

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
Operator Copy

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

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

| | | |
|---|---|--|
| SUBMIT IN TRIPLICATE - Other instructions on page 2 | | 5. Lease Serial No. NMNM132949 |
| 1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other | | 6. If Indian, Allottee or Tribe Name |
| 2. Name of Operator COG OPERATING LLC | | 7. If Unit or CA/Agreement, Name and/or No. |
| Contact: MAYTE X REYES E-Mail: mreyes1@concho.com | | 8. Well Name and No. STOVE PIPE FEDERAL COM 706H |
| 3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701-4287 | 3b. Phone No. (include area code) Ph: 575-748-6945 | 9. API Well No. 30-025-46503-00-X1 |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 31 T24S R35E 270FSL 360FWL 32.167469 N Lat, 103.413933 W Lon | | 10. Field and Pool or Exploratory Area MESA VERDE |
| | | 11. County or Parish, State LEA COUNTY, NM |

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Subsequent Report | <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Hydraulic Fracturing | <input type="checkbox"/> Reclamation | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Final Abandonment Notice | <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input checked="" type="checkbox"/> Other |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | Change to Original APD |
| | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> Water Disposal | |

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

COG Operating respectfully requests approval for the following changes to the originally approved APD.

Slim hole design attached.

besides casing size changes, all previous conditions of Approval still apply

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

Electronic Submission #493985 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 12/03/2019 (20PP0473SE)

| | |
|------------------------------------|---------------------------------|
| Name (Printed/Typed) MAYTE X REYES | Title SENIOR REGULATORY ANALYST |
| Signature (Electronic Submission) | Date 11/27/2019 |

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

| | | |
|---|---------------------------------|------------------------|
| Approved By <u>DYLAN ROSSMANGO</u> | Title <u>PETROLEUM ENGINEER</u> | Date <u>12/16/2019</u> |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | | Office <u>Hobbs</u> |

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.

(Instructions on page 2)

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

KZ

**COG Operating LLC - Stove Pipe Fed Com 706H
API 30-025-46503**

COG, Operating, LLC respectfully requests to change to a slim hole casing design on this well with the changes as shown below to the approved drilling plan. Details are as follows:

Surface Interval

| | | |
|----------------------|------------|-----------------|
| Casing String | TOC | % Excess |
| Surface | Surface | *64% |

*Cement calculated with 64% excess for open hole plus 50 extra sacks of lead.

| Csg String # | String Type | Hole Size | Casing Size | Condition | Standard | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Length | Weight | Grade | Connection |
|--------------|-------------|-----------|-------------|-----------|----------|------------|---------------|-------------|----------------|--------|--------|-----------------------|------------|
| 1 | Surface | 14.750" | 10.750" | New | API | 0' | 1200' | 0' | 1200' | 1200' | 45.5 | L80 J55 | BTC |

| String Type | Lead/Tail | Bottom MD | Quantity (sx) | Yield | Density | Cu Ft | Excess % | Cement Type | Additives |
|-------------|-----------|-----------|---------------|-------|---------|-------|----------|-------------|--------------------------------|
| Surf | Lead | 740' | 455 | 1.73 | 13.5 | 787 | 64 | Class C | 4% gel & 1/4# CF |
| | Tail | 1200' | 332 | 1.34 | 14.8 | 445 | 64 | Class C | 1% CaCl ₂ & 1/4# CF |

Intermediate Interval

| | | |
|----------------------|------------|-----------------|
| Casing String | TOC | % Excess |
| Intermediate | Surface | *52% |

*Cement calculated with 52% excess for open hole plus 50 extra sacks of lead.

| Csg String # | String Type | Hole Size | Casing Size | Condition | Standard | Top Set MD | Bot Set MD | Top Set TVD | Bot Set TVD | Length | Weight | Grade | Connection |
|--------------|--------------|-----------|-------------|-----------|----------|------------|------------|-------------|-------------|--------|--------|---------|------------|
| 2 | Intermediate | 9.875" | 7.625" | New | API | 0' | 7500' | 0' | 7499' | 7500' | 29.7 | L80 EHC | BTC |
| 2 | Intermediate | 9.875" | 7.625" | New | API | 7500' | 9000' | 0' | 8999' | 1500' | 29.7 | P110 HC | FJM |
| 2 | Intermediate | 8.750" | 7.625" | New | API | 9000' | 12250' | 0' | 12248' | 3250' | 29.7 | P110 HC | FJM |

| String Type | Lead/Tail | Bottom MD | Quantity (sx) | Yield | Density | Cu Ft | Excess % | Cement Type | Additives |
|-------------|-----------|-----------|---------------|-------|---------|-------|----------|-------------|--|
| Int | Lead | 11240' | 920 | 3.49 | 10.3 | 3210 | 52 | NeoCem H | 2# kolseal & 3% HGS 4000 |
| | Tail | 12250' | 165 | 1.08 | 16.4 | 178 | 52 | NeoCem H | 0.3% Halad-9, 0.2% CFR-3, & 0.20% HR-601 |

COG Operating LLC - Stove Pipe Fed Com 706H
API 30-025-46503

Production Interval

| | | |
|----------------------|------------|-----------------|
| Casing String | TOC | % Excess |
| Production | Surface | *17% |

*Cement calculated with 17% excess for open hole.

| Csg String # | String Type | Hole Size | Casing Size | Condition | Standard | Top Set MD | Bot Set MD | Top Set TVD | Bot Set TVD | Length | Weight | Grade | Connection |
|--------------|-------------|-----------|-------------|-----------|----------|------------|------------|-------------|-------------|--------|--------|---------|------------|
| 3 | Production | *6.875" | 5.500" | New | API | 0' | 7500' | 0' | 7499' | 7500' | 23 | P110 CY | BTC |
| 3 | Production | *6.875" | 5.000" | New | API | 7500' | 12250' | 0' | 12248' | 4750' | 18 | P110 HC | SFW |
| 3 | Production | 6.750" | 5.000" | New | API | 12250' | 23347' | 0' | 12914' | 11097' | 18 | P110 HC | SFW |

*Intermediate casing ID

| String Type | Lead/Tail | Bottom MD | Quantity (sx) | Yield | Density | Cu Ft | Excess % | Cement Type | Additives |
|-------------|-----------|-----------|---------------|-------|---------|-------|----------|-------------|--|
| Int | Lead | 12250' | 750 | 1.98 | 12.7 | 1482 | 0 | NeoCem H | 2# kolseal & 3% HGS 4000 |
| | Tail | 23347' | 1190 | 1.22 | 14.5 | 1455 | 17 | NeoCem H | 0.3% Halad-9, 0.2% CFR-3, & 0.20% HR-601 |



**U. S. Steel Tubular Products
Product Information**

7 5/8 29.70 lb (0.375) L80 HP BTC

7/10/2018

| Mechanical Properties | | Coupling | Pipe Body | |
|-------------------------------------|----------------------------|-----------------|------------------|-----------|
| | Yield Strength | | | |
| | Minimum | 80 | 85 ksi | |
| | Maximum | 95 | 95 ksi | |
| | Tensile Strength | | | |
| | Minimum | 95 | 95 ksi | |
| Dimensions, Nominal | Outside Diameter | | 7.625 in. | |
| | Wall | | 0.375 in. | |
| | Inside Diameter | | 6.875 in. | |
| | Drift | | | |
| | Special | | 6.750 in. | |
| | Nominal Linear Weight, T&C | | 29.70 lbs/ft | |
| | Weight, Plain End | | 29.06 lbs/ft | |
| | Pipe Cross Sectional Area | | 8.541 sq. in. | |
| | Coupling Diameter | | | |
| | BTC | | 8.500 in. | |
| Performance Ratings, Minimum | Collapse | | | |
| | Plain End | | 6,220 psi | |
| | BTC | | 6,220 psi | |
| | Internal Yield Pressure | | | |
| | Plain End | | 7,310 psi | |
| | BTC | | 7,310 psi | |
| | Yield Strength, Pipe Body | | 726 | 1,000 lbs |
| | Joint Strength | | | |
| | BTC | | 733 | 1,000 lbs |

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U. S. Steel Tubular Products, Inc. - 460 Wildwood Forest Dr., Suite 300S, Spring, TX 77380
www.USS.COM



U. S. Steel Tubular Products

8/22/2019 1:57:07 PM

7.625" 29.70lbs/ft (0.375" Wall) P110 HC USS-LIBERTY FJM®



| MECHANICAL PROPERTIES | Pipe | USS-LIBERTY FJM® | |
|----------------------------------|-------------|-------------------------|------------|
| Minimum Yield Strength | 110,000 | -- | psi |
| Maximum Yield Strength | 140,000 | -- | psi |
| Minimum Tensile Strength | 125,000 | -- | psi |
| DIMENSIONS | Pipe | USS-LIBERTY FJM® | |
| Outside Diameter | 7.625 | 7.625 | in. |
| Wall Thickness | 0.375 | -- | in. |
| Inside Diameter | 6.875 | 6.789 | in. |
| Standard Drift | 6.750 | 6.750 | in. |
| Alternate Drift | -- | -- | in. |
| Nominal Linear Weight, T&C | 29.70 | -- | lbs/ft |
| Plain End Weight | 29.06 | -- | lbs/ft |
| SECTION AREA | Pipe | USS-LIBERTY FJM® | |
| Critical Area | 8.541 | 5.074 | sq. in. |
| Joint Efficiency | -- | 59.4 | % |
| PERFORMANCE | Pipe | USS-LIBERTY FJM® | |
| Minimum Collapse Pressure | 6,700 | 6,700 | psi |
| Minimum Internal Yield Pressure | 9,460 | 9,460 | psi |
| Minimum Pipe Body Yield Strength | 940,000 | -- | lbs |
| Joint Strength | -- | 558,000 | lbs |
| Compression Rating | -- | 558,000 | lbs |
| Reference Length | -- | 12,810 | ft |
| Maximum Uniaxial Bend Rating | -- | 39.3 | deg/100 ft |
| MAKE-UP DATA | Pipe | USS-LIBERTY FJM® | |
| Make-Up Loss | -- | 3.92 | in. |
| Minimum Make-Up Torque | -- | 10,800 | ft-lbs |
| Maximum Make-Up Torque | -- | 15,250 | ft-lbs |

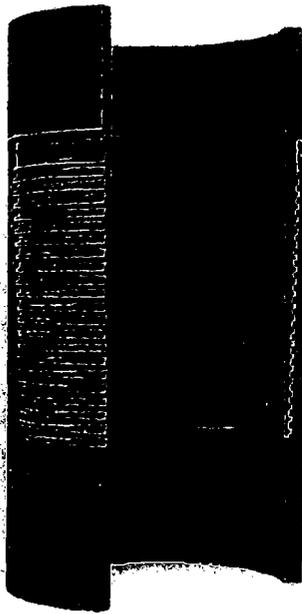
- Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
- Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
- Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
- Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
- Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

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U. S. Steel Tubular Products
 460 Wildwood Forest Drive, Suite 300S
 Spring, Texas 77380

1-877-893-9461
 connections@uss.com
 www.usstubular.com



TEC-LOCK FJ

7.625" 29.7 LB/FT (.375" Wall)
P110 HC

Pipe Body Data

| | | |
|-------------------------|--------------------|-------|
| Nominal OD: | 7.625 | in |
| Nominal Wall: | 0.375 | in |
| Nominal Weight: | 29.70 | lb/ft |
| Plain End Weight: | 29.22 | lb/ft |
| Material Grade: | P110 HC | |
| Mill/Specification: | BORUSAN MANNESMANN | |
| Yield Strength: | 110,000 | psi |
| Tensile Strength: | 125,000 | psi |
| Nominal ID: | 6.875 | in |
| API Drift Diameter: | 6.750 | in |
| Special Drift Diameter: | NA | in |
| RBW: | 87.5% | |
| Body Yield: | 940,000 | lbf |
| Burst: | 9,460 | psi |
| Collapse: | 7,050 | psi |

Connection Data

| | | |
|------------------------------|---------|-----------------|
| Standard OD: | 7.625 | in |
| Pin Bored ID: | 6.875 | in |
| Critical Section Area: | 6.299 | in ² |
| Tensile Efficiency: | 70.0% | |
| Compressive Efficiency: | 61.9% | |
| Longitudinal Yield Strength: | 658,000 | lbf |
| Compressive Limit: | 581,860 | lbf |
| Internal Pressure Rating: | 7,570 | psi |
| External Pressure Rating: | 7,050 | psi |
| Maximum Bend: | 26 | °/100ft |

Operational Data

| | | |
|------------------------|--------|--------|
| Minimum Makeup Torque: | 3,600 | ft*lbf |
| Optimum Makeup Torque: | 6,500 | ft*lbf |
| Maximum Makeup Torque: | 9,400 | ft*lbf |
| Minimum Yield: | 14,500 | ft*lbf |
| Makeup Loss: | 5.97 | in |

Notes Preliminary DataSheet

The Connection ratings are structural





PIPE CONNECTION

MECHANICAL PROPERTIES

| | | | |
|--------------------------|---------|--|-----|
| Minimum Yield Strength | 110,000 | | psi |
| Maximum Yield Strength | 125,000 | | psi |
| Minimum Tensile Strength | 125,000 | | psi |

DIMENSIONS

| | | | |
|----------------------------|-------|-------|--------|
| Outside Diameter | 5.500 | 6.300 | in. |
| Wall Thickness | 0.415 | | in. |
| Inside Diameter | 4.670 | 4.670 | in. |
| Drift - API | 4.545 | 4.545 | in. |
| Nominal Linear Weight, T&C | 23.00 | | lbs/ft |
| Plain End Weight | 22.56 | | lbs/ft |

SECTION AREA

| | | | |
|--------------------------------------|-------|-------|---------|
| Cross Sectional Area Critical Area | 6.630 | 6.630 | sq. in. |
| Joint Efficiency | | 100.0 | % |

PERFORMANCE

| | | | |
|-----------------------------------|---------|---------|------------|
| Minimum Collapse Pressure | 15,310 | 15,310 | psi |
| External Pressure Leak Resistance | | 12,250 | psi |
| Minimum Internal Yield Pressure | 14,520 | 14,520 | psi |
| Minimum Pipe Body Yield Strength | 729,000 | | lbs |
| Joint Strength | | 759,000 | lbs |
| Compression Rating | | 455,000 | lbs |
| Reference Length | | 22,000 | ft |
| Maximum Uniaxial Bend Rating | | 57.2 | deg/100 ft |

MAKE-UP DATA

| | | | |
|--|--|---------------|--------|
| Make-Up Loss | | 4.63 | in. |
| Minimum Make-Up Torque | | 15,000 | ft-lbs |
| Maximum Make-Up Torque | | 21,000 | ft-lbs |
| Connection Yield Torque | | 27,800 | ft-lbs |
| * Verification of connection shoulder required. Typical shoulder range | | 5,000 - 7,500 | ft-lbs |

Notes:

- 1) Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
- 2) Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- 3) Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.)
- 4) Reference length is calculated by joint strength divided by nominal T&C weight with 1.5 safety factor
- 5) Connection external pressure resistance has been verified to 80% API pipe body collapse pressure (API 5C5 Cal III testing protocol)

Legal Notice: USS-CDC HTQ™ (High Torque Casing Drilling Connection) is a trademark of U. S. Steel Corporation. This product is a modified API Buttress threaded and coupled connection designed for drilling with casing applications. All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability, and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.
 USS Product Data Sheet 2017 rev26 (Sept)



PIPE CONNECTION

MECHANICAL PROPERTIES

| | | |
|--------------------------|---------|-----|
| Minimum Yield Strength | 110,000 | psi |
| Maximum Yield Strength | 125,000 | psi |
| Minimum Tensile Strength | 125,000 | psi |

DIMENSIONS

| | | | |
|----------------------------|-------|-------|--------|
| Outside Diameter | 5.000 | 5.775 | in. |
| Wall Thickness | 0.362 | | in. |
| Inside Diameter | 4.276 | 4.276 | in. |
| Drift - API | 4.151 | 4.151 | in. |
| Nominal Linear Weight, T&C | 18.00 | | lbs/ft |
| Plain End Weight | 17.95 | | lbs/ft |

SECTION AREA

| | | | |
|--------------------------------------|-------|-------|---------|
| Cross Sectional Area Critical Area | 5.275 | 5.275 | sq. in. |
| Joint Efficiency | | 100.0 | % |

PERFORMANCE

| | | | |
|-----------------------------------|---------|---------|------------|
| Minimum Collapse Pressure | 13,470 | 13,470 | psi |
| External Pressure Leak Resistance | | 10,780 | psi |
| Minimum Internal Yield Pressure | 13,950 | 13,950 | psi |
| Minimum Pipe Body Yield Strength | 580,000 | | lbs |
| Joint Strength | | 606,000 | lbs |
| Compression Rating | | 364,000 | lbs |
| Reference Length | | 22,444 | ft |
| Maximum Uniaxial Bend Rating | | 63.3 | deg/100 ft |

MAKE-UP DATA

| | | |
|-------------------------|--------|--------|
| Make-Up Loss | 4.56 | in. |
| Minimum Make-Up Torque | 11,500 | ft-lbs |
| Maximum Make-Up Torque | 16,000 | ft-lbs |
| Connection Yield Torque | 19,600 | ft-lbs |

Notes:

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- 2) Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- 3) Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- 4) Reference length is calculated by joint strength divided by nominal T&C weight with 1.5 safety factor.
- 5) Connection external pressure resistance has been verified to 80% API pipe body collapse pressure (API 5C5 Cal III testing protocol).

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 USS Product Data Sheet 2018 rev27 (Feb)