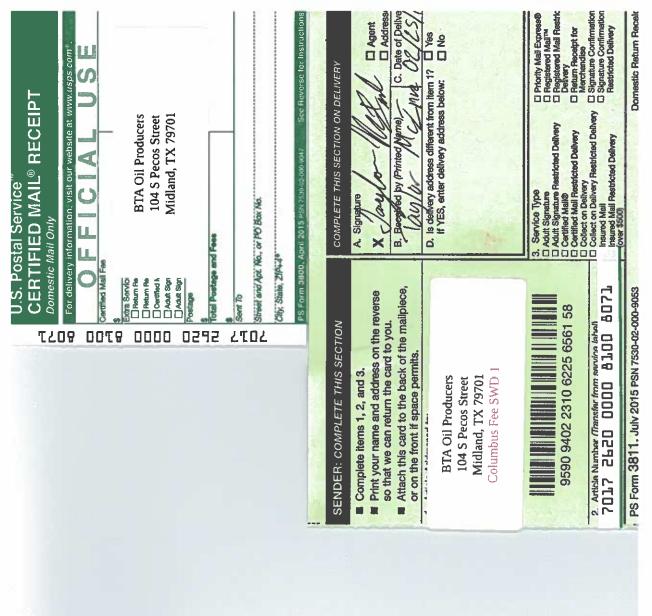


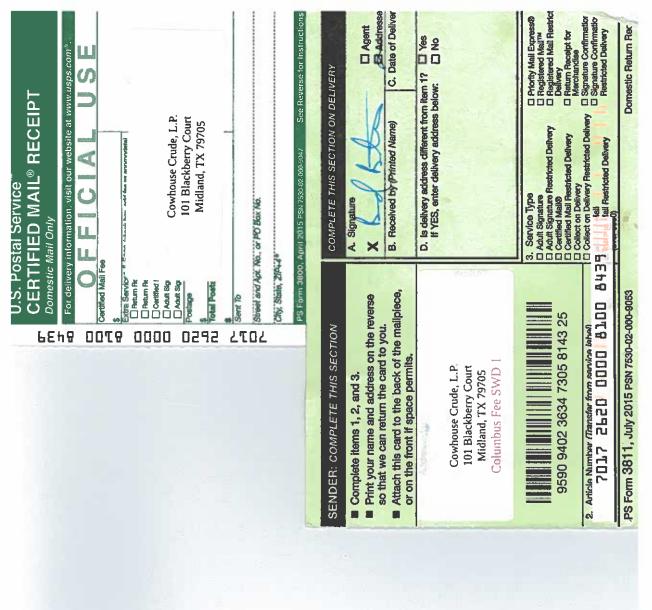


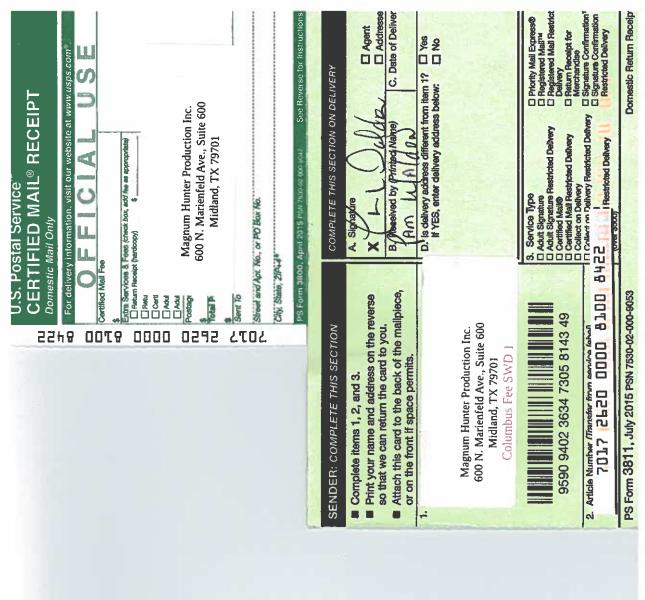


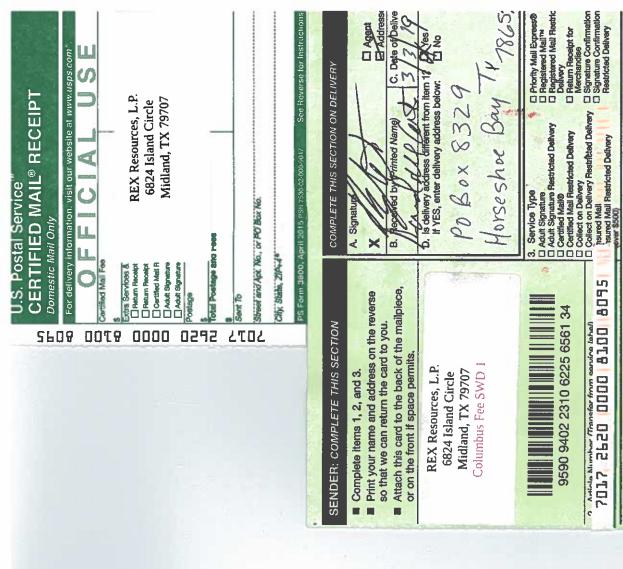






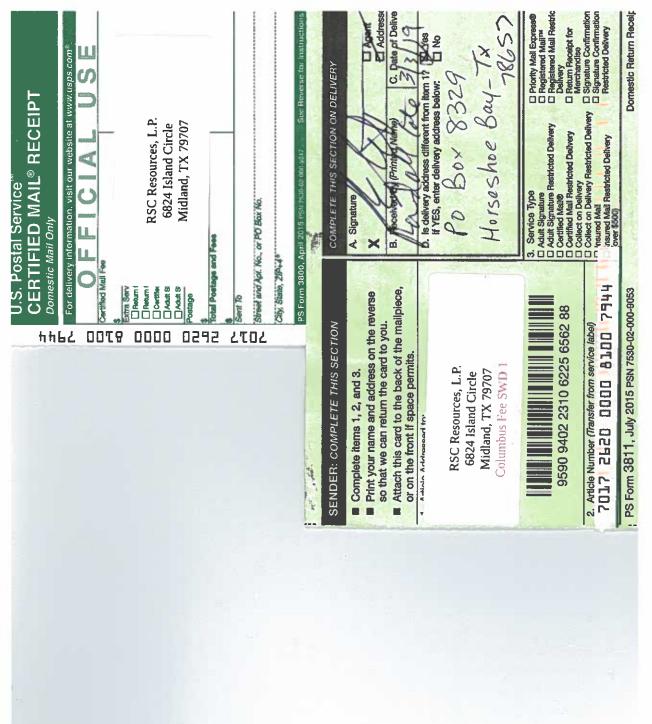


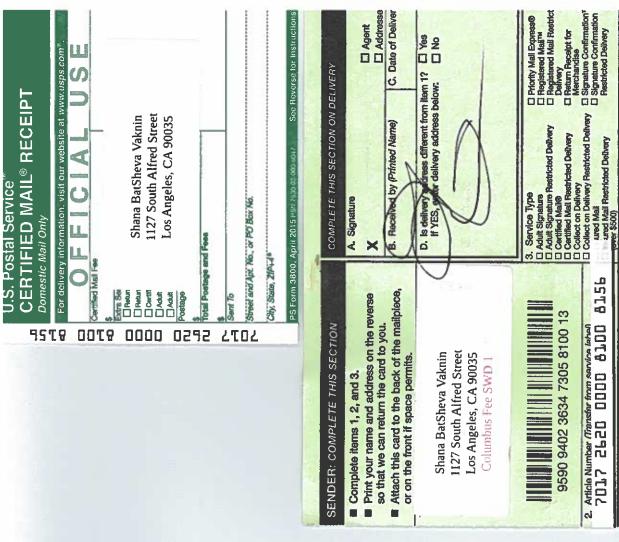




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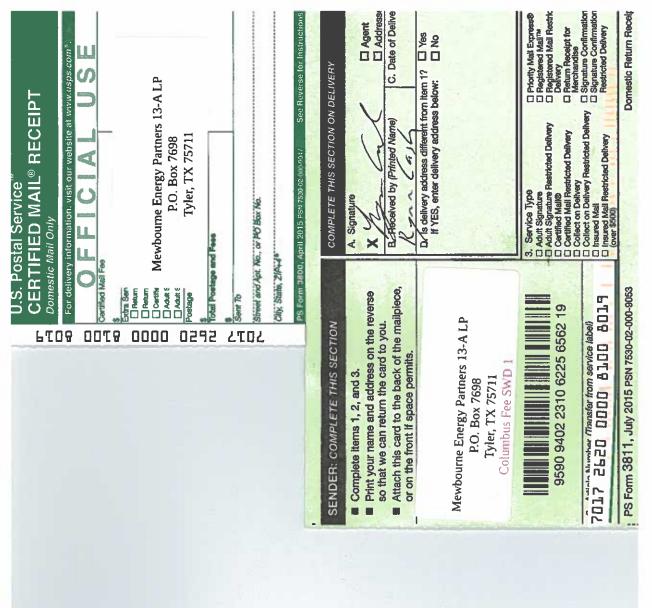
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S. Postal Service

	CERTIFO Domestic N For delivery i  Certified Mail Fee Extra Service   Return Ret   Return Ret   Adult Sign   Adult Sign   Postage	Extra Service  Return Rec  Return Rec  Muleshoe Crude, L.P.  Cordied M  Adult Sign  Adult Sign  Midland, TX 79705		
SENDER: COMPLETE THIS SECT  Complete items 1, 2, and 3.  Print your name and address on t so that we can return the card to  Attach this card to the back of the or on the front if space permits.	ne reverse		Reverse for Instructions  DELIVERY  Agent Address C. Date of Delive	
Muleshoe Crude, L.P. 101 Blackberry Court Midland, TX 79705 Columbus Fee SWD 1		D. Is delivery address different from if YES, enter delivery address in the second secon		
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PS Form 3811, July 2015 PSN 7530-	02-000-9053		Domestic Return Receip	

## C-108 Application for Authorization to Inject Columbus Fee SWD 1 1165' FNL, 1895' FWL Unit C, Section 3, T26S, R33E Lea County, NM

## List of Affected Persons Within 1 Mile Radius Area of Review

## Surface Owner:

Dinwiddie Cattle Co., LLC Attn: Tommy Dinwiddie P.O. Box 963 Capitan, NM 88316

Intrepid Potash

Attn: Alex Wagner 1001 17<sup>th</sup> St., Suite 1050 Denver, CO 80202

## Affected Persons:

EOG Resources, Inc. 5509 Champions Drive Midland, TX 79706

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

Sagebrush Interests, LLC 10260 Westheimer Road, Suite 400 Houston, TX 77042

RSC Resources, L.P. 6824 Island Circle Midland, TX 79707

WBA Resources, Ltd.
110 West Louisiana Avenue, Suite 300
Midland, TX 79701

Muleshoe Crude, L.P. 101 Blackberry Court Midland, TX 79705 oil Conservation Division Att: Paul Kautz 1625 North French R 16065, NM 88240

New Mexico pil CD Attn: Phillip Goetze 1220 South St. Francis Dive

Santa Fe, NM 27505

MHM Resources, LP P. O. Box 51570 Midland, TX 79710-1570

Pheasant Energy, LLC 1204 West 7th Street, #200 Fort Worth, TX 76102

J. Hiram Moore, Ltd., a Texas limited partnership 1204 West 7th Street, #200 Fort Worth, TX 76102

RGH Land Inc. 3212 Chelsea Place Midland, TX 79705

Michael T. Hooper GST Trust, Michael T, Hooper, Trustee P. O. Box 221950 El Paso, TX 79913

Deborah H. Wachsmuth GST Trust, Deborah H. Wachsmuth, Trustee P. O. Box 17006 San Antonio, TX 78217-0006

Jack P. Hooper GST Trust, Jack P. Hooper, Trustee 5511 East 89th Court Tulsa, OK 74137

Norma Markham Berman Valente, aka Norma Berman Valente, a married person dealing with her sole and separate property
3505 Bohannon Drive
Glen Allen, VA 23060-7213

Sandra Rudy Brown, Attorney-in-fact for Moses M. Rudy and Mildred S. Rudy, Co-Trustees of the M. M. & M. S. Rudy Trust c/o Ms. Sandra Rudy Brown 7970 Fredericksburg Road, Suite 101-367 San Antonio, TX 78229

Houston Arts Combined Endowment Foundation, a non-profit organization Wells Fargo Bank, N.A., Agent 750 East Mulberry Avenue, Suite 402 San Antônio, TX 78212

Stephen D. Susman 2121 Kirby Drive, Unit #85 Houston, TX 77019 Matador E&P Company, Inc. 5400 LBJ Fwy., Suite 1500 Dallas, TX 75240

Mewbourne Oil Company 3620 Old Bullard Road Tyler, TX 75701

Mewbourne Oil Company P.O. Box 7698 Tyler, TX 75711

Mewbourne Energy Partners 13-A LP P.O. Box 7698 Tyler, TX 75711

CWM 2000-B Ltd P.O. Box 7698 Tyler, TX 75711

CWM 2000-B II Ltd P.O. Box 7698 Tyler, TX 75711

3MG Corporation P.O. Box 7698
Tyler, TX 75711

Mewbourne Development Corporation P.O. Box 7698
Tyler, TX 75711

Peregrine Production LLC
3201 North Pecos Street, Suite 202
Midland, TX 79702

BTA Oil Producers 104 S Pecos Street Midland, TX 79701

Castello Enterprises, Inc. P.O. Box 8426 Midland, TX 79708

REX Resources, L.P. 6824 Island Circle Midland, TX 79707 Meco IV, LLC 1200 17th Street, Suite 975 Denver, CO 80202

Endeavor Energy Resources, L.P. 110 North Marienfeld Street, Suite 200 Midland, TX 79701

Petras Energy L.P. P.O. Box 4127 Midland, TX 79704

Petras Energy, LP 6 Desta Drive Midland, TX 79705

Newkumet Exploration, Inc. 500 West Texas Avenue #1410 Midland, TX 79701

Newkumet Exploration Inc. P. O. Box 11330 Midland, TX 79702

Bradley S. Bates 101 Blackberry Court Midland, TX 79705

R&R Royalty, Ltd.
500 North Shoreline Boulevard, Suite 322
Corpus Christy, TX 78401

Concho Oil & Gas, LLC 600 West Illinois Avenue Midland, TX 79701

Maven Royalty Fund, LP 620 Texas Street, Suite 300 Shreveport, LA 71101

Norman C. Case, a married individual as his separate estate 26828 Maple Valley Highway, #259 Maple Valley, WA 98038

Tonkin Mineral Interest, LLC, a New Mexico limited liability company 1524 Park Avenue, SW Albuquerque, NM 87104

Thomas Susman
3901 Argyle Terrace, NW
Washington, DC 20011

Tara Susman-Pena 6106 42nd Place Hyattsville, MD 20781

Micah Susman 5206 Meadow Creek Drive Austin, TX 78745

Daily Lacy Lambert
115 Central Park West, Apartment 2G
New York, NY 10023

Stacy S. Kuhn 410 East 57th Street, Apartment 10A New York, NY 10022

Shana BatSheva Vaknin 1127 South Alfred Street Los Angeles, CA 90035

Harry Susman c/o Susman Godfrey, LLP 2 Woods Edge Lane Houston, TX 77024

Carolyn A. Taylor
Marilyn S. Taylor
As tenants in common with rights of survivorship
1702 Curry Road
Carlsbad, NM 88220

Jack A. Taylor, dealing in his sol and separate property 2001 McKinley Street Carlsbad, NM 88220

Magnum Hunter Production Inc. 600 East Los Colinas Boulevard, Suite 1100 Irving, TX 75039

Magnum Hunter Production Inc. 600 N. Marienfeld Ave., Suite 600 Midland, TX 79701 Cowhouse Crude, L.P., a Texas limited partnership 101 Blackberry Court Midland, TX 79705

Magnum Producing, LP 500 N. Shoreline Ste. 322 Corpus Christi, TX 78471

MRC Permian Company 5400 LBJ Freeway, Ste. 1500 Dallas, TX 75240

Featherstone Development Corporation 400 N Pennsylvania Ave. suite 850 Roswell, NM 88201