Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-025-52585

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)

16. No of acres in lease

17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.

19. Proposed Depth

20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

22. Approximate date work will start*

23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature

Name *(Printed/Typed)*

Date

Title

Approved by *(Signature)*

Name *(Printed/Typed)*

Date

Title

Office

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/16/2024

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-52585	58960	TEAS;BONE SPRING

4 Property Code	5 Property Name	6 Well Number
335390	ROBIN FED COM	131H

7 OGRID No.	8 Operator Name	9 Elevation
371449	COLGATE ENERGY LLC	3657.34'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	20	20-S	34-E		1480'	SOUTH	1285'	WEST	LEA

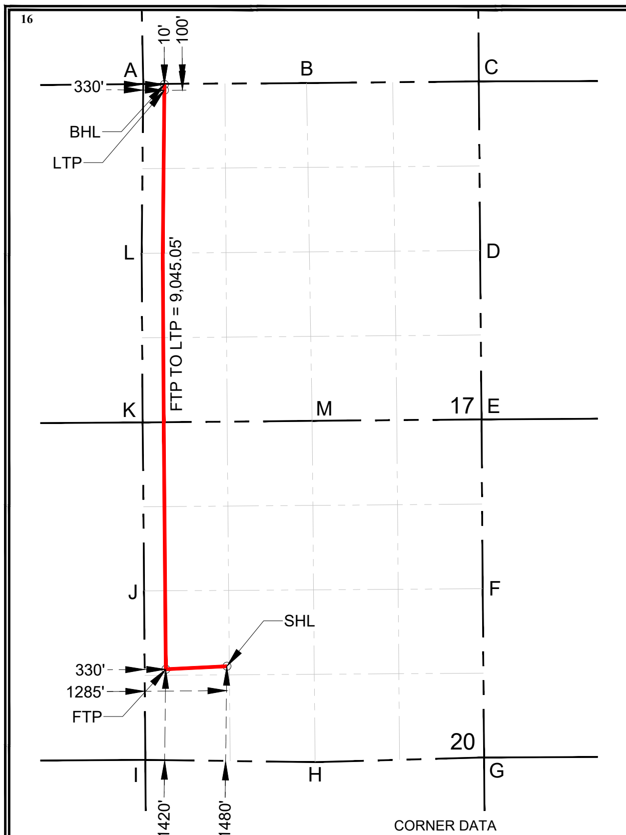
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	17	20-S	34-E		10'	NORTH	330'	WEST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

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

16



SURFACE HOLE LOCATION (SHL)
NEW MEXICO EAST - NAD 83
X=771329.72 LAT.= 32.55539221° N
Y=566588.60 LONG.= 103.58686865° W
NEW MEXICO EAST - NAD 27
X=730148.67 LAT.= 32.55526917° N
Y=566526.28 LONG.= -103.58637808° W
1480' FSL, 1285' FWL - SECTION 20

FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=770375.01 LAT.= 32.55527917° N
Y=566540.79 LONG.= 103.58996810° W
NEW MEXICO EAST - NAD 27
X=729193.97 LAT.= 32.55515616° N
Y=566478.47 LONG.= -103.58947743° W
1420' FSL, 330' FWL - SECTION 20

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=770353.18 LAT.= 32.58013931° N
Y=575585.54 LONG.= 103.58983391° W
NEW MEXICO EAST - NAD 27
X=729172.40 LAT.= 32.58001632° N
Y=575522.95 LONG.= -103.58934228° W
100' FNL, 330' FWL - SECTION 17

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=770354.08 LAT.= 32.58038668° N
Y=575675.55 LONG.= 103.58982895° W
NEW MEXICO EAST - NAD 27
X=729173.29 LAT.= 32.58026368° N
Y=575612.95 LONG.= -103.58933732° W
10' FNL, 330' FWL - SECTION 17

CORNER DATA
NEW MEXICO EAST - NAD 83

A - CALCULATED CORNER N:575683.60' E:770024.14'
B - FOUND 2" IRON ROD N:575698.69' E:772576.32'
C - FOUND 1" IRON ROD N:575725.09' E:775270.15'
D - FOUND 1/2" IRON ROD N:573083.40' E:775289.90'
E - FOUND 1" IRON PIPE N:570444.44' E:775311.14'
F - FOUND BENT 1" IRON PIPE N:567799.07' E:775330.83'
G - FOUND 1" T-RAIL N:565162.69' E:775351.32'
H - FOUND 4" IRON PIPE N:565090.87' E:772709.30'
I - FOUND 2" IRON PIPE N:565124.75' E:770055.49'
J - FOUND BENT 1/2" IRON ROD N:567764.31' E:770035.95'
K - CALCULATED CORNER N:570396.23' E:770013.74'
L - FOUND DISTURBED 1/2" IRON ROD N:573038.97' E:769997.80'
M - FOUND 3/8" IRON ROD N:570422.45' E:772663.28'

17 OPERATOR CERTIFICATION

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

Signature: [signature] Date: 05.16.2022

Printed Name: Mikah Thomas

E-mail Address: mthomas@colgateenergy.com

18 SURVEYOR CERTIFICATION

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

Date of Survey

Signature and Seal of Professional Surveyor:

MARK J. MURRAY
NEW MEXICO
12177
REGISTERED PROFESSIONAL SURVEYOR

3/28/2022

Certificate Number

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Permian Resources Operating, LLC **OGRID:** 372165 **Date:** 8/29/2023

II. Type: ☑ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.
If Other, please describe: ______________________.

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil	Anticipated Gas	Anticipated Prod Water
Robin Fed Com 111H		L-20-T20S-R34E	1680' FSL – 1255' FWL	730 BOPD	1062 MCFD	1729 BWPD
Robin Fed Com 112H		K-20-T20S-R34E	1680' FSL – 1375' FWL	730 BOPD	1062 MCFD	1729 BWPD
Robin Fed 113H		O-20-T20S-R34E	330' FSL – 1385' FEL	730 BOPD	1062 MCFD	1729 BWPD
Robin Fed 114H		P-20-T20S-R34E	330' FSL – 1265' FEL	730 BOPD	1062 MCFD	1729 BWPD
Robin Fed Com 121H		L-20-T20S-R34E	1680' FSL – 1285' FWL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed Com 122H		L-20-T20S-R34E	1680' FSL – 1315' FWL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed Com 123H		K-20-T20S-R34E	1680' FSL – 1345' FWL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed Com 124H		K-20-T20S-R34E	1680' FSL – 1405' FWL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed 125H		O-20-T20S-R34E	330' FSL – 1355' FEL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed 126H		O-20-T20S-R34E	330' FSL – 1325' FEL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed 127H		P-20-T20S-R34E	330' FSL – 1295' FEL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed 128H		P-20-T20S-R34E	330' FSL – 1235' FEL	869 BOPD	685 MCFD	3740 BWPD
Robin Fed Com 131H		L-20-T20S-R34E	1480' FSL – 1285' FWL	949 BOPD	1059 MCFD	4116 BWPD
Robin Fed Com 132H		K-20-T20S-R34E	1480' FSL – 1345' FWL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed 133H		O-20-T20S-R34E	10' FSL – 1355' FEL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed 134H		P-20-T20S-R34E	10' FSL – 1295' FEL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed Com 171H		L-20-T20S-R34E	1480' FSL – 1255' FWL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed Com 172H		K-20-T20S-R34E	1480' FSL – 1405' FWL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed 173H		O-20-T20S-R34E	10' FSL – 1385' FEL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed 174H		P-20-T20S-R34E	10' FSL – 1235' FEL	1054 BOPD	1177 MCFD	4573 BWPD
Robin Fed Com 201H		L-20-T20S-R34E	1480' FSL – 1315' FWL	2100 BOPD	2100 MCFD	5000 BWPD
Robin Fed Com 202H		K-20-T20S-R34E	1480' FSL – 1375' FWL	2100 BOPD	2100 MCFD	5000 BWPD
Robin Fed 203H		O-20-T20S-R34E	10' FSL – 1325' FEL	2100 BOPD	2100 MCFD	5000 BWPD
Robin Fed 204H		P-20-T20S-R34E	10' FSL – 1265' FEL	2100 BOPD	2100 MCFD	5000 BWPD

IV. Central Delivery Point Name: Batman CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Robin Fed Com 111H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 112H		TBD	TBD	TBD	TBD	TBD
Robin Fed 113H		TBD	TBD	TBD	TBD	TBD
Robin Fed 114H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 121H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 122H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 123H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 124H		TBD	TBD	TBD	TBD	TBD
Robin Fed 125H		TBD	TBD	TBD	TBD	TBD
Robin Fed 126H		TBD	TBD	TBD	TBD	TBD
Robin Fed 127H		TBD	TBD	TBD	TBD	TBD
Robin Fed 128H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 131H		2/26/2024	3/13/2024	5/30/2024	6/23/2024	6/23/2024
Robin Fed Com 132H		4/1/2024	4/17/2024	5/30/2024	6/23/2024	6/23/2024
Robin Fed 133H		3/17/2024	4/2/2024	5/26/2024	6/23/2024	6/23/2024
Robin Fed 134H		4/21/2024	5/7/2024	5/26/2024	6/23/2024	6/23/2024
Robin Fed Com 171H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 172H		TBD	TBD	TBD	TBD	TBD
Robin Fed 173H		TBD	TBD	TBD	TBD	TBD
Robin Fed 174H		TBD	TBD	TBD	TBD	TBD
Robin Fed Com 201H		3/13/2024	4/1/2024	5/30/2024	6/23/2024	6/23/2024
Robin Fed Com 202H		4/2/2024	4/21/2024	5/26/2024	6/23/2024	6/23/2024
Robin Fed 203H		TBD	TBD	TBD	TBD	TBD
Robin Fed 204H		TBD	TBD	TBD	TBD	TBD

VI. Separation Equipment: ☑ Attach a complete description of how Operator will seize separation equipment to optimize gas capture.

VII. Operations Practices: ☑ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☑ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
Effective April 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well Name	API	Anticipated Average Natural Gas Rate	Anticipated Volume of Natural Gas for the First Year
Robin Fed Com 111H		723 MCFD	263,988 MCF
Robin Fed Com 112H		723 MCFD	263,988 MCF
Robin Fed 113H		723 MCFD	263,988 MCF
Robin Fed 114H		723 MCFD	263,988 MCF
Robin Fed Com 121H		447 MCFD	163,156 MCF
Robin Fed Com 122H		447 MCFD	163,156 MCF
Robin Fed Com 123H		447 MCFD	163,156 MCF
Robin Fed Com 124H		447 MCFD	163,156 MCF
Robin Fed 125H		447 MCFD	163,156 MCF
Robin Fed 126H		447 MCFD	163,156 MCF
Robin Fed 127H		447 MCFD	163,156 MCF
Robin Fed 128H		447 MCFD	163,156 MCF
Robin Fed Com 131H		660 MCFD	240,985 MCF
Robin Fed Com 132H		734 MCFD	267,761 MCF
Robin Fed 133H		734 MCFD	267,761 MCF
Robin Fed 134H		734 MCFD	267,761 MCF
Robin Fed Com 171H		734 MCFD	267,761 MCF
Robin Fed Com 172H		734 MCFD	267,761 MCF
Robin Fed 173H		734 MCFD	267,761 MCF
Robin Fed 174H		734 MCFD	267,761 MCF
Robin Fed Com 201H		764 MCFD	279,754 MCF
Robin Fed Com 202H		764 MCFD	279,754 MCF
Robin Fed 203H		764 MCFD	279,754 MCF
Robin Fed 204H		764 MCFD	279,754 MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Volume of Natural Gas for the First Year
Targa	Targa-Versado Gathering System	C-18-T20S-R34E	6/23/2024	20 MMCFD

XI. Map. ☑ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas system(s) to which the well(s) will be connected.

XII. Line Capacity. Operator ☑ does □ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).
☑ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☑ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attached a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 – Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☑ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

□ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.
If Operator checks this box, Operator will select one of the following:

Well Shut-In. □ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. □ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** Power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 – Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:
   - **(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or
   - **(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, not later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file and update for each Natural Gas Management Plan until the Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
   - **(c)** OCD may deny or conditionally approve and APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Tinlee Via
Printed Name:	Tinlee Via
Title:	Contract Drilling Engineer
E-mail Address:	tinlee.via@permianres.com
Date:	9/29/2023
Phone:	512-755-6018

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Natural Gas Management Plan Descriptions

VI. Separation Equipment:

Permian Resources Operating, LLC (Permian) utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations. Our goal is to maintain 5 minutes of retention time in the test vessel and 20 minutes in the heater treater at peak production rates. The gas produced is routed from the separator to the gas sales line.

VII. Operational Practices:

Drilling

During Permian's drilling operations it is uncommon for venting or flaring to occur. If flaring is needed due to safety concerns, gas will be routed to a flare and volumes will be estimated.

Flowback

During completion/recompletion flowback operations, after separation flowback begins and as soon as it is technically feasible, Permian routes gas though a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

Production

Per 19.15.27.8.D, Permian's facilities are designed to minimize waste. Our produced gas will only be vented or flared in an emergency or malfunction situation, except as allowed for normal operations noted in 19.15.27.8.D(2) & (4). All gas that is flared is metered. All gas that may be vented will be estimated.

Performance Standards

Permian utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations.

All of Permian's permanent storage tanks associated with production operations which are routed to a flare or control device are equipped with an automatic gauging system.

All of Permian's flare stacks, both currently installed and for future installation, are:

1) Appropriately sized and designed to ensure proper combustion effciency.

2)Equipped with an automatic ignitor or continuous pilot.

3) Anchored and located at least 100 feet from the well and storage tanks.

Permian's field operations and HSE teams have implemented an AVO inspection schedule that adheres to the requirements of 19.15.27.8.E(5).

All of our operations and facilities are designed to minimize waste. We routinely employ the following methods and practices:

- Closed-loop systems
- Enclosed and properly sized tanks

- Vapor recovery units to maximize recovery of low-pressure gas streams and potential unauthorized emissions
- Low-emitting or electric engines whenever practical
- Combustors and flare stacks in the event of a malfunction or emergency
- Routine facility inspections to identify leaking components, functioning control devices, such as flares and combustors, and repair / replacement of malfunctioning components where applicable

Measurement or estimation

Permian measures or estimates the volumes of natural gas vented, flared and/or beneficially used for all of our drilling, completing and producing wells. We utilize accepted industry standards and methodology which can be independently verified. Annual GOR testing is completed on our wells and will be submitted as required by the OCD. None of our equipment is designed to allow diversion around metering elements except during inspection, maintenance and repair operations.

VIII. Best Management Practices:

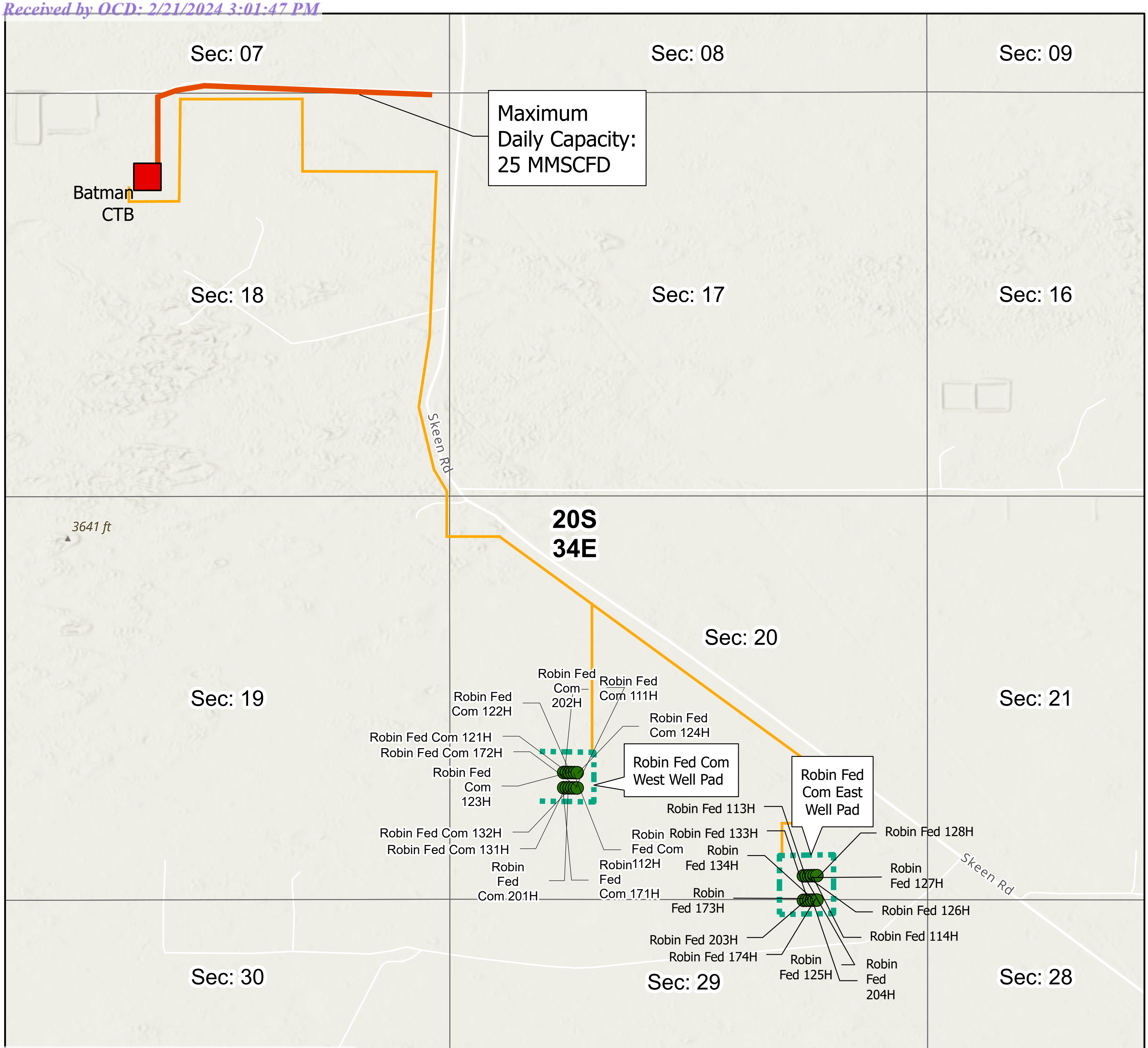
Permian Resources utilizes the following BMPs to minimize venting during active and planned maintenance activities:

- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility inspections, identification of component malfunctions, and repairing or replacing components such as hatches, seals, valves, etc. where applicable
- Utilize vapor recovery units (VRU's) to maximize recovery of volumes of low-pressure gas streams and potential unauthorized emissions
- Route low pressure gas and emissions streams to a combustion device to prevent venting where necessary

Enhanced Natural Gas Management Plan

Operator's Plan to Manage Production in Response to Increased Line Pressure

Permian Resources Operating, LLC (Permian) anticipates that its existing wells connected to the same portion of the natural gas gathering system will continue to meet anticipated increases in line pressure caused by the new wells. Permian will actively monitor line pressure throughout the field and will make necessary adjustments to existing production separators' pressures to send gas to sales. Permian also plans to implement automated alarms on all flare meters to alert of flaring events as they occur. The alarms will send notifications to field operations and engineering staff via text message and email at every occurrence of flaring. In addition, Permian plans to implement automated alarms on all flare meters to alert of any continuous flaring event that has continued for at least 4 hours. The alarms will send notifications to field operations and engineering management. Permian personnel will promptly respond to these alarms, communicate with midstream partners, and take the appropriate action to reduce flaring caused by high line pressure from new well production.



Location Map

Carlsbad

Legend

- CTB Facility
- Well Pad
- Robin SHL
- Gas Takeaway
- Flowlines

N W E S

0 375 750 1,500 Feet

Spatial Reference
Name: GCS North American 1983
GCS: GCS North American 1983
Datum: North American 1983
Map Units: Degree

This map and its contents are not a legal surveyed document. It is meant for the use of Permian Resources and its employees and cannot be shared without expressed written authorization.

PERMIAN RESOURCES

NM APD NGMP
Robin Fed 113H/114H/125H 126H/127H/128H/133H/134H 173H/174H/203H/204H and Fed Com 111H/112H/121H/122H 123H/124H/131H/132H/171H/172H 201H/202H

Lea County, New Mexico

Created Date: 08/01/23 Revised Date: 8/16/2023

Author: A. Brown Drafter: T. Douglass

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Colgate Energy LLC
LEASE NO.:	NMLC-0029512A, NMNM-013276
COUNTY:	Lea

Wells:

West Well Pad

Robin Fed Com 111H
Surface Hole Location: 1680 FSL and 1255 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 112H
Surface Hole Location: 1680 FSL and 1375 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 121H
Surface Hole Location: 1680 FSL and 1285 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 122H
Surface Hole Location: 1680 FSL and 1315 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 990 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 123H
Surface Hole Location: 1680 FSL and 1345 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 124H
Surface Hole Location: 1680 FSL and 1405 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 131H
Surface Hole Location: 1480 FSL and 1285 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 132H
Surface Hole Location: 1480 FSL and 1345 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 171H
Surface Hole Location: 1480 FSL and 1255 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 990 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 172H
Surface Hole Location: 1480 FSL and 1405 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FWL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 201H
Surface Hole Location: 1480 FSL and 1315 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 990 FWL; Section 17, T. 20 S., R. 34 E

 Approval Date: 02/16/2024

Robin Fed Com 202H
Surface Hole Location: 1480 FSL and 1375 FWL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FWL; Section 17, T. 20 S., R. 34 E

East Well Pad

Robin Fed 113H
Surface Hole Location: 330 FSL and 1385 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed Com 114H
Surface Hole Location: 330 FSL and 1265 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 125H
Surface Hole Location: 330 FSL and 1355 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 126H
Surface Hole Location: 330 FSL and 1325 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 127H
Surface Hole Location: 330 FSL and 1295 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 660 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 128H
Surface Hole Location: 330 FSL and 1235 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 133H
Surface Hole Location: 10 FSL and 1355 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 2310 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 134H
Surface Hole Location: 10 FSL and 1295 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 990 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 173H
Surface Hole Location: 10 FSL and 1385 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 174H
Surface Hole Location: 10 FSL and 1235 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 203H
Surface Hole Location: 10 FSL and 1325 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 1650 FEL; Section 17, T. 20 S., R. 34 E

Robin Fed 204H
Surface Hole Location: 10 FSL and 1265 FEL; Section 20, T. 20 S., R. 34 E
Bottom Hole Location: 10 FNL and 330 FEL; Section 17, T. 20 S., R. 34 E

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed:

Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the pad area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

TANK BATTERY:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

BURIED PIPELINES:

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Range:

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Lesser Prairie Chicken:
Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Special Status Plant Species:

VRM IV:

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

Potash:

Lessees must comply with the 2012Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Robin Drill Island.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed twenty (20) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

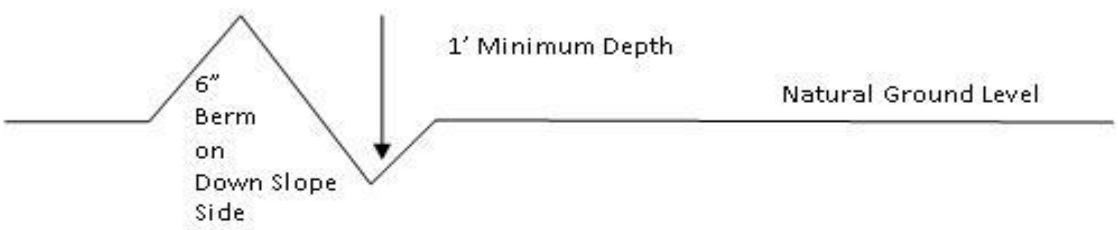
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example **-** On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

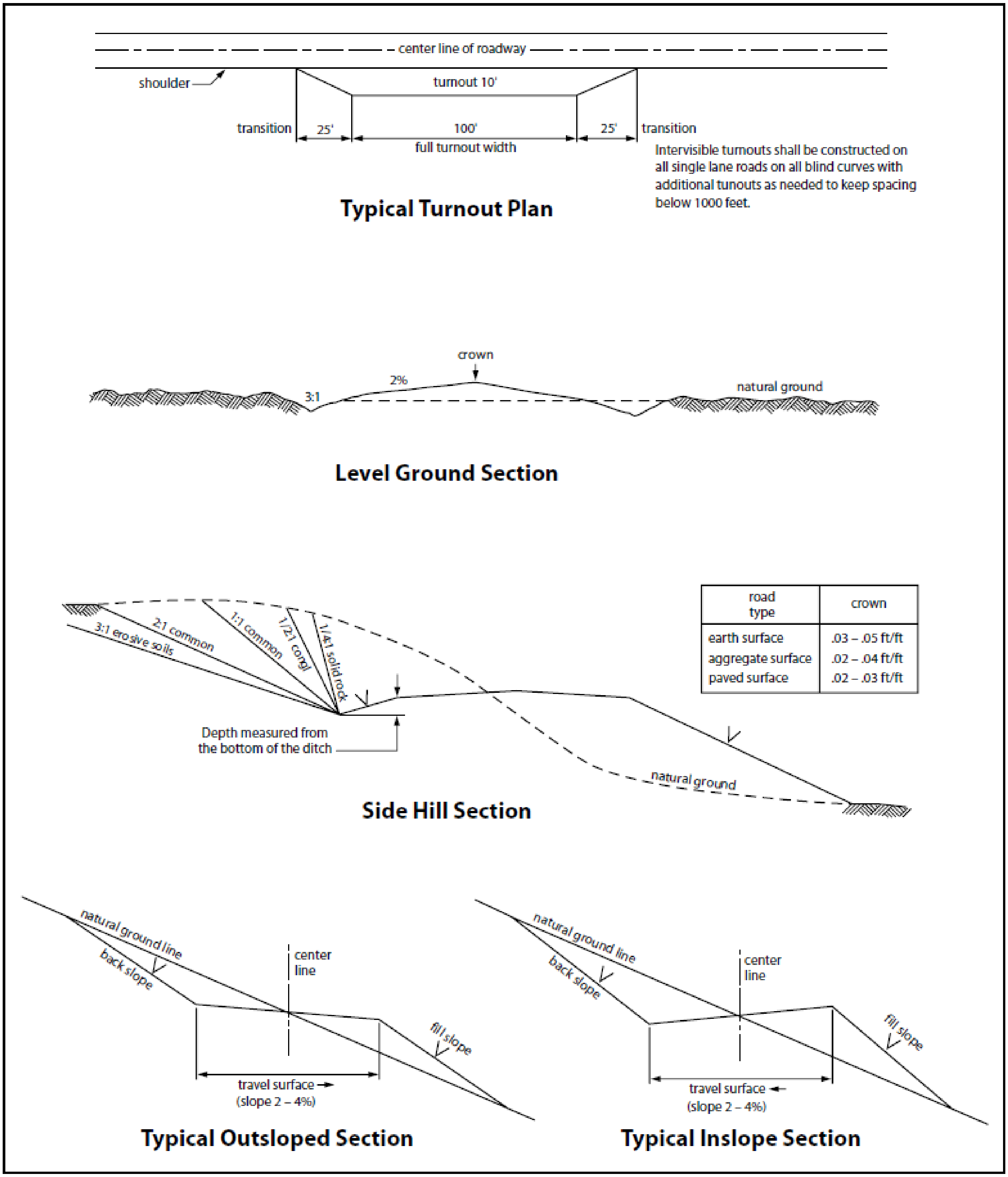


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. <u>Use a maximum netting mesh size of 1 ½ inches.</u>

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **<u>Shale Green</u>** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.

- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Easement/Right-of-Way (unless the release or threatened release is wholly unrelated to the Easement/Right-of-Way holder's activity on the Easement/Right-of-Way), or resulting from the activity of the Easement/Right-of-Way holder on the Easement/Right-of-Way. This agreement

applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **_36_** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless

otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

☐ **Seed Mixture 1**
☐ **Seed Mixture 2**
☒ **Seed Mixture 2/LPC**
☐ **Seed Mixture 3**
☐ **Seed Mixture 4**
☐ **Seed Mixture Aplomado Falcon Mixture**

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. <u>Escape Ramps</u> - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

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PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: **LEASE NO.:** **LOCATION:** **COUNTY:**	Colgate **NMNM13276** Section 20, T.20 S, R.34 E., NMPM Lea County, New Mexico
WELL NAME & NO.: **SURFACE HOLE FOOTAGE:** **BOTTOM HOLE FOOTAGE:**	Robin Fed Com 131H 1480'/S & 1285'/W 10'/N & 330'/W

COA

H_2S	◉ Yes	○ No		
Potash / WIPP	○ None	○ Secretary	◉ R-111-P	☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☐ COM	☐ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☑ Capitan Reef
Variance	☐ Four-String	☐ Offline Cementing	☑ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware Group** formation. As a result, the Hydrogen Sulfide area must meet all requirements from **43 CFR 3176**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1590** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **<u>24 hours in the Potash Area</u>** or 500 pounds compressive strength, whichever

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is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at **3256ft**:
   - Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

     a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job. **Excess calculates to 13%. Additional cement maybe required.**

     b. Second stage above DV tool:
     c. Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 20%. Additional cement maybe required.**

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, and potash.

- ❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing salt string must come to surface.

- ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
  (Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the Capitan interval)

  - Switch to freshwater mud to protect the Capitan Reef and use freshwater mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

  - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval.

If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

Operator will sundry this APD for a four-string Casing Plan

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement to surface. If cement does not circulate, contact the appropriate BLM office. Operator shall provide method of verification. **Excess calculates to 7%. Additional cement maybe required.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the casing shoe shall be **5000 (5M)** psi.

   a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
   b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
   c. Manufacturer representative shall install the test plug for the initial BOP test.
   d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
   e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, **BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24</u>

hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic

pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

ZS 2/5/2024

Approval Date: 02/16/2024

AFMSS

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

Operator Certification Data Report

02/20/2024

Operator

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: **Signed on:** 05/18/2022

Title:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

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

Application Data

02/20/2024

APD ID: 10400085434 **Submission Date:** 05/21/2022

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

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

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400085434 **Tie to previous NOS?** N **Submission Date:** 05/21/2022

BLM Office: Carlsbad **User:** MIKAH X THOMAS **Title:** Regulatory Manager

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

Lease number: NMNM13276 **Lease Acres:**

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

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

Agreement number:

Agreement name:

Keep application confidential? N

Permitting Agent? NO **APD Operator:** COLGATE OPERATING LLC

Operator letter of

Operator Info

Operator Organization Name: COLGATE OPERATING LLC

Operator Address: 300 N MARIENFELD STREET SUITE 1000 **Zip:** 79701

Operator PO Box:

Operator City: MIDLAND **State:** TX

Operator Phone: (432)695-4272

Operator Internet Address: MTHOMAS@COLGATEENERGY.COM

Section 2 - Well Information

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

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

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

Well Name: ROBIN FED COM **Well Number:** 131H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** Lea **Pool Name:** Bone Spring, South

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Robin Pad West **Number:** 1

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: 28 Miles **Distance to nearest well:** 1766 FT **Distance to lease line:** 1285 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Robin_Fed_Com_131H_Plat_C_102_Signed_20220518055030.pdf

Well work start Date: 08/31/2022 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 12177 **Reference Datum:** KELLY BUSHING

Wellbore	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	Will this well produce from this
SHL Leg #1	1480	FSL	1285	FWL	20S	34E	20	Aliquot NWSW	32.5553922	-103.5868686	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 13276	3657	0	0	Y
KOP Leg #1	1401	FSL	520	FWL	20S	34E	20	Aliquot NWSW	32.5551892	-103.5893531	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 13276	-6836	10527	10493	Y
PPP Leg #1-1	1420	FSL	330	FWL	20S	34E	20	Aliquot NWSW	32.5552791	-103.5899681	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 13276	-7265	11013	10922	Y

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Wellbore	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	Will this well produce from this
PPP Leg #1-2	0	FSL	330	FWL	20S	34E	20	Aliquot SWNW	32.5586381	-103.5899482	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029512A	-7409	12127	11066	Y
PPP Leg #1-3	0	FSL	330	FWL	20S	34E	17	Aliquot SWNW	32.573148	-103.5898686	LEA	NEW MEXICO	NEW MEXICO	F	NMNM13276	-7409	17406	11066	Y
EXIT Leg #1	100	FNL	330	FWL	20S	34E	17	Aliquot NWNW	32.5801393	-103.5898339	LEA	NEW MEXICO	NEW MEXICO	F	NMNM13276	-7409	19949	11066	Y
BHL Leg #1	10	FNL	330	FWL	20S	34E	17	Aliquot NWNW	32.5803866	-103.5898289	LEA	NEW MEXICO	NEW MEXICO	F	NMNM13276	-7409	20039	11066	Y

AFMSS

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

Drilling Plan Data Report

02/20/2024

APD ID: 10400085434

Submission Date: 05/21/2022

Highlighted data reflects the most recent changes

Show Final Text

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM

Well Number: 131H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12946908	QUATERNARY	3657	30	30	ALLUVIUM	NONE	N
12946918	RUSTLER	2130	1527	1527	ANHYDRITE, LIMESTONE, SALT	NONE	N
12946909	SALADO	2020	1637	1638	ANHYDRITE, SALT	NONE	N
12946910	TANSILL	420	3237	3245	ANHYDRITE, DOLOMITE	NONE	N
12946911	YATES	270	3387	3395	DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946912	SEVEN RIVERS	35	3622	3630	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946913	CAPITAN REEF	-180	3837	3846	LIMESTONE	NONE	N
12946914	QUEEN	-680	4337	4348	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946915	DELAWARE SAND	-1910	5567	5567	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946907	BRUSHY CANYON	-3150	6807	6807	LIMESTONE, MUDSTONE, SANDSTONE	NATURAL GAS, OIL	N
12946916	BONE SPRING	-4880	8537	8565	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946917	BONE SPRING 1ST	-5855	9512	9544	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946931	BONE SPRING 2ND	-6430	10087	10121	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12946932	BONE SPRING 3RD	-7190	10847	10909	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Pressure Rating (PSI): 10M **Rating Depth:** 15000

Equipment: BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. A rotating head will also be installed and utilized as needed. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the preset level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing & isolation of the 133/8 x 95/8 annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variablebore rams) will be run in upper rambody of BOP stack to provide redundancy to annular preventer while RIH w/ production casing;

Requesting Variance? YES

Variance request: 1. Colgate Energy requests a variance to drill this well using a coflex line between the BOP and choke manifold. Certification for proposed coflex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

Testing Procedure: After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a third party tester utilizing water and a test plug to 250 psi low and 5,000 psi high. To deem a pressure test successful, pressure must be maintained for ten minutes without any bleedoff. A valve on the wellhead below seat of test plug will be open at all time during BOPE tests to guard against damage to casing. The BOPE will be retested in this manner after any connection breaks or passage of allotted time (25 days). Any BOPE which fails to pass pressure tests after initial install will be replaced prior to drilling out of surface casing shoe. If at any time a BOPE component cannot function to secure the hole, the hole shall be secured utilizing a retrievable packer, and the nonfunctioning BOPE component shall be repair or replaced. After repair or replacement, a pressure test of the repaired or replaced component and any connections broken to repair or replace the nonfunctioning component will be tested in the same manner as described for initial install of BOPE. The annular preventer will be faction tested at least weekly, and the ramtype preventers will be function tested on each trip. BOPE pit level drills will be conducted weekly with each drilling crews. All pressure tests performed on BOPE and BOPE pit level drills will be logged in the drilling log. Isolation of 133/8" x 95/8" casing annulus shall be confirmed by pressure testing of wellhead sealing component after said sealing component is installed.

Choke Diagram Attachment:

Robin__10M_Choke_Layout_20220517173729.pdf

BOP Diagram Attachment:

Robin__BOP_Stack_20220517173735.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Robin__10M_Choke_Layout_20220517173729.pdf

Robin__BOP_Stack_20220517173735.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	1590	0	1590	3657	2067	1590	J-55	54.5	BUTT	1.125	1.2	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5510	0	5484	0	-1827	5510	J-55	40	BUTT	1.125	1.2	DRY	1.6	DRY	1.6
3	PRODUCTION	8.7	5.5	NEW	API	N	0	20039	0	11066	0	-7409	20039	OTHER	17	OTHER - CDC HTQ	1.125	1.1	DRY	1.6	DRY	1.6

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Robin_Fed_Com_131H___Casing_Design_Summary_20220518055651.pdf

Casing_Design_Assumptions_20220518055656.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Robin_Fed_Com_131H___Casing_Design_Summary_20220518055639.pdf

Casing_Design_Assumptions_20220518054151.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Robin_Fed_Com_131H___Casing_Design_Summary_20220518055622.pdf

Casing_Design_Assumptions_20220511055339.pdf

Proprietary_Connections_Performance_Data_5.5000_17.0000_0.3040__P110_HP_20230223171842.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1270	1034	1.68	13.7	1737.12	100	ExtendaCem-CZ	None
SURFACE	Tail		1270	1590	329	1.35	14.8	444.15	100	HalCem-C	Accelerator
INTERMEDIATE	Lead	3700	0	2598	559	1.88	12.9	1050.92	50	EconoCem-HLC	5% salt + 5 lb/sk Kol-Seal

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		2598	3700	324	1.33	14.8	430.92	25	HalCem-C	None
INTERMEDIATE	Lead		3700	4408	177	1.88	12.9	332.76	50	EconCem-HLC	5% Salt + 5 lb/sk Kol-Seal
INTERMEDIATE	Tail		4408	5510	230	1.33	14.8	305.9	25	HalCem-C	None
PRODUCTION	Lead		0	10270	1220	2.41	11.5	2759.45	25	Class H	POZ + extender + fluid loss + dispersant + retarder
PRODUCTION	Tail		10270	20039	1785	1.73	12.5	2714.37	25	Class H	POZ + extender + fluid loss + dispersant + retarder

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: All necessary mud products for weight addition and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: Mud program is subject to change due to hole conditions. The mud monitoring system is an electronic Pason system satisfying requirements of Onshore Order #1. Both visual and electronic mud monitoring equipment will be utilized to detect volume changes indicating loss or gain of circulating system fluid volume. Slow pump rates will be taken & recorded tourly in the drilling log. Mud engineer will perform tests and provide written report at least every 12 hours while circulating. A trip tank will be utilized and trip sheet will be recorded to ensure wellbore is taking proper fill or displacing proper fluid volume during all tripping operations. Gas detecting equipment will be utilized to monitor for hydrocarbon gas at the shakers while drilling and/or circulating. H2S monitoring equipment with both visual & auditory alarms will be installed and operational at the shakers, rig floor and cellar while drilling and/or circulating. A flare system with an effective method for ignition & discharge more than 100 feet from the wellbore will be utilized to gather and burn all gas; lines will be straight unless targeted with running tees. A mud gas separator will be installed and operable at least 500 feet before first anticipated hydrocarbon zone.

Circulating Medium Table

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

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	1590	SPUD MUD	8.6	9							
1590	5510	SALT SATURATED	10	10.2							
5510	20039	OIL-BASED MUD	9	10							

Section 6 - Test, Logging, Coring

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

Directional surveys will be collected at no greater than 200' intervals while drilling through the MWD tools. A GR log will be collected while drilling through the MWD tools from intermediate casing to TD. No DSTs or cores are planned at this time. No temperature logs planned at this time.
CBL will be run to confirm TOC on production casing after rig is removed from location. A formation integrity test (FIT) will be performed on 95/8" casing string after
BOPE is installed to at least 1 ppge over planned section mud weight after drilling ten feet of new hole.

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

DIRECTIONAL SURVEY,GAMMA RAY LOG,

Coring operation description for the well:

No openhole logs are planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4387 **Anticipated Surface Pressure:** 1952

Anticipated Bottom Hole Temperature(F): 120

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Colgate_H2S_Contingency_Plan_20220510162250.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

_B02__Robin_Fed_Com_131H_APD_Rev00_20220518055918.pdf

Other proposed operations facets description:

After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a third party tester utilizing water and a test plug to 250 psi low and 5,000
psi high. To deem a pressure test successful, pressure must be maintained for ten minutes without any bleedoff. A valve on the wellhead below seat of test plug will be
open at all time during BOPE tests to guard against damage to casing. The BOPE will be retested in this manner after any connection breaks or passage of allotted time
(25 days). Any BOPE which fails to pass pressure tests after initial install will be replaced prior to drilling out of surface casing shoe. If at any time a BOPE component
cannot function to secure the hole, the hole shall be secured utilizing a retrievable packer, and the nonfunctioning BOPE component shall be repair or replaced. After
repair or replacement, a pressure test of the repaired or replaced component and any connections broken to repair or replace the nonfunctioning component will be
tested in the same manner as described for initial install of BOPE. The annular preventer will be faction tested at least weekly, and the ramtype preventers will be
function tested on each trip. BOPE pit level drills will be conducted weekly with each drilling crews. All pressure tests performed on BOPE and BOPE pit level drills will
be logged in the drilling log. Isolation of 133/8" x 95/8" casing annulus shall be confirmed by pressure testing of wellhead sealing component after said sealing
component is installed.

Casing will be tested by pressuring up to 1,500 psi and holding pressure for thirty minutes. A casing test will be deemed successful if test pressure does not decline more
than 10% over the thirty minute period. Cement will be allowed to sit undisturbed for twentyfour hours and reach a minimum of 500 psi compressive strength across
the "zone of interest" prior to testing casing and drilling out. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Cement will be placed on all casing strings utilizing the pump and plug method. A float will be installed in the casing shoe and float collar on all casing strings to hold
cement in place once pumping is completed. A top plug will be utilized on all casing strings to prevent contamination of the cement by the displacement fluid. A
preflush fluid will be pumped prior to cement to aid in removal of drilling mud from the wellbore, eliminate drilling mud contamination of the cement slurry and prepare
the surface of both the wellbore and casing for cement.

No abnormal pressures or temperatures are expected. In accordance with Onshore Order No. 6, Colgate Energy does not anticipate that there will be enough H2S from
the surface to the Wolfcamp formations to meet the BLMs minimum requirements for the submission of an H2S Drilling Operation Plan or Public Protection Plan for
the drilling and completion of this well. Since we have an H2S safety package on all wells, attached is an H2S Drilling Operations Plan. Adequate flare lines will be
installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Other proposed operations facets attachment:

Colgate_13_MBS_RP_20220511064642.PDF

Robin__Overview_Map_20220517174412.pdf

Choke_Hose_SN_53621_20220511064656.pdf

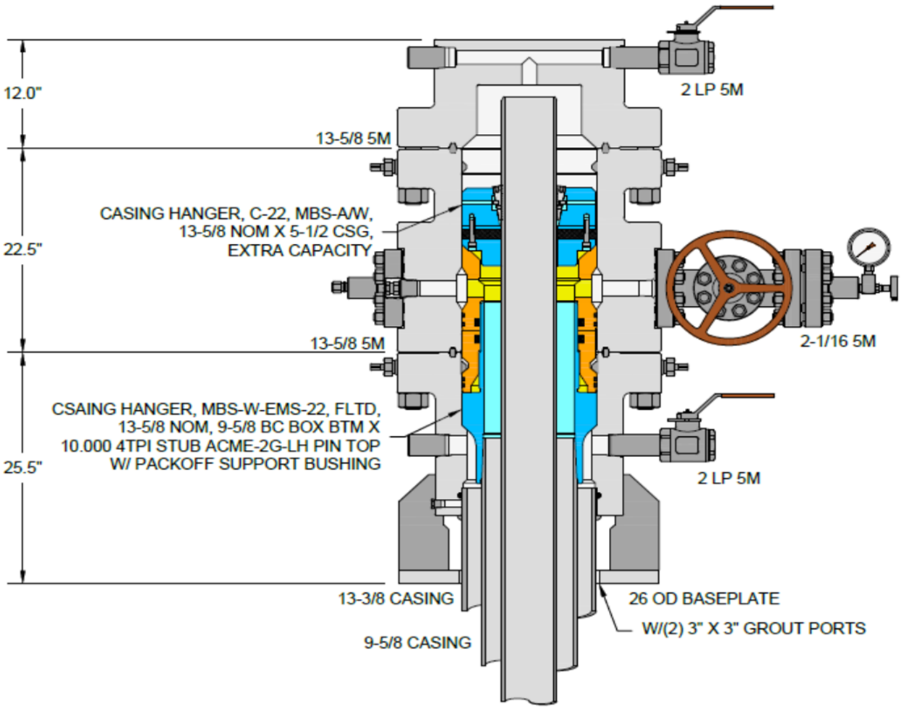
Robin_Fed_131H_APD_Procedure_Update_4.24.23_20230425101217.pdf

Other Variance attachment:

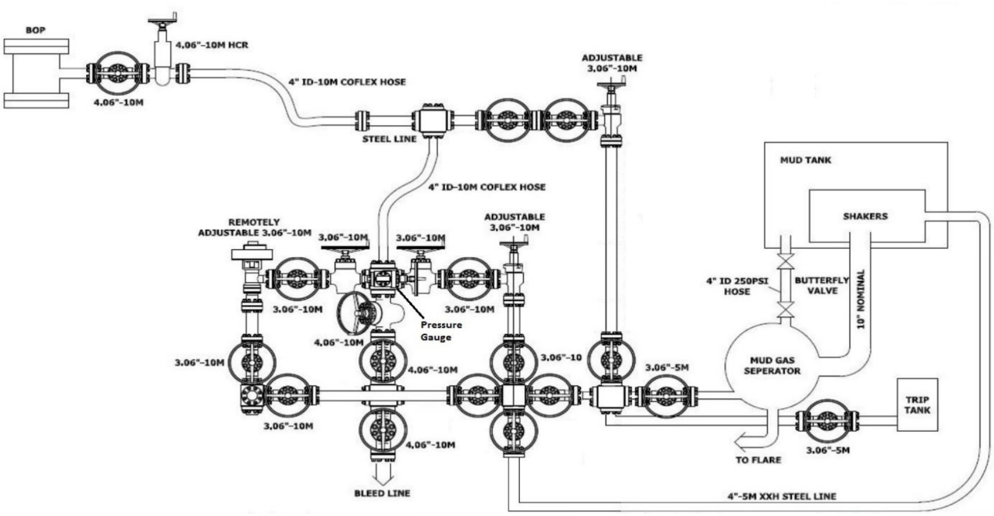
Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

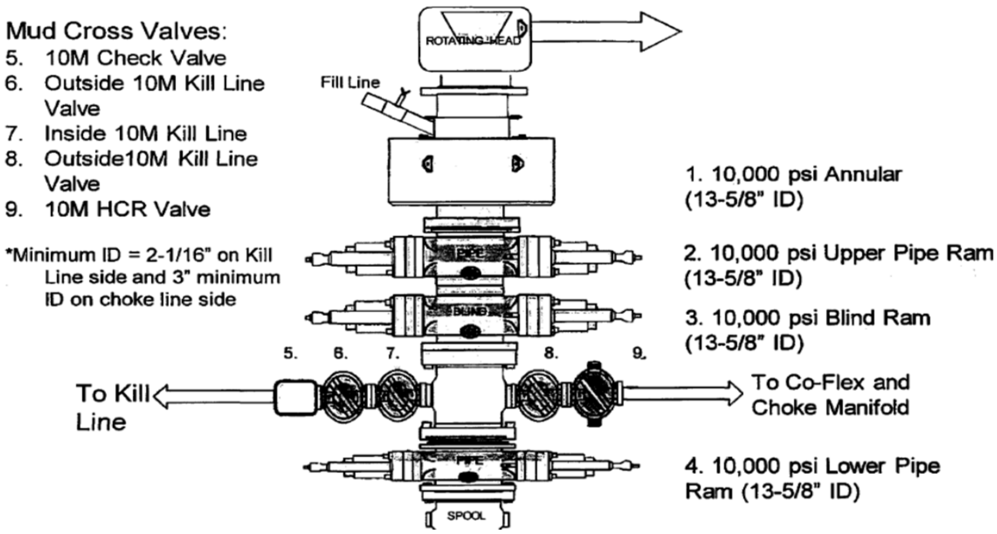
Multi-bowl Wellhead



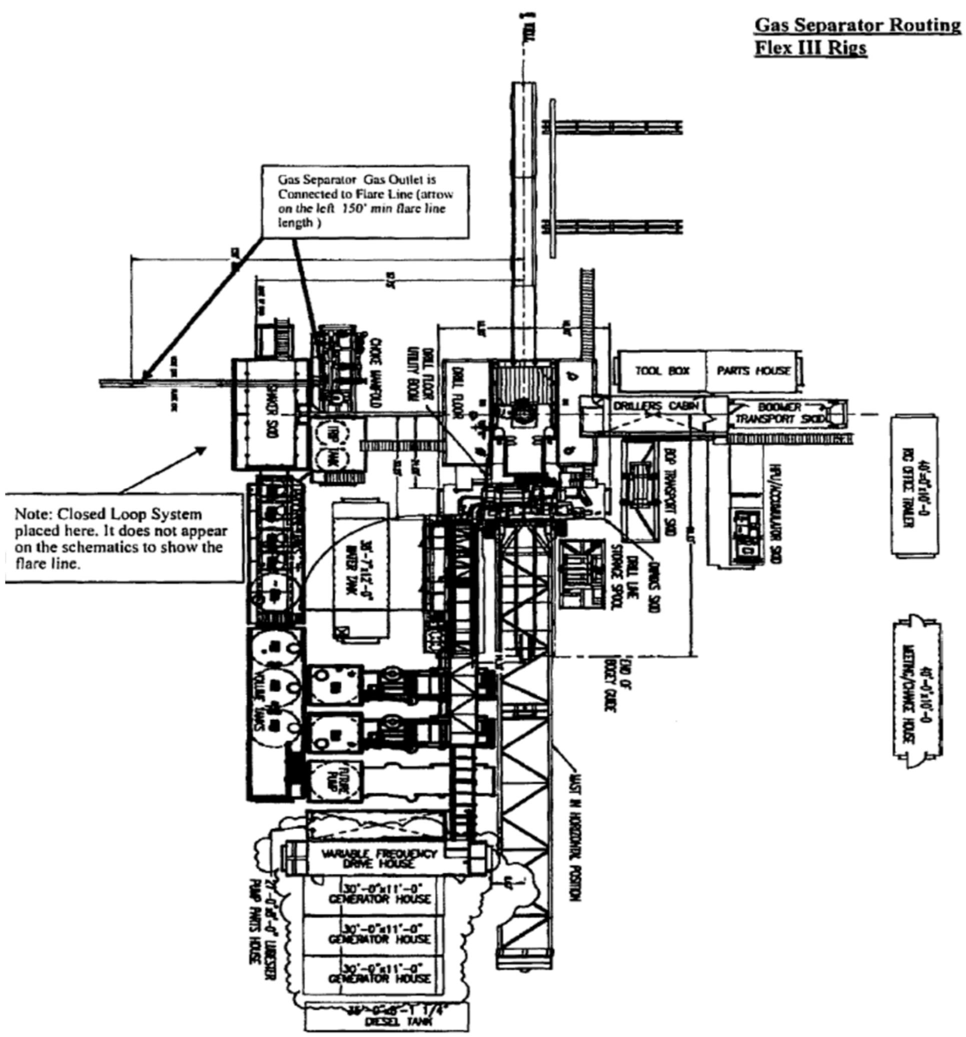
10M Choke Layout



10,000 psi BOP Stack:



Closed Loop System Layout:



File: APD-Rev00 Date: April 29, 2022 Page: 1

WELL SUMMARY

	String	OD/Weight/Grade	Connection	MD Interval (usft)	Drift Dia. (")	Minimum Safety Factor (Abs) Burst	Collapse	Axial	Triaxial	Design Cost ($)
1	Surface Casing	13 3/8", 54.500 ppf, J-55	BTC, J-55	30-1590	12.459	1.62	1.20	1.68	1.46	38,421
2										Total = 38,421
3										
4	Intermediate Casing	9 5/8", 40.000 ppf, J-55	BTC, J-55	30-5510	8.750 A	1.27	1.69	1.84	1.37	93,624
5										Total = 93,624
6										
7	Production Casing	5 1/2", 17.000 ppf, HP P-110	CDC-HTQ, BTC	30-20039	4.767	1.11	1.39	1.65	1.19	292,584
8										Total = 292,584
9										
10										Total = 424,629

Permit StressCheck 5000.15.1.0 Build 1002

Colgate's Minimum Design Criteria

Burst, collapse and tension SF are calculated using Landmark's StressCheck (casing design) software. A sundry will be requested if any lesser grade or different size casing is substituted.

Casing Design Assumptions:

<u>Surface</u>

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate I</u>

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.

(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

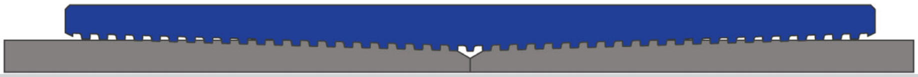
Production

1) Burst Design Loads
    a) Injection Down Casing
        (1) Internal: Surface pressure plus injection fluid gradient.
        (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
    b) Casing Pressure Test (Drilling)
        (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
        (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
    c) Casing Pressure Test (Production)
        (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
        (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
    d) Tubing Leak
        (1) Internal: SITP plus a packer fluid gradient to the top of packer.
        (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
    a) Cementing
        (1) Internal: Displacement fluid density.
        (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
    b) Full Evacuation
        (1) Internal: Full void pipe.
        (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
    a) Overpull Force
        1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
    b) Green Cement Casing Test
        1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

U. S. Steel Tubular Products

3/5/2020 8:48:46 PM

5.500" 17.00lbs/ft (0.304" Wall) P110 HP USS-CDC HTQ®



MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ®	
Minimum Yield Strength	125,000	--	psi
Maximum Yield Strength	140,000	--	psi
Minimum Tensile Strength	130,000	--	psi

DIMENSIONS	Pipe	USS-CDC HTQ®	
Outside Diameter	5.500	6.300	in.
Wall Thickness	0.304	--	in.
Inside Diameter	4.892	4.892	in.
Standard Drift	4.767	4.767	in.
Alternate Drift	--	--	in.
Coupling Length	--	9.250	in.
Nominal Linear Weight, T&C	17.00	--	lbs/ft
Plain End Weight	16.89	--	lbs/ft

SECTION AREA	Pipe	USS-CDC HTQ®	
Critical Area	4.962	4.962	sq. in.
Joint Efficiency	--	97.1	%

PERFORMANCE	Pipe	USS-CDC HTQ®	
Minimum Collapse Pressure	9,440	9,440	psi
External Pressure Leak Resistance	--	7,550	psi
Minimum Internal Yield Pressure	12,090	12,090	psi
Minimum Pipe Body Yield Strength	620,000	--	lbs
Joint Strength	--	602,000	lbs
Compression Rating	--	361,000	lbs
Reference Length	--	23,608	ft
Maximum Uniaxial Bend Rating	--	60.7	deg/100 ft

MAKE-UP DATA	Pipe	USS-CDC HTQ®	
Make-Up Loss	--	4.63	in.
Minimum Make-Up Torque	--	11,000	ft-lbs
Maximum Make-Up Torque	--	15,500	ft-lbs
Connection Yield Torque	--	19,200	ft-lbs

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 threaded and coupled weight with 1.5 safety factor.
5. Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380
1-877-893-9461
connections@uss.com
www.usstubular.com

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WELL SUMMARY

	String	OD/Weight/Grade	Connection	MD Interval (usft)	Drift Dia. (")	Minimum Safety Factor (Abs)				Design Cost ($)
						Burst	Collapse	Axial	Triaxial	
1	Surface Casing	13 3/8", 54.500 ppf, J-55	BTC, J-55	30-1590	12.459	1.62	1.20	1.68	1.46	38,421
2										Total = 38,421
3										
4	Intermediate Casing	9 5/8", 40.000 ppf, J-55	BTC, J-55	30-5510	8.750 A	1.27	1.69	1.84	1.37	93,624
5										Total = 93,624
6										
7	Production Casing	5 1/2", 17.000 ppf, HP P-110	CDC-HTQ, BTC	30-20039	4.767	1.11	1.39	1.65	1.19	292,584
8										Total = 292,584
9										
10										Total = 424,629

Permit StressCheck 5000.15.1.0 Build 1002

Colgate's Minimum Design Criteria

Burst, collapse and tension SF are calculated using Landmark's StressCheck (casing design) software. A sundry will be requested if any lesser grade or different size casing is substituted.

Casing Design Assumptions:

<u>Surface</u>

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate I</u>

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
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   b) Casing Pressure Test
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      (1) Internal: Displacement fluid density.
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   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
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      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
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      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
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Permit

StressCheck 5000.15.1.0 Build 1002

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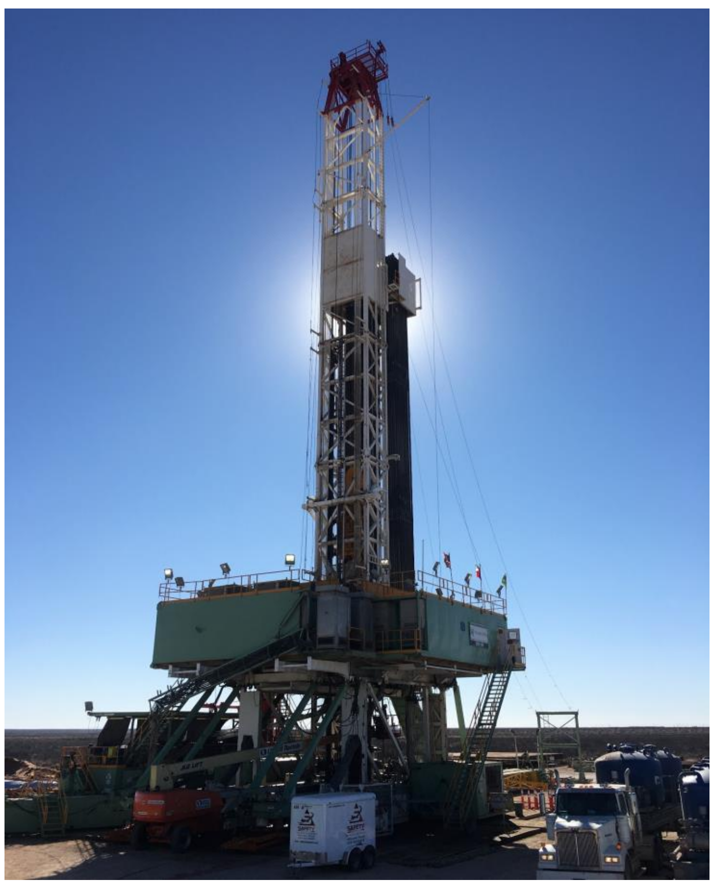
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

H_2S Contingency Plan



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I. EMERGENCY ASSISTANCE TELEPHONE LIST

PUBLIC SAFETY	911 or
Sheriff's Department:	
Eddy County Sherriff's Office	(575) 887-7551
Fire Department:	
Carlsbad Fire Department	(575) 885-3125
Artesia Fire Department	(575) 746-5051
Ambulance:	
Elite Medical Transport (Carlsbad)	(915) 542-1144
Trans Aero MedEvac (Artesia)	(970) 657-7449
Hospitals:	
Carlsbad Medical Center	(575) 887-4100
Artesia General Hospital	(575) 748-3333
New Mexico Dept. of Transportation:	
Highway & Transportation Department	(505) 795- 1401
New Mexico Railroad Commission:	
Main Line	(505) 476-3441
OSHA 24 Hr. Reporting	(800) 321-6742
(8 hrs. after death or 24 hrs. after in-patient, amputation, loss of an eye)	

Office Contacts	911 or
Colgate Energy LLC.	**(432) 695-4222**
Vice President of Operations:	
Casey McCain	(432) 664-6140
Drilling Engineering Supervisor	
Rafael Madrid	(432) 556-6387
Drilling Engineering Technical Adviser	
Steven Segrest	(405) 550-0277
Operations Superintendent	
Rick Lawson	(432) 530- 3188
Drilling Superintendent	
Daniel Cameron	(405) 933-0435
Onsite Supervision (H&P 481 Rig Managers)	
Juan Gutierrez	(970)394-4768
Jonathan Jackson	(970)394-4768
Onsite Supervision (H&P 481 Company Men)	
Pierre Dupuis	(432)438-0114
Eric Rutherford	(432)438-0114
Rolando Torres	(432)438-0114
Trevor Hein	(432)438-0114

Emergency Accommodations

Safety Solutions Office	(432) 563-0400
Safety Solutions Dispatch	(432) 556-2002
Craig Strasner	(432) 894-0341 (Cell)

II. H_2S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

Objective:

Prevent any and all accidents and prevent the uncontrolled release of H_2S into the atmosphere.
Provide proper evacuation procedures to cope with emergencies.
Provide immediate and adequate medical attention should an injury occur.

Purpose, Distribution and Updating of Contingency Plan:

The Purpose of this contingency plan is to protect the general public from the harmful effects of H_2S accidentally escaping from the subject producing well. This plan is designed to accomplish its purpose by assuring the preparedness necessary to:

1. Minimize the possibility of releasing H_2S into the atmosphere during related operations.
2. Provide for the logical, efficient, and safe emergency actions required to protect the general public in the event of an accidental release of a potentially hazardous quantity of H_2S.

Supplemental information is included with this plan and is intended as reference material for anyone needing a more detailed understanding of the many factors pertinent to H_2S drilling operations safety. The release of a potentially hazardous quantity of H_2S is highly unlikely. If such a release should occur however, obviously the exact time, rate, duration, and other pertinent facts will be known in advance thus, this contingency plan must necessarily be somewhat general. The plan does review in detail, as is reasonably possible, the type of accidental release that could possibly endanger the general public, the probable extent of such danger, and the emergency actions generally appropriate. In the event of such an accidental release, the specific actions to be taken will have to be determined at the time of release by the responsible personnel at the drilling location. Complete familiarity with this plan will help such personnel make the proper decisions rapidly. Familiarity with this plan is so required all operators, operator representatives, and drilling contractor supervisory personnel who could possibly be on duty at the drilling location at the time of an H_2S emergency.

IT IS THE RESPONSIBILITY OF THE OPERATOR TO ASSURE SUCH FAMILIARITY BEFORE DRILLING WITHIN 1000' OR THREE DAYS PRIOR TO PENETRATION OF THE SHALLOWEST FORMATION KNOWN OR SUSPECTED TO CONTAIN H_2S IN POTENTIALLY HAZARDOUS QUANTITIES, AND ALSO TO ASSURE THE TIMELY ACCOMPLISHMENT OF ALL THE OTHER ACTION SPECIFIED HERE IN.

As this contingency plan was prepared considerably in advance of the anticipated H_2S operation, the plan must be kept current if it is to effectively serve its purpose. The operators will be responsible for seeing that all copies are updated. Updating the plan is required when any changes to the personnel Call List (Section) including telephone numbers occur or when any pertinent data or plans for the well are altered. The plan must also be updated when any changes in the general public likely to be within the exposure area in the event of an accidental release from the well bore of a potentially hazardous quantity of H_2S. Two copies of this plan shall be retained at the office of Colgate Energy. Two copies shall be retained at the drilling location.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000' before drilling into the first sour zone.

Emergency call list: Included are the telephone numbers of all persons that would need to be contacted, should an H_2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

III. OPERATING PROCEDURES

A. Blowout Preventer Drills

Due to the special piping and Mani folding necessary to handle poisonous gas, particular care will be taken to ensure that all rig personnel are completely familiar with their jobs during the drills. The Drilling Consultant and Tool Pusher (Rig Superintendent) are thoroughly familiar with the additional controls and piping necessary.

B. H_2S Alarm Drills

The Company Man and/ or designee will conduct frequent H_2S alarm drills for each crew by injecting a trace of H_2S where the detector will give an alarm. Under these conditions all personnel on location will put on air equipment and remain masked until all clear is announced.

C. Surface Annular Preventer/ Diverter System Testing

After installation of the surface annular preventer, Hydraulic Control Valve and diverter system, both are to be function tested. They also should be function tested frequently while drilling surface hole.

D. Blowout Preventer

After installation of the Blowout Preventer Stack, the stack will be pressure tested. The Choke manifold is also to be pressure tested at this time. This procedure will be repeated as required by the NMOCD, the BLM, or if any of the stack is nipped down. Also, at this time, the Blind and Pipe Rams are checked for correct operation.

E. Well Control Practice Drills and Safety Meeting for Crew Members

Pit drills are for the purpose of acquainting each member of the drilling crew with his duties in the event of an emergency. Drills will be held with each crew as frequently as required to thoroughly familiarize each man with his duties. Drills are to be held at least weekly from that time forward.

1. BOP Drill while on Bottom Drilling:
    - A. Signal will be three or more long blast given by driller on the horn.
    - B. Procedure will be as follows:
        1. Tool Pusher: Supervises entire operation.
        2. Driller
            - a. Gives signal.
            - b. Picks up Kelly.
            - c. Stops pumps.
            - d. Observes flow.
            - e. Signal to close (pipe rams if necessary).
            - f. Check that Choke Manifold is closed.
            - g. Record drill pipe pressure, casing pressure and determine mud volume gain.
        3. Motorman
            - a. Go to closing unit and standby for signal to close BOP.
            - b. Close BOP in signal.
            - c. Check on BOP closing.
            - d. Go to floor to assist driller. (NOTE: During test drills the BOP

need not be completely closed at the discretion of the supervisor. Supervisor should make it very clear that it is a test drill only!)

4. Derrickman
   a. Check pumps.
   b. Go to floor for directions from the driller.
5. Floorman
   a. Go to manifold.
   b. Observe and record pressure.
   c. Check manifold and BOP for leaks.
   d. Check with driller for additional instructions.

2. BOP Drill While Making Trip:
   A. During trip driller will fill hole every five (5) stands and check the pits to be sure hole is taking mud.
   B. Drill Procedure is as follows:
      1. Driller
         a. Order Safety valve installed.
         b. Alert those not on the floor.
         c. Go to stations as described in above drill.

3. Safety Meetings
   A. Every person involved in the operating will be informed of the characteristics of H_2S, its danger and safety procedures to be used when it is encountered, and recommended first-aid procedure for regular rig personnel. This will be done through a series of talks made before spud.

   B. The Safety Advisor or Drilling Supervisor will conduct these training sessions and will repeat them as deemed necessary by him or as instructed by Colgate Energy. Talks may include the following subjects:
      1. Dangers of Hydrogen Sulfide (H_2S).
      2. Use and limitations of air equipment.
      3. Use of resuscitator.
      4. Organize Buddy System.
      5. First Aid procedures.
      6. Use of H_2S detection devices.
      7. Designate responsible people.
      8. Explain rig layout and policy to visitors.
         a. Designate smoking and safety or Muster area.
         b. Emphasize the importance of wind directions.
      9. Describe and explain operation of BOP stack, manifold, separator, and pit piping. Include maximum allowable pressure for casing procedure.
      10. Explain functions of Safety Supervisor.
      11. Explain organize H_2S Drills.
      12. Explain the overall emergency plan with emphasis given to the evacuation phase of the plans.

- Note: The above talks will be attended by every person involved in the operation. When drilling has reached a depth where H_2S is anticipated, temporary service personnel and visitors will be directed to the Drilling Consultant, who will designate the air equipment to be used by them in case of emergency, acquaint them with the dangers involved and be sure of their safety while they are in the area. He will point out the Briefing Areas, Windsocks, and Smoking Areas. He may refuse entrance to anyone, who in his opinion should not be admitted because of lack of safety equipment, special operations in progress or for other reasons involving personnel safety.

F. <u>Outside Service Personnel</u>

All service people such as cementing crews, logging crews, specialist, mechanics, and welders will furnish their own safety equipment. The Company Man/ or designee will be sure that the number of people on location does not exceed the number of masks on location, and they have been briefed regarding safety procedures. He will also be sure each of these people know about smoking and "Briefing Areas" and know what to do in case of an emergency alert or drill. Visitors will be restricted, except with special permission from the Drilling Consultant, when H_2S might be encountered. They will be briefed as to what to do in case of an alert or drill.

G. <u>Onsite/ off shift workers</u>

All workers that are staying on site must be identified as to where they are staying while off tour. If a drill/ or emergency takes place related to an H_2S release, each crew must have a designated person(s) that will wake them up and ensure that they are cleared to the appropriate muster area immediately.

H. <u>Simultaneous Operations (SIMOPS)</u>

If work is going on adjacent to the location is the responsibility of the Drilling Consultant or designee to communicate any applicable risks that may affect personnel working on that adjacent location. In the case of an H2S drill or event, there should be a designated crew member that is responsible for contacting personnel on adjacent locations. This could include just communication on potential events or in case of an event, notification to evacuate location. Drilling Consultant or designee are the Point of Contact and oversee all activities at such point of an H_2S event occurrence.

I. <u>Area Residences/ Occupied Locations/ Public Roads</u>

Any occupied residences/ businesses that are within a reasonable perimeter of the location (attached map will identify a 3000' radius around location) should be identified as part of this contingency and a reasonable effort will be made to gain contact information for them. As part of the briefing of the contingency plan, the team reviewing should identify where these potential receptors are and plan on who will contact them in case of a release that may impact that area.

J. <u>Drilling Fluids</u>

<u>Drilling Fluid Monitoring</u> – On Any Hazardous H_2S gas well, the earlier the warning of danger the better chance to control operations. Mud Company will be in daily contact with Colgate Energy Consultant. The Mud Engineer will take samples of the mud, analyze these samples, and make necessary recommendations to prevent H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

pH Control – For normal drilling, pH of 10.5 – 11.5. Would be enough for corrosion protection. If there is an influx of H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

H_2S Scavengers – If necessary H_2S scavengers will be added to the drilling mud.

IV. OPERATING CONDITIONS

A. Posting Well Condition Flags

Post the green, yellow or red well condition flag, as appropriate, on the well condition sign at the location entrance, and take necessary precautions as indicated below:

1. **Green Flag**: Potential Danger- When Drilling in known H_2S zones or when H_2S has been detected in the drilling fluid atmosphere. Protective breathing equipment shall be inspected, and all personnel on duty shall be alerted to be ready to use this equipment.
2. **Yellow Flag**: Potential Danger- When the threshold limit value of H_2S (10 PPM) or of SO_2 (5 PPM) is reached. If the concentration of H_2S or SO_2 reaches 10 PPM, protective breathing equipment shall be worn by all working personnel, and non-working personnel shall go to the upwind Safe Briefing Area.
3. **Red Flag**: Extreme danger*- When the ambient concentration of H_2S or SO_2 is reasonably believed or determined to have exceeded the potentially hazardous level. All non-essential personnel shall leave the drilling location taking the route most likely to exposure to escaping gas.

B. Requiring Air Masks Conditions

1. Whenever air masks are used, the person must be clean shaven as shown in the APC Guidelines
2. When breaking out any line where H_2S can reasonably be expected.
3. When sampling air in areas to determine if toxic concentrations of H_2S exist.
4. When working in areas where 10 PPM or more of H_2S has been detected.
5. At any time, there is doubt as to the H_2S level in the area to be entered.

C. Kick Procedure

1. It is very important that the driller be continuously alert, especially when approaching a gas formation.
2. Should gas come into the well bore, it is very important to be aware of a kick at the earliest time.
3. If a kick is identified, follow appropriate diverter or shut in procedures according to the situation that is presented utilizing appropriate kick procedures.

V. EMERGENCY PROCEDURES

I. In the event of any evidence of H_2S level above 10ppm, take the following steps immediately:
   a. Secure breathing apparatus.
   b. Order non-essential personnel out of the danger zone.
   c. Take steps to determine if the H_2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:
   a. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel.
   b. Remove all personnel to the Safe Briefing Area.
   c. Notify public safety personnel for help with maintaining roadblocks, thus limiting traffic and implementing evacuation.
   d. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. Responsibility
   a. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
   b. The Company Approved Supervisor shall be in complete command during any emergency.
   c. The Company Approved Supervisor shall designate a backup Supervisor if he/she is not available.

IV. Actions to be taken

   a. Assign specific tasks to drilling location personnel
   b. Evacuate the general public from the exposure area
   c. Cordon off the exposure area to prevent entry by unauthorized persons
   d. Request assistance if and as needed and initiate emergency notifications
   e. Stop the dispersion of H_2S
   f. Complete emergency notifications as required
   g. Return the situation to normal

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

a. <u>All Personnel</u>

i. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
ii. Check status of other personnel (buddy system).
iii. Secure breathing apparatus.
iv. Wait for orders from supervisor.

b. <u>Drilling Consultant</u>

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

c. <u>Tool Pusher</u>

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Drilling Consultant or the Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

d. <u>Driller</u>

i. Check the status of other personnel (in a rescue attempt, always use the buddy system).
ii. Assign the least essential person to notify the Drilling Consultant and Tool Pusher, in the event of their absence.
iii. Assume the responsibility of the Drilling Consultant and the Tool Pusher until they arrive, in the event of their absence.

e. <u>Derrick Man and Floor Hands</u>

i. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

f. <u>Mud Engineer</u>

i. Report to the upwind Safe Briefing Area.
ii. When instructed, begin check of mud for pH level and H_2S level.

g. <u>Safety Personnel</u>

i. Don Breathing Apparatus.
ii. Check status of personnel.
iii. Wait for instructions from Drilling Consultant or Tool Pusher.

II. Taking a Kick

a. All Personnel report to the upwind Safe Briefing Area.
b. Follow standard BOP/ diverter procedures.

III. Open Hole Logging

a. All unnecessary personnel should leave the rig floor.

b. Drilling Consultant and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

a. Follow "Drilling or Tripping" procedures.

b. Assure that all personnel have access to protective equipment.

VI. POST EMERGENCY ACTIONS

In the event this plan is activated, the following post emergency actions shall be taken in an effort to reduce the possibility of a reoccurrence of the type of problem that required its activation, and/or assure that any future activation of a similar plan will be as effective as possible.

A. Review the factors that caused or permitted the emergency occur, and if the need is indicated, modify operating, maintance and/or surveillance procedures.
B. If the need is indicated, retrain employees in blowout prevention, H_2S emergency procedures and etc.
C. Clean up, recharge, restock, reapair, and/ or repalce H_2S emergency equipment as necessary , and return it to its proper place. (For whatever rental equipment is used, this will be the resposibility of Rental Company).
D. See that future H_2S drilling contingency plans are modified accordingly, if the need is indicated.

VII. IGNITION PROCEDURES

Responsibilities:

The decision to ignite the well is the responsibility of the DRILLING CONSULTANT in concurrence with the STATE POLICE. In the event the Drilling Consultant is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.

2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Consultant is responsible for igniting the well.

2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.

3. Ignite from upwind and do not approach any closer than is warranted.

4. Select the ignition site best suited for protection and which offers an easy escape route.

5. Before igniting, check for the presence of combustible gases.

6. After igniting, continue emergency actions and procedures as before.

7. All unassigned personnel will limit their actions to those directed by the Drilling Consultant.

Note: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Also, both are heavier than air. Do not assume the area is safe even after the well is ignited.

VIII. TRAINING PROGRAM

When working in an area where Hydrogen Sulfide (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of Hydrogen Sulfide (H_2S).

2. Physicals effects of Hydrogen Sulfide on the human body.

3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.

4. H_2S detection, Emergency alarm and sensor location.

5. Don and Doff of SCBA and be clean shaven.

6. Emergency rescue.

7. Resuscitators.

8. First aid and artificial resuscitation.

9. The effects of Hydrogen Sulfide on metals.

10. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H_2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

IX. EMERGENCY EQUIPMENT

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION – POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:
- Two SCBA's at each briefing area.
- Enough airline units to operate safely, anytime the H_2S concentration reaches the IDLH level (100 ppm).

- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Windsocks or Wind Streamers:

- A minimum of two 10” windsocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should always be placed at various locations on the well site to ensure wind consciousness. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H_2S monitor with alarms.
- Three (3) sensors located as follows: #1 – Rig Floor, #2 – Shale Shaker, #3 – Cellar.
- Gastec or Draeger pump with tubes.
- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150’ before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H_2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher
- 2 – 100’ Rescue lines.
- First Aid kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated bottom hole pressure (BHP).
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O_2, LEL H_2S), preferably 4 (O_2, LEL, H_2S, CO). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2-way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds, or they are at a 180-degree angle if wind directions tend to shift in the area.

- Personal protective equipment should be stored at both briefing areas and if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

Note:

- Additional equipment will be available at the H_2S Provider Safety office.

- Additional personal H_2S monitors are available for all employees on location.

- Automatic Flare Igniters are recommended for installation on the rig.

X. CHECKLISTS

Rig-up & Equipment Status Check List

Note: Initial & Date each item as they are implemented. Multiple wells require additional Columns to be Dated/ Initialed

	Date & Initial 1st Well	Date & Initial 2nd Well	Date & Initial 3rd Well	Date & Initial 4th Well
Sign at location entrance.				
Two (2) windsocks (in required locations).				
Wind Streamers (if required).				
SCBA's on location (Minimum of 2 @ each Muster Area)				
Air packs (working packs and escape packs), inspected and ready for use.				
Spare bottles for each air pack (if required).				
Cascade system and hose line hook up.				
Choke manifold hooked-up and tested. (before drilling out surface casing.)				
Remote Hydraulic BOP control tested (before drilling out surface casing).				
BOP tested (before drilling out surface casing).				
Safe Briefing Areas set-up				
Well Condition sign and flags on location and ready.				
Hydrogen Sulfide detection/ alarm system hooked-up & tested.				
Stretcher on location				
2 – 100' Lifelines on location.				
1 – 20# Fire Extinguisher in safety trailer.				
Confined Space monitor on location and tested.				
All rig crews and supervisor trained (as required).				
All rig crews and supervision medically qualified and fit tested on proper respirators				
Access restricted for unauthorized personnel.				
Pre-spud meeting held reviewing Contingencies				
Drills on H_2S and well control procedures.				
All outside service contractors advised of potential H_2S on the well.				
25mm Flare Gun on location w/flares.				

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to ensure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all the Hydrogen Sulfide detection systems are operative.
5. Ensure that all BOP/ Surface Annular/ Diverter systems are functioning and operational.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened, and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready for use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability (may be with H_2S Techs On-call):
   - Stretcher
   - Safety Belts and Ropes
   - Spare air Bottles
   - Spare Oxygen Bottles (if resuscitator required)
   - Gas Detector Pump and Tubes
   - Emergency telephone lists
   - Test the Confined Space Monitor to verify the batteries are good.

XI. BRIEFING PROCEDURES

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
Drilling Engineer
Drilling Consultant
Rig Tool Pushers
Rig Drillers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

XII. EVACUATION PLAN

General Plan

The direct lines of action prepared by Colgate Energy to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Consultant, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the area map.

2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists, and evacuation needs to be implemented.

3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.

4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining roadblocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" personnel will determine when the area is safe for re-entry.

6. If a major release is secured, all exposed housing, vehicles, rig buildings, and low-lying areas and other structures downwind must be tested and clear with SCBAs donned to ensure that all residual H_2S is cleared. Fans, or opening of doors is recommended to ensure that areas are cleared out as part of this process.

XIII. APPENDICES AND GENERAL INFORMATION

Radius of Exposure
Affected Notification List

(within a 65' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are known to contain hazardous quantities of H_2S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:
Residents:

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

The Operating Company will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

Toxic Effects of H_2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gases are compared below in Table 1. Toxicity table for H_2S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	4.7 ppm	50 ppm
Hydrogen Sulfide	H_2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO_2	2.21	2 ppm	5 ppm	100 ppm
Chlorine	CL	2.45	.5 ppm	1 ppm	10 ppm
Carbon Monoxide	CO	.97	25 ppm	200 ppm	1200 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	30,000 ppm	40,000 ppm
Methane	CH_4	.55	5% LEL	15% UEL	

Definitions

A. TLV – Threshold Limit Value is the concentration employees may be exposed based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists) and regulated by OSHA.

B. STEL – Short Term Exposure Limit is the 15-minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H_2S is 20 PPM.

C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H_2S is 100 PPM.

D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed based on a TWA.

Toxicity Table of H_2S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins **in a few minutes.**
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H_2S

The properties of all gases are usually described in the context of seven major categories:

- COLOR
- ODOR
- VAPOR DENSITY
- EXPLOSIVE LIMITS
- FLAMMABILITY
- SOLUBILITY (IN WATER)
- BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless, so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. In fact, that makes this gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, like "rotten eggs". For this reason, it earned its common name "sour gas". However, H_2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air, so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H_2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.0% TO 44%

Mixed with the right proportion of air or oxygen, H_2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-77° Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulate the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete an OSHA mandated medical evaluation questionnaire. The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gases.

Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone who may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

Respirators shall be worn during the following conditions:

A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H_2S.

B. When breaking out any line where H_2S can reasonably be expected.

C. When sampling air in areas where H_2S may be present.

D. When working in areas where the concentration of H_2S exceeds the Threshold Limit Value for H_2S (10 ppm).

E. At any time where there is a doubt as to the H_2S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

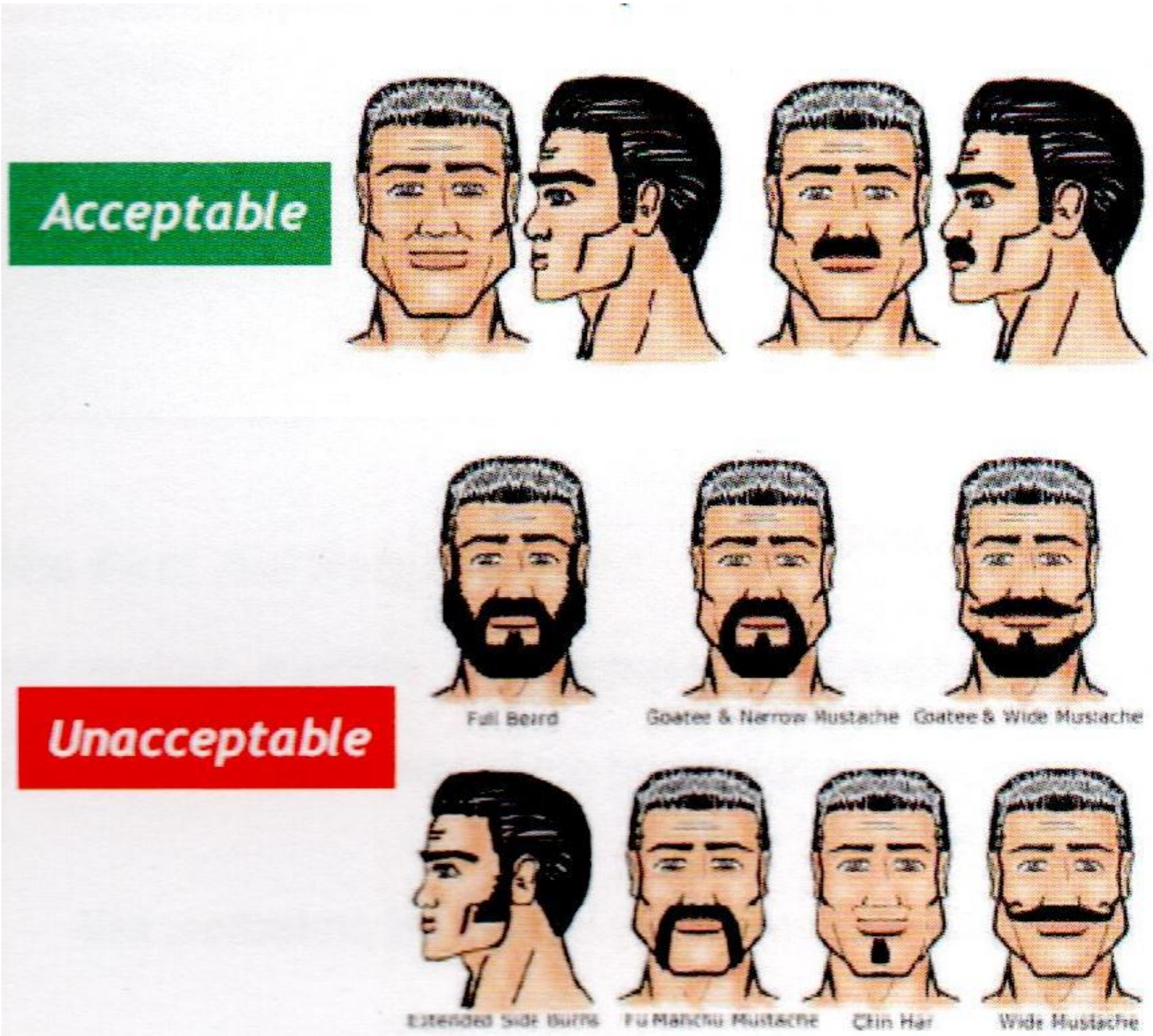
DO NOT PANIC!!!

Remain Calm – Think

1. Before attempting any rescue, you must first get out of the hazardous area yourself. Go to a safe briefing area.
2. Sound alarm and activate the 911 system.
3. Put on breathing apparatus. At least two persons should do this, when available use the buddy system.
4. Rescue the victim and return them to a safe briefing area.
5. Perform an initial assessment and begin proper First Aid/CPR procedures.
6. Keep victim lying down with a blanket or coat, etc.., under the shoulders to keep airway open. Conserve body heat and do not leave unattended.
7. If the eyes are affected by H_2S, wash them thoroughly with potable water. For slight irritation, cold compresses are helpful.
8. In case a person has only minor exposure and does not lose consciousness totally, it's best if he doesn't return to work until the following day.
9. Any personnel overcome by H_2S should always be examined by medical personnel. They should always be transported to a hospital or doctor.

Facial Hair – Clean Shaven Examples

Purpose: To define clean shaven expectations in the field for: 1) Respirator Use, if applicable and 2) First Aid Administration, if situation occurs related to H_2S exposure, having no facial hair can greatly benefit response time and treatment ability.



COLGATE ENERGY

Colgate Energy

(Permit) Eddy County, NM (83-NME)
(Permit) Robin Fed DSU
(B02) Robin Fed Com 131H - Slot (B02)

Permit

Plan: APD-Rev00

Standard Planning Report

07 April, 2022

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Project	(Permit) Eddy County, NM (83-NME)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	(Permit) Robin Fed DSU				
Site Position:		**Northing:**	566,789.01 usft	**Latitude:**	32.55594366
From:	Map	**Easting:**	771,298.22 usft	**Longitude:**	-103.58696631
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well	(B02) Robin Fed Com 131H - Slot (B02)						
Well Position	**+N/-S**	0.00 usft	**Northing:**	566,588.60 usft	**Latitude:**	32.55539222
	+E/-W	0.00 usft	**Easting:**	771,329.72 usft	**Longitude:**	-103.58686864
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,657.00 usft
Grid Convergence:		0.40 °				

Wellbore	Permit				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2020	3/15/2022	6.49	60.17	47,608.24541944

Design	APD-Rev00				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	359.87	

Plan Survey Tool Program **Date** 4/7/2022

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,039.23	APD-Rev00 (Permit)	MWD+IFR1+SAG+FDIR (SQC OWSG MWD + IFR1 + Sag + F	

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,533.33	5.00	273.00	1,532.91	0.76	-14.52	1.50	1.50	0.00	273.00	
6,533.33	5.00	273.00	6,513.88	23.57	-449.70	0.00	0.00	0.00	0.00	
6,661.31	5.26	251.59	6,641.36	22.01	-460.83	1.50	0.20	-16.73	-93.07	
9,983.87	5.26	251.59	9,949.94	-74.14	-749.75	0.00	0.00	0.00	0.00	
10,334.42	0.00	0.00	10,300.00	-79.22	-765.00	1.50	-1.50	0.00	180.00	
10,527.46	0.00	0.00	10,493.04	-79.22	-765.00	0.00	0.00	0.00	0.00	
11,427.46	90.00	347.50	11,066.00	480.16	-889.01	10.00	10.00	0.00	347.50	
12,045.75	90.00	359.87	11,066.00	1,093.50	-956.91	2.00	0.00	2.00	90.00	
20,039.23	90.00	359.87	11,066.00	9,086.95	-975.64	0.00	0.00	0.00	0.00	03-PBHL(R-131H)

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	1.50	273.00	1,299.99	0.07	-1.31	0.07	1.50	1.50	0.00
1,400.00	3.00	273.00	1,399.91	0.27	-5.23	0.29	1.50	1.50	0.00
1,500.00	4.50	273.00	1,499.69	0.62	-11.76	0.64	1.50	1.50	0.00
1,527.40	4.91	273.00	1,527.00	0.73	-14.00	0.77	1.50	1.50	0.00
Rustler									
1,533.33	5.00	273.00	1,532.91	0.76	-14.52	0.79	1.50	1.50	0.00
1,600.00	5.00	273.00	1,599.32	1.06	-20.32	1.11	0.00	0.00	0.00
1,637.82	5.00	273.00	1,637.00	1.24	-23.61	1.29	0.00	0.00	0.00
Salado									
1,700.00	5.00	273.00	1,698.94	1.52	-29.02	1.59	0.00	0.00	0.00
1,800.00	5.00	273.00	1,798.56	1.98	-37.72	2.06	0.00	0.00	0.00
1,900.00	5.00	273.00	1,898.18	2.43	-46.43	2.54	0.00	0.00	0.00
2,000.00	5.00	273.00	1,997.80	2.89	-55.13	3.01	0.00	0.00	0.00
2,100.00	5.00	273.00	2,097.42	3.35	-63.84	3.49	0.00	0.00	0.00
2,200.00	5.00	273.00	2,197.04	3.80	-72.54	3.97	0.00	0.00	0.00
2,300.00	5.00	273.00	2,296.66	4.26	-81.24	4.44	0.00	0.00	0.00
2,400.00	5.00	273.00	2,396.28	4.71	-89.95	4.92	0.00	0.00	0.00
2,500.00	5.00	273.00	2,495.90	5.17	-98.65	5.39	0.00	0.00	0.00
2,600.00	5.00	273.00	2,595.52	5.63	-107.35	5.87	0.00	0.00	0.00
2,700.00	5.00	273.00	2,695.14	6.08	-116.06	6.35	0.00	0.00	0.00
2,800.00	5.00	273.00	2,794.76	6.54	-124.76	6.82	0.00	0.00	0.00
2,900.00	5.00	273.00	2,894.38	6.99	-133.46	7.30	0.00	0.00	0.00
3,000.00	5.00	273.00	2,994.00	7.45	-142.17	7.77	0.00	0.00	0.00
3,100.00	5.00	273.00	3,093.62	7.91	-150.87	8.25	0.00	0.00	0.00
3,200.00	5.00	273.00	3,193.23	8.36	-159.58	8.73	0.00	0.00	0.00
3,243.93	5.00	273.00	3,237.00	8.56	-163.40	8.93	0.00	0.00	0.00
Tansill									
3,300.00	5.00	273.00	3,292.85	8.82	-168.28	9.20	0.00	0.00	0.00
3,394.51	5.00	273.00	3,387.00	9.25	-176.50	9.65	0.00	0.00	0.00
Yates									
3,400.00	5.00	273.00	3,392.47	9.28	-176.98	9.68	0.00	0.00	0.00
3,500.00	5.00	273.00	3,492.09	9.73	-185.69	10.15	0.00	0.00	0.00
3,600.00	5.00	273.00	3,591.71	10.19	-194.39	10.63	0.00	0.00	0.00
3,630.40	5.00	273.00	3,622.00	10.33	-197.04	10.77	0.00	0.00	0.00
Seven Rivers									
3,700.00	5.00	273.00	3,691.33	10.64	-203.09	11.10	0.00	0.00	0.00
3,800.00	5.00	273.00	3,790.95	11.10	-211.80	11.58	0.00	0.00	0.00
3,846.22	5.00	273.00	3,837.00	11.31	-215.82	11.80	0.00	0.00	0.00
Capitan									
3,900.00	5.00	273.00	3,890.57	11.56	-220.50	12.06	0.00	0.00	0.00

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,000.00	5.00	273.00	3,990.19	12.01	-229.20	12.53	0.00	0.00	0.00
4,100.00	5.00	273.00	4,089.81	12.47	-237.91	13.01	0.00	0.00	0.00
4,200.00	5.00	273.00	4,189.43	12.92	-246.61	13.48	0.00	0.00	0.00
4,300.00	5.00	273.00	4,289.05	13.38	-255.32	13.96	0.00	0.00	0.00
4,348.13	5.00	273.00	4,337.00	13.60	-259.51	14.19	0.00	0.00	0.00
Queen									
4,400.00	5.00	273.00	4,388.67	13.84	-264.02	14.44	0.00	0.00	0.00
4,500.00	5.00	273.00	4,488.29	14.29	-272.72	14.91	0.00	0.00	0.00
4,600.00	5.00	273.00	4,587.91	14.75	-281.43	15.39	0.00	0.00	0.00
4,700.00	5.00	273.00	4,687.53	15.21	-290.13	15.86	0.00	0.00	0.00
4,800.00	5.00	273.00	4,787.15	15.66	-298.83	16.34	0.00	0.00	0.00
4,900.00	5.00	273.00	4,886.77	16.12	-307.54	16.82	0.00	0.00	0.00
5,000.00	5.00	273.00	4,986.39	16.57	-316.24	17.29	0.00	0.00	0.00
5,100.00	5.00	273.00	5,086.00	17.03	-324.94	17.77	0.00	0.00	0.00
5,200.00	5.00	273.00	5,185.62	17.49	-333.65	18.24	0.00	0.00	0.00
5,300.00	5.00	273.00	5,285.24	17.94	-342.35	18.72	0.00	0.00	0.00
5,400.00	5.00	273.00	5,384.86	18.40	-351.06	19.19	0.00	0.00	0.00
5,500.00	5.00	273.00	5,484.48	18.85	-359.76	19.67	0.00	0.00	0.00
5,582.83	5.00	273.00	5,567.00	19.23	-366.97	20.06	0.00	0.00	0.00
Delaware Sands									
5,600.00	5.00	273.00	5,584.10	19.31	-368.46	20.15	0.00	0.00	0.00
5,700.00	5.00	273.00	5,683.72	19.77	-377.17	20.62	0.00	0.00	0.00
5,800.00	5.00	273.00	5,783.34	20.22	-385.87	21.10	0.00	0.00	0.00
5,900.00	5.00	273.00	5,882.96	20.68	-394.57	21.57	0.00	0.00	0.00
6,000.00	5.00	273.00	5,982.58	21.13	-403.28	22.05	0.00	0.00	0.00
6,100.00	5.00	273.00	6,082.20	21.59	-411.98	22.53	0.00	0.00	0.00
6,200.00	5.00	273.00	6,181.82	22.05	-420.68	23.00	0.00	0.00	0.00
6,300.00	5.00	273.00	6,281.44	22.50	-429.39	23.48	0.00	0.00	0.00
6,400.00	5.00	273.00	6,381.06	22.96	-438.09	23.95	0.00	0.00	0.00
6,500.00	5.00	273.00	6,480.68	23.42	-446.80	24.43	0.00	0.00	0.00
6,533.33	5.00	273.00	6,513.88	23.57	-449.70	24.59	0.00	0.00	0.00
6,600.00	5.05	261.57	6,580.30	23.29	-455.50	24.32	1.50	0.07	-17.14
6,661.31	5.26	251.59	6,641.36	22.01	-460.83	23.05	1.50	0.35	-16.28
6,700.00	5.26	251.59	6,679.89	20.89	-464.20	21.94	0.00	0.00	0.00
6,800.00	5.26	251.59	6,779.47	17.99	-472.89	19.07	0.00	0.00	0.00
6,900.00	5.26	251.59	6,879.05	15.10	-481.59	16.19	0.00	0.00	0.00
7,000.00	5.26	251.59	6,978.62	12.21	-490.28	13.32	0.00	0.00	0.00
7,100.00	5.26	251.59	7,078.20	9.31	-498.98	10.44	0.00	0.00	0.00
7,200.00	5.26	251.59	7,177.78	6.42	-507.67	7.57	0.00	0.00	0.00
7,300.00	5.26	251.59	7,277.36	3.52	-516.37	4.70	0.00	0.00	0.00
7,400.00	5.26	251.59	7,376.94	0.63	-525.06	1.82	0.00	0.00	0.00
7,500.00	5.26	251.59	7,476.52	-2.26	-533.76	-1.05	0.00	0.00	0.00
7,600.00	5.26	251.59	7,576.10	-5.16	-542.46	-3.93	0.00	0.00	0.00
7,700.00	5.26	251.59	7,675.68	-8.05	-551.15	-6.80	0.00	0.00	0.00
7,800.00	5.26	251.59	7,775.26	-10.94	-559.85	-9.67	0.00	0.00	0.00
7,900.00	5.26	251.59	7,874.84	-13.84	-568.54	-12.55	0.00	0.00	0.00
8,000.00	5.26	251.59	7,974.42	-16.73	-577.24	-15.42	0.00	0.00	0.00
8,100.00	5.26	251.59	8,074.00	-19.63	-585.93	-18.30	0.00	0.00	0.00
8,200.00	5.26	251.59	8,173.57	-22.52	-594.63	-21.17	0.00	0.00	0.00
8,300.00	5.26	251.59	8,273.15	-25.41	-603.33	-24.05	0.00	0.00	0.00
8,400.00	5.26	251.59	8,372.73	-28.31	-612.02	-26.92	0.00	0.00	0.00
8,500.00	5.26	251.59	8,472.31	-31.20	-620.72	-29.79	0.00	0.00	0.00
8,564.96	5.26	251.59	8,537.00	-33.08	-626.37	-31.66	0.00	0.00	0.00

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Bone Spring									
8,600.00	5.26	251.59	8,571.89	-34.10	-629.41	-32.67	0.00	0.00	0.00
8,700.00	5.26	251.59	8,671.47	-36.99	-638.11	-35.54	0.00	0.00	0.00
8,800.00	5.26	251.59	8,771.05	-39.88	-646.80	-38.42	0.00	0.00	0.00
8,900.00	5.26	251.59	8,870.63	-42.78	-655.50	-41.29	0.00	0.00	0.00
9,000.00	5.26	251.59	8,970.21	-45.67	-664.19	-44.16	0.00	0.00	0.00
9,042.11	5.26	251.59	9,012.14	-46.89	-667.86	-45.37	0.00	0.00	0.00
00-EON(R-131H)									
9,100.00	5.26	251.59	9,069.79	-48.57	-672.89	-47.04	0.00	0.00	0.00
9,200.00	5.26	251.59	9,169.37	-51.46	-681.59	-49.91	0.00	0.00	0.00
9,300.00	5.26	251.59	9,268.95	-54.35	-690.28	-52.79	0.00	0.00	0.00
9,400.00	5.26	251.59	9,368.52	-57.25	-698.98	-55.66	0.00	0.00	0.00
9,500.00	5.26	251.59	9,468.10	-60.14	-707.67	-58.54	0.00	0.00	0.00
9,544.08	5.26	251.59	9,512.00	-61.42	-711.51	-59.80	0.00	0.00	0.00
FBSG									
9,600.00	5.26	251.59	9,567.68	-63.04	-716.37	-61.41	0.00	0.00	0.00
9,700.00	5.26	251.59	9,667.26	-65.93	-725.06	-64.28	0.00	0.00	0.00
9,800.00	5.26	251.59	9,766.84	-68.82	-733.76	-67.16	0.00	0.00	0.00
9,900.00	5.26	251.59	9,866.42	-71.72	-742.45	-70.03	0.00	0.00	0.00
9,983.87	5.26	251.59	9,949.94	-74.14	-749.75	-72.44	0.00	0.00	0.00
10,000.00	5.02	251.59	9,966.00	-74.60	-751.12	-72.90	1.50	-1.50	0.00
10,100.00	3.52	251.59	10,065.72	-76.95	-758.18	-75.23	1.50	-1.50	0.00
10,121.31	3.20	251.59	10,087.00	-77.34	-759.36	-75.62	1.50	-1.50	0.00
SBSG									
10,200.00	2.02	251.59	10,165.60	-78.47	-762.76	-76.74	1.50	-1.50	0.00
10,300.00	0.52	251.59	10,265.58	-79.17	-764.85	-77.44	1.50	-1.50	0.00
10,334.42	0.00	0.00	10,300.00	-79.22	-765.00	-77.48	1.50	-1.50	0.00
10,400.00	0.00	0.00	10,365.58	-79.22	-765.00	-77.48	0.00	0.00	0.00
10,500.00	0.00	0.00	10,465.58	-79.22	-765.00	-77.48	0.00	0.00	0.00
10,527.46	0.00	0.00	10,493.04	-79.22	-765.00	-77.48	0.00	0.00	0.00
KOP: 10527.46' MD, -77.48' VS,10493.04' TVD									
10,550.00	2.25	347.50	10,515.57	-78.79	-765.10	-77.05	10.00	10.00	0.00
10,600.00	7.25	347.50	10,565.38	-74.74	-765.99	-73.01	10.00	10.00	0.00
10,650.00	12.25	347.50	10,614.64	-66.48	-767.83	-64.73	10.00	10.00	0.00
10,700.00	17.25	347.50	10,662.98	-54.05	-770.58	-52.30	10.00	10.00	0.00
10,718.48	19.10	347.50	10,680.54	-48.42	-771.83	-46.67	10.00	10.00	0.00
100FSL									
10,750.00	22.25	347.50	10,710.02	-37.56	-774.24	-35.80	10.00	10.00	0.00
10,800.00	27.25	347.50	10,755.41	-17.12	-778.77	-15.36	10.00	10.00	0.00
10,850.00	32.25	347.50	10,798.81	7.09	-784.14	8.87	10.00	10.00	0.00
10,900.00	37.25	347.50	10,839.88	34.91	-790.30	36.71	10.00	10.00	0.00
10,909.00	38.15	347.50	10,847.00	40.29	-791.49	42.08	10.00	10.00	0.00
TBSG									
10,950.00	42.25	347.50	10,878.30	66.12	-797.22	67.93	10.00	10.00	0.00
11,000.00	47.25	347.50	10,913.80	100.48	-804.84	102.30	10.00	10.00	0.00
11,012.60	48.51	347.50	10,922.25	109.60	-806.86	111.43	10.00	10.00	0.00
01-FTP(R-131H)									
11,050.00	52.25	347.50	10,946.09	137.72	-813.10	139.57	10.00	10.00	0.00
11,100.00	57.25	347.50	10,974.94	177.58	-821.93	179.44	10.00	10.00	0.00
11,150.00	62.25	347.50	11,000.12	219.73	-831.28	221.62	10.00	10.00	0.00
11,200.00	67.25	347.50	11,021.44	263.87	-841.06	265.78	10.00	10.00	0.00
11,250.00	72.25	347.50	11,038.73	309.66	-851.21	311.59	10.00	10.00	0.00
11,300.00	77.25	347.50	11,051.88	356.74	-861.65	358.69	10.00	10.00	0.00

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,350.00	82.25	347.50	11,060.77	404.76	-872.30	406.74	10.00	10.00	0.00
11,400.00	87.25	347.50	11,065.34	453.35	-883.07	455.36	10.00	10.00	0.00
11,427.46	90.00	347.50	11,066.00	480.15	-889.01	482.17	10.00	10.00	0.00
EOC: 11427.46' MD, 482.17' VS,11066.00' TVD									
11,500.00	90.00	348.95	11,066.00	551.16	-903.81	553.21	2.00	0.00	2.00
11,600.00	90.00	350.95	11,066.00	649.62	-921.26	651.71	2.00	0.00	2.00
11,700.00	90.00	352.95	11,066.00	748.63	-935.26	750.75	2.00	0.00	2.00
11,800.00	90.00	354.95	11,066.00	848.07	-945.80	850.22	2.00	0.00	2.00
11,900.00	90.00	356.95	11,066.00	947.82	-952.86	949.98	2.00	0.00	2.00
12,000.00	90.00	358.95	11,066.00	1,047.75	-956.44	1,049.92	2.00	0.00	2.00
12,045.75	90.00	359.87	11,066.00	1,093.50	-956.91	1,095.67	2.00	0.00	2.00
12,100.00	90.00	359.87	11,066.00	1,147.75	-957.04	1,149.91	0.00	0.00	0.00
12,126.52	90.00	359.87	11,066.00	1,174.27	-957.10	1,176.43	0.00	0.00	0.00
(Exit NM013276) - (Entry LC 0029512 A)									
12,200.00	90.00	359.87	11,066.00	1,247.75	-957.27	1,249.91	0.00	0.00	0.00
12,300.00	90.00	359.87	11,066.00	1,347.75	-957.51	1,349.91	0.00	0.00	0.00
12,400.00	90.00	359.87	11,066.00	1,447.74	-957.74	1,449.91	0.00	0.00	0.00
12,500.00	90.00	359.87	11,066.00	1,547.74	-957.97	1,549.91	0.00	0.00	0.00
12,600.00	90.00	359.87	11,066.00	1,647.74	-958.21	1,649.91	0.00	0.00	0.00
12,700.00	90.00	359.87	11,066.00	1,747.74	-958.44	1,749.91	0.00	0.00	0.00
12,800.00	90.00	359.87	11,066.00	1,847.74	-958.68	1,849.91	0.00	0.00	0.00
12,900.00	90.00	359.87	11,066.00	1,947.74	-958.91	1,949.91	0.00	0.00	0.00
13,000.00	90.00	359.87	11,066.00	2,047.74	-959.15	2,049.91	0.00	0.00	0.00
13,100.00	90.00	359.87	11,066.00	2,147.74	-959.38	2,149.91	0.00	0.00	0.00
13,200.00	90.00	359.87	11,066.00	2,247.74	-959.61	2,249.91	0.00	0.00	0.00
13,300.00	90.00	359.87	11,066.00	2,347.74	-959.85	2,349.91	0.00	0.00	0.00
13,400.00	90.00	359.87	11,066.00	2,447.74	-960.08	2,449.91	0.00	0.00	0.00
13,500.00	90.00	359.87	11,066.00	2,547.74	-960.32	2,549.91	0.00	0.00	0.00
13,600.00	90.00	359.87	11,066.00	2,647.74	-960.55	2,649.91	0.00	0.00	0.00
13,700.00	90.00	359.87	11,066.00	2,747.74	-960.79	2,749.91	0.00	0.00	0.00
13,800.00	90.00	359.87	11,066.00	2,847.74	-961.02	2,849.91	0.00	0.00	0.00
13,900.00	90.00	359.87	11,066.00	2,947.74	-961.25	2,949.91	0.00	0.00	0.00
14,000.00	90.00	359.87	11,066.00	3,047.74	-961.49	3,049.91	0.00	0.00	0.00
14,100.00	90.00	359.87	11,066.00	3,147.74	-961.72	3,149.91	0.00	0.00	0.00
14,200.00	90.00	359.87	11,066.00	3,247.74	-961.96	3,249.91	0.00	0.00	0.00
14,300.00	90.00	359.87	11,066.00	3,347.74	-962.19	3,349.91	0.00	0.00	0.00
14,400.00	90.00	359.87	11,066.00	3,447.74	-962.43	3,449.91	0.00	0.00	0.00
14,500.00	90.00	359.87	11,066.00	3,547.74	-962.66	3,549.91	0.00	0.00	0.00
14,600.00	90.00	359.87	11,066.00	3,647.74	-962.89	3,649.91	0.00	0.00	0.00
14,700.00	90.00	359.87	11,066.00	3,747.74	-963.13	3,749.91	0.00	0.00	0.00
14,800.00	90.00	359.87	11,066.00	3,847.74	-963.36	3,849.91	0.00	0.00	0.00
14,900.00	90.00	359.87	11,066.00	3,947.74	-963.60	3,949.91	0.00	0.00	0.00
15,000.00	90.00	359.87	11,066.00	4,047.74	-963.83	4,049.91	0.00	0.00	0.00
15,100.00	90.00	359.87	11,066.00	4,147.74	-964.07	4,149.91	0.00	0.00	0.00
15,200.00	90.00	359.87	11,066.00	4,247.74	-964.30	4,249.91	0.00	0.00	0.00
15,300.00	90.00	359.87	11,066.00	4,347.74	-964.54	4,349.91	0.00	0.00	0.00
15,400.00	90.00	359.87	11,066.00	4,447.74	-964.77	4,449.91	0.00	0.00	0.00
15,500.00	90.00	359.87	11,066.00	4,547.74	-965.00	4,549.91	0.00	0.00	0.00
15,600.00	90.00	359.87	11,066.00	4,647.74	-965.24	4,649.91	0.00	0.00	0.00
15,700.00	90.00	359.87	11,066.00	4,747.74	-965.47	4,749.91	0.00	0.00	0.00
15,800.00	90.00	359.87	11,066.00	4,847.74	-965.71	4,849.91	0.00	0.00	0.00
15,900.00	90.00	359.87	11,066.00	4,947.74	-965.94	4,949.91	0.00	0.00	0.00
16,000.00	90.00	359.87	11,066.00	5,047.74	-966.18	5,049.91	0.00	0.00	0.00
16,100.00	90.00	359.87	11,066.00	5,147.73	-966.41	5,149.91	0.00	0.00	0.00

COLGATE ENERGY

Planning Report

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Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,200.00	90.00	359.87	11,066.00	5,247.73	-966.64	5,249.91	0.00	0.00	0.00
16,300.00	90.00	359.87	11,066.00	5,347.73	-966.88	5,349.91	0.00	0.00	0.00
16,400.00	90.00	359.87	11,066.00	5,447.73	-967.11	5,449.91	0.00	0.00	0.00
16,500.00	90.00	359.87	11,066.00	5,547.73	-967.35	5,549.91	0.00	0.00	0.00
16,600.00	90.00	359.87	11,066.00	5,647.73	-967.58	5,649.91	0.00	0.00	0.00
16,700.00	90.00	359.87	11,066.00	5,747.73	-967.82	5,749.91	0.00	0.00	0.00
16,800.00	90.00	359.87	11,066.00	5,847.73	-968.05	5,849.91	0.00	0.00	0.00
16,900.00	90.00	359.87	11,066.00	5,947.73	-968.28	5,949.91	0.00	0.00	0.00
17,000.00	90.00	359.87	11,066.00	6,047.73	-968.52	6,049.91	0.00	0.00	0.00
17,100.00	90.00	359.87	11,066.00	6,147.73	-968.75	6,149.91	0.00	0.00	0.00
17,200.00	90.00	359.87	11,066.00	6,247.73	-968.99	6,249.91	0.00	0.00	0.00
17,300.00	90.00	359.87	11,066.00	6,347.73	-969.22	6,349.91	0.00	0.00	0.00
17,400.00	90.00	359.87	11,066.00	6,447.73	-969.46	6,449.91	0.00	0.00	0.00
17,405.62	90.00	359.87	11,066.00	6,453.35	-969.47	6,455.53	0.00	0.00	0.00
(Exit LC 0029512 A) - (Entry NM 013276)									
17,500.00	90.00	359.87	11,066.00	6,547.73	-969.69	6,549.91	0.00	0.00	0.00
17,600.00	90.00	359.87	11,066.00	6,647.73	-969.92	6,649.91	0.00	0.00	0.00
17,700.00	90.00	359.87	11,066.00	6,747.73	-970.16	6,749.91	0.00	0.00	0.00
17,800.00	90.00	359.87	11,066.00	6,847.73	-970.39	6,849.91	0.00	0.00	0.00
17,900.00	90.00	359.87	11,066.00	6,947.73	-970.63	6,949.91	0.00	0.00	0.00
18,000.00	90.00	359.87	11,066.00	7,047.73	-970.86	7,049.91	0.00	0.00	0.00
18,100.00	90.00	359.87	11,066.00	7,147.73	-971.10	7,149.91	0.00	0.00	0.00
18,200.00	90.00	359.87	11,066.00	7,247.73	-971.33	7,249.91	0.00	0.00	0.00
18,300.00	90.00	359.87	11,066.00	7,347.73	-971.56	7,349.91	0.00	0.00	0.00
18,400.00	90.00	359.87	11,066.00	7,447.73	-971.80	7,449.91	0.00	0.00	0.00
18,500.00	90.00	359.87	11,066.00	7,547.73	-972.03	7,549.91	0.00	0.00	0.00
18,600.00	90.00	359.87	11,066.00	7,647.73	-972.27	7,649.91	0.00	0.00	0.00
18,700.00	90.00	359.87	11,066.00	7,747.73	-972.50	7,749.91	0.00	0.00	0.00
18,800.00	90.00	359.87	11,066.00	7,847.73	-972.74	7,849.91	0.00	0.00	0.00
18,900.00	90.00	359.87	11,066.00	7,947.73	-972.97	7,949.91	0.00	0.00	0.00
19,000.00	90.00	359.87	11,066.00	8,047.73	-973.20	8,049.91	0.00	0.00	0.00
19,100.00	90.00	359.87	11,066.00	8,147.73	-973.44	8,149.91	0.00	0.00	0.00
19,200.00	90.00	359.87	11,066.00	8,247.73	-973.67	8,249.91	0.00	0.00	0.00
19,300.00	90.00	359.87	11,066.00	8,347.73	-973.91	8,349.91	0.00	0.00	0.00
19,400.00	90.00	359.87	11,066.00	8,447.73	-974.14	8,449.91	0.00	0.00	0.00
19,500.00	90.00	359.87	11,066.00	8,547.73	-974.38	8,549.91	0.00	0.00	0.00
19,600.00	90.00	359.87	11,066.00	8,647.73	-974.61	8,649.91	0.00	0.00	0.00
19,700.00	90.00	359.87	11,066.00	8,747.72	-974.85	8,749.91	0.00	0.00	0.00
19,800.00	90.00	359.87	11,066.00	8,847.72	-975.08	8,849.91	0.00	0.00	0.00
19,900.00	90.00	359.87	11,066.00	8,947.72	-975.31	8,949.91	0.00	0.00	0.00
19,949.22	90.00	359.87	11,066.00	8,996.94	-975.43	8,999.13	0.00	0.00	0.00
100FNL - 02-LTP(R-131H)									
20,000.00	90.00	359.87	11,066.00	9,047.72	-975.55	9,049.91	0.00	0.00	0.00
20,035.65	90.00	359.87	11,066.00	9,083.37	-975.63	9,085.56	0.00	0.00	0.00
20" Casing									
20,039.23	90.00	359.87	11,066.00	9,086.95	-975.64	9,089.14	0.00	0.00	0.00
TD: 20039.23' MD, 9089.14' VS,11066.00' TVD - 03-PBHL(R-131H)									

COLGATE ENERGY

Planning Report

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Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
00-EON(R-131H)	0.00	0.00	9,001.00	-79.22	-784.67	566,509.38	770,545.05	32.55518957	-103.58941698
- plan misses target center by 121.72usft at 9042.11usft MD (9012.14 TVD, -46.89 N, -667.86 E) - Point									
03-PBHL(R-131H)	0.00	0.00	11,066.00	9,086.95	-975.64	575,675.55	770,354.08	32.58038669	-103.58982894
- plan hits target center - Point									
02-LTP(R-131H)	0.00	0.00	11,066.00	8,996.94	-976.54	575,585.54	770,353.18	32.58013931	-103.58983391
- plan misses target center by 1.11usft at 19949.22usft MD (11066.00 TVD, 8996.94 N, -975.43 E) - Point									
01-FTP(R-131H)	0.00	0.00	11,066.00	-47.81	-954.71	566,540.79	770,375.01	32.55527917	-103.58996811
- plan misses target center by 259.43usft at 11012.60usft MD (10922.25 TVD, 109.60 N, -806.86 E) - Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
20,035.65	11,066.00	20" Casing	20	24

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,527.40	1,527.00	Rustler			
1,637.82	1,637.00	Salado			
3,243.93	3,237.00	Tansill			
3,394.51	3,387.00	Yates			
3,630.40	3,622.00	Seven Rivers			
3,846.22	3,837.00	Capitan			
4,348.13	4,337.00	Queen			
5,582.83	5,567.00	Delaware Sands			
8,564.96	8,537.00	Bone Spring			
9,544.08	9,512.00	FBSG			
10,121.31	10,087.00	SBSG			
10,909.00	10,847.00	TBSG			

COLGATE ENERGY

Planning Report

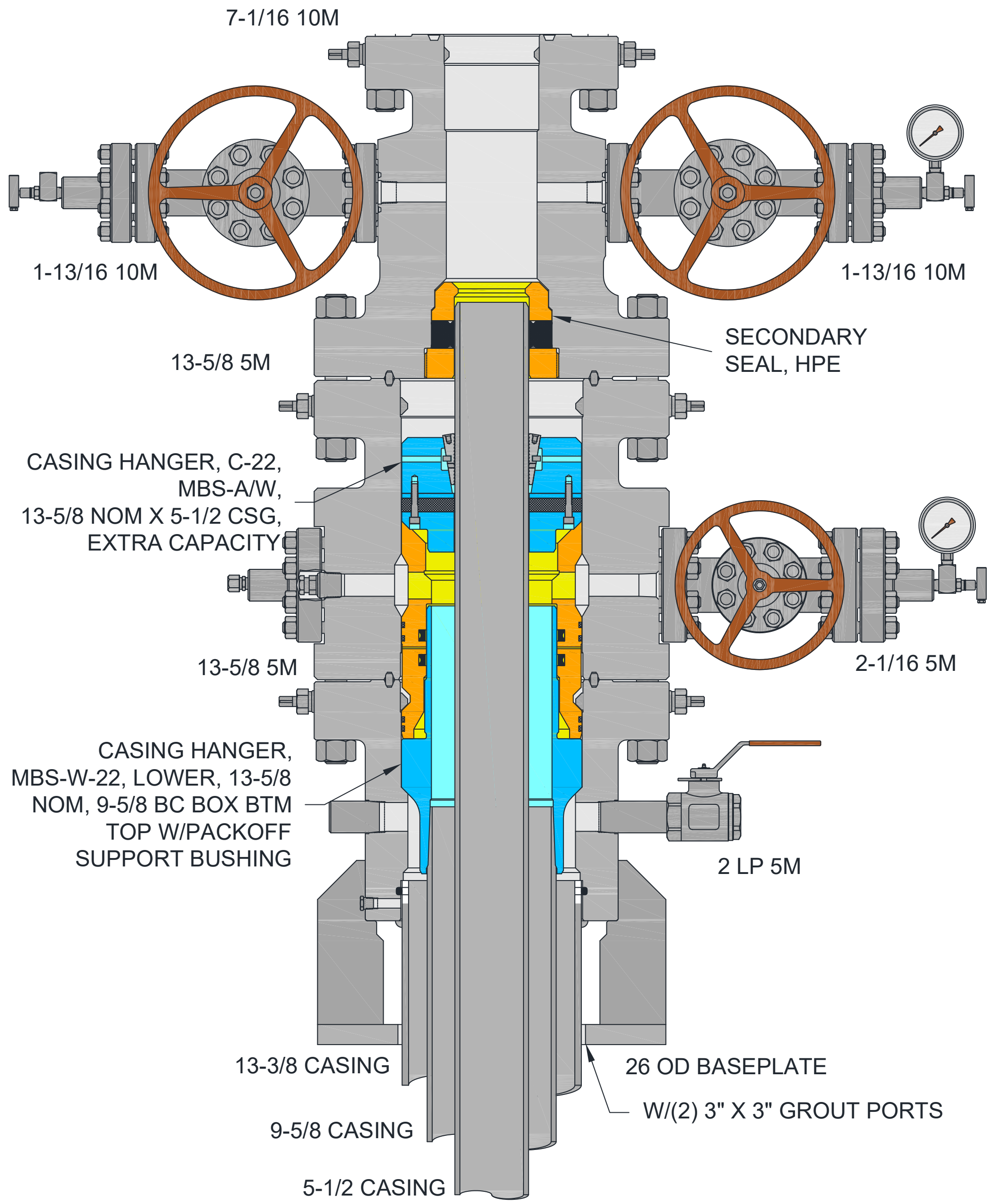
Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B02) Robin Fed Com 131H - Slot (B02)
Company:	Colgate Energy	**TVD Reference:**	3657+30 @ 3687.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3657+30 @ 3687.00usft
Site:	(Permit) Robin Fed DSU	**North Reference:**	Grid
Well:	(B02) Robin Fed Com 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
10,527.46	10,493.04	-79.22	-765.00	KOP: 10527.46' MD, -77.48' VS,10493.04' TVD
10,718.48	10,680.54	-48.42	-771.83	100FSL
11,427.46	11,066.00	480.15	-889.01	EOC: 11427.46' MD, 482.17' VS,11066.00' TVD
12,126.52	11,066.00	1,174.27	-957.10	(Exit NM013276)
12,126.52	11,066.00	1,174.27	-957.10	(Entry LC 0029512 A)
17,405.62	11,066.00	6,453.35	-969.47	(Exit LC 0029512 A)
17,405.62	11,066.00	6,453.35	-969.47	(Entry NM 013276)
19,949.22	11,066.00	8,996.94	-975.43	100FNL
20,039.23	11,066.00	9,086.95	-975.64	TD: 20039.23' MD, 9089.14' VS,11066.00' TVD

Encore Wellhead Systems

MULTI-BOWL WELLHEAD SYSTEM RUNNING PROCEDURE



Encore Wellhead Systems	Prepared By:	Reviewed By:	Rev:	EQ #:	
	LAP			4070	Page 1 of 23
	Date: 4/22/21	Date:	Date:		

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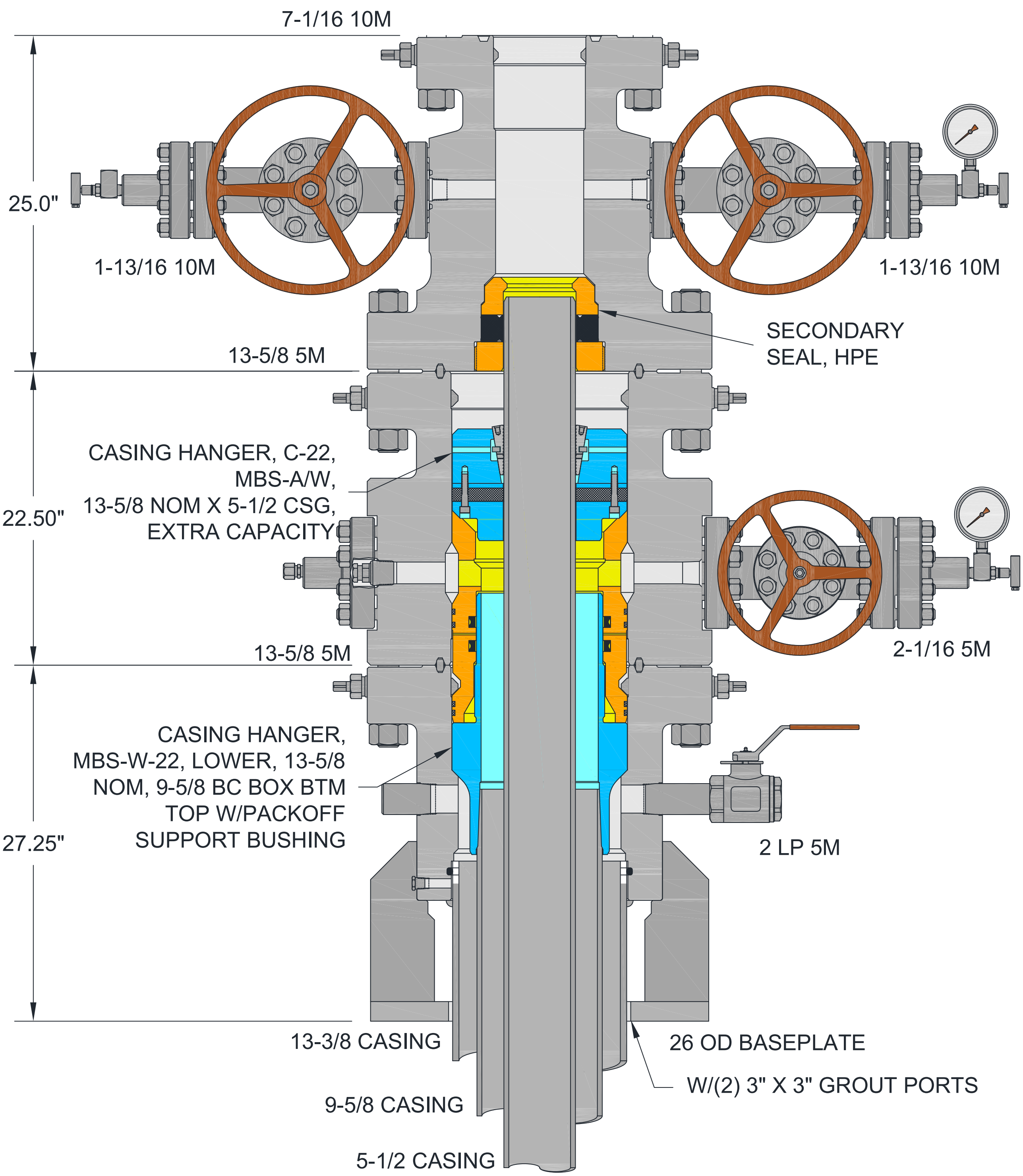
APPENDIX A: RECOMMENDED PROCEDURE FOR FIELD WELDING PIPE TO WELLHEAD PARTS FOR LOW PRESSURE SEAL 21

1.0 DIAGRAM OF STACK-UP

1.1 DIMENSIONS FOR CONFIGURATION



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2.0 CASING HEAD SECTION

2.1 PREPARATION

2.1.1 Check and record Multi-bowl Assembly part numbers and serial numbers.
2.1.2 Inspect assembly's upper and lower bowl. Ensure seal areas are in good condition and free from damage.
2.1.3 Inspect ring groove for burrs, damage and any defects. If burrs exist, redress using emery cloth.
2.1.4 Ensure SOW O-Ring is in good condition. Replace if damaged.

2.2 LANDING

2.2.1 Determine 13-3/8" casing cutoff height. Cut and bevel accordingly.
2.2.2 Clean scale off casing OD.
2.2.3 Lift Multi-bowl Assembly with certified wire rope harness or landing & flange and lower carefully over casing stub.
2.2.4 Ensure Multi-bowl Assembly is level and outlet orientation will match flow lines. Remove 1/2" NPT pipe plug from bottom of casing head.
2.2.5 Tack weld Multi-bowl SOW to casing at four points. Recheck level.

NOTE: DO NOT USE HOT HEADS OR SIMILAR METHODS OF PREHEATING, AS IT MAY DAMAGE SEALS AND PACKING

2.2.6 Preheat casing and Multi-bowl to specifications, 3" on either side of weld areas. Use heat sensitive crayons to monitor temperature limits.
2.2.7 Complete external weld. Perform post weld heat treatment.

NOTE: STEPS 2.2.4 TO 2.2.6 ARE TO BE COMPLETED BY OPERATOR'S AUTHORIZED WELDER ONLY. SEE SECTION 3.0 FOR FIELD WELDING PROCEDURE.

2.2.8 When weld is cool, test weld to 80% of casing collapse for minimum of 15 minutes. Use only water as test fluid, do not use oil.
2.2.9 Bleed off pressure after successful test. Replace pipe plug.
2.2.10 Install outlet accessories as required.

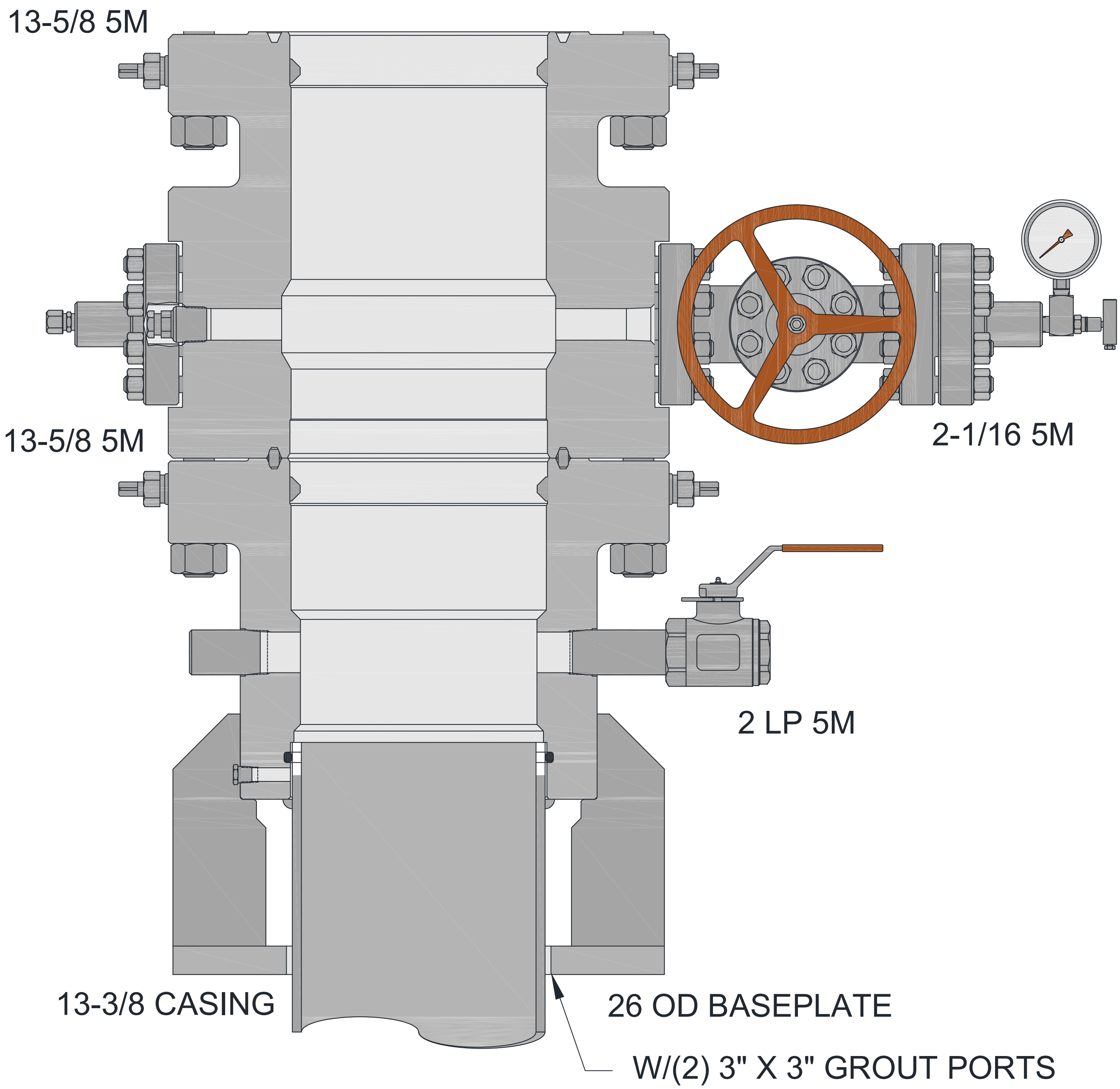

FIGURE 1 – LANDING MULTI-BOWL

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3.0 TEST PLUG SECTION

3.1 PREPARATION

3.1.1 Check and record BOP Test Plug Assembly part & serial numbers.

3.1.2 Inspect test plug's LP threads and Tool Joint threads for damage. Ensure O-rings & lift lugs are in good condition.

3.2 RUNNING – TEST PLUG

3.2.1 Make up a joint of drill pipe to test plug. Ensure O-rings are in down position.

NOTE: IF PUMPING THROUGH DRILL PIPE, MAKE SURE 1/2" LP PIPE PLUGS ARE REMOVED. IF PRESSURIZING THROUGH CHOKE OR KILL LINE, 1/2" LP PIPE PLUGS MUST BE INSTALLED AND DRILL PIPE MUST BE PROPERLY TORQUED TO TEST PLUG.

3.2.2 Open casing head outlet valve to check for leakage during BOP test.

3.2.3 Lightly oil test plug's O-rings.

3.2.4 Lower test plug through BOP and riser stack, land on casing head load shoulder.

3.2.5 Test BOP stack per operator's requirements. Never exceed connection's max working pressure. Monitor any leakage through open outlet valve.

3.3 RETRIEVING – TEST PLUG

3.3.1 After a successful test, release pressure and open BOP rams.

3.3.2 Drain fluid from BOP stack.

3.3.3 Pull and retrieve test plug slowly to avoid damage to seals.

3.3.4 Close casing head outlet valve.

3.3.5 Inspect test plug for damage. Replace O-rings if necessary. Clean, grease, store.

4.0 WEAR BUSHING SECTION

4.1 PREPARATION

4.1.1 Check and record wear bushing and running tool part and serial numbers.
4.1.2 Inspect wear bushing for damage, ensuring bore, slots are clean and the bore is the correct ID.
4.1.3 Inspect running tool for damage, ensure threads and slots are clean.

4.2 RUNNING

4.2.1 Make up drill pipe to running tool. Ensure lift lugs are in the down position.
4.2.2 Lower running tool into wear bushing. Rotate 1/4 turn clockwise to lock position.
4.2.3 Slowly lower wear bushing through BOP stack and riser, land on casing head load shoulder.
4.2.4 Run in two Lockscrews, 180° apart, for retention.
4.2.5 Remove Running Tool from Wear Bushing by rotating drill pipe counter-clockwise 1/4 turn and slowly lifting it straight up.

4.2.5.1 NOTE: WHILE RETRIEVING THE TOOL, MONITOR THE WEIGHT INDICATOR TO ENSURE THE TOOL IS PROPERLY DISENGAGED.

4.2.6 Inspect the Running Tool for any visible damage.
4.2.7 Proceed with drilling for next casing size.

4.3 RETRIEVING – WEAR BUSHING

4.3.1 Make up drill pipe to Running Tool. Ensure lift lugs are in the down position.
4.3.2 Slowly lower Running Tool through BOP stack until it lands on Wear Bushing.
4.3.3 Slowly Rotate tool until it drop. This indicates the lift lugs have aligned with j-slots of the Wear Bushing.
4.3.4 Slack off all weight to make sure tool is down.
4.3.5 Rotate tool 1/4 turn clockwise to fully engage in Wear Bushing.
4.3.6 Retract the two engaged Lockscrews, 180° apart.
4.3.7 Inspect Running Tool and Wear Bushing for any damage. Clean, grease, & store.
4.3.8 Proceed to running next casing.

5.0 LOWER CASING HANGER SECTION

5.1 PREPARATION

5.1.1 Inspect Mandrel Casing Hanger's casing thread and ACME running threads for damage. Ensure neck seal area is clean and in good condition.

5.1.2 Inspect the Running Tool's casing thread and running thread for any damage. Ensure bore and O-ring is clean and in good condition.

5.1.3 Verify Running Tool's .50" width OD groove is painted with fluorescent yellow.

5.2 INSTALLATION

5.2.1 Make up the Running Tool to the Hanger by rotating counter-clockwise 8 to 9 turns until it bottoms out on the Hanger.

NOTE: DO NOT TORQUE TO HANGER.

5.2.2 Pressure test the Running Tool's seal through the 1/8 LP test port for at least 15 minutes. Do not exceed 5,000psi test pressure.

5.2.3 After a successful test, release pressure.

5.2.4 Lower the Hanger onto the last joint of casing run. Make up the connection to the API threads recommended optimum torque.

5.2.5 Verify all lock-screws are fully retracted.

5.2.6 Slowly and carefully lower the Hanger through the BOP and land it in the Multi-bowl.

5.2.7 Slack off all weight on the casing.

5.2.8 Visually verify the yellow paint marking on the Running Tool is in the center of the upper-most outlet of the Multi-bowl indicating that the Hanger is properly landed.

NOTE: ENSURE THAT THE WELL IS SAFE AND THERE IS NO PRESSURE BEFORE OPENING THE UPPERMOST OUTLET VALVE. CLOSE THE OUTLET AFTER VISUAL INSPECTION.

5.2.9 Cement as required.

5.2.10 Back off Running Tool by rotating clockwise until thread jump can be felt.

5.2.11 Retrieve the landing joint and running tool to the rig floor.

5.2.12 Inspect the running tool for any damage. Clean, grease, and store.

5.2.13 Proceed to next operation.

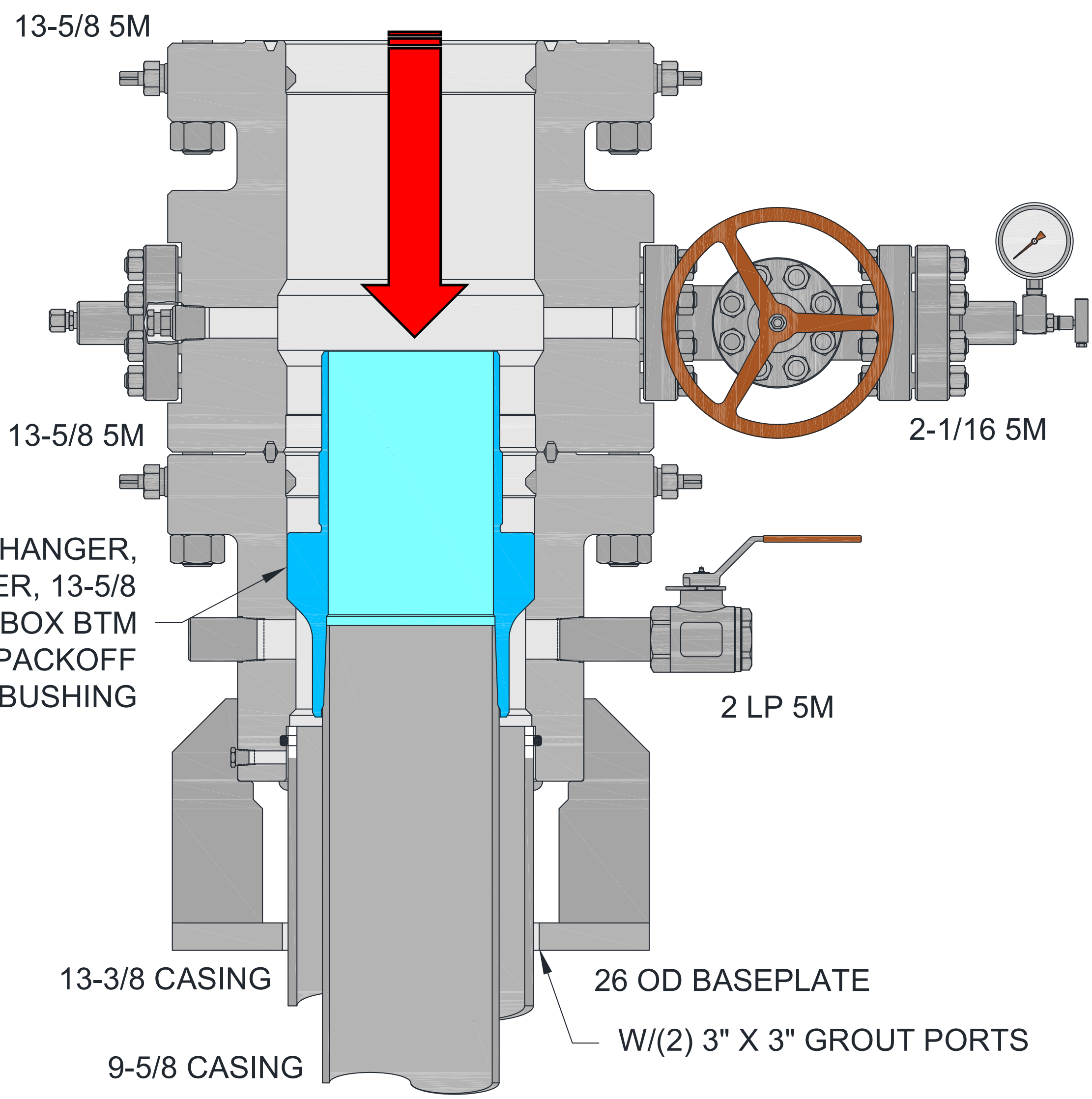

FIGURE 2 –CASING HANGER MANDREL

6.0 PACKOFF SUPPORT BUSHING SECTION

6.1 PREPARATION

6.1.1 Check and record Pack-off Support Bushing and Running Tool part and serial numbers.

6.1.2 Inspect the Pack-offs elastomeric seals, bore, and OD for any damage. Ensure that all are clean and in good condition.

6.1.3 Inspect the Running Tool's IF thread for any damage. Ensure all are clean and in good condition.

6.1.4 Wash out Multi-bowl and top of casing hanger landing flutes and open lower valves in lower head.

NOTE: WASHING CAN BE DONE MANUALLY USING PRESSURIZED HOSE OR WITH A WASH TOOL.

6.2 INSTALLATION

6.2.1 Make up a landing joint to the Running Tool. Ensure to power tight the landing joint to the Running tool per API thread's specification.

6.2.2 Lightly oil the Pack-offs elastomeric seals and running threads.

6.2.3 Lower Running Tool into Pack-off and rotate 1/4 turn clockwise to lock position.

6.2.4 Verify all Lock-screws are fully retracted.

6.2.5 Slowly and carefully lower the Pack-off through the BOP and land it on the Hanger inside the Multi-bowl.

NOTE: HEAVY DRILL PIPE OR DRILL COLLAR MIGHT BE REQUIRED AS ADDITIONAL WEIGHT TO PULL DOWN THE PACK-OFF INTO ITS LANDING POSITION.

6.2.6 Verify that the Pack-off has landed properly by making measurement on its setting depth.

6.2.7 Run Lock-screws in pairs, 180 degrees apart, at the lower Multi-bowl. Tighten gland nuts to 350 ft.-lbs and Lock-screws to 450 ft.-lbs.

6.2.8 Pull the Running Tool to 2,000 lbs to confirm that the Pack-off has been successfully locked down.

6.2.9 Slack off tension.

6.2.10 Locate the two Flange Test Ports on the upper Multi-bowl and remove the test cap from each of the fittings.

6.2.11 Attach a bleeder tool to one of the fittings and open the tool.

6.2.12 Attach a hydraulic test pump to the other fitting and pump hydraulic fluid until a continuous stream flows from the bleeder tool. Close the bleeder tool.

6.2.13 Perform pressure test to 5,000 psi for at least 15 minutes.

NOTE: IN CASE OF TESTING AGAINST A CASING, DO NOT EXCEED 80% OF CASING COLLAPSE.

6.2.14 After a successful test, release pressure. Replace test caps.

6.2.15 Remove the Running Tool from Pack-off by rotating the drill pipe counter-clockwise 1/4 turn and slowly lifting it straight up.

NOTE: WHILE RETRIEVING THE TOOL, MONITOR THE WEIGHT INDICATOR TO ENSURE THE TOOL IS PROPERLY DISENGAGED.

6.2.16 Retrieve the Running Tool to the rig floor.

6.2.17 Inspect the Running Tool for any damage. Clean, grease, and store.

6.2.18 Proceed to next operation.

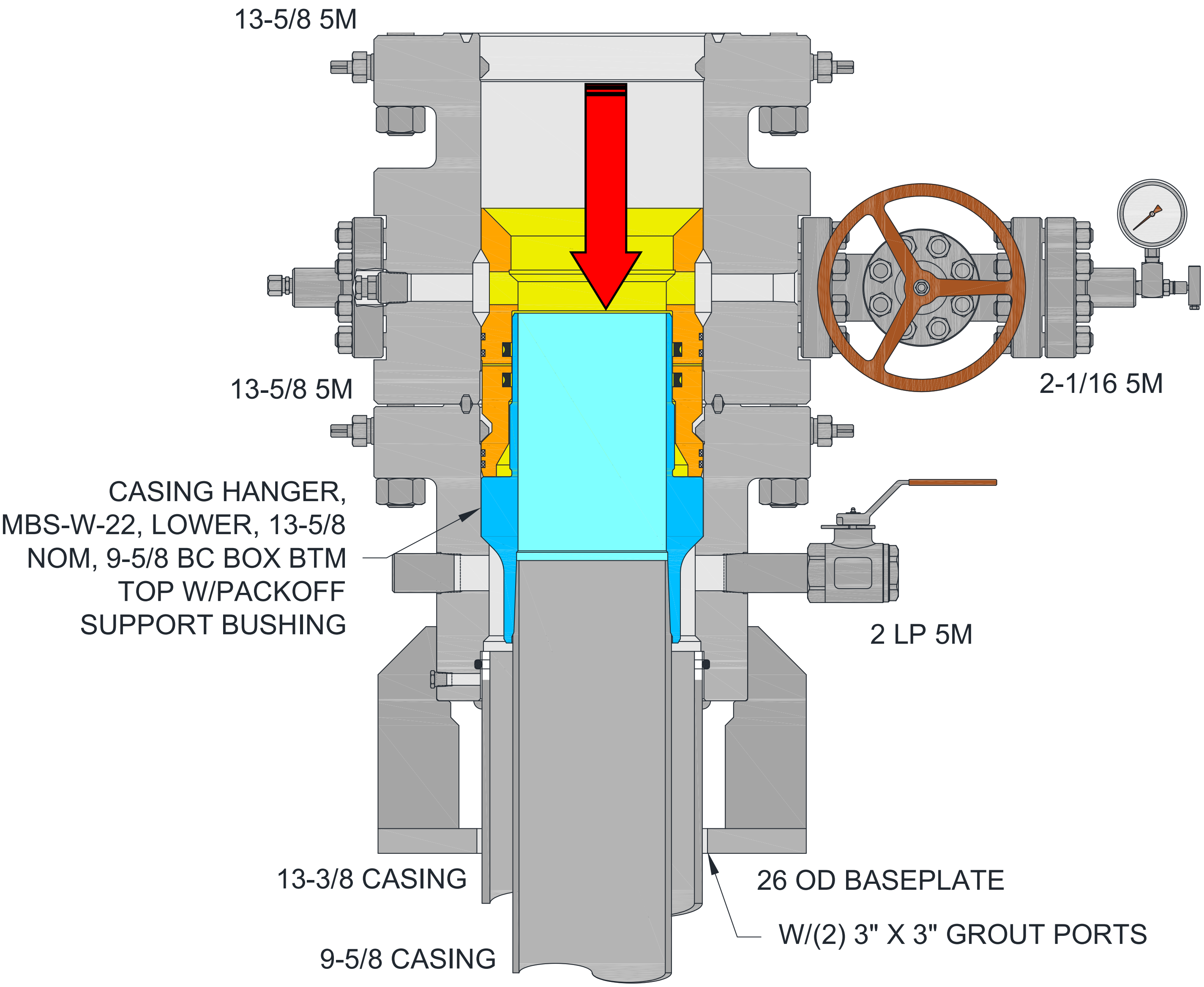

FIGURE 3 – PACKOFF SUPPORT BUSHING

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7.0 TEST PLUG FOR PACKOFF SECTION

7.1 PREPARATION

7.1.1 Check and record the BOP Test plug Assembly part number and serial number.

7.1.2 Inspect test plug's LP & tool joints threads for damage. Ensure O-ring & lift lugs are in good condition.

7.2 RUNNING

7.2.1 Make up a joint of drill pipe to test plug. Ensure O-ring is down and lift lugs are up.

NOTE: IF IT IS INTENDED TO TEST BY PUMPING THROUGH DRILL PIPE, MAKE SURE THAT THE FOUR 1/2" LP PIPE PLUGS ARE REMOVED. HOWEVER, IF TEST IS TO BE DONE BY PRESSURIZING THROUGH THE CHOKE OR KILL LINE, THE FOUR 1/2" LP PIPE PLUGS SHOULD BE INSTALLED AND DRILL PIPE MUST BE PROPERLY TORQUED TO THE TEST PLUG.

7.2.2 Verify lock-screws in the top flange are fully retracted.

7.2.3 Open Multi-bowl upper valve to check for leakage past test plug during BOP test.

7.2.4 Lightly oil test plug's O-ring.

7.2.5 Lower test plug through BOP stack until it lands on Pack-off Support Bushing.

7.2.6 Test BOP stack per operator's requirements. Never exceed connection’s maximum working pressure. Monitor any leakage through open lower valve.

7.3 RETRIEVING

7.3.1 After a successful test, release pressure and open BOP rams.

7.3.2 Drain the fluid from BOP stack.

7.3.3 Pull and retrieve the test plug slowly to avoid damage.

7.3.4 Close the Multi-bowl upper outlet valve.

7.3.5 Inspect test plug for damage. Replace O-ring if necessary. Clean, grease, & store.

8.0 C-22 HANGER SECTION

8.1 PREPARATION

8.1.1 Check and record Slip Casing Hanger Assembly Part serial numbers.

8.1.2 Inspect Slip Casing Hanger, Ensure all screws are in place & seals are in good condition.

8.2 INSTALLATION

8.2.1 Cement casing as required.

8.2.2 Drain multi-bowl

8.2.3 Separate Upper Multi-bowl from BOP.

NOTE: ENSURE WELL IS SAFE AND THERE IS NO PRESSURE BEFORE BREAKING CONNECTION.

8.2.4 Lift BOP and suspend above Upper Multi-bowl high enough to install Hanger.

8.2.5 Washout as necessary.

8.2.6 Place two boards on Upper Multi-bowl top flange against casing.

8.2.7 Wrap Hanger around casing using boards as support.

8.2.8 Replace latch screw

8.2.9 Grease Hanger body and remove slip retaining screws.

8.2.10 Remove boards and lower Hanger into Multi-bowl.

NOTE: ENSURE TO CENTER CASING AS MUCH AS POSSIBLE USING CAT-LINE.

8.2.11 Ensure Hanger is properly seated by tapping down on slip bowl.

8.2.12 Engage slip segments evenly by hammering down on top of segments.

8.2.13 Pull tension on casing to desired weight then slack off tension to set load to energize packing.

8.2.14 Rough cut casing approximately 18” above casing spool top flange.

8.2.15 Clean ring groove and install ring gasket into top flange.

8.2.16 Final cut casing at 5-3/4” +/-1/8” above top flange and bevel cut stub to specifications.

NOTE: ENSURE STUB IS PROPERLY BEVELED WITHOUT ANY ROUGH EDGES THAT COULD DAMAGE THE PACK-OFF SEALS, PICK-UP LANDING JOINT WITH PRE-INSTALLED MANDREL CASING HANGER RUNNING TOOL.

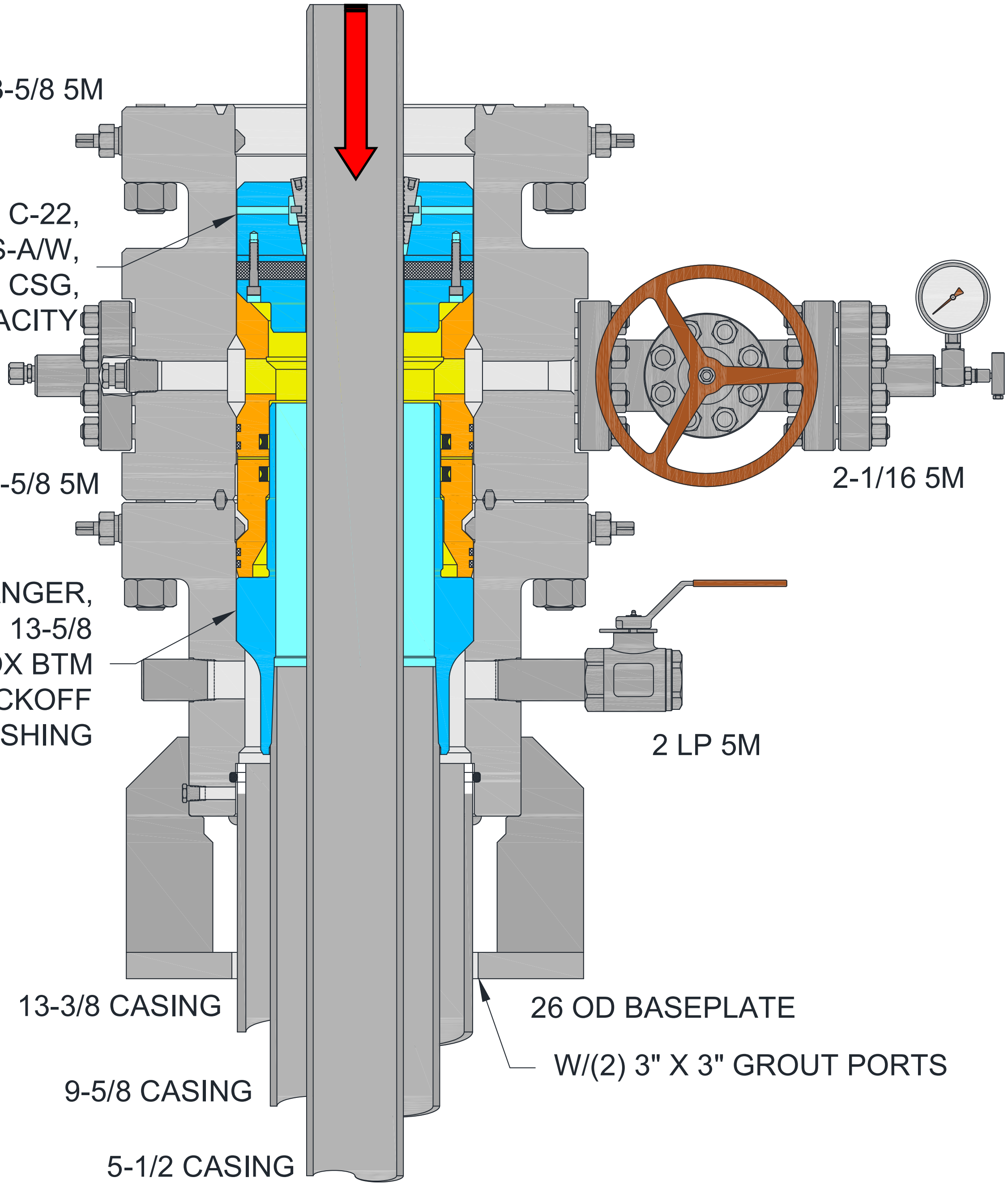

FIGURE 4 – HANGER INSTALLED

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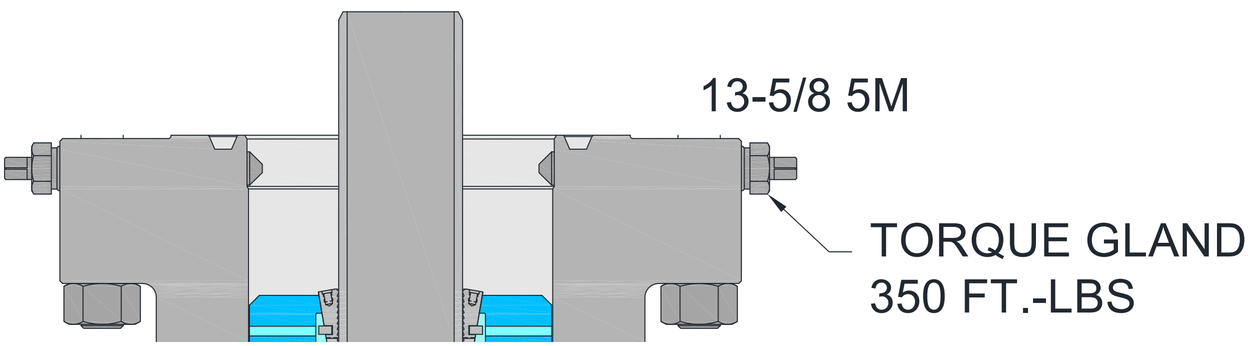
9.0 TUBING HEAD SECTION

9.1 PREPARATION

9.1.1 Check & record tubing head assembly part & serial numbers.
9.1.2 Inspect tubing head's bowl & ring groove for burrs, damage and/or any defects. Ensure seal areas are in good condition and free from damage. If burrs exist, redress using emery cloth.
9.1.3 Ensure bore and FS seals are clean and in good condition.

9.2 INSTALLATION

9.2.1 Place ring gasket into casing spool ring groove.
9.2.2 Slowly and carefully lift and orient tubing head assembly over casing spool and casing hanger neck. Line up casing spool to bolt holes on casing head.
9.2.3 Lower tubing head and install onto casing spool. Nipple up tubing head to API recommended specifications.
9.2.4 Locate 1/2 LP flange test port on Tubing Head bottom flange remove fitting test cap.
9.2.5 Torque lock-screw glands to 350 ft.-lbs on the upper multi-bowl flange.
See reference 1

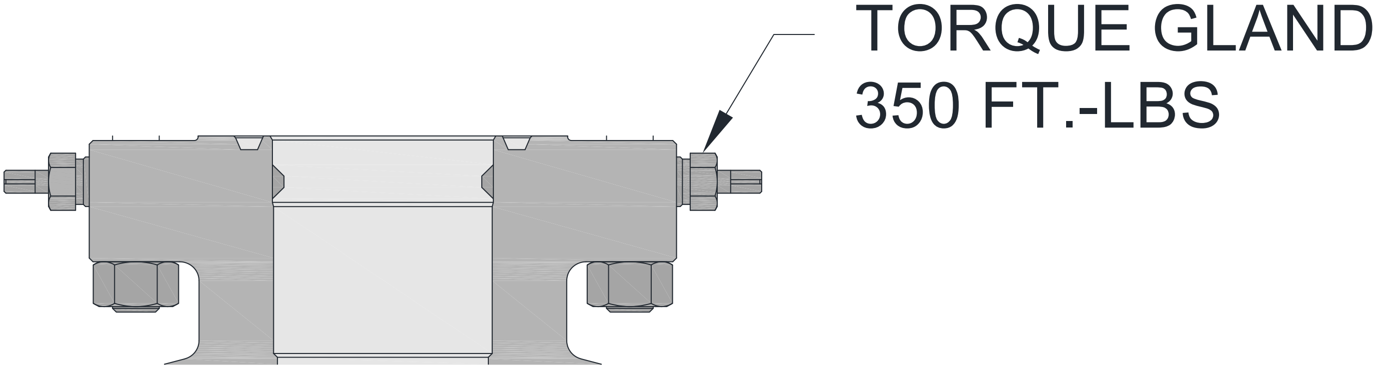


REFERENCE – 1

9.2.6 Attach hydraulic test pump to fitting and pressure test flange to 5,000 psi or 80% of collapse of casing whichever is less, Perform test for at least 15 minutes.

9.2.7 After successful test, release pressure, detach test pump and reinstall cap.

9.2.8 Torque lock-screws glands to 350 ft.-lbs before nipple up of BOP's on 7-1/16" flange. ***See reference 2***



REFERENCE - 2

9.2.9 Nipple up BOP to casing spool assembly.

9.2.10 Proceed to drilling and running next casing size.

NOTE: SECONDARY SEAL WILL BE INSTALLED AND LANDED WITH TUBING HEAD.

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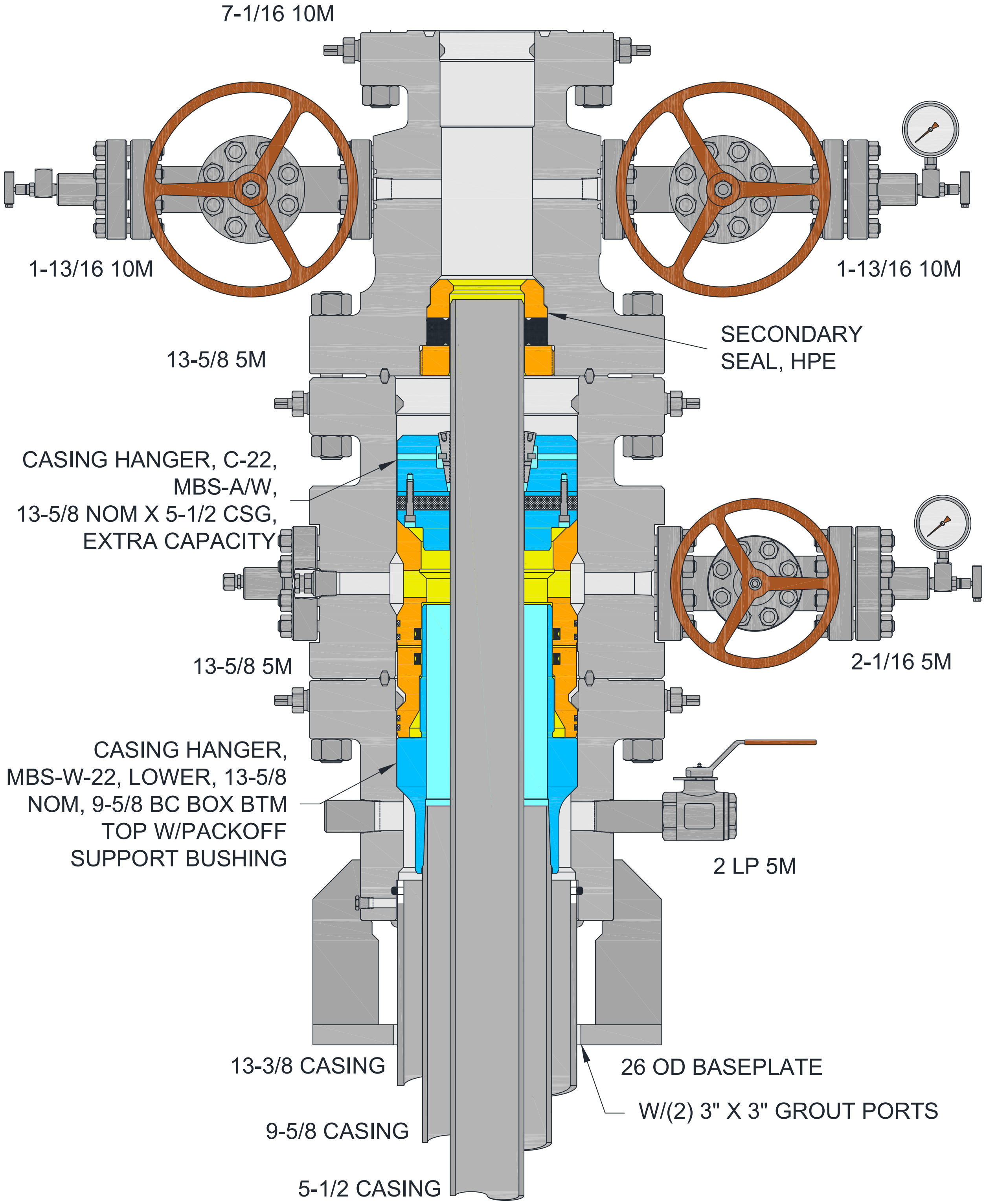

FIGURE 5 – TUBING HEAD SECTION

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10.0 EMERGENCY CASING HANGER C-21 SECTION

10.1 PREPARATION

10.1.1 If casing becomes stuck, follow the steps outlined below.

10.1.2 With casing suspended break flange connection between casing spool & casing head, lift & secure the casing spool & BOP at a safe working distance above casing head.

10.1.3 Examine the C-21 casing hanger for damage.

10.2 INSTALLATION

10.2.1 Place two boards on casing to support the casing hanger.

10.2.2 Remove the latch screw to open the hanger.

10.2.3 Wrap hanger around the casing & replace the latch screw, remove slip retainer screws.

10.2.4 Prepare to lower the hanger.

10.2.5 Remove the boards & carefully lower the hanger. If necessary, use a cat line or tugger to centralize the casing.

10.2.6 When the hanger is landed on load shoulder pull tension on the casing to desired hanging weight & then slack off.

10.2.7 Nipple up casing spool & BOP to casing head.

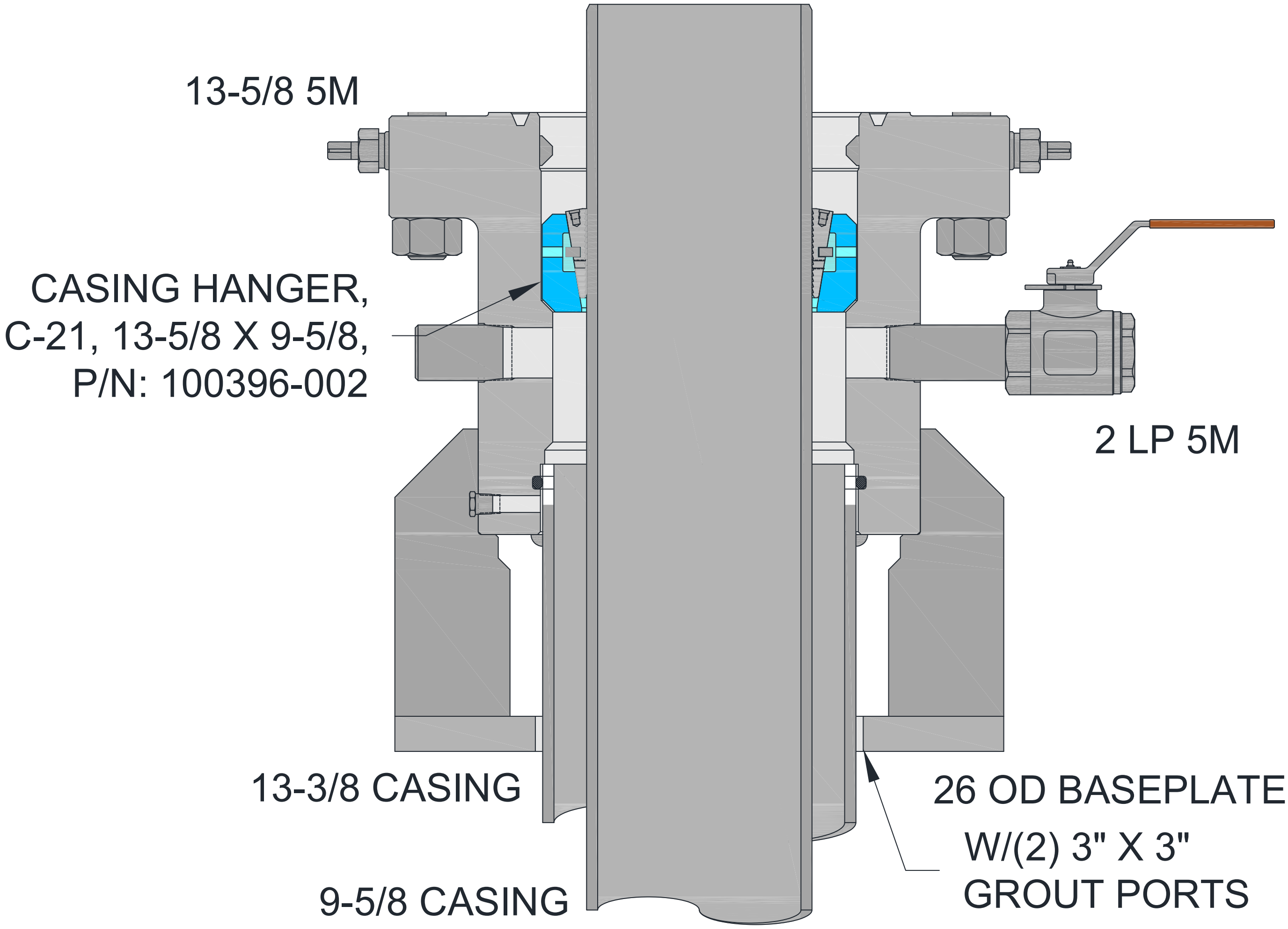

FIGURE 6 – EMERGENCY CASING HANGER

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APPENDIX A: RECOMMENDED PROCEDURE FOR FIELD WELDING PIPE TO WELLHEAD PARTS FOR LOW PRESSURE SEAL

The following procedure is a direct extraction (except for the numeric, footnote designators) from the 20thEdition of the API 6A. Editorial footnotes have been added to provide additional information that may be of benefit when developing procedures for specific field welding applications. The recommended procedure and footnotes are for general information purposes and it should be mentioned that Encore is not responsible for determining or administering any field welding practices. The organization performing the welding should qualify their welding procedure(s) and welder(s) in accordance with applicable codes and standards. The success of any field weld should be verified by subsequent hydrostatic test at the direction of the customer.

1. **Introduction and Scope** - The following recommended procedure has been prepared with particular regard to attaining pressure-tight welds when attaching casing heads, flanges, etc., to casing. Although most of the high strength casing used (such as P-110) is not normally considered field weld-able, some success may be obtained by using the following or similar procedures.

   CAUTION: IN SOME WELLHEADS, THE SEAL WELD IS ALSO A STRUCTURAL WELD AND CAN BE SUBJECTED TO HIGH TENSILE STRESSES. CONSIDERATION MUST THEREFORE BE GIVEN BY COMPETENT AUTHORITY TO THE MECHANICAL PROPERTIES OF THE WELD AND ITS HEAT AFFECTED ZONE.

2. The steels used in wellhead parts and in casing are high strength steels that are susceptible to cracking when welded. It is imperative that the finished weld and adjacent metal be free from cracks. The heat from welding also affects the mechanical properties. This is especially serious if the weld is subjected to service tension stresses.

3. This procedure is offered only as a recommendation. The responsibility for welding lies with the user and results are largely governed by the welder's skill. Weld-ability of thee several makes and grades of casing varies widely, thus placing added responsibility on the welder. Transporting a qualified welder to the job, rather than using a less-skilled man who may be at hand, will, in most cases, prove economically. The responsible operating representative should ascertain the welder's qualifications and if necessary, assure himself by instruction or demonstration, that the welder is able to perform the work satisfactorily.

4. **Welding Conditions** - Unfavorable welding conditions must be avoided or minimized in every way possible, as even the most skilled welder cannot successfully weld steels that are susceptible to cracking under adverse working conditions, or when the work is rushed. Work above the welder on the drilling floor should be avoided. The weld should be protected from dripping mud, water, and oil and from wind, rain, or other adverse weather conditions. The drilling mud, water, or other fluids must be lowered in the casing and kept at a low level until the weld has properly cooled. It is the responsibility of the user to provide supervision that will assure favorable working conditions, adequate time, and the necessary cooperation of the rig personnel.

5. **Welding** - The welding should be done by the shielded metal-arc or other approved process.

6. **Filler Metal** - After the root pass, low hydrogen electrodes or filler wires of a yield strength equal to the casing yield strength should be used. The low hydrogen electrodes include classes EXX15, EXX16, EX18, and EXX28 of AWS A5.1 (latest edition): *Mild Steel Covered Arc-Welding Electrodes** and AWS A5.5 (latest edition): *Low Alloy Steel Covered Arc-Welding Electrodes**. Low hydrogen electrodes should not be exposed to the atmosphere until ready for use. Electrodes exposed to atmosphere should be dried 1 to 2 hours at 500 to 600ºF (*260 to 316ºC)* just before use.
*Available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

7. **Preparation of Base Metal** - The area to be welded should be dry and free of any paint, grease, scale, rust, or dirt.

8. **Preheating** - Both the casing and the wellhead member should be preheated to 250-400ºF (*121 to 204ºC*) for a distance of at least 3 inches (*76.2mm*) on either side of the weld location, using a suitable preheating torch. Before applying preheat, the fluid should be bailed out of the casing to a point several inches (*mm*) below the weld location. The preheat temperature should be checked by the use of heat sensitive crayons. Special attention must be given to preheating the thick sections of wellhead parts to be welded, to insure uniform heating and expansion with respect to the relatively thin casing.

NOTE: PREHEATING MAY HAVE TO BE MODIFIED BECAUSE OF THE EFFECT OF TEMPERATURE ON ADJACENT PACKING ELEMENTS WHICH MAY BE DAMAGED BY EXPOSURE TO TEMPERATURES 200ºF (93ºC) AND HIGHER. TEMPERATURE LIMITATIONS OF THE PACKING MATERIALS SHOULD BE DETERMINED BEFORE THE APPLICATION OF PREHEAT.

9. **Welding Technique** - Use a 1/8" or 5/32" *(3.2 or 4.0mm)* E6010 electrodes and step weld the first beat (root pass); that is, weld approximately 2 to 4 inches *(50 to 100mm)* and then move diametrically opposite this point and weld 2 to 4 inches *(50 to 100mm)*. Then weld 2 to 4 inches (*50 to 100mm)* halfway between the first two welds, more diametrically opposite this weld, and so on until the first pass is completed. The second pass should be make with 5/32" *(4.0mm)* low hydrogen electrode of the proper strength and may be continuous. The balance of the welding groove may then be filled with continuous passes without back stepping or lacing, using a 3/16" *(4.8mm)* low hydrogen electrode. All beads should be stringer beads with good penetration, and each bead after the root pass should be thoroughly peened before applying the next bead. There should be no undercutting and welds shall be workmanlike in appearance.

   a. Test ports should be open when welding is performed to prevent pressure build-up within the test cavity.

   b. During welding temperature of base metal on either side of weld should be maintained at 250ºF *(121ºC)* minimum.

   c. Care should be taken to insure that the welding cable is properly grounded to the casing, but ground wire should not be welded to the casing or the wellhead. Ground wire should be firmly clamped to the casing, the wellhead, or fixed in position between pipe slips. Bad contact may cause sparking, with resultant hard spots beneath which incipient cracks may develop; the welding cable should not be grounded to the steel derrick, nor to the rotary-table base.

10. **Cleaning -** All slag or flux remaining on any welding bead should be removed before laying the next bead. This also applies to the completed weld.

11. **Defects -** Any cracks or blow holes that appear on any bead should be removed to sound metal by chipping or grinding before depositing the next bead.

12. **Post heating -** For the removal of all brittle areas on high strength steel casing, a post heat temperature of 1050-1100ºF *(566 to 593ºC)* is desirable. It is recognized, however, that this temperature is difficult or impossible to obtain in the field, and that the mechanical properties of the wellhead parts and the pipe may be considerably reduced by these temperatures. As a practical matter, the temperature range of 500-900ºF *(260-482ºC)* has been used with satisfactory results.

13. **Cooling -** Rapid cooling must be avoided. To assure slow cooling, welds should be protected from extreme weather conditions (cold, rain, high winds, etc.). By the use of a blanket made from suitable insulating material. Particular attention should be given to maintaining uniform cooling of the thick sections of the wellhead parts and the relatively thin casing will pull away from the head or hanger if allowed to cool more rapidly. The welds should cool in air to 250ºF *(121ºC)* (measured with a heat sensitive crayon) prior to permitting the mud to rise in the casing.


TGS TRANSFORM
COLGATE ENERGY
Sec: 19
Sec: 20
Sec: 21
CR-27
T20S-R34E
Sec: 30
Sec: 29
BERRY
DANIEL C II
Sec: 28
ROBIN FED COM
LEA COUNTY, NEW MEXICO
Legend
Proposed Pipeline
Pad
Access Road
Federal
CTB
State
CHAVES
Northwest Shelf
YOAKUM
San Simon Channel
GAINES
LEA
EDDY
Delaware Basin
Central Basin Platform
ANDREWS
Date: 3/1/2022
GIS Tech: VKV
1:2,400
1 " = 200 '
0
0.05
0.1
0.2
Miles
0
250
500
1,000
Feet
CONFIDENTIAL FOR INTERNAL USE ONLY

Certificate of Conformity

Continental
ContiTech

Certificate Number 1036465	COM Order Reference 1036465		Customer Name & Address
Customer Purchase Order No:	740122520		HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Project:			
Test Center Address	**Accepted by COM Inspection**		**Accepted by Client Inspection**
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Gerson Mejia-Lazo 11/29/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
60		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	64526	ContiTech Standard
90		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	53621	ContiTech Standard

Continental

ContiTech

Hydrostatic Test Certificate

Certificate Number 1036465	COM Order Reference 1036465	Customer Name & Address
Customer Purchase Order No:	740122520	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Gerson Mejia-Lazo 2/27/18	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press.	Test Press.	Test Time (minutes)
60		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	64526	10,000 psi	15,000 psi	60
90		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	53621	10,000 psi	15,000 psi	60

Hose Inspection Report

ContiTech Oil & Marine

Customer	Customer Reference #	COM Reference #	COM Inspector	Date of Inspection
H&P Drilling	740122520	1036465	A. Jaimes	02/22/2018

Hose Manufacturer	Contitech Rubber Industrial

Hose Serial #	53621	**Date of Manufacture**	08/2008
Hose I.D.	3"	**Working Pressure**	10000PSI
Hose Type	Choke and Kill	**Test Pressure**	15000PSI
Manufacturing Standard	API 16C		

Connections

End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange	**End B:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange
• No damage	• No damage
Material: Carbon Steel	**Material:** Carbon Steel
Seal Face: BX155	**Seal Face:** BX155
Length Before Hydro Test: 35'	**Length After Hydro test:** 35'

Conclusion: Hose #53621 passed the external inspection with no notable damage to the armor. Internal video inspection showed no damage to the hose liner. Hose #53621 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #53621is suitable for continued service.**

Recommendations: In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

Issued By: Alejandro Jaimes
Date: 2/27/2018

Checked By: Roger Suarez
Date: 2/27/2018

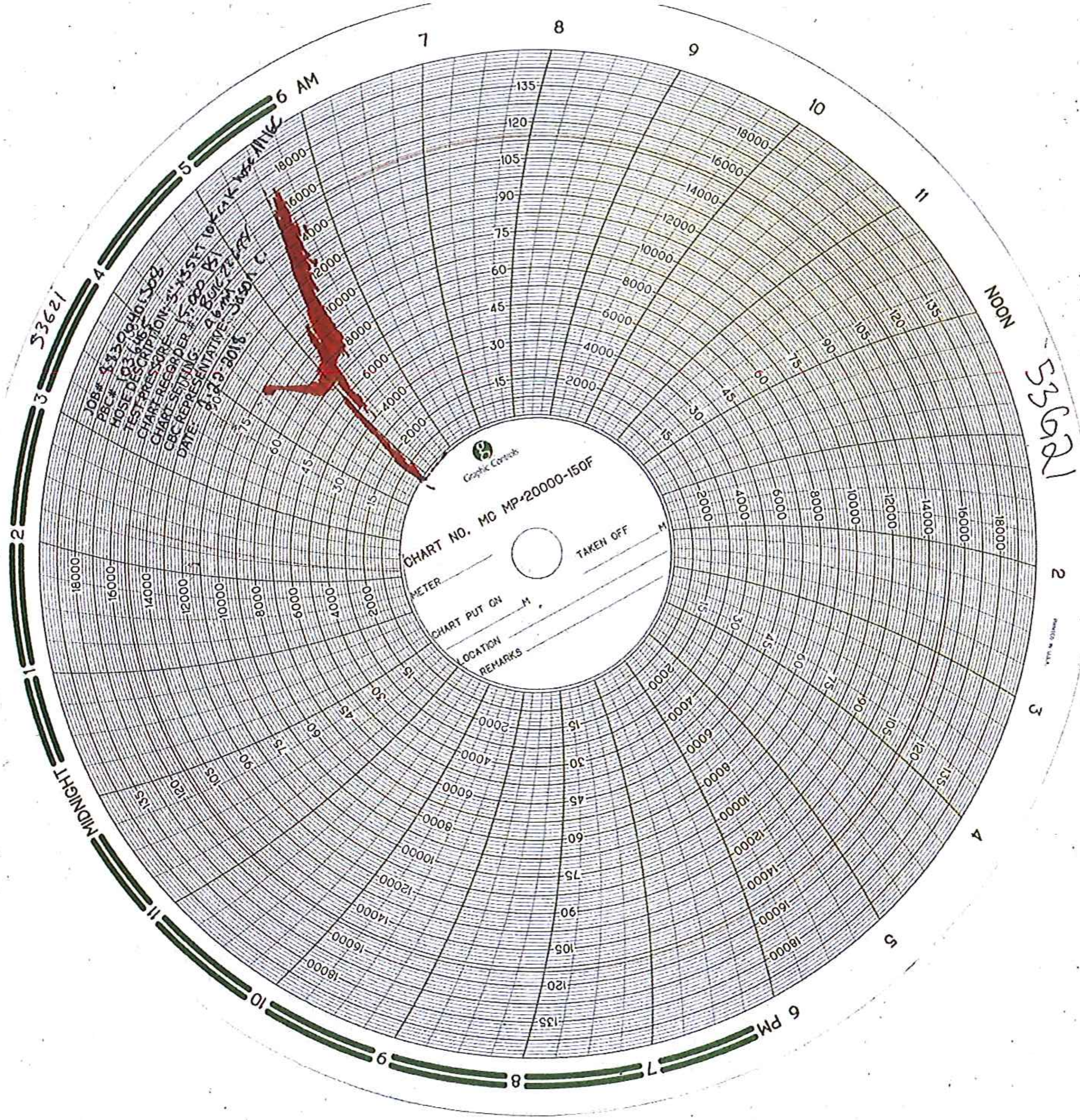


CHART NO. MC MP-20000-150F
Graphic Controls
METER
TAKEN OFF
CHART PUT ON
LOCATION
REMARKS
JOB#
PBC#
HOSE DESCRIPTION:
TEST PRESSURE:
CHART RECORDER #:
CHART SETTING:
CBC REPRESENTATIVE:
DATE:
53621
53621
NOON
MIDNIGHT
6 AM
6 PM

Drilling Program
Colgate Energy
Robin Fed Com 131H
1,480' FSL & 1,285' FWL (SHL)
Sec 20-T20S-R34E
Lea County, New Mexico

The estimated tops of geologic formations are as follows:

Formation:	TVD	Subsea
Rustler	1527	2160
Salado	1637	2050
Tansill	3237	450
Yates	3387	300
Seven Rivers	3622	65
Capitan	3837	-150
Queen	4337	-650
Cherry Canyon	5567	-1880
Brushy Canyon	6807	-3120
Bone Spring Lime	8537	-4850
1st Bone Spring Sand*	9512	-5825
2nd Bone Spring Sand*	10087	-6400
3rd Bone Spring Sand*	10847	-7160

Formations anticipated to contain fresh water, oil or gas are as follows:

Water	Fresh water is anticipated at 65’ and will be protected by setting a water string at 1590' and cementing to surface.
Water	The Capitan Reef is anticipated to contain usable water and will be protected by setting an intermediate casing string at 5510' and cementing to surface using a stage tool.
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

Proposed casing program is as follows:

Name	Hole Size	Casing Size	Weight & Grade	Thread Collar	Top Csg	Setting Depth	Collapse	Burst	Tension
Surface	17 1/2	13 3/8	54.5# J-55 (new)	BTC	0	1,590'	1.125	1.2	1.6
Intermediate	12 1/4	9 5/8	40# J-55 (new)	BTC	0	5,510'	1.125	1.2	1.6
Production	8 3/4	5 1/2	17# HPP-110 (new)	CDC HTQ	0	20,039'	1.125	1.1	1.6

SF Values will meet or exceed

Proposed cementing program is as follows:

Name	Slurry	Sacks	Yield	Weight	Excess	Top Cement	Blend
Surface	Lead	1034	1.68	13.7	100%	0'	ExtendaCem-CZ
	Tail	329	1.35	14.8	100%	1,270'	HalCem-C + accelerator
Intermediate	Lead	177	1.88	12.9	50%	3,700'	EconoCem-HLC + 5 % salt + 5 lb/sk Kol-Seal
	Tail	230	1.33	14.8	25%	4,408'	HalCem-C
2nd Stage	Lead	559	1.88	12.9	50%	0'	EconoCem-HLC + 5 % salt + 5 lb/sk Kol-Seal
	Tail	324	1.33	14.8	25%	2,598'	HalCem-C
Production	Lead	1145	2.41	11.5	10%	0'	Class H + POZ + extender + fluid loss + dispersant + retarder
	Tail	1569	1.73	12.5	10%	10,270'	Class H + POZ + extender + fluid loss + dispersant + retarder

Proposed casing and cementing accessories are as follows: (Casing will be centralized per Onshore Order 2.III.B.1.f)

Surface:	1 centralizer 5' above shoe held in place with stop ring; 1 centralizer per joint for following 2 joints then every other joint to surface
Intermediate:	2 centralizers on 1st joint, 1 centralizer on 2nd joint, 1 centralizer every 4th joint to surface
	Stage tool will be placed at approximately 3700' to ensure intermediate casing string is adequately cemented.
Production:	2 centralizers on bottom joint, 1 centralizer on 2nd joint, 1 centralizer every 3rd joint to 5010'

Proposed pressure control equipment is as follows (see schematics below):

BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. A rotating head will also be installed and utilized as needed. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the pre-set level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multi-bowl speed head allowing for hang-off of intermediate casing & isolation of the 13-3/8” x 9-5/8” annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variable-bore rams) will be run in upper ram-body of BOP stack to provide redundancy to annular preventer while RIH w/ production casing;

A request for variance of pressure control equipment as follows:

1. Colgate Energy requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

BOPE will be tested per the following procedure:

After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a third party tester utilizing water and a test plug to 250 psi low and 5,000 psi high. To deem a pressure test successful, pressure must be maintained for ten minutes without any bleed-off. A valve on the wellhead below seat of test plug will be open at all time during BOPE tests to guard against damage to casing. The BOPE will be re-tested in this manner after any connection breaks or passage of allotted time (25 days). Any BOPE which fails to pass pressure tests after initial install will be replaced prior to drilling out of surface casing shoe. If at any time a BOPE component cannot function to secure the hole, the hole shall be secured utilizing a retrievable packer, and the non-functioning BOPE component shall be repair or replaced. After repair or replacement, a pressure test of the repaired or replaced component and any connections broken to repair or replace the non-functioning component will be tested in the same manner as described for initial install of BOPE. The annular preventer will be faction tested at least weekly, and the ram-type preventers will be function tested on each trip. BOPE pit level drills will be conducted weekly with each drilling crews. All pressure tests performed on BOPE and BOPE pit level drills will be logged in the drilling log. Isolation of 13-3/8" x 9-5/8" casing annulus shall be confirmed by pressure testing of wellhead sealing component after said sealing component is installed.

Each casing string will be tested once installed in the wellbore per the following procedure:

Casing will be tested by pressuring up to 1,500 psi and holding pressure for thirty minutes. A casing test will be deemed successful if test pressure does not decline more than 10% over the thirty minute period. Cement will be allowed to sit undisturbed for twenty-four hours and reach a minimum of 500 psi compressive strength across the "zone of interest" prior to testing casing and drilling out. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Each casing string will be cemented per the following cementing procedure:

Cement will be placed on all casing strings utilizing the pump and plug method. A float will be installed in the casing shoe and float collar on all casing strings to hold cement in place once pumping is completed. A top plug will be utilized on all casing strings to prevent contamination of the cement by the displacement fluid. A preflush fluid will be pumped prior to cement to aid in removal of drilling mud from the wellbore, eliminate drilling mud contamination of the cement slurry and prepare the surface of both the wellbore and casing for cement.

Proposed mud system is as follows:

Name	Hole Size	Mud Weight	Viscosity	Fluid Loss	Type Mud
Surface	17-1/2"	8.6 - 9.0	28 - 34	NC	FW Spud Mud
Intermediate*	12-1/4"	10.0 - 10.2	30 - 32	NC	Brine Water
Production	8-3/4"	9.0 - 10.0	32 - 35	-	OBM

All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions. The mud monitoring system is an electronic Pason system satisfying requirements of Onshore Order #1. Both visual and electronic mud monitoring equipment will be utilized to detect volume changes indicating loss or gain of circulating system fluid volume. Slow pump rates will be taken & recorded tourly in the drilling log. Mud engineer will perform tests and provide written report at least every 12 hours while circulating. A trip tank will be utilized and trip sheet will be recorded to ensure wellbore is taking proper fill or displacing proper fluid volume during all tripping operations. Gas detecting equipment will be utilized to monitor for hydrocarbon gas at the shakers while drilling and/or circulating. H2S monitoring equipment with both visual & auditory alarms will be installed and operational at the shakers, rig floor and cellar while drilling and/or circulating. A flare system with an effective method for ignition & discharge more than 100 feet from the wellbore will be utilized to gather and burn all gas; lines will be straight unless targeted with running tees. A mud gas separator will be installed and operable at least 500 feet before first anticipated hydrocarbon zone.

*If loss circulation is encountered in Capitan Reef, only fresh water will be pumped down drill string for remainder of hole section.

Proposed testing, surveying, logging and coring program is as follows:

No open-hole logs are planned at this time. Directional surveys will be collected at no greater than 200' intervals while drilling through the MWD tools. A GR log will be collected while drilling through the MWD tools from intermediate casing to TD. No DSTs or cores are planned at this time. No temperature logs planned at this time. CBL will be run to confirm TOC on production casing after rig is removed from location. A formation integrity test (FIT) will be performed on 9-5/8" casing string after BOPE is installed to at least 1 ppge over planned section mud weight after drilling ten feet of new hole.

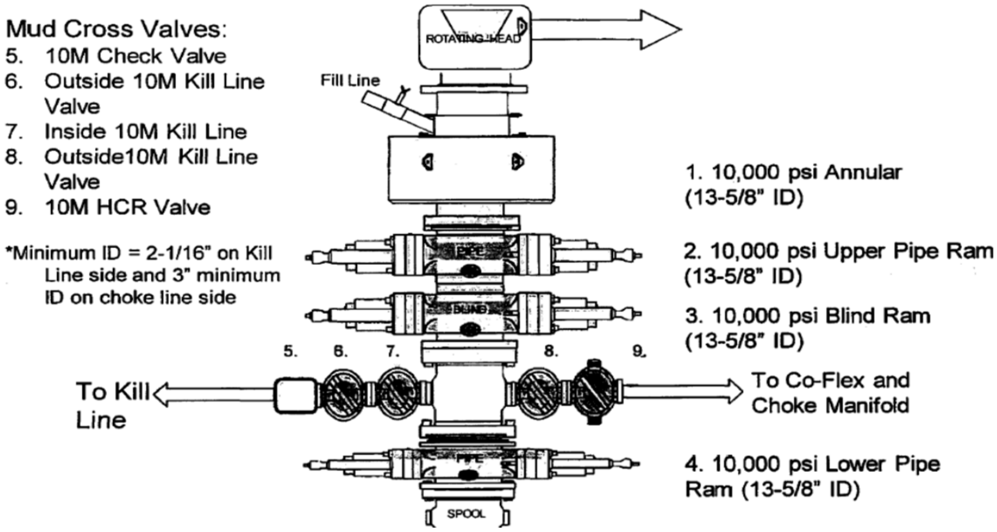
Anticipated potential hazards are as follows:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order No. 6, Colgate Energy does not anticipate that there will be enough H_2S from the surface to the Wolfcamp formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S safety package on all wells, attached is an "H_2S Drilling Operations Plan". Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

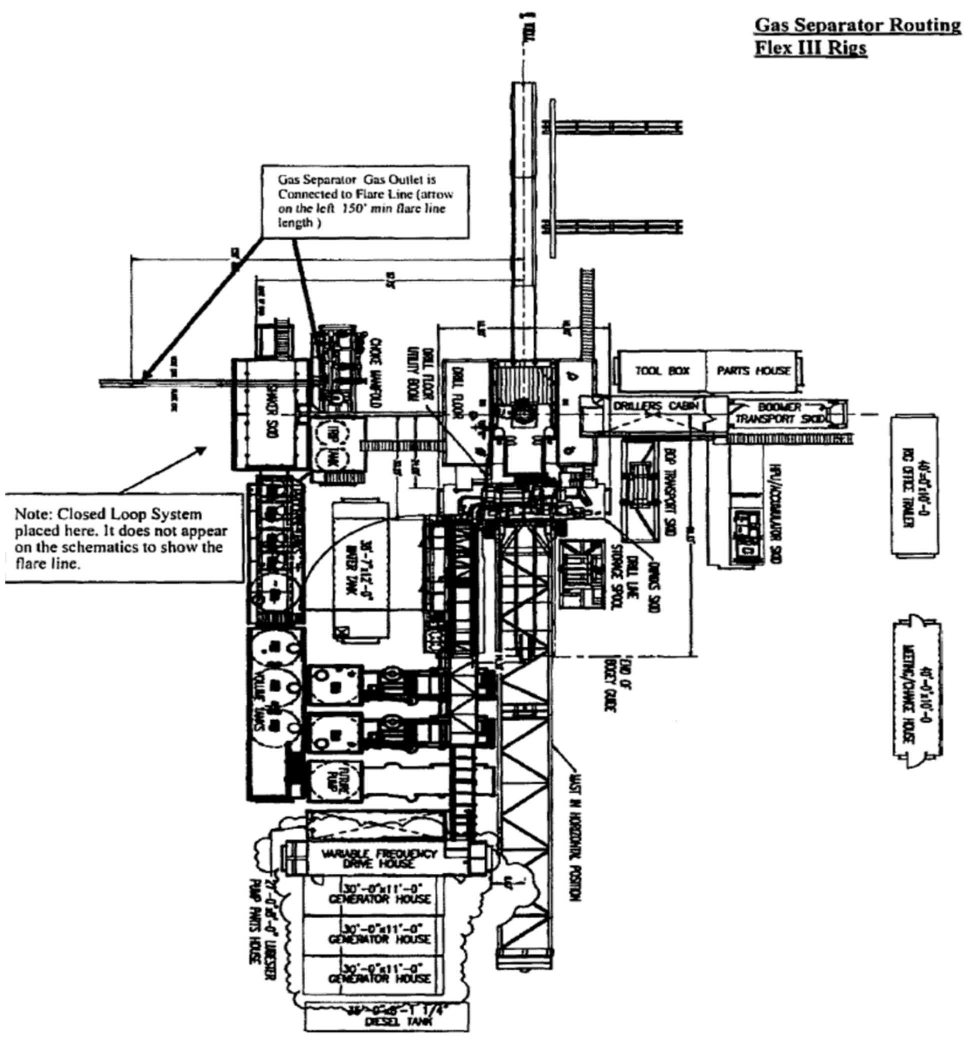
Estimated BHP: 8.3 lbs/gal gradient or less
Estimated BHT: 120° F

Planned commencement of operations is as follows:
Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 30 days. If production casing is run an additional 60 days will be required to complete and construct surface facilities.

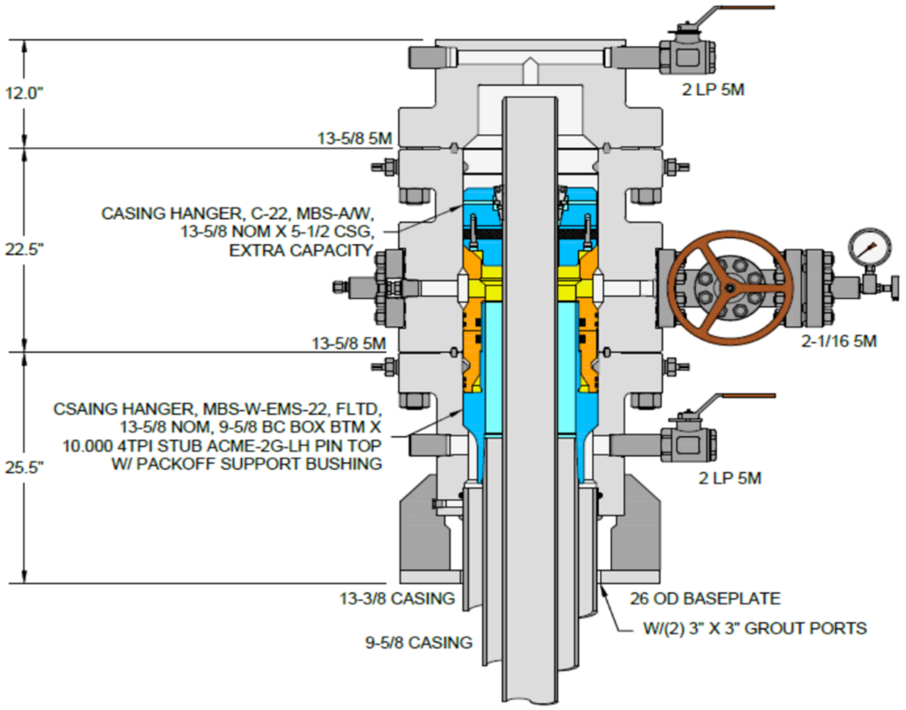
10,000 psi BOP Stack:



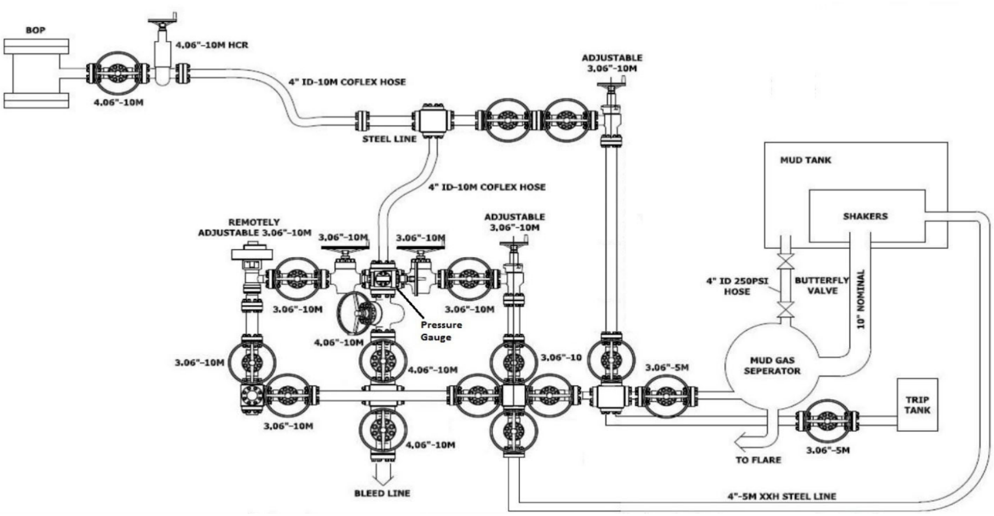
Closed Loop System Layout:



Multi-bowl Wellhead



10M Choke Layout



AFMSS

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

PWD Data Report

02/20/2024

APD ID: 10400085434 **Submission Date:** 05/21/2022

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

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

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

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

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Lined pit Monitor description:

Lined pit Monitor

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

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

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

State

Unlined Produced Water Pit Estimated

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

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

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

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

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 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM **Well Number:** 131H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data

02/20/2024

APD ID: 10400085434

Submission Date: 05/21/2022

Highlighted data reflects the most recent changes
Show Final Text

Operator Name: COLGATE OPERATING LLC

Well Name: ROBIN FED COM

Well Number: 131H

Well Type: OIL WELL

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number:

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

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 316416

CONDITIONS

Operator:	
COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 316416
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	2/29/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	2/29/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	2/29/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	2/29/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	2/29/2024