Initial Application Part I

Received: **09/04/2019**

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

Revised March 23, 2017

RECEIVED: 09/04/2019	REVIEWER:	TYPE: SWD	APP NO: pDHR1924738817

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: Gunner Deep 5 Fee SWD #1 **API:**
Pool: **Pool Code:**

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

SWD-2264

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

30 August 2019
Date

575-748-6940
Phone Number

bcollins@concho.com
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 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: 30 Aug 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
Gunner Deep 5 Fee SWD 1
750' FSL, 1000' FWL
Unit M, Section 5, T26S, R34E
Lea County, NM

COG Operating, LLC, proposes to drill the captioned well to 20,200' for salt water disposal service into the Devonian/Silurian from approximately 18,250' to 20,200'.

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 = 3650 psi
(0.2 psi/ft. x 18,250' 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 18,250' to 20,200'. Any underground water sources will be shallower than 606', the estimated top of the Rustler Anhydrite. The estimated top of the Devonian is 18,469' and the Fusselman is 19,334'. 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. Section of open hole log across the Devonian from the Rattlesnake 16 SWD 1 located about 1.8 miles south in Unit E, Section 16, T26S, R34E is attached.

XI. Water analysis for a fresh water well within a mile of the proposed SWD well is attached. Well is C-03441 located in the SE/4 NW/4 NE/4 of Section 6, T26S, R34E.

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, 30 Aug 2019

A seismicity assessment is attached.

XIII. Proof of Notice is attached.

COG Operating LLC
Gunner Deep 5 Fee SWD #1
C-108 Attachment
May 23, 2019

Statement Regarding Seismicity and Disposal Well Location

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

A recent paper by Snee and Zoback titled, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The authors evaluated the strike-slip probability of known Permian Basin faults. The nearest fault is located approximately 0.94 miles East 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).

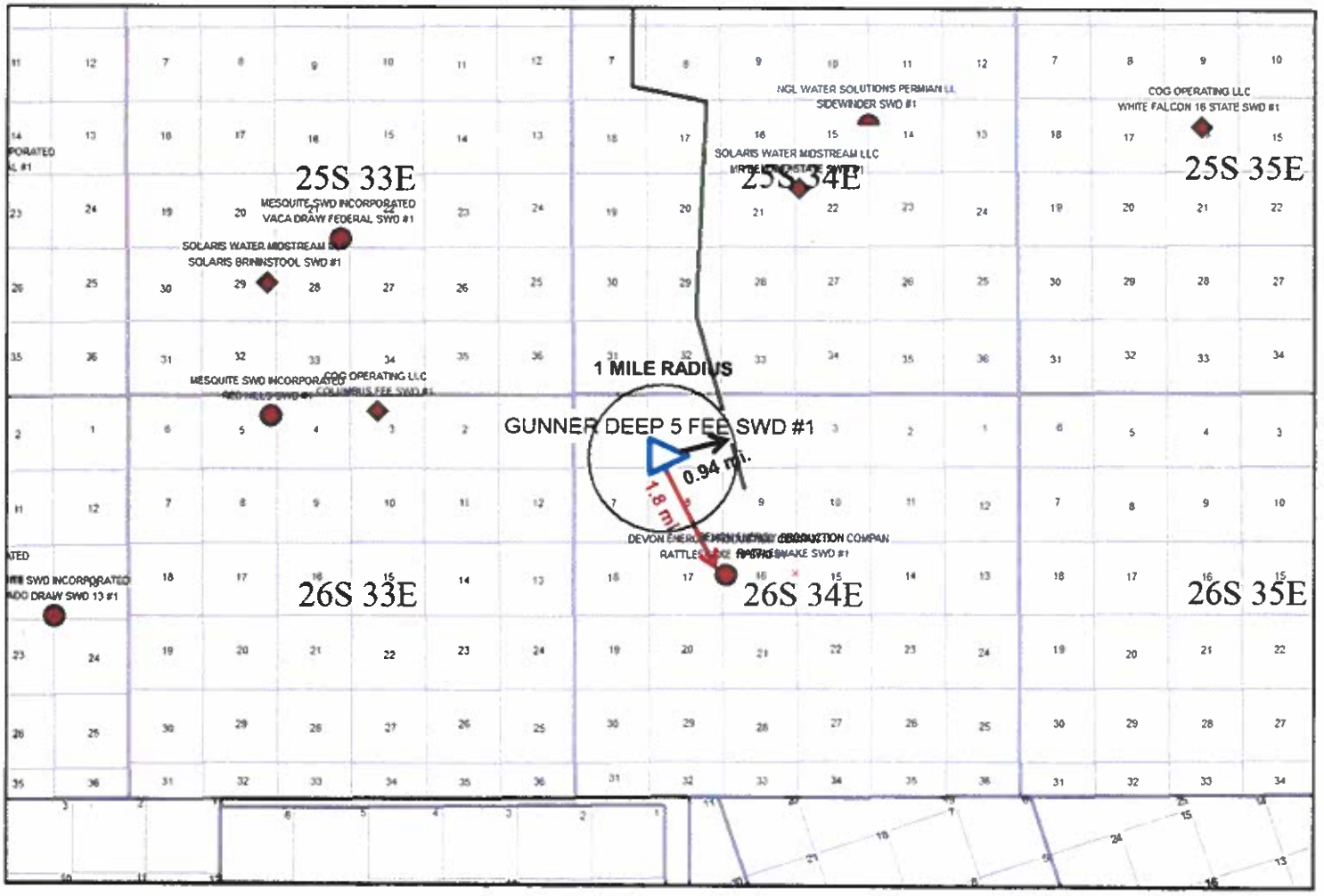
The proposed Gunner Deep 5 Fee SWD #1 is located 1.8 miles away from the nearest active Devonian SWD well (see map) and no active, permitted or pending Devonian SWD applications within the one mile radius.

Regards,

Carrie M. Martin

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

GUNNER DEEP 5 FEE SWD #1



LEGEND

Devonian SWD Status

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

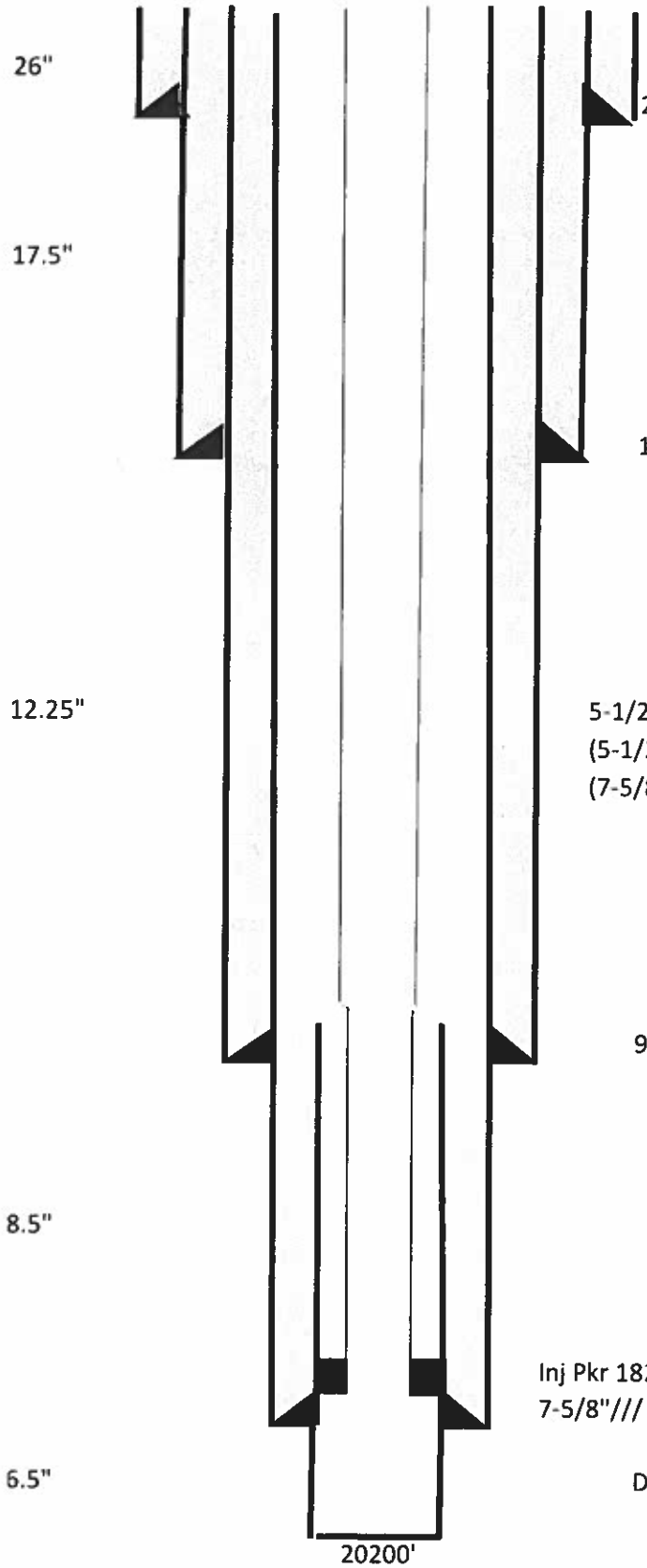
CONCHO

III.

WELL DATA

Gunner Deep 5 Fee SWD 1
750' FSL, 1000' FWL
M-5-26s-34e
Lea, NM
30-025-xxxxx

Zero:
KB elev:
GL elev: 3354'



20"/// @ 625'

1875 CF Cmt (circ to surf)
Rustler top 606'

13-3/8"/// @ 5300'

7375 CF Cmt (circ to surf)
Top Lamar Lm 5257'

5-1/2" x 5" Inj Tbg 0-18200'
(5-1/2" 0-12450' inside 9-5/8", 5" 12450-18200' inside 7-5/8")
(7-5/8" liner top 12550')

9-5/8"/// @ 12750'

6000 CF Cmt (circ to surf)
Top Wolfcamp 12553'

Inj Pkr 18200'
7-5/8"/// FJ liner 12550-18250'

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

Devonian/Silurian OH

kbcollins 5-Jun-19

INJECTION WELL DATA SHEET

Operator: COG Operating, LLC
Well Name & Number: Gunner Deep 5 Fee SWD 1
Well Location: 750' FSL, 1000' FWL, Unit M, Section 5, T26S, R34E

Wellbore Schematic: See attached schematic

Surface Casing:

Hole Size: 26"
Casing Size: 20" @ 625'
Cemented with: 1875 cubic feet
Top of Cement: Surface by design

Intermediate Casing:

Hole Size: 17-1/2"
Casing Size: 13-3/8" @ 5300'
Cemented with: 7375 cubic feet
Top of Cement: Surface by design

Intermediate Casing:

Hole Size: 12-1/4"
Casing Size: 9-5/8" @ 12750'
Cemented with: 6000 cubic feet
Top of Cement: Surface by design

Production Casing:

Hole Size: 8-1/2"
Casing Size: 7-5/8" flush joint liner @ 12550-18250'
Cemented with: 600 cubic feet
Top of Cement: Liner top by design

Injection Interval:

18250' to 20200' (6-1/2" open hole)

Injection Tubing/Packer:

Tubing Size: 5-1/2" 0-12450' inside 9-5/8" casing, 5" from 12450-18200' inside 7-5/8" casing
Lining Material: Internally fiberglass lined
Type of Packer: Nickel plated or CRA 10K permanent packer
Packer Setting Depth: 18200'
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 5300-9500', Bone Spring 9800-12500', Wolfcamp 12550-14500', possible Strawn 14750'+, possible Atoka 15025'+, possible Morrow 15725'+

   Underlying: None

Fishing Risk Assessment
Gunner Deep 5 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
Gunner Deep 5 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).

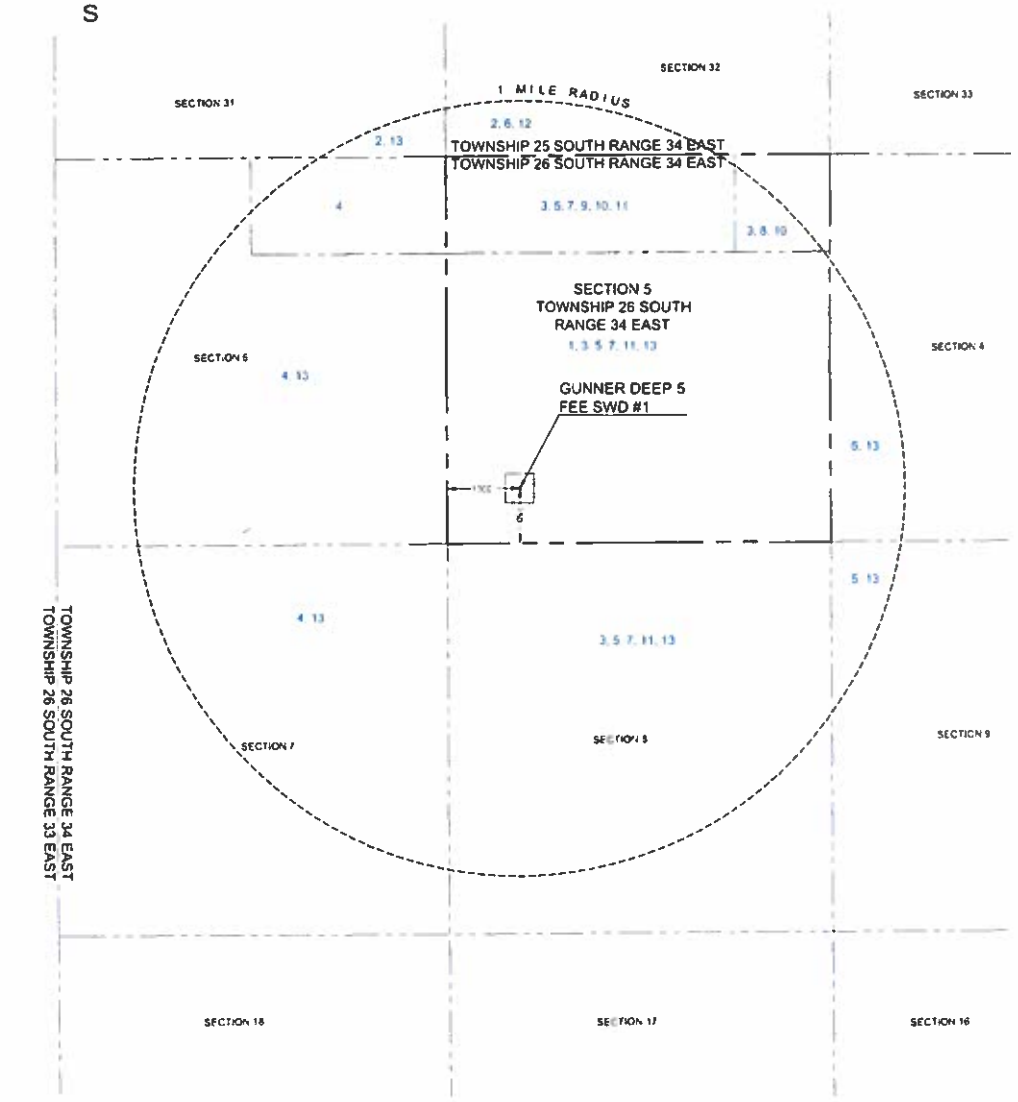
For fishing operations with spear:

- 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

GUNNER DEEP 5 FEE SWD #1
SECTION NO. 5
TOWNSHIP 26 SOUTH
RANGE 34 EAST
N. M. P. M. NEW MEXICO
LEA COUNTY, NEW MEXICO



NOTE: RESEARCH AND TITLE PROVIDED BY OTHERS. BISON CREEK LAND SERVICES, LLC IS NOT LIABLE AND/OR RESPONSIBLE FOR ANY TITLE ERRORS OR OMISSIONS RELATED TO THIS PLAT.

NOTE: BASIS OF BEARINGS ARE THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE NAD 27 AND COORDINATES AND DISTANCES ARE OF GRID VALUES. DISTANCES MUST BE MULTIPLIED BY A COMBINED SCALE FACTOR OF 0.99984743 TO OBTAIN SURFACE DISTANCES.

BLUE = CORRESPONDS TO AFFECTED PERSONS LIST

SCALE: 1" = 2000'

2000 1000 0 2000 4000

GRAPHIC SCALE

1-800-321-2537
WWW.NMB11.ORG
NEW MEXICO DAMAGE PREVENTION
CONSTRUCTION NOTE: UNDER GROUND UTILITIES MUST BE VERIFIED BY CONTRACTOR PRIOR TO EXCAVATING

SCALE: 1" = 2000'	DATE: 08/28/19
DRWN: BEM	APPVD: JPK
CREW: RJR	
AFE NO:	
PROJ. NO.19-553-GUNNER DEEP 1 MILE	

CONCHO OPERATING, LLC.
EXHIBIT OF PROPOSED
GUNNER DEEP 5 FEE SWD #1
750' FSL, 1000' FWL
(1 MILE RADIUS)
LOCATED IN
SECTION 5, TOWNSHIP 26 SOUTH,
RANGE 34 EAST,
N. M. P. M. NEW MEXICO

CONCHO

Construction Surveying Services
PO Box 2295, Alamogordo, NM 88311
(575) 443-6202 FAX (575) 443-1151

BISON CREEK LAND SERVICES

Gunner Deep 5 Fee SWD #1

located in 5-26S-34E, Lea County, New Mexico

Affected Persons

No.	Name	Address	Phone Number	Owner Type	S-T-R	Notes
1	Dinwiddie Cattle Company, LLC	PO Box 963 Capitan, NM 88316	505-355-7610	Drillsite Surface Owner	5-26S-34E	W2SW4
2	EOG Resources, Inc	PO Box 2267 Midland, TX 79702	432-686-3689	Operator	S2 32-25S-34E S2 31-26S-34E	APIs: 30-025-44577 30-025-44580 30-025-44674 30-025-44904 30-025-45364 30-025-45366 30-025-45368 30-025-44675 30-025-44670 30-025-44672 30-025-44120 30-025-44122 30-025-44117 30-025-44118 30-025-44119 30-025-44116 30-025-44115 30-025-44121 30-025-42582
3	COG Operating, LLC	600 West Illinois Ave Midland, TX 79701	432-221-0500	Operator	All 5-26S-34E All 8-26S-35E	APIs: 30-025-41187 30-025-41180 30-025-41181 30-025-41211 30-025-40309 30-025-42905 30-025-41187 30-025-41181 30-025-41211 30-025-42905
4	Devon Energy Production, LP	333 West Sheridan Ave Oklahoma City, OK 73102	405-552-4660	Operator	All 6-26S-34E All 7-26S-35E	APIs: 30-025-41293 30-025-42919 30-025-40043 30-025-40574
5	EOG Resources, Inc	PO Box 2267 Midland, TX 79702	432-686-3689	Working Interest	All 4-26S-34E All 9-26S-35E N2NW4, NW4NE4 & S2 5-26S-34E N2NE4 6-26S-34E All 8-26S-35E	
6	ConocoPhillips Company	PO Box 2197 Houston, TX7 7252	281-293-1000	Working Interest	S2 32-25S-34E	
7	Chevron USA, Inc.	1400 Smith St Houston, TX 77002	432-498-8600	Working Interest	N2NW4, NW4NE4 & S2 5-26S-34E All 8-26S-35E	

8	COG Acreage, LP	550 W Texas Ave Midland, TX 79701	432-683-7443	Working Interest	NE4NE4 5-26S-34E	
9	Devon Energy Production, LP	333 West Sheridan Ave Oklahoma City, OK 73102	405-552-4660	Working Interest/ Leasehold	N2NW4, NW4NE4 (Deep Rights) 5-26S-34E	
10	MRC Permian Company	5400 LBJ Freeway Suite 1500 Dallas, TX 75240	972-371-5200	Working Interest/ Leasehold	N2N2 (Deep Rights) 5-26S-34E	
11	OXY USA Inc.	5 Greenway Plaza Suite 110 Houston, TX 77046	713-366-5716	Working Interest	N2NW4, NW4NE4 & S2 5-26S-34E All 8-26S-34E	
12	State of New Mexico	P.O. Box 1148, Santa Fe, NM 87504	505-827-5760	Mineral	S2 32-25S-34E	
13	United States of America, through the Bureau of Land Management	New Mexico State Office 301 Dinosaur Trail Santa Fe, NM 87508	505-954-2000 blm_nm_comments@blm.gov	Mineral	All 31-26S-34E S2N2,S2 5-26S-34E W2W2,S2NE4 & SE4 6-26S-34E All 7-26S-35E All 8-26S-35E All 4-26S-34E All 9-26S-34E	

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name

4 Property Code	5 Property Name	6 Well Number
	GUNNER DEEP 5 FEE SWD	1

7 OGRID No.	8 Operator Name	9 Elevation
	COG OPERATING, LLC	3354'

10 Surface Location

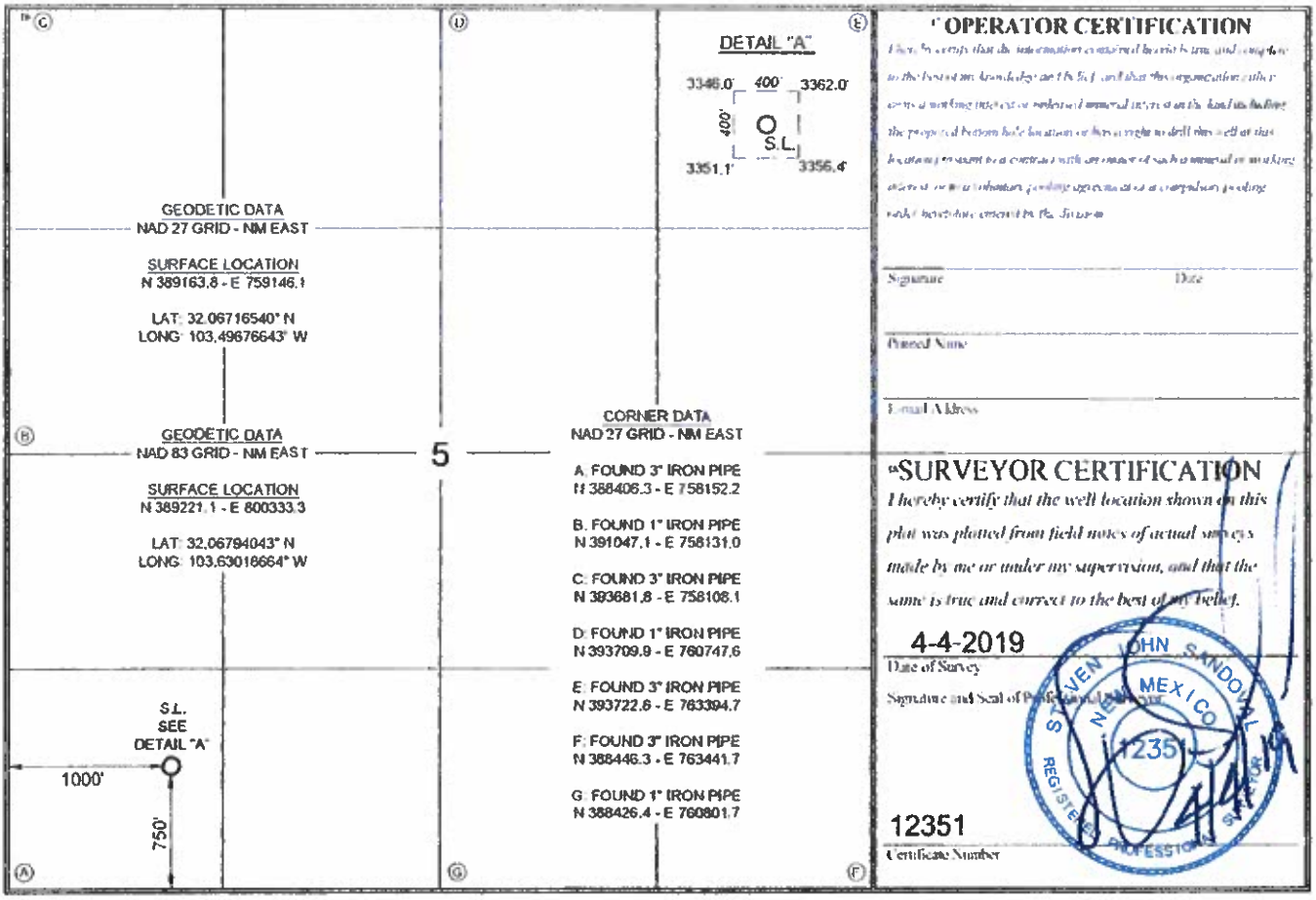
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	5	26S	34E		750	SOUTH	1000	WEST	LEA

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 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

Email Address

17 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

STEVEN JOHN SANDOVAL
NEW MEXICO
12351
REGISTERED PROFESSIONAL SURVEYOR

12351
Certificate Number

VI.

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

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 ($H_2BO_3^-$):	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	-0.46	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 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. H_2CO_3 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:	20150104829?
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+}):	ND	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	ND	
Molybdenum (Mo^{3+}):	ND	
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{3+}):	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. HCO_3 is not included in the calculations.

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		ANALYSIS OF SAMPLE					
		ANIONS:	mg/L	meq/L	CATIONS:	mg/L	meq/L
Initial Temperature (°F):	250	Chloride (Cl^-):	80548.2	2272.2	Sodium (Na^+):	46716.0	2032.9
Final Temperature (°F):	88	Sulfate (SO_4^{2-}):	1551.7	32.3	Potassium (K^+):	887.5	22.7
Initial Pressure (psi):	100	Borate (H_3BO_3):	170.8	2.8	Magnesium (Mg^{2+}):	684.8	56.4
Final Pressure (psi):	15	Fluoride (F^-):	ND		Calcium (Ca^{2+}):	5224.8	260.7
		Bromide (Br^-):	ND		Strontium (Sr^{2+}):	209.4	4.8
pH:		Nitrite (NO_2^-):	ND		Barium (Ba^{2+}):	0.0	0.0
pH at time of sampling:	6.8	Nitrate (NO_3^-):	ND		Iron (Fe^{2+}):	126.5	4.5
		Phosphate (PO_4^{3-}):	ND		Manganese (Mn^{2+}):	3.4	0.1
		Silica (SiO_2):	ND		Lead (Pb^{2+}):	0.0	0.0
					Zinc (Zn^{2+}):	0.0	0.0
ALKALINITY BY TITRATION:	mg/L	meq/L					
Bicarbonate (HCO_3^-):	342.0	5.6			Aluminum (Al^{3+}):	0.0	0.0
Carbonate (CO_3^{2-}):	ND				Chromium (Cr^{3+}):	ND	
Hydroxide (OH):	ND				Cobalt (Co^{2+}):	ND	
		ORGANIC ACIDS:	mg/L	meq/L	Copper (Cu^{2+}):	0.0	0.0
aqueous CO_2 (ppm):	220.0	Formic Acid:	ND		Molybdenum (Mo^{2+}):	0.0	0.0
aqueous H_2S (ppm):	0.0	Acetic Acid:	ND		Nickel (Ni^{2+}):	ND	
aqueous O2 (ppb):	ND	Propionic Acid:	ND		Tin (Sn^{2+}):	ND	
		Butyric Acid:	ND		Titanium (Ti^{2+}):	ND	
Calculated TDS (mg/L):	136294	Valeric Acid:	ND		Vanadium (V^{2+}):	ND	
Density/Specific Gravity (g/cm³):	1.0879				Zirconium (Zr^{2+}):	ND	
Measured Specific Gravity	1.0961				Lithium (Li):	ND	
Conductivity (mmhos):	ND						
Resistivity:	ND				Total Hardness:	16122	N/A
MCF/D:	No Data						
BOPD:	No Data						
BWPD:	No Data	Anion/Cation Ratio:		0.97	ND = Not Determined		

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

Conditions		Barite ($BaSO_4$)		Calcite ($CaCO_3$)		Gypsum ($CaSO_4 \cdot 2H_2O$)		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. H_2CO_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

HOBBS OCD

MAR 29 2016

RECEIVED

SPECTRAL GAMMA
DUAL SPACED NEUTRON
SPECTRAL DENSITY

COMPANY DEVON ENERGY PRODUCTION COMPANY, L.P.

WELL RATTLESNAKE 16 SWD # 1

FIELD/BLOCK SWD: DEV-FUS-MON-SIMP

COUNTY LEA STATE NEW MEXICO

COMPANY	DEVON ENERGY PRODUCTION COMPANY, L.P.
WELL	RATTLESNAKE 16 SWD # 1
FIELD/BLOCK	SWD: DEV-FUS-MON-SIMP
COUNTY	LEA
STATE	NEW MEXICO

API No. 30-025-42355

Location 2375' FNL AND 210' FWL

Sect. 16 Twp. 26S Rge. 34E

Other Services:

DLLT-MGRD
WAVE
XRMI

Permanent Datum	GL	Elev. 3337.3 ft	Elev.: K.B. 3360.9 ft
Log measured from	KB	23.6 ft above perm. Datum	D.F. 3360.9 ft
Drilling measured from	KB		G.L. 3337.3 ft

Date		31-Aug-15			
Run No.		FOUR			
Depth - Driller		20335.00 ft			
Depth - Logger		20329.0 ft			
Bottom - Logged Interval		20269.0 ft			
Top - Logged Interval		17500.0 ft			
Casing - Driller		7.000 in @ 18095.0 ft		@	@
Casing - Logger		18098.0 ft			
Bit Size		6.000 in		@	@
Type Fluid in Hole		Brine			
Density	Viscosity	9.0 ppg	29.00 s/qt		
PH	Fluid Loss	8.50 pH			
Source of Sample		FLOWLINE			
Rm @ Meas. Temperature		0.310 ohmm @ 69.70 degF		@	@
Rmf @ Meas. Temperature		0.25 ohmm @ 69.70 degF		@	@
Rmc @ Meas. Temperature		0.360 ohmm @ 69.70 degF		@	@
Source Rmf	Rmc	MEAS	MEAS		
Rm @ BHT		0.09 ohmm @ 257.0 degF		@	@
Time Since Circulation		16.0000 hr			
Time on Bottom		31-Aug-15 08:48:23.000			
Max. Rec. Temperature		257.0 degF @ 20329.0 ft		@	@
Equipment	Location	10945798	HOBBS, NM		
Recorded By		B. CONNOLLY		AARON ZIELSDORF	
Witnessed By		GRAEME FINLEY			

Fold here

Service Ticket No.: 0902698559 API Serial No.: 30-025-42355 PGM Version: WL INSITE R4.6.4 (Build 3)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole
Date					
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Rm @ Meas. Temp	@				
Rmf @ Meas. Temp.	@				
Rmc @ Meas. Temp.	@				
Source Rmf	Rmc				
Rm @ BHT	@				
Rmf @ BHT	@				
Rmc @ BHT	@				

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	FOUR	Run No.		Run No.	FOUR	Run No.	FOUR
Serial No.	11430252	Serial No.		Serial No.	107867S7	Serial No.	10931283

Detector Model No.	T-102A	Spacing		Log Type	GAM - GAM	Log Type	NEU -NEU
Type	SCINT			Source Type	Cs137	Source Type	Am241Be
Length	12 in	LSA [Y/N]		Serial No.	5563GW	Serial No.	DSN-314
Distance to Source	10.0 ft	FWDA [Y/N]		Strength	1.78 Ci	Strength	15 Ci

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
FOUR	20329'	18098'	REC	0	100				30%	-10%	2.76 g/cc	30%	-10%	LIME
FOUR	18098'	17500'	REC	0	100							30%	-10%	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: WELLSITE COORDINATES: LAT. 32.04 deg N LONG. 103.48 deg W

TOOLSTRING CONFIGURATION: BRID-GTET-CSNG-DSNT-SDLT-HFLEX-DLLT-MGRD-CENT

ANNULAR HOLE VOLUME CALCULATED FOR 5.0 INCH CASING

LOGS TIED INTO SCHLUMBERGER LOG DATED: 7-AUG-2015

TOOLS RAN SLICK DUE TO TIGHT BOREHOLE

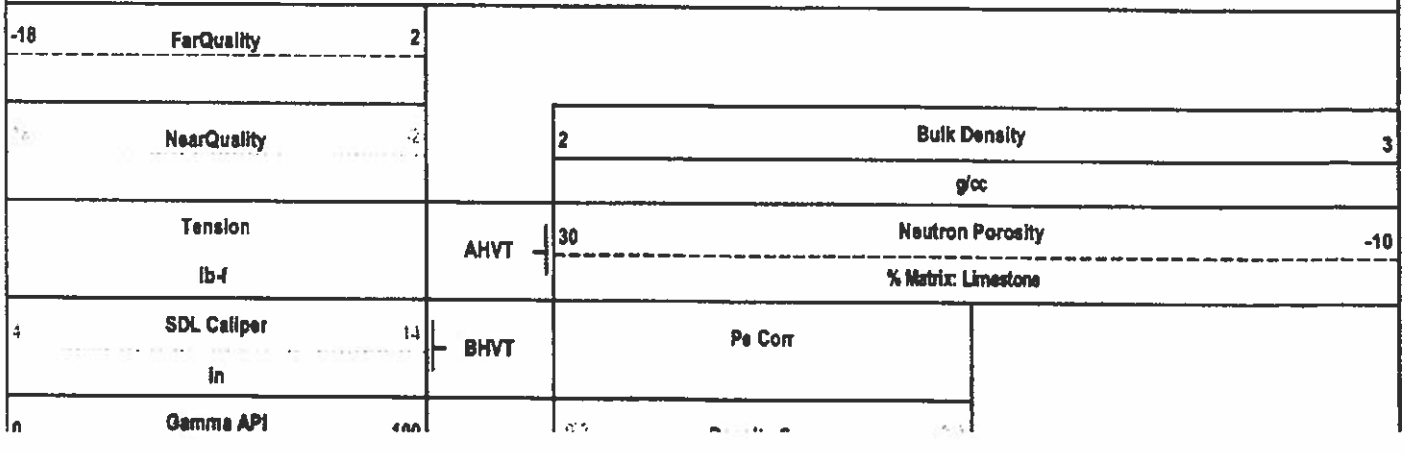
ALL HALLIBURTON DEPTH PROCEDURES WERE FOLLOWED: FMM-709.3', LMM-20268.1'

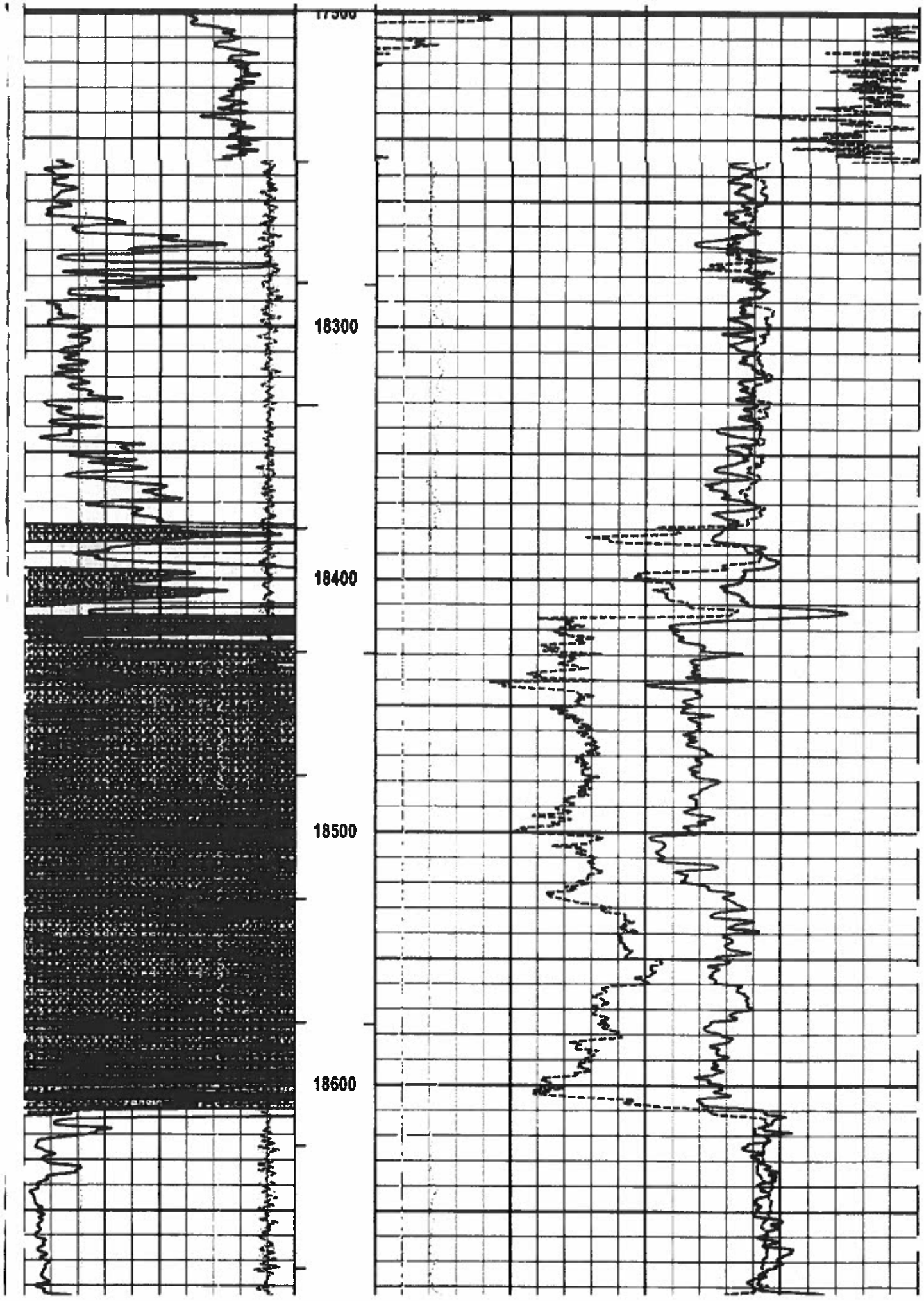
HES CREW: K. SCHELLER, V. KABURIA, E. STOCK, J. MOLLINA

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES: 1-(800)-416-6081 (HOBBS, NM)

Plot Time: 01-Sep-15 01:26:35
Plot Range: 17498.8 ft to 20337.5 ft
Data: 0831_DEVON\Well Based*\
Plot File: \\CSNG_DSNT_SDLT\DSNT-SDLT 2in

MAIN PASS 2" = 100' (LIMESTONE MATRIX)

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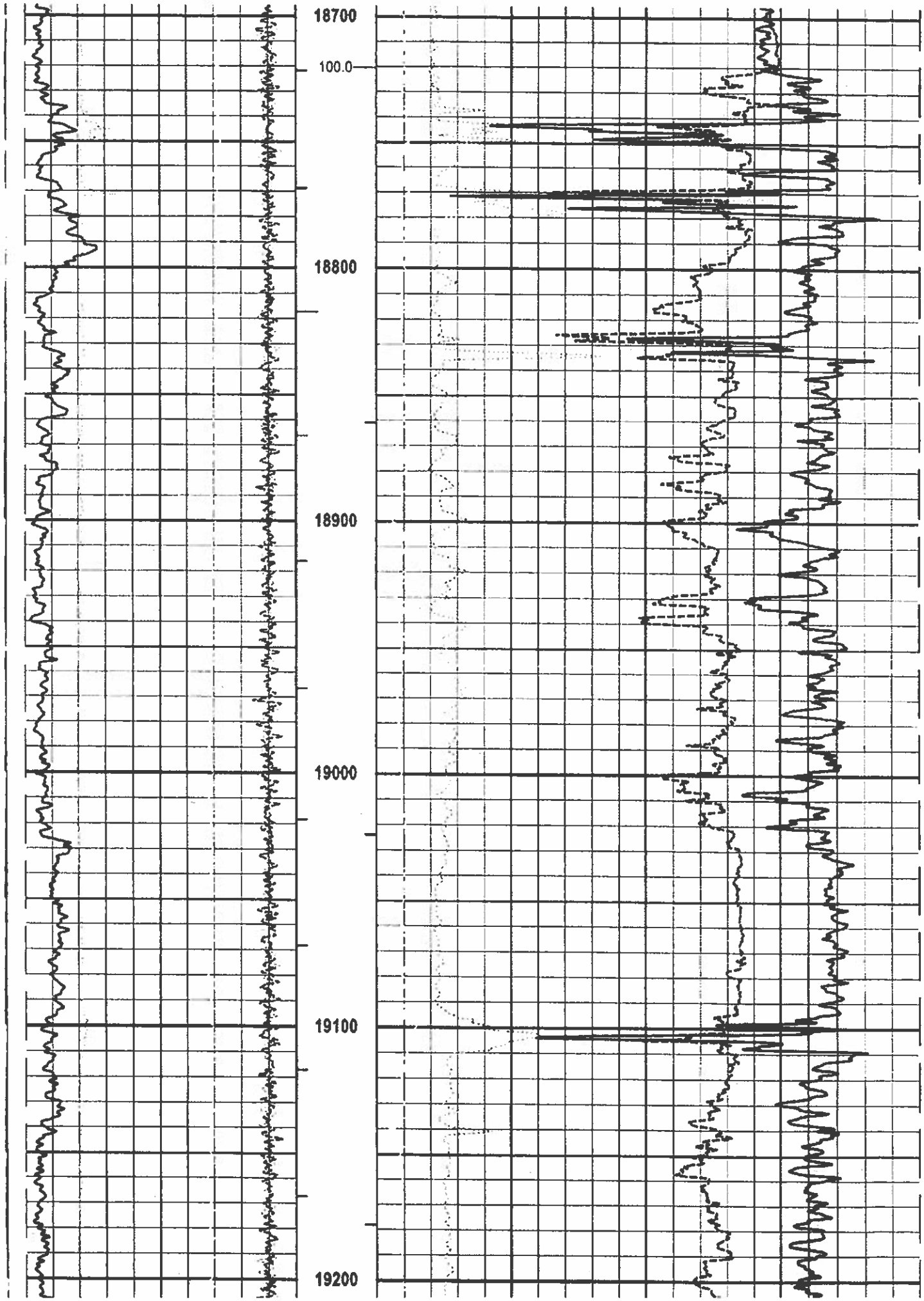
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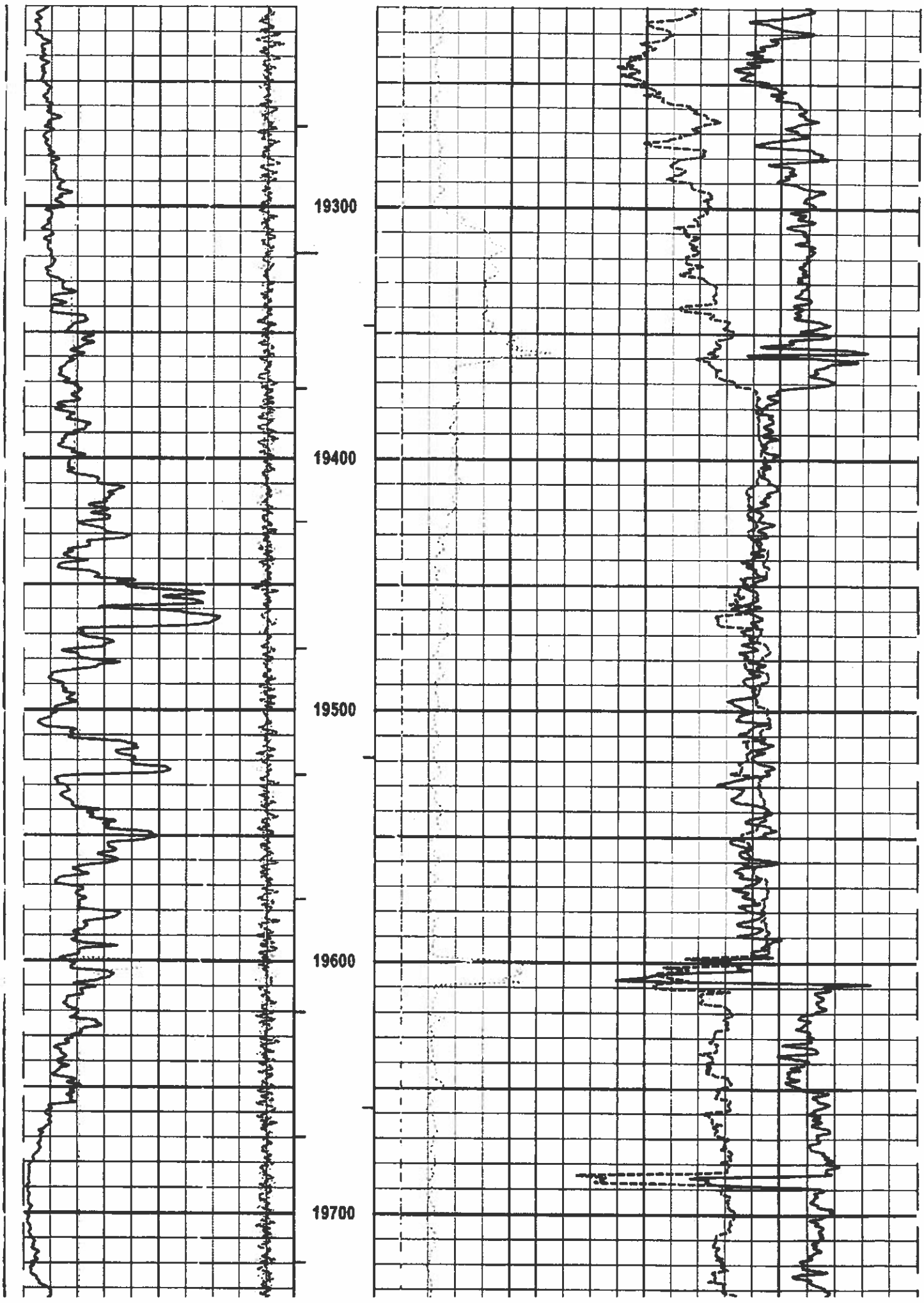
19200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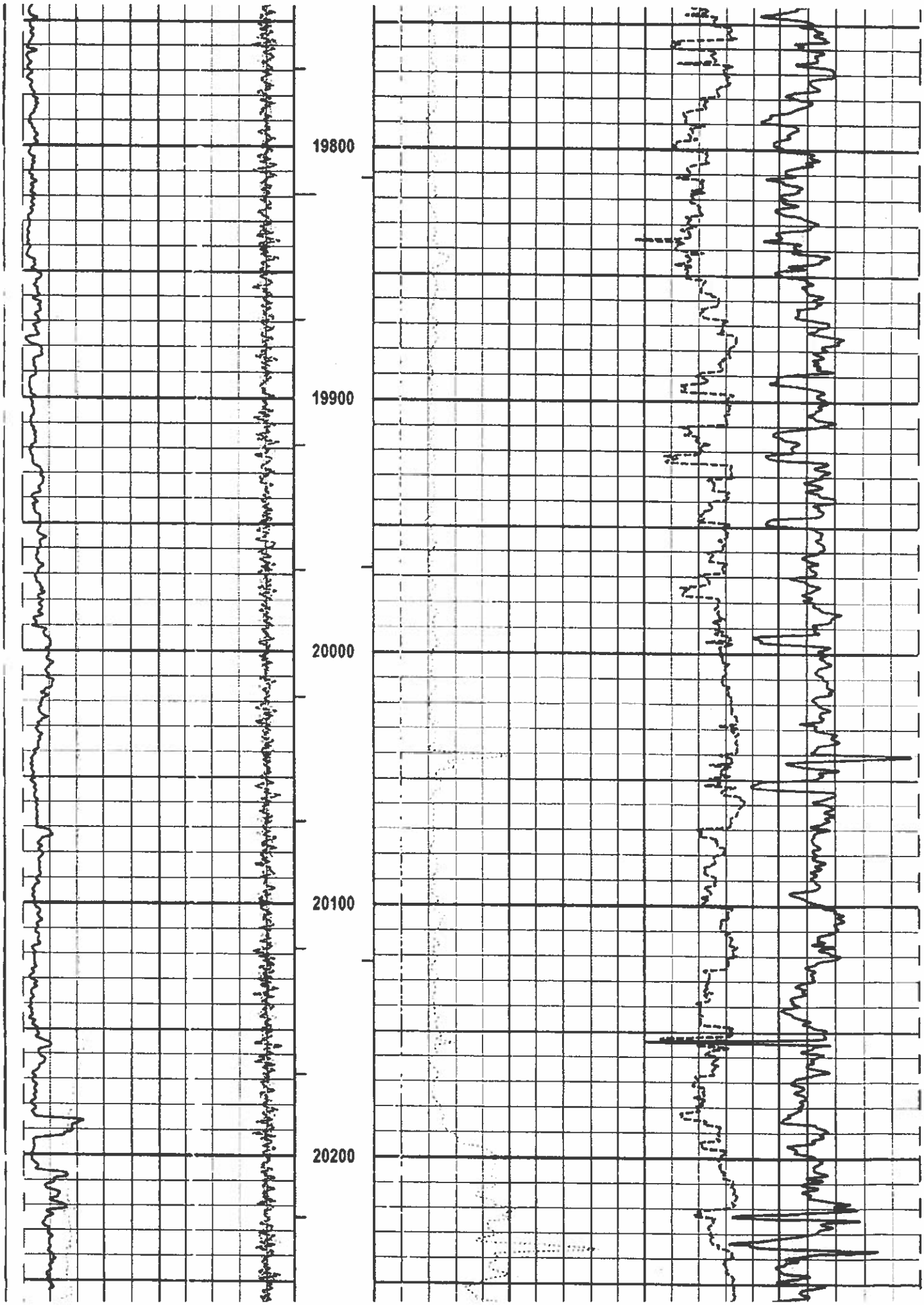
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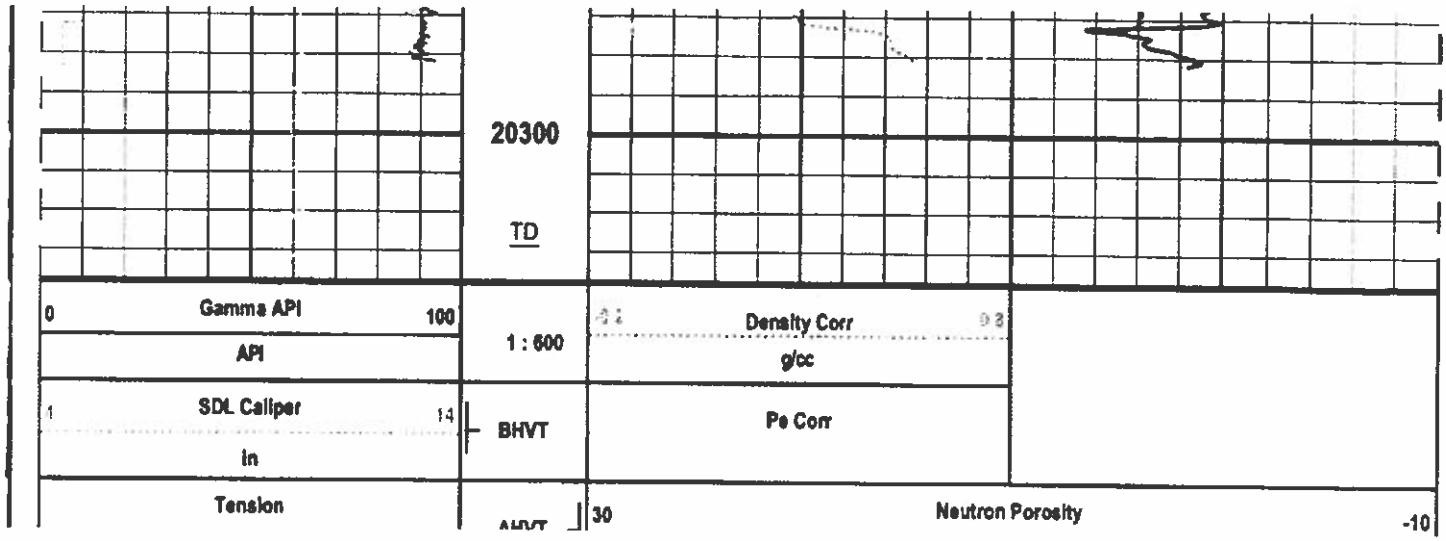
20100
20200


20300
TD
0
Gamma API
100
API
1 : 600
SDL Caliper
14
in
BHVT
Tension
Density Corr
g/cc
Pe Corr
30
Neutron Porosity
-10

XI.

Fresh Water Sample Analyses

HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

COMPANY: COG
LEASE: FW Well C-03441
NE/4 6-26s-34e

REPORT W12-143
DATE July 11, 2012
DISTRICT Hobbs

SUBMITTED BY Bret Barret

TANK					
SAMPLE	ODC # 774				
Sample Temp.	70 °F	°F	°F	°F	°F
RESISTIVITY	15.8				
SPECIFIC GR.	1.001				
pH	7.78				
CALCIUM	130 mpl	mpl	mpl	mpl	mpl
MAGNESIUM	147 mpl	mpl	mpl	mpl	mpl
CHLORIDE	168 mpl	mpl	mpl	mpl	mpl
SULFATES	<800 mpl	mpl	mpl	mpl	mpl
BICARBONATES	360 mpl	mpl	mpl	mpl	mpl
SOLUBLE IRON	0 mpl	mpl	mpl	mpl	mpl
KCL	Negative				
	mpl	mpl	mpl	mpl	mpl
	mpl	mpl	mpl	mpl	mpl
	@ 60 °F	@ 60 °F	@ 60 °F	@ 60 °F	@ 60 °F

REMARKS

MPL = Milligrams per litter
Resitivity measured in: Ohm/m2/m

ANALYST: AV

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)

(acre ft per annum)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 6416	q 4	q	Sec	Tws	Rng	X	Y
C 02291	CUB	PLS	3	DINWIDDLE CATTLE CO.	LE	C 02291					1	1	2	06	26S	34E	640825	3550140*
C 02292	CUB	PLS	3	DINWIDDIE CATTLE CO.	LE	C 02292 POD1					4	1	2	06	26S	34E	640991	3549987
C 03441	C	STK	3	DINWIDDIE CATTLE COMPANY LLC	LE	C 03441 POD1				Shallow	4	1	2	06	26S	34E	640970	3550039
C 03442	C	STK	3	DINWIDDIE CATTLE COMPANY LLC	LE	C 03442 POD1				Shallow	4	1	2	06	26S	34E	641055	3550028
C 03477	C	PRO	0	EOG RESOURCES, INC.	LE	C 03442 POD1				Shallow	4	1	2	06	26S	34E	641055	3550028
C 03491	C	PRO	0	EOG RESOURCES, INC.	LE	C 03441 POD1				Shallow	4	1	2	06	26S	34E	640970	3550039
C 03492	C	PRO	0	EOG RESOURCES, INC.	LE	C 03442 POD1				Shallow	4	1	2	06	26S	34E	641055	3550028
C 03493	C	PRO	0	EOG RESOURCES, INC.	LE	C 02292 POD1					4	1	2	06	26S	34E	640991	3549987

Same as above

Record Count: 8

PLSS Search:

Section(s): 4, 5, 6, 7, 8, 9 Township: 26S Range: 34E

Sorted by: File Number

*UTM location was derived from PLSS - see Help

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	C 02291	1	1	2	06	26S	34E	640825	3550140*

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:**	15 GPM
Casing Size:	6.00	**Depth Well:**	220 feet	**Depth Water:**	160 feet

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

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02292 POD1	4	1	2	06	26S	34E	640992	3549987

Driller License:	122	**Driller Company:**	UNKNOWN		
Driller Name:	UNKNOWN				
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:**	4 GPM
Casing Size:	6.00	**Depth Well:**	200 feet	**Depth Water:**	140 feet

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03441 POD1	4	1	2	06	26S	34E	640971	3550039

Driller License:	1044	**Driller Company:**	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN				
Drill Start Date:	05/03/2010	**Drill Finish Date:**	05/03/2010	**Plug Date:**	
Log File Date:	05/17/2010	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.17	**Depth Well:**	250 feet	**Depth Water:**	

Water Bearing Stratifications:	Top	Bottom	Description
	0	1	Other/Unknown
	1	25	Shale/Mudstone/Siltstone
	25	37	Sandstone/Gravel/Conglomerate
	37	85	Shale/Mudstone/Siltstone
	85	108	Sandstone/Gravel/Conglomerate
	108	128	Sandstone/Gravel/Conglomerate
	128	189	Shale/Mudstone/Siltstone
	189	249	Sandstone/Gravel/Conglomerate
	249	250	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	190	250

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03442 POD1	4	1	2	06	26S	34E	641056	3550028

Driller License:	1044	**Driller Company:**	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN				
Drill Start Date:	05/03/2010	**Drill Finish Date:**	05/03/2010	**Plug Date:**	
Log File Date:	05/17/2010	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.17	**Depth Well:**	251 feet	**Depth Water:**	

Water Bearing Stratifications:	Top	Bottom	Description
	0	1	Other/Unknown
	1	25	Shale/Mudstone/Siltstone
	25	37	Sandstone/Gravel/Conglomerate
	37	85	Sandstone/Gravel/Conglomerate
	85	108	Sandstone/Gravel/Conglomerate
	108	128	Sandstone/Gravel/Conglomerate
	128	189	Shale/Mudstone/Siltstone
	189	250	Sandstone/Gravel/Conglomerate
	250	251	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	191	251

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 6416 4	Sec	Twn	Rng	X	Y
C 04265	CUB	GEO	0	EOG RESOUCES	LE	C 04265 POD1	NA				2 3 1	32	25S	34E	641842	3551281

>1mi away

Record Count: 1

PLSS Search:

Section(s): 31, 32 **Township:** 25S **Range:** 34E

Sorted by: File Number

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
June 08, 2019
and ending with the issue dated
June 08, 2019.

Publisher

Sworn and subscribed to before me this
8th day of June 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

LEGAL NOTICES
JUNE 6, 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 Gunner Deep 5 Fee SWD No. 1, is located 750' FSL and 1000' FWL, Section 5, Township 26 South, Range 34 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian/Silurian formation at an estimated depth of 18,250' to 20,200' at a maximum surface pressure of 3650 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 18.5 miles west/southwest 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.
#34260

02107967 00229350

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

HOBBS NEWS-SUN
LEGAL NOTICES

COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico, 88210, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Gunner Deep 5 Fee SWD No. 1, is located 750' FSL and 1000' FWL, Section 5, Township 26 South, Range 34 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware, Bone Spring and Wolfcamp formations. The disposal water will be injected into the Devonian/Silurian formation at an estimated depth of 18,250' to 20,200' at a maximum surface pressure of 3650 psi and a maximum rate of 40,000 BWPD. The proposed SWD well is located approximately 18.5 miles west/southwest of Jal. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at COG Operating LLC, 2208 W. Main Street, Artesia, New Mexico 88210, or call 575-748-6940.

Published in the Hobbs News-Sun Hobbs, New Mexico
_____, 2019.

CONCHO

August 30, 2019

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

RE: Application For Authorization To Inject
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Goetze:

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

Our geologic prognosis has the top of the Devonian at 18469' and Fusselman at 19334'. 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

August 30, 2019

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

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

Dear Mr. Kautz:

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

Our geologic prognosis has the top of the Devonian at 18469' and Fusselman at 19334'. 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

August 30, 2019

Dinwiddie Cattle Company, LLC
PO Box 963
Capitan, NM 88316

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner or an affected person within a one mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

EOG Resources, Inc
PO Box 2267
Midland, TX 79702

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner or an affected person within a one mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

Devon Energy Production, LP
333 West Sheridan Ave
Oklahoma City, OK 73102

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 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

August 30, 2019

ConocoPhillips Company
PO Box 2197
Houston, TX 77252

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner or an affected person within a one mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

Chevron USA, Inc.
1400 Smith St
Houston, TX 77002

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner or an affected person within a one mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

MRC Permian Company
5400 LBJ Freeway Suite 1500
Dallas, TX 75240

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 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

August 30, 2019

OXY USA Inc.
5 Greenway Plaza Suite 110
Houston, TX 77046

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

To Whom It May Concern:

Enclosed for your review is a copy of COG Operating LLC's C-108 Application to Inject for the above referenced well. We plan to drill this well for SWD service if our C-108 is approved. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as the surface owner or an affected person within a one mile radius area of review. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

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

Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

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

RE: **Application For Authorization To Inject**
Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
Unit M, Section 5, Township 26 South, Range 34 East, N.M.P.M.
Lea County, New Mexico

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Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO

August 30, 2019

State of New Mexico State Land Office
P.O. Box 1148,
Santa Fe, NM 87504

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Gunner Deep 5 Fee SWD #1
750' FSL, 1000' FWL
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Sincerely,

Brian Collins
Facilities Engineering Advisor

BC/mv
Enclosures

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0274 99

ConocoPhillips Company
ConocoPhillips Company
PO Box 2197
Houston, TX 77252

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0275 98

Chevron USA,Inc.
Chevron USA,Inc.
1400 SMITH ST
HOUSTON, TX 77002-7327

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0276 04

Devon Energy Production, LP
Devon Energy Production, LP
333 W SHERIDAN AVE
OKLAHOMA CITY, OK 73102-5010

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0276 42

Dinwiddie Cattle Company, LLC
Dinwiddie Cattle Company, LLC
PO Box 963
Capitan, NM 88316

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0276 42

Dinwiddie Cattle Company, LLC
Dinwiddie Cattle Company, LLC
PO Box 963
Capitan, NM 88316

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0277 27

EOG Resources, Inc
EOG Resources, Inc
PO Box 2267
Midland, TX 79702

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0277 65

MRC Permian Company
MRC Permian Company
5400 LYNDON B JOHNSON FWY
Suite 1500
DALLAS, TX 75240-1000

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0277 65

MRC Permian Company
MRC Permian Company
5400 LYNDON B JOHNSON FWY
Suite 1500
DALLAS, TX 75240-1000

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0278 64

OXY USA Inc.
OXY USA Inc.
5 GREENWAY PLZ
Suite 110
HOUSTON, TX 77046-0526

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0278 71

Oil Conservation Division
Attn: Paul Kautz
1625 N FRENCH DR
HOBBS, NM 88240-9273

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0279 32

New Mexico Oil Conservation Division
Attn: Phillip Goetze
1220 S SAINT FRANCIS DR
SANTA FE, NM 87505-4225

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0280 38

State of New Mexico
State of New Mexico
PO BOX 1148
SANTA FE, NM 87504-1148

Shipper Ref: mv Gunner

CONCHO RESOURCES
Marissa Villa
2208 W Main St
Artesia, NM 88210

USPS CERTIFIED MAIL

9414 8149 0246 9822 0281 06

Bureau of Land Management
Bureau of Land Management
301 DINOSAUR TRL
SANTA FE, NM 87508-1560

Shipper Ref: mv Gunner