OCD Hobbs

HOBBS OCD
MAY 31 2018
RECEIVED

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMNM120907
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. EIDER FEDERAL 205H (314193)
2. Name of Operator COG PRODUCTION LLC (217955)	9. API Well No. 30-025-44879
3a. Address 2208 West Main Street Artesia NM 88210	3b. Phone No. (include area code) (575)748-6940
	10. Field and Pool, or Exploratory (97184) WILDCAT / BONE SPRING 2nd
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface SWSE / 240 FSL / 2260 FEL / LAT 32.167492 / LONG -103.644227 At proposed prod. zone NWSE / 2410 FSL / 1980 FEL / LAT 32.187984 / LONG -103.643289	11. Sec., T. R. M. or Blk. and Survey or Area SEC 35 / T24S / R32E / NMP
14. Distance in miles and direction from nearest town or post office* 22 miles	12. County or Parish LEA / 13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 240 feet	16. No. of acres in lease 1840	17. Spacing Unit dedicated to this well 240
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 468 feet	19. Proposed Depth 9410 feet / 16671 feet	20. BLM/BIA Bond No. on file FED: NMB000860
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3530 feet	22. Approximate date work will start* 02/01/2017	23. Estimated duration 30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission)	Name (Printed/Typed) Mayte Reyes / Ph: (575)748-6945	Date 10/31/2017
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 05/21/2018
Title Supervisor Multiple Resources	Office CARLSBAD	

Application approval 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.
Conditions of approval, if any, are attached.

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.

(Continued on page 2)

*(Instructions on page 2)

Rec GCP 05/31/18

APPROVED WITH CONDITIONS

Approval Date: 05/21/2018

KZ 06/04/18

Must be in compliance with NMOCD Rule 5.9 prior to placing well on production

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** EIDER FEDERAL **Number:** 105H, 205H, 106H, 305H, 306H, 206H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 22 Miles **Distance to nearest well:** 468 FT **Distance to lease line:** 240 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: COG_Eider_205H_C102_20171031094532.pdf

Well work start Date: 02/01/2017 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	240	FSL	2260	FEL	24S	32E	35	Aliquot SWSE	32.167492	-103.644227	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	3530	0	0
KOP Leg #1	240	FSL	2260	FEL	24S	32E	35	Aliquot SWSE	32.167492	-103.644227	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	3530	0	0
PPP Leg #1	330	FSL	1980	FEL	24S	32E	35	Aliquot SWSE	32.167742	-103.643321	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	-2512	6042	6042

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	2310	FSL	1980	FEL	24S	32E	26	Aliquot NWSE	32.187709	-103.643289	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	-5884	16500	9414
BHL Leg #1	2410	FSL	1980	FEL	24S	32E	26	Aliquot NWSE	32.187984	-103.643289	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	-5880	16671	9410

New Mexico
al Resources Department
TION DIVISION
'. FRANCIS DR.
Mexico 87505

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

☐ AMENDED REPORT

:REAGE DEDICATION PLAT

API		Pool Name
5-		pring

	y Name	We
	'EDERAL	

OGRID No.	r Name	E
95	COG PRODUCTION, LLC	3530.0'

Surface Location

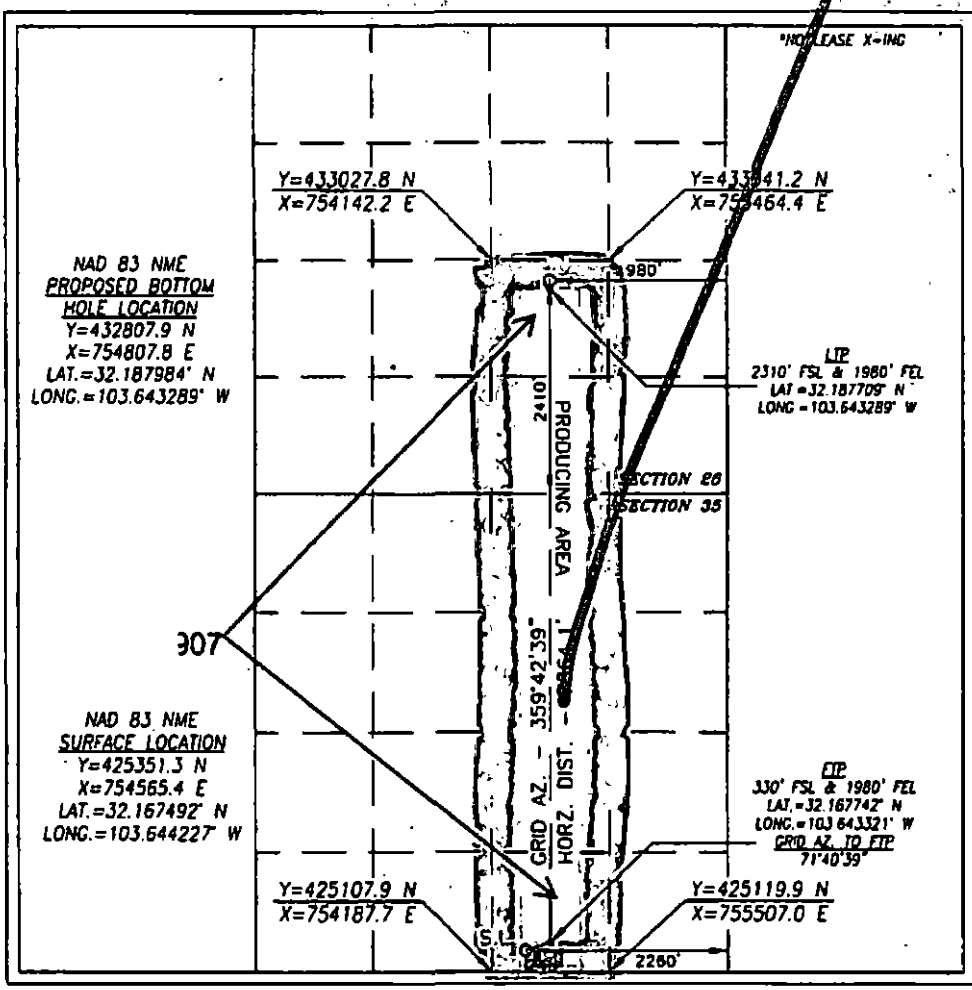
lo.			ge	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	35	24-S	32-E		240	SOUTH	2260	EAST	LEA

m Hole Location If Different From Surface

Vo.		rm		Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	26	24-S	32-E		2410	SOUTH	1980	EAST	LEA

ed es	ill	on Code	Order No.
10			

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



OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Monte Rees 10/5/17
Signature Date

Printed Name

...v...@...o.com
E-mail Address

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.

JUNE 22, 2017
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 7/12/17
Certificate No. CHAD HARCROW 17777

W.O. # 17-703 DRAWN BY: JH

APD ID: 10400024150 **Submission Date:** 10/31/2017

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	QUATERNARY	3530	0	0		NONE	No
2	RUSTLER	2567	963	963		NONE	No
3	TOP SALT	2234	1296	1296		NONE	No
4	BASE OF SALT	-1100	4630	4630		NONE	No
5	LAMAR	-1328	4858	4858		NONE	No
6	BELL CANYON	-1369	4899	4899		NONE	No
7	CHERRY CANYON	-2278	5808	5808		NATURAL GAS,OIL	No
8	BRUSHY CANYON	-3658	7188	7188	SCHIST	NATURAL GAS,OIL	No
9	BONE SPRING LIME	-5300	8830	8830		NATURAL GAS,OIL	No
10	UPPER AVALON SHALE	-5640	9170	9170		NATURAL GAS,OIL	No
11	—	-5828	9358	9358		NATURAL GAS,OIL	Yes
12	BONE SPRING 1ST	-6387	9917	9917		NATURAL GAS,OIL	No

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 4885

Equipment: Annular, Blind Ram, Pipe Ram. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and

tested.

Choke Diagram Attachment:

COG_Eider_205H_2M_Choke_20171031095540.pdf

BOP Diagram Attachment:

COG_Eider_205H_2M_BOP_20171031095549.pdf

COG_Eider_205H_Flex_Hose_20171031095557.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 9410

Equipment: Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Choke Diagram Attachment:

COG_Eider_205H_3M_Choke_20171031095438.pdf

BOP Diagram Attachment:

COG_Eider_205H_3M_BOP_20171031095444.pdf

COG_Eider_205H_Flex_Hose_20171031095516.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	990	0	990			990	J-55	54.5	STC	2.49	1.27	DRY	9.53	DRY	9.53
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	4885	0	4885			4885	L-80	40	LTC	1.2	1.59	DRY	5.73	DRY	5.73
3	PRODUCTION	8.75	5.5	NEW	API	N	0	16671	0	16671			16671	P-110	17	LTC	1.64	2.95	DRY	2.78	DRY	2.78

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	990	400	1.75	13.5	700	50	Class C	4% Gel + 1% CaCl2
SURFACE	Tail			990	250	1.34	14.8	335	50	Class C	2% CaCl2
INTERMEDIATE	Lead		990	4885	930	2	12.7	1860	50	Lead: 35:65:6 C Blend	As needed.
INTERMEDIATE	Tail			4885	250	1.34	14.8	335	50	Tail: Class C	2% CaCl
PRODUCTION	Lead		4885	16671	630	2.5	11.9	1575	25	Lead: 50:50:10 H Blend	As needed.
PRODUCTION	Tail			16671	1980	1.24	14.4	2455	25	Tail: 50:50:2 Class H Blend	As needed.

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirement will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
990	4885	OTHER : Saturated Brine	10	10.1							Saturated Brine
4885	16671	OTHER : Cut Brine	8.6	9.3							Cut Brine
0	990	OTHER : FW Gel	8.6	8.8							FW Gel

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Eider_205H_Casing_Rpt_20171031095804.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Eider_205H_Casing_Rpt_20171031095815.pdf

Casing Design Assumptions and Worksheet(s):

COG_Eider_205H_Casing_Rpt_20171031095821.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Eider_205H_Casing_Rpt_20171031095909.pdf

Section 4 - Cement

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

None planned.

List of open and cased hole logs run in the well:

OTH

Other log type(s):

CNL/GR

Coring operation description for the well:

None planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4555 **Anticipated Surface Pressure:** 2483.92

Anticipated Bottom Hole Temperature(F): 150

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

COG_Eider_205H_H2S_Plan_20171031100333.pdf
COG_Eider_205H_H2S_Schematic_20171031100340.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

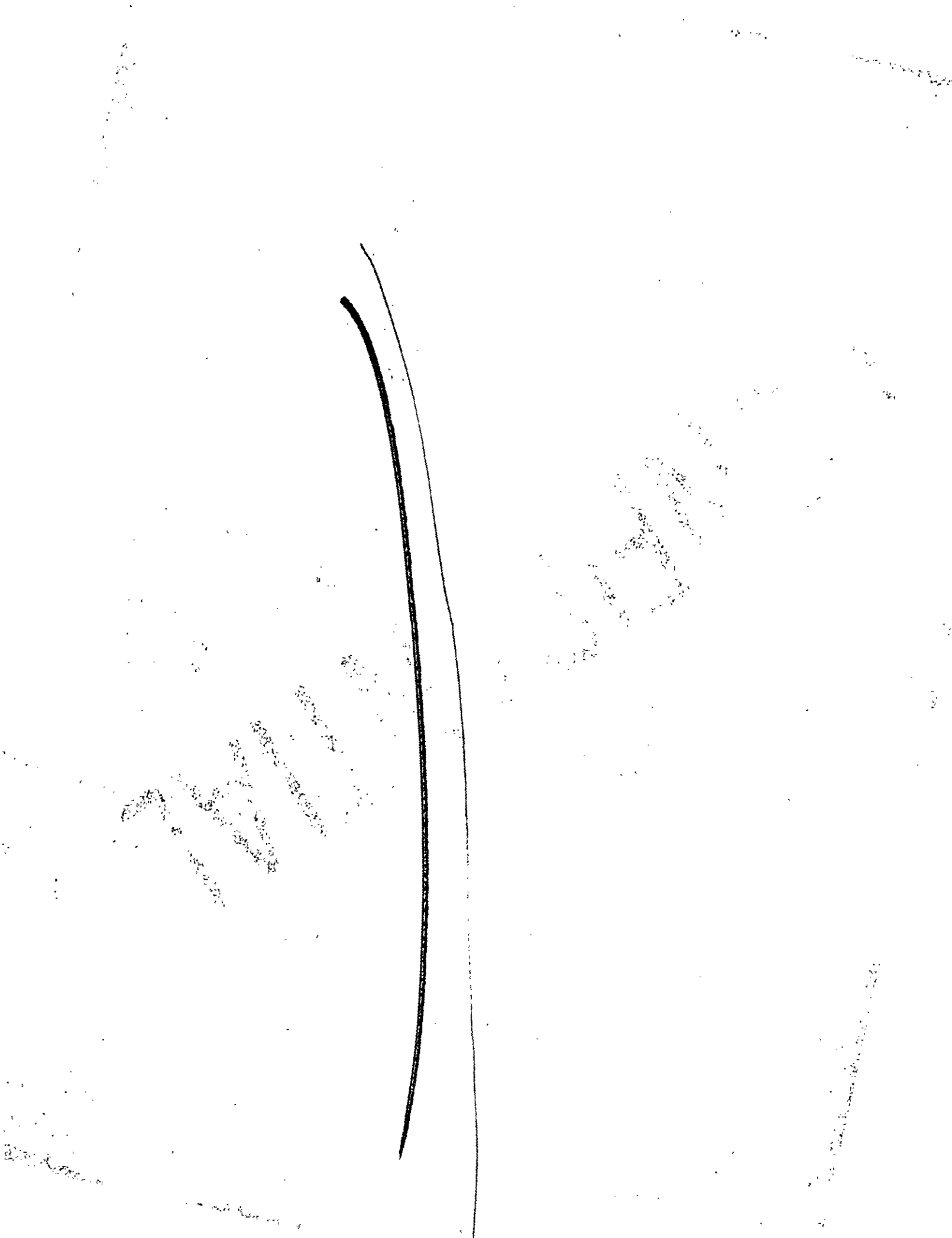
COG_Eider_205H_AC_Rpt_20171031100358.pdf
COG_Eider_205H_Direct_Rpt_20171031100406.pdf

Other proposed operations facets description:

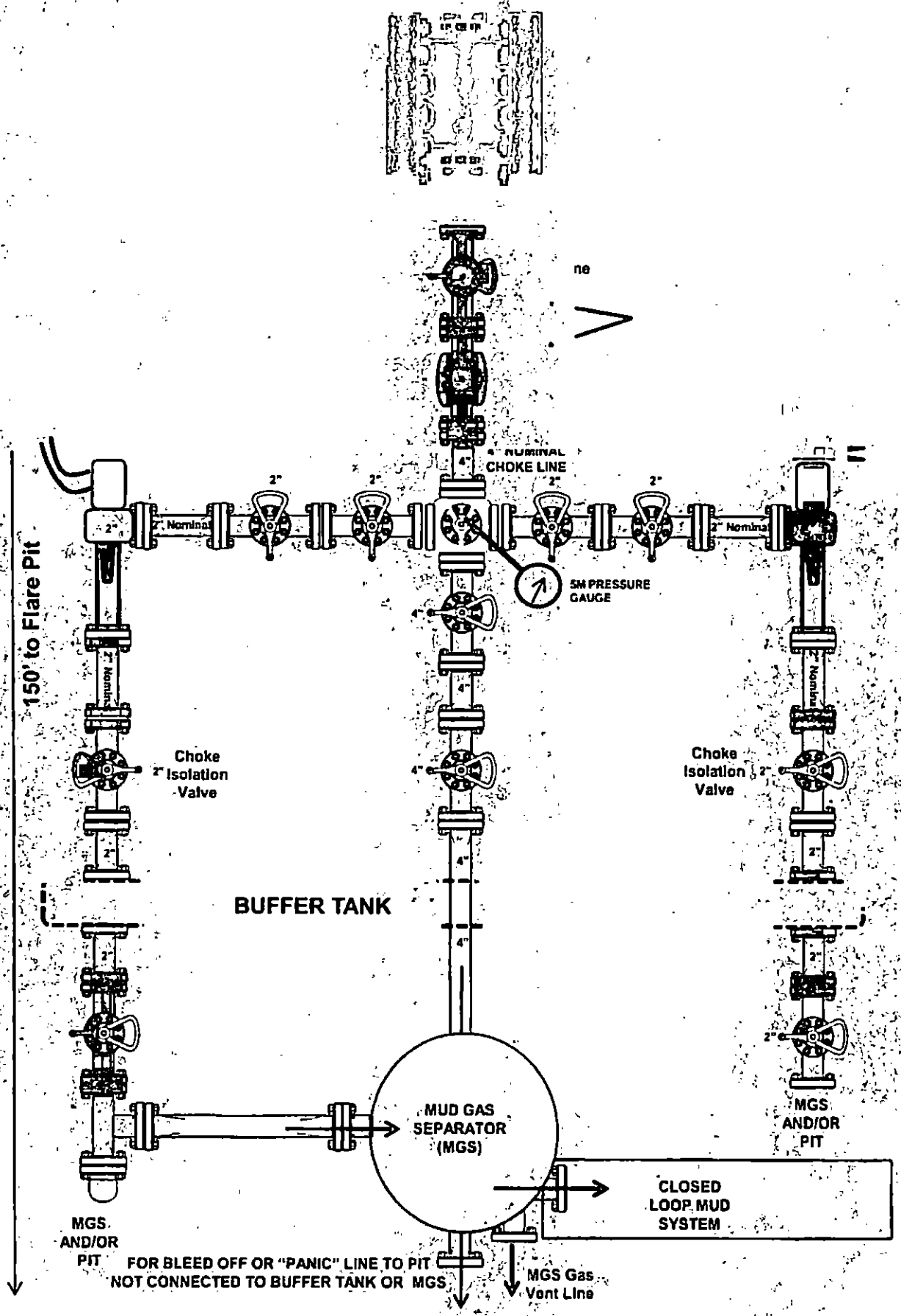
Other proposed operations facets attachment:

COG_Eider_205H_Drill_Rpt_20171031100413.pdf

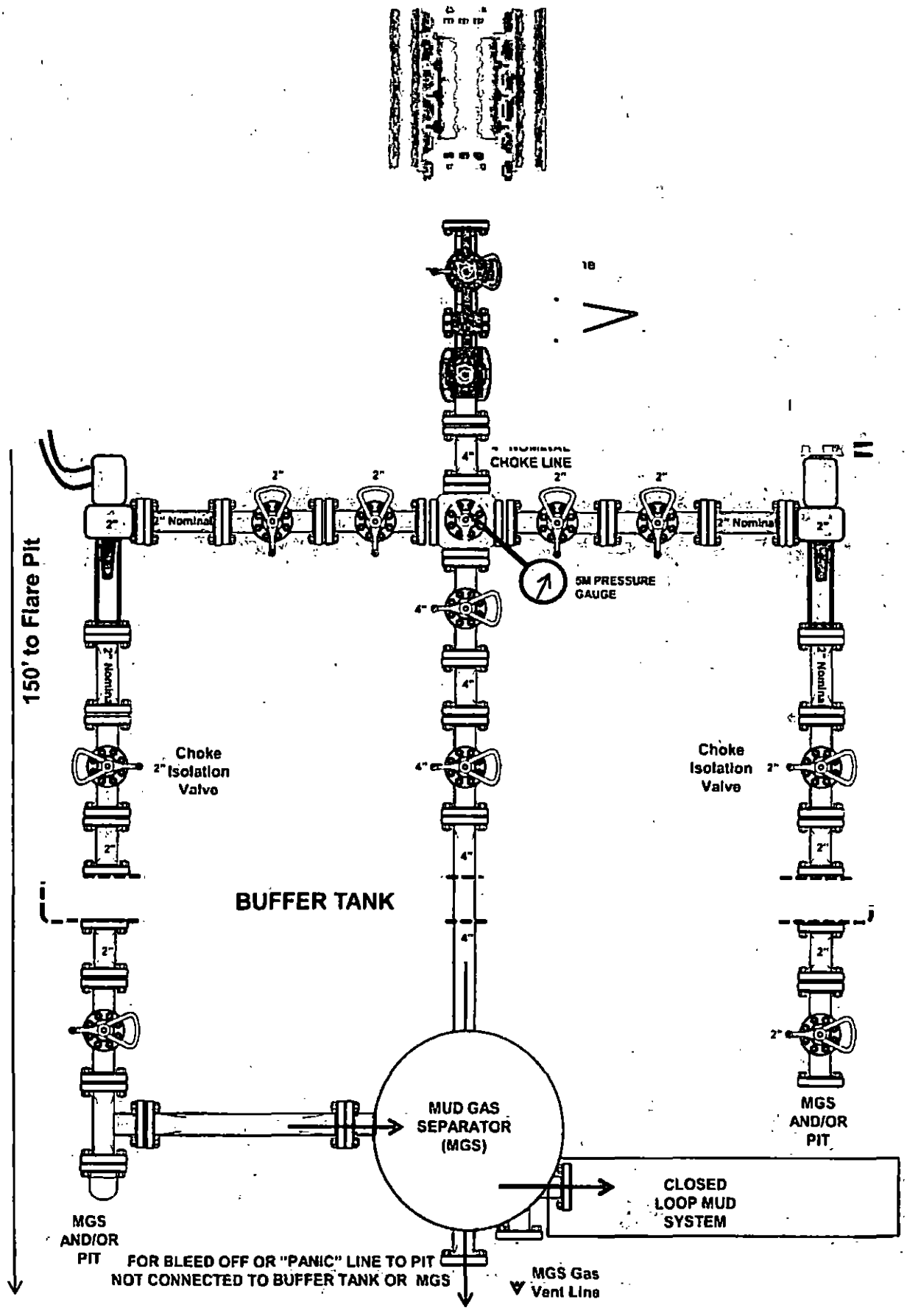
Other Variance attachment:



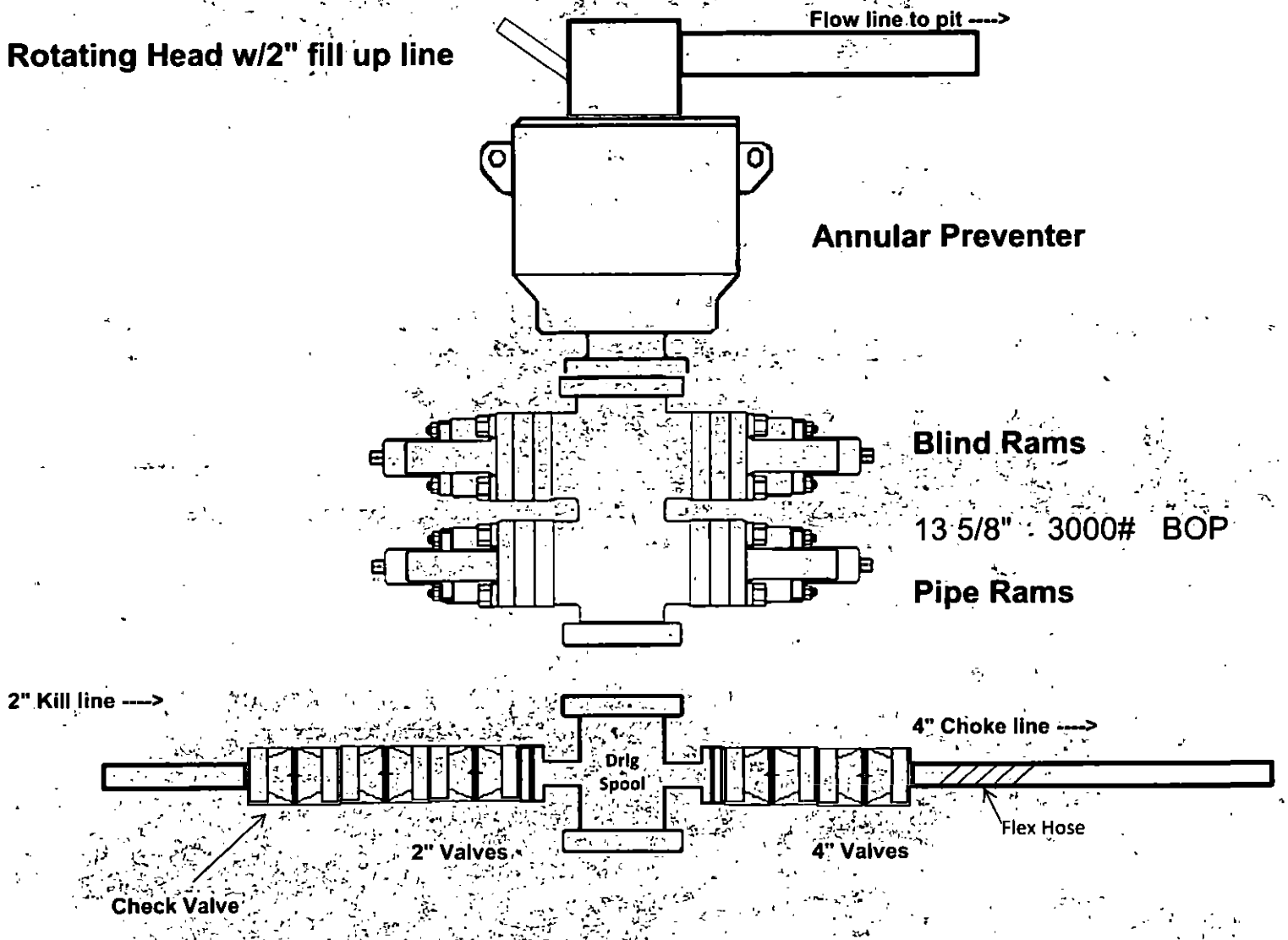
M: (W CLOSED LOOP)



CLOSED LOOP)


CHOKE LINE
5M PRESSURE GAUGE
150' to Flare Pit
Choke Isolation Valve
Choke Isolation Valve
BUFFER TANK
MUD GAS SEPARATOR (MGS)
MGS AND/OR PIT
CLOSED LOOP MUD SYSTEM
MGS AND/OR PIT
FOR BLEED OFF OR "PANIC" LINE TO PIT NOT CONNECTED TO BUFFER TANK OR MGS
MGS Gas Vent Line

3,000 psi BOP Schematic



TechnipFMC

TECHNIP Umbilicals Inc.
COFLEXIP® Products and Solutions

Quality Control Department

Control Report Dated 6/27/2017

COFLEXIP® Products and Solutions
FLEXIBLE PIPE TEST CERTIFICATE

Customer	OFS CANADA INC	**Line Number**	L16883
		Line Serial Number	L16883-201
		Part Number	076 60414 05 05
Application	3" X 30' 10K CHOKE / KILL LINE		

COFLEXIP® Products Division certifies that the results of the test and controls performed on the above mentioned flexible pipe is as follows:

Internal Diameter	3	inches
Length	30.46	feet
Working Pressure	10000	psi
Test Pressure	15000	psi
Test Duration As per attached recorder chart	4	hours

QUALITY CONTROL ABLE ZABALETA Accept TechnipFMC 4 COFLEXIP® Products and Solutions

6-26-17

THIRD PARTY INSPECTION FIRM OR CUSTOMER REPRESENTATIVE

TU-INC. QUALITY CONTROL

Test Configuration 12 Zone

Production Information Input

Customer ID	OFS CANADA INC
Line S/N	[illegible]
Technician	JUAN

QC Information Input

QC Insp	ABEL
Third Party	BV
Witness?	Yes
Test Procedure	SIC 01 00
Special Instructions	

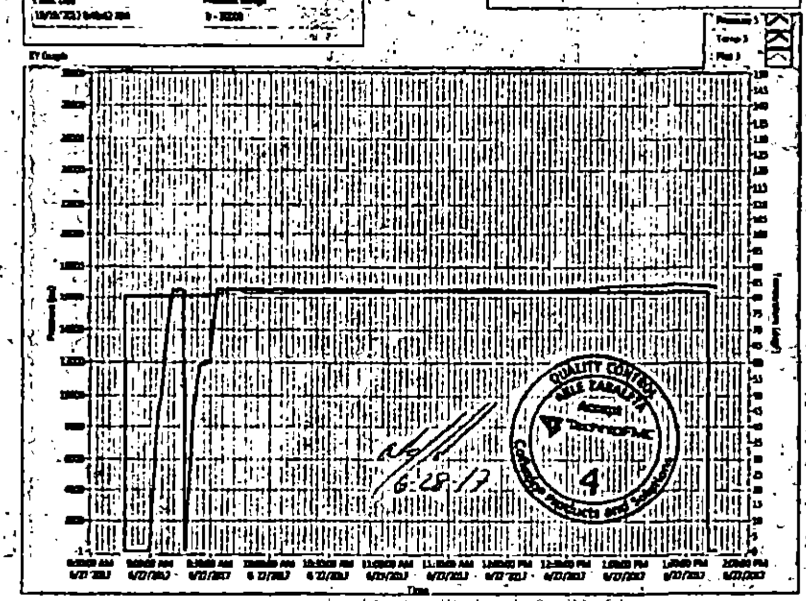
Station 05

Station Information

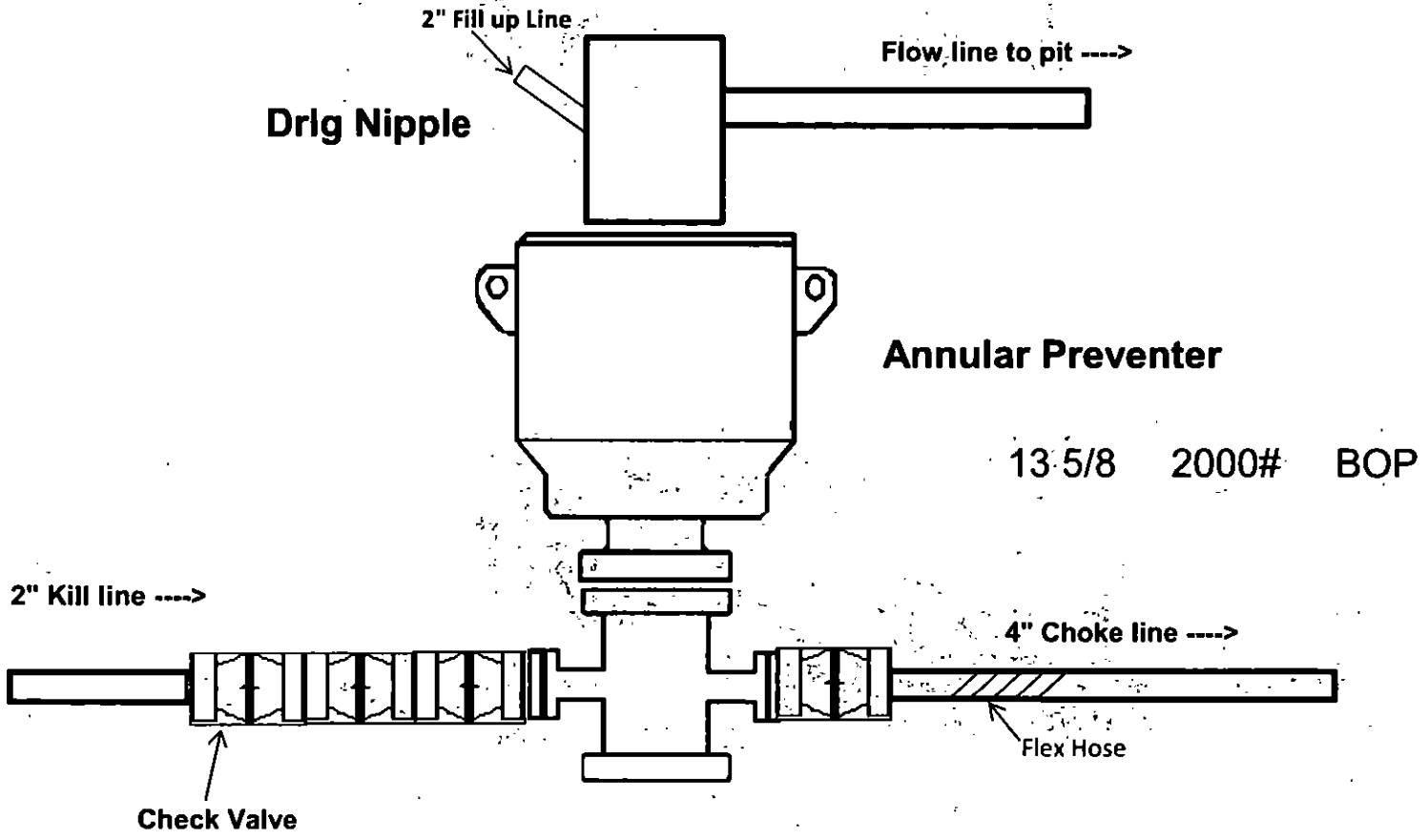
Pressure Transducer S/N	[illegible]
Temperature S/N	[illegible]
Stable Press	[illegible]
Test Press	[illegible]
Calib. Due	[illegible]
Pressure Range	0 - [illegible]

Calibration

Raw Minimum	[illegible]
Eng Minimum	[illegible]
Raw Maximum	[illegible]
Eng Maximum	[illegible]



2,000 psi BOP Schematic



TechnipFMC

TECHNIP Umbilicals Inc.
COFLEXIP® Products and Solutions

Quality Control Department

Control Report Dated 6/27/2017

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		Line Serial Number	L16883-201
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QUALITY CONTROL ABLE ZABALETA Accept TechnipFMC 4 Coflexip Products and Solutions

6-26-17

THIRD PARTY INSPECTION FIRM OR CUSTOMER REPRESENTATIVE

TU-INC. QUALITY CONTROL

Test Configuration 12 Zone

Production Information Input

Customer ID	
OFS CANADA INC	
Line S/N	Technician
[illegible]	XUAN

QC Information Input

QC Insp	Third Party
ABEL	BV
Witness?	Test Procedure
Yes	[illegible]
Special Instructions	

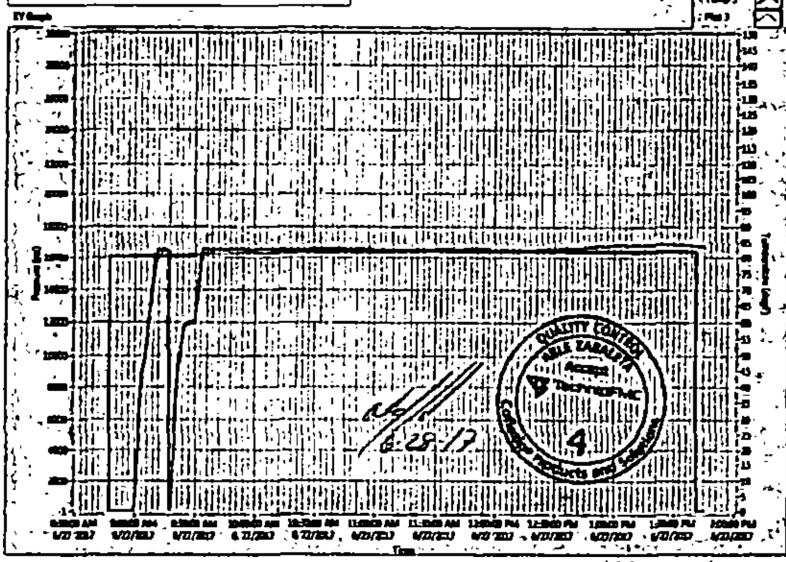
Station 05

Station Information

Pressure Transducer S/N	Temperature S/N
[illegible]	[illegible]
Stable Press	Test Press
[illegible]	[illegible]
Calib Due	Pressure Range
[illegible]	[illegible]

Calibration

Raw Minimum	Eng Minimum
[illegible]	[illegible]
Raw Maximum	Eng Maximum
[illegible]	[illegible]



Casing Program

Hole Size	Casing From	Casing To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	990	13.375"	54.5	J55	STC	2.49	1.27	9.53
12.25"	0	4000	9.625"	40	J55	LTC	1.22	1.09	3.25
12.25"	4000	4885	9.625"	40	L80	LTC	1.20	1.59	5.73
8.75"	0	16,671	5.5"	17	P110	LTC	1.64	2.95	2.78
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Casing Program

Hole Size	Casing From	Casing To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	990	13.375"	54.5	J55	STC	2.49	1.27	9.53
12.25"	0	4000	9.625"	40	J55	LTC	1.22	1.09	3.25
12.25"	4000	4885	9.625"	40	L80	LTC	1.20	1.59	5.73
8.75"	0	16,671	5.5"	17	P110	LTC	1.64	2.95	2.78
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing.to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

COG Operating, LLC - Eider Federal #205H

1. Geologic Formations

TVD of target	9,410' EOL	Pilot hole depth	NA
MD at TD:	16,671'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	963	Water	
Top of Salt	1296	Salt	
Base of Salt	4630	Salt	
Lamar	4858	Salt Water	
Bell Canyon	4899	Salt Water	
Cherry Canyon	5808	Oil/Gas	
Brushy Canyon	7188	Oil/Gas	
Bone Spring Lime	8830	Oil/Gas	
U. Avalon Shale	9170	Oil/Gas	
L. Avalon Shale	9358	Oil/Gas	
1st Bone Spring Sand	9917	Not Penetrated	
2nd Bone Spring Sand	X	Not Penetrated	
3rd Bone Spring Sand	X	Not Penetrated	
Wolfcamp	X	Not Penetrated	

2. Casing Program

Hole Size	Casing From	Casing To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	990	13.375"	54.5	J55	STC	2.49	1.27	9.53
12.25"	0	4000	9.625"	40	J55	LTC	1.22	1.09	3.25
12.25"	4000	4885	9.625"	40	L80	LTC	1.20	1.59	5.73
8.75"	0	16,671	5.5"	17	P110	LTC	1.64	2.95	2.78
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	400	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter.	930	12.7	2.0	9.6	16	Lead: 35:65:6 C Blend
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
5.5 Prod	630	11.9	2.5	19	72	Lead: 50:50:10 H Blend
	1980	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results
Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
Production	3,500'	25% OH in Lateral (KOP to EOL) – 40% OH in Vertical

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4"	13-5/8"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Saturated Brine	10 - 10.1	28-34	N/C
9-5/8" Int shoe	Lateral TD	Cut Brine	8.6 - 9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		**Interval**
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4555 psi at 9410' TVD
Abnormal Temperature	NO 150 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
N	Is casing pre-set?

x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

APD ID: 10400024150 **Submission Date:** 10/31/2017

Highlighted data reflects the most recent changes

Show Final Text

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

COG_Eider_205H_Existing_Road_20171031100425.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID: NM132549

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

COG_Eider_205H_Maps_Plats_20171031100447.pdf

New road type: RESOURCE

Length: 4953.6 Feet **Width (ft.):** 30

Max slope (%): 33 **Max grade (%):** 1

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water will be diverted where necessary to avoid ponding, prevent erosion, maintain food drainage, and to be consistent with local drainage patterns.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Blading

Access other construction information: No turnouts are planned. Re-routing access road around proposed well location.

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT,OTHER

Drainage Control comments: None necessary.

Road Drainage Control Structures (DCS) description: None needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

COG_Eider_205H_1_Mile_Data_20171031100502.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Production will be sent to the proposed Eider CTB 2, A surface flow line of approximately 1417.9' of 3.5" steel pipe carrying oil, gas and water under a maximum pressure of 125 psi will follow the road to the facility at the Eider CTB 2 location. We plan to install a 4" surface polyethylene pipe transporting Gas Lift Gas from the Eider CTB 2 to the Eider Federal 205H. The surface Gas Lift Gas pipe of approximately 1417.9' under a maximum pressure of 125 psi will be installed no farther than 10 feet from the edge of the road.

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: ICE PAD CONSTRUCTION & MAINTENANCE, STIMULATION, SURFACE CASING
Water source type: OTHER
Describe type: Fresh Water
Source latitude:
Source longitude:
Source datum:
Water source permit type: PRIVATE CONTRACT,PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: PIPELINE,PIPELINE
Source transportation land ownership: PRIVATE
Water source volume (barrels): 337500
Source volume (acre-feet): 43.50142
Source volume (gal): 14175000

Water source use type: INTERMEDIATE/PRODUCTION CASING
Water source type: OTHER
Describe type: Brine Water
Source latitude:
Source longitude:
Source datum:
Water source permit type: PRIVATE CONTRACT,PRIVATE CONTRACT
Source land ownership: COMMERCIAL
Water source transport method: TRUCKING,TRUCKING
Source transportation land ownership: COMMERCIAL
Water source volume (barrels): 22500
Source volume (acre-feet): 2.9000947
Source volume (gal): 945000

Water source and transportation map:

COG_Eider_205H_Brine_H2O_20171031100534.pdf
COG_Eider_205H_Fresh_H2O_20171031100545.pdf

Water source comments: The fresh water will be obtained from Mark McCloy water well located in Section 33, T24S, R33E, or from Rock House Ranch (575) 885-4195, Brine water will be purchased from Mesquite Services (575) 887-4847. No water well will be drilled on the location.
New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**
Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from Mack Chase caliche pit located in Section 20, T24S, R33E. (575) 748-1288.
Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: SEWAGE

Waste content description: Human waste and gray water.

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

Safe containment description: Waste will be properly contained and disposed of properly at a state approved disposal facility.
Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE
Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: DRILLING

Waste content description: Drilling fluids and produced oil land water while drilling and completion operations.

Amount of waste: 6000 barrels

Waste disposal frequency : One Time Only

Safe containment description: All drilling waste will be stored safely and disposed of properly.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL **Disposal location ownership:** COMMERCIAL FACILITY
Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: GARBAGE

Waste content description: Garbage and trash produced during drilling and completion operations.

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility.
Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL **Disposal location ownership:** COMMERCIAL FACILITY
Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Roll off cutting containers on tracks.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: YES

Ancillary Facilities attachment:

COG_Eider_205H_GCP_20171031100608.pdf

Comments: GCP Attached.

Section 9 - Well Site Layout

Well Site Layout Diagram:

COG_Eider_CTB_2_20171031085346.pdf

COG_Eider_205H_CTB_Flowlines_20171031100633.pdf

COG_Eider_205H_Prod_Facility_20171031100646.pdf

Comments: Production will be sent to the proposed Eider CTB 2, A surface flow line of approximately 1417.9' of 3.5" steel pipe carrying oil, gas and water under a maximum pressure of 125 psi will follow the road to the facility at the Eider CTB 2 location. We plan to install a 4" surface polyethylene pipe transporting Gas Lift Gas from the Eider CTB 2 to the Eider Federal 205H. The surface Gas Lift Gas pipe of approximately 1417.9' under a maximum pressure of 125 psi will be installed no farther than 10 feet from the edge of the road.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: EIDER FEDERAL

Multiple Well Pad Number: 105H, 205H, 106H, 305H, 306H, 206H

Recontouring attachment:

Drainage/Erosion control construction: If needed, immediately following pad construction approximately 400' of straw waddles will be placed on the west side of the location, 400' of straw waddles will be placed on the south side to reduce sediment impacts to fragile/sensitive soils.

Drainage/Erosion control reclamation: N/A

Well pad proposed disturbance (acres):	**Well pad interim reclamation (acres):** 4.54	**Well pad long term disturbance (acres):** 3.16
Road proposed disturbance (acres):	**Road interim reclamation (acres):** 1.59	**Road long term disturbance (acres):** 1.59
Powerline proposed disturbance (acres):	**Powerline interim reclamation (acres):**	**Powerline long term disturbance (acres):**
Pipeline proposed disturbance (acres):	**Pipeline interim reclamation (acres):** 46.153362	**Pipeline long term disturbance (acres):** 46.153362
Other proposed disturbance (acres):	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance:	**Total interim reclamation:** 52.28336	**Total long term disturbance:** 50.903362

Disturbance Comments:

Reconstruction method: Portions of the pad not needed for production operationswill be re-contoured to its original state as much as possible. The caliche that is removed will be reused. The stockpiled topsoil will be spread out over reclaimed area and reseeded with BLM approved seed mixture
Topsoil redistribution: West 80'. East 60'

Soil treatment: None

Existing Vegetation at the well pad: Shinnery Oak/Mesquite grassland.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery Oak/Mesquite grassland.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery Oak/Mesquite grassland.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

PLS pounds per acre: **Proposed seeding season:**

Total pounds/Acre:

Seed Summary	
Seed Type	**Pounds/Acre**

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Rand **Last Name:** French

Phone: (432)254-5556 **Email:** rfrench@concho.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: N/A

Weed treatment plan attachment:

Monitoring plan description: N/A

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

COG_Eider_205H_Closed_Loop_20171031100709.pdf

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER FEDERAL **Well Number:** 205H

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information: COG respectfully requests approval to build a 1000' x 1000' Gadwall 35 Federal Frac Pond 2 to serve this well and any other well within a two mile radius. The proposed frac pond is to be located in Section 35, T24S, R32E. Plats are attached.

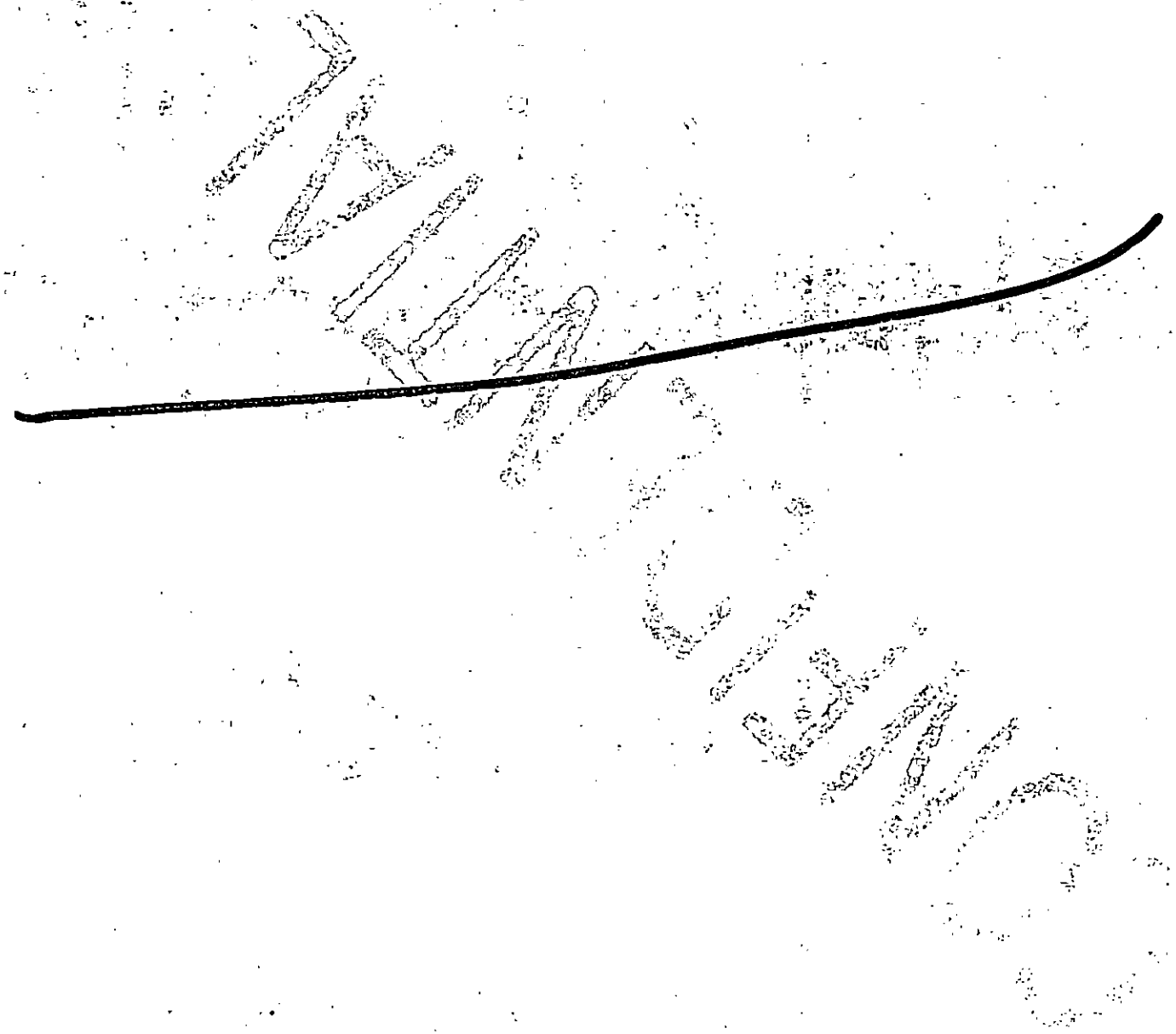
Use a previously conducted onsite? YES

Previous Onsite information: Onsite conpleted on 8/22/2017 by Rand French (COG); Gerald Herrera (COG); and Jeff Robertson (BLM).

Other SUPO Attachment

COG_Gadwall_Frac_Pond_2_20171017065148.pdf

COG_Eider_205H_Certification_20171031100730.pdf



ERATOR CERTIFICATION

under my direct supervision, have inspected the drill site and
I am familiar with the conditions that presently exist; that I
nd Federal laws applicable to this operation; that the statements
to the best of my knowledge, true and correct; and that the work
proposed herein will be performed in conformity with this APD
ditions under which it is approved. I also certify that I, or COG
ble for the operations conducted under this application. These
provisions of 18 U.S.C. 1001 for the filing of false statements.

23rd MAY, 2017.

Artesia, NM 88210

ve signatory): Rand French
-mail: rfrench@concho.com

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

05/22/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000860

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

05/22/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Mayte Reyes

Signed on: 10/31/2017

Title: Regulatory Analyst

Street Address: 2208 W Main Street

City: Artesia **State:** NM **Zip:** 88210

Phone: (575)748-6945

Email address: Mreyes1@concho.com

Field Representative

Representative Name: Rand French

Street Address: 2208 West Main Street

City: Artesia **State:** NM **Zip:** 88210

Phone: (575)748-6940

Email address: rfrench@concho.com