Form 3160-3
(October 2024)

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2027

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.
30-015-58531

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: 05/01/2026

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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.

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Additional Operator Remarks

Location of Well

0. SHL: LOT 13 / 1664 FSL / 1091 FEL / TWSP: 18S / RANGE: 27E / SECTION: 4 / LAT: 32.774134 / LONG: -104.278462 (TVD: 0 feet, MD: 0 feet)

PPP: NWSW / 1320 FSL / 100 FWL / TWSP: 18S / RANGE: 27E / SECTION: 3 / LAT: 32.77319 / LONG: -104.274577 (TVD: 3492 feet, MD: 3982 feet)

PPP: NESW / 1334 FSL / 1319 FWL / TWSP: 18S / RANGE: 27E / SECTION: 3 / LAT: 32.773144 / LONG: -104.270609 (TVD: 3556 feet, MD: 5204 feet)

PPP: NWSW / 1379 FSL / 0 FEL / TWSP: 18S / RANGE: 27E / SECTION: 2 / LAT: 32.772994 / LONG: -104.257733 (TVD: 3764 feet, MD: 9167 feet)

BHL: NESW / 1320 FSL / 2626 FEL / TWSP: 18S / RANGE: 27E / SECTION: 2 / LAT: 32.7729 / LONG: -104.249174 (TVD: 3902 feet, MD: 11802 feet)

BLM Point of Contact

Name: CANDY VIGIL
Title: LLE
Phone: (575) 234-5982
Email: CVIGIL@BLM.GOV

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PECOS DISTRICT

SURFACE USE

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Riley Permian Operating Company, LLC. and Dovetail Midstream, LLC.
LEASE NO.:	NMNM106771441, NMLC0061783A, NMLC0061783B, NMLC0065478B, USA NMNM0025604
COUNTY:	Eddy County, New Mexico

Wells:

Abides Fed #1H

Abides Fed #25H

Abides Fed #2H

Abides Fed #3H

Abides Fed #45H

Abides Fed #4H

Abides Fed #5H

Approval Date: 05/01/2026

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3. GENERAL PROVISIONS

The failure of the operator to comply with these requirements may result in the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.1 or 3163.2. A copy of these conditions of approval shall be present on the location during construction, drilling and reclamation activity. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the operator, or any person working on the operator's behalf, on the public or federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area (within 100ft) of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer, in conjunction with a BLM Cultural Resource Specialist, to determine appropriate actions to prevent the loss of significant scientific values. The operator shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

Traditional Cultural Properties (TCPs) are protected by NHPA as codified in 36 CFR 800 for possessing traditional, religious, and cultural significance tied to a certain group of individuals. Though there are currently no designated TCPs within the project area or within a mile of the project area, but it is possible for a TCP to be designated after the approval of this project. **If a TCP is designated in the project area after the project's approval, the BLM Authorized Officer will notify the operator of the following conditions and the duration for which these conditions are required.**

1. Temporary halting of all construction, drilling, and production activities to lower noise.
2. Temporary shut-off of all artificial lights at night.

The operator is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA), specifically NAGPRA Subpart B regarding discoveries, to protect human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered during project work. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and a BLM-CFO Authorized Officer will be notified immediately. The BLM will then be required to be notified, in writing, within 24 hours of the discovery. The written notification should include the geographic location by county and state, the contents of the discovery, and the steps taken to protect said discovery. You must also include any potential threats to the discovery and a conformation that all activity within 100ft of the discovery has ceased and work will not resume until written certification is issued. All work on the entire project must halt for a minimum of 3 days and work cannot resume until an Authorized Officer grants permission to do so.

Any paleontological resource discovered by the operator, or any person working on the operator's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The operator will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

RANGELAND RESOURCES

1.1.1. **Cattleguards**

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

1.1.2. **Fence Requirement**

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

1.1.3. **Livestock Watering Requirement**

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

NOXIOUS WEEDS

If noxious weeds were NOT found during onsite:

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

If noxious weeds WERE found during onsite:

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

1.3.1 African Rue (Peganum harmala)

Spraying: The spraying of African Rue must be completed by a licensed or certified applicator. In order to attempt to kill or remove African Rue the proper mix of chemical is needed. The mix consists of 2% Arsenal (Imazapyr) and 2% Roundup (Glyphosate) along with a nonionic surfactant. Any other chemicals or combinations shall be approved by the BLM Noxious Weeds Coordinator prior to treatment. African Rue shall be sprayed in connection to any dirt working activities or disturbances to the site being sprayed. Spraying of African Rue shall be done on immature plants at initial growth through flowering and mature plants between budding and flowering stages. Spraying shall not be conducted after flowering when plant is fruiting. This will ensure optimal intake of chemical and decrease chances of developing herbicide resistance. After spraying, the operator or necessary parties must contact the Carlsbad Field Office to inspect the effectiveness of the application treatment to the plant species. No ground disturbing activities can take place until the inspection by the authorized officer is complete. The operator may contact the Environmental Protection Department or the BLM Noxious Weed Coordinator at (575) 234-5972 or BLM_NM_CFO_NoxiousWeeds@blm.gov.

Management Practices: In addition to spraying for African Rue, good management practices should be followed. All equipment should be washed off using a power washer in a designated containment area. The containment area shall be bermed to allow for containment of the seed to prevent it from entering any open areas of the nearby landscape. The containment area shall be excavated near or adjacent to the well pad at a depth of three feet and just large enough to get equipment inside it to be washed off. This will allow all seeds to be in a centrally located area that can be treated at a later date if the need arises.

LIGHT POLLUTION

1.1.4. **Downfacing**

All permanent lighting will be pointed straight down at the ground in order to prevent light spill beyond the edge of approved surface disturbance.

1.1.5. **Shielding**

All permanent lighting will use full cutoff luminaires, which are fully shielded (i.e., not emitting direct or indirect light above an imaginary horizontal plane passing through the lowest part of the light source).

1.1.6. **Lighting Color**

Lighting shall be 3,500 Kelvin or less (Warm White) except during drilling, completion, and workover operations. No bluish-white lighting shall be used in permanent outdoor lighting.

4. SPECIAL REQUIREMENTS

WATERSHED

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

1.1.7. **Buried/Surface Line(s)**

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

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

1.1.8. **Electric Line(s)**

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole must not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that does not promote further erosion.

CAVE/KARST

1.1.9. **General Construction**

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- This is a sensitive area and all spills or leaks will be reported to the BLM immediately for their immediate and proper treatment, as defined in NTL 3A for Major Undesirable Events.

1.1.10. **Pad Construction**

- The pad will be constructed and leveled by adding the necessary fill and caliche. No blasting will be used for any construction or leveling activities.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will be vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

1.1.11. **Road Construction**

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

1.1.12. **Buried Pipeline/Cable Construction**

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

1.1.13. **Powerline Construction**

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

1.1.14. **Surface Flowlines Installation**

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

1.1.15. **Production Mitigation**

- Tank battery locations and facilities will be bermed and lined with a 20-mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Secondary containment holding capacity must be large enough to contain 1 ½ times the content of the largest tank or 24-hour production, whichever is greater (displaced volume from all tanks within the berms MUST be subtracted from total volume of containment in calculating holding capacity).
- Implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

1.1.16. **Residual and Cumulative Mitigation**

The operator will perform annual pressure monitoring on all casing annuli. If the test results indicate a casing failure has occurred, contact a BLM Engineer immediately, and take remedial action to correct the problem.

1.1.17. **Plugging and Abandonment Mitigation**

Upon well abandonment in high cave karst areas, additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

SPECIAL STATUS PLANT SPECIES

VISUAL RESOURCE MANAGEMENT

2.5.1 **VRM IV**

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008).

5. CONSTRUCTION REQUIRENMENTS

CONSTRCUTION NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at BLM_NM_CFO_Construction_Reclamation@blm.gov at least 3 working days prior to commencing construction of the access road and/or well pad.

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

TOPSOIL

The operator shall strip the topsoil (the A horizon) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. No more than the top 6 inches of topsoil shall be removed. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

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

CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No reserve pits will be used for drill cuttings. The operator shall properly dispose of drilling contents at an authorized disposal site.

FEDERAL MINERAL PIT

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

WELL PAD & SURFACING

Any surfacing material used to surface the well pad will be removed at the time of interim and final reclamation.

EXCLOSURE FENCING (CELLARS & PITS)

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

The operator will also install and maintain mesh netting for all open well cellars to prevent access to smaller wildlife before and after drilling operations until the well cellar is free of fluids and the operator. Use a maximum netting mesh size of 1 ½ inches. The netting must not have holes or gaps.

ON LEASE ACESS ROAD

3.1.1 **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

3.1.2 **Surfacing**

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

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

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

3.1.3 Crowning

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

3.1.4 Ditching

Ditching shall be required on both sides of the road.

3.1.5 Turnouts

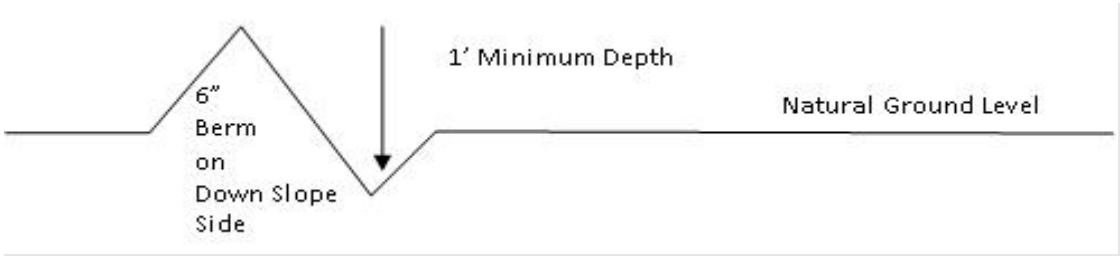
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

3.7.6 Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

3.7.7 **Public Access**

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

Construction Steps

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

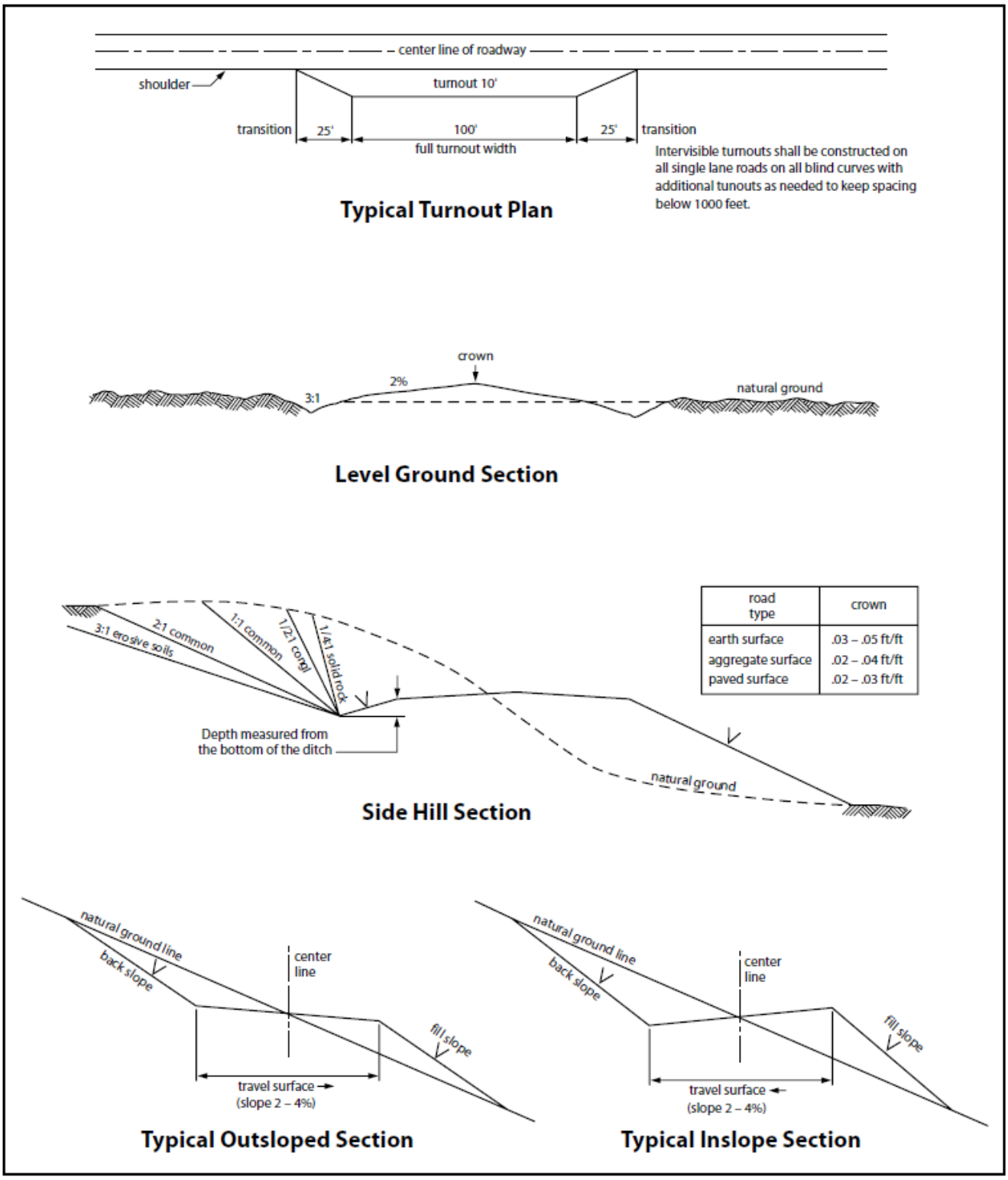


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

6. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINES

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

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

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

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

3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Pipeline corridor (unless the release or threatened release is wholly unrelated to the operator's activity on the pipeline corridor), or resulting from the activity of the Operator on the pipeline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant is discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of operator, regardless of fault. Upon failure of operator to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and

fish and wildlife habitats, at the full expense of the operator. Such action by the Authorized Officer shall not relieve operator of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized pipeline corridor.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this pipeline corridor will be 30 feet:

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

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

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

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

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this pipeline corridor and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire pipeline corridor shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted, and a 6-inch berm will be left over the ditch line to allow for settling back to grade.

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

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

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

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

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

14. Special Stipulations:
Karst:

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered, alignments may be rerouted to avoid the karst feature and lessen the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

SURFACE PIPELINES

A copy of the APD and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

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

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

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

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

corridor), or resulting from the activity of the Operator on the pipeline corridor. This provision applies without regard to whether a release is caused by Operator, its agent, or unrelated third parties.

4. Operator shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Operator shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the pipeline corridor or permit area:

   a. Activities of Operator including, but not limited to: construction, operation, maintenance, and termination of the facility;

   b. Activities of other parties including, but not limited to:
      (1) Land clearing
      (2) Earth-disturbing and earth-moving work
      (3) Blasting
      (4) Vandalism and sabotage

   c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

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

6. All construction and maintenance activity shall be confined to the authorized pipeline corridor width of 30-feet. If the pipeline route follows an existing road or buried pipeline corridor, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline corridor. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or pipeline corridors.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Operator shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 6 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

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

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

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the operator to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – Shale Green, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the pipeline corridor and at all road crossings. At a minimum, signs will state the operator's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The operator shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the operator. The operator will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

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

16. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

RANGELAND MITIGATION FOR PIPELINES

4.5.1 **Fence Requirement**

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

4.5.2 **Cattleguards**

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

4.5.3 **Livestock Watering Requirement**

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the

BLM office (575-234-5972) and the private surface landowner or the grazing allotment operator if any damage occurs to structures that provide water to livestock.

- Livestock operators will be contacted, and adequate crossing facilities will be provided as needed to ensure livestock are not prevented from reaching water sources because of the open trench.
- Wildlife and livestock trails will remain open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side will be left at all well-defined livestock and wildlife trails along the open trench to allow passage across the trench and provide a means of escape for livestock and wildlife that may enter the trench.
- Trenches will be backfilled as soon as feasible to minimize the amount of open trench. The Operator will avoid leaving trenches open overnight to the extent possible and open trenches that cannot be backfilled immediately will have escape ramps (wooden) placed at no more than 2,500 feet intervals and sloped no more than 45 degrees.

7. OVERHEAD ELECTRIC LINES

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

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

1. The operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this APD.
2. The operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the powerline corridor or on facilities authorized under this powerline corridor. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Powerline corridor(unless the release or threatened release is wholly unrelated to the operator's activity on the powerline corridor), or resulting from the activity of the Operator on the powerline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.
4. There will be no clearing or blading of the powerline corridor unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The operator shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this powerline corridor, should they be necessary to ensure the safety of large perching birds.

Such modifications and/or additions shall be made by the operator without liability or expense to the United States.

6. Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.
7. The operator shall minimize disturbance to existing fences and other improvements on public lands. The operator is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The operator will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
8. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.
9. Upon cancellation, relinquishment, or expiration of this APD, the operator shall comply with those abandonment procedures as prescribed by the Authorized Officer.
10. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this APD, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.
11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly. Fill in any holes from the poles removed.
12. Karst stipulations for overhead electric lines
    - Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
    - The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
    - No further construction will be done until clearance has been issued by the Authorized Officer.
    - Special restoration stipulations or realignment may be required.

8. PRODUCTION (POST DRILLING)

WELL STRUCTURES & FACILITIES

5.1.1 **Placement of Production Facilities**

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

5.1.2 **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will

net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

5.1.3. Chemical and Fuel Secondary Containment and Exclosure Screening

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

5.1.4. Open-Vent Exhaust Stack Exclosures

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

5.1.5. Containment Structures

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

9. RECLAMATION

Stipulations required by the Authorized Officer on specific actions may differ from the following general guidelines

6.1 ROAD AND SITE RECLAMATION

Any roads constructed during the life of the well will have the caliche removed or linear burial. If contaminants are indicated then testing will be required for chlorides and applicable contaminate anomalies for final disposal determination (disposed of in a manner approved by the Authorized Officer within Federal, State and Local statutes, regulations, and ordinances) and seeded to the specifications in sections 6.5 and 6.6.

6.2 EROSION CONTROL

Install erosion control berms, windrows, and hummocks. Windrows must be level and constructed perpendicular to down-slope drainage; steeper slopes will require greater windrow density. Topsoil between windrows must be ripped to a depth of at least 12”, unless bedrock is encountered. Any large boulders pulled up during ripping must be deep-buried on location. Ripping must be perpendicular to down-slope. The surface must be left rough in order to catch and contain rainfall on-site. Any trenches resulting from erosion cause by run-off shall be addressed immediately.

6.3 INTERIM RECLAMATION

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

Within six (6) months of well completion, operators must work with BLM surface protection specialists (BLM_NM_CFO_Construction_Reclamation@blm.gov) to devise the best strategies to reduce the size of the location. Interim reclamation must allow for remedial well operations, as well as safe and efficient removal of oil and gas.

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

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided in section 6.6.

Upon completion of interim reclamation, the operator shall submit a Sundry Notice, Subsequent Report of Reclamation (Form 3160-5).

6.4 FINAL ABANDONMENT & RECLAMATION

Prior to surface abandonment, the operator shall submit a Notice of Intent Sundry Notice and reclamation plan.

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

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

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding will be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM. After earthwork and seeding is completed, the operator is required to submit a Sundry Notice, Subsequent Report of Reclamation.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (BLM_NM_CFO_Construction_Reclamation@blm.gov).

6.5 SEEDING TECHNIQUES

Seeds shall be hydro-seeded, mechanically drilled, or broadcast, with the broadcast-seeded area raked, ripped or dragged to aid in covering the seed. The seed mixture shall be evenly and uniformly planted over the disturbed area.

6.6 SOIL SPECIFIC SEED MIXTURE

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

Seed land application will be accomplished by mechanical planting using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds tend to drop the bottom of the drill and are planted first; the operator shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory BLM or Soil Conservation

District stand is established as determined by the Authorized Officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding or until several months of precipitation have occurred, enabling a full four months of growth, with one or more seed generations being established.

Seed Mixture 2, for Sandy Site

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RILEY PERMIAN OPERATING COMPANY LLC
WELL NAME & NO.:	ABIDES FED 3H
LOCATION:	Section 4, T.18 S., R.27 E., -NMP
COUNTY:	Eddy County, New Mexico

Create COAs

H_2S	Cave / Karst	Waste Prevention Rule
Present	High	Waste Minimization Plan
Potash	**R-111-Q Design**	
None		
Wellhead: Multibowl	**Casing**: 3-String Well	☐ Liner ☐ Fluid Filled ☐ Casing Clearance
☑ Flex Hose ☑ Break Testing	**Cementing**	☐ DV Tool ☐ Bradenhead ☐ Echometer ☐ Offline Cement ☐ Open Annulus ☐ Pilot Hole
Special Requirements		☐ Capitan Reef ☐ Water Disposal ☐ COM ☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **375** feet (a minimum of **70'** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the

Approval Date: 05/01/2026

cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing 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 the presence of cave/karst, Capitan Reef, or potash features.

3. The minimum required fill of cement behind the **7 X 5.5 inch** production casing is at least **200 feet** into previous casing string. Operator shall use one of the approved methods for cement verification located in the **General Requirements, Section A.1**.
   - If cement does not circulate to surface on the previous casing, this string must come to surface.
   - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.

C. PRESSURE CONTROL

1. 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.

2. 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).

3. Break testing has been approved for this well ONLY on those 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.)** If in the event break testing is not utilized, then a full BOPE test would be conducted.
    a. Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation. **BOPE Break Testing is NOT permitted to drill the production hole section.**
    b. While in transfer between wells, BOPE shall be secured by the hydraulic carrier or cradle.
    c. 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).
    d. As a minimum, a full BOPE test shall be performed at 21-day intervals.
    e. In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**. 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.

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:

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

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

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 always be operational 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 doghouse 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 & CEMENT

1. The current acceptable methods of cement verification are as follows:
   i. Observing cement circulated to surface,
   ii. Cement Bond Log (CBL),
   iii. Temperature log within 8-10 hours after completing the cement job,
   iv. Echometer (if a second-stage bradenhead is being utilized and operator was granted approval prior to operations.)
2. 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.
3. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. 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.

5. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Well specific cement details must be onsite prior to pumping the cement for each casing string.
6. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
7. 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.
8. If hard band 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.
9. 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. (This 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 -our 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 because 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.

Julio Sanchez 4/6/2026

Approval Date: 05/01/2026

AFMSS

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

Operator Certification Data Report

05/01/2026

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: ALEX RIZZO **Signed on:** 01/07/2026

Title: Senior Regulatory Specialist

Street Address: 29 E RENO AVE

City: OKLAHOMA CITY **State:** OK **Zip:** 73104

Phone: (405)415-8667

Email address: ALEXRIZZO@RILEYPERMIAN.COM

Field

Representative Name:

Street Address:

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

Phone:

Email address:

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

Application Data
05/01/2026

APD ID: 10400109531 **Submission Date:** 01/12/2026

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

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

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400109531 **Tie to previous NOS?** N **Submission Date:** 01/12/2026

BLM Office: Carlsbad **User:** ALEX RIZZO **Title:** Senior Regulatory Specialist

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

Lease number: NMLC061783B **Lease Acres:** 80

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

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

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO **APD Operator:** RILEY PERMIAN OPERATING COMPANY LLC

Operator letter of

Operator Info

Operator Organization Name: RILEY PERMIAN OPERATING COMPANY LLC

Operator Address: 29 E RENO AVENUE SUITE 500 **Zip:** 73104

Operator PO Box:

Operator City: OKLAHOMA CITY **State:** OK

Operator Phone: (405)543-1411

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: ABIDES FED **Well Number:** 3H

Field/Pool or Exploratory? Field and Pool **Field Name:** NE RED LAKE **Pool Name:** GLORIETA-YESO

Released to Imaging: 7/20/2026 1:14:57 PM

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

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

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Abides Fed North **Number:** Pad

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 1091 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: Abides_Fed_3H_Vicinity_and_Directions_20260107080315.pdf

0_Abides_Fed_C102_3H_R2_20260203072412.pdf

Well work start Date: 01/23/2027 **Duration:** 10 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **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	1664	FSL	1091	FEL	18S	27E	4	Lot 13	32.774134	-104.278462	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC061783A	3577			N
KOP Leg #1	1377	FSL	672	FEL	18S	27E	4	Lot 13	32.773347	-104.27709	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC061783A	722	2918	2855	N

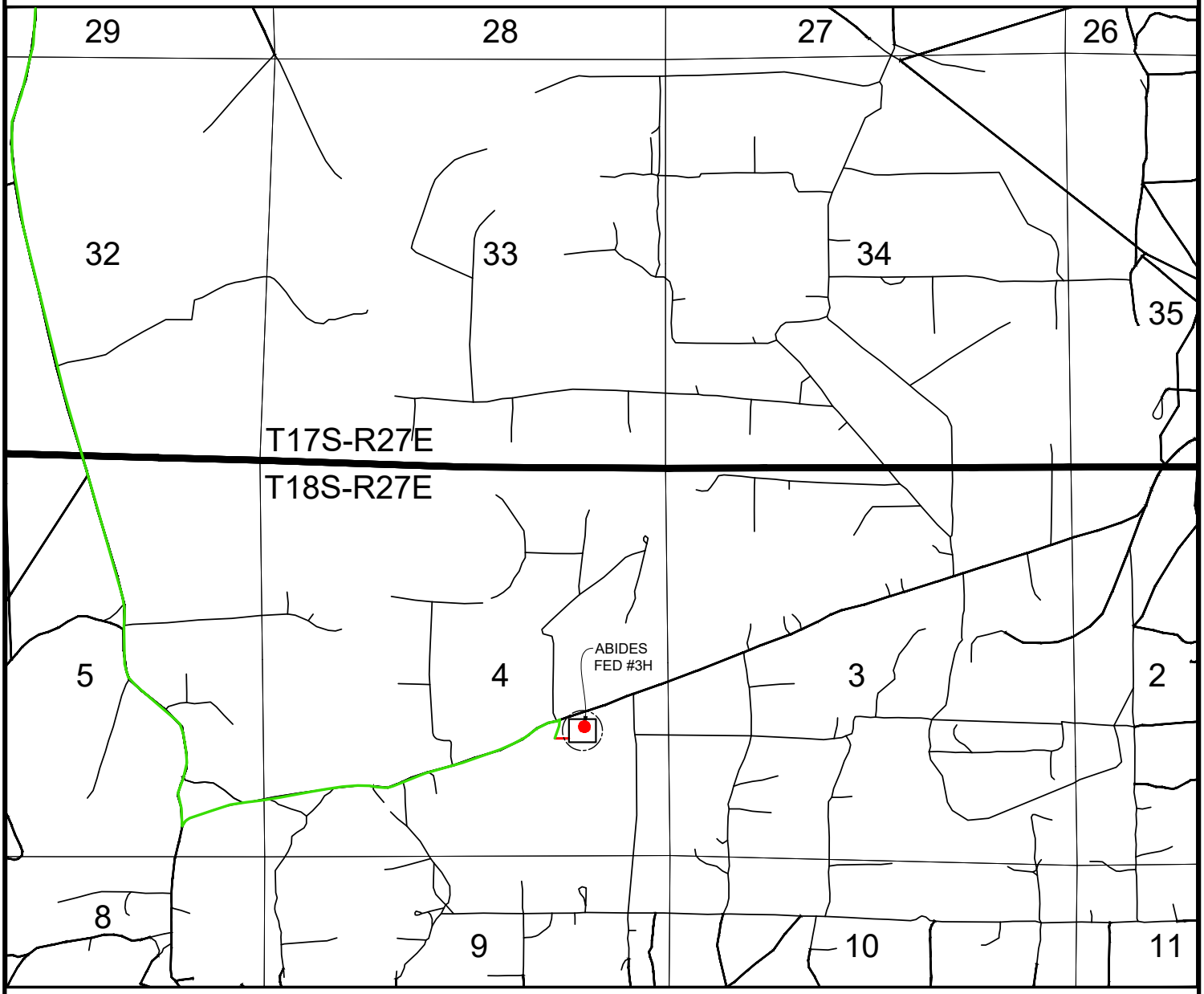
Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

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 #1-1	1320	FSL	100	FWL	18S	27E	3	Aliquot NWSW	32.77319	-104.274577	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC061783B	85	3982	3492	Y
PPP Leg #1-2	1334	FSL	1319	FWL	18S	27E	3	Aliquot NESW	32.773144	-104.270609	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC065478B	21	5204	3556	Y
PPP Leg #1-3	1379	FSL	0	FEL	18S	27E	2	Aliquot NWSW	32.772994	-104.257733	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-187	9167	3764	Y
EXIT Leg #1	1320	FSL	2540	FWL	18S	27E	2	Aliquot NESW	32.772897	-104.249466	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-320	11712	3897	Y
BHL Leg #1	1320	FSL	2626	FEL	18S	27E	2	Aliquot NESW	32.7729	-104.249174	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-325	11802	3902	Y

CONFIDENTIAL

EXHIBIT 2
VICINITY MAP



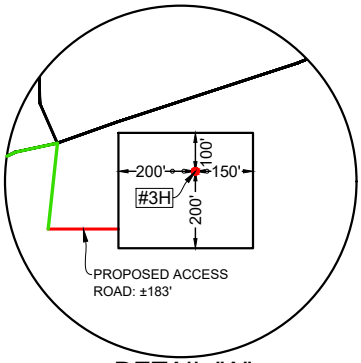
LEGEND

- = PROPOSED WELL
- = PROPOSED ACCESS ROADS
- = PROPOSED ACCESS ROUTE
- = PROPOSED PAD
- = SECTION
- = TOWNSHIP

N

0 1000' 2000'

SCALE: 1"= 2000'



DETAIL "A"

SCALE: 1" = 500'

FROM THE INTERSECTION OF LOVINGTON HIGHWAY, ALSO KNOWN AS US HIGHWAY 82, AND CHALK BLUFF ROAD, GO SOUTH ON CHALK BLUFF ROAD ±4.59 MILES; THENCE NORTHEAST (LEFT) ON LITTLE DIAMOND ROAD ±0.97 MILES; THENCE SOUTH (RIGHT) ON AN EXISTING ACCESS ROAD ±251 FEET; THENCE EAST (LEFT) ON A PROPOSED ACCESS ROAD ±183 FEET TO THE EDGE OF PAD.

(PROPOSED ACCESS ROAD LENGTH = ±183')

ASCENT GEOMATICS SOLUTIONS
Ascent Geomatics Solutions
8620 Wolff Ct.
Suite 200
Westminster, CO 80031
Office: (303) 928-7128
www.AscentGeomatics.com

FIELD DATE:	PROJECT NO.:	SITE NAME:	PREPARED FOR:
09-18-2025	B25.REPX.0016	ABIDES FED #3H REV. 0	RILEY PERMIAN
DRAWING DATE: 11-07-2025	DISCLAIMER: THIS PLOT DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND SHOULD NOT BE RELIED UPON TO DETERMINE BOUNDARY LINES, PROPERTY OWNERSHIP OR OTHER PROPERTY INTERESTS. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE FOLLOWING COORDINATE SYSTEM: NAD83 NEW MEXICO STATE PLANE, EAST ZONE, U.S.. SURVEY FEET.	SURFACE LOCATION: SEC. 4, T18S, R27E, N.M.P.M. EDDY COUNTY, NEW MEXICO	
BY: RH CHECKED: JB			

PLAT: \\AGSFS\PROJECTS\REPX__B250016\PROD\C102_PACKAGE\VICINITY_MAPS\1__ABIDES_FED_3H_VICINITY_MAP 11/13/25 9:41 PM Rhomesley

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

Property Name and Well Number: **ABIDES FED 3H**

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-	51120	Red Lake; Glorieta Yeso

Property Code	Property Name	Well Number
	ABIDES FED	3H

OGRID No.	Operator Name	Ground Level Elevation
372290	RILEY PERMIAN OPERATING COMPANY LLC	3577'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☐ Federal | Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL or Lot No.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
13	4	18 S	27 E		1664 FSL	1091 FEL	N 32.774134°	W 104.278462°	EDDY

Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
K	2	18 S	27 E		1320 FSL	2626 FEL	N 32.772900°	W 104.249174°	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidated Code
480				

Order Numbers: PENDING COM AGREEMENT | Well Setbacks are under Common Ownership: ☐ Yes ☐ No

Kick Off Point (KOP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
13	4	18 S	27 E		1377 FSL	672 FEL	N 32.773347°	W 104.277090°	EDDY

First Take Point (FTP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
L	3	18 S	27 E		1320 FSL	100 FWL	N 32.773190°	W 104.274577°	EDDY

Last Take Point (LTP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
K	2	18 S	27 E		1320 FSL	2540 FWL	N 32.772897°	W 104.249466°	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unity Type	Ground Floor Elevation
	☒ Horizontal ☐ Vertical	3602'

OPERATOR CERTIFICATION

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.

Signature — Date: 1-20-26

Print Name: Alex Rizzo

E-mail Address: AlexRizzo@rileypermian.com

SURVEYORS CERTIFICATION

MITCHELL L. McDONALD — NEW MEXICO — 29821 — 01/16/2026 — PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor — Date

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.

MITCHELL L. MCDONALD, N.M. P.L.S.

Certificate Number	Date of Survey
29821	SEPTEMBER 18, 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.

Received by OCD: 5/11/2026 12:57:29 PM

Released to Imaging: 7/20/2026 1:14:57 PM

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

Property Name and Well Number

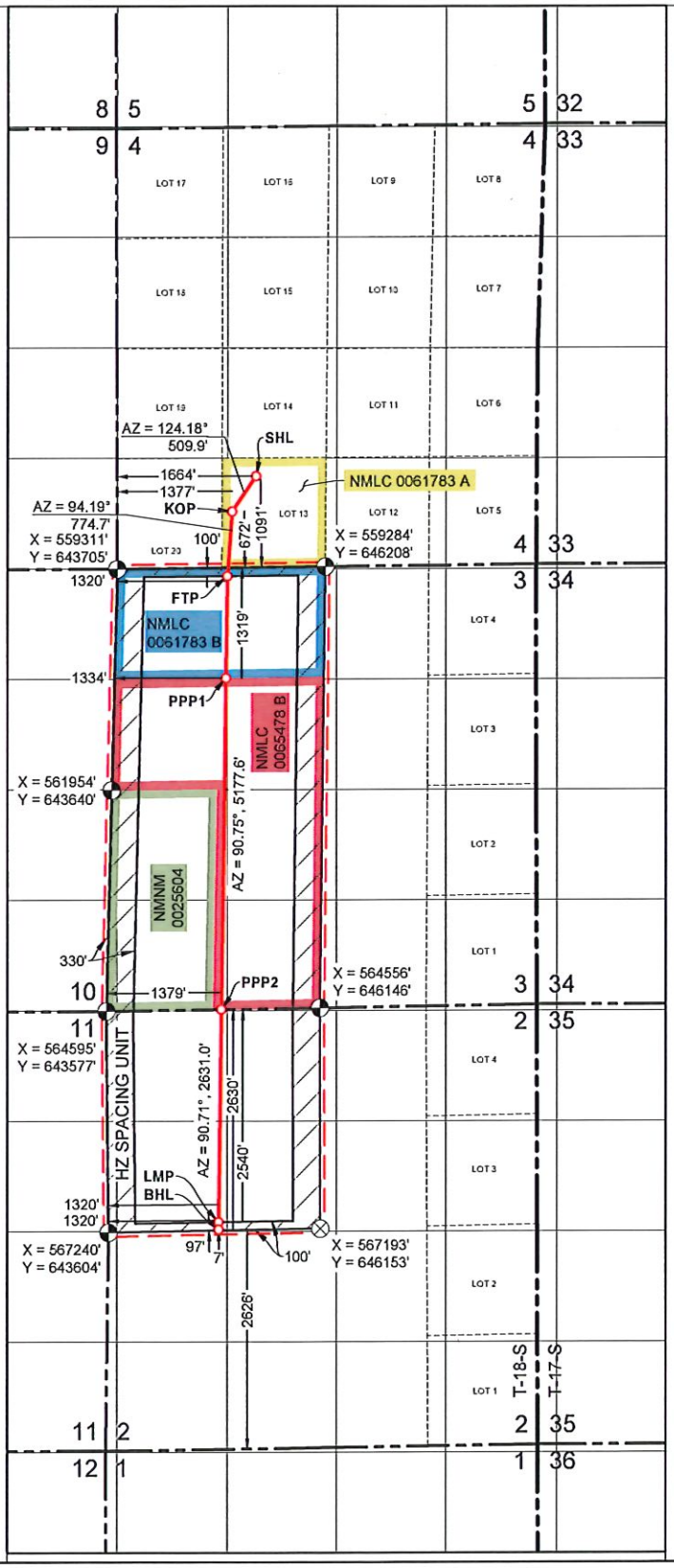
ABIDES FED 3H

SURFACE LOCATION
NEW MEXICO EAST
NAD 1983
X=558202' Y=645366'
LAT=N32.774134°
LONG=W104.278462°
NAD 1927
X=517023' Y=645304'
LAT=N32.774020°
LONG=W104.277948°
1664' FSL 1091' FEL

KOP LOCATION
NEW MEXICO EAST
NAD 1983
X=558624' Y=645080'
LAT=N32.773347°
LONG=W104.277090°
NAD 1927
X=517445' Y=645018'
LAT=N32.773232°
LONG=W104.276577°
1377' FSL 672' FEL

FIRST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=559397' Y=645024'
LAT=N32.773190°
LONG=W104.274577°
NAD 1927
X=518218' Y=644961'
LAT=N32.773076°
LONG=W104.274063°
1320' FSL 100' FWL

PROPOSED PENETRATION POINT 1
NEW MEXICO EAST
NAD 1983
X=560616' Y=645008'
LAT=N32.773144°
LONG=W104.270609°
NAD 1927
X=519437' Y=644945'
LAT=N32.773030°
LONG=W104.270096°
1334' FSL 1319' FWL



PROPOSED PENETRATION POINT 2
NEW MEXICO EAST
NAD 1983
X=564574' Y=644956'
LAT=N32.772994°
LONG=W104.257733°
NAD 1927
X=523395' Y=644893'
LAT=N32.772880°
LONG=W104.257220°
1379' FSL 0' FEL

LOWER MOST PERF.
NEW MEXICO EAST
NAD 1983
X=567115' Y=644922'
LAT=N32.772897°
LONG=W104.249466°
NAD 1927
X=525936' Y=644860'
LAT=N32.772783°
LONG=W104.248953°
1320' FSL 2540' FWL

BOTTOM HOLE LOCATION
NEW MEXICO EAST
NAD 1983
X=567205' Y=644923'
LAT=N32.772900°
LONG=W104.249174°
NAD 1927
X=526026' Y=644861'
LAT=N32.772785°
LONG=W104.248661°
1320' FSL 2626' FEL

Note: Bearings, coordinates, and distances (grid) shown hereon are based on the New Mexico State Plane Coordinate System, East Zone, NAD 83-2011 (EPOCH 2010) framework, as derived by OPUS Solution. The elevations shown hereon are based on NAVD 88.

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

Drilling Plan Data Report
05/01/2026

APD ID: 10400109531 **Submission Date:** 01/12/2026

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
17994870	SEVEN RIVERS	0	327	327	SALT	USEABLE WATER	N
17994871	QUEEN	-850	850	850	ANHYDRITE, DOLOMITE	NONE	N
17994872	GRAYBURG	-1271	1271	1277	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
17994873	SAN ANDRES	-1522	1522	1535	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
17994874	GLORIETA	-2922	2922	2972	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
17994875	PADDOCK	-3042	3042	3122	ANHYDRITE	NATURAL GAS, OIL	N
17994876	BLINEBRY	-3414	3414	3712	DOLOMITE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 11000

Equipment: The blowout preventer equipment (BOP) shown in Exhibit 10 will consist of a double ram-type (3000 psi WP) minimum preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 5 drill pipe rams on bottom. The 13-5/8 BOP will be nippled up on the 13-3/8 surface casing and tested by a 3rd party to 2000 psi used continuously until TD is reached.
Requesting Variance? YES

Variance request: Riley Permian requests a variance to use a flex line from the BOP to the choke manifold. Documentation will be attached in the APD and be readily available from manufacturer on site. No external damage to the flex line. Flex line to be installed as straight as possible with no bends.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and 70% of working pressure high unless otherwise required, as per Onshore Order 2 requirements. 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 the components installed with be functional and tested. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics. Riley Exploration Permian LLC requests permission to adjust the BOP break testing requirements as follows: BOP break test under the following conditions: After a full BOP test is conducted When skidding to drill the production section, where the surface casing point is shallower than the 3 Bone Spring or 10,000 TVD When skidding to drill a production section that does not penetrate the 3rd Bone Spring or deeper If the kill line is broken prior to skid, four tests will be performed: The void between the wellhead and the spool (one on each

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

side for two tests) The spool between the kill lines and the choke manifold (consisting of two tests) If the kill line is not broken prior to skid, two tests will be performed: The void between the wellhead and the pipe rams

Choke Diagram Attachment:

Abides_Fed_Choke_BOP_Diagram_20260112074438.pdf

H3_051622_1_Choke_Hose_5Yr_Cert__May_16_22__202206281108_20260204130947.pdf

BOP Diagram Attachment:

Abides_Fed_Choke_BOP_Diagram_20260112074451.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	375	0	375	3577	3202	375	J-55	48	ST&C	1.125	1.2	DRY	1.4	DRY	1.4
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1250	0	1258	3553	2319	1250	J-55	36	BUTT	1.125	1.2	DRY	1.4	DRY	1.4
3	PRODUCTION	8.75	7.0	NEW	API	N	0	3750	0	3434	3459	143	3750	HCL-80	32	BUTT	1.125	1.2	DRY	1.4	DRY	1.4
4	PRODUCTION	8.75	5.5	NEW	API	N	3750	11802	3434	3902	143	-325	8052	HCL-80	20	BUTT	1.125	1.2	DRY	1.4	DRY	1.4

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Abides_3H___Casing_Assumptions_20260112075852.pdf

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Abides_3H___Casing_Assumptions_20260112075923.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Abides_3H___Casing_Assumptions_20260112075722.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Abides_3H___Casing_Assumptions_20260112075825.pdf

Section 4 - Cement

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Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	375	420	1.34	14.8	520.9	100	Class C Premium Plus + 1%PF1	20 bbl gel spacer, 50x of 11# scavenger cement
INTERMEDIATE	Lead		0	950	450	1.43	12.8	364.05	100	50/50 Poz C Premium Plus	20bbl gel spacer, 50sx of 11# scavenger cement
INTERMEDIATE	Tail		950	1250	195	1.33	14.8	156.03	100	Class C Premium Plus	50sx 11# scavenger cement
PRODUCTION	Lead		0	2300	200	2.29	11.5	478.81	35	50/50 Poz Premium Plus	20bbl gel spacer, 50sx of 11# scavenger cement
PRODUCTION	Tail		2300	11802	2050	1.31	13.7	2233.59	35	35/65 Poz C Premium Plus	50sx of 11# scavenger cement
PRODUCTION	Lead		0	2300	200	2.29	11.5	478.84	35	50/50 Poz C Premiuim Plus	20bbl gel spacer, 50sx of 11# scavenger cement
PRODUCTION	Tail		2300	11802	2050	1.31	13.7	2233.59	35	35/65 Poz C Premium Plus	50 sx of 11# scavenger cement

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 mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The well will be drilled to TD with a combination of fresh and cut brine mud system. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Saltwater Clay, CACL2. Riley will utilize a closed mud system.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring will be used to monitor the loss or gain of fluid and digitally recorded.

Circulating Medium Table

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

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	375	SPUD MUD	8.5	9.2							
375	1250	OTHER : Water-Based Mud (Cut Brine)	8.3	10							
1250	11802	OTHER : Water-Based Mud (Cut Brine)	8.3	9.2							

Section 6 - Test, Logging, Coring

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

A. Logging will consist of a GR run from surface to TD
B. Drill stem test not anticipated
C. No conventional coring is anticipated
D. Mug log planned to be performed in the SCP-TD interval
E. Further testing procedures will be determined at TD

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

GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No coring anticipated

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2750 **Anticipated Surface Pressure:** 1891

Anticipated Bottom Hole Temperature(F): 110

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

Operator Name: RILEY PERMIAN OPERATING COMPANY LLC

Well Name: ABIDES FED **Well Number:** 3H

Abides_Fed_H2S_Drilling_Operations_Plan_20260112080155.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Riley___Abides_Fed_3H_OH_p1_AC_20260112081143.pdf
Riley___Abides_Fed_3H_OH_p1_PlanRpt_20260112081150.pdf
Riley___Abides_Fed_3H_OH_p1_20260112081154.pdf
Riley___Abides_Fed_3H_OH_p1_1_20260112081159.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Abides_Fed_3H_Gas_Curve_20260112081218.pdf
Abides_Fed_NM_NGMP_2025_Final_20260112081223.pdf
Abides_Fed_Waste_Minimization_Plan_10292025_20260112081234.pdf
Abides_Fed_3H___Drilling_Program___Rev0_20260112115830.pdf

Other Variance request(s)?: N

Other Variance attachment:

CONFIDENTIAL

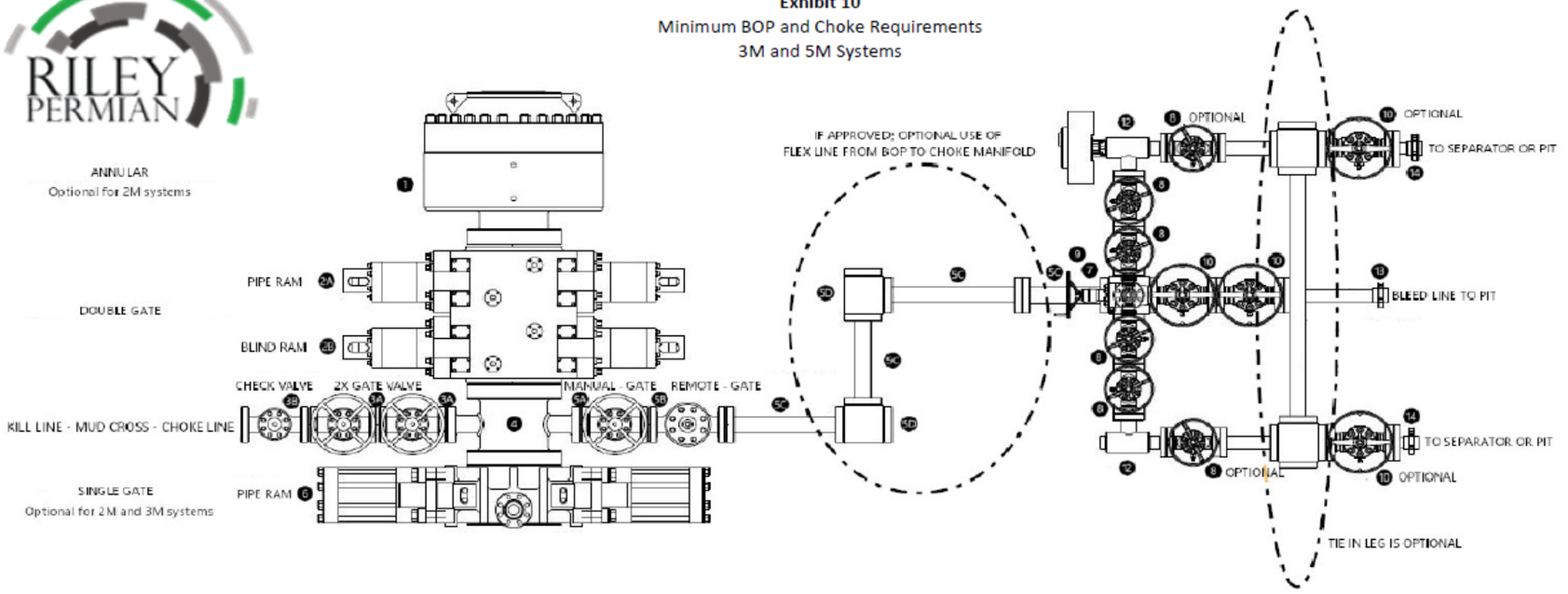
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Riley Permian

Exhibit 10

Minimum BOP and Choke Requirements

3M and 5M Systems



BOP - Minimum Requirements						
	Description		ID (in.)	Nom. OD (in.)	Optional	Note
1	Annular				Yes - 2M	
2A	Double Gate	Pipe Ram	3 1/8		No	
2B		Blind Ram				
3A	Kill Line	Gate	2		No	
3A		Gate				
3B		Check Valve				
		Line		2		
4	Mud Cross		2 1/16		No	Kill Line - 2" min. Choke Line - 3" min.
5A	Choke Line	Gate - Manual (2)	3 1/8		No	
5B		Gate - Remote (2)				
5C		Line		3	No	
5D		Targeted Tee			No	
6	Single Gate - Pipe Ram				Yes - 2M and 3M	

(1) Only one required in 2M system
(2) Choke line valve order is interchangable
(3) Remote operated hydraulic choke required on 5M and 10M systems

Choke Manifold - Minimum Requirements											
			3000 MWP			5000 MWP			10000 MWP		
	Description		ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)
7	Cross - 3" x 3" x 3" x 2"				3,000			5,000			10,000
8	Valve	Gate (2)	2 1/16		3,000	2 1/16		5,000	3 1/8		10,000
		Plug									
9	Pressure Gauge				3,000			5,000			10,000
10	Valve	Gate (2)	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
		Plug									
11	Remote Operated Adjustable Choke (3)		2 1/16		3,000			5,000			10,000
12	Manual Adjustable Choke		2 1/16		3,000			5,000			10,000
13	Line			3	3,000		3	5,000		3	10,000
14	Line			2	3,000		2	5,000		2	10,000
15	Gas Separator (4)			2' x 5'			2' x 5'			2' x 5'	

(1) Only one required in 2M system
(2) Gate valves only to be used for 10M system
(3) Remote chokes are required for 5M and 10M systems
(4) Gas separator is optional for 2M and 3M systems

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H3-8915

5/16/2022 7:15:04 AM

TEST REPORT

CUSTOMER

Company: [redacted]

Production description:

Sales order #: 523868

Customer reference:

TEST INFORMATION

Test procedure:	GTS-04-052	
Test pressure:	7500.00	psi
Test pressure hold:	3600.00	sec
Work pressure:	5000.00	psi
Work pressure hold:	900.00	sec
Length difference:	0.00	%
Length difference:	0.00	inch

Visual check:

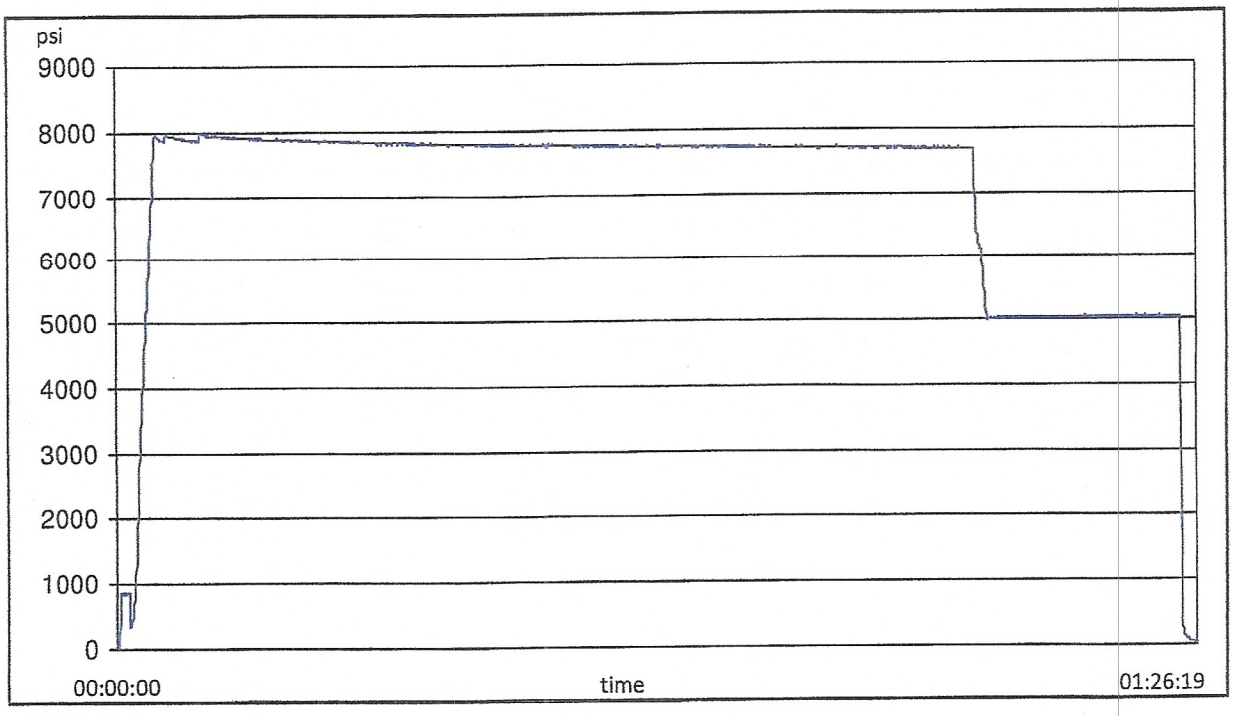
Pressure test result: PASS

Length measurement result:

Test operator: Martin

TEST OBJECT

Serial number:	H3-051622-1
Lot number:	L42089010720
Description:	
Hose ID:	3.5 5K MS C&K
Part number:	47741108
Fitting 1:	3.5 x 3 1/8 5k
Part number:	
Description:	3.5 x 3 1/8 5k
Fitting 2:	3.5 x 3 1/8 5k
Part number:	
Description:	3.5 x 3 1/8 5k
Length:	23 feet



Filename: D:\Certificates\Report_051622-H3-051622-1.pdf

BLACK GOLD®

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr. Suite 190
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

PRESSURE TEST CERTIFICATE

Customer:	[redacted]	Test Date:	5/16/2022
Customer Ref.:	643541	Hose Serial No.:	H3-051622-1
Invoice No.:	523868	Created By:	Cristian Rivera

Product Description:	3.5" X 23 FT GATES FIRE RATED CHOKE & KILL HOSE ASSEMBLY C/W 3 1/8" 5K FIXED X FLOAT H2S SUITED FLANGES WITH RED FIRE SLEEVE OVER EACH END SUPPLIED WITH LIFT EYE CLAMPS ATTACHED

End Fitting 1:	3 1/8" 5K FIXED	End Fitting 2:	3 1/8" 5K FLOAT
Oracle Star No.:	68503550-10095959	Assembly Code:	L42089 010720
CUSTOMER P/N:	FR3.523.0CK3185KFIXXFLTFLG RFS LE	Test Pressure:	7,500 PSI.
		Working Pressure:	5,000 PSI.

Gates Engineering & Services North America certifies that:

The following hose assembly has successfully passed all pressure testing requirements set forth in Gates specifications: GTS-04-052 (for 5K assemblies) or GTS-04-053 (10K assemblies) or GTS-04-048 (15K assemblies), which include reference to Specification API 16C (3rd Edition); sections 7.4.1, 7.4.5, and 10.7.7. A test graph will accompany this test certificate to illustrate conformity to test requirements. This hose assembly was pressure tested using equipment and instrumentation that has been calibrated in accordance with the requirements set-forth in the GESNA management system.

Quality:	QUALITY	Production:	PRODUCTION
Date :	5/16/2022	Date :	5/16/2022
Signature :		Signature :	

F-PRD-005B

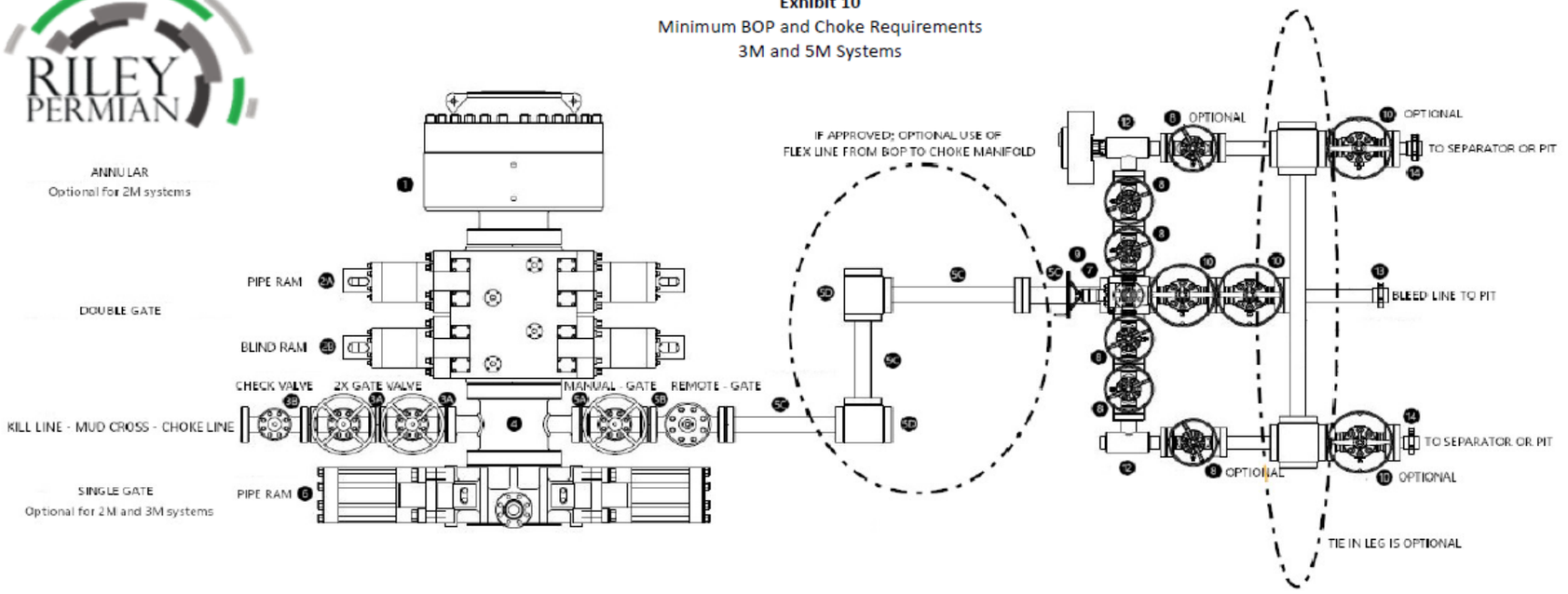
Revision 7_03012022

Riley Permian

Exhibit 10

Minimum BOP and Choke Requirements

3M and 5M Systems



BOP - Minimum Requirements

	Description		ID (in.)	Nom. OD (in.)	Optional	Note
1	Annular				Yes - 2M	
2A	Double Gate	Pipe Ram	3 1/8		No	
2B		Blind Ram				
3A	Kill Line	Gate	2		No	
3A		Gate				
3B		Check Valve				
		Line		2		
4	Mud Cross		2 1/16		No	Kill Line - 2" min. Choke Line - 3" min.
5A	Choke Line	Gate - Manual (2)	3 1/8		No	
5B		Gate - Remote (2)				
5C		Line		3	No	
5D		Targeted Tee			No	
6	Single Gate - Pipe Ram				Yes - 2M and 3M	

(1) Only one required in 2M system
(2) Choke line valve order is interchangable
(3) Remote operated hydraulic choke required on 5M and 10M systems

Choke Manifold - Minimum Requirements

			3000 MWP			5000 MWP			10000 MWP		
	Description		ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)
7	Cross - 3" x 3" x 3" x 2"				3,000			5,000			10,000
8	Valve	Gate (2)	2 1/16		3,000	2 1/16		5,000	3 1/8		10,000
		Plug									
9	Pressure Gauge				3,000			5,000			10,000
10	Valve	Gate (2)	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
		Plug									
11	Remote Operated Adjustable Choke (3)		2 1/16		3,000			5,000			10,000
12	Manual Adjustable Choke		2 1/16		3,000			5,000			10,000
13	Line			3	3,000		3	5,000		3	10,000
14	Line			2	3,000		2	5,000		2	10,000
15	Gas Separator (4)			2' x 5'			2' x 5'			2' x 5'	

(1) Only one required in 2M system
(2) Gate valves only to be used for 10M system
(3) Remote chokes are required for 5M and 10M systems
(4) Gas separator is optional for 2M and 3M systems

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Surface Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
13.375	48	J55	STC	0'	375'	375'	$53.00
asing Details							
ID:	12.715 in		Collapse Rating:	740 psi			
Drift:	12.559 in		Burst Rating:	2,370 psi			
Connection OD:	14.375 in		Body Yield:	744 kips			
Capacity:	0.15705384 bbl/ft		Joint Strength:	433 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	18.0 K-lbs		
Hookload (Buoyed)	15.5 K-lbs	with MW	9.2 ppg
Hookload with Cement to Shoe	29.3 K-lbs	with CW	14.8 ppg
Hookload with Cement in Place	13.9 K-lbs		
Min Pressure to Bump Plug	109.2 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
Float Shoe	Innovex		5K, Thread Lock
2 Joints: 13-3/8" 48# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
13-3/8" 48# BTC		Bow Spring first 2 joint and then 1x every 4th	

Surface Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	13.375	48	J55	STC	740	2,370	433,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	0	9.2	0	179	4.1249	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	9.2	0	179	0	13.2107	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	375'	9.2	18,000	15,472	115,472	3.7498	100K Overpull

Intermediate Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
9.625	36	J55	LTC	0'	1,250'	1,250'	$53.00
asing Details							
ID:	8.921 in		Collapse Rating:	2,020 psi			
Drift:	8.765 in		Burst Rating:	3,520 psi			
Connection OD:	10.625 in		Body Yield:	564 kips			
Capacity:	0.07731129 bbl/ft		Joint Strength:	453 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	44.3 K-lbs		
Hookload (Buoyed)	37.4 K-lbs	with MW	10.2 ppg
Hookload with Cement to Shoe	51.4 K-lbs	with CW	13.7 ppg
Hookload with Cement in Place	35.0 K-lbs		
Min Pressure to Bump Plug	223.86 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
2 Joints: 9-5/8" 36# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
9-5/8" 36.0# BTC		Bow Spring first 2 joint and then 1x every 4th joint to surface	

Intermediate Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	9.625	36	J55	LTC	2,020	3,520	453,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	0	10.2	0	652	3.0963	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	10.2	0	652	0	5.3955	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	1,230'	10.2	44,280	37,384	137,384	3.2973	100K Overpull

Production Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
7	32	HCL-80	BTC	0'	3,750'	3,750'	$57.00
Casing Details							
ID:	6.094 in		Collapse Rating:	10,400 psi			
Drift:	5.969 in		Burst Rating:	8,460 psi			
Connection OD:	7.875 in		Body Yield:	745 kips			
Capacity:	0.0361 bbl/ft		Joint Stregth:	832 kips			
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
5.5	20	HCL-80	BTC	3,750'	11802'	8052'	$41.00
Casing Details							
ID:	4.778 in		Collapse Rating:	10,630 psi			
Drift:	4.653 in		Burst Rating:	8,990 psi			
Connection OD:	6.3 in		Body Yield:	466 kips			
Capacity:	0.0222 bbl/ft		Joint Stregth:	503 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads				
Hookload in Air	228.0 K-lbs			
Hookload (Buoyed)	195.9 K-lbs	with MW	9.2 ppg	
Hookload with Cement to Shoe	221.2 K-lbs	with CW	13.7 ppg	
Hookload with Cement in Place	180.3 K-lbs			
Min Pressure to Bump Plug	819 PSI	Buoyancy	0.860	

Production Casing Design								
	Size	Weight	Grade	Conn	Collapse	Burst	Tension	Notes
Surface	7	32	HCL-80	BTC	10,400	8,460	745,000	
	5.5	20	HCL-80	BTC	10,630	8,990	466,000	
				Min. Safety Factors	1.125	1.100	1.500	
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF		
7	3,423'	0	9.2	0	1,638	6.3509		Dry/Fully Evacuated
5.5	3,500'	0	9.2	0	1,674	6.3485		
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF		
7	3,423'	9.2	0	1,638	0	5.1662		Dry/Fully Evacuated
5.5	3,500'	9.2	0	1,674	0	5.3691		
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF		
7	3,423'	9.2	118,720	102,045	295,941	2.5174		Total String + 100K Overpull
5.5	3,500'	9.2	109,240	93,896		1.5746		

Surface Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
13.375	48	J55	STC	0'	375'	375'	$53.00
asing Details							
ID:	12.715 in		Collapse Rating:	740 psi			
Drift:	12.559 in		Burst Rating:	2,370 psi			
Connection OD:	14.375 in		Body Yield:	744 kips			
Capacity:	0.15705384 bbl/ft		Joint Strength:	433 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	18.0 K-lbs		
Hookload (Buoyed)	15.5 K-lbs	with MW	9.2 ppg
Hookload with Cement to Shoe	29.3 K-lbs	with CW	14.8 ppg
Hookload with Cement in Place	13.9 K-lbs		
Min Pressure to Bump Plug	109.2 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
Float Shoe	Innovex		5K, Thread Lock
2 Joints: 13-3/8" 48# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
13-3/8" 48# BTC		Bow Spring first 2 joint and then 1x every 4th	

Surface Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	13.375	48	J55	STC	740	2,370	433,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	0	9.2	0	179	4.1249	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	9.2	0	179	0	13.2107	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	375'	9.2	18,000	15,472	115,472	3.7498	100K Overpull

Intermediate Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
9.625	36	J55	LTC	0'	1,250'	1,250'	$53.00
asing Details							
ID:	8.921 in		Collapse Rating:	2,020 psi			
Drift:	8.765 in		Burst Rating:	3,520 psi			
Connection OD:	10.625 in		Body Yield:	564 kips			
Capacity:	0.07731129 bbl/ft		Joint Strength:	453 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	44.3 K-lbs		
Hookload (Buoyed)	37.4 K-lbs	with MW	10.2 ppg
Hookload with Cement to Shoe	51.4 K-lbs	with CW	13.7 ppg
Hookload with Cement in Place	35.0 K-lbs		
Min Pressure to Bump Plug	223.86 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
2 Joints: 9-5/8" 36# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
9-5/8" 36.0# BTC		Bow Spring first 2 joint and then 1x every 4th joint to surface	

Intermediate Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	9.625	36	J55	LTC	2,020	3,520	453,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	0	10.2	0	652	3.0963	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	10.2	0	652	0	5.3955	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	1,230'	10.2	44,280	37,384	137,384	3.2973	100K Overpull

Production Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
7	32	HCL-80	BTC	0'	3,750'	3,750'	$57.00
Casing Details							
ID:	6.094 in		Collapse Rating:	10,400 psi			
Drift:	5.969 in		Burst Rating:	8,460 psi			
Connection OD:	7.875 in		Body Yield:	745 kips			
Capacity:	0.0361 bbl/ft		Joint Stregth:	832 kips			
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
5.5	20	HCL-80	BTC	3,750'	11802'	8052'	$41.00
Casing Details							
ID:	4.778 in		Collapse Rating:	10,630 psi			
Drift:	4.653 in		Burst Rating:	8,990 psi			
Connection OD:	6.3 in		Body Yield:	466 kips			
Capacity:	0.0222 bbl/ft		Joint Stregth:	503 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads					
Hookload in Air	228.0 K-lbs				
Hookload (Buoyed)	195.9 K-lbs	with MW	9.2 ppg		
Hookload with Cement to Shoe	221.2 K-lbs	with CW	13.7 ppg		
Hookload with Cement in Place	180.3 K-lbs				
Min Pressure to Bump Plug	819 PSI	Buoyancy	0.860		

Production Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	7	32	HCL-80	BTC	10,400	8,460	745,000
	5.5	20	HCL-80	BTC	10,630	8,990	466,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
7	3,423'	0	9.2	0	1,638	6.3509	Dry/Fully Evacuated
5.5	3,500'	0	9.2	0	1,674	6.3485	
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
7	3,423'	9.2	0	1,638	0	5.1662	Dry/Fully Evacuated
5.5	3,500'	9.2	0	1,674	0	5.3691	
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
7	3,423'	9.2	118,720	102,045	295,941	2.5174	Total String + 100K Overpull
5.5	3,500'	9.2	109,240	93,896		1.5746	

Surface Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
13.375	48	J55	STC	0'	375'	375'	$53.00
asing Details							
ID:	12.715 in		Collapse Rating:	740 psi			
Drift:	12.559 in		Burst Rating:	2,370 psi			
Connection OD:	14.375 in		Body Yield:	744 kips			
Capacity:	0.15705384 bbl/ft		Joint Strength:	433 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	18.0 K-lbs		
Hookload (Buoyed)	15.5 K-lbs	with MW	9.2 ppg
Hookload with Cement to Shoe	29.3 K-lbs	with CW	14.8 ppg
Hookload with Cement in Place	13.9 K-lbs		
Min Pressure to Bump Plug	109.2 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
Float Shoe	Innovex		5K, Thread Lock
2 Joints: 13-3/8" 48# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
13-3/8" 48# BTC		Bow Spring first 2 joint and then 1x every 4th	

Surface Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	13.375	48	J55	STC	740	2,370	433,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	0	9.2	0	179	4.1249	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	9.2	0	179	0	13.2107	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	375'	9.2	18,000	15,472	115,472	3.7498	100K Overpull

Intermediate Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
9.625	36	J55	LTC	0'	1,250'	1,250'	$53.00
asing Details							
ID:	8.921 in		Collapse Rating:	2,020 psi			
Drift:	8.765 in		Burst Rating:	3,520 psi			
Connection OD:	10.625 in		Body Yield:	564 kips			
Capacity:	0.07731129 bbl/ft		Joint Strength:	453 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	44.3 K-lbs		
Hookload (Buoyed)	37.4 K-lbs	with MW	10.2 ppg
Hookload with Cement to Shoe	51.4 K-lbs	with CW	13.7 ppg
Hookload with Cement in Place	35.0 K-lbs		
Min Pressure to Bump Plug	223.86 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
2 Joints: 9-5/8" 36# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
9-5/8" 36.0# BTC		Bow Spring first 2 joint and then 1x every 4th joint to surface	

Intermediate Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	9.625	36	J55	LTC	2,020	3,520	453,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	0	10.2	0	652	3.0963	Dry/Fully Evacuated
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	10.2	0	652	0	5.3955	Dry/Fully Evacuated
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	1,230'	10.2	44,280	37,384	137,384	3.2973	100K Overpull

Production Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
7	32	HCL-80	BTC	0'	3,750'	3,750'	$57.00
Casing Details							
ID:	6.094 in		Collapse Rating:	10,400 psi			
Drift:	5.969 in		Burst Rating:	8,460 psi			
Connection OD:	7.875 in		Body Yield:	745 kips			
Capacity:	0.0361 bbl/ft		Joint Stregth:	832 kips			
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
5.5	20	HCL-80	BTC	3,750'	11802'	8052'	$41.00
Casing Details							
ID:	4.778 in		Collapse Rating:	10,630 psi			
Drift:	4.653 in		Burst Rating:	8,990 psi			
Connection OD:	6.3 in		Body Yield:	466 kips			
Capacity:	0.0222 bbl/ft		Joint Stregth:	503 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads					
Hookload in Air	228.0 K-lbs				
Hookload (Buoyed)	195.9 K-lbs	with MW	9.2 ppg		
Hookload with Cement to Shoe	221.2 K-lbs	with CW	13.7 ppg		
Hookload with Cement in Place	180.3 K-lbs				
Min Pressure to Bump Plug	819 PSI	Buoyancy	0.860		

Production Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	7	32	HCL-80	BTC	10,400	8,460	745,000
	5.5	20	HCL-80	BTC	10,630	8,990	466,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
7	3,423'	0	9.2	0	1,638	6.3509	Dry/Fully Evacuated
5.5	3,500'	0	9.2	0	1,674	6.3485	
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
7	3,423'	9.2	0	1,638	0	5.1662	Dry/Fully Evacuated
5.5	3,500'	9.2	0	1,674	0	5.3691	
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
7	3,423'	9.2	118,720	102,045	295,941	2.5174	Total String + 100K Overpull
5.5	3,500'	9.2	109,240	93,896		1.5746	

Surface Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
13.375	48	J55	STC	0'	375'	375'	$53.00
asing Details							
ID:	12.715 in		Collapse Rating:	740 psi			
Drift:	12.559 in		Burst Rating:	2,370 psi			
Connection OD:	14.375 in		Body Yield:	744 kips			
Capacity:	0.15705384 bbl/ft		Joint Strength:	433 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	18.0 K-lbs		
Hookload (Buoyed)	15.5 K-lbs	with MW	9.2 ppg
Hookload with Cement to Shoe	29.3 K-lbs	with CW	14.8 ppg
Hookload with Cement in Place	13.9 K-lbs		
Min Pressure to Bump Plug	109.2 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
Float Shoe	Innovex		5K, Thread Lock
2 Joints: 13-3/8" 48# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
13-3/8" 48# BTC		Bow Spring first 2 joint and then 1x every 4th	

Surface Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	13.375	48	J55	STC	740	2,370	433,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	0	9.2	0	179	4.1249	
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	375'	9.2	0	179	0	13.2107	
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	375'	9.2	18,000	15,472	115,472	3.7498	

Notes
Dry/Fully Evacuated
Dry/Fully Evacuated
100K Overpull

Intermediate Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
9.625	36	J55	LTC	0'	1,250'	1,250'	$53.00
asing Details							
ID:	8.921 in		Collapse Rating:	2,020 psi			
Drift:	8.765 in		Burst Rating:	3,520 psi			
Connection OD:	10.625 in		Body Yield:	564 kips			
Capacity:	0.07731129 bbl/ft		Joint Strength:	453 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads			
Hookload in Air	44.3 K-lbs		
Hookload (Buoyed)	37.4 K-lbs	with MW	10.2 ppg
Hookload with Cement to Shoe	51.4 K-lbs	with CW	13.7 ppg
Hookload with Cement in Place	35.0 K-lbs		
Min Pressure to Bump Plug	223.86 PSI		

Casing, Float Equipment and Accessories			
Item	Mfg.	Centralizers	Remarks
2 Joints: 9-5/8" 36# BTC		Bow Spring each joint	
Float Collar	Innovex (IIIC, SV, NR)		5K, Thread Lock, Top Plug to be used
9-5/8" 36.0# BTC		Bow Spring first 2 joint and then 1x every 4th joint to surface	

Intermediate Casing Design							
	Size	Weight	Grade	Conn	Collapse	Burst	Tension
Surface	9.625	36	J55	LTC	2,020	3,520	453,000
				Min. Safety Factors	1.125	1.100	1.500
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	0	10.2	0	652	3.0963	
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF	
	1,230'	10.2	0	652	0	5.3955	
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF	
	1,230'	10.2	44,280	37,384	137,384	3.2973	

Notes
Dry/Fully Evacuated
Dry/Fully Evacuated
100K Overpull

Production Casing							
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
7	32	HCL-80	BTC	0'	3,750'	3,750'	$57.00
Casing Details							
ID:	6.094 in		Collapse Rating:	10,400 psi			
Drift:	5.969 in		Burst Rating:	8,460 psi			
Connection OD:	7.875 in		Body Yield:	745 kips			
Capacity:	0.0361 bbl/ft		Joint Stregth:	832 kips			
Size	Wt./Ft.	Grade	Conn	Top	Bottom	Length	$/Ft.
5.5	20	HCL-80	BTC	3,750'	11802'	8052'	$41.00
Casing Details							
ID:	4.778 in		Collapse Rating:	10,630 psi			
Drift:	4.653 in		Burst Rating:	8,990 psi			
Connection OD:	6.3 in		Body Yield:	466 kips			
Capacity:	0.0222 bbl/ft		Joint Stregth:	503 kips			
Notes:							
All connections in the shoe track should be Thread Locked							

Estimated Casing Loads				
Hookload in Air	228.0 K-lbs			
Hookload (Buoyed)	195.9 K-lbs	with MW	9.2 ppg	
Hookload with Cement to Shoe	221.2 K-lbs	with CW	13.7 ppg	
Hookload with Cement in Place	180.3 K-lbs			
Min Pressure to Bump Plug	819 PSI	Buoyancy	0.860	

Production Casing Design								
	Size	Weight	Grade	Conn	Collapse	Burst	Tension	Notes
Surface	7	32	HCL-80	BTC	10,400	8,460	745,000	
	5.5	20	HCL-80	BTC	10,630	8,990	466,000	
				Min. Safety Factors	1.125	1.100	1.500	
Collapse	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF		
7	3,423'	0	9.2	0	1,638	6.3509		Dry/Fully Evacuated
5.5	3,500'	0	9.2	0	1,674	6.3485		
Burst	Casing Depth TVD	MW in	MW Out	Pres In	Pres Out	SF		
7	3,423'	9.2	0	1,638	0	5.1662		Dry/Fully Evacuated
5.5	3,500'	9.2	0	1,674	0	5.3691		
Tension	Casing Depth TVD	Mud Wt	Air Wt	Buoy Wt	BW + 100K	SF		
7	3,423'	9.2	118,720	102,045	295,941	2.5174		Total String + 100K Overpull
5.5	3,500'	9.2	109,240	93,896		1.5746		

Riley Permian Operating Company, LLC

Onshore Order #6
Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards an characteristics of hydrogen sulfide (H2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

A. Flare line.
B. Choke manifold.
C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

A. 3x portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

A. Wind direction indicators as shown on well site diagram (Exhibit #8).
B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

A. Radio communications in company vehicles including cellular telephone and 2-way radio.
B. Land line (telephone) communication at Office.

8. Well testing:

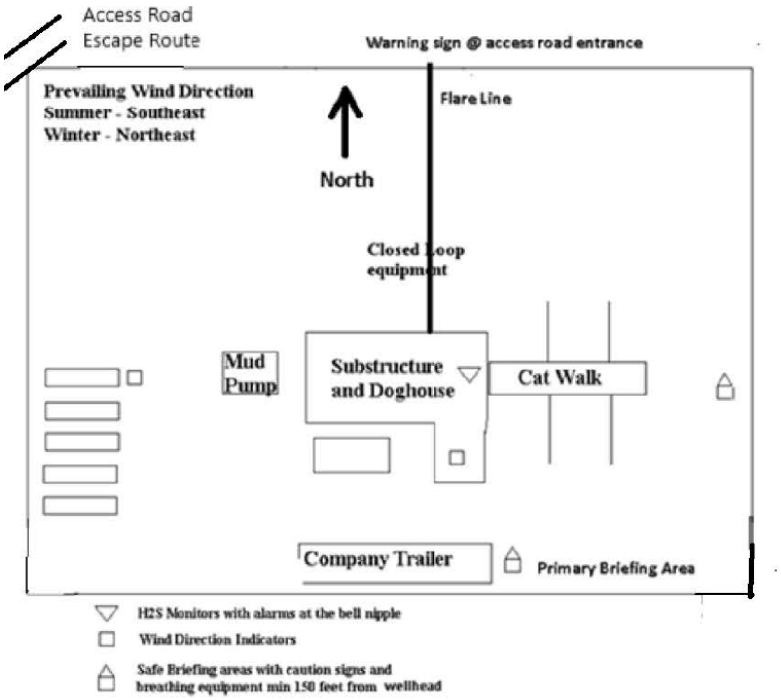
A. There will be no drill stem testing.

WARNING

YOU ARE ENTERING AN H2S AREA
AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH RILEY PERMIAN OPERATING COMPANY MAN AT OFFICE

RILEY PERMIAN OPERATING COMPANY, LLC
1-405-415-8699



RILEY PERMIAN OPERATING CO,. LLC

Eddy County, NM (NAD83) NMEZ Grid
Abides Fed
Abides Fed 3H

3H
Plan #1

Anticollision Report

07 January, 2026

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 50.00usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Unknown AC limit!	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 01/07/26

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	11,802.25	Plan #1 (3H)	MWD	OWSG MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Abides Fed						
Abides Fed 1H - 1H - Plan #1	500.00	500.00	60.00	56.03	15.103	CC
Abides Fed 1H - 1H - Plan #1	650.00	651.42	60.66	55.17	11.045	ES
Abides Fed 1H - 1H - Plan #1	11,802.25	11,845.93	991.15	559.98	2.299	SF
Abides Fed 25H - 25H - Plan #1	500.00	500.00	30.00	26.03	7.551	CC
Abides Fed 25H - 25H - Plan #1	11,800.00	11,746.17	281.13	-147.47	0.656	Level 1, ES, SF
Abides Fed 2H - 2H - Plan #1	779.14	781.33	27.72	20.15	3.665	CC
Abides Fed 2H - 2H - Plan #1	800.00	802.25	27.77	19.98	3.564	ES
Abides Fed 2H - 2H - Plan #1	11,802.25	12,029.98	556.23	168.05	1.433	Level 3, SF
Abides Fed 45H - 45H - Plan #1	3,023.35	2,966.47	774.28	745.87	27.251	CC
Abides Fed 45H - 45H - Plan #1	11,802.25	12,413.76	1,036.36	683.86	2.940	ES, SF
Abides Fed 4H - 4H - Plan #1	3,219.52	3,218.54	524.17	493.27	16.967	CC
Abides Fed 4H - 4H - Plan #1	11,802.25	12,090.63	584.69	210.89	1.564	ES, SF
Abides Fed 5H - 5H - Plan #1	1,775.08	1,686.82	863.51	848.22	56.460	CC
Abides Fed 5H - 5H - Plan #1	11,802.25	11,946.01	992.25	558.07	2.285	ES, SF

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-60.00	60.00				
50.00	50.00	50.00	50.00	0.14	0.17	-90.00	0.00	-60.00	60.00	59.76	0.24	254.955	
100.00	100.00	100.00	100.00	0.34	0.34	-90.00	0.00	-60.00	60.00	59.48	0.52	115.337	
150.00	150.00	150.00	150.00	0.66	0.66	-90.00	0.00	-60.00	60.00	58.96	1.04	57.629	
200.00	200.00	200.00	200.00	0.98	0.98	-90.00	0.00	-60.00	60.00	58.44	1.56	38.410	
250.00	250.00	250.00	250.00	1.23	1.23	-90.00	0.00	-60.00	60.00	58.01	1.99	30.130	
300.00	300.00	300.00	300.00	1.48	1.48	-90.00	0.00	-60.00	60.00	57.58	2.42	24.786	
350.00	350.00	350.00	350.00	1.69	1.69	-90.00	0.00	-60.00	60.00	57.18	2.82	21.310	
400.00	400.00	400.00	400.00	1.91	1.91	-90.00	0.00	-60.00	60.00	56.79	3.21	18.689	
450.00	450.00	450.00	450.00	2.11	2.11	-90.00	0.00	-60.00	60.00	56.41	3.59	16.706	
500.00	500.00	500.00	500.00	2.32	2.32	-90.00	0.00	-60.00	60.00	56.03	3.97	15.103	CC
550.00	550.00	550.50	550.50	2.45	2.61	146.33	0.26	-59.79	60.06	55.60	4.46	13.475	
600.00	599.99	600.99	600.97	2.59	2.91	147.58	1.02	-59.14	60.26	55.34	4.92	12.240	
650.00	649.96	651.42	651.38	2.68	3.28	149.65	2.30	-58.08	60.66	55.17	5.49	11.045	ES

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
700.00	699.91	701.78	701.69	3.06	3.65	152.49	4.09	-56.58	61.35	55.31	6.04	10.154	
750.00	749.82	752.05	751.87	3.42	3.98	156.03	6.38	-54.67	62.44	55.92	6.53	9.569	
800.00	799.69	802.20	801.89	3.80	4.31	160.15	9.17	-52.34	64.10	57.08	7.02	9.136	
850.00	849.51	852.22	851.72	4.13	4.60	164.72	12.45	-49.59	66.45	59.00	7.46	8.913	
900.00	899.27	902.07	901.32	4.45	4.90	169.55	16.22	-46.44	69.66	61.76	7.90	8.822	
950.00	948.96	951.73	950.68	4.75	5.17	174.47	20.47	-42.89	73.83	65.52	8.30	8.890	
1,000.00	998.57	1,001.19	999.75	5.04	5.44	179.29	25.19	-38.94	79.06	70.35	8.72	9.072	
1,050.00	1,048.10	1,050.42	1,048.52	5.32	5.70	-176.10	30.37	-34.61	85.41	76.30	9.11	9.372	
1,100.00	1,097.54	1,099.41	1,096.95	5.60	5.95	-171.81	36.01	-29.90	92.90	83.38	9.52	9.758	
1,150.00	1,146.87	1,148.12	1,145.02	5.86	6.20	-167.89	42.09	-24.82	101.52	91.59	9.93	10.226	
1,200.00	1,196.09	1,196.55	1,192.70	6.12	6.44	-164.35	48.59	-19.38	111.25	100.91	10.34	10.756	
1,250.00	1,245.19	1,244.67	1,239.96	6.37	6.67	-161.18	55.52	-13.59	122.07	111.31	10.76	11.342	
1,300.00	1,294.16	1,292.47	1,286.80	6.63	6.90	-158.36	62.85	-7.47	133.94	122.75	11.19	11.973	
1,350.00	1,343.00	1,339.93	1,333.17	6.87	7.13	-155.85	70.57	-1.01	146.82	135.21	11.61	12.642	
1,400.00	1,391.70	1,387.02	1,379.07	7.12	7.35	-153.63	78.67	5.76	160.69	148.65	12.04	13.344	
1,450.00	1,440.24	1,433.74	1,424.47	7.36	7.57	-151.65	87.13	12.83	175.50	163.03	12.47	14.071	
1,500.00	1,488.62	1,480.07	1,469.35	7.60	7.78	-149.89	95.94	20.20	191.23	178.33	12.90	14.822	
1,535.32	1,522.69	1,512.56	1,500.74	7.70	7.93	-148.76	102.37	25.57	202.88	189.73	13.15	15.428	
1,550.00	1,536.83	1,526.01	1,513.71	7.74	7.99	-148.35	105.09	27.85	207.83	194.58	13.25	15.682	
1,600.00	1,585.01	1,571.63	1,557.63	7.89	8.20	-147.01	114.58	35.78	224.91	211.31	13.60	16.538	
1,650.00	1,633.18	1,616.98	1,601.13	8.04	8.41	-145.74	124.41	44.00	242.34	228.38	13.96	17.360	
1,700.00	1,681.36	1,662.03	1,644.19	8.19	8.61	-144.53	134.57	52.49	260.13	245.80	14.33	18.156	
1,750.00	1,729.53	1,706.79	1,686.82	8.36	8.81	-143.37	145.05	61.25	278.29	263.58	14.70	18.926	
1,800.00	1,777.71	1,751.24	1,728.98	8.53	9.01	-142.27	155.84	70.27	296.81	281.72	15.09	19.668	
1,850.00	1,825.88	1,795.37	1,770.69	8.71	9.21	-141.21	166.92	79.53	315.71	300.23	15.48	20.401	
1,900.00	1,874.06	1,839.18	1,811.91	8.89	9.41	-140.19	178.28	89.03	334.98	319.11	15.87	21.107	
1,950.00	1,922.23	1,882.65	1,852.66	9.07	9.60	-139.22	189.91	98.75	354.63	338.36	16.26	21.805	
2,000.00	1,970.40	1,925.79	1,892.91	9.27	9.80	-138.28	201.81	108.69	374.66	357.99	16.66	22.484	
2,050.00	2,018.58	1,968.57	1,932.66	9.46	9.99	-137.37	213.95	118.84	395.07	378.00	17.06	23.154	
2,100.00	2,066.75	2,011.00	1,971.90	9.67	10.19	-136.50	226.33	129.19	415.86	398.39	17.46	23.813	
2,150.00	2,114.93	2,053.08	2,010.64	9.88	10.39	-135.65	238.93	139.73	437.03	419.17	17.87	24.459	
2,200.00	2,163.10	2,094.78	2,048.85	10.10	10.58	-134.84	251.74	150.44	458.59	440.32	18.27	25.101	
2,250.00	2,211.28	2,136.12	2,086.55	10.32	10.78	-134.05	264.76	161.32	480.53	461.86	18.67	25.732	
2,300.00	2,259.45	2,177.08	2,123.71	10.55	10.98	-133.29	277.97	172.36	502.86	483.78	19.08	26.353	
2,350.00	2,307.63	2,217.66	2,160.35	10.78	11.17	-132.56	291.35	183.55	525.56	506.07	19.49	26.965	
2,400.00	2,355.80	2,257.86	2,196.46	11.02	11.35	-131.85	304.90	194.88	548.65	528.77	19.88	27.600	
2,450.00	2,403.98	2,301.06	2,235.15	11.27	11.54	-131.11	319.67	207.22	572.00	551.68	20.33	28.142	
2,500.00	2,452.15	2,344.80	2,274.30	11.52	11.73	-130.43	334.61	219.71	595.43	574.64	20.79	28.644	
2,550.00	2,500.32	2,388.53	2,313.46	11.77	11.95	-129.80	349.56	232.21	618.92	597.68	21.24	29.139	
2,600.00	2,548.50	2,432.26	2,352.61	12.03	12.18	-129.21	364.51	244.70	642.46	620.77	21.69	29.619	
2,650.00	2,596.67	2,476.00	2,391.77	12.29	12.43	-128.66	379.45	257.19	666.05	643.91	22.14	30.081	
2,700.00	2,644.85	2,519.73	2,430.92	12.55	12.69	-128.15	394.40	269.69	689.69	667.07	22.62	30.497	
2,750.00	2,693.02	2,563.46	2,470.08	12.81	12.96	-127.68	409.35	282.18	713.37	690.29	23.08	30.909	
2,800.00	2,741.20	2,607.20	2,509.23	13.08	13.25	-127.23	424.29	294.68	737.08	713.54	23.55	31.305	
2,850.00	2,789.37	2,650.93	2,548.39	13.35	13.54	-126.81	439.24	307.17	760.83	736.82	24.01	31.685	
2,900.00	2,837.55	2,694.67	2,587.54	13.62	13.84	-126.42	454.19	319.67	784.61	760.13	24.48	32.051	
2,918.67	2,855.53	2,710.99	2,602.16	13.72	13.95	-126.28	459.77	324.33	793.49	768.84	24.65	32.189	
2,950.00	2,885.57	2,738.48	2,626.77	13.89	14.15	-119.59	469.16	332.18	808.36	783.41	24.95	32.397	
3,000.00	2,932.78	2,782.61	2,666.28	14.24	14.46	-111.34	484.24	344.79	831.85	806.31	25.54	32.575	
3,050.00	2,978.91	2,826.86	2,705.89	14.63	14.78	-105.19	499.37	357.43	854.93	828.77	26.17	32.672	
3,100.00	3,023.72	2,871.02	2,745.43	15.02	15.11	-100.48	514.46	370.05	877.53	850.73	26.80	32.741	
3,150.00	3,066.99	2,914.88	2,784.70	15.44	15.43	-96.81	529.45	382.58	899.61	872.15	27.45	32.768	

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

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Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
3,200.00	3,108.52	2,958.22	2,823.50	15.88	15.76	-93.92	544.26	394.96	921.15	893.02	28.13	32.747	
3,250.00	3,148.11	3,025.03	2,883.08	16.36	16.30	-92.16	566.65	415.24	941.94	912.73	29.21	32.249	
3,300.00	3,185.56	3,130.38	2,974.16	16.88	17.42	-91.42	597.49	458.02	959.97	928.99	30.97	30.994	
3,350.00	3,220.69	3,247.57	3,069.13	17.43	18.71	-90.81	624.41	520.94	974.26	941.30	32.95	29.564	
3,400.00	3,253.32	3,374.83	3,161.84	18.04	20.14	-90.17	644.02	605.65	984.21	949.09	35.11	28.030	
3,450.00	3,283.30	3,508.24	3,244.27	18.68	21.72	-89.34	653.17	709.90	989.34	951.94	37.40	26.454	
3,500.00	3,310.49	3,591.01	3,287.07	19.38	22.73	-88.55	653.15	780.71	990.24	951.07	39.17	25.278	
3,512.58	3,316.87	3,603.58	3,293.36	19.56	22.88	-88.42	653.01	791.60	990.26	950.73	39.54	25.045	
3,550.00	3,335.58	3,641.00	3,312.07	20.11	23.34	-88.42	652.59	824.00	990.26	949.59	40.67	24.350	
3,600.00	3,360.58	3,691.00	3,337.07	20.86	23.99	-88.42	652.02	867.30	990.25	948.07	42.18	23.479	
3,650.00	3,385.58	3,741.00	3,362.07	21.64	24.66	-88.42	651.45	910.60	990.24	946.49	43.75	22.634	
3,672.67	3,396.92	3,763.53	3,373.33	22.00	24.97	-88.42	651.20	930.11	990.24	945.77	44.47	22.269	
3,700.00	3,410.58	3,789.59	3,385.72	22.43	25.35	-88.38	650.90	953.03	990.26	944.93	45.33	21.847	
3,712.58	3,416.87	3,801.55	3,391.05	22.63	25.52	-88.34	650.76	963.74	990.28	944.55	45.73	21.656	
3,750.00	3,434.51	3,837.02	3,405.54	23.24	26.07	-88.19	650.33	996.10	990.35	943.39	46.96	21.089	
3,800.00	3,454.65	3,884.18	3,421.65	24.11	26.84	-88.00	649.75	1,040.41	990.46	941.77	48.69	20.344	
3,850.00	3,470.72	3,931.12	3,434.01	25.02	27.64	-87.82	649.16	1,085.67	990.56	940.07	50.49	19.618	
3,900.00	3,482.61	3,977.85	3,442.60	25.97	28.47	-87.66	648.56	1,131.59	990.66	938.30	52.36	18.920	
3,950.00	3,490.22	4,024.39	3,447.40	26.94	29.32	-87.52	647.96	1,177.87	990.76	936.48	54.28	18.254	
3,982.58	3,492.85	4,056.50	3,449.11	27.59	29.92	-87.47	647.54	1,209.93	990.79	935.22	55.58	17.828	
4,000.00	3,493.76	4,073.92	3,450.02	27.93	30.25	-87.47	647.32	1,227.32	990.79	934.51	56.28	17.605	
4,050.00	3,496.38	4,123.92	3,452.64	28.95	31.21	-87.47	646.66	1,277.25	990.79	932.45	58.34	16.984	
4,100.00	3,498.99	4,173.92	3,455.26	29.98	32.19	-87.47	646.01	1,327.18	990.78	930.37	60.41	16.401	
4,150.00	3,501.61	4,223.92	3,457.87	31.03	33.19	-87.47	645.36	1,377.11	990.77	928.25	62.53	15.846	
4,200.00	3,504.23	4,273.92	3,460.49	32.08	34.21	-87.47	644.71	1,427.03	990.77	926.11	64.66	15.324	
4,250.00	3,506.84	4,323.92	3,463.11	33.16	35.24	-87.47	644.06	1,476.96	990.76	923.94	66.82	14.827	
4,300.00	3,509.46	4,373.92	3,465.72	34.23	36.29	-87.47	643.41	1,526.89	990.76	921.76	68.99	14.360	
4,350.00	3,512.08	4,423.92	3,468.34	35.33	37.34	-87.47	642.76	1,576.82	990.75	919.56	71.19	13.916	
4,400.00	3,514.69	4,473.92	3,470.96	36.42	38.41	-87.47	642.11	1,626.74	990.74	917.34	73.40	13.497	
4,450.00	3,517.31	4,523.92	3,473.57	37.53	39.49	-87.47	641.46	1,676.67	990.74	915.10	75.64	13.098	
4,500.00	3,519.93	4,573.92	3,476.19	38.64	40.58	-87.47	640.81	1,726.60	990.73	912.85	77.88	12.722	
4,550.00	3,522.54	4,623.92	3,478.81	39.77	41.68	-87.47	640.16	1,776.52	990.73	910.59	80.14	12.363	
4,600.00	3,525.16	4,673.92	3,481.43	40.89	42.78	-87.47	639.50	1,826.45	990.72	908.32	82.40	12.023	
4,650.00	3,527.78	4,723.92	3,484.04	42.03	43.89	-87.47	638.85	1,876.38	990.71	906.03	84.68	11.699	
4,700.00	3,530.39	4,773.92	3,486.66	43.17	45.01	-87.47	638.20	1,926.31	990.71	903.74	86.97	11.391	
4,750.00	3,533.01	4,823.92	3,489.28	44.31	46.13	-87.47	637.55	1,976.23	990.70	901.43	89.27	11.098	
4,800.00	3,535.63	4,873.92	3,491.89	45.46	47.26	-87.47	636.90	2,026.16	990.70	899.12	91.58	10.818	
4,850.00	3,538.24	4,923.92	3,494.51	46.62	48.40	-87.47	636.25	2,076.09	990.69	896.80	93.89	10.551	
4,900.00	3,540.86	4,973.92	3,497.13	47.77	49.54	-87.47	635.60	2,126.01	990.68	894.47	96.21	10.297	
4,950.00	3,543.48	5,023.92	3,499.74	48.93	50.68	-87.47	634.95	2,175.94	990.68	892.13	98.54	10.053	
5,000.00	3,546.09	5,073.92	3,502.36	50.09	51.83	-87.47	634.30	2,225.87	990.67	889.79	100.88	9.821	
5,050.00	3,548.71	5,123.92	3,504.98	51.26	52.98	-87.47	633.65	2,275.80	990.66	887.44	103.22	9.598	
5,100.00	3,551.33	5,173.92	3,507.59	52.43	54.14	-87.47	632.99	2,325.72	990.66	885.09	105.57	9.384	
5,150.00	3,553.94	5,223.92	3,510.21	53.61	55.30	-87.47	632.34	2,375.65	990.65	882.73	107.92	9.180	
5,200.00	3,556.56	5,273.92	3,512.83	54.78	56.46	-87.47	631.69	2,425.58	990.65	880.37	110.27	8.984	
5,203.62	3,556.75	5,277.55	3,513.02	54.87	56.54	-87.47	631.65	2,429.20	990.65	880.20	110.44	8.970	
5,204.09	3,556.78	5,278.01	3,513.04	54.88	56.55	-87.47	631.64	2,429.66	990.65	880.18	110.46	8.968	
5,204.55	3,556.80	5,278.47	3,513.06	54.89	56.56	-87.47	631.63	2,430.12	990.65	880.16	110.49	8.966	
5,250.00	3,559.18	5,323.92	3,515.44	55.96	57.62	-87.47	631.04	2,475.51	990.65	878.02	112.63	8.795	
5,300.00	3,561.79	5,373.92	3,518.06	57.14	58.79	-87.47	630.39	2,525.43	990.66	875.66	115.00	8.615	
5,350.00	3,564.41	5,423.92	3,520.68	58.32	59.96	-87.47	629.74	2,575.36	990.66	873.30	117.37	8.441	
5,400.00	3,567.03	5,473.92	3,523.29	59.50	61.14	-87.47	629.09	2,625.29	990.67	870.93	119.74	8.274	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
5,450.00	3,569.64	5,523.92	3,525.91	60.69	62.31	-87.47	628.44	2,675.21	990.68	868.56	122.12	8.113	
5,500.00	3,572.26	5,573.92	3,528.53	61.88	63.49	-87.47	627.79	2,725.14	990.68	866.19	124.50	7.958	
5,550.00	3,574.88	5,623.92	3,531.14	63.07	64.67	-87.47	627.14	2,775.07	990.69	863.81	126.88	7.808	
5,600.00	3,577.49	5,673.92	3,533.76	64.26	65.85	-87.47	626.48	2,825.00	990.69	861.43	129.27	7.664	
5,650.00	3,580.11	5,723.92	3,536.38	65.45	67.04	-87.47	625.83	2,874.92	990.70	859.04	131.66	7.525	
5,700.00	3,582.73	5,773.92	3,538.99	66.64	68.22	-87.47	625.18	2,924.85	990.71	856.66	134.05	7.391	
5,750.00	3,585.35	5,823.92	3,541.61	67.84	69.41	-87.47	624.53	2,974.78	990.71	854.27	136.44	7.261	
5,800.00	3,587.96	5,873.92	3,544.23	69.04	70.60	-87.47	623.88	3,024.70	990.72	851.88	138.84	7.136	
5,850.00	3,590.58	5,923.92	3,546.84	70.23	71.79	-87.47	623.23	3,074.63	990.72	849.49	141.24	7.015	
5,900.00	3,593.20	5,973.92	3,549.46	71.43	72.98	-87.47	622.58	3,124.56	990.73	847.09	143.64	6.897	
5,950.00	3,595.81	6,023.92	3,552.08	72.63	74.18	-87.47	621.93	3,174.49	990.74	844.69	146.04	6.784	
6,000.00	3,598.43	6,073.92	3,554.69	73.83	75.37	-87.47	621.28	3,224.41	990.74	842.29	148.45	6.674	
6,050.00	3,601.05	6,123.92	3,557.31	75.04	76.57	-87.47	620.63	3,274.34	990.75	839.89	150.85	6.568	
6,100.00	3,603.66	6,173.92	3,559.93	76.24	77.76	-87.47	619.98	3,324.27	990.75	837.49	153.26	6.464	
6,150.00	3,606.28	6,223.92	3,562.54	77.45	78.96	-87.47	619.32	3,374.20	990.76	835.09	155.67	6.364	
6,200.00	3,608.90	6,273.92	3,565.16	78.65	80.16	-87.47	618.67	3,424.12	990.77	832.68	158.09	6.267	
6,250.00	3,611.51	6,323.92	3,567.78	79.86	81.36	-87.47	618.02	3,474.05	990.77	830.27	160.50	6.173	
6,300.00	3,614.13	6,373.92	3,570.39	81.06	82.56	-87.47	617.37	3,523.98	990.78	827.86	162.92	6.082	
6,350.00	3,616.75	6,423.92	3,573.01	82.27	83.77	-87.47	616.72	3,573.90	990.78	825.45	165.33	5.993	
6,400.00	3,619.36	6,473.92	3,575.63	83.48	84.97	-87.47	616.07	3,623.83	990.79	823.04	167.75	5.906	
6,450.00	3,621.98	6,523.92	3,578.24	84.69	86.17	-87.47	615.42	3,673.76	990.80	820.63	170.17	5.822	
6,500.00	3,624.60	6,573.92	3,580.86	85.90	87.38	-87.47	614.77	3,723.69	990.80	818.21	172.59	5.741	
6,550.00	3,627.21	6,623.92	3,583.48	87.11	88.58	-87.47	614.12	3,773.61	990.81	815.80	175.01	5.661	
6,600.00	3,629.83	6,673.92	3,586.09	88.32	89.79	-87.47	613.47	3,823.54	990.81	813.38	177.43	5.584	
6,650.00	3,632.45	6,723.92	3,588.71	89.53	91.00	-87.47	612.81	3,873.47	990.82	810.96	179.86	5.509	
6,700.00	3,635.06	6,773.92	3,591.33	90.74	92.20	-87.47	612.16	3,923.40	990.83	808.54	182.28	5.436	
6,750.00	3,637.68	6,823.92	3,593.94	91.95	93.41	-87.47	611.51	3,973.32	990.83	806.12	184.71	5.364	
6,800.00	3,640.30	6,873.92	3,596.56	93.17	94.62	-87.47	610.86	4,023.25	990.84	803.70	187.14	5.295	
6,850.00	3,642.91	6,923.92	3,599.18	94.38	95.83	-87.47	610.21	4,073.18	990.84	801.28	189.56	5.227	
6,900.00	3,645.53	6,973.92	3,601.79	95.59	97.04	-87.47	609.56	4,123.10	990.85	798.86	191.99	5.161	
6,950.00	3,648.15	7,023.92	3,604.41	96.81	98.25	-87.47	608.91	4,173.03	990.86	796.43	194.42	5.096	
7,000.00	3,650.76	7,073.92	3,607.03	98.02	99.46	-87.47	608.26	4,222.96	990.86	794.01	196.85	5.034	
7,050.00	3,653.38	7,123.92	3,609.64	99.24	100.67	-87.47	607.61	4,272.89	990.87	791.58	199.28	4.972	
7,100.00	3,656.00	7,173.92	3,612.26	100.45	101.89	-87.47	606.96	4,322.81	990.87	789.16	201.71	4.912	
7,150.00	3,658.61	7,223.92	3,614.88	101.67	103.10	-87.47	606.30	4,372.74	990.88	786.73	204.15	4.854	
7,200.00	3,661.23	7,273.92	3,617.49	102.89	104.31	-87.47	605.65	4,422.67	990.89	784.30	206.58	4.797	
7,250.00	3,663.85	7,323.92	3,620.11	104.10	105.52	-87.47	605.00	4,472.59	990.89	781.88	209.02	4.741	
7,300.00	3,666.46	7,373.92	3,622.73	105.32	106.74	-87.47	604.35	4,522.52	990.90	779.45	211.45	4.686	
7,350.00	3,669.08	7,423.92	3,625.34	106.54	107.95	-87.47	603.70	4,572.45	990.90	777.02	213.89	4.633	
7,400.00	3,671.70	7,473.92	3,627.96	107.76	109.17	-87.47	603.05	4,622.38	990.91	774.59	216.32	4.581	
7,450.00	3,674.31	7,523.92	3,630.58	108.97	110.38	-87.47	602.40	4,672.30	990.92	772.16	218.76	4.530	
7,500.00	3,676.93	7,573.92	3,633.20	110.19	111.60	-87.47	601.75	4,722.23	990.92	769.73	221.19	4.480	
7,550.00	3,679.55	7,623.92	3,635.81	111.41	112.81	-87.47	601.10	4,772.16	990.93	767.30	223.63	4.431	
7,600.00	3,682.16	7,673.92	3,638.43	112.63	114.03	-87.47	600.45	4,822.09	990.93	764.86	226.07	4.383	
7,650.00	3,684.78	7,723.92	3,641.05	113.85	115.25	-87.47	599.79	4,872.01	990.94	762.43	228.51	4.337	
7,700.00	3,687.40	7,773.92	3,643.66	115.07	116.47	-87.47	599.14	4,921.94	990.95	760.00	230.95	4.291	
7,750.00	3,690.01	7,823.92	3,646.28	116.29	117.68	-87.47	598.49	4,971.87	990.95	757.56	233.39	4.246	
7,800.00	3,692.63	7,873.92	3,648.90	117.51	118.90	-87.47	597.84	5,021.79	990.96	755.13	235.83	4.202	
7,850.00	3,695.25	7,923.92	3,651.51	118.73	120.12	-87.47	597.19	5,071.72	990.96	752.69	238.27	4.159	
7,900.00	3,697.86	7,973.92	3,654.13	119.95	121.34	-87.47	596.54	5,121.65	990.97	750.26	240.71	4.117	
7,950.00	3,700.48	8,023.92	3,656.75	121.17	122.55	-87.47	595.89	5,171.58	990.98	747.82	243.15	4.076	
8,000.00	3,703.10	8,073.92	3,659.36	122.39	123.77	-87.47	595.24	5,221.50	990.98	745.39	245.59	4.035	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
8,050.00	3,705.71	8,123.92	3,661.98	123.61	124.99	-87.47	594.59	5,271.43	990.99	742.95	248.04	3.995	
8,100.00	3,708.33	8,173.92	3,664.60	124.84	126.21	-87.47	593.94	5,321.36	990.99	740.51	250.48	3.956	
8,150.00	3,710.95	8,223.92	3,667.21	126.06	127.43	-87.47	593.29	5,371.29	991.00	738.08	252.92	3.918	
8,200.00	3,713.56	8,273.92	3,669.83	127.28	128.65	-87.47	592.63	5,421.21	991.01	735.64	255.37	3.881	
8,250.00	3,716.18	8,323.92	3,672.45	128.50	129.87	-87.47	591.98	5,471.14	991.01	733.20	257.81	3.844	
8,300.00	3,718.80	8,373.92	3,675.06	129.72	131.09	-87.47	591.33	5,521.07	991.02	730.76	260.25	3.808	
8,350.00	3,721.41	8,423.92	3,677.68	130.95	132.31	-87.47	590.68	5,570.99	991.02	728.32	262.70	3.772	
8,400.00	3,724.03	8,473.92	3,680.30	132.17	133.53	-87.47	590.03	5,620.92	991.03	725.89	265.14	3.738	
8,450.00	3,726.65	8,523.92	3,682.91	133.39	134.75	-87.47	589.38	5,670.85	991.04	723.45	267.59	3.704	
8,500.00	3,729.26	8,573.92	3,685.53	134.62	135.98	-87.47	588.73	5,720.78	991.04	721.01	270.04	3.670	
8,550.00	3,731.88	8,623.92	3,688.15	135.84	137.20	-87.47	588.08	5,770.70	991.05	718.57	272.48	3.637	
8,600.00	3,734.50	8,673.92	3,690.76	137.06	138.42	-87.47	587.43	5,820.63	991.05	716.13	274.93	3.605	
8,650.00	3,737.11	8,723.92	3,693.38	138.29	139.64	-87.47	586.78	5,870.56	991.06	713.69	277.37	3.573	
8,700.00	3,739.73	8,773.92	3,696.00	139.51	140.86	-87.47	586.12	5,920.48	991.07	711.24	279.82	3.542	
8,750.00	3,742.35	8,823.92	3,698.61	140.73	142.08	-87.47	585.47	5,970.41	991.07	708.80	282.27	3.511	
8,800.00	3,744.96	8,873.92	3,701.23	141.96	143.31	-87.47	584.82	6,020.34	991.08	706.36	284.72	3.481	
8,850.00	3,747.58	8,923.92	3,703.85	143.18	144.53	-87.47	584.17	6,070.27	991.08	703.92	287.16	3.451	
8,900.00	3,750.20	8,973.92	3,706.46	144.41	145.75	-87.47	583.52	6,120.19	991.09	701.48	289.61	3.422	
8,950.00	3,752.81	9,023.92	3,709.08	145.63	146.97	-87.47	582.87	6,170.12	991.10	699.04	292.06	3.393	
9,000.00	3,755.43	9,073.92	3,711.70	146.86	148.20	-87.47	582.22	6,220.05	991.10	696.59	294.51	3.365	
9,050.00	3,758.05	9,123.92	3,714.31	148.08	149.42	-87.47	581.57	6,269.98	991.11	694.15	296.96	3.338	
9,100.00	3,760.66	9,173.92	3,716.93	149.31	150.64	-87.47	580.92	6,319.90	991.11	691.71	299.40	3.310	
9,150.00	3,763.28	9,224.90	3,719.60	150.53	151.89	-87.47	580.24	6,370.80	991.11	689.24	301.87	3.283	
9,165.05	3,764.07	9,239.94	3,720.39	150.90	152.26	-87.47	580.03	6,385.83	991.10	688.49	302.61	3.275	
9,167.40	3,764.19	9,242.29	3,720.51	150.96	152.32	-87.47	580.00	6,388.17	991.09	688.37	302.72	3.274	
9,200.00	3,765.90	9,274.90	3,722.21	151.75	153.11	-87.47	579.54	6,420.73	991.04	686.72	304.32	3.257	
9,250.00	3,768.51	9,324.90	3,724.83	152.98	154.34	-87.47	578.84	6,470.66	990.97	684.20	306.77	3.230	
9,300.00	3,771.13	9,374.90	3,727.45	154.20	155.56	-87.47	578.14	6,520.58	990.90	681.68	309.22	3.205	
9,350.00	3,773.75	9,424.90	3,730.07	155.43	156.79	-87.47	577.44	6,570.51	990.82	679.15	311.67	3.179	
9,400.00	3,776.36	9,474.90	3,732.68	156.65	158.01	-87.47	576.74	6,620.44	990.75	676.63	314.12	3.154	
9,450.00	3,778.98	9,524.90	3,735.30	157.88	159.23	-87.46	576.04	6,670.36	990.67	674.11	316.57	3.129	
9,500.00	3,781.60	9,574.90	3,737.92	159.11	160.46	-87.46	575.34	6,720.29	990.60	671.58	319.02	3.105	
9,550.00	3,784.21	9,624.90	3,740.53	160.33	161.68	-87.46	574.64	6,770.22	990.53	669.06	321.47	3.081	
9,600.00	3,786.83	9,674.90	3,743.15	161.56	162.91	-87.46	573.94	6,820.14	990.45	666.53	323.92	3.058	
9,650.00	3,789.45	9,724.90	3,745.77	162.78	164.13	-87.46	573.24	6,870.07	990.38	664.01	326.37	3.035	
9,700.00	3,792.07	9,774.90	3,748.38	164.01	165.36	-87.46	572.54	6,920.00	990.31	661.48	328.82	3.012	
9,750.00	3,794.68	9,824.90	3,751.00	165.24	166.58	-87.46	571.84	6,969.92	990.23	658.96	331.27	2.989	
9,800.00	3,797.30	9,874.90	3,753.62	166.46	167.81	-87.46	571.14	7,019.85	990.16	656.43	333.73	2.967	
9,850.00	3,799.92	9,924.90	3,756.23	167.69	169.03	-87.46	570.44	7,069.78	990.08	653.91	336.18	2.945	
9,900.00	3,802.53	9,974.90	3,758.85	168.91	170.26	-87.46	569.74	7,119.70	990.01	651.38	338.63	2.924	
9,950.00	3,805.15	10,024.90	3,761.47	170.14	171.48	-87.46	569.04	7,169.63	989.94	648.85	341.08	2.902	
10,000.00	3,807.77	10,074.90	3,764.08	171.37	172.71	-87.46	568.34	7,219.55	989.86	646.33	343.53	2.881	
10,050.00	3,810.38	10,124.90	3,766.70	172.59	173.93	-87.46	567.64	7,269.48	989.79	643.80	345.99	2.861	
10,100.00	3,813.00	10,174.90	3,769.32	173.82	175.16	-87.46	566.94	7,319.41	989.71	641.28	348.44	2.840	
10,150.00	3,815.62	10,224.90	3,771.94	175.05	176.38	-87.46	566.24	7,369.33	989.64	638.75	350.89	2.820	
10,200.00	3,818.23	10,274.90	3,774.55	176.28	177.61	-87.46	565.54	7,419.26	989.57	636.22	353.34	2.801	
10,250.00	3,820.85	10,324.90	3,777.17	177.50	178.84	-87.46	564.84	7,469.19	989.49	633.69	355.80	2.781	
10,300.00	3,823.47	10,374.90	3,779.79	178.73	180.06	-87.46	564.14	7,519.11	989.42	631.17	358.25	2.762	
10,350.00	3,826.08	10,424.90	3,782.40	179.96	181.29	-87.46	563.44	7,569.04	989.34	628.64	360.70	2.743	
10,400.00	3,828.70	10,474.90	3,785.02	181.18	182.52	-87.46	562.74	7,618.97	989.27	626.11	363.16	2.724	
10,450.00	3,831.32	10,524.90	3,787.64	182.41	183.74	-87.46	562.04	7,668.89	989.20	623.59	365.61	2.706	
10,500.00	3,833.94	10,574.90	3,790.25	183.64	184.97	-87.46	561.34	7,718.82	989.12	621.06	368.06	2.687	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 1H - 1H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
10,550.00	3,836.55	10,624.90	3,792.87	184.87	186.19	-87.46	560.63	7,768.75	989.05	618.53	370.52	2.669	
10,600.00	3,839.17	10,674.90	3,795.49	186.09	187.42	-87.46	559.93	7,818.67	988.97	616.00	372.97	2.652	
10,650.00	3,841.79	10,724.90	3,798.10	187.32	188.65	-87.46	559.23	7,868.60	988.90	613.48	375.42	2.634	
10,667.40	3,842.70	10,742.29	3,799.01	187.75	189.07	-87.46	558.99	7,885.97	988.87	612.60	376.28	2.628	
10,673.05	3,842.99	10,747.95	3,799.31	187.89	189.21	-87.46	558.91	7,891.62	988.87	612.32	376.56	2.626	
10,680.35	3,843.37	10,755.25	3,799.69	188.07	189.39	-87.47	558.81	7,898.91	988.88	611.96	376.91	2.624	
10,700.00	3,844.40	10,774.90	3,800.72	188.55	189.87	-87.47	558.53	7,918.53	988.92	611.04	377.88	2.617	
10,750.00	3,847.02	10,824.90	3,803.34	189.77	191.10	-87.47	557.83	7,968.45	989.01	608.68	380.33	2.600	
10,800.00	3,849.64	10,874.90	3,805.95	191.00	192.33	-87.47	557.13	8,018.38	989.11	606.32	382.79	2.584	
10,850.00	3,852.25	10,924.90	3,808.57	192.23	193.55	-87.47	556.43	8,068.31	989.20	603.96	385.24	2.568	
10,900.00	3,854.87	10,974.90	3,811.19	193.46	194.78	-87.47	555.73	8,118.23	989.30	601.60	387.70	2.552	
10,950.00	3,857.49	11,024.90	3,813.80	194.69	196.01	-87.47	555.03	8,168.16	989.39	599.24	390.15	2.536	
11,000.00	3,860.10	11,074.90	3,816.42	195.92	197.24	-87.47	554.33	8,218.08	989.49	596.88	392.61	2.520	
11,050.00	3,862.72	11,124.90	3,819.04	197.14	198.46	-87.47	553.63	8,268.01	989.58	594.52	395.06	2.505	
11,100.00	3,865.33	11,174.90	3,821.66	198.37	199.69	-87.47	552.93	8,317.94	989.68	592.16	397.52	2.490	
11,150.00	3,867.95	11,224.90	3,824.27	199.60	200.92	-87.47	552.23	8,367.86	989.77	589.80	399.97	2.475	
11,200.00	3,870.57	11,274.90	3,826.89	200.83	202.14	-87.47	551.53	8,417.79	989.87	587.44	402.43	2.460	
11,250.00	3,873.18	11,324.90	3,829.51	202.06	203.37	-87.47	550.83	8,467.72	989.97	585.08	404.88	2.445	
11,300.00	3,875.80	11,374.90	3,832.12	203.29	204.60	-87.47	550.13	8,517.64	990.06	582.72	407.34	2.431	
11,350.00	3,878.42	11,424.90	3,834.74	204.51	205.83	-87.47	549.43	8,567.57	990.16	580.36	409.79	2.416	
11,400.00	3,881.03	11,474.90	3,837.36	205.74	207.06	-87.47	548.73	8,617.50	990.25	578.00	412.25	2.402	
11,450.00	3,883.65	11,524.90	3,839.97	206.97	208.28	-87.47	548.03	8,667.42	990.35	575.64	414.70	2.388	
11,500.00	3,886.27	11,574.90	3,842.59	208.20	209.51	-87.47	547.33	8,717.35	990.44	573.28	417.16	2.374	
11,550.00	3,888.88	11,624.90	3,845.21	209.43	210.74	-87.48	546.63	8,767.28	990.54	570.92	419.62	2.361	
11,600.00	3,891.50	11,671.82	3,847.66	210.66	211.89	-87.48	545.99	8,814.13	990.66	568.65	422.01	2.347	
11,608.94	3,891.97	11,678.92	3,848.03	210.88	212.06	-87.48	545.92	8,821.22	990.71	568.30	422.41	2.345	
11,650.00	3,894.12	11,711.53	3,849.74	211.89	212.86	-87.44	545.77	8,853.78	990.95	566.72	424.22	2.336	
11,700.00	3,896.74	11,755.81	3,852.06	213.12	213.95	-87.41	546.00	8,898.00	991.13	564.60	426.52	2.324	
11,703.53	3,896.92	11,755.81	3,852.06	213.20	213.95	-87.40	546.00	8,898.00	991.12	564.53	426.60	2.323	
11,712.12	3,897.37	11,762.17	3,852.39	213.41	214.11	-87.40	546.07	8,904.36	991.13	564.18	426.95	2.321	
11,750.00	3,899.35	11,800.05	3,854.38	214.34	215.04	-87.40	546.49	8,942.18	991.13	562.32	428.81	2.311	
11,756.84	3,899.71	11,806.89	3,854.74	214.51	215.20	-87.40	546.57	8,949.01	991.13	561.99	429.14	2.310	
11,800.00	3,901.97	11,845.93	3,856.78	215.57	216.16	-87.40	547.00	8,988.00	991.14	560.01	431.13	2.299	
11,802.25	3,902.09	11,845.93	3,856.78	215.62	216.16	-87.40	547.00	8,988.00	991.15	559.98	431.17	2.299	SF

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 25H - 25H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	30.00	30.00				
50.00	50.00	50.00	50.00	0.14	0.17	90.00	0.00	30.00	30.00	29.76	0.24	127.478	
100.00	100.00	100.00	100.00	0.34	0.34	90.00	0.00	30.00	30.00	29.48	0.52	57.668	
150.00	150.00	150.00	150.00	0.66	0.66	90.00	0.00	30.00	30.00	28.96	1.04	28.814	
200.00	200.00	200.00	200.00	0.98	0.98	90.00	0.00	30.00	30.00	28.44	1.56	19.205	
250.00	250.00	250.00	250.00	1.23	1.23	90.00	0.00	30.00	30.00	28.01	1.99	15.065	
300.00	300.00	300.00	300.00	1.48	1.48	90.00	0.00	30.00	30.00	27.58	2.42	12.393	
350.00	350.00	350.00	350.00	1.69	1.69	90.00	0.00	30.00	30.00	27.18	2.82	10.655	
400.00	400.00	400.00	400.00	1.91	1.91	90.00	0.00	30.00	30.00	26.79	3.21	9.344	
450.00	450.00	450.00	450.00	2.11	2.11	90.00	0.00	30.00	30.00	26.41	3.59	8.353	
500.00	500.00	500.00	500.00	2.32	2.32	90.00	0.00	30.00	30.00	26.03	3.97	7.551	CC
550.00	550.00	549.61	549.61	2.45	2.50	-34.37	-0.04	30.32	30.05	25.58	4.47	6.716	
600.00	599.99	599.22	599.21	2.59	2.70	-35.19	-0.15	31.28	30.21	25.23	4.98	6.064	
650.00	649.96	648.83	648.79	2.68	2.90	-36.53	-0.34	32.88	30.49	24.92	5.57	5.470	
700.00	699.91	698.42	698.33	3.06	3.26	-38.36	-0.61	35.12	30.91	24.75	6.16	5.018	
750.00	749.82	748.01	747.83	3.42	3.57	-40.65	-0.95	37.99	31.49	24.84	6.65	4.733	
800.00	799.69	797.58	797.28	3.80	3.92	-43.32	-1.36	41.51	32.27	25.19	7.09	4.555	
850.00	849.51	847.13	846.66	4.13	4.23	-46.31	-1.85	45.65	33.28	25.82	7.46	4.460	
900.00	899.27	896.67	895.96	4.45	4.53	-49.52	-2.42	50.44	34.55	26.76	7.80	4.432	
950.00	948.96	946.18	945.17	4.75	4.82	-52.87	-3.06	55.85	36.11	28.02	8.09	4.463	
1,000.00	998.57	995.67	994.28	5.04	5.11	-56.28	-3.77	61.89	37.99	29.63	8.36	4.544	
1,050.00	1,048.10	1,045.13	1,043.29	5.32	5.38	-59.65	-4.56	68.56	40.21	31.59	8.62	4.664	
1,100.00	1,097.54	1,094.57	1,092.17	5.60	5.65	-62.92	-5.42	75.86	42.78	33.90	8.88	4.819	
1,150.00	1,146.87	1,143.97	1,140.92	5.86	5.90	-66.05	-6.36	83.78	45.71	36.57	9.15	4.998	
1,200.00	1,196.09	1,193.33	1,189.53	6.12	6.16	-68.98	-7.37	92.32	49.02	39.59	9.43	5.199	
1,250.00	1,245.19	1,242.66	1,237.99	6.37	6.34	-71.71	-8.45	101.47	52.69	42.97	9.72	5.420	
1,300.00	1,294.16	1,292.24	1,286.59	6.63	6.49	-74.33	-9.60	111.19	56.65	46.62	10.04	5.645	
1,350.00	1,343.00	1,341.99	1,335.36	6.87	6.63	-77.16	-10.76	120.99	60.61	50.22	10.39	5.835	
1,400.00	1,391.70	1,391.72	1,384.10	7.12	6.76	-80.20	-11.92	130.79	64.59	53.82	10.77	5.999	
1,450.00	1,440.24	1,441.41	1,432.80	7.36	6.91	-83.41	-13.08	140.58	68.66	57.46	11.20	6.133	
1,500.00	1,488.62	1,491.05	1,481.45	7.60	7.06	-86.75	-14.23	150.36	72.89	61.23	11.66	6.251	
1,535.32	1,522.69	1,526.09	1,515.79	7.70	7.17	-89.18	-15.05	157.26	76.01	64.00	12.01	6.329	
1,550.00	1,536.83	1,540.64	1,530.06	7.74	7.22	-90.19	-15.39	160.13	77.34	65.18	12.16	6.360	
1,600.00	1,585.01	1,590.22	1,578.65	7.89	7.38	-93.40	-16.54	169.90	82.06	69.38	12.68	6.473	
1,650.00	1,633.18	1,639.79	1,627.24	8.04	7.54	-96.26	-17.70	179.66	87.01	73.79	13.22	6.582	
1,700.00	1,681.36	1,689.37	1,675.83	8.19	7.70	-98.81	-18.85	189.43	92.16	78.40	13.76	6.699	
1,750.00	1,729.53	1,738.95	1,724.42	8.36	7.87	-101.08	-20.01	199.20	97.46	83.16	14.31	6.813	
1,800.00	1,777.71	1,788.52	1,773.01	8.53	8.04	-103.12	-21.17	208.97	102.90	88.06	14.84	6.932	
1,850.00	1,825.88	1,838.10	1,821.60	8.71	8.21	-104.96	-22.32	218.73	108.46	93.08	15.38	7.050	
1,900.00	1,874.06	1,887.67	1,870.19	8.89	8.38	-106.61	-23.48	228.50	114.12	98.20	15.92	7.170	
1,950.00	1,922.23	1,937.25	1,918.78	9.07	8.56	-108.10	-24.63	238.27	119.86	103.42	16.45	7.288	
2,000.00	1,970.40	1,986.83	1,967.37	9.27	8.74	-109.46	-25.79	248.04	125.68	108.71	16.97	7.408	
2,050.00	2,018.58	2,036.40	2,015.96	9.46	8.92	-110.70	-26.94	257.80	131.56	114.07	17.49	7.523	
2,100.00	2,066.75	2,085.98	2,064.55	9.67	9.11	-111.84	-28.10	267.57	137.49	119.50	18.00	7.639	
2,150.00	2,114.93	2,135.55	2,113.15	9.88	9.30	-112.87	-29.25	277.34	143.48	124.97	18.51	7.751	
2,200.00	2,163.10	2,185.13	2,161.74	10.10	9.49	-113.83	-30.41	287.11	149.51	130.49	19.01	7.863	
2,250.00	2,211.28	2,234.71	2,210.33	10.32	9.69	-114.71	-31.56	296.87	155.57	136.05	19.52	7.969	
2,300.00	2,259.45	2,284.28	2,258.92	10.55	9.89	-115.53	-32.72	306.64	161.67	141.65	20.02	8.076	
2,350.00	2,307.63	2,333.86	2,307.51	10.78	10.09	-116.28	-33.87	316.41	167.80	147.29	20.51	8.181	
2,400.00	2,355.80	2,383.43	2,356.10	11.02	10.30	-116.98	-35.03	326.18	173.95	152.94	21.01	8.279	
2,450.00	2,403.98	2,433.01	2,404.69	11.27	10.51	-117.64	-36.18	335.94	180.13	158.63	21.50	8.377	
2,500.00	2,452.15	2,482.59	2,453.28	11.52	10.72	-118.25	-37.34	345.71	186.33	164.34	22.00	8.472	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 25H - 25H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
2,550.00	2,500.32	2,532.16	2,501.87	11.77	10.93	-118.82	-38.49	355.48	192.55	170.07	22.48	8.564	
2,600.00	2,548.50	2,581.74	2,550.46	12.03	11.15	-119.36	-39.65	365.25	198.79	175.82	22.97	8.653	
2,650.00	2,596.67	2,631.31	2,599.05	12.29	11.37	-119.86	-40.80	375.01	205.05	181.59	23.46	8.740	
2,700.00	2,644.85	2,680.89	2,647.64	12.55	11.59	-120.34	-41.96	384.78	211.32	187.37	23.95	8.825	
2,750.00	2,693.02	2,730.47	2,696.23	12.81	11.81	-120.78	-43.11	394.55	217.60	193.17	24.43	8.907	
2,800.00	2,741.20	2,780.04	2,744.82	13.08	12.03	-121.20	-44.27	404.32	223.89	198.98	24.91	8.987	
2,850.00	2,789.37	2,829.62	2,793.41	13.35	12.25	-121.60	-45.42	414.08	230.20	204.81	25.39	9.066	
2,900.00	2,837.55	2,878.92	2,841.61	13.62	12.48	-121.83	-46.57	424.38	236.53	210.66	25.87	9.141	
2,918.67	2,855.53	2,897.26	2,859.36	13.72	12.57	-121.73	-46.99	428.95	238.92	212.87	26.05	9.171	
2,950.00	2,885.57	2,927.98	2,888.83	13.89	12.75	-115.99	-47.69	437.63	242.86	216.48	26.38	9.206	
3,000.00	2,932.78	2,976.95	2,934.94	14.24	13.05	-109.05	-48.78	454.05	248.81	221.78	27.03	9.203	
3,050.00	2,978.91	3,025.85	2,979.76	14.63	13.37	-103.94	-49.83	473.54	254.31	226.56	27.76	9.162	
3,100.00	3,023.72	3,074.69	3,023.09	15.02	13.71	-100.05	-50.84	496.02	259.35	230.83	28.51	9.096	
3,150.00	3,066.99	3,123.45	3,064.73	15.44	14.09	-96.98	-51.81	521.37	263.88	234.57	29.31	9.003	
3,200.00	3,108.52	3,172.15	3,104.50	15.88	14.50	-94.51	-52.74	549.44	267.89	237.72	30.17	8.881	
3,250.00	3,148.11	3,220.78	3,142.22	16.36	14.95	-92.49	-53.61	580.11	271.36	240.27	31.09	8.728	
3,300.00	3,185.56	3,269.35	3,177.72	16.88	15.45	-90.81	-54.42	613.23	274.28	242.19	32.09	8.547	
3,350.00	3,220.69	3,317.85	3,210.86	17.43	16.00	-89.40	-55.18	648.62	276.62	243.45	33.17	8.339	
3,400.00	3,253.32	3,366.27	3,241.48	18.04	16.59	-88.22	-55.87	686.12	278.38	244.04	34.34	8.105	
3,450.00	3,283.30	3,414.63	3,269.46	18.68	17.23	-87.24	-56.50	725.54	279.55	243.94	35.61	7.851	
3,500.00	3,310.49	3,463.10	3,294.79	19.38	17.93	-86.42	-57.06	766.85	280.12	243.16	36.96	7.578	
3,512.58	3,316.87	3,475.68	3,301.08	19.56	18.11	-86.27	-57.20	777.75	280.15	242.82	37.33	7.505	
3,550.00	3,335.58	3,513.10	3,319.79	20.11	18.68	-86.27	-57.61	810.15	280.16	241.70	38.46	7.285	
3,600.00	3,360.58	3,563.10	3,344.79	20.86	19.47	-86.27	-58.17	853.45	280.17	240.17	39.99	7.006	
3,650.00	3,385.58	3,613.10	3,369.79	21.64	20.26	-86.27	-58.72	896.75	280.17	238.60	41.57	6.740	
3,700.00	3,410.58	3,662.93	3,394.68	22.43	21.08	-86.27	-59.27	939.91	280.18	237.02	43.17	6.491	
3,712.58	3,416.87	3,675.11	3,400.56	22.63	21.28	-86.22	-59.40	950.58	280.20	236.63	43.57	6.432	
3,750.00	3,434.51	3,711.31	3,416.67	23.24	21.91	-85.99	-59.82	982.99	280.28	235.50	44.78	6.259	
3,800.00	3,454.65	3,759.58	3,434.91	24.11	22.78	-85.71	-60.38	1,027.66	280.39	233.91	46.48	6.033	
3,850.00	3,470.72	3,807.75	3,449.30	25.02	23.69	-85.47	-60.97	1,073.61	280.49	232.23	48.26	5.813	
3,900.00	3,482.61	3,855.84	3,459.76	25.97	24.63	-85.26	-61.57	1,120.53	280.58	230.48	50.10	5.600	
3,950.00	3,490.22	3,903.85	3,466.24	26.94	25.59	-85.08	-62.17	1,168.08	280.66	228.67	52.00	5.398	
3,982.58	3,492.85	3,935.42	3,468.38	27.59	26.23	-84.99	-62.57	1,199.57	280.71	227.44	53.26	5.270	
4,000.00	3,493.76	3,952.84	3,469.29	27.93	26.59	-84.99	-62.80	1,216.97	280.71	226.74	53.97	5.201	
4,050.00	3,496.38	4,002.84	3,471.91	28.95	27.63	-84.99	-63.43	1,266.90	280.72	224.70	56.02	5.011	
4,100.00	3,498.99	4,052.84	3,474.53	29.98	28.69	-84.99	-64.07	1,316.83	280.73	222.62	58.10	4.832	
4,150.00	3,501.61	4,102.84	3,477.15	31.03	29.75	-84.99	-64.70	1,366.75	280.74	220.52	60.21	4.662	
4,200.00	3,504.23	4,152.84	3,479.76	32.08	30.83	-85.00	-65.34	1,416.68	280.74	218.39	62.35	4.503	
4,250.00	3,506.84	4,202.84	3,482.38	33.16	31.92	-85.00	-65.97	1,466.61	280.75	216.24	64.51	4.352	
4,300.00	3,509.46	4,252.84	3,485.00	34.23	33.03	-85.00	-66.61	1,516.54	280.76	214.07	66.69	4.210	
4,350.00	3,512.08	4,302.84	3,487.62	35.33	34.13	-85.00	-67.25	1,566.46	280.77	211.88	68.89	4.076	
4,400.00	3,514.69	4,352.84	3,490.24	36.42	35.26	-85.00	-67.88	1,616.39	280.78	209.67	71.11	3.949	
4,450.00	3,517.31	4,402.84	3,492.85	37.53	36.38	-85.00	-68.52	1,666.32	280.79	207.45	73.34	3.829	
4,500.00	3,519.93	4,452.84	3,495.47	38.64	37.52	-85.00	-69.15	1,716.24	280.80	205.21	75.58	3.715	
4,550.00	3,522.54	4,502.84	3,498.09	39.77	38.65	-85.00	-69.79	1,766.17	280.81	202.96	77.84	3.607	
4,600.00	3,525.16	4,552.84	3,500.71	40.89	39.80	-85.00	-70.42	1,816.10	280.82	200.70	80.11	3.505	
4,650.00	3,527.78	4,602.84	3,503.33	42.03	40.95	-85.00	-71.06	1,866.03	280.83	198.43	82.39	3.408	
4,700.00	3,530.39	4,652.84	3,505.94	43.17	42.10	-85.00	-71.70	1,915.95	280.83	196.15	84.68	3.316	
4,750.00	3,533.01	4,702.84	3,508.56	44.31	43.26	-85.00	-72.33	1,965.88	280.84	193.86	86.98	3.229	
4,800.00	3,535.63	4,752.84	3,511.18	45.46	44.42	-85.00	-72.97	2,015.81	280.85	191.56	89.29	3.145	
4,850.00	3,538.24	4,802.84	3,513.80	46.62	45.59	-85.00	-73.60	2,065.74	280.86	189.25	91.61	3.066	
4,900.00	3,540.86	4,852.84	3,516.41	47.77	46.76	-85.00	-74.24	2,115.66	280.87	186.94	93.93	2.990	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 25H - 25H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
4,950.00	3,543.48	4,902.84	3,519.03	48.93	47.93	-85.00	-74.88	2,165.59	280.88	184.62	96.26	2.918	
5,000.00	3,546.09	4,952.84	3,521.65	50.09	49.11	-85.00	-75.51	2,215.52	280.89	182.29	98.60	2.849	
5,050.00	3,548.71	5,002.84	3,524.27	51.26	50.28	-85.00	-76.15	2,265.45	280.90	179.96	100.94	2.783	
5,100.00	3,551.33	5,052.84	3,526.89	52.43	51.47	-85.00	-76.78	2,315.37	280.91	177.62	103.28	2.720	
5,150.00	3,553.94	5,102.84	3,529.50	53.61	52.65	-85.00	-77.42	2,365.30	280.92	175.28	105.64	2.659	
5,200.00	3,556.56	5,152.84	3,532.12	54.78	53.83	-85.00	-78.05	2,415.23	280.92	172.93	107.99	2.601	
5,203.62	3,556.75	5,156.46	3,532.31	54.87	53.92	-85.00	-78.10	2,418.85	280.92	172.76	108.16	2.597	
5,204.55	3,556.80	5,157.39	3,532.36	54.89	53.94	-85.00	-78.11	2,419.77	280.93	172.72	108.20	2.596	
5,250.00	3,559.18	5,202.84	3,534.74	55.96	55.02	-85.00	-78.69	2,465.16	280.94	170.60	110.35	2.546	
5,300.00	3,561.79	5,252.84	3,537.36	57.14	56.21	-85.00	-79.33	2,515.08	280.97	168.25	112.71	2.493	
5,350.00	3,564.41	5,302.84	3,539.98	58.32	57.40	-85.01	-79.96	2,565.01	280.99	165.91	115.08	2.442	
5,400.00	3,567.03	5,352.84	3,542.59	59.50	58.59	-85.01	-80.60	2,614.94	281.01	163.55	117.45	2.393	
5,450.00	3,569.64	5,402.84	3,545.21	60.69	59.78	-85.01	-81.23	2,664.86	281.03	161.20	119.83	2.345	
5,500.00	3,572.26	5,452.84	3,547.83	61.88	60.98	-85.01	-81.87	2,714.79	281.05	158.84	122.21	2.300	
5,550.00	3,574.88	5,502.84	3,550.45	63.07	62.18	-85.01	-82.50	2,764.72	281.07	156.48	124.59	2.256	
5,600.00	3,577.49	5,552.84	3,553.06	64.26	63.38	-85.01	-83.14	2,814.65	281.09	154.12	126.98	2.214	
5,650.00	3,580.11	5,602.84	3,555.68	65.45	64.58	-85.01	-83.78	2,864.57	281.11	151.75	129.36	2.173	
5,700.00	3,582.73	5,652.84	3,558.30	66.64	65.78	-85.01	-84.41	2,914.50	281.13	149.38	131.75	2.134	
5,750.00	3,585.35	5,702.84	3,560.92	67.84	66.98	-85.01	-85.05	2,964.43	281.15	147.01	134.15	2.096	
5,800.00	3,587.96	5,752.84	3,563.54	69.04	68.19	-85.01	-85.68	3,014.36	281.18	144.64	136.54	2.059	
5,850.00	3,590.58	5,802.84	3,566.15	70.23	69.39	-85.01	-86.32	3,064.28	281.20	142.26	138.94	2.024	
5,900.00	3,593.20	5,852.84	3,568.77	71.43	70.60	-85.01	-86.95	3,114.21	281.22	139.88	141.34	1.990	
5,950.00	3,595.81	5,902.84	3,571.39	72.63	71.80	-85.01	-87.59	3,164.14	281.24	137.50	143.74	1.957	
6,000.00	3,598.43	5,952.84	3,574.01	73.83	73.01	-85.01	-88.23	3,214.07	281.26	135.12	146.14	1.925	
6,050.00	3,601.05	6,002.84	3,576.63	75.04	74.22	-85.01	-88.86	3,263.99	281.28	132.74	148.55	1.894	
6,100.00	3,603.66	6,052.84	3,579.24	76.24	75.43	-85.01	-89.50	3,313.92	281.30	130.35	150.95	1.864	
6,150.00	3,606.28	6,102.84	3,581.86	77.45	76.64	-85.02	-90.13	3,363.85	281.32	127.96	153.36	1.834	
6,200.00	3,608.90	6,152.84	3,584.48	78.65	77.85	-85.02	-90.77	3,413.78	281.34	125.57	155.77	1.806	
6,250.00	3,611.51	6,202.84	3,587.10	79.86	79.06	-85.02	-91.40	3,463.70	281.37	123.18	158.18	1.779	
6,300.00	3,614.13	6,252.84	3,589.71	81.06	80.27	-85.02	-92.04	3,513.63	281.39	120.79	160.59	1.752	
6,350.00	3,616.75	6,302.84	3,592.33	82.27	81.48	-85.02	-92.68	3,563.56	281.41	118.40	163.01	1.726	
6,400.00	3,619.36	6,352.84	3,594.95	83.48	82.69	-85.02	-93.31	3,613.48	281.43	116.01	165.42	1.701	
6,450.00	3,621.98	6,402.84	3,597.57	84.69	83.91	-85.02	-93.95	3,663.41	281.45	113.61	167.84	1.677	
6,500.00	3,624.60	6,452.84	3,600.19	85.90	85.12	-85.02	-94.58	3,713.34	281.47	111.21	170.26	1.653	
6,550.00	3,627.21	6,502.84	3,602.80	87.11	86.34	-85.02	-95.22	3,763.27	281.49	108.82	172.67	1.630	
6,600.00	3,629.83	6,552.84	3,605.42	88.32	87.55	-85.02	-95.85	3,813.19	281.51	106.42	175.09	1.608	
6,650.00	3,632.45	6,602.84	3,608.04	89.53	88.77	-85.02	-96.49	3,863.12	281.53	104.02	177.51	1.586	
6,700.00	3,635.06	6,652.84	3,610.66	90.74	89.98	-85.02	-97.13	3,913.05	281.55	101.62	179.94	1.565	
6,750.00	3,637.68	6,702.84	3,613.27	91.95	91.20	-85.02	-97.76	3,962.98	281.58	99.22	182.36	1.544	
6,800.00	3,640.30	6,752.84	3,615.89	93.17	92.41	-85.02	-98.40	4,012.90	281.60	96.81	184.78	1.524	
6,850.00	3,642.91	6,802.84	3,618.51	94.38	93.63	-85.02	-99.03	4,062.83	281.62	94.41	187.21	1.504	
6,900.00	3,645.53	6,852.84	3,621.13	95.59	94.85	-85.02	-99.67	4,112.76	281.64	92.01	189.63	1.485	Level 3
6,950.00	3,648.15	6,902.84	3,623.75	96.81	96.07	-85.02	-100.31	4,162.69	281.66	89.60	192.06	1.467	Level 3
7,000.00	3,650.76	6,952.84	3,626.36	98.02	97.29	-85.03	-100.94	4,212.61	281.68	87.20	194.48	1.448	Level 3
7,050.00	3,653.38	7,002.84	3,628.98	99.24	98.50	-85.03	-101.58	4,262.54	281.70	84.79	196.91	1.431	Level 3
7,100.00	3,656.00	7,052.84	3,631.60	100.45	99.72	-85.03	-102.21	4,312.47	281.72	82.38	199.34	1.413	Level 3
7,150.00	3,658.61	7,102.84	3,634.22	101.67	100.94	-85.03	-102.85	4,362.40	281.74	79.98	201.77	1.396	Level 3
7,200.00	3,661.23	7,152.84	3,636.84	102.89	102.16	-85.03	-103.48	4,412.32	281.77	77.57	204.20	1.380	Level 3
7,250.00	3,663.85	7,202.84	3,639.45	104.10	103.38	-85.03	-104.12	4,462.25	281.79	75.16	206.63	1.364	Level 3
7,300.00	3,666.46	7,252.84	3,642.07	105.32	104.60	-85.03	-104.76	4,512.18	281.81	72.75	209.06	1.348	Level 3
7,350.00	3,669.08	7,302.84	3,644.69	106.54	105.82	-85.03	-105.39	4,562.11	281.83	70.34	211.49	1.333	Level 3
7,400.00	3,671.70	7,352.84	3,647.31	107.76	107.04	-85.03	-106.03	4,612.03	281.85	67.93	213.92	1.318	Level 3

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 25H - 25H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
7,450.00	3,674.31	7,402.84	3,649.92	108.97	108.26	-85.03	-106.66	4,661.96	281.87	65.51	216.36	1.303	Level 3
7,500.00	3,676.93	7,452.84	3,652.54	110.19	109.49	-85.03	-107.30	4,711.89	281.89	63.10	218.79	1.288	Level 3
7,550.00	3,679.55	7,502.84	3,655.16	111.41	110.71	-85.03	-107.93	4,761.81	281.91	60.69	221.22	1.274	Level 3
7,600.00	3,682.16	7,552.84	3,657.78	112.63	111.93	-85.03	-108.57	4,811.74	281.93	58.28	223.66	1.261	Level 3
7,650.00	3,684.78	7,602.84	3,660.40	113.85	113.15	-85.03	-109.21	4,861.67	281.95	55.86	226.09	1.247	Level 2
7,700.00	3,687.40	7,652.84	3,663.01	115.07	114.37	-85.03	-109.84	4,911.60	281.98	53.45	228.53	1.234	Level 2
7,750.00	3,690.01	7,702.84	3,665.63	116.29	115.60	-85.03	-110.48	4,961.52	282.00	51.03	230.96	1.221	Level 2
7,800.00	3,692.63	7,752.84	3,668.25	117.51	116.82	-85.04	-111.11	5,011.45	282.02	48.62	233.40	1.208	Level 2
7,850.00	3,695.25	7,802.84	3,670.87	118.73	118.04	-85.04	-111.75	5,061.38	282.04	46.20	235.84	1.196	Level 2
7,900.00	3,697.86	7,852.84	3,673.49	119.95	119.26	-85.04	-112.38	5,111.31	282.06	43.79	238.27	1.184	Level 2
7,950.00	3,700.48	7,902.84	3,676.10	121.17	120.49	-85.04	-113.02	5,161.23	282.08	41.37	240.71	1.172	Level 2
8,000.00	3,703.10	7,952.84	3,678.72	122.39	121.71	-85.04	-113.66	5,211.16	282.10	38.96	243.15	1.160	Level 2
8,050.00	3,705.71	8,002.84	3,681.34	123.61	122.94	-85.04	-114.29	5,261.09	282.12	36.54	245.59	1.149	Level 2
8,100.00	3,708.33	8,052.84	3,683.96	124.84	124.16	-85.04	-114.93	5,311.02	282.14	34.12	248.02	1.138	Level 2
8,150.00	3,710.95	8,102.84	3,686.57	126.06	125.38	-85.04	-115.56	5,360.94	282.17	31.70	250.46	1.127	Level 2
8,200.00	3,713.56	8,152.84	3,689.19	127.28	126.61	-85.04	-116.20	5,410.87	282.19	29.28	252.90	1.116	Level 2
8,250.00	3,716.18	8,202.84	3,691.81	128.50	127.83	-85.04	-116.83	5,460.80	282.21	26.87	255.34	1.105	Level 2
8,300.00	3,718.80	8,252.84	3,694.43	129.72	129.06	-85.04	-117.47	5,510.73	282.23	24.45	257.78	1.095	Level 2
8,350.00	3,721.41	8,302.84	3,697.05	130.95	130.28	-85.04	-118.11	5,560.65	282.25	22.03	260.22	1.085	Level 2
8,400.00	3,724.03	8,352.84	3,699.66	132.17	131.50	-85.04	-118.74	5,610.58	282.27	19.61	262.66	1.075	Level 2
8,450.00	3,726.65	8,402.84	3,702.28	133.39	132.73	-85.04	-119.38	5,660.51	282.29	17.19	265.10	1.065	Level 2
8,500.00	3,729.26	8,452.84	3,704.90	134.62	133.95	-85.04	-120.01	5,710.43	282.31	14.77	267.54	1.055	Level 2
8,550.00	3,731.88	8,502.84	3,707.52	135.84	135.18	-85.04	-120.65	5,760.36	282.33	12.35	269.99	1.046	Level 2
8,600.00	3,734.50	8,552.84	3,710.14	137.06	136.40	-85.04	-121.29	5,810.29	282.36	9.93	272.43	1.036	Level 2
8,650.00	3,737.11	8,602.84	3,712.75	138.29	137.63	-85.05	-121.92	5,860.22	282.38	7.51	274.87	1.027	Level 2
8,700.00	3,739.73	8,652.84	3,715.37	139.51	138.86	-85.05	-122.56	5,910.14	282.40	5.09	277.31	1.018	Level 2
8,750.00	3,742.35	8,702.84	3,717.99	140.73	140.08	-85.05	-123.19	5,960.07	282.42	2.66	279.75	1.010	Level 2
8,800.00	3,744.96	8,752.84	3,720.61	141.96	141.31	-85.05	-123.83	6,010.00	282.44	0.24	282.20	1.001	Level 2
8,850.00	3,747.58	8,802.84	3,723.22	143.18	142.53	-85.05	-124.46	6,059.93	282.46	-2.18	284.64	0.992	Level 1
8,900.00	3,750.20	8,852.84	3,725.84	144.41	143.76	-85.05	-125.10	6,109.85	282.48	-4.60	287.08	0.984	Level 1
8,950.00	3,752.81	8,902.84	3,728.46	145.63	144.98	-85.05	-125.74	6,159.78	282.50	-7.02	289.53	0.976	Level 1
9,000.00	3,755.43	8,952.84	3,731.08	146.86	146.21	-85.05	-126.37	6,209.71	282.52	-9.45	291.97	0.968	Level 1
9,050.00	3,758.05	9,002.84	3,733.70	148.08	147.44	-85.05	-127.01	6,259.64	282.54	-11.87	294.41	0.960	Level 1
9,100.00	3,760.66	9,052.84	3,736.31	149.31	148.66	-85.05	-127.64	6,309.56	282.57	-14.29	296.86	0.952	Level 1
9,150.00	3,763.28	9,102.84	3,738.93	150.53	149.89	-85.05	-128.28	6,359.49	282.59	-16.72	299.30	0.944	Level 1
9,165.05	3,764.07	9,118.40	3,739.75	150.90	150.27	-85.05	-128.48	6,375.03	282.59	-17.47	300.06	0.942	Level 1
9,167.40	3,764.19	9,120.73	3,739.87	150.96	150.33	-85.05	-128.52	6,377.36	282.58	-17.59	300.17	0.941	Level 1
9,200.00	3,765.90	9,153.34	3,741.57	151.75	151.13	-85.05	-128.99	6,409.91	282.52	-19.25	301.77	0.936	Level 1
9,250.00	3,768.51	9,203.34	3,744.19	152.98	152.35	-85.05	-129.71	6,459.84	282.42	-21.79	304.21	0.928	Level 1
9,300.00	3,771.13	9,253.34	3,746.80	154.20	153.58	-85.04	-130.44	6,509.77	282.32	-24.33	306.65	0.921	Level 1
9,350.00	3,773.75	9,303.34	3,749.41	155.43	154.81	-85.04	-131.16	6,559.69	282.23	-26.87	309.10	0.913	Level 1
9,400.00	3,776.36	9,353.34	3,752.03	156.65	156.04	-85.04	-131.89	6,609.62	282.13	-29.41	311.54	0.906	Level 1
9,450.00	3,778.98	9,403.34	3,754.64	157.88	157.26	-85.04	-132.61	6,659.54	282.03	-31.95	313.99	0.898	Level 1
9,500.00	3,781.60	9,453.34	3,757.25	159.11	158.49	-85.03	-133.34	6,709.47	281.93	-34.50	316.43	0.891	Level 1
9,550.00	3,784.21	9,503.34	3,759.87	160.33	159.72	-85.03	-134.06	6,759.40	281.84	-37.04	318.87	0.884	Level 1
9,600.00	3,786.83	9,553.34	3,762.48	161.56	160.94	-85.03	-134.78	6,809.32	281.74	-39.58	321.32	0.877	Level 1
9,650.00	3,789.45	9,603.34	3,765.09	162.78	162.17	-85.03	-135.51	6,859.25	281.64	-42.12	323.76	0.870	Level 1
9,700.00	3,792.07	9,653.34	3,767.71	164.01	163.40	-85.02	-136.23	6,909.18	281.54	-44.67	326.21	0.863	Level 1
9,750.00	3,794.68	9,703.34	3,770.32	165.24	164.63	-85.02	-136.96	6,959.10	281.45	-47.21	328.65	0.856	Level 1
9,800.00	3,797.30	9,753.34	3,772.93	166.46	165.85	-85.02	-137.68	7,009.03	281.35	-49.75	331.10	0.850	Level 1
9,850.00	3,799.92	9,803.34	3,775.55	167.69	167.08	-85.02	-138.41	7,058.96	281.25	-52.29	333.55	0.843	Level 1
9,900.00	3,802.53	9,853.34	3,778.16	168.91	168.31	-85.01	-139.13	7,108.88	281.15	-54.84	335.99	0.837	Level 1

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 25H - 25H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
9,950.00	3,805.15	9,903.34	3,780.78	170.14	169.54	-85.01	-139.86	7,158.81	281.06	-57.38	338.44	0.830	Level 1
10,000.00	3,807.77	9,953.34	3,783.39	171.37	170.77	-85.01	-140.58	7,208.73	280.96	-59.92	340.88	0.824	Level 1
10,050.00	3,810.38	10,003.34	3,786.00	172.59	171.99	-85.01	-141.30	7,258.66	280.86	-62.47	343.33	0.818	Level 1
10,100.00	3,813.00	10,053.34	3,788.62	173.82	173.22	-85.00	-142.03	7,308.59	280.76	-65.01	345.77	0.812	Level 1
10,150.00	3,815.62	10,103.34	3,791.23	175.05	174.45	-85.00	-142.75	7,358.51	280.67	-67.55	348.22	0.806	Level 1
10,200.00	3,818.23	10,153.34	3,793.84	176.28	175.68	-85.00	-143.48	7,408.44	280.57	-70.10	350.67	0.800	Level 1
10,250.00	3,820.85	10,203.34	3,796.46	177.50	176.91	-85.00	-144.20	7,458.37	280.47	-72.64	353.11	0.794	Level 1
10,300.00	3,823.47	10,253.34	3,799.07	178.73	178.13	-85.00	-144.93	7,508.29	280.37	-75.19	355.56	0.789	Level 1
10,350.00	3,826.08	10,303.34	3,801.68	179.96	179.36	-84.99	-145.65	7,558.22	280.28	-77.73	358.01	0.783	Level 1
10,400.00	3,828.70	10,353.34	3,804.30	181.18	180.59	-84.99	-146.37	7,608.14	280.18	-80.28	360.45	0.777	Level 1
10,450.00	3,831.32	10,403.34	3,806.91	182.41	181.82	-84.99	-147.10	7,658.07	280.08	-82.82	362.90	0.772	Level 1
10,500.00	3,833.94	10,453.34	3,809.52	183.64	183.05	-84.99	-147.82	7,708.00	279.98	-85.36	365.35	0.766	Level 1
10,550.00	3,836.55	10,503.34	3,812.14	184.87	184.28	-84.98	-148.55	7,757.92	279.89	-87.91	367.80	0.761	Level 1
10,600.00	3,839.17	10,553.34	3,814.75	186.09	185.51	-84.98	-149.27	7,807.85	279.79	-90.45	370.24	0.756	Level 1
10,650.00	3,841.79	10,603.34	3,817.37	187.32	186.73	-84.98	-150.00	7,857.78	279.69	-93.00	372.69	0.750	Level 1
10,667.40	3,842.70	10,620.73	3,818.27	187.75	187.16	-84.98	-150.25	7,875.15	279.66	-93.88	373.54	0.749	Level 1
10,674.88	3,843.09	10,628.21	3,818.67	187.93	187.35	-84.98	-150.36	7,882.62	279.65	-94.26	373.91	0.748	Level 1
10,680.35	3,843.37	10,633.69	3,818.95	188.07	187.48	-84.99	-150.44	7,888.09	279.65	-94.52	374.17	0.747	Level 1
10,700.00	3,844.40	10,653.34	3,819.98	188.55	187.96	-84.99	-150.72	7,907.70	279.68	-95.46	375.14	0.746	Level 1
10,750.00	3,847.02	10,703.34	3,822.59	189.77	189.19	-84.99	-151.45	7,957.63	279.75	-97.83	377.59	0.741	Level 1
10,800.00	3,849.64	10,753.34	3,825.21	191.00	190.42	-84.99	-152.17	8,007.56	279.82	-100.21	380.04	0.736	Level 1
10,850.00	3,852.25	10,803.34	3,827.82	192.23	191.65	-84.99	-152.89	8,057.48	279.90	-102.59	382.48	0.732	Level 1
10,900.00	3,854.87	10,853.34	3,830.43	193.46	192.88	-84.99	-153.62	8,107.41	279.97	-104.97	384.93	0.727	Level 1
10,950.00	3,857.49	10,903.34	3,833.05	194.69	194.11	-84.99	-154.34	8,157.33	280.04	-107.35	387.38	0.723	Level 1
11,000.00	3,860.10	10,953.34	3,835.66	195.92	195.34	-84.99	-155.07	8,207.26	280.11	-109.72	389.83	0.719	Level 1
11,050.00	3,862.72	11,003.34	3,838.27	197.14	196.57	-84.99	-155.79	8,257.19	280.18	-112.10	392.28	0.714	Level 1
11,100.00	3,865.33	11,053.34	3,840.89	198.37	197.79	-84.99	-156.52	8,307.11	280.25	-114.48	394.73	0.710	Level 1
11,150.00	3,867.95	11,103.34	3,843.50	199.60	199.02	-84.99	-157.24	8,357.04	280.32	-116.86	397.18	0.706	Level 1
11,200.00	3,870.57	11,153.34	3,846.11	200.83	200.25	-84.99	-157.97	8,406.97	280.40	-119.24	399.63	0.702	Level 1
11,250.00	3,873.18	11,203.34	3,848.73	202.06	201.48	-84.99	-158.69	8,456.89	280.47	-121.62	402.08	0.698	Level 1
11,300.00	3,875.80	11,253.34	3,851.34	203.29	202.71	-85.00	-159.41	8,506.82	280.54	-124.00	404.53	0.693	Level 1
11,350.00	3,878.42	11,303.34	3,853.96	204.51	203.94	-85.00	-160.14	8,556.74	280.61	-126.38	406.99	0.689	Level 1
11,400.00	3,881.03	11,353.34	3,856.57	205.74	205.17	-85.00	-160.86	8,606.67	280.68	-128.75	409.44	0.686	Level 1
11,450.00	3,883.65	11,403.34	3,859.18	206.97	206.40	-85.00	-161.59	8,656.60	280.75	-131.13	411.89	0.682	Level 1
11,500.00	3,886.27	11,453.34	3,861.80	208.20	207.63	-85.00	-162.31	8,706.52	280.82	-133.51	414.34	0.678	Level 1
11,550.00	3,888.88	11,503.34	3,864.41	209.43	208.86	-85.00	-163.04	8,756.45	280.90	-135.89	416.79	0.674	Level 1
11,600.00	3,891.50	11,553.33	3,867.02	210.66	210.09	-85.00	-163.76	8,806.38	280.97	-138.27	419.24	0.670	Level 1
11,608.94	3,891.97	11,562.01	3,867.48	210.88	210.30	-85.00	-163.89	8,815.04	280.98	-138.68	419.67	0.670	Level 1
11,650.00	3,894.12	11,600.00	3,869.46	211.89	211.23	-84.97	-164.21	8,852.98	281.06	-140.46	421.52	0.667	Level 1
11,700.00	3,896.74	11,646.85	3,871.92	213.12	212.38	-84.93	-164.09	8,899.76	281.12	-142.64	423.76	0.663	Level 1
11,712.12	3,897.37	11,658.30	3,872.52	213.41	212.67	-84.92	-163.98	8,911.19	281.13	-143.17	424.30	0.663	Level 1
11,750.00	3,899.35	11,696.17	3,874.50	214.34	213.59	-84.92	-163.56	8,949.01	281.13	-145.02	426.15	0.660	Level 1
11,800.00	3,901.97	11,746.17	3,877.12	215.57	214.82	-84.92	-163.00	8,998.94	281.13	-147.47	428.60	0.656	Level 1, ES, SF
11,802.25	3,902.09	11,746.23	3,877.12	215.62	214.82	-84.92	-163.00	8,999.00	281.14	-147.38	428.52	0.656	Level 1

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 2H - 2H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-30.00	30.00				
50.00	50.00	50.00	50.00	0.14	0.17	-90.00	0.00	-30.00	30.00	29.76	0.24	127.478	
100.00	100.00	100.00	100.00	0.34	0.34	-90.00	0.00	-30.00	30.00	29.48	0.52	57.668	
150.00	150.00	150.00	150.00	0.66	0.66	-90.00	0.00	-30.00	30.00	28.96	1.04	28.814	
200.00	200.00	200.00	200.00	0.98	0.98	-90.00	0.00	-30.00	30.00	28.44	1.56	19.205	
250.00	250.00	250.00	250.00	1.23	1.23	-90.00	0.00	-30.00	30.00	28.01	1.99	15.065	
300.00	300.00	300.00	300.00	1.48	1.48	-90.00	0.00	-30.00	30.00	27.58	2.42	12.393	
350.00	350.00	350.00	350.00	1.69	1.69	-90.00	0.00	-30.00	30.00	27.18	2.82	10.655	
400.00	400.00	400.00	400.00	1.91	1.91	-90.00	0.00	-30.00	30.00	26.79	3.21	9.344	
450.00	450.00	450.00	450.00	2.11	2.11	-90.00	0.00	-30.00	30.00	26.41	3.59	8.353	
500.00	500.00	500.00	500.00	2.32	2.32	-90.00	0.00	-30.00	30.00	26.03	3.97	7.551	
550.00	550.00	550.49	550.49	2.45	2.63	146.57	0.16	-29.58	29.86	25.31	4.55	6.560	
600.00	599.99	600.96	600.94	2.59	2.96	148.58	0.63	-28.34	29.47	24.36	5.11	5.771	
650.00	649.96	651.39	651.32	2.68	3.44	152.04	1.42	-26.26	28.89	23.02	5.88	4.916	
700.00	699.91	701.77	701.60	3.06	3.95	157.08	2.51	-23.36	28.27	21.65	6.63	4.267	
750.00	749.82	752.06	751.73	3.42	4.37	163.80	3.92	-19.64	27.81	20.58	7.23	3.848	
779.14	778.89	781.33	780.88	3.64	4.62	168.48	4.89	-17.09	27.72	20.15	7.56	3.665	CC
800.00	799.69	802.25	801.69	3.80	4.80	172.15	5.64	-15.10	27.77	19.98	7.79	3.564	ES
850.00	849.51	852.33	851.45	4.13	5.17	-178.25	7.66	-9.76	28.48	20.30	8.18	3.480	
900.00	899.27	902.27	900.95	4.45	5.54	-168.09	9.98	-3.63	30.22	21.75	8.47	3.566	
950.00	948.96	952.06	950.19	4.75	5.88	-158.23	12.60	3.29	33.19	24.54	8.65	3.836	
1,000.00	998.57	1,001.68	999.12	5.04	6.22	-149.36	15.51	10.98	37.46	28.63	8.83	4.241	
1,050.00	1,048.10	1,051.10	1,047.71	5.32	6.53	-141.80	18.70	19.42	42.98	33.92	9.06	4.745	
1,100.00	1,097.54	1,100.32	1,095.94	5.60	6.83	-135.55	22.18	28.61	49.66	40.31	9.35	5.311	
1,150.00	1,146.87	1,149.32	1,143.77	5.86	7.12	-130.46	25.93	38.53	57.39	47.69	9.70	5.915	
1,200.00	1,196.09	1,198.07	1,191.18	6.12	7.41	-126.32	29.96	49.15	66.10	56.01	10.09	6.550	
1,250.00	1,245.19	1,246.57	1,238.15	6.37	7.60	-122.93	34.24	60.47	75.71	65.20	10.51	7.206	
1,300.00	1,294.16	1,295.12	1,284.98	6.63	7.75	-120.20	38.77	72.43	86.11	75.18	10.93	7.875	
1,350.00	1,343.00	1,343.84	1,331.96	6.87	7.86	-118.31	43.34	84.52	96.99	85.61	11.38	8.525	
1,400.00	1,391.70	1,392.53	1,378.90	7.12	7.98	-117.07	47.91	96.60	108.23	96.40	11.82	9.154	
1,450.00	1,440.24	1,441.16	1,425.79	7.36	8.10	-116.33	52.48	108.67	119.78	107.50	12.28	9.755	
1,500.00	1,488.62	1,489.74	1,472.62	7.60	8.23	-115.94	57.04	120.72	131.62	118.88	12.74	10.331	
1,535.32	1,522.69	1,524.01	1,505.67	7.70	8.33	-115.84	60.26	129.23	140.15	127.11	13.04	10.749	
1,550.00	1,536.83	1,538.25	1,519.40	7.74	8.36	-115.87	61.60	132.76	143.72	130.56	13.16	10.919	
1,600.00	1,585.01	1,586.74	1,566.15	7.89	8.50	-115.96	66.15	144.79	155.90	142.31	13.59	11.473	
1,650.00	1,633.18	1,635.24	1,612.91	8.04	8.64	-116.04	70.70	156.83	168.07	154.04	14.03	11.978	
1,700.00	1,681.36	1,683.73	1,659.67	8.19	8.78	-116.11	75.26	168.86	180.25	165.77	14.48	12.451	
1,750.00	1,729.53	1,732.23	1,706.42	8.36	8.92	-116.18	79.81	180.89	192.43	177.49	14.94	12.883	
1,800.00	1,777.71	1,780.72	1,753.18	8.53	9.07	-116.23	84.37	192.93	204.60	189.20	15.40	13.288	
1,850.00	1,825.88	1,829.21	1,799.94	8.71	9.22	-116.28	88.92	204.96	216.78	200.91	15.87	13.663	
1,900.00	1,874.06	1,877.71	1,846.69	8.89	9.37	-116.32	93.47	216.99	228.96	212.62	16.34	14.014	
1,950.00	1,922.23	1,926.20	1,893.45	9.07	9.53	-116.36	98.03	229.02	241.13	224.32	16.81	14.345	
2,000.00	1,970.40	1,974.70	1,940.21	9.27	9.69	-116.39	102.58	241.06	253.31	236.03	17.28	14.656	
2,050.00	2,018.58	2,023.19	1,986.96	9.46	9.86	-116.42	107.13	253.09	265.49	247.72	17.76	14.946	
2,100.00	2,066.75	2,071.69	2,033.72	9.67	10.03	-116.45	111.69	265.12	277.66	259.42	18.24	15.220	
2,150.00	2,114.93	2,120.18	2,080.48	9.88	10.20	-116.48	116.24	277.16	289.84	271.11	18.73	15.476	
2,200.00	2,163.10	2,168.68	2,127.23	10.10	10.38	-116.50	120.80	289.19	302.02	282.81	19.21	15.720	
2,250.00	2,211.28	2,217.17	2,173.99	10.32	10.56	-116.53	125.35	301.22	314.19	294.49	19.70	15.948	
2,300.00	2,259.45	2,267.34	2,222.41	10.55	10.75	-116.58	130.00	313.50	326.29	306.09	20.20	16.151	
2,350.00	2,307.63	2,318.58	2,272.08	10.78	10.97	-116.76	134.45	325.26	338.03	317.31	20.71	16.318	
2,400.00	2,355.80	2,369.97	2,322.12	11.02	11.23	-117.07	138.60	336.23	349.38	328.15	21.23	16.458	
2,450.00	2,403.98	2,421.47	2,372.46	11.27	11.49	-117.49	142.44	346.37	360.36	338.63	21.74	16.579	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 2H - 2H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
2,500.00	2,452.15	2,473.06	2,423.08	11.52	11.77	-118.03	145.96	355.68	370.99	348.75	22.24	16.684	
2,550.00	2,500.32	2,524.69	2,473.91	11.77	12.04	-118.66	149.16	364.15	381.27	358.55	22.73	16.776	
2,600.00	2,548.50	2,576.34	2,524.92	12.03	12.31	-119.38	152.04	371.76	391.24	368.03	23.21	16.858	
2,650.00	2,596.67	2,627.97	2,576.04	12.29	12.56	-120.19	154.60	378.50	400.90	377.23	23.68	16.931	
2,700.00	2,644.85	2,679.56	2,627.24	12.55	12.82	-121.07	156.82	384.38	410.30	386.17	24.14	16.999	
2,750.00	2,693.02	2,731.05	2,678.46	12.81	13.07	-122.04	158.71	389.38	419.46	394.88	24.58	17.063	
2,800.00	2,741.20	2,782.43	2,729.64	13.08	13.31	-123.07	160.28	393.52	428.42	403.40	25.02	17.124	
2,850.00	2,789.37	2,833.66	2,780.75	13.35	13.55	-124.18	161.52	396.79	437.20	411.76	25.44	17.186	
2,900.00	2,837.55	2,884.71	2,831.73	13.62	13.78	-125.34	162.43	399.19	445.85	420.00	25.85	17.248	
2,918.67	2,855.53	2,903.71	2,850.73	13.72	13.87	-125.79	162.68	399.87	449.05	423.05	26.00	17.273	
2,950.00	2,885.57	2,935.40	2,882.40	13.89	13.96	-121.06	163.01	400.74	454.36	428.09	26.26	17.300	
3,000.00	2,932.78	2,984.99	2,931.99	14.24	14.12	-116.02	163.28	401.44	462.70	435.91	26.79	17.272	
3,050.00	2,978.91	3,034.84	2,981.82	14.63	14.29	-113.12	163.29	402.18	471.13	443.78	27.35	17.225	
3,100.00	3,023.72	3,086.70	3,033.51	15.02	14.57	-111.40	163.24	406.31	479.61	451.67	27.94	17.164	
3,150.00	3,066.99	3,140.20	3,086.37	15.44	14.91	-110.44	163.13	414.48	488.05	459.46	28.59	17.069	
3,200.00	3,108.52	3,195.45	3,140.15	15.88	15.26	-110.01	162.97	427.04	496.36	467.05	29.30	16.938	
3,250.00	3,148.11	3,252.56	3,194.57	16.36	15.62	-109.94	162.74	444.33	504.44	474.36	30.08	16.769	
3,300.00	3,185.56	3,311.64	3,249.23	16.88	15.98	-110.14	162.45	466.72	512.19	481.26	30.93	16.561	
3,350.00	3,220.69	3,372.79	3,303.65	17.43	16.35	-110.53	162.08	494.56	519.49	487.65	31.84	16.316	
3,400.00	3,253.32	3,436.06	3,357.25	18.04	16.71	-111.08	161.64	528.13	526.23	493.41	32.82	16.034	
3,450.00	3,283.30	3,501.48	3,409.33	18.68	17.08	-111.73	161.12	567.68	532.28	498.41	33.87	15.715	
3,500.00	3,310.49	3,569.04	3,459.10	19.38	17.49	-112.45	160.53	613.33	537.52	502.51	35.01	15.353	
3,512.58	3,316.87	3,586.36	3,471.15	19.56	17.61	-112.63	160.36	625.78	538.70	503.40	35.30	15.260	
3,550.00	3,335.58	3,638.92	3,505.81	20.11	18.02	-113.64	159.85	665.26	541.62	505.41	36.21	14.957	
3,600.00	3,360.58	3,711.02	3,548.47	20.86	18.78	-114.40	159.09	723.34	543.86	506.33	37.53	14.490	
3,650.00	3,385.58	3,774.42	3,581.25	21.64	19.61	-114.52	158.38	777.59	544.22	505.25	38.97	13.965	
3,700.00	3,410.58	3,824.42	3,606.25	22.43	20.33	-114.53	157.81	820.89	544.21	503.86	40.35	13.487	
3,712.58	3,416.87	3,837.00	3,612.54	22.63	20.52	-114.53	157.67	831.78	544.21	503.50	40.70	13.370	
3,712.77	3,416.97	3,837.19	3,612.64	22.63	20.52	-114.53	157.67	831.95	544.21	503.50	40.71	13.369	
3,750.00	3,434.51	3,874.39	3,631.24	23.24	21.09	-114.60	157.24	864.16	544.71	502.96	41.75	13.046	
3,800.00	3,454.65	3,924.08	3,656.08	24.11	21.86	-114.90	156.68	907.19	546.99	503.84	43.16	12.675	
3,850.00	3,470.72	3,987.36	3,686.85	25.02	22.89	-115.66	155.96	962.47	550.95	506.29	44.66	12.337	
3,900.00	3,482.61	4,073.94	3,719.67	25.97	24.43	-116.56	154.91	1,042.49	554.24	507.70	46.55	11.907	
3,950.00	3,490.22	4,162.76	3,740.42	26.94	26.13	-117.08	153.78	1,128.75	556.12	507.45	48.67	11.426	
3,982.58	3,492.85	4,221.25	3,746.69	27.59	27.29	-117.18	153.02	1,186.87	556.51	506.36	50.15	11.097	
4,000.00	3,493.76	4,239.72	3,747.66	27.93	27.67	-117.18	152.77	1,205.32	556.51	505.72	50.79	10.957	
4,050.00	3,496.38	4,289.72	3,750.28	28.95	28.69	-117.19	152.12	1,255.25	556.50	503.90	52.61	10.579	
4,100.00	3,498.99	4,339.72	3,752.89	29.98	29.73	-117.19	151.46	1,305.18	556.49	502.05	54.44	10.222	
4,150.00	3,501.61	4,389.72	3,755.51	31.03	30.78	-117.19	150.81	1,355.10	556.48	500.17	56.31	9.882	
4,200.00	3,504.23	4,439.72	3,758.13	32.08	31.85	-117.19	150.15	1,405.03	556.47	498.27	58.21	9.560	
4,250.00	3,506.84	4,489.72	3,760.74	33.16	32.93	-117.19	149.50	1,454.96	556.46	496.34	60.13	9.255	
4,300.00	3,509.46	4,539.72	3,763.36	34.23	34.02	-117.19	148.84	1,504.88	556.46	494.39	62.06	8.966	
4,350.00	3,512.08	4,589.72	3,765.97	35.33	35.12	-117.19	148.19	1,554.81	556.45	492.42	64.02	8.692	
4,400.00	3,514.69	4,639.72	3,768.59	36.42	36.23	-117.19	147.54	1,604.74	556.44	490.44	65.99	8.432	
4,450.00	3,517.31	4,689.72	3,771.20	37.53	37.34	-117.19	146.88	1,654.67	556.43	488.45	67.98	8.185	
4,500.00	3,519.93	4,739.72	3,773.82	38.64	38.46	-117.19	146.23	1,704.59	556.42	486.44	69.98	7.951	
4,550.00	3,522.54	4,789.72	3,776.44	39.77	39.59	-117.19	145.57	1,754.52	556.41	484.41	72.00	7.728	
4,600.00	3,525.16	4,839.72	3,779.05	40.89	40.73	-117.19	144.92	1,804.45	556.40	482.38	74.02	7.516	
4,650.00	3,527.78	4,889.72	3,781.67	42.03	41.87	-117.19	144.26	1,854.37	556.39	480.33	76.06	7.315	
4,700.00	3,530.39	4,939.72	3,784.28	43.17	43.01	-117.19	143.61	1,904.30	556.38	478.27	78.11	7.123	
4,750.00	3,533.01	4,989.72	3,786.90	44.31	44.16	-117.19	142.95	1,954.23	556.37	476.21	80.16	6.940	
4,800.00	3,535.63	5,039.72	3,789.51	45.46	45.32	-117.19	142.30	2,004.16	556.36	474.13	82.23	6.766	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 2H - 2H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
4,850.00	3,538.24	5,089.72	3,792.13	46.62	46.48	-117.19	141.64	2,054.08	556.35	472.05	84.30	6.600	
4,900.00	3,540.86	5,139.72	3,794.74	47.77	47.64	-117.19	140.99	2,104.01	556.34	469.96	86.38	6.441	
4,950.00	3,543.48	5,189.72	3,797.36	48.93	48.81	-117.19	140.33	2,153.94	556.33	467.87	88.47	6.289	
5,000.00	3,546.09	5,239.72	3,799.98	50.09	49.98	-117.19	139.68	2,203.87	556.32	465.76	90.56	6.143	
5,050.00	3,548.71	5,289.72	3,802.59	51.26	51.15	-117.19	139.02	2,253.79	556.31	463.66	92.66	6.004	
5,100.00	3,551.33	5,339.72	3,805.21	52.43	52.32	-117.19	138.37	2,303.72	556.31	461.54	94.76	5.870	
5,150.00	3,553.94	5,389.72	3,807.82	53.61	53.50	-117.19	137.71	2,353.65	556.30	459.42	96.87	5.743	
5,200.00	3,556.56	5,439.72	3,810.44	54.78	54.68	-117.19	137.06	2,403.57	556.29	457.30	98.98	5.620	
5,203.62	3,556.75	5,443.34	3,810.63	54.87	54.76	-117.19	137.01	2,407.19	556.29	457.15	99.14	5.611	
5,204.43	3,556.79	5,444.15	3,810.67	54.88	54.78	-117.19	137.00	2,407.99	556.29	457.12	99.17	5.609	
5,204.55	3,556.80	5,444.27	3,810.68	54.89	54.78	-117.19	137.00	2,408.12	556.29	457.11	99.18	5.609	
5,250.00	3,559.18	5,489.72	3,813.05	55.96	55.86	-117.19	136.40	2,453.50	556.29	455.19	101.10	5.502	
5,300.00	3,561.79	5,539.72	3,815.67	57.14	57.04	-117.19	135.75	2,503.43	556.29	453.07	103.22	5.390	
5,350.00	3,564.41	5,589.72	3,818.29	58.32	58.23	-117.19	135.09	2,553.36	556.29	450.95	105.34	5.281	
5,400.00	3,567.03	5,639.72	3,820.90	59.50	59.42	-117.19	134.44	2,603.28	556.29	448.82	107.47	5.176	
5,450.00	3,569.64	5,689.72	3,823.52	60.69	60.61	-117.19	133.78	2,653.21	556.29	446.68	109.61	5.075	
5,500.00	3,572.26	5,739.72	3,826.13	61.88	61.80	-117.19	133.13	2,703.14	556.29	444.55	111.75	4.978	
5,550.00	3,574.88	5,789.72	3,828.75	63.07	62.99	-117.19	132.47	2,753.07	556.30	442.41	113.89	4.885	
5,600.00	3,577.49	5,839.72	3,831.36	64.26	64.19	-117.19	131.82	2,802.99	556.30	440.27	116.03	4.794	
5,650.00	3,580.11	5,889.72	3,833.98	65.45	65.38	-117.19	131.16	2,852.92	556.30	438.12	118.18	4.707	
5,700.00	3,582.73	5,939.72	3,836.59	66.64	66.58	-117.19	130.51	2,902.85	556.30	435.97	120.33	4.623	
5,750.00	3,585.35	5,989.72	3,839.21	67.84	67.78	-117.19	129.86	2,952.77	556.30	433.82	122.48	4.542	
5,800.00	3,587.96	6,039.72	3,841.83	69.04	68.98	-117.19	129.20	3,002.70	556.30	431.67	124.63	4.464	
5,850.00	3,590.58	6,089.72	3,844.44	70.23	70.18	-117.19	128.55	3,052.63	556.30	429.51	126.79	4.388	
5,900.00	3,593.20	6,139.72	3,847.06	71.43	71.38	-117.19	127.89	3,102.56	556.31	427.36	128.95	4.314	
5,950.00	3,595.81	6,189.72	3,849.67	72.63	72.58	-117.19	127.24	3,152.48	556.31	425.20	131.11	4.243	
6,000.00	3,598.43	6,239.72	3,852.29	73.83	73.79	-117.19	126.58	3,202.41	556.31	423.04	133.27	4.174	
6,050.00	3,601.05	6,289.72	3,854.90	75.04	74.99	-117.19	125.93	3,252.34	556.31	420.87	135.44	4.108	
6,100.00	3,603.66	6,339.72	3,857.52	76.24	76.20	-117.19	125.27	3,302.26	556.31	418.71	137.60	4.043	
6,150.00	3,606.28	6,389.72	3,860.14	77.45	77.41	-117.19	124.62	3,352.19	556.31	416.54	139.77	3.980	
6,200.00	3,608.90	6,439.72	3,862.75	78.65	78.61	-117.19	123.96	3,402.12	556.31	414.37	141.94	3.919	
6,250.00	3,611.51	6,489.72	3,865.37	79.86	79.82	-117.19	123.31	3,452.05	556.32	412.20	144.11	3.860	
6,300.00	3,614.13	6,539.72	3,867.98	81.06	81.03	-117.19	122.65	3,501.97	556.32	410.03	146.28	3.803	
6,350.00	3,616.75	6,589.72	3,870.60	82.27	82.24	-117.19	122.00	3,551.90	556.32	407.86	148.46	3.747	
6,400.00	3,619.36	6,639.72	3,873.21	83.48	83.45	-117.19	121.34	3,601.83	556.32	405.69	150.63	3.693	
6,450.00	3,621.98	6,689.72	3,875.83	84.69	84.66	-117.19	120.69	3,651.76	556.32	403.51	152.81	3.641	
6,500.00	3,624.60	6,739.72	3,878.44	85.90	85.87	-117.19	120.03	3,701.68	556.32	401.34	154.99	3.589	
6,550.00	3,627.21	6,789.72	3,881.06	87.11	87.09	-117.19	119.38	3,751.61	556.32	399.16	157.17	3.540	
6,600.00	3,629.83	6,839.72	3,883.68	88.32	88.30	-117.19	118.72	3,801.54	556.33	396.98	159.35	3.491	
6,650.00	3,632.45	6,889.72	3,886.29	89.53	89.51	-117.19	118.07	3,851.46	556.33	394.80	161.53	3.444	
6,700.00	3,635.06	6,939.72	3,888.91	90.74	90.73	-117.19	117.41	3,901.39	556.33	392.62	163.71	3.398	
6,750.00	3,637.68	6,989.72	3,891.52	91.95	91.94	-117.19	116.76	3,951.32	556.33	390.44	165.89	3.354	
6,800.00	3,640.30	7,039.72	3,894.14	93.17	93.15	-117.19	116.10	4,001.25	556.33	388.25	168.08	3.310	
6,850.00	3,642.91	7,089.72	3,896.75	94.38	94.37	-117.19	115.45	4,051.17	556.33	386.07	170.26	3.267	
6,900.00	3,645.53	7,139.72	3,899.37	95.59	95.59	-117.19	114.79	4,101.10	556.33	383.89	172.45	3.226	
6,950.00	3,648.15	7,189.72	3,901.98	96.81	96.80	-117.19	114.14	4,151.03	556.34	381.70	174.64	3.186	
7,000.00	3,650.76	7,239.72	3,904.60	98.02	98.02	-117.19	113.48	4,200.96	556.34	379.51	176.82	3.146	
7,050.00	3,653.38	7,289.72	3,907.22	99.24	99.23	-117.19	112.83	4,250.88	556.34	377.33	179.01	3.108	
7,100.00	3,656.00	7,339.72	3,909.83	100.45	100.45	-117.19	112.18	4,300.81	556.34	375.14	181.20	3.070	
7,150.00	3,658.61	7,389.72	3,912.45	101.67	101.67	-117.19	111.52	4,350.74	556.34	372.95	183.39	3.034	
7,200.00	3,661.23	7,439.72	3,915.06	102.89	102.89	-117.19	110.87	4,400.66	556.34	370.76	185.58	2.998	
7,250.00	3,663.85	7,489.72	3,917.68	104.10	104.11	-117.19	110.21	4,450.59	556.34	368.57	187.77	2.963	

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 2H - 2H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
7,300.00	3,666.46	7,539.72	3,920.29	105.32	105.32	-117.19	109.56	4,500.52	556.35	366.38	189.96	2.929	
7,350.00	3,669.08	7,589.72	3,922.91	106.54	106.54	-117.19	108.90	4,550.45	556.35	364.19	192.16	2.895	
7,400.00	3,671.70	7,639.72	3,925.53	107.76	107.76	-117.19	108.25	4,600.37	556.35	362.00	194.35	2.863	
7,450.00	3,674.31	7,689.72	3,928.14	108.97	108.98	-117.19	107.59	4,650.30	556.35	359.81	196.54	2.831	
7,500.00	3,676.93	7,739.72	3,930.76	110.19	110.20	-117.18	106.94	4,700.23	556.35	357.61	198.74	2.799	
7,550.00	3,679.55	7,789.72	3,933.37	111.41	111.42	-117.18	106.28	4,750.16	556.35	355.42	200.93	2.769	
7,600.00	3,682.16	7,839.72	3,935.99	112.63	112.64	-117.18	105.63	4,800.08	556.35	353.23	203.13	2.739	
7,650.00	3,684.78	7,889.72	3,938.60	113.85	113.86	-117.18	104.97	4,850.01	556.36	351.03	205.33	2.710	
7,700.00	3,687.40	7,939.72	3,941.22	115.07	115.08	-117.18	104.32	4,899.94	556.36	348.84	207.52	2.681	
7,750.00	3,690.01	7,989.72	3,943.83	116.29	116.31	-117.18	103.66	4,949.86	556.36	346.64	209.72	2.653	
7,800.00	3,692.63	8,039.72	3,946.45	117.51	117.53	-117.18	103.01	4,999.79	556.36	344.44	211.92	2.625	
7,850.00	3,695.25	8,089.72	3,949.07	118.73	118.75	-117.18	102.35	5,049.72	556.36	342.25	214.11	2.598	
7,900.00	3,697.86	8,139.72	3,951.68	119.95	119.97	-117.18	101.70	5,099.65	556.36	340.05	216.31	2.572	
7,950.00	3,700.48	8,189.72	3,954.30	121.17	121.19	-117.18	101.04	5,149.57	556.37	337.85	218.51	2.546	
8,000.00	3,703.10	8,239.72	3,956.91	122.39	122.41	-117.18	100.39	5,199.50	556.37	335.65	220.71	2.521	
8,050.00	3,705.71	8,289.72	3,959.53	123.61	123.64	-117.18	99.73	5,249.43	556.37	333.46	222.91	2.496	
8,100.00	3,708.33	8,339.72	3,962.14	124.84	124.86	-117.18	99.08	5,299.35	556.37	331.26	225.11	2.472	
8,150.00	3,710.95	8,389.72	3,964.76	126.06	126.08	-117.18	98.42	5,349.28	556.37	329.06	227.31	2.448	
8,200.00	3,713.56	8,439.72	3,967.38	127.28	127.31	-117.18	97.77	5,399.21	556.37	326.86	229.51	2.424	
8,250.00	3,716.18	8,489.72	3,969.99	128.50	128.53	-117.18	97.11	5,449.14	556.37	324.66	231.71	2.401	
8,300.00	3,718.80	8,539.72	3,972.61	129.72	129.75	-117.18	96.46	5,499.06	556.38	322.46	233.92	2.379	
8,350.00	3,721.41	8,589.72	3,975.22	130.95	130.98	-117.18	95.80	5,548.99	556.38	320.26	236.12	2.356	
8,400.00	3,724.03	8,639.72	3,977.84	132.17	132.20	-117.18	95.15	5,598.92	556.38	318.06	238.32	2.335	
8,450.00	3,726.65	8,689.72	3,980.45	133.39	133.42	-117.18	94.50	5,648.85	556.38	315.86	240.52	2.313	
8,500.00	3,729.26	8,739.72	3,983.07	134.62	134.65	-117.18	93.84	5,698.77	556.38	313.66	242.73	2.292	
8,550.00	3,731.88	8,789.72	3,985.68	135.84	135.87	-117.18	93.19	5,748.70	556.38	311.45	244.93	2.272	
8,600.00	3,734.50	8,839.72	3,988.30	137.06	137.10	-117.18	92.53	5,798.63	556.38	309.25	247.13	2.251	
8,650.00	3,737.11	8,889.72	3,990.92	138.29	138.32	-117.18	91.88	5,848.55	556.39	307.05	249.34	2.231	
8,700.00	3,739.73	8,939.72	3,993.53	139.51	139.54	-117.18	91.22	5,898.48	556.39	304.85	251.54	2.212	
8,750.00	3,742.35	8,989.72	3,996.15	140.73	140.77	-117.18	90.57	5,948.41	556.39	302.64	253.75	2.193	
8,800.00	3,744.96	9,039.72	3,998.76	141.96	141.99	-117.18	89.91	5,998.34	556.39	300.44	255.95	2.174	
8,850.00	3,747.58	9,089.72	4,001.38	143.18	143.22	-117.18	89.26	6,048.26	556.39	298.24	258.15	2.155	
8,900.00	3,750.20	9,139.72	4,003.99	144.41	144.44	-117.18	88.60	6,098.19	556.39	296.03	260.36	2.137	
8,950.00	3,752.81	9,189.72	4,006.61	145.63	145.67	-117.18	87.95	6,148.12	556.39	293.83	262.57	2.119	
9,000.00	3,755.43	9,239.72	4,009.23	146.86	146.89	-117.18	87.29	6,198.05	556.40	291.62	264.77	2.101	
9,050.00	3,758.05	9,289.72	4,011.84	148.08	148.12	-117.18	86.64	6,247.97	556.40	289.42	266.98	2.084	
9,100.00	3,760.66	9,339.72	4,014.46	149.31	149.35	-117.18	85.98	6,297.90	556.40	287.21	269.18	2.067	
9,150.00	3,763.28	9,389.72	4,017.07	150.53	150.57	-117.18	85.33	6,347.83	556.40	285.01	271.39	2.050	
9,165.05	3,764.07	9,404.77	4,017.86	150.90	150.94	-117.18	85.13	6,362.85	556.40	284.35	272.05	2.045	
9,167.40	3,764.19	9,407.35	4,017.99	150.96	151.00	-117.18	85.10	6,365.43	556.40	284.24	272.16	2.044	
9,200.00	3,765.90	9,440.03	4,019.71	151.75	151.80	-117.18	84.65	6,398.06	556.36	282.77	273.60	2.034	
9,250.00	3,768.51	9,490.03	4,022.32	152.98	153.03	-117.18	83.96	6,447.99	556.31	280.52	275.79	2.017	
9,300.00	3,771.13	9,540.03	4,024.94	154.20	154.26	-117.18	83.27	6,497.92	556.26	278.26	277.99	2.001	
9,350.00	3,773.75	9,590.03	4,027.56	155.43	155.48	-117.19	82.58	6,547.84	556.20	276.01	280.19	1.985	
9,400.00	3,776.36	9,640.03	4,030.18	156.65	156.71	-117.19	81.90	6,597.77	556.15	273.75	282.39	1.969	
9,450.00	3,778.98	9,690.03	4,032.80	157.88	157.93	-117.19	81.21	6,647.70	556.09	271.50	284.59	1.954	
9,500.00	3,781.60	9,740.03	4,035.42	159.11	159.16	-117.20	80.52	6,697.62	556.04	269.25	286.79	1.939	
9,550.00	3,784.21	9,790.03	4,038.04	160.33	160.39	-117.20	79.83	6,747.55	555.99	266.99	288.99	1.924	
9,600.00	3,786.83	9,840.03	4,040.65	161.56	161.61	-117.20	79.15	6,797.48	555.93	264.74	291.19	1.909	
9,650.00	3,789.45	9,890.03	4,043.27	162.78	162.84	-117.21	78.46	6,847.40	555.88	262.48	293.40	1.895	
9,700.00	3,792.07	9,940.03	4,045.89	164.01	164.07	-117.21	77.77	6,897.33	555.83	260.23	295.60	1.880	
9,750.00	3,794.68	9,990.03	4,048.51	165.24	165.29	-117.21	77.08	6,947.26	555.77	257.97	297.80	1.866	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 2H - 2H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
9,800.00	3,797.30	10,040.03	4,051.13	166.46	166.52	-117.22	76.39	6,997.18	555.72	255.72	300.00	1.852	
9,850.00	3,799.92	10,090.03	4,053.75	167.69	167.75	-117.22	75.71	7,047.11	555.66	253.47	302.20	1.839	
9,900.00	3,802.53	10,140.03	4,056.37	168.91	168.98	-117.22	75.02	7,097.04	555.61	251.21	304.40	1.825	
9,950.00	3,805.15	10,190.03	4,058.98	170.14	170.20	-117.22	74.33	7,146.96	555.56	248.96	306.60	1.812	
10,000.00	3,807.77	10,240.03	4,061.60	171.37	171.43	-117.23	73.64	7,196.89	555.50	246.70	308.80	1.799	
10,050.00	3,810.38	10,290.03	4,064.22	172.59	172.66	-117.23	72.96	7,246.82	555.45	244.45	311.00	1.786	
10,100.00	3,813.00	10,340.03	4,066.84	173.82	173.88	-117.23	72.27	7,296.74	555.39	242.19	313.20	1.773	
10,150.00	3,815.62	10,390.03	4,069.46	175.05	175.11	-117.24	71.58	7,346.67	555.34	239.94	315.40	1.761	
10,200.00	3,818.23	10,440.03	4,072.08	176.28	176.34	-117.24	70.89	7,396.60	555.29	237.68	317.60	1.748	
10,250.00	3,820.85	10,490.03	4,074.70	177.50	177.57	-117.24	70.21	7,446.52	555.23	235.43	319.81	1.736	
10,300.00	3,823.47	10,540.03	4,077.31	178.73	178.79	-117.25	69.52	7,496.45	555.18	233.17	322.01	1.724	
10,350.00	3,826.08	10,590.03	4,079.93	179.96	180.02	-117.25	68.83	7,546.38	555.12	230.92	324.21	1.712	
10,400.00	3,828.70	10,640.03	4,082.55	181.18	181.25	-117.25	68.14	7,596.30	555.07	228.66	326.41	1.701	
10,450.00	3,831.32	10,690.03	4,085.17	182.41	182.48	-117.25	67.45	7,646.23	555.02	226.41	328.61	1.689	
10,500.00	3,833.94	10,740.03	4,087.79	183.64	183.71	-117.26	66.77	7,696.16	554.96	224.15	330.81	1.678	
10,550.00	3,836.55	10,790.03	4,090.41	184.87	184.93	-117.26	66.08	7,746.08	554.91	221.90	333.01	1.666	
10,600.00	3,839.17	10,840.03	4,093.03	186.09	186.16	-117.26	65.39	7,796.01	554.85	219.64	335.21	1.655	
10,650.00	3,841.79	10,890.03	4,095.64	187.32	187.39	-117.27	64.70	7,845.94	554.80	217.39	337.41	1.644	
10,667.40	3,842.70	10,907.43	4,096.56	187.75	187.82	-117.27	64.46	7,863.31	554.78	216.60	338.18	1.640	
10,672.02	3,842.94	10,912.05	4,096.80	187.86	187.93	-117.27	64.40	7,867.93	554.78	216.40	338.38	1.640	
10,680.35	3,843.37	10,920.39	4,097.23	188.07	188.14	-117.28	64.29	7,876.25	554.79	216.04	338.75	1.638	
10,700.00	3,844.40	10,940.03	4,098.26	188.55	188.62	-117.28	64.02	7,895.86	554.83	215.20	339.63	1.634	
10,750.00	3,847.02	10,990.03	4,100.88	189.77	189.85	-117.27	63.33	7,945.79	554.92	213.08	341.85	1.623	
10,800.00	3,849.64	11,040.03	4,103.50	191.00	191.07	-117.27	62.64	7,995.72	555.02	210.95	344.07	1.613	
10,850.00	3,852.25	11,090.03	4,106.12	192.23	192.30	-117.26	61.95	8,045.64	555.12	208.82	346.29	1.603	
10,900.00	3,854.87	11,140.03	4,108.74	193.46	193.53	-117.26	61.26	8,095.57	555.21	206.70	348.52	1.593	
10,950.00	3,857.49	11,190.03	4,111.36	194.69	194.76	-117.25	60.58	8,145.49	555.31	204.57	350.74	1.583	
11,000.00	3,860.10	11,240.03	4,113.97	195.92	195.99	-117.25	59.89	8,195.42	555.41	202.44	352.97	1.574	
11,050.00	3,862.72	11,290.03	4,116.59	197.14	197.22	-117.24	59.20	8,245.35	555.51	200.32	355.19	1.564	
11,100.00	3,865.33	11,340.03	4,119.21	198.37	198.44	-117.24	58.51	8,295.27	555.60	198.19	357.41	1.555	
11,150.00	3,867.95	11,390.03	4,121.83	199.60	199.67	-117.23	57.83	8,345.20	555.70	196.06	359.64	1.545	
11,200.00	3,870.57	11,440.03	4,124.45	200.83	200.90	-117.23	57.14	8,395.13	555.80	193.93	361.86	1.536	
11,250.00	3,873.18	11,490.03	4,127.07	202.06	202.13	-117.22	56.45	8,445.05	555.89	191.80	364.09	1.527	
11,300.00	3,875.80	11,540.03	4,129.69	203.29	203.36	-117.22	55.76	8,494.98	555.99	189.67	366.32	1.518	
11,350.00	3,878.42	11,590.03	4,132.30	204.51	204.59	-117.21	55.08	8,544.91	556.09	187.55	368.54	1.509	
11,400.00	3,881.03	11,640.03	4,134.92	205.74	205.82	-117.21	54.39	8,594.83	556.19	185.42	370.77	1.500	
11,450.00	3,883.65	11,690.03	4,137.54	206.97	207.05	-117.20	53.70	8,644.76	556.28	183.29	372.99	1.491	Level 3
11,500.00	3,886.27	11,740.03	4,140.16	208.20	208.27	-117.20	53.01	8,694.69	556.38	181.16	375.22	1.483	Level 3
11,550.00	3,888.88	11,790.03	4,142.78	209.43	209.50	-117.19	52.32	8,744.61	556.48	179.03	377.45	1.474	Level 3
11,600.00	3,891.50	11,840.03	4,145.40	210.66	210.73	-117.19	51.64	8,794.54	556.57	176.90	379.68	1.466	Level 3
11,608.94	3,891.97	11,848.97	4,145.87	210.88	210.95	-117.19	51.51	8,803.47	556.59	176.52	380.07	1.464	Level 3
11,650.00	3,894.12	11,888.47	4,147.93	211.89	211.92	-117.16	50.98	8,842.91	556.49	174.65	381.84	1.457	Level 3
11,700.00	3,896.74	11,931.10	4,150.17	213.12	212.97	-117.13	50.85	8,885.48	556.29	172.49	383.80	1.449	Level 3
11,712.12	3,897.37	11,941.44	4,150.71	213.41	213.22	-117.12	50.91	8,895.81	556.25	171.98	384.27	1.448	Level 3
11,726.00	3,898.10	11,953.72	4,151.35	213.75	213.53	-117.12	51.03	8,908.07	556.23	171.42	384.81	1.445	Level 3
11,750.00	3,899.35	11,977.73	4,152.61	214.34	214.11	-117.12	51.30	8,932.04	556.23	170.36	385.88	1.441	Level 3
11,800.00	3,901.97	12,027.73	4,155.23	215.57	215.34	-117.12	51.86	8,981.97	556.23	168.15	388.08	1.433	Level 3
11,802.25	3,902.09	12,029.98	4,155.34	215.62	215.40	-117.12	51.88	8,984.22	556.23	168.05	388.18	1.433	Level 3, SF

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 45H - 45H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	11.00	0.00	0.00	-167.21	-846.00	-192.00	867.58				
50.00	50.00	39.00	50.00	0.14	0.13	-167.21	-846.00	-192.00	867.51	867.28	0.23	3,699.050	
100.00	100.00	89.00	100.00	0.34	0.30	-167.21	-846.00	-192.00	867.51	866.96	0.56	1,555.484	
150.00	150.00	139.00	150.00	0.66	0.59	-167.21	-846.00	-192.00	867.51	866.41	1.10	785.722	
200.00	200.00	189.00	200.00	0.98	0.91	-167.21	-846.00	-192.00	867.51	865.83	1.68	515.843	
250.00	250.00	239.00	250.00	1.23	1.17	-167.21	-846.00	-192.00	867.51	865.36	2.15	402.890	
300.00	300.00	289.00	300.00	1.48	1.42	-167.21	-846.00	-192.00	867.51	864.90	2.61	332.108	
350.00	350.00	339.00	350.00	1.69	1.64	-167.21	-846.00	-192.00	867.51	864.48	3.03	286.373	
400.00	400.00	389.00	400.00	1.91	1.86	-167.21	-846.00	-192.00	867.51	864.07	3.44	252.045	
450.00	450.00	439.00	450.00	2.11	2.07	-167.21	-846.00	-192.00	867.51	863.68	3.84	226.103	
500.00	500.00	489.00	500.00	2.32	2.27	-167.21	-846.00	-192.00	867.51	863.28	4.23	205.085	
550.00	550.00	537.40	548.40	2.45	2.43	68.70	-846.07	-191.83	867.43	862.92	4.51	192.342	
600.00	599.99	585.34	596.34	2.59	2.58	68.71	-846.38	-191.13	867.23	862.44	4.78	181.317	
650.00	649.96	633.29	644.27	2.68	2.68	68.72	-846.93	-189.87	866.90	861.73	5.17	167.587	
700.00	699.91	681.24	692.18	3.06	2.96	68.74	-847.73	-188.06	866.46	860.75	5.71	151.680	
750.00	749.82	729.19	740.06	3.42	3.31	68.75	-848.76	-185.70	865.89	859.73	6.17	140.367	
800.00	799.69	777.15	787.90	3.80	3.65	68.77	-850.03	-182.79	865.21	858.60	6.61	130.907	
850.00	849.51	825.10	835.71	4.13	3.99	68.79	-851.55	-179.34	864.41	857.37	7.04	122.784	
900.00	899.27	873.06	883.46	4.45	4.30	68.80	-853.31	-175.33	863.49	856.02	7.47	115.584	
950.00	948.96	921.01	931.16	4.75	4.59	68.82	-855.30	-170.77	862.45	854.56	7.90	109.233	
1,000.00	998.57	968.97	978.79	5.04	4.88	68.84	-857.54	-165.66	861.30	852.97	8.32	103.514	
1,050.00	1,048.10	1,016.93	1,026.35	5.32	5.15	68.87	-860.02	-160.01	860.02	851.28	8.74	98.354	
1,100.00	1,097.54	1,064.88	1,073.83	5.60	5.42	68.89	-862.73	-153.81	858.63	849.46	9.17	93.641	
1,150.00	1,146.87	1,112.84	1,121.22	5.86	5.68	68.92	-865.69	-147.07	857.11	847.52	9.60	89.316	
1,200.00	1,196.09	1,160.80	1,168.51	6.12	5.93	68.94	-868.88	-139.78	855.48	845.46	10.03	85.318	
1,250.00	1,245.19	1,208.76	1,215.70	6.37	6.18	68.97	-872.32	-131.95	853.74	843.27	10.46	81.604	
1,300.00	1,294.16	1,256.72	1,262.78	6.63	6.42	69.00	-875.99	-123.57	851.87	840.97	10.90	78.138	
1,350.00	1,343.00	1,304.68	1,309.75	6.87	6.66	69.03	-879.89	-114.65	849.89	838.54	11.35	74.889	
1,400.00	1,391.70	1,352.65	1,356.58	7.12	6.89	69.06	-884.04	-105.20	847.79	835.99	11.80	71.830	
1,450.00	1,440.24	1,400.00	1,402.70	7.36	7.13	69.09	-888.36	-95.34	845.58	833.32	12.26	68.964	
1,500.00	1,488.62	1,448.57	1,449.85	7.60	7.36	69.13	-893.03	-84.68	843.25	830.51	12.74	66.210	
1,535.32	1,522.69	1,482.45	1,482.65	7.70	7.52	69.15	-896.43	-76.91	841.53	828.49	13.04	64.521	
1,550.00	1,536.83	1,496.53	1,496.27	7.74	7.59	69.15	-897.88	-73.61	840.81	827.64	13.17	63.837	
1,600.00	1,585.01	1,544.96	1,542.98	7.89	7.74	69.12	-903.01	-61.91	838.43	824.84	13.60	61.670	
1,650.00	1,633.18	1,594.90	1,591.11	8.04	7.88	69.08	-908.36	-49.69	836.09	822.04	14.05	59.517	
1,700.00	1,681.36	1,644.85	1,639.23	8.19	8.03	69.03	-913.72	-37.47	833.74	819.23	14.51	57.448	
1,750.00	1,729.53	1,694.79	1,687.36	8.36	8.18	68.99	-919.08	-25.25	831.40	816.40	14.99	55.454	
1,800.00	1,777.71	1,744.73	1,735.48	8.53	8.34	68.94	-924.43	-13.02	829.05	813.57	15.48	53.553	
1,850.00	1,825.88	1,794.67	1,783.61	8.71	8.51	68.90	-929.79	-0.80	826.71	810.73	15.98	51.748	
1,900.00	1,874.06	1,844.61	1,831.73	8.89	8.69	68.85	-935.14	11.42	824.37	807.89	16.47	50.042	
1,950.00	1,922.23	1,894.55	1,879.86	9.07	8.86	68.81	-940.50	23.64	822.02	805.05	16.98	48.422	
2,000.00	1,970.40	1,944.49	1,927.98	9.27	9.05	68.76	-945.86	35.87	819.68	802.20	17.48	46.890	
2,050.00	2,018.58	1,994.43	1,976.11	9.46	9.24	68.72	-951.21	48.09	817.34	799.35	17.99	45.432	
2,100.00	2,066.75	2,044.37	2,024.23	9.67	9.43	68.67	-956.57	60.31	815.00	796.50	18.50	44.052	
2,150.00	2,114.93	2,094.31	2,072.36	9.88	9.63	68.63	-961.93	72.53	812.66	793.64	19.02	42.735	
2,200.00	2,163.10	2,144.25	2,120.48	10.10	9.84	68.58	-967.28	84.76	810.32	790.79	19.53	41.488	
2,250.00	2,211.28	2,194.20	2,168.61	10.32	10.06	68.53	-972.64	96.98	807.98	787.93	20.05	40.292	
2,300.00	2,259.45	2,244.14	2,216.73	10.55	10.28	68.48	-977.99	109.20	805.64	785.07	20.57	39.165	
2,350.00	2,307.63	2,294.08	2,264.86	10.78	10.51	68.44	-983.35	121.43	803.30	782.22	21.08	38.099	
2,400.00	2,355.80	2,344.02	2,312.98	11.02	10.74	68.39	-988.71	133.65	800.97	779.35	21.62	37.052	
2,450.00	2,403.98	2,393.96	2,361.11	11.27	10.98	68.34	-994.06	145.87	798.63	776.49	22.14	36.072	
2,500.00	2,452.15	2,443.90	2,409.23	11.52	11.23	68.29	-999.42	158.09	796.29	773.62	22.67	35.124	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 45H - 45H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
2,550.00	2,500.32	2,493.84	2,457.36	11.77	11.48	68.25	-1,004.77	170.32	793.96	770.76	23.20	34.227	
2,600.00	2,548.50	2,543.78	2,505.48	12.03	11.73	68.20	-1,010.13	182.54	791.62	767.89	23.73	33.357	
2,650.00	2,596.67	2,593.72	2,553.61	12.29	11.99	68.15	-1,015.49	194.76	789.29	765.03	24.26	32.540	
2,700.00	2,644.85	2,643.66	2,601.73	12.55	12.25	68.10	-1,020.84	206.98	786.95	762.17	24.79	31.749	
2,750.00	2,693.02	2,693.60	2,649.86	12.81	12.51	68.05	-1,026.20	219.21	784.62	759.30	25.32	30.987	
2,800.00	2,741.20	2,743.55	2,697.98	13.08	12.77	68.00	-1,031.56	231.43	782.29	756.43	25.85	30.257	
2,850.00	2,789.37	2,793.49	2,746.11	13.35	13.04	67.95	-1,036.91	243.65	779.95	753.56	26.39	29.555	
2,900.00	2,837.55	2,843.43	2,794.23	13.62	13.31	67.90	-1,042.27	255.87	777.62	750.70	26.92	28.881	
2,918.67	2,855.53	2,862.07	2,812.20	13.72	13.41	67.88	-1,044.27	260.44	776.75	749.63	27.12	28.640	
2,950.00	2,885.57	2,893.38	2,842.37	13.89	13.58	73.15	-1,047.63	268.10	775.50	748.04	27.46	28.239	
3,000.00	2,932.78	2,943.26	2,890.44	14.24	13.85	79.55	-1,052.98	280.31	774.41	746.31	28.10	27.560	
3,023.35	2,954.48	2,966.47	2,912.80	14.42	13.97	81.94	-1,055.46	285.99	774.28	745.87	28.41	27.251	CC
3,050.00	2,978.91	2,992.85	2,938.22	14.63	14.12	84.33	-1,058.29	292.44	774.45	745.68	28.77	26.918	
3,100.00	3,023.72	3,041.89	2,985.48	15.02	14.39	88.10	-1,063.55	304.45	775.71	746.27	29.44	26.348	
3,150.00	3,066.99	3,090.16	3,031.99	15.44	14.65	91.21	-1,068.73	316.26	778.30	748.18	30.12	25.839	
3,200.00	3,108.52	3,137.41	3,077.52	15.88	14.91	93.87	-1,073.80	327.82	782.37	751.55	30.82	25.384	
3,250.00	3,148.11	3,183.41	3,121.85	16.36	15.17	96.19	-1,078.73	339.08	788.07	756.53	31.54	24.984	
3,300.00	3,185.56	3,227.94	3,164.77	16.88	15.41	98.22	-1,083.51	349.98	795.58	763.29	32.29	24.641	
3,350.00	3,220.69	3,270.79	3,206.06	17.43	15.65	100.00	-1,088.10	360.47	805.07	772.02	33.05	24.358	
3,400.00	3,253.32	3,311.75	3,245.52	18.04	15.88	101.51	-1,092.50	370.49	816.70	782.87	33.83	24.139	
3,450.00	3,283.30	3,350.61	3,282.97	18.68	16.09	102.76	-1,096.66	380.00	830.63	796.01	34.62	23.991	
3,500.00	3,310.49	3,387.18	3,318.21	19.38	16.30	103.71	-1,100.59	388.95	846.98	811.57	35.41	23.917	
3,512.58	3,316.87	3,396.00	3,326.71	19.56	16.35	103.91	-1,101.53	391.11	851.49	815.88	35.61	23.910	
3,550.00	3,335.58	3,422.01	3,351.77	20.11	16.49	105.14	-1,104.32	397.48	865.44	829.24	36.20	23.907	
3,600.00	3,360.58	3,456.75	3,385.26	20.86	16.68	106.77	-1,108.05	405.98	885.01	848.05	36.96	23.945	
3,650.00	3,385.58	3,491.50	3,418.74	21.64	16.88	108.34	-1,111.77	414.48	905.59	867.88	37.72	24.011	
3,700.00	3,410.58	3,526.25	3,452.23	22.43	17.07	109.88	-1,115.50	422.99	927.11	888.67	38.44	24.118	
3,712.58	3,416.87	3,534.99	3,460.65	22.63	17.12	110.26	-1,116.44	425.13	932.66	894.04	38.62	24.149	
3,750.00	3,434.51	3,560.11	3,484.86	23.24	17.26	109.56	-1,119.13	431.27	949.88	910.73	39.15	24.263	
3,800.00	3,454.65	3,628.70	3,550.45	24.11	17.67	110.15	-1,126.32	449.89	974.31	934.23	40.08	24.310	
3,850.00	3,470.72	4,155.63	3,950.44	25.02	23.18	123.30	-1,157.54	772.73	991.33	948.82	42.51	23.322	
3,900.00	3,482.61	4,207.08	3,976.17	25.97	23.96	123.33	-1,158.12	817.28	999.24	955.43	43.81	22.810	
4,200.00	3,504.23	4,791.77	4,135.92	32.08	34.61	127.62	-1,165.27	1,368.04	1,036.27	982.98	53.29	19.444	
4,250.00	3,506.84	4,841.77	4,138.54	33.16	35.65	127.62	-1,165.92	1,417.97	1,036.27	981.25	55.02	18.833	
4,300.00	3,509.46	4,891.77	4,141.16	34.23	36.71	127.62	-1,166.57	1,467.90	1,036.28	979.52	56.76	18.259	
4,350.00	3,512.08	4,941.77	4,143.78	35.33	37.77	127.62	-1,167.22	1,517.82	1,036.28	977.76	58.52	17.708	
4,400.00	3,514.69	4,991.77	4,146.40	36.42	38.85	127.62	-1,167.87	1,567.75	1,036.29	976.00	60.29	17.190	
4,450.00	3,517.31	5,041.77	4,149.02	37.53	39.93	127.62	-1,168.52	1,617.68	1,036.29	974.21	62.08	16.693	
4,500.00	3,519.93	5,091.77	4,151.64	38.64	41.02	127.62	-1,169.17	1,667.60	1,036.30	972.42	63.87	16.224	
4,550.00	3,522.54	5,141.77	4,154.26	39.77	42.13	127.62	-1,169.82	1,717.53	1,036.30	970.61	65.69	15.775	
4,600.00	3,525.16	5,191.77	4,156.87	40.89	43.23	127.62	-1,170.47	1,767.46	1,036.30	968.79	67.51	15.350	
4,650.00	3,527.78	5,241.77	4,159.49	42.03	44.35	127.62	-1,171.12	1,817.39	1,036.31	966.96	69.35	14.943	
4,700.00	3,530.39	5,291.77	4,162.11	43.17	45.47	127.62	-1,171.76	1,867.31	1,036.31	965.12	71.19	14.556	
4,750.00	3,533.01	5,341.77	4,164.73	44.31	46.59	127.62	-1,172.41	1,917.24	1,036.32	963.27	73.05	14.186	
4,800.00	3,535.63	5,391.77	4,167.35	45.46	47.72	127.62	-1,173.06	1,967.17	1,036.32	961.41	74.91	13.835	
4,850.00	3,538.24	5,441.77	4,169.97	46.62	48.86	127.62	-1,173.71	2,017.09	1,036.33	959.55	76.78	13.497	
4,900.00	3,540.86	5,491.77	4,172.59	47.77	50.00	127.62	-1,174.36	2,067.02	1,036.33	957.68	78.65	13.176	
4,950.00	3,543.48	5,541.77	4,175.21	48.93	51.15	127.62	-1,175.01	2,116.95	1,036.34	955.80	80.54	12.867	
5,000.00	3,546.09	5,591.77	4,177.82	50.09	52.29	127.62	-1,175.66	2,166.88	1,036.34	953.91	82.43	12.573	
5,050.00	3,548.71	5,641.77	4,180.44	51.26	53.45	127.62	-1,176.31	2,216.80	1,036.34	952.02	84.32	12.290	
5,100.00	3,551.33	5,691.77	4,183.06	52.43	54.60	127.62	-1,176.96	2,266.73	1,036.35	950.13	86.22	12.020	
5,150.00	3,553.94	5,741.77	4,185.68	53.61	55.76	127.62	-1,177.60	2,316.66	1,036.35	948.23	88.13	11.760	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 45H - 45H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
5,200.00	3,556.56	5,791.77	4,188.30	54.78	56.92	127.62	-1,178.25	2,366.58	1,036.36	946.32	90.04	11.510	
5,203.62	3,556.75	5,795.39	4,188.49	54.87	57.01	127.62	-1,178.30	2,370.20	1,036.36	946.18	90.17	11.493	
5,204.55	3,556.80	5,796.32	4,188.54	54.89	57.03	127.62	-1,178.31	2,371.13	1,036.36	946.15	90.21	11.488	
5,250.00	3,559.18	5,841.77	4,190.92	55.96	58.09	127.62	-1,178.90	2,416.51	1,036.35	944.40	91.95	11.271	
5,300.00	3,561.79	5,891.90	4,193.54	57.14	59.25	127.62	-1,179.55	2,466.57	1,036.34	942.48	93.87	11.041	
5,350.00	3,564.41	5,941.90	4,196.16	58.32	60.43	127.62	-1,180.19	2,516.50	1,036.33	940.54	95.79	10.819	
5,400.00	3,567.03	5,991.90	4,198.78	59.50	61.60	127.62	-1,180.83	2,566.42	1,036.32	938.61	97.71	10.606	
5,450.00	3,569.64	6,041.90	4,201.39	60.69	62.77	127.62	-1,181.48	2,616.35	1,036.31	936.67	99.64	10.400	
5,500.00	3,572.26	6,091.90	4,204.01	61.88	63.95	127.62	-1,182.12	2,666.28	1,036.30	934.72	101.57	10.202	
5,550.00	3,574.88	6,141.90	4,206.63	63.07	65.13	127.62	-1,182.76	2,716.20	1,036.29	932.78	103.51	10.011	
5,600.00	3,577.49	6,191.90	4,209.24	64.26	66.31	127.62	-1,183.40	2,766.13	1,036.28	930.83	105.45	9.827	
5,650.00	3,580.11	6,241.90	4,211.86	65.45	67.49	127.62	-1,184.05	2,816.06	1,036.26	928.88	107.39	9.650	
5,700.00	3,582.73	6,291.90	4,214.48	66.64	68.68	127.62	-1,184.69	2,865.99	1,036.25	926.92	109.33	9.478	
5,750.00	3,585.35	6,341.90	4,217.09	67.84	69.86	127.62	-1,185.33	2,915.91	1,036.24	924.96	111.28	9.312	
5,800.00	3,587.96	6,391.90	4,219.71	69.04	71.05	127.62	-1,185.97	2,965.84	1,036.23	923.01	113.22	9.152	
5,850.00	3,590.58	6,441.90	4,222.33	70.23	72.24	127.63	-1,186.62	3,015.77	1,036.22	921.04	115.17	8.997	
5,900.00	3,593.20	6,491.90	4,224.94	71.43	73.43	127.63	-1,187.26	3,065.70	1,036.21	919.08	117.13	8.847	
5,950.00	3,595.81	6,541.90	4,227.56	72.63	74.62	127.63	-1,187.90	3,115.62	1,036.20	917.12	119.08	8.702	
6,000.00	3,598.43	6,591.90	4,230.18	73.83	75.82	127.63	-1,188.54	3,165.55	1,036.18	915.15	121.04	8.561	
6,050.00	3,601.05	6,641.90	4,232.80	75.04	77.01	127.63	-1,189.19	3,215.48	1,036.17	913.18	122.99	8.425	
6,100.00	3,603.66	6,691.90	4,235.41	76.24	78.21	127.63	-1,189.83	3,265.41	1,036.16	911.21	124.95	8.292	
6,150.00	3,606.28	6,741.90	4,238.03	77.45	79.40	127.63	-1,190.47	3,315.33	1,036.15	909.24	126.91	8.164	
6,200.00	3,608.90	6,791.90	4,240.65	78.65	80.60	127.63	-1,191.11	3,365.26	1,036.14	907.26	128.88	8.040	
6,250.00	3,611.51	6,841.90	4,243.26	79.86	81.80	127.63	-1,191.76	3,415.19	1,036.13	905.29	130.84	7.919	
6,300.00	3,614.13	6,891.90	4,245.88	81.06	83.00	127.63	-1,192.40	3,465.11	1,036.12	903.31	132.81	7.802	
6,350.00	3,616.75	6,941.90	4,248.50	82.27	84.20	127.63	-1,193.04	3,515.04	1,036.11	901.33	134.77	7.688	
6,400.00	3,619.36	6,991.90	4,251.11	83.48	85.40	127.63	-1,193.68	3,564.97	1,036.09	899.35	136.74	7.577	
6,450.00	3,621.98	7,041.90	4,253.73	84.69	86.61	127.63	-1,194.33	3,614.90	1,036.08	897.37	138.71	7.469	
6,500.00	3,624.60	7,091.90	4,256.35	85.90	87.81	127.63	-1,194.97	3,664.82	1,036.07	895.39	140.68	7.365	
6,550.00	3,627.21	7,141.90	4,258.96	87.11	89.01	127.63	-1,195.61	3,714.75	1,036.06	893.41	142.65	7.263	
6,600.00	3,629.83	7,191.90	4,261.58	88.32	90.22	127.63	-1,196.25	3,764.68	1,036.05	891.43	144.62	7.164	
6,650.00	3,632.45	7,241.90	4,264.20	89.53	91.42	127.63	-1,196.90	3,814.61	1,036.04	889.44	146.60	7.067	
6,700.00	3,635.06	7,291.90	4,266.82	90.74	92.63	127.63	-1,197.54	3,864.53	1,036.03	887.45	148.57	6.973	
6,750.00	3,637.68	7,341.90	4,269.43	91.95	93.84	127.63	-1,198.18	3,914.46	1,036.02	885.47	150.55	6.882	
6,800.00	3,640.30	7,391.90	4,272.05	93.17	95.04	127.63	-1,198.82	3,964.39	1,036.00	883.48	152.52	6.792	
6,850.00	3,642.91	7,441.90	4,274.67	94.38	96.25	127.64	-1,199.47	4,014.32	1,035.99	881.49	154.50	6.705	
6,900.00	3,645.53	7,491.90	4,277.28	95.59	97.46	127.64	-1,200.11	4,064.24	1,035.98	879.50	156.48	6.621	
6,950.00	3,648.15	7,541.90	4,279.90	96.81	98.67	127.64	-1,200.75	4,114.17	1,035.97	877.51	158.46	6.538	
7,000.00	3,650.76	7,591.90	4,282.52	98.02	99.88	127.64	-1,201.39	4,164.10	1,035.96	875.52	160.44	6.457	
7,050.00	3,653.38	7,641.90	4,285.13	99.24	101.09	127.64	-1,202.04	4,214.02	1,035.95	873.53	162.42	6.378	
7,100.00	3,656.00	7,691.90	4,287.75	100.45	102.30	127.64	-1,202.68	4,263.95	1,035.94	871.53	164.40	6.301	
7,150.00	3,658.61	7,741.90	4,290.37	101.67	103.51	127.64	-1,203.32	4,313.88	1,035.92	869.54	166.38	6.226	
7,200.00	3,661.23	7,791.90	4,292.98	102.89	104.73	127.64	-1,203.96	4,363.81	1,035.91	867.55	168.37	6.153	
7,250.00	3,663.85	7,841.90	4,295.60	104.10	105.94	127.64	-1,204.61	4,413.73	1,035.90	865.55	170.35	6.081	
7,300.00	3,666.46	7,891.90	4,298.22	105.32	107.15	127.64	-1,205.25	4,463.66	1,035.89	863.56	172.33	6.011	
7,350.00	3,669.08	7,941.90	4,300.84	106.54	108.37	127.64	-1,205.89	4,513.59	1,035.88	861.56	174.32	5.942	
7,400.00	3,671.70	7,991.90	4,303.45	107.76	109.58	127.64	-1,206.53	4,563.52	1,035.87	859.57	176.30	5.875	
7,450.00	3,674.31	8,041.90	4,306.07	108.97	110.79	127.64	-1,207.18	4,613.44	1,035.86	857.57	178.29	5.810	
7,500.00	3,676.93	8,091.90	4,308.69	110.19	112.01	127.64	-1,207.82	4,663.37	1,035.85	855.57	180.28	5.746	
7,550.00	3,679.55	8,141.90	4,311.30	111.41	113.22	127.64	-1,208.46	4,713.30	1,035.83	853.57	182.26	5.683	
7,600.00	3,682.16	8,191.90	4,313.92	112.63	114.44	127.64	-1,209.10	4,763.23	1,035.82	851.57	184.25	5.622	
7,650.00	3,684.78	8,241.90	4,316.54	113.85	115.66	127.64	-1,209.75	4,813.15	1,035.81	849.57	186.24	5.562	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 45H - 45H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
7,700.00	3,687.40	8,291.90	4,319.15	115.07	116.87	127.64	-1,210.39	4,863.08	1,035.80	847.57	188.23	5.503	
7,750.00	3,690.01	8,341.90	4,321.77	116.29	118.09	127.64	-1,211.03	4,913.01	1,035.79	845.57	190.21	5.445	
7,800.00	3,692.63	8,391.90	4,324.39	117.51	119.30	127.64	-1,211.67	4,962.93	1,035.78	843.57	192.20	5.389	
7,850.00	3,695.25	8,441.90	4,327.00	118.73	120.52	127.65	-1,212.32	5,012.86	1,035.77	841.57	194.19	5.334	
7,900.00	3,697.86	8,491.90	4,329.62	119.95	121.74	127.65	-1,212.96	5,062.79	1,035.76	839.57	196.18	5.280	
7,950.00	3,700.48	8,541.90	4,332.24	121.17	122.96	127.65	-1,213.60	5,112.72	1,035.74	837.57	198.17	5.226	
8,000.00	3,703.10	8,591.90	4,334.86	122.39	124.18	127.65	-1,214.24	5,162.64	1,035.73	835.57	200.16	5.174	
8,050.00	3,705.71	8,641.90	4,337.47	123.61	125.39	127.65	-1,214.89	5,212.57	1,035.72	833.57	202.16	5.123	
8,100.00	3,708.33	8,691.90	4,340.09	124.84	126.61	127.65	-1,215.53	5,262.50	1,035.71	831.56	204.15	5.073	
8,150.00	3,710.95	8,741.90	4,342.71	126.06	127.83	127.65	-1,216.17	5,312.43	1,035.70	829.56	206.14	5.024	
8,200.00	3,713.56	8,791.90	4,345.32	127.28	129.05	127.65	-1,216.81	5,362.35	1,035.69	827.56	208.13	4.976	
8,250.00	3,716.18	8,841.90	4,347.94	128.50	130.27	127.65	-1,217.46	5,412.28	1,035.68	825.55	210.12	4.929	
8,300.00	3,718.80	8,891.90	4,350.56	129.72	131.49	127.65	-1,218.10	5,462.21	1,035.66	823.55	212.12	4.883	
8,350.00	3,721.41	8,941.90	4,353.17	130.95	132.71	127.65	-1,218.74	5,512.14	1,035.65	821.54	214.11	4.837	
8,400.00	3,724.03	8,991.90	4,355.79	132.17	133.93	127.65	-1,219.38	5,562.06	1,035.64	819.54	216.10	4.792	
8,450.00	3,726.65	9,041.90	4,358.41	133.39	135.15	127.65	-1,220.03	5,611.99	1,035.63	817.53	218.10	4.748	
8,500.00	3,729.26	9,091.90	4,361.02	134.62	136.37	127.65	-1,220.67	5,661.92	1,035.62	815.53	220.09	4.705	
8,550.00	3,731.88	9,141.90	4,363.64	135.84	137.59	127.65	-1,221.31	5,711.84	1,035.61	813.52	222.09	4.663	
8,600.00	3,734.50	9,191.90	4,366.26	137.06	138.81	127.65	-1,221.95	5,761.77	1,035.60	811.52	224.08	4.622	
8,650.00	3,737.11	9,241.90	4,368.88	138.29	140.03	127.65	-1,222.60	5,811.70	1,035.59	809.51	226.08	4.581	
8,700.00	3,739.73	9,291.90	4,371.49	139.51	141.25	127.65	-1,223.24	5,861.63	1,035.57	807.50	228.07	4.541	
8,750.00	3,742.35	9,341.90	4,374.11	140.73	142.48	127.65	-1,223.88	5,911.55	1,035.56	805.50	230.07	4.501	
8,800.00	3,744.96	9,391.90	4,376.73	141.96	143.70	127.65	-1,224.52	5,961.48	1,035.55	803.49	232.06	4.462	
8,850.00	3,747.58	9,441.90	4,379.34	143.18	144.92	127.66	-1,225.17	6,011.41	1,035.54	801.48	234.06	4.424	
8,900.00	3,750.20	9,491.90	4,381.96	144.41	146.14	127.66	-1,225.81	6,061.34	1,035.53	799.47	236.05	4.387	
8,950.00	3,752.81	9,541.90	4,384.58	145.63	147.36	127.66	-1,226.45	6,111.26	1,035.52	797.47	238.05	4.350	
9,000.00	3,755.43	9,591.90	4,387.19	146.86	148.59	127.66	-1,227.09	6,161.19	1,035.51	795.46	240.05	4.314	
9,050.00	3,758.05	9,641.90	4,389.81	148.08	149.81	127.66	-1,227.74	6,211.12	1,035.50	793.45	242.04	4.278	
9,100.00	3,760.66	9,691.90	4,392.43	149.31	151.03	127.66	-1,228.38	6,261.05	1,035.48	791.44	244.04	4.243	
9,150.00	3,763.28	9,741.90	4,395.05	150.53	152.25	127.66	-1,229.02	6,310.97	1,035.47	789.43	246.04	4.209	
9,165.05	3,764.07	9,756.94	4,395.83	150.90	152.62	127.66	-1,229.21	6,326.00	1,035.47	788.83	246.64	4.198	
9,166.14	3,764.12	9,758.04	4,395.89	150.92	152.65	127.66	-1,229.23	6,327.09	1,035.47	788.79	246.68	4.198	
9,167.40	3,764.19	9,759.29	4,395.96	150.96	152.68	127.66	-1,229.25	6,328.34	1,035.47	788.74	246.73	4.197	
9,200.00	3,765.90	9,791.90	4,397.66	151.75	153.48	127.66	-1,229.66	6,360.90	1,035.48	787.44	248.04	4.175	
9,250.00	3,768.51	9,841.09	4,400.24	152.98	154.68	127.66	-1,230.32	6,410.02	1,035.51	785.48	250.03	4.141	
9,300.00	3,771.13	9,891.09	4,402.85	154.20	155.90	127.66	-1,231.01	6,459.95	1,035.56	783.52	252.04	4.109	
9,350.00	3,773.75	9,941.09	4,405.47	155.43	157.13	127.65	-1,231.70	6,509.87	1,035.61	781.57	254.04	4.077	
9,400.00	3,776.36	9,991.09	4,408.09	156.65	158.35	127.65	-1,232.40	6,559.80	1,035.67	779.61	256.05	4.045	
9,450.00	3,778.98	10,041.09	4,410.70	157.88	159.57	127.65	-1,233.09	6,609.73	1,035.72	777.66	258.06	4.014	
9,500.00	3,781.60	10,091.09	4,413.32	159.11	160.80	127.65	-1,233.78	6,659.65	1,035.77	775.71	260.06	3.983	
9,550.00	3,784.21	10,141.09	4,415.94	160.33	162.02	127.64	-1,234.47	6,709.58	1,035.82	773.75	262.07	3.952	
9,600.00	3,786.83	10,191.09	4,418.55	161.56	163.25	127.64	-1,235.17	6,759.51	1,035.87	771.79	264.08	3.923	
9,650.00	3,789.45	10,241.09	4,421.17	162.78	164.47	127.64	-1,235.86	6,809.43	1,035.93	769.84	266.09	3.893	
9,700.00	3,792.07	10,291.09	4,423.78	164.01	165.69	127.64	-1,236.55	6,859.36	1,035.98	767.88	268.10	3.864	
9,750.00	3,794.68	10,341.09	4,426.40	165.24	166.92	127.64	-1,237.24	6,909.29	1,036.03	765.93	270.10	3.836	
9,800.00	3,797.30	10,391.09	4,429.02	166.46	168.14	127.63	-1,237.93	6,959.21	1,036.08	763.97	272.11	3.808	
9,850.00	3,799.92	10,441.09	4,431.63	167.69	169.37	127.63	-1,238.63	7,009.14	1,036.13	762.01	274.12	3.780	
9,900.00	3,802.53	10,491.09	4,434.25	168.91	170.59	127.63	-1,239.32	7,059.07	1,036.19	760.06	276.13	3.753	
9,950.00	3,805.15	10,541.09	4,436.87	170.14	171.82	127.63	-1,240.01	7,108.99	1,036.24	758.10	278.14	3.726	
10,000.00	3,807.77	10,591.09	4,439.48	171.37	173.04	127.62	-1,240.70	7,158.92	1,036.29	756.14	280.15	3.699	
10,050.00	3,810.38	10,641.09	4,442.10	172.59	174.27	127.62	-1,241.40	7,208.85	1,036.34	754.18	282.16	3.673	
10,100.00	3,813.00	10,691.09	4,444.72	173.82	175.49	127.62	-1,242.09	7,258.77	1,036.39	752.22	284.17	3.647	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 45H - 45H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
10,150.00	3,815.62	10,741.09	4,447.33	175.05	176.72	127.62	-1,242.78	7,308.70	1,036.45	750.27	286.18	3.622	
10,200.00	3,818.23	10,791.09	4,449.95	176.28	177.94	127.62	-1,243.47	7,358.63	1,036.50	748.31	288.19	3.597	
10,250.00	3,820.85	10,841.09	4,452.57	177.50	179.17	127.61	-1,244.16	7,408.55	1,036.55	746.35	290.20	3.572	
10,300.00	3,823.47	10,891.09	4,455.18	178.73	180.40	127.61	-1,244.86	7,458.48	1,036.60	744.39	292.21	3.547	
10,350.00	3,826.08	10,941.09	4,457.80	179.96	181.62	127.61	-1,245.55	7,508.41	1,036.65	742.43	294.22	3.523	
10,400.00	3,828.70	10,991.09	4,460.42	181.18	182.85	127.61	-1,246.24	7,558.33	1,036.71	740.47	296.24	3.500	
10,450.00	3,831.32	11,041.09	4,463.03	182.41	184.07	127.60	-1,246.93	7,608.26	1,036.76	738.51	298.25	3.476	
10,500.00	3,833.94	11,091.09	4,465.65	183.64	185.30	127.60	-1,247.62	7,658.19	1,036.81	736.55	300.26	3.453	
10,550.00	3,836.55	11,141.09	4,468.27	184.87	186.53	127.60	-1,248.32	7,708.11	1,036.86	734.59	302.27	3.430	
10,600.00	3,839.17	11,191.09	4,470.88	186.09	187.75	127.60	-1,249.01	7,758.04	1,036.91	732.63	304.28	3.408	
10,650.00	3,841.79	11,241.09	4,473.50	187.32	188.98	127.60	-1,249.70	7,807.97	1,036.97	730.67	306.30	3.386	
10,667.40	3,842.70	11,258.48	4,474.41	187.75	189.41	127.59	-1,249.94	7,825.34	1,036.98	729.99	307.00	3.378	
10,680.35	3,843.37	11,271.44	4,475.09	188.07	189.72	127.58	-1,250.12	7,838.28	1,036.98	729.46	307.52	3.372	
10,700.00	3,844.40	11,291.09	4,476.11	188.55	190.20	127.59	-1,250.39	7,857.89	1,036.95	728.65	308.30	3.363	
10,750.00	3,847.02	11,341.09	4,478.73	189.77	191.43	127.59	-1,251.09	7,907.82	1,036.87	726.57	310.29	3.342	
10,800.00	3,849.64	11,391.09	4,481.35	191.00	192.66	127.59	-1,251.78	7,957.75	1,036.78	724.50	312.28	3.320	
10,850.00	3,852.25	11,441.09	4,483.96	192.23	193.88	127.60	-1,252.47	8,007.67	1,036.70	722.42	314.28	3.299	
10,900.00	3,854.87	11,491.09	4,486.58	193.46	195.11	127.60	-1,253.16	8,057.60	1,036.62	720.35	316.27	3.278	
10,950.00	3,857.49	11,541.09	4,489.20	194.69	196.34	127.60	-1,253.85	8,107.53	1,036.54	718.27	318.26	3.257	
11,000.00	3,860.10	11,591.09	4,491.81	195.92	197.56	127.61	-1,254.55	8,157.45	1,036.45	716.20	320.25	3.236	
11,050.00	3,862.72	11,641.09	4,494.43	197.14	198.79	127.61	-1,255.24	8,207.38	1,036.37	714.13	322.25	3.216	
11,100.00	3,865.33	11,691.09	4,497.05	198.37	200.02	127.61	-1,255.93	8,257.30	1,036.29	712.05	324.24	3.196	
11,150.00	3,867.95	11,741.09	4,499.66	199.60	201.25	127.62	-1,256.62	8,307.23	1,036.21	709.98	326.23	3.176	
11,200.00	3,870.57	11,791.08	4,502.28	200.83	202.47	127.62	-1,257.32	8,357.16	1,036.13	707.90	328.22	3.157	
11,250.00	3,873.18	11,841.08	4,504.90	202.06	203.70	127.62	-1,258.01	8,407.08	1,036.04	705.83	330.22	3.137	
11,300.00	3,875.80	11,891.08	4,507.51	203.29	204.93	127.63	-1,258.70	8,457.01	1,035.96	703.75	332.21	3.118	
11,350.00	3,878.42	11,941.08	4,510.13	204.51	206.15	127.63	-1,259.39	8,506.94	1,035.88	701.68	334.20	3.100	
11,400.00	3,881.03	11,991.08	4,512.75	205.74	207.38	127.64	-1,260.08	8,556.86	1,035.80	699.60	336.19	3.081	
11,450.00	3,883.65	12,041.08	4,515.36	206.97	208.61	127.64	-1,260.78	8,606.79	1,035.72	697.53	338.18	3.063	
11,500.00	3,886.27	12,091.08	4,517.98	208.20	209.84	127.64	-1,261.47	8,656.72	1,035.63	695.46	340.18	3.044	
11,550.00	3,888.88	12,141.08	4,520.59	209.43	211.06	127.65	-1,262.16	8,706.64	1,035.55	693.38	342.17	3.026	
11,600.00	3,891.50	12,191.08	4,523.21	210.66	212.29	127.65	-1,262.85	8,756.57	1,035.47	691.31	344.16	3.009	
11,608.94	3,891.97	12,200.03	4,523.68	210.88	212.51	127.65	-1,262.98	8,765.50	1,035.45	690.94	344.52	3.006	
11,616.88	3,892.38	12,207.96	4,524.09	211.07	212.71	127.66	-1,263.09	8,773.42	1,035.45	690.61	344.83	3.003	
11,650.00	3,894.12	12,241.08	4,525.83	211.89	213.52	127.68	-1,263.55	8,806.50	1,035.56	689.38	346.18	2.991	
11,700.00	3,896.74	12,298.34	4,528.82	213.12	214.92	127.70	-1,264.19	8,863.67	1,036.07	687.74	348.33	2.974	
11,712.12	3,897.37	12,313.77	4,529.63	213.41	215.30	127.70	-1,264.23	8,879.08	1,036.19	687.34	348.85	2.970	
11,750.00	3,899.35	12,361.99	4,532.16	214.34	216.48	127.69	-1,263.97	8,927.23	1,036.36	685.95	350.41	2.958	
11,753.10	3,899.52	12,365.94	4,532.36	214.42	216.58	127.69	-1,263.93	8,931.17	1,036.36	685.83	350.53	2.957	
11,800.00	3,901.97	12,411.51	4,534.75	215.57	217.70	127.69	-1,263.43	8,976.68	1,036.36	683.95	352.41	2.941	
11,802.25	3,902.09	12,413.76	4,534.87	215.62	217.75	127.69	-1,263.40	8,978.93	1,036.36	683.86	352.50	2.940	ES, SF

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 4H - 4H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	11.00	0.00	0.00	-169.16	-846.00	-162.00	861.44				
50.00	50.00	39.00	50.00	0.14	0.13	-169.16	-846.00	-162.00	861.37	861.14	0.23	3,733.369	
100.00	100.00	89.00	100.00	0.34	0.30	-169.16	-846.00	-162.00	861.37	860.82	0.55	1,569.915	
150.00	150.00	139.00	150.00	0.66	0.59	-169.16	-846.00	-162.00	861.37	860.28	1.09	792.006	
200.00	200.00	189.00	200.00	0.98	0.91	-169.16	-846.00	-162.00	861.37	859.71	1.66	519.715	
250.00	250.00	239.00	250.00	1.23	1.17	-169.16	-846.00	-162.00	861.37	859.25	2.12	405.474	
300.00	300.00	289.00	300.00	1.48	1.42	-169.16	-846.00	-162.00	861.37	858.79	2.58	333.982	
350.00	350.00	339.00	350.00	1.69	1.64	-169.16	-846.00	-162.00	861.37	858.38	2.99	287.737	
400.00	400.00	389.00	400.00	1.91	1.86	-169.16	-846.00	-162.00	861.37	857.97	3.40	253.073	
450.00	450.00	439.00	450.00	2.11	2.07	-169.16	-846.00	-162.00	861.37	857.57	3.80	226.871	
500.00	500.00	489.00	500.00	2.32	2.27	-169.16	-846.00	-162.00	861.37	857.18	4.19	205.666	
550.00	550.00	541.66	552.66	2.45	2.52	66.75	-845.99	-161.70	861.18	856.69	4.49	191.661	
600.00	599.99	595.07	606.05	2.59	2.82	66.74	-845.96	-160.42	860.54	855.75	4.79	179.467	
650.00	649.96	648.45	659.39	2.68	3.25	66.72	-845.90	-158.16	859.44	854.25	5.19	165.579	
700.00	699.91	701.80	712.63	3.06	3.80	66.67	-845.82	-154.90	857.89	852.23	5.66	151.572	
750.00	749.82	755.10	765.76	3.42	4.25	66.62	-845.71	-150.65	855.88	849.78	6.10	140.248	
800.00	799.69	808.32	818.73	3.80	4.71	66.54	-845.58	-145.43	853.43	846.93	6.50	131.282	
850.00	849.51	861.47	871.52	4.13	5.11	66.45	-845.43	-139.23	850.52	843.60	6.92	122.896	
900.00	899.27	914.53	924.08	4.45	5.51	66.35	-845.25	-132.07	847.17	839.82	7.34	115.395	
950.00	948.96	967.48	976.40	4.75	5.87	66.22	-845.04	-123.96	843.37	835.60	7.77	108.585	
1,000.00	998.57	1,020.30	1,028.45	5.04	6.23	66.08	-844.82	-114.90	839.13	830.93	8.20	102.352	
1,050.00	1,048.10	1,073.00	1,080.18	5.32	6.56	65.92	-844.57	-104.91	834.46	825.83	8.64	96.614	
1,100.00	1,097.54	1,125.54	1,131.58	5.60	6.88	65.74	-844.29	-94.00	829.36	820.28	9.08	91.290	
1,150.00	1,146.87	1,177.93	1,182.62	5.86	7.20	65.55	-843.99	-82.18	823.84	814.30	9.54	86.337	
1,200.00	1,196.09	1,229.85	1,232.98	6.12	7.40	65.33	-843.68	-69.57	817.90	807.89	10.01	81.742	
1,250.00	1,245.19	1,279.31	1,280.87	6.37	7.51	65.15	-843.37	-57.20	811.64	801.17	10.47	77.503	
1,300.00	1,294.16	1,328.78	1,328.76	6.63	7.63	65.01	-843.06	-44.83	805.12	794.18	10.95	73.551	
1,350.00	1,343.00	1,378.25	1,376.66	6.87	7.76	64.91	-842.74	-32.45	798.34	786.91	11.43	69.850	
1,400.00	1,391.70	1,427.70	1,424.54	7.12	7.88	64.86	-842.43	-20.09	791.30	779.38	11.92	66.410	
1,450.00	1,440.24	1,477.14	1,472.41	7.36	8.02	64.85	-842.12	-7.72	783.98	771.57	12.41	63.180	
1,500.00	1,488.62	1,526.55	1,520.25	7.60	8.15	64.88	-841.81	4.63	776.39	763.49	12.90	60.175	
1,535.32	1,522.69	1,561.44	1,554.02	7.70	8.25	64.94	-841.59	13.36	770.86	757.64	13.22	58.310	
1,550.00	1,536.83	1,575.93	1,568.06	7.74	8.29	64.93	-841.50	16.98	768.54	755.18	13.35	57.558	
1,600.00	1,585.01	1,625.30	1,615.86	7.89	8.43	64.91	-841.19	29.33	760.61	746.81	13.80	55.102	
1,650.00	1,633.18	1,674.67	1,663.65	8.04	8.58	64.90	-840.88	41.67	752.69	738.42	14.27	52.735	
1,700.00	1,681.36	1,724.03	1,711.45	8.19	8.73	64.88	-840.57	54.02	744.77	730.03	14.74	50.518	
1,750.00	1,729.53	1,773.40	1,759.25	8.36	8.88	64.86	-840.26	66.37	736.85	721.62	15.23	48.390	
1,800.00	1,777.71	1,822.77	1,807.05	8.53	9.03	64.84	-839.95	78.71	728.93	713.22	15.71	46.395	
1,850.00	1,825.88	1,872.14	1,854.85	8.71	9.19	64.82	-839.64	91.06	721.01	704.81	16.20	44.499	
1,900.00	1,874.06	1,921.51	1,902.65	8.89	9.35	64.81	-839.33	103.40	713.09	696.40	16.69	42.717	
1,950.00	1,922.23	1,970.87	1,950.44	9.07	9.52	64.79	-839.02	115.75	705.17	687.98	17.19	41.022	
2,000.00	1,970.40	2,020.24	1,998.24	9.27	9.69	64.77	-838.71	128.10	697.25	679.56	17.69	39.423	
2,050.00	2,018.58	2,069.61	2,046.04	9.46	9.86	64.75	-838.40	140.44	689.33	671.14	18.19	37.900	
2,100.00	2,066.75	2,118.98	2,093.84	9.67	10.04	64.73	-838.09	152.79	681.41	662.72	18.69	36.462	
2,150.00	2,114.93	2,168.35	2,141.64	9.88	10.23	64.70	-837.78	165.13	673.49	654.29	19.19	35.088	
2,200.00	2,163.10	2,217.71	2,189.44	10.10	10.42	64.68	-837.47	177.48	665.57	645.87	19.70	33.788	
2,250.00	2,211.28	2,267.08	2,237.24	10.32	10.62	64.66	-837.16	189.82	657.65	637.44	20.21	32.542	
2,300.00	2,259.45	2,316.45	2,285.03	10.55	10.82	64.64	-836.85	202.17	649.73	629.01	20.71	31.365	
2,350.00	2,307.63	2,365.82	2,332.83	10.78	11.04	64.61	-836.54	214.52	641.81	620.59	21.22	30.243	
2,400.00	2,355.80	2,415.19	2,380.63	11.02	11.25	64.59	-836.23	226.86	633.89	612.15	21.74	29.161	
2,450.00	2,403.98	2,464.55	2,428.43	11.27	11.48	64.56	-835.92	239.21	625.97	603.72	22.25	28.134	
2,500.00	2,452.15	2,513.92	2,476.23	11.52	11.71	64.54	-835.61	251.55	618.05	595.28	22.76	27.149	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 4H - 4H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
2,550.00	2,500.32	2,563.29	2,524.03	11.77	11.94	64.51	-835.30	263.90	610.13	586.85	23.28	26.208	
2,600.00	2,548.50	2,612.66	2,571.82	12.03	12.18	64.49	-834.99	276.25	602.21	578.41	23.80	25.307	
2,650.00	2,596.67	2,662.03	2,619.62	12.29	12.43	64.46	-834.68	288.59	594.29	569.98	24.31	24.442	
2,700.00	2,644.85	2,711.40	2,667.42	12.55	12.67	64.43	-834.37	300.94	586.37	561.54	24.83	23.613	
2,750.00	2,693.02	2,760.76	2,715.22	12.81	12.92	64.40	-834.06	313.28	578.45	553.10	25.35	22.818	
2,800.00	2,741.20	2,810.13	2,763.02	13.08	13.18	64.37	-833.75	325.63	570.53	544.66	25.87	22.053	
2,850.00	2,789.37	2,859.50	2,810.82	13.35	13.43	64.34	-833.44	337.98	562.62	536.22	26.39	21.318	
2,900.00	2,837.55	2,908.87	2,858.61	13.62	13.69	64.31	-833.12	350.32	554.70	527.78	26.91	20.611	
2,918.67	2,855.53	2,927.30	2,876.46	13.72	13.78	64.30	-833.01	354.93	551.74	524.64	27.10	20.357	
2,950.00	2,885.57	2,958.26	2,906.43	13.89	13.94	69.88	-832.81	362.67	546.95	519.52	27.43	19.936	
3,000.00	2,932.78	3,007.64	2,954.25	14.24	14.20	76.89	-832.50	375.02	540.04	511.99	28.06	19.248	
3,050.00	2,978.91	3,056.80	3,001.84	14.63	14.46	82.39	-832.20	387.32	534.14	505.43	28.71	18.606	
3,100.00	3,023.72	3,105.48	3,048.97	15.02	14.72	87.02	-831.89	399.49	529.40	500.05	29.35	18.038	
3,150.00	3,066.99	3,153.45	3,095.42	15.44	14.97	91.10	-831.59	411.49	526.03	496.05	29.99	17.541	
3,200.00	3,108.52	3,200.48	3,140.96	15.88	15.22	94.82	-831.29	423.25	524.32	493.69	30.64	17.115	
3,219.52	3,124.22	3,218.54	3,158.44	16.07	15.31	96.20	-831.18	427.76	524.17	493.27	30.89	16.967	CC
3,250.00	3,148.11	3,246.34	3,185.36	16.36	15.46	98.27	-831.00	434.72	524.57	493.28	31.29	16.765	
3,300.00	3,185.56	3,301.80	3,238.50	16.88	15.77	101.86	-830.70	450.51	526.65	494.66	31.99	16.463	
3,350.00	3,220.69	3,360.07	3,292.85	17.43	16.16	105.17	-830.48	471.48	530.11	497.34	32.77	16.179	
3,400.00	3,253.32	3,420.97	3,347.63	18.04	16.62	108.19	-830.37	498.04	534.79	501.18	33.60	15.915	
3,450.00	3,283.30	3,484.67	3,402.31	18.68	17.17	110.95	-830.39	530.69	540.52	506.02	34.50	15.668	
3,500.00	3,310.49	3,551.33	3,456.18	19.38	17.81	113.43	-830.54	569.92	547.09	511.65	35.44	15.436	
3,512.58	3,316.87	3,568.59	3,469.51	19.56	17.99	114.01	-830.60	580.87	548.86	513.16	35.70	15.376	
3,550.00	3,335.58	3,621.49	3,508.68	20.11	18.58	115.56	-830.85	616.42	553.71	517.24	36.46	15.185	
3,600.00	3,360.58	3,695.65	3,558.94	20.86	19.49	117.08	-831.34	670.90	558.56	521.00	37.56	14.870	
3,650.00	3,385.58	3,772.53	3,604.82	21.64	20.56	117.89	-832.03	732.54	561.19	522.37	38.83	14.454	
3,700.00	3,410.58	3,838.56	3,639.03	22.43	21.56	118.02	-832.75	789.00	561.61	521.39	40.22	13.963	
3,712.58	3,416.87	3,851.14	3,645.32	22.63	21.76	118.02	-832.89	799.89	561.61	521.03	40.59	13.838	
3,750.00	3,434.51	3,888.54	3,664.02	23.24	22.35	118.08	-833.32	832.27	562.19	520.54	41.66	13.496	
3,800.00	3,454.65	3,938.22	3,688.86	24.11	23.16	118.33	-833.88	875.30	564.78	521.70	43.08	13.110	
3,850.00	3,470.72	3,987.25	3,713.37	25.02	23.96	118.77	-834.44	917.75	569.52	525.09	44.43	12.819	
3,900.00	3,482.61	4,054.14	3,745.78	25.97	25.09	119.76	-835.20	976.25	576.24	530.52	45.72	12.605	
3,950.00	3,490.22	4,156.39	3,782.71	26.94	26.98	121.17	-836.45	1,071.44	581.83	534.59	47.24	12.317	
3,982.58	3,492.85	4,225.86	3,797.87	27.59	28.34	121.78	-837.33	1,139.19	584.22	535.84	48.37	12.077	
4,000.00	3,493.76	4,263.68	3,802.65	27.93	29.10	122.01	-837.82	1,176.69	584.90	535.87	49.03	11.929	
4,050.00	3,496.38	4,326.46	3,806.42	28.95	30.39	122.05	-838.63	1,239.35	585.03	534.17	50.85	11.504	
4,100.00	3,498.99	4,376.46	3,809.03	29.98	31.43	122.05	-839.28	1,289.28	585.03	532.40	52.63	11.116	
4,150.00	3,501.61	4,426.46	3,811.65	31.03	32.48	122.05	-839.93	1,339.21	585.03	530.59	54.44	10.746	
4,200.00	3,504.23	4,476.46	3,814.27	32.08	33.55	122.05	-840.58	1,389.13	585.04	528.77	56.27	10.398	
4,250.00	3,506.84	4,526.46	3,816.89	33.16	34.63	122.05	-841.23	1,439.06	585.04	526.92	58.12	10.066	
4,300.00	3,509.46	4,576.46	3,819.50	34.23	35.71	122.05	-841.88	1,488.99	585.05	525.06	59.99	9.753	
4,350.00	3,512.08	4,626.46	3,822.12	35.33	36.81	122.05	-842.53	1,538.92	585.05	523.18	61.88	9.455	
4,400.00	3,514.69	4,676.46	3,824.74	36.42	37.92	122.05	-843.18	1,588.84	585.06	521.28	63.77	9.174	
4,450.00	3,517.31	4,726.46	3,827.36	37.53	39.03	122.05	-843.83	1,638.77	585.06	519.37	65.69	8.906	
4,500.00	3,519.93	4,776.46	3,829.97	38.64	40.15	122.05	-844.48	1,688.70	585.07	517.45	67.62	8.652	
4,550.00	3,522.54	4,826.46	3,832.59	39.77	41.27	122.05	-845.13	1,738.62	585.07	515.51	69.56	8.411	
4,600.00	3,525.16	4,876.46	3,835.21	40.89	42.41	122.05	-845.78	1,788.55	585.08	513.56	71.51	8.181	
4,650.00	3,527.78	4,926.46	3,837.83	42.03	43.54	122.05	-846.43	1,838.48	585.08	511.60	73.48	7.963	
4,700.00	3,530.39	4,976.46	3,840.44	43.17	44.69	122.05	-847.08	1,888.41	585.08	509.64	75.45	7.755	
4,750.00	3,533.01	5,026.46	3,843.06	44.31	45.83	122.05	-847.73	1,938.33	585.09	507.66	77.43	7.557	
4,800.00	3,535.63	5,076.46	3,845.68	45.46	46.99	122.05	-848.38	1,988.26	585.09	505.68	79.41	7.368	
4,850.00	3,538.24	5,126.46	3,848.29	46.62	48.14	122.05	-849.03	2,038.19	585.10	503.69	81.41	7.187	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 4H - 4H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
4,900.00	3,540.86	5,176.46	3,850.91	47.77	49.30	122.05	-849.68	2,088.11	585.10	501.69	83.41	7.015	
4,950.00	3,543.48	5,226.46	3,853.53	48.93	50.46	122.05	-850.33	2,138.04	585.11	499.69	85.42	6.850	
5,000.00	3,546.09	5,276.46	3,856.15	50.09	51.63	122.05	-850.98	2,187.97	585.11	497.68	87.43	6.692	
5,050.00	3,548.71	5,326.46	3,858.76	51.26	52.80	122.05	-851.63	2,237.90	585.12	495.66	89.45	6.541	
5,100.00	3,551.33	5,376.46	3,861.38	52.43	53.97	122.05	-852.28	2,287.82	585.12	493.64	91.48	6.396	
5,150.00	3,553.94	5,426.46	3,864.00	53.61	55.15	122.05	-852.93	2,337.75	585.12	491.62	93.51	6.257	
5,200.00	3,556.56	5,476.46	3,866.62	54.78	56.32	122.05	-853.58	2,387.68	585.13	489.59	95.54	6.124	
5,203.62	3,556.75	5,480.09	3,866.81	54.87	56.41	122.05	-853.63	2,391.30	585.13	489.44	95.69	6.115	
5,204.55	3,556.80	5,481.01	3,866.85	54.89	56.43	122.05	-853.64	2,392.22	585.13	489.40	95.73	6.112	
5,250.00	3,559.18	5,526.53	3,869.24	55.96	57.50	122.05	-854.23	2,437.67	585.12	487.54	97.58	5.996	
5,300.00	3,561.79	5,576.53	3,871.85	57.14	58.68	122.05	-854.87	2,487.60	585.11	485.49	99.62	5.873	
5,350.00	3,564.41	5,626.53	3,874.47	58.32	59.87	122.05	-855.51	2,537.53	585.10	483.43	101.67	5.755	
5,400.00	3,567.03	5,676.53	3,877.09	59.50	61.05	122.05	-856.16	2,587.46	585.09	481.37	103.71	5.641	
5,450.00	3,569.64	5,726.53	3,879.70	60.69	62.24	122.05	-856.80	2,637.38	585.08	479.31	105.77	5.532	
5,500.00	3,572.26	5,776.53	3,882.32	61.88	63.43	122.05	-857.44	2,687.31	585.06	477.24	107.82	5.426	
5,550.00	3,574.88	5,826.53	3,884.94	63.07	64.62	122.05	-858.09	2,737.24	585.05	475.17	109.88	5.325	
5,600.00	3,577.49	5,876.53	3,887.56	64.26	65.81	122.05	-858.73	2,787.17	585.04	473.10	111.94	5.226	
5,650.00	3,580.11	5,926.53	3,890.17	65.45	67.01	122.05	-859.37	2,837.09	585.03	471.03	114.00	5.132	
5,700.00	3,582.73	5,976.53	3,892.79	66.64	68.20	122.05	-860.01	2,887.02	585.02	468.95	116.07	5.040	
5,750.00	3,585.35	6,026.53	3,895.41	67.84	69.40	122.05	-860.66	2,936.95	585.01	466.87	118.14	4.952	
5,800.00	3,587.96	6,076.53	3,898.02	69.04	70.59	122.06	-861.30	2,986.88	584.99	464.79	120.21	4.867	
5,850.00	3,590.58	6,126.53	3,900.64	70.23	71.79	122.06	-861.94	3,036.80	584.98	462.70	122.28	4.784	
5,900.00	3,593.20	6,176.53	3,903.26	71.43	72.99	122.06	-862.59	3,086.73	584.97	460.62	124.35	4.704	
5,950.00	3,595.81	6,226.53	3,905.87	72.63	74.19	122.06	-863.23	3,136.66	584.96	458.53	126.43	4.627	
6,000.00	3,598.43	6,276.53	3,908.49	73.83	75.40	122.06	-863.87	3,186.58	584.95	456.44	128.51	4.552	
6,050.00	3,601.05	6,326.53	3,911.11	75.04	76.60	122.06	-864.52	3,236.51	584.94	454.35	130.59	4.479	
6,100.00	3,603.66	6,376.53	3,913.73	76.24	77.80	122.06	-865.16	3,286.44	584.92	452.26	132.67	4.409	
6,150.00	3,606.28	6,426.53	3,916.34	77.45	79.01	122.06	-865.80	3,336.37	584.91	450.16	134.75	4.341	
6,200.00	3,608.90	6,476.53	3,918.96	78.65	80.21	122.06	-866.44	3,386.29	584.90	448.07	136.83	4.275	
6,250.00	3,611.51	6,526.53	3,921.58	79.86	81.42	122.06	-867.09	3,436.22	584.89	445.97	138.92	4.210	
6,300.00	3,614.13	6,576.53	3,924.19	81.06	82.63	122.06	-867.73	3,486.15	584.88	443.87	141.00	4.148	
6,350.00	3,616.75	6,626.53	3,926.81	82.27	83.84	122.06	-868.37	3,536.08	584.87	441.77	143.09	4.087	
6,400.00	3,619.36	6,676.53	3,929.43	83.48	85.04	122.06	-869.02	3,586.00	584.85	439.67	145.18	4.028	
6,450.00	3,621.98	6,726.53	3,932.05	84.69	86.25	122.07	-869.66	3,635.93	584.84	437.57	147.27	3.971	
6,500.00	3,624.60	6,776.53	3,934.66	85.90	87.46	122.07	-870.30	3,685.86	584.83	435.47	149.36	3.915	
6,550.00	3,627.21	6,826.53	3,937.28	87.11	88.67	122.07	-870.95	3,735.78	584.82	433.36	151.46	3.861	
6,600.00	3,629.83	6,876.53	3,939.90	88.32	89.88	122.07	-871.59	3,785.71	584.81	431.26	153.55	3.809	
6,650.00	3,632.45	6,926.53	3,942.51	89.53	91.09	122.07	-872.23	3,835.64	584.80	429.15	155.65	3.757	
6,700.00	3,635.06	6,976.53	3,945.13	90.74	92.31	122.07	-872.87	3,885.57	584.78	427.04	157.74	3.707	
6,750.00	3,637.68	7,026.53	3,947.75	91.95	93.52	122.07	-873.52	3,935.49	584.77	424.93	159.84	3.659	
6,800.00	3,640.30	7,076.53	3,950.36	93.17	94.73	122.07	-874.16	3,985.42	584.76	422.83	161.93	3.611	
6,850.00	3,642.91	7,126.53	3,952.98	94.38	95.95	122.07	-874.80	4,035.35	584.75	420.72	164.03	3.565	
6,900.00	3,645.53	7,176.53	3,955.60	95.59	97.16	122.07	-875.45	4,085.28	584.74	418.60	166.13	3.520	
6,950.00	3,648.15	7,226.53	3,958.22	96.81	98.37	122.07	-876.09	4,135.20	584.72	416.49	168.23	3.476	
7,000.00	3,650.76	7,276.53	3,960.83	98.02	99.59	122.07	-876.73	4,185.13	584.71	414.38	170.33	3.433	
7,050.00	3,653.38	7,326.53	3,963.45	99.24	100.81	122.07	-877.38	4,235.06	584.70	412.27	172.43	3.391	
7,100.00	3,656.00	7,376.53	3,966.07	100.45	102.02	122.08	-878.02	4,284.99	584.69	410.15	174.54	3.350	
7,150.00	3,658.61	7,426.53	3,968.68	101.67	103.24	122.08	-878.66	4,334.91	584.68	408.04	176.64	3.310	
7,200.00	3,661.23	7,476.53	3,971.30	102.89	104.45	122.08	-879.30	4,384.84	584.67	405.93	178.74	3.271	
7,250.00	3,663.85	7,526.53	3,973.92	104.10	105.67	122.08	-879.95	4,434.77	584.65	403.81	180.85	3.233	
7,300.00	3,666.46	7,576.53	3,976.53	105.32	106.89	122.08	-880.59	4,484.69	584.64	401.69	182.95	3.196	
7,350.00	3,669.08	7,626.53	3,979.15	106.54	108.11	122.08	-881.23	4,534.62	584.63	399.58	185.05	3.159	

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

Anticollision Report

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Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 4H - 4H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
7,400.00	3,671.70	7,676.53	3,981.77	107.76	109.32	122.08	-881.88	4,584.55	584.62	397.46	187.16	3.124	
7,450.00	3,674.31	7,726.53	3,984.39	108.97	110.54	122.08	-882.52	4,634.48	584.61	395.34	189.27	3.089	
7,500.00	3,676.93	7,776.53	3,987.00	110.19	111.76	122.08	-883.16	4,684.40	584.60	393.22	191.37	3.055	
7,550.00	3,679.55	7,826.53	3,989.62	111.41	112.98	122.08	-883.81	4,734.33	584.58	391.10	193.48	3.021	
7,600.00	3,682.16	7,876.53	3,992.24	112.63	114.20	122.08	-884.45	4,784.26	584.57	388.99	195.59	2.989	
7,650.00	3,684.78	7,926.53	3,994.85	113.85	115.42	122.08	-885.09	4,834.19	584.56	386.87	197.70	2.957	
7,700.00	3,687.40	7,976.53	3,997.47	115.07	116.64	122.08	-885.73	4,884.11	584.55	384.75	199.80	2.926	
7,750.00	3,690.01	8,026.53	4,000.09	116.29	117.86	122.09	-886.38	4,934.04	584.54	382.63	201.91	2.895	
7,800.00	3,692.63	8,076.53	4,002.70	117.51	119.08	122.09	-887.02	4,983.97	584.53	380.50	204.02	2.865	
7,850.00	3,695.25	8,126.53	4,005.32	118.73	120.30	122.09	-887.66	5,033.90	584.51	378.38	206.13	2.836	
7,900.00	3,697.86	8,176.53	4,007.94	119.95	121.52	122.09	-888.31	5,083.82	584.50	376.26	208.24	2.807	
7,950.00	3,700.48	8,226.53	4,010.56	121.17	122.74	122.09	-888.95	5,133.75	584.49	374.14	210.35	2.779	
8,000.00	3,703.10	8,276.53	4,013.17	122.39	123.96	122.09	-889.59	5,183.68	584.48	372.02	212.46	2.751	
8,050.00	3,705.71	8,326.53	4,015.79	123.61	125.19	122.09	-890.24	5,233.60	584.47	369.89	214.57	2.724	
8,100.00	3,708.33	8,376.53	4,018.41	124.84	126.41	122.09	-890.88	5,283.53	584.46	367.77	216.69	2.697	
8,150.00	3,710.95	8,426.53	4,021.02	126.06	127.63	122.09	-891.52	5,333.46	584.44	365.65	218.80	2.671	
8,200.00	3,713.56	8,476.53	4,023.64	127.28	128.85	122.09	-892.16	5,383.39	584.43	363.52	220.91	2.646	
8,250.00	3,716.18	8,526.53	4,026.26	128.50	130.07	122.09	-892.81	5,433.31	584.42	361.40	223.02	2.620	
8,300.00	3,718.80	8,576.53	4,028.87	129.72	131.30	122.09	-893.45	5,483.24	584.41	359.27	225.14	2.596	
8,350.00	3,721.41	8,626.53	4,031.49	130.95	132.52	122.09	-894.09	5,533.17	584.40	357.15	227.25	2.572	
8,400.00	3,724.03	8,676.53	4,034.11	132.17	133.74	122.09	-894.74	5,583.10	584.39	355.02	229.36	2.548	
8,450.00	3,726.65	8,726.53	4,036.73	133.39	134.97	122.10	-895.38	5,633.02	584.37	352.90	231.48	2.525	
8,500.00	3,729.26	8,776.53	4,039.34	134.62	136.19	122.10	-896.02	5,682.95	584.36	350.77	233.59	2.502	
8,550.00	3,731.88	8,826.53	4,041.96	135.84	137.41	122.10	-896.67	5,732.88	584.35	348.65	235.70	2.479	
8,600.00	3,734.50	8,876.53	4,044.58	137.06	138.64	122.10	-897.31	5,782.81	584.34	346.52	237.82	2.457	
8,650.00	3,737.11	8,926.53	4,047.19	138.29	139.86	122.10	-897.95	5,832.73	584.33	344.40	239.93	2.435	
8,700.00	3,739.73	8,976.53	4,049.81	139.51	141.08	122.10	-898.59	5,882.66	584.32	342.27	242.05	2.414	
8,750.00	3,742.35	9,026.53	4,052.43	140.73	142.31	122.10	-899.24	5,932.59	584.30	340.14	244.16	2.393	
8,800.00	3,744.96	9,076.53	4,055.05	141.96	143.53	122.10	-899.88	5,982.51	584.29	338.01	246.28	2.372	
8,850.00	3,747.58	9,126.53	4,057.66	143.18	144.76	122.10	-900.52	6,032.44	584.28	335.89	248.39	2.352	
8,900.00	3,750.20	9,176.53	4,060.28	144.41	145.98	122.10	-901.17	6,082.37	584.27	333.76	250.51	2.332	
8,950.00	3,752.81	9,226.53	4,062.90	145.63	147.20	122.10	-901.81	6,132.30	584.26	331.63	252.63	2.313	
9,000.00	3,755.43	9,276.53	4,065.51	146.86	148.43	122.10	-902.45	6,182.22	584.25	329.50	254.74	2.293	
9,050.00	3,758.05	9,326.53	4,068.13	148.08	149.65	122.10	-903.10	6,232.15	584.23	327.38	256.86	2.275	
9,100.00	3,760.66	9,376.53	4,070.75	149.31	150.88	122.11	-903.74	6,282.08	584.22	325.25	258.97	2.256	
9,150.00	3,763.28	9,426.53	4,073.36	150.53	152.10	122.11	-904.38	6,332.01	584.21	323.12	261.09	2.238	
9,165.05	3,764.07	9,441.58	4,074.15	150.90	152.47	122.11	-904.58	6,347.03	584.21	322.48	261.73	2.232	
9,166.10	3,764.12	9,442.64	4,074.21	150.92	152.50	122.11	-904.59	6,348.08	584.21	322.43	261.77	2.232	
9,167.40	3,764.19	9,443.93	4,074.27	150.96	152.53	122.11	-904.61	6,349.38	584.21	322.38	261.83	2.231	
9,200.00	3,765.90	9,476.20	4,075.96	151.75	153.32	122.11	-905.02	6,381.60	584.22	321.01	263.21	2.220	
9,250.00	3,768.51	9,526.05	4,078.57	152.98	154.54	122.10	-905.71	6,431.38	584.27	318.94	265.33	2.202	
9,300.00	3,771.13	9,576.05	4,081.19	154.20	155.77	122.10	-906.40	6,481.31	584.33	316.87	267.46	2.185	
9,350.00	3,773.75	9,626.05	4,083.81	155.43	156.99	122.10	-907.09	6,531.24	584.38	314.79	269.59	2.168	
9,400.00	3,776.36	9,676.05	4,086.42	156.65	158.22	122.09	-907.79	6,581.16	584.44	312.72	271.72	2.151	
9,450.00	3,778.98	9,726.05	4,089.04	157.88	159.44	122.09	-908.48	6,631.09	584.49	310.65	273.85	2.134	
9,500.00	3,781.60	9,776.05	4,091.65	159.11	160.67	122.09	-909.17	6,681.02	584.55	308.57	275.98	2.118	
9,550.00	3,784.21	9,826.05	4,094.27	160.33	161.89	122.08	-909.86	6,730.94	584.60	306.50	278.11	2.102	
9,600.00	3,786.83	9,876.05	4,096.89	161.56	163.12	122.08	-910.55	6,780.87	584.66	304.42	280.24	2.086	
9,650.00	3,789.45	9,926.05	4,099.50	162.78	164.35	122.08	-911.24	6,830.80	584.71	302.35	282.37	2.071	
9,700.00	3,792.07	9,976.05	4,102.12	164.01	165.57	122.07	-911.94	6,880.72	584.77	300.27	284.50	2.055	
9,750.00	3,794.68	10,026.05	4,104.74	165.24	166.80	122.07	-912.63	6,930.65	584.83	298.20	286.63	2.040	
9,800.00	3,797.30	10,076.05	4,107.35	166.46	168.03	122.07	-913.32	6,980.58	584.88	296.12	288.76	2.025	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 4H - 4H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
9,850.00	3,799.92	10,126.05	4,109.97	167.69	169.25	122.06	-914.01	7,030.50	584.94	294.04	290.89	2.011	
9,900.00	3,802.53	10,176.05	4,112.59	168.91	170.48	122.06	-914.70	7,080.43	584.99	291.97	293.02	1.996	
9,950.00	3,805.15	10,226.05	4,115.20	170.14	171.71	122.06	-915.39	7,130.36	585.05	289.89	295.15	1.982	
10,000.00	3,807.77	10,276.05	4,117.82	171.37	172.93	122.05	-916.09	7,180.28	585.10	287.81	297.29	1.968	
10,050.00	3,810.38	10,326.05	4,120.44	172.59	174.16	122.05	-916.78	7,230.21	585.16	285.74	299.42	1.954	
10,100.00	3,813.00	10,376.05	4,123.05	173.82	175.39	122.05	-917.47	7,280.14	585.21	283.66	301.55	1.941	
10,150.00	3,815.62	10,426.05	4,125.67	175.05	176.61	122.04	-918.16	7,330.06	585.27	281.58	303.69	1.927	
10,200.00	3,818.23	10,476.05	4,128.28	176.28	177.84	122.04	-918.85	7,379.99	585.32	279.50	305.82	1.914	
10,250.00	3,820.85	10,526.05	4,130.90	177.50	179.07	122.04	-919.54	7,429.92	585.38	277.42	307.95	1.901	
10,300.00	3,823.47	10,576.05	4,133.52	178.73	180.29	122.03	-920.24	7,479.84	585.43	275.35	310.09	1.888	
10,350.00	3,826.08	10,626.05	4,136.13	179.96	181.52	122.03	-920.93	7,529.77	585.49	273.27	312.22	1.875	
10,400.00	3,828.70	10,676.05	4,138.75	181.18	182.75	122.03	-921.62	7,579.70	585.54	271.19	314.36	1.863	
10,450.00	3,831.32	10,726.05	4,141.37	182.41	183.98	122.02	-922.31	7,629.62	585.60	269.11	316.49	1.850	
10,500.00	3,833.94	10,776.05	4,143.98	183.64	185.20	122.02	-923.00	7,679.55	585.65	267.03	318.62	1.838	
10,550.00	3,836.55	10,826.05	4,146.60	184.87	186.43	122.01	-923.69	7,729.48	585.71	264.95	320.76	1.826	
10,600.00	3,839.17	10,876.05	4,149.22	186.09	187.66	122.01	-924.39	7,779.40	585.76	262.87	322.90	1.814	
10,650.00	3,841.79	10,926.05	4,151.83	187.32	188.89	122.01	-925.08	7,829.33	585.82	260.79	325.03	1.802	
10,667.40	3,842.70	10,943.45	4,152.74	187.75	189.31	122.01	-925.32	7,846.70	585.84	260.06	325.77	1.798	
10,680.35	3,843.37	10,956.41	4,153.42	188.07	189.63	122.00	-925.50	7,859.64	585.83	259.51	326.32	1.795	
10,700.00	3,844.40	10,976.05	4,154.45	188.55	190.11	122.00	-925.77	7,879.26	585.80	258.65	327.15	1.791	
10,750.00	3,847.02	11,026.05	4,157.06	189.77	191.34	122.00	-926.46	7,929.18	585.71	256.45	329.26	1.779	
10,800.00	3,849.64	11,076.05	4,159.68	191.00	192.57	122.01	-927.15	7,979.11	585.62	254.25	331.37	1.767	
10,850.00	3,852.25	11,126.05	4,162.30	192.23	193.80	122.02	-927.84	8,029.04	585.53	252.06	333.48	1.756	
10,900.00	3,854.87	11,176.05	4,164.91	193.46	195.03	122.02	-928.54	8,078.96	585.45	249.86	335.59	1.745	
10,950.00	3,857.49	11,226.05	4,167.53	194.69	196.25	122.03	-929.23	8,128.89	585.36	247.66	337.70	1.733	
11,000.00	3,860.10	11,276.05	4,170.15	195.92	197.48	122.03	-929.92	8,178.82	585.27	245.47	339.80	1.722	
11,050.00	3,862.72	11,326.05	4,172.76	197.14	198.71	122.04	-930.61	8,228.74	585.18	243.27	341.91	1.711	
11,100.00	3,865.33	11,376.05	4,175.38	198.37	199.94	122.04	-931.30	8,278.67	585.09	241.07	344.02	1.701	
11,150.00	3,867.95	11,426.05	4,178.00	199.60	201.17	122.05	-931.99	8,328.60	585.00	238.88	346.13	1.690	
11,200.00	3,870.57	11,476.05	4,180.61	200.83	202.40	122.05	-932.69	8,378.52	584.92	236.68	348.23	1.680	
11,250.00	3,873.18	11,526.05	4,183.23	202.06	203.62	122.06	-933.38	8,428.45	584.83	234.48	350.34	1.669	
11,300.00	3,875.80	11,576.05	4,185.84	203.29	204.85	122.06	-934.07	8,478.38	584.74	232.29	352.45	1.659	
11,350.00	3,878.42	11,626.05	4,188.46	204.51	206.08	122.07	-934.76	8,528.30	584.65	230.09	354.56	1.649	
11,400.00	3,881.03	11,676.05	4,191.08	205.74	207.31	122.07	-935.45	8,578.23	584.56	227.90	356.66	1.639	
11,450.00	3,883.65	11,726.05	4,193.69	206.97	208.54	122.08	-936.14	8,628.15	584.47	225.70	358.77	1.629	
11,500.00	3,886.27	11,776.05	4,196.31	208.20	209.77	122.09	-936.84	8,678.08	584.38	223.51	360.88	1.619	
11,550.00	3,888.88	11,826.05	4,198.93	209.43	210.99	122.09	-937.53	8,728.01	584.30	221.31	362.98	1.610	
11,600.00	3,891.50	11,876.05	4,201.54	210.66	212.22	122.10	-938.22	8,777.93	584.21	219.12	365.09	1.600	
11,608.94	3,891.97	11,884.99	4,202.01	210.88	212.44	122.10	-938.34	8,786.86	584.19	218.72	365.47	1.598	
11,616.93	3,892.39	11,892.98	4,202.43	211.07	212.64	122.10	-938.45	8,794.84	584.19	218.38	365.81	1.597	
11,650.00	3,894.12	11,926.49	4,204.18	211.89	213.46	122.12	-938.92	8,828.30	584.31	217.06	367.24	1.591	
11,700.00	3,896.74	11,983.92	4,207.19	213.12	214.87	122.14	-939.23	8,885.65	584.59	215.13	369.46	1.582	
11,712.12	3,897.37	11,997.85	4,207.92	213.41	215.22	122.15	-939.17	8,899.56	584.65	214.67	369.98	1.580	
11,750.00	3,899.35	12,038.38	4,210.04	214.34	216.21	122.15	-938.78	8,940.03	584.69	213.11	371.58	1.574	
11,800.00	3,901.97	12,088.38	4,212.66	215.57	217.44	122.15	-938.22	8,989.96	584.69	210.99	373.70	1.565	
11,802.25	3,902.09	12,090.63	4,212.78	215.62	217.49	122.15	-938.20	8,992.21	584.69	210.89	373.80	1.564	ES, SF

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 5H - 5H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
0.00	0.00	0.00	11.00	0.00	0.00	-165.30	-846.00	-222.00	874.71				
50.00	50.00	39.00	50.00	0.14	0.13	-165.30	-846.00	-222.00	874.64	874.40	0.24	3,673.556	
100.00	100.00	89.00	100.00	0.34	0.30	-165.30	-846.00	-222.00	874.64	874.08	0.57	1,544.763	
150.00	150.00	139.00	150.00	0.66	0.59	-165.30	-846.00	-222.00	874.64	873.52	1.12	781.196	
200.00	200.00	189.00	200.00	0.98	0.91	-165.30	-846.00	-222.00	874.64	872.94	1.70	513.098	
250.00	250.00	239.00	250.00	1.23	1.17	-165.30	-846.00	-222.00	874.64	872.46	2.18	401.138	
300.00	300.00	289.00	300.00	1.48	1.42	-165.30	-846.00	-222.00	874.64	872.00	2.64	330.894	
350.00	350.00	339.00	350.00	1.69	1.64	-165.30	-846.00	-222.00	874.64	871.58	3.06	285.553	
400.00	400.00	389.00	400.00	1.91	1.86	-165.30	-846.00	-222.00	874.64	871.16	3.48	251.480	
450.00	450.00	439.00	450.00	2.11	2.07	-165.30	-846.00	-222.00	874.64	870.77	3.87	225.737	
500.00	500.00	489.00	500.00	2.32	2.27	-165.30	-846.00	-222.00	874.64	870.37	4.27	204.858	
550.00	550.00	536.57	547.57	2.45	2.41	70.62	-846.09	-221.85	874.59	870.04	4.54	192.461	
600.00	599.99	583.46	594.45	2.59	2.55	70.63	-846.48	-221.22	874.49	869.68	4.81	181.699	
650.00	649.96	630.35	641.32	2.68	2.62	70.65	-847.16	-220.11	874.35	869.16	5.19	168.328	
700.00	699.91	677.24	688.18	3.06	2.86	70.66	-848.15	-218.50	874.18	868.43	5.75	152.078	
750.00	749.82	724.14	735.01	3.42	3.24	70.68	-849.44	-216.40	873.96	867.75	6.21	140.637	
800.00	799.69	771.04	781.81	3.80	3.58	70.70	-851.03	-213.81	873.71	867.05	6.66	131.178	
850.00	849.51	817.94	828.57	4.13	3.92	70.73	-852.92	-210.73	873.41	866.32	7.10	123.083	
900.00	899.27	864.85	875.29	4.45	4.23	70.75	-855.11	-207.16	873.08	865.55	7.53	115.956	
950.00	948.96	911.76	921.96	4.75	4.52	70.78	-857.61	-203.11	872.71	864.75	7.96	109.679	
1,000.00	998.57	958.68	968.58	5.04	4.80	70.81	-860.40	-198.56	872.30	863.92	8.38	104.064	
1,050.00	1,048.10	1,005.60	1,015.13	5.32	5.08	70.85	-863.49	-193.53	871.85	863.05	8.81	99.005	
1,100.00	1,097.54	1,052.53	1,061.61	5.60	5.34	70.88	-866.88	-188.01	871.37	862.14	9.23	94.408	
1,150.00	1,146.87	1,100.00	1,108.54	5.86	5.60	70.92	-870.62	-181.93	870.84	861.18	9.66	90.175	
1,200.00	1,196.09	1,146.41	1,154.33	6.12	5.84	70.96	-874.57	-175.51	870.28	860.20	10.08	86.322	
1,250.00	1,245.19	1,193.36	1,200.56	6.37	6.09	71.01	-878.85	-168.53	869.68	859.16	10.51	82.726	
1,300.00	1,294.16	1,240.32	1,246.69	6.63	6.33	71.05	-883.44	-161.06	869.04	858.09	10.95	79.384	
1,350.00	1,343.00	1,287.28	1,292.72	6.87	6.56	71.10	-888.32	-153.12	868.36	856.97	11.39	76.248	
1,400.00	1,391.70	1,334.26	1,338.64	7.12	6.80	71.15	-893.50	-144.68	867.65	855.81	11.83	73.316	
1,450.00	1,440.24	1,381.24	1,384.44	7.36	7.03	71.21	-898.98	-135.77	866.89	854.60	12.29	70.537	
1,500.00	1,488.62	1,428.23	1,430.12	7.60	7.25	71.26	-904.75	-126.38	866.10	853.35	12.75	67.929	
1,535.32	1,522.69	1,461.44	1,462.32	7.70	7.41	71.30	-909.01	-119.45	865.52	852.47	13.05	66.304	
1,550.00	1,536.83	1,475.24	1,475.68	7.74	7.48	71.31	-910.82	-116.50	865.29	852.11	13.18	65.644	
1,600.00	1,585.01	1,522.25	1,521.09	7.89	7.70	71.33	-917.18	-106.14	864.59	850.97	13.62	63.474	
1,650.00	1,633.18	1,569.27	1,566.36	8.04	7.92	71.31	-923.84	-95.31	864.07	849.98	14.09	61.342	
1,700.00	1,681.36	1,616.28	1,611.46	8.19	8.14	71.26	-930.78	-84.01	863.71	849.16	14.55	59.342	
1,750.00	1,729.53	1,663.27	1,656.37	8.36	8.36	71.16	-938.01	-72.24	863.54	848.49	15.05	57.387	
1,775.08	1,753.70	1,686.82	1,678.82	8.45	8.47	71.10	-941.75	-66.16	863.51	848.22	15.29	56.460	CC
1,800.00	1,777.71	1,710.22	1,701.07	8.53	8.58	71.03	-945.53	-60.01	863.54	847.99	15.54	55.561	
1,850.00	1,825.88	1,757.11	1,745.54	8.71	8.80	70.87	-953.32	-47.33	863.72	847.66	16.06	53.796	
1,900.00	1,874.06	1,803.93	1,789.76	8.89	9.02	70.67	-961.38	-34.21	864.08	847.52	16.57	52.155	
1,950.00	1,922.23	1,850.68	1,833.71	9.07	9.24	70.43	-969.72	-20.64	864.64	847.54	17.10	50.564	
2,000.00	1,970.40	1,900.00	1,879.86	9.27	9.48	70.14	-978.81	-5.84	865.41	847.76	17.65	49.035	
2,050.00	2,018.58	1,943.87	1,920.73	9.46	9.68	69.85	-987.17	7.76	866.37	848.19	18.18	47.659	
2,100.00	2,066.75	1,990.29	1,963.77	9.67	9.91	69.51	-996.27	22.58	867.56	848.84	18.72	46.334	
2,150.00	2,114.93	2,036.58	2,006.47	9.88	10.14	69.13	-1,005.62	37.80	868.97	849.68	19.29	45.053	
2,200.00	2,163.10	2,082.71	2,048.81	10.10	10.37	68.73	-1,015.21	53.41	870.62	850.78	19.85	43.867	
2,250.00	2,211.28	2,128.69	2,090.78	10.32	10.61	68.29	-1,025.04	69.39	872.53	852.10	20.42	42.721	
2,300.00	2,259.45	2,174.49	2,132.37	10.55	10.86	67.82	-1,035.08	85.75	874.69	853.70	20.99	41.664	
2,350.00	2,307.63	2,220.11	2,173.56	10.78	11.10	67.32	-1,045.35	102.45	877.13	855.58	21.55	40.695	
2,400.00	2,355.80	2,266.83	2,215.51	11.02	11.34	66.79	-1,056.11	119.97	879.85	857.71	22.13	39.753	
2,450.00	2,403.98	2,315.95	2,259.57	11.27	11.60	66.22	-1,067.49	138.48	882.70	859.96	22.74	38.818	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 5H - 5H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
2,500.00	2,452.15	2,365.07	2,303.62	11.52	11.89	65.65	-1,078.86	156.99	885.64	862.30	23.34	37.950	
2,550.00	2,500.32	2,414.19	2,347.68	11.77	12.20	65.09	-1,090.23	175.50	888.67	864.75	23.91	37.159	
2,600.00	2,548.50	2,463.31	2,391.73	12.03	12.53	64.53	-1,101.61	194.01	891.78	867.27	24.51	36.379	
2,650.00	2,596.67	2,512.44	2,435.79	12.29	12.88	63.98	-1,112.98	212.52	894.99	869.87	25.12	35.631	
2,700.00	2,644.85	2,561.56	2,479.85	12.55	13.23	63.43	-1,124.35	231.03	898.27	872.56	25.72	34.931	
2,750.00	2,693.02	2,610.68	2,523.90	12.81	13.59	62.88	-1,135.73	249.54	901.65	875.34	26.31	34.267	
2,800.00	2,741.20	2,659.80	2,567.96	13.08	13.97	62.34	-1,147.10	268.05	905.10	878.20	26.91	33.639	
2,850.00	2,789.37	2,708.92	2,612.02	13.35	14.34	61.80	-1,158.47	286.57	908.64	881.14	27.50	33.044	
2,900.00	2,837.55	2,758.04	2,656.07	13.62	14.73	61.26	-1,169.85	305.08	912.26	884.18	28.09	32.479	
2,918.67	2,855.53	2,776.39	2,672.52	13.72	14.87	61.07	-1,174.09	311.99	913.64	885.33	28.30	32.281	
2,950.00	2,885.57	2,807.26	2,700.21	13.89	15.11	65.74	-1,181.24	323.62	916.09	887.42	28.68	31.945	
3,000.00	2,932.78	2,856.83	2,744.67	14.24	15.51	71.18	-1,192.72	342.30	920.58	891.18	29.39	31.321	
3,050.00	2,978.91	2,906.54	2,789.25	14.63	15.91	75.02	-1,204.23	361.03	925.68	895.52	30.16	30.691	
3,100.00	3,023.72	2,956.16	2,833.75	15.02	16.30	77.87	-1,215.71	379.73	931.38	900.43	30.94	30.100	
3,150.00	3,066.99	3,005.44	2,877.95	15.44	16.70	80.11	-1,227.12	398.30	937.65	905.91	31.75	29.537	
3,200.00	3,108.52	3,054.14	2,921.63	15.88	17.10	81.96	-1,238.40	416.65	944.54	911.96	32.58	28.992	
3,250.00	3,148.11	3,102.03	2,964.58	16.36	17.49	83.55	-1,249.49	434.70	952.10	918.65	33.45	28.463	
3,300.00	3,185.56	3,148.86	3,006.59	16.88	17.87	84.96	-1,260.33	452.35	960.41	926.05	34.36	27.953	
3,350.00	3,220.69	3,214.75	3,065.27	17.43	18.44	86.64	-1,275.25	478.28	969.37	933.83	35.54	27.278	
3,400.00	3,253.32	3,307.60	3,144.28	18.04	19.41	88.60	-1,293.51	523.38	977.44	940.26	37.18	26.288	
3,450.00	3,283.30	3,407.19	3,222.63	18.68	20.56	90.31	-1,308.99	582.73	984.06	945.11	38.95	25.268	
3,500.00	3,310.49	3,512.87	3,296.90	19.38	21.92	91.73	-1,320.45	656.90	988.89	948.08	40.81	24.232	
3,512.58	3,316.87	3,540.27	3,314.47	19.56	22.30	92.04	-1,322.56	677.83	989.79	948.50	41.29	23.970	
3,550.00	3,335.58	3,623.47	3,363.11	20.11	23.52	92.52	-1,326.70	745.13	991.43	948.64	42.79	23.171	
3,600.00	3,360.58	3,693.82	3,399.04	20.86	24.61	92.57	-1,327.83	805.60	991.61	947.13	44.48	22.294	
3,650.00	3,385.58	3,743.82	3,424.04	21.64	25.42	92.57	-1,328.40	848.90	991.61	945.53	46.08	21.520	
3,700.00	3,410.58	3,793.82	3,449.04	22.43	26.23	92.57	-1,328.97	892.20	991.62	943.94	47.68	20.796	
3,712.58	3,416.87	3,806.40	3,455.33	22.63	26.43	92.57	-1,329.11	903.09	991.62	943.53	48.09	20.619	
3,750.00	3,434.51	3,843.80	3,474.03	23.24	27.05	92.64	-1,329.53	935.47	991.68	942.35	49.33	20.102	
3,800.00	3,454.65	3,896.70	3,499.46	24.11	27.94	92.88	-1,330.14	981.85	991.90	940.83	51.07	19.421	
3,850.00	3,470.72	3,951.52	3,521.39	25.02	28.93	93.13	-1,330.80	1,032.06	992.13	939.20	52.93	18.745	
3,900.00	3,482.61	4,006.80	3,538.56	25.97	29.97	93.34	-1,331.48	1,084.59	992.35	937.48	54.87	18.084	
3,950.00	3,490.22	4,062.51	3,550.65	26.94	31.06	93.54	-1,332.19	1,138.93	992.56	935.67	56.89	17.447	
3,982.58	3,492.85	4,099.00	3,555.69	27.59	31.79	93.65	-1,332.67	1,175.07	992.68	934.45	58.23	17.048	
4,000.00	3,493.76	4,118.58	3,557.44	27.93	32.18	93.69	-1,332.92	1,194.57	992.73	933.77	58.95	16.840	
4,050.00	3,496.38	4,169.87	3,560.24	28.95	33.23	93.69	-1,333.59	1,245.77	992.74	931.72	61.02	16.268	
4,100.00	3,498.99	4,219.87	3,562.86	29.98	34.26	93.69	-1,334.24	1,295.70	992.75	929.65	63.09	15.735	
4,150.00	3,501.61	4,269.87	3,565.47	31.03	35.31	93.69	-1,334.89	1,345.63	992.75	927.55	65.21	15.224	
4,200.00	3,504.23	4,319.87	3,568.09	32.08	36.36	93.69	-1,335.54	1,395.56	992.76	925.43	67.33	14.744	
4,250.00	3,506.84	4,369.87	3,570.71	33.16	37.43	93.69	-1,336.20	1,445.48	992.77	923.28	69.49	14.286	
4,300.00	3,509.46	4,419.87	3,573.32	34.23	38.51	93.69	-1,336.85	1,495.41	992.77	921.12	71.66	13.854	
4,350.00	3,512.08	4,469.87	3,575.94	35.33	39.59	93.69	-1,337.50	1,545.34	992.78	918.93	73.85	13.442	
4,400.00	3,514.69	4,519.87	3,578.56	36.42	40.69	93.69	-1,338.15	1,595.26	992.79	916.73	76.06	13.053	
4,450.00	3,517.31	4,569.87	3,581.17	37.53	41.79	93.69	-1,338.80	1,645.19	992.80	914.51	78.28	12.682	
4,500.00	3,519.93	4,619.87	3,583.79	38.64	42.90	93.69	-1,339.46	1,695.12	992.80	912.29	80.52	12.330	
4,550.00	3,522.54	4,669.87	3,586.41	39.77	44.01	93.69	-1,340.11	1,745.05	992.81	910.04	82.77	11.995	
4,600.00	3,525.16	4,719.87	3,589.02	40.89	45.13	93.69	-1,340.76	1,794.97	992.82	907.79	85.03	11.676	
4,650.00	3,527.78	4,769.87	3,591.64	42.03	46.26	93.69	-1,341.41	1,844.90	992.82	905.52	87.30	11.372	
4,700.00	3,530.39	4,819.87	3,594.26	43.17	47.39	93.69	-1,342.06	1,894.83	992.83	903.25	89.58	11.083	
4,750.00	3,533.01	4,869.87	3,596.88	44.31	48.53	93.69	-1,342.72	1,944.75	992.84	900.96	91.88	10.806	
4,800.00	3,535.63	4,919.87	3,599.49	45.46	49.67	93.69	-1,343.37	1,994.68	992.85	898.67	94.17	10.543	
4,850.00	3,538.24	4,969.87	3,602.11	46.62	50.81	93.69	-1,344.02	2,044.61	992.85	896.37	96.48	10.290	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 5H - 5H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
4,900.00	3,540.86	5,019.87	3,604.73	47.77	51.96	93.69	-1,344.67	2,094.54	992.86	894.06	98.80	10.050	
4,950.00	3,543.48	5,069.87	3,607.34	48.93	53.11	93.69	-1,345.32	2,144.46	992.87	891.75	101.12	9.819	
5,000.00	3,546.09	5,119.87	3,609.96	50.09	54.27	93.69	-1,345.98	2,194.39	992.87	889.43	103.45	9.598	
5,050.00	3,548.71	5,169.87	3,612.58	51.26	55.43	93.69	-1,346.63	2,244.32	992.88	887.10	105.78	9.386	
5,100.00	3,551.33	5,219.87	3,615.19	52.43	56.59	93.69	-1,347.28	2,294.24	992.89	884.77	108.12	9.183	
5,150.00	3,553.94	5,269.87	3,617.81	53.61	57.76	93.69	-1,347.93	2,344.17	992.90	882.43	110.47	8.988	
5,200.00	3,556.56	5,319.87	3,620.43	54.78	58.92	93.69	-1,348.58	2,394.10	992.90	880.09	112.81	8.801	
5,203.62	3,556.75	5,323.49	3,620.62	54.87	59.01	93.69	-1,348.63	2,397.72	992.90	879.92	112.99	8.788	
5,204.55	3,556.80	5,324.42	3,620.67	54.89	59.03	93.69	-1,348.64	2,398.64	992.90	879.87	113.03	8.785	
5,250.00	3,559.18	5,369.87	3,623.04	55.96	60.09	93.69	-1,349.24	2,444.03	992.90	877.73	115.17	8.621	
5,300.00	3,561.79	5,419.87	3,625.66	57.14	61.26	93.69	-1,349.89	2,493.95	992.89	875.37	117.52	8.448	
5,350.00	3,564.41	5,469.87	3,628.28	58.32	62.44	93.69	-1,350.54	2,543.88	992.89	873.00	119.89	8.282	
5,400.00	3,567.03	5,519.87	3,630.90	59.50	63.62	93.69	-1,351.19	2,593.81	992.88	870.63	122.25	8.122	
5,450.00	3,569.64	5,569.87	3,633.51	60.69	64.80	93.69	-1,351.84	2,643.74	992.88	868.25	124.62	7.967	
5,500.00	3,572.26	5,619.87	3,636.13	61.88	65.98	93.69	-1,352.50	2,693.66	992.87	865.88	127.00	7.818	
5,550.00	3,574.88	5,669.87	3,638.75	63.07	67.16	93.69	-1,353.15	2,743.59	992.87	863.49	129.38	7.674	
5,600.00	3,577.49	5,719.87	3,641.36	64.26	68.35	93.69	-1,353.80	2,793.52	992.86	861.11	131.76	7.536	
5,650.00	3,580.11	5,769.87	3,643.98	65.45	69.53	93.69	-1,354.45	2,843.44	992.86	858.72	134.14	7.402	
5,700.00	3,582.73	5,819.87	3,646.60	66.64	70.72	93.69	-1,355.10	2,893.37	992.85	856.33	136.53	7.272	
5,750.00	3,585.35	5,869.87	3,649.21	67.84	71.91	93.69	-1,355.75	2,943.30	992.85	853.93	138.91	7.147	
5,800.00	3,587.96	5,919.87	3,651.83	69.04	73.10	93.69	-1,356.41	2,993.23	992.84	851.54	141.30	7.026	
5,850.00	3,590.58	5,969.87	3,654.45	70.23	74.29	93.69	-1,357.06	3,043.15	992.84	849.14	143.70	6.909	
5,900.00	3,593.20	6,019.87	3,657.07	71.43	75.49	93.69	-1,357.71	3,093.08	992.83	846.74	146.09	6.796	
5,950.00	3,595.81	6,069.87	3,659.68	72.63	76.68	93.69	-1,358.36	3,143.01	992.83	844.34	148.49	6.686	
6,000.00	3,598.43	6,119.87	3,662.30	73.83	77.88	93.69	-1,359.01	3,192.93	992.82	841.93	150.89	6.580	
6,050.00	3,601.05	6,169.87	3,664.92	75.04	79.07	93.69	-1,359.67	3,242.86	992.82	839.52	153.29	6.477	
6,100.00	3,603.66	6,219.87	3,667.53	76.24	80.27	93.69	-1,360.32	3,292.79	992.81	837.12	155.70	6.377	
6,150.00	3,606.28	6,269.87	3,670.15	77.45	81.47	93.69	-1,360.97	3,342.72	992.81	834.71	158.10	6.280	
6,200.00	3,608.90	6,319.87	3,672.77	78.65	82.67	93.69	-1,361.62	3,392.64	992.80	832.29	160.51	6.185	
6,250.00	3,611.51	6,369.87	3,675.38	79.86	83.87	93.69	-1,362.27	3,442.57	992.80	829.88	162.92	6.094	
6,300.00	3,614.13	6,419.87	3,678.00	81.06	85.07	93.69	-1,362.93	3,492.50	992.79	827.47	165.33	6.005	
6,350.00	3,616.75	6,469.87	3,680.62	82.27	86.28	93.69	-1,363.58	3,542.43	992.79	825.05	167.74	5.919	
6,400.00	3,619.36	6,519.87	3,683.23	83.48	87.48	93.69	-1,364.23	3,592.35	992.78	822.63	170.15	5.835	
6,450.00	3,621.98	6,569.87	3,685.85	84.69	88.69	93.69	-1,364.88	3,642.28	992.78	820.21	172.57	5.753	
6,500.00	3,624.60	6,619.87	3,688.47	85.90	89.89	93.69	-1,365.53	3,692.21	992.77	817.79	174.98	5.674	
6,550.00	3,627.21	6,669.87	3,691.09	87.11	91.09	93.69	-1,366.19	3,742.13	992.77	815.37	177.40	5.596	
6,600.00	3,629.83	6,720.14	3,693.72	88.32	92.31	93.69	-1,366.83	3,792.33	992.75	812.93	179.82	5.521	
6,650.00	3,632.45	6,770.14	3,696.33	89.53	93.51	93.69	-1,367.47	3,842.26	992.73	810.50	182.24	5.447	
6,700.00	3,635.06	6,820.14	3,698.95	90.74	94.72	93.69	-1,368.11	3,892.19	992.71	808.06	184.66	5.376	
6,750.00	3,637.68	6,870.14	3,701.57	91.95	95.93	93.69	-1,368.74	3,942.11	992.69	805.62	187.08	5.306	
6,800.00	3,640.30	6,920.14	3,704.18	93.17	97.14	93.69	-1,369.38	3,992.04	992.68	803.18	189.50	5.238	
6,850.00	3,642.91	6,970.14	3,706.80	94.38	98.35	93.69	-1,370.02	4,041.97	992.66	800.73	191.92	5.172	
6,900.00	3,645.53	7,020.14	3,709.42	95.59	99.56	93.69	-1,370.66	4,091.90	992.64	798.29	194.35	5.108	
6,950.00	3,648.15	7,070.14	3,712.03	96.81	100.77	93.69	-1,371.30	4,141.82	992.62	795.85	196.77	5.045	
7,000.00	3,650.76	7,120.14	3,714.65	98.02	101.98	93.69	-1,371.94	4,191.75	992.60	793.40	199.20	4.983	
7,050.00	3,653.38	7,170.14	3,717.27	99.24	103.19	93.69	-1,372.57	4,241.68	992.58	790.96	201.63	4.923	
7,100.00	3,656.00	7,220.14	3,719.88	100.45	104.40	93.69	-1,373.21	4,291.61	992.56	788.51	204.05	4.864	
7,150.00	3,658.61	7,270.14	3,722.50	101.67	105.62	93.69	-1,373.85	4,341.53	992.55	786.06	206.48	4.807	
7,200.00	3,661.23	7,320.14	3,725.12	102.89	106.83	93.69	-1,374.49	4,391.46	992.53	783.62	208.91	4.751	
7,250.00	3,663.85	7,370.14	3,727.73	104.10	108.04	93.69	-1,375.13	4,441.39	992.51	781.17	211.34	4.696	
7,300.00	3,666.46	7,420.14	3,730.35	105.32	109.26	93.69	-1,375.77	4,491.32	992.49	778.72	213.77	4.643	
7,350.00	3,669.08	7,470.14	3,732.97	106.54	110.47	93.69	-1,376.40	4,541.24	992.47	776.27	216.20	4.590	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 5H - 5H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 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
7,400.00	3,671.70	7,520.14	3,735.58	107.76	111.69	93.69	-1,377.04	4,591.17	992.45	773.82	218.63	4.539	
7,450.00	3,674.31	7,570.14	3,738.20	108.97	112.90	93.69	-1,377.68	4,641.10	992.43	771.37	221.07	4.489	
7,500.00	3,676.93	7,620.14	3,740.82	110.19	114.12	93.69	-1,378.32	4,691.03	992.41	768.92	223.50	4.440	
7,550.00	3,679.55	7,670.14	3,743.43	111.41	115.33	93.70	-1,378.96	4,740.95	992.40	766.46	225.93	4.392	
7,600.00	3,682.16	7,720.14	3,746.05	112.63	116.55	93.70	-1,379.59	4,790.88	992.38	764.01	228.37	4.346	
7,650.00	3,684.78	7,770.14	3,748.67	113.85	117.77	93.70	-1,380.23	4,840.81	992.36	761.56	230.80	4.300	
7,700.00	3,687.40	7,820.14	3,751.28	115.07	118.98	93.70	-1,380.87	4,890.74	992.34	759.10	233.24	4.255	
7,750.00	3,690.01	7,870.14	3,753.90	116.29	120.20	93.70	-1,381.51	4,940.66	992.32	756.65	235.67	4.211	
7,800.00	3,692.63	7,920.14	3,756.52	117.51	121.42	93.70	-1,382.15	4,990.59	992.30	754.19	238.11	4.167	
7,850.00	3,695.25	7,970.14	3,759.13	118.73	122.64	93.70	-1,382.79	5,040.52	992.28	751.74	240.55	4.125	
7,900.00	3,697.86	8,020.14	3,761.75	119.95	123.85	93.70	-1,383.42	5,090.44	992.27	749.28	242.98	4.084	
7,950.00	3,700.48	8,070.14	3,764.37	121.17	125.07	93.70	-1,384.06	5,140.37	992.25	746.83	245.42	4.043	
8,000.00	3,703.10	8,120.14	3,766.98	122.39	126.29	93.70	-1,384.70	5,190.30	992.23	744.37	247.86	4.003	
8,050.00	3,705.71	8,170.14	3,769.60	123.61	127.51	93.70	-1,385.34	5,240.23	992.21	741.91	250.30	3.964	
8,100.00	3,708.33	8,220.14	3,772.22	124.84	128.73	93.70	-1,385.98	5,290.15	992.19	739.45	252.74	3.926	
8,150.00	3,710.95	8,270.14	3,774.83	126.06	129.95	93.70	-1,386.62	5,340.08	992.17	737.00	255.18	3.888	
8,200.00	3,713.56	8,320.14	3,777.45	127.28	131.17	93.70	-1,387.25	5,390.01	992.15	734.54	257.62	3.851	
8,250.00	3,716.18	8,370.14	3,780.07	128.50	132.39	93.70	-1,387.89	5,439.94	992.13	732.08	260.06	3.815	
8,300.00	3,718.80	8,420.14	3,782.68	129.72	133.61	93.70	-1,388.53	5,489.86	992.12	729.62	262.50	3.780	
8,350.00	3,721.41	8,470.14	3,785.30	130.95	134.83	93.70	-1,389.17	5,539.79	992.10	727.16	264.94	3.745	
8,400.00	3,724.03	8,520.14	3,787.92	132.17	136.05	93.70	-1,389.81	5,589.72	992.08	724.70	267.38	3.710	
8,450.00	3,726.65	8,570.14	3,790.53	133.39	137.27	93.70	-1,390.45	5,639.65	992.06	722.24	269.82	3.677	
8,500.00	3,729.26	8,620.14	3,793.15	134.62	138.49	93.70	-1,391.08	5,689.57	992.04	719.78	272.26	3.644	
8,550.00	3,731.88	8,670.14	3,795.77	135.84	139.71	93.70	-1,391.72	5,739.50	992.02	717.32	274.71	3.611	
8,600.00	3,734.50	8,720.14	3,798.38	137.06	140.93	93.70	-1,392.36	5,789.43	992.00	714.86	277.15	3.579	
8,650.00	3,737.11	8,770.14	3,801.00	138.29	142.15	93.70	-1,393.00	5,839.36	991.99	712.39	279.59	3.548	
8,700.00	3,739.73	8,820.14	3,803.62	139.51	143.38	93.70	-1,393.64	5,889.28	991.97	709.93	282.03	3.517	
8,750.00	3,742.35	8,870.14	3,806.23	140.73	144.60	93.70	-1,394.28	5,939.21	991.95	707.47	284.48	3.487	
8,800.00	3,744.96	8,920.14	3,808.85	141.96	145.82	93.70	-1,394.91	5,989.14	991.93	705.01	286.92	3.457	
8,850.00	3,747.58	8,970.14	3,811.47	143.18	147.04	93.70	-1,395.55	6,039.07	991.91	702.54	289.37	3.428	
8,900.00	3,750.20	9,020.14	3,814.08	144.41	148.26	93.70	-1,396.19	6,088.99	991.89	700.08	291.81	3.399	
8,950.00	3,752.81	9,070.14	3,816.70	145.63	149.49	93.70	-1,396.83	6,138.92	991.87	697.62	294.25	3.371	
9,000.00	3,755.43	9,120.14	3,819.32	146.86	150.71	93.70	-1,397.47	6,188.85	991.85	695.15	296.70	3.343	
9,050.00	3,758.05	9,170.14	3,821.93	148.08	151.93	93.70	-1,398.11	6,238.78	991.84	692.69	299.15	3.316	
9,100.00	3,760.66	9,220.14	3,824.55	149.31	153.16	93.70	-1,398.74	6,288.70	991.82	690.23	301.59	3.289	
9,150.00	3,763.28	9,270.14	3,827.17	150.53	154.38	93.70	-1,399.38	6,338.63	991.80	687.76	304.04	3.262	
9,165.05	3,764.07	9,285.19	3,827.95	150.90	154.75	93.70	-1,399.57	6,353.65	991.79	687.02	304.77	3.254	
9,166.48	3,764.14	9,286.62	3,828.03	150.93	154.78	93.70	-1,399.59	6,355.08	991.79	686.95	304.84	3.253	
9,167.40	3,764.19	9,287.54	3,828.08	150.96	154.80	93.70	-1,399.60	6,356.00	991.79	686.91	304.89	3.253	
9,200.00	3,765.90	9,319.82	3,829.76	151.75	155.59	93.70	-1,400.02	6,388.24	991.80	685.32	306.48	3.236	
9,250.00	3,768.51	9,369.09	3,832.34	152.98	156.80	93.70	-1,400.70	6,437.43	991.86	682.95	308.91	3.211	
9,300.00	3,771.13	9,419.09	3,834.96	154.20	158.02	93.70	-1,401.39	6,487.36	991.93	680.57	311.36	3.186	
9,350.00	3,773.75	9,469.09	3,837.58	155.43	159.25	93.70	-1,402.08	6,537.29	991.99	678.19	313.80	3.161	
9,400.00	3,776.36	9,519.09	3,840.19	156.65	160.47	93.70	-1,402.77	6,587.21	992.06	675.81	316.25	3.137	
9,450.00	3,778.98	9,569.09	3,842.81	157.88	161.69	93.70	-1,403.46	6,637.14	992.12	673.43	318.70	3.113	
9,500.00	3,781.60	9,619.09	3,845.43	159.11	162.92	93.70	-1,404.15	6,687.07	992.19	671.04	321.15	3.090	
9,550.00	3,784.21	9,669.09	3,848.04	160.33	164.14	93.70	-1,404.84	6,736.99	992.25	668.66	323.59	3.066	
9,600.00	3,786.83	9,719.09	3,850.66	161.56	165.37	93.70	-1,405.54	6,786.92	992.32	666.28	326.04	3.044	
9,650.00	3,789.45	9,769.09	3,853.28	162.78	166.59	93.70	-1,406.23	6,836.85	992.38	663.90	328.49	3.021	
9,700.00	3,792.07	9,819.09	3,855.89	164.01	167.82	93.70	-1,406.92	6,886.77	992.45	661.51	330.94	2.999	
9,750.00	3,794.68	9,869.09	3,858.51	165.24	169.04	93.70	-1,407.61	6,936.70	992.51	659.13	333.39	2.977	
9,800.00	3,797.30	9,919.09	3,861.13	166.46	170.27	93.70	-1,408.30	6,986.63	992.58	656.75	335.83	2.956	

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

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design Abides Fed - Abides Fed 5H - 5H - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 usft

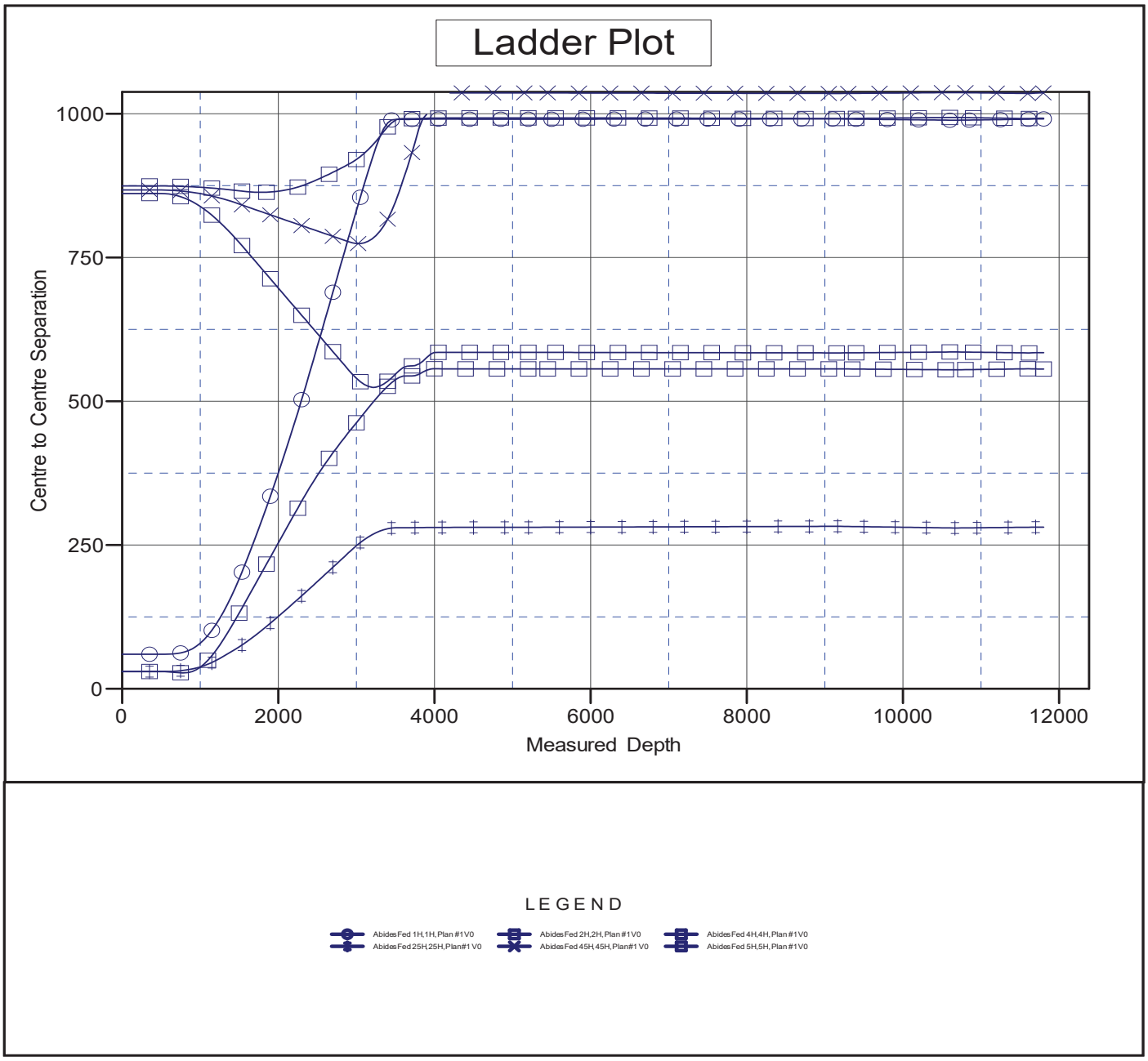
Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,850.00	3,799.92	9,969.09	3,863.74	167.69	171.49	93.70	-1,408.99	7,036.55	992.64	654.36	338.28	2.934	
9,900.00	3,802.53	10,019.09	3,866.36	168.91	172.72	93.70	-1,409.68	7,086.48	992.71	651.98	340.73	2.913	
9,950.00	3,805.15	10,069.09	3,868.98	170.14	173.94	93.70	-1,410.38	7,136.41	992.78	649.59	343.18	2.893	
10,000.00	3,807.77	10,119.09	3,871.59	171.37	175.17	93.69	-1,411.07	7,186.33	992.84	647.21	345.63	2.873	
10,050.00	3,810.38	10,169.09	3,874.21	172.59	176.39	93.69	-1,411.76	7,236.26	992.91	644.83	348.08	2.853	
10,100.00	3,813.00	10,219.09	3,876.83	173.82	177.62	93.69	-1,412.45	7,286.19	992.97	642.44	350.53	2.833	
10,150.00	3,815.62	10,269.09	3,879.44	175.05	178.84	93.69	-1,413.14	7,336.11	993.04	640.06	352.98	2.813	
10,200.00	3,818.23	10,319.09	3,882.06	176.28	180.07	93.69	-1,413.83	7,386.04	993.10	637.67	355.43	2.794	
10,250.00	3,820.85	10,369.09	3,884.68	177.50	181.30	93.69	-1,414.52	7,435.97	993.17	635.29	357.88	2.775	
10,300.00	3,823.47	10,419.09	3,887.30	178.73	182.52	93.69	-1,415.22	7,485.89	993.23	632.90	360.33	2.756	
10,350.00	3,826.08	10,469.09	3,889.91	179.96	183.75	93.69	-1,415.91	7,535.82	993.30	630.52	362.78	2.738	
10,400.00	3,828.70	10,519.09	3,892.53	181.18	184.97	93.69	-1,416.60	7,585.75	993.36	628.13	365.23	2.720	
10,450.00	3,831.32	10,569.09	3,895.15	182.41	186.20	93.69	-1,417.29	7,635.67	993.43	625.75	367.68	2.702	
10,500.00	3,833.94	10,619.09	3,897.76	183.64	187.43	93.69	-1,417.98	7,685.60	993.49	623.36	370.13	2.684	
10,550.00	3,836.55	10,669.09	3,900.38	184.87	188.65	93.69	-1,418.67	7,735.53	993.56	620.97	372.58	2.667	
10,600.00	3,839.17	10,719.09	3,903.00	186.09	189.88	93.69	-1,419.36	7,785.45	993.62	618.59	375.03	2.649	
10,650.00	3,841.79	10,769.09	3,905.61	187.32	191.10	93.69	-1,420.06	7,835.38	993.69	616.20	377.48	2.632	
10,667.40	3,842.70	10,786.48	3,906.52	187.75	191.53	93.69	-1,420.30	7,852.75	993.71	615.37	378.34	2.627	
10,680.35	3,843.37	10,799.44	3,907.20	188.07	191.85	93.68	-1,420.48	7,865.69	993.70	614.73	378.97	2.622	
10,700.00	3,844.40	10,819.09	3,908.23	188.55	192.33	93.68	-1,420.75	7,885.31	993.66	613.73	379.93	2.615	
10,750.00	3,847.02	10,869.09	3,910.85	189.77	193.56	93.68	-1,421.44	7,935.23	993.56	611.17	382.38	2.598	
10,800.00	3,849.64	10,919.09	3,913.46	191.00	194.78	93.68	-1,422.13	7,985.16	993.45	608.62	384.83	2.582	
10,850.00	3,852.25	10,969.09	3,916.08	192.23	196.01	93.68	-1,422.82	8,035.09	993.35	606.06	387.29	2.565	
10,900.00	3,854.87	11,019.09	3,918.70	193.46	197.24	93.68	-1,423.51	8,085.01	993.25	603.51	389.74	2.548	
10,950.00	3,857.49	11,069.09	3,921.31	194.69	198.47	93.68	-1,424.20	8,134.94	993.14	600.95	392.19	2.532	
11,000.00	3,860.10	11,119.09	3,923.93	195.92	199.69	93.68	-1,424.90	8,184.87	993.04	598.40	394.64	2.516	
11,050.00	3,862.72	11,169.09	3,926.55	197.14	200.92	93.68	-1,425.59	8,234.79	992.93	595.84	397.09	2.501	
11,100.00	3,865.33	11,219.09	3,929.16	198.37	202.15	93.68	-1,426.28	8,284.72	992.83	593.28	399.55	2.485	
11,150.00	3,867.95	11,269.09	3,931.78	199.60	203.37	93.69	-1,426.97	8,334.65	992.72	590.73	402.00	2.469	
11,200.00	3,870.57	11,319.09	3,934.40	200.83	204.60	93.69	-1,427.66	8,384.57	992.62	588.17	404.45	2.454	
11,250.00	3,873.18	11,369.09	3,937.01	202.06	205.83	93.69	-1,428.35	8,434.50	992.52	585.61	406.90	2.439	
11,300.00	3,875.80	11,419.09	3,939.63	203.29	207.06	93.69	-1,429.04	8,484.43	992.41	583.06	409.35	2.424	
11,350.00	3,878.42	11,469.09	3,942.25	204.51	208.28	93.69	-1,429.74	8,534.35	992.31	580.50	411.81	2.410	
11,400.00	3,881.03	11,519.09	3,944.86	205.74	209.51	93.69	-1,430.43	8,584.28	992.20	577.94	414.26	2.395	
11,450.00	3,883.65	11,569.09	3,947.48	206.97	210.74	93.69	-1,431.12	8,634.21	992.10	575.39	416.71	2.381	
11,500.00	3,886.27	11,619.09	3,950.10	208.20	211.97	93.69	-1,431.81	8,684.13	991.99	572.83	419.16	2.367	
11,550.00	3,888.88	11,669.08	3,952.71	209.43	213.19	93.69	-1,432.50	8,734.06	991.89	570.27	421.62	2.353	
11,600.00	3,891.50	11,719.08	3,955.33	210.66	214.42	93.69	-1,433.19	8,783.99	991.79	567.72	424.07	2.339	
11,608.94	3,891.97	11,728.03	3,955.80	210.88	214.64	93.69	-1,433.32	8,792.91	991.77	567.26	424.51	2.336	
11,616.91	3,892.39	11,735.99	3,956.22	211.07	214.84	93.70	-1,433.43	8,800.87	991.76	566.86	424.90	2.334	
11,650.00	3,894.12	11,769.43	3,957.97	211.89	215.66	93.72	-1,433.89	8,834.25	991.90	565.37	426.53	2.326	
11,700.00	3,896.74	11,836.92	3,961.50	213.12	217.31	93.76	-1,434.20	8,901.65	992.20	563.06	429.14	2.312	
11,712.12	3,897.37	11,853.28	3,962.36	213.41	217.71	93.77	-1,434.10	8,917.99	992.24	562.48	429.76	2.309	
11,750.00	3,899.35	11,893.76	3,964.47	214.34	218.70	93.77	-1,433.66	8,958.41	992.25	560.63	431.62	2.299	
11,800.00	3,901.97	11,943.76	3,967.09	215.57	219.93	93.77	-1,433.11	9,008.34	992.25	558.18	434.07	2.286	
11,802.25	3,902.09	11,946.01	3,967.21	215.62	219.98	93.77	-1,433.08	9,010.59	992.25	558.07	434.18	2.285	ES, SF

Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to 3577+16 @ 3593.00usft (gl+kb akita)
Offset Depths are relative to Offset Datum
Central Meridian is -104.3333333

Coordinates are relative to: Abides Fed 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.03°



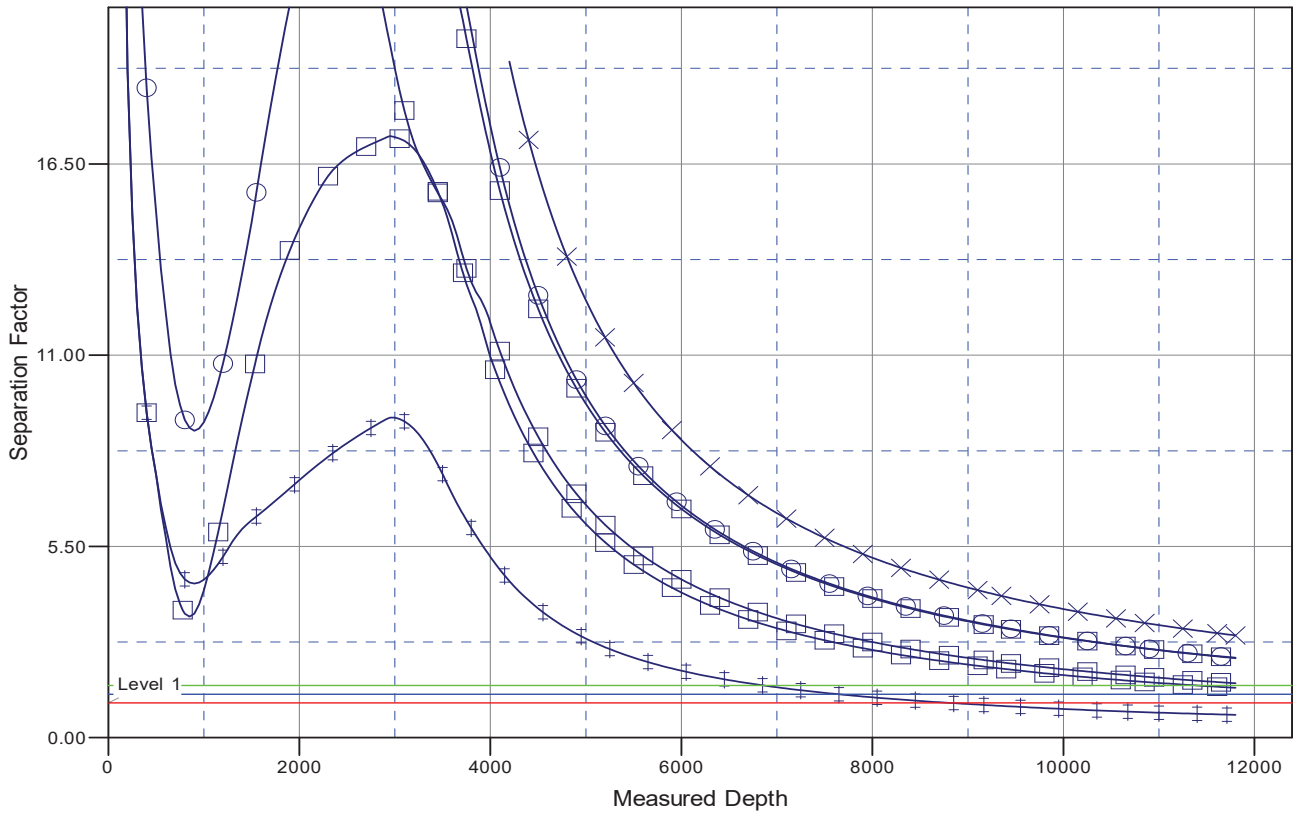
Anticollision Report

Company:	RILEY PERMIAN OPERATING CO,. LLC	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Project:	Eddy County, NM (NAD83) NMEZ Grid	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Reference Site:	Abides Fed	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	3H	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to 3577+16 @ 3593.00usft (gl+kb akita)
Offset Depths are relative to Offset Datum
Central Meridian is -104.3333333

Coordinates are relative to: Abides Fed 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.03°

Separation Factor Plot



LEGEND

Abides Fed 1H,1H,Plan #1 V0
Abides Fed 25H,25H,Plan#1 V0
Abides Fed 2H,2H,Plan #1 V0
Abides Fed 45H,45H,Plan#1 V0
Abides Fed 4H,4H,Plan #1 V0
Abides Fed 5H,5H,Plan #1 V0

RILEY PERMIAN OPERATING CO,. LLC

Eddy County, NM (NAD83) NMEZ Grid
Abides Fed
Abides Fed 3H

3H

Plan: Plan #1

Standard Planning Report

11 January, 2026

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

Project	Eddy County, NM (NAD83) NMEZ Grid		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Abides Fed				
Site Position:		**Northing:**	645,366.00 usft	**Latitude:**	32.7741329
From:	Map	**Easting:**	558,202.00 usft	**Longitude:**	-104.2784636
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.03 °

Well	Abides Fed 3H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	645,366.00 usft	**Latitude:**	32.7741329
	+E/-W	0.00 usft	**Easting:**	558,202.00 usft	**Longitude:**	-104.2784636
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,577.00 usft

Wellbore	3H				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	User Defined	01/07/26	6.58	60.13	47,207.80000000

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	90.74	

Plan Survey Tool Program **Date** 01/11/26

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,802.25	Plan #1 (3H)	MWD	
				OWSG MWD - Standard	

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Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,535.32	15.53	124.09	1,522.69	-78.17	115.48	1.50	1.50	0.00	124.09	
2,918.67	15.53	124.09	2,855.53	-285.78	422.20	0.00	0.00	0.00	0.00	
3,512.58	60.00	90.74	3,316.87	-336.62	765.07	8.00	7.49	-5.62	-40.22	Abides 3H 60DEG
3,712.58	60.00	90.74	3,416.87	-338.86	938.26	0.00	0.00	0.00	0.00	
3,982.58	87.00	90.74	3,492.85	-342.17	1,194.73	10.00	10.00	0.00	0.00	
5,203.62	87.00	90.74	3,556.75	-357.92	2,414.00	0.00	0.00	0.00	0.00	Abides 3H PPP1 133
5,204.55	87.00	90.75	3,556.80	-357.93	2,414.93	1.50	0.01	1.50	89.47	
9,165.05	87.00	90.75	3,764.07	-409.97	6,369.65	0.00	0.00	0.00	0.00	
9,167.40	87.00	90.72	3,764.19	-410.00	6,372.00	1.50	-0.01	-1.50	-90.36	Abides 3H PPP2 137
10,667.40	87.00	90.72	3,842.70	-428.79	7,869.83	0.00	0.00	0.00	0.00	
10,680.35	87.00	90.91	3,843.37	-428.97	7,882.77	1.50	0.00	1.50	89.89	
11,608.94	87.00	90.91	3,891.97	-443.75	8,809.96	0.00	0.00	0.00	0.00	
11,712.12	87.00	89.36	3,897.37	-444.00	8,913.00	1.50	0.00	-1.50	-90.12	Abides 3H LMP 1320
11,802.25	87.00	89.36	3,902.09	-443.00	9,003.00	0.00	0.00	0.00	0.00	Abides 3H PBHL 132

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
600.00	1.50	124.09	599.99	-0.73	1.08	1.09	1.50	1.50	0.00
700.00	3.00	124.09	699.91	-2.93	4.34	4.37	1.50	1.50	0.00
800.00	4.50	124.09	799.69	-6.60	9.75	9.84	1.50	1.50	0.00
900.00	6.00	124.09	899.27	-11.73	17.33	17.48	1.50	1.50	0.00
1,000.00	7.50	124.09	998.57	-18.32	27.06	27.30	1.50	1.50	0.00
1,100.00	9.00	124.09	1,097.54	-26.36	38.94	39.28	1.50	1.50	0.00
1,200.00	10.50	124.09	1,196.09	-35.85	52.97	53.43	1.50	1.50	0.00
1,300.00	12.00	124.09	1,294.16	-46.79	69.12	69.72	1.50	1.50	0.00
1,400.00	13.50	124.09	1,391.70	-59.16	87.40	88.16	1.50	1.50	0.00
1,500.00	15.00	124.09	1,488.62	-72.96	107.78	108.72	1.50	1.50	0.00
1,535.32	15.53	124.09	1,522.69	-78.17	115.48	116.48	1.50	1.50	0.00
Start 1383.35 hold at 1535.32 MD									
1,600.00	15.53	124.09	1,585.01	-87.88	129.83	130.95	0.00	0.00	0.00
1,700.00	15.53	124.09	1,681.36	-102.89	152.00	153.31	0.00	0.00	0.00
1,800.00	15.53	124.09	1,777.71	-117.89	174.17	175.68	0.00	0.00	0.00
1,900.00	15.53	124.09	1,874.06	-132.90	196.34	198.04	0.00	0.00	0.00
2,000.00	15.53	124.09	1,970.40	-147.91	218.51	220.41	0.00	0.00	0.00
2,100.00	15.53	124.09	2,066.75	-162.92	240.69	242.77	0.00	0.00	0.00
2,200.00	15.53	124.09	2,163.10	-177.93	262.86	265.13	0.00	0.00	0.00
2,300.00	15.53	124.09	2,259.45	-192.93	285.03	287.50	0.00	0.00	0.00
2,400.00	15.53	124.09	2,355.80	-207.94	307.20	309.86	0.00	0.00	0.00
2,500.00	15.53	124.09	2,452.15	-222.95	329.37	332.23	0.00	0.00	0.00
2,600.00	15.53	124.09	2,548.50	-237.96	351.55	354.59	0.00	0.00	0.00
2,700.00	15.53	124.09	2,644.85	-252.97	373.72	376.95	0.00	0.00	0.00
2,800.00	15.53	124.09	2,741.20	-267.97	395.89	399.32	0.00	0.00	0.00
2,900.00	15.53	124.09	2,837.55	-282.98	418.06	421.68	0.00	0.00	0.00
2,918.67	15.53	124.09	2,855.53	-285.78	422.20	425.86	0.00	0.00	0.00
KOP Start DLS 8.00 TFO -40.22									
2,950.00	17.52	118.71	2,885.57	-290.40	429.81	433.53	8.00	6.34	-17.18
3,000.00	20.91	112.27	2,932.78	-297.40	444.68	448.48	8.00	6.79	-12.89
3,050.00	24.49	107.59	2,978.91	-303.92	462.82	466.71	8.00	7.15	-9.35
3,100.00	28.17	104.06	3,023.72	-309.92	484.16	488.12	8.00	7.36	-7.07
3,150.00	31.92	101.29	3,066.99	-315.37	508.58	512.61	8.00	7.51	-5.54
3,200.00	35.72	99.05	3,108.52	-320.26	535.97	540.06	8.00	7.60	-4.48
3,250.00	39.56	97.19	3,148.11	-324.55	566.19	570.33	8.00	7.67	-3.72
3,300.00	43.42	95.61	3,185.56	-328.22	599.10	603.29	8.00	7.72	-3.16
3,350.00	47.30	94.24	3,220.69	-331.27	634.54	638.76	8.00	7.76	-2.74
3,400.00	51.19	93.04	3,253.32	-333.66	672.33	676.58	8.00	7.79	-2.41
3,450.00	55.10	91.96	3,283.30	-335.39	712.29	716.57	8.00	7.81	-2.16
3,500.00	59.01	90.97	3,310.49	-336.46	754.23	758.52	8.00	7.83	-1.97
3,512.58	60.00	90.74	3,316.87	-336.62	765.07	769.35	8.00	7.84	-1.86
60DEG Start 200.00 hold at 3512.58 MD									
3,600.00	60.00	90.74	3,360.58	-337.60	840.77	845.06	0.00	0.00	0.00
3,700.00	60.00	90.74	3,410.58	-338.72	927.37	931.67	0.00	0.00	0.00
3,712.58	60.00	90.74	3,416.87	-338.86	938.26	942.56	0.00	0.00	0.00
Start Build 10.00									

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,750.00	63.74	90.74	3,434.51	-339.28	971.25	975.55	10.00	10.00	0.00
3,800.00	68.74	90.74	3,454.65	-339.87	1,017.00	1,021.30	10.00	10.00	0.00
3,850.00	73.74	90.74	3,470.72	-340.49	1,064.32	1,068.63	10.00	10.00	0.00
3,900.00	78.74	90.74	3,482.61	-341.11	1,112.87	1,117.18	10.00	10.00	0.00
3,950.00	83.74	90.74	3,490.22	-341.75	1,162.27	1,166.58	10.00	10.00	0.00
3,979.78	86.72	90.74	3,492.69	-342.13	1,191.94	1,196.26	10.00	10.00	0.00
Target									
3,982.58	87.00	90.74	3,492.85	-342.17	1,194.73	1,199.05	10.00	10.00	0.00
FTP Start 1221.04 hold at 3982.58 MD									
4,000.00	87.00	90.74	3,493.76	-342.39	1,212.13	1,216.45	0.00	0.00	0.00
4,100.00	87.00	90.74	3,498.99	-343.68	1,311.98	1,316.31	0.00	0.00	0.00
4,200.00	87.00	90.74	3,504.23	-344.97	1,411.84	1,416.17	0.00	0.00	0.00
4,300.00	87.00	90.74	3,509.46	-346.26	1,511.69	1,516.04	0.00	0.00	0.00
4,400.00	87.00	90.74	3,514.69	-347.55	1,611.55	1,615.90	0.00	0.00	0.00
4,500.00	87.00	90.74	3,519.93	-348.84	1,711.40	1,715.76	0.00	0.00	0.00
4,600.00	87.00	90.74	3,525.16	-350.13	1,811.26	1,815.63	0.00	0.00	0.00
4,700.00	87.00	90.74	3,530.39	-351.42	1,911.11	1,915.49	0.00	0.00	0.00
4,800.00	87.00	90.74	3,535.63	-352.71	2,010.97	2,015.35	0.00	0.00	0.00
4,900.00	87.00	90.74	3,540.86	-354.00	2,110.82	2,115.22	0.00	0.00	0.00
5,000.00	87.00	90.74	3,546.09	-355.29	2,210.67	2,215.08	0.00	0.00	0.00
5,100.00	87.00	90.74	3,551.33	-356.58	2,310.53	2,314.94	0.00	0.00	0.00
5,203.62	87.00	90.74	3,556.75	-357.92	2,414.00	2,418.42	0.00	0.00	0.00
PPP1 Start DLS 1.50 TFO 89.47									
5,204.55	87.00	90.75	3,556.80	-357.93	2,414.93	2,419.35	1.50	0.01	1.50
Start 3960.50 hold at 5204.55 MD									
5,300.00	87.00	90.75	3,561.79	-359.18	2,510.24	2,514.67	0.00	0.00	0.00
5,400.00	87.00	90.75	3,567.03	-360.50	2,610.09	2,614.53	0.00	0.00	0.00
5,500.00	87.00	90.75	3,572.26	-361.81	2,709.95	2,714.39	0.00	0.00	0.00
5,600.00	87.00	90.75	3,577.49	-363.13	2,809.80	2,814.26	0.00	0.00	0.00
5,700.00	87.00	90.75	3,582.73	-364.44	2,909.66	2,914.12	0.00	0.00	0.00
5,800.00	87.00	90.75	3,587.96	-365.75	3,009.51	3,013.98	0.00	0.00	0.00
5,900.00	87.00	90.75	3,593.20	-367.07	3,109.36	3,113.85	0.00	0.00	0.00
6,000.00	87.00	90.75	3,598.43	-368.38	3,209.22	3,213.71	0.00	0.00	0.00
6,100.00	87.00	90.75	3,603.66	-369.70	3,309.07	3,313.57	0.00	0.00	0.00
6,200.00	87.00	90.75	3,608.90	-371.01	3,408.93	3,413.43	0.00	0.00	0.00
6,300.00	87.00	90.75	3,614.13	-372.32	3,508.78	3,513.30	0.00	0.00	0.00
6,400.00	87.00	90.75	3,619.36	-373.64	3,608.64	3,613.16	0.00	0.00	0.00
6,500.00	87.00	90.75	3,624.60	-374.95	3,708.49	3,713.02	0.00	0.00	0.00
6,600.00	87.00	90.75	3,629.83	-376.27	3,808.34	3,812.89	0.00	0.00	0.00
6,700.00	87.00	90.75	3,635.06	-377.58	3,908.20	3,912.75	0.00	0.00	0.00
6,800.00	87.00	90.75	3,640.30	-378.89	4,008.05	4,012.61	0.00	0.00	0.00
6,900.00	87.00	90.75	3,645.53	-380.21	4,107.91	4,112.47	0.00	0.00	0.00
7,000.00	87.00	90.75	3,650.76	-381.52	4,207.76	4,212.34	0.00	0.00	0.00
7,100.00	87.00	90.75	3,656.00	-382.84	4,307.62	4,312.20	0.00	0.00	0.00
7,200.00	87.00	90.75	3,661.23	-384.15	4,407.47	4,412.06	0.00	0.00	0.00
7,300.00	87.00	90.75	3,666.46	-385.46	4,507.32	4,511.93	0.00	0.00	0.00
7,400.00	87.00	90.75	3,671.70	-386.78	4,607.18	4,611.79	0.00	0.00	0.00
7,500.00	87.00	90.75	3,676.93	-388.09	4,707.03	4,711.65	0.00	0.00	0.00
7,600.00	87.00	90.75	3,682.16	-389.41	4,806.89	4,811.52	0.00	0.00	0.00
7,700.00	87.00	90.75	3,687.40	-390.72	4,906.74	4,911.38	0.00	0.00	0.00
7,800.00	87.00	90.75	3,692.63	-392.03	5,006.60	5,011.24	0.00	0.00	0.00
7,900.00	87.00	90.75	3,697.86	-393.35	5,106.45	5,111.10	0.00	0.00	0.00
8,000.00	87.00	90.75	3,703.10	-394.66	5,206.30	5,210.97	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,100.00	87.00	90.75	3,708.33	-395.98	5,306.16	5,310.83	0.00	0.00	0.00
8,200.00	87.00	90.75	3,713.56	-397.29	5,406.01	5,410.69	0.00	0.00	0.00
8,300.00	87.00	90.75	3,718.80	-398.60	5,505.87	5,510.56	0.00	0.00	0.00
8,400.00	87.00	90.75	3,724.03	-399.92	5,605.72	5,610.42	0.00	0.00	0.00
8,500.00	87.00	90.75	3,729.26	-401.23	5,705.58	5,710.28	0.00	0.00	0.00
8,600.00	87.00	90.75	3,734.50	-402.55	5,805.43	5,810.15	0.00	0.00	0.00
8,700.00	87.00	90.75	3,739.73	-403.86	5,905.28	5,910.01	0.00	0.00	0.00
8,800.00	87.00	90.75	3,744.96	-405.17	6,005.14	6,009.87	0.00	0.00	0.00
8,900.00	87.00	90.75	3,750.20	-406.49	6,104.99	6,109.73	0.00	0.00	0.00
9,000.00	87.00	90.75	3,755.43	-407.80	6,204.85	6,209.60	0.00	0.00	0.00
9,100.00	87.00	90.75	3,760.66	-409.12	6,304.70	6,309.46	0.00	0.00	0.00
9,165.05	87.00	90.75	3,764.07	-409.97	6,369.65	6,374.42	0.00	0.00	0.00
Start DLS 1.50 TFO -90.36									
9,167.40	87.00	90.72	3,764.19	-410.00	6,372.00	6,376.76	1.50	-0.01	-1.50
PPP2 Start 1500.00 hold at 9167.40 MD									
9,200.00	87.00	90.72	3,765.90	-410.41	6,404.56	6,409.32	0.00	0.00	0.00
9,300.00	87.00	90.72	3,771.13	-411.66	6,504.41	6,509.19	0.00	0.00	0.00
9,400.00	87.00	90.72	3,776.36	-412.91	6,604.27	6,609.05	0.00	0.00	0.00
9,500.00	87.00	90.72	3,781.60	-414.17	6,704.12	6,708.91	0.00	0.00	0.00
9,600.00	87.00	90.72	3,786.83	-415.42	6,803.98	6,808.77	0.00	0.00	0.00
9,700.00	87.00	90.72	3,792.07	-416.67	6,903.83	6,908.64	0.00	0.00	0.00
9,800.00	87.00	90.72	3,797.30	-417.92	7,003.69	7,008.50	0.00	0.00	0.00
9,900.00	87.00	90.72	3,802.53	-419.18	7,103.54	7,108.36	0.00	0.00	0.00
10,000.00	87.00	90.72	3,807.77	-420.43	7,203.40	7,208.23	0.00	0.00	0.00
10,100.00	87.00	90.72	3,813.00	-421.68	7,303.25	7,308.09	0.00	0.00	0.00
10,200.00	87.00	90.72	3,818.23	-422.93	7,403.11	7,407.95	0.00	0.00	0.00
10,300.00	87.00	90.72	3,823.47	-424.19	7,502.96	7,507.82	0.00	0.00	0.00
10,400.00	87.00	90.72	3,828.70	-425.44	7,602.82	7,607.68	0.00	0.00	0.00
10,500.00	87.00	90.72	3,833.94	-426.69	7,702.67	7,707.54	0.00	0.00	0.00
10,600.00	87.00	90.72	3,839.17	-427.94	7,802.53	7,807.40	0.00	0.00	0.00
10,667.40	87.00	90.72	3,842.70	-428.79	7,869.83	7,874.71	0.00	0.00	0.00
Start DLS 1.50 TFO 89.89									
10,680.35	87.00	90.91	3,843.37	-428.97	7,882.77	7,887.65	1.50	0.00	1.50
Start 928.59 hold at 10680.35 MD									
10,700.00	87.00	90.91	3,844.40	-429.28	7,902.38	7,907.27	0.00	0.00	0.00
10,800.00	87.00	90.91	3,849.64	-430.88	8,002.23	8,007.13	0.00	0.00	0.00
10,900.00	87.00	90.91	3,854.87	-432.47	8,102.08	8,106.99	0.00	0.00	0.00
11,000.00	87.00	90.91	3,860.10	-434.06	8,201.93	8,206.85	0.00	0.00	0.00
11,100.00	87.00	90.91	3,865.33	-435.65	8,301.78	8,306.72	0.00	0.00	0.00
11,200.00	87.00	90.91	3,870.57	-437.24	8,401.63	8,406.58	0.00	0.00	0.00
11,300.00	87.00	90.91	3,875.80	-438.83	8,501.48	8,506.44	0.00	0.00	0.00
11,400.00	87.00	90.91	3,881.03	-440.43	8,601.33	8,606.30	0.00	0.00	0.00
11,500.00	87.00	90.91	3,886.27	-442.02	8,701.18	8,706.17	0.00	0.00	0.00
11,608.94	87.00	90.91	3,891.97	-443.75	8,809.96	8,814.96	0.00	0.00	0.00
Start DLS 1.50 TFO -90.12									
11,700.00	87.00	89.55	3,896.74	-444.12	8,900.89	8,905.89	1.50	0.00	-1.50
11,712.12	87.00	89.36	3,897.37	-444.00	8,913.00	8,917.99	1.50	0.00	-1.50
LMP Start 90.13 hold at 11712.12 MD									
11,802.25	87.00	89.36	3,902.09	-443.00	9,003.00	9,007.97	0.00	0.00	0.00
PBHL TD at 11802.25									

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Abides Fed 3H
Company:	RILEY PERMIAN OPERATING CO,. LLC	**TVD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Project:	Eddy County, NM (NAD83) NMEZ Grid	**MD Reference:**	3577+16 @ 3593.00usft (gl+kb akita)
Site:	Abides Fed	**North Reference:**	Grid
Well:	Abides Fed 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	3H		
Design:	Plan #1		

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
Abides 3H SHL 1664FSl - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	645,366.00	558,202.00	32.7741329	-104.2784636
Abides 3H KOP - plan hits target center - Point	0.00	0.00	2,855.53	-285.78	422.20	645,080.22	558,624.20	32.7733468	-104.2770904
Abides 3H 60DEG - plan hits target center - Point	0.00	0.00	3,316.87	-336.62	765.07	645,029.38	558,967.07	32.7732065	-104.2759750
Abides 3H FTP 1320FSl - plan misses target center by 0.17usft at 3982.84usft MD (3492.86 TVD, -342.17 N, 1195.00 E) - Point	0.00	0.00	3,492.85	-342.00	1,195.00	645,024.00	559,397.00	32.7731911	-104.2745762
Abides 3H PPP1 1334F - plan misses target center by 0.75usft at 5203.58usft MD (3556.75 TVD, -357.92 N, 2413.96 E) - Point	0.00	0.00	3,556.00	-358.00	2,414.00	645,008.00	560,616.00	32.7731452	-104.2706102
Abides 3H PPP2 1379F - plan hits target center - Point	0.00	0.00	3,764.19	-410.00	6,372.00	644,956.00	564,574.00	32.7729951	-104.2577329
Abides 3H LMP 1320FS - plan hits target center - Point	0.00	0.01	3,897.37	-444.00	8,913.00	644,922.00	567,115.00	32.7728964	-104.2494658
Abides 3H PBHL 1320F - plan hits target center - Point	0.00	0.01	3,902.09	-443.00	9,003.00	644,923.00	567,205.00	32.7728990	-104.2491729

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,979.78	3,492.69	Target		3.00	90.74

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.00	500.00	0.00	0.00	Start Build 1.50
1,535.32	1,522.69	-78.17	115.48	Start 1383.35 hold at 1535.32 MD
2,918.67	2,855.53	-285.78	422.20	KOP Start DLS 8.00 TFO -40.22
3,512.58	3,316.87	-336.62	765.07	60DEG Start 200.00 hold at 3512.58 MD
3,712.58	3,416.87	-338.86	938.26	Start Build 10.00
3,982.58	3,492.85	-342.17	1,194.73	FTP Start 1221.04 hold at 3982.58 MD
5,203.62	3,556.75	-357.92	2,414.00	PPP1 Start DLS 1.50 TFO 89.47
5,204.55	3,556.80	-357.93	2,414.93	Start 3960.50 hold at 5204.55 MD
9,165.05	3,764.07	-409.97	6,369.65	Start DLS 1.50 TFO -90.36
9,167.40	3,764.19	-410.00	6,372.00	PPP2 Start 1500.00 hold at 9167.40 MD
10,667.40	3,842.70	-428.79	7,869.83	Start DLS 1.50 TFO 89.89
10,680.35	3,843.37	-428.97	7,882.77	Start 928.59 hold at 10680.35 MD
11,608.94	3,891.97	-443.75	8,809.96	Start DLS 1.50 TFO -90.12
11,712.12	3,897.37	-444.00	8,913.00	LMP Start 90.13 hold at 11712.12 MD
11,802.25	3,902.09	-443.00	9,003.00	PBHL TD at 11802.25

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Received by OCD: 5/11/2026 12:57:29 PM

RILEY PERMIAN OPERATING CO,. LLC

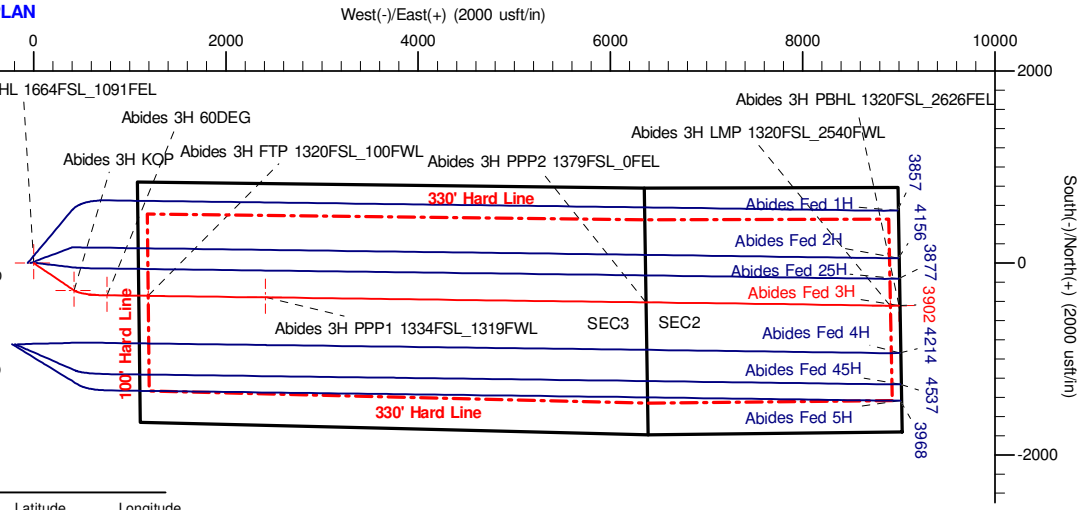
PRELIMINARY PLAN

Project: Eddy County, NM (NAD83) NMEZ Grid
Site: Abides Fed
Well: Abides Fed 3H
Wellbore: 3H
Design: Plan #1

3577+16 @ 3593.00usft (gl+kb akita)
GL+KB

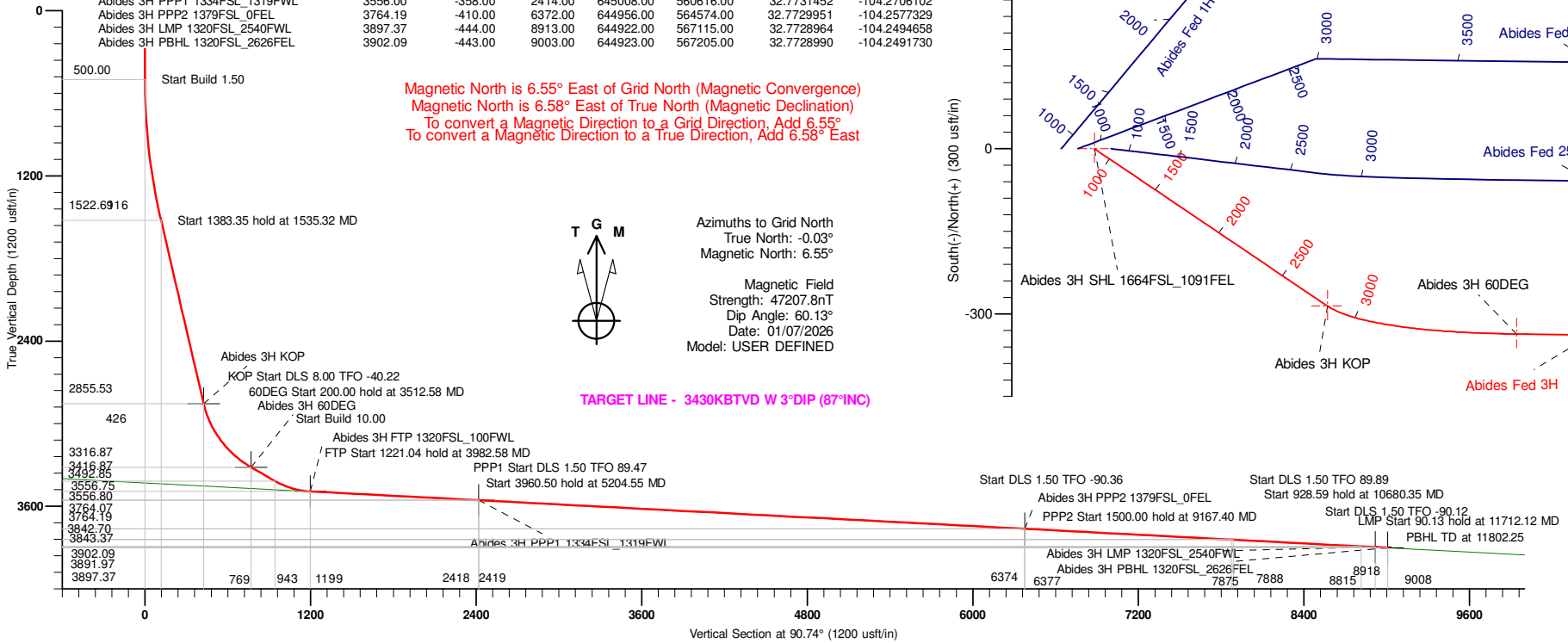
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
3	1535.32	15.53	124.09	1522.69	-78.17	115.48	1.50	124.09	116.48	Start 1383.35 hold at 1535.32 MD
4	2918.67	15.53	124.09	2855.53	-285.78	422.20	0.00	0.00	425.86	KOP Start DLS 8.00 TFO -40.22
5	3512.58	60.00	90.74	3316.87	-336.62	765.07	8.00	-40.22	769.35	60DEG Start 200.00 hold at 3512.58 MD
6	3712.58	60.00	90.74	3416.87	-338.86	938.26	0.00	0.00	942.56	Start Build 10.00
7	3982.58	87.00	90.74	3492.85	-342.17	1194.73	10.00	0.00	1199.05	FTP Start 1221.04 hold at 3982.58 MD
8	5203.62	87.00	90.74	3556.75	-357.92	2414.00	0.00	0.00	2418.42	PPP1 Start DLS 1.50 TFO 89.47
9	5204.55	87.00	90.75	3556.80	-357.93	2414.93	1.50	89.47	2419.35	PPP1 Start DLS 1.50 TFO 89.47
10	9165.05	87.00	90.75	3764.07	-409.97	6369.65	0.00	0.00	6374.42	Start DLS 1.50 TFO -90.36
11	9167.40	87.00	90.72	3764.19	-410.00	6372.00	1.50	-90.36	6376.76	PPP2 Start 1500.00 hold at 9167.40 MD
12	10667.40	87.00	90.72	3842.70	-428.79	7869.83	0.00	0.00	7874.71	Start DLS 1.50 TFO 89.89
13	10680.35	87.00	90.91	3843.37	-428.97	7882.77	1.50	89.89	7887.65	Start 928.59 hold at 10680.35 MD
14	11608.94	87.00	90.91	3891.97	-443.75	8809.96	0.00	0.00	8814.96	Start DLS 1.50 TFO -90.12
15	11712.12	87.00	89.36	3897.37	-444.00	8913.00	1.50	-90.12	8917.99	LMP Start 90.13 hold at 11712.12 MD
16	11802.25	87.00	89.36	3902.09	-443.00	9003.00	0.00	0.00	9007.97	PBHL TD at 11802.25



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Abides 3H SHL 1664FSL_1091FEL	0.00	0.00	0.00	645366.00	558202.00	32.7741329	-104.2784636
Abides 3H KOP	2855.53	-285.78	422.20	645080.22	558624.20	32.7733468	-104.2770905
Abides 3H 60DEG	3316.87	-336.62	765.07	645029.38	558967.07	32.7732065	-104.2759750
Abides 3H FTP 1320FSL_100FWL	3492.85	-342.00	1195.00	645024.00	559397.00	32.7731911	-104.2745762
Abides 3H PPP1 1334FSL_1319FWL	3556.00	-358.00	2414.00	645008.00	560616.00	32.7731452	-104.2706102
Abides 3H PPP2 1379FSL_0FEL	3764.19	-410.00	6372.00	644956.00	564574.00	32.7729951	-104.2577329
Abides 3H LMP 1320FSL_2540FWL	3897.37	-444.00	8913.00	644922.00	567115.00	32.7728964	-104.2494658
Abides 3H PBHL 1320FSL_2626FEL	3902.09	-443.00	9003.00	644923.00	567205.00	32.7728990	-104.2491730



Plan: Plan #1 (Abides Fed 3H/3H)
Created By: Mekka Williams

mekka@esominawelldesign.com
18:44, January 11 2026

QUANTUM ENERGY TECHNOLOGIES
1521 E Richey Rd
Houston, TX 77073

HEADER

Company	:	RILEY	PERMIAN	OPERATING	CO,.	LLC	
Field	:	Eddy	County,	NM	(NAD83)	NMEZ	Grid
Site	:	Abides	Fed				
Well	Name	:	Abides	Fed	3H		

WELL INFORMATION

API	number	:	
Engineer	:		
State	:		
County	:		
Depth	Unit	:	usft
Datum	elevation	:	3593
VSect.	Azimuth	:	90.74
VSect.	North	:	0
VSect.	East	:	0
Survey	Name	:	Plan #1
Survey	Date	:	1/1/1990
Geomagne	Date:	1/7/2026	
Extract	Date	:	7-Jan-26

Seq # -	Measured depth (ft)	Incl angle (deg)	Azimuth angle (deg)	Course length (ft)	TVD depth (ft)	Vertical section (ft)	Displ +N/S- (ft)
1	0	0	0	0	0	0	0
2	100	0	0	100	100	0	0
3	200	0	0	100	200	0	0
4	300	0	0	100	300	0	0
5	400	0	0	100	400	0	0
6	500	0	0	100	500	0	0
7	600	1.5	124.09	100	599.99	1.09	-0.73
8	700	3	124.09	100	699.91	4.37	-2.93
9	800	4.5	124.09	100	799.69	9.84	-6.6

10	900	6	124.09	100	899.27	17.48	-11.73
11	1000	7.5	124.09	100	998.57	27.3	-18.32
12	1100	9	124.09	100	1097.54	39.28	-26.36
13	1200	10.5	124.09	100	1196.09	53.43	-35.85
14	1300	12	124.09	100	1294.16	69.72	-46.79
15	1400	13.5	124.09	100	1391.7	88.16	-59.16
16	1500	15	124.09	100	1488.62	108.72	-72.96
17	1535.32	15.53	124.09	35.32	1522.69	116.48	-78.17
18	1600	15.53	124.09	64.68	1585.01	130.95	-87.88
19	1700	15.53	124.09	100	1681.36	153.31	-102.89
20	1800	15.53	124.09	100	1777.71	175.68	-117.89
21	1900	15.53	124.09	100	1874.06	198.04	-132.9
22	2000	15.53	124.09	100	1970.4	220.41	-147.91
23	2100	15.53	124.09	100	2066.75	242.77	-162.92
24	2200	15.53	124.09	100	2163.1	265.13	-177.93
25	2300	15.53	124.09	100	2259.45	287.5	-192.93
26	2400	15.53	124.09	100	2355.8	309.86	-207.94
27	2500	15.53	124.09	100	2452.15	332.23	-222.95
28	2600	15.53	124.09	100	2548.5	354.59	-237.96
29	2700	15.53	124.09	100	2644.85	376.95	-252.97
30	2800	15.53	124.09	100	2741.2	399.32	-267.97
31	2900	15.53	124.09	100	2837.55	421.68	-282.98
32	2918.67	15.53	124.09	18.67	2855.53	425.86	-285.78
33	2950	17.52	118.71	31.33	2885.57	433.53	-290.4
34	3000	20.91	112.27	50	2932.78	448.48	-297.4
35	3050	24.49	107.59	50	2978.91	466.71	-303.92
36	3100	28.17	104.06	50	3023.72	488.12	-309.92
37	3150	31.92	101.29	50	3066.99	512.61	-315.37
38	3200	35.72	99.05	50	3108.52	540.06	-320.26
39	3250	39.56	97.19	50	3148.11	570.33	-324.55
40	3300	43.42	95.61	50	3185.56	603.29	-328.22
41	3350	47.3	94.24	50	3220.69	638.76	-331.27
42	3400	51.19	93.04	50	3253.32	676.58	-333.66
43	3450	55.1	91.96	50	3283.3	716.57	-335.39
44	3500	59.01	90.97	50	3310.49	758.52	-336.46
45	3512.58	60	90.74	12.58	3316.87	769.35	-336.62
46	3600	60	90.74	87.42	3360.58	845.06	-337.6
47	3700	60	90.74	100	3410.58	931.67	-338.72
48	3712.58	60	90.74	12.58	3416.87	942.56	-338.86
49	3750	63.74	90.74	37.42	3434.51	975.55	-339.28
50	3800	68.74	90.74	50	3454.65	1021.3	-339.87
51	3850	73.74	90.74	50	3470.72	1068.63	-340.49
52	3900	78.74	90.74	50	3482.61	1117.18	-341.11
53	3950	83.74	90.74	50	3490.22	1166.58	-341.75

54	3982.58	87	90.74	32.58	3492.85	1199.05	-342.17
55	4000	87	90.74	17.42	3493.76	1216.45	-342.39
56	4100	87	90.74	100	3498.99	1316.31	-343.68
57	4200	87	90.74	100	3504.23	1416.17	-344.97
58	4300	87	90.74	100	3509.46	1516.04	-346.26
59	4400	87	90.74	100	3514.69	1615.9	-347.55
60	4500	87	90.74	100	3519.93	1715.76	-348.84
61	4600	87	90.74	100	3525.16	1815.63	-350.13
62	4700	87	90.74	100	3530.39	1915.49	-351.42
63	4800	87	90.74	100	3535.63	2015.35	-352.71
64	4900	87	90.74	100	3540.86	2115.22	-354
65	5000	87	90.74	100	3546.09	2215.08	-355.29
66	5100	87	90.74	100	3551.33	2314.94	-356.58
67	5203.62	87	90.74	103.62	3556.75	2418.42	-357.92
68	5204.55	87	90.75	0.93	3556.8	2419.35	-357.93
69	5300	87	90.75	95.45	3561.79	2514.67	-359.18
70	5400	87	90.75	100	3567.03	2614.53	-360.5
71	5500	87	90.75	100	3572.26	2714.39	-361.81
72	5600	87	90.75	100	3577.49	2814.26	-363.13
73	5700	87	90.75	100	3582.73	2914.12	-364.44
74	5800	87	90.75	100	3587.96	3013.98	-365.75
75	5900	87	90.75	100	3593.19	3113.85	-367.07
76	6000	87	90.75	100	3598.43	3213.71	-368.38
77	6100	87	90.75	100	3603.66	3313.57	-369.7
78	6200	87	90.75	100	3608.9	3413.43	-371.01
79	6300	87	90.75	100	3614.13	3513.3	-372.32
80	6400	87	90.75	100	3619.36	3613.16	-373.64
81	6500	87	90.75	100	3624.6	3713.02	-374.95
82	6600	87	90.75	100	3629.83	3812.89	-376.27
83	6700	87	90.75	100	3635.06	3912.75	-377.58
84	6800	87	90.75	100	3640.3	4012.61	-378.89
85	6900	87	90.75	100	3645.53	4112.47	-380.21
86	7000	87	90.75	100	3650.76	4212.34	-381.52
87	7100	87	90.75	100	3656	4312.2	-382.84
88	7200	87	90.75	100	3661.23	4412.06	-384.15
89	7300	87	90.75	100	3666.46	4511.93	-385.46
90	7400	87	90.75	100	3671.7	4611.79	-386.78
91	7500	87	90.75	100	3676.93	4711.65	-388.09
92	7600	87	90.75	100	3682.16	4811.52	-389.41
93	7700	87	90.75	100	3687.4	4911.38	-390.72
94	7800	87	90.75	100	3692.63	5011.24	-392.03
95	7900	87	90.75	100	3697.86	5111.1	-393.35
96	8000	87	90.75	100	3703.1	5210.97	-394.66
97	8100	87	90.75	100	3708.33	5310.83	-395.98

98	8200	87	90.75	100	3713.56	5410.69	-397.29
99	8300	87	90.75	100	3718.8	5510.56	-398.6
100	8400	87	90.75	100	3724.03	5610.42	-399.92
101	8500	87	90.75	100	3729.26	5710.28	-401.23
102	8600	87	90.75	100	3734.5	5810.15	-402.55
103	8700	87	90.75	100	3739.73	5910.01	-403.86
104	8800	87	90.75	100	3744.96	6009.87	-405.17
105	8900	87	90.75	100	3750.2	6109.73	-406.49
106	9000	87	90.75	100	3755.43	6209.6	-407.8
107	9100	87	90.75	100	3760.66	6309.46	-409.12
108	9165.05	87	90.75	65.05	3764.07	6374.42	-409.97
109	9167.4	87	90.72	2.35	3764.19	6376.76	-410
110	9200	87	90.72	32.6	3765.9	6409.32	-410.41
111	9300	87	90.72	100	3771.13	6509.19	-411.66
112	9400	87	90.72	100	3776.36	6609.05	-412.91
113	9500	87	90.72	100	3781.6	6708.91	-414.17
114	9600	87	90.72	100	3786.83	6808.77	-415.42
115	9700	87	90.72	100	3792.07	6908.64	-416.67
116	9800	87	90.72	100	3797.3	7008.5	-417.92
117	9900	87	90.72	100	3802.53	7108.36	-419.18
118	10000	87	90.72	100	3807.77	7208.23	-420.43
119	10100	87	90.72	100	3813	7308.09	-421.68
120	10200	87	90.72	100	3818.23	7407.95	-422.93
121	10300	87	90.72	100	3823.47	7507.82	-424.19
122	10400	87	90.72	100	3828.7	7607.68	-425.44
123	10500	87	90.72	100	3833.94	7707.54	-426.69
124	10600	87	90.72	100	3839.17	7807.4	-427.94
125	10667.4	87	90.72	67.4	3842.7	7874.71	-428.79
126	10680.35	87	90.91	12.96	3843.37	7887.65	-428.97
127	10700	87	90.91	19.65	3844.4	7907.27	-429.28
128	10800	87	90.91	100	3849.64	8007.13	-430.88
129	10900	87	90.91	100	3854.87	8106.99	-432.47
130	11000	87	90.91	100	3860.1	8206.85	-434.06
131	11100	87	90.91	100	3865.33	8306.72	-435.65
132	11200	87	90.91	100	3870.57	8406.58	-437.24
133	11300	87	90.91	100	3875.8	8506.44	-438.83
134	11400	87	90.91	100	3881.03	8606.3	-440.43
135	11500	87	90.91	100	3886.27	8706.17	-442.02
136	11608.94	87	90.91	108.94	3891.97	8814.96	-443.75
137	11700	87	89.55	91.06	3896.74	8905.89	-444.12
138	11712.12	87	89.36	12.12	3897.37	8917.99	-444
139	11802.25	87	89.36	90.13	3902.09	9007.97	-443

Displ +E/W- (ft)	Total displ (ft)	At Azim (deg)	DLS (deg/ 100ft)	X (ft)		Y (ft)		Survey	Tool	
0	0	0	0	558202	E	645366	N			
0	0	0	0	558202	E	645366	N		MWD	
0	0	0	0	558202	E	645366	N			
0	0	0	0	558202	E	645366	N			
0	0	0	0	558202	E	645366	N			
0	0	0	0	558202	E	645366	N			
1.08	1.31	124.09	1.5	558203.1	E	645365.3	N			
4.34	5.23	124.09	1.5	558206.3	E	645363.1	N			
9.75	11.77	124.09	1.5	558211.8	E	645359.4	N			

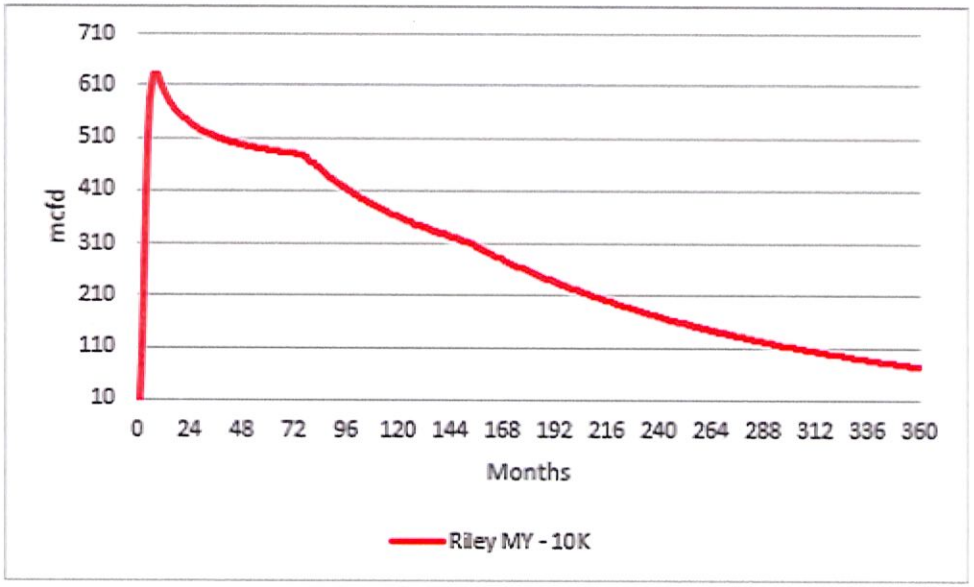
17.33	20.92	124.09	1.5	558219.3	E	645354.3	N
27.06	32.68	124.09	1.5	558229.1	E	645347.7	N
38.94	47.03	124.09	1.5	558240.9	E	645339.6	N
52.97	63.96	124.09	1.5	558255	E	645330.1	N
69.12	83.47	124.09	1.5	558271.1	E	645319.2	N
87.4	105.54	124.09	1.5	558289.4	E	645306.8	N
107.78	130.15	124.09	1.5	558309.8	E	645293	N
115.48	139.45	124.09	1.5	558317.5	E	645287.8	N
129.83	156.77	124.09	0	558331.8	E	645278.1	N
152	183.54	124.09	0	558354	E	645263.1	N
174.17	210.32	124.09	0	558376.2	E	645248.1	N
196.34	237.09	124.09	0	558398.3	E	645233.1	N
218.51	263.87	124.09	0	558420.5	E	645218.1	N
240.69	290.64	124.09	0	558442.7	E	645203.1	N
262.86	317.41	124.09	0	558464.9	E	645188.1	N
285.03	344.19	124.09	0	558487	E	645173.1	N
307.2	370.96	124.09	0	558509.2	E	645158.1	N
329.37	397.74	124.09	0	558531.4	E	645143.1	N
351.55	424.51	124.09	0	558553.5	E	645128	N
373.72	451.28	124.09	0	558575.7	E	645113	N
395.89	478.06	124.09	0	558597.9	E	645098	N
418.06	504.83	124.09	0	558620.1	E	645083	N
422.2	509.83	124.09	0	558624.2	E	645080.2	N
429.81	518.72	124.04	8	558631.8	E	645075.6	N
444.68	534.96	123.77	8	558646.7	E	645068.6	N
462.82	553.69	123.29	8	558664.8	E	645062.1	N
484.16	574.85	122.62	8	558686.2	E	645056.1	N
508.58	598.42	121.8	8	558710.6	E	645050.6	N
535.97	624.36	120.86	8	558738	E	645045.7	N
566.19	652.61	119.82	8	558768.2	E	645041.5	N
599.1	683.12	118.72	8	558801.1	E	645037.8	N
634.54	715.81	117.57	8	558836.5	E	645034.7	N
672.33	750.57	116.39	8	558874.3	E	645032.3	N
712.29	787.31	115.21	8	558914.3	E	645030.6	N
754.23	825.88	114.04	8	558956.2	E	645029.5	N
765.07	835.85	113.75	8	558967.1	E	645029.4	N
840.77	906.02	111.88	0	559042.8	E	645028.4	N
927.37	987.29	110.06	0	559129.4	E	645027.3	N
938.26	997.58	109.86	0	559140.3	E	645027.1	N
971.25	1028.81	109.26	10	559173.3	E	645026.7	N
1017	1072.29	108.48	10	559219	E	645026.1	N
1064.32	1117.46	107.74	10	559266.3	E	645025.5	N
1112.87	1163.97	107.04	10	559314.9	E	645024.9	N
1162.27	1211.47	106.39	10	559364.3	E	645024.3	N

1194.73	1242.76	105.98	10	559396.7	E	645023.8	N
1212.13	1259.56	105.77	0	559414.1	E	645023.6	N
1311.98	1356.25	104.68	0	559514	E	645022.3	N
1411.84	1453.37	103.73	0	559613.8	E	645021	N
1511.69	1550.84	102.9	0	559713.7	E	645019.7	N
1611.55	1648.6	102.17	0	559813.5	E	645018.4	N
1711.4	1746.59	101.52	0	559913.4	E	645017.2	N
1811.26	1844.79	100.94	0	560013.3	E	645015.9	N
1911.11	1943.15	100.42	0	560113.1	E	645014.6	N
2010.97	2041.66	99.95	0	560213	E	645013.3	N
2110.82	2140.3	99.52	0	560312.8	E	645012	N
2210.67	2239.04	99.13	0	560412.7	E	645010.7	N
2310.53	2337.88	98.77	0	560512.5	E	645009.4	N
2414	2440.39	98.43	0	560616	E	645008.1	N
2414.93	2441.31	98.43	1.5	560616.9	E	645008.1	N
2510.24	2535.81	98.14	0	560712.2	E	645006.8	N
2610.09	2634.87	97.86	0	560812.1	E	645005.5	N
2709.95	2733.99	97.6	0	560911.9	E	645004.2	N
2809.8	2833.17	97.36	0	561011.8	E	645002.9	N
2909.66	2932.39	97.14	0	561111.7	E	645001.6	N
3009.51	3031.65	96.93	0	561211.5	E	645000.2	N
3109.36	3130.96	96.73	0	561311.4	E	644998.9	N
3209.22	3230.29	96.55	0	561411.2	E	644997.6	N
3309.07	3329.66	96.37	0	561511.1	E	644996.3	N
3408.93	3429.06	96.21	0	561610.9	E	644995	N
3508.78	3528.48	96.06	0	561710.8	E	644993.7	N
3608.64	3627.93	95.91	0	561810.6	E	644992.4	N
3708.49	3727.4	95.77	0	561910.5	E	644991	N
3808.34	3826.89	95.64	0	562010.3	E	644989.7	N
3908.2	3926.4	95.52	0	562110.2	E	644988.4	N
4008.05	4025.92	95.4	0	562210.1	E	644987.1	N
4107.91	4125.46	95.29	0	562309.9	E	644985.8	N
4207.76	4225.02	95.18	0	562409.8	E	644984.5	N
4307.62	4324.59	95.08	0	562509.6	E	644983.2	N
4407.47	4424.18	94.98	0	562609.5	E	644981.9	N
4507.32	4523.78	94.89	0	562709.3	E	644980.5	N
4607.18	4623.39	94.8	0	562809.2	E	644979.2	N
4707.03	4723	94.71	0	562909	E	644977.9	N
4806.89	4822.63	94.63	0	563008.9	E	644976.6	N
4906.74	4922.27	94.55	0	563108.7	E	644975.3	N
5006.6	5021.92	94.48	0	563208.6	E	644974	N
5106.45	5121.58	94.4	0	563308.5	E	644972.7	N
5206.3	5221.24	94.33	0	563408.3	E	644971.3	N
5306.16	5320.91	94.27	0	563508.2	E	644970	N

5406.01	5420.59	94.2	0	563608	E	644968.7	N
5505.87	5520.28	94.14	0	563707.9	E	644967.4	N
5605.72	5619.97	94.08	0	563807.7	E	644966.1	N
5705.58	5719.67	94.02	0	563907.6	E	644964.8	N
5805.43	5819.37	93.97	0	564007.4	E	644963.5	N
5905.28	5919.08	93.91	0	564107.3	E	644962.1	N
6005.14	6018.79	93.86	0	564207.1	E	644960.8	N
6104.99	6118.51	93.81	0	564307	E	644959.5	N
6204.85	6218.23	93.76	0	564406.8	E	644958.2	N
6304.7	6317.96	93.71	0	564506.7	E	644956.9	N
6369.65	6382.83	93.68	0	564571.7	E	644956	N
6372	6385.18	93.68	1.5	564574	E	644956	N
6404.56	6417.69	93.67	0	564606.6	E	644955.6	N
6504.41	6517.43	93.62	0	564706.4	E	644954.3	N
6604.27	6617.16	93.58	0	564806.3	E	644953.1	N
6704.12	6716.9	93.54	0	564906.1	E	644951.8	N
6803.98	6816.65	93.49	0	565006	E	644950.6	N
6903.83	6916.39	93.45	0	565105.8	E	644949.3	N
7003.69	7016.15	93.41	0	565205.7	E	644948.1	N
7103.54	7115.9	93.38	0	565305.5	E	644946.8	N
7203.4	7215.66	93.34	0	565405.4	E	644945.6	N
7303.25	7315.42	93.3	0	565505.3	E	644944.3	N
7403.11	7415.18	93.27	0	565605.1	E	644943.1	N
7502.96	7514.94	93.24	0	565705	E	644941.8	N
7602.82	7614.71	93.2	0	565804.8	E	644940.6	N
7702.67	7714.48	93.17	0	565904.7	E	644939.3	N
7802.53	7814.25	93.14	0	566004.5	E	644938.1	N
7869.83	7881.5	93.12	0	566071.8	E	644937.2	N
7882.77	7894.43	93.11	1.5	566084.8	E	644937	N
7902.38	7914.03	93.11	0	566104.4	E	644936.7	N
8002.23	8013.82	93.08	0	566204.2	E	644935.1	N
8102.08	8113.62	93.06	0	566304.1	E	644933.5	N
8201.93	8213.41	93.03	0	566403.9	E	644931.9	N
8301.78	8313.21	93	0	566503.8	E	644930.3	N
8401.63	8413	92.98	0	566603.6	E	644928.8	N
8501.48	8512.8	92.95	0	566703.5	E	644927.2	N
8601.33	8612.6	92.93	0	566803.3	E	644925.6	N
8701.18	8712.4	92.91	0	566903.2	E	644924	N
8809.96	8821.13	92.88	0	567012	E	644922.2	N
8900.89	8911.97	92.86	1.5	567102.9	E	644921.9	N
8913	8924.05	92.85	1.5	567115	E	644922	N
9003	9013.89	92.82	0	567205	E	644923	N

-1

Abides Fed 3H Gas Curve



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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: Riley Permian Operating Company, LLC **OGRID:** 372290 **Date:** 12 / 16 / 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
Abides Fed 1H	30-015-Pending	13-4-18S-27E	1665FSL – 1151FEL	450	700	4,000
Abides Fed 2H	30-015-Pending	13-4-18S-27E	1665FSL – 1121FEL	450	700	4,000
Abides Fed 3H	30-015-Pending	13-4-18S-27E	1664FSL – 1091FEL	450	700	4,000
Abides Fed 4H	30-015-Pending	20-4-18S-27E	818FSL – 1263FEL	450	700	4,000
Abides Fed 5H	30-015-Pending	19-4-18S-27E	818FSL – 1323FEL	450	700	4,000
Abides Fed 25H	30-015-Pending	13-4-18S-27E	1664FSL – 1061FEL	450	700	4,000
Abides Fed 45H	30-015-Pending	20-4-18S-27E	818FSL – 1293FEL	450	700	4,000

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Abides Fed 1H	30-015-Pending	1/1/2027	1/11/2027		3/1/2027	
Abides Fed 2H	30-015-Pending	1/12/2027	1/22/2027		3/1/2027	
Abides Fed 3H	30-015-Pending	1/23/2027	2/2/2027		3/1/2027	
Abides Fed 4H	30-015-Pending	2/3/2027	2/13/2027		3/1/2027	
Abides Fed 5H	30-015-Pending	2/14/2027	2/24/2027		3/1/2027	
Abides Fed 25H	30-015-Pending	2/25/2027	3/7/2027		3/1/2027	
Abides Fed 45H	30-015-Pending	3/8/2027	3/18/2027		3/1/2027	

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

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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.

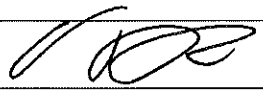
2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural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

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

Signature: 
Printed Name: Alex Rizzo
Title: Senior Regulatory Specialist
E-mail Address: Alexrizzo@rileypermian.com
Date: 12/16/2025
Phone: 918-839-2995

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

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Natural Gas Management Plan – Attachment

VI. Separation equipment will be sized by construction engineering staff based on anticipated daily production to ensure adequate capacity.

VII. Riley Permian Operating Company LLC ("Riley") will take the following actions to comply with the regulations listed in 19.15.27.8:

A. Riley will maximize the recovery of natural gas by minimizing waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Spur will ensure that our wells will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.

B. All drilling operations will be equipped with a rig flare at least 100 feet from the nearest surface hole location. Rig flare will be utilized to combust any natural gas that is brought to surface during normal operations. In the case of emergency, flaring volumes will be reported appropriately.

C. During completion operations any natural gas brought to surface will be flared. Immediately following completion operations, wells will flow to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. If natural gas does not meet gathering pipeline specifications, Riley will flare for 60 days or until natural gas meets the pipeline specifications. Riley will ensure flare is properly sized and is equipped with an automatic igniter or continuous pilot. Gas samples will be taken twice per week and natural gas will be routed into a gathering system as soon as the pipeline specifications are met.

D. Natural gas will not be flared with the exception of 19.15.27.8(D)(1-4). If there is no adequate takeaway for the separator gas, wells will be shut-in until that natural gas gathering system is available with exception of emergency or malfunction situations. Volumes will be reported appropriately.

E. Riley will comply with performance standards pursuant to 19.15.27.8(E)(1-8). All equipment will be designed and sized to handle maximum pressures to minimize waste. Storage tanks constructed after May 25, 2021 will be equipped with an automatic gauging system that reduces venting of natural gas. Flare stacks installed or replaced after May 25, 2021 will be equipped with an automatic ignitor or continuous pilot. Riley will conduct AVO inspections as described in 19.15.27.8(E)(5)(a) with frequencies specified in 19.15.27.8(E)(5)(b) and (c). All emergencies or malfunctions will be resolved as quickly and safely as possible to minimize waste.

F. The volume of natural gas that is vented or flared as the result of an emergency or malfunction during drilling and/or completion operations will be estimated and reported accordingly. The volume of natural gas that is vented, flared, or beneficially used during production operations will be measured and reported accordingly. Riley will install equipment to measure the volume of natural gas flared from existing piping or a flowline piped from equipment such as high-pressure separators, heater treaters, or VRUs associated with a well of facility associated with a well authorized by an APD after May 25, 2021 that has an average daily production of less than 60,000 cubic feet of natural gas.

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If metering is not practicable due to circumstances such as low flow rate or low pressure venting or flaring, Riley will estimate the volume of flared or vented natural gas. Measuring equipment will conform to industry standards and will not be equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing equipment.

VIII. For maintenance activities involving production equipment and compression, venting be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production equipment, the associated producing wells will be shut-in to eliminate venting. For maintenance of VRUs, all natural gas normally routed to the VRU will be routed to flare.

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Waste Minimization Plan

Riley Exploration-Permian, LLC

Wells: Abides Fed 1H, Abides Fed 2H, Abides Fed 3H, Abides Fed 4H, Abides Fed 5H, Abides Fed 25H, Abides Fed 45H

I. Anticipated Oil Production Rates

The anticipated initial oil production rates for all the proposed Abides oil-wells are ~450 bopd, reducing to under 100 bopd over the first 3 years of production.

II. Anticipated Gas Production Rates

The anticipated initial gas production rates for all the proposed Abides oil-wells are ~700 mcfd, reducing to under 600 mcfd over the first 3 years of production.

III. Gas Sales Contract Certification

Please see attached for the self-certification of an executed gas sales contract to sell to a purchaser 100 percent of the produced oil-well gas, less gas anticipated for use on-lease pursuant to 43 CFR subpart 3178.

IV. Minimization of Production Gas Waste

Riley Permian commits to the sale of 100 percent of produced oil-well gas barring emergency situations where flaring may be required. Field staff will regularly test pipes, fittings, and production equipment for leaks and will repair leaks as soon as practicable to minimize production gas waste.

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RILEY PERMIAN

29 E. Reno Avenue, Suite 500
Oklahoma City, Oklahoma 73104
(405) 415-8699

Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, New Mexico 88220

Re: Certification of Executed Gas Sales Contract

Dear Bureau of Land Management – Carlsbad Field Office:

I, Spence Laird, Manager of EHSR for Riley Permian Operating Company, LLC ("Riley"), hereby attest and provide notice that Riley has a valid, executed gas sales contract to sell to a purchaser 100 percent of the produced oil-well gas, less gas anticipated for use on-lease pursuant to 43 CFR subpart 3178.

Sincerely,

Spence Laird
EHS&R Manager
Riley Permian Operating Company, LLC
spencelaird@rileypermian.com
405-543-1411 (O)
405-420-8415 (C)

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RILEY PERMIAN

29 E. Reno Avenue, Suite 500
Oklahoma City, Oklahoma 73104
(405) 415-8699

ACKNOWLEDGMENT

State of Oklahoma }

County of Oklahoma }

The foregoing instrument was acknowledged before me on 10/29/25
(Date) by Spence Laird (Name(s) of Person(s)
as EHSR Manager (Title) of Riley Permian Operating Company, LLC
(Company)

(Seal, if any)

KIM MCAULIFFE
NOTARY PUBLIC - STATE OF OKLAHOMA
MY COMMISSION EXPIRES AUG. 07, 2027
COMMISSION # 23010522

Kim McAuliffe
Signature of Notarial Officer

Kim McAuliffe
Printed or typed name of Notarial Officer

Sr. Land Analyst
Title (and Rank)

My Commission Expires: 8/7/2027

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DRILLING PROGRAM

Riley Exploration-Permian, LLC

Abides Fed North Pad

Abides Fed 3H

Lot 13 Section 4, Township 18 South, Range 27 East, 6th P.M.

Eddy County, New Mexico

Owner: Bureau of Land Management

Land code: Exempt Agricultural Land

1. Geologic Name of Surface Formation

Quaternary

Estimated Tops of Important Geologic Markers:

Top	Subsea	Top from KB	Lithology	Expected Fluids
Quaternary	3250	**347**	Salt/Red beds	Usable Water
Queen	2727	**870**	ANHY/Dolomite	None
Grayburg	2306	**1291**	ANHY/Dolomite	Natural Gas, Oil
San Andres	2055	**1542**	ANHY/Dolomite	Natural Gas, Oil
Glorieta	655	**2942**	ANHY/Dolomite	Natural Gas, Oil
Paddock	535	**3062**	ANHY	Natural Gas, Oil
Target	163	**3434**	Dolomite	Natural Gas, Oil
Blinebry	35	**3562**	Dolomite	Natural Gas, Oil
Abo	-980	**4577**	Dolomite	

Target @ 0' VS	TVD	INC
	3,434	**87.00**

2. Blowout Prevention

Variance Requested for flex hose

Riley Permian requests a variance to use a flex line from the BOP to the choke manifold. Documentation will be attached in the APD and be readily available from manufacturer on site. No external damage to the flex line. Flex line to be installed as straight as possible with no bends.

Riley Permian will be utilizing a 5M BOP

Condition	Specify what type and where?
BH Pressure at Deepest TVD	~2,750 psi
Abnormal Temperature	No
BH Temperature at Deepest TVD	110-deg F

BOP/BOPE will be tested by an independent service company to 250 psi low and 70% of working pressure high unless otherwise required, as per Onshore Order 2 requirements. 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 the components installed with be functional and tested.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.

	Y	Are anchors required by manufacturer?
	A conventional wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. See attached schematics.	

3. BOP Break Testing Request

Riley Exploration Permian LLC requests permission to adjust the BOP break testing requirements as follows:

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill the production section, where the surface casing point is shallower than the 3 Bone Spring or 10,000' TVD
- When skidding to drill a production section that does not penetrate the 3rd Bone Spring or deeper

If the kill line is broken prior to skid, four tests will be performed:

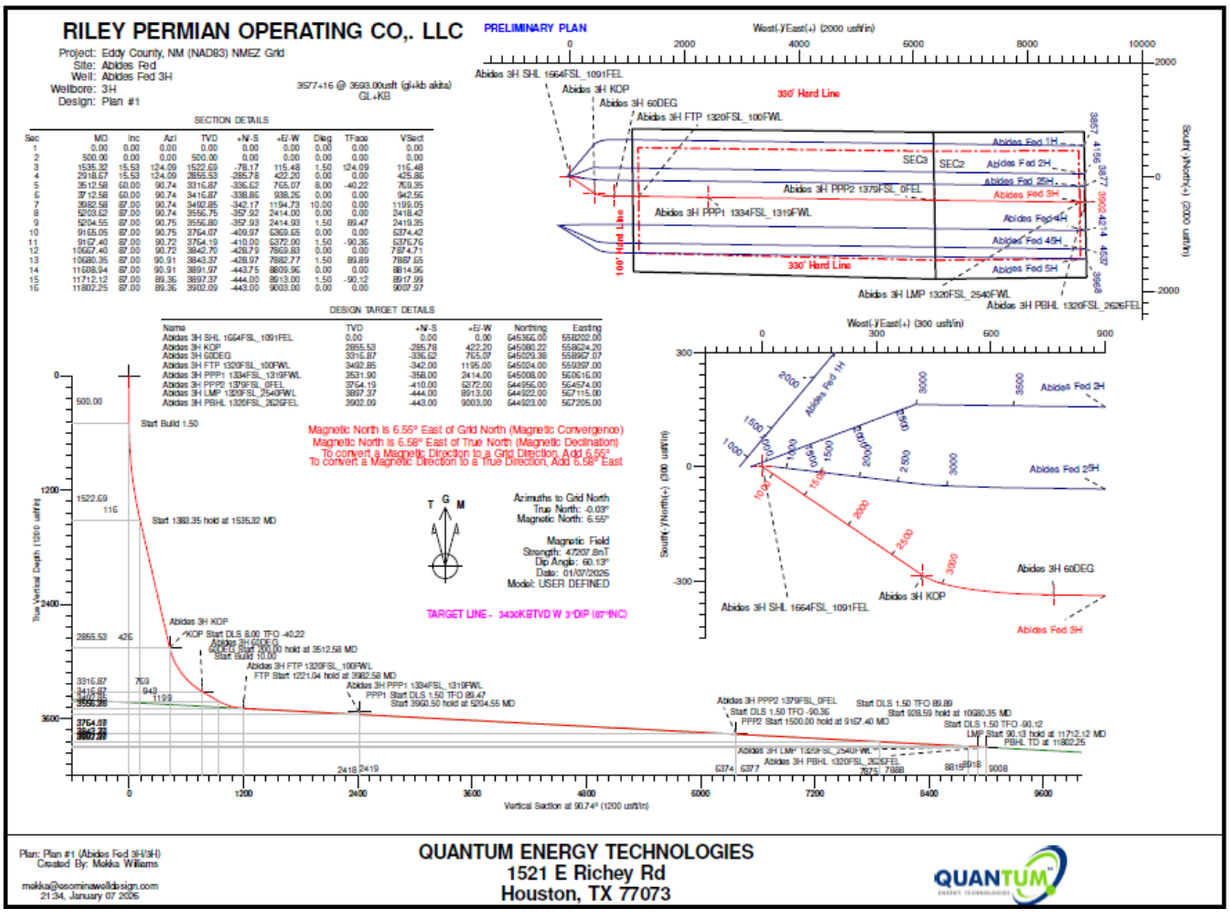
- The void between the wellhead and the spool (one on each side for two tests)
- The spool between the kill lines and the choke manifold (consisting of two tests)

If the kill line is not broken prior to skid, two tests will be performed:

- The void between the wellhead and the pipe rams

4. Proposed Directional Plan

	MD	TVD	Latitude	Longitude
Surface Hole Location	-	-	32.7741329	-104.2784636
Kick Off Point	2,918	2,855	32.7733468	-104.2770905
Bottom Hole Location	11,802	3,902	32.7728990	-104.2491370



5. Proposed Casing Program

All casing strings will be test in accordance with onshore oil and gas order #2 III.B.1.h.

Casing String Type	Hole Size (in.)	Casing Interval		Casing Size (in.)	Weight (lbs.)	Grade	Conn.	SF Collapse	SF Burst	Body SF Tension	Joint SF Tension
		From (ft.)	To (ft.)								
Surface	17.5	0	375	13.375	48	J-55	BTC	1.125	1.2	1.4	1.4
Intermediate	12.25	0	1250	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
Production	8.75	0	3750	7	32	HCL-80	BTC	1.125	1.2	1.4	1.4
Production	8.75	3750	11802	5.5	20	HCL-80	BTC	1.125	1.2	1.4	1.4
								SF Values will MEET or EXCEED			

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

6. Proposed Cement Program:

Casing String	Top (ft.)	Bottom (ft.)	% Excess
Surface (Lead)	0	375	100%+
Intermediate (Lead)	0	950	100%
Intermediate (Tail)	950	1250	100%
Production (Lead)	0	2300	35%+
Production (Tail)	2300	11802	35%+

Casing String	# Sx	Wt. (lb./gal)	Yld (ft3/sk)	H20 (gal/sk)	500# Compressive Strength (hours)	Slurry Description	Additives, Comments
Surface (lead)	420	14.8	1.34	6.32	6:03	Class C Premium Plus + 1%PF1	20 bbl gel spacer, 50x of 11# scavenger cement
Intermediate (lead)	450	12.8	1.43	6.65	6:44	50/50 Poz C Premium Plus	20 bbl gel spacer, 50sx of 11# scavenger cement
Intermediate (tail)	195	14.8	1.33	6.32	8:05	Class C Premium Plus	50sx of 11# scavenger cement
Production (lead)	200	11.5	2.29	12.63	N/A	50/50 Poz C Premium Plus	20 bbl gel spacer, 50sx of 11# scavenger cement
Production (tail)	2,050	13.7	1.31	5.61	N/A	35/65 Poz C Premium Plus	50sx of 11# scavenger cement

7. Types and Characteristics of the Proposed Mud System:

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Saltwater Clay, CACL2. Riley will utilize a closed mud system.

Depth		Type	Weight (ppg)	PH	Viscosity (cp)	Water Loss
From (ft.)	To (ft.)					
0	375	Spud Mud (Fresh Water)	8.5	11	28	N/C
375	1250	Water-Based Mud (Cut Brine)	8.3-10	11	29-33	N/C
1250	TD	Water-Based Mud (Cut Brine)	8.3-9.2	11	29-33	N/C

PVT/Pason/Visual Monitoring will be used to monitor the loss or gain of fluid and digitally recorded.

8. Logging, Testing and Coring Program:

Logging, Coring and Testing.	
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	SCP - TD
No	PEX	

9. Drilling Conditions

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT (Pason), digitally recorded. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Estimated bottom hole at TD is 110 degrees. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

NOTES REGARDING THE BLOWOUT PREVENTERS

Abides Fed 3H

Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.

2. Wear ring to be properly installed in head.

3. Blow out preventer and all fittings must be in good condition, 3000 psi WP minimum.

4. All fittings to be flanged.

5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 3000 psi WP minimum.

6. All choke and fill lines to be securely anchored especially ends of choke lines.

7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.

8. Kelly cock on Kelly.

9. Extension wrenches and hands wheels to be properly installed.

10. Blow out preventer control to be located as close to driller's position as feasible.

11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

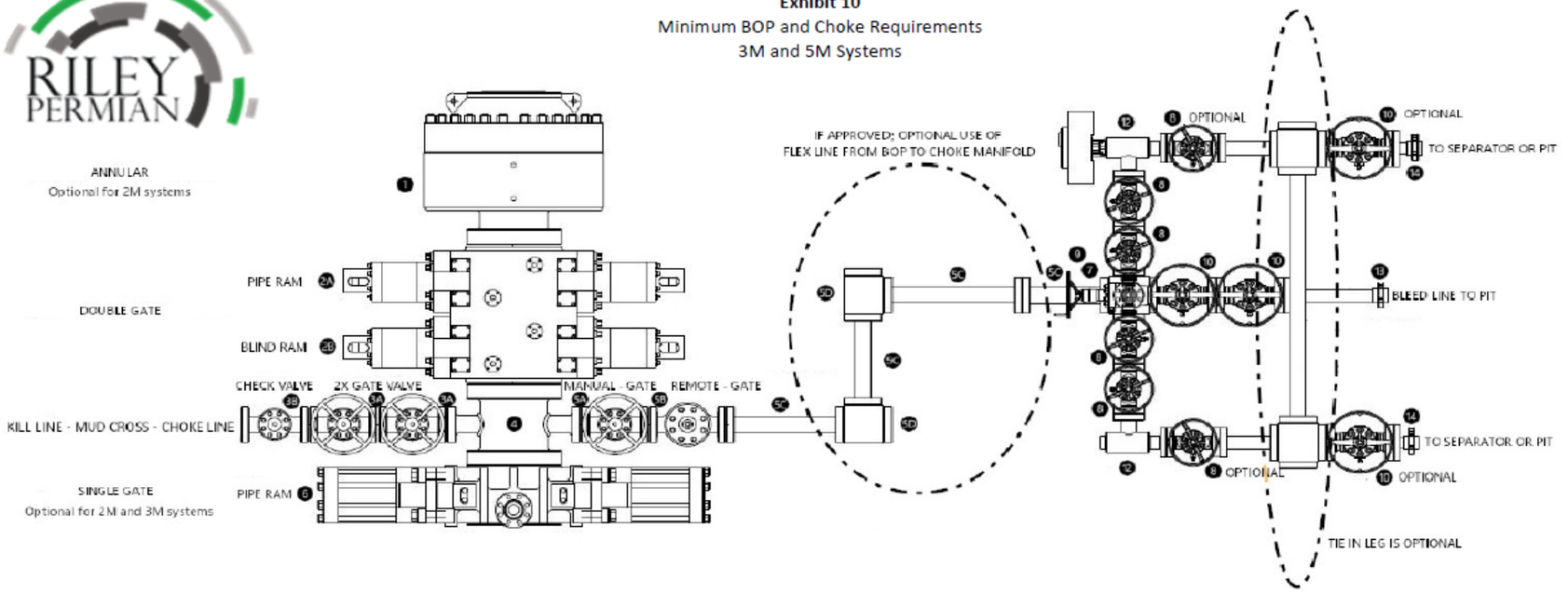
Page 125 of 138

Riley Permian

Exhibit 10

Minimum BOP and Choke Requirements

3M and 5M Systems



BOP - Minimum Requirements

	Description		ID (in.)	Nom. OD (in.)	Optional	Note
1	Annular				Yes - 2M	
2A	Double Gate	Pipe Ram	3 1/8		No	
2B		Blind Ram				
3A	Kill Line	Gate	2		No	
3A		Gate				
3B		Check Valve				
		Line		2		
4	Mud Cross		2 1/16		No	Kill Line - 2" min. Choke Line - 3" min.
5A	Choke Line	Gate - Manual (2)	3 1/8		No	
5B		Gate - Remote (2)				
5C		Line		3	No	
5D		Targeted Tee			No	
6	Single Gate - Pipe Ram				Yes - 2M and 3M	

(1) Only one required in 2M system
(2) Choke line valve order is interchangable
(3) Remote operated hydraulic choke required on 5M and 10M systems

Choke Manifold - Minimum Requirements

			3000 MWP			5000 MWP			10000 MWP		
	Description		ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)	ID (in.)	Nominal OD (in. unless otherwise noted)	Rating (psi)
7	Cross - 3" x 3" x 3" x 2"				3,000			5,000			10,000
8	Valve	Gate (2)	2 1/16		3,000	2 1/16		5,000	3 1/8		10,000
		Plug									
9	Pressure Gauge				3,000			5,000			10,000
10	Valve	Gate (2)	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
		Plug									
11	Remote Operated Adjustable Choke (3)		2 1/16		3,000			5,000			10,000
12	Manual Adjustable Choke		2 1/16		3,000			5,000			10,000
13	Line			3	3,000		3	5,000		3	10,000
14	Line			2	3,000		2	5,000		2	10,000
15	Gas Separator (4)			2' x 5'			2' x 5'			2' x 5'	

(1) Only one required in 2M system
(2) Gate valves only to be used for 10M system
(3) Remote chokes are required for 5M and 10M systems
(4) Gas separator is optional for 2M and 3M systems

Received by OCD: 5/11/2026 12:57:29 PM

Released to Imaging: 7/20/2026 1:14:57 PM

Riley Permian Operating Company, LLC

Onshore Order #6
Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards an characteristics of hydrogen sulfide (H2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. **Well Control Equipment:**

   A. Flare line.
   B. Choke manifold.
   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
   D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. **Protective equipment for essential personnel:**

A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

A. 3x portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

A. Wind direction indicators as shown on well site diagram (Exhibit #8).
B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

A. Radio communications in company vehicles including cellular telephone and 2-way radio.
B. Land line (telephone) communication at Office.

8. Well testing:

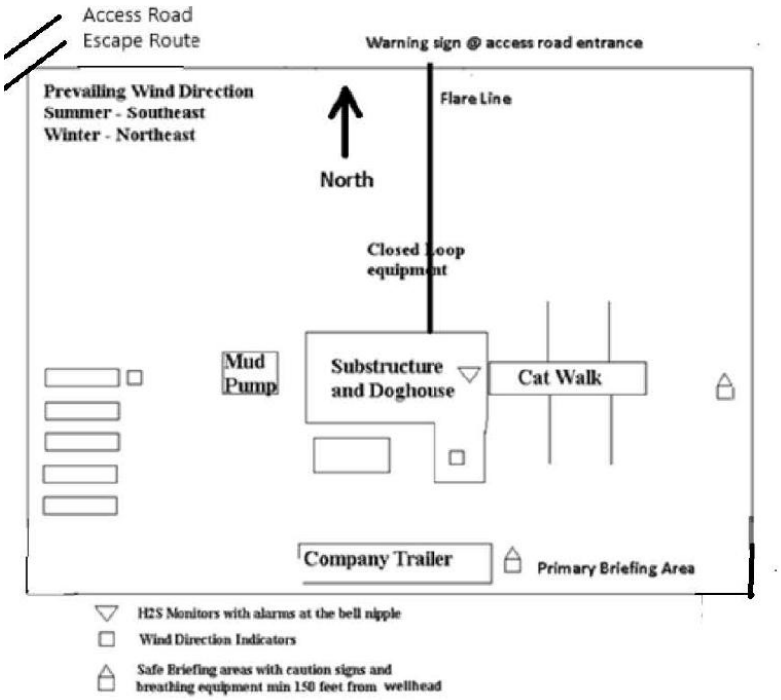
A. There will be no drill stem testing.

WARNING

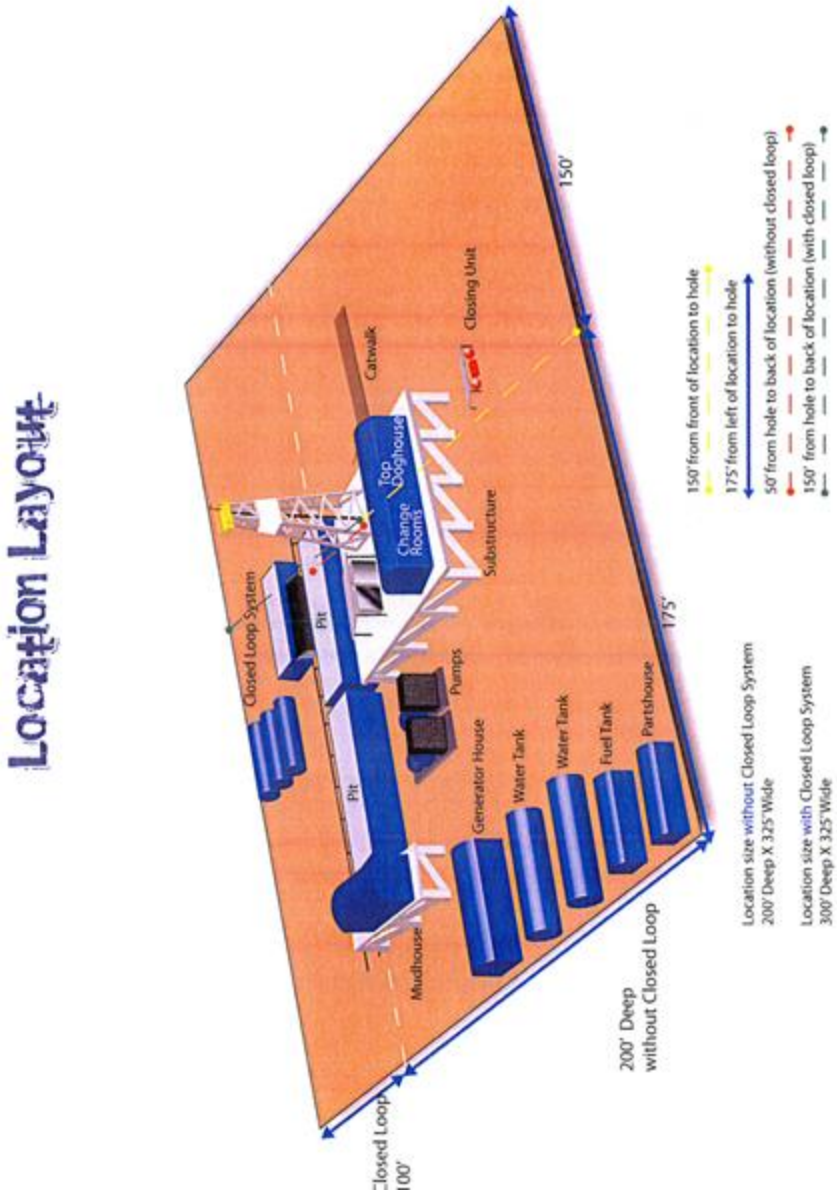
YOU ARE ENTERING AN H2S AREA
AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH RILEY PERMIAN OPERATING COMPANY MAN AT OFFICE

RILEY PERMIAN OPERATING COMPANY, LLC
1-405-415-8699



DRILLING LOCATION H2S SAFTY EQUIPMENT
Exhibit # 8



EMERGENCY CONTACT LIST – EDDY COUNTY

Artesia	Cellular	Office
Spence Laird	575-703-7382	405-420-8415
Steve Forister	505-400-4571	405-666-0113
Travis Kerr	713-823-6933	
Justing Sappington	361-550-0494	

Agency Call List (575)

Artesia

State Police.....746-2703

City Police.....746-2703

Sheriff's Office.....746-9888

Ambulance.....911

Fire Department.....746-2701

LEPC (Local Emergency Planning Committee.....746-2122

NMOCD.....748-1283

Carlsbad

State Police.....885-3137

City Police.....885-2111

Sheriff's Office.....887-7551

Ambulance.....911

Fire Department.....885-2111

LEPC (Local Emergency Planning Committee.....887-3798

Bureau of Land Management.....887-6544

New Mexico Emergency Response Commission.....(505)476-9690

24 Hour.....(505)827-9126

National Emergency Response Center (Washington)……(800)424-8802

Emergency Services

Boots & Coots IWC……1-800-256-9688 or (281)931-8884

Cudd pressure Control……(915)699-0139 or (915)563-3356

Halliburton……..746-2757

Par Five……..748-9539

Flight For Life-Lubbock, TX……(806)743-9911

Aerocare-Lubbock, TX……..(806)747-8923

Med Flight Air Amb-Albuquerque, NM…….(505)842-4433

Lifeguard Air Med Svc. Albuquerque, NM……(505)272-3115

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

Property Name and Well Number: **ABIDES FEDERAL COM 3H**

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-58531	51120	Red Lake; Glorieta Yeso

Property Code	Property Name	Well Number
339414	ABIDES FEDERAL COM	3H

OGRID No.	Operator Name	Ground Level Elevation
372290	RILEY PERMIAN OPERATING COMPANY LLC	3577'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL or Lot No.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
13	4	18 S	27 E		1664 FSL	1091 FEL	N 32.774134°	W 104.278462°	EDDY

Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
K	2	18 S	27 E		1320 FSL	2626 FEL	N 32.772900°	W 104.249174°	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidated Code
320 ~~480~~	Defining	N/A	No	Pending Com Agreement

Order Numbers: PENDING COM AGREEMENT
Well Setbacks are under Common Ownership: ☒ Yes ☐ No

Kick Off Point (KOP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
13	4	18 S	27 E		1377 FSL	672 FEL	N 32.773347°	W 104.277090°	EDDY

First Take Point (FTP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
L	3	18 S	27 E		1320 FSL	100 FWL	N 32.773190°	W 104.274577°	EDDY

Last Take Point (LTP)

UL or lot no.	Section	Township	Range	Lot	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
K	2	18 S	27 E		1320 FSL	2540 FWL	N 32.772897°	W 104.249466°	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unity Type	Ground Floor Elevation
	☒ Horizontal ☐ Vertical	3602'

OPERATOR CERTIFICATION

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.

Signature — Date: 1-20-26

Print Name: Alex Rizzo

E-mail Address: AlexRizzo@rileypermian.com

SURVEYORS CERTIFICATION

MITCHELL L. McDONALD NEW MEXICO 29821 PROFESSIONAL SURVEYOR 01/16/2026

Signature and Seal of Professional Surveyor — Date

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.

MITCHELL L. MCDONALD, N.M. P.L.S.

Certificate Number: 29821 — Date of Survey: SEPTEMBER 18, 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.

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type:
- [x] Initial Submittal
- [ ] Amended Report
- [ ] As Drilled

Property Name and Well Number

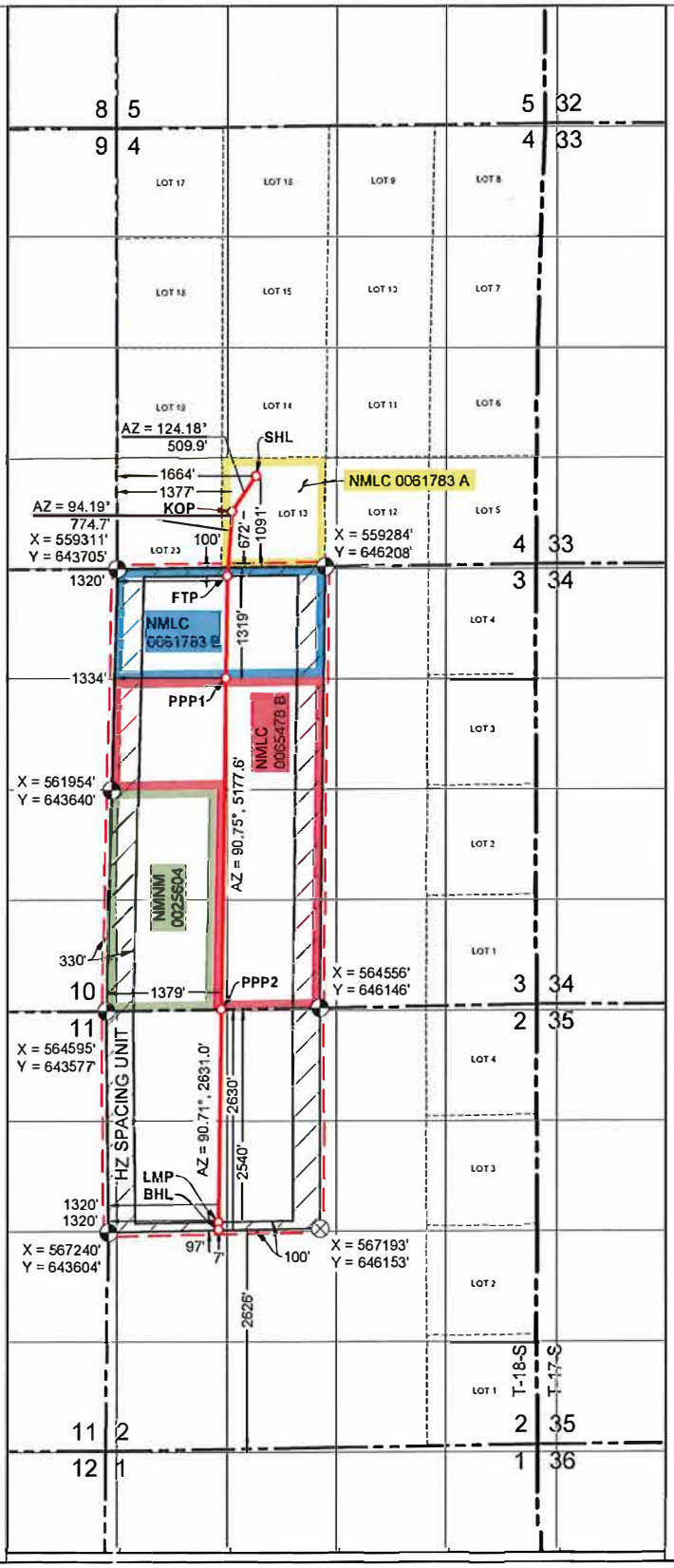
ABIDES FEDERAL COM 3H

SURFACE LOCATION
NEW MEXICO EAST
NAD 1983
X=558202' Y=645366'
LAT=N32.774134°
LONG=W104.278462°
NAD 1927
X=517023' Y=645304'
LAT=N32.774020°
LONG=W104.277948°
1664' FSL 1091' FEL

KOP LOCATION
NEW MEXICO EAST
NAD 1983
X=558624' Y=645080'
LAT=N32.773347°
LONG=W104.277090°
NAD 1927
X=517445' Y=645018'
LAT=N32.773232°
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1377' FSL 672' FEL

FIRST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=559397' Y=645024'
LAT=N32.773190°
LONG=W104.274577°
NAD 1927
X=518218' Y=644961'
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LONG=W104.274063°
1320' FSL 100' FWL

PROPOSED PENETRATION POINT 1
NEW MEXICO EAST
NAD 1983
X=560616' Y=645008'
LAT=N32.773144°
LONG=W104.270609°
NAD 1927
X=519437' Y=644945'
LAT=N32.773030°
LONG=W104.270096°
1334' FSL 1319' FWL



PROPOSED PENETRATION POINT 2
NEW MEXICO EAST
NAD 1983
X=564574' Y=644956'
LAT=N32.772994°
LONG=W104.257733°
NAD 1927
X=523395' Y=644893'
LAT=N32.772880°
LONG=W104.257220°
1379' FSL 0' FEL

LOWER MOST PERF.
NEW MEXICO EAST
NAD 1983
X=567115' Y=644922'
LAT=N32.772897°
LONG=W104.249466°
NAD 1927
X=525936' Y=644860'
LAT=N32.772783°
LONG=W104.248953°
1320' FSL 2540' FWL

BOTTOM HOLE LOCATION
NEW MEXICO EAST
NAD 1983
X=567205' Y=644923'
LAT=N32.772900°
LONG=W104.249174°
NAD 1927
X=526026' Y=644861'
LAT=N32.772785°
LONG=W104.248661°
1320' FSL 2626' FEL

Note: Bearings, coordinates, and distances (grid) shown hereon are based on the New Mexico State Plane Coordinate System, East Zone, NAD 83-2011 (EPOCH 2010) framework, as derived by GPUS Solution. The elevations shown hereon are based on NAVD 88.

C-102

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Revised July 9, 2024

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Property Code	Property Name	Well Number
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OGRID No.	Operator Name	Ground Level Elevation
372290	RILEY PERMIAN OPERATING COMPANY LLC	3577'

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Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidated Code
160 ~~480~~	Defining	N/A	No	Pending Com Agreement

Order Numbers: PENDING COM AGREEMENT Well Setbacks are under Common Ownership: ☒ Yes ☐ No

Kick Off Point (KOP)

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Print Name: Alex Rizzo

E-mail Address: AlexrizzoC rileypermian.com

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Certificate Number	Date of Survey
29821	SEPTEMBER 18, 2025

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C-102

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Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

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- [ ] Amended Report
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Property Name and Well Number

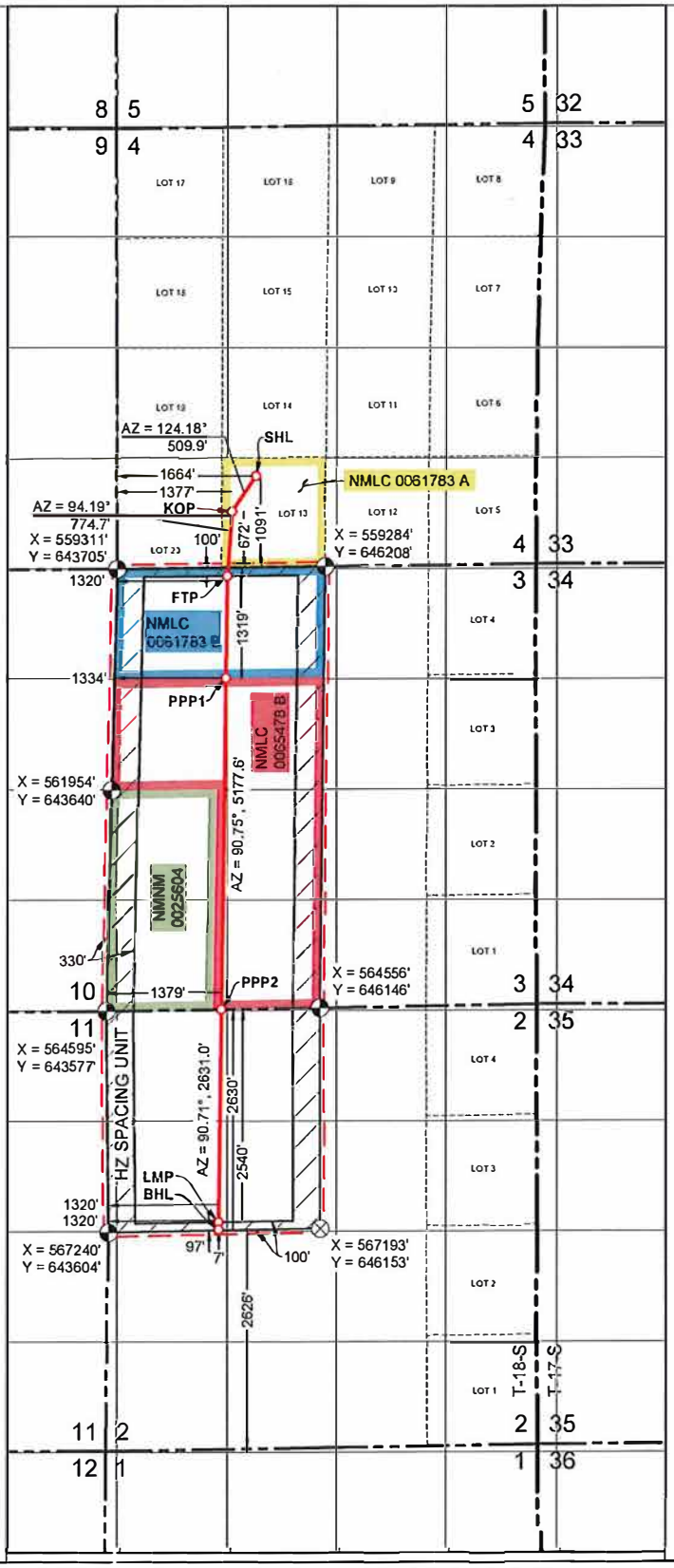
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Note: Bearings, coordinates, and distances (grid) shown hereon are based on the New Mexico State Plane Coordinate System, East Zone, NAD 83-2011 (EPOCH 2010) framework, as derived by GPUS Solution. The elevations shown hereon are based on NAVD 88.

6. Types and Characteristics of the Proposed Mud System:

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Saltwater Clay, CACL2. Riley will utilize a closed mud system.

Depth		Type	Weight (ppg)	PH	Viscosity (cp)	Water Loss
From (ft.)	To (ft.)					
0	375	Spud Mud (Fresh Water)	8.5	11	28	N/C
375	1250	Water-Based Mud (Cut Brine)	8.3-10	11	29-33	N/C
1250	TD	Water-Based Mud (Cut Brine)	8.3-9.2	11	29-33	N/C

PVT/Pason/Visual Monitoring will be used to monitor the loss or gain of fluid and digitally recorded.

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

ACKNOWLEDGMENTS

Operator: RILEY PERMIAN OPERATING COMPANY, LLC 29 E Reno Avenue Oklahoma City, OK 73104	OGRID: 372290
	Action Number: 583859
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

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

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Operator: RILEY PERMIAN OPERATING COMPANY, LLC 29 E Reno Avenue Oklahoma City, OK 73104	OGRID: 372290
	Action Number: 583859
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ascentrepx	Cement is required to circulate on both surface and intermediate1 strings of casing.	5/11/2026
ascentrepx	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	5/11/2026
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	7/20/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	7/20/2026
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	7/20/2026
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	7/20/2026
ward.rikala	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.	7/20/2026