Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

5. Lease Serial No. NMNM120907

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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 106H (314195)

2. Name of Operator COG PRODUCTION LLC (217955) MIN E SURF S

9. API Well No. 30-025-44633

3a. Address 2208 West Main Street Artesia NM 88210

3b. Phone No. (include area code) (575)748-6940

10. Field and Pool, or Exploratory WILDCAT / BONE SPRING 97784

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface SWSE / 240 FSL / 2230 FEL / LAT 32.167493 / LONG -103.64413

At proposed prod. zone NWSE / 2410 FSL / 1650 FEL / LAT 32.187985 / LONG -103.642222

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. 438 feet

19. Proposed Depth 9290 feet / 16771 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 | Name (Printed/Typed) | Date |
|---|---|---|
| (Electronic Submission) | Mayte Reyes / Ph: (575)748-6945 | 10/31/2017 |

Title: Regulatory Analyst

| Approved by (Signature) | Name (Printed/Typed) | Date |
|---|---|---|
| (Electronic Submission) | Cody Layton / Ph: (575)234-5959 | 03/22/2018 |

| Title | Office |
|---|---|
| Supervisor Multiple Resources | 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)

GCP Rec 04/03/18
TOP 1ST BSG
TD WELL 9290 TVD

APPROVED WITH CONDITIONS

KG 04/04/18

Approval Date: 03/22/2018

## INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.



## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

## Additional Operator Remarks

### Location of Well

1. SHL: SWSE / 240 FSL / 2230 FEL / TWSP: 24S / RANGE: 32E / SECTION: 35 / LAT: 32.167493 / LONG: -103.64413 ( TVD: 0 feet, MD: 0 feet )
   PPP: SWSE / 330 FSL / 1650 FEL / TWSP: 24S / RANGE: 32E / SECTION: 35 / LAT: 32.167744 / LONG: -103.642255 ( TVD: 5338 feet, MD: 5338 feet )
   BHL: NWSE / 2410 FSL / 1650 FEL / TWSP: 24S / RANGE: 32E / SECTION: 26 / LAT: 32.187985 / LONG: -103.642222 ( TVD: 9290 feet, MD: 16771 feet )

## BLM Point of Contact

Name: Sipra Dahal
Title: Legal Instruments Examiner
Phone: 5752345983
Email: sdahal@blm.gov

## Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

AFMSS

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

# Application Data Report

03/26/2018

**APD ID:** 10400024147 **Submission Date:** 10/31/2017

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

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

Highlighted data reflects the most recent changes
Show Final Text

## Section 1 - General

**APD ID:** 10400024147 **Tie to previous NOS?** **Submission Date:** 10/31/2017

**BLM Office:** CARLSBAD **User:** Mayte Reyes **Title:** Regulatory Analyst

**Federal/Indian APD:** FED **Is the first lease penetrated for production Federal or Indian?** FED

**Lease number:** NMNM120907 **Lease Acres:** 1840

**Surface access agreement in place?** **Allotted?** **Reservation:**

**Agreement in place?** NO **Federal or Indian agreement:**

**Agreement number:**

**Agreement name:**

**Keep application confidential?** YES

**Permitting Agent?** NO **APD Operator:** COG PRODUCTION LLC

**Operator letter of designation:**

## Operator Info

**Operator Organization Name:** COG PRODUCTION LLC

**Operator Address:** 2208 West Main Street

**Zip:** 88210

**Operator PO Box:**

**Operator City:** Artesia **State:** NM

**Operator Phone:** (575)748-6940

**Operator Internet Address:** mreyes1@concho.com

## Section 2 - Well Information

**Well in Master Development Plan?** NO **Mater Development Plan name:**

**Well in Master SUPO?** NO **Master SUPO name:**

**Well in Master Drilling Plan?** NO **Master Drilling Plan name:**

**Well Name:** EIDER FEDERAL **Well Number:** 106H **Well API Number:**

**Field/Pool or Exploratory?** Field and Pool **Field Name:** WILDCAT **Pool Name:** BONE SPRING

**Is the proposed well in an area containing other mineral resources?** USEABLE WATER

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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:** 438 FT **Distance to lease line:** 240 FT

**Reservoir well spacing assigned acres Measurement:** 240 Acres

**Well plat:** COG_Eider_106H_C102_20171031090938.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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 240 | FSL | 2230 | FEL | 24S | 32E | 35 | SWSE | 32.167493 | -103.64413 | LEA | NEW MEXI | NEW MEXI | F | NMNM 120907 | 3530 | 0 | 0 |
| | 240 | FSL | 2230 | FEL | 24S | 32E | 35 | SWSE | 32.167493 | -103.64413 | LEA | NEW MEXI | NEW MEXI | F | NMNM 120907 | 3530 | 0 | 0 |
| | 330 | FSL | 1650 | FEL | 24S | 32E | 35 | SWSE | 32.167744 | -103.642255 | LEA | NEW MEXI | NEW MEXI | F | NMNM 120907 | -1808 | 5338 | 5338 |

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2310 | FSL | 1650 | FEL | 24S | 32E | 26 | NWSE | 32.187707 | -103.644356 | LEA | NEW MEXI | NEW MEXI | F | NMNM 120907 | -5763 | 16600 | 9293 |
| | 2410 | FSL | 1650 | FEL | 24S | 32E | 26 | NWSE | 32.187985 | -103.642222 | LEA | NEW MEXI | NEW MEXI | F | NMNM 120907 | -5760 | 16771 | 9290 |

**APD ID:** 10400024147 **Submission Date:** 10/31/2017

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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 | 2562 | 968 | 968 | | NONE | No |
| 3 | TOP SALT | 2229 | 1301 | 1301 | | NONE | No |
| 4 | BASE OF SALT | -1105 | 4635 | 4635 | | NONE | No |
| 5 | LAMAR | -1333 | 4863 | 4863 | | NONE | No |
| 6 | BELL CANYON | -1374 | 4904 | 4904 | | NONE | No |
| 7 | CHERRY CANYON | -2283 | 5813 | 5813 | | NATURAL GAS,OIL | No |
| 8 | BRUSHY CANYON | -3663 | 7193 | 7193 | SCHIST | NATURAL GAS,OIL | No |
| 9 | BONE SPRING LIME | -5305 | 8835 | 8835 | | NATURAL GAS,OIL | No |
| 10 | UPPER AVALON SHALE | -5650 | 9180 | 9180 | | NATURAL GAS,OIL | Yes |
| 11 | --- | -5830 | 9360 | 9360 | | NATURAL GAS,OIL | No |

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 2M **Rating Depth:** 4890

**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.

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**Choke Diagram Attachment:**

COG_Eider_106H_2M_Choke_20171031092321.pdf

**BOP Diagram Attachment:**

COG_Eider_106H_2M_BOP_20171031092329.pdf

COG_Eider_106H_Flex_Hose_20171031092417.pdf

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**Pressure Rating (PSI):** 3M **Rating Depth:** 9290

**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_106H_3M_Choke_20171031092441.pdf

**BOP Diagram Attachment:**

COG_Eider_106H_3M_BOP_20171031092447.pdf

COG_Eider_106H_Flex_Hose_20171031092456.pdf

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## 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 | 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 | 995 | 0 | 995 | | | 995 | J-55 | 54.5 | STC | 2.48 | 1.26 | DRY | 9.48 | DRY | 9.48 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | Y | 0 | 4890 | 0 | 4890 | | | 4890 | L-80 | 40 | LTC | 1.2 | 1.61 | DRY | 5.73 | DRY | 5.73 |
| 3 | PRODUCTION | 8.75 | 5.5 | NEW | API | N | 0 | 16771 | 0 | 16771 | | | 16771 | P-110 | 17 | LTC | 1.66 | 2.99 | DRY | 2.82 | DRY | 2.82 |

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

COG_Eider_106H_Casing_Rpt_20171031092654.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

COG_Eider_106H_Casing_Rpt_20171031092632.pdf

**Casing Design Assumptions and Worksheet(s):**

COG_Eider_106H_Casing_Rpt_20171031092703.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

COG_Eider_106H_Casing_Rpt_20171031092746.pdf

## Section 4 - Cement

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

| String Type | Lead/Tail | Stage Tool | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 995 | 410 | 1.75 | 13.5 | 717 | 50 | Class C | 4% Gel + 1% CaCl2 |
| SURFACE | Tail | | | 995 | 250 | 1.34 | 14.8 | 335 | 50 | Class C | 2% CaCl2 |
| INTERMEDIATE | Lead | | 995 | 4890 | 930 | 2 | 12.7 | 1860 | 50 | Lead: 35:65:6 C Blend | As needed. |
| INTERMEDIATE | Tail | | | 4890 | 250 | 1.34 | 14.8 | 335 | 50 | Tail: Class C | 2% CaCl |
| PRODUCTION | Lead | | 4890 | 16771 | 610 | 2.5 | 11.9 | 1525 | 25 | Lead: 50:50:10 H Blend | As needed. |
| PRODUCTION | Tail | | | 16771 | 2030 | 1.24 | 14.4 | 2517 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 995 | 4890 | OTHER : Saturated Brine | 10 | 10.1 | | | | | | | Saturated Brine |
| 4890 | 16771 | OTHER : Cut Brine | 8.6 | 9.3 | | | | | | | Cut Brine |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 995 | OTHER : FW Gel | 8.6 | 8.8 | | | | | | | FW Gel |

## 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:** 4495 **Anticipated Surface Pressure:** 2450.54

**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_106H_H2S_Plan_20171031093137.pdf
COG_Eider_106H_H2S_Schematic_20171031093147.pdf

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

COG_Eider_106H_AC_Rpt_20171031093202.pdf

COG_Eider_106H_Direct_Plan_20171031093211.pdf

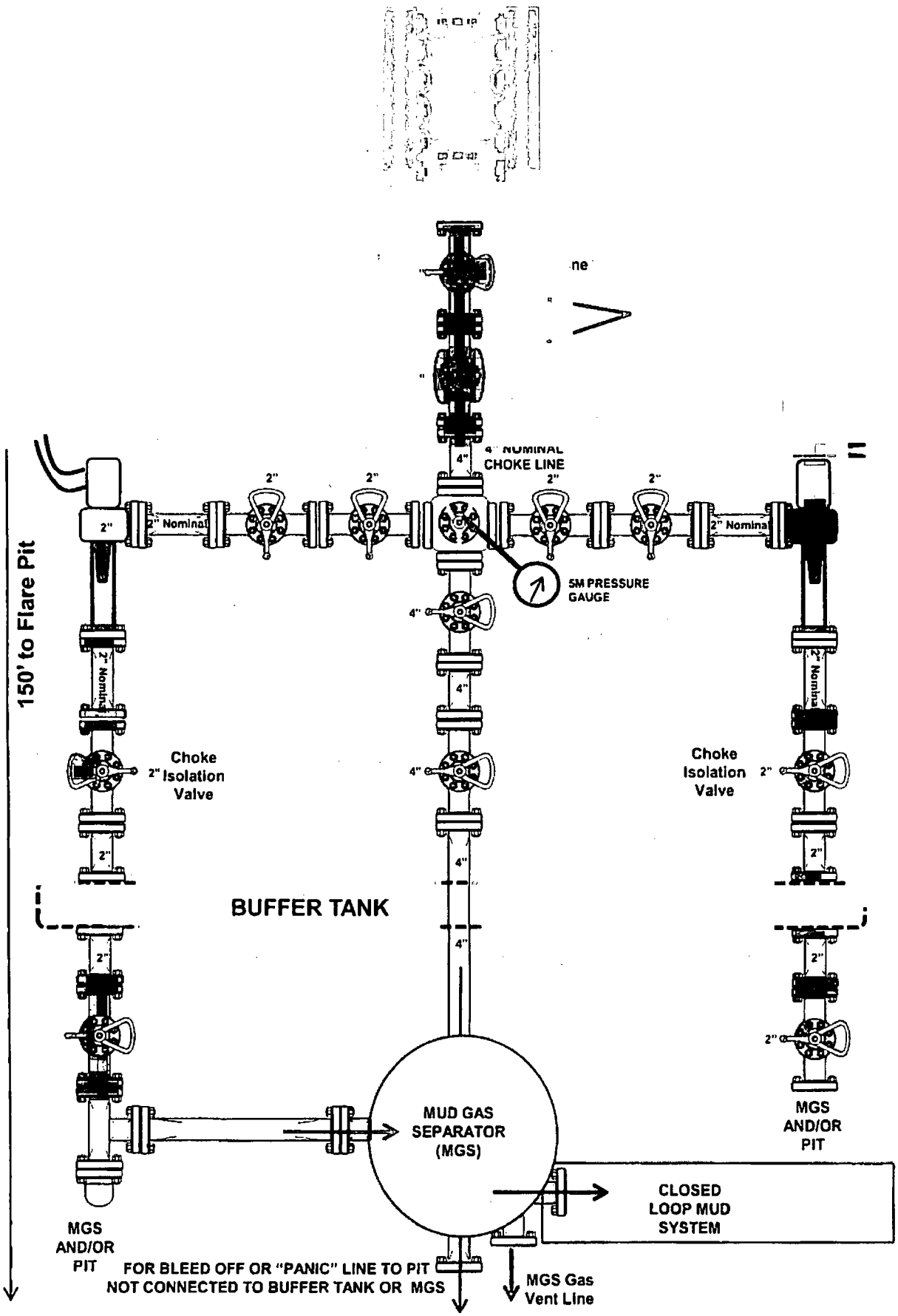
**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

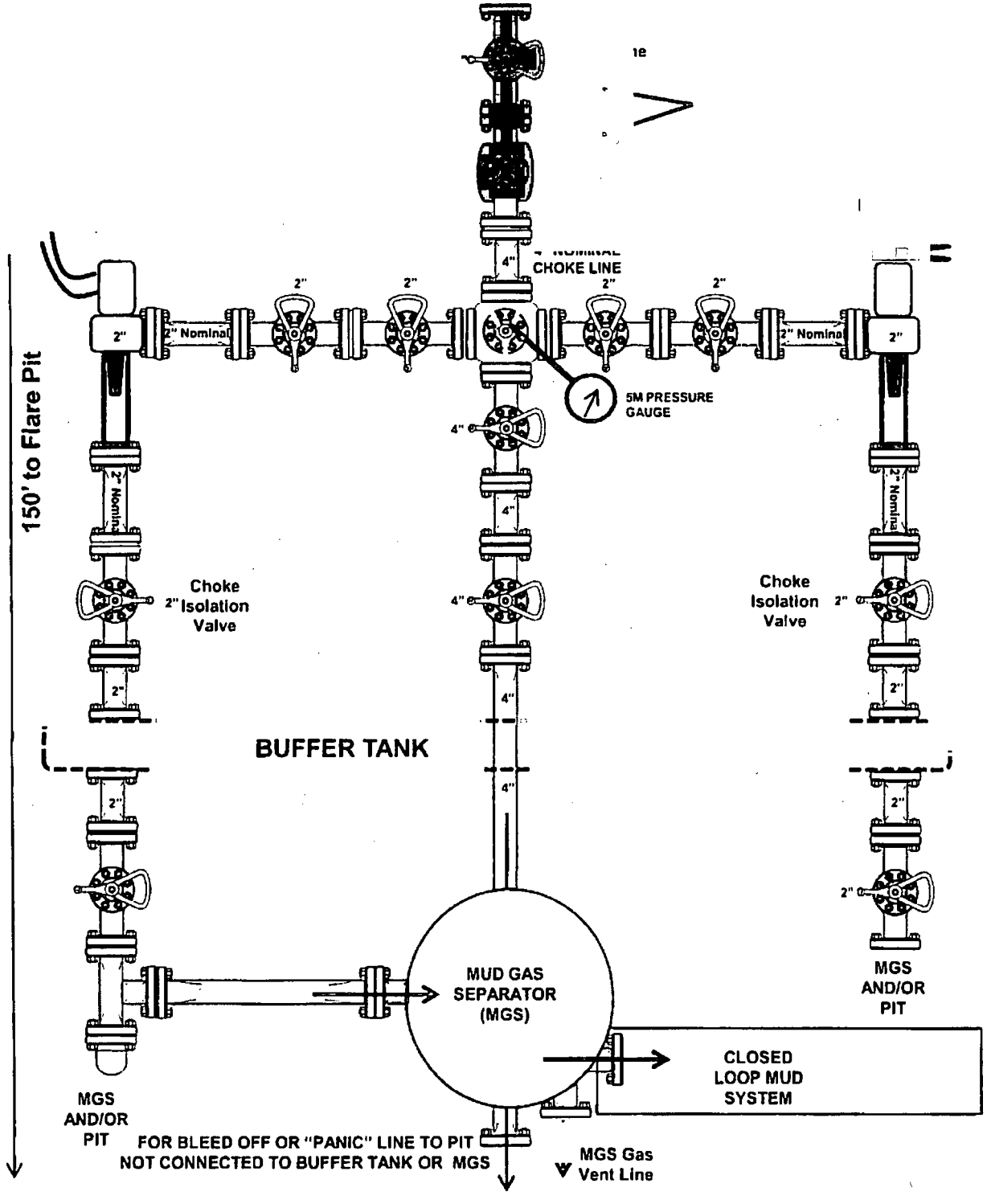
COG_Eider_106H_Drill_Rpt_20171031093220.pdf

**Other Variance attachment:**

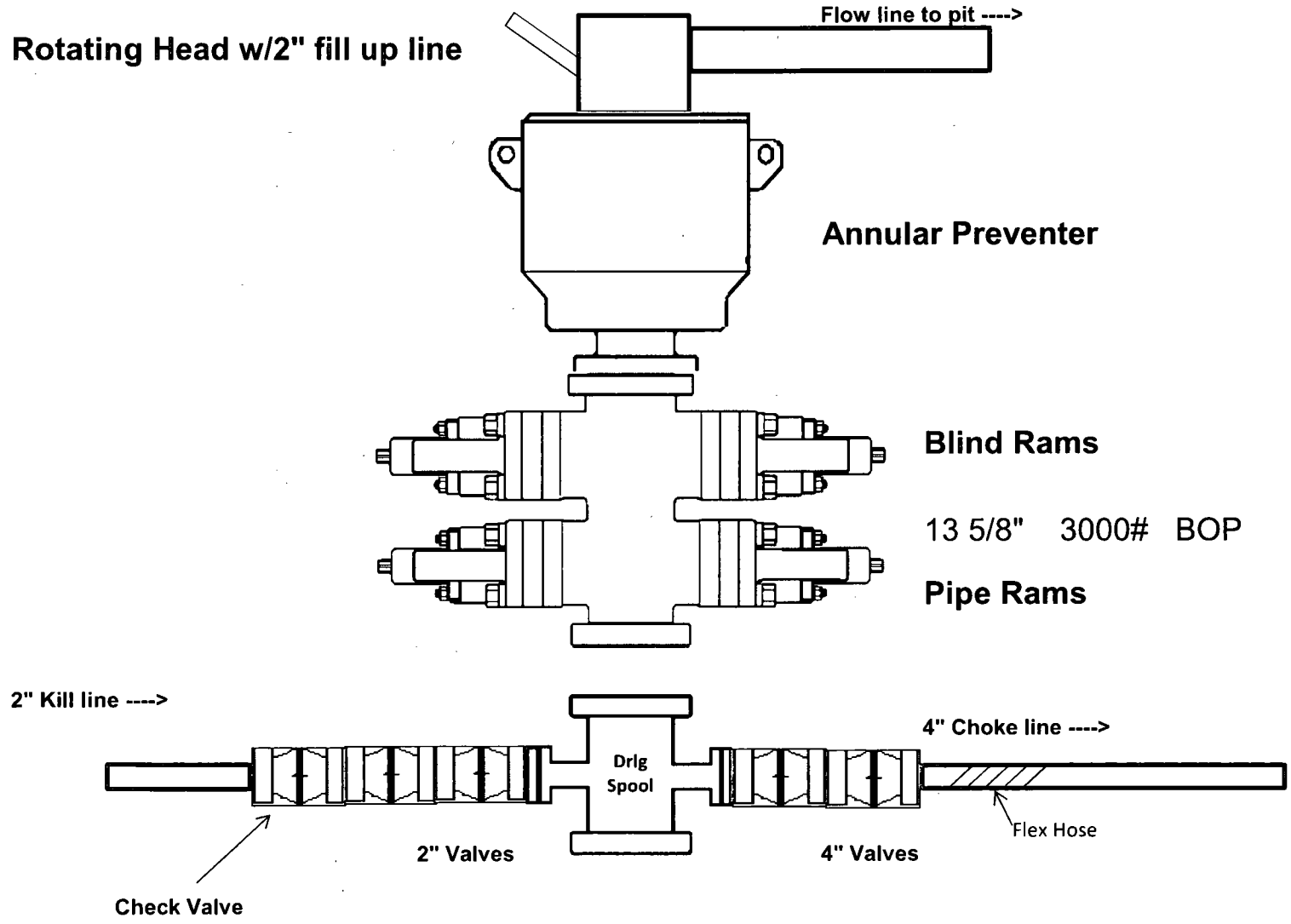
# M (W CLOSED LOOP)



# CLOSED LOOP)


150' to Flare Pit
4" NOMINAL CHOKE LINE
2" Nominal
5M PRESSURE GAUGE
Choke 2" 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 |
| **As per attached recorder chart Test Duration** | 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 | Technician |
| L16883-201 | JUAN |

**QC Information Input**

| QC Insp | Third Party |
|---|---|
| ABEL | BV |
| Witness? | Test Procedure |
| Yes | SIC 01 60 |
| Special Instructions | |

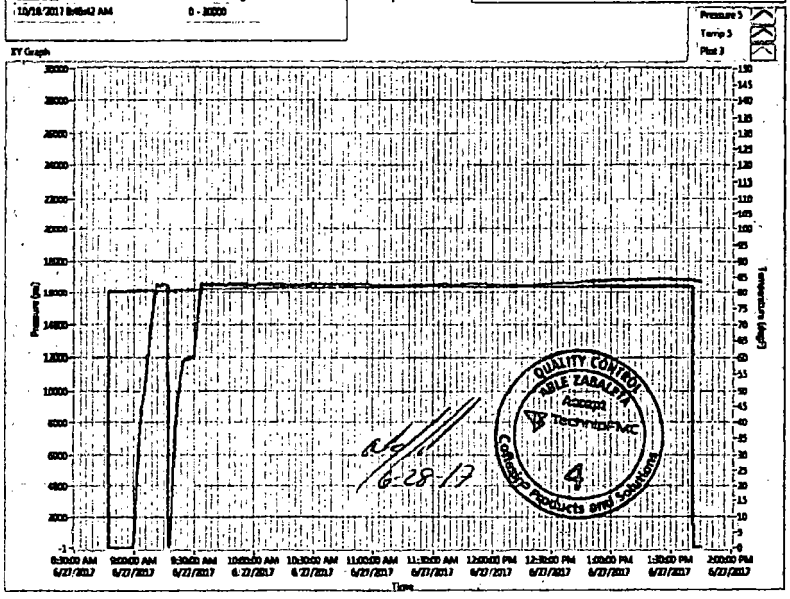
## Station 05

**Station Information**

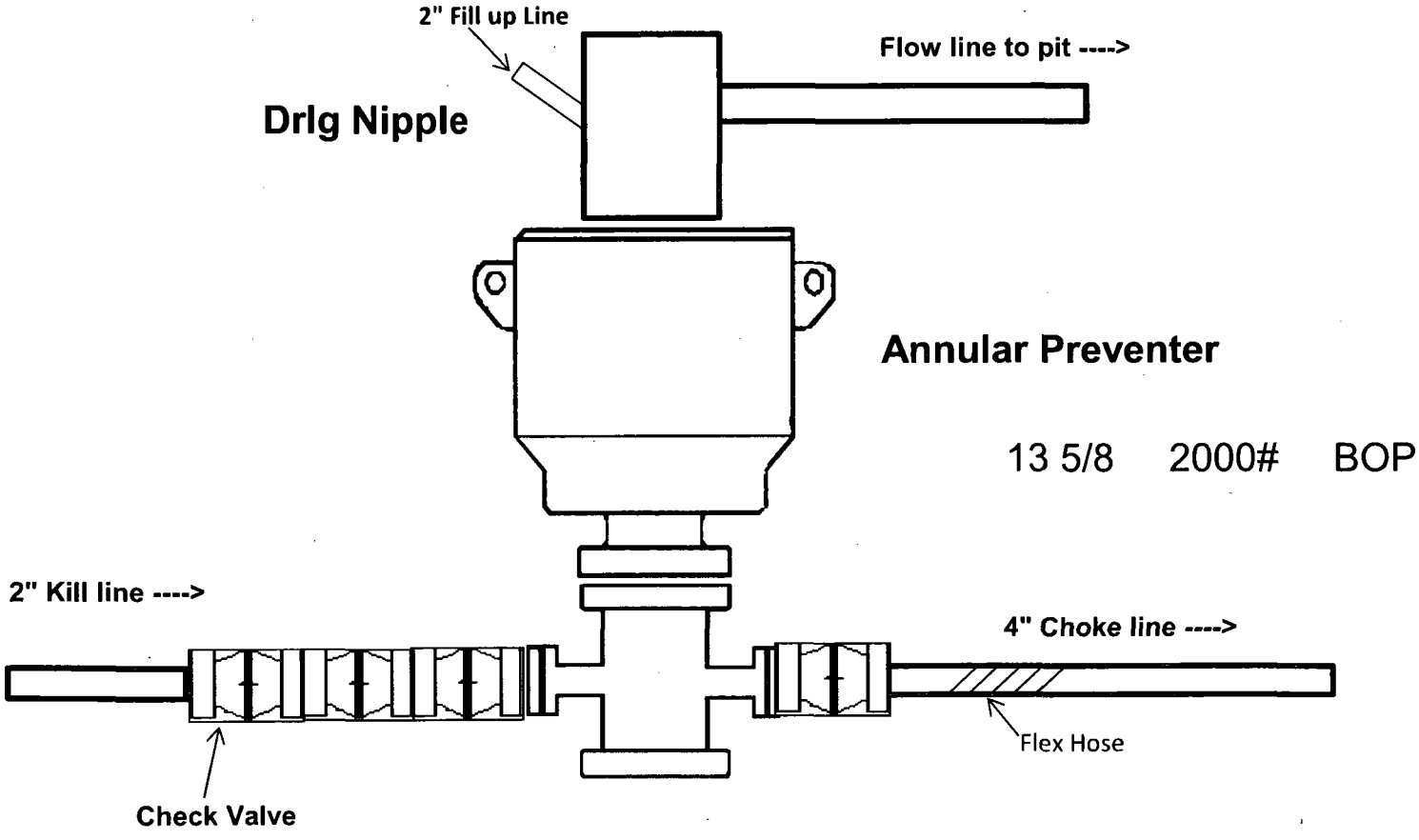
| Pressure Transducer S/N | Temperature S/N |
|---|---|
| 1178574 | TUA |
| Stable Press | Test Press |
| 14500 | 15000 |
| Calib. Due | Pressure Range |
| 10/18/2017 8:48:42 AM | 0 - 30000 |

**Calibration**

| Raw Minimum | Eng Minimum |
|---|---|
| 0.004000 | 0.000000 |
| Raw Maximum | Eng Maximum |
| 0.020000 | 30000.000000 |



# 2,000 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** |
| **As per attached recorder chart Test Duration** | 4 | **hours** |

QUALITY CONTROL ABLE ZABALETA Accept TechnipFMC 4 Coflexip Products and Solutions

6-28-17

**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 |
| L16883-201 | JUAN |

**QC Information Input**

| QC Insp | Third Party |
|---|---|
| ABEL | BV |
| Witness? | Test Procedure |
| Yes | SIC 01 60 |
| Special Instructions: | |

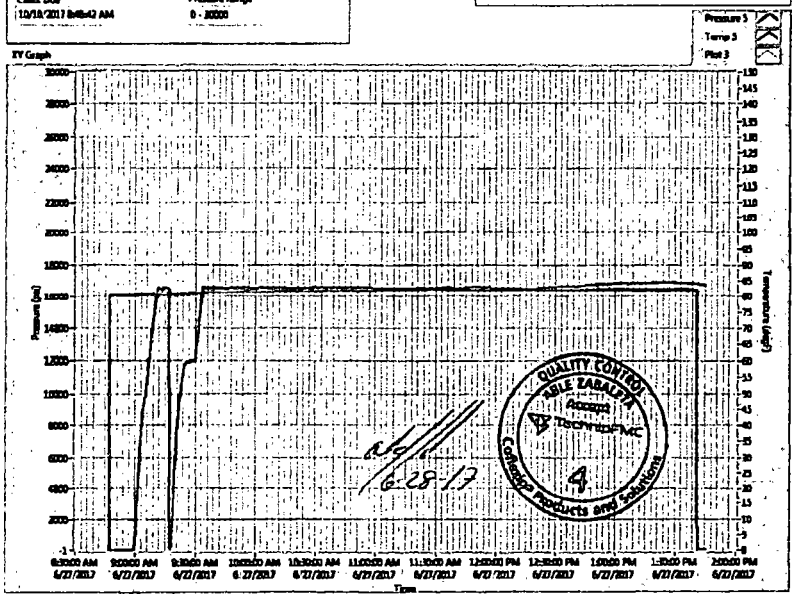
## Station 05

**Station Information**

| Pressure Transducer S/N | Temperature S/N |
|---|---|
| 1178534 | T1BA |
| Stable Press | Test Press |
| 14500 | 13200 |
| Calib. Due | Pressure Range |
| 10/18/2017 8:48:42 AM | 0 - 30000 |

**Calibration**

| Raw Minimum | Eng Minimum |
|---|---|
| 0.004000 | 0.000000 |
| Raw Maximum | Eng Maximum |
| 0.020000 | 30000.000000 |



**Casing Program**

| Hole Size | Casing From | Casing To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0 | 995 | 13.375" | 54.5 | J55 | STC | 2.48 | 1.26 | 9.48 |
| 12.25" | 0 | 4000 | 9.625" | 40 | J55 | LTC | 1.22 | 1.11 | 3.25 |
| 12.25" | 4000 | 4890 | 9.625" | 40 | L80 | LTC | 1.20 | 1.61 | 5.73 |
| 8.75" | 0 | 16,771 | 5.5" | 17 | P110 | LTC | 1.66 | 2.99 | 2.82 |
| | | | BLM Minimum Safety Factor | | | | 1.125 | 1 | 1.6 Dry<br>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 |
|---|---|---|---|---|---|---|---|---|---|
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All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

**Casing Program**

| Hole Size | Casing | | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| | From | To | | | | | | | |
| 17.5" | 0 | 995 | 13.375" | 54.5 | J55 | STC | 2.48 | 1.26 | 9.48 |
| 12.25" | 0 | 4000 | 9.625" | 40 | J55 | LTC | 1.22 | 1.11 | 3.25 |
| 12.25" | 4000 | 4890 | 9.625" | 40 | L80 | LTC | 1.20 | 1.61 | 5.73 |
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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.
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**Casing Program**

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| 12.25" | 4000 | 4890 | 9.625" | 40 | L80 | LTC | 1.20 | 1.61 | 5.73 |
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| | | | BLM Minimum Safety Factor | | | | 1.125 | 1 | 1.6 Dry<br>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 #106H

| | 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. | 410 | 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 | 610 | 11.9 | 2.5 | 19 | 72 | Lead: 50:50:10 H Blend |
| | 2030 | 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.<br>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 | 4495 psi at 9290' 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:** 10400024147 **Submission Date:** 10/31/2017

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

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

Highlighted data reflects the most recent changes
Show Final Text

## Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

COG_Eider_106H_Existing_Road_20171031093233.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_106H_Maps_Plats_20171031093251.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:**

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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_106H_1_Mile_Data_20171031093309.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 106H. 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 5 - Location and Types of Water Supply

### Water Source Table

**Water source use type:** ICE PAD CONSTRUCTION & MAINTENANCE, STIMULATION, SURFACE CASING
**Describe type:** Fresh Water
**Water source type:** OTHER
**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_106H_Brine_H2O_20171031093342.pdf
COG_Eider_106H_Fresh_H2O_20171031093353.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

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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.

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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 FACILITY **Disposal location ownership:** COMMERCIAL

**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 FACILITY **Disposal location ownership:** COMMERCIAL

**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

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**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**

**Cuttings area liner specifications and installation description**

## Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** YES

**Ancillary Facilities attachment:**

COG_Eider_106H_GCP_20171031093418.pdf

**Comments:** GCP Attached.

## Section 9 - Well Site Layout

**Well Site Layout Diagram:**

COG_Eider_CTB_2_20171031085346.pdf
COG_Eider_106H_CTB_Flowlines_20171031093447.pdf
COG_Eider_106H_Prod_Facility_20171031093455.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 106H. 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

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

**Well pad proposed disturbance (acres):**

**Road proposed disturbance (acres):**

**Powerline proposed disturbance (acres):**

**Pipeline proposed disturbance (acres):**

**Other proposed disturbance (acres):**

**Total proposed disturbance:**

**Well pad interim reclamation (acres):** 4.54

**Road interim reclamation (acres):** 1.59

**Powerline interim reclamation (acres):**

**Pipeline interim reclamation (acres):** 46.153362

**Other interim reclamation (acres):** 0

**Total interim reclamation:** 52.28336

**Well pad long term disturbance (acres):** 3.16

**Road long term disturbance (acres):** 1.59

**Powerline long term disturbance (acres):**

**Pipeline long term disturbance (acres):** 46.153362

**Other long term disturbance (acres):** 0

**Total long term disturbance:** 50.903362

**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:**

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

## Seed Management

### Seed Table

**Seed type:**

**Seed source:**

**Seed name:**

**Source name:**

**Source address:**

**Source phone:**

**Seed cultivar:**

**Seed use location:**

**PLS pounds per acre:**

**Proposed seeding season:**

| Seed Summary | |
|---|---|
| **Seed Type** | **Pounds/Acre** |

**Total 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_106H_Closed_Loop_20171031093513.pdf

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

## 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:**

**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).

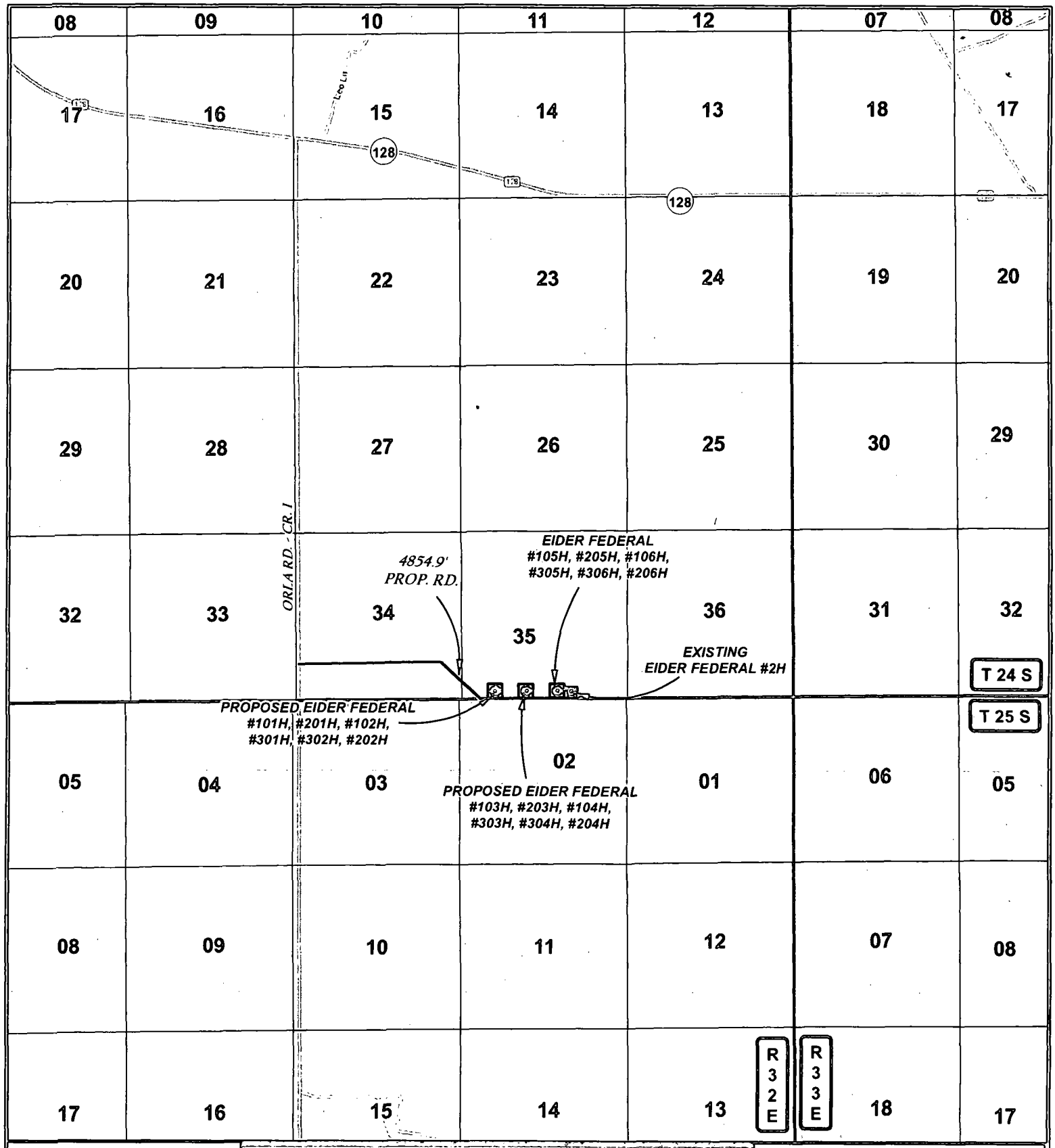
## Other SUPO Attachment

**Operator Name:** COG PRODUCTION LLC

**Well Name:** EIDER FEDERAL **Well Number:** 106H

COG_Gadwall_Frac_Pond_2_20171017065148.pdf

COG_Eider_106H_Certification_20171031093530.pdf




## LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

**EIDER FEDERAL #105H, #205H, #106H, #305H, #306H, & #206H**

SECTION: 35 | TOWNSHIP: 24 S. | RANGE: 32 E.

STATE: NEW MEXICO | COUNTY: LEA | SURVEY: N.M.P.M

W.O. # (17-970, 1003-1007) | LEASE: EIDER FED

0 2,500 5,000 7,500 10,000 FEET

0 0.275 0.55 1.1 Miles

1 IN = 4,000 FT

LOCATION MAP | VICINITY | 08/31/2017 | J.H.

N

CONCHO

COG PRODUCTION, LLC

HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158 FAX: (575) 746-2158
TEXAS FIRM NO. 10194089
c.harcrow@harcrowsurveying.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

03/26/2018

## 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:**

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