

Form 3160-3  
(June 2015)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. NMNM100255 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. BONDI 24 FED COM 134H 9. API Well No. <span style="color: red;">30-015-55472</span>
2. Name of Operator COLGATE OPERATING, LLC 3a. Address 300 N MARIENFELD ST SUITE 1000, MIDLAND, TX 79701 3b. Phone No. (include area code) (432) 695-4222		10. Field and Pool, or Exploratory AVALON/Bone Spring, East 11. Sec., T. R. M. or Blk. and Survey or Area SEC 24/T20S/R28E/NMP
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NESE / 1391 FSL / 502 FEL / LAT 32.555683 / LONG -104.124065 At proposed prod. zone SWSW / 330 FSL / 10 FWL / LAT 32.552738 / LONG -104.160961		12. County or Parish EDDY 13. State NM
14. Distance in miles and direction from nearest town or post office*  15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 502 feet 16. No of acres in lease  17. Spacing Unit dedicated to this well 320.0		18. Distance from proposed location* to nearest well, drilling, completed, 0 feet 19. Proposed Depth 8951 feet / 19458 feet 20. BLM/BIA Bond No. in file FED: NMB001041
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3241 feet 22. Approximate date work will start* 08/31/2024		23. Estimated duration 90 days

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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) STEPHANIE RABADUE / Ph: (432) 695-4222	Date 02/23/2024
Title Regulatory Manager		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (675) 234-5959	Date 09/19/2024
Title Assistant Field Manager Lands & Minerals		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



(Continued on page 2)

\*(Instructions on page 2)

Approval Date: 09/19/2024

## INSTRUCTIONS

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

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

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

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

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

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

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48( d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

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

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

## Additional Operator Remarks

### Location of Well

O. SHL: NESE / 1391 FSL / 502 FEL / TWSP: 20S / RANGE: 28E / SECTION: 24 / LAT: 32.555683 / LONG: -104.124065 ( TVD: 0 feet, MD: 0 feet )

PPP: SESE / 330 FSL / 100 FEL / TWSP: 20S / RANGE: 28E / SECTION: 24 / LAT: 32.552771 / LONG: -104.122801 ( TVD: 8951 feet, MD: 9400 feet )

PPP: SESE / 333 FSL / 0 FEL / TWSP: 20S / RANGE: 28E / SECTION: 23 / LAT: 32.552756 / LONG: -104.139767 ( TVD: 8951 feet, MD: 14161 feet )

PPP: SESW / 331 FSL / 1327 FWL / TWSP: 20S / RANGE: 28E / SECTION: 23 / LAT: 32.552747 / LONG: -104.148381 ( TVD: 8951 feet, MD: 16815 feet )

PPP: SWSE / 332 FSL / 1327 FEL / TWSP: 20S / RANGE: 28E / SECTION: 23 / LAT: 32.552752 / LONG: -104.144074 ( TVD: 8951 feet, MD: 15488 feet )

PPP: SWSW / 330 FSL / 1332 FWL / TWSP: 20S / RANGE: 28E / SECTION: 24 / LAT: 32.55276 / LONG: -104.135444 ( TVD: 8951 feet, MD: 12900 feet )

BHL: SWSW / 330 FSL / 10 FWL / TWSP: 20S / RANGE: 28E / SECTION: 23 / LAT: 32.552738 / LONG: -104.156961 ( TVD: 8951 feet, MD: 19458 feet )

### BLM Point of Contact

Name: JANET D ESTES

Title: ADJUDICATOR

Phone: (575) 234-6233

Email: JESTES@BLM.GOV

### **Review and Appeal Rights**

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

**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

<sup>1</sup> API Number 30-015-55472	<sup>2</sup> Pool Code 3713	<sup>3</sup> Pool Name Avalon; Bone Spring, East
<sup>4</sup> Property Code 335841	<sup>5</sup> Property Name BONDI 24 FED COM	<sup>6</sup> Well Number 134H
<sup>7</sup> OGRID No. 372165	<sup>8</sup> Operator Name COLGATE OPERATING, LLC	<sup>9</sup> Elevation 3241.2'

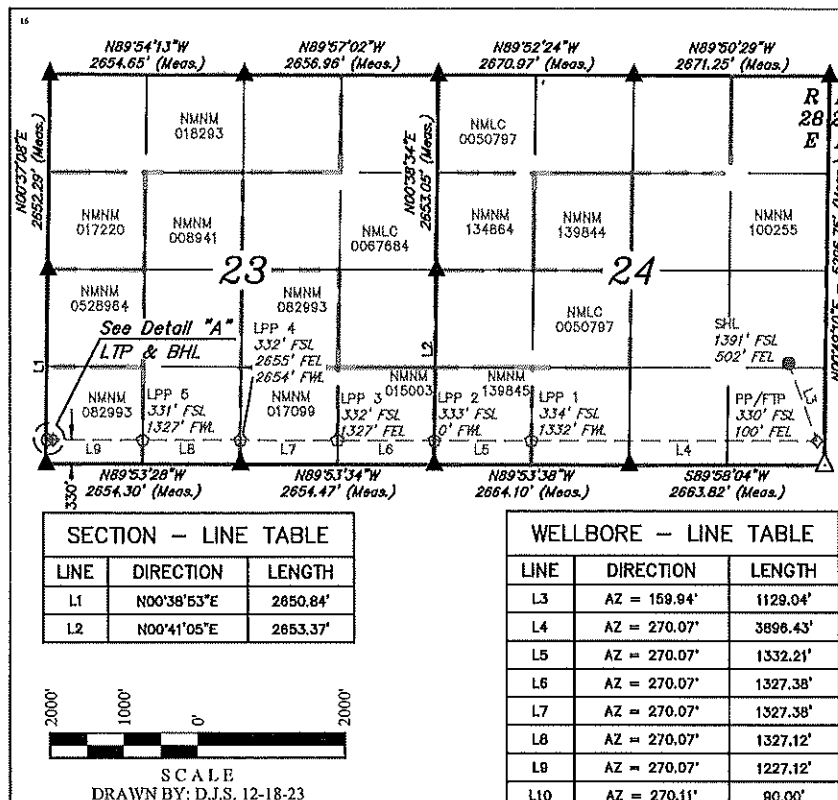
<sup>n</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
1	24	26S	28E		1391	SOUTH	502	EAST	BDY

## "Bottom Hole Location If Different From Surface

UL or lot no. M	Section 23	Township 20S	Range 28E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 10	East/West line WEST	County EDDY
<sup>12</sup> Dedicated Acres 320		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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



### **"OPERATOR CERTIFICATION**

**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.

Stephanie Rabadue 02/22/2024

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Signature
Date

Stephanie Rabadue  
Printed Name

stenbanie.rabadue@permianres.com

E-mail Address

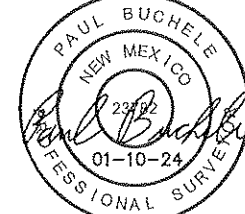
**<sup>18</sup>SURVEYOR  
CERTIFICATION**

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.

December 5, 2023

Date of Survey \_\_\_\_\_  
Signature and Seal of Professional Surveyor \_\_\_\_\_

\_\_\_\_\_

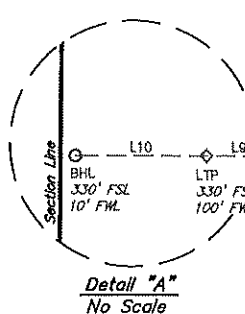


Certificate Numbers:

**NOTE:**

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- Section Breakdown information for this plat may be obtained from Uintah Engineering & Land Surveying.

<b>NAD 83 (SURFACE HOLE LOCATION)</b> LATITUDE = 32°33'09.24" (32.552683°) LONGITUDE = -104°07'26.64" (-104.124065°) <b>NAD 27 (SURFACE HOLE LOCATION)</b> LATITUDE = 32°33'20.03" (32.55366°) LONGITUDE = -104°07'24.82" (-104.123560°) STATE PLANE NAD 83 (N.M. EAST) N: 565951.61° E: 605813.86° STATE PLANE NAD 27 (N.M. EAST) N: 565890.26° E: 564633.41°	<b>NAD 83 (FIRST TAKE POINT)</b> LATITUDE = 32°33'09.98" (32.552771°) LONGITUDE = -104°07'22.08" (-104.122801°) <b>NAD 27 (FIRST TAKE POINT)</b> LATITUDE = 32°33'09.55" (32.552653°) LONGITUDE = -104°07'20.27" (-104.122566°) STATE PLANE NAD 83 (N.M. EAST) N: 564892.92° E: 606203.46° STATE PLANE NAD 27 (N.M. EAST) N: 564831.60° E: 565024.99°	<b>NAD 83 (LPP 1)</b> LATITUDE = 32°33'09.94" (32.552760°) LONGITUDE = -104°08'07.60" (-104.135444°) <b>NAD 27 (LPP 1)</b> LATITUDE = 32°33'09.51" (32.552642°) LONGITUDE = -104°08'05.78" (-104.134939°) STATE PLANE NAD 83 (N.M. EAST) N: 564881.43° E: 602039.92° STATE PLANE NAD 27 (N.M. EAST) N: 564820.13° E: 561129.46°
<b>NAD 83 (LPP 2)</b> LATITUDE = 32°33'09.02" (32.552756°) LONGITUDE = -104°08'23.16" (-104.13967°) <b>NAD 27 (LPP 2)</b> LATITUDE = 32°33'09.50" (32.552638°) LONGITUDE = -104°08'21.34" (-104.139262°) STATE PLANE NAD 83 (N.M. EAST) N: 564977.50° E: 606978.01° STATE PLANE NAD 27 (N.M. EAST) N: 564818.21° E: 559797.58°	<b>NAD 83 (LPP 3)</b> LATITUDE = 32°33'09.91" (32.552752°) LONGITUDE = -104°08'38.67" (-104.144074°) <b>NAD 27 (LPP 3)</b> LATITUDE = 32°33'09.48" (32.552634°) LONGITUDE = -104°08'36.85" (-104.143569°) STATE PLANE NAD 83 (N.M. EAST) N: 564873.55° E: 599650.94° STATE PLANE NAD 27 (N.M. EAST) N: 564812.31° E: 558470.49°	<b>NAD 83 (LPP 4)</b> LATITUDE = 32°33'09.89" (32.552747°) LONGITUDE = -104°08'54.17" (-104.148381°) <b>NAD 27 (LPP 4)</b> LATITUDE = 32°33'09.47" (32.552629°) LONGITUDE = -104°08'52.35" (-104.147876°) STATE PLANE NAD 83 (N.M. EAST) N: 564869.66° E: 598323.86° STATE PLANE NAD 27 (N.M. EAST) N: 564808.40° E: 557143.43°
<b>NAD 83 (LPP 5)</b> LATITUDE = 32°33'09.87" (32.552743°) LONGITUDE = -104°09'09.68" (-104.152688°) <b>NAD 27 (LPP 5)</b> LATITUDE = 32°33'09.45" (32.552625°) LONGITUDE = -104°09'07.85" (-104.152182°) STATE PLANE NAD 83 (N.M. EAST) N: 564865.75° E: 596997.04° STATE PLANE NAD 27 (N.M. EAST) N: 564804.50° E: 555816.61°	<b>NAD 83 (LAST TAKE POINT)</b> LATITUDE = 32°33'09.86" (32.552739°) LONGITUDE = -104°09'24.01" (-104.156669°) <b>NAD 27 (LAST TAKE POINT)</b> LATITUDE = 32°33'09.43" (32.552621°) LONGITUDE = -104°09'22.19" (-104.156164°) STATE PLANE NAD 83 (N.M. EAST) N: 564862.13° E: 595770.21° STATE PLANE NAD 27 (N.M. EAST) N: 564809.89° E: 554589.78°	<b>NAD 83 (BOTTOM HOLE LOCATION)</b> LATITUDE = 32°33'09.86" (32.552738°) LONGITUDE = -104°09'25.06" (-104.156961°) <b>NAD 27 (BOTTOM HOLE LOCATION)</b> LATITUDE = 32°33'09.43" (32.552621°) LONGITUDE = -104°09'23.24" (-104.156456°) STATE PLANE NAD 83 (N.M. EAST) N: 564861.92° E: 595680.23° STATE PLANE NAD 27 (N.M. EAST) N: 564800.68° E: 554499.80°



- = SURFACE HOLE LOCATION.
- ◆ = PENETRATION POINT/  
TAKE POINT
- ☆ = LEASE PENETRATION POINT
- = BOTTOM HOLE LOCATION.
- = LEASE BOUNDARY UNIT.
- ▲ = SECTION CORNER LOCATED.
- △ = SECTION CORNER  
RE-ESTABLISHED. (Not Set  
on Ground.)

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

Submit Electronically  
Via E-permitting

## 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:** Colgate Operating LLC **OGRID:** 371449 **Date:** 09/24/2024

**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 BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D

**IV. Central Delivery Point Name:** Bondi 24 NESE 1 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 proposed to be 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
Bondi 24 Fed Com 111H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 112H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 114H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 113H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 131H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 132H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 133H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 134H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 201H	TBD	10/14/24	TBD	TBD	TBD	TBD
Bondi 24 Fed Com 202H	TBD	10/14/24	TBD	TBD	TBD	TBD

Bondi 24 Fed Com 204H	TBD	10/14/24	TBD	TBD	TBD	TBD
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**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational 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	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF
██████████		████	████
██████████		████	████
██████████		████	████
██████████		████	████
██████████		████	████

#### **X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**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 gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☒ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** 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 attaches 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, no 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 an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an 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 that, 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: *Cassie Evans*

Printed Name: Cassie Evans

Title: Regulatory Specialist

E-mail Address: Cassie.Evans@permianres.com

Date: 9/24/24

Phone: 432-313-1732

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

Approved By:

Title:

Approval Date:

Conditions of Approval:

## Permian Resources Operating, LLC (372165)

**Natural Gas Management Plan Descriptions****VI. Separation Equipment:**

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 through 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 efficiency.
- 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

## Permian Resources Operating, LLC (372165)

- 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 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



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

## Drilling Plan Data Report

09/20/2024

APD ID: 10400097261

Submission Date: 02/23/2024

Highlighted data  
reflects the most  
recent changes

Operator Name: COLGATE OPERATING, LLC

Well Name: BONDI 24 FED COM

Well Number: 134H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14173280	QUATERNARY	3247	0	0	ALLUVIUM	USEABLE WATER	N
14173281	RUSTLER	3122	125	125	ANHYDRITE, SANDSTONE	USEABLE WATER	N
14173282	TOP SALT	2920	327	327	SALT	NONE	N
14173283	TANSILL	2406	841	841	SANDSTONE	NONE	N
14173284	YATES	2307	940	940	ANHYDRITE, SHALE	NATURAL GAS, OIL, USEABLE WATER	N
14173285	SEVEN RIVERS	2009	1238	1238	LIMESTONE	NATURAL GAS, OIL, USEABLE WATER	N
14173286	CAPITAN REEF	1919	1328	1328	LIMESTONE	USEABLE WATER	N
14173287	DELAWARE SAND	69	3178	3178	SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
14173288	BRUSHY CANYON	-712	3959	3959	SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
14173289	BONE SPRING	-2194	5441	5441	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	N
14173291	BONE SPRING 3RD	-5481	8728	8728	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	Y

### Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 8951

**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. 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. The system may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

Requesting Variance? YES

Operator Name: COLGATE OPERATING, LLC

Well Name: BONDI 24 FED COM

Well Number: 134H

Variance request: Multibowl Wellhead, Flexhose, Breaktesting, Offline Cementing Variances. Attachments in Section 8.

**Testing Procedure:** Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. The BOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleed lines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

Choke Diagram Attachment:

Bondi\_24\_Fed\_5MCM\_20240626062846.pdf

BOP Diagram Attachment:

Bondi\_24\_Fed\_5MBOP\_20240626062850.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	150	0	150	3241	3091	150	J-55	54	BUTT	15.25	7.53	DRY	8.4	DRY	7.89
2	INTERMEDIATE	12.25	10.75	NEW	API	N	0	866	0	866	3247	2375	866	J-55	45.5	BUTT	12.02	4.61	DRY	7.63	DRY	7.46
3	INTERMEDIATE	9.875	8.625	NEW	NON API	N	0	3128	0	3128	3247	113	3128	P-110	32	OTHER - MO-FXL	5.72	2.51	DRY	3.94	DRY	5.72
4	PRODUCTION	7.875	5.5	NEW	NON API	N	0	19458	0	8951	3247	-5710	19458	P-110	20	OTHER - GeoConn	2.38	2.49	DRY	2.3	DRY	2.3

Casing Attachments

Operator Name: COLGATE OPERATING, LLC

Well Name: BONDI 24 FED COM

Well Number: 134H

Casing Attachments

Casing ID: 1                      String      SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bondi\_24\_Fed\_134H\_Csg\_20240626062920.pdf

Casing ID: 2                      String      INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bondi\_24\_Fed\_134H\_Csg\_20240626062904.pdf

Casing ID: 3                      String      INTERMEDIATE

Inspection Document:

Spec Document:

Bondi\_24\_Fed\_MOFXL\_Csg\_Spec\_20240222073304.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bondi\_24\_Fed\_134H\_Csg\_20240626062912.pdf

Operator Name: COLGATE OPERATING, LLC

Well Name: BONDI 24 FED COM

Well Number: 134H

## Casing Attachments

Casing ID: 4 String PRODUCTION

Inspection Document:

Spec Document:

Bondi\_24\_Fed\_GeoConn\_Csg\_Spec\_20240222070213.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bondi\_24\_Fed\_134H\_Csg\_20240626062930.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	150	120	1.34	14.8	160	50	Class C	Accelerator

INTERMEDIATE	Lead		0	690	110	1.88	12.9	190	50	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
INTERMEDIATE	Tail		690	866	40	1.34	14.8	50	50	Class C	Retarder
INTERMEDIATE	Lead		0	2500	230	1.88	12.9	430	50	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
INTERMEDIATE	Tail		2500	3128	80	1.33	14.8	100	25	Class C	Salt
PRODUCTION	Lead		2628	8610	590	2.41	11.5	1420	40	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		8610	19458	1360	1.73	12.5	2350	25	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

Operator Name: COLGATE OPERATING, LLC

Well Name: BONDI 24 FED COM

Well Number: 134H

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	150	SPUD MUD	8.6	9.5							
150	866	SALT SATURATED	10	10							
866	3128	OTHER : Fresh Water	8.6	9.5							
3128	1945 8	OTHER : Brine, Oil Based Mud	9	10							

**Operator Name:** COLGATE OPERATING, LLC**Well Name:** BONDI 24 FED COM**Well Number:** 134H**Section 6 - Test, Logging, Coring****List of production tests including testing procedures, equipment and safety measures:**

A directional survey is planned for this well.

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

DIRECTIONAL SURVEY,

**Coring operation description for the well:**

No coring operations are planned for this well.

**Section 7 - Pressure****Anticipated Bottom Hole Pressure:** 4660**Anticipated Surface Pressure:** 2690**Anticipated Bottom Hole Temperature(F):** 146**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

Bondi\_24\_Fed\_H2S\_Plan\_NESE\_20240222075721.pdf

**Section 8 - Other Information****Proposed horizontal/directional/multi-lateral plan submission:**

Bondi\_24\_Fed\_134H\_DD\_20240222111025.pdf

**Other proposed operations facets description:****Other proposed operations facets attachment:****Other Variance attachment:**

Bondi\_24\_Fed\_Batch\_20240222055329.pdf

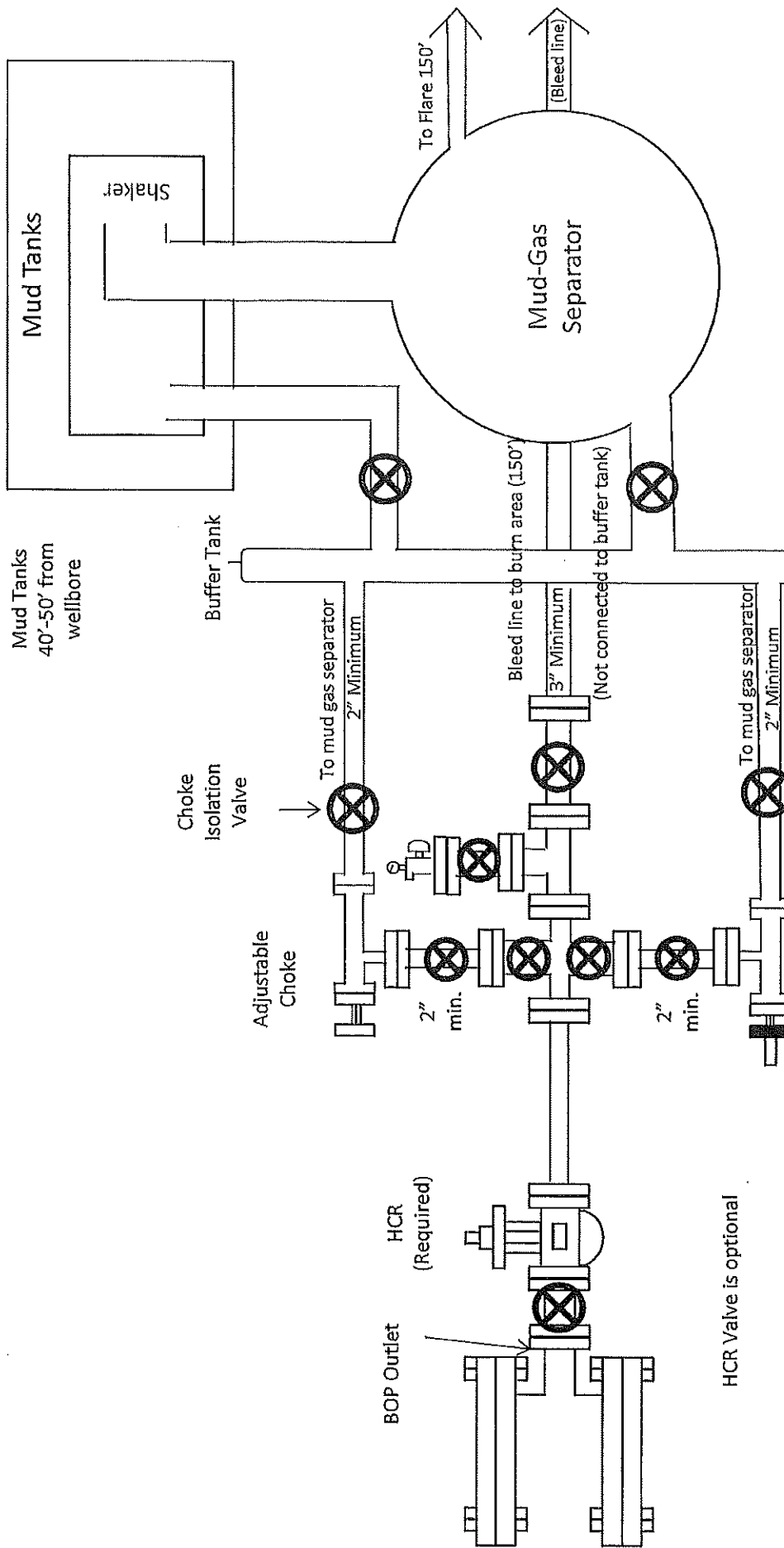
Bondi\_24\_Fed\_Break\_20240222055417.pdf

Bondi\_24\_Fed\_MBS\_20240222055328.pdf

Bondi\_24\_Fed\_OLCV\_20240222055329.pdf

Bondi\_24\_Fed\_FH\_20240626064302.pdf

Bleed lines will discharge 100' from WH in non-H2S scenarios  
and 150' from WH in H2S scenarios.



REMOTELY  
OPERATED  
Adjustable  
Choke

Choke  
Isolation  
Valve

Adjustable  
Choke

Choke  
Isolation  
Valve

To mud gas separator  
2" Minimum

Bleed line to burn area (150')  
3" Minimum  
(Not connected to buffer tank)

HCR Valve is optional

BOP Outlet  
HCR  
(Required)

To Flare 150'

Mud-Gas  
Separator

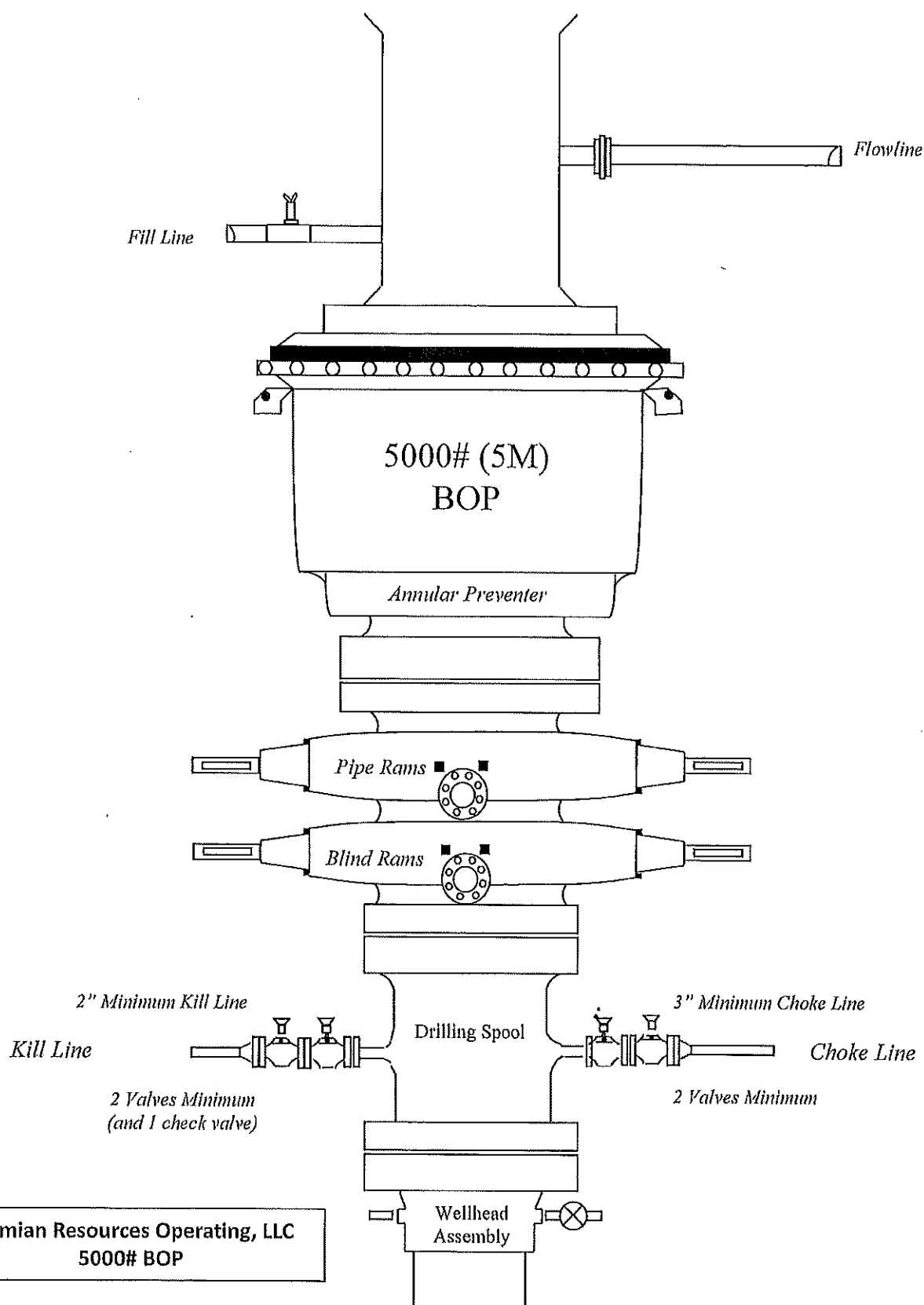
Mud Tanks

Mud Tanks  
40'-50' from  
wellbore

Shaker

**Drilling Operations  
Choke Manifold  
5M Service**

5M Choke Manifold Diagram  
Permian Resources Operating, LLC



Bleed lines will discharge 100' from WH in non-H2S scenarios  
and 150' from WH in H2S scenarios.

Metal One Corp.  <b>Metal One</b>	<b>MO-FXL</b> *1 Pipe Body: BMP P110HSCY MinYS125ksi Min95%WT <b>Connection Data Sheet</b>	CDS#  Date	MO-FXL 8-5/8 32.0 P110HSCY MinYS125ksi Min95%WT 8-Sep-21
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**MO-FXL**

Geometry	Imperial		S.I.	
<b>Pipe Body</b>				
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD ( D )	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness ( t )	0.352	in	8.94	mm
Pipe ID ( d )	7.921	in	201.19	mm
Pipe body cross section	9.149	in <sup>2</sup>	5,902	mm <sup>2</sup>
Drift Dia.	7.796	in	198.02	mm
	-	-	-	-

Connection				
Box OD ( W )	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in <sup>2</sup>	3686	mm <sup>2</sup>
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 ( 1.2" per ft )			
Number of Threads	5 TPI			

Performance				
<b>Performance Properties for Pipe Body</b>				
S.M.Y.S. *1	1,144	klps	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi				
<b>Performance Properties for Connection</b>				
Tensile Yield load	789 klps ( 69% of S.M.Y.S. )			
Min. Compression Yield	789 klps ( 69% of S.M.Y.S. )			
Internal Pressure	6,780 psi ( 70% of M.I.Y.P. )			
External Pressure	100% of Collapse Strength			
Max. DLS ( deg. /100ft)	29			

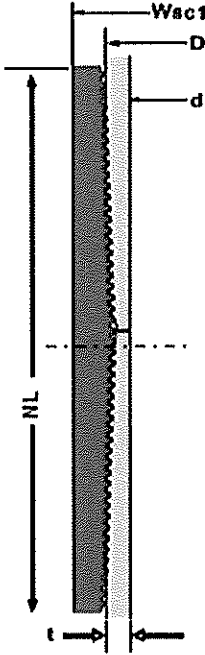
Recommended Torque				
Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m

Note : Operational Max. torque can be applied for high torque application

Metal One Corp.  <b>Metal One</b>	<b>GEOCONN-SC</b> Pipe Body: SeAH P110RY (SMYS 110ksi) & 95%NBW *1 Coupling: P110CY (SMYS 110ksi) <b>Connection Data Sheet</b>	Page Date Rev.	MAI GC 5.5 20 SeAH PRY 95%RW SC-CplgOD 6.050 P110CY 20-Sep-21 0
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**Geometry**



GEOCONN-SC

	Imperial		S.I.	
<b>Pipe Body</b>				
Grade *1	SeAH P110RY	-	SeAH P110RY	-
SMYS	110	ksi	110	ksi
Pipe OD (D)	5.500	in	139.70	mm
Weight	20.00	lb/ft	29.80	kg/m
Wall Thickness (t)	0.361	in	9.17	mm
Pipe ID (d)	4.778	in	121.36	mm
Drift Dia.	4.653	in	118.19	mm
<b>Connection</b>				
Coupling SMYS	110	ksi	110	ksi
Coupling OD (Wsc1)	6.050	in	153.67	mm
Coupling Length (NL)	8.350	in	212.09	mm
Make up Loss	4.125	in	104.78	mm
Pipe Critical Area	6.83	in <sup>2</sup>	3.760	mm <sup>2</sup>
Box Critical Area	6.00	in <sup>2</sup>	3.874	mm <sup>2</sup>
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			

	Imperial		S.I.	
<b>Performance Properties for Pipe Body</b>				
S.M.Y.S.	841	kips	2,852	kN
M.I.Y.P. *1	13,720	psi	94.62	MPa
Collapse Strength	11,100	psi	76.55	MPa

Note: S.M.Y.S. = Specified Minimum YIELD Strength of Pipe body  
 M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body  
 \*1 Pipe, SeAH P110RY (SMYS 110ksi), Min Wall Thickness of Pipe Body, 95% of Nom wall

Performance Properties for Connection	
Min. Connection Joint Strength	100% of S.M.Y.S.
Min. Compression Yield	100% of S.M.Y.S.
Internal Pressure	100% of M.I.Y.P.
External Pressure	100% of Collapse Strength
Max. DLS (deg./100ft)	>90

Recommended Torque				
Min.	14,800	ft-lb	19,700	N-m
Opti.	16,200	ft-lb	21,900	N-m
Max.	17,800	ft-lb	24,100	N-m
Operational Max.	19,500	ft-lb	26,400	N-m

Note: Operational Max. torque can be applied for high torque application

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Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not testing statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to [www.metalone.com/resources](http://www.metalone.com/resources), [www.metalone.com/Products/Products%20Index](http://www.metalone.com/Products/Products%20Index), and the contents of which are incorporated by reference into this Connection Data Sheet.

## 3. Casing

String	Hole Size	Casing Size	Top	Bottom	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	150	0	150	150	J55	54.5	BTC	15.25	7.53	Dry	8.40	Dry	7.89
Intermediate 1	12.25	10.75	0	866	0	866	866	J55	45.5	BTC	12.02	4.61	Dry	7.63	Dry	7.46
Intermediate 2	9.875	8.625	0	3128	0	3128	3128	P110 HS	32	MO-FXL	5.72	2.51	Dry	3.94	Dry	5.72
Production	7.875	5.5	0	9360	0	8951	9360	P110RY	20	GeoConn	2.38	2.49	Dry	2.30	Dry	2.30
Production	7.875	5.5	9360	19458	8951	8951	10098	P110RY	20	GeoConn	2.38	2.49	Dry	2.30	Dry	2.30
BLM Min Safety Factor											1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

## Colgate Operating Multi-Well Pad Batch Drilling Procedure

Surface Casing - PR intends to Batch set all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land planned surface casing see Illustration 1-1 Below to depth approved in APD.
3. Set packoff and test to 5k psi
4. Offline Cement
5. Install wellhead with pressure gauge and nightcap. Nightcap is shown on final wellhead Stack up Illustration #2-2.
6. Skid Rig to adjacent well to drill Surface hole.
7. Surface casing test will be performed by the rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is greater - not to exceed 70% casing burst.

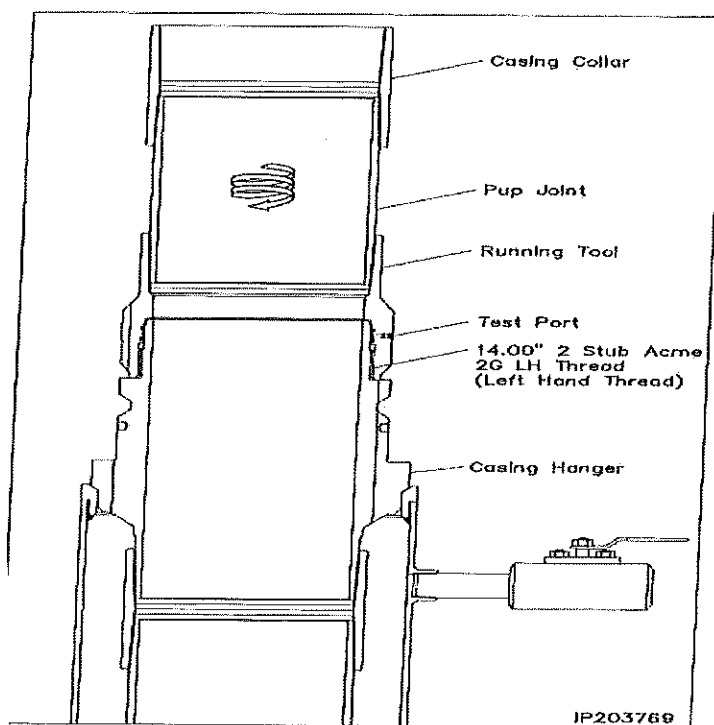
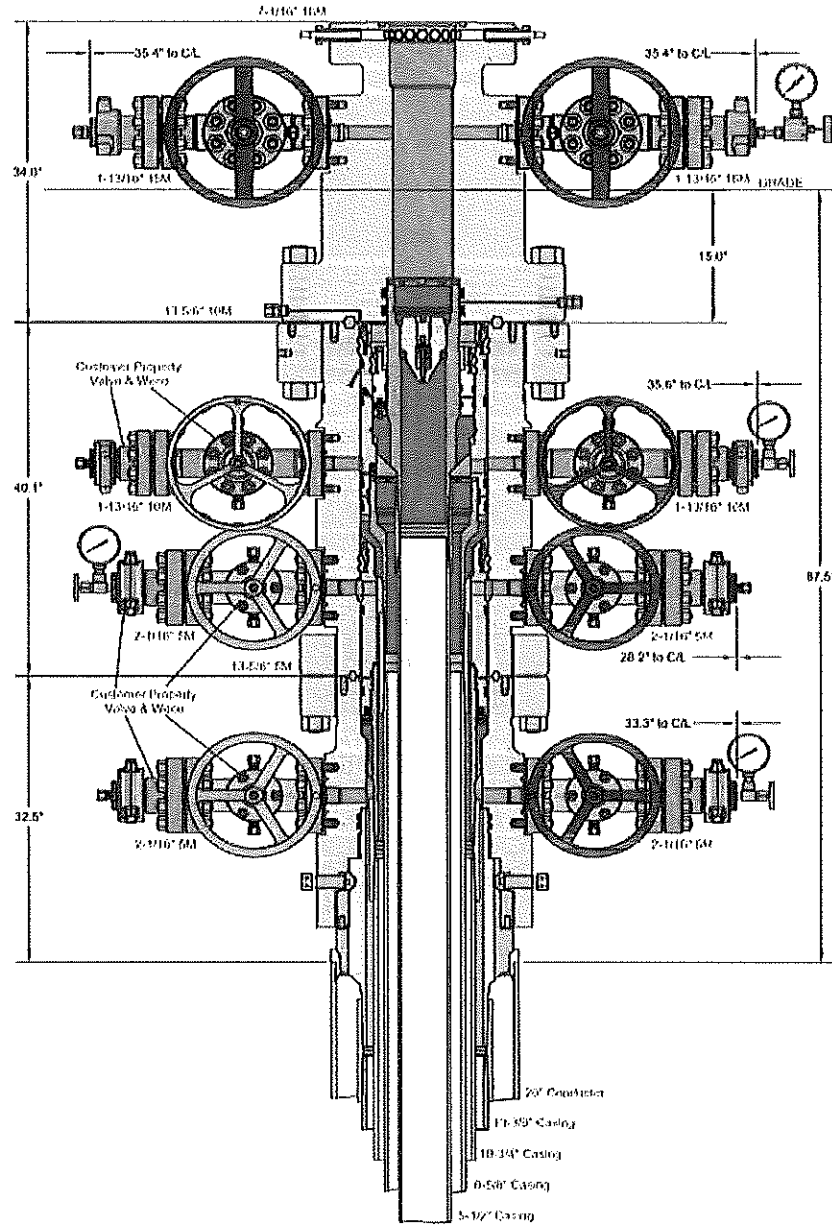


Illustration 1-1

Production Casing – PR intends to Batch set all Production casings with Rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Drilling Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 5,000psi for 15 minutes.
9. Install BPV in Production mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 5,000 psi for 30 minutes per illustration 2-2
11. Skid rig to adjacent well on pad to drill production hole.



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ALL DIMENSIONS APPROXIMATE

## CACTUS WELLHEAD LLC

Colgate Operating LLC  
NEW MEXICO

20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO Sys.  
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head  
And 10-3/4" & 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers

DRAWN  
APPRV

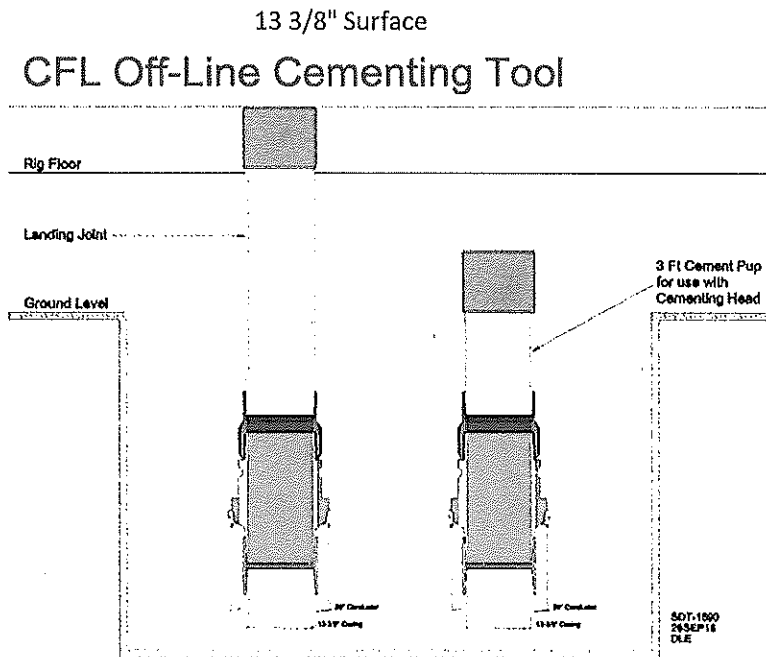
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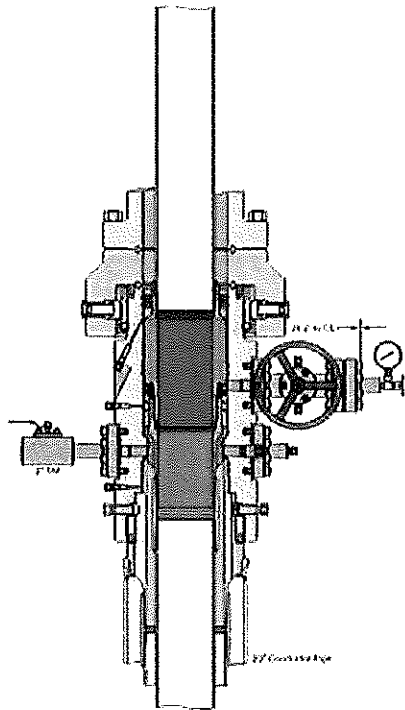
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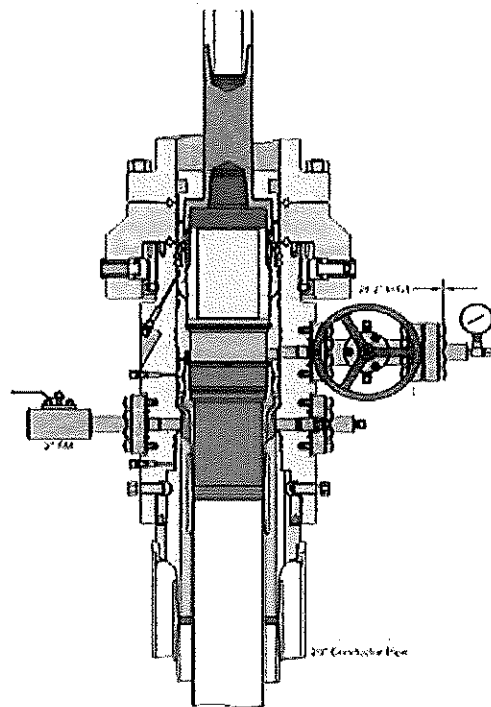
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Rig down cementers and equipment
16. Install night cap with pressure gauge to monitor.



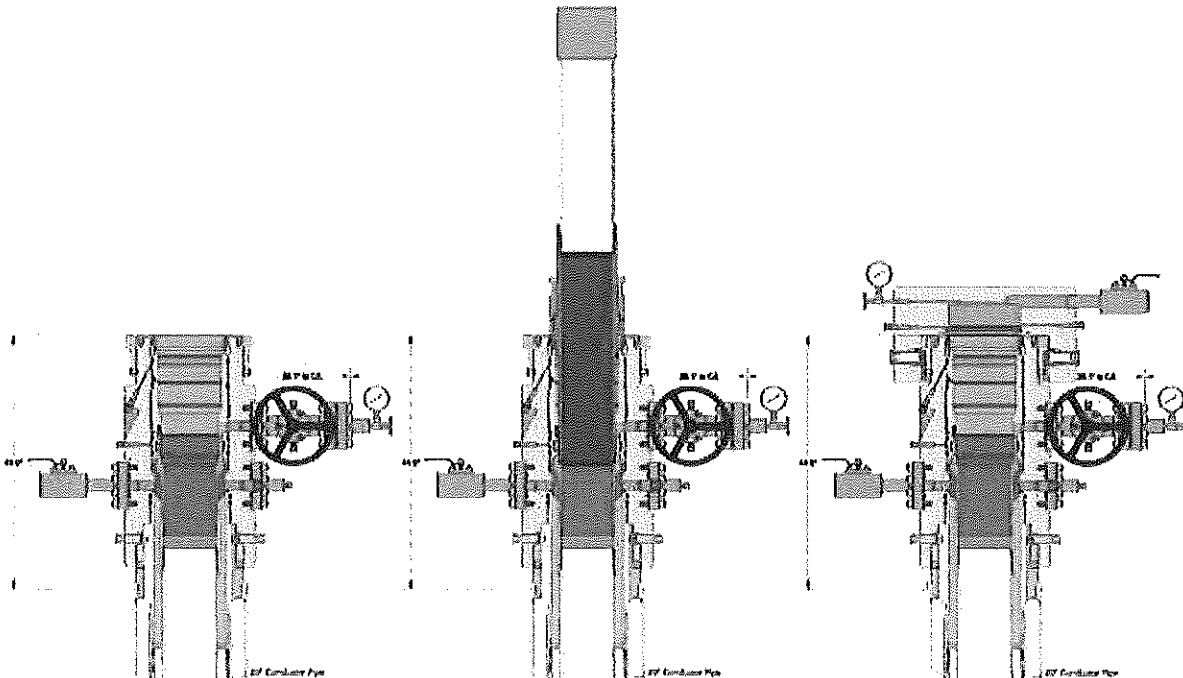
Intermediate



Run 7 5/8" Casing  
Land Casing on 7 5/8" Mandrel Hanger  
Cement 7 5/8" Casing  
Retrieve Running Tool



Run 9 5/8" Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool



## **Colgate Operating BOP Break Testing Variance Procedure**

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Colgate Operating requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

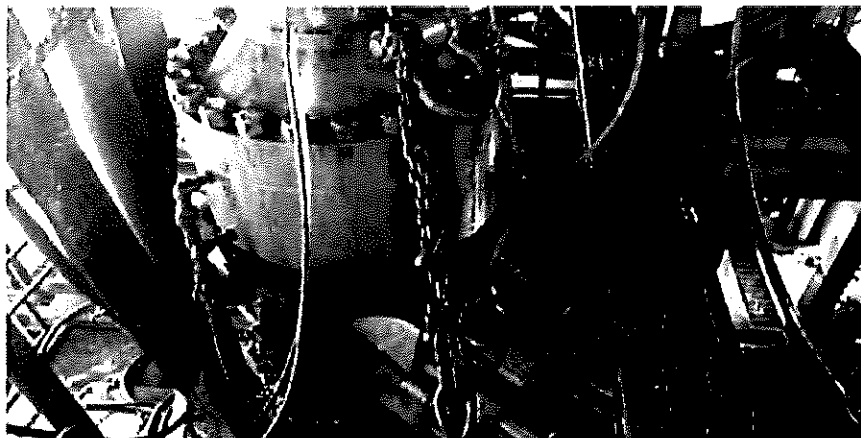
### **Background**

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in §§ 3172.6 through 3172.12. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)". Colgate Operating feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Colgate Operating submits this request for the variance.

### **Supporting Documentation**

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Colgate Operating drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack



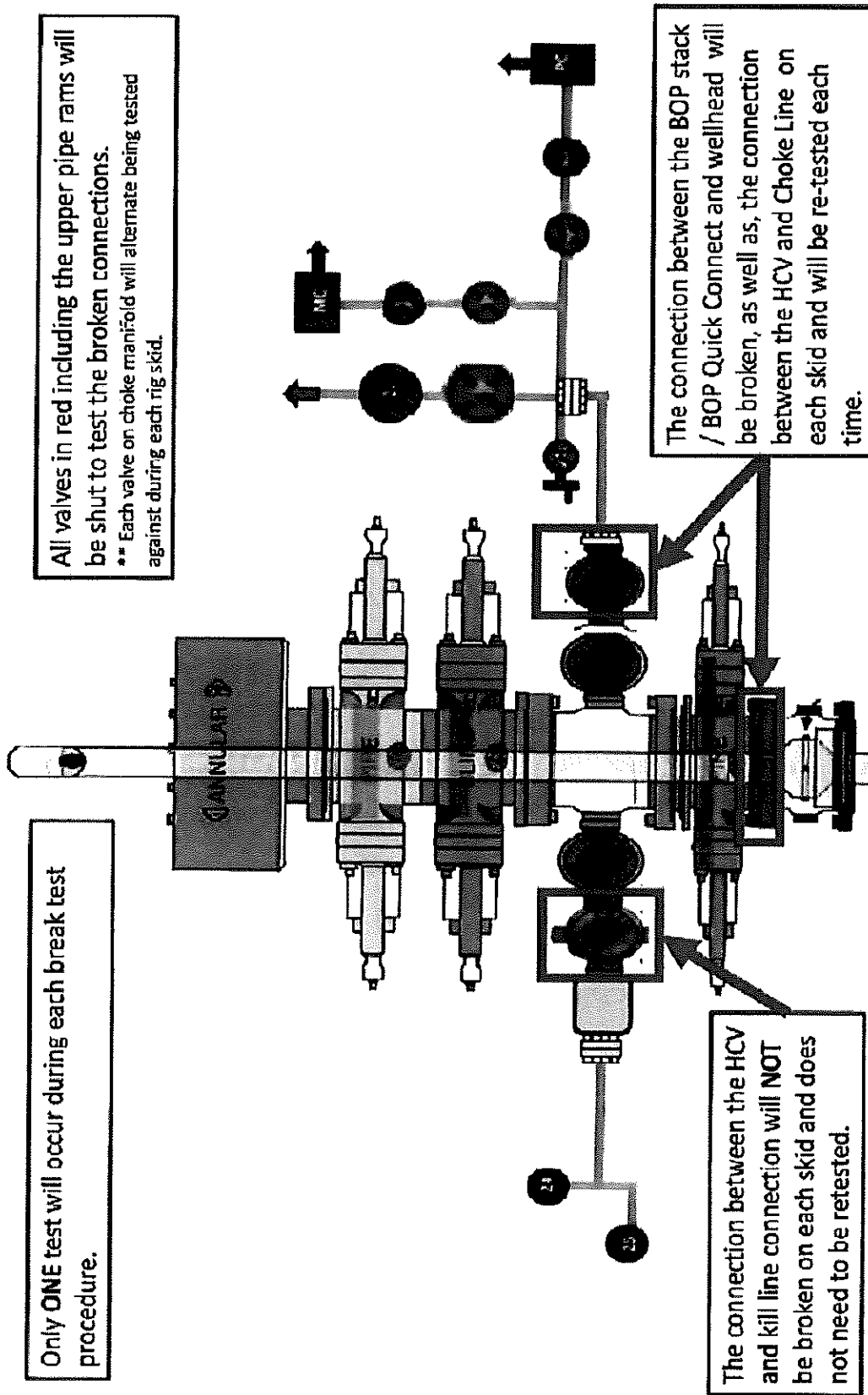
The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

Colgate Operating feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Colgate Operating internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Colgate Operating performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

#### **Procedures**

- 1) Colgate Operating will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Colgate Operating will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.





H3-12183

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**TEST REPORT****CUSTOMER**

Company: HELMERICH & PAYNE  
INTERNATIONAL DRILLING CO.  
Production description: SN62429  
Sales order #: 525826  
Customer reference:

**TEST OBJECT**

Serial number: H3-012523-17  
Lot number:  
Description: SN62429  
Hose ID: 3.0 CK03 16C 10K  
Part number:

**TEST INFORMATION**

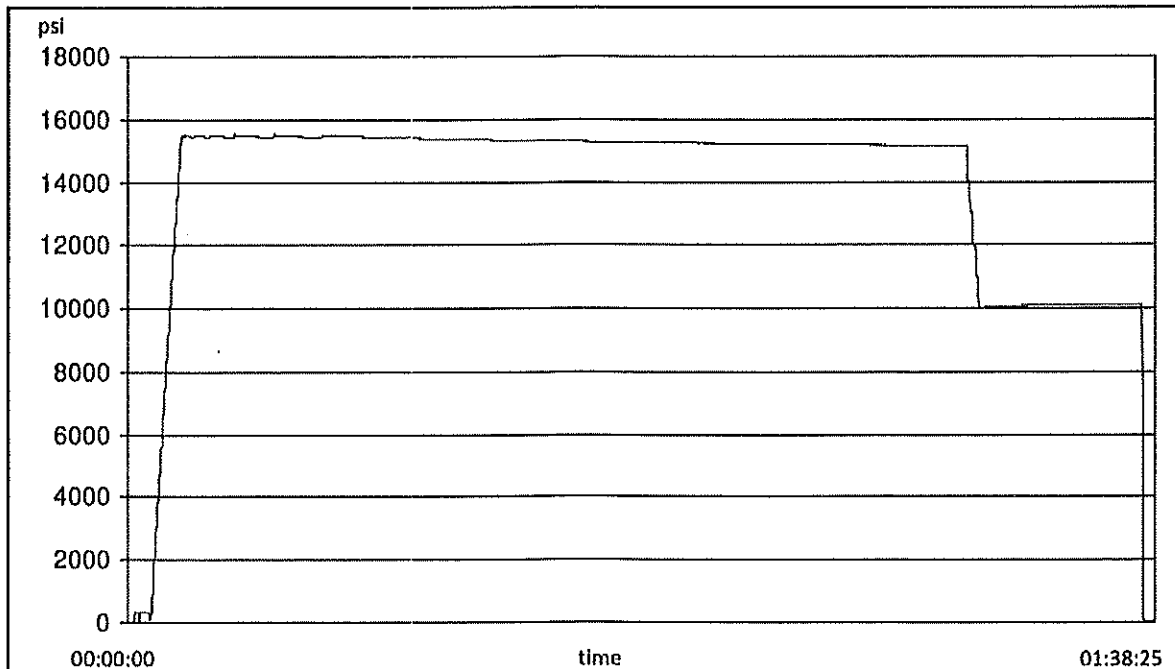
Test procedure: GTS-04-053  
Test pressure: 15000.00 psi  
Test pressure hold: 3600.00 sec  
Work pressure: 10000.00 psi  
Work pressure hold: 900.00 sec  
Length difference: 0.00 %  
Length difference: 0.00 inch

Fitting 1: 3.0 x 3-1/16 10K  
Part number:  
Description:  
Fitting 2: 3.0 x 3-1/16 10K  
Part number:  
Description:

Visual check:  
Pressure test result: PASS  
Length measurement result:

Length: 16 feet

Test operator: Martin





CONTITECH RUBBER  
Industrial Kft.

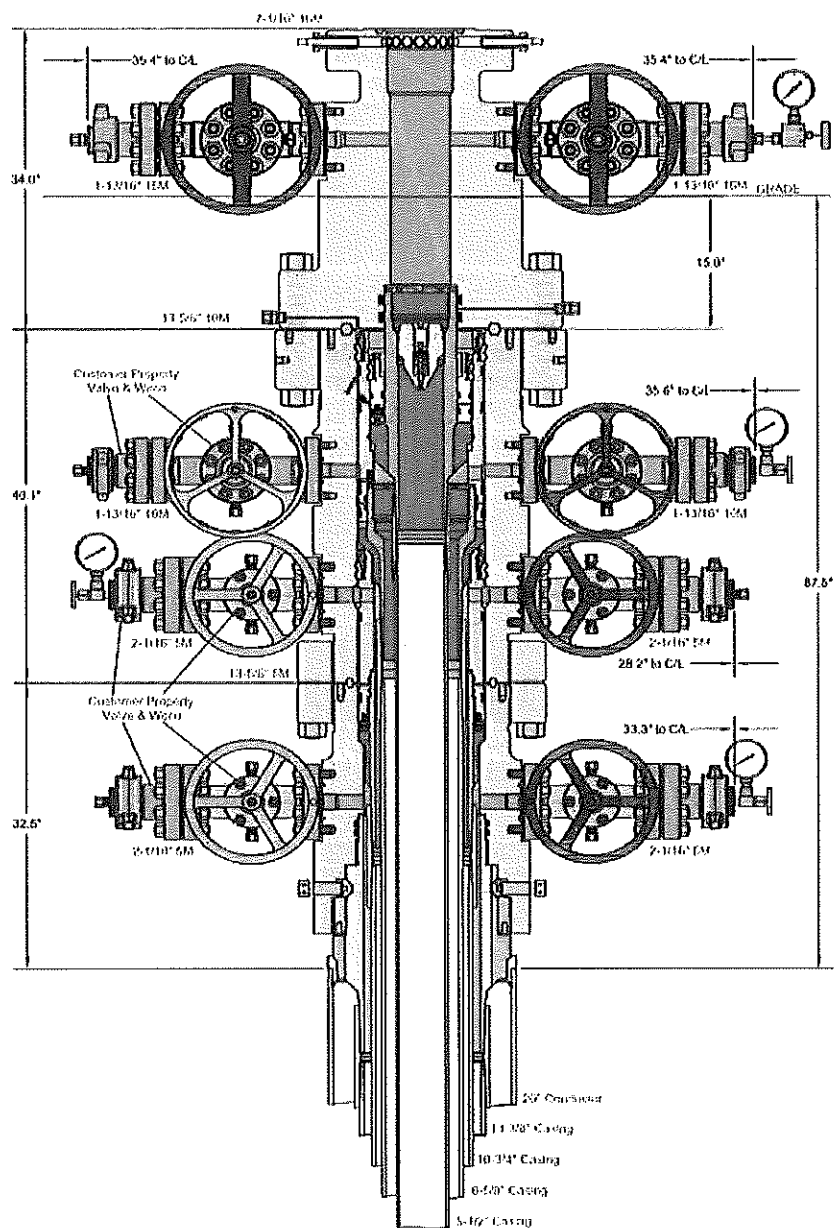
No: QC-DB-062 / 2022

Page: 16 / 131

ContiTech

<b>TEST CERTIFICATE according to EN 10204 3.1 and Supplier's Declaration of Conformity acc. to ISO/IEC 17050-1</b>				CERT. N°: 81142	
CUSTOMER: ContiTech Oil & Marine Corp.			C.O. N°: 4501624407		
Supplier's name: Contitech Rubber Industrial Kft.			Supplier's address: Budapesti út 10. H-6728 Szeged		
CONTITECH ORDER N°: 1386035		HOSE TYPE: 3" ID Choke & Kill Hose			
HOSE SERIAL N°: 81142		NOMINAL / ACTUAL LENGTH: 7,92 m / 7,90 m			
W.P. 69,0 MPa 10000 psi		T.P. 103,5 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment ( 1 page )					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		4411		AISI 4130	
3 1/16" 10K API b.w. Flange end				AISI 4130	
3" coupling with		4428		AISI 4130	
3 1/16" 10K API Swivel Flange end				AISI 4130	
Hub				AISI 4130	
Not Designed For Well Testing			API Spec 16C 3 <sup>rd</sup> Edition – FSL3		
Fire Rated			Temperature rate: "B"		
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Customer Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, other technical standards and specifications and meet the relevant acceptance criteria and design requirements. This declaration of conformity is issued under the sole responsibility of the manufacturer.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:	Inspector		Quality Control		
28. February 2022.			Contitech Rubber Industrial Kft. Quality Control Dept. (1)		
			István Farkas Lajos Bacsa		

ContiTech Rubber Industrial Kft. | Budapesti út 10. H-6728 Szeged | H-6701 P.O.Box 152 Szeged, Hungary  
Phone: +36 20 292 2075 | e-mail: info@fluid.contitech.hu | Internet: www.contitech-rubber.hu www.contitech-oil-gas.com  
The Court of Csongrád County as Registry Court | Registry Court No: Cg.06-09-002502 | EU VAT No: HU11067209  
Bank data Commerzbank Zrt., Budapest | 14220108-26830003



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE

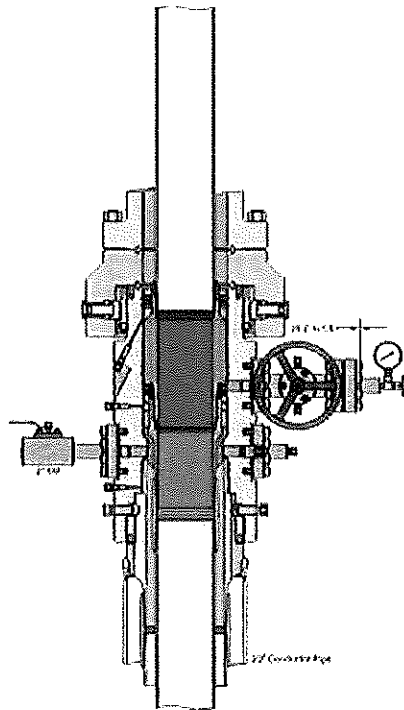
## CACTUS WELLHEAD LLC

Colgate Operating LLC  
NEW MEXICO

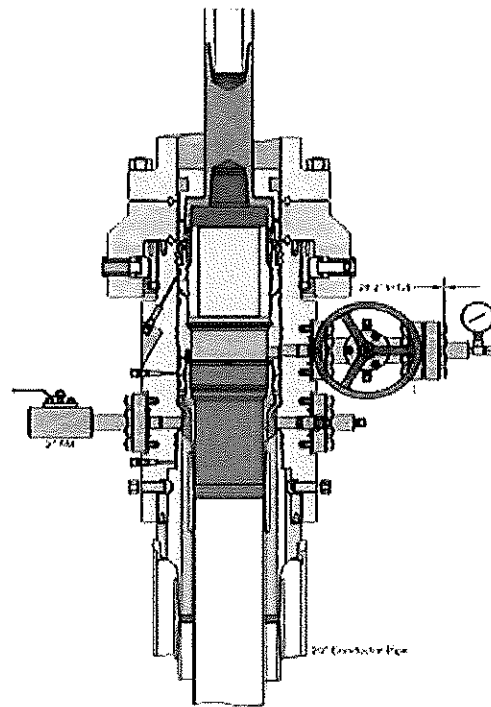
20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO Sys.  
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head  
And 10-3/4" & 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers

DRAWN	DLE	26OCT23
APPRV		
DRAWING NO.		HBE0001038

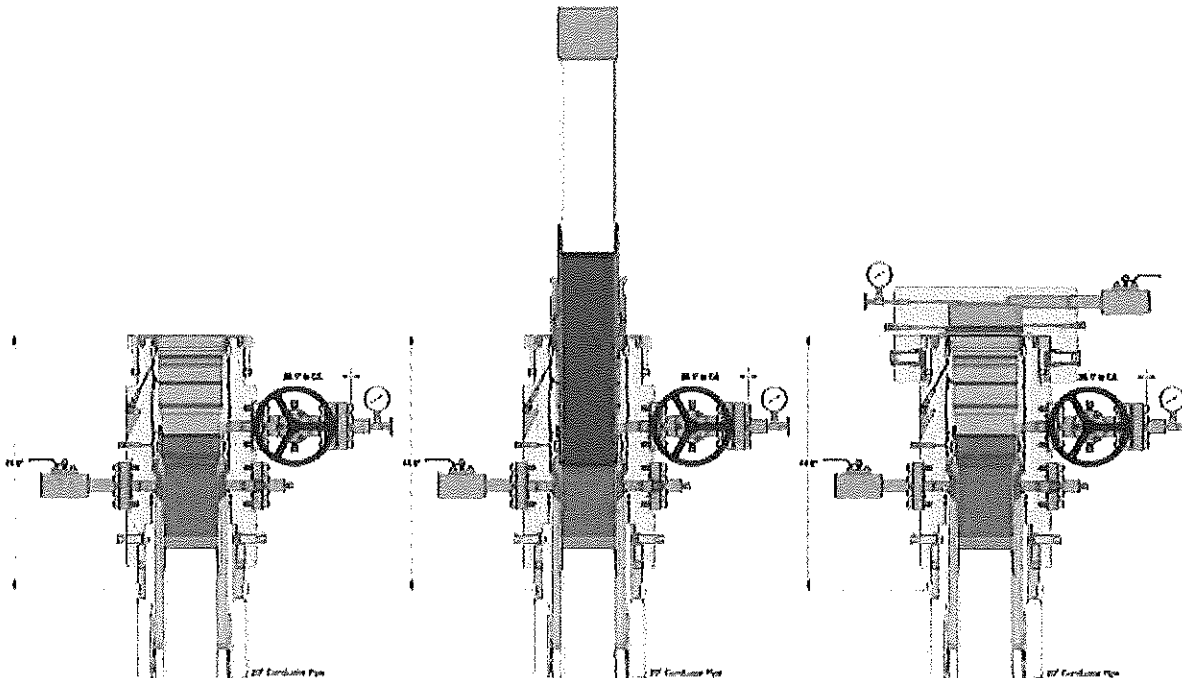
## Intermediate



Run 7 5/8" Casing  
Land Casing on 7 5/8" Mandrel Hanger  
Cement 7 5/8" Casing  
Retrieve Running Tool



Run 9 5/8" Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool



**BLACK GOLD®**

**GATES ENGINEERING & SERVICES NORTH AMERICA**  
**7603 Prairie Oak Dr.**  
**Houston, TX. 77086**

**PHONE: +1 (281) 602-4100**  
**FAX: +1 (281) 602-4147**  
**EMAIL: [gesna.quality@gates.com](mailto:gesna.quality@gates.com)**  
**WEB: [www.gates.com/ollandgas](http://www.gates.com/ollandgas)**

## CERTIFICATE OF CONFORMANCE

This is to verify that the Items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following Items were Inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

**CUSTOMER:** HELMERICH & PAYNE INTERNATIONAL DRILLING CO.  
**CUSTOMER P.O.#:** 740414061 (SN: 62429 - 88061537)  
**CUSTOMER P/N:** SN: 62429 - 88061537

**PART DESCRIPTION:** INSPECT AND RETEST CUSTOMER HOSE 3IN X 16FT CHOKE & KILL ASSEMBLY C/W 3-1/16 FLANGES BX154 SS INLAID RING GROOVE EACH END

**SALES ORDER #:** 525826  
**QUANTITY:** 1  
**SERIAL #:** 62429 H3-012523-17

**SIGNATURE:**

*F. Cisneros*

**TITLE:**

**QUALITY ASSURANCE**

**DATE:**

**1/26/2023**



H3-12183

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TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AQA1S	2022-03-09	2023-03-09
S-25-A-W	110CBWVV	2022-03-09	2023-03-09

Comment

ATTACHMENT OF QUALITY CONTROL  
INSPECTION AND TEST CERTIFICATE  
No: 81137, 81138, 81139,  
81140, 81141, 81142

CONTITECH RUBBER Industrial Kft.	No: QC-DB-062 / 2022
	Page: 17 / 131

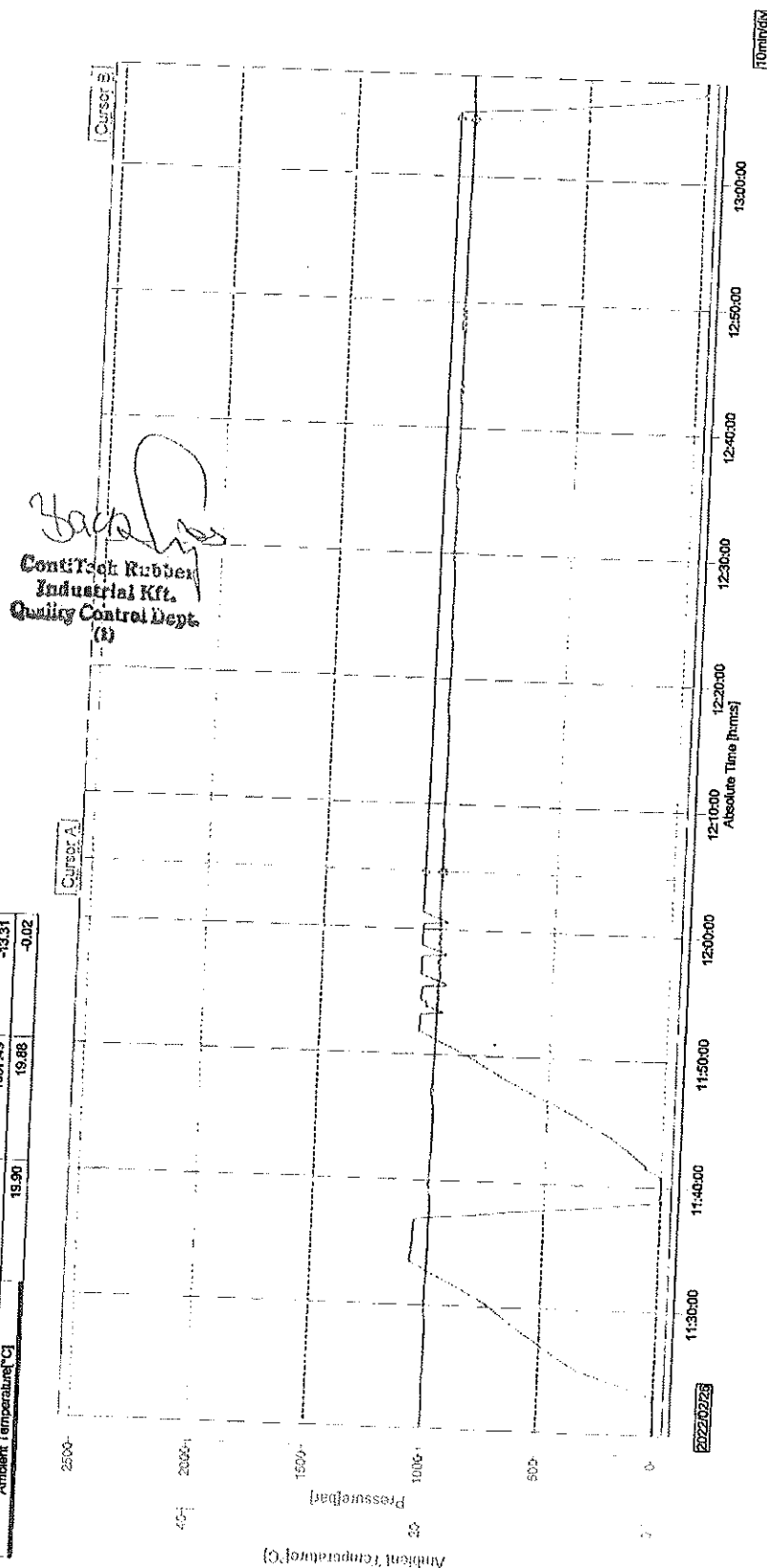
1/1

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Stop Time : 2022/02/26 13:08:00.000

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File Message : 81137,81138,81139,81140,81141,81142  
Device Type : GX10  
Serial No. : S5P606399  
Data Count : 1295

Print Group : Press-Temp  
Print Range : 2022/02/26 11:20:10.000 - 2022/02/26 13:08:00.000  
Comment : 110BFGHI 81137,81138,81139,81140,81141,81142

Data No.	Cursor A	Cursor B	Difference
Absolute Time	2022/02/26 12:04:35.000	2022/02/26 13:04:35.000	01:00:00.000
Tag Comment	Value A	Value B	Value B-A
Pressure[bar]	1070.80	1057.49	-13.31
Ambient Temperature[°C]	19.90	19.88	-0.02



## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Colgate Operating, LLC
<b>WELL NAME &amp; NO.:</b>	Bondi 24 Fed Com 134H
<b>LOCATION:</b>	Sec 24-20S-28E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico <span style="float: right;">▼</span>

COA

H <sub>2</sub> S	<input type="radio"/> No		<input checked="" type="radio"/> Yes	
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-Q	<input type="radio"/> Open Annulus <input type="radio"/> WIPP
Cave / Karst	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input type="radio"/> Primary Squeeze	<input type="radio"/> Cont. Squeeze	<input type="radio"/> EchoMeter	<input type="radio"/> DV Tool
Special Req	<input checked="" type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Waste Prev.	<input type="radio"/> Self-Certification	<input type="radio"/> Waste Min. Plan	<input checked="" type="radio"/> APD Submitted prior to 06/10/2024	
Additional Language	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input checked="" type="checkbox"/> Break Testing
	<input checked="" type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware Mountain Group** formations. 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 **300 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. *Set depth adjusted per BLM geologist.*
  - 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 **8 hours** or **500 pounds compressive strength**, whichever 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.
2. The minimum required fill of cement behind the 10-3/4 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
  - ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
  - ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
  - ❖ **Special Capitan Reef requirements.** Ensure freshwater based mud is used across the Capitan Reef.
3. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:
  - Cement should tie-back at least **50 feet** on top of Capitan Reef top or **200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
4. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

### 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface 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.

#### D. SPECIAL REQUIREMENT (S)

##### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

##### BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

##### Offline Cementing

Contact the BLM prior to the commencement of any offline cementing procedure.

## 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)

**Contact Eddy County Petroleum Engineering Inspection Staff:**

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;

**BLM NM CFO DrillingNotifications@BLM.GOV**; (575) 361-2822

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
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2<sup>nd</sup> 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

### 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. Wait on cement (WOC) for Potash Areas: 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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity 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-Q 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 3172**.
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:
  - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - ii. 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.
  - iii. Manufacturer representative shall install the test plug for the initial BOP test.
  - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - v. 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.
  - i. 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).
  - ii. 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.)
  - iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 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.

**NEW MEXICO**  
**(SP) EDDY**  
**BONDI 24 FED COM PROJECT**  
**BONDI 24 FED COM 134H**

**OWB**

**Plan: PWP0**

**Standard Planning Report - Geographic**

**15 February, 2024**

## Permian Resources

### Planning Report - Geographic

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well BOND1 24 FED COM 134H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3271.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3271.0usft
<b>Site:</b>	BOND1 24 FED COM PROJECT	<b>North Reference:</b>	Grid
<b>Well:</b>	BOND1 24 FED COM 134H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

<b>Project</b>	(SP) EDDY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	BOND1 24 FED COM PROJECT				
<b>Site Position:</b>		<b>Northing:</b>	605,813.82 usft	<b>Latitude:</b>	32° 39' 55.450 N
<b>From:</b>	Map	<b>Easting:</b>	565,984.60 usft	<b>Longitude:</b>	104° 15' 11.663 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	BOND1 24 FED COM 134H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	565,951.74 usft	<b>Latitude:</b>	32° 33' 20.458 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	605,943.83 usft	<b>Longitude:</b>	104° 7' 25.117 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,241.0 usft
<b>Grid Convergence:</b>		0.11 °				

<b>Wellbore</b>	OWB				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.03	60.45	48,932.49091760

<b>Design</b>	PWP0				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	263.94	

Plan Survey Tool Program	Date	2/15/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	19,458.0 PWP0 (OWB)	MWD		
			OWSG_Rev2_ MWD - Star		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,750.0	15.00	163.60	2,741.5	-93.6	27.6	2.00	2.00	0.00	163.60	
6,260.1	15.00	163.60	6,132.0	-965.2	284.0	0.00	0.00	0.00	0.00	
7,010.1	0.00	0.00	6,873.4	-1,058.8	311.6	2.00	-2.00	0.00	180.00	
8,610.2	0.00	0.00	8,473.5	-1,058.8	311.6	0.00	0.00	0.00	0.00	
9,360.2	90.00	269.83	8,951.0	-1,060.2	-165.9	12.00	12.00	-12.02	269.83	
19,458.0	90.00	269.83	8,951.0	-1,089.8	-10,263.6	0.00	0.00	0.00	0.00	BHL-BOND1 24 FC

## Permian Resources

### Planning Report - Geographic

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well BOND1 24 FED COM 134H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3271.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3271.0usft
<b>Site:</b>	BOND1 24 FED COM PROJECT	<b>North Reference:</b>	Grid
<b>Well:</b>	BOND1 24 FED COM 134H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

#### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
100.0	0.00	0.00	100.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
118.0	0.00	0.00	118.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Rustler (TVD)</b>									
200.0	0.00	0.00	200.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
300.0	0.00	0.00	300.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
320.0	0.00	0.00	320.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Salado = T/Salt (TVD)</b>									
400.0	0.00	0.00	400.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
500.0	0.00	0.00	500.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
600.0	0.00	0.00	600.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
700.0	0.00	0.00	700.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
800.0	0.00	0.00	800.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
834.0	0.00	0.00	834.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Tansill (TVD)</b>									
900.0	0.00	0.00	900.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
933.0	0.00	0.00	933.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Yates (TVD)</b>									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,231.0	0.00	0.00	1,231.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Seven Rivers (TVD)</b>									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,321.0	0.00	0.00	1,321.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Capitan (if applicable) (TVD)</b>									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	565,951.74	605,943.83	32° 33' 20.458 N	104° 7' 25.117 W
<b>Start Build 2.00</b>									
2,100.0	2.00	163.60	2,100.0	-1.7	0.5	565,950.07	605,944.33	32° 33' 20.442 N	104° 7' 25.111 W
2,200.0	4.00	163.60	2,199.8	-6.7	2.0	565,945.05	605,945.80	32° 33' 20.392 N	104° 7' 25.094 W
2,300.0	6.00	163.60	2,299.5	-15.1	4.4	565,936.69	605,948.26	32° 33' 20.309 N	104° 7' 25.065 W
2,400.0	8.00	163.60	2,398.7	-26.7	7.9	565,925.00	605,951.70	32° 33' 20.194 N	104° 7' 25.025 W
2,500.0	10.00	163.60	2,497.5	-41.8	12.3	565,909.99	605,956.12	32° 33' 20.045 N	104° 7' 24.974 W
2,600.0	12.00	163.60	2,595.6	-60.1	17.7	565,891.69	605,961.51	32° 33' 19.864 N	104° 7' 24.911 W
2,700.0	14.00	163.60	2,693.1	-81.6	24.0	565,870.11	605,967.86	32° 33' 19.650 N	104° 7' 24.838 W
2,750.0	15.00	163.60	2,741.5	-93.6	27.6	565,858.10	605,971.39	32° 33' 19.531 N	104° 7' 24.797 W
<b>Start 3510.1 hold at 2750.0 MD</b>									
2,770.2	15.00	163.60	2,761.0	-98.7	29.0	565,853.08	605,972.87	32° 33' 19.482 N	104° 7' 24.780 W
<b>San Andres (TVD)</b>									
2,800.0	15.00	163.60	2,789.8	-106.1	31.2	565,845.68	605,975.05	32° 33' 19.408 N	104° 7' 24.754 W
2,900.0	15.00	163.60	2,886.4	-130.9	38.5	565,820.85	605,982.35	32° 33' 19.163 N	104° 7' 24.670 W
3,000.0	15.00	163.60	2,982.9	-155.7	45.8	565,796.03	605,989.66	32° 33' 18.917 N	104° 7' 24.585 W
3,100.0	15.00	163.60	3,079.5	-180.5	53.1	565,771.20	605,996.97	32° 33' 18.671 N	104° 7' 24.500 W
3,194.7	15.00	163.60	3,171.0	-204.1	60.1	565,747.69	606,003.89	32° 33' 18.438 N	104° 7' 24.420 W
<b>Delaware Sands = CYCN (TVD)</b>									
3,200.0	15.00	163.60	3,176.1	-205.4	60.4	565,746.37	606,004.27	32° 33' 18.425 N	104° 7' 24.415 W
3,300.0	15.00	163.60	3,272.7	-230.2	67.7	565,721.54	606,011.58	32° 33' 18.179 N	104° 7' 24.330 W

## Permian Resources

### Planning Report - Geographic

**Database:** Compass  
**Company:** NEW MEXICO  
**Project:** (SP) EDDY  
**Site:** BOND 24 FED COM PROJECT  
**Well:** BOND 24 FED COM 134H  
**Wellbore:** OWB  
**Design:** PWP0

**Local Co-ordinate Reference:** Well BOND 24 FED COM 134H  
**TVD Reference:** KB @ 3271.0usft  
**MD Reference:** KB @ 3271.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

#### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,400.0	15.00	163.60	3,369.3	-255.0	75.1	565,696.71	606,018.89	32° 33' 17.933 N	104° 7' 24.245 W
3,500.0	15.00	163.60	3,465.9	-279.9	82.4	565,671.88	606,026.19	32° 33' 17.688 N	104° 7' 24.161 W
3,600.0	15.00	163.60	3,562.5	-304.7	89.7	565,647.05	606,033.50	32° 33' 17.442 N	104° 7' 24.076 W
3,700.0	15.00	163.60	3,659.1	-329.5	97.0	565,622.22	606,040.81	32° 33' 17.196 N	104° 7' 23.991 W
3,800.0	15.00	163.60	3,755.7	-354.3	104.3	565,597.39	606,048.11	32° 33' 16.950 N	104° 7' 23.906 W
3,900.0	15.00	163.60	3,852.3	-379.2	111.6	565,572.56	606,055.42	32° 33' 16.704 N	104° 7' 23.821 W
4,000.0	15.00	163.60	3,948.9	-404.0	118.9	565,547.74	606,062.73	32° 33' 16.458 N	104° 7' 23.737 W
4,003.2	15.00	163.60	3,952.0	-404.8	119.1	565,546.93	606,062.97	32° 33' 16.450 N	104° 7' 23.734 W
<b>BYCN</b>									
4,100.0	15.00	163.60	4,045.5	-428.8	126.2	565,522.91	606,070.04	32° 33' 16.212 N	104° 7' 23.652 W
4,200.0	15.00	163.60	4,142.1	-453.7	133.5	565,498.08	606,077.34	32° 33' 15.967 N	104° 7' 23.567 W
4,300.0	15.00	163.60	4,238.6	-478.5	140.8	565,473.25	606,084.65	32° 33' 15.721 N	104° 7' 23.482 W
4,400.0	15.00	163.60	4,335.2	-503.3	148.1	565,448.42	606,091.96	32° 33' 15.475 N	104° 7' 23.397 W
4,500.0	15.00	163.60	4,431.8	-528.2	155.4	565,423.59	606,099.26	32° 33' 15.229 N	104° 7' 23.313 W
4,600.0	15.00	163.60	4,528.4	-553.0	162.7	565,398.76	606,106.57	32° 33' 14.983 N	104° 7' 23.228 W
4,700.0	15.00	163.60	4,625.0	-577.8	170.0	565,373.93	606,113.88	32° 33' 14.737 N	104° 7' 23.143 W
4,800.0	15.00	163.60	4,721.6	-602.6	177.4	565,349.10	606,121.18	32° 33' 14.492 N	104° 7' 23.058 W
4,900.0	15.00	163.60	4,818.2	-627.5	184.7	565,324.27	606,128.49	32° 33' 14.246 N	104° 7' 22.973 W
5,000.0	15.00	163.60	4,914.8	-652.3	192.0	565,299.44	606,135.80	32° 33' 14.000 N	104° 7' 22.889 W
5,100.0	15.00	163.60	5,011.4	-677.1	199.3	565,274.62	606,143.11	32° 33' 13.754 N	104° 7' 22.804 W
5,200.0	15.00	163.60	5,108.0	-702.0	206.6	565,249.79	606,150.41	32° 33' 13.508 N	104° 7' 22.719 W
5,300.0	15.00	163.60	5,204.6	-726.8	213.9	565,224.96	606,157.72	32° 33' 13.262 N	104° 7' 22.634 W
5,400.0	15.00	163.60	5,301.2	-751.6	221.2	565,200.13	606,165.03	32° 33' 13.017 N	104° 7' 22.549 W
5,500.0	15.00	163.60	5,397.8	-776.4	228.5	565,175.30	606,172.33	32° 33' 12.771 N	104° 7' 22.465 W
5,537.5	15.00	163.60	5,434.0	-785.8	231.2	565,165.98	606,175.07	32° 33' 12.679 N	104° 7' 22.433 W
<b>Bone Spring = BSGL (TVD)</b>									
5,600.0	15.00	163.60	5,494.4	-801.3	235.8	565,150.47	606,179.64	32° 33' 12.525 N	104° 7' 22.380 W
5,700.0	15.00	163.60	5,590.9	-826.1	243.1	565,125.64	606,186.95	32° 33' 12.279 N	104° 7' 22.295 W
5,800.0	15.00	163.60	5,687.5	-850.9	250.4	565,100.81	606,194.25	32° 33' 12.033 N	104° 7' 22.210 W
5,900.0	15.00	163.60	5,784.1	-875.8	257.7	565,075.98	606,201.56	32° 33' 11.787 N	104° 7' 22.125 W
6,000.0	15.00	163.60	5,880.7	-900.6	265.0	565,051.15	606,208.87	32° 33' 11.542 N	104° 7' 22.041 W
6,100.0	15.00	163.60	5,977.3	-925.4	272.3	565,026.33	606,216.17	32° 33' 11.296 N	104° 7' 21.956 W
6,200.0	15.00	163.60	6,073.9	-950.2	279.6	565,001.50	606,223.48	32° 33' 11.050 N	104° 7' 21.871 W
6,260.1	15.00	163.60	6,132.0	-965.2	284.0	564,986.57	606,227.87	32° 33' 10.902 N	104° 7' 21.820 W
<b>Start Drop -2.00</b>									
6,300.0	14.20	163.60	6,170.6	-974.8	286.9	564,976.92	606,230.71	32° 33' 10.807 N	104° 7' 21.787 W
6,400.0	12.20	163.60	6,267.9	-996.7	293.3	564,955.02	606,237.16	32° 33' 10.590 N	104° 7' 21.712 W
6,500.0	10.20	163.60	6,366.0	-1,015.4	298.8	564,936.38	606,242.64	32° 33' 10.405 N	104° 7' 21.649 W
6,600.0	8.20	163.60	6,464.7	-1,030.7	303.3	564,921.04	606,247.16	32° 33' 10.253 N	104° 7' 21.596 W
6,700.0	6.20	163.60	6,563.9	-1,042.7	306.9	564,909.01	606,250.70	32° 33' 10.134 N	104° 7' 21.555 W
6,800.0	4.20	163.60	6,663.5	-1,051.4	309.4	564,900.31	606,253.26	32° 33' 10.048 N	104° 7' 21.525 W
6,900.0	2.20	163.60	6,763.3	-1,056.8	311.0	564,894.95	606,254.84	32° 33' 9.995 N	104° 7' 21.507 W
6,932.7	1.55	163.60	6,796.0	-1,057.8	311.3	564,893.93	606,255.14	32° 33' 9.985 N	104° 7' 21.504 W
<b>FBSG (TVD)</b>									
7,000.0	0.20	163.60	6,863.3	-1,058.8	311.6	564,892.94	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,010.1	0.00	0.00	6,873.4	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
<b>Start 1600.1 hold at 7010.1 MD</b>									
7,100.0	0.00	0.00	6,963.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,200.0	0.00	0.00	7,063.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,300.0	0.00	0.00	7,163.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,400.0	0.00	0.00	7,263.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,467.7	0.00	0.00	7,331.0	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
<b>SBSG (TVD)</b>									
7,500.0	0.00	0.00	7,363.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W

## Permian Resources

### Planning Report - Geographic

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well BOND1 24 FED COM 134H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3271.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3271.0usft
<b>Site:</b>	BOND1 24 FED COM PROJECT	<b>North Reference:</b>	Grid
<b>Well:</b>	BOND1 24 FED COM 134H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

#### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,600.0	0.00	0.00	7,463.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,700.0	0.00	0.00	7,563.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,800.0	0.00	0.00	7,663.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
7,900.0	0.00	0.00	7,763.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,000.0	0.00	0.00	7,863.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,100.0	0.00	0.00	7,963.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,200.0	0.00	0.00	8,063.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,300.0	0.00	0.00	8,163.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,400.0	0.00	0.00	8,263.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,500.0	0.00	0.00	8,363.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,600.0	0.00	0.00	8,463.3	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
8,610.2	0.00	0.00	8,473.5	-1,058.8	311.6	564,892.92	606,255.43	32° 33' 9.975 N	104° 7' 21.500 W
<b>Start DLS 12.00 TFO 269.83</b>									
8,625.0	1.78	269.83	8,488.3	-1,058.8	311.4	564,892.92	606,255.20	32° 33' 9.975 N	104° 7' 21.503 W
8,650.0	4.78	269.83	8,513.3	-1,058.8	309.9	564,892.92	606,253.77	32° 33' 9.975 N	104° 7' 21.520 W
8,675.0	7.78	269.83	8,538.1	-1,058.8	307.2	564,892.91	606,251.04	32° 33' 9.975 N	104° 7' 21.552 W
8,700.0	10.78	269.83	8,562.8	-1,058.8	303.2	564,892.90	606,247.01	32° 33' 9.975 N	104° 7' 21.599 W
8,725.0	13.78	269.83	8,587.2	-1,058.9	297.9	564,892.88	606,241.69	32° 33' 9.975 N	104° 7' 21.661 W
8,750.0	16.78	269.83	8,611.3	-1,058.9	291.3	564,892.86	606,235.11	32° 33' 9.975 N	104° 7' 21.738 W
8,775.0	19.78	269.83	8,635.1	-1,058.9	283.4	564,892.84	606,227.27	32° 33' 9.975 N	104° 7' 21.829 W
8,800.0	22.78	269.83	8,658.4	-1,058.9	274.4	564,892.81	606,218.20	32° 33' 9.975 N	104° 7' 21.935 W
8,825.0	25.78	269.83	8,681.1	-1,059.0	264.1	564,892.78	606,207.92	32° 33' 9.974 N	104° 7' 22.055 W
8,850.0	28.78	269.83	8,703.4	-1,059.0	252.6	564,892.75	606,196.46	32° 33' 9.974 N	104° 7' 22.189 W
8,870.4	31.22	269.83	8,721.0	-1,059.0	242.4	564,892.72	606,186.28	32° 33' 9.974 N	104° 7' 22.308 W
<b>TBSG (TVD)</b>									
8,875.0	31.78	269.83	8,724.9	-1,059.0	240.0	564,892.71	606,183.86	32° 33' 9.974 N	104° 7' 22.336 W
8,900.0	34.78	269.83	8,745.8	-1,059.1	226.3	564,892.67	606,170.14	32° 33' 9.974 N	104° 7' 22.497 W
8,925.0	37.78	269.83	8,766.0	-1,059.1	211.5	564,892.63	606,155.35	32° 33' 9.974 N	104° 7' 22.670 W
8,950.0	40.78	269.83	8,785.3	-1,059.2	195.7	564,892.58	606,139.53	32° 33' 9.974 N	104° 7' 22.854 W
8,975.0	43.78	269.83	8,803.8	-1,059.2	178.9	564,892.53	606,122.71	32° 33' 9.974 N	104° 7' 23.051 W
9,000.0	46.78	269.83	8,821.4	-1,059.3	161.1	564,892.48	606,104.95	32° 33' 9.973 N	104° 7' 23.258 W
9,025.0	49.78	269.83	8,838.1	-1,059.3	142.5	564,892.43	606,086.29	32° 33' 9.973 N	104° 7' 23.476 W
9,050.0	52.78	269.83	8,853.7	-1,059.4	123.0	564,892.37	606,066.79	32° 33' 9.973 N	104° 7' 23.704 W
9,075.0	55.78	269.83	8,868.3	-1,059.4	102.7	564,892.31	606,046.49	32° 33' 9.973 N	104° 7' 23.941 W
9,100.0	58.78	269.83	8,881.8	-1,059.5	81.6	564,892.25	606,025.46	32° 33' 9.973 N	104° 7' 24.187 W
9,125.0	61.78	269.83	8,894.2	-1,059.6	59.9	564,892.18	606,003.76	32° 33' 9.972 N	104° 7' 24.441 W
9,150.0	64.78	269.83	8,905.4	-1,059.6	37.6	564,892.12	605,981.43	32° 33' 9.972 N	104° 7' 24.702 W
9,175.0	67.78	269.83	8,915.5	-1,059.7	14.7	564,892.05	605,958.54	32° 33' 9.972 N	104° 7' 24.969 W
9,200.0	70.78	269.83	8,924.3	-1,059.8	-8.7	564,891.98	605,935.16	32° 33' 9.972 N	104° 7' 25.242 W
9,225.0	73.78	269.83	8,932.0	-1,059.8	-32.5	564,891.91	605,911.35	32° 33' 9.972 N	104° 7' 25.520 W
9,250.0	76.78	269.83	8,938.3	-1,059.9	-56.7	564,891.84	605,887.18	32° 33' 9.971 N	104° 7' 25.803 W
9,275.0	79.78	269.83	8,943.4	-1,060.0	-81.1	564,891.77	605,862.70	32° 33' 9.971 N	104° 7' 26.089 W
9,300.0	82.78	269.83	8,947.2	-1,060.0	-105.8	564,891.70	605,837.99	32° 33' 9.971 N	104° 7' 26.378 W
9,325.0	85.78	269.83	8,949.7	-1,060.1	-130.7	564,891.63	605,813.12	32° 33' 9.971 N	104° 7' 26.668 W
9,350.0	88.78	269.83	8,950.9	-1,060.2	-155.7	564,891.55	605,788.15	32° 33' 9.970 N	104° 7' 26.960 W
9,360.2	90.00	269.83	8,951.0	-1,060.2	-165.9	564,891.52	605,777.97	32° 33' 9.970 N	104° 7' 27.079 W
<b>Start 10097.8 hold at 9360.2 MD</b>									
9,400.0	90.00	269.83	8,951.0	-1,060.3	-205.7	564,891.41	605,738.15	32° 33' 9.970 N	104° 7' 27.544 W
9,500.0	90.00	269.83	8,951.0	-1,060.6	-305.7	564,891.11	605,638.15	32° 33' 9.969 N	104° 7' 28.713 W
9,600.0	90.00	269.83	8,951.0	-1,060.9	-405.7	564,890.82	605,538.15	32° 33' 9.968 N	104° 7' 29.881 W
9,700.0	90.00	269.83	8,951.0	-1,061.2	-505.7	564,890.53	605,438.15	32° 33' 9.967 N	104° 7' 31.049 W
9,800.0	90.00	269.83	8,951.0	-1,061.5	-605.7	564,890.23	605,338.15	32° 33' 9.966 N	104° 7' 32.218 W
9,900.0	90.00	269.83	8,951.0	-1,061.8	-705.7	564,889.94	605,238.15	32° 33' 9.965 N	104° 7' 33.386 W
10,000.0	90.00	269.83	8,951.0	-1,062.1	-805.7	564,889.65	605,138.15	32° 33' 9.964 N	104° 7' 34.554 W

# Permian Resources

## Planning Report - Geographic

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well BOND124 FED COM 134H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3271.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3271.0usft
<b>Site:</b>	BOND1 24 FED COM PROJECT	<b>North Reference:</b>	Grid
<b>Well:</b>	BOND1 24 FED COM 134H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.0	90.00	269.83	8,951.0	-1,062.4	-905.7	564,889.35	605,038.15	32° 33' 9.963 N	104° 7' 35.723 W
10,200.0	90.00	269.83	8,951.0	-1,062.7	-1,005.7	564,889.06	604,938.16	32° 33' 9.962 N	104° 7' 36.891 W
10,300.0	90.00	269.83	8,951.0	-1,063.0	-1,105.7	564,888.77	604,838.16	32° 33' 9.961 N	104° 7' 38.060 W
10,400.0	90.00	269.83	8,951.0	-1,063.3	-1,205.7	564,888.47	604,738.16	32° 33' 9.960 N	104° 7' 39.228 W
10,500.0	90.00	269.83	8,951.0	-1,063.6	-1,305.7	564,888.18	604,638.16	32° 33' 9.959 N	104° 7' 40.396 W
10,600.0	90.00	269.83	8,951.0	-1,063.9	-1,405.7	564,887.89	604,538.16	32° 33' 9.958 N	104° 7' 41.565 W
10,700.0	90.00	269.83	8,951.0	-1,064.1	-1,505.7	564,887.60	604,438.16	32° 33' 9.957 N	104° 7' 42.733 W
10,800.0	90.00	269.83	8,951.0	-1,064.4	-1,605.7	564,887.30	604,338.16	32° 33' 9.956 N	104° 7' 43.902 W
10,900.0	90.00	269.83	8,951.0	-1,064.7	-1,705.7	564,887.01	604,238.16	32° 33' 9.955 N	104° 7' 45.070 W
11,000.0	90.00	269.83	8,951.0	-1,065.0	-1,805.7	564,886.72	604,138.16	32° 33' 9.954 N	104° 7' 46.238 W
11,100.0	90.00	269.83	8,951.0	-1,065.3	-1,905.7	564,886.42	604,038.16	32° 33' 9.953 N	104° 7' 47.407 W
11,200.0	90.00	269.83	8,951.0	-1,065.6	-2,005.7	564,886.13	603,938.16	32° 33' 9.952 N	104° 7' 48.575 W
11,300.0	90.00	269.83	8,951.0	-1,065.9	-2,105.7	564,885.84	603,838.16	32° 33' 9.951 N	104° 7' 49.744 W
11,400.0	90.00	269.83	8,951.0	-1,066.2	-2,205.7	564,885.54	603,738.16	32° 33' 9.950 N	104° 7' 50.912 W
11,500.0	90.00	269.83	8,951.0	-1,066.5	-2,305.7	564,885.25	603,638.16	32° 33' 9.949 N	104° 7' 52.080 W
11,600.0	90.00	269.83	8,951.0	-1,066.8	-2,405.7	564,884.96	603,538.16	32° 33' 9.948 N	104° 7' 53.249 W
11,700.0	90.00	269.83	8,951.0	-1,067.1	-2,505.7	564,884.66	603,438.16	32° 33' 9.947 N	104° 7' 54.417 W
11,800.0	90.00	269.83	8,951.0	-1,067.4	-2,605.7	564,884.37	603,338.16	32° 33' 9.946 N	104° 7' 55.586 W
11,900.0	90.00	269.83	8,951.0	-1,067.7	-2,705.7	564,884.08	603,238.16	32° 33' 9.945 N	104° 7' 56.754 W
12,000.0	90.00	269.83	8,951.0	-1,068.0	-2,805.7	564,883.78	603,138.16	32° 33' 9.944 N	104° 7' 57.922 W
12,100.0	90.00	269.83	8,951.0	-1,068.3	-2,905.7	564,883.49	603,038.16	32° 33' 9.943 N	104° 7' 59.091 W
12,200.0	90.00	269.83	8,951.0	-1,068.5	-3,005.7	564,883.20	602,938.16	32° 33' 9.942 N	104° 8' 0.259 W
12,300.0	90.00	269.83	8,951.0	-1,068.8	-3,105.7	564,882.91	602,838.16	32° 33' 9.941 N	104° 8' 1.428 W
12,400.0	90.00	269.83	8,951.0	-1,069.1	-3,205.7	564,882.61	602,738.16	32° 33' 9.940 N	104° 8' 2.596 W
12,500.0	90.00	269.83	8,951.0	-1,069.4	-3,305.7	564,882.32	602,638.16	32° 33' 9.939 N	104° 8' 3.764 W
12,600.0	90.00	269.83	8,951.0	-1,069.7	-3,405.7	564,882.03	602,538.17	32° 33' 9.938 N	104° 8' 4.933 W
12,700.0	90.00	269.83	8,951.0	-1,070.0	-3,505.7	564,881.73	602,438.17	32° 33' 9.937 N	104° 8' 6.101 W
12,800.0	90.00	269.83	8,951.0	-1,070.3	-3,605.7	564,881.44	602,338.17	32° 33' 9.936 N	104° 8' 7.269 W
12,829.0	90.00	269.83	8,951.0	-1,070.4	-3,634.6	564,881.35	602,309.19	32° 33' 9.935 N	104° 8' 7.608 W
<b>NMNM 100255 Exit at 12829.0 MD</b>									
12,900.0	90.00	269.83	8,951.0	-1,070.6	-3,705.7	564,881.15	602,238.17	32° 33' 9.935 N	104° 8' 8.438 W
13,000.0	90.00	269.83	8,951.0	-1,070.9	-3,805.7	564,880.85	602,138.17	32° 33' 9.933 N	104° 8' 9.606 W
13,100.0	90.00	269.83	8,951.0	-1,071.2	-3,905.7	564,880.56	602,038.17	32° 33' 9.932 N	104° 8' 10.775 W
13,200.0	90.00	269.83	8,951.0	-1,071.5	-4,005.7	564,880.27	601,938.17	32° 33' 9.931 N	104° 8' 11.943 W
13,300.0	90.00	269.83	8,951.0	-1,071.8	-4,105.7	564,879.97	601,838.17	32° 33' 9.930 N	104° 8' 13.111 W
13,400.0	90.00	269.83	8,951.0	-1,072.1	-4,205.7	564,879.68	601,738.17	32° 33' 9.929 N	104° 8' 14.280 W
13,500.0	90.00	269.83	8,951.0	-1,072.4	-4,305.7	564,879.39	601,638.17	32° 33' 9.928 N	104° 8' 15.448 W
13,600.0	90.00	269.83	8,951.0	-1,072.6	-4,405.7	564,879.09	601,538.17	32° 33' 9.927 N	104° 8' 16.617 W
13,700.0	90.00	269.83	8,951.0	-1,072.9	-4,505.7	564,878.80	601,438.17	32° 33' 9.926 N	104° 8' 17.785 W
13,800.0	90.00	269.83	8,951.0	-1,073.2	-4,605.7	564,878.51	601,338.17	32° 33' 9.925 N	104° 8' 18.953 W
13,900.0	90.00	269.83	8,951.0	-1,073.5	-4,705.7	564,878.22	601,238.17	32° 33' 9.924 N	104° 8' 20.122 W
14,000.0	90.00	269.83	8,951.0	-1,073.8	-4,805.7	564,877.92	601,138.17	32° 33' 9.923 N	104° 8' 21.290 W
14,100.0	90.00	269.83	8,951.0	-1,074.1	-4,905.7	564,877.63	601,038.17	32° 33' 9.922 N	104° 8' 22.459 W
14,161.0	90.00	269.83	8,951.0	-1,074.3	-4,966.6	564,877.45	600,977.20	32° 33' 9.921 N	104° 8' 23.171 W
<b>NMNM 015003 Entry at 14161.0 MD</b>									
14,200.0	90.00	269.83	8,951.0	-1,074.4	-5,005.7	564,877.34	600,938.17	32° 33' 9.920 N	104° 8' 23.627 W
14,300.0	90.00	269.83	8,951.0	-1,074.7	-5,105.7	564,877.04	600,838.17	32° 33' 9.919 N	104° 8' 24.795 W
14,400.0	90.00	269.83	8,951.0	-1,075.0	-5,205.7	564,876.75	600,738.17	32° 33' 9.918 N	104° 8' 25.964 W
14,500.0	90.00	269.83	8,951.0	-1,075.3	-5,305.7	564,876.46	600,638.17	32° 33' 9.917 N	104° 8' 27.132 W
14,600.0	90.00	269.83	8,951.0	-1,075.6	-5,405.7	564,876.16	600,538.17	32° 33' 9.916 N	104° 8' 28.301 W
14,700.0	90.00	269.83	8,951.0	-1,075.9	-5,505.7	564,875.87	600,438.17	32° 33' 9.915 N	104° 8' 29.469 W
14,800.0	90.00	269.83	8,951.0	-1,076.2	-5,605.7	564,875.58	600,338.17	32° 33' 9.914 N	104° 8' 30.637 W
14,900.0	90.00	269.83	8,951.0	-1,076.5	-5,705.7	564,875.28	600,238.18	32° 33' 9.913 N	104° 8' 31.806 W
15,000.0	90.00	269.83	8,951.0	-1,076.8	-5,805.7	564,874.99	600,138.18	32° 33' 9.912 N	104° 8' 32.974 W

# Permian Resources

## Planning Report - Geographic

Database: Compass  
 Company: NEW MEXICO  
 Project: (SP) EDDY  
 Site: BOND 24 FED COM PROJECT  
 Well: BOND 24 FED COM 134H  
 Wellbore: OWB  
 Design: PWP0

Local Co-ordinate Reference: Well BOND 24 FED COM 134H  
 TVD Reference: KB @ 3271.0usft  
 MD Reference: KB @ 3271.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,100.0	90.00	269.83	8,951.0	-1,077.0	-5,905.7	564,874.70	600,038.18	32° 33' 9.910 N	104° 8' 34.143 W
15,200.0	90.00	269.83	8,951.0	-1,077.3	-6,005.7	564,874.40	599,938.18	32° 33' 9.909 N	104° 8' 35.311 W
15,300.0	90.00	269.83	8,951.0	-1,077.6	-6,105.7	564,874.11	599,838.18	32° 33' 9.908 N	104° 8' 36.479 W
15,400.0	90.00	269.83	8,951.0	-1,077.9	-6,205.7	564,873.82	599,738.18	32° 33' 9.907 N	104° 8' 37.648 W
15,488.0	90.00	269.83	8,951.0	-1,078.2	-6,293.6	564,873.56	599,650.21	32° 33' 9.906 N	104° 8' 38.676 W
<b>NMNM 015003 Exit at 15488.0 MD</b>									
15,500.0	90.00	269.83	8,951.0	-1,078.2	-6,305.7	564,873.52	599,638.18	32° 33' 9.906 N	104° 8' 38.816 W
15,600.0	90.00	269.83	8,951.0	-1,078.5	-6,405.7	564,873.23	599,538.18	32° 33' 9.905 N	104° 8' 39.985 W
15,700.0	90.00	269.83	8,951.0	-1,078.8	-6,505.7	564,872.94	599,438.18	32° 33' 9.904 N	104° 8' 41.153 W
15,800.0	90.00	269.83	8,951.0	-1,079.1	-6,605.7	564,872.65	599,338.18	32° 33' 9.902 N	104° 8' 42.321 W
15,900.0	90.00	269.83	8,951.0	-1,079.4	-6,705.7	564,872.35	599,238.18	32° 33' 9.901 N	104° 8' 43.490 W
16,000.0	90.00	269.83	8,951.0	-1,079.7	-6,805.7	564,872.06	599,138.18	32° 33' 9.900 N	104° 8' 44.658 W
16,100.0	90.00	269.83	8,951.0	-1,080.0	-6,905.7	564,871.77	599,038.18	32° 33' 9.899 N	104° 8' 45.826 W
16,200.0	90.00	269.83	8,951.0	-1,080.3	-7,005.7	564,871.47	598,938.18	32° 33' 9.898 N	104° 8' 46.995 W
16,300.0	90.00	269.83	8,951.0	-1,080.6	-7,105.7	564,871.18	598,838.18	32° 33' 9.897 N	104° 8' 48.163 W
16,400.0	90.00	269.83	8,951.0	-1,080.9	-7,205.7	564,870.89	598,738.18	32° 33' 9.895 N	104° 8' 49.332 W
16,500.0	90.00	269.83	8,951.0	-1,081.1	-7,305.7	564,870.59	598,638.18	32° 33' 9.894 N	104° 8' 50.500 W
16,600.0	90.00	269.83	8,951.0	-1,081.4	-7,405.7	564,870.30	598,538.18	32° 33' 9.893 N	104° 8' 51.668 W
16,700.0	90.00	269.83	8,951.0	-1,081.7	-7,505.7	564,870.01	598,438.18	32° 33' 9.892 N	104° 8' 52.837 W
16,800.0	90.00	269.83	8,951.0	-1,082.0	-7,605.6	564,869.71	598,338.18	32° 33' 9.891 N	104° 8' 54.005 W
16,815.0	90.00	269.83	8,951.0	-1,082.1	-7,620.6	564,869.67	598,323.22	32° 33' 9.891 N	104° 8' 54.180 W
<b>NMNM 008941 Entry at 16815.0 MD</b>									
16,900.0	90.00	269.83	8,951.0	-1,082.3	-7,705.6	564,869.42	598,238.18	32° 33' 9.890 N	104° 8' 55.174 W
17,000.0	90.00	269.83	8,951.0	-1,082.6	-7,805.6	564,869.13	598,138.18	32° 33' 9.888 N	104° 8' 56.342 W
17,100.0	90.00	269.83	8,951.0	-1,082.9	-7,905.6	564,868.83	598,038.18	32° 33' 9.887 N	104° 8' 57.510 W
17,200.0	90.00	269.83	8,951.0	-1,083.2	-8,005.6	564,868.54	597,938.19	32° 33' 9.886 N	104° 8' 58.679 W
17,300.0	90.00	269.83	8,951.0	-1,083.5	-8,105.6	564,868.25	597,838.19	32° 33' 9.885 N	104° 8' 59.847 W
17,400.0	90.00	269.83	8,951.0	-1,083.8	-8,205.6	564,867.96	597,738.19	32° 33' 9.884 N	104° 9' 1.016 W
17,500.0	90.00	269.83	8,951.0	-1,084.1	-8,305.6	564,867.66	597,638.19	32° 33' 9.882 N	104° 9' 2.184 W
17,600.0	90.00	269.83	8,951.0	-1,084.4	-8,405.6	564,867.37	597,538.19	32° 33' 9.881 N	104° 9' 3.352 W
17,700.0	90.00	269.83	8,951.0	-1,084.7	-8,505.6	564,867.08	597,438.19	32° 33' 9.880 N	104° 9' 4.521 W
17,800.0	90.00	269.83	8,951.0	-1,085.0	-8,605.6	564,866.78	597,338.19	32° 33' 9.879 N	104° 9' 5.689 W
17,900.0	90.00	269.83	8,951.0	-1,085.3	-8,705.6	564,866.49	597,238.19	32° 33' 9.878 N	104° 9' 6.858 W
18,000.0	90.00	269.83	8,951.0	-1,085.5	-8,805.6	564,866.20	597,138.19	32° 33' 9.876 N	104° 9' 8.026 W
18,100.0	90.00	269.83	8,951.0	-1,085.8	-8,905.6	564,865.90	597,038.19	32° 33' 9.875 N	104° 9' 9.194 W
18,142.0	90.00	269.83	8,951.0	-1,086.0	-8,947.6	564,865.78	596,996.23	32° 33' 9.875 N	104° 9' 9.685 W
<b>NMNM 008941 Exit at 18142.0 MD</b>									
18,200.0	90.00	269.83	8,951.0	-1,086.1	-9,005.6	564,865.61	596,938.19	32° 33' 9.874 N	104° 9' 10.363 W
18,300.0	90.00	269.83	8,951.0	-1,086.4	-9,105.6	564,865.32	596,838.19	32° 33' 9.873 N	104° 9' 11.531 W
18,400.0	90.00	269.83	8,951.0	-1,086.7	-9,205.6	564,865.02	596,738.19	32° 33' 9.871 N	104° 9' 12.700 W
18,500.0	90.00	269.83	8,951.0	-1,087.0	-9,305.6	564,864.73	596,638.19	32° 33' 9.870 N	104° 9' 13.868 W
18,600.0	90.00	269.83	8,951.0	-1,087.3	-9,405.6	564,864.44	596,538.19	32° 33' 9.869 N	104° 9' 15.036 W
18,700.0	90.00	269.83	8,951.0	-1,087.6	-9,505.6	564,864.14	596,438.19	32° 33' 9.868 N	104° 9' 16.205 W
18,800.0	90.00	269.83	8,951.0	-1,087.9	-9,605.6	564,863.85	596,338.19	32° 33' 9.867 N	104° 9' 17.373 W
18,900.0	90.00	269.83	8,951.0	-1,088.2	-9,705.6	564,863.56	596,238.19	32° 33' 9.865 N	104° 9' 18.541 W
19,000.0	90.00	269.83	8,951.0	-1,088.5	-9,805.6	564,863.27	596,138.19	32° 33' 9.864 N	104° 9' 19.710 W
19,100.0	90.00	269.83	8,951.0	-1,088.8	-9,905.6	564,862.97	596,038.19	32° 33' 9.863 N	104° 9' 20.878 W
19,200.0	90.00	269.83	8,951.0	-1,089.1	-10,005.6	564,862.68	595,938.19	32° 33' 9.862 N	104° 9' 22.047 W
19,300.0	90.00	269.83	8,951.0	-1,089.4	-10,105.6	564,862.39	595,838.19	32° 33' 9.860 N	104° 9' 23.215 W
19,400.0	90.00	269.83	8,951.0	-1,089.7	-10,205.6	564,862.09	595,738.19	32° 33' 9.859 N	104° 9' 24.383 W
19,458.0	90.00	269.83	8,951.0	-1,089.8	-10,263.6	564,861.92	595,680.23	32° 33' 9.858 N	104° 9' 25.061 W
<b>TD at 19458.0</b>									

## Permian Resources

### Planning Report - Geographic

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well BONDI 24 FED COM 134H
<b>Company:</b>	NEW MEXICO	<b>TVD Reference:</b>	KB @ 3271.0usft
<b>Project:</b>	(SP) EDDY	<b>MD Reference:</b>	KB @ 3271.0usft
<b>Site:</b>	BONDI 24 FED COM PROJECT	<b>North Reference:</b>	Grid
<b>Well:</b>	BONDI 24 FED COM 134H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

#### 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
BHL-BONDI 24 FC 13 - plan hits target center - Point	0.00	0.00	8,951.0	-1,089.8	-10,263.6	564,861.92	595,680.23	32° 33' 9.858 N	104° 9' 25.061 W
LTP-BONDI 24 FC 13 - plan misses target center by 0.1usft at 19368.0usft MD (8951.0 TVD, -1089.6 N, -10173.6 E) - Point	0.00	0.00	8,951.0	-1,089.6	-10,173.6	564,862.13	595,770.21	32° 33' 9.859 N	104° 9' 24.009 W
FTP-BONDI 24 FC 13 - plan misses target center by 163.4usft at 9011.2usft MD (8829.0 TVD, -1059.3 N, 152.9 E) - Point	0.00	0.00	8,951.0	-1,058.8	261.6	564,892.92	606,205.46	32° 33' 9.976 N	104° 7' 22.084 W

#### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
118.0	118.0	Rustler (TVD)			
320.0	320.0	Salado = T/Salt (TVD)			
834.0	834.0	Tansill (TVD)			
933.0	933.0	Yates (TVD)			
1,231.0	1,231.0	Seven Rivers (TVD)			
1,321.0	1,321.0	Capitan (if applicable) (TVD)			
2,770.2	2,761.0	San Andres (TVD)			
3,194.7	3,171.0	Delaware Sands = CYCN (TVD)			
4,003.2	3,952.0	BYCN			
5,537.5	5,434.0	Bone Spring = BSG (TVD)			
6,932.7	6,796.0	FBSG (TVD)			
7,467.7	7,331.0	SBSG (TVD)			
8,870.4	8,721.0	TBSG (TVD)			

#### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,750.0	2,741.5	-93.6	27.6	Start 3510.1 hold at 2750.0 MD
6,260.1	6,132.0	-965.2	284.0	Start Drop -2.00
7,010.1	6,873.4	-1,058.8	311.6	Start 1600.1 hold at 7010.1 MD
8,610.2	8,473.5	-1,058.8	311.6	Start DLS 12.00 TFO 269.83
9,360.2	8,951.0	-1,060.2	-165.9	Start 10097.8 hold at 9360.2 MD
12,829.0	8,951.0	-1,070.4	-3,634.6	NMNM 100255 Exit at 12829.0 MD
14,161.0	8,951.0	-1,074.3	-4,966.6	NMNM 015003 Entry at 14161.0 MD
15,488.0	8,951.0	-1,078.2	-6,293.6	NMNM 015003 Exit at 15488.0 MD
16,815.0	8,951.0	-1,082.1	-7,620.6	NMNM 008941 Entry at 16815.0 MD
18,142.0	8,951.0	-1,086.0	-8,947.6	NMNM 008941 Exit at 18142.0 MD
19,458.0	8,951.0	-1,089.8	-10,263.6	TD at 19458.0

# **PERMIAN**

## **R E S O U R C E S**

### **H<sub>2</sub>S CONTINGENCY PLAN**

**FOR**

**Permian Resources Corporation**  
**Bondi 24 Fed Com 133H, 134H, 204H**  
**Eddy County, New Mexico**

**02-15-2024**

**This plan is subject to updating**

Colgate Operating LLC	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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Colgate Operating	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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H <sub>2</sub> S OPERATING CONDITIONS – RESPONSE ACTIONS TO CONSIDER		✓
<b>H<sub>2</sub>S CONDITION 1: POTENTIAL DANGER TO LIFE AND HEALTH → WARNING SIGN GREEN</b>		
H <sub>2</sub> S concentration <10 ppm detected by location monitors		<input type="checkbox"/>
<b>General Actions During Condition 1</b>		<input type="checkbox"/>
Notify Site Supervisor / Colgate Operating Person-in-Charge (PIC) of any observed increase in ambient H <sub>2</sub> S concentrations		<input type="checkbox"/>
All personnel check safety equipment is in adequate working order & store in accessible location		<input type="checkbox"/>
Sensitize crews with safety meetings.		<input type="checkbox"/>
Limit visitors and non-essential personnel on location		<input type="checkbox"/>
Continuously monitor H <sub>2</sub> S concentrations and check calibration of sensors		<input type="checkbox"/>
Ensure H <sub>2</sub> S scavenger is on location.		<input type="checkbox"/>
<b>H<sub>2</sub>S CONDITION 2: MODERATE DANGER TO LIFE AND HEALTH → WARNING SIGN YELLOW</b>		
H <sub>2</sub> S concentration >10 ppm and < 30 ppm in atmosphere detected by location monitors:		<input type="checkbox"/>
<b>General Actions During Condition 2</b>		<input type="checkbox"/>
Sound H <sub>2</sub> S alarm and/or display yellow flag.		<input type="checkbox"/>
Account for on-site personnel		<input type="checkbox"/>
Upon sounding of an area or personal H <sub>2</sub> S monitor alarm when 10 ppm is reached, proceed to a safe briefing area upwind of the location immediately (see MA-4, Figure 5-1).		<input type="checkbox"/>
Don proper respiratory protection.		<input type="checkbox"/>
Alert other affected personnel		<input type="checkbox"/>
<b>If trained and safe to do so</b> undertake measures to control source H <sub>2</sub> S discharge and eliminate possible ignition sources. Initiate Emergency Shutdown procedures as deemed necessary to correct or control the specific situation.		<input type="checkbox"/>
Account for on-site personnel at safe briefing area.		<input type="checkbox"/>
Stay in safe briefing area if not working to correct the situation.		<input type="checkbox"/>
Keep Site Supervisor / Colgate Operating PIC informed.		
Notify applicable government agencies ( <b>Appendix A</b> )		<input type="checkbox"/>
If off-site impact; notify any neighbors within Radius of Exposure (ROE), Fig 5.11		
Continuously monitor H <sub>2</sub> S until readings below 10 ppm.		<input type="checkbox"/>
Evacuated area shall not be re-entered except by trained and authorized personnel utilizing appropriate respiratory protection; or until “all clear” sounded by Permian Resources PIC / Site Supervisor.		

Colgate Operating LLC	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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Make recommendations to public officials regarding evacuating the public and assist as appropriate.	<input type="checkbox"/>
Monitor ambient air in the area of exposure (after following abatement measures) to determine when it is safe for re-entry.	<input type="checkbox"/>

#### **Section 4.0 - Notification of H<sub>2</sub>S Release Event**

##### **I. Local & State Law Enforcement**

Prior to the planned / controlled release of a hazardous concentration of H<sub>2</sub>S gas or any associated byproducts of the combustion of H<sub>2</sub>S gas, notify local law enforcement agencies regarding the contents of this plan.

In the event of the discovery of an unplanned/uncontrolled release of a hazardous concentration of H<sub>2</sub>S gas or any associated byproducts of combustion, immediately notify local and/or state law enforcement agencies of the situation and ask for their assistance.

##### **II. General Public**

In the event of a planned or unplanned release of a hazardous concentration of H<sub>2</sub>S gas or any associated byproducts of combustion, notify local law enforcement agencies and ask for their assistance in alerting the general public and limiting access to any public roads that may be impacted by such a release.

##### **III. New Mexico Oil Conservation Division**

The Colgate Operating HSE Department will make any applicable notification to the New Mexico OCD regarding any release of a hazardous concentration of H<sub>2</sub>S Gas or any associated byproducts of combustion.

##### **IV. New Mexico Environment Department**

The Colgate Operating HSE Department will make any applicable notifications to the NMED regarding any release of a hazardous concentration of H<sub>2</sub>S gas or any associated byproducts of combustion.

##### **V. Bureau of Land Management**

The Colgate Operating Regulatory Department will make any applicable notifications to the BLM regarding any release of a hazardous concentration of H<sub>2</sub>S gas or any associated byproducts of combustion.

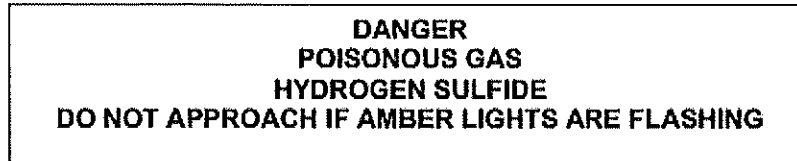
Colgate Operating LLC	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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2. Wind Indicators

- a. 4 Windsocks will be installed at strategic points on the facility.

3. Danger Signs

- a. A warning sign indicating the possible well conditions will be displayed at the location entrance.

4. H<sub>2</sub>S Detectors and Alarms

- a. Continuous monitoring type H<sub>2</sub>S detectors, capable of sensing a minimum of 5ppm H<sub>2</sub>S in air will be located centrally located at the tanks, heater treater, and combustor. Continuous monitoring type SO<sub>2</sub> detector will also be located at the combustor. The automatic H<sub>2</sub>S alarm/flashing light will be located at the site entrance and in front of tank battery.

5. Safety Trailer

- a. A safety trailer equipped with an emergency cascade breathing air system with 2 ea. Work/escape packs, a stretcher, 2 OSHA approved full body harnesses, and a 20# Class ABC fire extinguisher shall be available at the site in close proximity to the safe briefing area. The cascade system shall be able to be deployed to the drill floor when needed to provide safe breathing air to the workers as needed.

6. Well Control Equipment

- a. The location shall have a flare line to a remote automatic ignitor and back up flare gun, placed 150' from the wellhead.
- b. The location shall be equipped with a remotely operated choke system and a mud gas separator.

7. Mud Program

- a. Company shall have a mud program that contains sufficient weight and additives to control H<sub>2</sub>S.

8. Metallurgy

- a. All drill strings, casing, tubing, wellhead, BOP, spools, kill lines, choke manifold and lines, and valves shall be suitable for anticipated H<sub>2</sub>S volume and pressure.

9. Communication

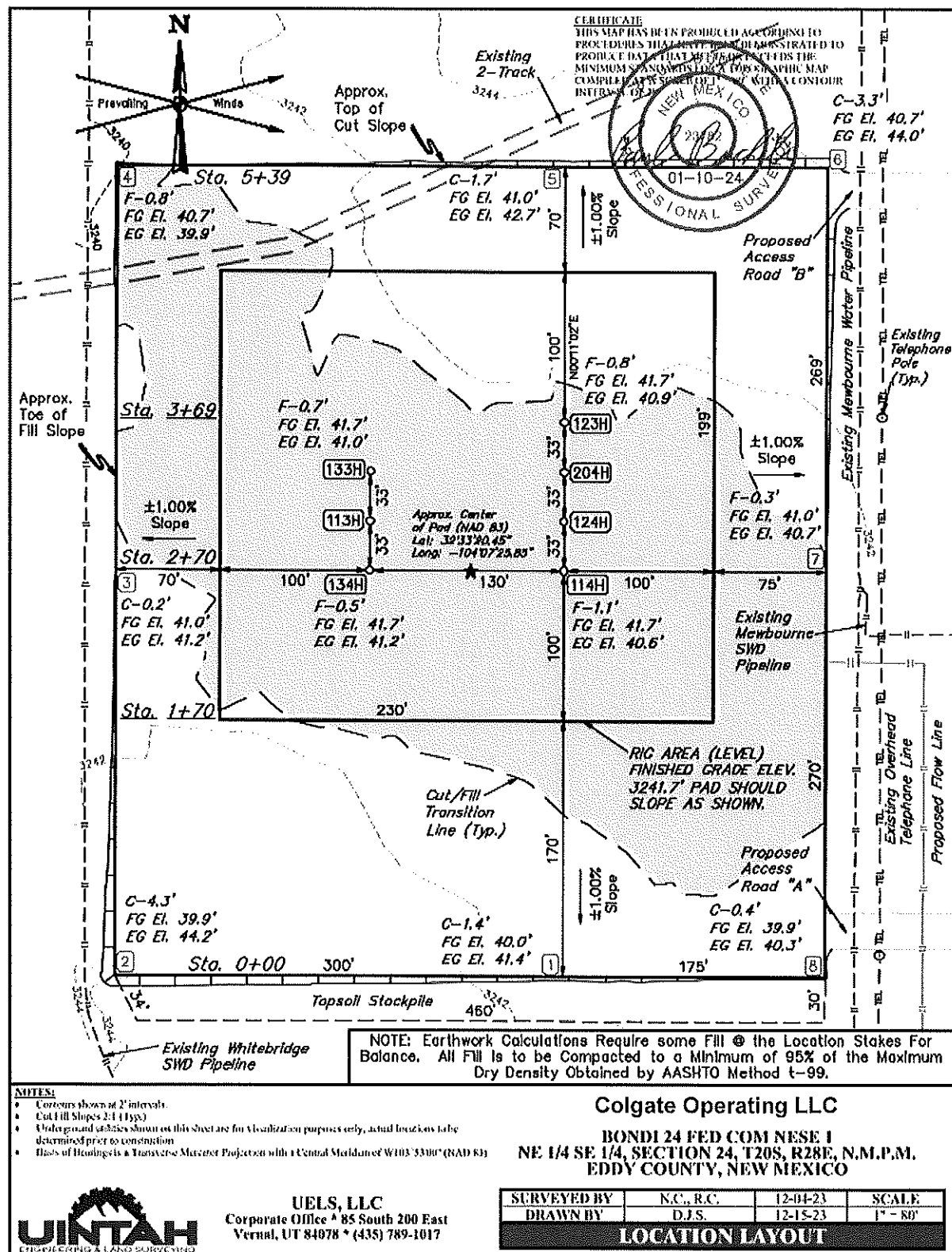
- a. The location shall be equipped with a means of effective communication such as a cell phones, intercoms, satellite phones or landlines.

Colgate Operating LLC

H<sub>2</sub>S Contingency Plan  
Bondi 24 Fed Com 133H, 134H, 204H

Eddy County, New Mexico

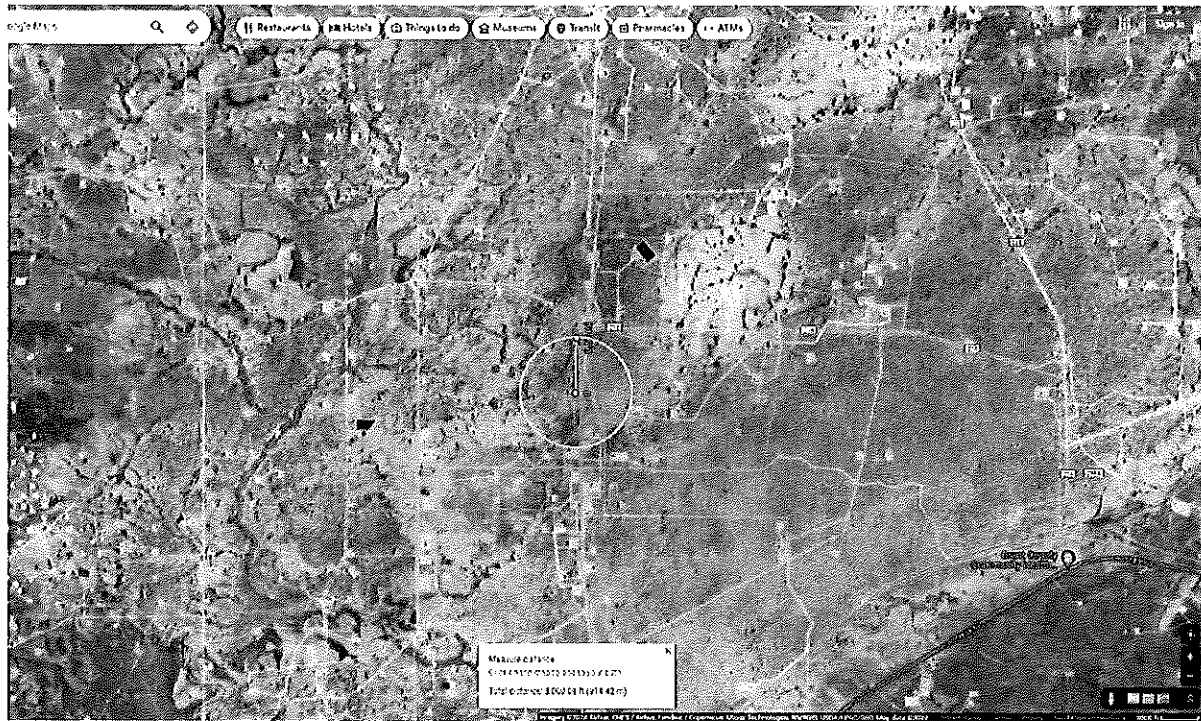
Plat of Location



Colgate Operating LLC

H<sub>2</sub>S Contingency Plan  
Bondi 24 Fed Com 133H, 134H, 204H

Eddy County, New Mexico

Map of 3000' ROE Perimeter100 PPM, 300 PPM, & 500 PPM Max ROE under worst case scenarioEnter H<sub>2</sub>S in PPM

1500

Enter Gas flow in mcf/day (maximum worst case conditions)

2500

500 ppm radius of exposure (public road)

105

feet

300 ppm radius of exposure

146

feet

100 ppm radius of exposure (public area)

230

feet

- Location NAD 83 GPS Coordinates **Lat: 32.555865, Long: -104.124065**

**3. Public Roads in proximity of the Radius of Exposure (ROE)**

There are no public roads that would be within the 500 PPM ROE. The closest public road is New Mexico County Road 238, which is 4000' from the location.

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0.00011-0.00033 ppm	Typical background concentrations
0.01-1.5 ppm	Odor threshold (when rotten egg smell is first noticeable to some). Odor becomes more offensive at 3-5 ppm. Above 30 ppm, odor described as sweet or sickeningly sweet.
2-5 ppm	Prolonged exposure may cause nausea, tearing of the eyes, headaches or loss of sleep. Airway problems (bronchial constriction) in some asthma patients.
20 ppm	Possible fatigue, loss of appetite, headache, irritability, poor memory, dizziness.
50-100 ppm	Slight conjunctivitis ("gas eye") and respiratory tract irritation after 1 hour. May cause digestive upset and loss of appetite.
100 ppm	Coughing, eye irritation, loss of smell after 2-15 minutes (olfactory fatigue). Altered breathing, drowsiness after 15-30 minutes. Throat irritation after 1 hour. Gradual increase in severity of symptoms over several hours. Death may occur after 48 hours.
100-150 ppm	Loss of smell (olfactory fatigue or paralysis).
200-300 ppm	Marked conjunctivitis and respiratory tract irritation after 1 hour. Pulmonary edema may occur from prolonged exposure.
500-700 ppm	Staggering, collapse in 5 minutes. Serious damage to the eyes in 30 minutes. Death after 30-60 minutes.
700-1000 ppm	Rapid unconsciousness, "knockdown" or immediate collapse within 1 to 2 breaths, breathing stops, death within minutes.
1000-2000 ppm	Nearly instant death

### III. Environmental Hazards

H<sub>2</sub>S and its associated byproducts from combustion presents a serious environmental hazard. Sulphur Dioxide SO<sub>2</sub> is produced as a constituent of flaring H<sub>2</sub>S Gas and can present hazards associated, which are similar to H<sub>2</sub>S. Although SO<sub>2</sub> is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. Since Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The following table indicates the toxic nature of the gas. Please see the attached SDS in Appendix B for reference.

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The ROE of an H<sub>2</sub>S release is calculated to determine if a potentially hazardous volume of H<sub>2</sub>S gas at 100 or 500 parts per million (ppm) is within a regulated distance requiring further action. If information about the concentration of H<sub>2</sub>S and the potential gas release volume is known, the location of the Muster Areas will be set, and safety measures will be implemented based on the calculated radius of exposure (ROE). NMAC 19.15.11 – Hydrogen Sulfide Safety defines the ROE as the radius constructed with the gas's point of escape as its center and its length calculated by the following Pasquill-Gifford equations:

To determine the extent of the **100 ppm ROE**:

$$x = [(1.589) (\text{mole fraction H}_2\text{S})(Q)]^{(.6258)}.$$

To determine the extent of the **500 ppm ROE**:

$$x = [(0.4546) (\text{mole fraction H}_2\text{S})(Q)]^{(.6258)}.$$

**Table 8.2. Calculating H<sub>2</sub>S Radius of Exposure**

ROE Variable	Description
X =	ROE in feet
Q =	Max volume of gas released determined to be released in cubic feet per day (ft <sup>3</sup> /d) normalized to standard temperature and pressure, 60°F and 14.65 psia
Mole fraction H <sub>2</sub> S =	Mole fraction of H <sub>2</sub> S in the gaseous mixture released.

The volume used as the escape rate in determining the ROE is specified in the rule as follows:

- The maximum daily volume rate of gas containing H<sub>2</sub>S handled by that system element for which the ROE is calculated.
- For existing gas wells, the current adjusted open-flow rate, or the operator's estimate of the well's capacity to flow against zero back-pressure at the wellhead.

**New Mexico Oil Conservation Division & BLM Site Requirements under NMAC 19.15.11 & Onshore Order #6**

- Two cleared areas will be designated as Safe Briefing Areas. During an emergency, personnel will assemble in one of these areas for instructions from the Permian Resources Person-in-Charge. Prevailing wind direction should be considered in locating the briefing areas 200' or more on either side of the well head. One area should offset the other at an angle of 45° to 90° with respect to prevailing wind direction to allow for wind shifts during the work period.
- In the event of either an intentional or accidental releases of hydrogen sulfide, safeguards to protect the general public from the harmful effects of hydrogen sulfide must be in place for operations. A summary of the provisions in each of three H<sub>2</sub>S ROE cases is included in **Table 8.3**.
  - **CASE 1** -100 ppm ROE < 50'
  - **CASE 2** - 100 ppm ROE is 50' or greater, but < 3000' and does not penetrate public area.
  - **CASE 3** -100 ppm ROE is 50' or greater and penetrates a public area or 500 ppm ROE includes a public road. Also if 100 ppm ROE > 3000' regardless of public area.

**Table 8.3. NMAC 19.15.11 Compliance Requirements Drilling & Production**

NMAC 19.15.11 & BLM COMPLIANCE REQUIREMENTS – DRILLING & PRODUCTION

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### **Section 10.0 - Personal Protective Equipment**

#### **I. Personal H<sub>2</sub>S Monitors**

All personnel engaged in planned or unplanned work activity to mitigate the release of a hazardous concentration of H<sub>2</sub>S shall have on their person a personal H<sub>2</sub>S monitor.

#### **II. Fixed H<sub>2</sub>S Detection and Alarms**

- 4 channel H<sub>2</sub>S monitor
- 4 wireless H<sub>2</sub>S monitors
- H<sub>2</sub>S alarm system (Audible/Red strobe)
- Personal gas monitor for each person on location
- Gas sample tubes

#### **III. Flame Resistant Clothing**

All personnel engaged in planned or unplanned work activity associated with this Plan shall have on the appropriate level of FRC clothing.

#### **IV. Respiratory Protection**

The following respiratory protection equipment shall be available at each drilling location.

- Working cascade system available on rig floor and pit system & 750' of air line hose
- Four (4) breathing air manifolds
- Four (4) 30-minute rescue packs
- Five (5) work/Escape units
- Five (5) escape units
- One (1) filler hose for the work/escape/rescue units

Supplied air (airline or SCBA) respiratory protection against hydrogen sulfide exposure is required in the following situations:

- When routine or maintenance work tasks involve exposure to H<sub>2</sub>S concentrations of 10 ppm or greater.
- When a fixed location area monitor alarms, and re-entry to the work area is required to complete a job.
- When confined spaces are to be entered without knowledge of H<sub>2</sub>S levels present, or if initial measurements are to be taken of H<sub>2</sub>S levels.
- During rescue of employees suspected of H<sub>2</sub>S overexposure.
- For specific tasks identified with significant exposure potential and outlined in local program guidelines.
- All respiratory equipment for hydrogen sulfide must be of the supplied-air type, equipped with pressure-demand regulators and operated in the pressure-demand mode only. This is the only type of respiratory protection recommended for hydrogen sulfide application. Equipment should be approved by NIOSH/MSHA or other recognized national authority as required. If airline units are used, a five-minute egress bottle should also be carried.
- Gas masks or other air-purifying respirators MUST NEVER BE USED FOR HYDROGEN SULFIDE due to the poor warning properties of the gas.
- Use of respiratory protection should be accompanied by a written respiratory protection program.

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**PRAXAIR** **Hydrogen sulfide**  
**Safety Data Sheet E-4611**  
According to the Hazardous Products Regulation (February 11, 2016)  
Date of issue: 10-15-1979 Revision date: 08-10-2018 Supersedes: 10-15-2013

**SECTION 1: Identification****1.1. Product identifier**

Product form : Substance  
Name : Hydrogen sulfide  
CAS No : 7783-06-4  
Formula : H<sub>2</sub>S  
Other means of identification : Hydrogen sulfide  
Product group : Core Products

**1.2. Recommended use and restrictions on use**

Recommended uses and restrictions : Industrial use  
Use as directed

**1.3. Supplier**

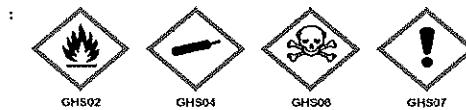
Praxair Canada Inc.  
1200 - 1 City Centre Drive  
Mississauga - Canada L5B 1M2  
T 1-905-803-1600 - F 1-905-803-1682  
[www.praxair.ca](http://www.praxair.ca)

**1.4. Emergency telephone number**

Emergency number : 1-800-363-0042  
Call emergency number 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product.  
For routine information, contact your supplier or Praxair sales representative.

**SECTION 2: Hazard identification****2.1. Classification of the substance or mixture****GHS-CA classification**

Flam. Gas 1 H220  
Liquefied gas H280  
Acute Tox. 2 (Inhalation: gas) H330  
STOT SE 3 H335

**2.2. GHS Label elements, including precautionary statements****GHS-CA labelling****Hazard pictograms****Signal word**

: DANGER

**Hazard statements**

: EXTREMELY FLAMMABLE GAS  
CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
FATAL IF INHALED  
MAY CAUSE RESPIRATORY IRRITATION  
MAY FORM EXPLOSIVE MIXTURES WITH AIR  
SYMPTOMS MAY BE DELAYED  
EXTENDED EXPOSURE TO GAS REDUCES THE ABILITY TO SMELL SULFIDES

**Precautionary statements**

: Do not handle until all safety precautions have been read and understood  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

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#### 5.3. Specific hazards arising from the hazardous product

- Fire hazard** : **EXTREMELY FLAMMABLE GAS.** If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.
- Explosion hazard** : **EXTREMELY FLAMMABLE GAS.** Forms explosive mixtures with air and oxidizing agents.
- Reactivity** : No reactivity hazard other than the effects described in sub-sections below.
- Reactivity in case of fire** : No reactivity hazard other than the effects described in sub-sections below.

#### 5.4. Special protective equipment and precautions for fire-fighters

- Firefighting instructions** : **DANGER! Toxic, flammable liquefied gas**
- Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with their provincial and local fire code regulations.
- Special protective equipment for fire fighters** : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
- Other information** : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.).

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures** : **DANGER! Toxic, flammable liquefied gas.** Forms explosive mixtures with air and oxidizing agents. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if safe to do so. Reduce vapors with fog or fine water spray, taking care not to spread liquid with water. Shut off flow if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable vapors may spread from leak and could explode if reignited by sparks or flames. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an appropriate device.

#### 6.2. Methods and materials for containment and cleaning up

- Methods for cleaning up** : Try to stop release. Reduce vapour with fog or fine water spray. Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

#### 6.3. Reference to other sections

For further information refer to section 8: Exposure controls/personal protection

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling** : Leak-check system with soapy water; never use a flame
- All piped systems and associated equipment must be grounded
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment
- Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

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Hydrogen sulfide (7783-06-4)		
Northwest Territories	OEL TWA (ppm)	10 ppm
Ontario	OEL STEL (ppm)	16 ppm
Ontario	OEL TWA (ppm)	10 ppm
Prince Edward Island	OEL STEL (ppm)	5 ppm
Prince Edward Island	OEL TWA (ppm)	1 ppm
Québec	VECD (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Québec	VECD (ppm)	16 ppm
Québec	VEMP (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Québec	VEMP (ppm)	10 ppm
Saskatchewan	OEL STEL (ppm)	16 ppm
Saskatchewan	OEL TWA (ppm)	10 ppm
Yukon	OEL STEL (mg/m <sup>3</sup> )	27 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	15 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	10 ppm

#### 8.2. Appropriate engineering controls

##### Appropriate engineering controls

: Use corrosion-resistant equipment. Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. MECHANICAL (GENERAL): Inadequate - Use only in a closed system. Use explosion proof equipment and lighting.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment

: Safety glasses. Face shield. Gloves.



##### Hand protection

: Wear work gloves when handling containers. Wear heavy rubber gloves where contact with product may occur.

##### Eye protection

: Wear goggles and a face shield when transferring or breaking transfer connections. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

##### Respiratory protection

: **Respiratory protection:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local bylaws or guidelines. Selection should be based on the current CSA standard Z94.4, "Selection, Care, and Use of Respirators." Respirators should also be approved by NIOSH and MSHA. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

##### Thermal hazard protection

: Wear cold insulating gloves when transferring or breaking transfer connections. Standard EN 511 - Cold insulating gloves.

##### Other information

: **Other protection:** Safety shoes for general handling at customer sites. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines. For working with flammable and oxidizing materials, consider the use of flame resistant anti-static safety clothing.

## SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas. Colorless liquid at low temperature or under high pressure.
Molecular mass	: 34 g/mol
Colour	: Colourless.
Odour	: Odour can persist. Poor warning properties at low concentrations. Rotten eggs.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.

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Acute toxicity (Inhalation) : Inhalation:gas: FATAL IF INHALED.

Hydrogen sulfide (1F) 7783-06-4	
LC50 Inhalation rat (mg/l)	0.99 mg/l (Exposure time: 1 h)
LC50 Inhalation rat (ppm)	356 ppm/4h
ATE CA (gases)	356.00000000 ppmv/4h
ATE CA (vapours)	0.99000000 mg/l/4h
ATE CA (dust,mist)	0.99000000 mg/l/4h

Skin corrosion/irritation : Not classified  
pH: Not applicable.

Serious eye damage/irritation : Not classified  
pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : MAY CAUSE RESPIRATORY IRRITATION.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

#### SECTION 12: Ecological information

##### 12.1. Toxicity

Ecology - general : VERY TOXIC TO AQUATIC LIFE.

Hydrogen sulfide (7783-06-4)	
LC50 fish 1	0.0448 mg/l (Exposure time: 96 h - Species: <i>Lepomis macrochirus</i> (flow-through))
LC50 fish 2	0.016 mg/l (Exposure time: 96 h - Species: <i>Pimephales promelas</i> (flow-through))

##### 12.2. Persistence and degradability

Hydrogen sulfide (7783-06-4)	
Persistence and degradability	Not applicable for inorganic gases.

##### 12.3. Bioaccumulative potential

Hydrogen sulfide (7783-06-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No data available.

##### 12.4. Mobility in soil

Hydrogen sulfide (7783-06-4)	
Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

##### 12.5. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems.

Effect on the ozone layer : None

Effect on global warming : No known effects from this product

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#### Other Information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair Canada Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair Canada Inc, it is the user's obligation to determine the conditions of safe use of the product. Praxair Canada Inc, SDSs are furnished on sale or delivery by Praxair Canada Inc, or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from [www.praxair.ca](http://www.praxair.ca). If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write Praxair Canada Inc, (Phone: 1-888-257-5149; Address: Praxair Canada Inc, 1 City Centre Drive, Suite 1200, Mississauga, Ontario, L5B 1M2).

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#### NFPA health hazard

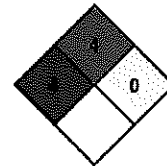
: 4 - Very short exposure could cause death or serious residual injury even though prompt medical attention was given.

#### NFPA fire hazard

: 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

#### NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



#### HMIS III Rating

##### Health

: 2 Moderate Hazard - Temporary or minor injury may occur

##### Flammability

: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

##### Physical

: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

#### SDS Canada (GHS) - Praxair

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

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**MATHESON**

ask... "The Gas Professionals"

**Safety Data Sheet****Material Name: SULFUR DIOXIDE****SDS ID: MAT22290**

Wash thoroughly after handling.

Do not breathe dusts or mists.

**Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor.

Specific treatment (see label).

**Storage**

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

Contact with liquified gas may cause frostbite.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

CAS	Component Name	Percent
7446-09-5	Sulfur dioxide	100.0

**Section 4 - FIRST AID MEASURES****Inhalation**

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical attention.

**Skin**

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). If warm water is not available, gently wrap affected parts in blankets. DO NOT induce vomiting. Get immediate medical attention.

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Get immediate medical attention.

**Ingestion**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get immediate medical attention.

**Most Important Symptoms/Effects****Acute**

Toxic if inhaled, frostbite, suffocation, respiratory tract burns, skin burns, eye burns

**Delayed**

No information on significant adverse effects.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically and supportively.

**Note to Physicians**

For inhalation, consider oxygen.

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## Safety Data Sheet

Material Name: SULFUR DIOXIDE

SDS ID: MAT22290

NIOSH:	2 ppm TWA ; 5 mg/m <sup>3</sup> TWA
	5 ppm STEL ; 13 mg/m <sup>3</sup> STEL
	100 ppm IDLH
OSHA (US):	5 ppm TWA ; 13 mg/m <sup>3</sup> TWA
Mexico:	0.25 ppm STEL (PPT-CT)

### ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

### Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

### Individual Protection Measures, such as Personal Protective Equipment

#### Eye/Face protection

Wear splash resistant safety goggles with a faceshield. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Skin Protection

Wear appropriate chemical resistant clothing. Wear chemical resistant clothing to prevent skin contact.

#### Respiratory Protection

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES			
Appearance	colorless gas	Physical State	gas
Odor	irritating odor	Color	colorless
Odor Threshold	3 - 5 ppm	pH	(Acidic in solution )
Melting Point	-73 °C (-99 °F )	Boiling Point	-10 °C (14 °F )
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	>1 (Butyl acetate = 1 )	Flammability (solid, gas)	Not available
Autoignition Temperature	Not available	Flash Point	(Not flammable )
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	2432 mmHg @ 20 °C
Vapor Density (air=1)	2.26	Specific Gravity (water=1)	1.462 at -10 °C

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Issue date: 2021-01-30 Revision 8.0

Print date: 2021-01-30

Colgate Operating LLC	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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**MATHESON**

ask...The Gas Professionals™

## Safety Data Sheet

**Material Name: SULFUR DIOXIDE****SDS ID: MAT22290**

Toxic if inhaled, frostbite, suffocation, respiratory tract burns, skin burns, eye burns

**Delayed Effects**

No information on significant adverse effects.

**Irritation/Corrosivity Data**

respiratory tract burns, skin burns, eye burns

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

Sulfur dioxide	7446-09-5
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 54 [1992] (Group 3 (not classifiable))

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

Not applicable.

**Medical Conditions Aggravated by Exposure**

respiratory disorders

**Section 12 - ECOLOGICAL INFORMATION****Component Analysis - Aquatic Toxicity**

No LOEL ecotoxicity data are available for this product's components.

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

No data available.

**Mobility**

No data available.

**Section 13 - DISPOSAL CONSIDERATIONS****Disposal Methods**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

**Section 14 - TRANSPORT INFORMATION****US DOT Information:**

Shipping Name: SULFUR DIOXIDE

Colgate Operating LLC	H <sub>2</sub> S Contingency Plan Bondi 24 Fed Com 133H, 134H, 204H	Eddy County, New Mexico
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**MATHESON**

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**Safety Data Sheet****Material Name: SULFUR DIOXIDE****SDS ID: MAT22290**

Sulfur dioxide	7446-09-5
Repro/Dev. Tox	developmental toxicity, 7/29/2011

**Component Analysis - Inventory****Sulfur dioxide (7446-09-5)**

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION****NFPA Ratings**

Health: 3 Fire: 0 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

SDS update: 02/10/2016

**Key / Legend**

ACGHI - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne - Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Se - Semi-quantitative; STEL - Short-term Exposure Limit;

**Operator Name:** COLGATE OPERATING, LLC**Well Name:** BONDI 24 FED COM**Well Number:** 134H**Waste disposal type:** HAUL TO COMMERCIAL FACILITY    **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy Hobbs, NM 88240**Waste type:** SEWAGE

**Waste content description:** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

**Amount of waste:** 250                      gallons**Waste disposal frequency :** Weekly

**Safe containment description:** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY    **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party contractor to haul and dispose of human waste.**Waste type:** GARBAGE

**Waste content description:** Garbage and Other Waste Materials. All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Amount of waste:** 250                      pounds**Waste disposal frequency :** Weekly

**Safe containment description:** Garbage and Other Waste Materials. All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY    **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose of garbage.**Reserve Pit**

**Operator Name:** COLGATE OPERATING, LLC**Well Name:** BONDI 24 FED COM**Well Number:** 134H**Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)**                      **Reserve pit width (ft.)****Reserve pit depth (ft.)**                                      **Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO**Are you storing cuttings on location?** N**Description of cuttings location****Cuttings area length (ft.)**                                      **Cuttings area width (ft.)****Cuttings area depth (ft.)**                                      **Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

### Section 8 - Ancillary

**Are you requesting any Ancillary Facilities?:** N**Ancillary Facilities****Comments:**

### Section 9 - Well Site

**Well Site Layout Diagram:**

Bondi\_24\_Fed\_RL\_NESE\_20240222075216.pdf

Bondi\_24\_Fed\_WSL\_NESE\_20240222075206.pdf

**Comments:** Rig Plat Diagrams: There are two (2) multi-well pads requested for the Bondi 24 Fed Com anticipated project. The proposed pads will allow enough space for cuts and fills, topsoil storage, and storm water control and sizes are approximations based on these needs. Interim reclamation of these pads is anticipated after the drilling and completion of all wells on the pad. The well site layout for all pads is attached. 1. NENE Pad: 507ft x 430ft (6.558 Acres), V-Door: West 2. NESE Pad: 577ft x 484ft (6.330 Acres), V-Door: West

**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 386164

CONDITIONS

Operator:  COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID:
	371449
	Action Number:
	386164
Action Type:	
[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	10/1/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/1/2024
ward.rikala	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	10/1/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	10/1/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	10/1/2024
ward.rikala	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	10/1/2024
ward.rikala	Submit C-102 on new C-102 form.	10/1/2024