Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-025-54846

| 3a. Address | 3b. Phone No. *(include area code)* | 10. Field and Pool, or Exploratory |
|---|---|---|
| | | |

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

At surface

At proposed prod. zone

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

| 14. Distance in miles and direction from nearest town or post office* | 12. County or Parish | 13. State |
|---|---|---|
| | | |

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| | | |

| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. in file |
|---|---|---|
| | | |

| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
|---|---|---|
| | | |

## 24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |

Title

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |

| Title | Office |
|---|---|
| | |

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 03/25/2025**

## 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.





**Approval Date: 03/25/2025**

## Additional Operator Remarks

### Location of Well

0. SHL: SWSW / 655 FSL / 543 FWL / TWSP: 21S / RANGE: 32E / SECTION: 11 / LAT: 32.487925 / LONG: -103.652261 ( TVD: 0 feet, MD: 0 feet )

PPP: NENW / 100 FNL / 2308 FWL / TWSP: 21S / RANGE: 32E / SECTION: 14 / LAT: 32.485858 / LONG: -103.646528 ( TVD: 11086 feet, MD: 11547 feet )

PPP: NESW / 2635 FNL / 2306 FWL / TWSP: 21S / RANGE: 32E / SECTION: 14 / LAT: 32.478889 / LONG: -103.646521 ( TVD: 11086 feet, MD: 14083 feet )

PPP: SESW / 1318 FSL / 2305 FWL / TWSP: 21S / RANGE: 32E / SECTION: 14 / LAT: 32.475266 / LONG: -103.646517 ( TVD: 11086 feet, MD: 15401 feet )

PPP: NENW / 0 FNL / 2304 FWL / TWSP: 21S / RANGE: 32E / SECTION: 23 / LAT: 32.471643 / LONG: -103.646513 ( TVD: 11086 feet, MD: 16719 feet )

BHL: SESW / 100 FSL / 2308 FWL / TWSP: 21S / RANGE: 32E / SECTION: 23 / LAT: 32.457367 / LONG: -103.646549 ( TVD: 11086 feet, MD: 21912 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.

| C-102 | State of New Mexico<br>Energy, Minerals & Natural Resources Department<br>OIL CONSERVATION DIVISION | Revised July 9, 2024 |
|---|---|---|
| Submit Electronically<br>Via OCD Permitting | | Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled |

WELL LOCATION INFORMATION

| API Number | Pool Code | Pool Name | |
|---|---|---|---|
| 30-025-54846 | [97921] | WC-025 G-06 S213215A; BONE SPRING | |
| Property Code | Property Name | | Well Number |
| 337325 | AZTEC 14 23 FED COM | | 173H |
| OGRID No. | Operator Name | | Ground Level Elevation |
| 372165 | PERMIAN RESOURCES OPERATING, LLC | | 3,833' |
| Surface Owner: ☐ State ☐ Fee ☐ Tribal ☑ Federal | | Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☑ Federal | |

Surface Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 11 | 21S | 32E | | 655' FSL | 543' FWL | 32.487925° | -103.652261° | LEA |

Bottom Hole Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| N | 23 | 21S | 32E | | 100' FSL | 2,308' FWL | 32.457367° | -103.646556° | LEA |

| Dedicated Acres | Infill or Defining Well | Defining Well API | Overlapping Spacing Unit (Y/N) | Consolidation Code |
|---|---|---|---|---|
| 320.00 | INFILL | 30-025-46350 | N | C |
| Order Numbers. PENDING | | | Well setbacks are under Common Ownership: ☑Yes ☐No | |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 11 | 21S | 32E | | 655' FSL | 543' FWL | 32.487925° | -103.652261° | LEA |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| C | 14 | 21S | 32E | | 100' FNL | 2,308' FWL | 32.485858° | -103.646536° | LEA |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| N | 23 | 21S | 32E | | 100' FSL | 2,308' FWL | 32.457367° | -103.646556° | LEA |

| Unitized Area or Area of Uniform Interest | Spacing Unit Type ☑ Horizontal ☐ Vertical | Ground Floor Elevation: |
|---|---|---|
| NA | | 3,863' |

OPERATOR CERTIFICATIONS

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.

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.

Ashley Brown 5/7/2025

Signature Date

Ashley Brown

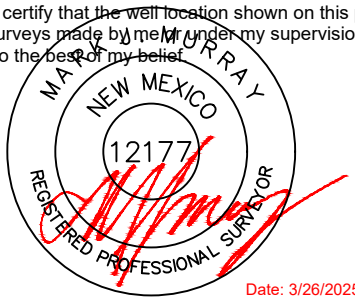
Printed Name

ashley.brown@permianres.com

Email Address

SURVEYOR CERTIFICATIONS

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




Date: 3/26/2025

Signature and Seal of Professional Surveyor

| Certificate Number | Date of Survey |
|---|---|
| 12177 | 3/26/2025 |

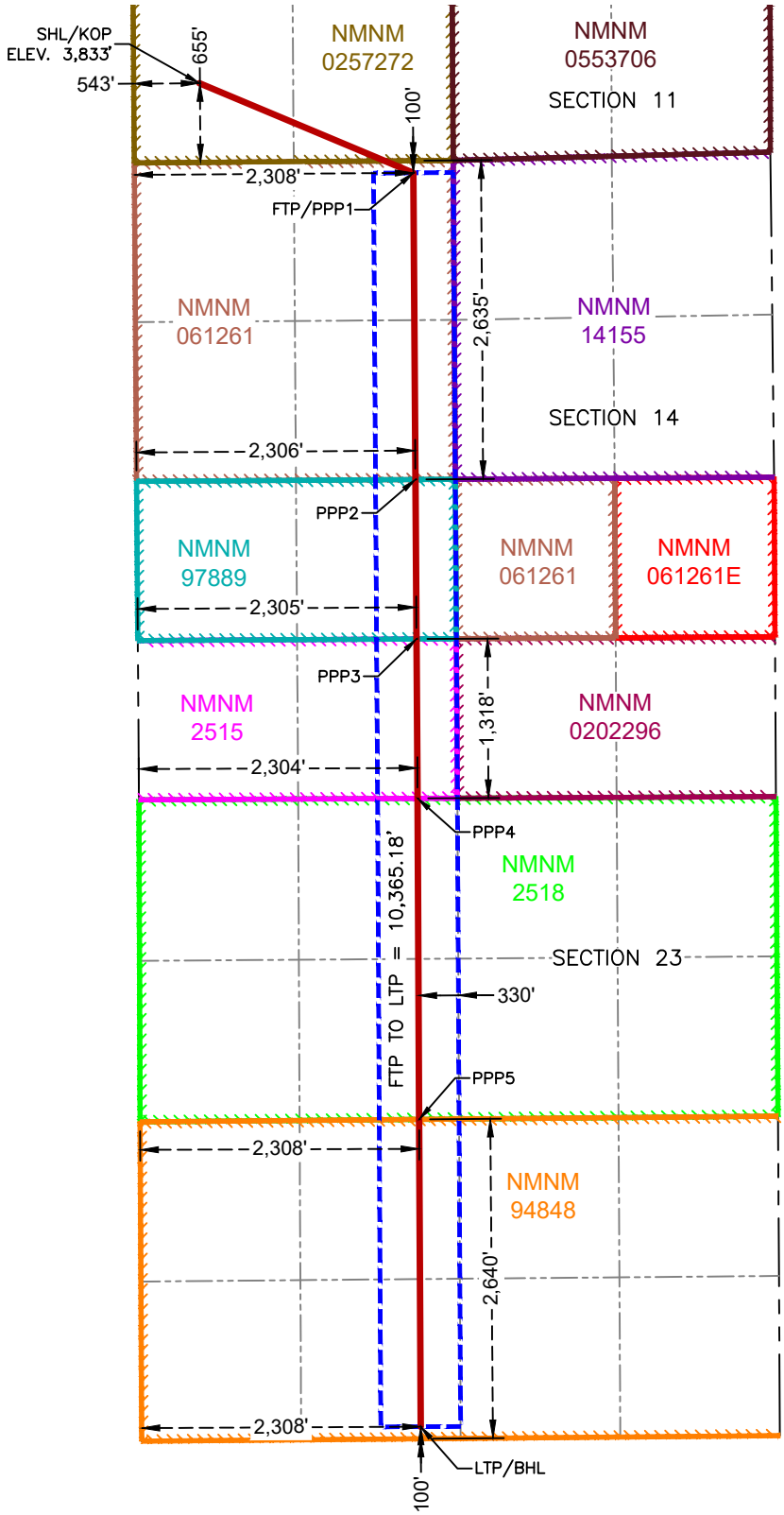
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

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.

**AZTEC 14 23 FED COM 173H**




SURFACE HOLE LOCATION
& KICK-OFF POINT
655' FSL & 543' FWL
ELEV. = 3,833'

NAD 83 X = 751,338.32'
NAD 83 Y = 541,908.24'
NAD 83 LAT = 32.487925°
NAD 83 LONG = -103.652261°
NAD 27 X = 710,156.80'
NAD 27 Y = 541,846.74'
NAD 27 LAT = 32.487802°
NAD 27 LONG = -103.651770°

FIRST TAKE POINT &
PENETRATION POINT 1
100' FNL & 2,308' FWL

NAD 83 X = 753,108.39'
NAD 83 Y = 541,167.49'
NAD 83 LAT = 32.485858°
NAD 83 LONG = -103.646536°
NAD 27 X = 711,926.83'
NAD 27 Y = 541,106.00'
NAD 27 LAT = 32.485735°
NAD 27 LONG = -103.646046°

PENETRATION POINT 2
2,635' FNL & 2,306' FWL

NAD 83 X = 753,125.08'
NAD 83 Y = 538,632.31'
NAD 83 LAT = 32.478889°
NAD 83 LONG = -103.646535°
NAD 27 X = 711,943.47'
NAD 27 Y = 538,570.89'
NAD 27 LAT = 32.478766°
NAD 27 LONG = -103.646045°

PENETRATION POINT 3
1,318' FSL & 2,305' FWL

NAD 83 X = 753,133.77'
NAD 83 Y = 537,314.31'
NAD 83 LAT = 32.475266°
NAD 83 LONG = -103.646534°
NAD 27 X = 711,952.11'
NAD 27 Y = 537,252.93'
NAD 27 LAT = 32.475143°
NAD 27 LONG = -103.646044°

PENETRATION POINT 4
0' FSL & 2,304' FWL

NAD 83 X = 753,142.45'
NAD 83 Y = 535,996.32'
NAD 83 LAT = 32.471643°
NAD 83 LONG = -103.646533°
NAD 27 X = 711,960.76'
NAD 27 Y = 535,934.98'
NAD 27 LAT = 32.471521°
NAD 27 LONG = -103.646044°

PENETRATION POINT 5
2,640' FSL & 2,308' FWL

NAD 83 X = 753,155.91'
NAD 83 Y = 533,342.79'
NAD 83 LAT = 32.464350°
NAD 83 LONG = -103.646545°
NAD 27 X = 711,974.15'
NAD 27 Y = 533,281.52'
NAD 27 LAT = 32.464227°
NAD 27 LONG = -103.646056°

LAST TAKE POINT &
BOTTOM HOLE LOCATION
100' FSL & 2,308' FWL

NAD 83 X = 753,168.80'
NAD 83 Y = 530,802.49'
NAD 83 LAT = 32.457367°
NAD 83 LONG = -103.646556°
NAD 27 X = 711,986.97'
NAD 27 Y = 530,741.29'
NAD 27 LAT = 32.457244°
NAD 27 LONG = -103.646067°

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | Permian Resources Operating LLC |
| **WELL NAME & NO.:** | Aztec 14-23 Fed Com 173H |
| **LOCATION:** | Sec 11-21S-32E-NMP |
| **COUNTY:** | Lea County, New Mexico |

COA

| | | | | |
|---|---|---|---|---|
| **$H_2S$** | ○ No | | ◉ Yes | |
| **Potash / WIPP** | ○ None | ○ Secretary | ◉ R-111-Q | ☐ Open Annulus |
| | 4-String Design: Open 2nd Int x Production Casing (ICP 2 above Relief Zone) | | | ☐ WIPP |
| **Cave / Karst** | ◉ Low | ○ Medium | ○ High | ○ Critical |
| **Wellhead** | ○ Conventional | ◉ Multibowl | ○ Both | ○ Diverter |
| **Cementing** | ☐ Primary Squeeze | ☐ Cont. Squeeze | ☐ EchoMeter | ☐ DV Tool |
| **Special Req** | ☑ Capitan Reef | ☐ Water Disposal | ☑ COM | ☐ Unit |
| **Waste Prev.** | ○ Self-Certification | ◉ Waste Min. Plan | ○ APD Submitted prior to 06/10/2024 | |
| **Additional Language** | ☑ Flex Hose | ☐ Casing Clearance | ☐ Pilot Hole | ☑ Break Testing |
| | ☑ Four-String | ☑ Offline Cementing | ☐ Fluid-Filled | |

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated at **surface**. 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.

***APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.***

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1,600** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***
   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
   b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500**




**Approval Date: 03/25/2025**

**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.

***Intermediate 1 casing shall be kept fluid filled to meet BLM's minimum collapse requirements.***

2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing is:
    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

❖ **Special Capitan Reef Requirements:** Ensure freshwater-based mud is used across the Captain Reef.

3. The minimum required fill of cement behind the **8-5/8** inch intermediate casing **(set at 5500' per BLM geologist)** is:
    - Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
    - Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **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 (575-689-5981 Lea 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.

**Approval Date: 03/25/2025**

# 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 Lea County Petroleum Engineering Inspection Staff:**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        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. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following




**Approval Date: 03/25/2025**

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.

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BUREAU OF LAND MANAGEMENT

# Operator Certification Data Report

05/06/2025

## Operator

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** **Signed on:** 08/01/2024

**Title:**

**Street Address:**

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

**Phone:**

**Email address:**

## Field

**Representative Name:**

**Street Address:**

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

**Phone:**

**Email address:**

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

# Application Data
05/06/2025

**APD ID:** 10400100274 **Submission Date:** 08/01/2024

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

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

Highlighted data reflects the most recent changes
Show Final Text

## Section 1 - General

**APD ID:** 10400100274 **Tie to previous NOS?** **Submission Date:** 08/01/2024

**BLM Office:** Carlsbad **User:** JENNIFER ELROD **Title:** Senior Regulatory Analyst

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

**Lease number:** NMNM061261 **Lease Acres:**

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

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

**Agreement number:**

**Agreement name:**

**Keep application confidential?** N

**Permitting Agent?** NO **APD Operator:** PERMIAN RESOURCES OPERATING LLC

**Operator letter of**

## Operator Info

**Operator Organization Name:** PERMIAN RESOURCES OPERATING LLC

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

**Operator PO Box:**

**Operator City:** MIDLAND **State:** TX

**Operator Phone:** (432)695-4222

**Operator Internet Address:**

## Section 2 - Well Information

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

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

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

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H **Well API Number:**

**Field/Pool or Exploratory?** Field and Pool **Field Name:** WC-026 G-06 S213215A **Pool Name:** BONE SPRING

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

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

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

**Type of Well Pad:** MULTIPLE WELL **Multiple Well Pad Name:** AZTEC SWSW **Number:** 2

**Well Class:** HORIZONTAL **Number of Legs:** 1

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** INFILL

**Describe sub-type:**

**Distance to town:** **Distance to nearest well:** 300 FT **Distance to lease line:** 100 FT

**Reservoir well spacing assigned acres Measurement:** 320 Acres

**Well plat:** AZTEC_173H_APD_C102_20240801121305.pdf

**Well work start Date:** 04/01/2024 **Duration:** 90 DAYS

## Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83 **Vertical Datum:** NAVD88

**Survey number:** 12177 **Reference Datum:** GROUND LEVEL

| Wellbore | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD | Will this well produce from this |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHL Leg #1 | 655 | FSL | 543 | FWL | 21S | 32E | 11 | Aliquot SWSW | 32.487925 | -103.652261 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 025727 2 | 3834 | 0 | 0 | N |
| KOP Leg #1 | 655 | FSL | 543 | FWL | 21S | 32E | 11 | Aliquot SWSW | 32.487925 | -103.652261 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 025727 2 | -6801 | 10813 | 10635 | N |
| PPP Leg #1-1 | 100 | FNL | 2308 | FWL | 21S | 32E | 14 | Aliquot NENW | 32.485858 | -103.646528 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 061261 | -7252 | 11547 | 11086 | Y |

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

| Wellbore | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD | Will this well produce from this |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PPP Leg #1-2 | 2635 | FNL | 2306 | FWL | 21S | 32E | 14 | Aliquot NESW | 32.478889 | -103.646521 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 97889 | -7252 | 14083 | 11086 | Y |
| PPP Leg #1-3 | 1318 | FSL | 2305 | FWL | 21S | 32E | 14 | Aliquot SESW | 32.475266 | -103.646517 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 2515 | -7252 | 15401 | 11086 | Y |
| PPP Leg #1-4 | 0 | FNL | 2304 | FWL | 21S | 32E | 23 | Aliquot NENW | 32.471643 | -103.646513 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 2518 | -7252 | 16719 | 11086 | Y |
| EXIT Leg #1 | 100 | FSL | 2308 | FWL | 21S | 32E | 23 | Aliquot SESW | 32.457367 | -103.646549 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 94848 | -7252 | 21912 | 11086 | Y |
| BHL Leg #1 | 100 | FSL | 2308 | FWL | 21S | 32E | 23 | Aliquot SESW | 32.457367 | -103.646549 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 94848 | -7252 | 21912 | 11086 | Y |

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# Drilling Plan Data Report
05/06/2025

**APD ID:** 10400100274 **Submission Date:** 08/01/2024

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

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

Highlighted data reflects the most recent changes

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## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical | Measured Depth | Lithologies | Mineral Resources | Producing Formatio |
|---|---|---|---|---|---|---|---|
| 15265506 | QUATERNARY | 3688 | 0 | 0 | ALLUVIUM | USEABLE WATER | N |
| 15265507 | RUSTLER | 2141 | 1547 | 1547 | ANHYDRITE, SANDSTONE | USEABLE WATER | N |
| 15265508 | TOP OF SALT | 1756 | 1932 | 1932 | SALT | POTASH | N |
| 15265509 | YATES | 174 | 3514 | 3514 | ANHYDRITE, SHALE | CO2, NATURAL GAS, OIL | N |
| 15265510 | CAPITAN REEF | -71 | 3759 | 3759 | SANDSTONE | USEABLE WATER | N |
| 15265511 | DELAWARE SAND | -1506 | 5194 | 5194 | SANDSTONE | NATURAL GAS, OIL | N |
| 15265512 | BRUSHY CANYON | -3316 | 7004 | 7004 | SANDSTONE | NATURAL GAS, OIL | N |
| 15265513 | BONE SPRING LIME | -5106 | 8794 | 8794 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL | N |
| 15265515 | BONE SPRING 1ST | -6206 | 9894 | 9894 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL | N |
| 15265516 | BONE SPRING 2ND | -6454 | 10142 | 10142 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL | N |
| 15265517 | BONE SPRING 3RD | -7250 | 10938 | 10938 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL | Y |

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 5M **Rating Depth:** 12086

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

**Requesting Variance?** YES

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

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

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

**Choke Diagram Attachment:**

Aztec_Fed_5M_CM_20240801085234.pdf

**BOP Diagram Attachment:**

Aztec_Fed_5M_BOP_20240801085243.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 | 1572 | 0 | 1572 | 3834 | 2262 | 1572 | J-55 | 54.5 | BUTT | 1.46 | 1.72 | DRY | 4.9 | DRY | 4.59 |
| 2 | INTERMEDIATE | 12.25 | 10.75 | NEW | API | N | 0 | 3784 | 0 | 3784 | 3671 | 50 | 3784 | J-55 | 45.5 | BUTT | 7.31 | 3.77 | DRY | 3.91 | DRY | 3.82 |
| 3 | INTERMEDIATE | 9.875 | 8.625 | NEW | NON API | N | 0 | 5144 | 0 | 5144 | 3671 | -1310 | 5144 | HCL-80 | 32 | OTHER - MO-FXL | 4.44 | 1.34 | DRY | 1.91 | DRY | 2.77 |
| 4 | PRODUCTION | 7.875 | 5.5 | NEW | NON API | N | 0 | 21912 | 0 | 11086 | 3671 | -7252 | 21912 | P-110 | 20 | OTHER - GeoConn | 1.93 | 2.01 | DRY | 1.99 | DRY | 1.99 |

**Casing Attachments**

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Aztec_14_23_Fed_Com_173H_CsgAssumptions_20240801172903.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Aztec_14_23_Fed_Com_173H_CsgAssumptions_20240801173056.pdf

**Casing ID:** 3 **String** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

Aztec_14_23_Fed_Com_Int_Csg_Spec_20240801090320.pdf

**Tapered String Spec:**

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

Aztec_14_23_Fed_Com_173H_CsgAssumptions_20240801172937.pdf

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

**Casing Attachments**

**Casing ID:** 4 **String** PRODUCTION

**Inspection Document:**

**Spec Document:**

Aztec_14_23_Fed_Com_Prod_Csg_Spec_20240801124348.pdf

**Tapered String Spec:**

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

Aztec_14_23_Fed_Com_173H_CsgAssumptions_20240801173017.pdf

## Section 4 - Cement

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 1572 | 1230 | 1.34 | 14.8 | 1640 | 50 | Class C | Accelerator |
| INTERMEDIATE | Lead | | 0 | 3020 | 430 | 1.88 | 12.9 | 790 | 50 | Class C | EconoCem-HLC + 5% Salt + 5% Kol-Seal |
| INTERMEDIATE | Tail | | 3020 | 3784 | 170 | 1.34 | 14.8 | 220 | 50 | Class C | Retarder |
| INTERMEDIATE | Lead | | 0 | 4110 | 310 | 1.88 | 12.9 | 570 | 50 | Class C | EconoCem-HLC + 5% Salt + 5% Kol-Seal |
| INTERMEDIATE | Tail | | 4110 | 5144 | 130 | 1.33 | 14.8 | 170 | 25 | Class C | Salt |
| PRODUCTION | Lead | | 5644 | 10813 | 380 | 2.41 | 11.5 | 900 | 0 | Class H | POZ, Extender, Fluid Loss, Dispersant, Retarder |
| PRODUCTION | Tail | | 10813 | 21912 | 1120 | 1.73 | 12.5 | 1930 | 0 | Class H | POZ, Extender, Fluid Loss, Dispersant, Retarder |

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

## 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) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1572 | SPUD MUD | 8.6 | 9.5 | | | | | | | |
| 1572 | 3784 | SALT SATURATED | 10 | 10 | | | | | | | |
| 3784 | 5144 | OTHER : Fresh Water | 8.6 | 9.5 | | | | | | | |
| 5144 | 21912 | OTHER : Brine, Oil Based Mud | 9 | 10 | | | | | | | |

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

## Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD from intermediate hole to TD of the well.

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

DIRECTIONAL SURVEY,

**Coring operation description for the well:**

No Coring is Planned

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5770 **Anticipated Surface Pressure:** 3331

**Anticipated Bottom Hole Temperature(F):** 165

**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**

Aztec_H2S_20240801093724.pdf

## Section 8 - Other Information

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

AZTEC_14_23_FED_COM_173H_DD_20240801125727.pdf
AZTEC_14_23_FED_COM_173H_AC_20240801125727.pdf

**Other proposed operations facets description:**

Waste Management Plan, R-111-Q Drilling Design

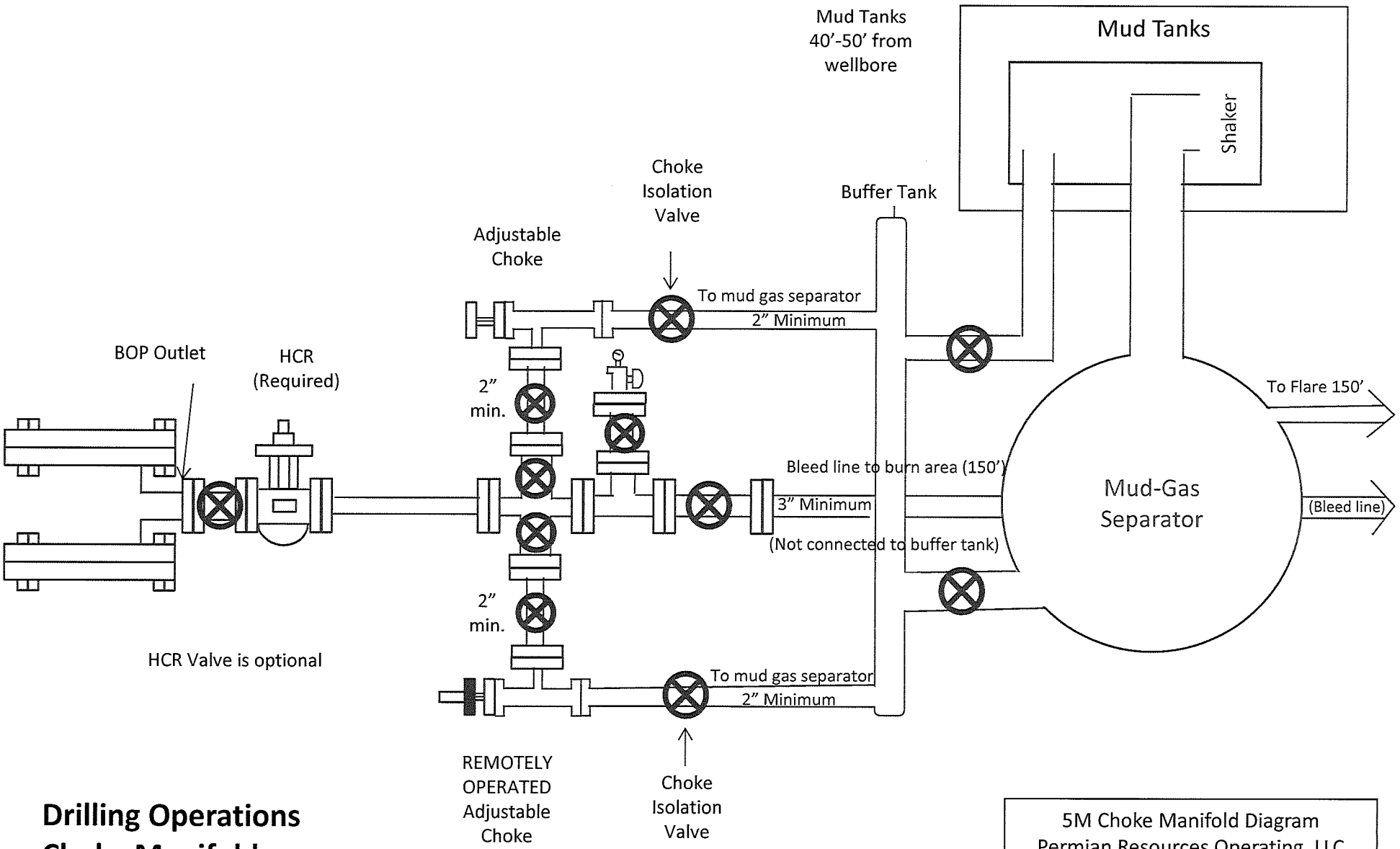
**Other proposed operations facets attachment:**

Aztec_14_23_Fed_Com_R_111Q_20240801094425.pdf
Aztec_NGMP_20240801094444.pdf
Aztec_14_23_Fed_Com_173_WBD_20240801173309.pdf

**Other Variance attachment:**

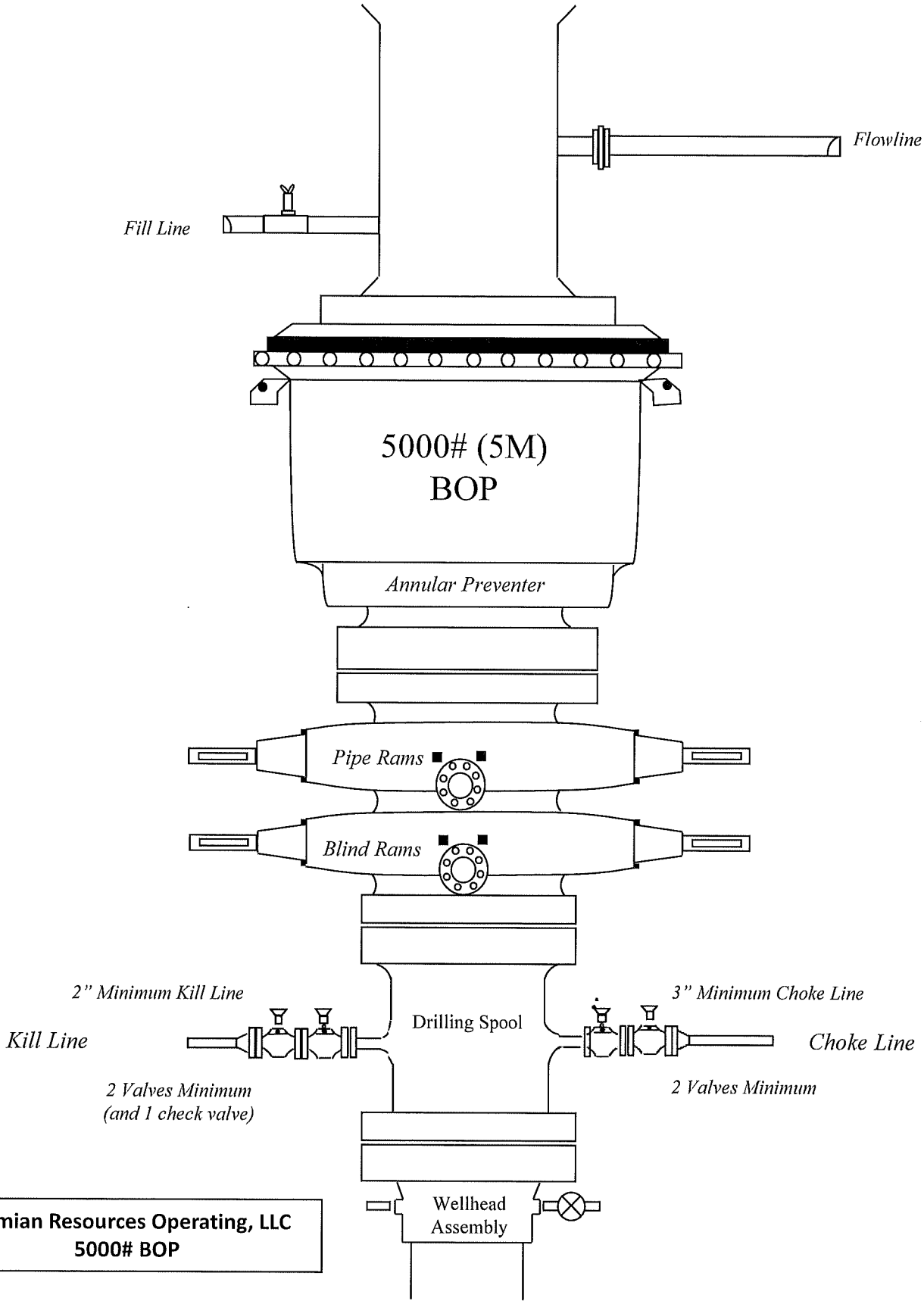
Aztec_BOP_Break_20240801094119.pdf
Aztec_Fed_Batch_20240801094134.pdf
Aztec_Fed_FH_20240801094226.pdf
Aztec_Fed_MBS_20240801094242.pdf
Aztec_Fed_OLCV_20240801094258.pdf

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




**Drilling Operations**
**Choke Manifold**
**5M Service**

5M Choke Manifold Diagram
Permian Resources Operating, LLC



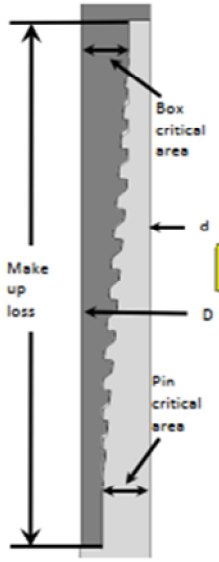

**Permian Resources Operating, LLC**
**5000# BOP**

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

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

## Geometry

MO-FXL




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

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

## Performance

| Performance Properties for Pipe Body | | | | |
|---|---|---|---|---|
| S.M.Y.S. *1 | 1,144 | kips | 5,087 | kN |
| M.I.Y.P. *1 | 9,690 | psi | 66.83 | MPa |
| Collapse Strength *1 | 4,300 | psi | 29.66 | MPa |

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi

| Performance Properties for Connection | |
|---|---|
| Tensile Yield load | 789 kips ( 69% of S.M.Y.S. ) |
| Min. Compression Yield | 789 kips ( 69% of S.M.Y.S. ) |
| Internal Pressure | 6,780 psi ( 70% of M.I.Y.P. ) |
| External Pressure | 100% of Collapse Strength |
| Max. DLS ( deg. /100ft) | 29 |

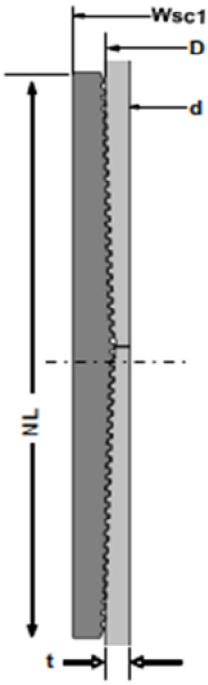
| Recommended Torque | | | | |
|---|---|---|---|---|
| Min. | 13,600 | ft-lb | 18,400 | N-m |
| Opti. | 14,900 | ft-lb | 20,200 | N-m |
| Max. | 16,200 | ft-lb | 21,900 | N-m |
| Operational Max. | 28,400 | ft-lb | 38,500 | N-m |

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

| Metal One Corp. | GEOCONN-SC | Page | MAI GC 5.5 20 SeAH PRY 95%RW |
|---|---|---|---|
| Metal One | Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1 | | SC-CplgOD 6.050 P110CY |
| | Coupling: P110CY (SMYS110ksi) | Date | 29-Sep-21 |
| | Connection Data Sheet | Rev. | 0 |

## Geometry

GEOCONN-SC




| Pipe Body | Imperial | | S.I. | |
|---|---|---|---|---|
| Grade *1 | SeAH P110RY | - | SeAH P110RY | |
| SMYS | 110 | ksi | 110 | ksi |
| Pipe OD ( D ) | 5.500 | in | 139.70 | mm |
| Weight | 20.00 | lb/ft | 29.80 | kg/m |
| Wall Thickness ( t ) | 0.361 | in | 9.17 | mm |
| Pipe ID ( d ) | 4.778 | in | 121.36 | mm |
| Drift Dia. | 4.653 | in | 118.19 | mm |

| Connection | | | | |
|---|---|---|---|---|
| Coupling SMYS | 110 | ksi | 110 | ksi |
| Coupling OD ( Wsc1 ) | 6.050 | in | 153.67 | mm |
| Coupling Length ( NL ) | 8.350 | in | 212.09 | mm |
| Make up Loss | 4.125 | in | 104.78 | mm |
| Pipe Critical Area | 5.83 | $in^2$ | 3,760 | $mm^2$ |
| Box Critical Area | 6.00 | $in^2$ | 3,874 | $mm^2$ |
| Thread Taper | 1 / 16 ( 3/4" per ft ) | | | |
| Number of Threads | 5 TPI | | | |

## Performance

| Performance Properties for Pipe Body | Imperial | | S.I. | |
|---|---|---|---|---|
| S.M.Y.S. | 641 | kips | 2,852 | kN |
| M.I.Y.P. *1 | 13,720 | psi | 94.62 | MPa |
| Collapse Strength | 11,100 | psi | 76.55 | MPa |

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1 Pipe: SeAH P110RY (SMYS110ksi), Min Wall Thickness of Pipe Body: 95% of Nom wall

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

| Recommended Torque | | | | |
|---|---|---|---|---|
| Min. | 14,600 | ft-lb | 19,700 | N-m |
| Opti. | 16,200 | ft-lb | 21,900 | N-m |
| Max. | 17,800 | ft-lb | 24,100 | N-m |
| Operational Max. | 19,500 | ft-lb | 26,400 | N-m |

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

## 3. Casing

| String | Hole Size | Casing Size | Top | Bottom | Top TVD | Bottom TVD | Length | Grade | Weight | Connection | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface | 17.5 | 13.375 | 0 | 1572 | 0 | 1572 | 1572 | J55 | 54.5 | BTC | 1.46 | 1.72 | Dry | 4.90 | Dry | 4.59 |
| Intermediate 1 | 12.25 | 10.75 | 0 | 3784 | 0 | 3784 | 3784 | J55 | 45.5 | BTC | 7.31 | 3.77 | Dry | 3.91 | Dry | 3.82 |
| Intermediate 2 | 9.875 | 8.625 | 0 | 5144 | 0 | 5144 | 5144 | HCL-80 | 32 | MO-FXL | 4.44 | 1.34 | Dry | 1.91 | Dry | 2.77 |
| Production | 7.875 | 5.5 | 0 | 11547 | 0 | 11086 | 11547 | P110RY | 20 | GeoConn | 1.93 | 2.01 | Dry | 1.99 | Dry | 1.99 |
| Production | 7.875 | 5.5 | 11547 | 21912 | 11086 | 11086 | 10365 | P110RY | 20 | GeoConn | 1.93 | 2.01 | Dry | 1.99 | Dry | 1.99 |
| | | | | | | | | BLM Min Safety Factor | | | 1.125 | 1 | | 1.6 | | 1.6 |

Non API casing spec sheets and casing design assumptions attached.

PERMIAN RESOURCES

# $H_2S$ CONTINGENCY PLAN

*FOR*

## Permian Resources Corporation

## Aztec 14 23 Fed Com 171H, 173H, 301H, 302H, 401H, 402H

*Eddy County, New Mexico*

**07-02-2024**
**This plan is subject to updating**

# Table of Contents

***Section 1.0 – Introduction***

***I. Purpose***

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 $H_2S$ gas, or $SO^2$, 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 | ✓ |
|---|---|
| **$H_2S$ CONDITION 1: POTENTIAL DANGER TO LIFE AND HEALTH –> WARNING SIGN GREEN** | |
| **$H_2S$ 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 $H_2S$ 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 $H_2S$ concentrations and check calibration of sensors | ❑ |
| Ensure $H_2S$ scavenger is on location. | ❑ |
| **$H_2S$ 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 $H_2S$ alarm and/or display yellow flag. | ❑ |
| Account for on-site personnel | ❑ |
| Upon sounding of an area or personal $H_2S$ 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 | ❑ |
| **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. | ❑ |
| 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.<br>Notify applicable government agencies **(Appendix A)**<br>If off-site impact; notify any neighbors within Radius of Exposure **(ROE)**, **Fig 5.11** | ❑ |
| Continuously monitor $H_2S$ 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. | |
| | |
| | |
| | |

| $H_2S$ CONDITION 3: EXTREME DANGER TO LIFE AND HEALTH → WARNING SIGN RED | |
|---|---|
| > **30 ppm $H_2S$** concentration in air detected by location monitors: Extreme danger to life | ❑ |
| **General Actions During Condition 3** | ❑ |
| Sound $H_2S$ alarm and/or display red flag. | ❑ |
| Account for on-site personnel | ❑ |
| Move away from $H_2S$ 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 $H_2S$ 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 $H_2S$ 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.<br>Notify applicable government agencies and local law enforcement **(Appendix A)**<br>If off-site impact; notify any neighbors within the Radius of Exposure **(ROE)**, see example in **Figure 5-11.** | ❑ |
| Continuously monitor $H_2S$ 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. | ❑ |
| **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. | ❑ |
| 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 $H_2S$ 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.

***Section 5.0 - Emergency Contact List***

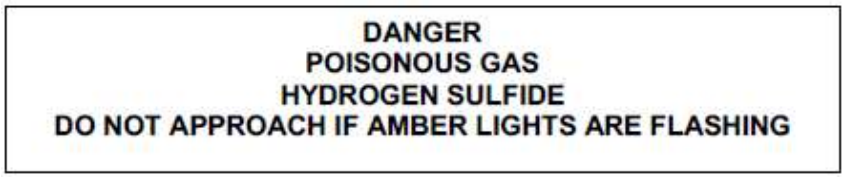
| EMERGENCY CONTACT LIST | | | | |
|---|---|---|---|---|
| PERMIAN RESOURCES CORPORATION. | | | | |
| **POSITION** | **NAME** | **OFFICE** | **CELL** | **ALT PHONE** |
| **Operations** | | | | |
| Operations Superintendent | Rick Lawson | | 432.530.3188 | |
| TX Operations Superintendent | Josh Graham | 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 | |
| **Local, State, & Federal Agencies** | | | | |
| 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 | | 575-706-2779 | | |
| Eddy County PET Inspector | | 575-361-2822 | | |
| 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 $H_2S$ 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 up-wind from the well at all times.

2. Wind Indicators
    a. 4 Windsocks will be installed at strategic points on the facility.
3. Danger Signs
    a. A warning sign indicating the possible well conditions will be displayed at the location entrance.




4. $H_2S$ 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 $H_2S$ 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.

***II. Directions to Location***

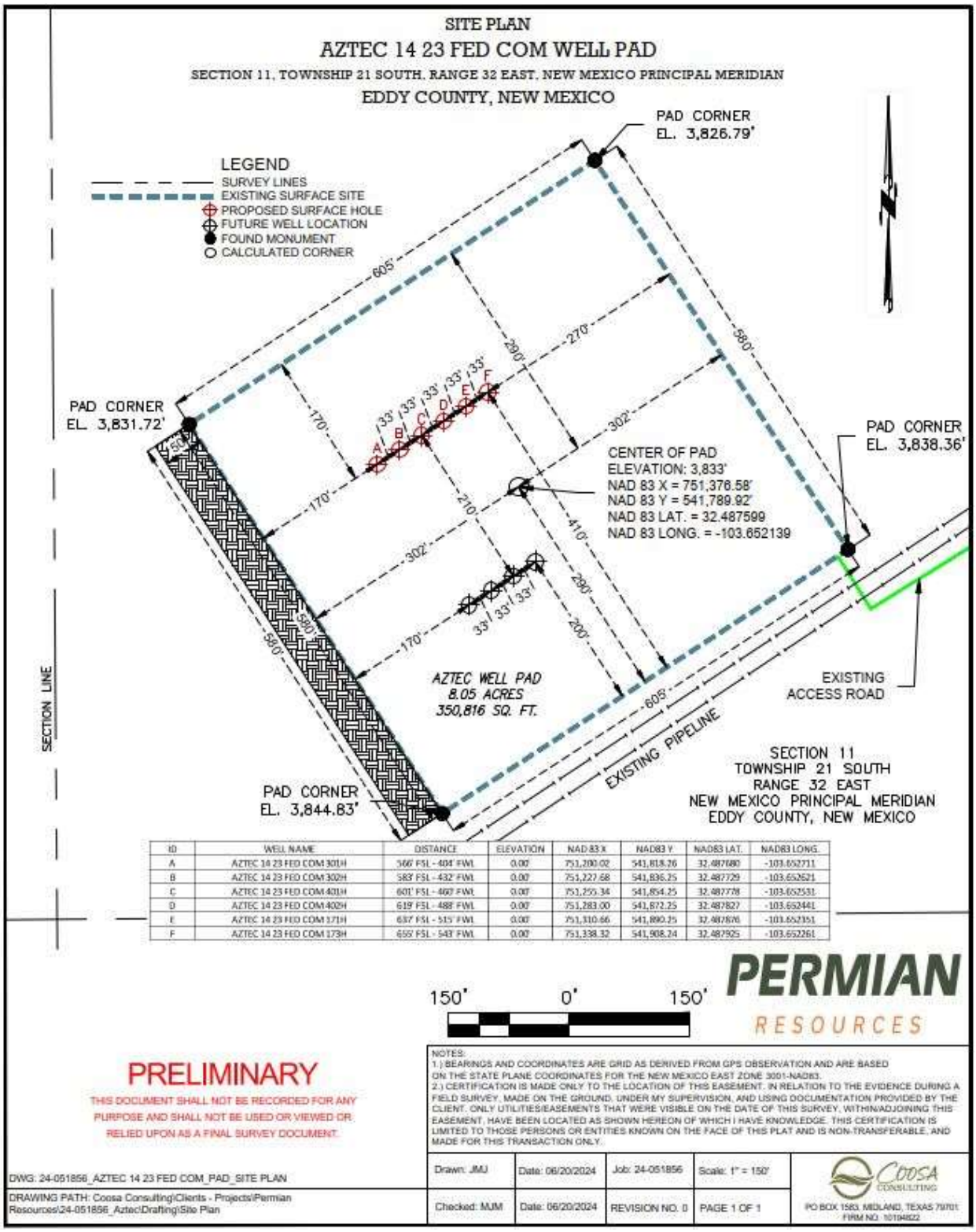
FROM THE INTERSECTION NM-207 AND NM-176 IN EUNICE, NEW MEXICO:

1. MOVE WEST ON NM-176 APPROX. 29 MILES
2. TURN LEFT ONTO BOOTLEG LN AND MOVE SOUTH APPROX. 3241 FEET.
3. KEEP RIGHT ONTO BOOTLEG LN AND MOVE SOUTHWEST APPROX. 2 MILES.
4. TURN RIGHT ONTO LEASE ROAD AND MOVE WEST APPROX. 1100 FEET

TO SOUTHEAST WELL PAD CORNER.

| Permian Resources Corporation | $H_2S$ Contingency Plan<br>Aztec 14 23 Fed Com 171H, 173H,<br>301H, 302H, 401H, 402H | Eddy County, New Mexico |
|---|---|---|

Plat of Location




| ID | WELL NAME | DISTANCE | ELEVATION | NAD 83 X | NAD83 Y | NAD83 LAT. | NAD83 LONG. |
|---|---|---|---|---|---|---|---|
| A | AZTEC 14 23 FED COM 301H | 566' FSL - 404' FWL | 0.00' | 751,200.02 | 541,818.26 | 32.487680 | -103.652711 |
| B | AZTEC 14 23 FED COM 302H | 583' FSL - 432' FWL | 0.00' | 751,227.68 | 541,836.25 | 32.487729 | -103.652621 |
| C | AZTEC 14 23 FED COM 401H | 601' FSL - 460' FWL | 0.00' | 751,255.34 | 541,854.25 | 32.487778 | -103.652531 |
| D | AZTEC 14 23 FED COM 402H | 619' FSL - 488' FWL | 0.00' | 751,283.00 | 541,872.25 | 32.487827 | -103.652441 |
| E | AZTEC 14 23 FED COM 171H | 637' FSL - 515' FWL | 0.00' | 751,310.66 | 541,890.25 | 32.487876 | -103.652351 |
| F | AZTEC 14 23 FED COM 173H | 655' FSL - 543' FWL | 0.00' | 751,338.32 | 541,908.24 | 32.487925 | -103.652261 |

| Permian Resources Corporation | $H_2S$ Contingency Plan<br>Aztec 14 23 Fed Com 171H, 173H,<br>301H, 302H, 401H, 402H | Eddy County, New Mexico |
|---|---|---|

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 | $H_2S$ Contingency Plan<br>Aztec 14 23 Fed Com 171H, 173H,<br>301H, 302H, 401H, 402H | Eddy County, New Mexico |
|---|---|---|

***Map of 3000' ROE Perimeter***

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

| | | |
|---|---|---|
| **Enter $H_2S$ in PPM** | 1500 | |
| **Enter Gas flow in mcf/day (maximum worst case conditions)** | 2500 | |
| **500** ppm radius of exposure (public road) | **105** | feet |
| **300** ppm radius of exposure | **146** | feet |
| **100** ppm radius of exposure (public area) | **230** | feet |

- Location NAD 83 GPS Coordinates ***Lat: 32.487599, Long: -103.652139***

***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 Highway 176, which is 2.5 miles from the location.

***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 $H_2S$ 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 $H_2S$**

| Properties of H2S | Description |
|---|---|
| Vapor Density > 1 = 1.189<br>Air = 1 | ▪ H2S gas is slightly heavier than air, which can cause it to settle in low places and build in concentration.<br>▪ Produced as a mixture with other gases associated with oil and gas production. |
| Flammable Range 4.3%-46%<br>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.

**$H_2S$ 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 (ppm) | Symptoms/Effects |
|---|---|
| 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.

| SULFUR DIOXIDE TOXICITY | | |
|---|---|---|
| Concentration | | 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 $H_2S$ 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 – $H_2S$ 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 $H_2S$ Radius of Exposure**

| $H_2S$ Radius of Exposure | Description | Control and Equipment Requirements |
|---|---|---|
| 100 ppm | Distance from a release to where the $H_2S$ 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).<br>ROE > 3,000-ft |

| | | |
|---|---|---|
| 500 ppm | Distance from a release to where the $H_2S$ 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 $H_2S$ Radius of Exposure**

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 ($ft^3$/d)** normalized to standard temperature and pressure, 60°F and 14.65 psia |
| *Mole fraction $H_2S$ =* | Mole fraction of $H_2S$ in the gaseous mixture released. |

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

- The maximum daily volume rate of gas containing $H_2S$ handled by that system element for which the ROE is calculated.
- For existing gas wells, the current adjusted open-flow rate, or the operator's estimate of the well's capacity to flow against zero back-pressure at the wellhead.

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

- Two cleared areas will be designated as Safe Briefing Areas. During an emergency, personnel will assemble in one of these areas for instructions from the Permian Resources Person-in-Charge. Prevailing wind direction should be considered in locating the briefing areas 200' or more on either side of the well head. One area should offset the other at an angle of 45° to 90° with respect to prevailing wind direction to allow for wind shifts during the work period.
- In the event of either an intentional or accidental releases of hydrogen sulfide, safeguards to protect the general public from the harmful effects of hydrogen sulfide must be in place for operations. A summary of the provisions in each of three $H_2S$ ROE cases is included in **Table 8.3**.
    - **CASE 1 -**100 ppm ROE < 50'

- **CASE 2** - 100 ppm ROE is 50' or greater, but < 3000' and does not penetrate public area.
- **CASE 3** -100 ppm ROE is 50' or greater and penetrates a public area or 500 ppm ROE includes a public road. Also if 100 ppm ROE > 3000' regardless of public area.

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

| NMAC 19.15.11 & BLM COMPLIANCE REQUIREMENTS – DRILLING & PRODUCTION | | | |
|---|---|---|---|
| **PROVISION** | **CASE 1** | **CASE 2** | **CASE 3** |
| $H_2S$ 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 ($H_2S$) and ($SO_2$).
- Sources of $H_2S$ and $SO_2$.
- Proper use of $H_2S$ and $SO_2$ detection methods used at the workplace.
- Recognition of, and proper response to, the warning signals initiated by $H_2S$ and $SO_2$ detection systems in use at the workplace.
- Symptoms of $H_2S$ exposure; symptoms of $SO_2$ exposure
- Rescue techniques and first aid to victims of $H_2S$ and $SO_2$ exposure.
- Proper use and maintenance of breathing equipment for working in $H_2S$ and $SO_2$ 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 $H_2S$ and $SO_2$.
- 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.***

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

I. Personal $H_2S$ Monitors

All personnel engaged in planned or unplanned work activity to mitigate the release of a hazardous concentration of $H_2S$ shall have on their person a personal H2S monitor.

II. Fixed $H_2S$ Detection and Alarms

- 4 channel $H_2S$ monitor
- 4 wireless $H_2S$ monitors
- $H_2S$ alarm system (Audible/Red strobe)
- Personal gas monitor for each person on location
- Gas sample tubes

III. Flame Resistant Clothing

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

IV. Respiratory Protection

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

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

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

- When routine or maintenance work tasks involve exposure to $H_2S$ concentrations of 10 ppm or greater.
- When a fixed location area monitor alarms, and re-entry to the work area is required to complete a job.
- When confined spaces are to be entered without knowledge of $H_2S$ levels present, or if initial measurements are to be taken of $H_2S$ levels.
- During rescue of employees suspected of $H_2S$ 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.

Appendix A
$H_2S$ SDS

PRAXAIR

# 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 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

| | | |
|---|---|---|
| Recommended uses and restrictions | : | Industrial use<br>Use as directed |

### 1.3. Supplier

Praxair Canada inc.
1200 – 1 City Centre Drive
Mississauga - Canada L5B 1M2
T 1-905-803-1600 - F 1-905-803-1682
www.praxair.ca

### 1.4. Emergency telephone number

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

## SECTION 2: Hazard identification

### 2.1. Classification of the substance or mixture

**GHS-CA classification**

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

### 2.2. GHS Label elements, including precautionary statements

**GHS-CA labelling**

Hazard pictograms :

GHS02 GHS04 GHS06 GHS07

Signal word : DANGER

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

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

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# 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 Supersedes: 10-15-2013

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 protection
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 | 100 | 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

PRAXAIR

# 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 Supersedes: 10-15-2013

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

Fire hazard : **EXTREMELY FLAMMABLE GAS.** If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

Explosion hazard : **EXTREMELY FLAMMABLE GAS.** Forms explosive mixtures with air and oxidizing agents.

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

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

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

Firefighting instructions : **DANGER! Toxic, flammable liquefied gas**

Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with their provincial and local fire code regulations.

Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.).

## SECTION 6: Accidental release measures

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

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

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

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

### 6.3. Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Leak-check system with soapy water; never use a flame

All piped systems and associated equipment must be grounded

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

### 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 controls/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

## 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 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 bylaws or guidelines.

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

Thermal hazard protection : Wear cold insulating gloves when 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.

| | | |
|---|---|---|
| pH | : | Not applicable. |
| pH solution | : | No data available |
| Relative evaporation rate (butylacetate=1) | : | No data available |
| Relative evaporation rate (ether=1) | : | Not applicable. |
| Melting point | : | -86 °C |
| Freezing point | : | -82.9 °C |
| Boiling point | : | -60.3 °C |
| Flash point | : | Not applicable. |
| Critical temperature | : | 100.4 °C |
| Auto-ignition temperature | : | 260 °C |
| Decomposition temperature | : | No data available |
| Vapour pressure | : | 1880 kPa |
| 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. |
| Log Kow | : | Not applicable. |
| Viscosity, kinematic | : | Not applicable. |
| Viscosity, dynamic | : | Not applicable. |
| 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

| | | |
|---|---|---|
| Gas group | : | Liquefied gas |
| Additional information | : | Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level |

## SECTION 10: Stability and reactivity

### 10.1. 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. – No smoking. |
| Incompatible materials | : | Ammonia. Bases. Bromine pentafluoride. Chlorine trifluoride. chromium trioxide. (and heat). 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

### 11.1. Information on toxicological effects

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

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# 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 Supersedes: 10-15-2013

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 exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : VERY TOXIC TO AQUATIC LIFE.

| Hydrogen sulfide (7783-06-4) | |
|---|---|
| LC50 fish 1 | 0.0448 mg/l (Exposure time: 96 h - Species: 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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# 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 Supersedes: 10-15-2013

## 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 Carrying Railway Vehicle Index | : Forbidden |

### 14.3. Air and sea transport

**IMDG**

| | |
|---|---|
| UN-No. (IMDG) | : 1053 |
| Proper Shipping Name (IMDG) | : HYDROGEN SULPHIDE |
| Class (IMDG) | : 2 - Gases |
| MFAG-No | : 117 |

**IATA**

| | |
|---|---|
| UN-No. (IATA) | : 1053 |
| 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

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

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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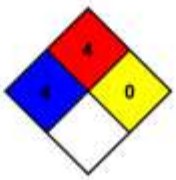
# Hydrogen sulfide

## 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 Supersedes: 10-15-2013

| | |
|---|---|
| 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<br><br>Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information<br><br>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).<br><br>PRAXAIR and the Flowing Airstream design are trademarks or registered trademarks of Praxair Technology, Inc. in the United States and/or other countries. |
| NFPA health hazard | : 4 - Very short exposure could cause death or serious residual injury even though prompt medical attention was given. |
| NFPA fire hazard | : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily. |
| NFPA reactivity | : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water. |




HMIS III Rating

| | |
|---|---|
| Health | : 2 Moderate Hazard - Temporary or minor injury may occur |
| Flammability | : 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA) |
| Physical | : 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air. |

SDS Canada (GHS) - Praxair

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

| Permian Resources Corporation | $H_2S$ Contingency Plan<br>Aztec 14 23 Fed Com 171H, 173H,<br>301H, 302H, 401H, 402H | Eddy County, New Mexico |
|---|---|---|

Appendix B
$SO_2$ SDS

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# 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
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** **SDS ID: MAT22290**

Wash thoroughly after handling.
Do not breathe dusts or mists.

**Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor.
Specific treatment (see label).

**Storage**

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight.

**Disposal**

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

**Other Hazards**

Contact with liquified gas may cause frostbite.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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

### Section 4 - FIRST AID MEASURES

**Inhalation**

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

**Skin**

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

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

**Ingestion**

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

**Most Important Symptoms/Effects**

**Acute**

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

**Delayed**

No information on significant adverse effects.

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

Treat symptomatically and supportively.

**Note to Physicians**

For inhalation, consider oxygen.

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# Safety Data Sheet

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

## 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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## Safety Data Sheet

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

| | |
|---|---|
| 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 | **pH** | (Acidic in solution ) |
| **Melting Point** | -73 °C (-99 °F ) | **Boiling Point** | -10 °C (14 °F ) |
| **Boiling Point Range** | Not available | **Freezing point** | Not available |
| **Evaporation Rate** | >1 (Butyl acetate = 1 ) | **Flammability (solid, gas)** | Not available |
| **Autoignition Temperature** | Not available | **Flash Point** | (Not flammable ) |
| **Lower Explosive Limit** | Not available | **Decomposition temperature** | Not available |
| **Upper Explosive Limit** | Not available | **Vapor Pressure** | 2432 mmHg @ 20 °C |
| **Vapor Density (air=1)** | 2.26 | **Specific Gravity (water=1)** | 1.462 at -10 °C |

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## 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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## Safety Data Sheet

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

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

**Delayed Effects**
No information on significant adverse effects.

**Irritation/Corrosivity Data**
respiratory tract burns, skin burns, eye burns

**Respiratory Sensitization**
No data available.

**Dermal Sensitization**
No data available.

**Component Carcinogenicity**

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

**Germ Cell Mutagenicity**
No data available.

**Tumorigenic Data**
No data available

**Reproductive Toxicity**
No data available.

**Specific Target Organ Toxicity - Single Exposure**
No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**
No target organs identified.

**Aspiration hazard**
Not applicable.

**Medical Conditions Aggravated by Exposure**
respiratory disorders

### Section 12 - ECOLOGICAL INFORMATION

**Component Analysis - Aquatic Toxicity**
No 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** **SDS ID: MAT22290**

**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.

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## Safety Data Sheet

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

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

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

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

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

### Section 16 - OTHER INFORMATION

**NFPA Ratings**
Health: 3 Fire: 0 Instability: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**
SDS update: 02/10/2016

**Key / Legend**
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;

# NEW MEXICO

**(SP) LEA**
**AZTEC PROJECT**
**AZTEC 14 23 FED COM 173H**

**OWB**

**Plan: PWP0**

# Standard Planning Report - Geographic

**08 July, 2024**

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Project** (SP) LEA

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1983 | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | North American Datum 1983 | | |
| **Map Zone:** | New Mexico Eastern Zone | | |

**Site** AZTEC PROJECT

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 751,310.66 usft | **Latitude:** | 33° 3' 55.241 N |
| **From:** | Map | **Easting:** | 541,890.25 usft | **Longitude:** | 104° 19' 53.504 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | | |

**Well** AZTEC 14 23 FED COM 173H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 usft | **Northing:** | 541,908.24 usft | **Latitude:** | 32° 29' 16.529 N |
| | **+E/-W** | 0.0 usft | **Easting:** | 751,338.32 usft | **Longitude:** | 103° 39' 8.138 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | usft | **Ground Level:** | 3,834.0 usft |
| **Grid Convergence:** | | 0.37 ° | | | | |

**Wellbore** OWB

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF200510 | 12/31/2009 | 7.81 | 60.47 | 48,940.68911217 |

**Design** PWP0

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 170.63 |

**Plan Survey Tool Program** **Date** 7/8/2024

| | Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.0 | 21,912.7 | PWP0 (OWB) | MWD<br>OWSG_Rev2_ MWD - Star | |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,110.5 | 12.21 | 98.97 | 3,105.9 | -10.1 | 64.0 | 2.00 | 2.00 | 0.00 | 98.97 | |
| 10,813.9 | 12.21 | 98.97 | 10,635.0 | -264.1 | 1,673.3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 11,547.6 | 90.00 | 179.67 | 11,086.0 | -740.7 | 1,772.3 | 12.00 | 10.60 | 11.00 | 80.90 | FTP-A14 23 FC 173 |
| 21,912.7 | 90.00 | 179.67 | 11,086.0 | -11,105.7 | 1,832.8 | 0.00 | 0.00 | 0.00 | 0.00 | BHL-A14 23 FC 173 |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,500.0 | 0.00 | 0.00 | 1,500.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 1,900.0 | 0.00 | 0.00 | 1,900.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,000.0 | 0.00 | 0.00 | 2,000.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,100.0 | 0.00 | 0.00 | 2,100.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,200.0 | 0.00 | 0.00 | 2,200.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,300.0 | 0.00 | 0.00 | 2,300.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,400.0 | 0.00 | 0.00 | 2,400.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 0.0 | 0.0 | 541,908.24 | 751,338.32 | 32° 29' 16.529 N | 103° 39' 8.138 W |
| **Start Build 2.00** | | | | | | | | | |
| 2,600.0 | 2.00 | 98.97 | 2,600.0 | -0.3 | 1.7 | 541,907.97 | 751,340.04 | 32° 29' 16.526 N | 103° 39' 8.118 W |
| 2,700.0 | 4.00 | 98.97 | 2,699.8 | -1.1 | 6.9 | 541,907.15 | 751,345.21 | 32° 29' 16.518 N | 103° 39' 8.058 W |
| 2,800.0 | 6.00 | 98.97 | 2,799.5 | -2.4 | 15.5 | 541,905.80 | 751,353.82 | 32° 29' 16.504 N | 103° 39' 7.958 W |
| 2,900.0 | 8.00 | 98.97 | 2,898.7 | -4.3 | 27.5 | 541,903.90 | 751,365.86 | 32° 29' 16.484 N | 103° 39' 7.817 W |
| 3,000.0 | 10.00 | 98.97 | 2,997.5 | -6.8 | 43.0 | 541,901.46 | 751,381.31 | 32° 29' 16.459 N | 103° 39' 7.637 W |
| 3,100.0 | 12.00 | 98.97 | 3,095.6 | -9.8 | 61.8 | 541,898.48 | 751,400.15 | 32° 29' 16.429 N | 103° 39' 7.417 W |
| 3,110.5 | 12.21 | 98.97 | 3,105.9 | -10.1 | 64.0 | 541,898.14 | 751,402.32 | 32° 29' 16.425 N | 103° 39' 7.392 W |
| **Start 7703.4 hold at 3110.5 MD** | | | | | | | | | |
| 3,200.0 | 12.21 | 98.97 | 3,193.4 | -13.1 | 82.7 | 541,895.19 | 751,421.03 | 32° 29' 16.395 N | 103° 39' 7.174 W |
| 3,300.0 | 12.21 | 98.97 | 3,291.1 | -16.4 | 103.6 | 541,891.89 | 751,441.92 | 32° 29' 16.361 N | 103° 39' 6.930 W |
| 3,400.0 | 12.21 | 98.97 | 3,388.8 | -19.7 | 124.5 | 541,888.59 | 751,462.81 | 32° 29' 16.327 N | 103° 39' 6.686 W |
| 3,500.0 | 12.21 | 98.97 | 3,486.6 | -22.9 | 145.4 | 541,885.29 | 751,483.70 | 32° 29' 16.293 N | 103° 39' 6.443 W |
| 3,600.0 | 12.21 | 98.97 | 3,584.3 | -26.2 | 166.3 | 541,882.00 | 751,504.59 | 32° 29' 16.259 N | 103° 39' 6.199 W |
| 3,700.0 | 12.21 | 98.97 | 3,682.1 | -29.5 | 187.2 | 541,878.70 | 751,525.48 | 32° 29' 16.225 N | 103° 39' 5.956 W |
| 3,800.0 | 12.21 | 98.97 | 3,779.8 | -32.8 | 208.0 | 541,875.40 | 751,546.37 | 32° 29' 16.191 N | 103° 39' 5.712 W |
| 3,900.0 | 12.21 | 98.97 | 3,877.5 | -36.1 | 228.9 | 541,872.10 | 751,567.26 | 32° 29' 16.157 N | 103° 39' 5.468 W |
| 4,000.0 | 12.21 | 98.97 | 3,975.3 | -39.4 | 249.8 | 541,868.81 | 751,588.15 | 32° 29' 16.123 N | 103° 39' 5.225 W |
| 4,100.0 | 12.21 | 98.97 | 4,073.0 | -42.7 | 270.7 | 541,865.51 | 751,609.04 | 32° 29' 16.089 N | 103° 39' 4.981 W |
| 4,200.0 | 12.21 | 98.97 | 4,170.7 | -46.0 | 291.6 | 541,862.21 | 751,629.93 | 32° 29' 16.055 N | 103° 39' 4.737 W |
| 4,300.0 | 12.21 | 98.97 | 4,268.5 | -49.3 | 312.5 | 541,858.91 | 751,650.82 | 32° 29' 16.021 N | 103° 39' 4.494 W |
| 4,400.0 | 12.21 | 98.97 | 4,366.2 | -52.6 | 333.4 | 541,855.62 | 751,671.71 | 32° 29' 15.987 N | 103° 39' 4.250 W |
| 4,500.0 | 12.21 | 98.97 | 4,464.0 | -55.9 | 354.3 | 541,852.32 | 751,692.60 | 32° 29' 15.953 N | 103° 39' 4.006 W |
| 4,600.0 | 12.21 | 98.97 | 4,561.7 | -59.2 | 375.2 | 541,849.02 | 751,713.49 | 32° 29' 15.919 N | 103° 39' 3.763 W |
| 4,700.0 | 12.21 | 98.97 | 4,659.4 | -62.5 | 396.1 | 541,845.72 | 751,734.38 | 32° 29' 15.885 N | 103° 39' 3.519 W |
| 4,800.0 | 12.21 | 98.97 | 4,757.2 | -65.8 | 417.0 | 541,842.43 | 751,755.27 | 32° 29' 15.851 N | 103° 39' 3.275 W |
| 4,900.0 | 12.21 | 98.97 | 4,854.9 | -69.1 | 437.8 | 541,839.13 | 751,776.16 | 32° 29' 15.817 N | 103° 39' 3.032 W |
| 5,000.0 | 12.21 | 98.97 | 4,952.7 | -72.4 | 458.7 | 541,835.83 | 751,797.05 | 32° 29' 15.784 N | 103° 39' 2.788 W |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 12.21 | 98.97 | 5,050.4 | -75.7 | 479.6 | 541,832.53 | 751,817.94 | 32° 29' 15.750 N | 103° 39' 2.545 W |
| 5,200.0 | 12.21 | 98.97 | 5,148.1 | -79.0 | 500.5 | 541,829.24 | 751,838.83 | 32° 29' 15.716 N | 103° 39' 2.301 W |
| 5,300.0 | 12.21 | 98.97 | 5,245.9 | -82.3 | 521.4 | 541,825.94 | 751,859.72 | 32° 29' 15.682 N | 103° 39' 2.057 W |
| 5,400.0 | 12.21 | 98.97 | 5,343.6 | -85.6 | 542.3 | 541,822.64 | 751,880.61 | 32° 29' 15.648 N | 103° 39' 1.814 W |
| 5,500.0 | 12.21 | 98.97 | 5,441.3 | -88.9 | 563.2 | 541,819.34 | 751,901.50 | 32° 29' 15.614 N | 103° 39' 1.570 W |
| 5,600.0 | 12.21 | 98.97 | 5,539.1 | -92.2 | 584.1 | 541,816.05 | 751,922.39 | 32° 29' 15.580 N | 103° 39' 1.326 W |
| 5,700.0 | 12.21 | 98.97 | 5,636.8 | -95.5 | 605.0 | 541,812.75 | 751,943.28 | 32° 29' 15.546 N | 103° 39' 1.083 W |
| 5,800.0 | 12.21 | 98.97 | 5,734.6 | -98.8 | 625.9 | 541,809.45 | 751,964.17 | 32° 29' 15.512 N | 103° 39' 0.839 W |
| 5,900.0 | 12.21 | 98.97 | 5,832.3 | -102.1 | 646.7 | 541,806.15 | 751,985.06 | 32° 29' 15.478 N | 103° 39' 0.595 W |
| 6,000.0 | 12.21 | 98.97 | 5,930.0 | -105.4 | 667.6 | 541,802.86 | 752,005.95 | 32° 29' 15.444 N | 103° 39' 0.352 W |
| 6,100.0 | 12.21 | 98.97 | 6,027.8 | -108.7 | 688.5 | 541,799.56 | 752,026.84 | 32° 29' 15.410 N | 103° 39' 0.108 W |
| 6,200.0 | 12.21 | 98.97 | 6,125.5 | -112.0 | 709.4 | 541,796.26 | 752,047.73 | 32° 29' 15.376 N | 103° 38' 59.865 W |
| 6,300.0 | 12.21 | 98.97 | 6,223.2 | -115.3 | 730.3 | 541,792.96 | 752,068.62 | 32° 29' 15.342 N | 103° 38' 59.621 W |
| 6,400.0 | 12.21 | 98.97 | 6,321.0 | -118.6 | 751.2 | 541,789.67 | 752,089.51 | 32° 29' 15.308 N | 103° 38' 59.377 W |
| 6,500.0 | 12.21 | 98.97 | 6,418.7 | -121.9 | 772.1 | 541,786.37 | 752,110.40 | 32° 29' 15.274 N | 103° 38' 59.134 W |
| 6,600.0 | 12.21 | 98.97 | 6,516.5 | -125.2 | 793.0 | 541,783.07 | 752,131.29 | 32° 29' 15.240 N | 103° 38' 58.890 W |
| 6,700.0 | 12.21 | 98.97 | 6,614.2 | -128.5 | 813.9 | 541,779.77 | 752,152.18 | 32° 29' 15.206 N | 103° 38' 58.646 W |
| 6,800.0 | 12.21 | 98.97 | 6,711.9 | -131.8 | 834.8 | 541,776.48 | 752,173.07 | 32° 29' 15.172 N | 103° 38' 58.403 W |
| 6,900.0 | 12.21 | 98.97 | 6,809.7 | -135.1 | 855.6 | 541,773.18 | 752,193.96 | 32° 29' 15.138 N | 103° 38' 58.159 W |
| 7,000.0 | 12.21 | 98.97 | 6,907.4 | -138.4 | 876.5 | 541,769.88 | 752,214.85 | 32° 29' 15.104 N | 103° 38' 57.915 W |
| 7,100.0 | 12.21 | 98.97 | 7,005.1 | -141.7 | 897.4 | 541,766.58 | 752,235.74 | 32° 29' 15.070 N | 103° 38' 57.672 W |
| 7,200.0 | 12.21 | 98.97 | 7,102.9 | -145.0 | 918.3 | 541,763.29 | 752,256.63 | 32° 29' 15.037 N | 103° 38' 57.428 W |
| 7,300.0 | 12.21 | 98.97 | 7,200.6 | -148.3 | 939.2 | 541,759.99 | 752,277.52 | 32° 29' 15.003 N | 103° 38' 57.184 W |
| 7,400.0 | 12.21 | 98.97 | 7,298.4 | -151.6 | 960.1 | 541,756.69 | 752,298.41 | 32° 29' 14.969 N | 103° 38' 56.941 W |
| 7,500.0 | 12.21 | 98.97 | 7,396.1 | -154.8 | 981.0 | 541,753.39 | 752,319.30 | 32° 29' 14.935 N | 103° 38' 56.697 W |
| 7,600.0 | 12.21 | 98.97 | 7,493.8 | -158.1 | 1,001.9 | 541,750.10 | 752,340.19 | 32° 29' 14.901 N | 103° 38' 56.454 W |
| 7,700.0 | 12.21 | 98.97 | 7,591.6 | -161.4 | 1,022.8 | 541,746.80 | 752,361.08 | 32° 29' 14.867 N | 103° 38' 56.210 W |
| 7,800.0 | 12.21 | 98.97 | 7,689.3 | -164.7 | 1,043.7 | 541,743.50 | 752,381.97 | 32° 29' 14.833 N | 103° 38' 55.966 W |
| 7,900.0 | 12.21 | 98.97 | 7,787.1 | -168.0 | 1,064.5 | 541,740.20 | 752,402.86 | 32° 29' 14.799 N | 103° 38' 55.723 W |
| 8,000.0 | 12.21 | 98.97 | 7,884.8 | -171.3 | 1,085.4 | 541,736.91 | 752,423.75 | 32° 29' 14.765 N | 103° 38' 55.479 W |
| 8,100.0 | 12.21 | 98.97 | 7,982.5 | -174.6 | 1,106.3 | 541,733.61 | 752,444.64 | 32° 29' 14.731 N | 103° 38' 55.235 W |
| 8,200.0 | 12.21 | 98.97 | 8,080.3 | -177.9 | 1,127.2 | 541,730.31 | 752,465.53 | 32° 29' 14.697 N | 103° 38' 54.992 W |
| 8,300.0 | 12.21 | 98.97 | 8,178.0 | -181.2 | 1,148.1 | 541,727.01 | 752,486.42 | 32° 29' 14.663 N | 103° 38' 54.748 W |
| 8,400.0 | 12.21 | 98.97 | 8,275.7 | -184.5 | 1,169.0 | 541,723.72 | 752,507.31 | 32° 29' 14.629 N | 103° 38' 54.504 W |
| 8,500.0 | 12.21 | 98.97 | 8,373.5 | -187.8 | 1,189.9 | 541,720.42 | 752,528.20 | 32° 29' 14.595 N | 103° 38' 54.261 W |
| 8,600.0 | 12.21 | 98.97 | 8,471.2 | -191.1 | 1,210.8 | 541,717.12 | 752,549.09 | 32° 29' 14.561 N | 103° 38' 54.017 W |
| 8,700.0 | 12.21 | 98.97 | 8,569.0 | -194.4 | 1,231.7 | 541,713.82 | 752,569.98 | 32° 29' 14.527 N | 103° 38' 53.774 W |
| 8,800.0 | 12.21 | 98.97 | 8,666.7 | -197.7 | 1,252.6 | 541,710.53 | 752,590.87 | 32° 29' 14.493 N | 103° 38' 53.530 W |
| 8,900.0 | 12.21 | 98.97 | 8,764.4 | -201.0 | 1,273.4 | 541,707.23 | 752,611.76 | 32° 29' 14.459 N | 103° 38' 53.286 W |
| 9,000.0 | 12.21 | 98.97 | 8,862.2 | -204.3 | 1,294.3 | 541,703.93 | 752,632.65 | 32° 29' 14.425 N | 103° 38' 53.043 W |
| 9,100.0 | 12.21 | 98.97 | 8,959.9 | -207.6 | 1,315.2 | 541,700.63 | 752,653.54 | 32° 29' 14.391 N | 103° 38' 52.799 W |
| 9,200.0 | 12.21 | 98.97 | 9,057.6 | -210.9 | 1,336.1 | 541,697.34 | 752,674.43 | 32° 29' 14.357 N | 103° 38' 52.555 W |
| 9,300.0 | 12.21 | 98.97 | 9,155.4 | -214.2 | 1,357.0 | 541,694.04 | 752,695.32 | 32° 29' 14.323 N | 103° 38' 52.312 W |
| 9,400.0 | 12.21 | 98.97 | 9,253.1 | -217.5 | 1,377.9 | 541,690.74 | 752,716.21 | 32° 29' 14.290 N | 103° 38' 52.068 W |
| 9,500.0 | 12.21 | 98.97 | 9,350.9 | -220.8 | 1,398.8 | 541,687.44 | 752,737.10 | 32° 29' 14.256 N | 103° 38' 51.824 W |
| 9,600.0 | 12.21 | 98.97 | 9,448.6 | -224.1 | 1,419.7 | 541,684.15 | 752,757.99 | 32° 29' 14.222 N | 103° 38' 51.581 W |
| 9,700.0 | 12.21 | 98.97 | 9,546.3 | -227.4 | 1,440.6 | 541,680.85 | 752,778.88 | 32° 29' 14.188 N | 103° 38' 51.337 W |
| 9,800.0 | 12.21 | 98.97 | 9,644.1 | -230.7 | 1,461.5 | 541,677.55 | 752,799.77 | 32° 29' 14.154 N | 103° 38' 51.094 W |
| 9,900.0 | 12.21 | 98.97 | 9,741.8 | -234.0 | 1,482.3 | 541,674.25 | 752,820.66 | 32° 29' 14.120 N | 103° 38' 50.850 W |
| 10,000.0 | 12.21 | 98.97 | 9,839.6 | -237.3 | 1,503.2 | 541,670.96 | 752,841.55 | 32° 29' 14.086 N | 103° 38' 50.606 W |
| 10,100.0 | 12.21 | 98.97 | 9,937.3 | -240.6 | 1,524.1 | 541,667.66 | 752,862.44 | 32° 29' 14.052 N | 103° 38' 50.363 W |
| 10,200.0 | 12.21 | 98.97 | 10,035.0 | -243.9 | 1,545.0 | 541,664.36 | 752,883.33 | 32° 29' 14.018 N | 103° 38' 50.119 W |
| 10,300.0 | 12.21 | 98.97 | 10,132.8 | -247.2 | 1,565.9 | 541,661.06 | 752,904.22 | 32° 29' 13.984 N | 103° 38' 49.875 W |
| 10,400.0 | 12.21 | 98.97 | 10,230.5 | -250.5 | 1,586.8 | 541,657.77 | 752,925.11 | 32° 29' 13.950 N | 103° 38' 49.632 W |
| 10,500.0 | 12.21 | 98.97 | 10,328.2 | -253.8 | 1,607.7 | 541,654.47 | 752,946.00 | 32° 29' 13.916 N | 103° 38' 49.388 W |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 10,600.0 | 12.21 | 98.97 | 10,426.0 | -257.1 | 1,628.6 | 541,651.17 | 752,966.89 | 32° 29' 13.882 N | 103° 38' 49.144 W |
| 10,700.0 | 12.21 | 98.97 | 10,523.7 | -260.4 | 1,649.5 | 541,647.87 | 752,987.78 | 32° 29' 13.848 N | 103° 38' 48.901 W |
| 10,800.0 | 12.21 | 98.97 | 10,621.5 | -263.7 | 1,670.4 | 541,644.58 | 753,008.67 | 32° 29' 13.814 N | 103° 38' 48.657 W |
| 10,813.9 | 12.21 | 98.97 | 10,635.0 | -264.1 | 1,673.3 | 541,644.12 | 753,011.57 | 32° 29' 13.809 N | 103° 38' 48.623 W |
| **Start DLS 12.00 TFO 80.90** | | | | | | | | | |
| 10,825.0 | 12.49 | 105.07 | 10,645.9 | -264.6 | 1,675.6 | 541,643.62 | 753,013.90 | 32° 29' 13.804 N | 103° 38' 48.596 W |
| 10,850.0 | 13.58 | 117.50 | 10,670.2 | -266.7 | 1,680.8 | 541,641.56 | 753,019.11 | 32° 29' 13.784 N | 103° 38' 48.536 W |
| 10,875.0 | 15.18 | 127.75 | 10,694.5 | -270.0 | 1,686.0 | 541,638.20 | 753,024.30 | 32° 29' 13.750 N | 103° 38' 48.475 W |
| 10,900.0 | 17.15 | 135.89 | 10,718.5 | -274.7 | 1,691.1 | 541,633.55 | 753,029.46 | 32° 29' 13.704 N | 103° 38' 48.415 W |
| 10,925.0 | 19.38 | 142.30 | 10,742.2 | -280.6 | 1,696.2 | 541,627.62 | 753,034.56 | 32° 29' 13.645 N | 103° 38' 48.356 W |
| 10,950.0 | 21.79 | 147.39 | 10,765.6 | -287.8 | 1,701.3 | 541,620.43 | 753,039.60 | 32° 29' 13.573 N | 103° 38' 48.298 W |
| 10,975.0 | 24.33 | 151.48 | 10,788.6 | -296.2 | 1,706.2 | 541,611.99 | 753,044.56 | 32° 29' 13.489 N | 103° 38' 48.241 W |
| 11,000.0 | 26.96 | 154.84 | 10,811.2 | -305.9 | 1,711.1 | 541,602.34 | 753,049.43 | 32° 29' 13.394 N | 103° 38' 48.185 W |
| 11,025.0 | 29.65 | 157.63 | 10,833.2 | -316.8 | 1,715.9 | 541,591.49 | 753,054.19 | 32° 29' 13.286 N | 103° 38' 48.130 W |
| 11,050.0 | 32.39 | 160.00 | 10,854.6 | -328.8 | 1,720.5 | 541,579.48 | 753,058.84 | 32° 29' 13.167 N | 103° 38' 48.076 W |
| 11,075.0 | 35.17 | 162.03 | 10,875.4 | -341.9 | 1,725.0 | 541,566.33 | 753,063.35 | 32° 29' 13.036 N | 103° 38' 48.025 W |
| 11,100.0 | 37.98 | 163.79 | 10,895.5 | -356.1 | 1,729.4 | 541,552.09 | 753,067.72 | 32° 29' 12.895 N | 103° 38' 47.975 W |
| 11,125.0 | 40.81 | 165.35 | 10,914.8 | -371.4 | 1,733.6 | 541,536.80 | 753,071.94 | 32° 29' 12.744 N | 103° 38' 47.927 W |
| 11,150.0 | 43.66 | 166.74 | 10,933.3 | -387.8 | 1,737.7 | 541,520.49 | 753,075.98 | 32° 29' 12.582 N | 103° 38' 47.881 W |
| 11,175.0 | 46.53 | 167.99 | 10,950.9 | -405.0 | 1,741.5 | 541,503.21 | 753,079.85 | 32° 29' 12.411 N | 103° 38' 47.837 W |
| 11,200.0 | 49.41 | 169.12 | 10,967.7 | -423.2 | 1,745.2 | 541,485.01 | 753,083.53 | 32° 29' 12.230 N | 103° 38' 47.795 W |
| 11,225.0 | 52.30 | 170.17 | 10,983.4 | -442.3 | 1,748.7 | 541,465.94 | 753,087.01 | 32° 29' 12.042 N | 103° 38' 47.756 W |
| 11,250.0 | 55.20 | 171.13 | 10,998.2 | -462.2 | 1,752.0 | 541,446.05 | 753,090.29 | 32° 29' 11.845 N | 103° 38' 47.719 W |
| 11,275.0 | 58.10 | 172.03 | 11,012.0 | -482.8 | 1,755.0 | 541,425.40 | 753,093.34 | 32° 29' 11.640 N | 103° 38' 47.685 W |
| 11,300.0 | 61.01 | 172.87 | 11,024.6 | -504.2 | 1,757.9 | 541,404.03 | 753,096.17 | 32° 29' 11.428 N | 103° 38' 47.654 W |
| 11,325.0 | 63.93 | 173.67 | 11,036.2 | -526.2 | 1,760.5 | 541,382.02 | 753,098.77 | 32° 29' 11.210 N | 103° 38' 47.625 W |
| 11,350.0 | 66.85 | 174.43 | 11,046.6 | -548.8 | 1,762.8 | 541,359.42 | 753,101.12 | 32° 29' 10.987 N | 103° 38' 47.599 W |
| 11,375.0 | 69.77 | 175.15 | 11,055.8 | -572.0 | 1,764.9 | 541,336.28 | 753,103.23 | 32° 29' 10.758 N | 103° 38' 47.576 W |
| 11,400.0 | 72.70 | 175.85 | 11,063.9 | -595.6 | 1,766.8 | 541,312.69 | 753,105.09 | 32° 29' 10.524 N | 103° 38' 47.557 W |
| 11,425.0 | 75.62 | 176.53 | 11,070.7 | -619.5 | 1,768.4 | 541,288.69 | 753,106.68 | 32° 29' 10.286 N | 103° 38' 47.540 W |
| 11,447.0 | 78.20 | 177.11 | 11,075.7 | -640.9 | 1,769.6 | 541,267.32 | 753,107.87 | 32° 29' 10.075 N | 103° 38' 47.527 W |
| **NMNM 0061261 Entry at 11447.0 MD** | | | | | | | | | |
| 11,450.0 | 78.56 | 177.19 | 11,076.3 | -643.9 | 1,769.7 | 541,264.37 | 753,108.02 | 32° 29' 10.046 N | 103° 38' 47.526 W |
| 11,475.0 | 81.49 | 177.83 | 11,080.6 | -668.5 | 1,770.8 | 541,239.77 | 753,109.09 | 32° 29' 9.802 N | 103° 38' 47.515 W |
| 11,500.0 | 84.42 | 178.47 | 11,083.7 | -693.3 | 1,771.6 | 541,214.97 | 753,109.89 | 32° 29' 9.557 N | 103° 38' 47.508 W |
| 11,525.0 | 87.35 | 179.10 | 11,085.5 | -718.2 | 1,772.1 | 541,190.05 | 753,110.41 | 32° 29' 9.310 N | 103° 38' 47.504 W |
| 11,547.6 | 90.00 | 179.67 | 11,086.0 | -740.7 | 1,772.3 | 541,167.50 | 753,110.66 | 32° 29' 9.087 N | 103° 38' 47.502 W |
| **Start 10365.2 hold at 11547.6 MD** | | | | | | | | | |
| 11,600.0 | 90.00 | 179.67 | 11,086.0 | -793.2 | 1,772.6 | 541,115.06 | 753,110.96 | 32° 29' 8.568 N | 103° 38' 47.503 W |
| 11,700.0 | 90.00 | 179.67 | 11,086.0 | -893.2 | 1,773.2 | 541,015.06 | 753,111.55 | 32° 29' 7.579 N | 103° 38' 47.503 W |
| 11,800.0 | 90.00 | 179.67 | 11,086.0 | -993.2 | 1,773.8 | 540,915.06 | 753,112.13 | 32° 29' 6.589 N | 103° 38' 47.504 W |
| 11,900.0 | 90.00 | 179.67 | 11,086.0 | -1,093.2 | 1,774.4 | 540,815.06 | 753,112.71 | 32° 29' 5.599 N | 103° 38' 47.505 W |
| 12,000.0 | 90.00 | 179.67 | 11,086.0 | -1,193.2 | 1,775.0 | 540,715.06 | 753,113.30 | 32° 29' 4.610 N | 103° 38' 47.506 W |
| 12,100.0 | 90.00 | 179.67 | 11,086.0 | -1,293.2 | 1,775.6 | 540,615.07 | 753,113.88 | 32° 29' 3.620 N | 103° 38' 47.506 W |
| 12,200.0 | 90.00 | 179.67 | 11,086.0 | -1,393.2 | 1,776.1 | 540,515.07 | 753,114.47 | 32° 29' 2.631 N | 103° 38' 47.507 W |
| 12,300.0 | 90.00 | 179.67 | 11,086.0 | -1,493.2 | 1,776.7 | 540,415.07 | 753,115.05 | 32° 29' 1.641 N | 103° 38' 47.508 W |
| 12,400.0 | 90.00 | 179.67 | 11,086.0 | -1,593.2 | 1,777.3 | 540,315.07 | 753,115.63 | 32° 29' 0.652 N | 103° 38' 47.508 W |
| 12,500.0 | 90.00 | 179.67 | 11,086.0 | -1,693.2 | 1,777.9 | 540,215.07 | 753,116.22 | 32° 28' 59.662 N | 103° 38' 47.509 W |
| 12,600.0 | 90.00 | 179.67 | 11,086.0 | -1,793.2 | 1,778.5 | 540,115.07 | 753,116.80 | 32° 28' 58.673 N | 103° 38' 47.510 W |
| 12,700.0 | 90.00 | 179.67 | 11,086.0 | -1,893.2 | 1,779.1 | 540,015.08 | 753,117.38 | 32° 28' 57.683 N | 103° 38' 47.510 W |
| 12,800.0 | 90.00 | 179.67 | 11,086.0 | -1,993.2 | 1,779.7 | 539,915.08 | 753,117.97 | 32° 28' 56.694 N | 103° 38' 47.511 W |
| 12,900.0 | 90.00 | 179.67 | 11,086.0 | -2,093.2 | 1,780.2 | 539,815.08 | 753,118.55 | 32° 28' 55.704 N | 103° 38' 47.512 W |
| 13,000.0 | 90.00 | 179.67 | 11,086.0 | -2,193.2 | 1,780.8 | 539,715.08 | 753,119.13 | 32° 28' 54.715 N | 103° 38' 47.513 W |
| 13,100.0 | 90.00 | 179.67 | 11,086.0 | -2,293.2 | 1,781.4 | 539,615.08 | 753,119.72 | 32° 28' 53.725 N | 103° 38' 47.513 W |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 13,200.0 | 90.00 | 179.67 | 11,086.0 | -2,393.2 | 1,782.0 | 539,515.09 | 753,120.30 | 32° 28' 52.736 N | 103° 38' 47.514 W |
| 13,300.0 | 90.00 | 179.67 | 11,086.0 | -2,493.2 | 1,782.6 | 539,415.09 | 753,120.89 | 32° 28' 51.746 N | 103° 38' 47.515 W |
| 13,400.0 | 90.00 | 179.67 | 11,086.0 | -2,593.2 | 1,783.2 | 539,315.09 | 753,121.47 | 32° 28' 50.757 N | 103° 38' 47.515 W |
| 13,500.0 | 90.00 | 179.67 | 11,086.0 | -2,693.2 | 1,783.7 | 539,215.09 | 753,122.05 | 32° 28' 49.767 N | 103° 38' 47.516 W |
| 13,600.0 | 90.00 | 179.67 | 11,086.0 | -2,793.2 | 1,784.3 | 539,115.09 | 753,122.64 | 32° 28' 48.778 N | 103° 38' 47.517 W |
| 13,700.0 | 90.00 | 179.67 | 11,086.0 | -2,893.1 | 1,784.9 | 539,015.09 | 753,123.22 | 32° 28' 47.788 N | 103° 38' 47.517 W |
| 13,800.0 | 90.00 | 179.67 | 11,086.0 | -2,993.1 | 1,785.5 | 538,915.10 | 753,123.80 | 32° 28' 46.799 N | 103° 38' 47.518 W |
| 13,900.0 | 90.00 | 179.67 | 11,086.0 | -3,093.1 | 1,786.1 | 538,815.10 | 753,124.39 | 32° 28' 45.809 N | 103° 38' 47.519 W |
| 14,000.0 | 90.00 | 179.67 | 11,086.0 | -3,193.1 | 1,786.7 | 538,715.10 | 753,124.97 | 32° 28' 44.820 N | 103° 38' 47.520 W |
| 14,083.0 | 90.00 | 179.67 | 11,086.0 | -3,276.1 | 1,787.1 | 538,632.13 | 753,125.46 | 32° 28' 43.999 N | 103° 38' 47.520 W |
| **NMNM 0061261 Exit at 14083.0 MD** | | | | | | | | | |
| 14,100.0 | 90.00 | 179.67 | 11,086.0 | -3,293.1 | 1,787.2 | 538,615.10 | 753,125.56 | 32° 28' 43.830 N | 103° 38' 47.520 W |
| 14,200.0 | 90.00 | 179.67 | 11,086.0 | -3,393.1 | 1,787.8 | 538,515.10 | 753,126.14 | 32° 28' 42.841 N | 103° 38' 47.521 W |
| 14,300.0 | 90.00 | 179.67 | 11,086.0 | -3,493.1 | 1,788.4 | 538,415.10 | 753,126.72 | 32° 28' 41.851 N | 103° 38' 47.522 W |
| 14,400.0 | 90.00 | 179.67 | 11,086.0 | -3,593.1 | 1,789.0 | 538,315.11 | 753,127.31 | 32° 28' 40.862 N | 103° 38' 47.522 W |
| 14,500.0 | 90.00 | 179.67 | 11,086.0 | -3,693.1 | 1,789.6 | 538,215.11 | 753,127.89 | 32° 28' 39.872 N | 103° 38' 47.523 W |
| 14,600.0 | 90.00 | 179.67 | 11,086.0 | -3,793.1 | 1,790.2 | 538,115.11 | 753,128.47 | 32° 28' 38.883 N | 103° 38' 47.524 W |
| 14,700.0 | 90.00 | 179.67 | 11,086.0 | -3,893.1 | 1,790.7 | 538,015.11 | 753,129.06 | 32° 28' 37.893 N | 103° 38' 47.525 W |
| 14,800.0 | 90.00 | 179.67 | 11,086.0 | -3,993.1 | 1,791.3 | 537,915.11 | 753,129.64 | 32° 28' 36.904 N | 103° 38' 47.525 W |
| 14,900.0 | 90.00 | 179.67 | 11,086.0 | -4,093.1 | 1,791.9 | 537,815.11 | 753,130.22 | 32° 28' 35.914 N | 103° 38' 47.526 W |
| 15,000.0 | 90.00 | 179.67 | 11,086.0 | -4,193.1 | 1,792.5 | 537,715.12 | 753,130.81 | 32° 28' 34.925 N | 103° 38' 47.527 W |
| 15,100.0 | 90.00 | 179.67 | 11,086.0 | -4,293.1 | 1,793.1 | 537,615.12 | 753,131.39 | 32° 28' 33.935 N | 103° 38' 47.527 W |
| 15,200.0 | 90.00 | 179.67 | 11,086.0 | -4,393.1 | 1,793.7 | 537,515.12 | 753,131.98 | 32° 28' 32.945 N | 103° 38' 47.528 W |
| 15,300.0 | 90.00 | 179.67 | 11,086.0 | -4,493.1 | 1,794.2 | 537,415.12 | 753,132.56 | 32° 28' 31.956 N | 103° 38' 47.529 W |
| 15,400.0 | 90.00 | 179.67 | 11,086.0 | -4,593.1 | 1,794.8 | 537,315.12 | 753,133.14 | 32° 28' 30.966 N | 103° 38' 47.529 W |
| 15,401.0 | 90.00 | 179.67 | 11,086.0 | -4,594.1 | 1,794.8 | 537,314.15 | 753,133.15 | 32° 28' 30.957 N | 103° 38' 47.529 W |
| **NMNM 002515 Entry at 15401.0 MD** | | | | | | | | | |
| 15,500.0 | 90.00 | 179.67 | 11,086.0 | -4,693.1 | 1,795.4 | 537,215.12 | 753,133.73 | 32° 28' 29.977 N | 103° 38' 47.530 W |
| 15,600.0 | 90.00 | 179.67 | 11,086.0 | -4,793.1 | 1,796.0 | 537,115.13 | 753,134.31 | 32° 28' 28.987 N | 103° 38' 47.531 W |
| 15,700.0 | 90.00 | 179.67 | 11,086.0 | -4,893.1 | 1,796.6 | 537,015.13 | 753,134.89 | 32° 28' 27.998 N | 103° 38' 47.532 W |
| 15,800.0 | 90.00 | 179.67 | 11,086.0 | -4,993.1 | 1,797.2 | 536,915.13 | 753,135.48 | 32° 28' 27.008 N | 103° 38' 47.532 W |
| 15,900.0 | 90.00 | 179.67 | 11,086.0 | -5,093.1 | 1,797.7 | 536,815.13 | 753,136.06 | 32° 28' 26.019 N | 103° 38' 47.533 W |
| 16,000.0 | 90.00 | 179.67 | 11,086.0 | -5,193.1 | 1,798.3 | 536,715.13 | 753,136.65 | 32° 28' 25.029 N | 103° 38' 47.534 W |
| 16,100.0 | 90.00 | 179.67 | 11,086.0 | -5,293.1 | 1,798.9 | 536,615.13 | 753,137.23 | 32° 28' 24.040 N | 103° 38' 47.534 W |
| 16,200.0 | 90.00 | 179.67 | 11,086.0 | -5,393.1 | 1,799.5 | 536,515.14 | 753,137.81 | 32° 28' 23.050 N | 103° 38' 47.535 W |
| 16,300.0 | 90.00 | 179.67 | 11,086.0 | -5,493.1 | 1,800.1 | 536,415.14 | 753,138.40 | 32° 28' 22.061 N | 103° 38' 47.536 W |
| 16,400.0 | 90.00 | 179.67 | 11,086.0 | -5,593.1 | 1,800.7 | 536,315.14 | 753,138.98 | 32° 28' 21.071 N | 103° 38' 47.536 W |
| 16,500.0 | 90.00 | 179.67 | 11,086.0 | -5,693.1 | 1,801.2 | 536,215.14 | 753,139.56 | 32° 28' 20.082 N | 103° 38' 47.537 W |
| 16,600.0 | 90.00 | 179.67 | 11,086.0 | -5,793.1 | 1,801.8 | 536,115.14 | 753,140.15 | 32° 28' 19.092 N | 103° 38' 47.538 W |
| 16,700.0 | 90.00 | 179.67 | 11,086.0 | -5,893.1 | 1,802.4 | 536,015.14 | 753,140.73 | 32° 28' 18.103 N | 103° 38' 47.538 W |
| 16,719.0 | 90.00 | 179.67 | 11,086.0 | -5,912.1 | 1,802.5 | 535,996.18 | 753,140.84 | 32° 28' 17.915 N | 103° 38' 47.539 W |
| **NMNM 002515 Exit at 16719.0 MD** | | | | | | | | | |
| 16,800.0 | 90.00 | 179.67 | 11,086.0 | -5,993.1 | 1,803.0 | 535,915.15 | 753,141.31 | 32° 28' 17.113 N | 103° 38' 47.539 W |
| 16,900.0 | 90.00 | 179.67 | 11,086.0 | -6,093.1 | 1,803.6 | 535,815.15 | 753,141.90 | 32° 28' 16.124 N | 103° 38' 47.540 W |
| 17,000.0 | 90.00 | 179.67 | 11,086.0 | -6,193.1 | 1,804.2 | 535,715.15 | 753,142.48 | 32° 28' 15.134 N | 103° 38' 47.541 W |
| 17,100.0 | 90.00 | 179.67 | 11,086.0 | -6,293.1 | 1,804.7 | 535,615.15 | 753,143.07 | 32° 28' 14.145 N | 103° 38' 47.541 W |
| 17,200.0 | 90.00 | 179.67 | 11,086.0 | -6,393.1 | 1,805.3 | 535,515.15 | 753,143.65 | 32° 28' 13.155 N | 103° 38' 47.542 W |
| 17,300.0 | 90.00 | 179.67 | 11,086.0 | -6,493.1 | 1,805.9 | 535,415.15 | 753,144.23 | 32° 28' 12.166 N | 103° 38' 47.543 W |
| 17,400.0 | 90.00 | 179.67 | 11,086.0 | -6,593.1 | 1,806.5 | 535,315.16 | 753,144.82 | 32° 28' 11.176 N | 103° 38' 47.543 W |
| 17,500.0 | 90.00 | 179.67 | 11,086.0 | -6,693.1 | 1,807.1 | 535,215.16 | 753,145.40 | 32° 28' 10.187 N | 103° 38' 47.544 W |
| 17,600.0 | 90.00 | 179.67 | 11,086.0 | -6,793.1 | 1,807.7 | 535,115.16 | 753,145.98 | 32° 28' 9.197 N | 103° 38' 47.545 W |
| 17,700.0 | 90.00 | 179.67 | 11,086.0 | -6,893.1 | 1,808.3 | 535,015.16 | 753,146.57 | 32° 28' 8.208 N | 103° 38' 47.545 W |
| 17,800.0 | 90.00 | 179.67 | 11,086.0 | -6,993.1 | 1,808.8 | 534,915.16 | 753,147.15 | 32° 28' 7.218 N | 103° 38' 47.546 W |
| 17,900.0 | 90.00 | 179.67 | 11,086.0 | -7,093.1 | 1,809.4 | 534,815.17 | 753,147.74 | 32° 28' 6.229 N | 103° 38' 47.547 W |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 18,000.0 | 90.00 | 179.67 | 11,086.0 | -7,193.1 | 1,810.0 | 534,715.17 | 753,148.32 | 32° 28' 5.239 N | 103° 38' 47.548 W |
| 18,100.0 | 90.00 | 179.67 | 11,086.0 | -7,293.1 | 1,810.6 | 534,615.17 | 753,148.90 | 32° 28' 4.250 N | 103° 38' 47.548 W |
| 18,200.0 | 90.00 | 179.67 | 11,086.0 | -7,393.1 | 1,811.2 | 534,515.17 | 753,149.49 | 32° 28' 3.260 N | 103° 38' 47.549 W |
| 18,300.0 | 90.00 | 179.67 | 11,086.0 | -7,493.1 | 1,811.8 | 534,415.17 | 753,150.07 | 32° 28' 2.270 N | 103° 38' 47.550 W |
| 18,400.0 | 90.00 | 179.67 | 11,086.0 | -7,593.1 | 1,812.3 | 534,315.17 | 753,150.65 | 32° 28' 1.281 N | 103° 38' 47.550 W |
| 18,500.0 | 90.00 | 179.67 | 11,086.0 | -7,693.1 | 1,812.9 | 534,215.18 | 753,151.24 | 32° 28' 0.291 N | 103° 38' 47.551 W |
| 18,600.0 | 90.00 | 179.67 | 11,086.0 | -7,793.1 | 1,813.5 | 534,115.18 | 753,151.82 | 32° 27' 59.302 N | 103° 38' 47.552 W |
| 18,700.0 | 90.00 | 179.67 | 11,086.0 | -7,893.1 | 1,814.1 | 534,015.18 | 753,152.40 | 32° 27' 58.312 N | 103° 38' 47.552 W |
| 18,800.0 | 90.00 | 179.67 | 11,086.0 | -7,993.1 | 1,814.7 | 533,915.18 | 753,152.99 | 32° 27' 57.323 N | 103° 38' 47.553 W |
| 18,900.0 | 90.00 | 179.67 | 11,086.0 | -8,093.1 | 1,815.3 | 533,815.18 | 753,153.57 | 32° 27' 56.333 N | 103° 38' 47.554 W |
| 19,000.0 | 90.00 | 179.67 | 11,086.0 | -8,193.1 | 1,815.8 | 533,715.18 | 753,154.16 | 32° 27' 55.344 N | 103° 38' 47.555 W |
| 19,100.0 | 90.00 | 179.67 | 11,086.0 | -8,293.1 | 1,816.4 | 533,615.19 | 753,154.74 | 32° 27' 54.354 N | 103° 38' 47.555 W |
| 19,200.0 | 90.00 | 179.67 | 11,086.0 | -8,393.1 | 1,817.0 | 533,515.19 | 753,155.32 | 32° 27' 53.365 N | 103° 38' 47.556 W |
| 19,300.0 | 90.00 | 179.67 | 11,086.0 | -8,493.1 | 1,817.6 | 533,415.19 | 753,155.91 | 32° 27' 52.375 N | 103° 38' 47.557 W |
| 19,373.0 | 90.00 | 179.67 | 11,086.0 | -8,566.0 | 1,818.0 | 533,342.23 | 753,156.33 | 32° 27' 51.653 N | 103° 38' 47.557 W |
| **NMNM 002518 Exit at 19373.0 MD** | | | | | | | | | |
| 19,400.0 | 90.00 | 179.67 | 11,086.0 | -8,593.1 | 1,818.2 | 533,315.19 | 753,156.49 | 32° 27' 51.386 N | 103° 38' 47.557 W |
| 19,500.0 | 90.00 | 179.67 | 11,086.0 | -8,693.0 | 1,818.8 | 533,215.19 | 753,157.07 | 32° 27' 50.396 N | 103° 38' 47.558 W |
| 19,600.0 | 90.00 | 179.67 | 11,086.0 | -8,793.0 | 1,819.3 | 533,115.19 | 753,157.66 | 32° 27' 49.407 N | 103° 38' 47.559 W |
| 19,700.0 | 90.00 | 179.67 | 11,086.0 | -8,893.0 | 1,819.9 | 533,015.20 | 753,158.24 | 32° 27' 48.417 N | 103° 38' 47.559 W |
| 19,800.0 | 90.00 | 179.67 | 11,086.0 | -8,993.0 | 1,820.5 | 532,915.20 | 753,158.83 | 32° 27' 47.428 N | 103° 38' 47.560 W |
| 19,900.0 | 90.00 | 179.67 | 11,086.0 | -9,093.0 | 1,821.1 | 532,815.20 | 753,159.41 | 32° 27' 46.438 N | 103° 38' 47.561 W |
| 20,000.0 | 90.00 | 179.67 | 11,086.0 | -9,193.0 | 1,821.7 | 532,715.20 | 753,159.99 | 32° 27' 45.449 N | 103° 38' 47.562 W |
| 20,100.0 | 90.00 | 179.67 | 11,086.0 | -9,293.0 | 1,822.3 | 532,615.20 | 753,160.58 | 32° 27' 44.459 N | 103° 38' 47.562 W |
| 20,200.0 | 90.00 | 179.67 | 11,086.0 | -9,393.0 | 1,822.8 | 532,515.20 | 753,161.16 | 32° 27' 43.470 N | 103° 38' 47.563 W |
| 20,300.0 | 90.00 | 179.67 | 11,086.0 | -9,493.0 | 1,823.4 | 532,415.21 | 753,161.74 | 32° 27' 42.480 N | 103° 38' 47.564 W |
| 20,400.0 | 90.00 | 179.67 | 11,086.0 | -9,593.0 | 1,824.0 | 532,315.21 | 753,162.33 | 32° 27' 41.491 N | 103° 38' 47.564 W |
| 20,500.0 | 90.00 | 179.67 | 11,086.0 | -9,693.0 | 1,824.6 | 532,215.21 | 753,162.91 | 32° 27' 40.501 N | 103° 38' 47.565 W |
| 20,600.0 | 90.00 | 179.67 | 11,086.0 | -9,793.0 | 1,825.2 | 532,115.21 | 753,163.49 | 32° 27' 39.512 N | 103° 38' 47.566 W |
| 20,700.0 | 90.00 | 179.67 | 11,086.0 | -9,893.0 | 1,825.8 | 532,015.21 | 753,164.08 | 32° 27' 38.522 N | 103° 38' 47.566 W |
| 20,800.0 | 90.00 | 179.67 | 11,086.0 | -9,993.0 | 1,826.3 | 531,915.21 | 753,164.66 | 32° 27' 37.533 N | 103° 38' 47.567 W |
| 20,900.0 | 90.00 | 179.67 | 11,086.0 | -10,093.0 | 1,826.9 | 531,815.22 | 753,165.25 | 32° 27' 36.543 N | 103° 38' 47.568 W |
| 21,000.0 | 90.00 | 179.67 | 11,086.0 | -10,193.0 | 1,827.5 | 531,715.22 | 753,165.83 | 32° 27' 35.553 N | 103° 38' 47.568 W |
| 21,100.0 | 90.00 | 179.67 | 11,086.0 | -10,293.0 | 1,828.1 | 531,615.22 | 753,166.41 | 32° 27' 34.564 N | 103° 38' 47.569 W |
| 21,200.0 | 90.00 | 179.67 | 11,086.0 | -10,393.0 | 1,828.7 | 531,515.22 | 753,167.00 | 32° 27' 33.574 N | 103° 38' 47.570 W |
| 21,300.0 | 90.00 | 179.67 | 11,086.0 | -10,493.0 | 1,829.3 | 531,415.22 | 753,167.58 | 32° 27' 32.585 N | 103° 38' 47.571 W |
| 21,400.0 | 90.00 | 179.67 | 11,086.0 | -10,593.0 | 1,829.8 | 531,315.22 | 753,168.16 | 32° 27' 31.595 N | 103° 38' 47.571 W |
| 21,500.0 | 90.00 | 179.67 | 11,086.0 | -10,693.0 | 1,830.4 | 531,215.23 | 753,168.75 | 32° 27' 30.606 N | 103° 38' 47.572 W |
| 21,600.0 | 90.00 | 179.67 | 11,086.0 | -10,793.0 | 1,831.0 | 531,115.23 | 753,169.33 | 32° 27' 29.616 N | 103° 38' 47.573 W |
| 21,700.0 | 90.00 | 179.67 | 11,086.0 | -10,893.0 | 1,831.6 | 531,015.23 | 753,169.92 | 32° 27' 28.627 N | 103° 38' 47.573 W |
| 21,800.0 | 90.00 | 179.67 | 11,086.0 | -10,993.0 | 1,832.2 | 530,915.23 | 753,170.50 | 32° 27' 27.637 N | 103° 38' 47.574 W |
| 21,900.0 | 90.00 | 179.67 | 11,086.0 | -11,093.0 | 1,832.8 | 530,815.23 | 753,171.08 | 32° 27' 26.648 N | 103° 38' 47.575 W |
| 21,912.7 | 90.00 | 179.67 | 11,086.0 | -11,105.7 | 1,832.8 | 530,802.51 | 753,171.16 | 32° 27' 26.522 N | 103° 38' 47.575 W |
| **TD at 21912.7** | | | | | | | | | |

# Permian Resources

## Planning Report - Geographic

| | | | |
|---|---|---|---|
| **Database:** | Compass | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Company:** | NEW MEXICO | **TVD Reference:** | KB @ 3864.0usft |
| **Project:** | (SP) LEA | **MD Reference:** | KB @ 3864.0usft |
| **Site:** | AZTEC PROJECT | **North Reference:** | Grid |
| **Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OWB | | |
| **Design:** | PWP0 | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| FTP-A14 23 FC 173H<br>- plan hits target center<br>- Point | 0.00 | 0.01 | 11,086.0 | -740.7 | 1,772.3 | 541,167.50 | 753,110.66 | 32° 29' 9.087 N | 103° 38' 47.502 W |
| BHL-A14 23 FC 173H<br>- plan hits target center<br>- Point | 0.00 | 0.01 | 11,086.0 | -11,105.7 | 1,832.8 | 530,802.51 | 753,171.16 | 32° 27' 26.522 N | 103° 38' 47.575 W |

**Plan Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 2,500.0 | 2,500.0 | 0.0 | 0.0 | Start Build 2.00 |
| 3,110.5 | 3,105.9 | -10.1 | 64.0 | Start 7703.4 hold at 3110.5 MD |
| 10,813.9 | 10,635.0 | -264.1 | 1,673.3 | Start DLS 12.00 TFO 80.90 |
| 11,447.0 | 11,075.7 | -640.9 | 1,769.6 | NMNM 0061261 Entry at 11447.0 MD |
| 11,547.6 | 11,086.0 | -740.7 | 1,772.3 | Start 10365.2 hold at 11547.6 MD |
| 14,083.0 | 11,086.0 | -3,276.1 | 1,787.1 | NMNM 0061261 Exit at 14083.0 MD |
| 15,401.0 | 11,086.0 | -4,594.1 | 1,794.8 | NMNM 002515 Entry at 15401.0 MD |
| 16,719.0 | 11,086.0 | -5,912.1 | 1,802.5 | NMNM 002515 Exit at 16719.0 MD |
| 19,373.0 | 11,086.0 | -8,566.0 | 1,818.0 | NMNM 002518 Exit at 19373.0 MD |
| 21,912.7 | 11,086.0 | -11,105.7 | 1,832.8 | TD at 21912.7 |

# NEW MEXICO

**(SP) LEA**
**AZTEC PROJECT**
**AZTEC 14 23 FED COM 173H**

**OWB**
**PWP0**

# Anticollision Report

**08 July, 2024**

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Reference** PWP0

| | | | |
|---|---|---|---|
| **Filter type:** | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| **Interpolation Method:** | Stations | **Error Model:** | ISCWSA |
| **Depth Range:** | Unlimited | **Scan Method:** | Closest Approach 3D |
| **Results Limited by:** | Maximum centre distance of 800.0usft | **Error Surface:** | Pedal Curve |
| **Warning Levels Evaluated at:** | 2.00 **Sigma** | **Casing Method:** | Not applied |

**Survey Tool Program** **Date** 7/8/2024

| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 21,912.7 | PWP0 (OWB) | MWD | OWSG_Rev2_ MWD - Standard |

**Summary**

| Site Name<br>Offset Well - Wellbore - Design | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|
| AZTEC PROJECT | | | | | | |
| AZTEC 14 23 FED COM 171H - OWB - PWP0 | 2,500.0 | 2,500.0 | 33.0 | 15.3 | 1.863 | CC |
| AZTEC 14 23 FED COM 171H - OWB - PWP0 | 2,600.0 | 2,600.5 | 33.5 | 15.1 | 1.821 | ES, SF |
| AZTEC 14 23 FED COM 402H - OWB - PWP0 | 2,498.4 | 2,502.0 | 49.3 | 31.7 | 2.793 | CC |
| AZTEC 14 23 FED COM 402H - OWB - PWP0 | 2,500.0 | 2,503.5 | 49.3 | 31.6 | 2.791 | ES, SF |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 171H - OWB - PWP0 **Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD **Rule Assigned:** **Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -123.04 | -18.0 | -27.7 | 33.0 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.3 | 0.3 | -123.04 | -18.0 | -27.7 | 33.0 | 32.5 | 0.50 | 65.747 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.6 | 0.6 | -123.04 | -18.0 | -27.7 | 33.0 | 31.8 | 1.22 | 27.072 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 1.0 | 1.0 | -123.04 | -18.0 | -27.7 | 33.0 | 31.1 | 1.94 | 17.045 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 1.3 | 1.3 | -123.04 | -18.0 | -27.7 | 33.0 | 30.3 | 2.65 | 12.439 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.7 | 1.7 | -123.04 | -18.0 | -27.7 | 33.0 | 29.6 | 3.37 | 9.792 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 2.0 | 2.0 | -123.04 | -18.0 | -27.7 | 33.0 | 28.9 | 4.09 | 8.074 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 2.4 | 2.4 | -123.04 | -18.0 | -27.7 | 33.0 | 28.2 | 4.80 | 6.869 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 2.8 | 2.8 | -123.04 | -18.0 | -27.7 | 33.0 | 27.5 | 5.52 | 5.977 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 3.1 | 3.1 | -123.04 | -18.0 | -27.7 | 33.0 | 26.8 | 6.24 | 5.290 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 3.5 | 3.5 | -123.04 | -18.0 | -27.7 | 33.0 | 26.0 | 6.95 | 4.745 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 3.8 | 3.8 | -123.04 | -18.0 | -27.7 | 33.0 | 25.3 | 7.67 | 4.301 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 4.2 | 4.2 | -123.04 | -18.0 | -27.7 | 33.0 | 24.6 | 8.39 | 3.934 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 4.6 | 4.6 | -123.04 | -18.0 | -27.7 | 33.0 | 23.9 | 9.11 | 3.624 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 4.9 | 4.9 | -123.04 | -18.0 | -27.7 | 33.0 | 23.2 | 9.82 | 3.359 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 5.3 | 5.3 | -123.04 | -18.0 | -27.7 | 33.0 | 22.5 | 10.54 | 3.131 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 5.6 | 5.6 | -123.04 | -18.0 | -27.7 | 33.0 | 21.7 | 11.26 | 2.931 | |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 6.0 | 6.0 | -123.04 | -18.0 | -27.7 | 33.0 | 21.0 | 11.97 | 2.756 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 6.3 | 6.3 | -123.04 | -18.0 | -27.7 | 33.0 | 20.3 | 12.69 | 2.600 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 6.7 | 6.7 | -123.04 | -18.0 | -27.7 | 33.0 | 19.6 | 13.41 | 2.461 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 7.1 | 7.1 | -123.04 | -18.0 | -27.7 | 33.0 | 18.9 | 14.12 | 2.336 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 7.4 | 7.4 | -123.04 | -18.0 | -27.7 | 33.0 | 18.2 | 14.84 | 2.223 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 7.8 | 7.8 | -123.04 | -18.0 | -27.7 | 33.0 | 17.4 | 15.56 | 2.121 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 171H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 8.1 | 8.1 | -123.04 | -18.0 | -27.7 | 33.0 | 16.7 | 16.27 | 2.027 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 8.5 | 8.5 | -123.04 | -18.0 | -27.7 | 33.0 | 16.0 | 16.99 | 1.942 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 8.9 | 8.9 | -123.04 | -18.0 | -27.7 | 33.0 | 15.3 | 17.71 | 1.863 | CC |
| 2,600.0 | 2,600.0 | 2,600.5 | 2,600.5 | 9.2 | 9.2 | 137.29 | -18.9 | -26.1 | 33.5 | 15.1 | 18.40 | 1.821 | ES, SF |
| 2,700.0 | 2,699.8 | 2,700.9 | 2,700.7 | 9.5 | 9.5 | 135.44 | -21.5 | -21.7 | 35.1 | 16.1 | 19.07 | 1.843 | |
| 2,800.0 | 2,799.5 | 2,800.8 | 2,800.5 | 9.9 | 9.9 | 135.99 | -24.7 | -16.3 | 38.8 | 19.1 | 19.75 | 1.967 | |
| 2,900.0 | 2,898.7 | 2,900.6 | 2,900.0 | 10.2 | 10.2 | 139.45 | -27.9 | -10.9 | 45.1 | 24.7 | 20.43 | 2.210 | |
| 3,000.0 | 2,997.5 | 3,000.1 | 2,999.3 | 10.6 | 10.6 | 144.28 | -31.1 | -5.6 | 54.3 | 33.2 | 21.11 | 2.575 | |
| 3,100.0 | 3,095.6 | 3,099.1 | 3,098.2 | 11.0 | 10.9 | 149.23 | -34.2 | -0.3 | 66.8 | 45.0 | 21.79 | 3.066 | |
| 3,110.5 | 3,105.9 | 3,109.5 | 3,108.5 | 11.0 | 10.9 | 149.73 | -34.5 | 0.3 | 68.3 | 46.4 | 21.86 | 3.125 | |
| 3,200.0 | 3,193.4 | 3,197.9 | 3,196.8 | 11.3 | 11.2 | 153.37 | -37.3 | 5.0 | 81.5 | 59.0 | 22.47 | 3.626 | |
| 3,300.0 | 3,291.1 | 3,296.7 | 3,295.4 | 11.7 | 11.6 | 156.26 | -40.5 | 10.3 | 96.4 | 73.3 | 23.15 | 4.165 | |
| 3,400.0 | 3,388.8 | 3,395.4 | 3,393.9 | 12.1 | 11.9 | 158.36 | -43.6 | 15.6 | 111.6 | 87.7 | 23.84 | 4.680 | |
| 3,500.0 | 3,486.6 | 3,494.2 | 3,492.5 | 12.5 | 12.3 | 159.97 | -46.8 | 20.9 | 126.8 | 102.3 | 24.53 | 5.170 | |
| 3,600.0 | 3,584.3 | 3,593.0 | 3,591.1 | 12.9 | 12.6 | 161.22 | -49.9 | 26.3 | 142.2 | 116.9 | 25.23 | 5.636 | |
| 3,700.0 | 3,682.1 | 3,691.8 | 3,689.7 | 13.3 | 13.0 | 162.24 | -53.1 | 31.6 | 157.6 | 131.6 | 25.92 | 6.077 | |
| 3,800.0 | 3,779.8 | 3,790.5 | 3,788.3 | 13.8 | 13.3 | 163.07 | -56.2 | 36.9 | 173.0 | 146.4 | 26.63 | 6.497 | |
| 3,900.0 | 3,877.5 | 3,889.3 | 3,886.8 | 14.2 | 13.7 | 163.77 | -59.3 | 42.2 | 188.4 | 161.1 | 27.33 | 6.895 | |
| 4,000.0 | 3,975.3 | 3,988.1 | 3,985.4 | 14.6 | 14.0 | 164.36 | -62.5 | 47.5 | 203.9 | 175.9 | 28.03 | 7.274 | |
| 4,100.0 | 4,073.0 | 4,086.9 | 4,084.0 | 15.1 | 14.4 | 164.86 | -65.6 | 52.8 | 219.4 | 190.7 | 28.74 | 7.634 | |
| 4,200.0 | 4,170.7 | 4,185.6 | 4,182.6 | 15.5 | 14.7 | 165.30 | -68.8 | 58.1 | 234.9 | 205.5 | 29.45 | 7.976 | |
| 4,300.0 | 4,268.5 | 4,284.4 | 4,281.2 | 15.9 | 15.1 | 165.69 | -71.9 | 63.4 | 250.4 | 220.3 | 30.16 | 8.303 | |
| 4,400.0 | 4,366.2 | 4,383.2 | 4,379.8 | 16.4 | 15.4 | 166.03 | -75.1 | 68.7 | 266.0 | 235.1 | 30.88 | 8.614 | |
| 4,500.0 | 4,464.0 | 4,482.0 | 4,478.3 | 16.8 | 15.8 | 166.33 | -78.2 | 74.0 | 281.5 | 249.9 | 31.59 | 8.911 | |
| 4,600.0 | 4,561.7 | 4,580.7 | 4,576.9 | 17.3 | 16.1 | 166.60 | -81.3 | 79.3 | 297.1 | 264.8 | 32.31 | 9.194 | |
| 4,700.0 | 4,659.4 | 4,679.5 | 4,675.5 | 17.7 | 16.5 | 166.85 | -84.5 | 84.6 | 312.6 | 279.6 | 33.03 | 9.465 | |
| 4,800.0 | 4,757.2 | 4,778.3 | 4,774.1 | 18.2 | 16.8 | 167.07 | -87.6 | 89.9 | 328.2 | 294.4 | 33.75 | 9.724 | |
| 4,900.0 | 4,854.9 | 4,877.1 | 4,872.7 | 18.6 | 17.2 | 167.27 | -90.8 | 95.2 | 343.8 | 309.3 | 34.47 | 9.972 | |
| 5,000.0 | 4,952.7 | 4,975.8 | 4,971.2 | 19.1 | 17.6 | 167.46 | -93.9 | 100.5 | 359.3 | 324.1 | 35.19 | 10.210 | |
| 5,100.0 | 5,050.4 | 5,074.6 | 5,069.8 | 19.6 | 17.9 | 167.62 | -97.1 | 105.8 | 374.9 | 339.0 | 35.92 | 10.438 | |
| 5,200.0 | 5,148.1 | 5,173.4 | 5,168.4 | 20.0 | 18.3 | 167.78 | -100.2 | 111.2 | 390.5 | 353.8 | 36.64 | 10.657 | |
| 5,300.0 | 5,245.9 | 5,272.2 | 5,267.0 | 20.5 | 18.6 | 167.92 | -103.3 | 116.5 | 406.0 | 368.7 | 37.37 | 10.867 | |
| 5,400.0 | 5,343.6 | 5,370.9 | 5,365.6 | 21.0 | 19.0 | 168.05 | -106.5 | 121.8 | 421.6 | 383.5 | 38.09 | 11.068 | |
| 5,500.0 | 5,441.3 | 5,469.7 | 5,464.2 | 21.4 | 19.3 | 168.18 | -109.6 | 127.1 | 437.2 | 398.4 | 38.82 | 11.262 | |
| 5,600.0 | 5,539.1 | 5,568.5 | 5,562.7 | 21.9 | 19.7 | 168.29 | -112.8 | 132.4 | 452.8 | 413.2 | 39.55 | 11.449 | |
| 5,700.0 | 5,636.8 | 5,667.3 | 5,661.3 | 22.4 | 20.1 | 168.40 | -115.9 | 137.7 | 468.4 | 428.1 | 40.28 | 11.629 | |
| 5,800.0 | 5,734.6 | 5,766.0 | 5,759.9 | 22.8 | 20.4 | 168.50 | -119.1 | 143.0 | 484.0 | 442.9 | 41.01 | 11.802 | |
| 5,900.0 | 5,832.3 | 5,864.8 | 5,858.5 | 23.3 | 20.8 | 168.59 | -122.2 | 148.3 | 499.5 | 457.8 | 41.74 | 11.969 | |
| 6,000.0 | 5,930.0 | 5,963.6 | 5,957.1 | 23.8 | 21.1 | 168.68 | -125.3 | 153.6 | 515.1 | 472.7 | 42.47 | 12.130 | |
| 6,100.0 | 6,027.8 | 6,062.4 | 6,055.6 | 24.3 | 21.5 | 168.76 | -128.5 | 158.9 | 530.7 | 487.5 | 43.20 | 12.285 | |
| 6,200.0 | 6,125.5 | 6,161.1 | 6,154.2 | 24.7 | 21.9 | 168.84 | -131.6 | 164.2 | 546.3 | 502.4 | 43.93 | 12.436 | |
| 6,300.0 | 6,223.2 | 6,259.9 | 6,252.8 | 25.2 | 22.2 | 168.92 | -134.8 | 169.5 | 561.9 | 517.2 | 44.66 | 12.581 | |
| 6,400.0 | 6,321.0 | 6,358.7 | 6,351.4 | 25.7 | 22.6 | 168.99 | -137.9 | 174.8 | 577.5 | 532.1 | 45.40 | 12.721 | |
| 6,500.0 | 6,418.7 | 6,457.5 | 6,450.0 | 26.2 | 23.0 | 169.05 | -141.1 | 180.1 | 593.1 | 547.0 | 46.13 | 12.856 | |
| 6,600.0 | 6,516.5 | 6,556.2 | 6,548.6 | 26.6 | 23.3 | 169.12 | -144.2 | 185.4 | 608.7 | 561.8 | 46.87 | 12.988 | |
| 6,700.0 | 6,614.2 | 6,655.0 | 6,647.1 | 27.1 | 23.7 | 169.18 | -147.3 | 190.7 | 624.3 | 576.7 | 47.60 | 13.115 | |
| 6,800.0 | 6,711.9 | 6,753.8 | 6,745.7 | 27.6 | 24.0 | 169.23 | -150.5 | 196.1 | 639.9 | 591.5 | 48.34 | 13.238 | |
| 6,900.0 | 6,809.7 | 6,852.6 | 6,844.3 | 28.1 | 24.4 | 169.29 | -153.6 | 201.4 | 655.5 | 606.4 | 49.07 | 13.357 | |
| 7,000.0 | 6,907.4 | 6,951.3 | 6,942.9 | 28.6 | 24.8 | 169.34 | -156.8 | 206.7 | 671.1 | 621.3 | 49.81 | 13.473 | |
| 7,100.0 | 7,005.1 | 7,050.1 | 7,041.5 | 29.0 | 25.1 | 169.39 | -159.9 | 212.0 | 686.7 | 636.1 | 50.55 | 13.585 | |
| 7,200.0 | 7,102.9 | 7,148.9 | 7,140.0 | 29.5 | 25.5 | 169.43 | -163.1 | 217.3 | 702.3 | 651.0 | 51.28 | 13.694 | |
| 7,300.0 | 7,200.6 | 7,247.7 | 7,238.6 | 30.0 | 25.9 | 169.48 | -166.2 | 222.6 | 717.9 | 665.8 | 52.02 | 13.800 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 171H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7,400.0 | 7,298.4 | 7,346.4 | 7,337.2 | 30.5 | 26.2 | 169.52 | -169.3 | 227.9 | 733.4 | 680.7 | 52.76 | 13.902 | |
| 7,500.0 | 7,396.1 | 7,445.2 | 7,435.8 | 31.0 | 26.6 | 169.56 | -172.5 | 233.2 | 749.0 | 695.6 | 53.50 | 14.002 | |
| 7,600.0 | 7,493.8 | 7,544.0 | 7,534.4 | 31.5 | 26.9 | 169.60 | -175.6 | 238.5 | 764.6 | 710.4 | 54.23 | 14.099 | |
| 7,700.0 | 7,591.6 | 7,642.8 | 7,633.0 | 31.9 | 27.3 | 169.64 | -178.8 | 243.8 | 780.2 | 725.3 | 54.97 | 14.193 | |
| 7,800.0 | 7,689.3 | 7,741.5 | 7,731.5 | 32.4 | 27.7 | 169.68 | -181.9 | 249.1 | 795.8 | 740.1 | 55.71 | 14.285 | |

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 402H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | -123.05 | -36.0 | -55.3 | 66.0 | | | | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.3 | 0.3 | -123.05 | -36.0 | -55.3 | 66.0 | 65.5 | 0.51 | 130.572 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.6 | 0.6 | -123.05 | -36.0 | -55.3 | 66.0 | 64.8 | 1.22 | 53.990 | |
| 300.0 | 300.0 | 301.0 | 301.0 | 1.0 | 1.0 | -123.05 | -36.0 | -55.3 | 66.0 | 64.1 | 1.94 | 34.031 | |
| 400.0 | 400.0 | 401.0 | 401.0 | 1.3 | 1.3 | -123.05 | -36.0 | -55.3 | 66.0 | 63.3 | 2.66 | 24.846 | |
| 500.0 | 500.0 | 501.0 | 501.0 | 1.7 | 1.7 | -123.05 | -36.0 | -55.3 | 66.0 | 62.6 | 3.37 | 19.565 | |
| 600.0 | 600.0 | 601.0 | 601.0 | 2.0 | 2.0 | -123.05 | -36.0 | -55.3 | 66.0 | 61.9 | 4.09 | 16.136 | |
| 700.0 | 700.0 | 701.0 | 701.0 | 2.4 | 2.4 | -123.05 | -36.0 | -55.3 | 66.0 | 61.2 | 4.81 | 13.729 | |
| 800.0 | 800.0 | 801.0 | 801.0 | 2.8 | 2.8 | -123.05 | -36.0 | -55.3 | 66.0 | 60.5 | 5.52 | 11.947 | |
| 900.0 | 900.0 | 901.0 | 901.0 | 3.1 | 3.1 | -123.05 | -36.0 | -55.3 | 66.0 | 59.8 | 6.24 | 10.575 | |
| 1,000.0 | 1,000.0 | 1,001.0 | 1,001.0 | 3.5 | 3.5 | -123.05 | -36.0 | -55.3 | 66.0 | 59.0 | 6.96 | 9.485 | |
| 1,100.0 | 1,100.0 | 1,101.0 | 1,101.0 | 3.8 | 3.8 | -123.05 | -36.0 | -55.3 | 66.0 | 58.3 | 7.67 | 8.599 | |
| 1,200.0 | 1,200.0 | 1,201.0 | 1,201.0 | 4.2 | 4.2 | -123.05 | -36.0 | -55.3 | 66.0 | 57.6 | 8.39 | 7.864 | |
| 1,300.0 | 1,300.0 | 1,301.0 | 1,301.0 | 4.6 | 4.6 | -123.05 | -36.0 | -55.3 | 66.0 | 56.9 | 9.11 | 7.245 | |
| 1,400.0 | 1,400.0 | 1,401.0 | 1,401.0 | 4.9 | 4.9 | -123.05 | -36.0 | -55.3 | 66.0 | 56.2 | 9.83 | 6.717 | |
| 1,500.0 | 1,500.0 | 1,501.0 | 1,501.0 | 5.3 | 5.3 | -123.05 | -36.0 | -55.3 | 66.0 | 55.5 | 10.54 | 6.260 | |
| 1,600.0 | 1,600.0 | 1,601.0 | 1,601.0 | 5.6 | 5.6 | -123.05 | -36.0 | -55.3 | 66.0 | 54.7 | 11.26 | 5.861 | |
| 1,700.0 | 1,700.0 | 1,701.0 | 1,701.0 | 6.0 | 6.0 | -123.05 | -36.0 | -55.3 | 66.0 | 54.0 | 11.98 | 5.511 | |
| 1,800.0 | 1,800.0 | 1,801.0 | 1,801.0 | 6.3 | 6.3 | -123.05 | -36.0 | -55.3 | 66.0 | 53.3 | 12.69 | 5.199 | |
| 1,900.0 | 1,900.0 | 1,901.0 | 1,901.0 | 6.7 | 6.7 | -123.05 | -36.0 | -55.3 | 66.0 | 52.6 | 13.41 | 4.921 | |
| 2,000.0 | 2,000.0 | 2,001.0 | 2,001.0 | 7.1 | 7.1 | -123.05 | -36.0 | -55.3 | 66.0 | 51.9 | 14.13 | 4.672 | |
| 2,100.0 | 2,100.0 | 2,102.5 | 2,102.5 | 7.4 | 7.4 | -124.26 | -36.5 | -53.6 | 64.8 | 50.0 | 14.83 | 4.369 | |
| 2,200.0 | 2,200.0 | 2,203.8 | 2,203.6 | 7.8 | 7.8 | -128.10 | -37.9 | -48.3 | 61.5 | 45.9 | 15.53 | 3.959 | |
| 2,300.0 | 2,300.0 | 2,304.5 | 2,304.0 | 8.1 | 8.1 | -135.38 | -40.3 | -39.7 | 56.6 | 40.4 | 16.22 | 3.491 | |
| 2,400.0 | 2,400.0 | 2,404.5 | 2,403.2 | 8.5 | 8.5 | -147.41 | -43.5 | -27.8 | 51.7 | 34.8 | 16.94 | 3.052 | |
| 2,498.4 | 2,498.4 | 2,502.0 | 2,499.4 | 8.8 | 8.8 | -164.70 | -47.6 | -13.0 | 49.3 | 31.7 | 17.66 | 2.793 CC | |
| 2,500.0 | 2,500.0 | 2,503.5 | 2,501.0 | 8.9 | 8.8 | -165.02 | -47.6 | -12.7 | 49.3 | 31.6 | 17.67 | 2.791 ES, SF | |
| 2,600.0 | 2,600.0 | 2,601.7 | 2,597.3 | 9.2 | 9.2 | 76.88 | -52.6 | 5.4 | 52.6 | 34.3 | 18.34 | 2.868 | |
| 2,700.0 | 2,699.8 | 2,699.3 | 2,692.3 | 9.5 | 9.6 | 61.63 | -58.4 | 26.6 | 61.2 | 42.3 | 18.92 | 3.235 | |
| 2,800.0 | 2,799.5 | 2,796.3 | 2,786.0 | 9.9 | 9.9 | 50.86 | -65.0 | 50.7 | 73.2 | 53.8 | 19.45 | 3.764 | |
| 2,900.0 | 2,898.7 | 2,892.7 | 2,878.3 | 10.2 | 10.4 | 43.49 | -72.4 | 77.8 | 87.2 | 67.3 | 19.97 | 4.369 | |
| 3,000.0 | 2,997.5 | 2,991.2 | 2,972.1 | 10.6 | 10.8 | 38.71 | -80.4 | 107.1 | 101.2 | 80.6 | 20.60 | 4.910 | |
| 3,100.0 | 3,095.6 | 3,090.5 | 3,066.4 | 11.0 | 11.3 | 36.12 | -88.5 | 136.7 | 112.8 | 91.5 | 21.29 | 5.297 | |
| 3,110.5 | 3,105.9 | 3,100.9 | 3,076.3 | 11.0 | 11.3 | 35.94 | -89.4 | 139.8 | 113.8 | 92.5 | 21.37 | 5.328 | |
| 3,200.0 | 3,193.4 | 3,189.9 | 3,161.0 | 11.3 | 11.8 | 34.66 | -96.6 | 166.3 | 122.8 | 100.8 | 22.01 | 5.582 | |
| 3,300.0 | 3,291.1 | 3,289.4 | 3,255.6 | 11.7 | 12.3 | 33.44 | -104.7 | 196.0 | 133.0 | 110.2 | 22.73 | 5.849 | |
| 3,400.0 | 3,388.8 | 3,388.8 | 3,350.2 | 12.1 | 12.8 | 32.40 | -112.8 | 225.6 | 143.1 | 119.7 | 23.47 | 6.099 | |
| 3,500.0 | 3,486.6 | 3,488.3 | 3,444.7 | 12.5 | 13.3 | 31.49 | -121.0 | 255.3 | 153.3 | 129.1 | 24.21 | 6.335 | |
| 3,600.0 | 3,584.3 | 3,587.7 | 3,539.3 | 12.9 | 13.8 | 30.69 | -129.1 | 284.9 | 163.6 | 138.6 | 24.96 | 6.555 | |
| 3,700.0 | 3,682.1 | 3,687.2 | 3,633.9 | 13.3 | 14.4 | 29.99 | -137.2 | 314.5 | 173.9 | 148.2 | 25.71 | 6.763 | |
| 3,800.0 | 3,779.8 | 3,786.6 | 3,728.5 | 13.8 | 14.9 | 29.37 | -145.3 | 344.2 | 184.2 | 157.7 | 26.47 | 6.958 | |
| 3,900.0 | 3,877.5 | 3,886.1 | 3,823.1 | 14.2 | 15.5 | 28.81 | -153.4 | 373.8 | 194.5 | 167.2 | 27.23 | 7.142 | |
| 4,000.0 | 3,975.3 | 3,985.5 | 3,917.7 | 14.6 | 16.0 | 28.31 | -161.5 | 403.5 | 204.8 | 176.8 | 27.99 | 7.316 | |
| 4,100.0 | 4,073.0 | 4,085.0 | 4,012.2 | 15.1 | 16.6 | 27.86 | -169.6 | 433.1 | 215.1 | 186.4 | 28.76 | 7.480 | |
| 4,200.0 | 4,170.7 | 4,184.4 | 4,106.8 | 15.5 | 17.1 | 27.45 | -177.7 | 462.8 | 225.5 | 196.0 | 29.54 | 7.635 | |
| 4,300.0 | 4,268.5 | 4,283.9 | 4,201.4 | 15.9 | 17.7 | 27.08 | -185.8 | 492.4 | 235.9 | 205.6 | 30.31 | 7.781 | |
| 4,400.0 | 4,366.2 | 4,383.3 | 4,296.0 | 16.4 | 18.3 | 26.73 | -193.9 | 522.0 | 246.2 | 215.2 | 31.09 | 7.920 | |
| 4,500.0 | 4,464.0 | 4,482.8 | 4,390.6 | 16.8 | 18.9 | 26.42 | -202.1 | 551.7 | 256.6 | 224.8 | 31.87 | 8.052 | |
| 4,600.0 | 4,561.7 | 4,582.2 | 4,485.1 | 17.3 | 19.4 | 26.13 | -210.2 | 581.3 | 267.0 | 234.4 | 32.65 | 8.177 | |
| 4,700.0 | 4,659.4 | 4,681.7 | 4,579.7 | 17.7 | 20.0 | 25.86 | -218.3 | 611.0 | 277.4 | 244.0 | 33.44 | 8.296 | |
| 4,800.0 | 4,757.2 | 4,781.1 | 4,674.3 | 18.2 | 20.6 | 25.61 | -226.4 | 640.6 | 287.8 | 253.6 | 34.23 | 8.409 | |
| 4,900.0 | 4,854.9 | 4,880.6 | 4,768.9 | 18.6 | 21.2 | 25.38 | -234.5 | 670.3 | 298.2 | 263.2 | 35.02 | 8.517 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 402H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD — **Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Rule Assigned: Distance Between Centres (usft) | Rule Assigned: Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,952.7 | 4,980.0 | 4,863.5 | 19.1 | 21.8 | 25.16 | -242.6 | 699.9 | 308.6 | 272.8 | 35.81 | 8.619 | |
| 5,100.0 | 5,050.4 | 5,079.5 | 4,958.1 | 19.6 | 22.4 | 24.96 | -250.7 | 729.5 | 319.1 | 282.5 | 36.60 | 8.717 | |
| 5,200.0 | 5,148.1 | 5,178.9 | 5,052.6 | 20.0 | 23.0 | 24.77 | -258.8 | 759.2 | 329.5 | 292.1 | 37.39 | 8.811 | |
| 5,300.0 | 5,245.9 | 5,278.4 | 5,147.2 | 20.5 | 23.6 | 24.59 | -266.9 | 788.8 | 339.9 | 301.7 | 38.19 | 8.900 | |
| 5,400.0 | 5,343.6 | 5,377.8 | 5,241.8 | 21.0 | 24.2 | 24.42 | -275.0 | 818.5 | 350.3 | 311.3 | 38.99 | 8.986 | |
| 5,500.0 | 5,441.3 | 5,477.3 | 5,336.4 | 21.4 | 24.8 | 24.27 | -283.1 | 848.1 | 360.8 | 321.0 | 39.79 | 9.067 | |
| 5,600.0 | 5,539.1 | 5,576.7 | 5,431.0 | 21.9 | 25.4 | 24.12 | -291.3 | 877.8 | 371.2 | 330.6 | 40.58 | 9.146 | |
| 5,700.0 | 5,636.8 | 5,676.2 | 5,525.6 | 22.4 | 26.0 | 23.98 | -299.4 | 907.4 | 381.6 | 340.2 | 41.39 | 9.221 | |
| 5,800.0 | 5,734.6 | 5,775.6 | 5,620.1 | 22.8 | 26.6 | 23.84 | -307.5 | 937.0 | 392.1 | 349.9 | 42.19 | 9.293 | |
| 5,900.0 | 5,832.3 | 5,875.1 | 5,714.7 | 23.3 | 27.2 | 23.72 | -315.6 | 966.7 | 402.5 | 359.5 | 42.99 | 9.363 | |
| 6,000.0 | 5,930.0 | 5,974.5 | 5,809.3 | 23.8 | 27.8 | 23.60 | -323.7 | 996.3 | 412.9 | 369.1 | 43.79 | 9.429 | |
| 6,100.0 | 6,027.8 | 6,074.0 | 5,903.9 | 24.3 | 28.4 | 23.48 | -331.8 | 1,026.0 | 423.4 | 378.8 | 44.60 | 9.493 | |
| 6,200.0 | 6,125.5 | 6,173.4 | 5,998.5 | 24.7 | 29.0 | 23.37 | -339.9 | 1,055.6 | 433.8 | 388.4 | 45.40 | 9.555 | |
| 6,300.0 | 6,223.2 | 6,272.9 | 6,093.0 | 25.2 | 29.6 | 23.27 | -348.0 | 1,085.3 | 444.3 | 398.1 | 46.21 | 9.615 | |
| 6,400.0 | 6,321.0 | 6,372.3 | 6,187.6 | 25.7 | 30.2 | 23.17 | -356.1 | 1,114.9 | 454.7 | 407.7 | 47.01 | 9.672 | |
| 6,500.0 | 6,418.7 | 6,471.8 | 6,282.2 | 26.2 | 30.9 | 23.08 | -364.2 | 1,144.5 | 465.2 | 417.3 | 47.82 | 9.727 | |
| 6,600.0 | 6,516.5 | 6,571.2 | 6,376.8 | 26.6 | 31.5 | 22.99 | -372.4 | 1,174.2 | 475.6 | 427.0 | 48.63 | 9.780 | |
| 6,700.0 | 6,614.2 | 6,670.7 | 6,471.4 | 27.1 | 32.1 | 22.90 | -380.5 | 1,203.8 | 486.1 | 436.6 | 49.44 | 9.832 | |
| 6,800.0 | 6,711.9 | 6,770.1 | 6,566.0 | 27.6 | 32.7 | 22.82 | -388.6 | 1,233.5 | 496.5 | 446.3 | 50.25 | 9.881 | |
| 6,900.0 | 6,809.7 | 6,869.6 | 6,660.5 | 28.1 | 33.3 | 22.74 | -396.7 | 1,263.1 | 507.0 | 455.9 | 51.06 | 9.929 | |
| 7,000.0 | 6,907.4 | 6,969.0 | 6,755.1 | 28.6 | 33.9 | 22.66 | -404.8 | 1,292.7 | 517.4 | 465.5 | 51.87 | 9.976 | |
| 7,100.0 | 7,005.1 | 7,068.5 | 6,849.7 | 29.0 | 34.5 | 22.59 | -412.9 | 1,322.4 | 527.9 | 475.2 | 52.68 | 10.021 | |
| 7,200.0 | 7,102.9 | 7,167.9 | 6,944.3 | 29.5 | 35.2 | 22.52 | -421.0 | 1,352.0 | 538.3 | 484.8 | 53.49 | 10.064 | |
| 7,300.0 | 7,200.6 | 7,267.4 | 7,038.9 | 30.0 | 35.8 | 22.45 | -429.1 | 1,381.7 | 548.8 | 494.5 | 54.30 | 10.106 | |
| 7,400.0 | 7,298.4 | 7,366.8 | 7,133.5 | 30.5 | 36.4 | 22.39 | -437.2 | 1,411.3 | 559.2 | 504.1 | 55.11 | 10.147 | |
| 7,500.0 | 7,396.1 | 7,466.3 | 7,228.0 | 31.0 | 37.0 | 22.32 | -445.3 | 1,441.0 | 569.7 | 513.8 | 55.93 | 10.187 | |
| 7,600.0 | 7,493.8 | 7,565.7 | 7,322.6 | 31.5 | 37.6 | 22.26 | -453.4 | 1,470.6 | 580.1 | 523.4 | 56.74 | 10.225 | |
| 7,700.0 | 7,591.6 | 7,665.2 | 7,417.2 | 31.9 | 38.2 | 22.21 | -461.6 | 1,500.2 | 590.6 | 533.1 | 57.55 | 10.262 | |
| 7,800.0 | 7,689.3 | 7,764.6 | 7,511.8 | 32.4 | 38.9 | 22.15 | -469.7 | 1,529.9 | 601.1 | 542.7 | 58.37 | 10.298 | |
| 7,900.0 | 7,787.1 | 7,864.1 | 7,606.4 | 32.9 | 39.5 | 22.10 | -477.8 | 1,559.5 | 611.5 | 552.3 | 59.18 | 10.333 | |
| 8,000.0 | 7,884.8 | 7,963.5 | 7,700.9 | 33.4 | 40.1 | 22.04 | -485.9 | 1,589.2 | 622.0 | 562.0 | 59.99 | 10.367 | |
| 8,100.0 | 7,982.5 | 8,063.0 | 7,795.5 | 33.9 | 40.7 | 21.99 | -494.0 | 1,618.8 | 632.4 | 571.6 | 60.81 | 10.400 | |
| 8,200.0 | 8,080.3 | 8,172.9 | 7,900.2 | 34.4 | 41.4 | 21.95 | -502.9 | 1,651.2 | 642.6 | 580.8 | 61.76 | 10.405 | |
| 8,300.0 | 8,178.0 | 8,300.3 | 8,022.9 | 34.8 | 42.1 | 22.01 | -512.0 | 1,684.6 | 649.3 | 586.4 | 62.87 | 10.327 | |
| 8,400.0 | 8,275.7 | 8,428.2 | 8,147.4 | 35.3 | 42.8 | 22.20 | -519.7 | 1,712.7 | 651.7 | 587.8 | 63.90 | 10.199 | |
| 8,500.0 | 8,373.5 | 8,556.1 | 8,273.0 | 35.8 | 43.4 | 22.54 | -525.9 | 1,735.5 | 649.9 | 585.0 | 64.83 | 10.024 | |
| 8,600.0 | 8,471.2 | 8,683.4 | 8,399.0 | 36.3 | 43.9 | 23.02 | -530.6 | 1,752.8 | 643.8 | 578.1 | 65.68 | 9.802 | |
| 8,700.0 | 8,569.0 | 8,809.6 | 8,524.6 | 36.8 | 44.3 | 23.65 | -533.9 | 1,764.6 | 633.5 | 567.0 | 66.43 | 9.535 | |
| 8,800.0 | 8,666.7 | 8,934.3 | 8,649.2 | 37.3 | 44.7 | 24.47 | -535.6 | 1,771.0 | 619.1 | 552.0 | 67.11 | 9.225 | |
| 8,900.0 | 8,764.4 | 9,050.6 | 8,765.4 | 37.8 | 45.0 | 25.41 | -536.0 | 1,772.3 | 600.9 | 533.1 | 67.79 | 8.864 | |
| 9,000.0 | 8,862.2 | 9,148.3 | 8,863.2 | 38.3 | 45.3 | 26.30 | -536.0 | 1,772.3 | 581.8 | 513.1 | 68.67 | 8.472 | |
| 9,100.0 | 8,959.9 | 9,246.1 | 8,960.9 | 38.8 | 45.5 | 27.25 | -536.0 | 1,772.3 | 562.8 | 493.3 | 69.57 | 8.090 | |
| 9,200.0 | 9,057.6 | 9,343.8 | 9,058.6 | 39.2 | 45.7 | 28.27 | -536.0 | 1,772.3 | 544.0 | 473.5 | 70.49 | 7.717 | |
| 9,300.0 | 9,155.4 | 9,441.5 | 9,156.4 | 39.7 | 46.0 | 29.35 | -536.0 | 1,772.3 | 525.4 | 454.0 | 71.44 | 7.354 | |
| 9,400.0 | 9,253.1 | 9,539.3 | 9,254.1 | 40.2 | 46.2 | 30.52 | -536.0 | 1,772.3 | 507.0 | 434.5 | 72.42 | 7.000 | |
| 9,500.0 | 9,350.9 | 9,637.0 | 9,351.9 | 40.7 | 46.5 | 31.77 | -536.0 | 1,772.3 | 488.8 | 415.3 | 73.44 | 6.655 | |
| 9,600.0 | 9,448.6 | 9,734.8 | 9,449.6 | 41.2 | 46.7 | 33.12 | -536.0 | 1,772.3 | 470.8 | 396.3 | 74.49 | 6.320 | |
| 9,700.0 | 9,546.3 | 9,832.5 | 9,547.3 | 41.7 | 46.9 | 34.57 | -536.0 | 1,772.3 | 453.1 | 377.5 | 75.58 | 5.995 | |
| 9,800.0 | 9,644.1 | 9,930.2 | 9,645.1 | 42.2 | 47.2 | 36.13 | -536.0 | 1,772.3 | 435.7 | 359.0 | 76.72 | 5.679 | |
| 9,900.0 | 9,741.8 | 10,028.0 | 9,742.8 | 42.7 | 47.4 | 37.83 | -536.0 | 1,772.3 | 418.7 | 340.8 | 77.91 | 5.374 | |
| 10,000.0 | 9,839.6 | 10,089.1 | 9,803.8 | 43.2 | 47.6 | 39.28 | -539.4 | 1,772.3 | 406.3 | 326.8 | 79.53 | 5.108 | |
| 10,070.5 | 9,908.4 | 10,130.5 | 9,844.7 | 43.5 | 47.7 | 40.69 | -546.2 | 1,772.4 | 403.6 | 323.2 | 80.46 | 5.017 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

**Offset Design:** AZTEC PROJECT - AZTEC 14 23 FED COM 402H - OWB - PWP0

**Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Rule Assigned: Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10,100.0 | 9,937.3 | 10,150.0 | 9,863.6 | 43.6 | 47.8 | 41.46 | -550.6 | 1,772.4 | 404.1 | 323.3 | 80.81 | 5.001 | |
| 10,200.0 | 10,035.0 | 10,200.0 | 9,911.4 | 44.1 | 47.9 | 43.72 | -565.4 | 1,772.5 | 413.1 | 331.9 | 81.20 | 5.087 | |
| 10,300.0 | 10,132.8 | 10,250.0 | 9,957.3 | 44.6 | 48.1 | 46.28 | -585.0 | 1,772.6 | 433.6 | 352.8 | 80.77 | 5.368 | |
| 10,400.0 | 10,230.5 | 10,300.0 | 10,000.9 | 45.1 | 48.3 | 49.00 | -609.4 | 1,772.8 | 465.4 | 385.6 | 79.77 | 5.834 | |
| 10,500.0 | 10,328.2 | 10,350.0 | 10,041.8 | 45.6 | 48.4 | 51.77 | -638.2 | 1,772.9 | 507.7 | 429.2 | 78.49 | 6.468 | |
| 10,600.0 | 10,426.0 | 10,375.0 | 10,061.0 | 46.1 | 48.5 | 53.13 | -654.2 | 1,773.0 | 559.0 | 483.7 | 75.34 | 7.420 | |
| 10,700.0 | 10,523.7 | 10,414.3 | 10,089.5 | 46.6 | 48.7 | 55.19 | -681.3 | 1,773.2 | 618.0 | 544.6 | 73.40 | 8.419 | |
| 10,800.0 | 10,621.5 | 10,450.0 | 10,113.3 | 47.1 | 48.8 | 56.97 | -707.8 | 1,773.3 | 683.4 | 612.0 | 71.48 | 9.561 | |
| 10,813.9 | 10,635.0 | 10,450.0 | 10,113.3 | 47.2 | 48.8 | 56.97 | -707.8 | 1,773.3 | 692.9 | 622.0 | 70.89 | 9.773 | |
| 10,825.0 | 10,645.9 | 10,450.0 | 10,113.3 | 47.2 | 48.8 | 51.51 | -707.8 | 1,773.3 | 700.5 | 630.1 | 70.42 | 9.946 | |
| 10,850.0 | 10,670.2 | 10,450.0 | 10,113.3 | 47.3 | 48.8 | 40.45 | -707.8 | 1,773.3 | 717.2 | 647.9 | 69.34 | 10.343 | |
| 10,875.0 | 10,694.5 | 10,464.2 | 10,122.3 | 47.5 | 48.9 | 32.02 | -718.9 | 1,773.4 | 733.3 | 664.0 | 69.21 | 10.595 | |
| 10,900.0 | 10,718.5 | 10,475.0 | 10,128.8 | 47.6 | 48.9 | 25.39 | -727.4 | 1,773.4 | 748.8 | 680.0 | 68.79 | 10.884 | |
| 10,925.0 | 10,742.2 | 10,475.0 | 10,128.8 | 47.7 | 48.9 | 20.03 | -727.4 | 1,773.4 | 763.6 | 696.0 | 67.62 | 11.292 | |
| 10,950.0 | 10,765.6 | 10,486.3 | 10,135.5 | 47.8 | 48.9 | 16.24 | -736.6 | 1,773.5 | 777.8 | 710.6 | 67.18 | 11.577 | |
| 10,975.0 | 10,788.6 | 10,500.0 | 10,143.3 | 48.0 | 49.0 | 13.39 | -747.8 | 1,773.5 | 791.4 | 724.5 | 66.86 | 11.836 | |

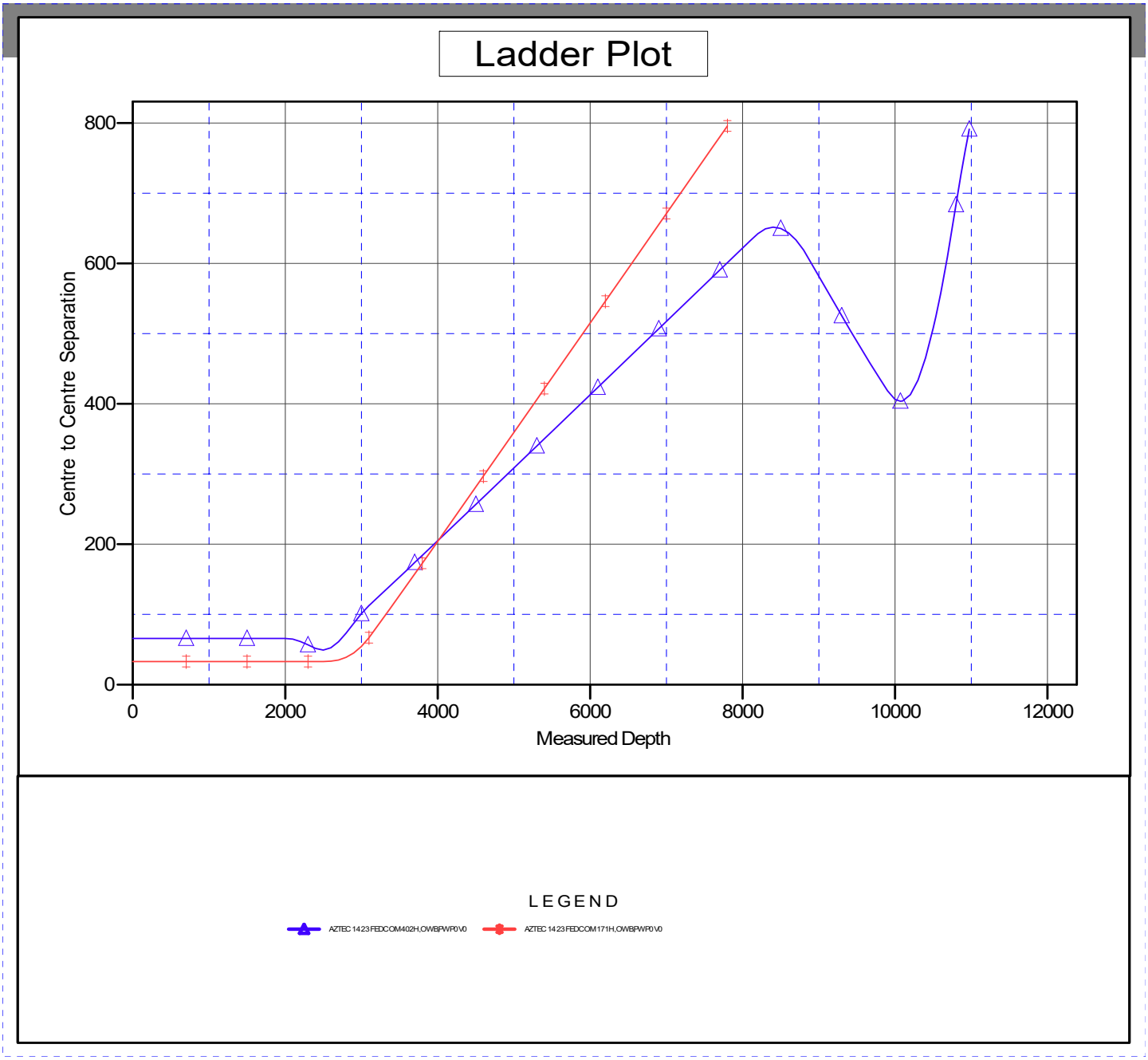
# Permian Resources

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to KB @ 3864.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: AZTEC 14 23 FED COM 173H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.37°




CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

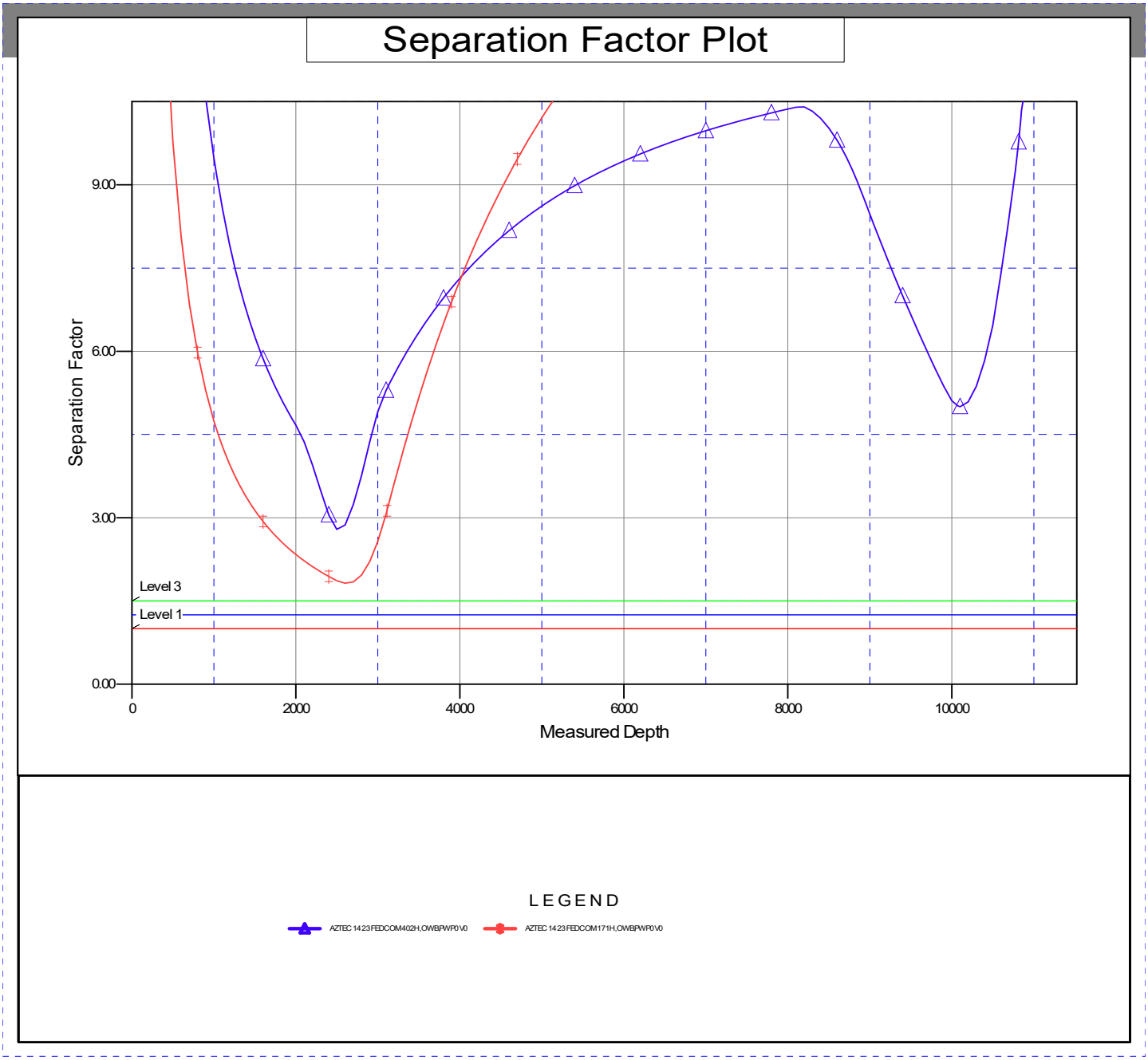
# Permian Resources

## Anticollision Report

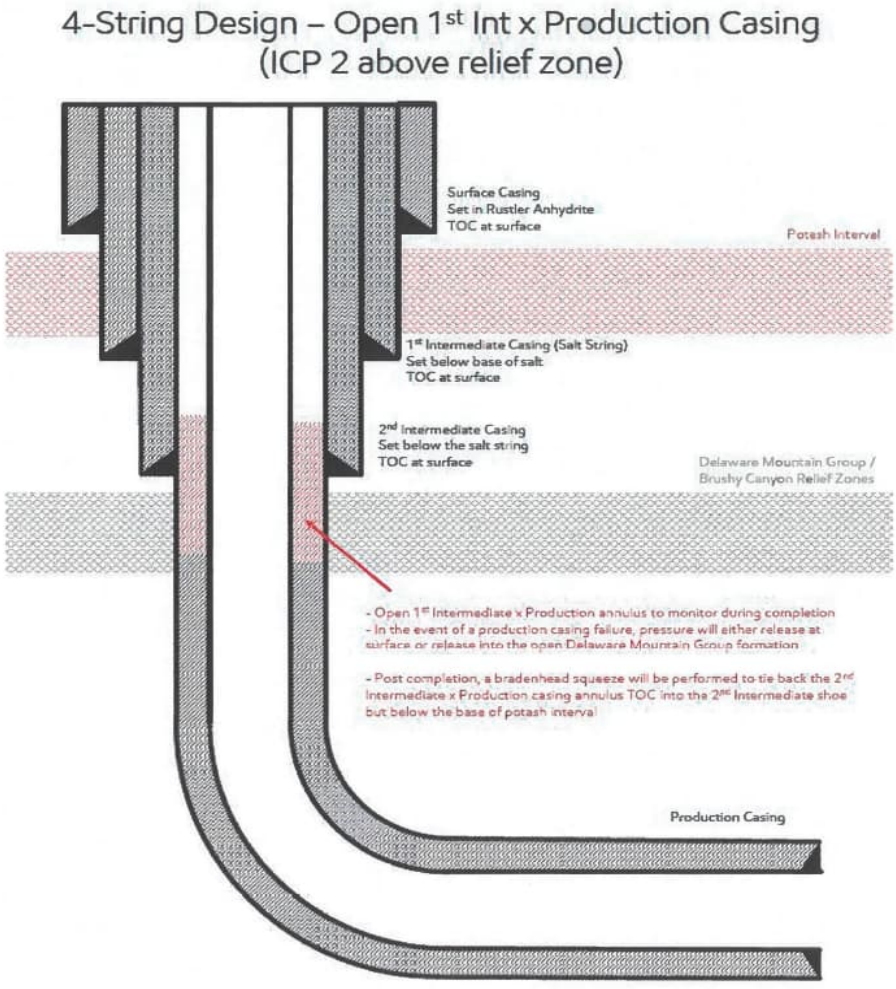
| | | | |
|---|---|---|---|
| **Company:** | NEW MEXICO | **Local Co-ordinate Reference:** | Well AZTEC 14 23 FED COM 173H |
| **Project:** | (SP) LEA | **TVD Reference:** | KB @ 3864.0usft |
| **Reference Site:** | AZTEC PROJECT | **MD Reference:** | KB @ 3864.0usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | AZTEC 14 23 FED COM 173H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | Compass |
| **Reference Design:** | PWP0 | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to KB @ 3864.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: AZTEC 14 23 FED COM 173H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.37°



The WBD below depicts the ccement design required for R111Q.
The annulus between the production and intermediate casing strings shall be actively monitored for pressure during hydraulic fracturing operations. If pressure communication is observed, indicating a possible production casing failure, hydraulic fracturing operations must immediately cease, and source of the pressure increase shall be investigated. During hydraulic fracturing operations, a pressure relief valve or appropriate venting system shall be installed to relieve pressure in the event of a production casing failure. The opening pressure of any pressure relief valves must be set below 50% of the intermediate casing burst rating. If the well design features an uncemented intermediate casing shoe (for example as shown in Exhibit B, Figure B) and the well approaches to within ¼ mile of an offset well drilling, completing or producing from the Delaware Mountain Group, then the pressure relief valve opening pressure shall be set no more than 1000 psi and at no time shall the pressure on the annulus be allowed to exceed 1000 psi. This requirement can be waived by the offset well operator.
Production cement will be 500' below the 2nd intermediate shoe with 0% excess leaving the DMG un-cemented as a pressure relief zone.
Bradenhead operations will be performed within 180 days of completing hydraulic fracturing operations, tying back cement at least 500' inside the 2nd intermediate shoe but below Marker Bed 126.




[Figure E] 4 String – Uncemented Annulus between 2nd Intermediate and Production Casing Strings

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 Resources Operating, LLC **OGRID:** 372165 **Date:** 07 / 17 / 2025

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

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

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|---|---|---|---|---|---|---|
| SEE ATTACHED WELL LIST | | | | | | |
| | | | | | | |

**IV. Central Delivery Point Name:** Aztec 14 23 Fed Com SESW 2 [See 19.15.27.9(D)(1) NMAC]

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

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---|---|---|---|---|---|---|
| SEE ATTACHED WELL LIST | | | | | | |
| | | | | | | |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

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

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

## Section 2 – Enhanced Plan

**EFFECTIVE APRIL 1, 2022**

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

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

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| | | | |
| | | | |

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

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



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

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

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

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

## Section 3 - Certifications

**Effective May 25, 2021**

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

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

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

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

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

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

## Section 4 - Notices

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

**(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

**(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

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

| | |
|---|---|
| Signature: | Released to Imaging: 7/22/2025 1:32:18 PM |
| Printed Name: | Jennifer Elrod |
| Title: | Sr. Regulatory Analyst |
| E-mail Address: | jennifer.elrod@permianres.com |
| Date: | 7/17/2025 |
| Phone: | 940-452-6214 |

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

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

| WELL NAME | API | UL/SECT/T/R | FOOTAGES | ANTICIPATED OIL BBL/D | ANTICIPATED GAS MCF/D | ANTICIPATED WATER BBL/D |
|---|---|---|---|---|---|---|
| Aztec 14 23 Fed Com 301H | | M-11-21S-32E | 566' FSL, 404' FWL | 500 | 800 | 4500 |
| Aztec 14 23 Fed Com 302H | | M-11-21S-32E | 583' FSL, 432' FWL | 500 | 800 | 4500 |
| Aztec 14 23 Fed Com 401H | | M-11-21S-32E | 601' FSL, 460' FWL | 1100 | 1600 | 2600 |
| Aztec 14 23 Fed Com 402H | | M-11-21S-32E | 619' FSL, 488' FWL | 1100 | 1600 | 2600 |
| Aztec 14 23 Fed Com 171H | | M-11-21S-32E | 637' FSL, 515' FWL | 1100 | 1600 | 2600 |
| Aztec 14 23 Fed Com 173H | | M-11-21S-32E | 655' FSL, 543' FWL | 1100 | 1600 | 2600 |
| | | | | | | |
| WELL NAME | API | SPUD | TD | COMPLETION DATE | FLOW BACK DATE | FIRST PRODUCTION |
| Aztec 14 23 Fed Com 301H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |
| Aztec 14 23 Fed Com 302H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |
| Aztec 14 23 Fed Com 401H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |
| Aztec 14 23 Fed Com 402H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |
| Aztec 14 23 Fed Com 171H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |
| Aztec 14 23 Fed Com 173H | | 4/1/2025 | 5/1/2025 | 7/1/2025 | 8/1/2025 | 8/1/2025 |

| WELL NAME | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| Aztec 14 23 Fed Com 301H | | 500 | 242436 |
| Aztec 14 23 Fed Com 302H | | 500 | 242436 |
| Aztec 14 23 Fed Com 401H | | 950 | 352500 |
| Aztec 14 23 Fed Com 402H | | 950 | 352500 |
| Aztec 14 23 Fed Com 171H | | 950 | 352500 |
| Aztec 14 23 Fed Com 173H | | 950 | 352500 |

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

- 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:

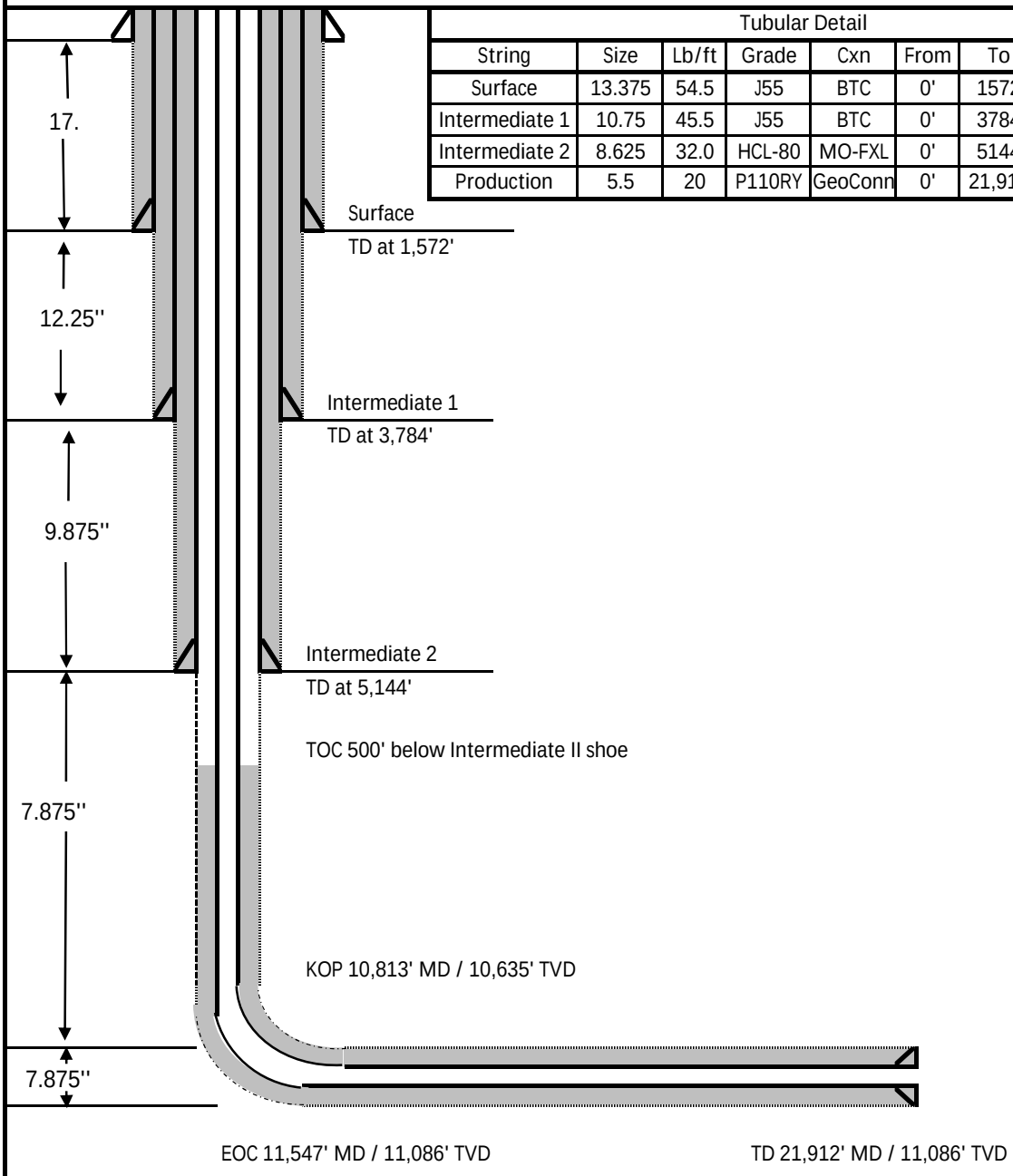
- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility 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

# Permian Resources

Well: Aztec Fed Com 173H
State New Mexico County: Lea
FM Target: 3rd Bone Spring
Location: Lot M, Section 11, T21S, R32E, 655' FSL, 543' FWL
BHL: Lot N, Section 23, T21S, R32E, 100' FSL, 2308' FWL
KB Elev: 3864 KB: 30 GL Elev: 3834

Tubular Detail

| String | Size | Lb/ft | Grade | Cxn | From | To | Burst | Cllps |
|---|---|---|---|---|---|---|---|---|
| Surface | 13.375 | 54.5 | J55 | BTC | 0' | 1572 | 2740 | 1,130 |
| Intermediate 1 | 10.75 | 45.5 | J55 | BTC | 0' | 3784 | 5210 | 2,470 |
| Intermediate 2 | 8.625 | 32.0 | HCL-80 | MO-FXL | 0' | 5144 | 4000 | 4,130 |
| Production | 5.5 | 20 | P110RY | GeoConn | 0' | 21,912 | 13720 | 11,100 |



# 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

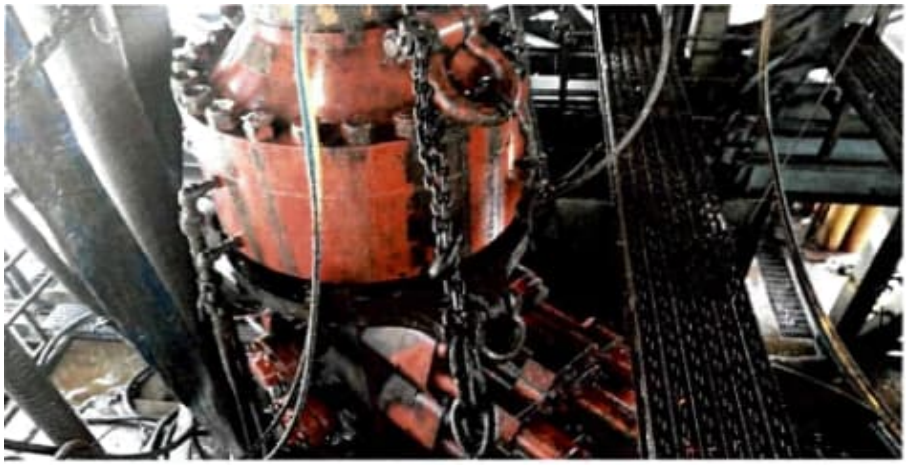


Figure 2: BOP Winch System

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.



**Table C.4—Initial Pressure Testing, Surface BOP Stacks**

| Component to be Pressure Tested | Pressure Test—Low Pressure[a,c] psig (MPa) | Pressure Test—High Pressure[a,c] | |
|---|---|---|---|
| | | Change Out of Component, Elastomer, or Ring Gasket | No Change Out of Component, Elastomer, or Ring Gasket |
| Annular preventer[b] | 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[a,c] | 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[a] | 250 to 350 (1.72 to 2.41) | RWP of ram preventers or wellhead system, whichever is lower | ITP |
| Choke manifold—downstream of chokes[a] | 250 to 350 (1.72 to 2.41) | RWP of valve(s), line(s), or MASP for the well program, whichever is lower | |
| Kelly, kelly valves, drill pipe safety valves, IBOPs | 250 to 350 (1.72 to 2.41) | MASP for the well program | |

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

[b] Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

[d] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

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.

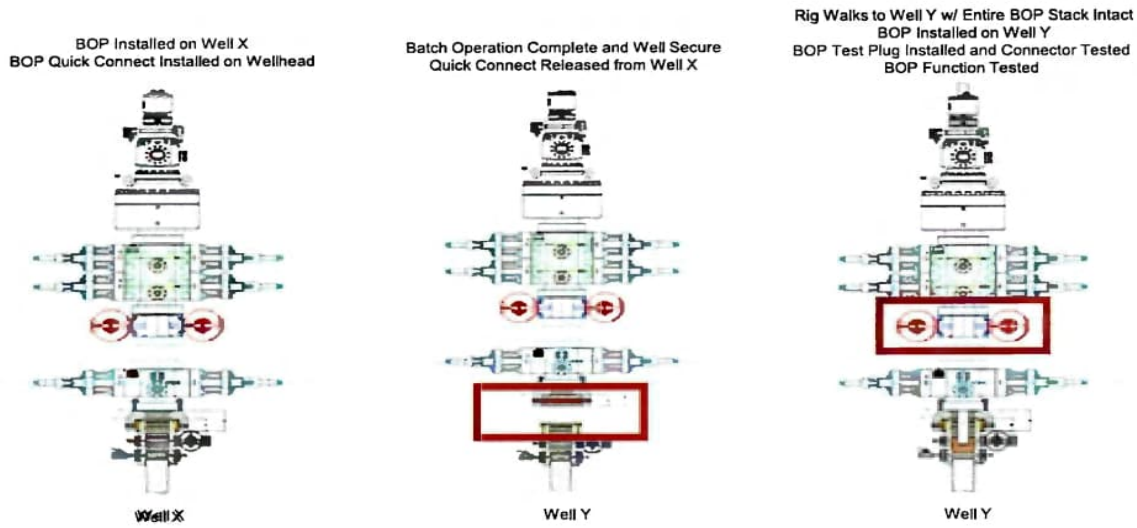
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

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.

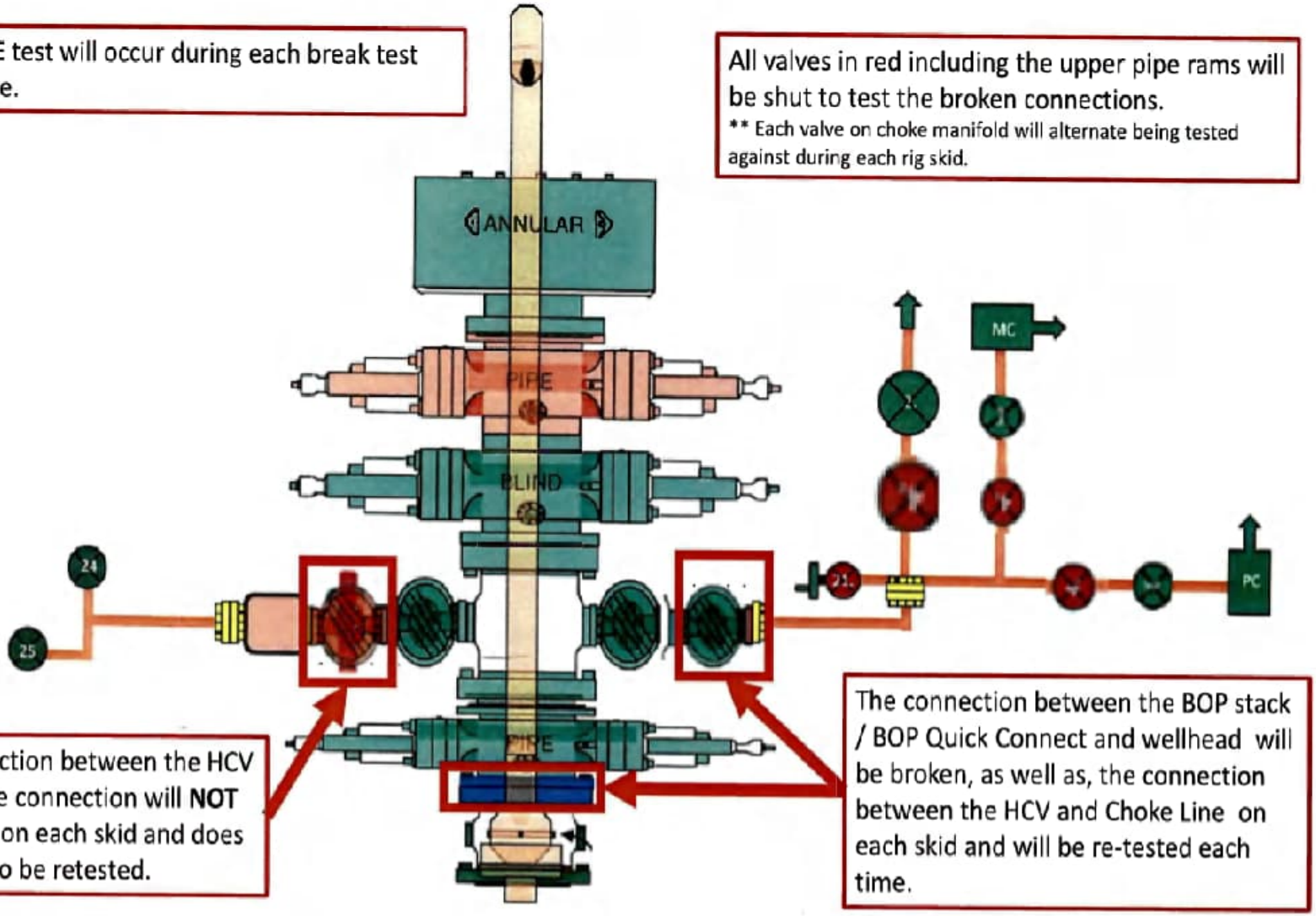
Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

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.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.

** Each valve on choke manifold will alternate being tested against during each rig skid.




The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

# Permian Resources
# Multi-Well Pad Batch Drilling Procedure

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

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

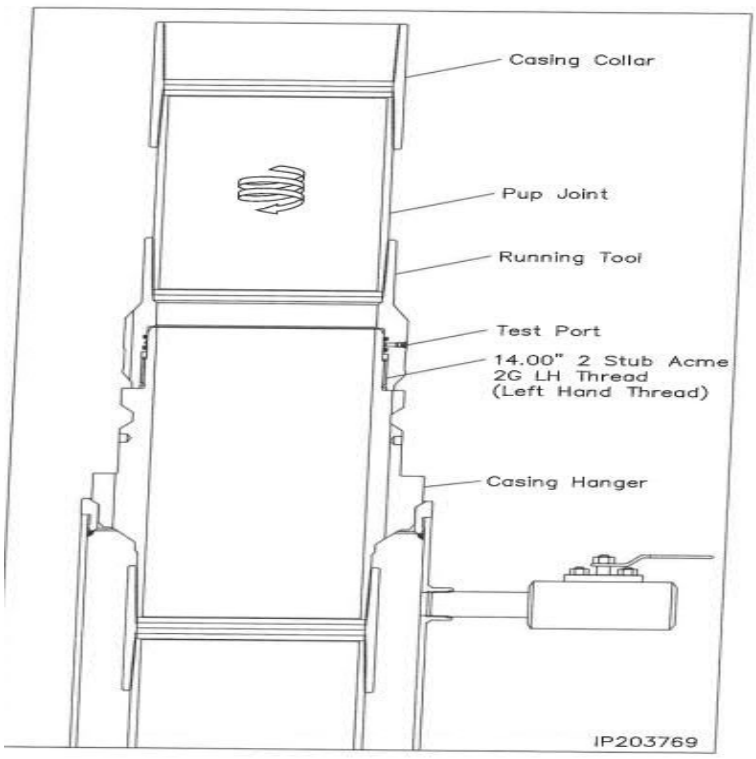



Illustration 1-1

Intermediate Casing – PR intends to Batch set all intermediate casing strings to a depth approved in the APD. Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior to 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 surface casing 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.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.

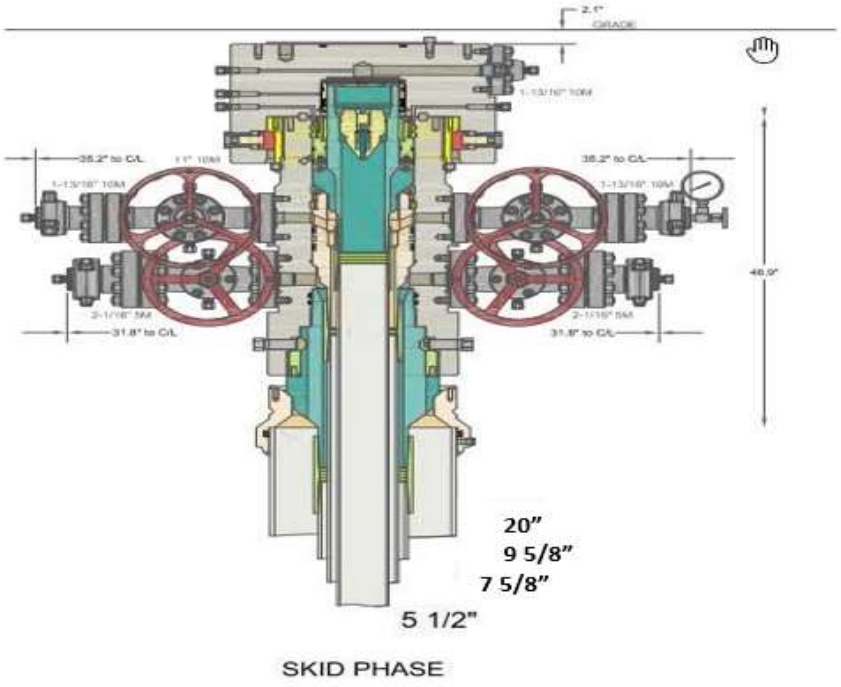



Illustration 2-2

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

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

Continental

ContiTech Fluid Technology

ContiTech Oil & Marine Corp. # 11535 Brittmoore Park Dr., Houston, TX 77041-6916 USA

CONSIGNEE / Ship-to address:

HELMERICH & PAYNE INT'L DRILLING CO
ATTN: FLEX RIG WHSE - B-BAY
210 MAGNOLIA DRIVE
GALENA PARK TX 77547

Buyer:

HELMERICH & PAYNE INT'L DRILLING CO
1437 SOUTH BOULDER
74119 TULSA

Conditions

Incoterms EXW Houston
Ex Works

**Packing list / Delivery note**

| | |
|---|---|
| Document No. | **71461553** |
| Document Date | 28.01.2022 |
| Customer Number | 11697 |
| Customer VAT No. | |
| Supplier Number | |
| Purchase Order No. | 740362040 |
| Purchase Order Date | 18.01.2022 |
| Sales Order Number | 1388153 |
| Sales Order Date | 18.01.2022 |
| Unloading Point | |
| RAN-No. | |

**Page 1 of 2**

Weights (Gross / Net)

| | |
|---|---|
| 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*<br>*E-mail: Jackie.Peebles@hpinc.com*<br>*Tel: 832-782-6000*<br><br>*Rig/Whse: HOW* | | | |
| 20 | 00RECERTIFY<br>Recert of HP Hoses Serial# 67094<br>Commodity Code:<br>3" X 35 FT 10K Choke & Kill Hoses API 16C<br><br>End 1: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange<br>End 2: 4 - 1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 ring groove each end<br>Standard: API Spec 16C - Monogrammed<br><br>Working Pressure: 10,000psi<br>Test Pressure: 15,000psi<br><br>Inspection & Certification includes:<br>External inspection of the hose & couplings<br>Internal boroscopic inspection of hose liner<br>Hydrostatic pressure test of hose assembly<br>Repair of any external damage to hose body and end connections (limited to minor repairs).<br>Clean & protect end connections Inspection Report<br>Disposal of hose assembly if hose fails inspection and recertification process.<br>Please Flush Hoses before sending them to our Facility. | 1 PC | 2,507.000 LB | 2,507.000 LB |

8800240
Y106-01-0101
2-9-22

ContiTech Rubber Industrial Kft.
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: Csongrád Megyei Cégbíróság

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

**Record Rotary Hose sleeve number on the CBC Made Hose List ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !**

# Hydrostatic Test Certificate

ContiTech

| Certificate Number | COM Order Reference | Customer Name & Address |
|---|---|---|
| H100122 | 1388153 | HELMERICH & PAYNE DRILLING CO<br>1434 SOUTH BOULDER AVE<br>TULSA, OK 74119<br>USA |
| **Customer Purchase Order No:** | 740362040 | |
| **Project:** | | |

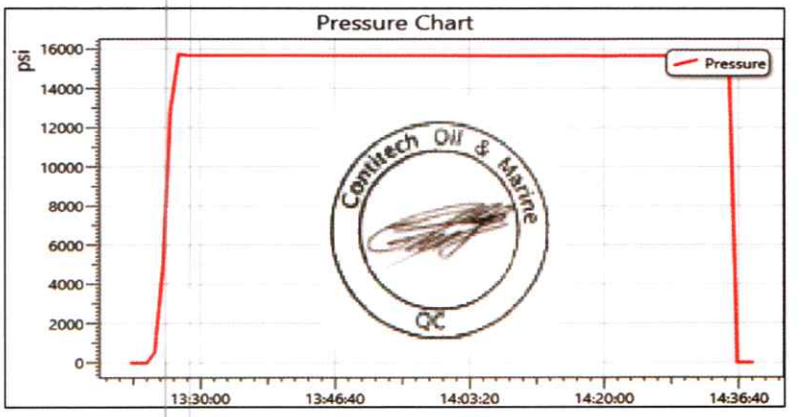
| Test Center Address | Accepted by COM Inspection | | Accepted by Client Inspection |
|---|---|---|---|
| ContiTech Oil & Marine Corp.<br>11535 Brittmoore Park Drive<br>Houston, TX 77041<br>USA | Signed:<br><br>Date: | Gerson Mejia-Lazo<br><br>02/09/22 | |

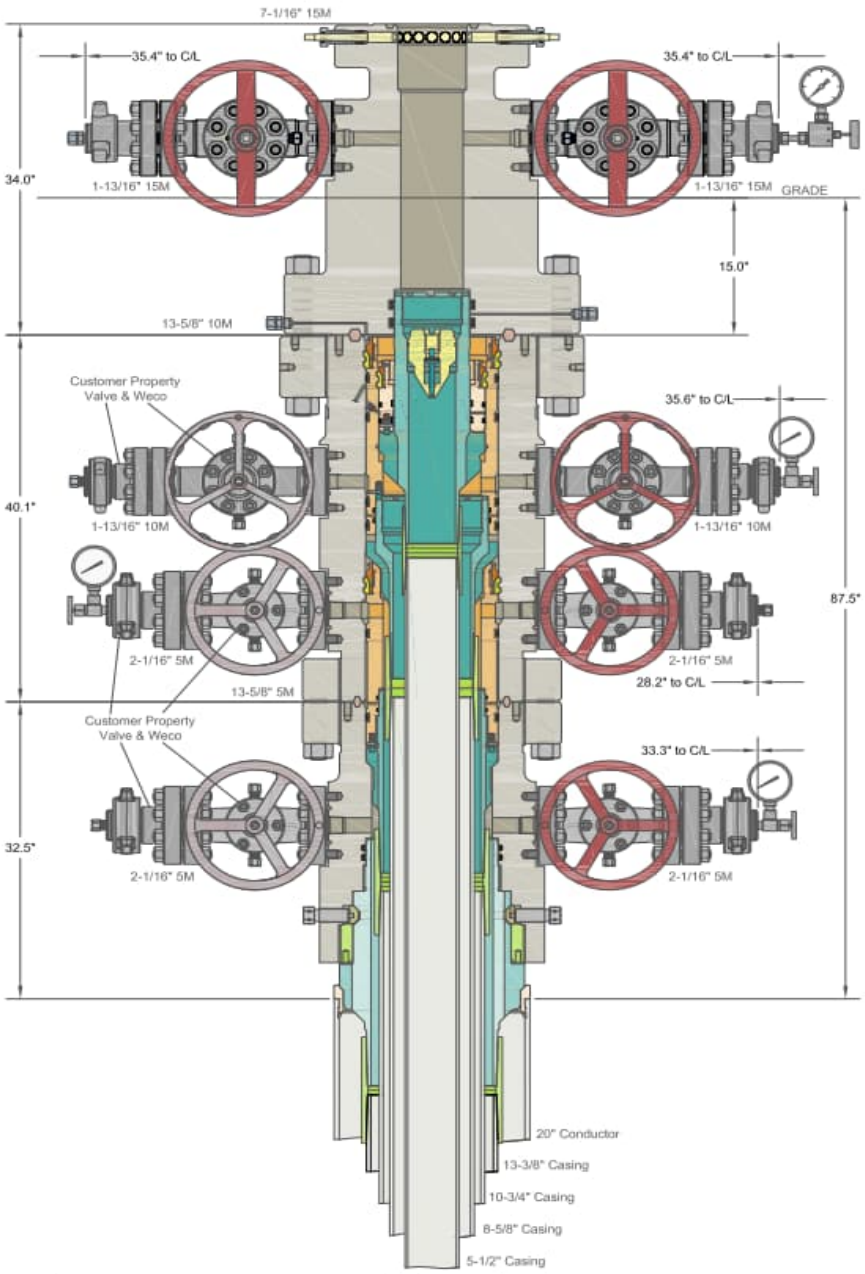
We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

| 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 | 1 | 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 Information | |
|---|---|
| Model | ADT680 |
| SN | 21817380014 |
| Range | (0-40000)psi |
| Unit | psi |







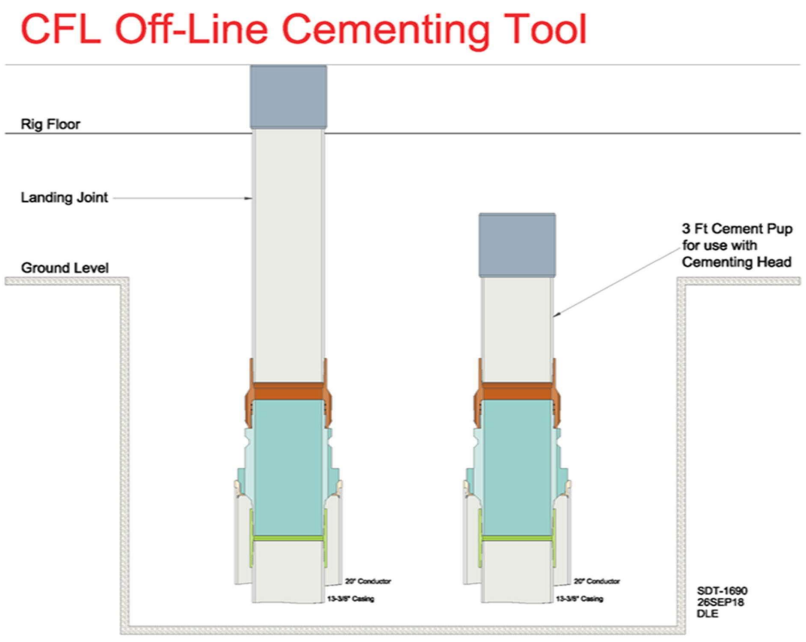

ALL DIMENSIONS APPROXIMATE

| CACTUS WELLHEAD LLC | PERMIAN RESOURCES NEW MEXICO | | |
|---|---|---|---|
| 20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO Sys.<br>With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head<br>And 10-3/4" & 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers | DRAWN | DLE | 26OCT23 |
| | APPRV | | |
| | DRAWING NO. | HBE0001038 | |

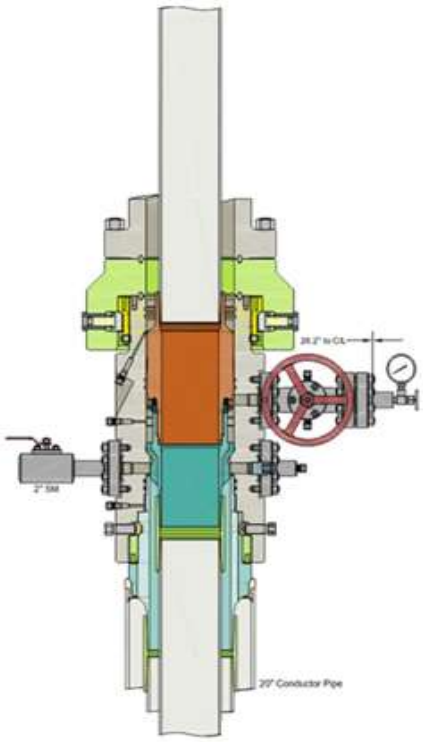
**Permian Resources Offline Cementing Procedure**
**Surface & Intermediate Casing**

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.

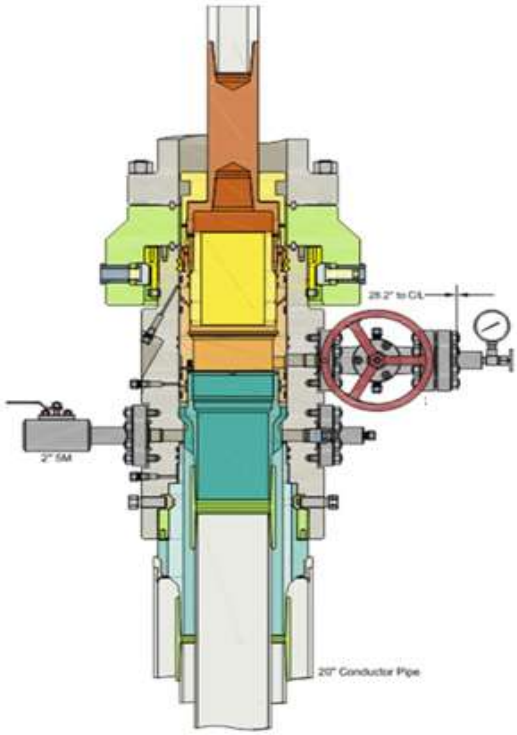
13 3/8" Surface



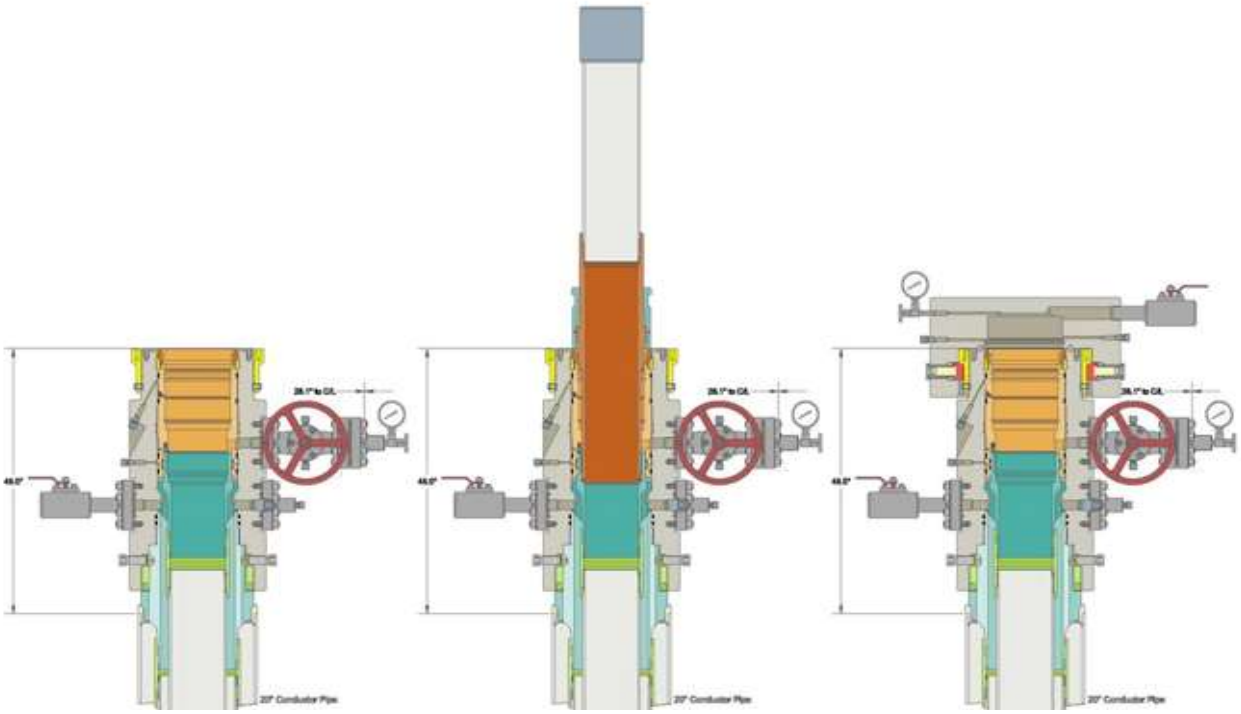
Intermediate



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



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





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

# PWD Data Report
05/06/2025

**APD ID:** 10400100274 **Submission Date:** 08/01/2024

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

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

## Section 1 - General

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

## Section 2 - Lined

**Would you like to utilize Lined Pit PWD options?** N

**Produced Water Disposal (PWD) Location:**

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

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit**

**Pit liner description:**

**Pit liner manufacturers**

**Precipitated solids disposal:**

**Decribe precipitated solids disposal:**

**Precipitated solids disposal**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule**

**Lined pit reclamation description:**

**Lined pit reclamation**

**Leak detection system description:**

**Leak detection system**

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

**Lined pit Monitor description:**

**Lined pit Monitor**

**Lined pit: do you have a reclamation bond for the pit?**

**Is the reclamation bond a rider under the BLM bond?**

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information**

## Section 3 - Unlined

**Would you like to utilize Unlined Pit PWD options?** N

**Produced Water Disposal (PWD) Location:**

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

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit**

**Precipitated solids disposal:**

**Decribe precipitated solids disposal:**

**Precipitated solids disposal**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule**

**Unlined pit reclamation description:**

**Unlined pit reclamation**

**Unlined pit Monitor description:**

**Unlined pit Monitor**

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

**Beneficial use user**

**Estimated depth of the shallowest aquifer (feet):**

**Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?**

**TDS lab results:**

**Geologic and hydrologic**

**State**

**Unlined Produced Water Pit Estimated**

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

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information**

## Section 4 -

**Would you like to utilize Injection PWD options?** N

**Produced Water Disposal (PWD) Location:**

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

**Injection PWD discharge volume (bbl/day):**

**Injection well mineral owner:**

**Injection well type:**

**Injection well number:** **Injection well name:**

**Assigned injection well API number?** **Injection well API number:**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection**

**Underground Injection Control (UIC) Permit?**

**UIC Permit**

## Section 5 - Surface

**Would you like to utilize Surface Discharge PWD options?** N

**Produced Water Disposal (PWD) Location:**

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

**Surface discharge PWD discharge volume (bbl/day):**

**Surface Discharge NPDES Permit?**

**Surface Discharge NPDES Permit attachment:**

**Surface Discharge site facilities information:**

**Surface discharge site facilities map:**

## Section 6 -

**Would you like to utilize Other PWD options?** N

**Produced Water Disposal (PWD) Location:**

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

**Other PWD discharge volume (bbl/day):**

**Operator Name:** PERMIAN RESOURCES OPERATING LLC

**Well Name:** AZTEC 14 23 FED COM **Well Number:** 173H

**Other PWD type description:**

**Other PWD type**

**Have other regulatory requirements been met?**

**Other regulatory requirements**

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# Bond Info Data
05/06/2025

**APD ID:** 10400100274
**Submission Date:** 08/01/2024
**Operator Name:** PERMIAN RESOURCES OPERATING LLC
**Well Name:** AZTEC 14 23 FED COM
**Well Number:** 173H
**Well Type:** OIL WELL
**Well Work Type:** Drill

Highlighted data reflects the most recent changes
Show Final Text

## Bond

**Federal/Indian APD:** FED

**BLM Bond number:** NMB001841

**BIA Bond number:**

**Do you have a reclamation bond?** NO

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**

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 233406

## CONDITIONS

| Operator: | OGRID: |
|---|---|
| Permian Resources Operating, LLC<br>300 N. Marienfeld St Ste 1000<br>Midland, TX 79701 | 372165 |
| | Action Number: 233406 |
| | Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| clevans | Cement is required to circulate on both surface and intermediate1 strings of casing. | 7/17/2025 |
| clevans | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing. | 7/17/2025 |
| matthew.gomez | Notify the OCD 24 hours prior to casing & cement. | 7/22/2025 |
| matthew.gomez | A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud. | 7/22/2025 |
| matthew.gomez | 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. | 7/22/2025 |
| matthew.gomez | 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. | 7/22/2025 |
| matthew.gomez | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 7/22/2025 |
| matthew.gomez | This well is within the Capitan Reef. The first intermediate casing string shall be sat and cemented back to surface above the Capitan Reef. The second intermediate string shall be set and cemented back to surface below the base of the Capitan Reef. | 7/22/2025 |
| matthew.gomez | Brine water shall not be used in the Capitan Reef. Only freshwater based mud shall be utilized until the Capitan Reef is cased and cemented. | 7/22/2025 |
| matthew.gomez | This well is proposed to be within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the order. | 7/22/2025 |