Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. NMNM4986 BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. ✓ DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well ✓ Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing ✓ Single Zone Multiple Zone **DAKOTA 32 STATE FED COM** 204H 2. Name of Operator 9. API Well No. PERMIAN RESOURCES OPERATING LLC 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory 300 N MARIENFELD ST SUITE 1000, MIDLAND, TX 797((432) 695-4222 WINCHESTER/(WOLFCAMP) GAS 4. Location of Well (Report location clearly and in accordance with any State requirements.*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 32/T19S/R28E/NMP At surface SESE / 1175 FSL / 300 FEL / LAT 32.6131272 / LONG -104.1916046 At proposed prod. zone SWSW / 1068 FSL / 10 FWL / LAT 32.6127082 / LONG -104.2249563 14. Distance in miles and direction from nearest town or post office* 12. County or Parish 13 State **EDDY** NM 15. Distance from proposed* 16. No of acres in lease 17. Spacing Unit dedicated to this well 1175 feet location to nearest property or lease line, ft. 320.0 (Also to nearest drig. unit line, if any) 18. Distance from proposed location* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 33 feet 8771 feet / 19039 feet FED: NMB001841 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration 3340 feet 02/27/2025 30 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. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above) 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date (Electronic Submission) STEPHANIE RABADUE / Ph: (432) 695-4222 04/16/2024 Title Regulatory Manager Approved by (Signature) Name (Printed/Typed) Date (Electronic Submission) CODY LAYTON / Ph: (575) 234-5959 03/14/2025 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction



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 I: 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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: SESE / 1175 FSL / 300 FEL / TWSP: 19S / RANGE: 28E / SECTION: 32 / LAT: 32.6131272 / LONG: -104.1916046 (TVD: 0 feet, MD: 0 feet) PPP: SWSW / 1068 FSL / 100 FEL / TWSP: 19S / RANGE: 28E / SECTION: 32 / LAT: 32.6127241 / LONG: -104.2208637 (TVD: 8771 feet, MD: 9053 feet) PPP: SESE / 1068 FSL / 1 FEL / TWSP: 19S / RANGE: 28E / SECTION: 31 / LAT: 32.6127736 / LONG: -104.2078617 (TVD: 8771 feet, MD: 14333 feet) BHL: SWSW / 1068 FSL / 10 FWL / TWSP: 19S / RANGE: 28E / SECTION: 31 / LAT: 32.6127082 / LONG: -104.2249563 (TVD: 8771 feet, MD: 19039 feet)

BLM Point of Contact

Name: JANET D ESTES Title: ADJUDICATOR Phone: (575) 234-6233

Email: JESTES@BLM.GOV

Review and Appeal Rights

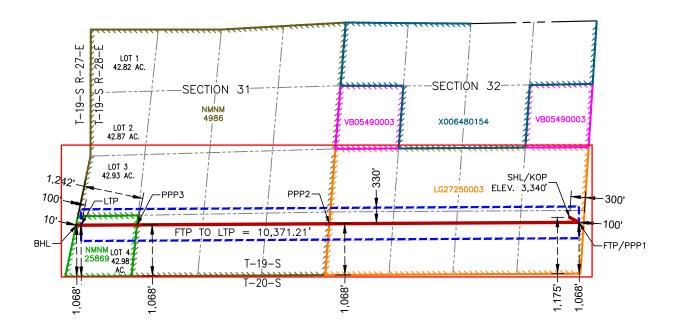
A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North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

| | <u>)2</u> Electronicall D Permitting | У | Er | Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION Submittal Type: Amended Report | | | | | d Report | | | |
|--|--|--|---|--|--|--|--|---------------------------------------|--------------------------|---------------------------|--|--|
| | | | | | 14/ELL 1 00 A | TION INFORMATION | | | ☐ As Drille | ☐ As Drilled | | |
| API Nu | ımbor | | Pool Code | | WELL LOCA | TION INFORMATION Pool Name | | | | | | |
| | | | | 8776 | 60 | Winche | ester; Wo | lfcamp | (Gas) | | | |
| Proper | ty Code | | Property I | Name | DAKOTA | 32 STATE FED COM | | Well Number 204h | | | | |
| OGRIE | | _ | Operator | | | | | | | vel Elevation | | |
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| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | Longitude | County | | |
| Р | 32 | 198 | 28E | | 1,175' FS | - 300' FEL | 32.613 | 127° - | 104.191605° | EDDY | | |
| | 1 - | 1 | 1 - | 1. | - | m Hole Location | 1. | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | Longitude | County | | |
| | 31 | 198 | 28E | LOT 4 | 1,068' FS | - 10' FWL | 32.612 | 708° - | 104.224956° | EDDY | | |
| <u> </u> | | | - ! \ \ \ \ / - !! | l D. G. i | Mall ADI | Occardence in the Constraint | 1 l it (X/N) | | | | | |
| | ited Acres | Infill or Defining | | 1 | Well API | Overlapping Spacir | ig Unit (Y/N) | Consolida | ation Code | | | |
| | 5.91 | Definir | ig | Pen | ding | Y | | 0 | O | .1- | | |
| Order | Numbers. | Pending | | | | Well setbacks are | under Comm | on Owners | snip. X res ⊔i | NO | | |
| | | | | | Kick | Off Point (KOP) | | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | Longitude | County | | |
| Р | 32 | 198 | 28E | | 1,175' FS | L 300' FEL | 32.613 | 127° - | 104.191605° | EDDY | | |
| | | | | | First | Take Point (FTP) | | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | Longitude | County | | |
| Р | 32 | 198 | 28E | | 1,068' FS | L 100' FEL | 32.612 | 836° - | 104.190975° | EDDY | | |
| | | | | | Last ⁻ | Γake Point (LTP) | | | | | | |
| 1.11 | | | Range | Lot | Ft. from N/S | Ft. from E/W | 1 | | | | | |
| UL | Section | Township | 9- | | | | Latitude | | Longitude | County | | |
| UL | Section 31 | Township 19S | 28E | LOT 4 | 1,068' FS | | 32.612 | | Longitude 104.224657° | County EDDY | | |
| | 31 | ' | 28E | LOT 4 | | | 32.612 | | 104.224657° | • | | |
| Unitize | 31 ed Area or A | 198 | 28E | LOT 4 | | 100' FWL | 32.612 Grou | 709° - | 104.224657° | • | | |
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ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



DAKOTA 32 STATE FED COM 204H

SURFACE HOLE LOCATION & KICK-OFF POINT 1,175' FSL & 300' FEL ELEV. = 3,340'

NAD 83 X = 584,976.83'
NAD 83 Y = 586,815.55'
NAD 83 LAT = 32.613127°
NAD 83 LONG = -104.191605'
NAD 27 X = 543,796.81'
NAD 27 V = 586,753.90'
NAD 27 LAT = 32.613010°
NAD 27 LONG = -104.191097°

FIRST TAKE POINT &
PENETRATION POINT 1
1,068' FSL & 100' FEL

NAD 83 X = 585,170.85'

NAD 83 X = 585,170.85' NAD 83 Y = 586,709.82' NAD 83 LAT = 32.612836° NAD 83 LONG = -104.190976° NAD 27 X = 543,990.83' NAD 27 Y = 586,648.17' NAD 27 LAT = 32.612719° NAD 27 LONG = -104.190467° PENETRATION POINT 2 1,068' FSL & 0' FEL

NAD 83 X = 579,971.32' NAD 83 Y = 586,680.62' NAD 83 LAT = 32.612774° NAD 83 LONG = -104.207862° NAD 27 X = 538,791.30' NAD 27 Y = 586,619.01' NAD 27 LAT = 32.612657° NAD 27 LONG = -104.207353°

PENETRATION POINT 3 1,068' FSL & 1,242' FWL

NAD 83 X = 575,967.88' NAD 83 Y = 586,658.14' NAD 83 LAT = 32.612724° NAD 83 LONG = -104.220864° NAD 27 X = 534,787.88' NAD 27 Y = 586,596.56' NAD 27 LAT = 32.612607° NAD 27 LONG = -104.220355° LAST TAKE POINT 1.068' FSL & 100' FWL

NAD 83 X = 574,799.81'
NAD 83 Y = 586,651.58'
NAD 83 LAT = 32.612709°
NAD 83 LONG = -104.224657°
NAD 27 X = 533,619.80'
NAD 27 V = 586,590.01'
NAD 27 LAT = 32.612593°
NAD 27 LONG = -104.224148°

BOTTOM HOLE LOCATION 1,068' FSL & 10' FWL

NAD 83 X = 574,707.75' NAD 83 Y = 586,651.06' NAD 83 LAT = 32.612708° NAD 83 LONG = -104.224956° NAD 27 X = 533,527.75' NAD 27 Y = 586,589.50' NAD 27 LAT = 32.612592° NAD 27 LONG = -104.224447°

State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

| I. Operator: Permian F | Resources Op | erating, LLC | _OGRID: _ | 372165 | Date: _ | 07 / 22 / 2025 | |
|---|--------------|---------------------|---------------|------------------|---------------------|------------------------|------|
| II. Type: X Original | Amendment o | due to □ 19.15.27.9 | 9.D(6)(a) NM. | AC □ 19.15.27.9. | D(6)(b) NMAC □ 0 | Other. | |
| If Other, please describe | :: | | | | | | _ |
| III. Well(s): Provide the be recompleted from a s | | | | | f wells proposed to | be drilled or proposed | d to |
| Well Name | API | ULSTR | Footages | Anticipated | Anticipated | Anticipated | |

| | Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|----|---------------------------|----------|--------------|-------------------|--------------------------|--------------------------|--|
| ll | Dakota 32 State Fed Com 2 | 203H N/A | P-32-19S-28E | 1208' FSL, 300' F | EL 1200 | 2100 | 3200 |
| | Dakota 32 State Fed Com 2 | 04H N/A | P-32-19S-28E | 1175' FSL, 300' F | EL 1200 | 2100 | 3200 |

IV. Central Delivery Point Name: Dakota/Bolander 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 | Completion | Initial Flow | First Production |
|---------------------------|---------------------|------------|------------|-------------------|--------------|------------------|
| | | _ | Date | Commencement Date | Back Date | Date |
| | | | | | | |
| Dakota 32 State Fed Com 2 | 203H N/A | 11/24/2025 | TBD | TBD | TBD | TBD |
| Dakota 32 State Fed Com 2 | _{204H} N/A | 11/24/2025 | TBD | TBD | TBD | TBD |

- 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.

X 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 | Available Maximum Daily Capacity |
|----------|--------|-----------------|-----------------------|----------------------------------|
| _ | - | | Start Date | of System Segment Tie-in |
| | | | | |
| | | | | |

| XI. Map. \square 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 \square will \square will not have capacity to gather 100% of the anticipated nat | tural gas |
|--|-----------|
| production volume from the well prior to the date of first production. | |

| XIII. Line Pressure. Ope | erator \square does \square does not | anticipate that its existi | ng well(s) connected to | the same segment | , or portion, | of the |
|-----------------------------|--|----------------------------|--------------------------|--------------------|---------------|---------|
| natural gas gathering syste | em(s) described above wil | I continue to meet antic | ipated increases in line | pressure caused by | the new we | ell(s). |

| A 1 . | · · · | 1 4 | | 1 4. | • | 4 41 | . 1 | 1. |
|----------|------------|---------|--------|------------|-------------|--------|----------|---------------|
| Attach (| Jperator's | nian to | manage | production | in response | to the | ncreased | line pressure |

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

Released to Imaging: 8/28/2025 7:20:03 AM

Section 3 - Certifications Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal: X 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: power generation on lease; (a) power generation for grid; **(b)** compression on lease; (c) (d) liquids removal on lease: reinjection for underground storage; (e) reinjection for temporary storage; **(f)** reinjection for enhanced oil recovery; (g)

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

other alternative beneficial uses approved by the division.

fuel cell production; and

(h)

(i)

- (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: |
|---|
| Printed Name: Jennifer Elrod |
| Title: Sr. Regulatory Analyst |
| E-mail Address: jelrod@ntglobal.com |
| Date: 7/22/2025 |
| Phone: 940-452-6214 |
| 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 though a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

Production

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

Performance Standards

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

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

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

- 1) Appropriately sized and designed to ensure proper combustion 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

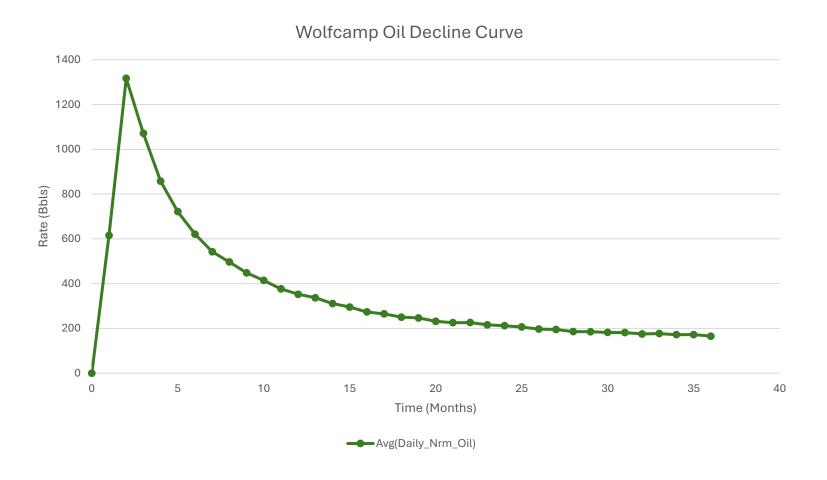
Measurement or estimation

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.

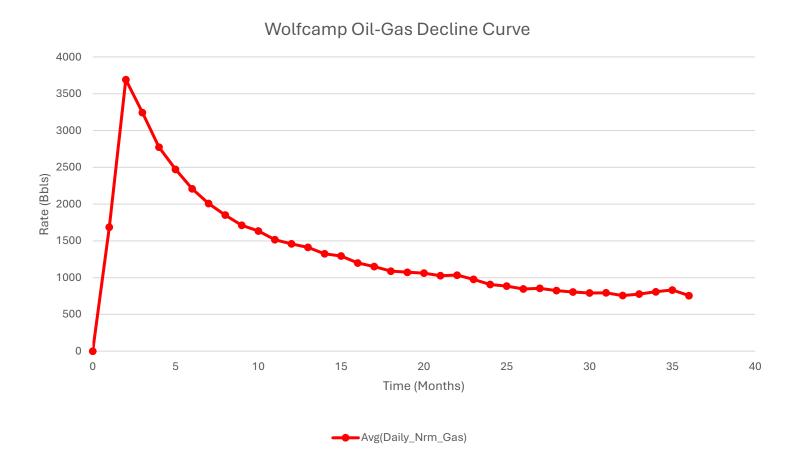
VIII. Best Management Practices:

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



- 1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
- 2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.



- 1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
- 2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.



APD ID: 10400098079

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

Drilling Plan Data Report

Submission Date: 04/16/2024

Operator Name: PERMIAN RESOURCES OPERATING LLC

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

Well Type: CONVENTIONAL GAS WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

| Formation | Formation Name | Elevation | True Vertical | Measured Depth | Lithologies | Mineral Resources | Producing Formatio |
|-----------|-----------------|-----------|---------------|-------------------|--------------------------------|------------------------------------|-----------------------|
| 15213330 | | | 200 | 200 | ANHYDRITE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213331 | TOP SALT | 3110 | 230 | 230 | SALT | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213332 | TANSILL | 2715 | 625 | 625 | SALT | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213337 | YATES | 2500 | 840 | 840 | ANHYDRITE, SHALE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213338 | SEVEN RIVERS | 2020 | 1320 | 1320 | LIMESTONE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213339 | QUEEN | 1630 | 1710 | 1710 | LIMESTONE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213340 | GRAYBURG | 1224 | 2116 | 2116 | LIMESTONE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213333 | BRUSHY CANYON | 340 | 3000 | 3000 | SANDSTONE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213334 | BONE SPRING | -670 | 4010 | 4010 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213342 | BONE SPRING 1ST | -2390 | 5730 | 5730 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213343 | BONE SPRING 2ND | -3710 | 7050 | 7050 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213344 | BONE SPRING 3RD | -4910 | 8250 | 8250 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL, USEABLE WATER | N |
| 15213335 | WOLFCAMP | -5330 | 8670 | 8670 | SHALE | NATURAL GAS, OIL, USEABLE WATER | Y |

Section 2 - Blowout Prevention

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

Pressure Rating (PSI): 5M Rating Depth: 8771

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 intermedicate 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

Variance request: Break testing, flex hose and offline cement variances, see 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:

5M_Choke_Manifold_20240828084925.pdf

BOP Diagram Attachment:

5M_BOP_20240828084931.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 | 225 | 0 | 225 | 3340 | 3115 | 225 | J-55 | 54.5 | BUTT | 10.1 7 | 4.91 | DRY | 8.1 | DRY | 7.6 |
| 2 | INTERMED IATE | 12.2 5 | 9.625 | NEW | API | N | 0 | 2760 | 0 | 2760 | 3321 | 580 | 2760 | J-55 | 36 | BUTT | 2.61 | 1.57 | DRY | 3.21 | DRY | 2.83 |
| 3 | PRODUCTI ON | 8.75 | 5.5 | NEW | NON API | N | 0 | 19038 | 0 | 8771 | 3321 | -5431 | 19038 | P- 110 | | OTHER - GeoConn | 1.64 | 1.71 | DRY | 2.19 | DRY | 2.19 |

Casing Attachments

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

Casing Attachments

Casing ID: 1

String

SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dakota_32_State_Fed_Com_204H_csg_20240415115259.pdf

Casing ID: 2

String

INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dakota_32_State_Fed_Com_204H_csg_20240415115314.pdf

Casing ID: 3

String

PRODUCTION

Inspection Document:

Spec Document:

 $Dakota_32_State_Fed_Com_204H_Prod_csg_Spec_Sheet_20240415115352.pdf$

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dakota_32_State_Fed_Com_204H_csg_20240415115403.pdf

Section 4 - Cement

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

| | String Type | Lead/Tail | Stage Tool Depth | Тор МD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|----|-------------|-----------|---------------------|--------|-----------|--------------|-------|---------|-------|---------|-------------|-------------|
| SL | JRFACE | Lead | | 0 | 225 | 180 | 1.34 | 14.8 | 240 | 50 | Class C | Accelerator |

| INTERMEDIATE | Lead | 0 | 2200 | 490 | 2.08 | 12.7 | 1010 | 50 | Class C | Salt, Extender, & LCM |
|--------------|------|------|-----------|------|------|------|------|----|---------|---|
| INTERMEDIATE | Tail | 2200 | 2760 | 210 | 1.34 | 14.8 | 270 | 50 | Class C | Accelerator |
| PRODUCTION | Lead | 2260 | 8302 | 880 | 2.41 | 11.5 | 2140 | 40 | Class H | POZ, Extender, Fluid Loss, Dispersant, Retarder |
| PRODUCTION | Tail | 8302 | 1903 8 | 1390 | 1.73 | 12.5 | 2400 | 25 | Class H | POZ, Extender, Fluid Loss, Dispersant, Retarder |

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

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) | ЬН | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|--------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 2760 | 9052 | WATER-BASED MUD | 9 | 10 | | | | | | | |

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | РН | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|-------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 9052 | 1903 8 | OIL-BASED MUD | 9 | 10 | | | | | | | |
| 0 | 225 | SPUD MUD | 8.6 | 9.5 | | | | | | | |
| 225 | 2760 | SALT SATURATED | 10 | 10 | | | | | | | |

Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

GAMMA RAY LOG, DIRECTIONAL SURVEY,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4570 Anticipated Surface Pressure: 2640

Anticipated Bottom Hole Temperature(F): 144

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Dakota_32_FED_COM_203H_H2S_Diagram_20240415104632.pdf

Dakota_32_Fed_Com_H2S_Plan_20240415104647.pdf

Well Name: DAKOTA 32 STATE FED COM Well Number: 204H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Dakota_32_St_Fed_Com_204H_DD_20240415115758.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

2022_FH_20240828085032.pdf

Dakota_32_State_Fed_Com_NGMP_Full_Submission_20240828084955.pdf

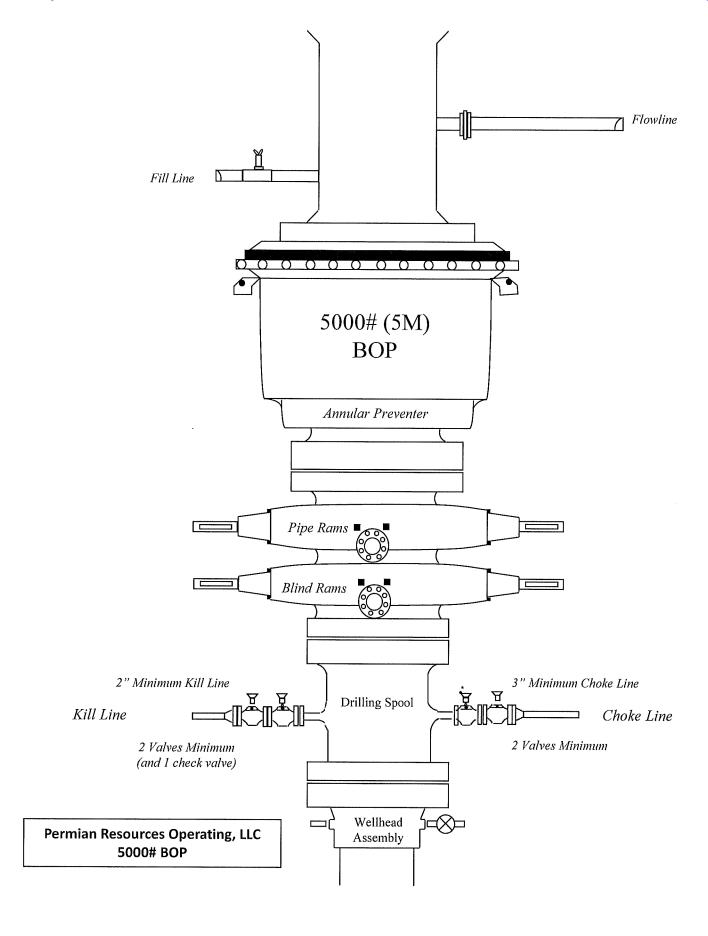
Other Variance request(s)?: Y

Other Variance attachment:

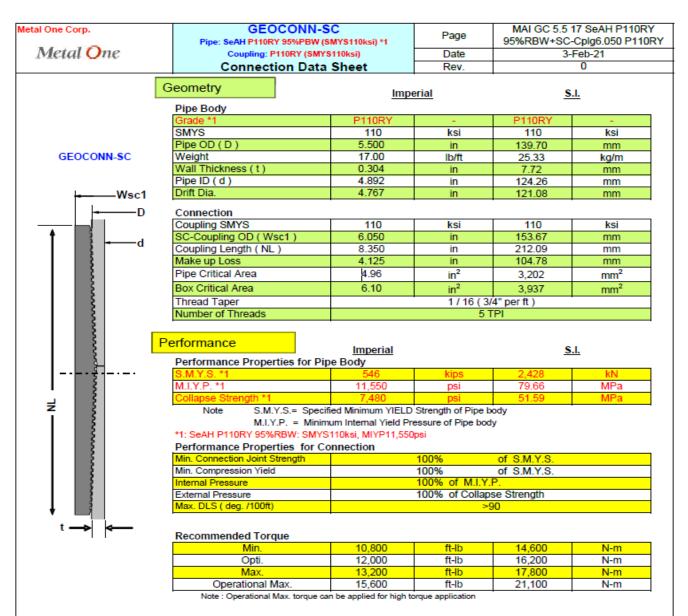
Dakota_32_Fed_Com_Batch_20240415104824.pdf
Dakota_32_State_Fed_Com_204H_OLCV_20240415115859.pdf
Dakota_32_State_Fed_Com_204H_MBS_20240828085017.pdf
BOP_Break_2024_20240828085031.pdf

To Flare 150' Permian Resources Operating, LLC 5M Choke Manifold Diagram Shaker **Mud Tanks** Separator Mud-Gas Bleed line to burn area (150') (Not connected to buffer tank) **Buffer Tank** 40'-50' from **Mud Tanks** wellbore To mud gas separator 3" Minimum To mud gas separator 2" Minimum 2" Minimum Choke Isolation Valve Isolation Choke Valve Bleed lines will discharge 100' from WH in non-H2S scenarios Adjustable Adjustable REMOTELY OPERATED Choke Choke min. min. and 150' from WH in H2S scenarios. (Required) HG. HCR Valve is optional **Drilling Operations Choke Manifold BOP Outlet** 5M Service Released to Imaging: 8/28/2025 7:20:03 AM

(Bleed line)



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



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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 binding 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 http://www.mito.co.jp/mo-con/ [Inages/top/WebsiteTerms_Active_20333287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.

Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

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

Intermediate I

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

- (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
 - a) Cementing
 - (1) Internal: Displacement fluid density.
 - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
 - b) Lost Returns with Mud Drop
 - Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
 - External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
 - a) Overpull Force
 - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
 - b) Green Cement Casing Test
 - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate or Intermediate II

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

Production

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

Permian Resources Multi-Well Pad Batch Drilling Procedure

<u>Surface Casing</u> - PR intends to Batch set all 13-3/8" casing to a depth approved in the APD. 17-1/2" 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 17-1/2" Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
- 2. Run and land 13-3/8" 54.5# J55 BTC 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

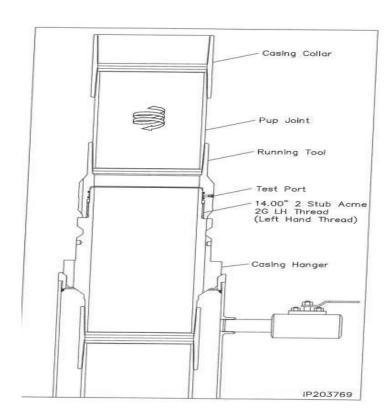
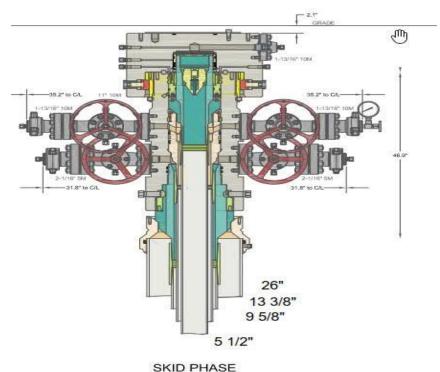


Illustration 1-1

<u>Intermediate Casing</u> – PR intends to Batch set all intermediate casing strings to a depth approved in the APD, typically set into Lamar. 12-1/4" Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

- 1. Rig will remove the nightcap and install and test BOPE.
- 2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
- 3. Install wear bushing then drill out 13-3/8" shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
- 4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
- 5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
- 6. Cement casing to surface with floats holding.
- 7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
- 8. Install pack-off and test void to 5,000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
- 9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.



SKID I I IASE

Illustration 2-2

<u>Production Casing</u> – 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.

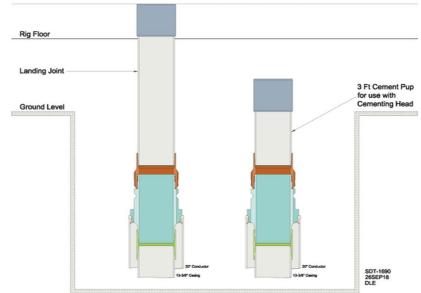
- 1. Big Rig will remove the nightcap and install and test BOPE.
- 2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
- 3. Drill Vertical hole to KOP Trip out for Curve BHA.
- 4. Drill Curve, landing in production interval Trip for Lateral BHA.
- 5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 51/2" Production Casing.
- 6. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
- 7. Cement 5-1/2" 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 5-1/2" mandrel hanger Nipple down BOPE and install nightcap.
- 10. Test nightcap void to 5,000psi for 30 minutes per illustration 2-2

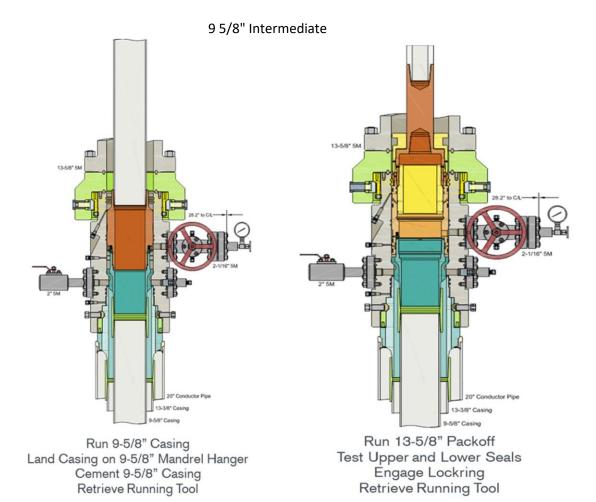
Permian Resources Offline Cementing Procedure 13-3/8" & 9-5/8" Casing

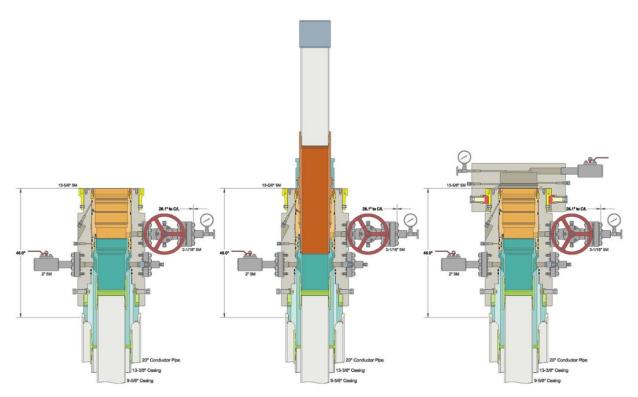
- 1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
- 2. Run and casing to Depth.
- 3. Land casing with mandrel.
- 4. Circulate 1.5 csg capacity.
- 5. Flow test Confirm well is static and floats are holding.
- 6. Set Annular packoff and pressure test. Test to 5k.
- 7. Nipple 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.

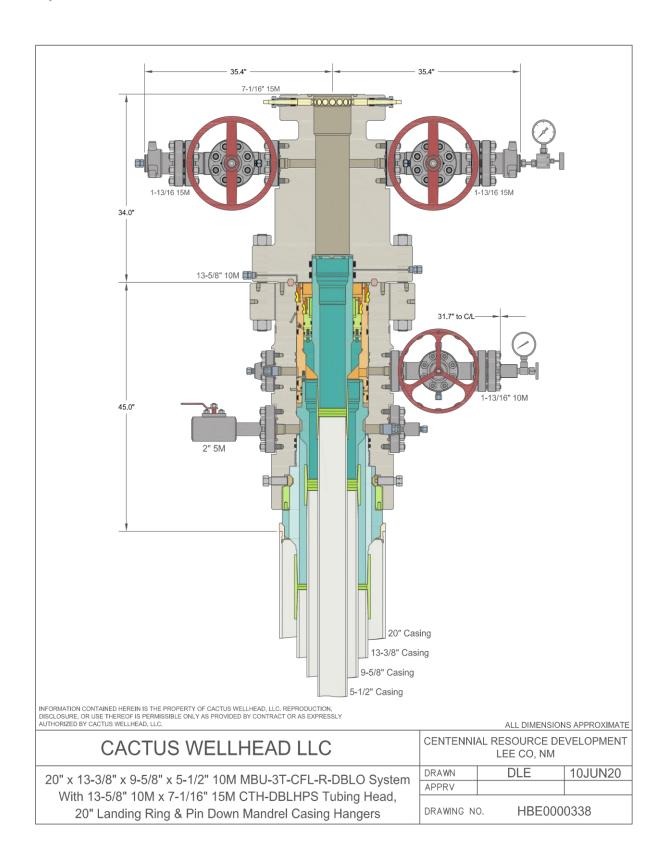
13 3/8" Surface

CFL Off-Line Cementing Tool









Permian Resources BOP Break Testing Variance Procedure

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources 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).". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources 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 Permian Resources 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



Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

| 2 | API STANDARD | 53 | | | | | | | |
|--|--|---|---|--|--|--|--|--|--|
| Та | ble C.4—Initial Pressure Te | esting, Surface BOP Stacks | | | | | | | |
| | Pressure Test—Low | Pressure Test—High Pressure≝ | | | | | | | |
| Component to be Pressure Tested | Pressure** psig (MPa) | Change Out of Component, Elastomer, or Ring Gasket | No Change Out of Component, Elastomer, or Ring Gasket | | | | | | |
| Annular preventer | 250 to 350 (1.72 to 2.41) | RWP of annular preventer | MASP or 70% annular RWP, whichever is lower. | | | | | | |
| Fixed pipe, variable bore, blind, and BSR preventers∞ | 250 to 350 (1.72 to 2.41) | RWP of ram preventer or wellhead system, whichever is lower | ITP | | | | | | |
| Choke and kill line and BOP side outlet valves below ram preventers (both sides) | 250 to 350 (1.72 to 2 41) | RWP of side outlet valve or wellhead system, whichever is lower | ITP | | | | | | |
| Choke manifold—upstream of chokes* | | | | | | | | | |
| Choke manifold—downstream of chokes* | 250 to 350 (1.72 to 2.41) | RWP of valve(s), line(s), or N whichever is lower | ASP for the well program, | | | | | | |
| Kelly, kelly valves, drill pipe safety valves, IBOPs | 250 to 350 (1.72 to 2.41) | MASP for the well program | | | | | | | |
| | during the evaluation period. The p | ressure shall not decrease below the allest OD drill pipe to be used in well p | | | | | | | |
| For pad drilling operations, moving pressure-controlling connections | from one wellhead to another within when the integraty of a pressure set | n the 21 days, pressure testing is requal is broken. | uired for pressure-containing an | | | | | | |
| | land operations, the ram BOPs sha | ted with the ram locks engaged and all be pressure tested with the ram loc | | | | | | | |

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.

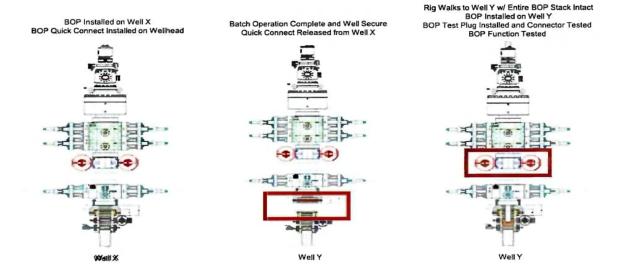
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

Permian Resources 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. Permian Resources 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, Permian Resources 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) Permian Resources 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) Permian Resources 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.

Note: Picture below highlights BOP components that will be tested during batch operations



Summary

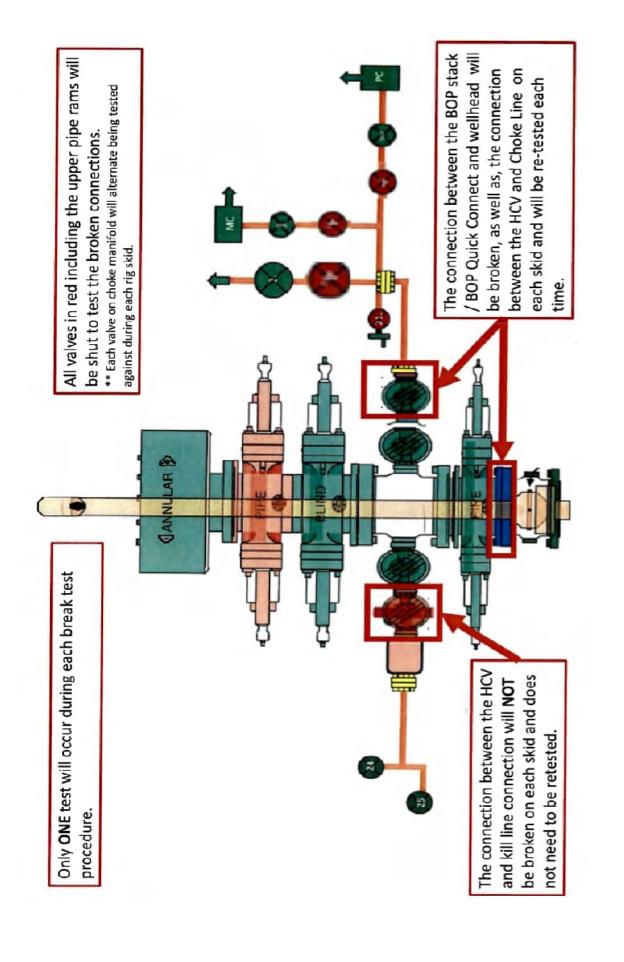
A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control

event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.



(Ontinental 🕏

ContiTech Fluid Technology

| ContiTech | h Oil & Marine Corp. # 11535 Brittmoore Park Dr., Houston, | TX Packing list / Delivery note |
|-----------|---|---|
| 77041-69 | | Document No. 71461553 |
| 201.0 | ONES (Ohio to address) | Document Date 28.01.2022 |
| CONSI | GNEE / Ship-to address: | Customer Number 11697 |
| HELME | ERICH & PAYNE INT'L DRILLING CO | Customer VAT No. |
| | FLEX RIG WHSE - B-BAY | Supplier Number |
| 210 MA | AGNOLIA DRIVE | Purchase Order No. 740362040 |
| GALEN | NA PARK TX 77547 | Purchase Order Date 18.01.2022 Sales Order Number 1388153 |
| Buyer: | | Sales Order Number 1360133 |
| | | oales order bate 16.61.2522 |
| | ERICH & PAYNE INT'L DRILLING CO | Unloading Point |
| | SOUTH BOULDER TULSA | RAN-No. |
| 74119 | TULOA | |
| Conditi | ions | |
| | | Page 1 of 2 |
| Incoter | | Weights (Gross / Net) |
| | Ex Works | Total Gross Weight 2,507.000 LB |
| | | Total Net Weight 2,507.000 LB |
| Item | Material/Description | Quantity Net Weight Gross Weight |
| | Buyer: Jack Peebles | |
| | E-mail: Jackie.Peebles@hpinc.com | |
| | Tel: 832-782-6000 | \tilde{r} |
| | Rig/Whse: HOW | |
| 20 | 00RECERTIFY | (1 PC) 2,507.000 LB 2,507.000 LB |
| 20 | Recert of HP Hoses Serial# 67094 | |
| | Commodity Code: | |
| | 3" X 35 FT 10K Choke & Kill Hoses API 16C | |
| | | |
| | End 1: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange | NAME OF THE PARTY |
| | End 2: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange | c/w BX155 ring groove each end |
| | Standard: API Spec 16C - Monogrammed | 10 |
| | Working Pressure: 10,000psi | 2000240- |
| | Test Pressure: 15,000psi | 1,700 |
| | , out i louding in jurise specific | 200 |
| | Inspection & Certification includes: | 1900 |
| | External inspection of the hose & couplings | 40 |
| | Internal boroscopic inspection of hose liner | 0 - |
| | Hydrostatic pressure test of hose assembly | appartians /limited |
| | Repair of any external damage to hose body and end co | onnections (limited recertification |
| | to minor repairs). Clean & protect end connections Inspection Report | 1100 |
| | Disposal of hose assembly if hose fails inspection and r | recertification |
| | process. | \ \ \alpha' |
| | Please Flush Hoses before sending them to our Facility | ~\ |

ContiTech Rubber Industrial Kft. Contriech Rubber Indoorsial Nt. H-6728 Szeged Budapesti út 10. P. O. Box 152 Szeged H-6701 Phone:(62)566-700, Fax:(62)566-713 Tax Number: 11087209-2-06 EU Community VAT: HU11087209 Registration No.: Cg. 0609-002502 Registry Court: Csongråd Megyei Cégbíróság

Please Flush Hoses before sending them to our Facility

COMMERZBANK ZRT (HUF) H-1054 Budapest, Széchenyi rakpart 8. H-1245 Budapest P.O. Box 1070 Account No.: 14220108-26830003 IBAN: HU83 1422 0108 2683 0003 0000 0000 SWIFT: COBA HU HXXXX

COMMERZBANK AG Hannover (EUR) 30159 Hannover, Theaterstr. 11-12. Account No.: 3 066 156 00 Sort Code: 250 400 66 BIC: COBADEFF250 IBAN: DE41250400660306615600

Hydrostatic Test Certificate



ContiTech

| Certificate Number H100122 | COM Order Reference 1388153 | Customer Name & Address HELMERICH & PAYNE DRILLING CO | | |
|---|---|---|--|--|
| Customer Purchase Order No: | 740362040 | 1434 SOUTH BOULDER AVE TULSA, OK 74119 | | |
| Project: | | USA | | |
| Test Center Address | Accepted by COM Inspection | Accepted by Client Inspection | | |
| ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA | Signed: Gerson Mejia-Lazo Date: 02/09/22 | | | |

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

| Item | Part No. | Description | Qnty | Serial Number | Work. Press. (psi) | Test Press. (psi) | Test Time (minutes) |
|------|----------|-------------|------|---------------|-----------------------|----------------------|------------------------|
| | | | | | | | |

20 RECERTIFICATION

3" ID 10K Choke and Kill Hose x 35ft OAL

67094

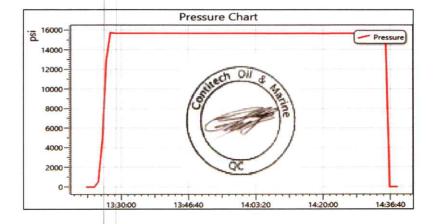
10,000

15,000

60

| Record Information | | | | | | | |
|--------------------|--------------------|--|--|--|--|--|--|
| Start Time | 1/27/2022 13:21:21 | | | | | | |
| End Time | 1/27/2022 14:38:28 | | | | | | |
| Interval | 00:01:00 | | | | | | |
| Number | 78 | | | | | | |
| MaxValue | 15849 | | | | | | |
| MinValue | -3 | | | | | | |
| AvgValue | 14240 | | | | | | |
| RecordName | 67094-sh | | | | | | |
| RecordNumber | 199 | | | | | | |

| Gauge I | Gauge Information | | | | | | |
|---------|-------------------|--|--|--|--|--|--|
| Model | ADT680 | | | | | | |
| SN | 21817380014 | | | | | | |
| Range | (0-40000)psi | | | | | | |
| Unit | psi | | | | | | |



NEW MEXICO

(SP) EDDY DAKOTA 32 PROJECT DAKOTA 32 ST FED COM 204H

OWB

Plan: PWP0

Standard Planning Report - Geographic

19 January, 2024

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PR

DAKOTA 32 PROJECT
DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0 **Local Co-ordinate Reference:**

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid

Minimum Curvature

Project (SP) EDDY

Map System: Geo Datum:

Map Zone:

Well:

US State Plane 1983 North American Datum 1983 New Mexico Eastern Zone System Datum:

Mean Sea Level

Site DAKOTA 32 PROJECT

 Site Position:
 Northing:
 586,848.47 usft
 Latitude:
 32° 36' 47.584 N

 From:
 Map
 Easting:
 584,979.06 usft
 Longitude:
 104° 11' 29.750 W

Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 "

Well DAKOTA 32 ST FED COM 204H

 Well Position
 +N/-S
 0.0 usft
 Northing:
 586,815.55 usft
 Latitude:
 32° 36' 47.258 N

 +E/-W
 0.0 usft
 Easting:
 584,976.83 usft
 Longitude:
 104° 11' 29.777 W

 Position Uncertainty
 0.0 usft
 Wellhead Elevation:
 usft
 Ground Level:
 3,340.0 usft

Grid Convergence: 0.08 °

Wellbore OWB

 Magnetics
 Model Name
 Sample Date (°)
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF200510
 12/31/2009
 8.06
 60.49
 48.958.49863647

Design PWP0

Audit Notes:

Version: PROTOTYPE Tie On Depth: 0.0

 Vertical Section:
 Depth From (TVD) (usft)
 +N/-S +E/-W (usft)
 Direction (usft)

 0.0
 0.0
 0.0
 269.08

Plan Survey Tool Program Date 1/19/2024

Depth From Depth To

(usft) (usft) Survey (Wellbore) Tool Name Remarks

1 0.0 19,038.6 PWP0 (OWB) MWD

OWSG Rev2 MWD - Stan

Plan Sections Measured Vertical Dogleg Build Turn Depth Inclination Azimuth Depth +N/-S +E/-W Rate Rate Rate **TFO** (usft) (usft) (°/100usft) (°/100usft) (°/100usft) (usft) (usft) (°) (°) **Target** (°) 0.0 0.00 0.00 0.0 0.0 0.0 0.00 0.00 0.00 0.00 0.00 2,000.0 0.00 2,000.0 0.0 0.00 0.00 0.00 0.00 0.0 2,250.0 5.00 118.59 2,249.7 -5.2 9.6 2.00 2.00 0.00 118.59 4,535.1 5.00 118.59 4,526.0 -100.5 184.4 0.00 0.00 0.00 0.00 0.00 -105.7 194.0 2.00 -2.00 0.00 180.00 4.785.1 0.00 4.775.7 8,302.8 0.00 0.00 8,293.5 -105.7 194.0 0.00 0.00 0.00 0.00 269.68 -108.4 -283.4 12.00 12.00 -12.04 269.68 9,052.8 90.00 8,771.0 269.68 8,771.0 -164.5-10.269.1 0.00 0.00 0.00 0.00 BHL-DAKOTA 32 S 19,038.6 90.00

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PROJECT

Well: DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0 Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid

Minimum Curvature

| Design: | PWF | -0 | | | | | | | |
|-----------------------|--------------------|------------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|--------------------------------------|--|
| Planned Surv | /ev | | | | | | | | |
| 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 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 100.0 | | 0.00 | 100.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 200.0 | | 0.00 | 200.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 300.0 | | 0.00 | 300.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 400.0 | | 0.00 | 400.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36′ 47.258 N | 104° 11' 29.777 W |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36′ 47.258 N | 104° 11' 29.777 W |
| 700.0 | | 0.00 | 700.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36′ 47.258 N | 104° 11' 29.777 W |
| 800.0 | | 0.00 | 0.008 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 900.0 | | 0.00 | 900.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36′ 47.258 N | 104° 11' 29.777 W |
| 1,000.0 | | 0.00 | 1,000.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36′ 47.258 N | 104° 11' 29.777 W |
| 1,100.0 | | 0.00 | 1,100.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,200.0 | | 0.00 | 1,200.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,300.0 | | 0.00 | 1,300.0 | 0.0 | 0.0 | 586,815.55 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,400.0 1,500.0 | | 0.00 0.00 | 1,400.0 1,500.0 | 0.0 0.0 | 0.0 0.0 | 586,815.55 | 584,976.83 584,976.83 | 32° 36' 47.258 N 32° 36' 47.258 N | 104° 11' 29.777 W 104° 11' 29.777 W |
| 1,600.0 | | 0.00 | 1,600.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,700.0 | | 0.00 | 1,700.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,800.0 | | 0.00 | 1,800.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 1,900.0 | | 0.00 | 1,900.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| 2,000.0 | | 0.00 | 2,000.0 | 0.0 | 0.0 | 586,815.55 | 584,976.83 | 32° 36' 47.258 N | 104° 11' 29.777 W |
| | uild 2.00 | | • | | | , | , | | |
| 2,100.0 | 2.00 | 118.59 | 2,100.0 | -0.8 | 1.5 | 586,814.72 | 584,978.37 | 32° 36' 47.250 N | 104° 11' 29.759 W |
| 2,200.0 | 4.00 | 118.59 | 2,199.8 | -3.3 | 6.1 | 586,812.21 | 584,982.96 | 32° 36′ 47.225 N | 104° 11' 29.705 W |
| 2,250.0 | 5.00 | 118.59 | 2,249.7 | -5.2 | 9.6 | 586,810.34 | 584,986.41 | 32° 36′ 47.206 N | 104° 11' 29.665 W |
| Start 2 | 285.1 hold a | t 2250.0 MD | 1 | | | | | | |
| 2,300.0 | | 118.59 | 2,299.5 | -7.3 | 13.4 | 586,808.25 | 584,990.23 | 32° 36' 47.186 N | 104° 11' 29.620 W |
| 2,400.0 | | 118.59 | 2,399.1 | -11.5 | 21.1 | 586,804.08 | 584,997.88 | 32° 36' 47.144 N | 104° 11' 29.531 W |
| 2,500.0 | | 118.59 | 2,498.7 | -15.6 | 28.7 | 586,799.91 | 585,005.54 | 32° 36' 47.103 N | 104° 11' 29.442 W |
| 2,600.0 | | 118.59 | 2,598.4 | -19.8 | 36.4 | 586,795.74 | 585,013.19 | 32° 36' 47.061 N | 104° 11' 29.352 W |
| 2,700.0 | | 118.59 | 2,698.0 | -24.0 | 44.0 | 586,791.57 | 585,020.84 | 32° 36' 47.020 N | 104° 11' 29.263 W |
| 2,800.0 2,900.0 | | 118.59 118.59 | 2,797.6 2,897.2 | -28.2 -32.3 | 51.7 59.3 | 586,787.40 586,783.23 | 585,028.50 585,036.15 | 32° 36' 46.979 N 32° 36' 46.937 N | 104° 11' 29.173 W 104° 11' 29.084 W |
| 3,000.0 | | 118.59 | 2,996.8 | -32.5 -36.5 | 67.0 | 586,779.06 | 585,043.80 | 32° 36' 46.896 N | 104° 11' 28.994 W |
| 3,100.0 | | 118.59 | 3,096.4 | -40.7 | 74.6 | 586,774.89 | 585,051.46 | 32° 36' 46.855 N | 104° 11' 28.905 W |
| 3,200.0 | | 118.59 | 3,196.1 | -44.8 | 82.3 | 586,770.72 | 585,059.11 | 32° 36' 46.813 N | 104° 11' 28.816 W |
| 3,300.0 | | 118.59 | 3,295.7 | -49.0 | 89.9 | 586,766.55 | 585,066.76 | 32° 36' 46.772 N | 104° 11' 28.726 W |
| 3,400.0 | | 118.59 | 3,395.3 | -53.2 | 97.6 | 586,762.38 | 585,074.41 | 32° 36' 46.730 N | 104° 11' 28.637 W |
| 3,500.0 | 5.00 | 118.59 | 3,494.9 | -57.3 | 105.2 | 586,758.21 | 585,082.07 | 32° 36′ 46.689 N | 104° 11' 28.547 W |
| 3,600.0 | 5.00 | 118.59 | 3,594.5 | -61.5 | 112.9 | 586,754.04 | 585,089.72 | 32° 36′ 46.648 N | 104° 11' 28.458 W |
| 3,700.0 | | 118.59 | 3,694.2 | -65.7 | 120.5 | 586,749.87 | 585,097.37 | 32° 36′ 46.606 N | 104° 11' 28.369 W |
| 3,800.0 | | 118.59 | 3,793.8 | -69.9 | 128.2 | 586,745.69 | 585,105.03 | 32° 36′ 46.565 N | 104° 11' 28.279 W |
| 3,900.0 | | 118.59 | 3,893.4 | -74.0 | 135.8 | 586,741.52 | 585,112.68 | 32° 36' 46.524 N | 104° 11' 28.190 W |
| 4,000.0 | | 118.59 | 3,993.0 | -78.2 | 143.5 | 586,737.35 | 585,120.33 | 32° 36' 46.482 N | 104° 11' 28.100 W |
| 4,100.0 | | 118.59 | 4,092.6 | -82.4 | 151.2 | 586,733.18 | 585,127.99 | 32° 36' 46.441 N | 104° 11' 28.011 W |
| 4,200.0 | | 118.59 | 4,192.3 | -86.5 | 158.8 166.5 | 586,729.01 | 585,135.64 | 32° 36' 46.399 N | 104° 11' 27.922 W |
| 4,300.0 | | 118.59 118.50 | 4,291.9 4 301.5 | -90.7 -94.9 | 166.5 174.1 | 586,724.84 586,720,67 | 585,143.29 585,150.05 | 32° 36' 46.358 N | 104° 11' 27.832 W |
| 4,400.0 4,500.0 | | 118.59 118.59 | 4,391.5 4,491.1 | -94.9 -99.1 | 181.8 | 586,720.67 586,716.50 | 585,150.95 585,158.60 | 32° 36' 46.317 N 32° 36' 46.275 N | 104° 11' 27.743 W 104° 11' 27.653 W |
| 4,500.0 | | 118.59 | 4,491.1 | -99.1 -100.5 | 184.4 | 586,715.04 | 585,161.28 | 32° 36' 46.261 N | 104° 11' 27.622 W |
| | rop -2.00 | 110.00 | -r,∪∠U.U | 100.0 | 10-11 | 000,710.04 | 000, 101.20 | 32 00 TO.201 N | 10-7 11 Z1.0ZZ VV |
| 4,600.0 | | 118.59 | 4,590.8 | -102.9 | 188.8 | 586,712.68 | 585,165.61 | 32° 36' 46.238 N | 104° 11' 27.571 W |
| 4,700.0 | | 118.59 | 4,690.7 | -105.1 | 192.9 | 586,710.43 | 585,169.74 | 32° 36' 46.215 N | 104° 11' 27.523 W |
| , | | | , | | | , - <u>-</u> | , | | |

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PRO

Site: DAKOTA 32 PROJECT
Well: DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0 Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid

Minimum Curvature

| Design: | PWF | 90 | | | | | | | |
|-----------------------|--------------------|------------------|-----------------------------|------------------|-----------------|---------------------------|--------------------------|--------------------------------------|--|
| Planned Surv | /ev | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
| 4,785.1 | 0.00 | 0.00 | 4,775.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| Start 3 | 517.8 hold at | 4785.1 MD |) | | | | | | |
| 4,800.0 | 0.00 | 0.00 | 4,790.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 4,900.0 | | 0.00 | 4,890.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 5,000.0 | | 0.00 | 4,990.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 5,100.0 5,200.0 | | 0.00 0.00 | 5,090.7 5,190.7 | -105.7 -105.7 | 194.0 194.0 | 586,709.82 586,709.82 | 585,170.85 585,170.85 | 32° 36' 46.209 N 32° 36' 46.209 N | 104° 11' 27.510 W 104° 11' 27.510 W |
| 5,300.0 | | 0.00 | 5,190.7 | -105.7 -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 5,400.0 | | 0.00 | 5,390.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 5,500.0 | | 0.00 | 5,490.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 5,600.0 | | 0.00 | 5,590.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 5,700.0 | | 0.00 | 5,690.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 5,800.0 | | 0.00 | 5,790.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 5,900.0 | | 0.00 | 5,890.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,000.0 | | 0.00 | 5,990.7 6.090.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,100.0 6,200.0 | | 0.00 0.00 | 6,090.7 | -105.7 -105.7 | 194.0 194.0 | 586,709.82 586,709.82 | 585,170.85 585,170.85 | 32° 36' 46.209 N 32° 36' 46.209 N | 104° 11' 27.510 W 104° 11' 27.510 W |
| 6,300.0 | | 0.00 | 6.290.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,400.0 | | 0.00 | 6,390.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,500.0 | | 0.00 | 6,490.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,600.0 | 0.00 | 0.00 | 6,590.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 6,700.0 | | 0.00 | 6,690.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,800.0 | | 0.00 | 6,790.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 6,900.0 | | 0.00 | 6,890.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 7,000.0 7,100.0 | | 0.00 0.00 | 6,990.7 7,090.7 | -105.7 -105.7 | 194.0 194.0 | 586,709.82 586,709.82 | 585,170.85 585,170.85 | 32° 36' 46.209 N 32° 36' 46.209 N | 104° 11' 27.510 W 104° 11' 27.510 W |
| 7,100.0 | | 0.00 | 7,090.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 7,300.0 | | 0.00 | 7,290.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 7,400.0 | 0.00 | 0.00 | 7,390.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 7,500.0 | | 0.00 | 7,490.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 7,600.0 | | 0.00 | 7,590.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| 7,700.0 | | 0.00 | 7,690.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 7,800.0 7,900.0 | | 0.00 0.00 | 7,790.7 7,890.7 | -105.7 -105.7 | 194.0 194.0 | 586,709.82 586,709.82 | 585,170.85 585,170.85 | 32° 36' 46.209 N 32° 36' 46.209 N | 104° 11' 27.510 W 104° 11' 27.510 W |
| 8,000.0 | | 0.00 | 7,090.7 | -105.7 -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 8,100.0 | | 0.00 | 8,090.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 8,200.0 | | 0.00 | 8,190.7 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| 8,302.8 | 0.00 | 0.00 | 8,293.5 | -105.7 | 194.0 | 586,709.82 | 585,170.85 | 32° 36′ 46.209 N | 104° 11' 27.510 W |
| Start D | LS 12.00 TF | O 269.68 | | | | | | | |
| 8,325.0 | | 269.68 | 8,315.7 | -105.7 | 193.5 | 586,709.82 | 585,170.34 | 32° 36' 46.209 N | 104° 11' 27.516 W |
| 8,350.0 | | 269.68 | 8,340.6 | -105.7 | 191.7 | 586,709.81 | 585,168.52 | 32° 36' 46.209 N | 104° 11' 27.537 W |
| 8,375.0 | | 269.68 | 8,365.4 | -105.8 | 188.6 | 586,709.79 | 585,165.41 | 32° 36' 46.209 N | 104° 11' 27.574 W |
| 8,400.0 8,425.0 | | 269.68 269.68 | 8,390.0 8,414.3 | -105.8 -105.8 | 184.2 178.5 | 586,709.77 586,709.74 | 585,161.00 585,155.31 | 32° 36' 46.209 N 32° 36' 46.208 N | 104° 11' 27.625 W 104° 11' 27.692 W |
| 8,450.0 | | 269.68 | 8,438.4 | -105.8 | 170.5 | 586,709.70 | 585,148.35 | 32° 36' 46.208 N | 104° 11' 27.773 W |
| 8,475.0 | | 269.68 | 8,462.0 | -105.9 | 163.3 | 586,709.65 | 585,140.15 | 32° 36' 46.208 N | 104° 11' 27.773 W |
| 8,500.0 | | 269.68 | 8,485.1 | -106.0 | 153.9 | 586,709.60 | 585,130.72 | 32° 36' 46.207 N | 104° 11' 27.979 W |
| 8,525.0 | 26.66 | 269.68 | 8,507.7 | -106.0 | 143.3 | 586,709.54 | 585,120.09 | 32° 36′ 46.207 N | 104° 11' 28.104 W |
| 8,550.0 | | 269.68 | 8,529.8 | -106.1 | 131.5 | 586,709.47 | 585,108.29 | 32° 36′ 46.206 N | 104° 11' 28.242 W |
| 8,575.0 | | 269.68 | 8,551.2 | -106.2 | 118.5 | 586,709.40 | 585,095.36 | 32° 36' 46.206 N | 104° 11' 28.393 W |
| 8,600.0 | | 269.68 | 8,571.9 | -106.2 | 104.5 | 586,709.32 | 585,081.32 | 32° 36' 46.205 N | 104° 11' 28.557 W |
| 8,625.0 8,650.0 | | 269.68 269.68 | 8,591.8 8,610.9 | -106.3 -106.4 | 89.4 73.3 | 586,709.24 586,709.14 | 585,066.22 585,050.10 | 32° 36' 46.205 N 32° 36' 46.204 N | 104° 11' 28.733 W 104° 11' 28.922 W |
| 8,675.0 | | 269.68 | 8,629.1 | -106.4 | 56.2 | 586,709.05 | 585,033.00 | 32° 36' 46.203 N | 104° 11' 29.122 W |
| 3,570.0 | 11.00 | _30.00 | 0,020.1 | .00.0 | JU.2 | 555,755.05 | 555,555.55 | 12 00 10.200 N | |

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PRO

Site: DAKOTA 32 PROJECT
Well: DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method: Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid Minimum Curvature

| Design: | PWF | 90 | | | | | | | |
|-----------------------------|-----------------------|------------------|-----------------------------|------------------|----------------------|---------------------------|--------------------------|--------------------------------------|--|
| Planned Surv | rey | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
| | | | | | | | | | • |
| 8,700.0 8,725.0 | | 269.68 269.68 | 8,646.4 8,662.8 | -106.6 -106.7 | 38.1 19.2 | 586,708.95 586,708.84 | 585,014.97 584,996.06 | 32° 36' 46.203 N 32° 36' 46.202 N | 104° 11' 29.333 W 104° 11' 29.554 W |
| 8,750.0 | | 269.68 | 8,678.1 | -106.7 | -0.5 | 586,708.73 | 584,976.32 | 32° 36' 46.201 N | 104° 11' 29.785 W |
| 8,775.0 | | 269.68 | 8,692.4 | -106.9 | -21.0 | 586,708.62 | 584,955.81 | 32° 36' 46.200 N | 104° 11' 30.024 W |
| 8,800.0 | | 269.68 | 8,705.6 | -107.1 | -42.3 | 586,708.50 | 584,934.57 | 32° 36' 46.199 N | 104° 11' 30.273 W |
| 8,825.0 | | 269.68 | 8,717.6 | -107.2 | -64.2 | 586,708.37 | 584,912.67 | 32° 36' 46.198 N | 104° 11' 30.529 W |
| 8,850.0 | | 269.68 | 8,728.5 | -107.3 | -86.7 | 586,708.25 | 584,890.18 | 32° 36' 46.197 N | 104° 11' 30.792 W |
| 8,875.0 | 68.66 | 269.68 | 8,738.2 | -107.4 | -109.7 | 586,708.12 | 584,867.14 | 32° 36' 46.196 N | 104° 11' 31.061 W |
| 8,900.0 | 71.66 | 269.68 | 8,746.7 | -107.6 | -133.2 | 586,707.99 | 584,843.63 | 32° 36′ 46.195 N | 104° 11' 31.336 W |
| 8,925.0 | 74.66 | 269.68 | 8,754.0 | -107.7 | -157.1 | 586,707.85 | 584,819.70 | 32° 36′ 46.194 N | 104° 11' 31.616 W |
| 8,950.0 | | 269.68 | 8,759.9 | -107.8 | -181.4 | 586,707.71 | 584,795.43 | 32° 36′ 46.193 N | 104° 11' 31.900 W |
| 8,975.0 | | 269.68 | 8,764.6 | -108.0 | -206.0 | 586,707.58 | 584,770.88 | 32° 36' 46.192 N | 104° 11' 32.187 W |
| 9,000.0 | | 269.68 | 8,768.0 | -108.1 | -230.7 | 586,707.44 | 584,746.12 | 32° 36' 46.191 N | 104° 11' 32.476 W |
| 9,025.0 | | | 8,770.2 | -108.3 | -255.6 | 586,707.30 | 584,721.21 | 32° 36' 46.190 N | 104° 11' 32.767 W |
| 9,050.0 | | | 8,771.0 | -108.4 | -280.6 | 586,707.16 | 584,696.23 | 32° 36' 46.189 N | 104° 11' 33.059 W |
| 9,052.8 | | 269.68 | 8,771.0 | -108.4 | -283.4 | 586,707.14 | 584,693.40 | 32° 36' 46.189 N | 104° 11' 33.092 W |
| 9,100.0 | 985.8 hold a 90.00 | 269.68 | 8,771.0 | -108.7 | -330.6 | 586,706.88 | 584,646.23 | 32° 36' 46.187 N | 104° 11' 33.644 W |
| 9,200.0 | | 269.68 | 8,771.0 | -100.7 | -430.6 | 586,706.32 | 584,546.23 | 32° 36' 46.183 N | 104° 11' 34.813 W |
| 9,300.0 | | 269.68 | 8,771.0 | -109.8 | -530.6 | 586,705.75 | 584,446.23 | 32° 36' 46.178 N | 104° 11' 35.982 W |
| 9,400.0 | | 269.68 | 8,771.0 | -110.4 | -630.6 | 586,705.19 | 584,346.23 | 32° 36' 46.174 N | 104° 11' 37.151 W |
| 9,500.0 | | 269.68 | 8,771.0 | -110.9 | -730.6 | 586,704.63 | 584,246.23 | 32° 36' 46.170 N | 104° 11' 38.321 W |
| 9,600.0 | | 269.68 | 8,771.0 | -111.5 | -830.6 | 586,704.07 | 584,146.23 | 32° 36' 46.166 N | 104° 11' 39.490 W |
| 9,700.0 | 90.00 | 269.68 | 8,771.0 | -112.0 | -930.6 | 586,703.51 | 584,046.24 | 32° 36' 46.161 N | 104° 11' 40.659 W |
| 9,800.0 | 90.00 | 269.68 | 8,771.0 | -112.6 | -1,030.6 | 586,702.95 | 583,946.24 | 32° 36′ 46.157 N | 104° 11' 41.828 W |
| 9,900.0 | | 269.68 | 8,771.0 | -113.2 | -1,130.6 | 586,702.38 | 583,846.24 | 32° 36′ 46.153 N | 104° 11' 42.997 W |
| 10,000.0 | | 269.68 | 8,771.0 | -113.7 | -1,230.6 | 586,701.82 | 583,746.24 | 32° 36′ 46.149 N | 104° 11' 44.166 W |
| 10,100.0 | | 269.68 | 8,771.0 | -114.3 | -1,330.6 | 586,701.26 | 583,646.24 | 32° 36' 46.144 N | 104° 11' 45.336 W |
| 10,200.0 | | 269.68 | 8,771.0 | -114.9 | -1,430.6 | 586,700.70 | 583,546.24 | 32° 36' 46.140 N | 104° 11' 46.505 W |
| 10,300.0 | | 269.68 | 8,771.0 | -115.4 | -1,530.6 | 586,700.14 | 583,446.25 | 32° 36' 46.136 N | 104° 11' 47.674 W |
| 10,400.0 | | 269.68 | 8,771.0 | -116.0 | -1,630.6 | 586,699.58 | 583,346.25 | 32° 36' 46.131 N | 104° 11' 48.843 W |
| 10,500.0 10,600.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -116.5 -117.1 | -1,730.6 -1,830.6 | 586,699.01 586,698.45 | 583,246.25 583,146.25 | 32° 36' 46.127 N 32° 36' 46.123 N | 104° 11' 50.012 W 104° 11' 51.181 W |
| 10,700.0 | | 269.68 | 8,771.0 | -117.7 | -1,930.6 | 586,697.89 | 583,046.25 | 32° 36' 46.119 N | 104° 11' 52.351 W |
| 10,800.0 | | 269.68 | 8,771.0 | -118.2 | -2,030.6 | 586,697.33 | 582,946.25 | 32° 36' 46.114 N | 104° 11' 53.520 W |
| 10,900.0 | | 269.68 | 8,771.0 | -118.8 | -2,130.6 | 586,696.77 | 582,846.25 | 32° 36' 46.110 N | 104° 11' 54.689 W |
| 11,000.0 | | 269.68 | 8,771.0 | -119.3 | -2,230.6 | 586,696.21 | 582,746.26 | 32° 36' 46.106 N | 104° 11' 55.858 W |
| 11,100.0 | | 269.68 | 8,771.0 | -119.9 | -2,330.6 | 586,695.65 | 582,646.26 | 32° 36' 46.101 N | 104° 11' 57.027 W |
| 11,200.0 | | 269.68 | 8,771.0 | -120.5 | -2,430.6 | 586,695.08 | 582,546.26 | 32° 36' 46.097 N | 104° 11' 58.196 W |
| 11,300.0 | | 269.68 | 8,771.0 | -121.0 | -2,530.6 | 586,694.52 | 582,446.26 | 32° 36′ 46.093 N | 104° 11' 59.366 W |
| 11,400.0 | 90.00 | 269.68 | 8,771.0 | -121.6 | -2,630.6 | 586,693.96 | 582,346.26 | 32° 36′ 46.088 N | 104° 12' 0.535 W |
| 11,500.0 | | 269.68 | 8,771.0 | -122.2 | - 2,730.6 | 586,693.40 | 582,246.26 | 32° 36′ 46.084 N | 104° 12' 1.704 W |
| 11,600.0 | | 269.68 | 8,771.0 | -122.7 | -2,830.6 | 586,692.84 | 582,146.27 | 32° 36′ 46.080 N | 104° 12' 2.873 W |
| 11,700.0 | | 269.68 | 8,771.0 | -123.3 | -2,930.6 | 586,692.28 | 582,046.27 | 32° 36' 46.075 N | 104° 12' 4.042 W |
| 11,800.0 | | 269.68 | 8,771.0 | -123.8 | -3,030.6 | 586,691.71 | 581,946.27 | 32° 36' 46.071 N | 104° 12' 5.211 W |
| 11,900.0 | | 269.68 | 8,771.0 | -124.4 125.0 | -3,130.6 | 586,691.15 | 581,846.27 | 32° 36' 46.067 N | 104° 12' 6.381 W |
| 12,000.0 | | 269.68 | 8,771.0 | -125.0 | -3,230.6 | 586,690.59 | 581,746.27 | 32° 36' 46.062 N | 104° 12' 7.550 W 104° 12' 8.719 W |
| 12,100.0 12,200.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -125.5 -126.1 | -3,330.6 -3,430.6 | 586,690.03 586,689.47 | 581,646.27 581,546.28 | 32° 36' 46.058 N 32° 36' 46.054 N | 104° 12' 8.719 W 104° 12' 9.888 W |
| 12,200.0 | | 269.68 | 8,771.0 | -126.1 | -3,530.6 | 586,688.91 | 581,446.28 | 32° 36' 46.049 N | 104 12 9.866 W 104° 12' 11.057 W |
| 12,400.0 | | 269.68 | 8,771.0 | -120.0 | -3,630.6 | 586,688.34 | 581,346.28 | 32° 36' 46.045 N | 104° 12' 12.226 W |
| 12,500.0 | | 269.68 | 8,771.0 | -127.8 | -3,730.6 | 586,687.78 | 581,246.28 | 32° 36' 46.041 N | 104° 12' 13.396 W |
| 12,600.0 | | 269.68 | 8,771.0 | -128.3 | -3,830.6 | 586,687.22 | 581,146.28 | 32° 36' 46.036 N | 104° 12' 14.565 W |
| 12,700.0 | | 269.68 | 8,771.0 | -128.9 | -3,930.6 | 586,686.66 | 581,046.28 | 32° 36′ 46.032 N | 104° 12' 15.734 W |
| | | | | | | | | | |

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PROJECT

Well: DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0 Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid

Minimum Curvature

| Design: | PWF | 20 | | | | | | | | | |
|----------------------|-------------|------------------|--------------------|------------------|----------------------|--------------------------|--------------------------|--------------------------------------|--|--|--|
| Planned Surv | /ev | | | | | | | | | | |
| i laillieu Sui V | | | | | | | | | | | |
| Measured | | | Vertical | | | Мар | Мар | | | | |
| Depth | Inclination | | Depth | +N/-S | +E/-W | Northing | Easting | | | | |
| (usft) | (°) | (°) | (usft) | (usft) | (usft) | (usft) | (usft) | Latitude | Longitude | | |
| 12,800.0 | 90.00 | 269.68 | 8,771.0 | -129.5 | -4,030.5 | 586,686.10 | 580,946.28 | 32° 36′ 46.028 N | 104° 12' 16.903 W | | |
| 12,900.0 | | 269.68 | 8,771.0 | -130.0 | -4,130.5 | 586,685.54 | 580,846.29 | 32° 36′ 46.023 N | 104° 12' 18.072 W | | |
| 13,000.0 | | 269.68 | 8,771.0 | -130.6 | -4,230.5 | 586,684.98 | 580,746.29 | 32° 36' 46.019 N | 104° 12' 19.241 W | | |
| 13,100.0 | | 269.68 | 8,771.0 | -131.1 | -4,330.5 | 586,684.41 | 580,646.29 | 32° 36' 46.015 N | 104° 12' 20.411 W | | |
| 13,200.0 13,300.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -131.7 -132.3 | -4,430.5 -4,530.5 | 586,683.85 586,683.29 | 580,546.29 580,446.29 | 32° 36' 46.010 N 32° 36' 46.006 N | 104° 12' 21.580 W 104° 12' 22.749 W | | |
| 13,400.0 | | 269.68 | 8,771.0 | -132.3 -132.8 | -4,630.5 -4,630.5 | 586,682.73 | 580,346.29 | 32° 36' 46.000 N | 104° 12' 23.918 W | | |
| 13,500.0 | | 269.68 | 8,771.0 | -133.4 | -4,730.5 | 586,682.17 | 580,246.30 | 32° 36' 45.997 N | 104° 12' 25.087 W | | |
| 13,600.0 | | 269.68 | 8,771.0 | -133.9 | -4,830.5 | 586,681.61 | 580,146.30 | 32° 36' 45.993 N | 104° 12' 26.256 W | | |
| 13,700.0 | | 269.68 | 8,771.0 | -134.5 | -4,930.5 | 586,681.04 | 580,046.30 | 32° 36' 45.988 N | 104° 12' 27.426 W | | |
| 13,773.0 | | 269.68 | 8,771.0 | -134.9 | -5,003.5 | 586,680.63 | 579,973.33 | 32° 36' 45.985 N | 104° 12' 28.279 W | | |
| NMNM | 004986 Entr | y at 13773. | 0 MD | | | | | | | | |
| 13,800.0 | | 269.68 | 8,771.0 | -135.1 | -5,030.5 | 586,680.48 | 579,946.30 | 32° 36′ 45.984 N | 104° 12' 28.595 W | | |
| 13,900.0 | | 269.68 | 8,771.0 | -135.6 | -5,130.5 | 586,679.92 | 579,846.30 | 32° 36′ 45.980 N | 104° 12' 29.764 W | | |
| 14,000.0 | | 269.68 | 8,771.0 | -136.2 | -5,230.5 | 586,679.36 | 579,746.30 | 32° 36' 45.975 N | 104° 12' 30.933 W | | |
| 14,100.0 | | 269.68 | 8,771.0 | -136.8 | -5,330.5 | 586,678.80 | 579,646.30 | 32° 36' 45.971 N | 104° 12' 32.102 W | | |
| 14,200.0 | | 269.68 269.68 | 8,771.0 | -137.3 -137.9 | -5,430.5 | 586,678.24 | 579,546.31 | 32° 36' 45.966 N | 104° 12' 33.271 W | | |
| 14,300.0 14,400.0 | | 269.68 | 8,771.0 8,771.0 | -137.9 -138.4 | -5,530.5 -5,630.5 | 586,677.67 586,677.11 | 579,446.31 579,346.31 | 32° 36' 45.962 N 32° 36' 45.958 N | 104° 12' 34.441 W 104° 12' 35.610 W | | |
| 14,500.0 | | 269.68 | 8,771.0 | -139.0 | -5,730.5 | 586,676.55 | 579,246.31 | 32° 36' 45.953 N | 104° 12' 36.779 W | | |
| 14,600.0 | | 269.68 | 8,771.0 | -139.6 | -5,830.5 | 586,675.99 | 579,146.31 | 32° 36' 45.949 N | 104° 12' 37.948 W | | |
| 14,700.0 | | 269.68 | 8,771.0 | -140.1 | -5,930.5 | 586,675.43 | 579,046.31 | 32° 36' 45.944 N | 104° 12' 39.117 W | | |
| 14,800.0 | | 269.68 | 8,771.0 | -140.7 | -6,030.5 | 586,674.87 | 578,946.32 | 32° 36′ 45.940 N | 104° 12' 40.286 W | | |
| 14,900.0 | 90.00 | 269.68 | 8,771.0 | -141.2 | -6,130.5 | 586,674.30 | 578,846.32 | 32° 36′ 45.935 N | 104° 12' 41.456 W | | |
| 15,000.0 | | 269.68 | 8,771.0 | -141.8 | -6,230.5 | 586,673.74 | 578,746.32 | 32° 36' 45.931 N | 104° 12' 42.625 W | | |
| 15,100.0 | | 269.68 | 8,771.0 | -142.4 | -6,330.5 | 586,673.18 | 578,646.32 | 32° 36' 45.927 N | 104° 12' 43.794 W | | |
| 15,200.0 | | 269.68 | 8,771.0 | -142.9 | -6,430.5 | 586,672.62 | 578,546.32 | 32° 36' 45.922 N | 104° 12' 44.963 W | | |
| 15,300.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -143.5 -144.1 | -6,530.5 | 586,672.06 586,671.50 | 578,446.32 578,346.33 | 32° 36' 45.918 N 32° 36' 45.913 N | 104° 12' 46.132 W 104° 12' 47.301 W | | |
| 15,400.0 15,500.0 | | 269.68 | 8,771.0 8,771.0 | -144.1 -144.6 | -6,630.5 -6,730.5 | 586,670.94 | 578,246.33 | 32° 36' 45.909 N | 104° 12' 48.471 W | | |
| 15,600.0 | | 269.68 | 8,771.0 | -145.2 | -6,830.5 | 586,670.37 | 578,146.33 | 32° 36' 45.904 N | 104° 12' 49.640 W | | |
| 15,700.0 | | 269.68 | 8,771.0 | -145.7 | -6,930.5 | 586,669.81 | 578,046.33 | 32° 36' 45.900 N | 104° 12' 50.809 W | | |
| 15,800.0 | | 269.68 | 8,771.0 | -146.3 | -7,030.5 | 586,669.25 | 577,946.33 | 32° 36' 45.896 N | 104° 12' 51.978 W | | |
| 15,900.0 | 90.00 | 269.68 | 8,771.0 | -146.9 | -7,130.5 | 586,668.69 | 577,846.33 | 32° 36' 45.891 N | 104° 12' 53.147 W | | |
| 16,000.0 | 90.00 | 269.68 | 8,771.0 | -147.4 | -7,230.5 | 586,668.13 | 577,746.33 | 32° 36' 45.887 N | 104° 12' 54.316 W | | |
| 16,100.0 | | 269.68 | 8,771.0 | -148.0 | -7,330.5 | 586,667.57 | 577,646.34 | 32° 36′ 45.882 N | 104° 12' 55.485 W | | |
| 16,200.0 | | 269.68 | 8,771.0 | -148.5 | -7,430.5 | 586,667.00 | 577,546.34 | 32° 36' 45.878 N | 104° 12' 56.655 W | | |
| 16,300.0 | | 269.68 | 8,771.0 | -149.1 | -7,530.5 7,000.5 | 586,666.44 | 577,446.34 | 32° 36' 45.873 N | 104° 12' 57.824 W | | |
| 16,400.0 | | 269.68 | 8,771.0 | -149.7 | -7,630.5 | 586,665.88 | 577,346.34 | 32° 36' 45.869 N | 104° 12' 58.993 W | | |
| 16,500.0 16,600.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -150.2 -150.8 | -7,730.5 -7,830.5 | 586,665.32 586,664.76 | 577,246.34 577,146.34 | 32° 36' 45.864 N 32° 36' 45.860 N | 104° 13' 0.162 W 104° 13' 1.331 W | | |
| 16,700.0 | | 269.68 | 8,771.0 | -151.4 | -7,930.5 -7,930.5 | 586,664.20 | 577,046.35 | 32° 36' 45.855 N | 104° 13' 2.500 W | | |
| 16,800.0 | | 269.68 | 8,771.0 | -151.9 | -8,030.5 | 586,663.63 | 576,946.35 | 32° 36' 45.851 N | 104° 13' 3.670 W | | |
| 16,900.0 | | 269.68 | 8,771.0 | -152.5 | -8,130.5 | 586,663.07 | 576,846.35 | 32° 36' 45.846 N | 104° 13' 4.839 W | | |
| 17,000.0 | | 269.68 | 8,771.0 | -153.0 | -8,230.5 | 586,662.51 | 576,746.35 | 32° 36′ 45.842 N | 104° 13' 6.008 W | | |
| 17,100.0 | 90.00 | 269.68 | 8,771.0 | -153.6 | -8,330.5 | 586,661.95 | 576,646.35 | 32° 36′ 45.837 N | 104° 13' 7.177 W | | |
| 17,200.0 | | 269.68 | 8,771.0 | -154.2 | -8,430.5 | 586,661.39 | 576,546.35 | 32° 36′ 45.833 N | 104° 13' 8.346 W | | |
| 17,300.0 | | 269.68 | 8,771.0 | -154.7 | -8,530.5 | 586,660.83 | 576,446.36 | 32° 36' 45.828 N | 104° 13' 9.515 W | | |
| 17,400.0 | | 269.68 | 8,771.0 | -155.3 | -8,630.5 | 586,660.27 | 576,346.36 | 32° 36' 45.824 N | 104° 13' 10.685 W | | |
| 17,500.0 | | 269.68 | 8,771.0 8,771.0 | -155.8 -156.4 | -8,730.5 -8,830.5 | 586,659.70 586,659,14 | 576,246.36 576,146,36 | 32° 36' 45.819 N | 104° 13' 11.854 W | | |
| 17,600.0 17,700.0 | | 269.68 269.68 | 8,771.0 8,771.0 | -156.4 -157.0 | -8,830.5 -8,930.5 | 586,659.14 586,658.58 | 576,146.36 576,046.36 | 32° 36' 45.815 N 32° 36' 45.810 N | 104° 13' 13.023 W 104° 13' 14.192 W | | |
| 17,700.0 | | 269.68 | 8,771.0 | -157.5 | -9,030.5 | 586,658.02 | 575,946.36 | 32° 36' 45.806 N | 104° 13' 15.361 W | | |
| ,000.0 | 50.00 | _00.00 | 3,111.0 | .07.0 | 5,555.0 | 330,000.02 | 3. 3,5 .0.00 | J_ 00 10.000 N | | | |

Planning Report - Geographic

Database: Compass
Company: NEW MEXICO
Project: (SP) EDDY
Site: DAKOTA 32 PROJECT

DAKOTA 32 ST FED COM 204H

Wellbore: OWB Design: PWP0

Well:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well DAKOTA 32 ST FED COM 204H

kb @ 3370.0usft kb @ 3370.0usft

Grid

Minimum Curvature

| Planned Surv | r ey | | | | | | | | |
|-----------------------------|-----------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|------------------|-------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
| 17,821.0 | 90.00 | 269.68 | 8,771.0 | -157.7 | -9,051.4 | 586,657.90 | 575,925.40 | 32° 36′ 45.805 N | 104° 13' 15.606 W |
| NMNM | 025869 Entr | y at 17821.0 |) MD | | | | | | |
| 17,900.0 | 90.00 | 269.68 | 8,771.0 | -158.1 | -9,130.5 | 586,657.46 | 575,846.36 | 32° 36′ 45.801 N | 104° 13' 16.530 W |
| 18,000.0 | 90.00 | 269.68 | 8,771.0 | -158.7 | -9,230.5 | 586,656.90 | 575,746.37 | 32° 36' 45.797 N | 104° 13' 17.700 W |
| 18,100.0 | 90.00 | 269.68 | 8,771.0 | -159.2 | -9,330.5 | 586,656.33 | 575,646.37 | 32° 36′ 45.792 N | 104° 13' 18.869 W |
| 18,200.0 | 90.00 | 269.68 | 8,771.0 | -159.8 | -9,430.5 | 586,655.77 | 575,546.37 | 32° 36′ 45.788 N | 104° 13' 20.038 W |
| 18,300.0 | 90.00 | 269.68 | 8,771.0 | -160.3 | -9,530.5 | 586,655.21 | 575,446.37 | 32° 36' 45.783 N | 104° 13' 21.207 W |
| 18,400.0 | 90.00 | 269.68 | 8,771.0 | -160.9 | -9,630.5 | 586,654.65 | 575,346.37 | 32° 36' 45.779 N | 104° 13' 22.376 W |
| 18,500.0 | 90.00 | 269.68 | 8,771.0 | -161.5 | -9,730.5 | 586,654.09 | 575,246.37 | 32° 36' 45.774 N | 104° 13' 23.545 W |
| 18,600.0 | 90.00 | 269.68 | 8,771.0 | -162.0 | -9,830.5 | 586,653.53 | 575,146.38 | 32° 36′ 45.770 N | 104° 13' 24.715 W |
| 18,700.0 | 90.00 | 269.68 | 8,771.0 | -162.6 | -9,930.5 | 586,652.96 | 575,046.38 | 32° 36' 45.765 N | 104° 13' 25.884 W |
| 18,800.0 | 90.00 | 269.68 | 8,771.0 | -163.1 | -10,030.5 | 586,652.40 | 574,946.38 | 32° 36' 45.761 N | 104° 13' 27.053 W |
| 18,900.0 | 90.00 | 269.68 | 8,771.0 | -163.7 | -10,130.5 | 586,651.84 | 574,846.38 | 32° 36′ 45.756 N | 104° 13' 28.222 W |
| 19,000.0 | 90.00 | 269.68 | 8,771.0 | -164.3 | -10,230.5 | 586,651.28 | 574,746.38 | 32° 36′ 45.752 N | 104° 13' 29.391 W |
| 19,038.6 | 90.00 | 269.68 | 8,771.0 | -164.5 | -10,269.0 | 586,651.06 | 574,707.78 | 32° 36′ 45.750 N | 104° 13' 29.843 W |
| TD at 1 | 9038.6 | | | | | | | | |

| Design rangers | | | | | | | | | |
|--|----------------------|-----------------|-----------------------|------------------------|----------------------|------------------------------|-------------------|------------------|-------------------|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| LTP-DAKOTA 32 ST F - plan hits target co - Point | 0.00 enter | 0.00 | 8,771.0 | -164.0 | -10,177.0 | 586,651.58 | 574,799.81 | 32° 36' 45.754 N | 104° 13' 28.767 W |
| FTP-DAKOTA 32 ST F - plan misses targe - Point | 0.00 et center by | | 8,771.0 t 8675.0us | -105.7 ft MD (8629. | 194.0 1 TVD, -106 | 586,709.82 6.5 N, 56.2 E) | 585,170.85 | 32° 36' 46.209 N | 104° 11' 27.510 W |
| BHL-DAKOTA 32 ST I - plan hits target ce - Point | 0.00 enter | 0.00 | 8,771.0 | -164.5 | -10,269.1 | 586,651.06 | 574,707.75 | 32° 36' 45.750 N | 104° 13' 29.843 W |

| Plan Annotatio | ns | | | | |
|----------------|-----------------------------|-----------------------------|--------------------------------|----------------------------|---------------------------------|
| N | leasured Depth (usft) | Vertical Depth (usft) | Local Coord +N/-S (usft) | dinates +E/-W (usft) | Comment |
| | 2,000.0 | 2,000.0 | 0.0 | 0.0 | Start Build 2.00 |
| | 2,250.0 | 2,249.7 | -5.2 | 9.6 | Start 2285.1 hold at 2250.0 MD |
| | 4,535.1 | 4,526.0 | -100.5 | 184.4 | Start Drop -2.00 |
| | 4,785.1 | 4,775.7 | -105.7 | 194.0 | Start 3517.8 hold at 4785.1 MD |
| | 8,302.8 | 8,293.5 | -105.7 | 194.0 | Start DLS 12.00 TFO 269.68 |
| | 9,052.8 | 8,771.0 | -108.4 | -283.4 | Start 9985.8 hold at 9052.8 MD |
| | 13,773.0 | 8,771.0 | -134.9 | -5,003.5 | NMNM 004986 Entry at 13773.0 MD |
| | 17,821.0 | 8,771.0 | -157.7 | -9,051.4 | NMNM 025869 Entry at 17821.0 MD |
| | 19,038.6 | 8,771.0 | -164.5 | -10,269.0 | TD at 19038.6 |

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: Permian Resources Operating LLC
WELL NAME & NO.: Dakota 32 State Fed Com 204H
LOCATION: Sec 32-19S-28E-NMP

COUNTY: Eddy County, New Mexico

COA

| H_2S | 0 | No | Yes | | | |
|--------------|----------------------|-----------------------------|-----------------|----------------------------|--|--|
| Potash / | None | Secretary | C R-111-Q | ☐ Open Annulus | | |
| WIPP | | | | \square WIPP | | |
| Cave / Karst | C Low | C Low • Medium C | | | | |
| Wellhead | Conventional | Multibowl | O Both | Diverter | | |
| Cementing | ☐ Primary Squeeze | ☐ Cont. Squeeze | ☐ EchoMeter | □ DV Tool | | |
| Special Req | ☐ Capitan Reef | ☐ Water Disposal | ▼ COM | Unit | | |
| Waste Prev. | C Self-Certification | C Waste Min. Plan | APD Submitted p | rior to 06/10/2024 | | |
| Additional | ▼ Flex Hose | ☐ Casing Clearance | ☐ Pilot Hole | Break Testing | | |
| Language | ☐ Four-String | Offline Cementing | ☐ Fluid-Filled | | | |

A. HYDROGEN SULFIDE

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

B. CASING

- 1. The **13-3/8** inch surface casing shall be set at approximately **350** 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 <u>8 hours</u> or <u>500</u> 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 9-5/8 inch intermediate casing (set at 2700' per BLM geologist) 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.
- 3. 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 2nd 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 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. 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. <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following

- conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends 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.

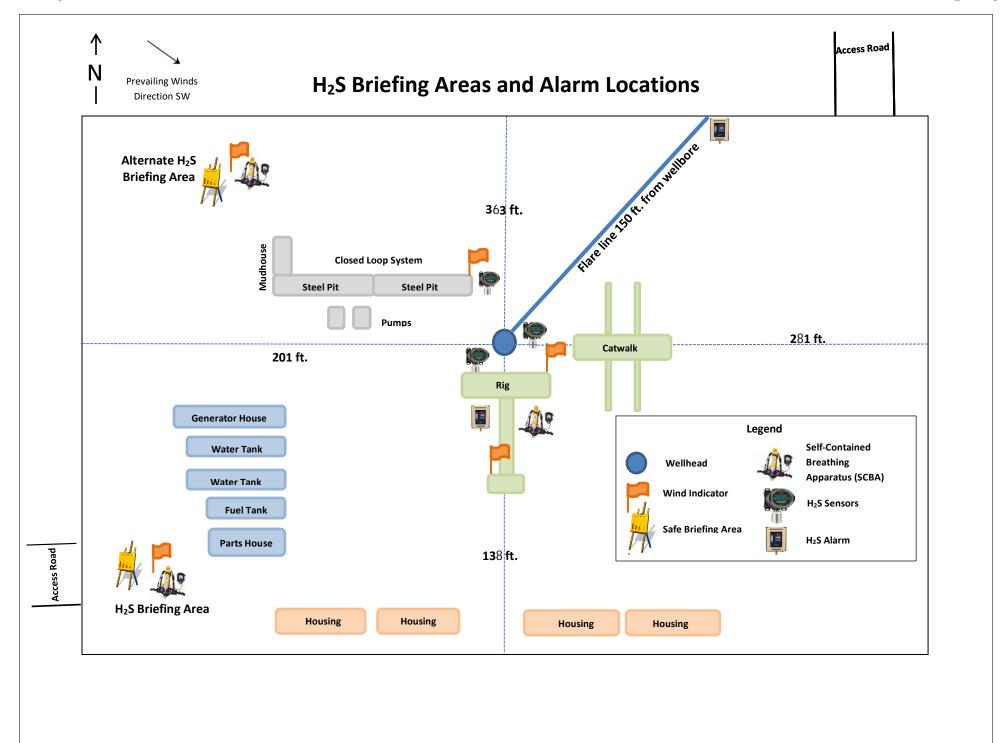
PERMIAN RESOURCES

H₂S CONTINGENCY PLAN

FOR

Permian Resources Corporation
Dakota 32 Fed Com 203H & 204H
Eddy County, New Mexico

03-26-2024
This plan is subject to updating



Permian Resources Corporation H₂S Contingency Plan
Dakota 32 Fed Com 203H & 204H

Eddy County, New Mexico

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Section 1.0 – Introduction

I. Purpose

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico | | | |
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The purpose of this contingency plan (Plan) is to provide Permian Resources Corporation. (Permian Resources) with an organized plan of action for alerting and protecting Permian Resources employees, the general public, and any potential first responders prior to any intentional release or immediately following the accidental / unintentional release of a potentially hazardous volume / concentration of Hydrogen Sulfide Gas (H2S).

II. Scope & Applicability

This Plan applies to all planned, unplanned, uncontrolled and/or unauthorized releases of hazardous concentrations of H_2S or any associated hazardous byproducts of combustion, occurring at any Permian Resources owned or operated facilities including but not limited to: wells, flowlines, pipelines, tank batteries, production facilities, SWD facilities, compressor stations, gas processing plants, drilling / completions / workover operations, and any other applicable company owned property.

Section 2.0 - Plan Implementation

I. Activation Requirements

In accordance with the requirements of Bureau of Land Management Onshore Order #6 and NMAC 19.15.11, this Plan shall be activated in advance of any authorized, planned, unplanned, uncontrolled, or unauthorized release of a hazardous volume / concentration of H₂S gas, or SO², which could potentially adversely impact the workers, general public or the environment.

II. Emergency Evacuation

In the event of an unplanned, uncontrolled, or unauthorized release of a hazardous volume / concentration of H_2S gas, the first priority is to ensure the safety of the workers and general public. Upon discovery and subsequent determination of an applicable release, which cannot be quickly mitigated, immediately by using 911, notify local authorities to begin the process of alerting the general public, evacuate any residents within the Radius of Exposure (ROE), and limit any general public or employee access to any areas within the ROE of the affected facility.

III. Emergency Response Activities

The purpose of emergency response actions is to take steps to quickly mitigate / stop the ongoing release of the hazardous source of H_2S . Upon discovery of any hazardous release, immediately notify Permian Resources management to activate the Emergency Response Team (ERT). Once Permian Resources supervision arrives and assesses the situation, a work plan identifying the proper procedures shall be developed to stop the release.

Section 3.0 - Potential Hazardous Conditions & Response Actions

During a planned or unplanned release of H_2S , there are several hazardous conditions that are presented both to employees, the general public, and emergency responders. These specific hazardous conditions are identified in the tables below.

H2S OPERATING CONDITIONS – RESPONSE ACTIONS TO CONSIDER

Permian Resources Corporation H₂S Contingency Plan Eddy County, New Mexico
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| H ₂ S CONDITION 1: POTENTIAL DANGER TO LIFE AND HEALTH → WARNING SIG | GN |
|--|----|
| H ₂ S concentration <10 ppm detected by location monitors | |
| General Actions During Condition 1 | |
| Notify Site Supervisor / Permian Resources Person-in-Charge (PIC) of any observed increase in ambient H ₂ S concentrations | |
| All personnel check safety equipment is in adequate working order & store in accessible location | |
| Sensitize crews with safety meetings. | |
| Limit visitors and non-essential personnel on location | |
| Continuously monitor H ₂ S concentrations and check calibration of sensors | |
| Ensure H ₂ S scavenger is on location. | |
| H ₂ S CONDITION 2: MODERATE DANGER TO LIFE AND HEALTH → WARNING SIGN YELLOW | |
| H_2S concentration >10 ppm and < 30 ppm in atmosphere detected by location monitors: | |
| General Actions During Condition 2 | |
| Sound H ₂ S alarm and/or display yellow flag. | |
| Account for on-site personnel | |
| Upon sounding of an area or personal H ₂ 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). | |
| Don proper respiratory protection. | |
| Alert other affected personnel | |
| <u>If trained and safe to do so</u> undertake measures to control source H2S discharge and eliminate possible ignition sources. Initiate Emergency Shutdown procedures as deemed necessary to correct or control the specific situation. | |
| Account for on-site personnel at safe briefing area. | |
| Stay in safe briefing area if not working to correct the situation. | |
| Keep Site Supervisor / Permian Resources PIC informed. Notify applicable government agencies (Appendix A) If off-site impact; notify any neighbors within Radius of Exposure (ROE), Fig 5.11 | |
| Continuously monitor H ₂ S until readings below 10 ppm. | |
| 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. | |
| | |
| | |
| H ₂ S CONDITION 3: EXTREME DANGER TO LIFE AND HEALTH → WARNING SIGN RED | |

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| $> 30 \ ppm \ H_2S$ concentration in air detected by location monitors: Extreme danger to life | |
|---|---|
| General Actions During Condition 3 | |
| Sound H ₂ S alarm and/or display red flag. | |
| Account for on-site personnel | |
| Move away from H ₂ S source and get out of the affected area. | |
| Proceed to designated safe briefing area; alert other affected personnel. | |
| Account for personnel at safe briefing area. | |
| If trained and safe to do so undertake measures to control source H2S discharge and eliminate possible ignition sources. Initiate Emergency Shutdown procedures as deemed necessary to correct or control the specific situation. | |
| Notify vehicles or situation and divert all traffic away from location. | |
| Permian Resources Peron-in-Charge will make appropriate community notifications. | |
| Red warning flag must be on display until the situation has been corrected and the Permian Resources Person-in-Charge determines it is safe to resume operations under Condition 1. | |
| Notify management of the condition and action taken. If H_2S concentration is increasing and steps to correct the situation are not successful – or at any time if well control is questionable – alert all responsible parties for possible activation of the H_2S Contingency Plan. If well control at the surface is lost, determine if situation warrants igniting the well. | |
| If uncontrolled flow at the surface occurs, the Permian Resources PIC, with approval, if possible, from those coordinating the emergency (as specified in the site-specific H ₂ S Contingency Plan) are responsible for determining if the situation warrants igniting the flow of the uncontrolled well. This decision should be made only as a last resort and in a situation where it is obvious that human life is in danger and there is no hope of controlling the flow under prevailing conditions. | |
| If the flow is ignited, burning H ₂ S will be converted to sulfur dioxide (SO ₂), which is also highly toxic. Do not assume that area is safe after the flow is ignited. If the well is ignited, evacuation of the area is mandatory, because SO ₂ will remain in low-lying places under no-wind conditions. | |
| Keep Site Supervisor / Permian Resources PIC informed. Notify applicable government agencies and local law enforcement (Appendix A) If off-site impact; notify any neighbors within the Radius of Exposure (ROE), see example in Figure 5-11. | |
| Continuously monitor H ₂ S until readings fall below 10 ppm. | |
| 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. | ٥ |
| IF ABOVE ACTIONS CANNOT BE ACCOMPLISHED IN TIME TO PREVENT EXPOSURE TO THE PUBLIC | |
| Alert public (directly or through appropriate government agencies) who may be subject to potentially harmful exposure levels. | |
| Make recommendations to public officials regarding blocking unauthorized access to the unsafe area and assist as appropriate. | |

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| Make recommendations to public officials regarding evacuating the public and assist as appropriate. | |
|---|--|
| Monitor ambient air in the area of exposure (after following abatement measures) to determine when it is safe for re-entry. | |

Section 4.0 - Notification of H₂S Release Event

I. Local & State Law Enforcement

Prior to the planned / controlled release of a hazardous concentration of H_2S gas or any associated byproducts of the combustion of H_2S 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_2S 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_2S 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 Permian Resources HSE Department will make any applicable notification to the New Mexico OCD regarding any release of a hazardous concentration of H_2S Gas or any associated byproducts of combustion.

IV. New Mexico Environment Department

The Permian Resources HSE Department will make any applicable notifications to the NMED regarding any release of a hazardous concentration of H_2S gas or any associated byproducts of combustion.

V. Bureau of Land Management

The Permian Resources Regulatory Department will make any applicable notifications to the BLM regarding any release of a hazardous concentration of H_2S gas or any associated byproducts of combustion.

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Section 5.0 - Emergency Contact List

| EMERGENCY CONTACT LIST | | | | | | | | | |
|--|-------------------|--------------|----------------|-----|--|--|--|--|--|
| PERMIAN RESOURCES CORPORATION. | | | | | | | | | |
| POSITION NAME OFFICE CELL ALT PHON | | | | | | | | | |
| Operations | | | | | | | | | |
| Operations Superintendent | Rick Lawson | | 432.530.3188 | | | | | | |
| TX Operations Superintendent | Josh Graham | 432.940.3191 | 432.940.3191 | | | | | | |
| NM Operations Superintendent | Manual Mata | 432.664.0278 | 575.408.0216 | | | | | | |
| Drilling Manager | Jason Fitzgerald | 432.315.0146 | 318.347.3916 | | | | | | |
| Drilling Engineer | Parker Simmons | 432.400.1038 | 281.536.9813 | | | | | | |
| Production Manager | Levi Harris | 432.219.8568 | 720.261.4633 | | | | | | |
| SVP Development Ops | Clayton Smith | 720.499.1416 | 361.215.2494 | | | | | | |
| SVP Production Ops | Casey McCain | 432.695.4239 | 432.664.6140 | | | | | | |
| | HSE & Regulatory | | | | | | | | |
| H&S Manager | Adam Hicks | 720.499.2377 | 903.426.4556 | | | | | | |
| Regulatory Manager | Stephanie Rabadue | | 432.260.4388 | | | | | | |
| Environmental Manager | Montgomery Floyd | 432-315-0123 | 432-425-8321 | | | | | | |
| | | | | | | | | | |
| HSE Consultant | Blake Wisdom | | 918-323-2343 | | | | | | |
| L | ocal, State, & F | ederal Agend | cies | | | | | | |
| Eddy County Sheriff | | 575-887-7551 | | 911 | | | | | |
| New Mexico State Highway Patrol | | 505-757-2297 | | 911 | | | | | |
| Carlsbad Fire / EMS | | 575-885-3125 | | 911 | | | | | |
| Carlsbad Memorial Hospital | | 575-887-4100 | | | | | | | |
| Secorp – Safety Contractor | Ricky Stephens | | (325)-262-0707 | | | | | | |
| New Mexico Oil Conservation Division – District 1 Office – Hobbs, NM. | | 575-393-6161 | | | | | | | |
| New Mexico Environment Department – District III Office – Hobbs, NM | | 575-397-6910 | | | | | | | |
| New Mexico Oil Conservation Division – Hobbs, NM | 24 Hour Emergency | 575-393-6161 | | | | | | | |
| Bureau of Land Management – Carlsbad, NM | | 575-234-5972 | | | | | | | |
| U.S. Fish & Wildlife 502-248-6911 | | | | | | | | | |

Section 6.0 – Drilling Location Information

I. Site Safety Information

1. Safe Briefing Area

a. There shall be two areas that will be designated as "SAFE BRIEFING AREAs". If H₂S is detected in concentrations equal to or in excess of 10 ppm all personnel not assigned emergency duties are to assemble in the designated Safe Briefing area for instructions. These two areas shall be positioned in accessible locations to facilitate the availability of self-contained breathing air devices. The briefing areas shall be positioned no less than 250' from the wellhead and in such locations that at least one briefing area will be upwind from the well at all times.

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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.

DANGER POISONOUS GAS HYDROGEN SULFIDE DO NOT APPROACH IF AMBER LIGHTS ARE FLASHING

4. H₂S Detectors and Alarms

a. Continuous monitoring type H_2S detectors, capable of sensing a minimum of 5ppm H_2S in air will be located centrally located at the tanks, heater treater, and combustor. Continuous monitoring type SO_2 detector will also be located at the combustor. The automatic H_2S 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_2S .

8. Metallurgy

a. All drill strings, casing, tubing, wellhead, BOP, spools, kill lines, choke manifold and lines, and valves shall be suitable for anticipated H₂S 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.

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II. Directions to Location

BEGINNING AT THE INTERSECTION OF U.S. HIGHWAY 62 AND GEORGE SHOUP RELIEF RTE IN CARLSBAD, NEW MEXICO, PROCEED IN A NORTHWEST DIRECTION FOR 5.1 MILES THEN TURN RIGHT ONTO N CANAL ST. PROCEED 0.7 MILES TO ILLINOIS CAMP RD AND STAY STRAIGHT FOR 10.6 MILES. TURN RIGHT AND TRAVEL 0.4 MILES THEN TURN LEFT AT THE FIRST CROSS STREET. CONTINUE 0.9 MILES THEN TURN RIGHT AND TRAVEL 1.0 MILES. TURN RIGHT ONTO LEASE ROAD AND ARRIVE AT LOCATION IN 1.2 MILES.

TOTAL DISTANCE FROM CARLSBAD, NEW MEXICO TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 19.9 MILES.

Permian Resources Corporation H₂S Contingency Plan Eddy County, New Mexico Dakota 32 Fed Com 203H & 204H

| Plat | of Loca | ation | | | | | | | | |
|---|---|--|--|---|--|---|---|---|--|---|
| District I 1625 N. French Dr., District II 811 S. First St., Arte District III 1000 Rio Brazon Re District IV 1220 S. St. Francis D Phone: (505) 476-34 | 210 NM 87410 05 | Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Revised August 1, 2 Submit one copy to appropr District Of | | | | Form C-102 vised August 1, 2011 e copy to appropriate District Office MENDED REPORT | | | | |
| 1. | PI Numbe | | ELL LOC | ATION | | EAGE DEDIC | ATION PLA | | | |
| | | | | root Co | ue | | Poor Na | me | | |
| A Property C | ode | | | DA | Froperty AKOTA 32 STA | Name | | | | Well Number #203H |
| 7 OGRID N | No. | | | | ³ Operator | Name | | | | Elevation |
| | | | | PERIMA | | S OPERATING, Location | LLC | | | 3,340' |
| UL or lot no. | Section 32 | Township 19 S | Range 28 E | Lot Idn | Feet from the | North/South line | Feet from the 300' | East/We | | County EDDY |
| | | | | tom F | , , , , | on If Differen | | | | |
| UL or lot no. L | Section 31 | Township 19 S | Range 28 E | Lot Idn | Feet from the 2,310' | North/South line SOUTH | Feet from the 10' | East/We | - 1 | County EDDY |
| 12 Dedicated Acres | 13 Joint o | r Infill | Consolidation | Code 15 C | Order No. | | | | | |
| | | | | | | | | | | |
| No allowable v the division. | vill be as | signed to t | this comple | tion until | all interests hav | e been consolidate | d or a non-stan | dard unit | t has bee | n approved by |
| 16 | | | | | | | "OPF | DATOR | CEDTH | FICATION |
| LTP-\ | 0 | SECTION | 86 | © | SECTION 32 | | herein is tr knowledge a either owns interest in hole location this location of such a n voluntary p | ue and com nd belief, o a working the land in t or has a t pursuant tineral or t poling agree | uplete to the ind that to interest o cluding the right to do to a contr working in ment or a | tion contained his organization this organization or unleased mineral to proposed bottom rill this well at act with an owner stress, or to a compulsory y the division. |
| BHL | <u> </u> | | - | mm | P TO LTP = 10,191.00' | (E) | Signature | | | Date |
| 2310- | 10 | | PPP2 | 98 | LG27250001 | 90° | Printed Name | 3 | | Date |
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| € | | (1) | () |) | $^{\oplus}$ | © | " SUR | VEYOR | CERTIF | TICATION |
| SURFACE HOLE LOV | INT FEL MAND 83 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | E-FOUND IRON N:590,907. F-FOUND IRON N:588,276. G-FOUND IRON N:585,641. H-FOUND IRON | INIT 1 2.31 NEW MIN NE | AP I-FOUND IF N:585, AP J-FOUND II N:585, AP K-FOUND II N:585, AP L-CAI | 2,310° PSL 8, 100° PS New Medico Easth. NORTH:587,693.00 EAST:575,693.00 LATE,251012000 LONG-104 223908 27 New Medico Easth. NORTH:587,833.44 EAST:533,880.02 LATE,251001000 LONG-104 223299 | ML 2,310 PSL 8 10 PML MB M MEXICO EAST-NAI MD83 NORTH-587, 364 S4* EAST-574,987.98* LAT-32,81612552 18 LONG-104 22410714 MD27 NEW MEXICO EAST-NAI MD7 | shown or field me or us the same best of n Date: 9/5/20 | thi pla es of act der my is true ny belief | t was p ual surr supervi: and cor | well location lotted from yeys made by sion, and that rect to the |
| | | | | 1 | | | | 0 | - | |
| | | | | | | | | | | |

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

1. Routes of Ingress & Egress (MAP)



2. Residences in proximity to the 3000' Radius of Exposure (ROE) (MAP)

There are no residences or public gathering places with the 3000' ROE, 100 PPM, 300 PPM, or 500 PPM ROE.

Permian Resources Corporation H₂S Contingency Plan Eddy County, New Mexico
Dakota 32 Fed Com 203H & 204H

Map of 3000' ROE Perimeter



100 PPM, 300 PPM, & 500 PPM Max ROE under worst case scenario

| Enter H₂S in PPM | 1500 | |
|---|------------|------|
| Enter Gas flow in mcf/day (maximum worst case conditions) | 2500 | |
| 500 ppm radius of exposure (public road) | <u>105</u> | feet |
| 300 ppm radius of exposure | <u>146</u> | feet |
| 100 ppm radius of exposure (public area) | <u>230</u> | feet |

- Location NAD 83 GPS Coordinates Lat: 32.61321770, Long: -104.19159731
- 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 206, which is 1.95 miles from the location.

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Section 7.0 - Hazard Communication

I. Physical Characteristics of Hydrogen Sulfide Gas

Hydrogen sulfide (H_2S) is a colorless, poisonous gas that is soluble in water. It can be present in crude oils, condensates, natural gas and wastewater streams.

 H_2S is heavier than air with a vapor density of 1.189 (air = 1.0); however, H_2S is most often mixed with other gases. These mixtures of H_2S and other gases can be heavier or lighter than air. If the H_2S -containing mixture is heavier, it can collect in low areas such as ditches, ravines, firewalls, and pits; in storage tanks; and in areas of poor ventilation. Please see physical properties in **Table 7.0.**

With H₂S the sense of smell is rapidly lost allowing lethal concentrations to be accumulated without warning. The toxicity of hydrogen sulfide at varying concentrations is indicated in the **Table 7.1.**

Warning: Do not use the mouth-to-mouth method if a victim ingested or inhaled hydrogen sulfide. Give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Table 7.0. Physical Properties of H₂S

| Properties of H2S | Description | |
|--|--|--|
| Vapor Density > 1 = 1.189 Air = 1 | H2S gas is slightly heavier than air, which can cause it to settle in low places and build in concentration. Produced as a mixture with other gases associated with oil and gas production. | |
| Flammable Range 4.3%-46% 43000 ppm – 460000 ppm | H2S can be extremely flammable / explosive when these concentrations are reached by volume in air. | |

Although H_2S is primarily a respiratory hazard, it is also flammable and forms an explosive mixture at concentrations of 4.3%–46.0% (40,000ppm – 460,000 ppm) by volume in air.

H₂S can be encountered when:

- Venting and draining equipment.
- Opening equipment (separators, pumps, and tanks).
- Opening piping connections ("line breaking").
- Gauging and sampling storage tanks.
- Entering confined spaces.
- Working around wastewater pits, skimmers, and treatment facilities.
- II. Human Health Hazards Toxicological Information

Table 7.1. Hazards & Toxicity

| Concentration | Symptoms/Effects | |
|---------------|------------------|--|
| (ppm) | | |

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

| 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_2S and its associated byproducts from combustion presents a serious environmental hazard. Sulphur Dioxide SO_2 is produced as a constituent of flaring H_2S Gas and can present hazards associated, which are similar to H_2S . Although SO_2 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.

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
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| SULFUR DIOXIDE TOXICITY | | | |
|-------------------------|--------|--|--|
| Concentration Effects | | Effects | |
| %SO ₂ | PPM | | |
| 0.0005 | 3 to 5 | Pungent odor-normally a person can detect SO ₂ in this range. | |
| 0.0012 | 12 | Throat irritation, coughing, and constriction of the chest tearing and smarting of eyes. | |
| 0.15 | 150 | So irritating that it can only be endured for a few minutes. | |
| 0.05 | 500 | Causes a sense of suffocation, even with first breath. | |

Section 8.0 - Regulatory Information

I. OSHA & NIOSH Information

II. Table 8.0. OSHA & NIOSH H₂S Information

| ii. Table 6.6. OshiA & MOShi H25 information | | |
|---|---|--|
| PEL, IDLH, TLV | Description | |
| NIOSH PEL 10 PPM | PEL is the Permissible Exposure Limit that an employee may be exposed up to 8 hr / day. | |
| OSHA General Industry Ceiling PEL – 20 PPM | The maximum exposure limit, which cannot be exceeded for any length of time. | |
| IDLH 100 PPM | ■ Immediately Dangerous to Life and Health | |
| Permian Resources PEL 10 PPM | Permian Resources Policy Regarding H2S for employee safety | |

III. New Mexico OCD & BLM – H₂S Concentration Threshold Requirements

New Mexico NMAC 19.15.11 and Onshore Order #6 identify two Radii of Exposure (ROE) that identify potential danger to the public and require additional compliance measures. Permian Resources is required to install safety devices, establish safety procedures and develop a written H_2S contingency plan for sites where the H_2S concentrations are as follows.

Table 8.1. Calculating H₂S Radius of Exposure

| H₂S Radius of Exposure | Description | Control and Equipment Requirements |
|---------------------------|---|---|
| 100 ppm | Distance from a release to where the H ₂ S concentration in the air will dilute below 100ppm | ROE > 50-ft and includes any part of a "public area" (residence, school, business, etc., or any area that can be expected to be populated). ROE > 3,000-ft |
| 500 ppm | Distance from a release to where the H ₂ S concentration in the air will dilute below 500ppm | ROE > 50-ft and includes any part of a public road (public roads are tax supported roads or any road used for public access or use) |

Calculating H₂S Radius of Exposure

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

The ROE of an H_2S release is calculated to determine if a potentially hazardous volume of H_2S gas at 100 or 500 parts per million (ppm) is within a regulated distance requiring further action. If information about the concentration of H_2S 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**:

 $x = [(1.589) \text{ (mole fraction } H_2S)(Q)]^{(.6258)}.$

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

 $x = [(0.4546) \text{ (mole fraction H}_2S)(Q)]^{(.6258)}.$

Table 8.2. Calculating H2S 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 (ft³/d) normalized to standard temperature and pressure, 60°F and 14.65 psia |
| Mole fraction H₂S = | Mole fraction of H ₂ 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 H₂S 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 H₂S ROE cases is included in **Table 8.3**.
 - o **CASE 1 -100** ppm ROE < 50'
 - o 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

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

| PROVISION | CASE 1 | CASE 2 | CASE 3 |
|---|--------|--------|--------|
| H ₂ S Concentration Test | X | X | X |
| H-9 | X | X | X |
| Training | X | X | X |
| District Office Notification | X | X | X |
| Drill Stem Tests Restricted | X* | X* | X |
| BOP Test | X* | X* | X |
| Materials | | X | X |
| Warning and Marker | | X | X |
| Security | | X | X |
| Contingency Plan | | | X |
| Control and Equipment Safety | | | X |
| Monitors | | X** | X** |
| Mud (ph Control or Scavenger) | | | X* |
| Wind Indicators | | X** | X |
| Protective Breathing Equipment | | X** | X |
| Choke Manifold, Secondary Remote Control, and Mud-Gas Separator | | | X |
| Flare Stacks | | | X* |

Section 9.0 - Training Requirements

Training

The following elements are considered a minimum level of training for personnel assigned to operations who may encounter H_2S as part of routine or maintenance work.

- The hazards, characteristics, and properties of hydrogen sulfide (H₂S) and (SO₂).
- Sources of H₂S and SO₂.
- Proper use of H₂S and SO₂ detection methods used at the workplace.
- Recognition of, and proper response to, the warning signals initiated by H₂S and SO₂ detection systems in use at the workplace.
- Symptoms of H₂S exposure; symptoms of SO₂ exposure
- Rescue techniques and first aid to victims of H₂S and SO₂ exposure.
- Proper use and maintenance of breathing equipment for working in H₂S and SO₂ atmospheres, as appropriate theory and hands-on practice, with demonstrated proficiency (29 CFR Part 1910.134).
- Workplace practices and relevant maintenance procedures that have been established to protect personnel from the hazards of H₂S and SO₂.
- Wind direction awareness and routes of egress.
- Confined space and enclosed facility entry procedures (if applicable).
- Emergency response procedures that have been developed for the facility or operations.
- Locations and use of safety equipment.
- Locations of safe briefing areas.

Refresher training will be conducted annually.

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

Section 10.0 - Personal Protective Equipment

I. Personal H₂S Monitors

All personnel engaged in planned or unplanned work activity to mitigate the release of a hazardous concentration of H₂S shall have on their person a personal H2S monitor.

I. Fixed H₂S Detection and Alarms

- 4 channel H₂S monitor
- 4 wireless H₂S monitors
- H₂S 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 H₂S 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 H₂S levels present, or if initial measurements are to be taken of H₂S levels.
- During rescue of employees suspected of H₂S 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.

| Permian Resources Corporation | H₂S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |

Appendix A H₂S SDS **Permian Resources Corporation** H₂S Contingency Plan Dakota 32 Fed Com 203H & 204H

Eddy County, New Mexico



Hydrogen sulfide

Safety Data Sheet E-4611

according to the Hazardous Products Regulation (February 11, 2015)
Date of issue: 10-15-1979 Revision date: 08-10-2016 St

Supersedes: 10-15-2013

SECTION 1: Identification

1.1. Product identifier

Product form : Substance Name Hydrogen sulfide CAS No : 7783-06-4 Formula : H2S Other means of identification Hydrogen sulfide Product group Core Products

1.2. Recommended use and restrictions on use

Industrial use Use as directed Recommended uses and restrictions

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

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

GHS Label elements, including precautionary statements

GHS-CA labelling

Signal word

Hazard pictograms









: DANGER

: EXTREMELY FLAMMABLE GAS 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

Do not handle until all safety precautions have been read and understood Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

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Do not breathe gas

Use and store only outdoors or in a well-ventilated area

Avoid release to the environment

Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face

rotection

Leaking gas fire: Do not extinguish, unless leak can be stopped safely

In case of leakage, eliminate all ignition sources

Store locked up

Dispose of contents/container in accordance with container Supplier/owner instructions

Protect from sunlight when ambient temperature exceeds 52°C (125°F)

Close valve after each use and when empty

Do not open valve until connected to equipment prepared for use When returning cylinder, install leak tight valve outlet cap or plug

Do not depend on odour to detect the presence of gas

2.3. Other hazards

Other hazards not contributing to the classification

: Contact with liquid may cause cold burns/frostbite.

2.4. Unknown acute toxicity (GHS-CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

| Name | CAS No. | % (Vol.) | Common Name (synonyms) |
|--|--------------------|----------|--|
| Hydrogen sulfide (Main constituent) | (CAS No) 7783-06-4 | | Hydrogen sulfide (H2S) / Hydrogen sulphide / Sulfur hydride / Sulfureted hydrogen / Dihydrogen sulphide / Hydrogensulfide |

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

: Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.

First-aid measures after skin contact

: The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

First-aid measures after ingestion

: Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment

: Obtain medical assistance. Treat with corticosteroid spray as soon as possible after inhalation.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media

: Carbon dioxide, Dry chemical, Water spray or fog. Use extinguishing media appropriate for surrounding fire.

5.2. Unsuitable extinguishing media

No additional information available

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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 way 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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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store only where temperature will not exceed 125°F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g., NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

| SECTION 8: Exposure of | ontrols/personal protection | |
|-----------------------------|-----------------------------|----------|
| 8.1. Control parameters | | |
| Hydrogen sulfide (7783-06-4 |) | |
| USA - ACGIH | ACGIH TLV-TWA (ppm) | 1 ppm |
| USA - ACGIH | ACGIH TLV-STEL (ppm) | 5 ppm |
| USA - OSHA | OSHA PEL (Ceiling) (ppm) | 20 ppm |
| Canada (Quebec) | VECD (mg/m³) | 21 mg/m³ |
| Canada (Quebec) | VECD (ppm) | 15 ppm |
| Canada (Quebec) | VEMP (mg/m³) | 14 mg/m³ |
| Canada (Quebec) | VEMP (ppm) | 10 ppm |
| Alberta | OEL Ceiling (mg/m³) | 21 mg/m³ |
| Alberta | OEL Ceiling (ppm) | 15 ppm |
| Alberta | OEL TWA (mg/m³) | 14 mg/m³ |
| Alberta | OEL TWA (ppm) | 10 ppm |
| British Columbia | OEL Ceiling (ppm) | 10 ppm |
| Manitoba | OEL STEL (ppm) | 5 ppm |
| Manitoba | OEL TWA (ppm) | 1 ppm |
| New Brunswick | OEL STEL (mg/m³) | 21 mg/m³ |
| New Brunswick | OEL STEL (ppm) | 15 ppm |
| New Brunswick | OEL TWA (mg/m³) | 14 mg/m³ |
| New Brunswick | OEL TWA (ppm) | 10 ppm |
| New Foundland & Labrador | OEL STEL (ppm) | 5 ppm |
| New Foundland & Labrador | OEL TWA (ppm) | 1 ppm |
| Nova Scotia | OEL STEL (ppm) | 5 ppm |
| Nova Scotia | OEL TWA (ppm) | 1 ppm |
| Nunavut | OEL Ceiling (mg/m³) | 28 mg/m³ |
| Nunavut | OEL Ceiling (ppm) | 20 ppm |
| Nunavut | OEL STEL (mg/m³) | 21 mg/m³ |
| Nunavut | OEL STEL (ppm) | 15 ppm |
| Nunavut | OEL TWA (mg/m³) | 14 mg/m³ |
| Nunavut | OEL TWA (ppm) | 10 ppm |
| Northwest Territories | OEL STEL (ppm) | 15 ppm |

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Hydrogen sulfide

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according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 10-15-1979 Revision date: 08-10-2016 Supersedes: 10-15-2013

| Hydrogen sulfide (7783-06-4) | | |
|------------------------------|------------------|----------|
| Northwest Territories | OEL TWA (ppm) | 10 ppm |
| Ontario | OEL STEL (ppm) | 15 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/m³) | 21 mg/m³ |
| Québec | VECD (ppm) | 15 ppm |
| Québec | VEMP (mg/m³) | 14 mg/m³ |
| Québec | VEMP (ppm) | 10 ppm |
| Saskatchewan | OEL STEL (ppm) | 15 ppm |
| Saskatchewan | OEL TWA (ppm) | 10 ppm |
| Yukon | OEL STEL (mg/m³) | 27 mg/m³ |
| Yukon | OEL STEL (ppm) | 15 ppm |
| Yukon | OEL TWA (mg/m³) | 15 mg/m³ |
| 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 transfilling or breaking transfer connections. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local by

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 transfilling 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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: Not applicable. рΗ pH solution : No data available Relative evaporation rate (butylacetate=1) : No data available Relative evaporation rate (ether=1) : Not applicable. Melting point : -86 °C : -82.9 °C Freezing point Boiling point : -60.3 °C Flash point : Not applicable. Critical temperature : 100.4 °C : 260 °C Auto-ignition temperature Decomposition temperature : No data available : 1880 kPa Vapour pressure Vapour pressure at 50 °C : No data available

Critical pressure : 8940 kPa Relative vapour density at 20 °C : >=

Relative density : No data available

Relative density of saturated gas/air mixture : No data available Density : No data available

Relative gas density : 1.2

Solubility : Water: 3980 mg/l Log Pow : Not applicable. : Not applicable. Log Kow Viscosity, kinematic : Not applicable. : Not applicable. Viscosity, dynamic Viscosity, kinematic (calculated value) (40 °C) : No data available Explosive properties : Not applicable. Oxidizing properties : None. Flammability (solid, gas)

4.3 - 46 vol %

9.2. Other information

: Liquefied gas Gas group

Additional information Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below

ground level

SECTION 10: Stability and reactivity

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

Chemical stability : Stable under normal conditions

Possibility of hazardous reactions : May react violently with oxidants. Can form explosive mixture with air.

Conditions to avoid : Avoid moisture in installation systems. Keep away from heat/sparks/open flames/hot surfaces.

: Ammonia. Bases. Bromine pentafluoride. Chlorine trifluoride. chromium trioxide. (and heat). Incompatible materials Copper (powdered), Fluorine, Lead, Lead oxide, Mercury, Nitric acid, Nitrogen trifluoride, nitrogen sulfide, Organic compounds, Oxidizing agents, Oxygen difluoride, Rubber, Sodium.

(and moisture). Water.

Hazardous decomposition products : Thermal decomposition may produce : Sulfur. Hydrogen.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified

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

| Hydrogen sulfide (\f)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 : Not classified

exposure)

Aspiration hazard : Not classified

| SECTION | 12: Eco | logical | 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: Lepomis macrochirus [flow-through]) |
| LC50 fish 2 | 0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [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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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

TDG

UN-No. (TDG) : UN1053

TDG Primary Hazard Classes : 2.3 - Class 2.3 - Toxic Gas.

TDG Subsidiary Classes : 2.1

Proper shipping name : HYDROGEN SULPHIDE

ERAP Index : 500 Explosive Limit and Limited Quantity Index : 0 Passenger Carrying Ship Index : Forbidden Passenger Carrying Road Vehicle or Passenger : Forbidden

Carrying Railway Vehicle Index

14.3. Air and sea transport

UN-No. (IMDG) : 1053

Proper Shipping Name (IMDG) : HYDROGEN SULPHIDE

Class (IMDG) : 2 - Gases MFAG-No : 117

: 1053 UN-No. (IATA)

Proper Shipping Name (IATA) : Hydrogen sulphide

Class (IATA) : 2

SECTION 15: Regulatory information

15.1. National regulations

Hydrogen sulfide (7783-06-4)

Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

Hydrogen sulfide (7783-06-4)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on INSQ (Mexican national Inventory of Chemical Substances)

SECTION 16: Other information

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Indication of changes:

Training advice : Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

Ensure operators understand the flammability hazard.

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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

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. 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

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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EN (English)

SO₂ SDS



Safety Data Sheet

Material Name: SULFUR DIOXIDE SDS ID: MAT22290

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SULFUR DIOXIDE

Synonyms

MTG MSDS 80; SULFUROUS ACID ANHYDRIDE; SULFUROUS OXIDE; SULPHUR DIOXIDE; SULFUROUS ANHYDRIDE; FERMENTICIDE LIQUID; SULFUR DIOXIDE(SO2); SULFUR OXIDE; SULFUR OXIDE(SO2)

Chemical Family

inorganic, gas

Product Description

Classification determined in accordance with Compressed Gas Association standards.

Product Use

Industrial and Specialty Gas Applications.

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

MATHESON TRI-GAS, INC.

3 Mountainview Road

3 Mountainview K

Warren, NJ 07059

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC) Outside the US: 703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Gases Under Pressure - Liquefied gas

Acute Toxicity - Inhalation - Gas - Category 3

Skin Corrosion/Irritation - Category 1B

Serious Eye Damage/Eye Irritation - Category 1 Simple Asphyxiant

GHS Label Elements

Symbol(s)







Signal Word

Danger

Hazard Statement(s)

Contains gas under pressure; may explode if heated.

Toxic if inhaled.

Causes severe skin burns and eye damage.

May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)

Prevention

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

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Safety Data Sheet

Material Name: SULFUR DIOXIDE

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.

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 |
| Cd A FIRST AID MEACURES | | |

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.

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.

Eves

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

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

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the Chemical

Negligible fire hazard.

Hazardous Combustion Products

sulfur oxides

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Keep unnecessary people away, isolate hazard area and deny entry.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

Ventilate closed spaces before entering. Evacuation radius: 150 feet. Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin, or on clothing. Do not breathe gas, fumes, vapor, or spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Keep only in original container. Avoid release to the environment.

Conditions for Safe Storage, Including any Incompatibilities

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

Store locked up.

Protect from sunlight.

Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store outside or in a detached building. Keep separated from incompatible substances.

Incompatible Materials

bases, combustible materials, halogens, metal carbide, metal oxides, metals, oxidizing materials, peroxides, reducing agents

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

| Component Exposure Limits | | |
|---------------------------|---------------|--|
| Sulfur dioxide | 7446-09-5 | |
| ACGIH: | 0.25 ppm STEL | |

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Material Name: SULFUR DIOXIDE

| NIOSH: | 2 ppm TWA ; 5 mg/m3 TWA | |
|------------|---------------------------|--|
| | 5 ppm STEL; 13 mg/m3 STEL | |
| | 100 ppm IDLH | |
| OSHA (US): | 5 ppm TWA; 13 mg/m3 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 | рН | (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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Safety Data Sheet

Material Name: SULFUR DIOXIDE SDS ID: MAT22290

| Water Solubility | 22.8 % (@ 0 °C) | Partition coefficient: n- octanol/water | Not available |
|--------------------|------------------|--|---------------|
| Viscosity | Not available | Kinematic viscosity | Not available |
| Solubility (Other) | Not available | Density | Not available |
| Physical Form | liquified gas | Molecular Formula | S-O2 |
| Molecular Weight | 64.06 | | |

Solvent Solubility

Soluble

alcohol, acetic acid, sulfuric acid, ether, chloroform, Benzene, sulfuryl chloride, nitrobenzenes, Toluene, acetone

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Minimize contact with material. Containers may rupture or explode if exposed to heat.

Incompatible Materials

bases, combustible materials, halogens, metal carbide, metal oxides, metals, oxidizing materials, peroxides, reducing agents

Hazardous decomposition products

oxides of sulfur

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Toxic if inhaled. Causes damage to respiratory system, burns, difficulty breathing

Skin Contact

skin burns

Eye Contact

eye burns

Ingestion

burns, nausea, vomiting, diarrhea, stomach pain

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Sulfur dioxide (7446-09-5)

Inhalation LC50 Rat 965 - 1168 ppm 4 h

Product Toxicity Data Acute Toxicity Estimate

No data available.

Immediate Effects

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Material Name: SULFUR DIOXIDE

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 LOLI 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

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Safety Data Sheet

Material Name: SULFUR DIOXIDE

Hazard Class: 2.3 UN/NA #: UN1079 Required Label(s): 2.3

IMDG Information:

Shipping Name: SULPHUR DIOXIDE

Hazard Class: 2.3 UN#: UN1079 Required Label(s): 2.3

TDG Information:

Shipping Name: SULFUR DIOXIDE

Hazard Class: 2.3 UN#: UN1079 Required Label(s): 2.3

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

| Sulfur dioxide | 7446-09-5 |
|----------------|----------------------|
| SARA 302: | 500 lb TPQ |
| OSHA (safety): | 1000 lb TQ (Liquid) |
| SARA 304: | 500 lb EPCRA RQ |

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Gas Under Pressure; Acute toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Simple Asphyxiant

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS | CA | MA | MN | NJ | PA |
|----------------|-----------|-----|-----|-----|-----|-----|
| Sulfur dioxide | 7446-09-5 | Yes | Yes | Yes | Yes | Yes |

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)



WARNING

This product can expose you to chemicals including Sulfur dioxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Page 7 of 9 Issue date: 2021-01-30 Revision 8.0 Print date: 2021-01-30

| Permian Resources Corporation | H ₂ S Contingency Plan | Eddy County, New Mexico |
|-------------------------------|-----------------------------------|-------------------------|
| | Dakota 32 Fed Com 203H & 204H | |



Safety Data Sheet

Material Name: SULFUR DIOXIDE

| SDSI | D: MA | T22290 | |
|------|-------|--------|--|
|------|-------|--------|--|

| 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

ACGIH - 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; Sc - Semi-quantitative; STEL - Short-term Exposure Limit;

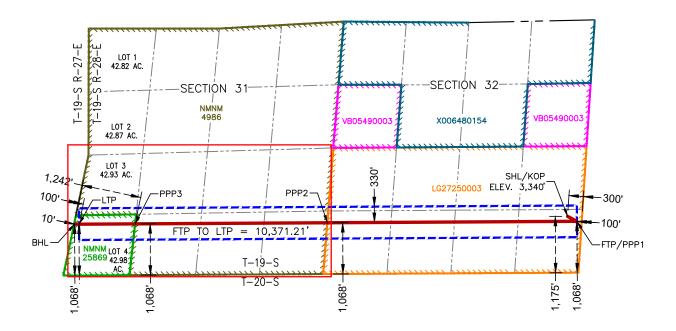
Page 8 of 9 Issue date: 2021-01-30 Revision 8.0 Print date: 2021-01-30

| | <u>)2</u> Electronically | / | En | | nerals & Na | lew Mexico tural Resources Dep ATION DIVISION | al Resources Department | | Revised | | | |
|--|--|--|--|--|--|--|--|--|---|-------------------------------|--|--|
| | O Permitting | , | | | | | | Submitta | Initial Su | | | |
| | | | | | | | | Type: | ☐ Amende | | | |
| | | | | | WELLLOCA | ☐ As Drilled ☐ As Drilled | | | | | | |
| API N | umber 30 015 | 5-57167 | Pool Code | 9701 | | Pool Name | | | | | | |
| Proper | ty Code | -37 107 | Property N | | <u> </u> | i adeav | Well Number | | | | | |
| | 335770 |) | | | DAKOTA | 32 STATE FED COM | | | 204H | | | |
| OGRIE | OGRID No. Operator Name PERMIAN RES | | | | | OURCES OPERATING | | | | Ground Level Elevation 3,340' | | |
| | Surface O | wner: 🗶 Stat | te 🗆 Fee 🗆 | ☐ Tribal ☐ | Federal | Mineral Ow | ner: 🛚 Stat | e 🗆 Fee | ☐ Tribal 😿 Fe | ederal | | |
| | | | | | Sur | face Location | | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Ì | Longitude | County | | |
| Р | 32 | 198 | 28E | | 1,175' FS | L 300' FEL | 32.613 | 127° - | 104.191605° | EDDY | | |
| | 1 | | | | - | m Hole Location | | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | Longitude | County | | |
| | 31 | 198 | 28E | LOT 4 | 1,068' FS | L 10' FWL | 32.612 | 708° - | 104.224956° | EDDY | | |
| Dedica | ited Acres | Infill or Defir | ning Well | Defining | Well API | Overlapping Spacin | a Unit (Y/NI) | Consolid | ation Code | | | |
| | 5.91 | Definir | - | Pen | | Y | 9 01111 (1714) | Corisolida | O | | | |
| | Numbers. | Pending | .9 | <u> Fell</u> | uirig | | packs are under Common Ownership: ДYes □No | | | | | |
| | | rending | | | | | | | <u>' X</u> | | | |
| UL | Section | Township | Range | Lot | Kick Ft. from N/S | Off Point (KOP) Ft. from E/W | Latitude | 1 | Longitude | County | | |
| P | 32 | 198 | 28E | Lot | 1,175' FS | | 32.613 | | 104.191605° | EDDY | | |
| • | | 100 | | | | | 02.010 | | 104.101000 | LDD1 | | |
| | | | | | | | | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Take Point (FTP) Ft. from E/W | Latitude | | Longitude | County | | |
| UL P | Section 32 | Township 19S | Range 28E | Lot | - | Ft. from E/W | Latitude 32.612 | | Longitude 104.190975° | County EDDY | | |
| | | ' | | Lot | Ft. from N/S 1,068' FS | Ft. from E/W | | | - | | | |
| | | ' | | Lot | Ft. from N/S 1,068' FS Last Ft. from N/S | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W | | 836° - | - | 1 | | |
| Р | 32 | 195 | 28E | | Ft. from N/S 1,068' FS | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W | 32.612 | 836° - | 104.190975° | EDDY | | |
| P UL | 32 Section 31 | 19S | 28E Range 28E | Lot LOT 4 | Ft. from N/S 1,068' FS Last T Ft. from N/S 1,068' FS | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W | 32.612 Latitude 32.612 | 836° - | 104.190975° Longitude 104.224657° | EDDY | | |
| P UL Unitize | Section 31 | 19S Township 19S | 28E Range 28E | Lot LOT 4 | Ft. from N/S 1,068' FS Last T Ft. from N/S 1,068' FS | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W L 100' FWL | 32.612 Latitude 32.612 Grou | 836° - | 104.190975° Longitude 104.224657° | EDDY | | |
| UL Unitized OPER. I hereby best of that this in the lawell at a unlease pooling If this w the conmineral the well | Section 31 ATOR CER / certify that the my knowledge organization and including this location per control order heretof ell is a horizon sent of at leas interest in earl's completed | Township 19S Tea of Uniform TIFICATIONS The information of the proposed boursuant to a core entered by the proposed by the | 28E Range 28E ontained hereid, if the well is working interestottom hole local tract with an electricate with a electricate with an electricate | Lot LOT 4 Spacing In is true and a vertical or to runlease attion or has a bowner of a way agreement working interestormation) in ined a comp | Ft. from N/S 1,068' FS Last Ft. from N/S 1,068' FS Unit Type \(\overline{\text{V}} \) H complete to the directional well, d mineral interes a right to drill this orking interest or or a compulsory ion has received at or unleased which any part of ullsory pooling | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W 100' FWL Horizontal □ Vertical SURVEYOR CERTIF I hereby certify that the vactual surveys made by correct to the best of reverse. | ICATIONS Vell-location ships or under mobelief. 12177 | 709° - nd Floor E own on this by supervision A | Longitude 104.224657° Elevation: | County EDDY | | |
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| UL Unitize OPER. I hereby best of that this in the lawell at tunlease pooling If this w the conmineral the well order from Signature Printed | Section 31 ATOR CER Certify that the my knowledges organization and including this location per definition order heretoff cell is a horizon sent of at lease interest in earl's completed or mineral interest in early some mineral interest in e | Township 19S TIFICATIONS TIFICATIONS The information of each obelief, and either owns a vice proposed boursuant to a concrest, or to a voore entered by the proposed boursuant to a concrest, or to a voore entered by the proposed boursuant to a concrest, or to a voore entered by the proposed boursuant to a concrest, or to a voore entered by the proposed boursuant to a concrest, or to a voore entered by the proposed boursuant to a concrete the proposed boursuant to a voore entered by the proposed boursuant to a v | Range 28E Range 28E In Interest In Intere | Lot LOT 4 Spacing In is true and a vertical or st or unlease ation or has a owner of a way agreement with a special control of the company | Ft. from N/S 1,068' FS Last Ft. from N/S 1,068' FS Unit Type \(\overline{\text{V}} \) H complete to the directional well, d mineral interes a right to drill this orking interest or or a compulsory ion has received at or unleased which any part of ullsory pooling | Ft. from E/W 100' FEL Take Point (LTP) Ft. from E/W 100' FWL Horizontal □ Vertical SURVEYOR CERTIF I hereby certify that the vactual surveys made by correct to the best of recovered to the | ICATIONS Vell-location shippe or under modelief. 12177 12177 APPESSIONA Tofessional Sur | nd Floor E | Longitude 104.224657° Elevation: | County EDDY | | |

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

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DAKOTA 32 STATE FED COM 204H

SURFACE HOLE LOCATION & KICK-OFF POINT 1,175' FSL & 300' FEL ELEV. = 3.340'

NAD 83 X = 584,976.83' NAD 83 Y = 586,815.55' NAD 83 LAT = 32.613127° NAD 83 LONG = -104.191605° NAD 27 X = 543,796.81' NAD 27 Y = 586,753.90' NAD 27 LAT = 32.613010° NAD 27 LONG = -104.191097°

1,068' FSL & 100' FEL NAD 83 X = 585,170.85' NAD 83 Y = 586,709.82'

FIRST TAKE POINT &

PENETRATION POINT 1

NAD 83 LAT = 32.612836° NAD 83 LONG = -104.190975° NAD 27 X = 543,990.83' NAD 27 Y = 586,648.17' NAD 27 LAT = 32.612719° NAD 27 LONG = -104.190467°

NAD 83 X = 579,971.32' NAD 83 Y = 586,680.62' NAD 83 LAT = 32.612774° NAD 83 LONG = -104.207862° NAD 27 X = 538,791.30' NAD 27 Y = 586,619.01 NAD 27 LAT = 32.612657° NAD 27 LONG = -104.207353°

PENETRATION POINT 2

1,068' FSL & 0' FEL

PENETRATION POINT 3 1.068' FSL & 1.242' FWL

NAD 83 X = 575,967.88' NAD 83 Y = 586,658.14' NAD 83 LAT = 32.612724° NAD 83 LONG = -104.220864° NAD 27 X = 534,787.88' NAD 27 Y = 586,596.56' NAD 27 LAT = 32.612607 NAD 27 LONG = -104.220355°

LAST TAKE POINT 1.068' FSL & 100' FWL

NAD 83 X = 574,799.81' NAD 83 Y = 586,651.58' NAD 83 LAT = 32.612709° NAD 83 LONG = -104.224657° NAD 27 X = 533,619.80' NAD 27 Y = 586,590.01' NAD 27 LAT = 32.612593° NAD 27 LONG = -104.224148° BOTTOM HOLE LOCATION 1.068' FSL & 10' FWL

NAD 83 X = 574,707.75' NAD 83 Y = 586,651.06' NAD 83 LAT = 32.612708' NAD 83 LONG = -104.224956° NAD 27 X = 533,527.75' NAD 27 Y = 586,589.50' NAD 27 LAT = 32.612592° NAD 27 LONG = -104.224447°

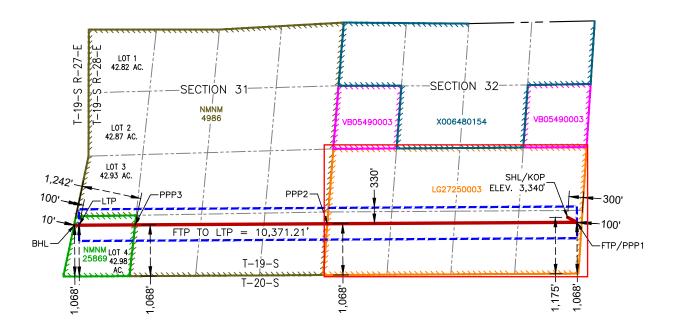
| | 12 Electronically Permitting | y | En | | | ew Mexico ral Resources Department TION DIVISION | | | Revised July 9 | | |
|--|------------------------------|-----------------|--|-------------|----------------------|--|---------------------|---------------------------------------|--|----------------------|--|
| | 5 | | | | | Submittal Type: | | | ☐ Amended Report | | |
| | | | | | | | | | ☐ As Drille | ed | |
| ABIAL | | | <u> </u> | | | ION INFORMATION | | | | | |
| API Nu | 30-015- | -57167 | Pool Code | 8776 | | Pool Name Winchester; Wolfcamp (Gas) | | | | | |
| Proper | ty Code 335770 |) | Property N | ame | ΠΔΚΩΤΔ 3 | 2 STATE FED COM | | | Well Numb | er 204H | |
| OGRIE | | | Operator Name PERMIAN RESOURCES OPERATING, LLC Ground Level Eleva 3,340' | | | | | vel Elevation | | | |
| | | wner: 🙀 Stat | ∟ e □ Fee □ | | | | • | e 🗆 Fee 🛚 | □ Tribal 🙀 Fe | - | |
| - | | | | | Surfa | ce Location | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | L | ongitude | County | |
| Р | 32 | 198 | 28E | | 1,175' FSL | 300' FEL | 32.613 ² | 127° -1 | 04.191605° | EDDY | |
| | | 1 | <u>.</u> | | Bottom | Hole Location | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | ongitude | County | |
| | 31 | 198 | 28E | LOT 4 | 1,068' FSL | 10' FWL | 32.6127 | 708° -1 | 04.224956° | EDDY | |
| Dedica | ted Acres | Infill or Defin | ina Well | Defining | Well API | Overlapping Spacing | Unit (Y/N) | Consolida | tion Code | | |
| | 5.91 | Definin | - | Pen | | Overlapping Spacing Unit (Y/N) Consolidation Code Y O | | | | | |
| | Numbers. | Pending | | 1 011 | <u> </u> | Well setbacks are u | nder Commo | on Ownersh | nip: ☐Yes ☐I | No | |
| | | | | | Kick O | ff Point (KOP) | | | | | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | L | ongitude | County | |
| Р | 32 | 198 | 28E | | 1,175' FSL | 300' FEL | 32.613 ² | 127° -1 | 04.191605° | EDDY | |
| | | | | | | ake Point (FTP) | | | | | |
| UL_ | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | | ongitude | County | |
| Р | 32 | 198 | 28E | | 1,068' FSL | 100' FEL | 32.6128 | 336° -1 | 04.190975° | EDDY | |
| UL | Section | Township | Range | Lot | Ft. from N/S | Rike Point (LTP) Ft. from E/W | Latitude | l L | ongitude | County | |
| | 31 | 198 | 28E | LOT 4 | 1,068' FSL | 100' FWL | 32.6127 | 709° -1 | 04.224657° | EDDY | |
| | | | | | | | | | | | |
| Unitize | d Area or A | rea of Uniform | Interest | Spacing | Unit Type 🔀 Ho | orizontal □ Vertical | Groui | nd Floor Ele | evation: | | |
| OPER/ | ATOR CER | TIFICATIONS | | | | SURVEYOR CERTIFI | CATIONS | | | | |
| I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. | | | | | | ell-location-shine or under, mobelief. MEXICO | y supervision | olat was plotted n, and that the s | from field notes of ame is true and | | |
| If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division. 7/22/2025 | | | | | Date: 6/2/2025 | | | | | | |
| Signatu Jen | nifer Elr | od | D | ate | | Signature and Seal of Pro | ofessional Sur | veyor | | | |
| Printed | | | | | | Certificate Number | Date of Surv | /ey | | | |
| lielr | od@nta | lobal.com | 1 | | | 12177 | | | 6/2/2025 | | |
| Email A | | | | | | | | | | | |
| Note: No | allowable | will be assigne | ed to this cor | npletion ur | ntil all interests h | ave been consolidated o | r a non-stan | dard unit ha | as been appro | oved by the division | |

Released to Imaging: 8/28/2025 7:20:03 AM

ACREAGE DEDICATION PLATS

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DAKOTA 32 STATE FED COM 204H

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NAD 27 LONG = -104.191097°

NAD 27 X = 543,990.83' NAD 27 Y = 586,648.17' NAD 27 LAT = 32.612719° NAD 27 LONG = -104.190467°

FIRST TAKE POINT &

PENETRATION POINT 1

1,068' FSL & 100' FEL

NAD 83 X = 585,170.85'

NAD 83 Y = 586,709.82'

NAD 83 LAT = 32.612836°

NAD 83 LONG = -104.190975

LAST TAKE POINT BOT 1,068' FSL & 100' FWL 1

NAD 83 X = 574,799.81' NAD 83 Y = 586,651.58' NAD 83 LAT = 32.612709° NAD 83 LONG = -104.224657° NAD 27 X = 533,619.80' NAD 27 Y = 586,590.01' NAD 27 LAT = 32.612593° NAD 27 LONG = -104.224148° PENETRATION POINT 2 1,068' FSL & 0' FEL

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BOTTOM HOLE LOCATION 1.068' FSL & 10' FWL

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General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

ACKNOWLEDGMENTS

Action 487702

ACKNOWLEDGMENTS

| Operator: | OGRID: |
|----------------------------------|---|
| Permian Resources Operating, LLC | 372165 |
| 300 N. Marienfeld St Ste 1000 | Action Number: |
| Midland, TX 79701 | 487702 |
| | Action Type: |
| | [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

ACKNOWLEDGMENTS

I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

Sante Fe Main Office Phone: (505) 476-3441 General Information

Phone: (505) 629-6116
Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 487702

CONDITIONS

| Operator: | OGRID: |
|----------------------------------|---|
| Permian Resources Operating, LLC | 372165 |
| 300 N. Marienfeld St Ste 1000 | Action Number: |
| Midland, TX 79701 | 487702 |
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CONDITIONS

| Created By | Condition | Condition Date |
|-------------|---|-------------------|
| jelrod01 | Cement is required to circulate on both surface and intermediate1 strings of casing. | 7/22/2025 |
| jelrod01 | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing. | 7/22/2025 |
| ward.rikala | Notify the OCD 24 hours prior to casing & cement. | 8/28/2025 |
| ward.rikala | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 8/28/2025 |
| 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. | 8/28/2025 |
| 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. | 8/28/2025 |
| ward.rikala | No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations. | 8/28/2025 |