Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
06/24/2019		SWD	pMAM19176 37499

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau –
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: COG Operating, LLC **OGRID Number:** 229137
Well Name: Skedaddle 8 Fee SWD # 1 **API:**
Pool: **Pool Code:**

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

SWD-2165

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

Brian Collins
Print or Type Name

Signature

18 June 2019
Date

575-748-6940
Phone Number

bcollins@concho.com
e-mail Address

CONCHO

JUN 24 2019 PM02:12

June 18, 2019

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

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Goetze:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. Attached for your review is a copy of the C-108 application. Once we receive all the certified return receipts we will send you a copy.

Our geologic prognosis has the top of the Devonian at 15867' and Fusselman at 16722'. 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

BC/mv
Enclosures

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

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

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 Collins PHONE: 575-748-6940

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes ____X____No
If yes, give the Division order number authorizing the project:

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

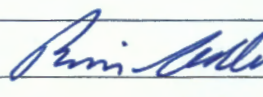
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: _Brian Collins TITLE: Facilities Engineering Advisor

SIGNATURE:  DATE: 18 June 2019

E-MAIL ADDRESS: _bcollins@concho.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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
Skedaddle 8 Fee SWD 1
225' FNL, 530' FEL
Unit A, Section 8, T24S, R35E
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 17,585' for salt water disposal service into the Devonian/Silurian from approximately 15,670' to 17,585'.

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. One well within the 1 mile radius area of review penetrates the proposed injection zone. Well schematic attached. Well is plugged and Devonian is isolated from rest of well bore.

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 = 3134 psi
(0.2 psi/ft. x 15,670' ft.)

4. Source of injected water will be Delaware, Bone Spring and Wolfcamp produced water. No compatibility problems are expected. Analyses of Delaware, Bone Spring and Wolfcamp waters from analogous source wells are attached. An appropriate chemical treatment program will be put in place should scale formation become apparent.

VIII. The injection zone is the Devonian/Silurian, a mixture of non-hydrocarbon bearing limestone and dolomite from 15,670' to 17,585'. Any underground water sources will be shallower than 908', the estimated top of the Rustler Anhydrite. The estimated top of the Devonian is 15,867' and the Fusselman is 16,722'. The proposed permitted injection interval has been expanded upwards and downwards to account for geologic uncertainty.

IX. The Devonian/Silurian injection interval will be acidized with approximately 40,000 gals of 20 % HCl acid.

X. Well logs will be filed with the Division. A section of open hole log across the Devonian from the Custer Mountain Unit 1 located about 0.75 miles southeast in Unit K, Section 9, T24S, R35E is attached.

XI. There are no fresh water wells within a mile of the proposed SWD well from the NMOSE records.

XII. After examining the available geologic and engineering data, no evidence was found of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

_____, Facilities Engineering Advisor, 18 JUNE 2019

A seismicity assessment is attached.

XIII. Proof of Notice is attached.

COG Operating LLC
Skedaddle 8 Fee SWD #1
C-108 Attachment
May 23, 2019

Statement Regarding Seismicity and Disposal Well Location

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

A recent paper by Snee and Zoback titled, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The authors evaluated the strike-slip probability of known Permian Basin faults. The nearest fault is located approximately 2.9 miles West 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).

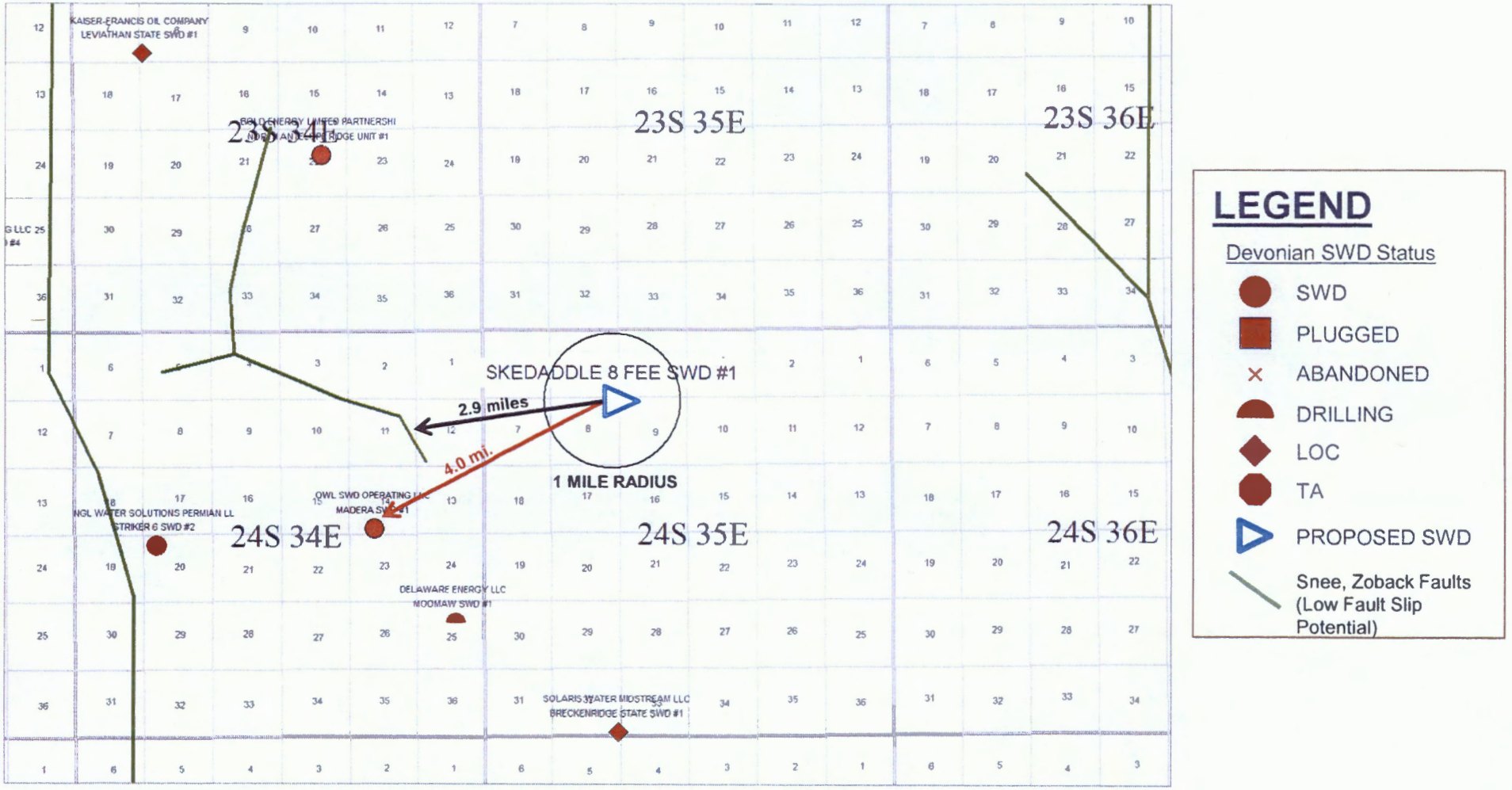
The proposed Skedaddle 8 Fee SWD #1 is located 4.0 miles away from the nearest active Devonian SWD well (see map) and no active, permitted or pending Devonian SWD applications within the one mile radius.

Regards,

Carrie M. Martin

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

SKEDADDLE 8 FEE SWD #1



LEGEND

Devonian SWD Status

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

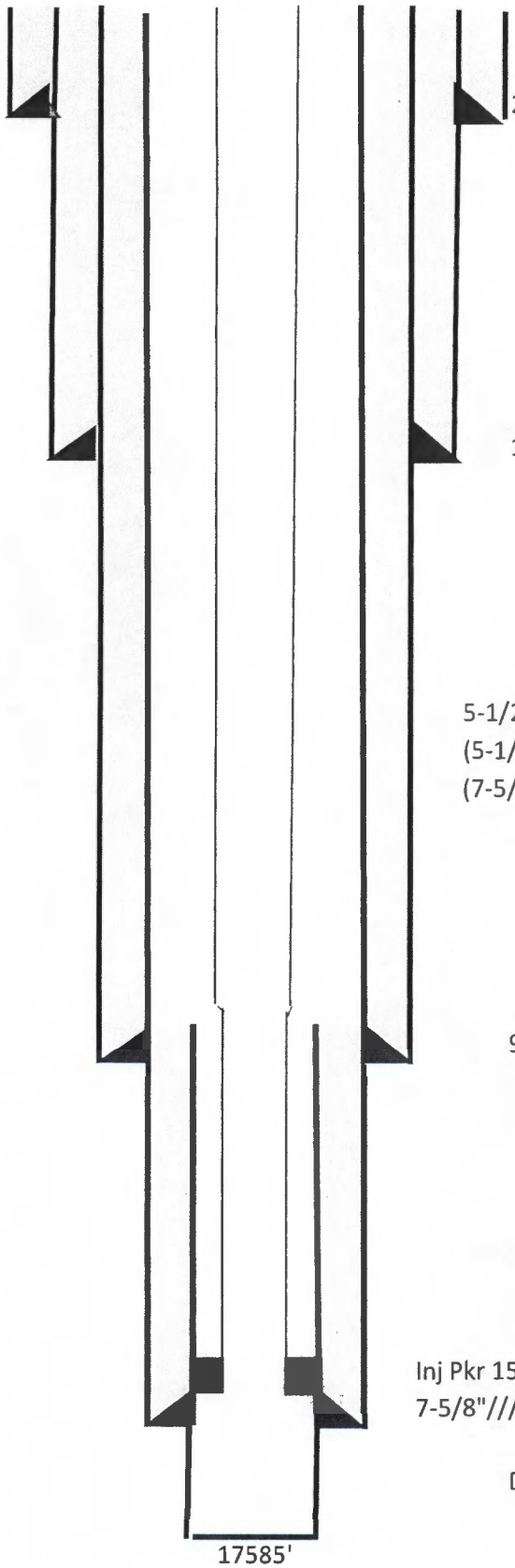
CONCHO

III.

WELL DATA

Skedaddle 8 Fee SWD 1
225' FNL, 530' FEL
A-8-24s-35e
Lea, NM
30-025-xxxxx

Zero:
KB elev:
GL elev: 3432'



26"

20"/// @ 925'

2775 CF Cmt (circ to surf)
Rustler top 908'

17.5"

13-3/8"/// @ 5325'

7400 CF Cmt (circ to surf)
Top Lamar Lm 5231'

12.25"

5-1/2" x 5" Inj Tbg 0-15620'
(5-1/2" 0-11800' inside 9-5/8", 5" 11800-15620' inside 7-5/8")
(7-5/8" liner top 11900')

9-5/8"/// @ 12100'

5675 CF Cmt (circ to surf)
Top Wolfcamp 11903'

8.5"

Inj Pkr 15620'
7-5/8"/// FJ liner 11900-15670'

400 CF Cmt (circ to liner top)
Set in top Devonian

6.5"

Devonian/Silurian OH

17585'

kbcollins 1-May-19

INJECTION WELL DATA SHEET

Operator: COG Operating, LLC
Well Name & Number: Skedaddle 8 Fee SWD 1
Well Location: 225' FNL, 530' FEL, Unit A, Section 8, T24S, R35E

Wellbore Schematic: See attached schematic

Surface Casing:

Hole Size: 26"
Casing Size: 20" @ 925'
Cemented with: 2775 cubic feet
Top of Cement: Surface by design

Intermediate Casing:

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

Intermediate Casing:

Hole Size: 12-1/4"
Casing Size: 9-5/8" @ 12100'
Cemented with: 5675 cubic feet
Top of Cement: Surface by design

Production Casing:

Hole Size: 8-1/2"
Casing Size: 7-5/8" flush joint liner @ 11900-15670'
Cemented with: 400 cubic feet
Top of Cement: Liner top by design

Injection Interval:

15670' to 17585' (6-1/2" open hole)

Injection Tubing/Packer:

Tubing Size: 5-1/2" 0-11800' inside 9-5/8" casing, 5" from 11800-15620' inside 7-5/8" casing
Lining Material: Internally fiberglass lined
Type of Packer: Nickel plated or CRA 10K permanent packer
Packer Setting Depth: 15620'
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 5330-8875', Bone Spring 8900-11900', Wolfcamp 11900-12200', possible Strawn 12225'+, possible Atoka 12500'+, possible Morrow 13350'+

   Underlying: None

Fishing Risk Assessment
Skedaddle 8 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
Skedaddle 8 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:

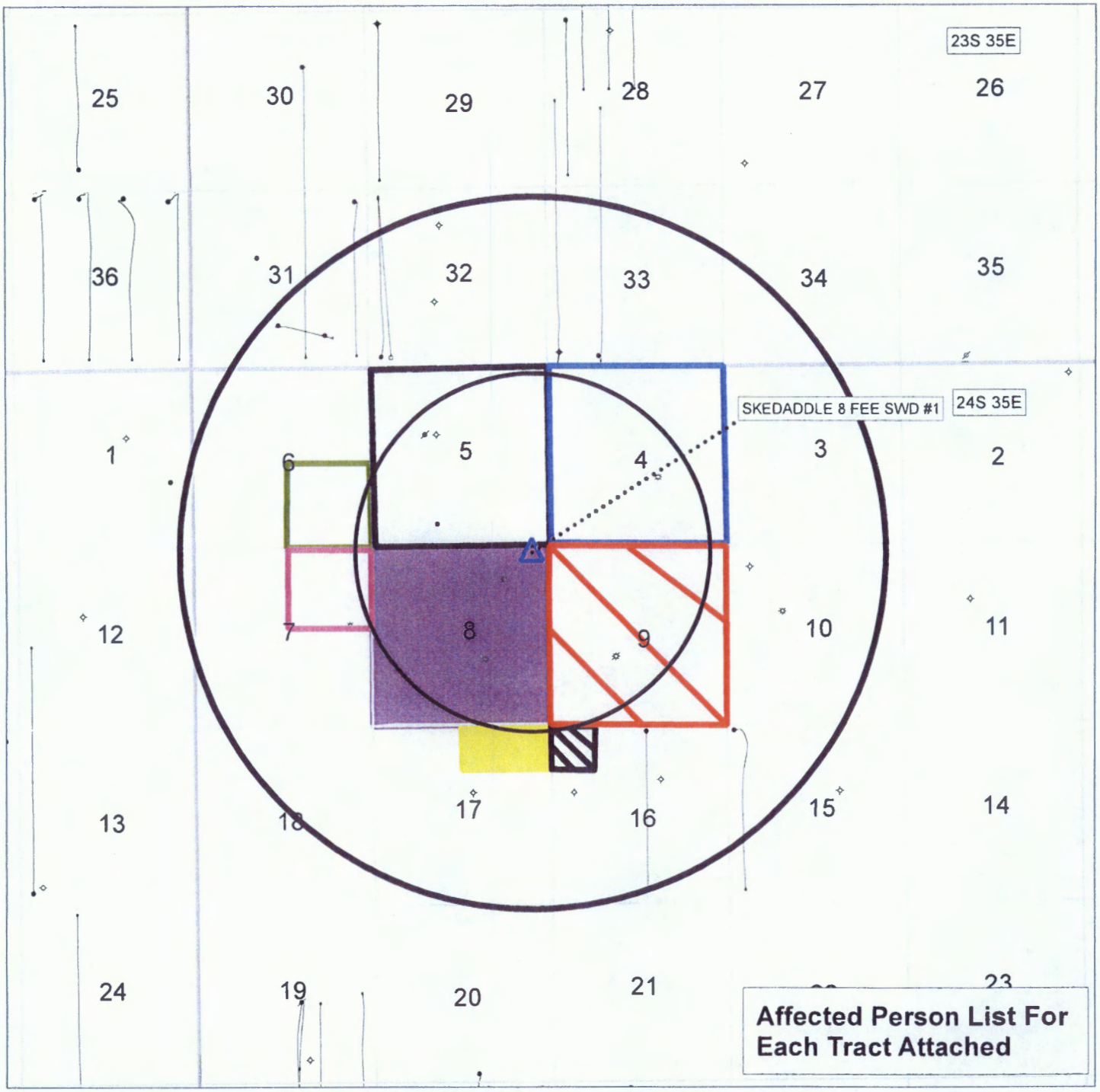
- 5-1/2" tube/body can be fished with 6.625" OD Series 150 spiral grapple overshot (6.625" overshot OD vs 8.379" casing drift ID).
- 6.250" OD TCPC coupling can be fished with 7.375" OD Series 150 spiral grapple overshot (7.375" overshot OD vs 8.379" casing drift ID).

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



CONCHO

Project: NDB

NORTHERN DELAWARE BASIN TEAM

SKEDADDLE 8 FEE SWD 1

225 FNL 530 FEL
SEC 8-24S-35E
LEA,NM

Author:		Date:
KSTEVENS		17 June, 2019

File Path: North_Delaware_Basin/NDB SWD AOI/SKEDADDLE 8 FEE SWD 1

C-108 Application for Authorization to Inject
Skedaddle 8 Fee SWD 1
225' FNL, 530' FEL
Unit A, Section 8, T24S, R35E
Lea County, NM

List of Affected Persons Within 1 Mile Radius Area of Review

Surface Owner:

Quail Ranch, LLC
(COG owned)
One Concho Center
600 W Illinois Ave.
Midland, TX 79701

Affected Persons Section 4-24s-35e:

Magnum Hunter Production, Inc
600 E. Las Colinas Blvd
Suite 1100
Irving, TX 75039

Franklin Mountain Energy 2 LLC
123 West Mills Avenue, Suite 600
El Paso, TX 79901

St. Clair of Texas
4716 4th Street
Suite 200
Lubbock, TX 79416

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

North Central Operating, Inc.
PO Box 1468
Graham, TX 76450

McKay Petroleum Corporation
PO Box 2014
Roswell, NM 88202

McKay Petroleum Corporation
6400 N Main Street
Roswell, NM 88201

BTA Oil Producers, LLC
104 South Pecos
Midland, TX 79701

XTO Holdings, LLC
810 Houston Street
Fort Worth, TX 76012

Chevron U.S.A. Inc.
1400 Smith Street
Houston, Texas 77002

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

Affected Persons Section 5-24s-35e:

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

BTA Oil Producers, LLC
104 South Pecos
Midland, TX 79701

OXY USA Inc
PO Box 4294
Houston, TX 77210

OXY USA Inc
5 Greenway Plaza
Houston, TX 77046

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

Affected Persons Section 6-24s-35e:

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

OXY USA Inc
PO Box 4294
Houston, TX 77210

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

Affected Persons Section 7-24s-35e:

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

OXY USA Inc
PO Box 4294
Houston, TX 77210

PXP Producing Co, LLC
717 Texas Street
Suite 2100
Houston, TX 77002

JM Cox Resources, LP
PO Box 2217
Midland, TX 79702

JM Cox Resources, LP
400 W Wall St
Midland, TX 79701

Affected Persons Section 8-24s-35e:

XTO Holdings, LLC
810 Houston Street
Fort Worth, TX 76012

OXY USA Inc
PO Box 4294
Houston, TX 77210

Occidental Permian, LP
5 East Greenway Plaza #110
Houston, TX 77046

Chevron Midcontinent LP
15 Smith Road
Midland, TX 79705

Chesapeake Permian LP
PO Box 18496
Oklahoma City, OK 73154

Chesapeake Permian LP
120 N Robinson Ste 735
Oklahoma City, OK 73102

Advance Energy Partners, LLC
11490 Westheimer Road
Suite 950
Houston, TX 77077

Nortex Corporation
3009 Post Oak Blvd
Suite 1212
Houston, TX 77056

Kerr McGee O&G Onshore LP
1999 Broadway #3700
Denver, CO 80202

Dutch Irish Oil, Inc
PO Box 4831
Midland, TX 79704

Dutch Irish Oil, Inc
2404 Keswick
Midland, TX 79705

Hard Rock Energy, Inc
PO Box 7444
Midland, TX 79708

Hard Rock Energy, Inc
2404 Seaboard Ave
Midland, TX 79705

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

Affected Persons Section 9-24s-35e:

XTO Holdings, LLC
810 Houston Street
Fort Worth, TX 76012

Chevron U.S.A. Inc.
1400 Smith Street
Houston, Texas 77002

OXY USA Inc
PO Box 4294
Houston, TX 77210

Occidental Permian, LP
5 East Greenway Plaza #110
Houston, TX 77046

Chesapeake Permian LP
PO Box 18496
Oklahoma City, OK 73154

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

Affected Persons Section 16-24s-35e:

Energen Resources Corporation
605 Richard Arrington, Jr. Boulevard
North Birmingham, AL 35203-2707

Energen Resources Corporation
3510 North A Street
Midland, TX 79705

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

Affected Persons Section 17-24s-35e:

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

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name

[4] Property Code	[5] Property Name	[6] Well Number
	SKEDADDLE 8 FEE SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
	COG OPERATING, LLC	3432'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	24S	35E		225	NORTH	530	EAST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.

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

[16]

DETAIL "A"

3436.9' 400' 3442.5'
400'
S.L.
3426.9' 3426.1'

225'
530'
S.L.
SEE DETAIL "A"

GEODETIC DATA
NAD 27 GRID - NM EAST

SURFACE LOCATION
N 451809.8 - E 794066.4

LAT: 32.23856268° N
LONG: 103.38226401° W

GEODETIC DATA
NAD 83 GRID - NM EAST

SURFACE LOCATION
N 451869.0 - E 835251.3

LAT: 32.23868819° N
LONG: 103.38273569° W

8

CORNER DATA
NAD 27 GRID - NM EAST

A: FOUND 1" CAPPED IRON ROD
N 446711.1 - E 789363.8

B: FOUND 2" IRON PIPE
N 451992.8 - E 789309.7

C: FOUND 2" BENT IRON PIPE
N 452039.4 - E 794594.2

D: FOUND 2" IRON PIPE
N 446758.7 - E 794644.5

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Printed Name

E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

4-4-2019
Date of Survey

Signature and Seal of Professional Surveyor: JOHN SANDOVAL, NEW MEXICO, 12351, REGISTERED PROFESSIONAL SURVEYOR, 4/4/19

12351
Certificate Number

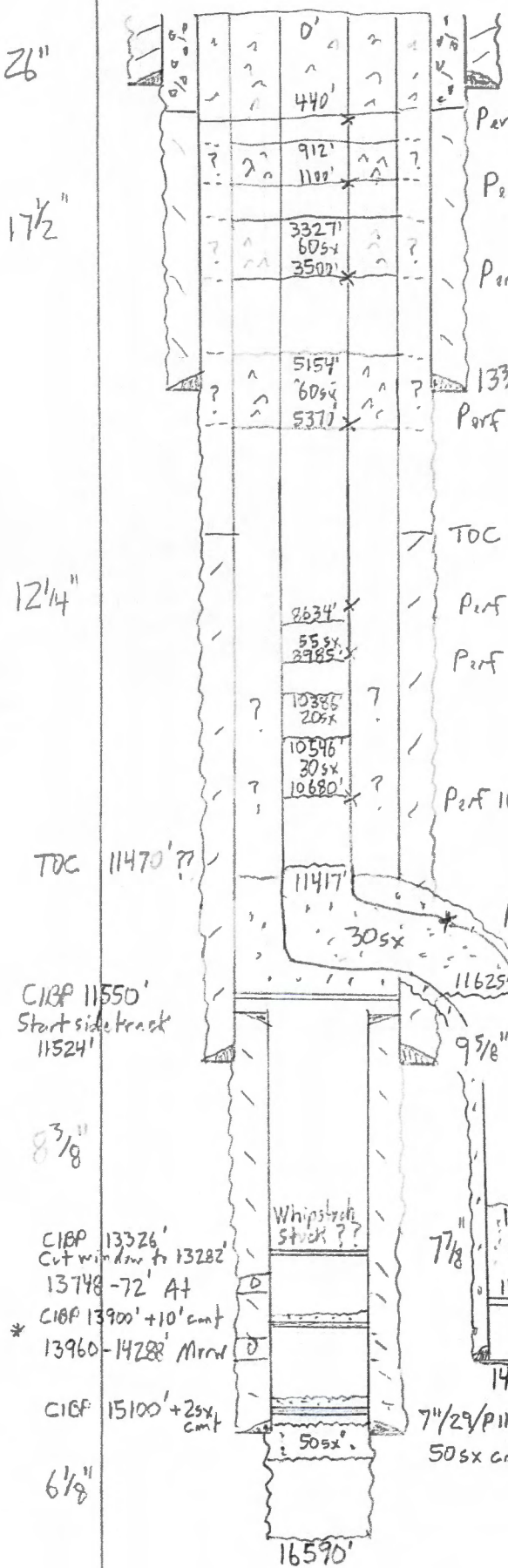
VI.

One Well Penetrates Proposed Disposal Interval Within One Mile Area of Review

30-025-20756'

Custer Mountain Unit #1
1980' FSL, 1980' FWL
K-9-24s-35e
Lea, NM

Zero: 20' AGL
KB: 3406'
GL: 3386'



OCD- Hobbs

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

JUL 11 2011

RECEIVED

FORM APPROVED
OMB NO 1004-0135
Expires. July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.
NMNM01228A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
CUSTER MOUNTAIN 01

2. Name of Operator
CHESAPEAKE OPERATING INC
Contact: LYNDEE SONGER
E-Mail: lyndee.songer@chk.com

9. API Well No.
30-025-20756-00-S1

3a Address
OKLAHOMA CITY, OK 73154-0496

3b. Phone No (include area code)
Ph: 405.935.2411

10. Field and Pool, or Exploratory
CINTA ROJO

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 9 T24S R35E NESW 1980FSL 1980FWL

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☒ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

5/20/2011 SET 5 1/2 CIBP @ 14,128'.

RECLAMATION
DUE 12-13-11

Accepted as to plugging of the well bore. Liability under bond is retained until surface restoration is completed.

5/23/2011 TBG @ 14,128' CIRC HOLE W/MLF.

5/24/2011 TBG @ 14,218' AS PER MARLIN DEATON COMBINE PLUGS 14,128'-13,460'. SPOT 80 SXS CLASS H CMT DISPLACE TOC TO 13,416'.

5/25/2011 PERF @ 11,575' PKR @ 9,115 UNABLE TO SQUEEZE.

5/31/2011 TBG @ 11,625' SPOT 30 SXS CMT H DISP TOC TO 11,358' TAG @ 11,417'.

6/1/2011 PERF @ 10,680' PKR @ 8,725' UNABLE TO SQUEEZE. TBG @ 10,680' SPOT 30 SXS CMT H DISP TOC

14. I hereby certify that the foregoing is true and correct

Electronic Submission #110881 verified by the BLM Well Information System
For CHESAPEAKE OPERATING INC, sent to the Hobbs
Committed to AFMSS for processing by DEBORAH MCKINNEY on 06/20/2011 (11KMS0016SE)

Name *(Printed/Typed)* LYNDEE SONGER — Title REGULATORY COMPLIANCE ANALYST

Signature (Electronic Submission) — Date 06/20/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED — JAMES A AMOS, Title SUPERVISOR EPS — Date 07/06/2011

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. — Office Hobbs

Title 18 U S C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

JUL 11 2011

Additional data for EC transaction #110881 that would not fit on the form

32. Additional remarks, continued

TO 10,463' TAG @ 10,546'.

6/2/2011 TBG @ 10,564' SPOT 20 SXS CMT H DISP TOC TO 10,386'. PERF @ 8,935' PKR @ 7,859' UNABLE TO SQUEEZE PRESSURE HOLDING 600#. TBG @ 8,985' SPOT 35 SXS CMT H DISP TOC TO 8,675' TAG @ 8,802'.

6/3/2011 TBG @ 8,802' SPOT 20 SXS H CMT DISP TOC 8,634'. PERF @ 5,370' PKR @ 4,960' SQUEEZE 60 SXS CMT DISP TOC TO 5,190' TAG @ 5,154'.

6/7/2011 PERF @ 3,500' PKR @ 3,124' SQUEEZE 60 SXS CMT DISP TOC TO 3,330' TAG @ 3,327'.

6/8/2011 PERF @ 1,100' SQUEEZE 120 SXS DISP TOC TO 960' TAG @ 912'.

6/9/2011 PERF @ 440' PKR 30' CIRC 290 SXS CMT TO SURF 5 1/2 X 9 5/8 & 9 5/8 X 13 7/8 ANNULUS.

6/16/2011 BASIC CUT OFF WELLHEAD AND INSTALLED DRY HOLE MARKER. FINAL REPORT.

BIDS ARE BEING CONDUCTED TO BEGIN REMEDIATING SITE.

(CHK PN 890689)

VII.

Water Analysis Produced and Receiving Formation Water

Delaware Sand

BAKER HUGHES

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:	COG OPERATING LLC	ACCOUNT REP:	KENNETH MORGAN
DISTRICT:	NEW MEXICO	SAMPLE ID:	201701012804
AREA/LEASE:	KING TUT	SAMPLE DATE:	3/21/2017
SAMPLE POINT NAME	KING TUT FED 3H BTRY	ANALYSIS DATE:	3/24/2017
SITE TYPE:	FACILITY	ANALYST:	SVP
SAMPLE POINT DESCRIPTION:	TRANSFER PUMP		

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

FIELD DATA

Initial Temperature (°F):	250
Final Temperature (°F):	80
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	6.8

ALKALINITY BY TITRATION:	mg/L	meq/L
Bicarbonate (HCO_3^-):	36.6	0.6
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	1050.0
aqueous H_2S (ppm):	0.0
aqueous O2 (ppb):	ND
Calculated TDS (mg/L):	247582
Density/Specific Gravity (g/cm³):	1.1573
Measured Specific Gravity	1.1683
Conductivity (mmhos):	ND
Resistivity:	ND
MCF/D:	No Data
BOPD:	No Data
BWPD:	No Data

ANALYSIS OF SAMPLE

ANIONS:	mg/L	meq/L
Chloride (Cl^-):	152606.2	4304.8
Sulfate (SO_4^{2-}):	461.4	9.6
Borate (H_3BO_3):	170.9	2.8
Fluoride (F^-):	ND	
Bromide (Br^-):	ND	
Nitrite (NO_2^-):	ND	
Nitrate (NO_3^-):	ND	
Phosphate (PO_4^{3-}):	ND	
Silica (SiO_2):	ND	

ORGANIC ACIDS:	mg/L	meq/L
Formic Acid:	ND	
Acetic Acid:	ND	
Propionic Acid:	ND	
Butyric Acid:	ND	
Valeric Acid:	ND	

CATIONS:	mg/L	meq/L
Sodium (Na^+):	74498.5	3241.9
Potassium (K^+):	1381.8	35.3
Magnesium (Mg^{2+}):	2495.8	205.4
Calcium (Ca^{2+}):	15329.6	765.0
Strontium (Sr^{2+}):	724.2	16.5
Barium (Ba^{2+}):	1.8	0.0
Iron (Fe^{2+}):	43.2	1.5
Manganese (Mn^{2+}):	2.6	0.1
Lead (Pb^{2+}):	0.0	0.0
Zinc (Zn^{2+}):	0.0	0.0
Aluminum (Al^{3+}):	0.0	0.0
Chromium (Cr^{3+}):	ND	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	0.0	0.0
Molybdenum (Mo^{2+}):	0.0	0.0
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{2+}):	ND	
Vanadium (V^{2+}):	ND	
Zirconium (Zr^{2+}):	ND	
Lithium (Li^+):	ND	
Total Hardness:	49434	N/A

Anion/Cation Ratio: 1.01

ND = Not Determined

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

Conditions		Barite ($BaSO_4$)		Calcite ($CaCO_3$)		Gypsum ($CaSO_4 \cdot 2H_2O$)		Anhydrite ($CaSO_4$)	
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 psi	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	53 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

Conditions		Celestite ($SrSO_4$)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate ($FeCO_3$)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
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	-0.45	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	4.357
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 severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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

Note 3: Saturation index predictions on this sheet use pH and alkalinity. $\%CO_2$ is not included in the calculations.

ScaleSoftPitzer™ SSP2010

Comments:

Bone Spring

BAKER HUGHES

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

Upstream Chemicals

REPORT DATE: 5/16/2018

COMPLETE WATER ANALYSIS REPORT SSP v.2010

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

COG OPERATING LLC, WINDWARD, WINDWARD FED 2H

FIELD DATA

Initial Temperature (°F):	250
Final Temperature (°F):	82
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	7.1

ALKALINITY BY TITRATION:	mg/L	meq/L
Bicarbonate (HCO_3^-):	170.0	2.8
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	240.0
aqueous H_2S (ppm):	0.0
aqueous O2 (ppb):	ND
Calculated TDS (mg/L):	146283
Density/Specific Gravity (g/cm³):	1.0934
Measured Specific Gravity	1.1045
Conductivity (mmhos):	ND
Resistivity:	ND
MCF/D:	No Data
BOPD:	No Data
BWPD:	No Data

ANALYSIS OF SAMPLE

ANIONS:	mg/L	meq/L
Chloride (Cl^-):	89914.5	2536.4
Sulfate (SO_4^{2-}):	1031.7	21.5
Borate (H_3BO_3):	187.2	3.0
Fluoride (F^-):	ND	
Bromide (Br^-):	ND	
Nitrite (NO_2^-):	ND	
Nitrate (NO_3^-):	ND	
Phosphate (PO_4^{3-}):	ND	
Silica (SiO_2):	ND	

ORGANIC ACIDS:	mg/L	meq/L
Formic Acid:	ND	
Acetic Acid:	ND	
Propionic Acid:	ND	
Butyric Acid:	ND	
Valeric Acid:	ND	

CATIONS:	mg/L	meq/L
Sodium (Na^+):	46148.7	2008.2
Potassium (K^+):	902.9	23.1
Magnesium (Mg^{2+}):	855.0	70.4
Calcium (Ca^{2+}):	6890.6	343.8
Strontium (Sr^{2+}):	278.9	6.4
Barium (Ba^{2+}):	0.0	0.0
Iron (Fe^{2+}):	89.1	3.2
Manganese (Mn^{2+}):	1.8	0.1
Lead (Pb^{2+}):	ND	
Zinc (Zn^{2+}):	0.0	0.0
Aluminum (Al^{3+}):	ND	
Chromium (Cr^{3+}):	NO	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	ND	
Molybdenum (Mo^{2+}):	ND	
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{2+}):	ND	
Vanadium (V^{2+}):	ND	
Zirconium (Zr^{2+}):	ND	
Lithium (Li^+):	ND	
Total Hardness:	21067	N/A

Anion/Cation Ratio: 1.04 ND = Not Determined

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

Conditions		Barite ($BaSO_4$)		Calcite ($CaCO_3$)		Gypsum ($CaSO_4 \cdot 2H_2O$)		Anhydrite ($CaSO_4$)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
82°F	15 psi		0.000	1.43	35.518	-0.18	0.000	-0.34	0.000
101°F	24 psi		0.000	1.48	36.271	-0.17	0.000	-0.25	0.000
119°F	34 psi		0.000	1.54	37.269	-0.16	0.000	-0.16	0.000
138°F	43 psi		0.000	1.60	38.261	-0.15	0.000	-0.06	0.000
157°F	53 psi		0.000	1.66	39.182	-0.15	0.000	0.04	39.216
175°F	62 psi		0.000	1.72	40.019	-0.14	0.000	0.14	133.848
194°F	72 psi		0.000	1.78	40.776	-0.13	0.000	0.24	211.707
213°F	81 psi		0.000	1.84	41.510	-0.13	0.000	0.35	274.678
231°F	91 psi		0.000	1.90	42.195	-0.13	0.000	0.45	324.816
250°F	100 psi		0.000	1.96	42.808	-0.12	0.000	0.56	364.191

Conditions		Celestite ($SrSO_4$)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate ($FeCO_3$)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
82°F	15 psi	0.16	51.545	-1.13	0.000	-7.50	0.000	1.18	30.476
101°F	24 psi	0.17	54.187	-1.14	0.000	-7.61	0.000	1.28	32.451
119°F	34 psi	0.18	56.250	-1.15	0.000	-7.69	0.000	1.38	34.487
138°F	43 psi	0.18	58.374	-1.16	0.000	-7.75	0.000	1.47	36.277
157°F	53 psi	0.19	60.980	-1.17	0.000	-7.79	0.000	1.55	37.770
175°F	62 psi	0.21	64.301	-1.17	0.000	-7.81	0.000	1.61	38.985
194°F	72 psi	0.22	68.407	-1.18	0.000	-7.83	0.000	1.66	39.950
213°F	81 psi	0.24	73.238	-1.18	0.000	-7.84	0.000	1.70	40.777
231°F	91 psi	0.26	78.634	-1.18	0.000	-7.83	0.000	1.73	41.446
250°F	100 psi	0.29	84.362	-1.18	0.000	-7.82	0.000	1.75	41.931

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

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

Note 3: Saturation index predictions on this sheet use pH and alkalinity. $?CO_2$ is not included in the calculations.

ESI
ScaleSoftPitzer™
SSP2010

Comments:

Wolfcamp

BAKER HUGHES

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

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

FIELD DATA

Initial Temperature (°F):	250
Final Temperature (°F):	88
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	6.8

ALKALINITY BY TITRATION:	mg/L	meq/L
Bicarbonate (HCO_3^-):	342.0	5.6
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	220.0
aqueous H_2S (ppm):	0.0
aqueous O2 (ppb):	ND
Calculated TDS (mg/L):	136294
Density/Specific Gravity (g/cm³):	1.0879
Measured Specific Gravity	1.0961
Conductivity (mmhos):	ND
Resistivity:	ND
MCF/D:	No Data
BOPD:	No Data
BWPD:	No Data

ANALYSIS OF SAMPLE

ANIONS:	mg/L	meq/L
Chloride (Cl^-):	80548.2	2272.2
Sulfate (SO_4^{2-}):	1551.7	32.3
Borate (H_3BO_3):	170.8	2.8
Fluoride (F^-):	ND	
Bromide (Br^-):	ND	
Nitrite (NO_2^-):	ND	
Nitrate (NO_3^-):	ND	
Phosphate (PO_4^{3-}):	ND	
Silica (SiO_2):	ND	

ORGANIC ACIDS:	mg/L	meq/L
Formic Acid:	ND	
Acetic Acid:	ND	
Propionic Acid:	ND	
Butyric Acid:	ND	
Valeric Acid:	ND	

CATIONS:	mg/L	meq/L
Sodium (Na^+):	46716.0	2032.9
Potassium (K^+):	887.5	22.7
Magnesium (Mg^{2+}):	684.8	56.4
Calcium (Ca^{2+}):	5224.8	260.7
Strontium (Sr^{2+}):	209.4	4.8
Barium (Ba^{2+}):	0.0	0.0
Iron (Fe^{2+}):	126.5	4.5
Manganese (Mn^{2+}):	3.4	0.1
Lead (Pb^{2+}):	0.0	0.0
Zinc (Zn^{2+}):	0.0	0.0
Aluminum (Al^{3+}):	0.0	0.0
Chromium (Cr^{3+}):	ND	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	0.0	0.0
Molybdenum (Mo^{2+}):	0.0	0.0
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{2+}):	ND	
Vanadium (V^{2+}):	ND	
Zirconium (Zr^{2+}):	ND	
Lithium (Li):	ND	
Total Hardness:	16122	N/A

Anion/Cation Ratio: 0.97

ND = Not Determined

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

Conditions		Barite ($BaSO_4$)		Calcite ($CaCO_3$)		Gypsum ($CaSO_4 \cdot 2H_2O$)		Anhydrite ($CaSO_4$)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
88°F	15 psi		0.000	1.26	69.277	-0.13	0.000	-0.27	0.000
106°F	24 psi		0.000	1.31	70.705	-0.12	0.000	-0.18	0.000
124°F	34 psi		0.000	1.38	72.857	-0.11	0.000	-0.09	0.000
142°F	43 psi		0.000	1.46	75.061	-0.10	0.000	0.00	4.176
160°F	53 psi		0.000	1.54	77.135	-0.10	0.000	0.10	142.433
178°F	62 psi		0.000	1.62	79.035	-0.09	0.000	0.20	260.388
196°F	72 psi		0.000	1.70	80.758	-0.08	0.000	0.30	359.322
214°F	81 psi		0.000	1.78	82.441	-0.08	0.000	0.40	440.907
232°F	91 psi		0.000	1.87	84.028	-0.07	0.000	0.50	507.127
250°F	100 psi		0.000	1.95	85.448	-0.07	0.000	0.61	560.114

Conditions		Celestite ($SrSO_4$)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate ($FeCO_3$)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
88°F	15 psi	0.19	50.203	-1.20	0.000	-7.79	0.000	1.31	61.325
106°F	24 psi	0.20	52.071	-1.21	0.000	-7.88	0.000	1.40	64.099
124°F	34 psi	0.21	53.663	-1.22	0.000	-7.92	0.000	1.51	67.134
142°F	43 psi	0.22	55.383	-1.22	0.000	-7.94	0.000	1.61	69.838
160°F	53 psi	0.23	57.491	-1.23	0.000	-7.95	0.000	1.71	72.110
178°F	62 psi	0.24	60.125	-1.23	0.000	-7.94	0.000	1.79	73.969
196°F	72 psi	0.26	63.318	-1.24	0.000	-7.93	0.000	1.85	75.466
214°F	81 psi	0.28	67.017	-1.24	0.000	-7.91	0.000	1.91	76.785
232°F	91 psi	0.30	71.103	-1.24	0.000	-7.88	0.000	1.97	77.898
250°F	100 psi	0.33	75.415	-1.24	0.000	-7.84	0.000	2.01	78.761

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

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

Note 3: Saturation index predictions on this sheet use pH and alkalinity as HCO_3^- is not included in the calculations

ScaleSoftPitzer™ SSP2010

Comments:

Devonian (Receiving Formation)
Sec 19-19s-32e

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

K-9-T24S-R35E 1980FS 1980FW

RICKS EXPLORATION, INC.

CUSTER MOUNTAIN UNIT # 1

30-025-20756

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION

H-14

COMPANY MIDWEST OIL CORPORATION

WELL CUSTER MOUNTAIN UNIT FEDERAL # 1

FIELD WILDCAT

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FROM S/L
1980' FROM E/L

Other Services:
LL, PML

Sec. 9 Twp. 24S Rge. 35E

Permanent Datum: GL Elev. 3386
Log Measured From KB 18 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 3404
D.F. 3403
G.L. 3386

Date	10-30-63	11-7-62	1-19-64		2-27-64
Run No.	ONE -BHC	TWO -BHC	THREE-BHC		FOUR-BHC
Depth—Driller	11940	12458	15375		16590
Depth—Logger	11944	12460	15379		16588
Btm. Log Interval	11935	12451	15370		16584
Top Log Interval	0	11800	12451		15368
Casing—Driller	13 3/8@ 5240	13 3/8@ 5240	9 5/8@12456	7" @ 15362	
Casing—Logger	-	-	8 3/8"	6 1/8"	
Bit Size	12¼"	12¼"	8 3/8"	6 1/8"	
Type Fluid in Hole	GEL, CAUSTIC SPERSENE *	GEL, DRIS, CAUS SPERSENE	GEL, CAUS	GEL-BARITE	
Dens. Visc.	9.0 34	9.0 41	13.2 71	8.8 40	
pH Fluid Loss	11 18 8 ml	11.5 8 ml	8.5 1.9 ml	9.5 5 ml	PIT
Source of Sample	PIT	CIRC.	CIRC.	PIT	
R_m @ Meas. Temp.	.56 @ 76 °F	76 @ 80 °F	.90 @ 76 °F	1.37 @ 82 °F	
R_{mf} @ Meas. Temp.	.41 @ 76 °F	.52 @ 80 °F	.52 @ 78 °F	1.02 @ 68 °F	
R_{mc} @ Meas. Temp.	1.71 @ 76 °F	1.3 @ 80 °F	1.2 @ 78 °F	2.52 @ 68 °F	
Source: R_{mf} R_{mc}	M M	M M	M M	M M	
R_m @ BHT	.26 @164 °F	.34 @ 165°F	.35 @185 °F	- @ 199°F	
Time Since Circ.	3 HOURS	4 HOURS	10 HOURS	6 HOURS	
Max. Rec. Temp.	164 °F	165 °F	185 °F	199 °F	
Equip. Location	3701 HOBBS	2519 HOBBS	2519 HOBBS	1582 KLR.	
Recorded By	BROWN	WILSON-ADKISSON	WILSON	EASLEY	
Witnessed By	MC INTYRE	MC INTYRE	BOTTOMS	BOTTOMS.	

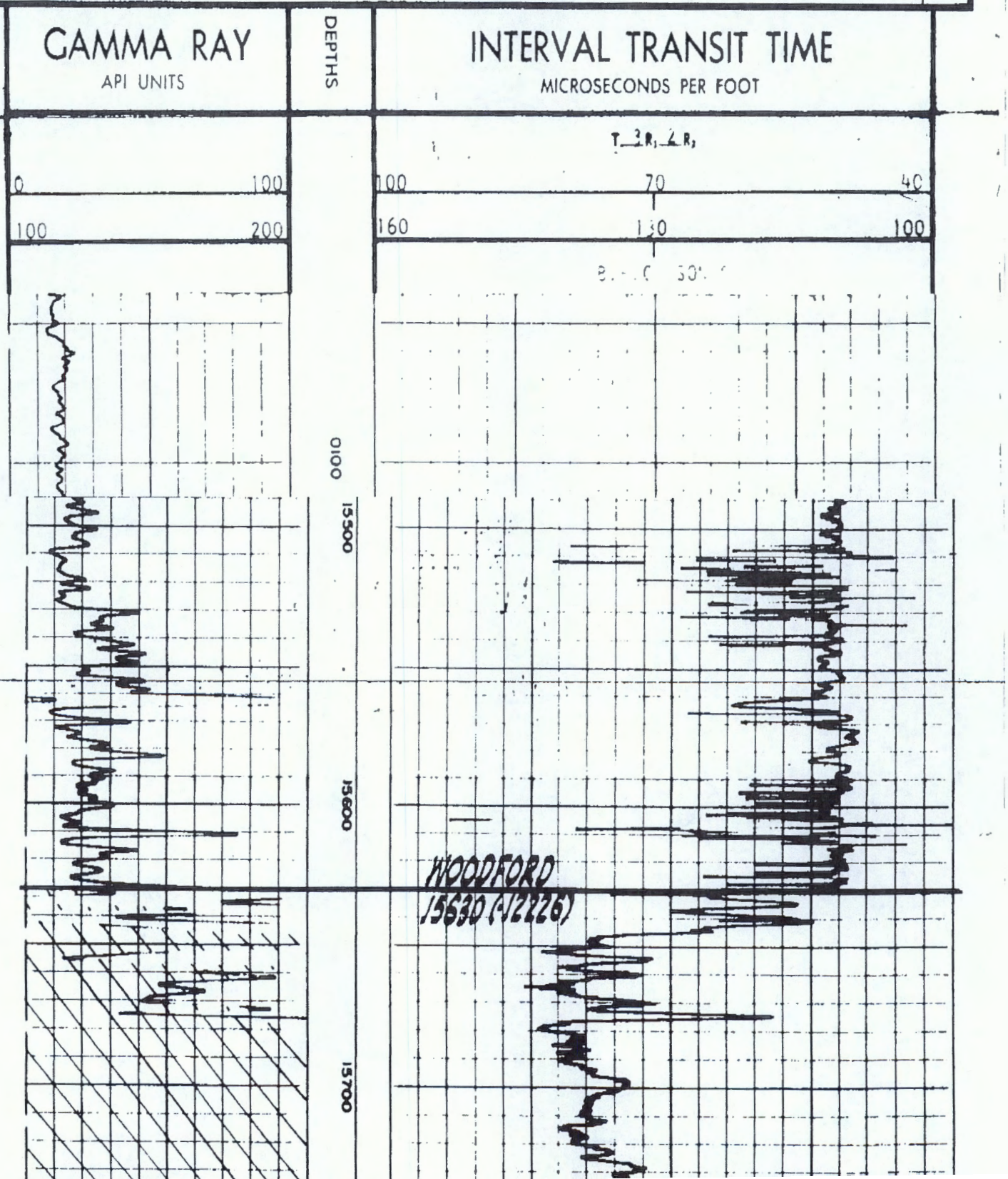
REMARKS *DRILLING MILK, OIL

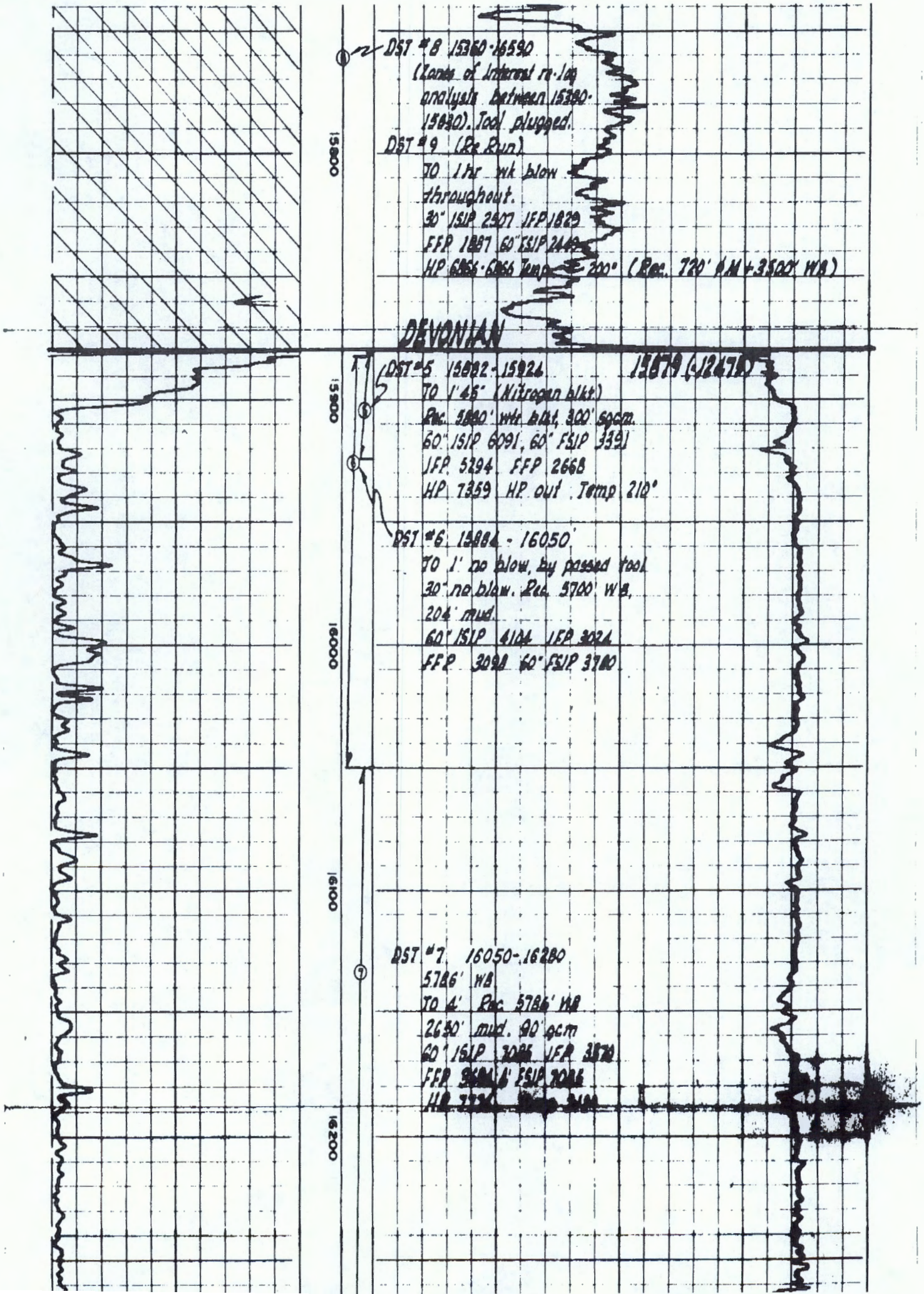
| Changes in Mud Type or Additional Samples | | | | |

SONDE No. X3 X3 X3 4X-3

CALIBRATION:	BACKGND. CPS.	SOURCE CPS.	GALV. INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)	
GAMMA RAY:	64	416	82.5	500	400	1		RUN 1
RUN 2-	60	460	82.5	400	200	1	45	RUN 2
RUN 3-	50	450	82.5	400	200	2	30	RUN 3
RUN 4	75	470	82.5	800	500	2	30/60	RUN 4

Velocity (feet per second) = $\frac{1{,}000{,}000}{\text{Interval Transit Time (microseconds per foot)}}$




DST #8 15360-16590
(Zones of interest re-log analysis between 15380-15830). Tool plugged.
DST #9 (Re Run)
TO 1 hr wk blow throughout.
30" ISIP 2907 IFP 1829
FFP 1887 60" FSIP 2440
HP 6866-6866 Temp 200° (Rec. 720' GM + 3500' WB)
DEVONIAN
15879 (-12470)
DST #5 15892-15924
TO 1'45" (Nitrogen blkt)
Rec. 5880' wtr cut, 300' sgcm.
60" ISIP 6091, 60" FSIP 3391
IFP 5294 FFP 2668
HP 7359 HP out Temp 210°
DST #6 15884-16050'
TO 1' no blow, by passed tool
30" no blow. Rec. 5700' WB, 204' mud.
60" ISIP 4104 IFP 3024
FFP 3098 60" FSIP 3780
DST #7 16050-16280
5786' WB
TO 4' Rec. 5786' WB
2630' mud. 90' gcm
60" ISIP 3086 IFP 3870
FFP 3984 60" FSIP 3086
15800
15900
16000
16100
16200

6300
6400
6500

9-24S-35E

BERGER DUAL INDUCTION - LATEROLOG

K-9-T24S-R35E 1980FS 1980FW
RICKS EXPLORATION, INC.
CUSTER MOUNTAIN UNIT #1
30-025-20756

COMPANY MIDWEST OIL CORPORATION

WELL CUSTER MOUNTAIN UNIT FEDERAL # 1

FIELD WILDCAT

COUNTY LEA , NEW MEXICO

LOCATION 1980' FROM S/L
1980' FROM E/L

Other Services:
BSGR, PML
NL, SRS

COI FIEL LOC WEI COA

Sec. 9 Twp. 24S Rge. 35E

Permanent Datum: GL , Elev. 3386
Log Measured From KB , 18 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 3404
D.F. 3403
G.L. 3386

Date	10-30-63	11-7-63	1-19-64	2-27-64
Run No.	ONE	TWO	THREE	FOUR
Depth—Driller	11940	12458	15375	16590
Depth—Logger	11944	12460	14402	16588
Btm. Log Interval	11942	12458	14400	16585
Top Log Interval	5240	11942	12456	15368
Casing—Driller	13 3/8 @ 5240	13 3/8 @ 5240	9 5/8 @ 12456	7" @ 15375
Casing—Logger	-	-	12456	15368
Bit Size	12¼"	12¼"	8 5/8"	6 1/8"
Type Fluid in Hole	GEL, CAUSTIC, SPERESENE	GEL, DRIS, CAUS, SPERESENE	GEL, CAUS, BARITE	GEL-BARITE
Dens. / Visc.	9.0 / 34	9.0 / 41	13.2 / 7.1	8.8 / 40
pH / Fluid Loss	11 / 8.8 ml	11.5 / 8 ml	9 / 1.9 ml	9.5 / 6 ml
Source of Sample	PIT	CIRC.	CIRC.	PIT
R_m @ Meas. Temp.	.56 @ 76 °F	.76 @ 80 °F	.90 @ 76 °F	1.37 @ 82 °F
R_{mf} @ Meas. Temp.	.41 @ 76 °F	.53 @ 80 °F	.52 @ 78 °F	1.02 @ 68 °F
R_{mc} @ Meas. Temp.	1.71 @ 76 °F	1.3 @ 80 °F	1.2 @ 78 °F	2.52 @ 68 °F
Source: R_{mf} R_{mc}	M / M	M / M	M / M	M / M
R_m @ BHT	.26 @ 164 °F	.34 @ 165 °F	.35 @ 185 °F	- @ 199 °F
Time Since Circ.	8 HOURS	5 HOURS	12 HOURS	6 HOURS
Max. Rec. Temp.	164 °F	165 °F	185 °F	199 °F
Equip. / Location	3701 / HOBBS	2519 / HOBBS	2519 / HOBBS	1582 / KER.
Recorded By	BROWN	WILSON-ADKISSON	WILSON	EASLEY
Witnessed By	MC INTYRE	MC INTYRE	BOTTOMS	BOTTOMS

FOLD HERE

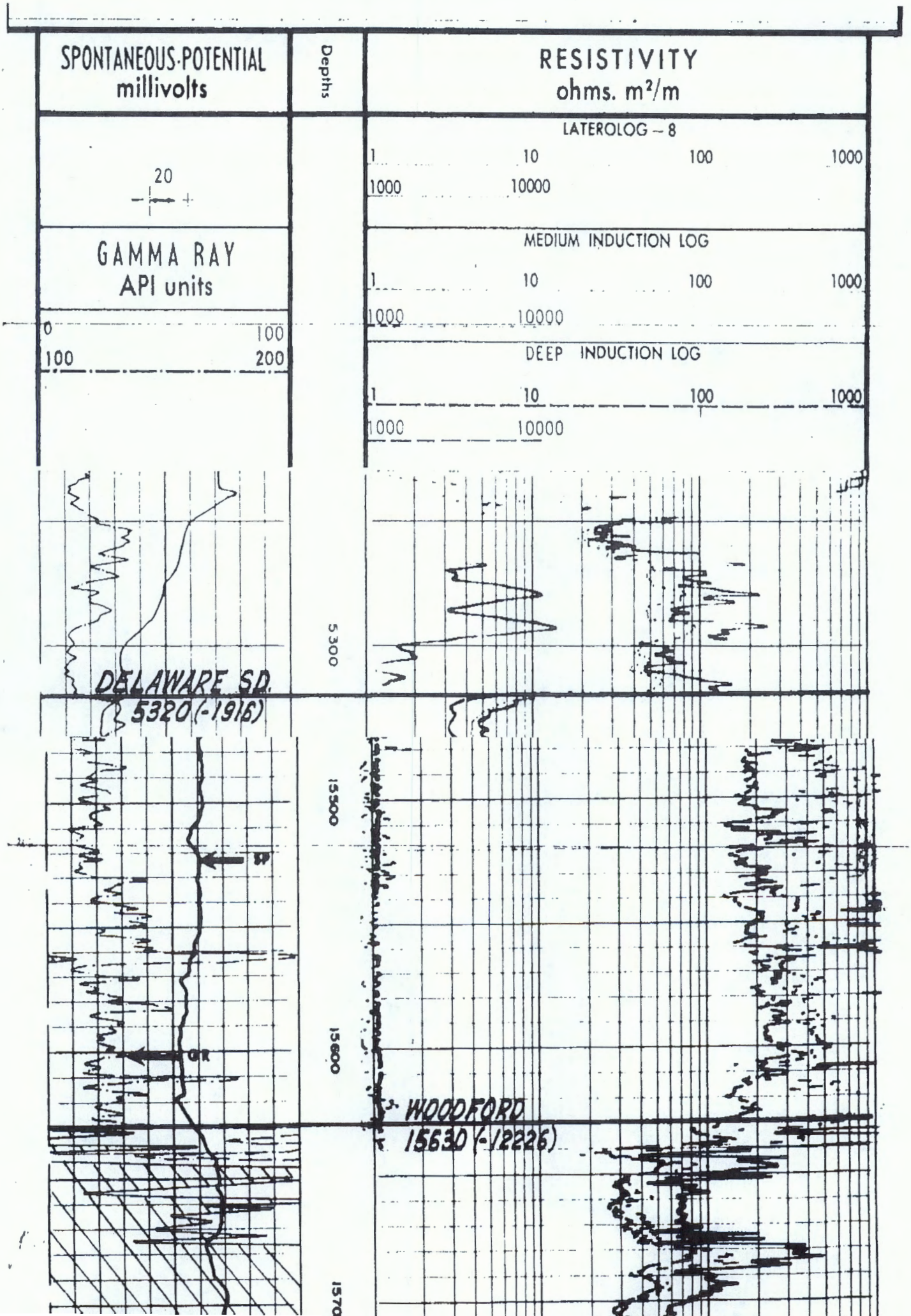
REMARKS *DRILLING MILK, OIL

Changes in Mud Type or Additional Samples
Date
Sample No.
Depth—Driller
Type Fluid in Hole
Dens. / Visc.
ph / Fluid Loss ml
Source of Sample
R_m @ Meas. Temp. °F
R_{mf} @ Meas. Temp. °F
R_{mc} @ Meas. Temp. °F
Source: R_{mf} R_{mc}
R_m @ BHT °F
R_{mf} @ BHT °F
R_{mc} @ BHT °F

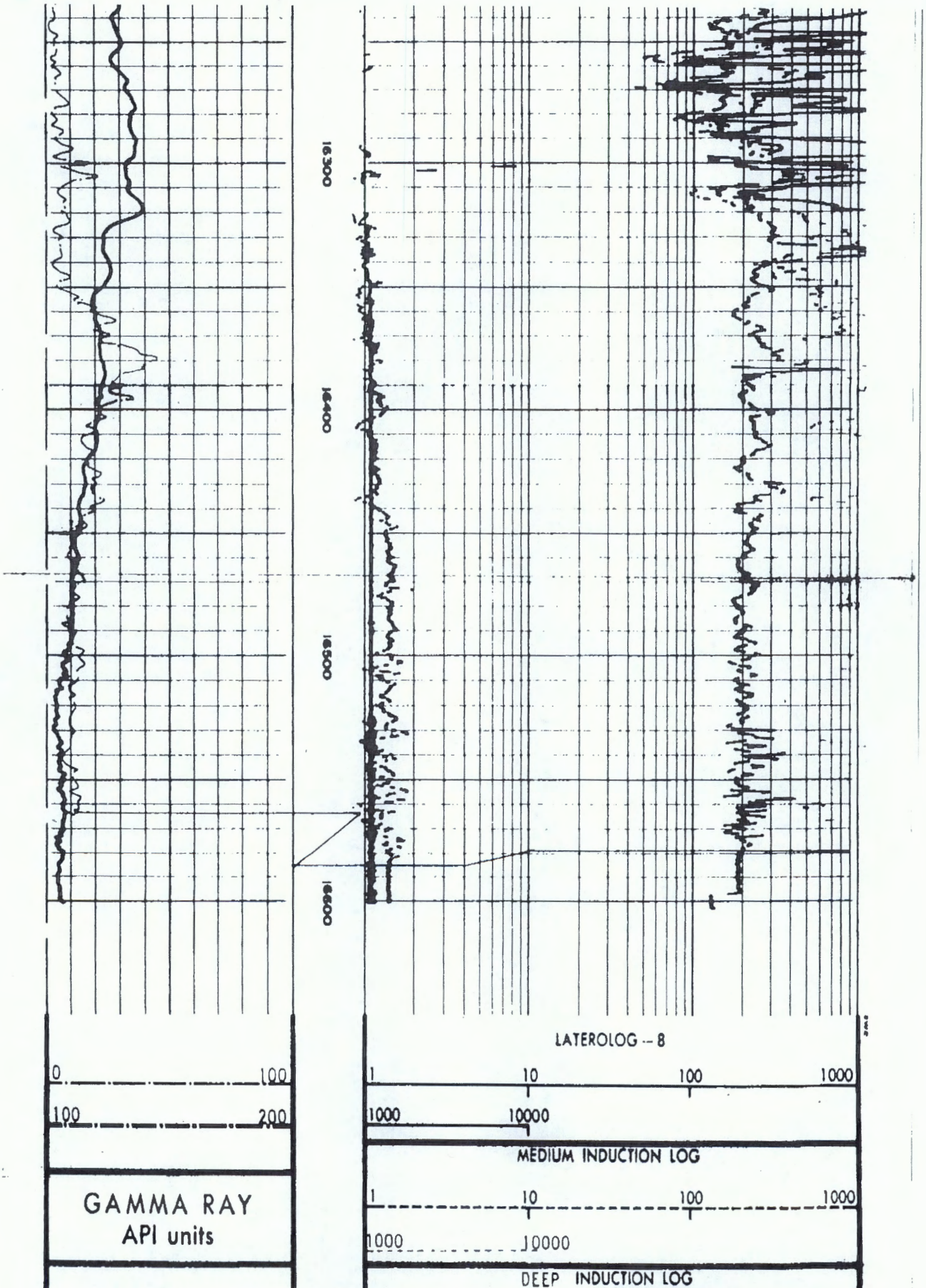
Scale Changes
Type Log
Depth
Scale Up Hole
Scale Down Hole

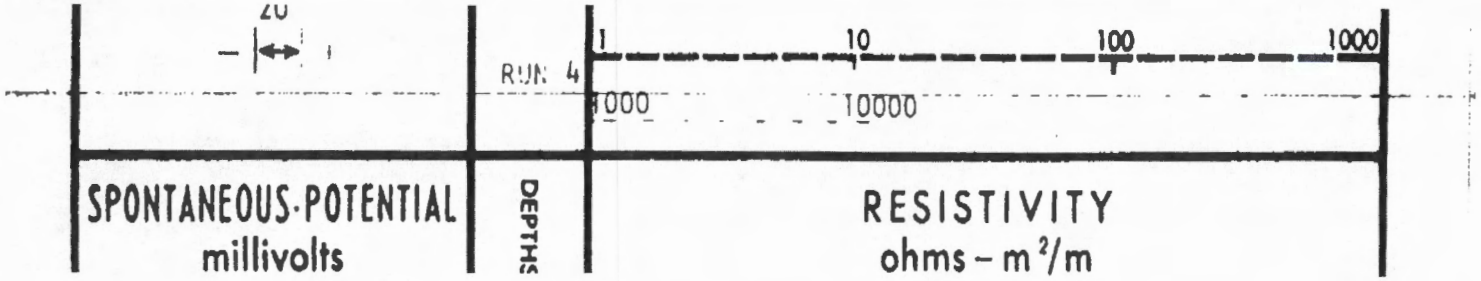
Equipment Data
Run No.
Tool Type
Tool Position
Other

C.D.: YES S.O.: 1½" RUN 4: C.D.: USED S.O.: 1/2"
Equip. Used CART. No. 22 22 SBR-1
Panel No. X2 AX-2
SONDE No. 48 48


SPONTANEOUS-POTENTIAL
millivolts
Depths
RESISTIVITY
ohms. m²/m
LATEROLOG – 8
1
10
100
1000
1000
10000
20
GAMMA RAY
API units
MEDIUM INDUCTION LOG
1
10
100
1000
1000
10000
0
100
100
200
DEEP INDUCTION LOG
1
10
100
1000
1000
10000
5300
DELAWARE SD.
5320 (-1916)
15500
15600
WOODFORD
15630 (-12226)
15700

15800
15900
16000
16100
16200
DEVONIAN
15879 (H2475)


16300
16400
16500
16600
0
100
100
200
GAMMA RAY
API units
LATEROLOG -- 8
1
10
100
1000
1000
10000
MEDIUM INDUCTION LOG
1
10
100
1000
1000
10000
DEEP INDUCTION LOG


20
RUN 4
1
10
100
1000
10000
SPONTANEOUS-POTENTIAL
millivolts
DEPTHS
RESISTIVITY
ohms – m²/m

XI.

Fresh Water Sample Analyses
There Are No FW Wells Within 1 Mile from NMOSE Records

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file. C=the file is closed)

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

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

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y
CP 01197	CP	COM	150	QUAIL RANCH, LLC	LE	CP 01197 POD1					1 3	06	24S	35E	649528	3568790

Record Count: 1

> 1mi away
No record of being drld.

PLSS Search:

Section(s): 4, 5, 6, 7, 8, 9, 16, 17 **Township:** 24S **Range:** 35E

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.

Application legal notice = NE/4 NW/4 SW/4

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

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

Beginning with the issue dated
May 10, 2019
and ending with the issue dated
May 10, 2019.

Publisher

Sworn and subscribed to before me this
10th day of May 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

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

LEGALS

LEGAL NOTICES
MAY 10, 2019

COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico, 88210, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Skedaddle 8 Fee SWD No. 1, is located 225' FNL and 530' FEL, Section 8, Township 24 South, Range 35 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian/Silurian formation at an estimated depth of 15,670' to 17,585' at a maximum surface pressure of 3134 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 14 miles west/northwest of Jal. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 575-748-6940.
#34125

67112034 00228176

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

CONCHO

June 18, 2019

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

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Goetze:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. Attached for your review is a copy of the C-108 application. Once we receive all the certified return receipts we will send you a copy.

Our geologic prognosis has the top of the Devonian at 15867' and Fusselman at 16722'. 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

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

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

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Kautz:

COG Operating LLC respectfully requests administrative approval for authorization to inject for the referenced well. Attached for your review is a copy of the C-108 application.

Our geologic prognosis has the top of the Devonian at 15867' and Fusselman at 16722'. 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

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

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

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

Magnum Hunter Production, Inc
600 E. Las Colinas Blvd
Suite 1100
Irving, TX 75039

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

Franklin Mountain Energy 2 LLC
123 West Mills Avenue, Suite 600
El Paso, TX 79901

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

St. Clair of Texas
4716 4th Street
Suite 200
Lubbock, TX 79416

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

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

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

North Central Operating, Inc.
PO Box 1468
Graham, TX 76450

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

McKay Petroleum Corporation
PO Box 2014
Roswell, NM 88202

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

McKay Petroleum Corporation
6400 N Main Street
Roswell, NM 88201

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

BTA Oil Producers, LLC
104 South Pecos
Midland, TX 79701

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

XTO Holdings, LLC
810 Houston Street
Fort Worth, TX 76012

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

Chevron U.S.A. Inc.
1400 Smith Street
Houston, Texas 77002

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

OXY USA Inc
PO Box 4294
Houston, TX 77210

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

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

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

CONCHO

June 18, 2019

OXY USA Inc
5 Greenway Plaza
Houston, TX 77046

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

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

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

CONCHO

June 18, 2019

PXP Producing Co, LLC
717 Texas Street
Suite 2100
Houston, TX 77002

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

JM Cox Resources, LP
PO Box 2217
Midland, TX 79702

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

JM Cox Resources, LP
400 W Wall St
Midland, TX 79701

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Occidental Permian, LP
5 East Greenway Plaza #110
Houston, TX 77046

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

Chevron Midcontinent LP
15 Smith Road
Midland, TX 79705

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Chesapeake Permian LP
PO Box 18496
Oklahoma City, OK 73154

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

Chesapeake Permian LP
120 N Robinson Ste 735
Oklahoma City, OK 73102

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Advance Energy Partners, LLC
11490 Westheimer Road
Suite 950
Houston, TX 77077

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

CONCHO

June 18, 2019

Nortex Corporation
3009 Post Oak Blvd
Suite 1212
Houston, TX 77056

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Kerr McGee O&G Onshore LP
1999 Broadway #3700
Denver, CO 80202

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Dutch Irish Oil, Inc
PO Box 4831
Midland, TX 79704

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

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Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

June 18, 2019

Dutch Irish Oil, Inc
2404 Keswick
Midland, TX 79705

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Hard Rock Energy, Inc
PO Box 7444
Midland, TX 79708

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Hard Rock Energy, Inc
2404 Seaboard Ave
Midland, TX 79705

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

CONCHO

June 18, 2019

Energen Resources Corporation
605 Richard Arrington, Jr. Boulevard
North Birmingham, AL 35203-2707

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 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

BC/mv
Enclosures

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

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

CONCHO

June 18, 2019

Energen Resources Corporation
3510 North A Street
Midland, TX 79705

RE: Application For Authorization To Inject
Skedaddle 8 Fee SWD #1
225' FNL, 530' FEL
Unit A, Section 8, Township 24 South, Range 35 East, N.M.P.M.
Lea County, New Mexico

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