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

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

Form C-101
August 1, 2011

Permit 333462

## APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| 1. Operator Name and Address | 2. OGRID Number |
|---|---|
| MATADOR PRODUCTION COMPANY<br>One Lincoln Centre<br>Dallas, TX 75240 | 228937 |
| | 3. API Number<br>30-015-53366 |

| 4. Property Code | 5. Property Name | 6. Well No. |
|---|---|---|
| 333281 | Michael Ryan Fed Com | 203H |

**7. Surface Location**

| UL - Lot | Section | Township | Range | Lot Idn | Feet From | N/S Line | Feet From | E/W Line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 16 | 22S | 28E | | 629 | S | 320 | W | Eddy |

**8. Proposed Bottom Hole Location**

| UL - Lot | Section | Township | Range | Lot Idn | Feet From | N/S Line | Feet From | E/W Line | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 15 | 22S | 28E | J | 2310 | S | 1675 | E | Eddy |

**9. Pool Information**

| | |
|---|---|
| PURPLE SAGE;WOLFCAMP (GAS) | 98220 |

**Additional Well Information**

| 11. Work Type | 12. Well Type | 13. Cable/Rotary | 14. Lease Type | 15. Ground Level Elevation |
|---|---|---|---|---|
| New Well | GAS | | State | 3078 |
| **16. Multiple** | **17. Proposed Depth** | **18. Formation** | **19. Contractor** | **20. Spud Date** |
| N | 18365 | Wolfcamp | | 4/1/2023 |
| Depth to Ground water | | Distance from nearest fresh water well | | Distance to nearest surface water |

☒ **We will be using a closed-loop system in lieu of lined pits**

**21. Proposed Casing and Cement Program**

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|---|---|---|---|---|---|---|
| Surf | 17.5 | 13.375 | 54.5 | 425 | 550 | 0 |
| Int1 | 9.875 | 7.625 | 29.7 | 8985 | 1400 | 0 |
| Prod | 6.75 | 5.5 | 20 | 18365 | 1000 | 8485 |

**Casing/Cement Program: Additional Comments**

Matador requests optionality to use a DV Packer Tool at 2500'

**22. Proposed Blowout Prevention Program**

| Type | Working Pressure | Test Pressure | Manufacturer |
|---|---|---|---|
| Annular | 5000 | 3000 | Cameron |
| Double Ram | 10000 | 5000 | Cameron |
| Pipe | 10000 | 5000 | Cameron |

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
**I further certify I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☒, if applicable.**

Signature:

**OIL CONSERVATION DIVISION**

| | | | | |
|---|---|---|---|---|
| Printed Name: | Electronically filed by Brett A Jennings | Approved By: | Katherine Pickford | |
| Title: | Regulatory Analyst | Title: | Geoscientist | |
| Email Address: | brett.jennings@matadorresources.com | Approved Date: | 2/7/2023 | Expiration Date: 2/7/2025 |
| Date: | 2/1/2023 Phone: 972-629-2160 | Conditions of Approval Attached | | |

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Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1]API Number | [2]Pool Code | [3]Pool Name |
|---|---|---|
| 30-015-53366 | 98220 | Purple Sage; Wolfcamp (Gas) |

| [4]Property Code | [5]Property Name | [6]Well Number |
|---|---|---|
| 333281 | MICHAEL RYAN FED COM | 203H |

| [7]OGRID No. | [8]Operator Name | [9]Elevation |
|---|---|---|
| 228937 | MATADOR PRODUCTION COMPANY | 3078' |

## [10]Surface Location

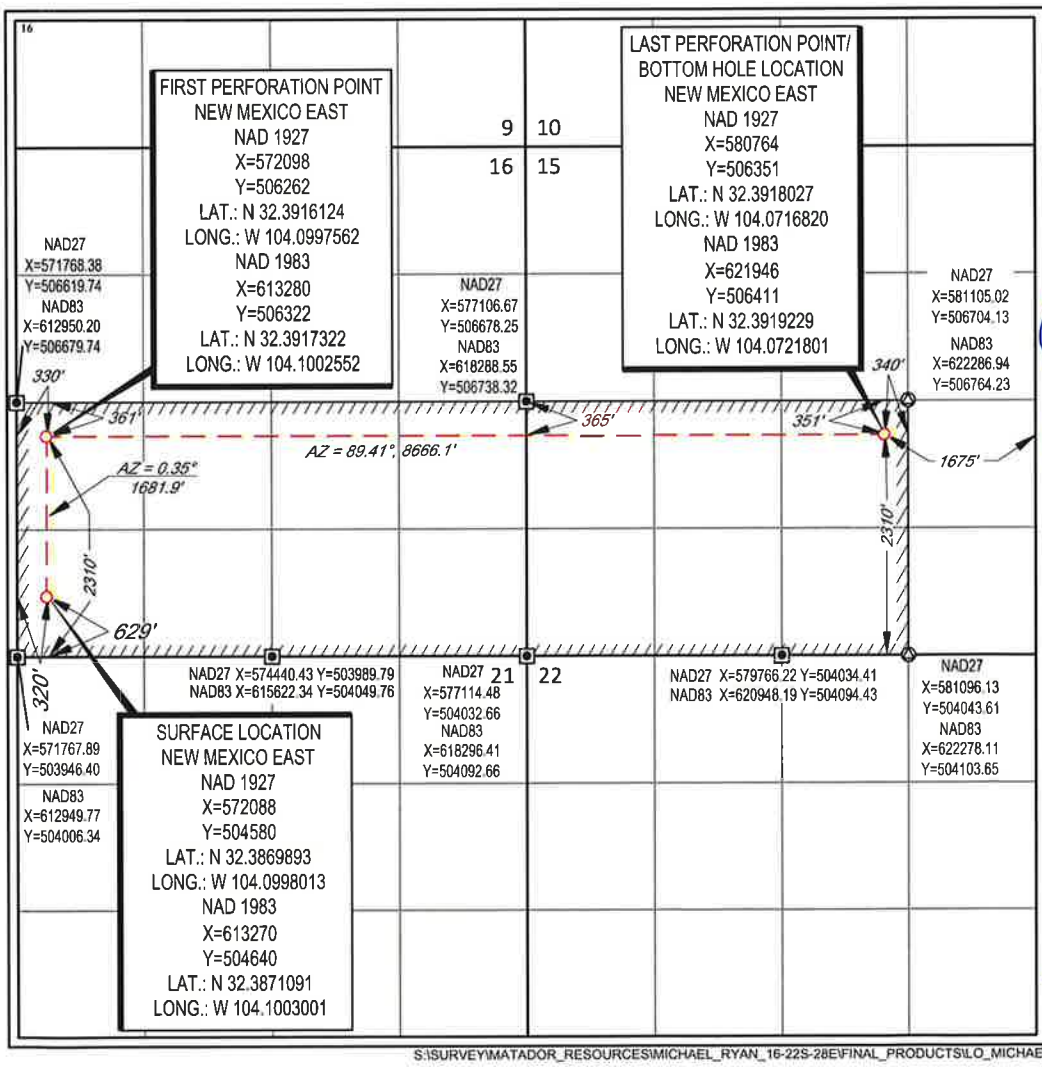
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 16 | 22-S | 28-E | - | 629' | SOUTH | 320' | WEST | EDDY |

## [11]Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 15 | 22-S | 28-E | - | 2310' | SOUTH | 1675' | EAST | EDDY |

| [12]Dedicated Acres | [13]Joint or Infill | [14]Consolidation Code | [15]Order No. |
|---|---|---|---|
| 560 | | | |

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.




## [17]OPERATOR CERTIFICATION

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

Hanna Bollenbach 12/9/22
Signature Date

Hanna Bollenbach
Printed Name

hanna.bollenbach@matadorresources.com
E-mail Address

## [18]SURVEYOR CERTIFICATION

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

10/08/2022
Date of Survey
Signature and Seal of Professional Surveyor

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Certificate Number

S:\SURVEY\MATADOR_RESOURCES\MICHAEL_RYAN_16-22S-28E\FINAL_PRODUCTS\LO_MICHAEL_RYAN_FED_COM_203H_REV10.DWG 10/17/2022 2:24:25 PM adisabella

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

Form APD Conditions

Permit 333462

## PERMIT CONDITIONS OF APPROVAL

| Operator Name and Address: | API Number: |
|---|---|
| MATADOR PRODUCTION COMPANY [228937]<br>One Lincoln Centre<br>Dallas, TX 75240 | 30-015-53366 |
| | Well: Michael Ryan Fed Com #203H |

| OCD Reviewer | Condition |
|---|---|
| kpickford | Notify OCD 24 hours prior to casing & cement |
| kpickford | Will require a File As Drilled C-102 and a Directional Survey with the C-104 |
| kpickford | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud |
| kpickford | 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 |
| kpickford | Cement is required to circulate on both surface and intermediate1 strings of casing |
| kpickford | 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 |
| kpickford | Will require administrative order for non-standard spacing unit |

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:** Matador Production Company **OGRID:** 228937 **Date:** 12/29/2022

**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 |
|---|---|---|---|---|---|---|
| Barry Miller State Com 202H | TBD | D 16-22S-28E | 935' FNL 460' FWL | 1,000 | 2,500 | 4,000 |
| Michael Ryan Fed Com 203H | TBD | M 16-22S-28E | 629' FSL 320' FWL | 1,150 | 2,875 | 4,600 |
| Barry Miller State Com 201H | TBD | D 16-22S-28E | 935' FNL 430'FWL | 1,000 | 2,500 | 4,000 |

**IV. Central Delivery Point Name:** Michael Ryan TB [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 |
|---|---|---|---|---|---|---|
| Barry Miller State Com 202H | TBD | 05/14/2023 | 05/31/2023 | 07/21/2023 | 08/21/2023 | 08/21/2023 |
| Michael Ryan Fed Com 203H | TBD | 06/19/2023 | 07/06/2023 | 07/21/2023 | 08/21/2023 | 08/21/2023 |
| Barry Miller State Com 201H | TBD | 04/26/2023 | 05/14/2023 | 07/21/2023 | 08/21/2023 | 08/21/2023 |

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

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

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

## Section 2 – Enhanced Plan
**EFFECTIVE APRIL 1, 2022**

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

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

**IX. Anticipated Natural Gas Production:**

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

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

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

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

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

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

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

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

## Section 3 - Certifications

**Effective May 25, 2021**

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

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

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

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

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

## Section 4 - Notices

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

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

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

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

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

| |
|---|
| Signature: Omar Enriquez |
| Printed Name: Omar Enriquez |
| Title: Sr. Production Engineer |
| E-mail Address: oenriquez@matadorresources.com |
| Date: 12/29/2022 |
| Phone: (972) 587-4638 |
| **OIL CONSERVATION DIVISION**<br>**(Only applicable when submitted as a standalone form)** |
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

## Addendum to Natural Gas Management Plan for Matador's

## Barry Miller 201H, Barry Miller 202H and Michael Ryan 203H

### VI. Separation Equipment

Flow from the wells will be routed via a flowline to a 48"x15' three phase separator dedicated to the well. The first stage separators are sized with input from BRE ProMax and API 12J. Anticipated production rates can be seen in the below table. Liquid retention times at expected maximum rates will be >3 minutes. Gas will be routed from the first stage separator to sales. Hydrocarbon liquids are dumped from the first stage separator and commingled to one or more heater treaters. The flash gas from the heater treater(s) could either be sent to sales or routed to a compressor if the sales line pressure is higher than the MAWP of the heater treater (125 psi). From the heater treaters, hydrocarbon liquid will be routed to the tanks where vapor is compressed by a VRU if technically feasible to either sales or a compressor if the sales line pressure is higher than the VRU's maximum discharge pressure (~150 psi). Therefore, Matador has sized our separation equipment to optimize gas capture and our separation equipment is of sufficient size to handle the expected volumes of gas.

| Well Name | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|---|---|---|---|
| Barry Miller State Com 202H | 1,000 | 2,500 | 4,000 |
| Michael Ryan Fed Com 203H | 1,150 | 2,875 | 4,600 |
| Barry Miller State Com 201H | 1,000 | 2,500 | 4,000 |

### VII. Operation Practices

Although not a complete recitation of all our efforts to comply with a subsection A through F of 19.15.27.8 NMAC, a summary is as follows. During drilling, Matador will have a properly sized flare stack at least 100 feet from the nearest surface hole. During initial flowback we will route the flowback fluids into completion or storage tanks and, to the extent possible, flare rather than vent any gas. We will commence operation of a separator as soon as technically feasible, and have instructed our team that we want to connect the gas to sales as soon as possible but not later than 30 days after initial flowback.

Regarding production operations, we have designed our production facilities to be compliant with the requirements of Part E of 19.15.27.8 NMAC. We will instruct our team to perform the AVOs on the frequency required under the rules. While the well is producing, we will take steps to minimize flaring during maintenance, as set forth below, and we have a process in place for the measuring of any flared gas and the reporting of any reportable flaring events.

## VII. Best Management Practices

Steps are taken to minimize venting during active or planned maintenance when technically feasible including:

- Isolating the affected component and reducing pressure through process piping
- Blowing down the equipment being maintained to a control device
- Performing preventative maintenance and minimizing the duration of maintenance activities
- Shutting in sources of supply as possible
- Other steps that are available depending on the maintenance being performed

# Matador Production Company

**Rustler Breaks**
**Michael Ryan**
**Michael Ryan Fed Com #203H**

**Wellbore #1**
**BLM Plan #1**

# Anticollision Report

**09 January, 2023**

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Reference** BLM Plan #1

| | | | |
|---|---|---|---|
| **Filter type:** | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| **Interpolation Method:** | Stations | **Error Model:** | ISCWSA |
| **Depth Range:** | Unlimited | **Scan Method:** | Closest Approach 3D |
| **Results Limited by:** | Maximum center-center distance of 10,000.0 us | **Error Surface:** | Pedal Curve |
| **Warning Levels Evaluated at:** | 2.00 **Sigma** | **Casing Method:** | Not applied |

**Survey Tool Program** **Date** 1/9/2023

| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 18,364.3 | BLM Plan #1 (Wellbore #1) | 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 |
|---|---|---|---|---|---|---|
| Barry Miller | | | | | | |
| Barry Miller State Com #136H - Wellbore #1 - State Plan | 9,112.7 | 9,218.8 | 229.2 | 161.8 | 3.402 | CC |
| Barry Miller State Com #136H - Wellbore #1 - State Plan | 17,313.4 | 17,255.2 | 400.7 | 40.6 | 1.113 | Level 2, ES, SF |
| Michael Ryan | | | | | | |
| Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan | 25.0 | 24.0 | 114.0 | | | |
| Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan | 300.0 | 301.0 | 115.2 | 113.5 | 67.877 | ES |
| Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan | 18,364.7 | 18,080.5 | 2,276.3 | 1,841.0 | 5.229 | SF |
| Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan | 25.0 | 25.0 | 42.2 | | | |
| Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan | 100.0 | 100.0 | 42.5 | 42.2 | 164.243 | ES |
| Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan | 18,364.7 | 16,755.0 | 2,151.4 | 1,807.7 | 6.259 | SF |
| Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan | 25.0 | 25.0 | 0.0 | | | |
| Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan | 100.0 | 100.0 | 0.3 | 0.1 | 1.315 | Level 3, SF |
| Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan | 25.0 | 25.0 | 30.0 | | | |
| Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan | 18,364.7 | 18,749.1 | 1,760.6 | 1,349.0 | 4.277 | SF |
| Michael Ryan State Com #123H - Wellbore #1 - State Pl | 61.7 | 61.7 | 29.8 | 29.7 | 210.063 | CC |
| Michael Ryan State Com #123H - Wellbore #1 - State Pl | 6,200.0 | 6,226.6 | 78.7 | 26.4 | 1.504 | ES |
| Michael Ryan State Com #123H - Wellbore #1 - State Pl | 6,300.0 | 6,324.6 | 80.1 | 26.4 | 1.492 | Level 3, SF |
| Michael Ryan State Com #137H - Wellbore #1 - BLM Pla | 36.0 | 36.0 | 110.1 | 110.0 | 1,692.263 | CC |
| Michael Ryan State Com #137H - Wellbore #1 - BLM Pla | 600.0 | 600.4 | 111.5 | 107.6 | 28.845 | ES |
| Michael Ryan State Com #137H - Wellbore #1 - BLM Pla | 18,364.7 | 18,111.0 | 894.8 | 464.2 | 2.078 | SF |

**Offset Design** Barry Miller - Barry Miller State Com #136H - Wellbore #1 - State Plan #1

**Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 6.0 | 6.0 | 0.0 | 0.0 | 2.08 | 3,890.9 | 141.2 | 3,893.4 | | | | |
| 25.0 | 25.0 | 31.0 | 31.0 | 0.0 | 0.0 | 2.08 | 3,890.9 | 141.2 | 3,893.4 | | | | |
| 100.0 | 100.0 | 106.0 | 106.0 | 0.1 | 0.1 | 92.08 | 3,890.9 | 141.2 | 3,893.5 | 3,893.2 | 0.28 | N/A | |
| 200.0 | 200.0 | 206.0 | 206.0 | 0.5 | 0.5 | 92.10 | 3,890.9 | 141.2 | 3,893.5 | 3,892.5 | 1.00 | 3,910.942 | |
| 300.0 | 300.0 | 306.0 | 306.0 | 0.8 | 0.9 | 92.14 | 3,890.9 | 141.2 | 3,893.6 | 3,891.9 | 1.71 | 2,271.200 | |
| 400.0 | 399.9 | 405.9 | 405.9 | 1.2 | 1.2 | 92.19 | 3,890.9 | 141.2 | 3,893.7 | 3,891.3 | 2.43 | 1,599.152 | |
| 500.2 | 500.0 | 506.0 | 506.0 | 1.6 | 1.6 | 92.26 | 3,890.9 | 141.2 | 3,893.9 | 3,890.8 | 3.16 | 1,232.524 | |
| 600.0 | 599.6 | 605.6 | 605.6 | 1.9 | 1.9 | 92.33 | 3,890.9 | 141.2 | 3,894.1 | 3,890.2 | 3.88 | 1,003.049 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Barry Miller - Barry Miller State Com #136H - Wellbore #1 - State Plan #1

**Offset Site Error:** 0.0 usft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 700.0 | 699.5 | 705.5 | 705.5 | 2.3 | 2.3 | 92.41 | 3,890.9 | 141.2 | 3,894.3 | 3,889.7 | 4.61 | 845.251 | |
| 800.0 | 799.4 | 805.4 | 805.4 | 2.7 | 2.7 | 92.49 | 3,890.9 | 141.2 | 3,894.6 | 3,889.2 | 5.33 | 730.328 | |
| 900.0 | 899.2 | 905.2 | 905.2 | 3.0 | 3.0 | 92.57 | 3,890.9 | 141.2 | 3,894.8 | 3,888.7 | 6.06 | 642.907 | |
| 1,000.2 | 999.3 | 1,005.3 | 1,005.3 | 3.4 | 3.4 | 92.64 | 3,890.9 | 141.2 | 3,895.0 | 3,888.3 | 6.79 | 574.042 | |
| 1,100.0 | 1,099.0 | 1,105.0 | 1,105.0 | 3.8 | 3.7 | 65.38 | 3,890.9 | 141.2 | 3,894.0 | 3,886.5 | 7.51 | 518.636 | |
| 1,200.0 | 1,198.8 | 1,204.8 | 1,204.8 | 4.1 | 4.1 | 45.64 | 3,890.9 | 141.2 | 3,890.3 | 3,882.1 | 8.23 | 472.702 | |
| 1,300.0 | 1,298.4 | 1,304.4 | 1,304.4 | 4.5 | 4.4 | 33.52 | 3,890.9 | 141.2 | 3,884.0 | 3,875.1 | 8.95 | 434.036 | |
| 1,400.0 | 1,397.9 | 1,403.9 | 1,403.9 | 4.9 | 4.8 | 25.97 | 3,890.9 | 141.2 | 3,875.2 | 3,865.5 | 9.67 | 400.940 | |
| 1,500.0 | 1,497.1 | 1,503.1 | 1,503.1 | 5.2 | 5.2 | 21.01 | 3,890.9 | 141.2 | 3,863.7 | 3,853.3 | 10.38 | 372.212 | |
| 1,600.0 | 1,596.0 | 1,602.0 | 1,602.0 | 5.6 | 5.5 | 17.55 | 3,890.9 | 141.2 | 3,849.6 | 3,838.5 | 11.09 | 346.984 | |
| 1,700.0 | 1,694.5 | 1,700.5 | 1,700.5 | 6.0 | 5.9 | 15.03 | 3,890.9 | 141.2 | 3,833.0 | 3,821.2 | 11.81 | 324.611 | |
| 1,800.0 | 1,792.5 | 1,801.5 | 1,798.5 | 6.4 | 6.2 | 13.13 | 3,890.9 | 141.2 | 3,813.8 | 3,801.2 | 12.53 | 304.340 | |
| 1,900.0 | 1,890.0 | 1,904.0 | 1,896.0 | 6.8 | 6.6 | 11.65 | 3,890.9 | 141.2 | 3,792.0 | 3,778.7 | 13.26 | 285.943 | |
| 2,000.0 | 1,986.9 | 2,007.1 | 1,992.9 | 7.2 | 7.0 | 10.47 | 3,890.9 | 141.2 | 3,767.7 | 3,753.7 | 14.00 | 269.215 | |
| 2,068.0 | 2,052.4 | 2,058.4 | 2,058.4 | 7.5 | 7.1 | 9.80 | 3,890.9 | 141.2 | 3,749.7 | 3,735.3 | 14.43 | 259.885 | |
| 2,100.0 | 2,083.2 | 2,089.2 | 2,089.2 | 7.7 | 7.3 | 9.82 | 3,890.9 | 141.2 | 3,741.0 | 3,726.3 | 14.66 | 255.254 | |
| 2,200.0 | 2,179.3 | 2,185.3 | 2,185.3 | 8.1 | 7.6 | 9.90 | 3,890.9 | 141.2 | 3,713.7 | 3,698.3 | 15.36 | 241.703 | |
| 2,300.0 | 2,275.3 | 2,281.3 | 2,281.3 | 8.6 | 7.9 | 9.97 | 3,890.9 | 141.2 | 3,686.4 | 3,670.4 | 16.08 | 229.298 | |
| 2,400.0 | 2,371.4 | 2,377.4 | 2,377.4 | 9.1 | 8.3 | 10.05 | 3,890.9 | 141.2 | 3,659.2 | 3,642.4 | 16.79 | 217.905 | |
| 2,500.0 | 2,467.5 | 2,473.5 | 2,473.5 | 9.6 | 8.6 | 10.12 | 3,890.9 | 141.2 | 3,631.9 | 3,614.4 | 17.51 | 207.410 | |
| 2,600.0 | 2,563.6 | 2,569.6 | 2,569.6 | 10.1 | 9.0 | 10.20 | 3,890.9 | 141.2 | 3,604.6 | 3,586.4 | 18.23 | 197.716 | |
| 2,700.0 | 2,659.7 | 2,665.7 | 2,665.7 | 10.6 | 9.3 | 10.28 | 3,890.9 | 141.2 | 3,577.4 | 3,558.4 | 18.95 | 188.738 | |
| 2,800.0 | 2,755.8 | 2,761.8 | 2,761.8 | 11.1 | 9.7 | 10.36 | 3,890.9 | 141.2 | 3,550.1 | 3,530.5 | 19.68 | 180.402 | |
| 2,900.0 | 2,851.9 | 2,857.9 | 2,857.9 | 11.7 | 10.0 | 10.44 | 3,890.9 | 141.2 | 3,522.9 | 3,502.5 | 20.41 | 172.643 | |
| 3,000.0 | 2,948.0 | 4,526.8 | 4,459.4 | 12.2 | 16.6 | 10.81 | 3,511.4 | 50.9 | 3,456.4 | 3,432.7 | 23.71 | 145.792 | |
| 3,100.0 | 3,044.1 | 4,601.5 | 4,526.4 | 12.7 | 17.1 | 10.77 | 3,479.4 | 43.2 | 3,389.9 | 3,365.6 | 24.29 | 139.573 | |
| 3,200.0 | 3,140.2 | 4,676.2 | 4,593.5 | 13.2 | 17.5 | 10.74 | 3,447.3 | 35.6 | 3,323.5 | 3,298.6 | 24.87 | 133.614 | |
| 3,300.0 | 3,236.3 | 4,751.0 | 4,660.5 | 13.8 | 18.0 | 10.69 | 3,415.2 | 28.0 | 3,257.0 | 3,231.6 | 25.46 | 127.907 | |
| 3,400.0 | 3,332.4 | 4,825.7 | 4,727.5 | 14.3 | 18.4 | 10.65 | 3,383.1 | 20.3 | 3,190.6 | 3,164.5 | 26.06 | 122.439 | |
| 3,500.0 | 3,428.5 | 4,900.4 | 4,794.6 | 14.8 | 18.9 | 10.61 | 3,351.0 | 12.7 | 3,124.1 | 3,097.5 | 26.66 | 117.197 | |
| 3,600.0 | 3,524.6 | 4,975.1 | 4,861.6 | 15.4 | 19.3 | 10.56 | 3,318.9 | 5.0 | 3,057.7 | 3,030.4 | 27.26 | 112.168 | |
| 3,700.0 | 3,620.7 | 5,049.8 | 4,928.6 | 15.9 | 19.8 | 10.51 | 3,286.9 | -2.6 | 2,991.3 | 2,963.4 | 27.87 | 107.343 | |
| 3,800.0 | 3,716.8 | 5,124.5 | 4,995.7 | 16.5 | 20.3 | 10.46 | 3,254.8 | -10.2 | 2,924.8 | 2,896.3 | 28.48 | 102.711 | |
| 3,900.0 | 3,812.9 | 5,200.8 | 5,062.7 | 17.0 | 20.8 | 10.41 | 3,222.7 | -17.9 | 2,858.4 | 2,829.3 | 29.10 | 98.241 | |
| 4,000.0 | 3,909.0 | 5,273.9 | 5,129.8 | 17.6 | 21.3 | 10.35 | 3,190.6 | -25.5 | 2,791.9 | 2,762.2 | 29.71 | 93.987 | |
| 4,100.0 | 4,005.1 | 5,348.6 | 5,196.8 | 18.1 | 21.8 | 10.29 | 3,158.5 | -33.1 | 2,725.5 | 2,695.2 | 30.32 | 89.877 | |
| 4,200.0 | 4,101.2 | 5,423.4 | 5,263.8 | 18.6 | 22.3 | 10.23 | 3,126.4 | -40.8 | 2,659.1 | 2,628.1 | 30.95 | 85.924 | |
| 4,300.0 | 4,197.3 | 5,501.9 | 5,330.9 | 19.2 | 22.8 | 10.17 | 3,094.4 | -48.4 | 2,592.6 | 2,561.0 | 31.59 | 82.077 | |
| 4,400.0 | 4,293.4 | 5,572.8 | 5,397.9 | 19.7 | 23.3 | 10.10 | 3,062.3 | -56.0 | 2,526.2 | 2,494.0 | 32.20 | 78.456 | |
| 4,500.0 | 4,389.5 | 5,647.5 | 5,464.9 | 20.3 | 23.8 | 10.03 | 3,030.2 | -63.7 | 2,459.8 | 2,426.9 | 32.83 | 74.927 | |
| 4,600.0 | 4,485.6 | 5,722.2 | 5,532.0 | 20.8 | 24.3 | 9.96 | 2,998.1 | -71.3 | 2,393.3 | 2,359.9 | 33.46 | 71.527 | |
| 4,700.0 | 4,581.7 | 5,803.1 | 5,599.0 | 21.4 | 24.9 | 9.88 | 2,966.0 | -79.0 | 2,326.9 | 2,292.8 | 34.12 | 68.194 | |
| 4,800.0 | 4,677.8 | 5,871.6 | 5,666.1 | 21.9 | 25.4 | 9.79 | 2,933.9 | -86.6 | 2,260.5 | 2,225.8 | 34.73 | 65.083 | |
| 4,900.0 | 4,773.9 | 5,946.3 | 5,733.1 | 22.5 | 25.9 | 9.70 | 2,901.9 | -94.2 | 2,194.1 | 2,158.7 | 35.37 | 62.030 | |
| 5,000.0 | 4,870.0 | 6,021.0 | 5,800.1 | 23.0 | 26.4 | 9.61 | 2,869.8 | -101.9 | 2,127.7 | 2,091.6 | 36.01 | 59.081 | |
| 5,100.0 | 4,966.1 | 6,104.2 | 5,867.2 | 23.6 | 27.0 | 9.51 | 2,837.7 | -109.5 | 2,061.2 | 2,024.5 | 36.69 | 56.175 | |
| 5,200.0 | 5,062.2 | 6,170.5 | 5,934.2 | 24.1 | 27.5 | 9.40 | 2,805.6 | -117.1 | 1,994.8 | 1,957.5 | 37.30 | 53.479 | |
| 5,300.0 | 5,158.3 | 6,245.2 | 6,001.2 | 24.7 | 28.1 | 9.28 | 2,773.5 | -124.8 | 1,928.4 | 1,890.5 | 37.95 | 50.817 | |
| 5,400.0 | 5,254.4 | 6,319.9 | 6,068.3 | 25.2 | 28.6 | 9.16 | 2,741.4 | -132.4 | 1,862.0 | 1,823.4 | 38.60 | 48.242 | |
| 5,500.0 | 5,350.5 | 6,394.6 | 6,135.3 | 25.8 | 29.1 | 9.03 | 2,709.3 | -140.1 | 1,795.6 | 1,756.4 | 39.25 | 45.750 | |
| 5,600.0 | 5,446.6 | 6,469.3 | 6,202.3 | 26.3 | 29.7 | 8.89 | 2,677.3 | -147.7 | 1,729.2 | 1,689.3 | 39.90 | 43.337 | |
| 5,700.0 | 5,542.7 | 6,544.0 | 6,269.4 | 26.9 | 30.2 | 8.73 | 2,645.2 | -155.3 | 1,662.9 | 1,622.3 | 40.56 | 41.000 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Barry Miller - Barry Miller State Com #136H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,800.0 | 5,638.8 | 6,618.7 | 6,336.4 | 27.4 | 30.8 | 8.57 | 2,613.1 | -163.0 | 1,596.5 | 1,555.3 | 41.22 | 38.735 | |
| 5,900.0 | 5,734.9 | 6,706.6 | 6,403.5 | 28.0 | 31.4 | 8.38 | 2,581.0 | -170.6 | 1,530.1 | 1,488.2 | 41.93 | 36.488 | |
| 6,000.0 | 5,831.0 | 6,768.1 | 6,470.5 | 28.6 | 31.9 | 8.19 | 2,548.9 | -178.2 | 1,463.8 | 1,421.2 | 42.54 | 34.411 | |
| 6,100.0 | 5,927.1 | 6,825.7 | 6,522.3 | 29.1 | 32.3 | 8.02 | 2,524.5 | -184.1 | 1,397.8 | 1,354.5 | 43.35 | 32.248 | |
| 6,200.0 | 6,023.2 | 6,882.0 | 6,573.3 | 29.7 | 32.7 | 7.86 | 2,501.3 | -189.6 | 1,332.9 | 1,288.8 | 44.19 | 30.167 | |
| 6,300.0 | 6,119.3 | 6,939.7 | 6,625.9 | 30.2 | 33.1 | 7.70 | 2,478.2 | -195.1 | 1,269.2 | 1,224.2 | 45.03 | 28.182 | |
| 6,400.0 | 6,215.4 | 7,000.0 | 6,681.3 | 30.8 | 33.6 | 7.52 | 2,455.0 | -200.6 | 1,206.6 | 1,160.7 | 45.88 | 26.297 | |
| 6,500.0 | 6,311.5 | 7,059.5 | 6,736.3 | 31.3 | 34.0 | 7.35 | 2,433.0 | -205.8 | 1,145.3 | 1,098.5 | 46.76 | 24.492 | |
| 6,600.0 | 6,407.6 | 7,121.7 | 6,794.1 | 31.9 | 34.4 | 7.16 | 2,410.8 | -211.1 | 1,085.2 | 1,037.5 | 47.63 | 22.781 | |
| 6,700.0 | 6,503.7 | 7,185.3 | 6,853.7 | 32.4 | 34.8 | 6.97 | 2,389.1 | -216.3 | 1,026.4 | 977.9 | 48.51 | 21.156 | |
| 6,800.0 | 6,599.8 | 7,250.5 | 6,915.1 | 33.0 | 35.2 | 6.77 | 2,367.8 | -221.3 | 968.9 | 919.5 | 49.40 | 19.615 | |
| 6,900.0 | 6,695.9 | 7,317.2 | 6,978.3 | 33.6 | 35.6 | 6.57 | 2,347.1 | -226.3 | 912.9 | 862.6 | 50.29 | 18.154 | |
| 7,000.0 | 6,792.0 | 7,385.5 | 7,043.4 | 34.1 | 36.0 | 6.37 | 2,327.0 | -231.1 | 858.3 | 807.1 | 51.18 | 16.771 | |
| 7,100.0 | 6,888.1 | 7,455.4 | 7,110.4 | 34.7 | 36.4 | 6.15 | 2,307.6 | -235.7 | 805.2 | 753.1 | 52.07 | 15.464 | |
| 7,200.0 | 6,984.2 | 7,526.8 | 7,179.2 | 35.2 | 36.8 | 5.94 | 2,289.1 | -240.1 | 753.6 | 700.7 | 52.96 | 14.231 | |
| 7,300.0 | 7,080.3 | 7,599.9 | 7,250.0 | 35.8 | 37.2 | 5.73 | 2,271.4 | -244.3 | 703.6 | 649.8 | 53.85 | 13.068 | |
| 7,400.0 | 7,176.4 | 7,674.5 | 7,322.6 | 36.3 | 37.6 | 5.52 | 2,254.6 | -248.3 | 655.3 | 600.6 | 54.73 | 11.974 | |
| 7,500.0 | 7,272.5 | 7,750.7 | 7,397.1 | 36.9 | 38.0 | 5.32 | 2,239.0 | -252.0 | 608.7 | 553.1 | 55.60 | 10.947 | |
| 7,600.0 | 7,368.6 | 7,828.5 | 7,473.5 | 37.4 | 38.3 | 5.12 | 2,224.5 | -255.4 | 563.8 | 507.3 | 56.47 | 9.984 | |
| 7,700.0 | 7,464.7 | 7,907.8 | 7,551.6 | 38.0 | 38.7 | 4.94 | 2,211.4 | -258.6 | 520.7 | 463.4 | 57.33 | 9.083 | |
| 7,800.0 | 7,560.7 | 7,988.7 | 7,631.5 | 38.6 | 39.0 | 4.79 | 2,199.5 | -261.4 | 479.5 | 421.3 | 58.17 | 8.243 | |
| 7,900.0 | 7,656.8 | 8,071.0 | 7,713.2 | 39.1 | 39.3 | 4.68 | 2,189.2 | -263.9 | 440.1 | 381.1 | 58.99 | 7.460 | |
| 8,000.0 | 7,752.9 | 8,154.8 | 7,796.5 | 39.7 | 39.7 | 4.61 | 2,180.4 | -265.9 | 402.7 | 342.9 | 59.80 | 6.734 | |
| 8,014.5 | 7,766.9 | 8,167.1 | 7,808.8 | 39.8 | 39.7 | 4.60 | 2,179.3 | -266.2 | 397.4 | 337.5 | 59.91 | 6.633 | |
| 8,100.0 | 7,849.3 | 8,240.3 | 7,881.7 | 40.2 | 40.0 | 4.56 | 2,173.3 | -267.6 | 368.2 | 307.6 | 60.58 | 6.078 | |
| 8,200.0 | 7,946.3 | 8,327.9 | 7,969.1 | 40.7 | 40.2 | 4.57 | 2,168.0 | -268.9 | 338.1 | 276.8 | 61.33 | 5.514 | |
| 8,300.0 | 8,043.9 | 8,417.3 | 8,058.4 | 41.2 | 40.5 | 4.65 | 2,164.5 | -269.7 | 312.8 | 250.7 | 62.05 | 5.041 | |
| 8,400.0 | 8,142.1 | 8,508.2 | 8,149.3 | 41.7 | 40.7 | 4.83 | 2,163.1 | -270.1 | 292.2 | 229.5 | 62.73 | 4.658 | |
| 8,500.0 | 8,240.7 | 8,605.6 | 8,246.7 | 42.1 | 41.0 | 5.10 | 2,163.0 | -270.1 | 275.7 | 212.3 | 63.38 | 4.349 | |
| 8,600.0 | 8,339.7 | 8,704.6 | 8,345.7 | 42.5 | 41.2 | 5.35 | 2,163.0 | -270.1 | 261.8 | 197.7 | 64.04 | 4.088 | |
| 8,700.0 | 8,439.1 | 8,803.9 | 8,445.1 | 42.9 | 41.4 | 5.57 | 2,163.0 | -270.1 | 250.5 | 185.8 | 64.68 | 3.872 | |
| 8,800.0 | 8,538.7 | 8,903.6 | 8,544.7 | 43.3 | 41.7 | 5.76 | 2,163.0 | -270.1 | 241.7 | 176.4 | 65.33 | 3.700 | |
| 8,900.0 | 8,638.5 | 9,003.4 | 8,644.5 | 43.6 | 41.9 | 5.90 | 2,163.0 | -270.1 | 235.6 | 169.6 | 65.97 | 3.572 | |
| 9,000.0 | 8,738.4 | 9,107.0 | 8,747.9 | 43.9 | 42.2 | 7.45 | 2,162.3 | -264.2 | 231.4 | 164.9 | 66.55 | 3.478 | |
| 9,085.1 | 8,823.5 | 9,192.3 | 8,831.0 | 44.1 | 42.4 | 6.07 | 2,159.9 | -245.8 | 229.3 | 162.2 | 67.13 | 3.416 | |
| 9,100.0 | 8,838.4 | 9,206.7 | 8,844.7 | 44.1 | 42.4 | -86.39 | 2,159.4 | -241.6 | 229.2 | 162.0 | 67.27 | 3.408 | |
| 9,112.7 | 8,851.1 | 9,218.8 | 8,856.2 | 44.1 | 42.4 | -85.53 | 2,158.9 | -237.7 | 229.2 | 161.8 | 67.39 | 3.402 | CC |
| 9,150.0 | 8,888.3 | 9,254.1 | 8,889.1 | 44.2 | 42.5 | -82.99 | 2,157.2 | -225.0 | 229.4 | 161.6 | 67.78 | 3.385 | |
| 9,200.0 | 8,937.6 | 9,300.4 | 8,931.0 | 44.3 | 42.6 | -79.67 | 2,154.7 | -205.4 | 230.1 | 161.8 | 68.29 | 3.369 | |
| 9,250.0 | 8,986.2 | 9,345.8 | 8,970.3 | 44.4 | 42.7 | -76.47 | 2,151.8 | -183.0 | 231.3 | 162.6 | 68.73 | 3.366 | |
| 9,300.0 | 9,033.4 | 9,390.3 | 9,007.0 | 44.5 | 42.7 | -73.40 | 2,148.6 | -158.1 | 233.0 | 164.0 | 69.00 | 3.377 | |
| 9,350.0 | 9,079.1 | 9,434.0 | 9,041.1 | 44.6 | 42.8 | -70.48 | 2,145.1 | -131.0 | 235.0 | 165.9 | 69.04 | 3.404 | |
| 9,400.0 | 9,122.8 | 9,476.9 | 9,072.4 | 44.6 | 42.8 | -67.73 | 2,141.3 | -101.9 | 237.2 | 168.4 | 68.83 | 3.447 | |
| 9,450.0 | 9,164.2 | 9,519.2 | 9,101.1 | 44.7 | 42.9 | -65.17 | 2,137.4 | -71.0 | 239.6 | 171.3 | 68.35 | 3.506 | |
| 9,500.0 | 9,203.1 | 9,560.9 | 9,127.0 | 44.7 | 42.9 | -62.78 | 2,133.2 | -38.6 | 242.1 | 174.5 | 67.60 | 3.581 | |
| 9,550.0 | 9,239.1 | 9,602.1 | 9,150.2 | 44.8 | 43.0 | -60.59 | 2,128.8 | -4.8 | 244.5 | 177.8 | 66.64 | 3.669 | |
| 9,600.0 | 9,271.9 | 9,642.9 | 9,170.7 | 44.8 | 43.0 | -58.58 | 2,124.3 | 30.1 | 246.7 | 181.2 | 65.49 | 3.767 | |
| 9,650.0 | 9,301.2 | 9,683.2 | 9,188.4 | 44.8 | 43.0 | -56.77 | 2,119.7 | 66.0 | 248.8 | 184.5 | 64.24 | 3.872 | |
| 9,700.0 | 9,327.0 | 9,723.1 | 9,203.5 | 44.8 | 43.0 | -55.14 | 2,115.0 | 102.7 | 250.5 | 187.6 | 62.93 | 3.980 | |
| 9,750.0 | 9,348.9 | 9,762.8 | 9,215.8 | 44.8 | 43.1 | -53.69 | 2,110.1 | 140.0 | 251.9 | 190.2 | 61.65 | 4.085 | |
| 9,800.0 | 9,366.8 | 9,802.2 | 9,225.5 | 44.8 | 43.1 | -52.42 | 2,105.3 | 177.9 | 252.8 | 192.3 | 60.47 | 4.181 | |
| 9,850.0 | 9,380.6 | 9,841.3 | 9,232.4 | 44.8 | 43.1 | -51.32 | 2,100.3 | 216.1 | 253.3 | 193.8 | 59.47 | 4.259 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Barry Miller - Barry Miller State Com #136H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,900.0 | 9,390.2 | 9,880.4 | 9,236.8 | 44.8 | 43.2 | -50.40 | 2,095.4 | 254.6 | 253.2 | 194.5 | 58.70 | 4.314 | |
| 9,950.0 | 9,395.4 | 9,926.4 | 9,240.2 | 44.8 | 43.2 | -49.86 | 2,089.9 | 300.2 | 251.9 | 193.3 | 58.65 | 4.295 | |
| 9,969.6 | 9,396.2 | 9,944.5 | 9,241.5 | 44.8 | 43.3 | -49.90 | 2,087.9 | 318.1 | 250.8 | 192.0 | 58.79 | 4.267 | |
| 10,000.0 | 9,397.1 | 9,972.5 | 9,243.4 | 44.8 | 43.3 | -49.93 | 2,085.0 | 345.9 | 249.1 | 190.0 | 59.09 | 4.215 | |
| 10,100.0 | 9,399.8 | 10,064.9 | 9,249.0 | 44.9 | 43.5 | -50.16 | 2,077.4 | 437.8 | 245.2 | 184.8 | 60.37 | 4.061 | |
| 10,181.3 | 9,402.0 | 10,140.1 | 9,252.7 | 45.1 | 43.6 | -50.51 | 2,073.2 | 512.8 | 244.2 | 182.4 | 61.73 | 3.956 | |
| 10,200.0 | 9,402.5 | 10,157.4 | 9,253.5 | 45.1 | 43.7 | -50.61 | 2,072.5 | 530.0 | 244.2 | 182.2 | 62.07 | 3.935 | |
| 10,300.0 | 9,405.2 | 10,249.8 | 9,257.0 | 45.4 | 43.9 | -51.26 | 2,070.4 | 622.4 | 246.3 | 182.1 | 64.15 | 3.839 | |
| 10,400.0 | 9,407.8 | 10,345.5 | 9,259.5 | 45.8 | 44.3 | -52.09 | 2,070.9 | 718.1 | 251.0 | 184.4 | 66.62 | 3.768 | |
| 10,500.0 | 9,410.5 | 10,445.3 | 9,262.1 | 46.4 | 44.9 | -52.95 | 2,071.7 | 817.8 | 256.2 | 186.8 | 69.35 | 3.694 | |
| 10,600.0 | 9,413.2 | 10,545.1 | 9,264.6 | 47.2 | 45.7 | -53.75 | 2,072.6 | 917.6 | 261.3 | 189.1 | 72.23 | 3.617 | |
| 10,700.0 | 9,415.9 | 10,645.0 | 9,267.1 | 48.2 | 46.6 | -54.51 | 2,073.5 | 1,017.4 | 266.4 | 191.1 | 75.26 | 3.539 | |
| 10,800.0 | 9,418.5 | 10,744.8 | 9,269.6 | 49.4 | 47.8 | -55.23 | 2,074.3 | 1,117.1 | 271.4 | 192.9 | 78.43 | 3.460 | |
| 10,900.0 | 9,421.2 | 10,844.6 | 9,272.2 | 50.7 | 49.1 | -55.90 | 2,075.2 | 1,216.9 | 276.3 | 194.6 | 81.71 | 3.381 | |
| 11,000.0 | 9,423.8 | 10,944.4 | 9,274.7 | 52.2 | 50.6 | -56.54 | 2,076.1 | 1,316.7 | 281.2 | 196.1 | 85.11 | 3.304 | |
| 11,100.0 | 9,426.5 | 11,044.3 | 9,277.2 | 53.8 | 52.2 | -57.15 | 2,077.0 | 1,416.5 | 286.0 | 197.4 | 88.61 | 3.227 | |
| 11,200.0 | 9,429.1 | 11,144.1 | 9,279.8 | 55.4 | 53.8 | -57.73 | 2,077.8 | 1,516.3 | 290.7 | 198.5 | 92.21 | 3.153 | |
| 11,300.0 | 9,431.8 | 11,244.0 | 9,282.3 | 57.1 | 55.6 | -58.27 | 2,078.7 | 1,616.2 | 295.4 | 199.5 | 95.89 | 3.080 | |
| 11,400.0 | 9,434.4 | 11,343.8 | 9,284.8 | 58.9 | 57.4 | -58.79 | 2,079.6 | 1,716.0 | 300.0 | 200.3 | 99.65 | 3.010 | |
| 11,500.0 | 9,437.0 | 11,443.7 | 9,287.4 | 60.8 | 59.2 | -59.28 | 2,080.4 | 1,815.8 | 304.5 | 201.0 | 103.48 | 2.942 | |
| 11,600.0 | 9,439.7 | 11,543.6 | 9,289.9 | 62.7 | 61.1 | -59.75 | 2,081.3 | 1,915.6 | 308.9 | 201.5 | 107.38 | 2.877 | |
| 11,700.0 | 9,442.3 | 11,643.4 | 9,292.4 | 64.6 | 63.1 | -60.19 | 2,082.2 | 2,015.5 | 313.2 | 201.9 | 111.33 | 2.813 | |
| 11,800.0 | 9,444.9 | 11,743.3 | 9,295.0 | 66.6 | 65.1 | -60.61 | 2,083.1 | 2,115.3 | 317.5 | 202.1 | 115.34 | 2.752 | |
| 11,900.0 | 9,447.5 | 11,843.2 | 9,297.5 | 68.6 | 67.1 | -61.01 | 2,083.9 | 2,215.2 | 321.6 | 202.2 | 119.39 | 2.694 | |
| 12,000.0 | 9,450.1 | 11,943.1 | 9,300.0 | 70.6 | 69.1 | -61.39 | 2,084.8 | 2,315.0 | 325.7 | 202.2 | 123.50 | 2.637 | |
| 12,100.0 | 9,452.7 | 12,043.0 | 9,302.5 | 72.7 | 71.2 | -61.75 | 2,085.7 | 2,414.9 | 329.6 | 202.0 | 127.64 | 2.583 | |
| 12,200.0 | 9,455.3 | 12,142.9 | 9,305.1 | 74.8 | 73.3 | -62.10 | 2,086.5 | 2,514.8 | 333.5 | 201.7 | 131.82 | 2.530 | |
| 12,300.0 | 9,457.9 | 12,242.8 | 9,307.6 | 76.9 | 75.4 | -62.43 | 2,087.4 | 2,614.7 | 337.3 | 201.2 | 136.03 | 2.479 | |
| 12,400.0 | 9,460.5 | 12,342.7 | 9,310.1 | 79.0 | 77.5 | -62.74 | 2,088.3 | 2,714.5 | 340.9 | 200.7 | 140.28 | 2.431 | |
| 12,500.0 | 9,463.0 | 12,442.7 | 9,312.7 | 81.2 | 79.7 | -63.04 | 2,089.2 | 2,814.4 | 344.5 | 200.0 | 144.55 | 2.383 | |
| 12,600.0 | 9,465.6 | 12,542.6 | 9,315.2 | 83.4 | 81.9 | -63.32 | 2,090.0 | 2,914.3 | 348.0 | 199.2 | 148.85 | 2.338 | |
| 12,700.0 | 9,468.2 | 12,642.5 | 9,317.7 | 85.5 | 84.1 | -63.59 | 2,090.9 | 3,014.2 | 351.4 | 198.2 | 153.17 | 2.294 | |
| 12,800.0 | 9,470.7 | 12,742.4 | 9,320.3 | 87.8 | 86.3 | -63.85 | 2,091.8 | 3,114.1 | 354.7 | 197.1 | 157.52 | 2.252 | |
| 12,900.0 | 9,473.3 | 12,842.4 | 9,322.8 | 90.0 | 88.5 | -64.09 | 2,092.6 | 3,214.0 | 357.8 | 195.9 | 161.88 | 2.210 | |
| 13,000.0 | 9,475.9 | 12,942.3 | 9,325.3 | 92.2 | 90.7 | -64.32 | 2,093.5 | 3,313.9 | 360.9 | 194.6 | 166.26 | 2.171 | |
| 13,100.0 | 9,478.4 | 13,042.3 | 9,327.9 | 94.4 | 93.0 | -64.55 | 2,094.4 | 3,413.8 | 363.9 | 193.2 | 170.66 | 2.132 | |
| 13,200.0 | 9,480.9 | 13,142.2 | 9,330.4 | 96.7 | 95.2 | -64.76 | 2,095.3 | 3,513.7 | 366.7 | 191.6 | 175.08 | 2.095 | |
| 13,300.0 | 9,483.5 | 13,242.2 | 9,332.9 | 98.9 | 97.5 | -64.96 | 2,096.1 | 3,613.6 | 369.5 | 190.0 | 179.51 | 2.058 | |
| 13,400.0 | 9,486.0 | 13,342.1 | 9,335.5 | 101.2 | 99.8 | -65.15 | 2,097.0 | 3,713.6 | 372.1 | 188.2 | 183.95 | 2.023 | |
| 13,500.0 | 9,488.5 | 13,442.1 | 9,338.0 | 103.5 | 102.0 | -65.33 | 2,097.9 | 3,813.5 | 374.7 | 186.3 | 188.40 | 1.989 | |
| 13,600.0 | 9,491.0 | 13,542.1 | 9,340.5 | 105.8 | 104.3 | -65.50 | 2,098.8 | 3,913.4 | 377.1 | 184.2 | 192.86 | 1.955 | |
| 13,700.0 | 9,493.6 | 13,642.0 | 9,343.1 | 108.1 | 106.6 | -65.66 | 2,099.6 | 4,013.4 | 379.4 | 182.1 | 197.33 | 1.923 | |
| 13,800.0 | 9,496.1 | 13,742.0 | 9,345.6 | 110.4 | 108.9 | -65.81 | 2,100.5 | 4,113.3 | 381.6 | 179.8 | 201.81 | 1.891 | |
| 13,900.0 | 9,498.6 | 13,842.0 | 9,348.1 | 112.7 | 111.2 | -65.96 | 2,101.4 | 4,213.2 | 383.8 | 177.5 | 206.29 | 1.860 | |
| 14,000.0 | 9,501.1 | 13,941.9 | 9,350.7 | 115.0 | 113.5 | -66.10 | 2,102.2 | 4,313.2 | 385.8 | 175.0 | 210.78 | 1.830 | |
| 14,100.0 | 9,503.6 | 14,041.9 | 9,353.2 | 117.3 | 115.9 | -66.23 | 2,103.1 | 4,413.1 | 387.6 | 172.4 | 215.28 | 1.801 | |
| 14,200.0 | 9,506.1 | 14,141.9 | 9,355.7 | 119.6 | 118.2 | -66.35 | 2,104.0 | 4,513.0 | 389.4 | 169.6 | 219.78 | 1.772 | |
| 14,300.0 | 9,508.5 | 14,241.9 | 9,358.3 | 122.0 | 120.5 | -66.46 | 2,104.9 | 4,613.0 | 391.1 | 166.8 | 224.29 | 1.744 | |
| 14,400.0 | 9,511.0 | 14,341.9 | 9,360.8 | 124.3 | 122.9 | -66.57 | 2,105.7 | 4,712.9 | 392.7 | 163.9 | 228.80 | 1.716 | |
| 14,500.0 | 9,513.5 | 14,441.9 | 9,363.3 | 126.6 | 125.2 | -66.67 | 2,106.6 | 4,812.9 | 394.1 | 160.8 | 233.31 | 1.689 | |
| 14,600.0 | 9,516.0 | 14,541.8 | 9,365.9 | 129.0 | 127.5 | -66.76 | 2,107.5 | 4,912.8 | 395.5 | 157.6 | 237.82 | 1.663 | |
| 14,700.0 | 9,518.4 | 14,641.8 | 9,368.4 | 131.3 | 129.9 | -66.85 | 2,108.3 | 5,012.8 | 396.7 | 154.4 | 242.33 | 1.637 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Barry Miller - Barry Miller State Com #136H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,800.0 | 9,520.9 | 14,741.8 | 9,370.9 | 133.7 | 132.2 | -66.93 | 2,109.2 | 5,112.8 | 397.8 | 151.0 | 246.85 | 1.612 | |
| 14,900.0 | 9,523.3 | 14,841.8 | 9,373.5 | 136.0 | 134.6 | -67.00 | 2,110.1 | 5,212.7 | 398.8 | 147.5 | 251.36 | 1.587 | |
| 15,000.0 | 9,525.8 | 14,941.8 | 9,376.0 | 138.4 | 136.9 | -67.07 | 2,111.0 | 5,312.7 | 399.7 | 143.8 | 255.87 | 1.562 | |
| 15,100.0 | 9,528.2 | 15,041.8 | 9,378.5 | 140.8 | 139.3 | -67.13 | 2,111.8 | 5,412.6 | 400.5 | 140.1 | 260.39 | 1.538 | |
| 15,200.0 | 9,530.6 | 15,141.8 | 9,381.1 | 143.1 | 141.7 | -67.18 | 2,112.7 | 5,512.6 | 401.2 | 136.3 | 264.90 | 1.514 | |
| 15,300.0 | 9,533.1 | 15,241.8 | 9,383.6 | 145.5 | 144.0 | -67.23 | 2,113.6 | 5,612.6 | 401.7 | 132.3 | 269.40 | 1.491 | Level 3 |
| 15,400.0 | 9,535.5 | 15,341.8 | 9,386.1 | 147.9 | 146.4 | -67.27 | 2,114.5 | 5,712.5 | 402.2 | 128.3 | 273.91 | 1.468 | Level 3 |
| 15,500.0 | 9,537.9 | 15,441.8 | 9,388.7 | 150.2 | 148.8 | -67.31 | 2,115.3 | 5,812.5 | 402.5 | 124.1 | 278.41 | 1.446 | Level 3 |
| 15,600.0 | 9,540.3 | 15,541.8 | 9,391.2 | 152.6 | 151.2 | -67.34 | 2,116.2 | 5,912.4 | 402.8 | 119.8 | 282.91 | 1.424 | Level 3 |
| 15,700.0 | 9,542.7 | 15,641.8 | 9,393.7 | 155.0 | 153.5 | -67.37 | 2,117.1 | 6,012.4 | 402.9 | 115.5 | 287.40 | 1.402 | Level 3 |
| 15,800.0 | 9,545.1 | 15,741.8 | 9,396.3 | 157.4 | 155.9 | -67.38 | 2,117.9 | 6,112.4 | 402.9 | 111.0 | 291.88 | 1.380 | Level 3 |
| 15,884.5 | 9,547.2 | 15,826.3 | 9,398.4 | 159.4 | 157.9 | -67.40 | 2,118.7 | 6,196.8 | 402.8 | 107.1 | 295.67 | 1.362 | Level 3 |
| 15,900.0 | 9,547.5 | 15,841.8 | 9,398.8 | 159.7 | 158.3 | -67.40 | 2,118.8 | 6,212.3 | 402.8 | 106.4 | 296.36 | 1.359 | Level 3 |
| 16,000.0 | 9,549.9 | 15,941.8 | 9,401.3 | 162.1 | 160.7 | -67.41 | 2,119.7 | 6,312.3 | 402.6 | 101.8 | 300.84 | 1.338 | Level 3 |
| 16,100.0 | 9,552.3 | 16,041.8 | 9,403.9 | 164.5 | 163.1 | -67.42 | 2,120.6 | 6,412.3 | 402.5 | 97.1 | 305.33 | 1.318 | Level 3 |
| 16,200.0 | 9,554.7 | 16,141.8 | 9,406.4 | 166.9 | 165.5 | -67.43 | 2,121.4 | 6,512.2 | 402.3 | 92.5 | 309.82 | 1.299 | Level 3 |
| 16,300.0 | 9,557.1 | 16,241.8 | 9,408.9 | 169.3 | 167.9 | -67.45 | 2,122.3 | 6,612.2 | 402.2 | 87.9 | 314.31 | 1.280 | Level 3 |
| 16,400.0 | 9,559.5 | 16,341.8 | 9,411.5 | 171.7 | 170.2 | -67.46 | 2,123.2 | 6,712.2 | 402.0 | 83.2 | 318.81 | 1.261 | Level 3 |
| 16,500.0 | 9,561.9 | 16,441.8 | 9,414.0 | 174.1 | 172.6 | -67.47 | 2,124.0 | 6,812.1 | 401.9 | 78.6 | 323.30 | 1.243 | Level 2 |
| 16,600.0 | 9,564.3 | 16,541.8 | 9,416.5 | 176.5 | 175.0 | -67.48 | 2,124.9 | 6,912.1 | 401.7 | 73.9 | 327.81 | 1.225 | Level 2 |
| 16,700.0 | 9,566.7 | 16,641.8 | 9,419.1 | 178.9 | 177.4 | -67.50 | 2,125.8 | 7,012.1 | 401.6 | 69.3 | 332.31 | 1.208 | Level 2 |
| 16,800.0 | 9,569.1 | 16,741.8 | 9,421.6 | 181.3 | 179.8 | -67.51 | 2,126.7 | 7,112.0 | 401.4 | 64.6 | 336.82 | 1.192 | Level 2 |
| 16,900.0 | 9,571.5 | 16,841.8 | 9,424.1 | 183.7 | 182.2 | -67.52 | 2,127.5 | 7,212.0 | 401.3 | 59.9 | 341.33 | 1.176 | Level 2 |
| 17,000.0 | 9,573.9 | 16,941.8 | 9,426.7 | 186.1 | 184.6 | -67.53 | 2,128.4 | 7,311.9 | 401.1 | 55.3 | 345.85 | 1.160 | Level 2 |
| 17,100.0 | 9,576.3 | 17,041.8 | 9,429.2 | 188.5 | 187.0 | -67.55 | 2,129.3 | 7,411.9 | 401.0 | 50.6 | 350.37 | 1.144 | Level 2 |
| 17,200.0 | 9,578.7 | 17,141.8 | 9,431.8 | 190.9 | 189.4 | -67.56 | 2,130.2 | 7,511.9 | 400.8 | 45.9 | 354.89 | 1.129 | Level 2 |
| 17,300.0 | 9,581.1 | 17,241.8 | 9,434.3 | 193.3 | 191.8 | -67.57 | 2,131.0 | 7,611.8 | 400.7 | 41.3 | 359.41 | 1.115 | Level 2 |
| 17,313.4 | 9,581.4 | 17,255.2 | 9,434.6 | 193.6 | 192.2 | -67.57 | 2,131.1 | 7,625.2 | 400.7 | 40.6 | 360.02 | 1.113 | Level 2, ES, SF |
| 17,400.0 | 9,583.5 | 17,250.3 | 9,434.5 | 195.7 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 410.8 | 58.7 | 352.15 | 1.167 | Level 2 |
| 17,500.0 | 9,585.9 | 17,250.3 | 9,434.5 | 198.1 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 443.8 | 115.4 | 328.43 | 1.351 | Level 3 |
| 17,600.0 | 9,588.3 | 17,250.3 | 9,434.5 | 200.5 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 495.1 | 197.5 | 297.66 | 1.663 | |
| 17,700.0 | 9,590.7 | 17,250.3 | 9,434.5 | 202.9 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 559.8 | 292.6 | 267.11 | 2.096 | |
| 17,800.0 | 9,593.1 | 17,250.3 | 9,434.5 | 205.3 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 633.6 | 393.5 | 240.15 | 2.639 | |
| 17,900.0 | 9,595.5 | 17,250.3 | 9,434.5 | 207.7 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 713.9 | 496.4 | 217.55 | 3.282 | |
| 18,000.0 | 9,597.9 | 17,250.3 | 9,434.5 | 210.1 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 798.7 | 599.7 | 199.01 | 4.013 | |
| 18,100.0 | 9,600.3 | 17,250.3 | 9,434.5 | 212.5 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 886.6 | 702.7 | 183.88 | 4.822 | |
| 18,200.0 | 9,602.7 | 17,250.3 | 9,434.5 | 214.9 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 976.8 | 805.3 | 171.52 | 5.695 | |
| 18,300.0 | 9,605.0 | 17,250.3 | 9,434.5 | 217.4 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 1,068.8 | 907.5 | 161.38 | 6.623 | |
| 18,364.7 | 9,606.6 | 17,250.3 | 9,434.5 | 218.4 | 192.0 | -67.57 | 2,131.1 | 7,620.3 | 1,129.1 | 972.3 | 156.74 | 7.203 | |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 1.0 | -1.0 | 0.0 | 0.0 | 164.76 | -110.0 | 30.0 | 114.0 | | | | |
| 25.0 | 25.0 | 24.0 | 24.0 | 0.0 | 0.0 | 164.76 | -110.0 | 30.0 | 114.0 | | | | |
| 100.0 | 100.0 | 101.0 | 99.0 | 0.1 | 0.1 | -105.39 | -110.0 | 30.0 | 114.1 | 113.9 | 0.26 | 438.345 | |
| 200.0 | 200.0 | 201.0 | 199.0 | 0.5 | 0.5 | -106.05 | -110.0 | 30.0 | 114.5 | 113.5 | 0.98 | 117.070 | |
| 300.0 | 300.0 | 301.0 | 299.0 | 0.8 | 0.8 | -107.23 | -110.0 | 30.0 | 115.2 | 113.5 | 1.70 | 67.877 | ES |
| 400.0 | 399.9 | 401.1 | 398.9 | 1.2 | 1.2 | -108.91 | -110.0 | 30.0 | 116.3 | 113.9 | 2.42 | 48.095 | |
| 500.2 | 500.0 | 501.0 | 499.0 | 1.6 | 1.6 | -111.05 | -110.0 | 30.0 | 117.9 | 114.8 | 3.14 | 37.529 | |
| 600.0 | 599.6 | 601.4 | 598.6 | 1.9 | 1.9 | -113.38 | -110.0 | 30.0 | 119.9 | 116.0 | 3.87 | 31.004 | |
| 700.0 | 699.5 | 701.5 | 698.5 | 2.3 | 2.3 | -115.63 | -110.0 | 30.0 | 122.1 | 117.5 | 4.59 | 26.583 | |
| 800.0 | 799.4 | 801.6 | 798.4 | 2.7 | 2.6 | -117.80 | -110.0 | 30.0 | 124.4 | 119.1 | 5.32 | 23.402 | |
| 900.0 | 899.2 | 901.8 | 898.2 | 3.0 | 3.0 | -119.89 | -110.0 | 30.0 | 126.9 | 120.9 | 6.04 | 21.014 | |
| 1,000.2 | 999.3 | 1,001.7 | 998.3 | 3.4 | 3.4 | -121.90 | -110.0 | 30.0 | 129.6 | 122.9 | 6.77 | 19.163 | |
| 1,100.0 | 1,099.0 | 1,102.0 | 1,098.0 | 3.8 | 3.7 | -150.84 | -110.0 | 30.0 | 133.5 | 126.0 | 7.49 | 17.832 | |
| 1,200.0 | 1,198.8 | 1,202.2 | 1,197.8 | 4.1 | 4.1 | -171.51 | -110.0 | 30.0 | 139.5 | 131.3 | 8.20 | 17.005 | |
| 1,300.0 | 1,298.4 | 1,302.6 | 1,297.4 | 4.5 | 4.4 | 176.13 | -110.0 | 30.0 | 147.5 | 138.6 | 8.92 | 16.548 | |
| 1,400.0 | 1,397.9 | 1,403.1 | 1,396.9 | 4.9 | 4.8 | 168.94 | -110.0 | 30.0 | 157.6 | 148.0 | 9.63 | 16.373 | |
| 1,500.0 | 1,497.1 | 1,503.9 | 1,496.1 | 5.2 | 5.2 | 164.81 | -110.0 | 30.0 | 169.8 | 159.4 | 10.34 | 16.422 | |
| 1,600.0 | 1,596.0 | 1,605.0 | 1,595.0 | 5.6 | 5.5 | 162.52 | -110.0 | 30.0 | 184.0 | 173.0 | 11.05 | 16.655 | |
| 1,700.0 | 1,694.5 | 1,706.5 | 1,693.5 | 6.0 | 5.9 | 161.39 | -110.0 | 30.0 | 200.5 | 188.7 | 11.76 | 17.043 | |
| 1,800.0 | 1,792.5 | 1,808.5 | 1,791.5 | 6.4 | 6.3 | 161.00 | -110.0 | 30.0 | 219.3 | 206.8 | 12.48 | 17.564 | |
| 1,900.0 | 1,890.0 | 1,889.0 | 1,889.0 | 6.8 | 6.5 | 161.09 | -110.0 | 30.0 | 240.4 | 227.2 | 13.13 | 18.310 | |
| 2,000.0 | 1,986.9 | 1,985.9 | 1,985.9 | 7.2 | 6.9 | 161.46 | -110.0 | 30.0 | 263.9 | 250.0 | 13.83 | 19.077 | |
| 2,068.0 | 2,052.4 | 2,051.4 | 2,051.4 | 7.5 | 7.1 | 161.82 | -110.0 | 30.0 | 281.2 | 266.9 | 14.31 | 19.651 | |
| 2,100.0 | 2,083.2 | 2,082.2 | 2,082.2 | 7.7 | 7.2 | 162.36 | -110.0 | 30.0 | 289.7 | 275.1 | 14.54 | 19.927 | |
| 2,200.0 | 2,179.3 | 2,178.3 | 2,178.3 | 8.1 | 7.6 | 163.88 | -110.0 | 30.0 | 316.2 | 301.0 | 15.24 | 20.750 | |
| 2,300.0 | 2,275.3 | 2,274.3 | 2,274.3 | 8.6 | 7.9 | 165.16 | -110.0 | 30.0 | 343.0 | 327.0 | 15.95 | 21.507 | |
| 2,400.0 | 2,371.4 | 2,370.4 | 2,370.4 | 9.1 | 8.3 | 166.25 | -110.0 | 30.0 | 369.8 | 353.2 | 16.66 | 22.204 | |
| 2,500.0 | 2,467.5 | 2,466.5 | 2,466.5 | 9.6 | 8.6 | 167.20 | -110.0 | 30.0 | 396.8 | 379.5 | 17.37 | 22.848 | |
| 2,600.0 | 2,563.6 | 2,562.6 | 2,562.6 | 10.1 | 9.0 | 168.03 | -110.0 | 30.0 | 423.9 | 405.8 | 18.08 | 23.442 | |
| 2,700.0 | 2,659.7 | 2,658.7 | 2,658.7 | 10.6 | 9.3 | 168.75 | -110.0 | 30.0 | 451.0 | 432.2 | 18.80 | 23.993 | |
| 2,800.0 | 2,755.8 | 2,754.8 | 2,754.8 | 11.1 | 9.6 | 169.40 | -110.0 | 30.0 | 478.2 | 458.7 | 19.52 | 24.504 | |
| 2,900.0 | 2,851.9 | 2,850.9 | 2,850.9 | 11.7 | 10.0 | 169.98 | -110.0 | 30.0 | 505.5 | 485.2 | 20.23 | 24.980 | |
| 3,000.0 | 2,948.0 | 2,947.0 | 2,947.0 | 12.2 | 10.3 | 170.49 | -110.0 | 30.0 | 532.8 | 511.8 | 20.96 | 25.423 | |
| 3,100.0 | 3,044.1 | 3,040.4 | 3,040.4 | 12.7 | 10.7 | 170.96 | -110.1 | 29.9 | 560.2 | 538.5 | 21.65 | 25.872 | |
| 3,200.0 | 3,140.2 | 3,130.0 | 3,130.0 | 13.2 | 11.0 | 171.45 | -111.3 | 29.2 | 588.5 | 566.2 | 22.31 | 26.379 | |
| 3,300.0 | 3,236.3 | 3,218.9 | 3,218.8 | 13.8 | 11.3 | 172.00 | -113.6 | 27.8 | 618.0 | 595.0 | 22.95 | 26.923 | |
| 3,400.0 | 3,332.4 | 3,307.0 | 3,306.9 | 14.3 | 11.5 | 172.58 | -117.0 | 25.6 | 648.5 | 624.9 | 23.59 | 27.490 | |
| 3,500.0 | 3,428.5 | 3,394.4 | 3,394.1 | 14.8 | 11.8 | 173.20 | -121.5 | 22.8 | 680.1 | 655.9 | 24.22 | 28.080 | |
| 3,600.0 | 3,524.6 | 3,481.0 | 3,480.4 | 15.4 | 12.1 | 173.83 | -127.1 | 19.3 | 712.8 | 688.0 | 24.84 | 28.692 | |
| 3,700.0 | 3,620.7 | 3,566.8 | 3,565.8 | 15.9 | 12.4 | 174.48 | -133.8 | 15.1 | 746.7 | 721.2 | 25.46 | 29.326 | |
| 3,800.0 | 3,716.8 | 3,651.7 | 3,650.3 | 16.5 | 12.7 | 175.14 | -141.4 | 10.4 | 781.7 | 755.6 | 26.07 | 29.980 | |
| 3,900.0 | 3,812.9 | 3,735.7 | 3,733.7 | 17.0 | 13.0 | 175.81 | -150.0 | 5.0 | 817.8 | 791.1 | 26.68 | 30.656 | |
| 4,000.0 | 3,909.0 | 3,821.0 | 3,818.2 | 17.6 | 13.3 | 176.49 | -159.8 | -1.1 | 855.0 | 827.7 | 27.29 | 31.327 | |
| 4,100.0 | 4,005.1 | 3,913.2 | 3,909.5 | 18.1 | 13.6 | 177.18 | -170.7 | -7.9 | 892.6 | 864.6 | 27.98 | 31.904 | |
| 4,200.0 | 4,101.2 | 4,005.3 | 4,000.7 | 18.6 | 13.9 | 177.82 | -181.5 | -14.7 | 930.3 | 901.6 | 28.66 | 32.454 | |
| 4,300.0 | 4,197.3 | 4,102.6 | 4,091.9 | 19.2 | 14.3 | 178.41 | -192.4 | -21.5 | 968.1 | 938.7 | 29.37 | 32.958 | |
| 4,400.0 | 4,293.4 | 4,189.5 | 4,183.2 | 19.7 | 14.6 | 178.96 | -203.3 | -28.3 | 1,006.0 | 975.9 | 30.05 | 33.478 | |
| 4,500.0 | 4,389.5 | 4,281.7 | 4,274.4 | 20.3 | 14.9 | 179.46 | -214.2 | -35.1 | 1,044.0 | 1,013.2 | 30.75 | 33.954 | |
| 4,600.0 | 4,485.6 | 4,373.8 | 4,365.6 | 20.8 | 15.3 | 179.93 | -225.0 | -41.9 | 1,082.0 | 1,050.5 | 31.44 | 34.409 | |
| 4,700.0 | 4,581.7 | 4,465.9 | 4,456.9 | 21.4 | 15.6 | -179.63 | -235.9 | -48.7 | 1,120.1 | 1,087.9 | 32.15 | 34.844 | |
| 4,800.0 | 4,677.8 | 4,558.1 | 4,548.1 | 21.9 | 15.9 | -179.22 | -246.8 | -55.5 | 1,158.2 | 1,125.4 | 32.85 | 35.259 | |
| 4,900.0 | 4,773.9 | 4,650.2 | 4,639.3 | 22.5 | 16.3 | -178.83 | -257.7 | -62.3 | 1,196.4 | 1,162.9 | 33.55 | 35.657 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,870.0 | 4,742.3 | 4,730.6 | 23.0 | 16.6 | -178.47 | -268.5 | -69.1 | 1,234.6 | 1,200.4 | 34.26 | 36.038 | |
| 5,100.0 | 4,966.1 | 4,834.4 | 4,821.8 | 23.6 | 17.0 | -178.13 | -279.4 | -75.9 | 1,272.9 | 1,238.0 | 34.97 | 36.402 | |
| 5,200.0 | 5,062.2 | 4,926.6 | 4,913.0 | 24.1 | 17.3 | -177.81 | -290.3 | -82.7 | 1,311.2 | 1,275.6 | 35.68 | 36.752 | |
| 5,300.0 | 5,158.3 | 5,018.7 | 5,004.3 | 24.7 | 17.7 | -177.51 | -301.2 | -89.5 | 1,349.6 | 1,313.2 | 36.39 | 37.088 | |
| 5,400.0 | 5,254.4 | 5,110.8 | 5,095.5 | 25.2 | 18.0 | -177.23 | -312.0 | -96.3 | 1,387.9 | 1,350.8 | 37.10 | 37.410 | |
| 5,500.0 | 5,350.5 | 5,203.0 | 5,186.7 | 25.8 | 18.4 | -176.96 | -322.9 | -103.0 | 1,426.3 | 1,388.5 | 37.81 | 37.719 | |
| 5,600.0 | 5,446.6 | 5,295.1 | 5,278.0 | 26.3 | 18.8 | -176.70 | -333.8 | -109.8 | 1,464.8 | 1,426.2 | 38.53 | 38.017 | |
| 5,700.0 | 5,542.7 | 5,387.2 | 5,369.2 | 26.9 | 19.1 | -176.46 | -344.6 | -116.6 | 1,503.2 | 1,464.0 | 39.25 | 38.303 | |
| 5,800.0 | 5,638.8 | 5,479.4 | 5,460.4 | 27.4 | 19.5 | -176.23 | -355.5 | -123.4 | 1,541.7 | 1,501.7 | 39.96 | 38.578 | |
| 5,900.0 | 5,734.9 | 5,571.5 | 5,551.7 | 28.0 | 19.8 | -176.01 | -366.4 | -130.2 | 1,580.2 | 1,539.5 | 40.68 | 38.843 | |
| 6,000.0 | 5,831.0 | 5,663.6 | 5,642.9 | 28.6 | 20.2 | -175.80 | -377.3 | -137.0 | 1,618.7 | 1,577.3 | 41.40 | 39.099 | |
| 6,100.0 | 5,927.1 | 5,755.7 | 5,734.1 | 29.1 | 20.6 | -175.60 | -388.1 | -143.8 | 1,657.2 | 1,615.1 | 42.12 | 39.345 | |
| 6,200.0 | 6,023.2 | 5,847.9 | 5,825.3 | 29.7 | 20.9 | -175.41 | -399.0 | -150.6 | 1,695.8 | 1,652.9 | 42.84 | 39.583 | |
| 6,300.0 | 6,119.3 | 5,940.0 | 5,916.6 | 30.2 | 21.3 | -175.23 | -409.9 | -157.4 | 1,734.3 | 1,690.8 | 43.56 | 39.812 | |
| 6,400.0 | 6,215.4 | 6,032.1 | 6,007.8 | 30.8 | 21.7 | -175.06 | -420.8 | -164.2 | 1,772.9 | 1,728.6 | 44.28 | 40.034 | |
| 6,500.0 | 6,311.5 | 6,124.3 | 6,099.0 | 31.3 | 22.0 | -174.89 | -431.6 | -171.0 | 1,811.5 | 1,766.5 | 45.01 | 40.248 | |
| 6,600.0 | 6,407.6 | 6,216.4 | 6,190.3 | 31.9 | 22.4 | -174.73 | -442.5 | -177.8 | 1,850.1 | 1,804.4 | 45.73 | 40.455 | |
| 6,700.0 | 6,503.7 | 6,308.5 | 6,281.5 | 32.4 | 22.8 | -174.58 | -453.4 | -184.6 | 1,888.7 | 1,842.2 | 46.46 | 40.655 | |
| 6,800.0 | 6,599.8 | 6,400.7 | 6,372.7 | 33.0 | 23.1 | -174.43 | -464.3 | -191.4 | 1,927.3 | 1,880.1 | 47.18 | 40.849 | |
| 6,900.0 | 6,695.9 | 6,507.2 | 6,464.0 | 33.6 | 23.6 | -174.29 | -475.1 | -198.2 | 1,966.0 | 1,918.0 | 47.96 | 40.990 | |
| 7,000.0 | 6,792.0 | 6,584.9 | 6,555.2 | 34.1 | 23.9 | -174.15 | -486.0 | -205.0 | 2,004.6 | 1,956.0 | 48.63 | 41.217 | |
| 7,100.0 | 6,888.1 | 6,677.0 | 6,646.4 | 34.7 | 24.2 | -174.02 | -496.9 | -211.8 | 2,043.3 | 1,993.9 | 49.36 | 41.393 | |
| 7,200.0 | 6,984.2 | 6,769.2 | 6,737.7 | 35.2 | 24.6 | -173.90 | -507.8 | -218.6 | 2,081.9 | 2,031.8 | 50.09 | 41.563 | |
| 7,300.0 | 7,080.3 | 6,861.3 | 6,828.9 | 35.8 | 25.0 | -173.78 | -518.6 | -225.3 | 2,120.6 | 2,069.8 | 50.82 | 41.729 | |
| 7,400.0 | 7,176.4 | 6,953.4 | 6,920.1 | 36.3 | 25.4 | -173.66 | -529.5 | -232.1 | 2,159.3 | 2,107.7 | 51.55 | 41.889 | |
| 7,500.0 | 7,272.5 | 7,045.6 | 7,011.4 | 36.9 | 25.7 | -173.55 | -540.4 | -238.9 | 2,197.9 | 2,145.7 | 52.28 | 42.044 | |
| 7,600.0 | 7,368.6 | 7,137.7 | 7,102.6 | 37.4 | 26.1 | -173.44 | -551.2 | -245.7 | 2,236.6 | 2,183.6 | 53.01 | 42.195 | |
| 7,700.0 | 7,464.7 | 7,259.6 | 7,223.4 | 38.0 | 26.6 | -173.31 | -565.3 | -254.5 | 2,275.1 | 2,221.2 | 53.99 | 42.143 | |
| 7,800.0 | 7,560.7 | 7,451.0 | 7,413.9 | 38.6 | 27.3 | -173.21 | -581.3 | -264.5 | 2,310.7 | 2,255.2 | 55.47 | 41.659 | |
| 7,900.0 | 7,656.8 | 7,648.5 | 7,611.0 | 39.1 | 28.1 | -173.24 | -589.4 | -269.6 | 2,342.1 | 2,285.2 | 56.87 | 41.185 | |
| 8,000.0 | 7,752.9 | 7,789.4 | 7,751.9 | 39.7 | 28.5 | -173.35 | -590.2 | -270.1 | 2,370.0 | 2,312.1 | 57.85 | 40.970 | |
| 8,014.5 | 7,766.9 | 7,803.3 | 7,765.9 | 39.8 | 28.6 | -173.36 | -590.2 | -270.1 | 2,374.0 | 2,316.0 | 57.95 | 40.965 | |
| 8,100.0 | 7,849.3 | 7,885.7 | 7,848.3 | 40.2 | 28.8 | -173.46 | -590.2 | -270.1 | 2,396.5 | 2,338.0 | 58.56 | 40.922 | |
| 8,200.0 | 7,946.3 | 7,982.7 | 7,945.3 | 40.7 | 29.2 | -173.57 | -590.2 | -270.1 | 2,420.6 | 2,361.3 | 59.28 | 40.835 | |
| 8,300.0 | 8,043.9 | 8,080.4 | 8,042.9 | 41.2 | 29.5 | -173.66 | -590.2 | -270.1 | 2,442.2 | 2,382.2 | 59.99 | 40.710 | |
| 8,400.0 | 8,142.1 | 8,178.5 | 8,141.1 | 41.7 | 29.8 | -173.74 | -590.2 | -270.1 | 2,461.2 | 2,400.5 | 60.70 | 40.548 | |
| 8,500.0 | 8,240.7 | 8,277.1 | 8,239.7 | 42.1 | 30.1 | -173.81 | -590.2 | -270.1 | 2,477.6 | 2,416.2 | 61.40 | 40.351 | |
| 8,600.0 | 8,339.7 | 8,376.1 | 8,338.7 | 42.5 | 30.4 | -173.87 | -590.2 | -270.1 | 2,491.5 | 2,429.4 | 62.10 | 40.121 | |
| 8,700.0 | 8,439.1 | 8,475.5 | 8,438.1 | 42.9 | 30.8 | -173.91 | -590.2 | -270.1 | 2,502.8 | 2,440.0 | 62.79 | 39.858 | |
| 8,800.0 | 8,538.7 | 8,575.1 | 8,537.7 | 43.3 | 31.1 | -173.95 | -590.2 | -270.1 | 2,511.5 | 2,448.1 | 63.48 | 39.565 | |
| 8,900.0 | 8,638.5 | 8,674.9 | 8,637.5 | 43.6 | 31.4 | -173.97 | -590.2 | -270.1 | 2,517.7 | 2,453.5 | 64.16 | 39.242 | |
| 9,000.0 | 8,738.4 | 8,774.9 | 8,737.4 | 43.9 | 31.8 | -173.99 | -590.2 | -270.1 | 2,521.2 | 2,456.3 | 64.83 | 38.889 | |
| 9,085.1 | 8,823.5 | 8,863.0 | 8,825.3 | 44.1 | 32.0 | 179.87 | -590.2 | -264.2 | 2,522.1 | 2,456.7 | 65.39 | 38.571 | |
| 9,100.0 | 8,838.4 | 8,878.2 | 8,840.3 | 44.1 | 32.1 | 86.33 | -590.1 | -261.8 | 2,522.0 | 2,456.6 | 65.48 | 38.518 | |
| 9,150.0 | 8,888.3 | 8,928.9 | 8,889.9 | 44.2 | 32.2 | 86.19 | -590.0 | -251.1 | 2,521.8 | 2,456.0 | 65.76 | 38.347 | |
| 9,200.0 | 8,937.6 | 8,979.0 | 8,937.6 | 44.3 | 32.4 | 86.08 | -589.9 | -236.2 | 2,521.2 | 2,455.2 | 66.03 | 38.184 | |
| 9,250.0 | 8,986.2 | 9,028.4 | 8,983.3 | 44.4 | 32.5 | 86.01 | -589.7 | -217.5 | 2,520.3 | 2,454.1 | 66.27 | 38.030 | |
| 9,300.0 | 9,033.4 | 9,077.1 | 9,026.7 | 44.5 | 32.6 | 85.96 | -589.5 | -195.2 | 2,519.2 | 2,452.7 | 66.50 | 37.880 | |
| 9,350.0 | 9,079.1 | 9,125.4 | 9,067.6 | 44.6 | 32.7 | 85.95 | -589.2 | -169.6 | 2,517.8 | 2,451.1 | 66.73 | 37.734 | |
| 9,400.0 | 9,122.8 | 9,173.0 | 9,105.7 | 44.6 | 32.7 | 85.96 | -588.9 | -141.1 | 2,516.2 | 2,449.2 | 66.94 | 37.588 | |
| 9,450.0 | 9,164.2 | 9,220.2 | 9,141.0 | 44.7 | 32.8 | 86.01 | -588.6 | -109.8 | 2,514.2 | 2,447.1 | 67.16 | 37.438 | |
| 9,500.0 | 9,203.1 | 9,266.8 | 9,173.2 | 44.7 | 32.9 | 86.08 | -588.3 | -76.1 | 2,512.1 | 2,444.7 | 67.38 | 37.281 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,550.0 | 9,239.1 | 9,313.0 | 9,202.4 | 44.8 | 32.9 | 86.19 | -587.9 | -40.3 | 2,509.8 | 2,442.1 | 67.63 | 37.112 | |
| 9,600.0 | 9,271.9 | 9,358.9 | 9,228.3 | 44.8 | 32.9 | 86.33 | -587.6 | -2.5 | 2,507.2 | 2,439.3 | 67.89 | 36.929 | |
| 9,650.0 | 9,301.2 | 9,404.3 | 9,251.0 | 44.8 | 33.0 | 86.49 | -587.2 | 36.8 | 2,504.4 | 2,436.3 | 68.19 | 36.727 | |
| 9,700.0 | 9,327.0 | 9,449.4 | 9,270.3 | 44.8 | 33.0 | 86.68 | -586.8 | 77.5 | 2,501.5 | 2,433.0 | 68.53 | 36.503 | |
| 9,750.0 | 9,348.9 | 9,494.2 | 9,286.3 | 44.8 | 33.1 | 86.89 | -586.4 | 119.4 | 2,498.5 | 2,429.5 | 68.92 | 36.254 | |
| 9,800.0 | 9,366.8 | 9,538.7 | 9,298.9 | 44.8 | 33.3 | 87.12 | -585.9 | 162.0 | 2,495.3 | 2,425.9 | 69.35 | 35.980 | |
| 9,850.0 | 9,380.6 | 9,583.0 | 9,308.1 | 44.8 | 33.6 | 87.38 | -585.5 | 205.4 | 2,492.0 | 2,422.1 | 69.84 | 35.683 | |
| 9,900.0 | 9,390.2 | 9,627.0 | 9,313.9 | 44.8 | 33.8 | 87.66 | -585.1 | 249.0 | 2,488.6 | 2,418.2 | 70.37 | 35.362 | |
| 9,950.0 | 9,395.4 | 9,671.0 | 9,316.4 | 44.8 | 34.1 | 87.95 | -584.6 | 292.9 | 2,485.1 | 2,414.2 | 70.96 | 35.024 | |
| 9,969.6 | 9,396.2 | 9,709.4 | 9,316.7 | 44.8 | 34.4 | 88.07 | -584.4 | 312.5 | 2,483.8 | 2,412.4 | 71.36 | 34.805 | |
| 10,000.0 | 9,397.1 | 9,720.9 | 9,317.3 | 44.8 | 34.5 | 88.07 | -584.1 | 342.8 | 2,481.6 | 2,410.0 | 71.66 | 34.631 | |
| 10,100.0 | 9,399.8 | 9,820.6 | 9,319.1 | 44.9 | 35.4 | 88.04 | -583.1 | 442.5 | 2,474.7 | 2,401.4 | 73.27 | 33.774 | |
| 10,200.0 | 9,402.5 | 9,920.4 | 9,320.9 | 45.1 | 36.4 | 88.02 | -582.1 | 542.3 | 2,467.9 | 2,392.7 | 75.17 | 32.831 | |
| 10,300.0 | 9,405.2 | 10,020.2 | 9,322.7 | 45.4 | 37.5 | 88.00 | -581.2 | 642.0 | 2,461.1 | 2,383.8 | 77.33 | 31.827 | |
| 10,400.0 | 9,407.8 | 10,120.0 | 9,324.5 | 45.8 | 38.8 | 87.97 | -580.2 | 741.8 | 2,454.6 | 2,374.8 | 79.73 | 30.785 | |
| 10,500.0 | 9,410.5 | 10,219.7 | 9,326.3 | 46.4 | 40.1 | 87.95 | -579.2 | 841.5 | 2,448.1 | 2,365.7 | 82.35 | 29.726 | |
| 10,600.0 | 9,413.2 | 10,319.5 | 9,328.1 | 47.2 | 41.6 | 87.93 | -578.2 | 941.3 | 2,441.7 | 2,356.5 | 85.18 | 28.667 | |
| 10,700.0 | 9,415.9 | 10,419.3 | 9,330.0 | 48.2 | 43.1 | 87.90 | -577.2 | 1,041.1 | 2,435.5 | 2,347.3 | 88.18 | 27.619 | |
| 10,800.0 | 9,418.5 | 10,519.1 | 9,331.8 | 49.4 | 44.8 | 87.88 | -576.2 | 1,140.9 | 2,429.4 | 2,338.0 | 91.35 | 26.595 | |
| 10,900.0 | 9,421.2 | 10,619.0 | 9,333.6 | 50.7 | 46.5 | 87.86 | -575.2 | 1,240.7 | 2,423.4 | 2,328.7 | 94.66 | 25.600 | |
| 11,000.0 | 9,423.8 | 10,718.8 | 9,335.4 | 52.2 | 48.2 | 87.83 | -574.2 | 1,340.5 | 2,417.5 | 2,319.4 | 98.11 | 24.641 | |
| 11,100.0 | 9,426.5 | 10,818.6 | 9,337.2 | 53.8 | 50.0 | 87.81 | -573.2 | 1,440.3 | 2,411.8 | 2,310.1 | 101.67 | 23.721 | |
| 11,200.0 | 9,429.1 | 10,918.4 | 9,339.0 | 55.4 | 51.9 | 87.79 | -572.2 | 1,540.1 | 2,406.1 | 2,300.8 | 105.34 | 22.840 | |
| 11,300.0 | 9,431.8 | 11,018.3 | 9,340.8 | 57.1 | 53.8 | 87.77 | -571.2 | 1,639.9 | 2,400.6 | 2,291.5 | 109.11 | 22.001 | |
| 11,400.0 | 9,434.4 | 11,118.1 | 9,342.6 | 58.9 | 55.8 | 87.74 | -570.2 | 1,739.7 | 2,395.2 | 2,282.2 | 112.97 | 21.203 | |
| 11,500.0 | 9,437.0 | 11,218.0 | 9,344.5 | 60.8 | 57.8 | 87.72 | -569.2 | 1,839.6 | 2,389.9 | 2,273.0 | 116.90 | 20.445 | |
| 11,600.0 | 9,439.7 | 11,317.8 | 9,346.3 | 62.7 | 59.8 | 87.70 | -568.2 | 1,939.4 | 2,384.8 | 2,263.9 | 120.90 | 19.725 | |
| 11,700.0 | 9,442.3 | 11,417.7 | 9,348.1 | 64.6 | 61.9 | 87.68 | -567.3 | 2,039.3 | 2,379.7 | 2,254.8 | 124.96 | 19.044 | |
| 11,800.0 | 9,444.9 | 11,517.6 | 9,349.9 | 66.6 | 64.0 | 87.65 | -566.3 | 2,139.1 | 2,374.8 | 2,245.7 | 129.09 | 18.397 | |
| 11,900.0 | 9,447.5 | 11,617.5 | 9,351.7 | 68.6 | 66.1 | 87.63 | -565.3 | 2,239.0 | 2,370.0 | 2,236.8 | 133.26 | 17.785 | |
| 12,000.0 | 9,450.1 | 11,717.4 | 9,353.5 | 70.6 | 68.2 | 87.61 | -564.3 | 2,338.8 | 2,365.3 | 2,227.9 | 137.48 | 17.205 | |
| 12,100.0 | 9,452.7 | 11,817.2 | 9,355.3 | 72.7 | 70.4 | 87.59 | -563.3 | 2,438.7 | 2,360.8 | 2,219.0 | 141.75 | 16.655 | |
| 12,200.0 | 9,455.3 | 11,917.1 | 9,357.1 | 74.8 | 72.5 | 87.57 | -562.3 | 2,538.6 | 2,356.3 | 2,210.3 | 146.05 | 16.134 | |
| 12,300.0 | 9,457.9 | 12,017.0 | 9,359.0 | 76.9 | 74.7 | 87.55 | -561.3 | 2,638.5 | 2,352.0 | 2,201.6 | 150.39 | 15.639 | |
| 12,400.0 | 9,460.5 | 12,116.9 | 9,360.8 | 79.0 | 76.9 | 87.53 | -560.3 | 2,738.3 | 2,347.8 | 2,193.0 | 154.76 | 15.170 | |
| 12,500.0 | 9,463.0 | 12,216.9 | 9,362.6 | 81.2 | 79.2 | 87.51 | -559.3 | 2,838.2 | 2,343.7 | 2,184.6 | 159.17 | 14.725 | |
| 12,600.0 | 9,465.6 | 12,316.8 | 9,364.4 | 83.4 | 81.4 | 87.48 | -558.3 | 2,938.1 | 2,339.8 | 2,176.2 | 163.60 | 14.302 | |
| 12,700.0 | 9,468.2 | 12,416.7 | 9,366.2 | 85.5 | 83.6 | 87.46 | -557.3 | 3,038.0 | 2,335.9 | 2,167.9 | 168.05 | 13.900 | |
| 12,800.0 | 9,470.7 | 12,516.6 | 9,368.0 | 87.8 | 85.9 | 87.44 | -556.3 | 3,137.9 | 2,332.2 | 2,159.7 | 172.53 | 13.517 | |
| 12,900.0 | 9,473.3 | 12,616.6 | 9,369.8 | 90.0 | 88.2 | 87.42 | -555.3 | 3,237.8 | 2,328.6 | 2,151.5 | 177.03 | 13.153 | |
| 13,000.0 | 9,475.9 | 12,716.5 | 9,371.6 | 92.2 | 90.4 | 87.40 | -554.3 | 3,337.8 | 2,325.1 | 2,143.5 | 181.56 | 12.806 | |
| 13,100.0 | 9,478.4 | 12,816.4 | 9,373.5 | 94.4 | 92.7 | 87.38 | -553.3 | 3,437.7 | 2,321.7 | 2,135.6 | 186.10 | 12.476 | |
| 13,200.0 | 9,480.9 | 12,916.4 | 9,375.3 | 96.7 | 95.0 | 87.36 | -552.3 | 3,537.6 | 2,318.5 | 2,127.8 | 190.65 | 12.161 | |
| 13,300.0 | 9,483.5 | 13,016.3 | 9,377.1 | 98.9 | 97.3 | 87.34 | -551.4 | 3,637.5 | 2,315.4 | 2,120.1 | 195.23 | 11.860 | |
| 13,400.0 | 9,486.0 | 13,116.3 | 9,378.9 | 101.2 | 99.6 | 87.33 | -550.4 | 3,737.4 | 2,312.3 | 2,112.5 | 199.82 | 11.572 | |
| 13,500.0 | 9,488.5 | 13,216.2 | 9,380.7 | 103.5 | 101.9 | 87.31 | -549.4 | 3,837.4 | 2,309.5 | 2,105.0 | 204.42 | 11.298 | |
| 13,600.0 | 9,491.0 | 13,316.2 | 9,382.5 | 105.8 | 104.3 | 87.29 | -548.4 | 3,937.3 | 2,306.7 | 2,097.6 | 209.04 | 11.035 | |
| 13,700.0 | 9,493.6 | 13,416.1 | 9,384.3 | 108.1 | 106.6 | 87.27 | -547.4 | 4,037.3 | 2,304.0 | 2,090.4 | 213.66 | 10.783 | |
| 13,800.0 | 9,496.1 | 13,516.1 | 9,386.2 | 110.4 | 108.9 | 87.25 | -546.4 | 4,137.2 | 2,301.5 | 2,083.2 | 218.30 | 10.543 | |
| 13,900.0 | 9,498.6 | 13,616.1 | 9,388.0 | 112.7 | 111.2 | 87.23 | -545.4 | 4,237.1 | 2,299.1 | 2,076.1 | 222.95 | 10.312 | |
| 14,000.0 | 9,501.1 | 13,716.1 | 9,389.8 | 115.0 | 113.6 | 87.21 | -544.4 | 4,337.1 | 2,296.8 | 2,069.2 | 227.61 | 10.091 | |
| 14,100.0 | 9,503.6 | 13,816.0 | 9,391.6 | 117.3 | 115.9 | 87.20 | -543.4 | 4,437.0 | 2,294.6 | 2,062.3 | 232.28 | 9.879 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #138H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,200.0 | 9,506.1 | 13,916.0 | 9,393.4 | 119.6 | 118.3 | 87.18 | -542.4 | 4,537.0 | 2,292.6 | 2,055.6 | 236.96 | 9.675 | |
| 14,300.0 | 9,508.5 | 14,016.0 | 9,395.2 | 122.0 | 120.6 | 87.16 | -541.4 | 4,637.0 | 2,290.6 | 2,049.0 | 241.65 | 9.479 | |
| 14,400.0 | 9,511.0 | 14,116.0 | 9,397.0 | 124.3 | 123.0 | 87.14 | -540.4 | 4,736.9 | 2,288.8 | 2,042.5 | 246.34 | 9.291 | |
| 14,500.0 | 9,513.5 | 14,215.9 | 9,398.9 | 126.6 | 125.4 | 87.13 | -539.4 | 4,836.9 | 2,287.1 | 2,036.1 | 251.04 | 9.110 | |
| 14,600.0 | 9,516.0 | 14,315.9 | 9,400.7 | 129.0 | 127.7 | 87.11 | -538.4 | 4,936.8 | 2,285.5 | 2,029.8 | 255.75 | 8.937 | |
| 14,700.0 | 9,518.4 | 14,415.9 | 9,402.5 | 131.3 | 130.1 | 87.10 | -537.4 | 5,036.8 | 2,284.1 | 2,023.6 | 260.47 | 8.769 | |
| 14,800.0 | 9,520.9 | 14,515.9 | 9,404.3 | 133.7 | 132.5 | 87.08 | -536.4 | 5,136.8 | 2,282.7 | 2,017.6 | 265.19 | 8.608 | |
| 14,900.0 | 9,523.3 | 14,615.9 | 9,406.1 | 136.0 | 134.8 | 87.06 | -535.4 | 5,236.7 | 2,281.5 | 2,011.6 | 269.91 | 8.453 | |
| 15,000.0 | 9,525.8 | 14,715.9 | 9,407.9 | 138.4 | 137.2 | 87.05 | -534.4 | 5,336.7 | 2,280.4 | 2,005.8 | 274.65 | 8.303 | |
| 15,100.0 | 9,528.2 | 14,815.9 | 9,409.8 | 140.8 | 139.6 | 87.03 | -533.5 | 5,436.7 | 2,279.4 | 2,000.1 | 279.39 | 8.159 | |
| 15,200.0 | 9,530.6 | 14,915.9 | 9,411.6 | 143.1 | 142.0 | 87.02 | -532.5 | 5,536.7 | 2,278.6 | 1,994.5 | 284.13 | 8.020 | |
| 15,300.0 | 9,533.1 | 15,015.9 | 9,413.4 | 145.5 | 144.4 | 87.00 | -531.5 | 5,636.6 | 2,277.8 | 1,989.0 | 288.87 | 7.885 | |
| 15,400.0 | 9,535.5 | 15,115.9 | 9,415.2 | 147.9 | 146.7 | 86.99 | -530.5 | 5,736.6 | 2,277.2 | 1,983.6 | 293.63 | 7.755 | |
| 15,500.0 | 9,537.9 | 15,215.9 | 9,417.0 | 150.2 | 149.1 | 86.97 | -529.5 | 5,836.6 | 2,276.7 | 1,978.3 | 298.38 | 7.630 | |
| 15,600.0 | 9,540.3 | 15,315.9 | 9,418.8 | 152.6 | 151.5 | 86.96 | -528.5 | 5,936.6 | 2,276.3 | 1,973.2 | 303.14 | 7.509 | |
| 15,700.0 | 9,542.7 | 15,415.9 | 9,420.6 | 155.0 | 153.9 | 86.95 | -527.5 | 6,036.5 | 2,276.1 | 1,968.2 | 307.91 | 7.392 | |
| 15,800.0 | 9,545.1 | 15,515.9 | 9,422.5 | 157.4 | 156.3 | 86.93 | -526.5 | 6,136.5 | 2,275.9 | 1,963.2 | 312.67 | 7.279 | |
| 15,873.3 | 9,546.9 | 15,589.1 | 9,423.8 | 159.1 | 158.1 | 86.92 | -525.8 | 6,209.8 | 2,275.9 | 1,959.7 | 316.17 | 7.198 | |
| 15,884.5 | 9,547.2 | 15,600.3 | 9,424.0 | 159.4 | 158.3 | 86.92 | -525.7 | 6,221.0 | 2,275.9 | 1,959.2 | 316.70 | 7.186 | |
| 15,900.0 | 9,547.5 | 15,615.9 | 9,424.3 | 159.7 | 158.7 | 86.92 | -525.5 | 6,236.5 | 2,275.9 | 1,958.4 | 317.44 | 7.169 | |
| 16,000.0 | 9,549.9 | 15,715.8 | 9,426.1 | 162.1 | 161.1 | 86.91 | -524.5 | 6,336.5 | 2,275.9 | 1,953.7 | 322.22 | 7.063 | |
| 16,100.0 | 9,552.3 | 15,815.8 | 9,427.9 | 164.5 | 163.5 | 86.89 | -523.5 | 6,436.4 | 2,275.9 | 1,948.9 | 327.00 | 6.960 | |
| 16,200.0 | 9,554.7 | 15,915.8 | 9,429.7 | 166.9 | 165.9 | 86.88 | -522.5 | 6,536.4 | 2,275.9 | 1,944.1 | 331.78 | 6.860 | |
| 16,300.0 | 9,557.1 | 16,015.8 | 9,431.5 | 169.3 | 168.3 | 86.86 | -521.5 | 6,636.4 | 2,275.9 | 1,939.4 | 336.56 | 6.762 | |
| 16,400.0 | 9,559.5 | 16,115.8 | 9,433.3 | 171.7 | 170.7 | 86.85 | -520.5 | 6,736.4 | 2,276.0 | 1,934.6 | 341.35 | 6.668 | |
| 16,500.0 | 9,561.9 | 16,215.8 | 9,435.2 | 174.1 | 173.1 | 86.83 | -519.5 | 6,836.4 | 2,276.0 | 1,929.8 | 346.13 | 6.575 | |
| 16,600.0 | 9,564.3 | 16,315.8 | 9,437.0 | 176.5 | 175.5 | 86.82 | -518.5 | 6,936.3 | 2,276.0 | 1,925.1 | 350.93 | 6.486 | |
| 16,700.0 | 9,566.7 | 16,415.8 | 9,438.8 | 178.9 | 177.9 | 86.80 | -517.5 | 7,036.3 | 2,276.0 | 1,920.3 | 355.72 | 6.398 | |
| 16,800.0 | 9,569.1 | 16,515.8 | 9,440.6 | 181.3 | 180.3 | 86.79 | -516.5 | 7,136.3 | 2,276.0 | 1,915.5 | 360.52 | 6.313 | |
| 16,900.0 | 9,571.5 | 16,615.8 | 9,442.4 | 183.7 | 182.7 | 86.77 | -515.5 | 7,236.3 | 2,276.0 | 1,910.7 | 365.31 | 6.230 | |
| 17,000.0 | 9,573.9 | 16,715.8 | 9,444.2 | 186.1 | 185.2 | 86.76 | -514.6 | 7,336.2 | 2,276.0 | 1,905.9 | 370.11 | 6.150 | |
| 17,100.0 | 9,576.3 | 16,815.8 | 9,446.1 | 188.5 | 187.6 | 86.74 | -513.6 | 7,436.2 | 2,276.1 | 1,901.1 | 374.92 | 6.071 | |
| 17,200.0 | 9,578.7 | 16,915.8 | 9,447.9 | 190.9 | 190.0 | 86.73 | -512.6 | 7,536.2 | 2,276.1 | 1,896.3 | 379.72 | 5.994 | |
| 17,300.0 | 9,581.1 | 17,015.8 | 9,449.7 | 193.3 | 192.4 | 86.71 | -511.6 | 7,636.2 | 2,276.1 | 1,891.6 | 384.53 | 5.919 | |
| 17,400.0 | 9,583.5 | 17,115.8 | 9,451.5 | 195.7 | 194.8 | 86.70 | -510.6 | 7,736.1 | 2,276.1 | 1,886.8 | 389.34 | 5.846 | |
| 17,500.0 | 9,585.9 | 17,215.8 | 9,453.3 | 198.1 | 197.2 | 86.69 | -509.6 | 7,836.1 | 2,276.1 | 1,882.0 | 394.15 | 5.775 | |
| 17,600.0 | 9,588.3 | 17,315.8 | 9,455.1 | 200.5 | 199.6 | 86.67 | -508.6 | 7,936.1 | 2,276.1 | 1,877.2 | 398.96 | 5.705 | |
| 17,700.0 | 9,590.7 | 17,415.8 | 9,456.9 | 202.9 | 202.0 | 86.66 | -507.6 | 8,036.1 | 2,276.1 | 1,872.4 | 403.77 | 5.637 | |
| 17,800.0 | 9,593.1 | 17,515.8 | 9,458.8 | 205.3 | 204.5 | 86.64 | -506.6 | 8,136.1 | 2,276.2 | 1,867.6 | 408.59 | 5.571 | |
| 17,900.0 | 9,595.5 | 17,615.8 | 9,460.6 | 207.7 | 206.9 | 86.63 | -505.6 | 8,236.0 | 2,276.2 | 1,862.8 | 413.40 | 5.506 | |
| 18,000.0 | 9,597.9 | 17,715.8 | 9,462.4 | 210.1 | 209.3 | 86.61 | -504.6 | 8,336.0 | 2,276.2 | 1,858.0 | 418.22 | 5.443 | |
| 18,100.0 | 9,600.3 | 17,815.8 | 9,464.2 | 212.5 | 211.7 | 86.60 | -503.6 | 8,436.0 | 2,276.2 | 1,853.2 | 423.04 | 5.381 | |
| 18,200.0 | 9,602.7 | 17,915.8 | 9,466.0 | 214.9 | 214.1 | 86.58 | -502.6 | 8,536.0 | 2,276.2 | 1,848.4 | 427.86 | 5.320 | |
| 18,300.0 | 9,605.0 | 18,015.8 | 9,467.8 | 217.4 | 216.6 | 86.57 | -501.6 | 8,635.9 | 2,276.2 | 1,843.6 | 432.68 | 5.261 | |
| 18,364.7 | 9,606.6 | 18,080.5 | 9,469.0 | 218.4 | 218.1 | 86.56 | -501.0 | 8,700.6 | 2,276.3 | 1,841.0 | 435.29 | 5.229 | SF |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 45.11 | 29.8 | 29.9 | 42.2 | | | | |
| 25.0 | 25.0 | 25.0 | 25.0 | 0.0 | 0.0 | 45.11 | 29.8 | 29.9 | 42.2 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 135.40 | 29.8 | 29.9 | 42.5 | 42.2 | 0.26 | 164.243 ES | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.5 | 0.5 | 136.67 | 29.8 | 29.9 | 43.5 | 42.5 | 0.97 | 44.594 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.8 | 0.8 | 138.82 | 29.8 | 29.9 | 45.3 | 43.6 | 1.69 | 26.758 | |
| 400.0 | 399.9 | 400.1 | 399.9 | 1.2 | 1.2 | 141.62 | 29.8 | 29.9 | 48.0 | 45.6 | 2.41 | 19.922 | |
| 500.2 | 500.0 | 500.0 | 500.0 | 1.6 | 1.6 | 144.83 | 29.8 | 29.9 | 51.8 | 48.7 | 3.13 | 16.544 | |
| 600.0 | 599.6 | 600.4 | 599.6 | 1.9 | 1.9 | 147.90 | 29.8 | 29.9 | 56.2 | 52.3 | 3.85 | 14.583 | |
| 700.0 | 699.5 | 700.5 | 699.5 | 2.3 | 2.3 | 150.52 | 29.8 | 29.9 | 60.7 | 56.1 | 4.57 | 13.274 | |
| 800.0 | 799.4 | 800.6 | 799.4 | 2.7 | 2.6 | 152.79 | 29.8 | 29.9 | 65.3 | 60.0 | 5.29 | 12.342 | |
| 900.0 | 899.2 | 900.8 | 899.2 | 3.0 | 3.0 | 154.75 | 29.8 | 29.9 | 70.0 | 64.0 | 6.01 | 11.647 | |
| 1,000.2 | 999.3 | 1,000.7 | 999.3 | 3.4 | 3.4 | 156.46 | 29.8 | 29.9 | 74.7 | 68.0 | 6.73 | 11.113 | |
| 1,100.0 | 1,099.0 | 1,101.0 | 1,099.0 | 3.8 | 3.7 | 131.42 | 29.8 | 29.9 | 79.0 | 71.5 | 7.44 | 10.612 | |
| 1,200.0 | 1,198.8 | 1,201.2 | 1,198.8 | 4.1 | 4.1 | 115.33 | 29.8 | 29.9 | 82.3 | 74.2 | 8.16 | 10.093 | |
| 1,300.0 | 1,298.4 | 1,301.6 | 1,298.4 | 4.5 | 4.4 | 108.21 | 29.8 | 29.9 | 85.2 | 76.4 | 8.87 | 9.607 | |
| 1,400.0 | 1,397.9 | 1,402.1 | 1,397.9 | 4.9 | 4.8 | 106.95 | 29.8 | 29.9 | 88.3 | 78.7 | 9.59 | 9.204 | |
| 1,500.0 | 1,497.1 | 1,502.9 | 1,497.1 | 5.2 | 5.2 | 109.35 | 29.8 | 29.9 | 92.1 | 81.8 | 10.31 | 8.938 | |
| 1,600.0 | 1,596.0 | 1,604.0 | 1,596.0 | 5.6 | 5.5 | 114.02 | 29.8 | 29.9 | 97.7 | 86.6 | 11.03 | 8.854 | |
| 1,700.0 | 1,694.5 | 1,705.5 | 1,694.5 | 6.0 | 5.9 | 119.92 | 29.8 | 29.9 | 105.6 | 93.8 | 11.76 | 8.983 | |
| 1,800.0 | 1,792.5 | 1,807.5 | 1,792.5 | 6.4 | 6.2 | 126.24 | 29.8 | 29.9 | 116.6 | 104.1 | 12.49 | 9.336 | |
| 1,900.0 | 1,890.0 | 1,910.0 | 1,890.0 | 6.8 | 6.6 | 132.37 | 29.8 | 29.9 | 130.9 | 117.7 | 13.22 | 9.904 | |
| 2,000.0 | 1,986.9 | 1,986.9 | 1,986.9 | 7.2 | 6.9 | 137.95 | 29.8 | 29.9 | 148.7 | 134.9 | 13.86 | 10.734 | |
| 2,068.0 | 2,052.4 | 2,053.4 | 2,053.4 | 7.5 | 7.1 | 141.47 | 29.8 | 29.7 | 162.7 | 148.3 | 14.34 | 11.344 | |
| 2,100.0 | 2,083.2 | 2,084.8 | 2,084.8 | 7.7 | 7.2 | 143.44 | 29.8 | 29.3 | 169.6 | 155.0 | 14.57 | 11.638 | |
| 2,200.0 | 2,179.3 | 2,182.9 | 2,182.8 | 8.1 | 7.6 | 148.93 | 29.8 | 27.0 | 191.4 | 176.1 | 15.27 | 12.535 | |
| 2,300.0 | 2,275.3 | 2,280.9 | 2,280.8 | 8.6 | 7.9 | 153.66 | 29.8 | 23.0 | 213.7 | 197.7 | 15.97 | 13.381 | |
| 2,400.0 | 2,371.4 | 2,378.9 | 2,378.6 | 9.1 | 8.2 | 157.84 | 29.7 | 17.4 | 236.4 | 219.7 | 16.67 | 14.175 | |
| 2,500.0 | 2,467.5 | 2,476.7 | 2,476.2 | 9.6 | 8.6 | 161.63 | 29.7 | 10.1 | 259.3 | 241.9 | 17.38 | 14.919 | |
| 2,600.0 | 2,563.6 | 2,574.4 | 2,573.4 | 10.1 | 8.9 | 165.10 | 29.6 | 1.2 | 282.6 | 264.5 | 18.09 | 15.618 | |
| 2,700.0 | 2,659.7 | 2,671.8 | 2,670.3 | 10.6 | 9.3 | 168.34 | 29.6 | -9.4 | 306.2 | 287.4 | 18.81 | 16.277 | |
| 2,800.0 | 2,755.8 | 2,768.9 | 2,766.6 | 11.1 | 9.6 | 171.39 | 29.5 | -21.6 | 330.2 | 310.7 | 19.54 | 16.900 | |
| 2,900.0 | 2,851.9 | 2,864.9 | 2,861.7 | 11.7 | 10.0 | 174.19 | 29.4 | -34.9 | 354.7 | 334.5 | 20.27 | 17.501 | |
| 3,000.0 | 2,948.0 | 2,960.4 | 2,956.3 | 12.2 | 10.3 | 176.64 | 29.3 | -48.2 | 380.0 | 359.0 | 21.01 | 18.088 | |
| 3,100.0 | 3,044.1 | 3,056.0 | 3,050.9 | 12.7 | 10.7 | 178.79 | 29.2 | -61.5 | 405.8 | 384.0 | 21.75 | 18.656 | |
| 3,200.0 | 3,140.2 | 3,151.5 | 3,145.5 | 13.2 | 11.1 | -179.32 | 29.1 | -74.8 | 432.0 | 409.5 | 22.50 | 19.202 | |
| 3,300.0 | 3,236.3 | 3,247.1 | 3,240.1 | 13.8 | 11.4 | -177.64 | 29.0 | -88.0 | 458.7 | 435.5 | 23.26 | 19.725 | |
| 3,400.0 | 3,332.4 | 3,342.6 | 3,334.7 | 14.3 | 11.8 | -176.15 | 28.9 | -101.3 | 485.7 | 461.7 | 24.02 | 20.224 | |
| 3,500.0 | 3,428.5 | 3,438.1 | 3,429.3 | 14.8 | 12.2 | -174.81 | 28.9 | -114.6 | 513.0 | 488.2 | 24.78 | 20.699 | |
| 3,600.0 | 3,524.6 | 3,533.7 | 3,523.9 | 15.4 | 12.5 | -173.61 | 28.8 | -127.9 | 540.5 | 515.0 | 25.55 | 21.152 | |
| 3,700.0 | 3,620.7 | 3,629.2 | 3,618.6 | 15.9 | 12.9 | -172.52 | 28.7 | -141.2 | 568.2 | 541.9 | 26.33 | 21.583 | |
| 3,800.0 | 3,716.8 | 3,724.8 | 3,713.2 | 16.5 | 13.3 | -171.53 | 28.6 | -154.5 | 596.1 | 569.0 | 27.11 | 21.993 | |
| 3,900.0 | 3,812.9 | 3,820.3 | 3,807.8 | 17.0 | 13.7 | -170.63 | 28.5 | -167.8 | 624.2 | 596.3 | 27.89 | 22.383 | |
| 4,000.0 | 3,909.0 | 3,915.8 | 3,902.4 | 17.6 | 14.1 | -169.80 | 28.4 | -181.1 | 652.3 | 623.7 | 28.67 | 22.754 | |
| 4,100.0 | 4,005.1 | 4,011.4 | 3,997.0 | 18.1 | 14.4 | -169.05 | 28.3 | -194.4 | 680.6 | 651.2 | 29.46 | 23.107 | |
| 4,200.0 | 4,101.2 | 4,106.9 | 4,091.6 | 18.6 | 14.8 | -168.35 | 28.2 | -207.7 | 709.0 | 678.8 | 30.25 | 23.443 | |
| 4,300.0 | 4,197.3 | 4,202.5 | 4,186.2 | 19.2 | 15.2 | -167.71 | 28.1 | -221.0 | 737.5 | 706.5 | 31.04 | 23.763 | |
| 4,400.0 | 4,293.4 | 4,298.2 | 4,281.1 | 19.7 | 15.6 | -167.11 | 28.1 | -234.3 | 766.1 | 734.2 | 31.83 | 24.067 | |
| 4,500.0 | 4,389.5 | 4,396.4 | 4,378.4 | 20.3 | 16.0 | -166.66 | 28.0 | -246.5 | 794.5 | 761.9 | 32.64 | 24.344 | |
| 4,600.0 | 4,485.6 | 4,494.9 | 4,476.5 | 20.8 | 16.4 | -166.42 | 27.9 | -256.2 | 822.7 | 789.2 | 33.43 | 24.608 | |
| 4,700.0 | 4,581.7 | 4,593.8 | 4,575.1 | 21.4 | 16.7 | -166.37 | 27.9 | -263.3 | 850.5 | 816.3 | 34.21 | 24.862 | |
| 4,800.0 | 4,677.8 | 4,692.8 | 4,674.0 | 21.9 | 17.1 | -166.50 | 27.8 | -267.9 | 878.0 | 843.1 | 34.97 | 25.107 | |
| 4,900.0 | 4,773.9 | 4,791.8 | 4,773.0 | 22.5 | 17.4 | -166.78 | 27.8 | -270.0 | 905.3 | 869.6 | 35.72 | 25.347 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,870.0 | 4,888.8 | 4,870.0 | 23.0 | 17.8 | -167.17 | 27.8 | -270.1 | 932.3 | 895.9 | 36.43 | 25.590 | |
| 5,100.0 | 4,966.1 | 4,984.9 | 4,966.1 | 23.6 | 18.1 | -167.53 | 27.8 | -270.1 | 959.3 | 922.2 | 37.14 | 25.830 | |
| 5,200.0 | 5,062.2 | 5,081.0 | 5,062.2 | 24.1 | 18.4 | -167.88 | 27.8 | -270.1 | 986.4 | 948.5 | 37.85 | 26.060 | |
| 5,300.0 | 5,158.3 | 5,177.1 | 5,158.3 | 24.7 | 18.7 | -168.21 | 27.8 | -270.1 | 1,013.5 | 974.9 | 38.56 | 26.283 | |
| 5,400.0 | 5,254.4 | 5,273.2 | 5,254.4 | 25.2 | 19.1 | -168.52 | 27.8 | -270.1 | 1,040.6 | 1,001.4 | 39.27 | 26.497 | |
| 5,500.0 | 5,350.5 | 5,369.3 | 5,350.5 | 25.8 | 19.4 | -168.81 | 27.8 | -270.1 | 1,067.8 | 1,027.8 | 39.99 | 26.704 | |
| 5,600.0 | 5,446.6 | 5,465.4 | 5,446.6 | 26.3 | 19.7 | -169.09 | 27.8 | -270.1 | 1,095.0 | 1,054.3 | 40.70 | 26.903 | |
| 5,700.0 | 5,542.7 | 5,561.5 | 5,542.7 | 26.9 | 20.1 | -169.36 | 27.8 | -270.1 | 1,122.2 | 1,080.8 | 41.42 | 27.096 | |
| 5,800.0 | 5,638.8 | 5,657.6 | 5,638.8 | 27.4 | 20.4 | -169.62 | 27.8 | -270.1 | 1,149.4 | 1,107.3 | 42.13 | 27.282 | |
| 5,900.0 | 5,734.9 | 5,753.7 | 5,734.9 | 28.0 | 20.7 | -169.86 | 27.8 | -270.1 | 1,176.7 | 1,133.8 | 42.85 | 27.461 | |
| 6,000.0 | 5,831.0 | 5,849.8 | 5,831.0 | 28.6 | 21.0 | -170.09 | 27.8 | -270.1 | 1,204.0 | 1,160.4 | 43.57 | 27.635 | |
| 6,100.0 | 5,927.1 | 5,945.9 | 5,927.1 | 29.1 | 21.4 | -170.31 | 27.8 | -270.1 | 1,231.2 | 1,187.0 | 44.28 | 27.803 | |
| 6,200.0 | 6,023.2 | 6,042.0 | 6,023.2 | 29.7 | 21.7 | -170.52 | 27.8 | -270.1 | 1,258.5 | 1,213.5 | 45.00 | 27.966 | |
| 6,300.0 | 6,119.3 | 6,138.1 | 6,119.3 | 30.2 | 22.0 | -170.73 | 27.8 | -270.1 | 1,285.9 | 1,240.1 | 45.72 | 28.123 | |
| 6,400.0 | 6,215.4 | 6,234.2 | 6,215.4 | 30.8 | 22.4 | -170.92 | 27.8 | -270.1 | 1,313.2 | 1,266.8 | 46.44 | 28.276 | |
| 6,500.0 | 6,311.5 | 6,330.3 | 6,311.5 | 31.3 | 22.7 | -171.11 | 27.8 | -270.1 | 1,340.5 | 1,293.4 | 47.16 | 28.424 | |
| 6,600.0 | 6,407.6 | 6,426.4 | 6,407.6 | 31.9 | 23.0 | -171.29 | 27.8 | -270.1 | 1,367.9 | 1,320.0 | 47.88 | 28.567 | |
| 6,700.0 | 6,503.7 | 6,522.5 | 6,503.7 | 32.4 | 23.4 | -171.46 | 27.8 | -270.1 | 1,395.3 | 1,346.7 | 48.61 | 28.706 | |
| 6,800.0 | 6,599.8 | 6,618.6 | 6,599.8 | 33.0 | 23.7 | -171.62 | 27.8 | -270.1 | 1,422.7 | 1,373.3 | 49.33 | 28.840 | |
| 6,900.0 | 6,695.9 | 6,714.7 | 6,695.9 | 33.6 | 24.0 | -171.78 | 27.8 | -270.1 | 1,450.1 | 1,400.0 | 50.05 | 28.971 | |
| 7,000.0 | 6,792.0 | 6,810.8 | 6,792.0 | 34.1 | 24.4 | -171.94 | 27.8 | -270.1 | 1,477.5 | 1,426.7 | 50.78 | 29.098 | |
| 7,100.0 | 6,888.1 | 6,906.9 | 6,888.1 | 34.7 | 24.7 | -172.08 | 27.8 | -270.1 | 1,504.9 | 1,453.4 | 51.50 | 29.221 | |
| 7,200.0 | 6,984.2 | 7,003.0 | 6,984.2 | 35.2 | 25.1 | -172.23 | 27.8 | -270.1 | 1,532.3 | 1,480.1 | 52.22 | 29.341 | |
| 7,300.0 | 7,080.3 | 7,100.9 | 7,080.3 | 35.8 | 25.4 | -172.36 | 27.8 | -270.1 | 1,559.7 | 1,506.8 | 52.96 | 29.453 | |
| 7,400.0 | 7,176.4 | 7,204.8 | 7,176.4 | 36.3 | 25.8 | -172.50 | 27.8 | -270.1 | 1,587.2 | 1,533.4 | 53.71 | 29.551 | |
| 7,500.0 | 7,272.5 | 7,308.7 | 7,272.5 | 36.9 | 26.1 | -172.62 | 27.8 | -270.1 | 1,614.6 | 1,560.1 | 54.46 | 29.647 | |
| 7,600.0 | 7,368.6 | 7,387.4 | 7,368.6 | 37.4 | 26.4 | -172.75 | 27.8 | -270.1 | 1,642.1 | 1,586.9 | 55.13 | 29.787 | |
| 7,700.0 | 7,464.7 | 7,492.6 | 7,473.6 | 38.0 | 26.7 | -173.03 | 27.9 | -265.8 | 1,669.3 | 1,613.5 | 55.89 | 29.868 | |
| 7,800.0 | 7,560.7 | 7,597.6 | 7,576.1 | 38.6 | 27.0 | -173.93 | 28.6 | -243.5 | 1,696.1 | 1,639.5 | 56.57 | 29.983 | |
| 7,900.0 | 7,656.8 | 7,691.1 | 7,662.5 | 39.1 | 27.3 | -175.24 | 29.8 | -208.2 | 1,723.0 | 1,665.8 | 57.12 | 30.166 | |
| 8,000.0 | 7,752.9 | 7,770.8 | 7,730.9 | 39.7 | 27.5 | -176.69 | 31.0 | -167.4 | 1,750.9 | 1,693.4 | 57.55 | 30.424 | |
| 8,014.5 | 7,766.9 | 7,781.2 | 7,739.4 | 39.8 | 27.5 | -176.90 | 31.2 | -161.4 | 1,755.1 | 1,697.5 | 57.60 | 30.468 | |
| 8,100.0 | 7,849.3 | 7,837.3 | 7,783.2 | 40.2 | 27.7 | -178.12 | 32.3 | -126.3 | 1,780.0 | 1,722.1 | 57.88 | 30.754 | |
| 8,200.0 | 7,946.3 | 7,892.6 | 7,822.7 | 40.7 | 27.8 | -179.42 | 33.5 | -87.8 | 1,809.2 | 1,751.1 | 58.09 | 31.145 | |
| 8,300.0 | 8,043.9 | 7,938.5 | 7,852.7 | 41.2 | 28.0 | 179.43 | 34.6 | -53.0 | 1,839.2 | 1,781.0 | 58.18 | 31.611 | |
| 8,400.0 | 8,142.1 | 7,976.8 | 7,875.4 | 41.7 | 28.1 | 178.45 | 35.6 | -22.2 | 1,870.3 | 1,812.1 | 58.15 | 32.164 | |
| 8,500.0 | 8,240.7 | 8,008.9 | 7,892.9 | 42.1 | 28.2 | 177.61 | 36.5 | 4.7 | 1,902.6 | 1,844.7 | 57.98 | 32.814 | |
| 8,600.0 | 8,339.7 | 8,036.1 | 7,906.5 | 42.5 | 28.4 | 176.90 | 37.2 | 28.3 | 1,936.4 | 1,878.7 | 57.69 | 33.564 | |
| 8,700.0 | 8,439.1 | 8,050.0 | 7,913.0 | 42.9 | 28.4 | 176.55 | 37.6 | 40.5 | 1,971.7 | 1,914.6 | 57.19 | 34.478 | |
| 8,800.0 | 8,538.7 | 8,079.4 | 7,925.7 | 43.3 | 28.6 | 175.78 | 38.4 | 67.0 | 2,008.5 | 1,951.7 | 56.76 | 35.384 | |
| 8,900.0 | 8,638.5 | 8,100.0 | 7,933.9 | 43.6 | 28.7 | 175.26 | 39.0 | 85.9 | 2,046.7 | 1,990.6 | 56.17 | 36.440 | |
| 9,000.0 | 8,738.4 | 8,100.0 | 7,933.9 | 43.9 | 28.7 | 175.31 | 39.0 | 85.9 | 2,086.5 | 2,031.2 | 55.29 | 37.737 | |
| 9,085.1 | 8,823.5 | 8,123.6 | 7,942.4 | 44.1 | 28.8 | 168.70 | 39.7 | 107.9 | 2,121.3 | 2,066.5 | 54.75 | 38.744 | |
| 9,100.0 | 8,838.4 | 8,125.6 | 7,943.0 | 44.1 | 28.8 | 74.50 | 39.8 | 109.8 | 2,127.5 | 2,072.8 | 54.63 | 38.946 | |
| 9,150.0 | 8,888.3 | 8,132.9 | 7,945.4 | 44.2 | 28.8 | 72.14 | 40.0 | 116.7 | 2,148.1 | 2,093.9 | 54.20 | 39.631 | |
| 9,200.0 | 8,937.6 | 8,150.0 | 7,950.7 | 44.3 | 28.9 | 69.62 | 40.5 | 132.9 | 2,168.4 | 2,114.6 | 53.87 | 40.253 | |
| 9,250.0 | 8,986.2 | 8,150.0 | 7,950.7 | 44.4 | 28.9 | 67.62 | 40.5 | 132.9 | 2,188.2 | 2,134.8 | 53.35 | 41.017 | |
| 9,300.0 | 9,033.4 | 8,150.0 | 7,950.7 | 44.5 | 28.9 | 65.71 | 40.5 | 132.9 | 2,207.4 | 2,154.5 | 52.82 | 41.789 | |
| 9,350.0 | 9,079.1 | 8,171.0 | 7,956.6 | 44.6 | 29.1 | 63.51 | 41.1 | 153.0 | 2,225.5 | 2,173.0 | 52.53 | 42.370 | |
| 9,400.0 | 9,122.8 | 8,182.2 | 7,959.4 | 44.6 | 29.1 | 61.66 | 41.5 | 163.9 | 2,242.8 | 2,190.7 | 52.13 | 43.025 | |
| 9,450.0 | 9,164.2 | 8,200.0 | 7,963.5 | 44.7 | 29.2 | 59.88 | 42.0 | 181.2 | 2,259.0 | 2,207.1 | 51.81 | 43.602 | |
| 9,500.0 | 9,203.1 | 8,200.0 | 7,963.5 | 44.7 | 29.2 | 58.54 | 42.0 | 181.2 | 2,273.8 | 2,222.5 | 51.32 | 44.302 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,550.0 | 9,239.1 | 8,218.8 | 7,967.1 | 44.8 | 29.4 | 57.10 | 42.6 | 199.6 | 2,287.2 | 2,236.2 | 51.06 | 44.790 | |
| 9,600.0 | 9,271.9 | 8,231.7 | 7,969.3 | 44.8 | 29.5 | 55.91 | 43.0 | 212.4 | 2,299.2 | 2,248.4 | 50.78 | 45.280 | |
| 9,650.0 | 9,301.2 | 8,250.0 | 7,971.9 | 44.8 | 29.6 | 54.84 | 43.5 | 230.5 | 2,309.5 | 2,259.0 | 50.58 | 45.663 | |
| 9,700.0 | 9,327.0 | 8,250.0 | 7,971.9 | 44.8 | 29.6 | 54.12 | 43.5 | 230.5 | 2,318.2 | 2,268.0 | 50.26 | 46.124 | |
| 9,750.0 | 9,348.9 | 8,272.3 | 7,974.3 | 44.8 | 29.8 | 53.37 | 44.2 | 252.7 | 2,325.1 | 2,274.9 | 50.21 | 46.305 | |
| 9,800.0 | 9,366.8 | 8,300.0 | 7,976.0 | 44.8 | 30.0 | 52.77 | 45.1 | 280.3 | 2,330.4 | 2,280.1 | 50.26 | 46.362 | |
| 9,850.0 | 9,380.6 | 8,300.0 | 7,976.0 | 44.8 | 30.0 | 52.52 | 45.1 | 280.3 | 2,333.5 | 2,283.3 | 50.15 | 46.528 | |
| 9,900.0 | 9,390.2 | 8,324.6 | 7,976.8 | 44.8 | 30.2 | 52.31 | 45.8 | 304.9 | 2,334.8 | 2,284.5 | 50.33 | 46.390 | |
| 9,950.0 | 9,395.4 | 8,354.8 | 7,977.7 | 44.8 | 30.4 | 52.30 | 46.4 | 335.1 | 2,333.9 | 2,283.3 | 50.64 | 46.088 | |
| 9,969.6 | 9,396.2 | 8,369.8 | 7,978.1 | 44.8 | 30.6 | 52.36 | 46.6 | 350.1 | 2,333.0 | 2,282.2 | 50.81 | 45.914 | |
| 10,000.0 | 9,397.1 | 8,405.0 | 7,978.9 | 44.8 | 30.9 | 52.33 | 46.8 | 375.3 | 2,331.2 | 2,280.0 | 51.21 | 45.525 | |
| 10,100.0 | 9,399.8 | 8,505.2 | 7,981.8 | 44.9 | 32.0 | 52.24 | 47.7 | 475.0 | 2,325.6 | 2,273.0 | 52.60 | 44.217 | |
| 10,200.0 | 9,402.5 | 8,605.4 | 7,984.8 | 45.1 | 33.2 | 52.15 | 48.6 | 574.7 | 2,320.1 | 2,265.9 | 54.23 | 42.779 | |
| 10,300.0 | 9,405.2 | 8,705.6 | 7,987.7 | 45.4 | 34.5 | 52.05 | 49.5 | 674.4 | 2,314.7 | 2,258.6 | 56.10 | 41.259 | |
| 10,400.0 | 9,407.8 | 8,805.9 | 7,990.7 | 45.8 | 35.9 | 51.97 | 50.4 | 774.2 | 2,309.4 | 2,251.2 | 58.17 | 39.698 | |
| 10,500.0 | 9,410.5 | 8,906.1 | 7,993.7 | 46.4 | 37.5 | 51.88 | 51.2 | 873.9 | 2,304.2 | 2,243.7 | 60.43 | 38.131 | |
| 10,600.0 | 9,413.2 | 8,993.7 | 7,996.6 | 47.2 | 38.9 | 51.79 | 52.1 | 973.7 | 2,299.0 | 2,236.4 | 62.67 | 36.684 | |
| 10,700.0 | 9,415.9 | 9,106.4 | 7,999.6 | 48.2 | 40.9 | 51.71 | 53.0 | 1,073.4 | 2,294.0 | 2,228.6 | 65.40 | 35.076 | |
| 10,800.0 | 9,418.5 | 9,206.6 | 8,002.5 | 49.4 | 42.7 | 51.62 | 53.9 | 1,173.2 | 2,289.1 | 2,221.0 | 68.08 | 33.621 | |
| 10,900.0 | 9,421.2 | 9,306.8 | 8,005.5 | 50.7 | 44.5 | 51.54 | 54.8 | 1,273.0 | 2,284.2 | 2,213.4 | 70.88 | 32.228 | |
| 11,000.0 | 9,423.8 | 9,407.0 | 8,008.5 | 52.2 | 46.5 | 51.46 | 55.7 | 1,372.8 | 2,279.5 | 2,205.7 | 73.77 | 30.901 | |
| 11,100.0 | 9,426.5 | 9,507.1 | 8,011.4 | 53.8 | 48.4 | 51.38 | 56.6 | 1,472.5 | 2,274.8 | 2,198.1 | 76.74 | 29.642 | |
| 11,200.0 | 9,429.1 | 9,607.3 | 8,014.4 | 55.4 | 50.4 | 51.30 | 57.5 | 1,572.3 | 2,270.3 | 2,190.5 | 79.80 | 28.452 | |
| 11,300.0 | 9,431.8 | 9,707.4 | 8,017.3 | 57.1 | 52.5 | 51.23 | 58.4 | 1,672.1 | 2,265.8 | 2,182.9 | 82.91 | 27.328 | |
| 11,400.0 | 9,434.4 | 9,807.6 | 8,020.3 | 58.9 | 54.6 | 51.15 | 59.3 | 1,772.0 | 2,261.5 | 2,175.4 | 86.09 | 26.270 | |
| 11,500.0 | 9,437.0 | 9,907.7 | 8,023.3 | 60.8 | 56.7 | 51.08 | 60.1 | 1,871.8 | 2,257.2 | 2,167.9 | 89.31 | 25.273 | |
| 11,600.0 | 9,439.7 | 10,007.9 | 8,026.2 | 62.7 | 58.8 | 51.01 | 61.0 | 1,971.6 | 2,253.0 | 2,160.4 | 92.58 | 24.335 | |
| 11,700.0 | 9,442.3 | 10,108.0 | 8,029.2 | 64.6 | 61.0 | 50.94 | 61.9 | 2,071.4 | 2,248.9 | 2,153.0 | 95.89 | 23.452 | |
| 11,800.0 | 9,444.9 | 10,208.1 | 8,032.2 | 66.6 | 63.1 | 50.87 | 62.8 | 2,171.3 | 2,244.9 | 2,145.7 | 99.24 | 22.621 | |
| 11,900.0 | 9,447.5 | 10,308.2 | 8,035.1 | 68.6 | 65.3 | 50.81 | 63.7 | 2,271.1 | 2,241.0 | 2,138.4 | 102.62 | 21.838 | |
| 12,000.0 | 9,450.1 | 10,391.7 | 8,038.1 | 70.6 | 67.2 | 50.74 | 64.6 | 2,370.9 | 2,237.2 | 2,131.5 | 105.73 | 21.159 | |
| 12,100.0 | 9,452.7 | 10,491.6 | 8,041.0 | 72.7 | 69.4 | 50.68 | 65.5 | 2,470.8 | 2,233.5 | 2,124.4 | 109.16 | 20.460 | |
| 12,200.0 | 9,455.3 | 10,608.5 | 8,044.0 | 74.8 | 72.0 | 50.62 | 66.4 | 2,570.6 | 2,229.9 | 2,117.0 | 112.92 | 19.747 | |
| 12,300.0 | 9,457.9 | 10,708.6 | 8,047.0 | 76.9 | 74.3 | 50.56 | 67.3 | 2,670.5 | 2,226.4 | 2,110.0 | 116.40 | 19.127 | |
| 12,400.0 | 9,460.5 | 10,808.7 | 8,049.9 | 79.0 | 76.6 | 50.51 | 68.2 | 2,770.4 | 2,222.9 | 2,103.0 | 119.90 | 18.540 | |
| 12,500.0 | 9,463.0 | 10,908.8 | 8,052.9 | 81.2 | 78.9 | 50.45 | 69.1 | 2,870.2 | 2,219.6 | 2,096.2 | 123.41 | 17.985 | |
| 12,600.0 | 9,465.6 | 11,008.9 | 8,055.9 | 83.4 | 81.1 | 50.40 | 69.9 | 2,970.1 | 2,216.3 | 2,089.4 | 126.95 | 17.459 | |
| 12,700.0 | 9,468.2 | 11,108.9 | 8,058.8 | 85.5 | 83.4 | 50.35 | 70.8 | 3,070.0 | 2,213.2 | 2,082.7 | 130.49 | 16.960 | |
| 12,800.0 | 9,470.7 | 11,209.0 | 8,061.8 | 87.8 | 85.8 | 50.30 | 71.7 | 3,169.9 | 2,210.1 | 2,076.0 | 134.05 | 16.487 | |
| 12,900.0 | 9,473.3 | 11,309.1 | 8,064.7 | 90.0 | 88.1 | 50.25 | 72.6 | 3,269.8 | 2,207.1 | 2,069.5 | 137.62 | 16.037 | |
| 13,000.0 | 9,475.9 | 11,409.1 | 8,067.7 | 92.2 | 90.4 | 50.21 | 73.5 | 3,369.7 | 2,204.2 | 2,063.0 | 141.21 | 15.610 | |
| 13,100.0 | 9,478.4 | 11,490.8 | 8,070.7 | 94.4 | 92.3 | 50.16 | 74.4 | 3,469.6 | 2,201.4 | 2,056.9 | 144.46 | 15.239 | |
| 13,200.0 | 9,480.9 | 11,609.2 | 8,073.6 | 96.7 | 95.1 | 50.12 | 75.3 | 3,569.5 | 2,198.7 | 2,050.3 | 148.41 | 14.815 | |
| 13,300.0 | 9,483.5 | 11,709.3 | 8,076.6 | 98.9 | 97.4 | 50.08 | 76.2 | 3,669.4 | 2,196.1 | 2,044.0 | 152.02 | 14.446 | |
| 13,400.0 | 9,486.0 | 11,809.3 | 8,079.6 | 101.2 | 99.7 | 50.04 | 77.1 | 3,769.3 | 2,193.5 | 2,037.9 | 155.65 | 14.093 | |
| 13,500.0 | 9,488.5 | 11,890.6 | 8,082.5 | 103.5 | 101.7 | 50.01 | 78.0 | 3,869.2 | 2,191.1 | 2,032.2 | 158.93 | 13.786 | |
| 13,600.0 | 9,491.0 | 12,009.4 | 8,085.5 | 105.8 | 104.5 | 49.97 | 78.8 | 3,969.1 | 2,188.7 | 2,025.8 | 162.93 | 13.434 | |
| 13,700.0 | 9,493.6 | 12,109.4 | 8,088.5 | 108.1 | 106.8 | 49.94 | 79.7 | 4,069.0 | 2,186.5 | 2,019.9 | 166.58 | 13.126 | |
| 13,800.0 | 9,496.1 | 12,209.5 | 8,091.4 | 110.4 | 109.2 | 49.91 | 80.6 | 4,168.9 | 2,184.3 | 2,014.0 | 170.24 | 12.831 | |
| 13,900.0 | 9,498.6 | 12,309.5 | 8,094.4 | 112.7 | 111.5 | 49.88 | 81.5 | 4,268.9 | 2,182.2 | 2,008.3 | 173.91 | 12.548 | |
| 14,000.0 | 9,501.1 | 12,390.5 | 8,097.4 | 115.0 | 113.5 | 49.86 | 82.4 | 4,368.8 | 2,180.2 | 2,003.0 | 177.22 | 12.302 | |
| 14,100.0 | 9,503.6 | 12,509.5 | 8,100.3 | 117.3 | 116.3 | 49.84 | 83.3 | 4,468.7 | 2,178.3 | 1,997.0 | 181.27 | 12.017 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #204H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,200.0 | 9,506.1 | 12,609.6 | 8,103.3 | 119.6 | 118.7 | 49.81 | 84.2 | 4,568.6 | 2,176.4 | 1,991.5 | 184.96 | 11.767 | |
| 14,300.0 | 9,508.5 | 12,709.6 | 8,106.3 | 122.0 | 121.0 | 49.79 | 85.1 | 4,668.6 | 2,174.7 | 1,986.0 | 188.66 | 11.527 | |
| 14,400.0 | 9,511.0 | 12,809.6 | 8,109.2 | 124.3 | 123.4 | 49.78 | 86.0 | 4,768.5 | 2,173.1 | 1,980.7 | 192.36 | 11.297 | |
| 14,500.0 | 9,513.5 | 12,909.6 | 8,112.2 | 126.6 | 125.8 | 49.76 | 86.9 | 4,868.5 | 2,171.5 | 1,975.4 | 196.08 | 11.075 | |
| 14,600.0 | 9,516.0 | 13,009.6 | 8,115.1 | 129.0 | 128.2 | 49.75 | 87.8 | 4,968.4 | 2,170.0 | 1,970.2 | 199.80 | 10.861 | |
| 14,700.0 | 9,518.4 | 13,109.6 | 8,118.1 | 131.3 | 130.6 | 49.74 | 88.6 | 5,068.3 | 2,168.6 | 1,965.1 | 203.53 | 10.655 | |
| 14,800.0 | 9,520.9 | 13,209.6 | 8,121.1 | 133.7 | 133.0 | 49.73 | 89.5 | 5,168.3 | 2,167.3 | 1,960.1 | 207.27 | 10.456 | |
| 14,900.0 | 9,523.3 | 13,309.6 | 8,124.0 | 136.0 | 135.4 | 49.72 | 90.4 | 5,268.2 | 2,166.1 | 1,955.1 | 211.02 | 10.265 | |
| 15,000.0 | 9,525.8 | 13,409.7 | 8,127.0 | 138.4 | 137.8 | 49.72 | 91.3 | 5,368.2 | 2,165.0 | 1,950.2 | 214.78 | 10.080 | |
| 15,100.0 | 9,528.2 | 13,509.7 | 8,130.0 | 140.8 | 140.2 | 49.71 | 92.2 | 5,468.1 | 2,164.0 | 1,945.4 | 218.54 | 9.902 | |
| 15,200.0 | 9,530.6 | 13,609.7 | 8,132.9 | 143.1 | 142.6 | 49.71 | 93.1 | 5,568.1 | 2,163.0 | 1,940.7 | 222.32 | 9.730 | |
| 15,300.0 | 9,533.1 | 13,709.7 | 8,135.9 | 145.5 | 145.0 | 49.71 | 94.0 | 5,668.0 | 2,162.2 | 1,936.1 | 226.10 | 9.563 | |
| 15,400.0 | 9,535.5 | 13,809.7 | 8,138.9 | 147.9 | 147.4 | 49.72 | 94.9 | 5,768.0 | 2,161.4 | 1,931.5 | 229.89 | 9.402 | |
| 15,500.0 | 9,537.9 | 13,909.7 | 8,141.8 | 150.2 | 149.8 | 49.72 | 95.8 | 5,867.9 | 2,160.7 | 1,927.0 | 233.69 | 9.246 | |
| 15,600.0 | 9,540.3 | 14,009.7 | 8,144.8 | 152.6 | 152.2 | 49.73 | 96.7 | 5,967.9 | 2,160.1 | 1,922.6 | 237.50 | 9.095 | |
| 15,700.0 | 9,542.7 | 14,109.7 | 8,147.8 | 155.0 | 154.6 | 49.74 | 97.6 | 6,067.8 | 2,159.6 | 1,918.3 | 241.31 | 8.949 | |
| 15,800.0 | 9,545.1 | 14,209.7 | 8,150.7 | 157.4 | 157.0 | 49.75 | 98.5 | 6,167.8 | 2,159.2 | 1,914.0 | 245.14 | 8.808 | |
| 15,884.5 | 9,547.2 | 14,274.8 | 8,153.2 | 159.4 | 158.6 | 49.76 | 99.2 | 6,252.2 | 2,158.9 | 1,910.9 | 248.02 | 8.705 | |
| 15,900.0 | 9,547.5 | 14,290.3 | 8,153.7 | 159.7 | 158.9 | 49.77 | 99.3 | 6,267.7 | 2,158.8 | 1,910.2 | 248.61 | 8.684 | |
| 16,000.0 | 9,549.9 | 14,390.3 | 8,156.7 | 162.1 | 161.3 | 49.78 | 100.2 | 6,367.7 | 2,158.5 | 1,906.1 | 252.46 | 8.550 | |
| 16,100.0 | 9,552.3 | 14,509.7 | 8,159.6 | 164.5 | 164.2 | 49.79 | 101.1 | 6,467.6 | 2,158.2 | 1,901.6 | 256.67 | 8.409 | |
| 16,200.0 | 9,554.7 | 14,609.7 | 8,162.6 | 166.9 | 166.6 | 49.81 | 102.0 | 6,567.6 | 2,157.9 | 1,897.4 | 260.52 | 8.283 | |
| 16,300.0 | 9,557.1 | 14,709.7 | 8,165.6 | 169.3 | 169.1 | 49.82 | 102.9 | 6,667.5 | 2,157.6 | 1,893.3 | 264.37 | 8.161 | |
| 16,400.0 | 9,559.5 | 14,809.7 | 8,168.5 | 171.7 | 171.5 | 49.83 | 103.8 | 6,767.5 | 2,157.3 | 1,889.1 | 268.23 | 8.043 | |
| 16,500.0 | 9,561.9 | 14,909.7 | 8,171.5 | 174.1 | 173.9 | 49.84 | 104.7 | 6,867.4 | 2,157.0 | 1,884.9 | 272.09 | 7.928 | |
| 16,600.0 | 9,564.3 | 15,009.7 | 8,174.5 | 176.5 | 176.3 | 49.86 | 105.6 | 6,967.4 | 2,156.7 | 1,880.8 | 275.95 | 7.816 | |
| 16,700.0 | 9,566.7 | 15,109.7 | 8,177.4 | 178.9 | 178.7 | 49.87 | 106.5 | 7,067.3 | 2,156.4 | 1,876.6 | 279.81 | 7.707 | |
| 16,800.0 | 9,569.1 | 15,209.7 | 8,180.4 | 181.3 | 181.1 | 49.88 | 107.4 | 7,167.3 | 2,156.1 | 1,872.4 | 283.68 | 7.601 | |
| 16,900.0 | 9,571.5 | 15,309.7 | 8,183.4 | 183.7 | 183.6 | 49.90 | 108.3 | 7,267.2 | 2,155.8 | 1,868.3 | 287.55 | 7.497 | |
| 17,000.0 | 9,573.9 | 15,390.3 | 8,186.3 | 186.1 | 185.5 | 49.91 | 109.1 | 7,367.2 | 2,155.5 | 1,864.5 | 291.05 | 7.406 | |
| 17,100.0 | 9,576.3 | 15,509.7 | 8,189.3 | 188.5 | 188.4 | 49.92 | 110.0 | 7,467.1 | 2,155.2 | 1,859.9 | 295.30 | 7.298 | |
| 17,200.0 | 9,578.7 | 15,609.7 | 8,192.3 | 190.9 | 190.8 | 49.94 | 110.9 | 7,567.1 | 2,154.9 | 1,855.7 | 299.18 | 7.203 | |
| 17,300.0 | 9,581.1 | 15,690.3 | 8,195.2 | 193.3 | 192.8 | 49.95 | 111.8 | 7,667.0 | 2,154.6 | 1,851.9 | 302.68 | 7.118 | |
| 17,400.0 | 9,583.5 | 15,790.3 | 8,198.2 | 195.7 | 195.2 | 49.96 | 112.7 | 7,767.0 | 2,154.3 | 1,847.7 | 306.56 | 7.027 | |
| 17,500.0 | 9,585.9 | 15,909.7 | 8,201.1 | 198.1 | 198.1 | 49.97 | 113.6 | 7,866.9 | 2,154.0 | 1,843.2 | 310.82 | 6.930 | |
| 17,600.0 | 9,588.3 | 16,009.7 | 8,204.1 | 200.5 | 200.5 | 49.99 | 114.5 | 7,966.9 | 2,153.7 | 1,839.0 | 314.71 | 6.844 | |
| 17,700.0 | 9,590.7 | 16,109.7 | 8,207.1 | 202.9 | 202.9 | 50.00 | 115.4 | 8,066.8 | 2,153.4 | 1,834.8 | 318.60 | 6.759 | |
| 17,800.0 | 9,593.1 | 16,209.7 | 8,210.0 | 205.3 | 205.4 | 50.01 | 116.3 | 8,166.8 | 2,153.1 | 1,830.6 | 322.49 | 6.677 | |
| 17,900.0 | 9,595.5 | 16,290.3 | 8,213.0 | 207.7 | 207.3 | 50.03 | 117.2 | 8,266.7 | 2,152.8 | 1,826.8 | 326.01 | 6.604 | |
| 18,000.0 | 9,597.9 | 16,409.7 | 8,216.0 | 210.1 | 210.2 | 50.04 | 118.1 | 8,366.7 | 2,152.5 | 1,822.2 | 330.28 | 6.517 | |
| 18,100.0 | 9,600.3 | 16,490.3 | 8,218.9 | 212.5 | 212.2 | 50.05 | 119.0 | 8,466.6 | 2,152.2 | 1,818.4 | 333.80 | 6.448 | |
| 18,200.0 | 9,602.7 | 16,609.7 | 8,221.9 | 214.9 | 215.1 | 50.07 | 119.8 | 8,566.6 | 2,151.9 | 1,813.8 | 338.08 | 6.365 | |
| 18,300.0 | 9,605.0 | 16,690.3 | 8,224.9 | 217.4 | 217.0 | 50.08 | 120.7 | 8,666.5 | 2,151.6 | 1,810.0 | 341.60 | 6.299 | |
| 18,364.7 | 9,606.6 | 16,755.0 | 8,226.8 | 218.4 | 218.6 | 50.09 | 121.3 | 8,731.2 | 2,151.4 | 1,807.7 | 343.72 | 6.259 | SF |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.19 | 0.0 | 0.0 | 0.0 | | | | |
| 25.0 | 25.0 | 25.0 | 25.0 | 0.0 | 0.0 | 40.19 | 0.0 | 0.0 | 0.0 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 173.89 | 0.0 | 0.0 | 0.3 | 0.1 | 0.26 | 1.315 | Level 3, SF |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.5 | 0.5 | 178.78 | 0.0 | 0.0 | 1.7 | 0.7 | 0.98 | 1.762 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.8 | 0.8 | 179.50 | 0.0 | 0.0 | 4.2 | 2.5 | 1.69 | 2.478 | |
| 400.0 | 399.9 | 400.1 | 399.9 | 1.2 | 1.2 | 179.73 | 0.0 | 0.0 | 7.8 | 5.4 | 2.41 | 3.224 | |
| 500.2 | 500.0 | 500.0 | 500.0 | 1.6 | 1.6 | 179.83 | 0.0 | 0.0 | 12.5 | 9.3 | 3.13 | 3.983 | |
| 600.0 | 599.6 | 600.4 | 599.6 | 1.9 | 1.9 | 179.88 | 0.0 | 0.0 | 17.7 | 13.8 | 3.85 | 4.596 | |
| 700.0 | 699.5 | 700.5 | 699.5 | 2.3 | 2.3 | 179.91 | 0.0 | 0.0 | 22.9 | 18.4 | 4.57 | 5.020 | |
| 800.0 | 799.4 | 800.6 | 799.4 | 2.7 | 2.6 | 179.93 | 0.0 | 0.0 | 28.2 | 22.9 | 5.29 | 5.328 | |
| 900.0 | 899.2 | 900.8 | 899.2 | 3.0 | 3.0 | 179.94 | 0.0 | 0.0 | 33.4 | 27.4 | 6.00 | 5.562 | |
| 1,000.2 | 999.3 | 1,000.7 | 999.3 | 3.4 | 3.4 | 179.95 | 0.0 | 0.0 | 38.6 | 31.9 | 6.72 | 5.748 | |
| 1,100.0 | 1,099.0 | 1,101.0 | 1,099.0 | 3.8 | 3.7 | 154.24 | 0.0 | 0.0 | 43.8 | 36.3 | 7.44 | 5.884 | |
| 1,200.0 | 1,198.8 | 1,201.2 | 1,198.8 | 4.1 | 4.1 | 138.76 | 0.0 | 0.0 | 49.0 | 40.8 | 8.16 | 6.003 | |
| 1,300.0 | 1,298.4 | 1,301.6 | 1,298.4 | 4.5 | 4.4 | 132.76 | 0.0 | 0.0 | 54.7 | 45.8 | 8.87 | 6.163 | |
| 1,400.0 | 1,397.9 | 1,402.1 | 1,397.9 | 4.9 | 4.8 | 132.46 | 0.0 | 0.0 | 61.5 | 51.9 | 9.58 | 6.419 | |
| 1,500.0 | 1,497.1 | 1,502.9 | 1,497.1 | 5.2 | 5.2 | 135.14 | 0.0 | 0.0 | 70.2 | 59.9 | 10.30 | 6.812 | |
| 1,600.0 | 1,596.0 | 1,604.0 | 1,596.0 | 5.6 | 5.5 | 139.12 | 0.0 | 0.0 | 81.1 | 70.1 | 11.02 | 7.361 | |
| 1,700.0 | 1,694.5 | 1,705.5 | 1,694.5 | 6.0 | 5.9 | 143.40 | 0.0 | 0.0 | 94.7 | 83.0 | 11.74 | 8.066 | |
| 1,800.0 | 1,792.5 | 1,792.5 | 1,792.5 | 6.4 | 6.2 | 147.46 | 0.0 | 0.0 | 111.1 | 98.7 | 12.41 | 8.951 | |
| 1,900.0 | 1,890.0 | 1,891.9 | 1,891.9 | 6.8 | 6.6 | 151.05 | 0.8 | -0.1 | 129.7 | 116.6 | 13.13 | 9.877 | |
| 2,000.0 | 1,986.9 | 1,991.6 | 1,991.6 | 7.2 | 6.9 | 154.01 | 3.2 | -0.7 | 149.6 | 135.7 | 13.86 | 10.795 | |
| 2,068.0 | 2,052.4 | 2,059.6 | 2,059.5 | 7.5 | 7.2 | 155.75 | 5.8 | -1.3 | 163.7 | 149.4 | 14.35 | 11.410 | |
| 2,100.0 | 2,083.2 | 2,091.6 | 2,091.5 | 7.7 | 7.3 | 156.85 | 7.3 | -1.6 | 170.4 | 155.8 | 14.58 | 11.689 | |
| 2,200.0 | 2,179.3 | 2,192.2 | 2,191.9 | 8.1 | 7.6 | 159.70 | 13.1 | -2.9 | 190.6 | 175.3 | 15.30 | 12.457 | |
| 2,300.0 | 2,275.3 | 2,293.6 | 2,293.0 | 8.6 | 8.0 | 161.92 | 20.8 | -4.6 | 209.4 | 193.4 | 16.03 | 13.068 | |
| 2,400.0 | 2,371.4 | 2,395.7 | 2,394.7 | 9.1 | 8.4 | 163.69 | 30.2 | -6.7 | 226.8 | 210.1 | 16.76 | 13.535 | |
| 2,500.0 | 2,467.5 | 2,498.5 | 2,496.8 | 9.6 | 8.7 | 165.15 | 41.5 | -9.3 | 242.6 | 225.1 | 17.49 | 13.872 | |
| 2,600.0 | 2,563.6 | 2,601.8 | 2,599.2 | 10.1 | 9.1 | 166.38 | 54.7 | -12.2 | 256.8 | 238.5 | 18.22 | 14.091 | |
| 2,700.0 | 2,659.7 | 2,705.7 | 2,701.9 | 10.6 | 9.5 | 167.44 | 69.7 | -15.6 | 269.2 | 250.3 | 18.95 | 14.203 | |
| 2,800.0 | 2,755.8 | 2,810.0 | 2,804.7 | 11.1 | 9.9 | 168.38 | 86.7 | -19.4 | 280.0 | 260.3 | 19.69 | 14.220 | |
| 2,900.0 | 2,851.9 | 2,913.5 | 2,906.5 | 11.7 | 10.3 | 169.21 | 105.2 | -23.6 | 289.0 | 268.6 | 20.42 | 14.151 | |
| 3,000.0 | 2,948.0 | 3,013.1 | 3,004.3 | 12.2 | 10.7 | 169.95 | 123.6 | -27.7 | 297.6 | 276.4 | 21.18 | 14.052 | |
| 3,100.0 | 3,044.1 | 3,112.6 | 3,102.0 | 12.7 | 11.1 | 170.65 | 142.0 | -31.9 | 306.1 | 284.2 | 21.93 | 13.960 | |
| 3,200.0 | 3,140.2 | 3,212.2 | 3,199.8 | 13.2 | 11.5 | 171.31 | 160.4 | -36.0 | 314.8 | 292.1 | 22.69 | 13.875 | |
| 3,300.0 | 3,236.3 | 3,311.8 | 3,297.6 | 13.8 | 11.9 | 171.94 | 178.8 | -40.1 | 323.5 | 300.0 | 23.44 | 13.797 | |
| 3,400.0 | 3,332.4 | 3,411.3 | 3,395.3 | 14.3 | 12.3 | 172.53 | 197.2 | -44.3 | 332.2 | 308.0 | 24.20 | 13.723 | |
| 3,500.0 | 3,428.5 | 3,510.9 | 3,493.1 | 14.8 | 12.7 | 173.10 | 215.6 | -48.4 | 340.9 | 315.9 | 24.97 | 13.654 | |
| 3,600.0 | 3,524.6 | 3,610.5 | 3,590.9 | 15.4 | 13.2 | 173.63 | 234.0 | -52.5 | 349.7 | 323.9 | 25.73 | 13.590 | |
| 3,700.0 | 3,620.7 | 3,710.0 | 3,688.6 | 15.9 | 13.6 | 174.14 | 252.4 | -56.6 | 358.5 | 332.0 | 26.50 | 13.529 | |
| 3,800.0 | 3,716.8 | 3,809.6 | 3,786.4 | 16.5 | 14.0 | 174.63 | 270.8 | -60.8 | 367.3 | 340.0 | 27.26 | 13.472 | |
| 3,900.0 | 3,812.9 | 3,909.1 | 3,884.1 | 17.0 | 14.4 | 175.09 | 289.2 | -64.9 | 376.2 | 348.1 | 28.03 | 13.419 | |
| 4,000.0 | 3,909.0 | 4,008.7 | 3,981.9 | 17.6 | 14.9 | 175.53 | 307.6 | -69.0 | 385.0 | 356.2 | 28.80 | 13.369 | |
| 4,100.0 | 4,005.1 | 4,108.3 | 4,079.7 | 18.1 | 15.3 | 175.95 | 326.0 | -73.2 | 393.9 | 364.4 | 29.57 | 13.321 | |
| 4,200.0 | 4,101.2 | 4,207.8 | 4,177.4 | 18.6 | 15.7 | 176.35 | 344.4 | -77.3 | 402.9 | 372.5 | 30.35 | 13.276 | |
| 4,300.0 | 4,197.3 | 4,307.4 | 4,275.2 | 19.2 | 16.2 | 176.74 | 362.8 | -81.4 | 411.8 | 380.7 | 31.12 | 13.233 | |
| 4,400.0 | 4,293.4 | 4,407.0 | 4,372.9 | 19.7 | 16.6 | 177.10 | 381.2 | -85.6 | 420.8 | 388.9 | 31.89 | 13.192 | |
| 4,500.0 | 4,389.5 | 4,506.5 | 4,470.7 | 20.3 | 17.0 | 177.46 | 399.6 | -89.7 | 429.7 | 397.1 | 32.67 | 13.154 | |
| 4,600.0 | 4,485.6 | 4,606.1 | 4,568.5 | 20.8 | 17.5 | 177.80 | 418.0 | -93.8 | 438.7 | 405.3 | 33.45 | 13.117 | |
| 4,700.0 | 4,581.7 | 4,705.6 | 4,666.2 | 21.4 | 17.9 | 178.12 | 436.4 | -98.0 | 447.7 | 413.5 | 34.22 | 13.082 | |
| 4,800.0 | 4,677.8 | 4,805.2 | 4,764.0 | 21.9 | 18.3 | 178.43 | 454.8 | -102.1 | 456.7 | 421.7 | 35.00 | 13.048 | |
| 4,900.0 | 4,773.9 | 4,904.8 | 4,861.7 | 22.5 | 18.8 | 178.73 | 473.2 | -106.2 | 465.8 | 430.0 | 35.78 | 13.016 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,870.0 | 5,004.3 | 4,959.5 | 23.0 | 19.2 | 179.02 | 491.6 | -110.4 | 474.8 | 438.2 | 36.56 | 12.986 | |
| 5,100.0 | 4,966.1 | 5,103.9 | 5,057.3 | 23.6 | 19.7 | 179.30 | 510.0 | -114.5 | 483.8 | 446.5 | 37.34 | 12.956 | |
| 5,200.0 | 5,062.2 | 5,203.5 | 5,155.0 | 24.1 | 20.1 | 179.57 | 528.4 | -118.6 | 492.9 | 454.8 | 38.13 | 12.928 | |
| 5,300.0 | 5,158.3 | 5,303.0 | 5,252.8 | 24.7 | 20.6 | 179.82 | 546.8 | -122.8 | 502.0 | 463.1 | 38.91 | 12.901 | |
| 5,400.0 | 5,254.4 | 5,402.6 | 5,350.5 | 25.2 | 21.0 | -179.93 | 565.2 | -126.9 | 511.1 | 471.4 | 39.69 | 12.875 | |
| 5,500.0 | 5,350.5 | 5,502.1 | 5,448.3 | 25.8 | 21.5 | -179.69 | 583.6 | -131.0 | 520.2 | 479.7 | 40.48 | 12.851 | |
| 5,600.0 | 5,446.6 | 5,601.7 | 5,546.1 | 26.3 | 21.9 | -179.45 | 602.0 | -135.1 | 529.3 | 488.0 | 41.26 | 12.827 | |
| 5,700.0 | 5,542.7 | 5,701.3 | 5,643.8 | 26.9 | 22.3 | -179.23 | 620.4 | -139.3 | 538.4 | 496.3 | 42.05 | 12.804 | |
| 5,800.0 | 5,638.8 | 5,800.8 | 5,741.6 | 27.4 | 22.8 | -179.01 | 638.8 | -143.4 | 547.5 | 504.7 | 42.83 | 12.781 | |
| 5,900.0 | 5,734.9 | 5,900.4 | 5,839.3 | 28.0 | 23.2 | -178.80 | 657.2 | -147.5 | 556.6 | 513.0 | 43.62 | 12.760 | |
| 6,000.0 | 5,831.0 | 6,000.0 | 5,937.1 | 28.6 | 23.7 | -178.60 | 675.6 | -151.7 | 565.7 | 521.3 | 44.41 | 12.739 | |
| 6,100.0 | 5,927.1 | 6,100.5 | 6,034.9 | 29.1 | 24.1 | -178.40 | 694.0 | -155.8 | 574.9 | 529.7 | 45.20 | 12.718 | |
| 6,200.0 | 6,023.2 | 6,200.9 | 6,132.6 | 29.7 | 24.6 | -178.21 | 712.4 | -159.9 | 584.0 | 538.0 | 45.99 | 12.698 | |
| 6,300.0 | 6,119.3 | 6,301.4 | 6,230.4 | 30.2 | 25.1 | -178.03 | 730.8 | -164.1 | 593.2 | 546.4 | 46.79 | 12.679 | |
| 6,400.0 | 6,215.4 | 6,401.8 | 6,328.1 | 30.8 | 25.5 | -177.85 | 749.2 | -168.2 | 602.3 | 554.8 | 47.58 | 12.660 | |
| 6,500.0 | 6,311.5 | 6,502.2 | 6,425.9 | 31.3 | 26.0 | -177.68 | 767.6 | -172.3 | 611.5 | 563.1 | 48.37 | 12.642 | |
| 6,600.0 | 6,407.6 | 6,602.7 | 6,523.7 | 31.9 | 26.4 | -177.51 | 786.0 | -176.5 | 620.7 | 571.5 | 49.17 | 12.624 | |
| 6,700.0 | 6,503.7 | 6,703.1 | 6,621.4 | 32.4 | 26.9 | -177.35 | 804.4 | -180.6 | 629.8 | 579.9 | 49.96 | 12.607 | |
| 6,800.0 | 6,599.8 | 6,803.5 | 6,719.2 | 33.0 | 27.3 | -177.19 | 822.8 | -184.7 | 639.0 | 588.3 | 50.76 | 12.590 | |
| 6,900.0 | 6,695.9 | 6,904.0 | 6,817.0 | 33.6 | 27.8 | -177.03 | 841.1 | -188.9 | 648.2 | 596.7 | 51.55 | 12.574 | |
| 7,000.0 | 6,792.0 | 7,004.4 | 6,914.7 | 34.1 | 28.2 | -176.88 | 859.5 | -193.0 | 657.4 | 605.0 | 52.35 | 12.558 | |
| 7,100.0 | 6,888.1 | 7,104.9 | 7,012.5 | 34.7 | 28.7 | -176.74 | 877.9 | -197.1 | 666.6 | 613.4 | 53.14 | 12.543 | |
| 7,200.0 | 6,984.2 | 7,205.3 | 7,110.2 | 35.2 | 29.2 | -176.60 | 896.3 | -201.3 | 675.8 | 621.8 | 53.94 | 12.528 | |
| 7,300.0 | 7,080.3 | 7,305.7 | 7,208.0 | 35.8 | 29.6 | -176.46 | 914.7 | -205.4 | 685.0 | 630.2 | 54.74 | 12.514 | |
| 7,400.0 | 7,176.4 | 7,406.2 | 7,305.8 | 36.3 | 30.1 | -176.32 | 933.1 | -209.5 | 694.2 | 638.7 | 55.53 | 12.500 | |
| 7,500.0 | 7,272.5 | 7,506.6 | 7,403.5 | 36.9 | 30.5 | -176.19 | 951.5 | -213.6 | 703.4 | 647.1 | 56.33 | 12.487 | |
| 7,600.0 | 7,368.6 | 7,607.0 | 7,501.3 | 37.4 | 31.0 | -176.07 | 969.9 | -217.8 | 712.6 | 655.5 | 57.13 | 12.473 | |
| 7,700.0 | 7,464.7 | 7,707.5 | 7,599.0 | 38.0 | 31.4 | -175.94 | 988.3 | -221.9 | 721.8 | 663.9 | 57.93 | 12.461 | |
| 7,800.0 | 7,560.7 | 7,807.9 | 7,696.8 | 38.6 | 31.9 | -175.82 | 1,006.7 | -226.0 | 731.0 | 672.3 | 58.73 | 12.448 | |
| 7,900.0 | 7,656.8 | 7,908.4 | 7,794.6 | 39.1 | 32.4 | -175.70 | 1,025.1 | -230.2 | 740.3 | 680.7 | 59.53 | 12.436 | |
| 8,000.0 | 7,752.9 | 8,008.8 | 7,892.3 | 39.7 | 32.8 | -175.59 | 1,043.5 | -234.3 | 749.5 | 689.2 | 60.33 | 12.424 | |
| 8,014.5 | 7,766.9 | 8,005.7 | 7,906.5 | 39.8 | 32.8 | -175.57 | 1,046.2 | -234.9 | 750.8 | 690.5 | 60.37 | 12.436 | |
| 8,100.0 | 7,849.3 | 8,109.2 | 7,990.2 | 40.2 | 33.3 | -175.48 | 1,061.9 | -238.4 | 757.8 | 696.6 | 61.12 | 12.397 | |
| 8,200.0 | 7,946.3 | 8,209.3 | 8,088.2 | 40.7 | 33.7 | -175.35 | 1,080.4 | -242.6 | 763.5 | 701.6 | 61.91 | 12.331 | |
| 8,300.0 | 8,043.9 | 8,309.4 | 8,186.3 | 41.2 | 34.2 | -175.21 | 1,098.8 | -246.7 | 766.6 | 703.9 | 62.70 | 12.226 | |
| 8,400.0 | 8,142.1 | 8,390.6 | 8,284.5 | 41.7 | 34.6 | -175.05 | 1,117.3 | -250.9 | 767.1 | 703.7 | 63.40 | 12.098 | |
| 8,500.0 | 8,240.7 | 8,490.5 | 8,382.6 | 42.1 | 35.0 | -174.87 | 1,135.8 | -255.0 | 765.0 | 700.8 | 64.18 | 11.920 | |
| 8,600.0 | 8,339.7 | 8,573.7 | 8,464.5 | 42.5 | 35.4 | -174.72 | 1,150.3 | -258.3 | 761.4 | 696.5 | 64.86 | 11.738 | |
| 8,700.0 | 8,439.1 | 8,657.4 | 8,547.1 | 42.9 | 35.8 | -174.57 | 1,163.0 | -261.1 | 757.3 | 691.8 | 65.51 | 11.561 | |
| 8,800.0 | 8,538.7 | 8,741.1 | 8,630.0 | 43.3 | 36.1 | -174.44 | 1,174.1 | -263.6 | 752.8 | 686.7 | 66.12 | 11.386 | |
| 8,900.0 | 8,638.5 | 8,824.8 | 8,713.2 | 43.6 | 36.4 | -174.31 | 1,183.3 | -265.7 | 747.9 | 681.2 | 66.69 | 11.215 | |
| 9,000.0 | 8,738.4 | 8,908.7 | 8,796.8 | 43.9 | 36.7 | -174.20 | 1,190.8 | -267.4 | 742.5 | 675.2 | 67.22 | 11.046 | |
| 9,085.1 | 8,823.5 | 8,980.1 | 8,868.0 | 44.1 | 37.0 | 179.88 | 1,195.7 | -268.5 | 737.5 | 669.9 | 67.63 | 10.905 | |
| 9,100.0 | 8,838.4 | 8,992.6 | 8,880.5 | 44.1 | 37.1 | 86.50 | 1,196.5 | -268.7 | 736.6 | 668.9 | 67.70 | 10.880 | |
| 9,150.0 | 8,888.3 | 9,034.5 | 8,922.3 | 44.2 | 37.2 | 87.04 | 1,198.6 | -269.1 | 733.8 | 665.9 | 67.94 | 10.801 | |
| 9,200.0 | 8,937.6 | 9,076.0 | 8,963.8 | 44.3 | 37.3 | 87.82 | 1,200.3 | -269.5 | 731.4 | 663.2 | 68.19 | 10.725 | |
| 9,250.0 | 8,986.2 | 9,116.8 | 9,004.5 | 44.4 | 37.5 | 88.82 | 1,201.6 | -269.8 | 729.5 | 661.0 | 68.46 | 10.655 | |
| 9,300.0 | 9,033.4 | 9,156.6 | 9,044.4 | 44.5 | 37.6 | 89.97 | 1,202.4 | -270.0 | 728.2 | 659.5 | 68.76 | 10.591 | |
| 9,339.5 | 9,069.6 | 9,187.2 | 9,074.9 | 44.6 | 37.7 | 90.97 | 1,202.8 | -270.1 | 727.9 | 658.9 | 69.02 | 10.547 | |
| 9,350.0 | 9,079.1 | 9,195.2 | 9,082.9 | 44.6 | 37.7 | 91.25 | 1,202.8 | -270.1 | 727.9 | 658.8 | 69.09 | 10.536 | |
| 9,400.0 | 9,122.8 | 9,235.1 | 9,122.8 | 44.6 | 37.8 | 92.68 | 1,202.9 | -270.1 | 728.8 | 659.3 | 69.51 | 10.485 | |
| 9,450.0 | 9,164.2 | 9,276.5 | 9,164.2 | 44.7 | 38.0 | 94.29 | 1,202.9 | -270.1 | 730.8 | 660.8 | 70.03 | 10.436 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,500.0 | 9,203.1 | 9,315.4 | 9,203.1 | 44.7 | 38.1 | 95.84 | 1,202.9 | -270.1 | 734.4 | 663.8 | 70.61 | 10.402 | |
| 9,550.0 | 9,239.1 | 9,351.3 | 9,239.1 | 44.8 | 38.2 | 97.23 | 1,202.9 | -270.1 | 739.9 | 668.7 | 71.22 | 10.389 | |
| 9,600.0 | 9,271.9 | 9,384.1 | 9,271.9 | 44.8 | 38.3 | 98.36 | 1,202.9 | -270.1 | 747.7 | 675.8 | 71.88 | 10.402 | |
| 9,650.0 | 9,301.2 | 9,413.5 | 9,301.2 | 44.8 | 38.4 | 99.15 | 1,202.9 | -270.1 | 758.0 | 685.4 | 72.57 | 10.446 | |
| 9,700.0 | 9,327.0 | 9,439.3 | 9,327.0 | 44.8 | 38.5 | 99.50 | 1,202.9 | -270.1 | 771.1 | 697.8 | 73.27 | 10.524 | |
| 9,750.0 | 9,348.9 | 9,461.2 | 9,348.9 | 44.8 | 38.5 | 99.34 | 1,202.9 | -270.1 | 787.1 | 713.1 | 73.98 | 10.640 | |
| 9,800.0 | 9,366.8 | 9,479.1 | 9,366.8 | 44.8 | 38.6 | 98.60 | 1,202.9 | -270.1 | 806.1 | 731.4 | 74.67 | 10.795 | |
| 9,850.0 | 9,380.6 | 9,492.9 | 9,380.6 | 44.8 | 38.6 | 97.22 | 1,202.9 | -270.1 | 827.9 | 752.5 | 75.32 | 10.991 | |
| 9,900.0 | 9,390.2 | 10,437.4 | 9,977.8 | 44.8 | 41.0 | 134.43 | 1,322.1 | 311.9 | 831.1 | 766.0 | 65.08 | 12.770 | |
| 9,950.0 | 9,395.4 | 10,477.6 | 9,978.9 | 44.8 | 41.2 | 135.58 | 1,329.4 | 351.4 | 819.9 | 754.5 | 65.38 | 12.540 | |
| 9,969.6 | 9,396.2 | 10,493.4 | 9,979.3 | 44.8 | 41.3 | 136.00 | 1,332.1 | 367.0 | 816.5 | 751.0 | 65.47 | 12.472 | |
| 10,000.0 | 9,397.1 | 10,518.2 | 9,980.0 | 44.8 | 41.5 | 136.28 | 1,336.2 | 391.4 | 811.7 | 746.1 | 65.60 | 12.374 | |
| 10,100.0 | 9,399.8 | 10,600.1 | 9,982.3 | 44.9 | 42.0 | 137.17 | 1,348.2 | 472.4 | 797.6 | 731.5 | 66.12 | 12.063 | |
| 10,200.0 | 9,402.5 | 10,683.1 | 9,984.6 | 45.1 | 42.6 | 137.95 | 1,358.0 | 554.8 | 785.7 | 718.9 | 66.79 | 11.763 | |
| 10,300.0 | 9,405.2 | 10,766.8 | 9,986.9 | 45.4 | 43.4 | 138.63 | 1,365.4 | 638.1 | 776.0 | 708.4 | 67.62 | 11.476 | |
| 10,400.0 | 9,407.8 | 10,851.2 | 9,989.3 | 45.8 | 44.2 | 139.18 | 1,370.4 | 722.3 | 768.5 | 699.9 | 68.61 | 11.201 | |
| 10,500.0 | 9,410.5 | 10,936.1 | 9,991.6 | 46.4 | 45.1 | 139.59 | 1,373.0 | 807.2 | 763.0 | 693.2 | 69.76 | 10.937 | |
| 10,600.0 | 9,413.2 | 11,033.2 | 9,994.3 | 47.2 | 46.3 | 139.96 | 1,374.0 | 904.2 | 758.9 | 687.6 | 71.32 | 10.641 | |
| 10,700.0 | 9,415.9 | 11,133.0 | 9,997.1 | 48.2 | 47.6 | 140.32 | 1,375.0 | 1,004.0 | 755.0 | 682.0 | 73.01 | 10.341 | |
| 10,800.0 | 9,418.5 | 11,232.8 | 9,999.9 | 49.4 | 49.0 | 140.69 | 1,376.0 | 1,103.7 | 751.1 | 676.4 | 74.78 | 10.045 | |
| 10,900.0 | 9,421.2 | 11,332.6 | 10,002.6 | 50.7 | 50.5 | 141.05 | 1,377.0 | 1,203.5 | 747.4 | 670.8 | 76.61 | 9.757 | |
| 11,000.0 | 9,423.8 | 11,432.5 | 10,005.4 | 52.2 | 52.1 | 141.41 | 1,377.9 | 1,303.3 | 743.8 | 665.3 | 78.50 | 9.476 | |
| 11,100.0 | 9,426.5 | 11,532.3 | 10,008.1 | 53.8 | 53.7 | 141.77 | 1,378.9 | 1,403.1 | 740.3 | 659.9 | 80.43 | 9.204 | |
| 11,200.0 | 9,429.1 | 11,632.1 | 10,010.9 | 55.4 | 55.4 | 142.12 | 1,379.9 | 1,502.9 | 736.9 | 654.5 | 82.41 | 8.943 | |
| 11,300.0 | 9,431.8 | 11,732.0 | 10,013.7 | 57.1 | 57.2 | 142.47 | 1,380.9 | 1,602.7 | 733.7 | 649.2 | 84.42 | 8.690 | |
| 11,400.0 | 9,434.4 | 11,831.8 | 10,016.4 | 58.9 | 59.0 | 142.81 | 1,381.9 | 1,702.5 | 730.5 | 644.0 | 86.46 | 8.449 | |
| 11,500.0 | 9,437.0 | 11,931.7 | 10,019.2 | 60.8 | 60.8 | 143.15 | 1,382.9 | 1,802.3 | 727.4 | 638.9 | 88.53 | 8.217 | |
| 11,600.0 | 9,439.7 | 12,031.5 | 10,022.0 | 62.7 | 62.7 | 143.48 | 1,383.8 | 1,902.1 | 724.4 | 633.8 | 90.61 | 7.995 | |
| 11,700.0 | 9,442.3 | 12,131.4 | 10,024.7 | 64.6 | 64.7 | 143.81 | 1,384.8 | 2,002.0 | 721.5 | 628.8 | 92.71 | 7.782 | |
| 11,800.0 | 9,444.9 | 12,231.3 | 10,027.5 | 66.6 | 66.6 | 144.14 | 1,385.8 | 2,101.8 | 718.7 | 623.9 | 94.83 | 7.580 | |
| 11,900.0 | 9,447.5 | 12,331.2 | 10,030.3 | 68.6 | 68.6 | 144.46 | 1,386.8 | 2,201.6 | 716.1 | 619.1 | 96.95 | 7.386 | |
| 12,000.0 | 9,450.1 | 12,431.1 | 10,033.0 | 70.6 | 70.7 | 144.78 | 1,387.8 | 2,301.5 | 713.5 | 614.4 | 99.08 | 7.201 | |
| 12,100.0 | 9,452.7 | 12,531.0 | 10,035.8 | 72.7 | 72.7 | 145.09 | 1,388.8 | 2,401.3 | 711.0 | 609.8 | 101.22 | 7.024 | |
| 12,200.0 | 9,455.3 | 12,630.9 | 10,038.6 | 74.8 | 74.8 | 145.39 | 1,389.8 | 2,501.2 | 708.6 | 605.2 | 103.36 | 6.855 | |
| 12,300.0 | 9,457.9 | 12,730.8 | 10,041.3 | 76.9 | 76.9 | 145.69 | 1,390.7 | 2,601.1 | 706.3 | 600.8 | 105.51 | 6.694 | |
| 12,400.0 | 9,460.5 | 12,830.7 | 10,044.1 | 79.0 | 79.0 | 145.98 | 1,391.7 | 2,700.9 | 704.0 | 596.4 | 107.65 | 6.540 | |
| 12,500.0 | 9,463.0 | 12,930.6 | 10,046.9 | 81.2 | 81.2 | 146.27 | 1,392.7 | 2,800.8 | 701.9 | 592.1 | 109.80 | 6.393 | |
| 12,600.0 | 9,465.6 | 13,030.5 | 10,049.6 | 83.4 | 83.3 | 146.55 | 1,393.7 | 2,900.7 | 699.9 | 587.9 | 111.95 | 6.252 | |
| 12,700.0 | 9,468.2 | 13,130.4 | 10,052.4 | 85.5 | 85.5 | 146.83 | 1,394.7 | 3,000.6 | 697.9 | 583.8 | 114.10 | 6.117 | |
| 12,800.0 | 9,470.7 | 13,230.4 | 10,055.2 | 87.8 | 87.7 | 147.10 | 1,395.7 | 3,100.4 | 696.0 | 579.8 | 116.24 | 5.988 | |
| 12,900.0 | 9,473.3 | 13,330.3 | 10,057.9 | 90.0 | 89.9 | 147.36 | 1,396.6 | 3,200.3 | 694.3 | 575.9 | 118.39 | 5.864 | |
| 13,000.0 | 9,475.9 | 13,430.2 | 10,060.7 | 92.2 | 92.1 | 147.61 | 1,397.6 | 3,300.2 | 692.6 | 572.0 | 120.54 | 5.746 | |
| 13,100.0 | 9,478.4 | 13,530.2 | 10,063.5 | 94.4 | 94.3 | 147.86 | 1,398.6 | 3,400.1 | 690.9 | 568.2 | 122.68 | 5.632 | |
| 13,200.0 | 9,480.9 | 13,630.1 | 10,066.2 | 96.7 | 96.5 | 148.10 | 1,399.6 | 3,500.0 | 689.4 | 564.6 | 124.83 | 5.523 | |
| 13,300.0 | 9,483.5 | 13,730.1 | 10,069.0 | 98.9 | 98.8 | 148.34 | 1,400.6 | 3,599.9 | 687.9 | 560.9 | 126.98 | 5.418 | |
| 13,400.0 | 9,486.0 | 13,830.0 | 10,071.8 | 101.2 | 101.0 | 148.56 | 1,401.6 | 3,699.8 | 686.5 | 557.4 | 129.13 | 5.317 | |
| 13,500.0 | 9,488.5 | 13,930.0 | 10,074.5 | 103.5 | 103.3 | 148.78 | 1,402.6 | 3,799.8 | 685.2 | 554.0 | 131.28 | 5.220 | |
| 13,600.0 | 9,491.0 | 14,030.0 | 10,077.3 | 105.8 | 105.6 | 149.00 | 1,403.5 | 3,899.7 | 684.0 | 550.6 | 133.44 | 5.126 | |
| 13,700.0 | 9,493.6 | 14,129.9 | 10,080.1 | 108.1 | 107.9 | 149.20 | 1,404.5 | 3,999.6 | 682.8 | 547.3 | 135.60 | 5.036 | |
| 13,800.0 | 9,496.1 | 14,229.9 | 10,082.9 | 110.4 | 110.1 | 149.40 | 1,405.5 | 4,099.5 | 681.8 | 544.0 | 137.76 | 4.949 | |
| 13,900.0 | 9,498.6 | 14,329.9 | 10,085.6 | 112.7 | 112.4 | 149.59 | 1,406.5 | 4,199.4 | 680.8 | 540.8 | 139.93 | 4.865 | |
| 14,000.0 | 9,501.1 | 14,429.8 | 10,088.4 | 115.0 | 114.7 | 149.77 | 1,407.5 | 4,299.4 | 679.8 | 537.7 | 142.11 | 4.784 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #223H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,100.0 | 9,503.6 | 14,529.8 | 10,091.2 | 117.3 | 117.0 | 149.94 | 1,408.5 | 4,399.3 | 679.0 | 534.7 | 144.30 | 4.705 | |
| 14,200.0 | 9,506.1 | 14,629.8 | 10,093.9 | 119.6 | 119.4 | 150.11 | 1,409.5 | 4,499.2 | 678.2 | 531.7 | 146.49 | 4.629 | |
| 14,300.0 | 9,508.5 | 14,729.8 | 10,096.7 | 122.0 | 121.7 | 150.26 | 1,410.4 | 4,599.2 | 677.4 | 528.7 | 148.70 | 4.556 | |
| 14,400.0 | 9,511.0 | 14,829.7 | 10,099.5 | 124.3 | 124.0 | 150.41 | 1,411.4 | 4,699.1 | 676.8 | 525.9 | 150.91 | 4.485 | |
| 14,500.0 | 9,513.5 | 14,929.7 | 10,102.2 | 126.6 | 126.3 | 150.55 | 1,412.4 | 4,799.1 | 676.2 | 523.0 | 153.14 | 4.415 | |
| 14,600.0 | 9,516.0 | 15,029.7 | 10,105.0 | 129.0 | 128.7 | 150.69 | 1,413.4 | 4,899.0 | 675.7 | 520.3 | 155.39 | 4.348 | |
| 14,700.0 | 9,518.4 | 15,129.7 | 10,107.8 | 131.3 | 131.0 | 150.81 | 1,414.4 | 4,998.9 | 675.2 | 517.6 | 157.65 | 4.283 | |
| 14,800.0 | 9,520.9 | 15,229.7 | 10,110.5 | 133.7 | 133.3 | 150.93 | 1,415.4 | 5,098.9 | 674.8 | 514.9 | 159.92 | 4.220 | |
| 14,900.0 | 9,523.3 | 15,329.7 | 10,113.3 | 136.0 | 135.7 | 151.03 | 1,416.4 | 5,198.8 | 674.5 | 512.3 | 162.22 | 4.158 | |
| 15,000.0 | 9,525.8 | 15,429.7 | 10,116.1 | 138.4 | 138.0 | 151.13 | 1,417.3 | 5,298.8 | 674.2 | 509.7 | 164.53 | 4.098 | |
| 15,100.0 | 9,528.2 | 15,529.7 | 10,118.8 | 140.8 | 140.4 | 151.22 | 1,418.3 | 5,398.7 | 674.0 | 507.2 | 166.87 | 4.039 | |
| 15,200.0 | 9,530.6 | 15,629.7 | 10,121.6 | 143.1 | 142.7 | 151.30 | 1,419.3 | 5,498.7 | 673.9 | 504.7 | 169.22 | 3.982 | |
| 15,300.0 | 9,533.1 | 15,729.7 | 10,124.4 | 145.5 | 145.1 | 151.38 | 1,420.3 | 5,598.7 | 673.8 | 502.2 | 171.60 | 3.927 | |
| 15,361.2 | 9,534.6 | 15,790.8 | 10,126.1 | 146.9 | 146.5 | 151.42 | 1,420.9 | 5,659.8 | 673.8 | 500.7 | 173.07 | 3.893 | |
| 15,400.0 | 9,535.5 | 15,829.7 | 10,127.2 | 147.9 | 147.4 | 151.44 | 1,421.3 | 5,698.6 | 673.8 | 499.8 | 174.01 | 3.872 | |
| 15,500.0 | 9,537.9 | 15,929.7 | 10,129.9 | 150.2 | 149.8 | 151.50 | 1,422.3 | 5,798.6 | 673.9 | 497.4 | 176.44 | 3.819 | |
| 15,600.0 | 9,540.3 | 16,029.7 | 10,132.7 | 152.6 | 152.2 | 151.54 | 1,423.3 | 5,898.5 | 674.0 | 495.1 | 178.90 | 3.767 | |
| 15,700.0 | 9,542.7 | 16,129.7 | 10,135.5 | 155.0 | 154.5 | 151.58 | 1,424.2 | 5,998.5 | 674.2 | 492.8 | 181.39 | 3.717 | |
| 15,800.0 | 9,545.1 | 16,229.7 | 10,138.2 | 157.4 | 156.9 | 151.61 | 1,425.2 | 6,098.4 | 674.4 | 490.5 | 183.90 | 3.667 | |
| 15,884.5 | 9,547.2 | 16,314.1 | 10,140.6 | 159.4 | 158.9 | 151.63 | 1,426.1 | 6,182.9 | 674.7 | 488.6 | 186.06 | 3.626 | |
| 15,900.0 | 9,547.5 | 16,329.7 | 10,141.0 | 159.7 | 159.3 | 151.63 | 1,426.2 | 6,198.4 | 674.7 | 488.3 | 186.45 | 3.619 | |
| 16,000.0 | 9,549.9 | 16,429.7 | 10,143.8 | 162.1 | 161.7 | 151.65 | 1,427.2 | 6,298.3 | 675.0 | 486.0 | 189.01 | 3.571 | |
| 16,100.0 | 9,552.3 | 16,529.7 | 10,146.5 | 164.5 | 164.0 | 151.66 | 1,428.2 | 6,398.3 | 675.4 | 483.8 | 191.58 | 3.525 | |
| 16,200.0 | 9,554.7 | 16,629.7 | 10,149.3 | 166.9 | 166.4 | 151.68 | 1,429.2 | 6,498.3 | 675.7 | 481.6 | 194.14 | 3.480 | |
| 16,300.0 | 9,557.1 | 16,729.7 | 10,152.1 | 169.3 | 168.8 | 151.69 | 1,430.2 | 6,598.2 | 676.0 | 479.3 | 196.70 | 3.437 | |
| 16,400.0 | 9,559.5 | 16,829.6 | 10,154.8 | 171.7 | 171.2 | 151.71 | 1,431.1 | 6,698.2 | 676.3 | 477.1 | 199.27 | 3.394 | |
| 16,500.0 | 9,561.9 | 16,929.6 | 10,157.6 | 174.1 | 173.6 | 151.72 | 1,432.1 | 6,798.1 | 676.7 | 474.8 | 201.83 | 3.353 | |
| 16,600.0 | 9,564.3 | 17,029.6 | 10,160.4 | 176.5 | 176.0 | 151.74 | 1,433.1 | 6,898.1 | 677.0 | 472.6 | 204.40 | 3.312 | |
| 16,700.0 | 9,566.7 | 17,129.6 | 10,163.2 | 178.9 | 178.4 | 151.76 | 1,434.1 | 6,998.0 | 677.3 | 470.4 | 206.96 | 3.273 | |
| 16,800.0 | 9,569.1 | 17,229.6 | 10,165.9 | 181.3 | 180.7 | 151.77 | 1,435.1 | 7,098.0 | 677.6 | 468.1 | 209.53 | 3.234 | |
| 16,900.0 | 9,571.5 | 17,329.6 | 10,168.7 | 183.7 | 183.1 | 151.79 | 1,436.1 | 7,197.9 | 678.0 | 465.9 | 212.09 | 3.197 | |
| 17,000.0 | 9,573.9 | 17,429.6 | 10,171.5 | 186.1 | 185.5 | 151.80 | 1,437.1 | 7,297.9 | 678.3 | 463.6 | 214.66 | 3.160 | |
| 17,100.0 | 9,576.3 | 17,529.6 | 10,174.2 | 188.5 | 187.9 | 151.82 | 1,438.0 | 7,397.9 | 678.6 | 461.4 | 217.22 | 3.124 | |
| 17,200.0 | 9,578.7 | 17,629.6 | 10,177.0 | 190.9 | 190.3 | 151.83 | 1,439.0 | 7,497.8 | 678.9 | 459.1 | 219.79 | 3.089 | |
| 17,300.0 | 9,581.1 | 17,729.6 | 10,179.8 | 193.3 | 192.7 | 151.85 | 1,440.0 | 7,597.8 | 679.3 | 456.9 | 222.36 | 3.055 | |
| 17,400.0 | 9,583.5 | 17,829.6 | 10,182.5 | 195.7 | 195.1 | 151.86 | 1,441.0 | 7,697.7 | 679.6 | 454.7 | 224.92 | 3.021 | |
| 17,500.0 | 9,585.9 | 17,929.6 | 10,185.3 | 198.1 | 197.5 | 151.88 | 1,442.0 | 7,797.7 | 679.9 | 452.4 | 227.49 | 2.989 | |
| 17,600.0 | 9,588.3 | 18,029.6 | 10,188.1 | 200.5 | 199.9 | 151.90 | 1,443.0 | 7,897.6 | 680.2 | 450.2 | 230.05 | 2.957 | |
| 17,700.0 | 9,590.7 | 18,129.6 | 10,190.9 | 202.9 | 202.3 | 151.91 | 1,444.0 | 7,997.6 | 680.6 | 447.9 | 232.62 | 2.926 | |
| 17,800.0 | 9,593.1 | 18,229.6 | 10,193.6 | 205.3 | 204.7 | 151.93 | 1,444.9 | 8,097.5 | 680.9 | 445.7 | 235.18 | 2.895 | |
| 17,900.0 | 9,595.5 | 18,329.6 | 10,196.4 | 207.7 | 207.1 | 151.94 | 1,445.9 | 8,197.5 | 681.2 | 443.5 | 237.75 | 2.865 | |
| 18,000.0 | 9,597.9 | 18,429.6 | 10,199.2 | 210.1 | 209.5 | 151.96 | 1,446.9 | 8,297.5 | 681.5 | 441.2 | 240.31 | 2.836 | |
| 18,100.0 | 9,600.3 | 18,529.6 | 10,201.9 | 212.5 | 211.9 | 151.97 | 1,447.9 | 8,397.4 | 681.9 | 439.0 | 242.87 | 2.807 | |
| 18,200.0 | 9,602.7 | 18,629.6 | 10,204.7 | 214.9 | 214.4 | 151.99 | 1,448.9 | 8,497.4 | 682.2 | 436.8 | 245.44 | 2.779 | |
| 18,300.0 | 9,605.0 | 18,729.6 | 10,207.5 | 217.4 | 216.8 | 152.00 | 1,449.9 | 8,597.3 | 682.5 | 434.5 | 248.00 | 2.752 | |
| 18,364.7 | 9,606.6 | 18,805.7 | 10,209.3 | 218.4 | 218.6 | 152.01 | 1,450.5 | 8,662.0 | 682.7 | 433.2 | 249.49 | 2.737 | |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.15 | -0.1 | 30.0 | 30.0 | | | | |
| 25.0 | 25.0 | 25.0 | 25.0 | 0.0 | 0.0 | 90.15 | -0.1 | 30.0 | 30.0 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -179.85 | -0.1 | 30.0 | 30.3 | 30.0 | 0.26 | 116.184 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.5 | 0.5 | -179.86 | -0.1 | 30.0 | 31.7 | 30.7 | 0.98 | 32.466 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.8 | 0.8 | -179.87 | -0.1 | 30.0 | 34.1 | 32.4 | 1.69 | 20.162 | |
| 400.0 | 399.9 | 400.1 | 399.9 | 1.2 | 1.2 | -179.88 | -0.1 | 30.0 | 37.7 | 35.3 | 2.41 | 15.640 | |
| 500.2 | 500.0 | 500.0 | 500.0 | 1.6 | 1.6 | -179.89 | -0.1 | 30.0 | 42.4 | 39.3 | 3.13 | 13.547 | |
| 600.0 | 599.6 | 600.4 | 599.6 | 1.9 | 1.9 | -179.90 | -0.1 | 30.0 | 47.6 | 43.8 | 3.85 | 12.376 | |
| 700.0 | 699.5 | 700.5 | 699.5 | 2.3 | 2.3 | -179.91 | -0.1 | 30.0 | 52.9 | 48.3 | 4.57 | 11.576 | |
| 800.0 | 799.4 | 800.6 | 799.4 | 2.7 | 2.6 | -179.92 | -0.1 | 30.0 | 58.1 | 52.8 | 5.29 | 10.994 | |
| 900.0 | 899.2 | 900.8 | 899.2 | 3.0 | 3.0 | -179.93 | -0.1 | 30.0 | 63.3 | 57.3 | 6.00 | 10.550 | |
| 1,000.2 | 999.3 | 1,000.7 | 999.3 | 3.4 | 3.4 | -179.93 | -0.1 | 30.0 | 68.6 | 61.9 | 6.72 | 10.203 | |
| 1,100.0 | 1,099.0 | 1,101.0 | 1,099.0 | 3.8 | 3.7 | 153.66 | -0.1 | 30.0 | 73.7 | 66.3 | 7.44 | 9.909 | |
| 1,200.0 | 1,198.8 | 1,201.2 | 1,198.8 | 4.1 | 4.1 | 136.55 | -0.1 | 30.0 | 78.8 | 70.7 | 8.15 | 9.664 | |
| 1,300.0 | 1,298.4 | 1,301.6 | 1,298.4 | 4.5 | 4.4 | 128.48 | -0.1 | 30.0 | 84.2 | 75.3 | 8.87 | 9.492 | |
| 1,400.0 | 1,397.9 | 1,402.1 | 1,397.9 | 4.9 | 4.8 | 126.10 | -0.1 | 30.0 | 90.3 | 80.7 | 9.58 | 9.424 | |
| 1,500.0 | 1,497.1 | 1,497.1 | 1,497.1 | 5.2 | 5.1 | 127.05 | -0.1 | 30.0 | 97.7 | 87.5 | 10.28 | 9.509 | |
| 1,600.0 | 1,596.0 | 1,597.0 | 1,597.0 | 5.6 | 5.5 | 130.31 | -0.5 | 29.3 | 106.6 | 95.6 | 10.98 | 9.703 | |
| 1,700.0 | 1,694.5 | 1,696.3 | 1,696.3 | 6.0 | 5.8 | 135.22 | -1.7 | 27.0 | 117.1 | 105.5 | 11.68 | 10.031 | |
| 1,800.0 | 1,792.5 | 1,794.8 | 1,794.7 | 6.4 | 6.1 | 140.97 | -3.8 | 23.4 | 130.3 | 118.0 | 12.37 | 10.536 | |
| 1,900.0 | 1,890.0 | 1,892.3 | 1,892.0 | 6.8 | 6.5 | 146.93 | -6.6 | 18.3 | 147.0 | 133.9 | 13.06 | 11.250 | |
| 2,000.0 | 1,986.9 | 1,988.5 | 1,987.9 | 7.2 | 6.8 | 152.64 | -10.3 | 11.8 | 167.5 | 153.8 | 13.76 | 12.179 | |
| 2,068.0 | 2,052.4 | 2,053.2 | 2,052.3 | 7.5 | 7.0 | 156.24 | -13.1 | 6.7 | 183.9 | 169.7 | 14.23 | 12.928 | |
| 2,100.0 | 2,083.2 | 2,083.4 | 2,082.4 | 7.7 | 7.1 | 158.19 | -14.6 | 4.1 | 192.2 | 177.7 | 14.45 | 13.303 | |
| 2,200.0 | 2,179.3 | 2,177.4 | 2,175.8 | 8.1 | 7.5 | 163.61 | -19.6 | -4.9 | 219.4 | 204.2 | 15.13 | 14.496 | |
| 2,300.0 | 2,275.3 | 2,270.7 | 2,268.4 | 8.6 | 7.8 | 168.17 | -25.4 | -15.2 | 248.4 | 232.5 | 15.82 | 15.697 | |
| 2,400.0 | 2,371.4 | 2,364.1 | 2,360.9 | 9.1 | 8.2 | 172.03 | -31.7 | -26.4 | 278.9 | 262.3 | 16.52 | 16.881 | |
| 2,500.0 | 2,467.5 | 2,457.7 | 2,453.6 | 9.6 | 8.5 | 175.17 | -38.1 | -37.8 | 310.3 | 293.1 | 17.22 | 18.017 | |
| 2,600.0 | 2,563.6 | 2,551.4 | 2,546.3 | 10.1 | 8.9 | 177.74 | -44.4 | -49.2 | 342.5 | 324.6 | 17.94 | 19.095 | |
| 2,700.0 | 2,659.7 | 2,645.0 | 2,639.1 | 10.6 | 9.2 | 179.87 | -50.8 | -60.6 | 375.2 | 356.6 | 18.66 | 20.113 | |
| 2,800.0 | 2,755.8 | 2,738.7 | 2,731.8 | 11.1 | 9.6 | -178.34 | -57.2 | -71.9 | 408.3 | 388.9 | 19.38 | 21.070 | |
| 2,900.0 | 2,851.9 | 2,832.3 | 2,824.5 | 11.7 | 10.0 | -176.81 | -63.5 | -83.3 | 441.7 | 421.6 | 20.11 | 21.968 | |
| 3,000.0 | 2,948.0 | 2,925.9 | 2,917.3 | 12.2 | 10.3 | -175.50 | -69.9 | -94.7 | 475.4 | 454.5 | 20.84 | 22.811 | |
| 3,100.0 | 3,044.1 | 3,019.6 | 3,010.0 | 12.7 | 10.7 | -174.36 | -76.3 | -106.0 | 509.2 | 487.6 | 21.57 | 23.601 | |
| 3,200.0 | 3,140.2 | 3,113.2 | 3,102.7 | 13.2 | 11.1 | -173.36 | -82.7 | -117.4 | 543.2 | 520.9 | 22.31 | 24.343 | |
| 3,300.0 | 3,236.3 | 3,206.9 | 3,195.5 | 13.8 | 11.4 | -172.48 | -89.0 | -128.8 | 577.3 | 554.3 | 23.06 | 25.040 | |
| 3,400.0 | 3,332.4 | 3,300.5 | 3,288.2 | 14.3 | 11.8 | -171.69 | -95.4 | -140.1 | 611.6 | 587.8 | 23.80 | 25.696 | |
| 3,500.0 | 3,428.5 | 3,405.8 | 3,380.9 | 14.8 | 12.2 | -170.99 | -101.8 | -151.5 | 645.9 | 621.3 | 24.59 | 26.263 | |
| 3,600.0 | 3,524.6 | 3,487.8 | 3,473.6 | 15.4 | 12.6 | -170.36 | -108.1 | -162.9 | 680.3 | 655.0 | 25.30 | 26.893 | |
| 3,700.0 | 3,620.7 | 3,581.4 | 3,566.4 | 15.9 | 12.9 | -169.79 | -114.5 | -174.3 | 714.8 | 688.7 | 26.05 | 27.441 | |
| 3,800.0 | 3,716.8 | 3,675.1 | 3,659.1 | 16.5 | 13.3 | -169.27 | -120.9 | -185.6 | 749.3 | 722.5 | 26.80 | 27.958 | |
| 3,900.0 | 3,812.9 | 3,768.7 | 3,751.8 | 17.0 | 13.7 | -168.80 | -127.2 | -197.0 | 783.9 | 756.3 | 27.55 | 28.448 | |
| 4,000.0 | 3,909.0 | 3,862.4 | 3,844.6 | 17.6 | 14.1 | -168.37 | -133.6 | -208.4 | 818.5 | 790.2 | 28.31 | 28.911 | |
| 4,100.0 | 4,005.1 | 3,956.0 | 3,937.3 | 18.1 | 14.5 | -167.97 | -140.0 | -219.7 | 853.1 | 824.1 | 29.07 | 29.350 | |
| 4,200.0 | 4,101.2 | 4,049.7 | 4,030.0 | 18.6 | 14.8 | -167.60 | -146.4 | -231.1 | 887.8 | 858.0 | 29.83 | 29.767 | |
| 4,300.0 | 4,197.3 | 4,149.8 | 4,129.2 | 19.2 | 15.3 | -167.25 | -153.0 | -243.0 | 922.4 | 891.8 | 30.64 | 30.104 | |
| 4,400.0 | 4,293.4 | 4,259.8 | 4,238.5 | 19.7 | 15.7 | -167.04 | -159.1 | -253.9 | 955.7 | 924.2 | 31.53 | 30.314 | |
| 4,500.0 | 4,389.5 | 4,371.1 | 4,349.4 | 20.3 | 16.1 | -166.99 | -163.7 | -262.0 | 987.4 | 955.0 | 32.40 | 30.476 | |
| 4,600.0 | 4,485.6 | 4,483.7 | 4,461.8 | 20.8 | 16.5 | -167.11 | -166.7 | -267.4 | 1,017.5 | 984.2 | 33.26 | 30.595 | |
| 4,700.0 | 4,581.7 | 4,597.3 | 4,575.4 | 21.4 | 16.9 | -167.38 | -168.1 | -269.9 | 1,045.9 | 1,011.8 | 34.09 | 30.678 | |
| 4,800.0 | 4,677.8 | 4,700.3 | 4,677.8 | 21.9 | 17.3 | -167.71 | -168.2 | -270.1 | 1,073.1 | 1,038.3 | 34.84 | 30.798 | |
| 4,900.0 | 4,773.9 | 4,804.2 | 4,773.9 | 22.5 | 17.6 | -168.02 | -168.2 | -270.1 | 1,100.2 | 1,064.6 | 35.58 | 30.924 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,870.0 | 4,908.1 | 4,870.0 | 23.0 | 17.9 | -168.31 | -168.2 | -270.1 | 1,127.3 | 1,091.0 | 36.31 | 31.044 | |
| 5,100.0 | 4,966.1 | 4,988.0 | 4,966.1 | 23.6 | 18.2 | -168.59 | -168.2 | -270.1 | 1,154.4 | 1,117.5 | 36.97 | 31.228 | |
| 5,200.0 | 5,062.2 | 5,084.1 | 5,062.2 | 24.1 | 18.5 | -168.85 | -168.2 | -270.1 | 1,181.6 | 1,143.9 | 37.68 | 31.359 | |
| 5,300.0 | 5,158.3 | 5,180.2 | 5,158.3 | 24.7 | 18.8 | -169.11 | -168.2 | -270.1 | 1,208.8 | 1,170.4 | 38.39 | 31.486 | |
| 5,400.0 | 5,254.4 | 5,276.3 | 5,254.4 | 25.2 | 19.2 | -169.35 | -168.2 | -270.1 | 1,236.0 | 1,196.9 | 39.10 | 31.608 | |
| 5,500.0 | 5,350.5 | 5,372.4 | 5,350.5 | 25.8 | 19.5 | -169.58 | -168.2 | -270.1 | 1,263.2 | 1,223.4 | 39.82 | 31.726 | |
| 5,600.0 | 5,446.6 | 5,468.5 | 5,446.6 | 26.3 | 19.8 | -169.80 | -168.2 | -270.1 | 1,290.5 | 1,250.0 | 40.53 | 31.839 | |
| 5,700.0 | 5,542.7 | 5,564.6 | 5,542.7 | 26.9 | 20.1 | -170.01 | -168.2 | -270.1 | 1,317.8 | 1,276.5 | 41.25 | 31.948 | |
| 5,800.0 | 5,638.8 | 5,660.7 | 5,638.8 | 27.4 | 20.5 | -170.22 | -168.2 | -270.1 | 1,345.0 | 1,303.1 | 41.96 | 32.053 | |
| 5,900.0 | 5,734.9 | 5,756.8 | 5,734.9 | 28.0 | 20.8 | -170.41 | -168.2 | -270.1 | 1,372.3 | 1,329.7 | 42.68 | 32.155 | |
| 6,000.0 | 5,831.0 | 5,852.9 | 5,831.0 | 28.6 | 21.1 | -170.60 | -168.2 | -270.1 | 1,399.6 | 1,356.3 | 43.40 | 32.253 | |
| 6,100.0 | 5,927.1 | 5,949.0 | 5,927.1 | 29.1 | 21.4 | -170.78 | -168.2 | -270.1 | 1,427.0 | 1,382.9 | 44.11 | 32.348 | |
| 6,200.0 | 6,023.2 | 6,045.1 | 6,023.2 | 29.7 | 21.7 | -170.96 | -168.2 | -270.1 | 1,454.3 | 1,409.5 | 44.83 | 32.439 | |
| 6,300.0 | 6,119.3 | 6,141.2 | 6,119.3 | 30.2 | 22.1 | -171.13 | -168.2 | -270.1 | 1,481.7 | 1,436.1 | 45.55 | 32.528 | |
| 6,400.0 | 6,215.4 | 6,237.3 | 6,215.4 | 30.8 | 22.4 | -171.29 | -168.2 | -270.1 | 1,509.0 | 1,462.7 | 46.27 | 32.613 | |
| 6,500.0 | 6,311.5 | 6,333.4 | 6,311.5 | 31.3 | 22.7 | -171.44 | -168.2 | -270.1 | 1,536.4 | 1,489.4 | 46.99 | 32.696 | |
| 6,600.0 | 6,407.6 | 6,429.5 | 6,407.6 | 31.9 | 23.1 | -171.59 | -168.2 | -270.1 | 1,563.8 | 1,516.1 | 47.71 | 32.776 | |
| 6,700.0 | 6,503.7 | 6,525.6 | 6,503.7 | 32.4 | 23.4 | -171.74 | -168.2 | -270.1 | 1,591.2 | 1,542.7 | 48.43 | 32.853 | |
| 6,800.0 | 6,599.8 | 6,621.6 | 6,599.8 | 33.0 | 23.7 | -171.88 | -168.2 | -270.1 | 1,618.6 | 1,569.4 | 49.15 | 32.928 | |
| 6,900.0 | 6,695.9 | 6,717.7 | 6,695.9 | 33.6 | 24.0 | -172.02 | -168.2 | -270.1 | 1,646.0 | 1,596.1 | 49.88 | 33.001 | |
| 7,000.0 | 6,792.0 | 6,813.8 | 6,792.0 | 34.1 | 24.4 | -172.15 | -168.2 | -270.1 | 1,673.4 | 1,622.8 | 50.60 | 33.072 | |
| 7,100.0 | 6,888.1 | 6,909.9 | 6,888.1 | 34.7 | 24.7 | -172.28 | -168.2 | -270.1 | 1,700.8 | 1,649.5 | 51.32 | 33.140 | |
| 7,200.0 | 6,984.2 | 7,006.0 | 6,984.2 | 35.2 | 25.0 | -172.40 | -168.2 | -270.1 | 1,728.2 | 1,676.2 | 52.05 | 33.206 | |
| 7,300.0 | 7,080.3 | 7,102.1 | 7,080.3 | 35.8 | 25.4 | -172.52 | -168.2 | -270.1 | 1,755.7 | 1,702.9 | 52.77 | 33.270 | |
| 7,400.0 | 7,176.4 | 7,201.8 | 7,176.4 | 36.3 | 25.7 | -172.63 | -168.2 | -270.1 | 1,783.1 | 1,729.6 | 53.51 | 33.325 | |
| 7,500.0 | 7,272.5 | 7,305.7 | 7,272.5 | 36.9 | 26.1 | -172.75 | -168.2 | -270.1 | 1,810.6 | 1,756.3 | 54.26 | 33.369 | |
| 7,600.0 | 7,368.6 | 7,409.6 | 7,368.6 | 37.4 | 26.4 | -172.85 | -168.2 | -270.1 | 1,838.0 | 1,783.0 | 55.01 | 33.412 | |
| 7,700.0 | 7,464.7 | 7,486.5 | 7,464.7 | 38.0 | 26.7 | -172.96 | -168.2 | -270.1 | 1,865.5 | 1,809.8 | 55.67 | 33.509 | |
| 7,800.0 | 7,560.7 | 7,582.6 | 7,560.7 | 38.6 | 27.0 | -173.06 | -168.2 | -270.1 | 1,893.0 | 1,836.6 | 56.40 | 33.565 | |
| 7,900.0 | 7,656.8 | 7,678.7 | 7,656.8 | 39.1 | 27.4 | -173.16 | -168.2 | -270.1 | 1,920.5 | 1,863.3 | 57.12 | 33.619 | |
| 8,000.0 | 7,752.9 | 7,774.8 | 7,752.9 | 39.7 | 27.7 | -173.26 | -168.2 | -270.1 | 1,947.9 | 1,890.1 | 57.85 | 33.672 | |
| 8,014.5 | 7,766.9 | 7,788.8 | 7,766.9 | 39.8 | 27.7 | -173.27 | -168.2 | -270.1 | 1,951.9 | 1,894.0 | 57.96 | 33.679 | |
| 8,100.0 | 7,849.3 | 7,871.2 | 7,849.3 | 40.2 | 28.0 | -173.39 | -168.2 | -270.1 | 1,974.5 | 1,915.9 | 58.58 | 33.708 | |
| 8,200.0 | 7,946.3 | 7,968.2 | 7,946.3 | 40.7 | 28.4 | -173.51 | -168.2 | -270.1 | 1,998.6 | 1,939.3 | 59.30 | 33.703 | |
| 8,300.0 | 8,043.9 | 8,065.8 | 8,043.9 | 41.2 | 28.7 | -173.62 | -168.2 | -270.1 | 2,020.2 | 1,960.1 | 60.02 | 33.657 | |
| 8,400.0 | 8,142.1 | 8,164.0 | 8,142.1 | 41.7 | 29.0 | -173.71 | -168.2 | -270.1 | 2,039.2 | 1,978.4 | 60.74 | 33.573 | |
| 8,500.0 | 8,240.7 | 8,262.6 | 8,240.7 | 42.1 | 29.4 | -173.79 | -168.2 | -270.1 | 2,055.6 | 1,994.2 | 61.45 | 33.451 | |
| 8,600.0 | 8,339.7 | 8,361.6 | 8,339.7 | 42.5 | 29.7 | -173.85 | -168.2 | -270.1 | 2,069.5 | 2,007.3 | 62.16 | 33.294 | |
| 8,700.0 | 8,439.1 | 8,461.0 | 8,439.1 | 42.9 | 30.1 | -173.90 | -168.2 | -270.1 | 2,080.8 | 2,017.9 | 62.86 | 33.102 | |
| 8,800.0 | 8,538.7 | 8,560.6 | 8,538.7 | 43.3 | 30.4 | -173.94 | -168.2 | -270.1 | 2,089.5 | 2,026.0 | 63.56 | 32.877 | |
| 8,900.0 | 8,638.5 | 8,660.4 | 8,638.5 | 43.6 | 30.8 | -173.97 | -168.2 | -270.1 | 2,095.6 | 2,031.4 | 64.24 | 32.620 | |
| 9,000.0 | 8,738.4 | 8,760.3 | 8,738.4 | 43.9 | 31.1 | -173.99 | -168.2 | -270.1 | 2,099.2 | 2,034.2 | 64.92 | 32.333 | |
| 9,085.1 | 8,823.5 | 8,845.4 | 8,823.5 | 44.1 | 31.4 | -180.00 | -168.2 | -270.1 | 2,100.1 | 2,034.6 | 65.50 | 32.065 | |
| 9,100.0 | 8,838.4 | 8,860.3 | 8,838.4 | 44.1 | 31.5 | 86.52 | -168.2 | -270.1 | 2,100.1 | 2,034.5 | 65.59 | 32.016 | |
| 9,150.0 | 8,888.3 | 8,910.2 | 8,888.3 | 44.2 | 31.6 | 86.63 | -168.2 | -270.1 | 2,099.9 | 2,034.0 | 65.92 | 31.856 | |
| 9,200.0 | 8,937.6 | 8,959.5 | 8,937.6 | 44.3 | 31.8 | 86.89 | -168.2 | -270.1 | 2,099.4 | 2,033.2 | 66.24 | 31.696 | |
| 9,250.0 | 8,986.2 | 9,008.0 | 8,986.2 | 44.4 | 32.0 | 87.27 | -168.2 | -270.1 | 2,098.8 | 2,032.2 | 66.55 | 31.537 | |
| 9,300.0 | 9,033.4 | 9,055.3 | 9,033.4 | 44.5 | 32.1 | 87.76 | -168.2 | -270.1 | 2,098.0 | 2,031.2 | 66.86 | 31.381 | |
| 9,350.0 | 9,079.1 | 9,101.0 | 9,079.1 | 44.6 | 32.3 | 88.34 | -168.2 | -270.1 | 2,097.3 | 2,030.1 | 67.16 | 31.229 | |
| 9,400.0 | 9,122.8 | 9,144.7 | 9,122.8 | 44.6 | 32.5 | 88.99 | -168.2 | -270.1 | 2,096.7 | 2,029.2 | 67.45 | 31.084 | |
| 9,450.0 | 9,164.2 | 9,186.1 | 9,164.2 | 44.7 | 32.6 | 89.66 | -168.2 | -270.1 | 2,096.3 | 2,028.5 | 67.74 | 30.947 | |
| 9,475.3 | 9,184.3 | 9,206.1 | 9,184.3 | 44.7 | 32.7 | 90.00 | -168.2 | -270.1 | 2,096.2 | 2,028.3 | 67.88 | 30.882 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,500.0 | 9,203.1 | 9,225.0 | 9,203.1 | 44.7 | 32.7 | 90.33 | -168.2 | -270.1 | 2,096.3 | 2,028.2 | 68.02 | 30.821 | |
| 9,550.0 | 9,239.1 | 9,260.9 | 9,239.1 | 44.8 | 32.9 | 90.95 | -168.2 | -270.1 | 2,096.8 | 2,028.5 | 68.29 | 30.705 | |
| 9,600.0 | 9,271.9 | 9,306.3 | 9,271.9 | 44.8 | 33.0 | 91.50 | -168.2 | -270.1 | 2,098.1 | 2,029.5 | 68.60 | 30.582 | |
| 9,650.0 | 9,301.2 | 10,440.8 | 10,004.8 | 44.8 | 37.3 | 99.24 | -8.7 | 373.2 | 2,085.7 | 2,014.0 | 71.74 | 29.072 | |
| 9,700.0 | 9,327.0 | 10,465.8 | 10,005.5 | 44.8 | 37.5 | 100.92 | -3.6 | 397.7 | 2,066.9 | 1,994.7 | 72.29 | 28.593 | |
| 9,750.0 | 9,348.9 | 10,500.0 | 10,006.5 | 44.8 | 37.8 | 102.41 | 3.0 | 431.2 | 2,049.5 | 1,976.6 | 72.91 | 28.111 | |
| 9,800.0 | 9,366.8 | 10,519.3 | 10,007.1 | 44.8 | 37.9 | 103.93 | 6.6 | 450.2 | 2,033.4 | 1,960.0 | 73.42 | 27.696 | |
| 9,850.0 | 9,380.6 | 10,547.5 | 10,007.9 | 44.8 | 38.2 | 105.27 | 11.5 | 477.9 | 2,018.7 | 1,944.7 | 74.01 | 27.277 | |
| 9,900.0 | 9,390.2 | 10,576.3 | 10,008.8 | 44.8 | 38.5 | 106.49 | 16.3 | 506.3 | 2,005.7 | 1,931.1 | 74.60 | 26.885 | |
| 9,950.0 | 9,395.4 | 10,600.0 | 10,009.5 | 44.8 | 38.7 | 107.60 | 20.0 | 529.7 | 1,994.3 | 1,919.2 | 75.14 | 26.543 | |
| 9,969.6 | 9,396.2 | 10,617.0 | 10,009.9 | 44.8 | 38.8 | 108.01 | 22.6 | 546.6 | 1,990.3 | 1,914.9 | 75.45 | 26.381 | |
| 10,000.0 | 9,397.1 | 10,635.0 | 10,010.5 | 44.8 | 39.0 | 108.04 | 25.1 | 564.3 | 1,984.5 | 1,908.6 | 75.83 | 26.171 | |
| 10,100.0 | 9,399.8 | 10,700.0 | 10,012.4 | 44.9 | 39.7 | 108.16 | 33.5 | 628.8 | 1,966.5 | 1,889.3 | 77.23 | 25.465 | |
| 10,200.0 | 9,402.5 | 10,754.0 | 10,014.0 | 45.1 | 40.3 | 108.24 | 39.4 | 682.5 | 1,950.6 | 1,872.0 | 78.64 | 24.803 | |
| 10,300.0 | 9,405.2 | 10,814.2 | 10,015.7 | 45.4 | 41.0 | 108.33 | 44.8 | 742.4 | 1,936.8 | 1,856.6 | 80.25 | 24.136 | |
| 10,400.0 | 9,407.8 | 10,874.8 | 10,017.5 | 45.8 | 41.8 | 108.40 | 48.9 | 802.8 | 1,925.1 | 1,843.2 | 81.98 | 23.482 | |
| 10,500.0 | 9,410.5 | 10,935.6 | 10,019.3 | 46.4 | 42.6 | 108.47 | 51.7 | 863.5 | 1,915.6 | 1,831.7 | 83.83 | 22.851 | |
| 10,600.0 | 9,413.2 | 11,000.0 | 10,021.1 | 47.2 | 43.5 | 108.52 | 53.3 | 927.9 | 1,908.1 | 1,822.3 | 85.83 | 22.232 | |
| 10,700.0 | 9,415.9 | 11,087.9 | 10,023.7 | 48.2 | 44.8 | 108.58 | 54.2 | 1,015.7 | 1,902.2 | 1,813.8 | 88.37 | 21.525 | |
| 10,800.0 | 9,418.5 | 11,187.7 | 10,026.6 | 49.4 | 46.3 | 108.65 | 55.2 | 1,115.4 | 1,896.5 | 1,805.2 | 91.28 | 20.776 | |
| 10,900.0 | 9,421.2 | 11,287.5 | 10,029.5 | 50.7 | 47.9 | 108.71 | 56.2 | 1,215.2 | 1,890.8 | 1,796.5 | 94.33 | 20.046 | |
| 11,000.0 | 9,423.8 | 11,387.3 | 10,032.4 | 52.2 | 49.6 | 108.78 | 57.2 | 1,315.0 | 1,885.3 | 1,787.8 | 97.50 | 19.337 | |
| 11,100.0 | 9,426.5 | 11,487.1 | 10,035.3 | 53.8 | 51.3 | 108.84 | 58.2 | 1,414.8 | 1,879.9 | 1,779.1 | 100.78 | 18.654 | |
| 11,200.0 | 9,429.1 | 11,587.0 | 10,038.2 | 55.4 | 53.1 | 108.91 | 59.2 | 1,514.6 | 1,874.6 | 1,770.5 | 104.17 | 17.997 | |
| 11,300.0 | 9,431.8 | 11,686.8 | 10,041.1 | 57.1 | 54.9 | 108.97 | 60.2 | 1,614.4 | 1,869.4 | 1,761.8 | 107.64 | 17.367 | |
| 11,400.0 | 9,434.4 | 11,786.7 | 10,044.0 | 58.9 | 56.8 | 109.04 | 61.2 | 1,714.2 | 1,864.4 | 1,753.2 | 111.20 | 16.766 | |
| 11,500.0 | 9,437.0 | 11,886.5 | 10,046.9 | 60.8 | 58.7 | 109.10 | 62.2 | 1,814.0 | 1,859.5 | 1,744.6 | 114.84 | 16.192 | |
| 11,600.0 | 9,439.7 | 11,986.4 | 10,049.8 | 62.7 | 60.7 | 109.16 | 63.2 | 1,913.8 | 1,854.6 | 1,736.1 | 118.54 | 15.645 | |
| 11,700.0 | 9,442.3 | 12,086.3 | 10,052.7 | 64.6 | 62.7 | 109.22 | 64.2 | 2,013.6 | 1,849.9 | 1,727.6 | 122.31 | 15.125 | |
| 11,800.0 | 9,444.9 | 12,186.1 | 10,055.6 | 66.6 | 64.7 | 109.28 | 65.2 | 2,113.4 | 1,845.4 | 1,719.2 | 126.13 | 14.631 | |
| 11,900.0 | 9,447.5 | 12,286.0 | 10,058.5 | 68.6 | 66.8 | 109.34 | 66.2 | 2,213.3 | 1,840.9 | 1,710.9 | 130.00 | 14.161 | |
| 12,000.0 | 9,450.1 | 12,385.9 | 10,061.4 | 70.6 | 68.9 | 109.40 | 67.2 | 2,313.1 | 1,836.5 | 1,702.6 | 133.92 | 13.714 | |
| 12,100.0 | 9,452.7 | 12,485.8 | 10,064.3 | 72.7 | 71.0 | 109.46 | 68.2 | 2,413.0 | 1,832.3 | 1,694.4 | 137.87 | 13.290 | |
| 12,200.0 | 9,455.3 | 12,585.7 | 10,067.2 | 74.8 | 73.1 | 109.51 | 69.2 | 2,512.8 | 1,828.2 | 1,686.3 | 141.87 | 12.886 | |
| 12,300.0 | 9,457.9 | 12,685.6 | 10,070.1 | 76.9 | 75.2 | 109.57 | 70.2 | 2,612.7 | 1,824.2 | 1,678.3 | 145.90 | 12.503 | |
| 12,400.0 | 9,460.5 | 12,785.5 | 10,073.0 | 79.0 | 77.4 | 109.63 | 71.2 | 2,712.5 | 1,820.3 | 1,670.3 | 149.97 | 12.138 | |
| 12,500.0 | 9,463.0 | 12,885.4 | 10,075.9 | 81.2 | 79.6 | 109.68 | 72.2 | 2,812.4 | 1,816.5 | 1,662.5 | 154.06 | 11.791 | |
| 12,600.0 | 9,465.6 | 12,985.4 | 10,078.8 | 83.4 | 81.8 | 109.73 | 73.2 | 2,912.3 | 1,812.9 | 1,654.7 | 158.18 | 11.461 | |
| 12,700.0 | 9,468.2 | 13,085.3 | 10,081.7 | 85.5 | 84.0 | 109.79 | 74.2 | 3,012.1 | 1,809.3 | 1,647.0 | 162.32 | 11.147 | |
| 12,800.0 | 9,470.7 | 13,185.2 | 10,084.6 | 87.8 | 86.2 | 109.84 | 75.2 | 3,112.0 | 1,805.9 | 1,639.4 | 166.49 | 10.847 | |
| 12,900.0 | 9,473.3 | 13,285.1 | 10,087.5 | 90.0 | 88.4 | 109.89 | 76.2 | 3,211.9 | 1,802.6 | 1,631.9 | 170.68 | 10.561 | |
| 13,000.0 | 9,475.9 | 13,385.1 | 10,090.4 | 92.2 | 90.7 | 109.94 | 77.2 | 3,311.8 | 1,799.4 | 1,624.5 | 174.88 | 10.289 | |
| 13,100.0 | 9,478.4 | 13,485.0 | 10,093.3 | 94.4 | 93.0 | 109.99 | 78.2 | 3,411.7 | 1,796.3 | 1,617.2 | 179.11 | 10.029 | |
| 13,200.0 | 9,480.9 | 13,585.0 | 10,096.3 | 96.7 | 95.2 | 110.04 | 79.2 | 3,511.6 | 1,793.3 | 1,610.0 | 183.35 | 9.781 | |
| 13,300.0 | 9,483.5 | 13,684.9 | 10,099.2 | 98.9 | 97.5 | 110.08 | 80.1 | 3,611.5 | 1,790.5 | 1,602.9 | 187.60 | 9.544 | |
| 13,400.0 | 9,486.0 | 13,784.9 | 10,102.1 | 101.2 | 99.8 | 110.13 | 81.1 | 3,711.4 | 1,787.8 | 1,595.9 | 191.87 | 9.317 | |
| 13,500.0 | 9,488.5 | 13,884.8 | 10,105.0 | 103.5 | 102.1 | 110.18 | 82.1 | 3,811.3 | 1,785.1 | 1,589.0 | 196.16 | 9.101 | |
| 13,600.0 | 9,491.0 | 13,984.8 | 10,107.9 | 105.8 | 104.4 | 110.22 | 83.1 | 3,911.2 | 1,782.6 | 1,582.2 | 200.46 | 8.893 | |
| 13,700.0 | 9,493.6 | 14,084.7 | 10,110.8 | 108.1 | 106.7 | 110.26 | 84.1 | 4,011.1 | 1,780.3 | 1,575.5 | 204.76 | 8.694 | |
| 13,800.0 | 9,496.1 | 14,184.7 | 10,113.7 | 110.4 | 109.0 | 110.30 | 85.1 | 4,111.1 | 1,778.0 | 1,568.9 | 209.08 | 8.504 | |
| 13,900.0 | 9,498.6 | 14,284.7 | 10,116.6 | 112.7 | 111.3 | 110.35 | 86.1 | 4,211.0 | 1,775.8 | 1,562.4 | 213.41 | 8.321 | |
| 14,000.0 | 9,501.1 | 14,384.6 | 10,119.5 | 115.0 | 113.6 | 110.38 | 87.1 | 4,310.9 | 1,773.8 | 1,556.0 | 217.75 | 8.146 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan Fed Com #224H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,100.0 | 9,503.6 | 14,484.6 | 10,122.4 | 117.3 | 116.0 | 110.42 | 88.1 | 4,410.8 | 1,771.8 | 1,549.7 | 222.10 | 7.978 | |
| 14,200.0 | 9,506.1 | 14,584.6 | 10,125.3 | 119.6 | 118.3 | 110.46 | 89.1 | 4,510.8 | 1,770.0 | 1,543.6 | 226.46 | 7.816 | |
| 14,300.0 | 9,508.5 | 14,684.6 | 10,128.2 | 122.0 | 120.6 | 110.50 | 90.1 | 4,610.7 | 1,768.3 | 1,537.5 | 230.82 | 7.661 | |
| 14,400.0 | 9,511.0 | 14,784.6 | 10,131.1 | 124.3 | 123.0 | 110.53 | 91.1 | 4,710.6 | 1,766.7 | 1,531.5 | 235.20 | 7.512 | |
| 14,500.0 | 9,513.5 | 14,884.5 | 10,134.0 | 126.6 | 125.3 | 110.57 | 92.1 | 4,810.6 | 1,765.3 | 1,525.7 | 239.58 | 7.368 | |
| 14,600.0 | 9,516.0 | 14,984.5 | 10,136.9 | 129.0 | 127.7 | 110.60 | 93.1 | 4,910.5 | 1,763.9 | 1,519.9 | 243.97 | 7.230 | |
| 14,700.0 | 9,518.4 | 15,084.5 | 10,139.8 | 131.3 | 130.0 | 110.63 | 94.1 | 5,010.4 | 1,762.7 | 1,514.3 | 248.36 | 7.097 | |
| 14,800.0 | 9,520.9 | 15,184.5 | 10,142.7 | 133.7 | 132.4 | 110.66 | 95.1 | 5,110.4 | 1,761.5 | 1,508.8 | 252.76 | 6.969 | |
| 14,900.0 | 9,523.3 | 15,284.5 | 10,145.6 | 136.0 | 134.7 | 110.69 | 96.1 | 5,210.3 | 1,760.5 | 1,503.3 | 257.17 | 6.846 | |
| 15,000.0 | 9,525.8 | 15,384.5 | 10,148.5 | 138.4 | 137.1 | 110.72 | 97.1 | 5,310.3 | 1,759.6 | 1,498.0 | 261.58 | 6.727 | |
| 15,100.0 | 9,528.2 | 15,484.5 | 10,151.5 | 140.8 | 139.5 | 110.75 | 98.1 | 5,410.2 | 1,758.8 | 1,492.8 | 266.00 | 6.612 | |
| 15,200.0 | 9,530.6 | 15,584.5 | 10,154.4 | 143.1 | 141.8 | 110.78 | 99.1 | 5,510.2 | 1,758.2 | 1,487.7 | 270.43 | 6.501 | |
| 15,300.0 | 9,533.1 | 15,684.5 | 10,157.3 | 145.5 | 144.2 | 110.80 | 100.1 | 5,610.1 | 1,757.6 | 1,482.7 | 274.86 | 6.395 | |
| 15,400.0 | 9,535.5 | 15,784.5 | 10,160.2 | 147.9 | 146.6 | 110.83 | 101.1 | 5,710.1 | 1,757.1 | 1,477.9 | 279.29 | 6.291 | |
| 15,500.0 | 9,537.9 | 15,884.5 | 10,163.1 | 150.2 | 149.0 | 110.85 | 102.1 | 5,810.0 | 1,756.8 | 1,473.1 | 283.73 | 6.192 | |
| 15,600.0 | 9,540.3 | 15,984.5 | 10,166.0 | 152.6 | 151.3 | 110.87 | 103.1 | 5,910.0 | 1,756.6 | 1,468.4 | 288.18 | 6.095 | |
| 15,700.0 | 9,542.7 | 16,084.5 | 10,168.9 | 155.0 | 153.7 | 110.89 | 104.1 | 6,009.9 | 1,756.5 | 1,463.9 | 292.63 | 6.002 | |
| 15,742.6 | 9,543.8 | 16,127.0 | 10,170.1 | 156.0 | 154.7 | 110.90 | 104.5 | 6,052.5 | 1,756.5 | 1,462.0 | 294.53 | 5.964 | |
| 15,800.0 | 9,545.1 | 16,184.5 | 10,171.8 | 157.4 | 156.1 | 110.91 | 105.1 | 6,109.9 | 1,756.5 | 1,459.4 | 297.09 | 5.912 | |
| 15,884.5 | 9,547.2 | 16,268.9 | 10,174.3 | 159.4 | 158.1 | 110.92 | 106.0 | 6,194.3 | 1,756.6 | 1,455.7 | 300.85 | 5.839 | |
| 15,900.0 | 9,547.5 | 16,284.5 | 10,174.7 | 159.7 | 158.5 | 110.93 | 106.1 | 6,209.8 | 1,756.6 | 1,455.1 | 301.55 | 5.825 | |
| 16,000.0 | 9,549.9 | 16,384.5 | 10,177.6 | 162.1 | 160.9 | 110.94 | 107.1 | 6,309.8 | 1,756.8 | 1,450.8 | 306.01 | 5.741 | |
| 16,100.0 | 9,552.3 | 16,484.5 | 10,180.5 | 164.5 | 163.3 | 110.96 | 108.1 | 6,409.7 | 1,756.9 | 1,446.5 | 310.48 | 5.659 | |
| 16,200.0 | 9,554.7 | 16,584.5 | 10,183.4 | 166.9 | 165.7 | 110.97 | 109.1 | 6,509.7 | 1,757.1 | 1,442.2 | 314.95 | 5.579 | |
| 16,300.0 | 9,557.1 | 16,684.5 | 10,186.3 | 169.3 | 168.0 | 110.99 | 110.1 | 6,609.6 | 1,757.3 | 1,437.8 | 319.42 | 5.501 | |
| 16,400.0 | 9,559.5 | 16,784.5 | 10,189.2 | 171.7 | 170.4 | 111.01 | 111.1 | 6,709.6 | 1,757.4 | 1,433.5 | 323.89 | 5.426 | |
| 16,500.0 | 9,561.9 | 16,884.5 | 10,192.1 | 174.1 | 172.8 | 111.02 | 112.1 | 6,809.5 | 1,757.6 | 1,429.2 | 328.37 | 5.352 | |
| 16,600.0 | 9,564.3 | 16,984.5 | 10,195.0 | 176.5 | 175.2 | 111.04 | 113.1 | 6,909.5 | 1,757.8 | 1,424.9 | 332.85 | 5.281 | |
| 16,700.0 | 9,566.7 | 17,084.5 | 10,198.0 | 178.9 | 177.6 | 111.05 | 114.1 | 7,009.4 | 1,757.9 | 1,420.6 | 337.33 | 5.211 | |
| 16,800.0 | 9,569.1 | 17,184.5 | 10,200.9 | 181.3 | 180.0 | 111.07 | 115.1 | 7,109.4 | 1,758.1 | 1,416.3 | 341.81 | 5.143 | |
| 16,900.0 | 9,571.5 | 17,284.5 | 10,203.8 | 183.7 | 182.4 | 111.08 | 116.1 | 7,209.3 | 1,758.2 | 1,411.9 | 346.29 | 5.077 | |
| 17,000.0 | 9,573.9 | 17,384.5 | 10,206.7 | 186.1 | 184.8 | 111.10 | 117.1 | 7,309.3 | 1,758.4 | 1,407.6 | 350.78 | 5.013 | |
| 17,100.0 | 9,576.3 | 17,484.4 | 10,209.6 | 188.5 | 187.2 | 111.12 | 118.1 | 7,409.2 | 1,758.6 | 1,403.3 | 355.26 | 4.950 | |
| 17,200.0 | 9,578.7 | 17,584.4 | 10,212.5 | 190.9 | 189.6 | 111.13 | 119.1 | 7,509.2 | 1,758.7 | 1,399.0 | 359.75 | 4.889 | |
| 17,300.0 | 9,581.1 | 17,684.4 | 10,215.4 | 193.3 | 192.0 | 111.15 | 120.1 | 7,609.1 | 1,758.9 | 1,394.6 | 364.24 | 4.829 | |
| 17,400.0 | 9,583.5 | 17,784.4 | 10,218.3 | 195.7 | 194.5 | 111.16 | 121.1 | 7,709.1 | 1,759.1 | 1,390.3 | 368.73 | 4.771 | |
| 17,500.0 | 9,585.9 | 17,884.4 | 10,221.2 | 198.1 | 196.9 | 111.18 | 122.1 | 7,809.0 | 1,759.2 | 1,386.0 | 373.22 | 4.714 | |
| 17,600.0 | 9,588.3 | 17,984.4 | 10,224.1 | 200.5 | 199.3 | 111.19 | 123.1 | 7,909.0 | 1,759.4 | 1,381.7 | 377.72 | 4.658 | |
| 17,700.0 | 9,590.7 | 18,084.4 | 10,227.0 | 202.9 | 201.7 | 111.21 | 124.1 | 8,009.0 | 1,759.5 | 1,377.3 | 382.21 | 4.604 | |
| 17,800.0 | 9,593.1 | 18,184.4 | 10,229.9 | 205.3 | 204.1 | 111.23 | 125.1 | 8,108.9 | 1,759.7 | 1,373.0 | 386.71 | 4.551 | |
| 17,900.0 | 9,595.5 | 18,284.4 | 10,232.8 | 207.7 | 206.5 | 111.24 | 126.1 | 8,208.9 | 1,759.9 | 1,368.7 | 391.20 | 4.499 | |
| 18,000.0 | 9,597.9 | 18,384.4 | 10,235.7 | 210.1 | 208.9 | 111.26 | 127.1 | 8,308.8 | 1,760.0 | 1,364.3 | 395.70 | 4.448 | |
| 18,100.0 | 9,600.3 | 18,484.4 | 10,238.6 | 212.5 | 211.3 | 111.27 | 128.1 | 8,408.8 | 1,760.2 | 1,360.0 | 400.20 | 4.398 | |
| 18,200.0 | 9,602.7 | 18,584.4 | 10,241.5 | 214.9 | 213.7 | 111.29 | 129.1 | 8,508.7 | 1,760.4 | 1,355.7 | 404.69 | 4.350 | |
| 18,300.0 | 9,605.0 | 18,684.4 | 10,244.5 | 217.4 | 216.2 | 111.31 | 130.1 | 8,608.7 | 1,760.5 | 1,351.3 | 409.19 | 4.302 | |
| 18,364.7 | 9,606.6 | 18,749.1 | 10,246.3 | 218.4 | 217.7 | 111.32 | 130.7 | 8,673.3 | 1,760.6 | 1,349.0 | 411.62 | 4.277 | SF |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #123H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.14 | 29.8 | -0.1 | 29.8 | | | | |
| 25.0 | 25.0 | 25.0 | 25.0 | 0.0 | 0.0 | -0.14 | 29.8 | -0.1 | 29.8 | | | | |
| 61.7 | 61.7 | 61.7 | 61.7 | 0.1 | 0.1 | 90.00 | 29.8 | -0.1 | 29.8 | 29.7 | 0.14 | 210.063 | CC |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 90.45 | 29.8 | -0.1 | 29.8 | 29.6 | 0.26 | 116.277 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.5 | 0.5 | 93.10 | 29.8 | -0.1 | 29.9 | 28.9 | 0.97 | 30.652 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.8 | 0.8 | 97.81 | 29.8 | -0.1 | 30.1 | 28.4 | 1.69 | 17.775 | |
| 400.0 | 399.9 | 400.1 | 399.9 | 1.2 | 1.2 | 104.42 | 29.8 | -0.1 | 30.8 | 28.4 | 2.41 | 12.756 | |
| 500.2 | 500.0 | 500.0 | 500.0 | 1.6 | 1.6 | 112.50 | 29.8 | -0.1 | 32.3 | 29.1 | 3.14 | 10.294 | |
| 600.0 | 599.6 | 600.4 | 599.6 | 1.9 | 1.9 | 120.50 | 29.8 | -0.1 | 34.6 | 30.8 | 3.86 | 8.974 | |
| 700.0 | 699.5 | 700.5 | 699.5 | 2.3 | 2.3 | 127.39 | 29.8 | -0.1 | 37.5 | 33.0 | 4.58 | 8.201 | |
| 800.0 | 799.4 | 800.6 | 799.4 | 2.7 | 2.6 | 133.22 | 29.8 | -0.1 | 40.9 | 35.6 | 5.30 | 7.728 | |
| 900.0 | 899.2 | 900.8 | 899.2 | 3.0 | 3.0 | 138.11 | 29.8 | -0.1 | 44.7 | 38.7 | 6.02 | 7.428 | |
| 1,000.2 | 999.3 | 1,000.7 | 999.3 | 3.4 | 3.4 | 142.23 | 29.8 | -0.1 | 48.7 | 42.0 | 6.73 | 7.235 | |
| 1,100.0 | 1,099.0 | 1,101.0 | 1,099.0 | 3.8 | 3.7 | 119.43 | 29.8 | -0.1 | 52.1 | 44.7 | 7.45 | 6.998 | |
| 1,200.0 | 1,198.8 | 1,201.2 | 1,198.8 | 4.1 | 4.1 | 105.87 | 29.8 | -0.1 | 54.5 | 46.3 | 8.16 | 6.669 | |
| 1,300.0 | 1,298.4 | 1,301.6 | 1,298.4 | 4.5 | 4.4 | 101.74 | 29.8 | -0.1 | 56.3 | 47.4 | 8.88 | 6.340 | |
| 1,400.0 | 1,397.9 | 1,402.1 | 1,397.9 | 4.9 | 4.8 | 103.97 | 29.8 | -0.1 | 58.5 | 48.9 | 9.59 | 6.099 | |
| 1,500.0 | 1,497.1 | 1,502.9 | 1,497.1 | 5.2 | 5.2 | 110.16 | 29.8 | -0.1 | 62.1 | 51.8 | 10.31 | 6.030 | |
| 1,600.0 | 1,596.0 | 1,604.0 | 1,596.0 | 5.6 | 5.5 | 118.38 | 29.8 | -0.1 | 68.3 | 57.3 | 11.03 | 6.196 | |
| 1,700.0 | 1,694.5 | 1,694.5 | 1,694.5 | 6.0 | 5.8 | 126.99 | 29.8 | -0.1 | 77.8 | 66.1 | 11.71 | 6.644 | |
| 1,800.0 | 1,792.5 | 1,793.9 | 1,793.9 | 6.4 | 6.2 | 134.61 | 30.8 | -0.3 | 90.2 | 77.8 | 12.43 | 7.259 | |
| 1,900.0 | 1,890.0 | 1,893.7 | 1,893.7 | 6.8 | 6.6 | 140.63 | 33.9 | -0.9 | 104.4 | 91.2 | 13.15 | 7.939 | |
| 2,000.0 | 1,986.9 | 1,993.9 | 1,993.7 | 7.2 | 6.9 | 145.45 | 39.2 | -2.0 | 119.8 | 106.0 | 13.87 | 8.639 | |
| 2,068.0 | 2,052.4 | 2,062.3 | 2,061.9 | 7.5 | 7.2 | 148.21 | 44.1 | -3.0 | 130.9 | 116.5 | 14.36 | 9.116 | |
| 2,100.0 | 2,083.2 | 2,094.5 | 2,094.0 | 7.7 | 7.3 | 149.72 | 46.8 | -3.5 | 136.1 | 121.6 | 14.59 | 9.331 | |
| 2,200.0 | 2,179.3 | 2,195.9 | 2,194.9 | 8.1 | 7.6 | 153.57 | 56.6 | -5.6 | 151.7 | 136.4 | 15.31 | 9.907 | |
| 2,300.0 | 2,275.3 | 2,298.0 | 2,296.3 | 8.6 | 8.0 | 156.46 | 68.8 | -8.1 | 165.6 | 149.5 | 16.03 | 10.330 | |
| 2,400.0 | 2,371.4 | 2,400.9 | 2,398.0 | 9.1 | 8.4 | 158.70 | 83.3 | -11.0 | 177.6 | 160.9 | 16.75 | 10.607 | |
| 2,500.0 | 2,467.5 | 2,504.3 | 2,500.0 | 9.6 | 8.8 | 160.48 | 100.2 | -14.5 | 187.7 | 170.2 | 17.47 | 10.747 | |
| 2,600.0 | 2,563.6 | 2,608.2 | 2,602.0 | 10.1 | 9.2 | 161.93 | 119.4 | -18.4 | 195.7 | 177.5 | 18.18 | 10.762 | |
| 2,700.0 | 2,659.7 | 2,712.4 | 2,703.9 | 10.6 | 9.6 | 163.14 | 141.1 | -22.9 | 201.5 | 182.6 | 18.89 | 10.664 | |
| 2,800.0 | 2,755.8 | 2,816.9 | 2,805.5 | 11.1 | 10.0 | 164.15 | 165.1 | -27.8 | 205.1 | 185.5 | 19.60 | 10.463 | |
| 2,900.0 | 2,851.9 | 2,921.6 | 2,906.6 | 11.7 | 10.5 | 165.01 | 191.5 | -33.2 | 206.5 | 186.2 | 20.31 | 10.168 | |
| 3,000.0 | 2,948.0 | 3,026.3 | 3,007.1 | 12.2 | 11.0 | 165.76 | 220.2 | -39.1 | 205.6 | 184.6 | 21.00 | 9.789 | |
| 3,100.0 | 3,044.1 | 3,130.9 | 3,106.9 | 12.7 | 11.5 | 166.42 | 251.2 | -45.4 | 202.4 | 180.8 | 21.70 | 9.332 | |
| 3,200.0 | 3,140.2 | 3,232.2 | 3,202.8 | 13.2 | 11.9 | 167.01 | 282.8 | -51.9 | 197.6 | 175.1 | 22.44 | 8.805 | |
| 3,300.0 | 3,236.3 | 3,332.1 | 3,297.5 | 13.8 | 12.4 | 167.62 | 314.1 | -58.3 | 192.6 | 169.4 | 23.21 | 8.298 | |
| 3,400.0 | 3,332.4 | 3,431.9 | 3,392.1 | 14.3 | 12.9 | 168.26 | 345.4 | -64.7 | 187.7 | 163.7 | 23.99 | 7.824 | |
| 3,500.0 | 3,428.5 | 3,531.8 | 3,486.7 | 14.8 | 13.5 | 168.93 | 376.6 | -71.1 | 182.8 | 158.0 | 24.77 | 7.380 | |
| 3,600.0 | 3,524.6 | 3,631.6 | 3,581.3 | 15.4 | 14.0 | 169.64 | 407.9 | -77.5 | 177.9 | 152.4 | 25.55 | 6.964 | |
| 3,700.0 | 3,620.7 | 3,731.5 | 3,675.9 | 15.9 | 14.5 | 170.39 | 439.2 | -83.9 | 173.1 | 146.7 | 26.33 | 6.572 | |
| 3,800.0 | 3,716.8 | 3,831.3 | 3,770.5 | 16.5 | 15.1 | 171.18 | 470.5 | -90.3 | 168.3 | 141.1 | 27.12 | 6.205 | |
| 3,900.0 | 3,812.9 | 3,931.2 | 3,865.1 | 17.0 | 15.6 | 172.02 | 501.8 | -96.8 | 163.5 | 135.6 | 27.91 | 5.858 | |
| 4,000.0 | 3,909.0 | 4,031.0 | 3,959.8 | 17.6 | 16.2 | 172.91 | 533.0 | -103.2 | 158.7 | 130.0 | 28.70 | 5.531 | |
| 4,100.0 | 4,005.1 | 4,130.9 | 4,054.4 | 18.1 | 16.7 | 173.85 | 564.3 | -109.6 | 154.0 | 124.5 | 29.49 | 5.223 | |
| 4,200.0 | 4,101.2 | 4,230.8 | 4,149.0 | 18.6 | 17.3 | 174.86 | 595.6 | -116.0 | 149.4 | 119.1 | 30.29 | 4.932 | |
| 4,300.0 | 4,197.3 | 4,330.6 | 4,243.6 | 19.2 | 17.8 | 175.93 | 626.9 | -122.4 | 144.8 | 113.7 | 31.09 | 4.656 | |
| 4,400.0 | 4,293.4 | 4,430.5 | 4,338.2 | 19.7 | 18.4 | 177.06 | 658.2 | -128.8 | 140.2 | 108.3 | 31.90 | 4.395 | |
| 4,500.0 | 4,389.5 | 4,530.3 | 4,432.8 | 20.3 | 19.0 | 178.28 | 689.4 | -135.2 | 135.7 | 103.0 | 32.72 | 4.148 | |
| 4,600.0 | 4,485.6 | 4,630.2 | 4,527.4 | 20.8 | 19.5 | 179.57 | 720.7 | -141.6 | 131.3 | 97.7 | 33.55 | 3.913 | |
| 4,700.0 | 4,581.7 | 4,730.0 | 4,622.0 | 21.4 | 20.1 | -179.04 | 752.0 | -148.0 | 126.9 | 92.5 | 34.39 | 3.691 | |
| 4,800.0 | 4,677.8 | 4,829.9 | 4,716.7 | 21.9 | 20.7 | -177.56 | 783.3 | -154.4 | 122.6 | 87.4 | 35.24 | 3.480 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #123H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,900.0 | 4,773.9 | 4,929.7 | 4,811.3 | 22.5 | 21.3 | -175.97 | 814.6 | -160.8 | 118.4 | 82.3 | 36.12 | 3.279 | |
| 5,000.0 | 4,870.0 | 5,029.6 | 4,905.9 | 23.0 | 21.8 | -174.27 | 845.8 | -167.2 | 114.3 | 77.3 | 37.02 | 3.088 | |
| 5,100.0 | 4,966.1 | 5,129.5 | 5,000.5 | 23.6 | 22.4 | -172.44 | 877.1 | -173.6 | 110.4 | 72.4 | 37.96 | 2.907 | |
| 5,200.0 | 5,062.2 | 5,229.3 | 5,095.1 | 24.1 | 23.0 | -170.48 | 908.4 | -180.1 | 106.5 | 67.6 | 38.93 | 2.736 | |
| 5,300.0 | 5,158.3 | 5,329.2 | 5,189.7 | 24.7 | 23.6 | -168.37 | 939.7 | -186.5 | 102.8 | 62.8 | 39.94 | 2.573 | |
| 5,400.0 | 5,254.4 | 5,429.0 | 5,284.3 | 25.2 | 24.2 | -166.10 | 970.9 | -192.9 | 99.2 | 58.2 | 41.01 | 2.418 | |
| 5,500.0 | 5,350.5 | 5,528.9 | 5,379.0 | 25.8 | 24.8 | -163.67 | 1,002.2 | -199.3 | 95.8 | 53.6 | 42.14 | 2.272 | |
| 5,600.0 | 5,446.6 | 5,628.7 | 5,473.6 | 26.3 | 25.4 | -161.07 | 1,033.5 | -205.7 | 92.5 | 49.2 | 43.35 | 2.135 | |
| 5,700.0 | 5,542.7 | 5,728.6 | 5,568.2 | 26.9 | 26.0 | -158.29 | 1,064.8 | -212.1 | 89.5 | 44.9 | 44.63 | 2.006 | |
| 5,800.0 | 5,638.8 | 5,828.5 | 5,662.8 | 27.4 | 26.5 | -155.31 | 1,096.1 | -218.5 | 86.7 | 40.7 | 45.99 | 1.885 | |
| 5,900.0 | 5,734.9 | 5,928.3 | 5,757.4 | 28.0 | 27.1 | -152.15 | 1,127.3 | -224.9 | 84.1 | 36.7 | 47.46 | 1.773 | |
| 6,000.0 | 5,831.0 | 6,028.2 | 5,852.0 | 28.6 | 27.7 | -148.80 | 1,158.6 | -231.3 | 81.9 | 32.9 | 49.01 | 1.670 | |
| 6,100.0 | 5,927.1 | 6,128.0 | 5,946.6 | 29.1 | 28.3 | -145.28 | 1,189.9 | -237.7 | 79.9 | 29.2 | 50.66 | 1.577 | |
| 6,196.2 | 6,019.6 | 6,222.9 | 6,036.8 | 29.6 | 28.9 | -142.10 | 1,219.0 | -243.7 | 78.7 | 26.5 | 52.29 | 1.506 | |
| 6,200.0 | 6,023.2 | 6,226.6 | 6,040.3 | 29.7 | 28.9 | -142.00 | 1,220.1 | -243.9 | 78.7 | 26.4 | 52.35 | 1.504 | ES |
| 6,300.0 | 6,119.3 | 6,324.6 | 6,134.3 | 30.2 | 29.5 | -140.30 | 1,247.2 | -249.5 | 80.1 | 26.4 | 53.70 | 1.492 | Level 3, SF |
| 6,400.0 | 6,215.4 | 6,422.6 | 6,229.2 | 30.8 | 30.0 | -140.33 | 1,271.1 | -254.4 | 84.0 | 29.3 | 54.65 | 1.536 | |
| 6,500.0 | 6,311.5 | 6,520.2 | 6,324.5 | 31.3 | 30.5 | -141.85 | 1,291.7 | -258.6 | 90.2 | 35.0 | 55.21 | 1.634 | |
| 6,600.0 | 6,407.6 | 6,617.3 | 6,420.0 | 31.9 | 30.9 | -144.47 | 1,309.1 | -262.1 | 99.1 | 43.7 | 55.45 | 1.787 | |
| 6,700.0 | 6,503.7 | 6,713.7 | 6,515.3 | 32.4 | 31.3 | -147.70 | 1,323.2 | -265.0 | 110.8 | 55.3 | 55.48 | 1.997 | |
| 6,800.0 | 6,599.8 | 6,809.2 | 6,610.1 | 33.0 | 31.7 | -151.15 | 1,334.0 | -267.2 | 125.5 | 70.1 | 55.38 | 2.266 | |
| 6,900.0 | 6,695.9 | 6,903.5 | 6,704.1 | 33.6 | 32.0 | -154.51 | 1,341.7 | -268.8 | 143.4 | 88.2 | 55.24 | 2.596 | |
| 7,000.0 | 6,792.0 | 6,996.5 | 6,797.0 | 34.1 | 32.3 | -157.63 | 1,346.3 | -269.8 | 164.6 | 109.5 | 55.10 | 2.987 | |
| 7,100.0 | 6,888.1 | 7,088.0 | 6,888.5 | 34.7 | 32.6 | -160.42 | 1,347.9 | -270.1 | 188.9 | 133.9 | 54.98 | 3.436 | |
| 7,200.0 | 6,984.2 | 7,183.7 | 6,984.2 | 35.2 | 32.8 | -162.87 | 1,347.9 | -270.1 | 215.3 | 160.1 | 55.21 | 3.899 | |
| 7,300.0 | 7,080.3 | 7,279.8 | 7,080.3 | 35.8 | 33.1 | -164.79 | 1,347.9 | -270.1 | 241.9 | 186.3 | 55.59 | 4.352 | |
| 7,400.0 | 7,176.4 | 7,375.9 | 7,176.4 | 36.3 | 33.3 | -166.34 | 1,347.9 | -270.1 | 268.8 | 212.7 | 56.05 | 4.795 | |
| 7,500.0 | 7,272.5 | 7,472.0 | 7,272.5 | 36.9 | 33.6 | -167.60 | 1,347.9 | -270.1 | 295.8 | 239.2 | 56.57 | 5.228 | |
| 7,600.0 | 7,368.6 | 7,568.1 | 7,368.6 | 37.4 | 33.8 | -168.65 | 1,347.9 | -270.1 | 322.9 | 265.8 | 57.14 | 5.651 | |
| 7,700.0 | 7,464.7 | 7,667.5 | 7,467.8 | 38.0 | 34.1 | -170.35 | 1,348.0 | -265.5 | 349.8 | 292.0 | 57.71 | 6.061 | |
| 7,800.0 | 7,560.7 | 7,763.3 | 7,561.3 | 38.6 | 34.3 | -174.20 | 1,348.2 | -245.4 | 376.4 | 318.6 | 57.86 | 6.505 | |
| 7,900.0 | 7,656.8 | 7,849.5 | 7,641.6 | 39.1 | 34.5 | -179.17 | 1,348.6 | -214.3 | 405.5 | 347.8 | 57.68 | 7.030 | |
| 8,000.0 | 7,752.9 | 7,924.3 | 7,706.9 | 39.7 | 34.6 | 175.67 | 1,349.1 | -177.8 | 439.7 | 382.5 | 57.19 | 7.689 | |
| 8,014.5 | 7,766.9 | 7,934.2 | 7,715.1 | 39.8 | 34.6 | 174.94 | 1,349.1 | -172.3 | 445.3 | 388.2 | 57.09 | 7.800 | |
| 8,100.0 | 7,849.3 | 7,988.0 | 7,758.3 | 40.2 | 34.7 | 170.95 | 1,349.5 | -140.2 | 480.1 | 423.8 | 56.30 | 8.528 | |
| 8,200.0 | 7,946.3 | 8,041.9 | 7,798.3 | 40.7 | 34.7 | 166.88 | 1,350.0 | -104.1 | 526.1 | 471.2 | 54.93 | 9.579 | |
| 8,300.0 | 8,043.9 | 8,087.4 | 7,829.3 | 41.2 | 34.8 | 163.52 | 1,350.4 | -70.9 | 578.0 | 524.8 | 53.13 | 10.879 | |
| 8,400.0 | 8,142.1 | 8,125.9 | 7,853.4 | 41.7 | 34.8 | 160.82 | 1,350.7 | -40.9 | 635.3 | 584.3 | 51.02 | 12.453 | |
| 8,500.0 | 8,240.7 | 8,158.6 | 7,872.3 | 42.1 | 34.8 | 158.70 | 1,351.1 | -14.1 | 697.5 | 648.8 | 48.73 | 14.314 | |
| 8,600.0 | 8,339.7 | 8,186.6 | 7,887.2 | 42.5 | 34.8 | 157.08 | 1,351.3 | 9.5 | 764.0 | 717.6 | 46.40 | 16.466 | |
| 8,700.0 | 8,439.1 | 8,210.8 | 7,899.1 | 42.9 | 34.9 | 155.87 | 1,351.6 | 30.5 | 833.9 | 789.8 | 44.10 | 18.910 | |
| 8,800.0 | 8,538.7 | 8,231.7 | 7,908.7 | 43.3 | 34.9 | 155.02 | 1,351.8 | 49.1 | 906.8 | 864.9 | 41.91 | 21.640 | |
| 8,900.0 | 8,638.5 | 8,250.0 | 7,916.6 | 43.6 | 34.9 | 154.46 | 1,352.0 | 65.6 | 982.2 | 942.3 | 39.84 | 24.653 | |
| 9,000.0 | 8,738.4 | 8,266.2 | 7,923.0 | 43.9 | 34.9 | 154.14 | 1,352.2 | 80.5 | 1,059.5 | 1,021.6 | 37.95 | 27.918 | |
| 9,085.1 | 8,823.5 | 8,278.5 | 7,927.7 | 44.1 | 34.9 | 148.02 | 1,352.4 | 91.8 | 1,126.6 | 1,090.2 | 36.46 | 30.897 | |
| 9,100.0 | 8,838.4 | 8,280.6 | 7,928.5 | 44.1 | 34.9 | 52.83 | 1,352.4 | 93.8 | 1,138.5 | 1,102.3 | 36.21 | 31.440 | |
| 9,150.0 | 8,888.3 | 8,300.0 | 7,935.2 | 44.2 | 34.9 | 46.97 | 1,352.6 | 112.0 | 1,177.6 | 1,141.8 | 35.86 | 32.839 | |
| 9,200.0 | 8,937.6 | 8,300.0 | 7,935.2 | 44.3 | 34.9 | 42.92 | 1,352.6 | 112.0 | 1,215.3 | 1,180.7 | 34.60 | 35.127 | |
| 9,250.0 | 8,986.2 | 8,300.0 | 7,935.2 | 44.4 | 34.9 | 39.42 | 1,352.6 | 112.0 | 1,251.8 | 1,218.4 | 33.31 | 37.580 | |
| 9,300.0 | 9,033.4 | 8,316.5 | 7,940.5 | 44.5 | 34.9 | 35.88 | 1,352.8 | 127.7 | 1,286.5 | 1,253.8 | 32.67 | 39.383 | |
| 9,350.0 | 9,079.1 | 8,327.4 | 7,943.7 | 44.6 | 34.9 | 33.09 | 1,352.9 | 138.0 | 1,319.5 | 1,287.8 | 31.74 | 41.571 | |
| 9,400.0 | 9,122.8 | 8,350.0 | 7,949.8 | 44.6 | 34.9 | 30.49 | 1,353.2 | 159.8 | 1,350.7 | 1,319.4 | 31.26 | 43.207 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #123H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,450.0 | 9,164.2 | 8,350.0 | 7,949.8 | 44.7 | 34.9 | 28.75 | 1,353.2 | 159.8 | 1,379.4 | 1,349.5 | 29.92 | 46.108 | |
| 9,500.0 | 9,203.1 | 8,350.0 | 7,949.8 | 44.7 | 34.9 | 27.26 | 1,353.2 | 159.8 | 1,406.3 | 1,377.6 | 28.63 | 49.118 | |
| 9,550.0 | 9,239.1 | 8,375.8 | 7,955.7 | 44.8 | 34.9 | 25.65 | 1,353.5 | 184.9 | 1,430.3 | 1,402.1 | 28.21 | 50.700 | |
| 9,600.0 | 9,271.9 | 8,400.0 | 7,960.2 | 44.8 | 34.9 | 24.34 | 1,353.8 | 208.7 | 1,452.2 | 1,424.4 | 27.74 | 52.348 | |
| 9,650.0 | 9,301.2 | 8,400.0 | 7,960.2 | 44.8 | 34.9 | 23.51 | 1,353.8 | 208.7 | 1,471.2 | 1,444.6 | 26.61 | 55.290 | |
| 9,700.0 | 9,327.0 | 8,400.0 | 7,960.2 | 44.8 | 34.9 | 22.81 | 1,353.8 | 208.7 | 1,487.9 | 1,462.3 | 25.63 | 58.062 | |
| 9,750.0 | 9,348.9 | 8,429.6 | 7,964.3 | 44.8 | 35.0 | 22.03 | 1,354.1 | 238.0 | 1,501.4 | 1,476.0 | 25.43 | 59.033 | |
| 9,800.0 | 9,366.8 | 8,450.0 | 7,966.2 | 44.8 | 35.0 | 21.49 | 1,354.4 | 258.3 | 1,512.4 | 1,487.3 | 25.09 | 60.278 | |
| 9,850.0 | 9,380.6 | 8,450.0 | 7,966.2 | 44.8 | 35.0 | 21.19 | 1,354.4 | 258.3 | 1,520.5 | 1,496.0 | 24.51 | 62.039 | |
| 9,900.0 | 9,390.2 | 8,477.6 | 7,967.7 | 44.8 | 35.0 | 20.88 | 1,354.7 | 285.9 | 1,525.7 | 1,501.2 | 24.49 | 62.298 | |
| 9,950.0 | 9,395.4 | 8,506.2 | 7,968.6 | 44.8 | 35.1 | 20.71 | 1,355.0 | 314.5 | 1,527.8 | 1,503.2 | 24.56 | 62.209 | |
| 9,969.6 | 9,396.2 | 8,525.8 | 7,969.1 | 44.8 | 35.1 | 20.66 | 1,355.2 | 334.0 | 1,527.6 | 1,502.9 | 24.71 | 61.828 | |
| 10,000.0 | 9,397.1 | 8,556.1 | 7,970.0 | 44.8 | 35.2 | 20.59 | 1,355.5 | 364.3 | 1,526.7 | 1,501.8 | 24.94 | 61.206 | |
| 10,100.0 | 9,399.8 | 8,655.9 | 7,973.0 | 44.9 | 35.5 | 20.35 | 1,356.5 | 464.0 | 1,524.1 | 1,498.2 | 25.83 | 59.012 | |
| 10,200.0 | 9,402.5 | 8,755.6 | 7,975.9 | 45.1 | 36.1 | 20.11 | 1,357.6 | 563.8 | 1,521.4 | 1,494.6 | 26.86 | 56.649 | |
| 10,300.0 | 9,405.2 | 8,855.4 | 7,978.9 | 45.4 | 37.0 | 19.88 | 1,358.6 | 663.5 | 1,518.9 | 1,490.8 | 28.01 | 54.216 | |
| 10,400.0 | 9,407.8 | 8,955.2 | 7,981.8 | 45.8 | 38.2 | 19.65 | 1,359.6 | 763.2 | 1,516.3 | 1,487.1 | 29.28 | 51.790 | |
| 10,500.0 | 9,410.5 | 9,054.9 | 7,984.7 | 46.4 | 39.5 | 19.43 | 1,360.6 | 862.9 | 1,513.9 | 1,483.3 | 30.63 | 49.422 | |
| 10,600.0 | 9,413.2 | 9,154.7 | 7,987.7 | 47.2 | 41.0 | 19.21 | 1,361.6 | 962.7 | 1,511.5 | 1,479.4 | 32.06 | 47.148 | |
| 10,700.0 | 9,415.9 | 9,254.5 | 7,990.6 | 48.2 | 42.6 | 18.99 | 1,362.7 | 1,062.4 | 1,509.2 | 1,475.6 | 33.55 | 44.987 | |
| 10,800.0 | 9,418.5 | 9,354.4 | 7,993.6 | 49.4 | 44.3 | 18.77 | 1,363.7 | 1,162.2 | 1,506.9 | 1,471.8 | 35.08 | 42.951 | |
| 10,900.0 | 9,421.2 | 9,454.2 | 7,996.5 | 50.7 | 46.1 | 18.56 | 1,364.7 | 1,262.0 | 1,504.7 | 1,468.0 | 36.66 | 41.042 | |
| 11,000.0 | 9,423.8 | 9,554.0 | 7,999.5 | 52.2 | 47.9 | 18.35 | 1,365.7 | 1,361.7 | 1,502.5 | 1,464.2 | 38.27 | 39.258 | |
| 11,100.0 | 9,426.5 | 9,653.8 | 8,002.4 | 53.8 | 49.8 | 18.15 | 1,366.7 | 1,461.5 | 1,500.4 | 1,460.5 | 39.91 | 37.594 | |
| 11,200.0 | 9,429.1 | 9,753.7 | 8,005.4 | 55.4 | 51.7 | 17.95 | 1,367.8 | 1,561.3 | 1,498.3 | 1,456.8 | 41.57 | 36.044 | |
| 11,300.0 | 9,431.8 | 9,853.5 | 8,008.3 | 57.1 | 53.7 | 17.75 | 1,368.8 | 1,661.1 | 1,496.3 | 1,453.1 | 43.24 | 34.601 | |
| 11,400.0 | 9,434.4 | 9,953.4 | 8,011.2 | 58.9 | 55.7 | 17.56 | 1,369.8 | 1,760.9 | 1,494.4 | 1,449.4 | 44.93 | 33.256 | |
| 11,500.0 | 9,437.0 | 10,053.2 | 8,014.2 | 60.8 | 57.7 | 17.37 | 1,370.8 | 1,860.7 | 1,492.4 | 1,445.8 | 46.63 | 32.003 | |
| 11,600.0 | 9,439.7 | 10,153.1 | 8,017.1 | 62.7 | 59.8 | 17.19 | 1,371.8 | 1,960.5 | 1,490.6 | 1,442.2 | 48.34 | 30.834 | |
| 11,700.0 | 9,442.3 | 10,252.9 | 8,020.1 | 64.6 | 61.9 | 17.01 | 1,372.9 | 2,060.4 | 1,488.7 | 1,438.7 | 50.06 | 29.742 | |
| 11,800.0 | 9,444.9 | 10,352.8 | 8,023.0 | 66.6 | 64.0 | 16.83 | 1,373.9 | 2,160.2 | 1,487.0 | 1,435.2 | 51.77 | 28.720 | |
| 11,900.0 | 9,447.5 | 10,452.7 | 8,026.0 | 68.6 | 66.2 | 16.66 | 1,374.9 | 2,260.0 | 1,485.2 | 1,431.7 | 53.50 | 27.763 | |
| 12,000.0 | 9,450.1 | 10,552.6 | 8,028.9 | 70.6 | 68.3 | 16.49 | 1,375.9 | 2,359.9 | 1,483.5 | 1,428.3 | 55.22 | 26.866 | |
| 12,100.0 | 9,452.7 | 10,652.5 | 8,031.9 | 72.7 | 70.5 | 16.33 | 1,376.9 | 2,459.7 | 1,481.9 | 1,425.0 | 56.95 | 26.023 | |
| 12,200.0 | 9,455.3 | 10,752.4 | 8,034.8 | 74.8 | 72.7 | 16.17 | 1,378.0 | 2,559.5 | 1,480.3 | 1,421.6 | 58.67 | 25.230 | |
| 12,300.0 | 9,457.9 | 10,852.3 | 8,037.8 | 76.9 | 75.0 | 16.01 | 1,379.0 | 2,659.4 | 1,478.7 | 1,418.3 | 60.40 | 24.483 | |
| 12,400.0 | 9,460.5 | 10,952.2 | 8,040.7 | 79.0 | 77.2 | 15.86 | 1,380.0 | 2,759.3 | 1,477.2 | 1,415.1 | 62.12 | 23.778 | |
| 12,500.0 | 9,463.0 | 11,052.1 | 8,043.7 | 81.2 | 79.4 | 15.71 | 1,381.0 | 2,859.1 | 1,475.7 | 1,411.9 | 63.85 | 23.112 | |
| 12,600.0 | 9,465.6 | 11,152.0 | 8,046.6 | 83.4 | 81.7 | 15.57 | 1,382.0 | 2,959.0 | 1,474.3 | 1,408.7 | 65.57 | 22.482 | |
| 12,700.0 | 9,468.2 | 11,251.9 | 8,049.6 | 85.5 | 84.0 | 15.43 | 1,383.1 | 3,058.9 | 1,472.8 | 1,405.5 | 67.30 | 21.885 | |
| 12,800.0 | 9,470.7 | 11,351.9 | 8,052.5 | 87.8 | 86.2 | 15.29 | 1,384.1 | 3,158.7 | 1,471.5 | 1,402.4 | 69.02 | 21.318 | |
| 12,900.0 | 9,473.3 | 11,451.8 | 8,055.4 | 90.0 | 88.5 | 15.16 | 1,385.1 | 3,258.6 | 1,470.1 | 1,399.4 | 70.75 | 20.780 | |
| 13,000.0 | 9,475.9 | 11,551.7 | 8,058.4 | 92.2 | 90.8 | 15.03 | 1,386.1 | 3,358.5 | 1,468.8 | 1,396.3 | 72.47 | 20.268 | |
| 13,100.0 | 9,478.4 | 11,651.7 | 8,061.3 | 94.4 | 93.1 | 14.91 | 1,387.2 | 3,458.4 | 1,467.5 | 1,393.3 | 74.19 | 19.780 | |
| 13,200.0 | 9,480.9 | 11,751.6 | 8,064.3 | 96.7 | 95.4 | 14.79 | 1,388.2 | 3,558.3 | 1,466.3 | 1,390.4 | 75.92 | 19.315 | |
| 13,300.0 | 9,483.5 | 11,851.6 | 8,067.2 | 98.9 | 97.8 | 14.68 | 1,389.2 | 3,658.2 | 1,465.1 | 1,387.4 | 77.64 | 18.870 | |
| 13,400.0 | 9,486.0 | 11,951.5 | 8,070.2 | 101.2 | 100.1 | 14.57 | 1,390.2 | 3,758.1 | 1,463.9 | 1,384.5 | 79.36 | 18.445 | |
| 13,500.0 | 9,488.5 | 12,051.5 | 8,073.1 | 103.5 | 102.4 | 14.46 | 1,391.2 | 3,858.0 | 1,462.7 | 1,381.6 | 81.09 | 18.039 | |
| 13,600.0 | 9,491.0 | 12,151.4 | 8,076.1 | 105.8 | 104.7 | 14.36 | 1,392.3 | 3,957.9 | 1,461.6 | 1,378.8 | 82.81 | 17.650 | |
| 13,700.0 | 9,493.6 | 12,251.4 | 8,079.0 | 108.1 | 107.1 | 14.27 | 1,393.3 | 4,057.8 | 1,460.5 | 1,376.0 | 84.54 | 17.276 | |
| 13,800.0 | 9,496.1 | 12,351.4 | 8,082.0 | 110.4 | 109.4 | 14.18 | 1,394.3 | 4,157.8 | 1,459.4 | 1,373.2 | 86.27 | 16.917 | |
| 13,900.0 | 9,498.6 | 12,451.3 | 8,084.9 | 112.7 | 111.8 | 14.09 | 1,395.3 | 4,257.7 | 1,458.4 | 1,370.4 | 88.00 | 16.573 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #123H - Wellbore #1 - State Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000.0 | 9,501.1 | 12,551.3 | 8,087.9 | 115.0 | 114.1 | 14.00 | 1,396.3 | 4,357.6 | 1,457.4 | 1,367.7 | 89.73 | 16.241 | |
| 14,100.0 | 9,503.6 | 12,651.3 | 8,090.8 | 117.3 | 116.5 | 13.93 | 1,397.4 | 4,457.5 | 1,456.4 | 1,364.9 | 91.47 | 15.922 | |
| 14,200.0 | 9,506.1 | 12,751.3 | 8,093.8 | 119.6 | 118.8 | 13.85 | 1,398.4 | 4,557.4 | 1,455.4 | 1,362.2 | 93.21 | 15.615 | |
| 14,300.0 | 9,508.5 | 12,851.2 | 8,096.7 | 122.0 | 121.2 | 13.78 | 1,399.4 | 4,657.4 | 1,454.5 | 1,359.6 | 94.95 | 15.318 | |
| 14,400.0 | 9,511.0 | 12,951.2 | 8,099.7 | 124.3 | 123.6 | 13.72 | 1,400.4 | 4,757.3 | 1,453.6 | 1,356.9 | 96.70 | 15.032 | |
| 14,500.0 | 9,513.5 | 13,051.2 | 8,102.6 | 126.6 | 125.9 | 13.66 | 1,401.4 | 4,857.2 | 1,452.7 | 1,354.3 | 98.45 | 14.756 | |
| 14,600.0 | 9,516.0 | 13,151.2 | 8,105.6 | 129.0 | 128.3 | 13.60 | 1,402.5 | 4,957.2 | 1,451.9 | 1,351.7 | 100.21 | 14.488 | |
| 14,700.0 | 9,518.4 | 13,251.2 | 8,108.5 | 131.3 | 130.7 | 13.55 | 1,403.5 | 5,057.1 | 1,451.0 | 1,349.1 | 101.97 | 14.230 | |
| 14,800.0 | 9,520.9 | 13,351.2 | 8,111.5 | 133.7 | 133.1 | 13.50 | 1,404.5 | 5,157.1 | 1,450.2 | 1,346.5 | 103.74 | 13.979 | |
| 14,900.0 | 9,523.3 | 13,451.1 | 8,114.4 | 136.0 | 135.5 | 13.46 | 1,405.5 | 5,257.0 | 1,449.4 | 1,343.9 | 105.52 | 13.736 | |
| 15,000.0 | 9,525.8 | 13,551.1 | 8,117.4 | 138.4 | 137.8 | 13.42 | 1,406.6 | 5,356.9 | 1,448.7 | 1,341.4 | 107.30 | 13.501 | |
| 15,100.0 | 9,528.2 | 13,651.1 | 8,120.3 | 140.8 | 140.2 | 13.39 | 1,407.6 | 5,456.9 | 1,447.9 | 1,338.9 | 109.09 | 13.273 | |
| 15,200.0 | 9,530.6 | 13,751.1 | 8,123.3 | 143.1 | 142.6 | 13.36 | 1,408.6 | 5,556.8 | 1,447.2 | 1,336.3 | 110.89 | 13.051 | |
| 15,300.0 | 9,533.1 | 13,851.1 | 8,126.2 | 145.5 | 145.0 | 13.34 | 1,409.6 | 5,656.8 | 1,446.5 | 1,333.8 | 112.70 | 12.836 | |
| 15,400.0 | 9,535.5 | 13,951.1 | 8,129.2 | 147.9 | 147.4 | 13.32 | 1,410.6 | 5,756.7 | 1,445.9 | 1,331.4 | 114.51 | 12.626 | |
| 15,500.0 | 9,537.9 | 14,051.1 | 8,132.1 | 150.2 | 149.8 | 13.30 | 1,411.7 | 5,856.7 | 1,445.2 | 1,328.9 | 116.34 | 12.423 | |
| 15,600.0 | 9,540.3 | 14,151.1 | 8,135.1 | 152.6 | 152.2 | 13.29 | 1,412.7 | 5,956.6 | 1,444.6 | 1,326.4 | 118.17 | 12.224 | |
| 15,700.0 | 9,542.7 | 14,251.1 | 8,138.0 | 155.0 | 154.6 | 13.29 | 1,413.7 | 6,056.6 | 1,444.0 | 1,324.0 | 120.02 | 12.031 | |
| 15,800.0 | 9,545.1 | 14,351.1 | 8,141.0 | 157.4 | 157.0 | 13.29 | 1,414.7 | 6,156.5 | 1,443.4 | 1,321.5 | 121.88 | 11.843 | |
| 15,884.5 | 9,547.2 | 14,435.6 | 8,143.5 | 159.4 | 159.0 | 13.29 | 1,415.6 | 6,241.0 | 1,442.9 | 1,319.5 | 123.45 | 11.688 | |
| 15,900.0 | 9,547.5 | 14,451.1 | 8,143.9 | 159.7 | 159.4 | 13.29 | 1,415.7 | 6,256.5 | 1,442.9 | 1,319.1 | 123.75 | 11.660 | |
| 16,000.0 | 9,549.9 | 14,551.1 | 8,146.9 | 162.1 | 161.8 | 13.29 | 1,416.8 | 6,356.4 | 1,442.3 | 1,316.7 | 125.62 | 11.482 | |
| 16,100.0 | 9,552.3 | 14,651.1 | 8,149.8 | 164.5 | 164.2 | 13.30 | 1,417.8 | 6,456.4 | 1,441.8 | 1,314.3 | 127.49 | 11.308 | |
| 16,200.0 | 9,554.7 | 14,751.1 | 8,152.8 | 166.9 | 166.6 | 13.30 | 1,418.8 | 6,556.3 | 1,441.2 | 1,311.8 | 129.37 | 11.140 | |
| 16,300.0 | 9,557.1 | 14,851.1 | 8,155.7 | 169.3 | 169.0 | 13.30 | 1,419.8 | 6,656.3 | 1,440.7 | 1,309.4 | 131.25 | 10.977 | |
| 16,400.0 | 9,559.5 | 14,951.1 | 8,158.7 | 171.7 | 171.4 | 13.31 | 1,420.9 | 6,756.2 | 1,440.1 | 1,307.0 | 133.13 | 10.818 | |
| 16,500.0 | 9,561.9 | 15,051.1 | 8,161.6 | 174.1 | 173.8 | 13.31 | 1,421.9 | 6,856.2 | 1,439.6 | 1,304.6 | 135.01 | 10.663 | |
| 16,600.0 | 9,564.3 | 15,151.1 | 8,164.6 | 176.5 | 176.2 | 13.31 | 1,422.9 | 6,956.1 | 1,439.0 | 1,302.1 | 136.89 | 10.513 | |
| 16,700.0 | 9,566.7 | 15,251.1 | 8,167.5 | 178.9 | 178.6 | 13.32 | 1,423.9 | 7,056.1 | 1,438.5 | 1,299.7 | 138.77 | 10.366 | |
| 16,800.0 | 9,569.1 | 15,351.1 | 8,170.5 | 181.3 | 181.1 | 13.32 | 1,424.9 | 7,156.0 | 1,437.9 | 1,297.3 | 140.65 | 10.223 | |
| 16,900.0 | 9,571.5 | 15,451.1 | 8,173.4 | 183.7 | 183.5 | 13.32 | 1,426.0 | 7,256.0 | 1,437.4 | 1,294.8 | 142.53 | 10.085 | |
| 17,000.0 | 9,573.9 | 15,551.1 | 8,176.4 | 186.1 | 185.9 | 13.33 | 1,427.0 | 7,355.9 | 1,436.8 | 1,292.4 | 144.41 | 9.949 | |
| 17,100.0 | 9,576.3 | 15,651.1 | 8,179.3 | 188.5 | 188.3 | 13.33 | 1,428.0 | 7,455.9 | 1,436.3 | 1,290.0 | 146.30 | 9.817 | |
| 17,200.0 | 9,578.7 | 15,751.1 | 8,182.3 | 190.9 | 190.7 | 13.33 | 1,429.0 | 7,555.8 | 1,435.7 | 1,287.5 | 148.18 | 9.689 | |
| 17,300.0 | 9,581.1 | 15,851.1 | 8,185.2 | 193.3 | 193.1 | 13.34 | 1,430.0 | 7,655.8 | 1,435.2 | 1,285.1 | 150.07 | 9.563 | |
| 17,400.0 | 9,583.5 | 15,951.1 | 8,188.2 | 195.7 | 195.5 | 13.34 | 1,431.1 | 7,755.7 | 1,434.6 | 1,282.7 | 151.96 | 9.441 | |
| 17,500.0 | 9,585.9 | 16,051.1 | 8,191.1 | 198.1 | 198.0 | 13.34 | 1,432.1 | 7,855.7 | 1,434.1 | 1,280.2 | 153.84 | 9.322 | |
| 17,600.0 | 9,588.3 | 16,151.1 | 8,194.1 | 200.5 | 200.4 | 13.35 | 1,433.1 | 7,955.6 | 1,433.5 | 1,277.8 | 155.73 | 9.205 | |
| 17,700.0 | 9,590.7 | 16,251.1 | 8,197.0 | 202.9 | 202.8 | 13.35 | 1,434.1 | 8,055.6 | 1,433.0 | 1,275.3 | 157.62 | 9.091 | |
| 17,800.0 | 9,593.1 | 16,351.1 | 8,200.0 | 205.3 | 205.2 | 13.35 | 1,435.2 | 8,155.5 | 1,432.4 | 1,272.9 | 159.51 | 8.980 | |
| 17,900.0 | 9,595.5 | 16,451.1 | 8,202.9 | 207.7 | 207.6 | 13.36 | 1,436.2 | 8,255.5 | 1,431.9 | 1,270.5 | 161.40 | 8.871 | |
| 18,000.0 | 9,597.9 | 16,551.1 | 8,205.9 | 210.1 | 210.1 | 13.36 | 1,437.2 | 8,355.4 | 1,431.3 | 1,268.0 | 163.29 | 8.765 | |
| 18,100.0 | 9,600.3 | 16,651.1 | 8,208.8 | 212.5 | 212.5 | 13.36 | 1,438.2 | 8,455.4 | 1,430.8 | 1,265.6 | 165.18 | 8.662 | |
| 18,200.0 | 9,602.7 | 16,751.1 | 8,211.8 | 214.9 | 214.9 | 13.37 | 1,439.2 | 8,555.3 | 1,430.2 | 1,263.1 | 167.08 | 8.560 | |
| 18,300.0 | 9,605.0 | 16,851.1 | 8,214.7 | 217.4 | 217.3 | 13.37 | 1,440.3 | 8,655.3 | 1,429.7 | 1,260.7 | 168.97 | 8.461 | |
| 18,364.7 | 9,606.6 | 16,915.8 | 8,216.6 | 218.4 | 218.9 | 13.37 | 1,440.9 | 8,719.9 | 1,429.3 | 1,259.4 | 169.94 | 8.411 | |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #137H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -180.00 | -110.1 | 0.0 | 110.1 | | | | |
| 25.0 | 25.0 | 25.0 | 25.0 | 0.0 | 0.0 | -180.00 | -110.1 | 0.0 | 110.1 | | | | |
| 36.0 | 36.0 | 36.0 | 36.0 | 0.0 | 0.0 | -90.00 | -110.1 | 0.0 | 110.1 | 110.0 | 0.07 | 1,692.263 | CC |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.16 | -110.1 | 0.0 | 110.1 | 109.8 | 0.26 | 429.197 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.5 | 0.5 | -90.87 | -110.1 | 0.0 | 110.1 | 109.1 | 0.97 | 112.988 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.8 | 0.8 | -92.16 | -110.1 | 0.0 | 110.1 | 108.4 | 1.69 | 65.042 | |
| 400.0 | 399.9 | 400.1 | 399.9 | 1.2 | 1.2 | -94.02 | -110.1 | 0.0 | 110.3 | 107.9 | 2.41 | 45.695 | |
| 500.2 | 500.0 | 500.0 | 500.0 | 1.6 | 1.6 | -96.44 | -110.1 | 0.0 | 110.8 | 107.6 | 3.14 | 35.291 | |
| 600.0 | 599.6 | 600.4 | 599.6 | 1.9 | 1.9 | -99.10 | -110.1 | 0.0 | 111.5 | 107.6 | 3.86 | 28.845 | ES |
| 700.0 | 699.5 | 700.5 | 699.5 | 2.3 | 2.3 | -101.73 | -110.1 | 0.0 | 112.4 | 107.8 | 4.59 | 24.489 | |
| 800.0 | 799.4 | 800.6 | 799.4 | 2.7 | 2.6 | -104.31 | -110.1 | 0.0 | 113.6 | 108.3 | 5.32 | 21.366 | |
| 900.0 | 899.2 | 900.8 | 899.2 | 3.0 | 3.0 | -106.84 | -110.1 | 0.0 | 115.0 | 109.0 | 6.04 | 19.032 | |
| 1,000.2 | 999.3 | 1,000.7 | 999.3 | 3.4 | 3.4 | -109.30 | -110.1 | 0.0 | 116.6 | 109.9 | 6.77 | 17.232 | |
| 1,100.0 | 1,099.0 | 1,101.0 | 1,099.0 | 3.8 | 3.7 | -138.76 | -110.1 | 0.0 | 119.6 | 112.1 | 7.49 | 15.969 | |
| 1,200.0 | 1,198.8 | 1,201.2 | 1,198.8 | 4.1 | 4.1 | -160.06 | -110.1 | 0.0 | 125.1 | 116.9 | 8.21 | 15.238 | |
| 1,300.0 | 1,298.4 | 1,301.6 | 1,298.4 | 4.5 | 4.4 | -173.10 | -110.1 | 0.0 | 133.0 | 124.0 | 8.92 | 14.899 | |
| 1,400.0 | 1,397.9 | 1,397.9 | 1,397.9 | 4.9 | 4.8 | 179.03 | -110.1 | 0.0 | 143.1 | 133.5 | 9.62 | 14.875 | |
| 1,500.0 | 1,497.1 | 1,502.6 | 1,502.6 | 5.2 | 5.2 | 174.15 | -108.3 | -0.5 | 153.8 | 143.5 | 10.34 | 14.872 | |
| 1,600.0 | 1,596.0 | 1,608.0 | 1,607.8 | 5.6 | 5.5 | 171.06 | -102.8 | -2.2 | 163.2 | 152.2 | 11.06 | 14.759 | |
| 1,700.0 | 1,694.5 | 1,713.7 | 1,713.1 | 6.0 | 5.9 | 169.16 | -93.6 | -4.9 | 171.3 | 159.5 | 11.77 | 14.559 | |
| 1,800.0 | 1,792.5 | 1,819.9 | 1,818.4 | 6.4 | 6.3 | 168.10 | -80.6 | -8.8 | 178.1 | 165.6 | 12.46 | 14.288 | |
| 1,900.0 | 1,890.0 | 1,926.4 | 1,923.5 | 6.8 | 6.7 | 167.68 | -63.8 | -13.8 | 183.6 | 170.4 | 13.15 | 13.957 | |
| 2,000.0 | 1,986.9 | 2,033.2 | 2,028.0 | 7.2 | 7.1 | 167.80 | -43.3 | -19.9 | 187.8 | 173.9 | 13.83 | 13.578 | |
| 2,068.0 | 2,052.4 | 2,105.8 | 2,098.7 | 7.5 | 7.4 | 168.15 | -27.1 | -24.7 | 189.9 | 175.7 | 14.28 | 13.298 | |
| 2,100.0 | 2,083.2 | 2,140.1 | 2,131.8 | 7.7 | 7.5 | 168.68 | -18.9 | -27.1 | 190.6 | 176.2 | 14.49 | 13.153 | |
| 2,200.0 | 2,179.3 | 2,240.3 | 2,228.7 | 8.1 | 8.0 | 170.20 | 5.8 | -34.5 | 192.2 | 177.0 | 15.23 | 12.619 | |
| 2,300.0 | 2,275.3 | 2,340.1 | 2,325.2 | 8.6 | 8.4 | 171.70 | 30.4 | -41.8 | 193.8 | 177.9 | 15.98 | 12.133 | |
| 2,400.0 | 2,371.4 | 2,440.0 | 2,421.7 | 9.1 | 8.9 | 173.16 | 55.0 | -49.1 | 195.6 | 178.9 | 16.73 | 11.692 | |
| 2,500.0 | 2,467.5 | 2,539.8 | 2,518.2 | 9.6 | 9.3 | 174.60 | 79.6 | -56.4 | 197.6 | 180.1 | 17.49 | 11.293 | |
| 2,600.0 | 2,563.6 | 2,639.7 | 2,614.7 | 10.1 | 9.8 | 176.01 | 104.2 | -63.7 | 199.6 | 181.3 | 18.26 | 10.928 | |
| 2,700.0 | 2,659.7 | 2,739.5 | 2,711.2 | 10.6 | 10.3 | 177.39 | 128.8 | -71.1 | 201.8 | 182.7 | 19.04 | 10.596 | |
| 2,800.0 | 2,755.8 | 2,839.4 | 2,807.7 | 11.1 | 10.7 | 178.75 | 153.5 | -78.4 | 204.0 | 184.2 | 19.83 | 10.292 | |
| 2,900.0 | 2,851.9 | 2,939.3 | 2,904.2 | 11.7 | 11.2 | -179.93 | 178.1 | -85.7 | 206.4 | 185.8 | 20.62 | 10.012 | |
| 3,000.0 | 2,948.0 | 3,039.1 | 3,000.7 | 12.2 | 11.7 | -178.64 | 202.7 | -93.0 | 208.9 | 187.5 | 21.42 | 9.755 | |
| 3,100.0 | 3,044.1 | 3,139.0 | 3,097.2 | 12.7 | 12.2 | -177.38 | 227.3 | -100.4 | 211.5 | 189.3 | 22.22 | 9.518 | |
| 3,200.0 | 3,140.2 | 3,238.8 | 3,193.7 | 13.2 | 12.7 | -176.16 | 251.9 | -107.7 | 214.2 | 191.2 | 23.04 | 9.298 | |
| 3,300.0 | 3,236.3 | 3,338.7 | 3,290.2 | 13.8 | 13.2 | -174.96 | 276.5 | -115.0 | 217.0 | 193.1 | 23.86 | 9.095 | |
| 3,400.0 | 3,332.4 | 3,438.6 | 3,386.7 | 14.3 | 13.7 | -173.79 | 301.2 | -122.3 | 219.9 | 195.2 | 24.69 | 8.906 | |
| 3,500.0 | 3,428.5 | 3,538.4 | 3,483.2 | 14.8 | 14.2 | -172.66 | 325.8 | -129.7 | 222.9 | 197.3 | 25.53 | 8.729 | |
| 3,600.0 | 3,524.6 | 3,638.3 | 3,579.7 | 15.4 | 14.7 | -171.55 | 350.4 | -137.0 | 225.9 | 199.6 | 26.38 | 8.565 | |
| 3,700.0 | 3,620.7 | 3,738.1 | 3,676.2 | 15.9 | 15.2 | -170.48 | 375.0 | -144.3 | 229.1 | 201.8 | 27.23 | 8.412 | |
| 3,800.0 | 3,716.8 | 3,838.0 | 3,772.7 | 16.5 | 15.8 | -169.43 | 399.6 | -151.6 | 232.3 | 204.2 | 28.10 | 8.268 | |
| 3,900.0 | 3,812.9 | 3,937.9 | 3,869.2 | 17.0 | 16.3 | -168.41 | 424.2 | -158.9 | 235.6 | 206.6 | 28.97 | 8.133 | |
| 4,000.0 | 3,909.0 | 4,037.7 | 3,965.7 | 17.6 | 16.8 | -167.42 | 448.9 | -166.3 | 239.0 | 209.1 | 29.85 | 8.006 | |
| 4,100.0 | 4,005.1 | 4,137.6 | 4,062.2 | 18.1 | 17.3 | -166.46 | 473.5 | -173.6 | 242.4 | 211.7 | 30.73 | 7.887 | |
| 4,200.0 | 4,101.2 | 4,237.4 | 4,158.7 | 18.6 | 17.8 | -165.53 | 498.1 | -180.9 | 245.9 | 214.3 | 31.63 | 7.775 | |
| 4,300.0 | 4,197.3 | 4,337.3 | 4,255.2 | 19.2 | 18.3 | -164.62 | 522.7 | -188.2 | 249.5 | 216.9 | 32.53 | 7.669 | |
| 4,400.0 | 4,293.4 | 4,437.2 | 4,351.7 | 19.7 | 18.9 | -163.74 | 547.3 | -195.6 | 253.1 | 219.7 | 33.44 | 7.570 | |
| 4,500.0 | 4,389.5 | 4,537.0 | 4,448.2 | 20.3 | 19.4 | -162.88 | 571.9 | -202.9 | 256.8 | 222.4 | 34.35 | 7.475 | |
| 4,600.0 | 4,485.6 | 4,636.9 | 4,544.7 | 20.8 | 19.9 | -162.05 | 596.6 | -210.2 | 260.5 | 225.3 | 35.27 | 7.386 | |
| 4,700.0 | 4,581.7 | 4,736.7 | 4,641.2 | 21.4 | 20.4 | -161.24 | 621.2 | -217.5 | 264.3 | 228.1 | 36.20 | 7.302 | |
| 4,800.0 | 4,677.8 | 4,836.6 | 4,737.7 | 21.9 | 21.0 | -160.45 | 645.8 | -224.9 | 268.2 | 231.0 | 37.14 | 7.221 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #137H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,900.0 | 4,773.9 | 4,936.5 | 4,834.2 | 22.5 | 21.5 | -159.69 | 670.4 | -232.2 | 272.1 | 234.0 | 38.08 | 7.146 | |
| 5,000.0 | 4,870.0 | 5,036.3 | 4,930.7 | 23.0 | 22.0 | -158.95 | 695.0 | -239.5 | 276.0 | 237.0 | 39.02 | 7.073 | |
| 5,100.0 | 4,966.1 | 5,131.8 | 5,023.0 | 23.6 | 22.5 | -158.31 | 718.1 | -246.4 | 280.5 | 240.5 | 39.97 | 7.017 | |
| 5,200.0 | 5,062.2 | 5,223.8 | 5,112.7 | 24.1 | 23.0 | -158.01 | 737.8 | -252.2 | 287.4 | 246.5 | 40.84 | 7.036 | |
| 5,300.0 | 5,158.3 | 5,315.4 | 5,202.7 | 24.7 | 23.4 | -158.03 | 754.7 | -257.3 | 297.0 | 255.4 | 41.64 | 7.134 | |
| 5,400.0 | 5,254.4 | 5,406.5 | 5,292.5 | 25.2 | 23.8 | -158.33 | 768.8 | -261.4 | 309.4 | 267.0 | 42.34 | 7.306 | |
| 5,500.0 | 5,350.5 | 5,496.8 | 5,382.1 | 25.8 | 24.1 | -158.88 | 780.0 | -264.8 | 324.4 | 281.4 | 42.97 | 7.550 | |
| 5,600.0 | 5,446.6 | 5,586.2 | 5,471.0 | 26.3 | 24.5 | -159.63 | 788.4 | -267.3 | 342.1 | 298.6 | 43.51 | 7.862 | |
| 5,700.0 | 5,542.7 | 5,674.5 | 5,559.1 | 26.9 | 24.8 | -160.52 | 794.1 | -269.0 | 362.5 | 318.5 | 43.99 | 8.241 | |
| 5,800.0 | 5,638.8 | 5,761.6 | 5,646.2 | 27.4 | 25.1 | -161.51 | 797.2 | -269.9 | 385.6 | 341.2 | 44.40 | 8.686 | |
| 5,900.0 | 5,734.9 | 5,850.3 | 5,734.9 | 28.0 | 25.3 | -162.58 | 797.9 | -270.1 | 411.4 | 366.5 | 44.81 | 9.180 | |
| 6,000.0 | 5,831.0 | 5,946.4 | 5,831.0 | 28.6 | 25.6 | -163.66 | 797.9 | -270.1 | 437.9 | 392.5 | 45.39 | 9.648 | |
| 6,100.0 | 5,927.1 | 6,042.5 | 5,927.1 | 29.1 | 25.9 | -164.62 | 797.9 | -270.1 | 464.6 | 418.6 | 45.98 | 10.103 | |
| 6,200.0 | 6,023.2 | 6,138.6 | 6,023.2 | 29.7 | 26.1 | -165.48 | 797.9 | -270.1 | 491.4 | 444.8 | 46.60 | 10.546 | |
| 6,300.0 | 6,119.3 | 6,234.7 | 6,119.3 | 30.2 | 26.4 | -166.24 | 797.9 | -270.1 | 518.3 | 471.1 | 47.22 | 10.975 | |
| 6,400.0 | 6,215.4 | 6,330.8 | 6,215.4 | 30.8 | 26.7 | -166.93 | 797.9 | -270.1 | 545.2 | 497.4 | 47.86 | 11.392 | |
| 6,500.0 | 6,311.5 | 6,426.9 | 6,311.5 | 31.3 | 27.0 | -167.56 | 797.9 | -270.1 | 572.3 | 523.8 | 48.51 | 11.798 | |
| 6,600.0 | 6,407.6 | 6,523.0 | 6,407.6 | 31.9 | 27.3 | -168.12 | 797.9 | -270.1 | 599.4 | 550.2 | 49.16 | 12.192 | |
| 6,700.0 | 6,503.7 | 6,619.1 | 6,503.7 | 32.4 | 27.6 | -168.64 | 797.9 | -270.1 | 626.5 | 576.7 | 49.82 | 12.574 | |
| 6,800.0 | 6,599.8 | 6,715.2 | 6,599.8 | 33.0 | 27.8 | -169.12 | 797.9 | -270.1 | 653.7 | 603.2 | 50.49 | 12.946 | |
| 6,900.0 | 6,695.9 | 6,811.3 | 6,695.9 | 33.6 | 28.1 | -169.56 | 797.9 | -270.1 | 680.9 | 629.7 | 51.17 | 13.307 | |
| 7,000.0 | 6,792.0 | 6,907.4 | 6,792.0 | 34.1 | 28.4 | -169.96 | 797.9 | -270.1 | 708.1 | 656.3 | 51.85 | 13.659 | |
| 7,100.0 | 6,888.1 | 7,003.5 | 6,888.1 | 34.7 | 28.7 | -170.34 | 797.9 | -270.1 | 735.4 | 682.9 | 52.53 | 14.001 | |
| 7,200.0 | 6,984.2 | 7,100.4 | 6,984.2 | 35.2 | 29.0 | -170.69 | 797.9 | -270.1 | 762.7 | 709.5 | 53.22 | 14.332 | |
| 7,300.0 | 7,080.3 | 7,204.3 | 7,080.3 | 35.8 | 29.3 | -171.01 | 797.9 | -270.1 | 790.1 | 736.1 | 53.94 | 14.649 | |
| 7,400.0 | 7,176.4 | 7,308.2 | 7,176.4 | 36.3 | 29.6 | -171.32 | 797.9 | -270.1 | 817.4 | 762.8 | 54.65 | 14.956 | |
| 7,500.0 | 7,272.5 | 7,387.9 | 7,272.5 | 36.9 | 29.9 | -171.60 | 797.9 | -270.1 | 844.8 | 789.5 | 55.30 | 15.278 | |
| 7,600.0 | 7,368.6 | 7,484.0 | 7,368.6 | 37.4 | 30.2 | -171.86 | 797.9 | -270.1 | 872.2 | 816.2 | 55.99 | 15.577 | |
| 7,700.0 | 7,464.7 | 7,580.1 | 7,464.7 | 38.0 | 30.5 | -172.11 | 797.9 | -270.1 | 899.6 | 842.9 | 56.70 | 15.868 | |
| 7,800.0 | 7,560.7 | 7,676.2 | 7,560.7 | 38.6 | 30.8 | -172.35 | 797.9 | -270.1 | 927.0 | 869.7 | 57.40 | 16.151 | |
| 7,900.0 | 7,656.8 | 7,772.3 | 7,656.8 | 39.1 | 31.1 | -172.57 | 797.9 | -270.1 | 954.5 | 896.4 | 58.10 | 16.427 | |
| 8,000.0 | 7,752.9 | 7,868.4 | 7,752.9 | 39.7 | 31.4 | -172.78 | 797.9 | -270.1 | 981.9 | 923.1 | 58.81 | 16.697 | |
| 8,014.5 | 7,766.9 | 7,882.4 | 7,766.9 | 39.8 | 31.4 | -172.81 | 797.9 | -270.1 | 985.9 | 927.0 | 58.91 | 16.735 | |
| 8,100.0 | 7,849.3 | 7,964.7 | 7,849.3 | 40.2 | 31.7 | -173.01 | 797.9 | -270.1 | 1,008.5 | 949.0 | 59.52 | 16.944 | |
| 8,200.0 | 7,946.3 | 8,061.8 | 7,946.3 | 40.7 | 32.0 | -173.22 | 797.9 | -270.1 | 1,032.6 | 972.3 | 60.22 | 17.145 | |
| 8,300.0 | 8,043.9 | 8,159.4 | 8,043.9 | 41.2 | 32.3 | -173.40 | 797.9 | -270.1 | 1,054.1 | 993.2 | 60.93 | 17.300 | |
| 8,400.0 | 8,142.1 | 8,257.5 | 8,142.1 | 41.7 | 32.6 | -173.55 | 797.9 | -270.1 | 1,073.1 | 1,011.5 | 61.63 | 17.411 | |
| 8,500.0 | 8,240.7 | 8,356.1 | 8,240.7 | 42.1 | 32.9 | -173.67 | 797.9 | -270.1 | 1,089.6 | 1,027.2 | 62.34 | 17.479 | |
| 8,600.0 | 8,339.7 | 8,455.2 | 8,339.7 | 42.5 | 33.2 | -173.77 | 797.9 | -270.1 | 1,103.4 | 1,040.4 | 63.03 | 17.506 | |
| 8,700.0 | 8,439.1 | 8,554.5 | 8,439.1 | 42.9 | 33.5 | -173.86 | 797.9 | -270.1 | 1,114.7 | 1,051.0 | 63.73 | 17.493 | |
| 8,800.0 | 8,538.7 | 8,654.1 | 8,538.7 | 43.3 | 33.8 | -173.92 | 797.9 | -270.1 | 1,123.5 | 1,059.0 | 64.41 | 17.442 | |
| 8,900.0 | 8,638.5 | 8,753.9 | 8,638.5 | 43.6 | 34.2 | -173.96 | 797.9 | -270.1 | 1,129.6 | 1,064.5 | 65.09 | 17.353 | |
| 9,000.0 | 8,738.4 | 8,854.4 | 8,739.0 | 43.9 | 34.5 | -174.03 | 797.9 | -269.3 | 1,133.1 | 1,067.3 | 65.77 | 17.229 | |
| 9,085.1 | 8,823.5 | 8,939.6 | 8,823.4 | 44.1 | 34.7 | 179.41 | 798.0 | -258.4 | 1,134.0 | 1,067.7 | 66.25 | 17.117 | |
| 9,100.0 | 8,838.4 | 8,954.2 | 8,837.7 | 44.1 | 34.8 | 85.78 | 798.0 | -255.3 | 1,134.0 | 1,067.6 | 66.32 | 17.098 | |
| 9,150.0 | 8,888.3 | 9,002.5 | 8,884.2 | 44.2 | 34.9 | 85.31 | 798.1 | -242.5 | 1,133.8 | 1,067.3 | 66.54 | 17.040 | |
| 9,200.0 | 8,937.6 | 9,050.0 | 8,928.8 | 44.3 | 35.0 | 84.88 | 798.3 | -226.1 | 1,133.4 | 1,066.7 | 66.73 | 16.984 | |
| 9,250.0 | 8,986.2 | 9,096.8 | 8,971.2 | 44.4 | 35.1 | 84.49 | 798.5 | -206.3 | 1,132.8 | 1,065.9 | 66.91 | 16.930 | |
| 9,300.0 | 9,033.4 | 9,143.0 | 9,011.3 | 44.5 | 35.2 | 84.14 | 798.7 | -183.5 | 1,131.9 | 1,064.9 | 67.07 | 16.876 | |
| 9,350.0 | 9,079.1 | 9,188.5 | 9,048.9 | 44.6 | 35.3 | 83.83 | 799.0 | -158.0 | 1,130.9 | 1,063.6 | 67.22 | 16.823 | |
| 9,400.0 | 9,122.8 | 9,233.4 | 9,084.0 | 44.6 | 35.3 | 83.57 | 799.3 | -129.9 | 1,129.6 | 1,062.2 | 67.37 | 16.767 | |
| 9,450.0 | 9,164.2 | 9,277.8 | 9,116.4 | 44.7 | 35.4 | 83.36 | 799.6 | -99.5 | 1,128.0 | 1,060.5 | 67.51 | 16.708 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #137H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,500.0 | 9,203.1 | 9,321.7 | 9,146.0 | 44.7 | 35.4 | 83.19 | 799.9 | -67.1 | 1,126.3 | 1,058.6 | 67.67 | 16.645 | |
| 9,550.0 | 9,239.1 | 9,365.2 | 9,172.8 | 44.8 | 35.4 | 83.07 | 800.2 | -32.9 | 1,124.3 | 1,056.5 | 67.83 | 16.575 | |
| 9,600.0 | 9,271.9 | 9,408.4 | 9,196.7 | 44.8 | 35.5 | 82.99 | 800.6 | 3.0 | 1,122.1 | 1,054.1 | 68.02 | 16.497 | |
| 9,650.0 | 9,301.2 | 9,451.1 | 9,217.7 | 44.8 | 35.5 | 82.97 | 801.0 | 40.2 | 1,119.8 | 1,051.5 | 68.24 | 16.410 | |
| 9,700.0 | 9,327.0 | 9,493.6 | 9,235.8 | 44.8 | 35.5 | 82.99 | 801.3 | 78.7 | 1,117.2 | 1,048.7 | 68.50 | 16.310 | |
| 9,750.0 | 9,348.9 | 9,535.8 | 9,250.9 | 44.8 | 35.5 | 83.06 | 801.7 | 118.1 | 1,114.4 | 1,045.6 | 68.80 | 16.198 | |
| 9,800.0 | 9,366.8 | 9,577.9 | 9,262.9 | 44.8 | 35.5 | 83.17 | 802.1 | 158.3 | 1,111.5 | 1,042.3 | 69.15 | 16.073 | |
| 9,850.0 | 9,380.6 | 9,619.7 | 9,272.0 | 44.8 | 35.6 | 83.33 | 802.5 | 199.2 | 1,108.4 | 1,038.8 | 69.56 | 15.935 | |
| 9,900.0 | 9,390.2 | 9,661.4 | 9,278.0 | 44.8 | 35.6 | 83.53 | 802.9 | 240.4 | 1,105.2 | 1,035.2 | 70.02 | 15.784 | |
| 9,950.0 | 9,395.4 | 9,703.0 | 9,281.1 | 44.8 | 35.7 | 83.78 | 803.4 | 281.9 | 1,101.8 | 1,031.3 | 70.54 | 15.621 | |
| 9,969.6 | 9,396.2 | 9,720.9 | 9,281.5 | 44.8 | 35.8 | 83.89 | 803.5 | 299.8 | 1,100.5 | 1,029.7 | 70.78 | 15.549 | |
| 10,000.0 | 9,397.1 | 9,751.2 | 9,282.2 | 44.8 | 35.9 | 83.87 | 803.8 | 330.1 | 1,098.4 | 1,027.2 | 71.20 | 15.426 | |
| 10,100.0 | 9,399.8 | 9,851.0 | 9,284.4 | 44.9 | 36.6 | 83.81 | 804.8 | 429.9 | 1,091.5 | 1,018.7 | 72.77 | 14.999 | |
| 10,200.0 | 9,402.5 | 9,950.8 | 9,286.7 | 45.1 | 37.6 | 83.75 | 805.8 | 529.6 | 1,084.7 | 1,010.1 | 74.62 | 14.536 | |
| 10,300.0 | 9,405.2 | 10,050.5 | 9,288.9 | 45.4 | 38.7 | 83.69 | 806.8 | 629.3 | 1,078.1 | 1,001.3 | 76.73 | 14.049 | |
| 10,400.0 | 9,407.8 | 10,150.3 | 9,291.1 | 45.8 | 39.9 | 83.63 | 807.8 | 729.1 | 1,071.5 | 992.4 | 79.09 | 13.548 | |
| 10,500.0 | 9,410.5 | 10,250.1 | 9,293.4 | 46.4 | 41.3 | 83.57 | 808.8 | 828.8 | 1,065.1 | 983.4 | 81.66 | 13.043 | |
| 10,600.0 | 9,413.2 | 10,349.9 | 9,295.6 | 47.2 | 42.7 | 83.51 | 809.8 | 928.6 | 1,058.8 | 974.4 | 84.44 | 12.539 | |
| 10,700.0 | 9,415.9 | 10,449.7 | 9,297.8 | 48.2 | 44.2 | 83.45 | 810.8 | 1,028.4 | 1,052.6 | 965.2 | 87.40 | 12.044 | |
| 10,800.0 | 9,418.5 | 10,549.5 | 9,300.0 | 49.4 | 45.8 | 83.39 | 811.8 | 1,128.1 | 1,046.6 | 956.1 | 90.52 | 11.562 | |
| 10,900.0 | 9,421.2 | 10,649.3 | 9,302.3 | 50.7 | 47.5 | 83.33 | 812.8 | 1,227.9 | 1,040.6 | 946.8 | 93.79 | 11.096 | |
| 11,000.0 | 9,423.8 | 10,749.1 | 9,304.5 | 52.2 | 49.2 | 83.28 | 813.8 | 1,327.7 | 1,034.8 | 937.6 | 97.19 | 10.648 | |
| 11,100.0 | 9,426.5 | 10,849.0 | 9,306.7 | 53.8 | 51.0 | 83.22 | 814.8 | 1,427.5 | 1,029.1 | 928.4 | 100.70 | 10.219 | |
| 11,200.0 | 9,429.1 | 10,948.8 | 9,309.0 | 55.4 | 52.9 | 83.16 | 815.7 | 1,527.3 | 1,023.5 | 919.2 | 104.33 | 9.811 | |
| 11,300.0 | 9,431.8 | 11,048.7 | 9,311.2 | 57.1 | 54.8 | 83.10 | 816.7 | 1,627.2 | 1,018.1 | 910.0 | 108.05 | 9.422 | |
| 11,400.0 | 9,434.4 | 11,148.5 | 9,313.4 | 58.9 | 56.7 | 83.05 | 817.7 | 1,727.0 | 1,012.7 | 900.9 | 111.85 | 9.054 | |
| 11,500.0 | 9,437.0 | 11,248.4 | 9,315.7 | 60.8 | 58.7 | 82.99 | 818.7 | 1,826.8 | 1,007.5 | 891.8 | 115.74 | 8.705 | |
| 11,600.0 | 9,439.7 | 11,348.2 | 9,317.9 | 62.7 | 60.7 | 82.93 | 819.7 | 1,926.6 | 1,002.4 | 882.7 | 119.69 | 8.375 | |
| 11,700.0 | 9,442.3 | 11,448.1 | 9,320.1 | 64.6 | 62.7 | 82.88 | 820.7 | 2,026.5 | 997.4 | 873.7 | 123.71 | 8.062 | |
| 11,800.0 | 9,444.9 | 11,548.0 | 9,322.3 | 66.6 | 64.8 | 82.82 | 821.7 | 2,126.3 | 992.5 | 864.7 | 127.78 | 7.767 | |
| 11,900.0 | 9,447.5 | 11,647.9 | 9,324.6 | 68.6 | 66.9 | 82.77 | 822.7 | 2,226.2 | 987.8 | 855.9 | 131.91 | 7.488 | |
| 12,000.0 | 9,450.1 | 11,747.7 | 9,326.8 | 70.6 | 69.0 | 82.72 | 823.7 | 2,326.0 | 983.1 | 847.1 | 136.08 | 7.225 | |
| 12,100.0 | 9,452.7 | 11,847.6 | 9,329.0 | 72.7 | 71.1 | 82.66 | 824.7 | 2,425.9 | 978.6 | 838.3 | 140.29 | 6.976 | |
| 12,200.0 | 9,455.3 | 11,947.5 | 9,331.3 | 74.8 | 73.3 | 82.61 | 825.7 | 2,525.8 | 974.2 | 829.7 | 144.55 | 6.740 | |
| 12,300.0 | 9,457.9 | 12,047.4 | 9,333.5 | 76.9 | 75.5 | 82.56 | 826.7 | 2,625.6 | 970.0 | 821.1 | 148.84 | 6.517 | |
| 12,400.0 | 9,460.5 | 12,147.3 | 9,335.7 | 79.0 | 77.7 | 82.51 | 827.7 | 2,725.5 | 965.8 | 812.6 | 153.16 | 6.306 | |
| 12,500.0 | 9,463.0 | 12,247.3 | 9,338.0 | 81.2 | 79.9 | 82.46 | 828.7 | 2,825.4 | 961.8 | 804.2 | 157.51 | 6.106 | |
| 12,600.0 | 9,465.6 | 12,347.2 | 9,340.2 | 83.4 | 82.1 | 82.41 | 829.7 | 2,925.3 | 957.8 | 795.9 | 161.89 | 5.917 | |
| 12,700.0 | 9,468.2 | 12,447.1 | 9,342.4 | 85.5 | 84.3 | 82.36 | 830.6 | 3,025.2 | 954.0 | 787.7 | 166.29 | 5.737 | |
| 12,800.0 | 9,470.7 | 12,547.0 | 9,344.7 | 87.8 | 86.6 | 82.31 | 831.6 | 3,125.1 | 950.3 | 779.6 | 170.72 | 5.567 | |
| 12,900.0 | 9,473.3 | 12,647.0 | 9,346.9 | 90.0 | 88.8 | 82.27 | 832.6 | 3,225.0 | 946.8 | 771.6 | 175.16 | 5.405 | |
| 13,000.0 | 9,475.9 | 12,746.9 | 9,349.1 | 92.2 | 91.1 | 82.22 | 833.6 | 3,324.9 | 943.3 | 763.7 | 179.63 | 5.251 | |
| 13,100.0 | 9,478.4 | 12,846.8 | 9,351.4 | 94.4 | 93.4 | 82.18 | 834.6 | 3,424.8 | 940.0 | 755.9 | 184.12 | 5.105 | |
| 13,200.0 | 9,480.9 | 12,946.8 | 9,353.6 | 96.7 | 95.6 | 82.13 | 835.6 | 3,524.7 | 936.8 | 748.2 | 188.62 | 4.967 | |
| 13,300.0 | 9,483.5 | 13,046.7 | 9,355.8 | 98.9 | 97.9 | 82.09 | 836.6 | 3,624.7 | 933.7 | 740.6 | 193.14 | 4.834 | |
| 13,400.0 | 9,486.0 | 13,146.7 | 9,358.1 | 101.2 | 100.2 | 82.05 | 837.6 | 3,724.6 | 930.7 | 733.1 | 197.67 | 4.708 | |
| 13,500.0 | 9,488.5 | 13,246.7 | 9,360.3 | 103.5 | 102.5 | 82.01 | 838.6 | 3,824.5 | 927.9 | 725.6 | 202.22 | 4.588 | |
| 13,600.0 | 9,491.0 | 13,346.6 | 9,362.5 | 105.8 | 104.9 | 81.97 | 839.6 | 3,924.4 | 925.1 | 718.3 | 206.78 | 4.474 | |
| 13,700.0 | 9,493.6 | 13,446.6 | 9,364.8 | 108.1 | 107.2 | 81.93 | 840.6 | 4,024.4 | 922.5 | 711.2 | 211.35 | 4.365 | |
| 13,800.0 | 9,496.1 | 13,546.5 | 9,367.0 | 110.4 | 109.5 | 81.89 | 841.6 | 4,124.3 | 920.0 | 704.1 | 215.93 | 4.261 | |
| 13,900.0 | 9,498.6 | 13,646.5 | 9,369.2 | 112.7 | 111.8 | 81.86 | 842.6 | 4,224.2 | 917.6 | 697.1 | 220.53 | 4.161 | |
| 14,000.0 | 9,501.1 | 13,746.5 | 9,371.5 | 115.0 | 114.2 | 81.82 | 843.6 | 4,324.2 | 915.3 | 690.2 | 225.13 | 4.066 | |

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

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Michael Ryan - Michael Ryan State Com #137H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

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

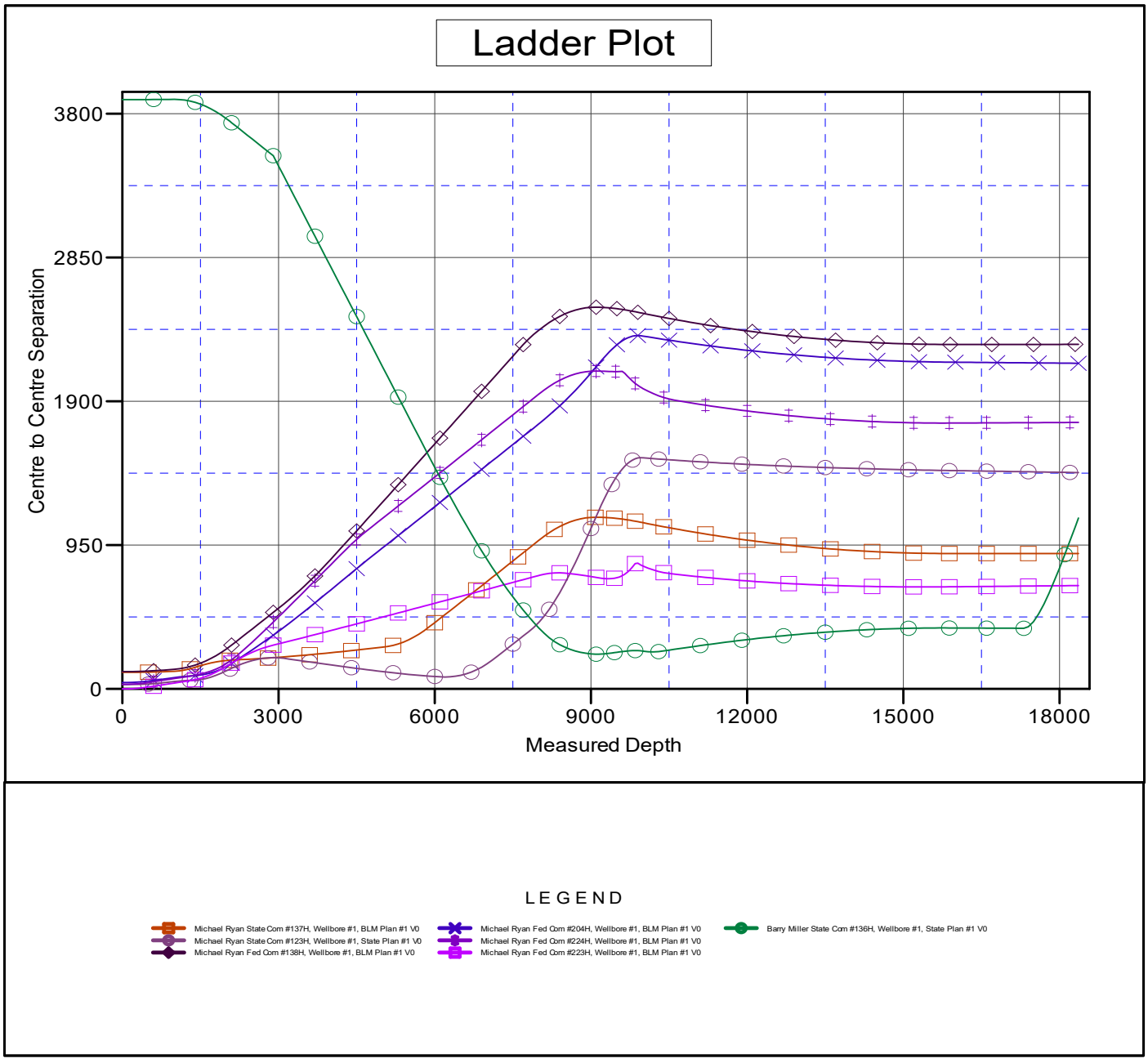
| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,100.0 | 9,503.6 | 13,846.5 | 9,373.7 | 117.3 | 116.5 | 81.79 | 844.6 | 4,424.1 | 913.2 | 683.5 | 229.74 | 3.975 | |
| 14,200.0 | 9,506.1 | 13,946.4 | 9,375.9 | 119.6 | 118.8 | 81.76 | 845.6 | 4,524.1 | 911.2 | 676.8 | 234.36 | 3.888 | |
| 14,300.0 | 9,508.5 | 14,046.4 | 9,378.2 | 122.0 | 121.2 | 81.73 | 846.6 | 4,624.0 | 909.3 | 670.3 | 238.99 | 3.804 | |
| 14,400.0 | 9,511.0 | 14,146.4 | 9,380.4 | 124.3 | 123.5 | 81.70 | 847.5 | 4,724.0 | 907.5 | 663.8 | 243.63 | 3.725 | |
| 14,500.0 | 9,513.5 | 14,246.4 | 9,382.6 | 126.6 | 125.9 | 81.67 | 848.5 | 4,823.9 | 905.8 | 657.5 | 248.28 | 3.648 | |
| 14,600.0 | 9,516.0 | 14,346.4 | 9,384.9 | 129.0 | 128.3 | 81.64 | 849.5 | 4,923.9 | 904.2 | 651.3 | 252.93 | 3.575 | |
| 14,700.0 | 9,518.4 | 14,446.4 | 9,387.1 | 131.3 | 130.6 | 81.61 | 850.5 | 5,023.9 | 902.8 | 645.2 | 257.59 | 3.505 | |
| 14,800.0 | 9,520.9 | 14,546.4 | 9,389.3 | 133.7 | 133.0 | 81.59 | 851.5 | 5,123.8 | 901.4 | 639.2 | 262.26 | 3.437 | |
| 14,900.0 | 9,523.3 | 14,646.3 | 9,391.6 | 136.0 | 135.3 | 81.56 | 852.5 | 5,223.8 | 900.2 | 633.3 | 266.93 | 3.373 | |
| 15,000.0 | 9,525.8 | 14,746.3 | 9,393.8 | 138.4 | 137.7 | 81.54 | 853.5 | 5,323.7 | 899.1 | 627.5 | 271.61 | 3.310 | |
| 15,100.0 | 9,528.2 | 14,846.3 | 9,396.0 | 140.8 | 140.1 | 81.52 | 854.5 | 5,423.7 | 898.2 | 621.9 | 276.29 | 3.251 | |
| 15,200.0 | 9,530.6 | 14,946.3 | 9,398.3 | 143.1 | 142.5 | 81.50 | 855.5 | 5,523.7 | 897.3 | 616.3 | 280.98 | 3.194 | |
| 15,300.0 | 9,533.1 | 15,046.3 | 9,400.5 | 145.5 | 144.9 | 81.48 | 856.5 | 5,623.6 | 896.6 | 610.9 | 285.68 | 3.138 | |
| 15,400.0 | 9,535.5 | 15,146.3 | 9,402.7 | 147.9 | 147.2 | 81.47 | 857.5 | 5,723.6 | 896.0 | 605.6 | 290.38 | 3.085 | |
| 15,500.0 | 9,537.9 | 15,246.3 | 9,405.0 | 150.2 | 149.6 | 81.45 | 858.5 | 5,823.6 | 895.5 | 600.4 | 295.08 | 3.035 | |
| 15,600.0 | 9,540.3 | 15,346.3 | 9,407.2 | 152.6 | 152.0 | 81.44 | 859.5 | 5,923.5 | 895.1 | 595.3 | 299.79 | 2.986 | |
| 15,700.0 | 9,542.7 | 15,446.3 | 9,409.4 | 155.0 | 154.4 | 81.43 | 860.5 | 6,023.5 | 894.8 | 590.3 | 304.51 | 2.939 | |
| 15,800.0 | 9,545.1 | 15,546.3 | 9,411.7 | 157.4 | 156.8 | 81.42 | 861.5 | 6,123.5 | 894.7 | 585.4 | 309.23 | 2.893 | |
| 15,878.9 | 9,547.0 | 15,625.2 | 9,413.4 | 159.2 | 158.7 | 81.41 | 862.3 | 6,202.3 | 894.6 | 581.7 | 312.96 | 2.859 | |
| 15,884.5 | 9,547.2 | 15,630.8 | 9,413.6 | 159.4 | 158.8 | 81.41 | 862.3 | 6,207.9 | 894.6 | 581.4 | 313.22 | 2.856 | |
| 15,900.0 | 9,547.5 | 15,646.3 | 9,413.9 | 159.7 | 159.2 | 81.41 | 862.5 | 6,223.4 | 894.6 | 580.7 | 313.95 | 2.850 | |
| 16,000.0 | 9,549.9 | 15,746.3 | 9,416.1 | 162.1 | 161.6 | 81.40 | 863.5 | 6,323.4 | 894.6 | 575.9 | 318.68 | 2.807 | |
| 16,100.0 | 9,552.3 | 15,846.3 | 9,418.4 | 164.5 | 164.0 | 81.39 | 864.5 | 6,423.4 | 894.6 | 571.2 | 323.41 | 2.766 | |
| 16,200.0 | 9,554.7 | 15,946.3 | 9,420.6 | 166.9 | 166.4 | 81.37 | 865.4 | 6,523.4 | 894.6 | 566.5 | 328.15 | 2.726 | |
| 16,300.0 | 9,557.1 | 16,046.3 | 9,422.8 | 169.3 | 168.8 | 81.36 | 866.4 | 6,623.3 | 894.6 | 561.8 | 332.88 | 2.688 | |
| 16,400.0 | 9,559.5 | 16,146.3 | 9,425.1 | 171.7 | 171.2 | 81.35 | 867.4 | 6,723.3 | 894.6 | 557.0 | 337.62 | 2.650 | |
| 16,500.0 | 9,561.9 | 16,246.3 | 9,427.3 | 174.1 | 173.6 | 81.34 | 868.4 | 6,823.3 | 894.7 | 552.3 | 342.36 | 2.613 | |
| 16,600.0 | 9,564.3 | 16,346.3 | 9,429.5 | 176.5 | 176.0 | 81.33 | 869.4 | 6,923.2 | 894.7 | 547.6 | 347.11 | 2.577 | |
| 16,700.0 | 9,566.7 | 16,446.3 | 9,431.8 | 178.9 | 178.4 | 81.32 | 870.4 | 7,023.2 | 894.7 | 542.8 | 351.85 | 2.543 | |
| 16,800.0 | 9,569.1 | 16,546.3 | 9,434.0 | 181.3 | 180.8 | 81.31 | 871.4 | 7,123.2 | 894.7 | 538.1 | 356.60 | 2.509 | |
| 16,900.0 | 9,571.5 | 16,646.3 | 9,436.2 | 183.7 | 183.2 | 81.30 | 872.4 | 7,223.1 | 894.7 | 533.3 | 361.35 | 2.476 | |
| 17,000.0 | 9,573.9 | 16,746.3 | 9,438.5 | 186.1 | 185.6 | 81.29 | 873.4 | 7,323.1 | 894.7 | 528.6 | 366.10 | 2.444 | |
| 17,100.0 | 9,576.3 | 16,846.3 | 9,440.7 | 188.5 | 188.0 | 81.28 | 874.4 | 7,423.1 | 894.7 | 523.8 | 370.86 | 2.412 | |
| 17,200.0 | 9,578.7 | 16,946.3 | 9,442.9 | 190.9 | 190.4 | 81.27 | 875.4 | 7,523.1 | 894.7 | 519.1 | 375.62 | 2.382 | |
| 17,300.0 | 9,581.1 | 17,046.3 | 9,445.2 | 193.3 | 192.8 | 81.26 | 876.4 | 7,623.0 | 894.7 | 514.3 | 380.37 | 2.352 | |
| 17,400.0 | 9,583.5 | 17,146.3 | 9,447.4 | 195.7 | 195.2 | 81.25 | 877.4 | 7,723.0 | 894.7 | 509.6 | 385.13 | 2.323 | |
| 17,500.0 | 9,585.9 | 17,246.3 | 9,449.6 | 198.1 | 197.6 | 81.24 | 878.4 | 7,823.0 | 894.7 | 504.8 | 389.90 | 2.295 | |
| 17,600.0 | 9,588.3 | 17,346.3 | 9,451.9 | 200.5 | 200.0 | 81.23 | 879.4 | 7,922.9 | 894.7 | 500.1 | 394.66 | 2.267 | |
| 17,700.0 | 9,590.7 | 17,446.3 | 9,454.1 | 202.9 | 202.5 | 81.22 | 880.4 | 8,022.9 | 894.7 | 495.3 | 399.42 | 2.240 | |
| 17,800.0 | 9,593.1 | 17,546.3 | 9,456.3 | 205.3 | 204.9 | 81.21 | 881.4 | 8,122.9 | 894.7 | 490.6 | 404.19 | 2.214 | |
| 17,900.0 | 9,595.5 | 17,646.3 | 9,458.6 | 207.7 | 207.3 | 81.20 | 882.4 | 8,222.8 | 894.8 | 485.8 | 408.96 | 2.188 | |
| 18,000.0 | 9,597.9 | 17,746.3 | 9,460.8 | 210.1 | 209.7 | 81.19 | 883.4 | 8,322.8 | 894.8 | 481.0 | 413.72 | 2.163 | |
| 18,100.0 | 9,600.3 | 17,846.3 | 9,463.0 | 212.5 | 212.1 | 81.18 | 884.3 | 8,422.8 | 894.8 | 476.3 | 418.49 | 2.138 | |
| 18,200.0 | 9,602.7 | 17,946.3 | 9,465.3 | 214.9 | 214.5 | 81.17 | 885.3 | 8,522.8 | 894.8 | 471.5 | 423.27 | 2.114 | |
| 18,300.0 | 9,605.0 | 18,046.3 | 9,467.5 | 217.4 | 216.9 | 81.16 | 886.3 | 8,622.7 | 894.8 | 466.7 | 428.04 | 2.090 | |
| 18,364.7 | 9,606.6 | 18,111.0 | 9,469.0 | 218.4 | 218.5 | 81.15 | 887.0 | 8,687.4 | 894.8 | 464.2 | 430.62 | 2.078 | SF |

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to KB @ 3106.5usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

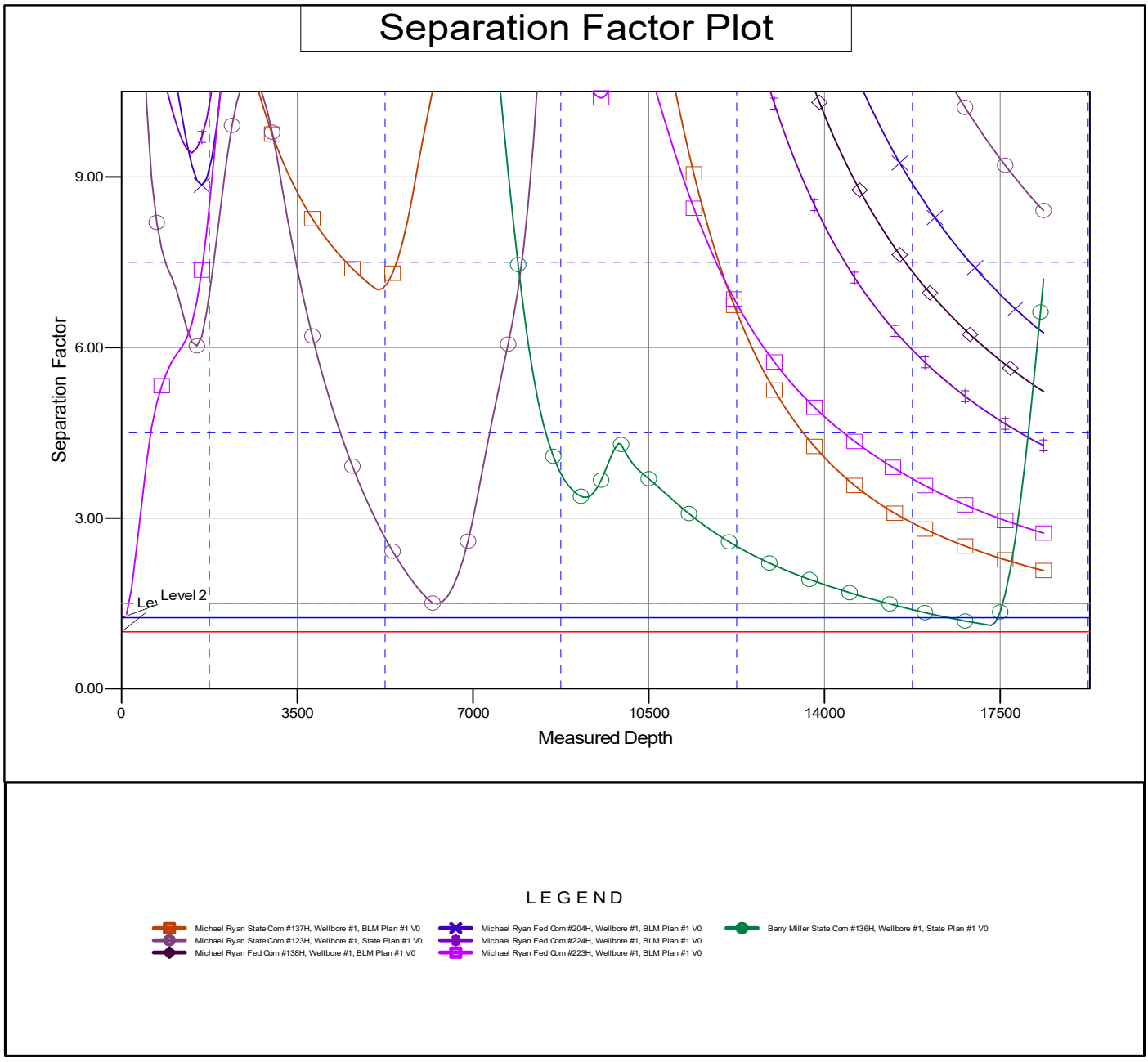
Coordinates are relative to: Michael Ryan Fed Com #203H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.13°



# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Matador Production Company | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Project:** | Rustler Breaks | **TVD Reference:** | KB @ 3106.5usft |
| **Reference Site:** | Michael Ryan | **MD Reference:** | KB @ 3106.5usft |
| **Site Error:** | 0.0 usft | **North Reference:** | Grid |
| **Reference Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | EDM 5000.14 Server |
| **Reference Design:** | BLM Plan #1 | **Offset TVD Reference:** | Offset Datum |

| | |
|---|---|
| Reference Depths are relative to KB @ 3106.5usft | Coordinates are relative to: Michael Ryan Fed Com #203H |
| Offset Depths are relative to Offset Datum | Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30 |
| Central Meridian is 104° 20' 0.000 W | Grid Convergence at Surface is: 0.13° |



# Matador Production Company

**Rustler Breaks**
**Michael Ryan**
**Michael Ryan Fed Com #203H**

**Wellbore #1**

**Plan: BLM Plan #1**

# Standard Planning Report

**09 January, 2023**

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Project** Rustler Breaks,

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico East 3001 | | Using geodetic scale factor |

**Site** Michael Ryan

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 504,500.19 usft | **Latitude:** | 32° 23' 12.370 N |
| **From:** | Lat/Long | **Easting:** | 572,088.00 usft | **Longitude:** | 104° 5' 59.288 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.13 ° |

**Well** Michael Ryan Fed Com #203H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 80.0 usft | **Northing:** | 504,580.19 usft | **Latitude:** | 32° 23' 13.161 N |
| | **+E/-W** | 0.1 usft | **Easting:** | 572,088.08 usft | **Longitude:** | 104° 5' 59.285 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | | **Ground Level:** | 3,078.0 usft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2015 | 9/24/2021 | 6.75 | 60.07 | 47,542.49658479 |

**Design** BLM Plan #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | 1 | **Phase:** | PLAN | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 89.43 |

**Plan Survey Tool Program** **Date** 1/9/2023

| | Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.0 | 18,364.3 | BLM Plan #1 (Wellbore #1) | MWD | |
| | | | | OWSG MWD - Standard | |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 25.0 | 0.00 | 0.00 | 25.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 500.2 | 3.00 | 270.00 | 500.0 | 0.0 | -12.4 | 0.63 | 0.63 | 0.00 | 270.00 | |
| 1,000.2 | 3.00 | 270.00 | 999.3 | 0.0 | -38.6 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,068.0 | 16.06 | 353.99 | 2,052.4 | 147.8 | -82.3 | 1.50 | 1.22 | 7.87 | 94.44 | |
| 8,014.5 | 16.06 | 353.99 | 7,766.9 | 1,783.7 | -254.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,085.1 | 0.00 | 0.00 | 8,823.5 | 1,931.9 | -270.1 | 1.50 | -1.50 | 0.00 | 180.00 | VP - Michael Ryan |
| 9,969.6 | 88.45 | 93.49 | 9,396.2 | 1,898.0 | 286.3 | 10.00 | 10.00 | 0.00 | 93.49 | |
| 15,884.5 | 88.63 | 89.44 | 9,547.2 | 1,746.8 | 6,196.1 | 0.07 | 0.00 | -0.07 | -87.55 | |
| 18,364.7 | 88.63 | 89.44 | 9,606.6 | 1,771.0 | 8,675.6 | 0.00 | 0.00 | 0.00 | 0.00 | BHL - Michael Ryar |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 25.0 | 0.00 | 0.00 | 25.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.47 | 270.00 | 100.0 | 0.0 | -0.3 | -0.3 | 0.63 | 0.63 | 0.00 |
| 200.0 | 1.10 | 270.00 | 200.0 | 0.0 | -1.7 | -1.7 | 0.63 | 0.63 | 0.00 |
| 300.0 | 1.74 | 270.00 | 300.0 | 0.0 | -4.2 | -4.2 | 0.63 | 0.63 | 0.00 |
| 400.0 | 2.37 | 270.00 | 399.9 | 0.0 | -7.7 | -7.7 | 0.63 | 0.63 | 0.00 |
| 500.0 | 3.00 | 270.00 | 499.8 | 0.0 | -12.4 | -12.4 | 0.63 | 0.63 | 0.00 |
| 500.2 | 3.00 | 270.00 | 500.0 | 0.0 | -12.4 | -12.4 | 0.63 | 0.63 | 0.00 |
| 600.0 | 3.00 | 270.00 | 599.6 | 0.0 | -17.7 | -17.7 | 0.00 | 0.00 | 0.00 |
| 700.0 | 3.00 | 270.00 | 699.5 | 0.0 | -22.9 | -22.9 | 0.00 | 0.00 | 0.00 |
| 800.0 | 3.00 | 270.00 | 799.4 | 0.0 | -28.1 | -28.1 | 0.00 | 0.00 | 0.00 |
| 900.0 | 3.00 | 270.00 | 899.2 | 0.0 | -33.4 | -33.4 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 3.00 | 270.00 | 999.1 | 0.0 | -38.6 | -38.6 | 0.00 | 0.00 | 0.00 |
| 1,000.2 | 3.00 | 270.00 | 999.3 | 0.0 | -38.6 | -38.6 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 3.25 | 297.37 | 1,099.0 | 1.3 | -43.7 | -43.7 | 1.50 | 0.25 | 27.43 |
| 1,200.0 | 4.07 | 317.23 | 1,198.8 | 5.2 | -48.7 | -48.6 | 1.50 | 0.82 | 19.85 |
| 1,300.0 | 5.21 | 329.46 | 1,298.4 | 11.7 | -53.4 | -53.3 | 1.50 | 1.14 | 12.24 |
| 1,400.0 | 6.49 | 337.11 | 1,397.9 | 20.8 | -57.9 | -57.7 | 1.50 | 1.28 | 7.65 |
| 1,500.0 | 7.85 | 342.19 | 1,497.1 | 32.6 | -62.2 | -61.8 | 1.50 | 1.36 | 5.07 |
| 1,600.0 | 9.26 | 345.75 | 1,596.0 | 46.9 | -66.2 | -65.8 | 1.50 | 1.40 | 3.56 |
| 1,700.0 | 10.69 | 348.38 | 1,694.5 | 63.7 | -70.1 | -69.4 | 1.50 | 1.43 | 2.62 |
| 1,800.0 | 12.13 | 350.38 | 1,792.5 | 83.2 | -73.7 | -72.9 | 1.50 | 1.45 | 2.01 |
| 1,900.0 | 13.59 | 351.97 | 1,890.0 | 105.2 | -77.1 | -76.1 | 1.50 | 1.46 | 1.58 |
| 2,000.0 | 15.06 | 353.25 | 1,986.9 | 129.7 | -80.3 | -79.0 | 1.50 | 1.47 | 1.28 |
| 2,068.0 | 16.06 | 353.99 | 2,052.4 | 147.8 | -82.3 | -80.8 | 1.50 | 1.47 | 1.09 |
| 2,100.0 | 16.06 | 353.99 | 2,083.2 | 156.6 | -83.2 | -81.7 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 16.06 | 353.99 | 2,179.3 | 184.1 | -86.1 | -84.3 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 16.06 | 353.99 | 2,275.3 | 211.7 | -89.0 | -86.9 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 16.06 | 353.99 | 2,371.4 | 239.2 | -91.9 | -89.5 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 16.06 | 353.99 | 2,467.5 | 266.7 | -94.8 | -92.1 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 16.06 | 353.99 | 2,563.6 | 294.2 | -97.7 | -94.8 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 16.06 | 353.99 | 2,659.7 | 321.7 | -100.6 | -97.4 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 16.06 | 353.99 | 2,755.8 | 349.2 | -103.5 | -100.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 16.06 | 353.99 | 2,851.9 | 376.7 | -106.4 | -102.6 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 16.06 | 353.99 | 2,948.0 | 404.2 | -109.3 | -105.3 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 16.06 | 353.99 | 3,044.1 | 431.7 | -112.2 | -107.9 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 16.06 | 353.99 | 3,140.2 | 459.2 | -115.1 | -110.5 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 16.06 | 353.99 | 3,236.3 | 486.7 | -118.0 | -113.1 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 16.06 | 353.99 | 3,332.4 | 514.3 | -120.9 | -115.7 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 16.06 | 353.99 | 3,428.5 | 541.8 | -123.8 | -118.4 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 16.06 | 353.99 | 3,524.6 | 569.3 | -126.7 | -121.0 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 16.06 | 353.99 | 3,620.7 | 596.8 | -129.5 | -123.6 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 16.06 | 353.99 | 3,716.8 | 624.3 | -132.4 | -126.2 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 16.06 | 353.99 | 3,812.9 | 651.8 | -135.3 | -128.9 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 16.06 | 353.99 | 3,909.0 | 679.3 | -138.2 | -131.5 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 16.06 | 353.99 | 4,005.1 | 706.8 | -141.1 | -134.1 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 16.06 | 353.99 | 4,101.2 | 734.3 | -144.0 | -136.7 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 16.06 | 353.99 | 4,197.3 | 761.8 | -146.9 | -139.3 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 16.06 | 353.99 | 4,293.4 | 789.3 | -149.8 | -142.0 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 16.06 | 353.99 | 4,389.5 | 816.9 | -152.7 | -144.6 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 16.06 | 353.99 | 4,485.6 | 844.4 | -155.6 | -147.2 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 16.06 | 353.99 | 4,581.7 | 871.9 | -158.5 | -149.8 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 16.06 | 353.99 | 4,677.8 | 899.4 | -161.4 | -152.4 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 16.06 | 353.99 | 4,773.9 | 926.9 | -164.3 | -155.1 | 0.00 | 0.00 | 0.00 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 16.06 | 353.99 | 4,870.0 | 954.4 | -167.2 | -157.7 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 16.06 | 353.99 | 4,966.1 | 981.9 | -170.1 | -160.3 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 16.06 | 353.99 | 5,062.2 | 1,009.4 | -173.0 | -162.9 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 16.06 | 353.99 | 5,158.3 | 1,036.9 | -175.9 | -165.6 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 16.06 | 353.99 | 5,254.4 | 1,064.4 | -178.8 | -168.2 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 16.06 | 353.99 | 5,350.5 | 1,091.9 | -181.7 | -170.8 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 16.06 | 353.99 | 5,446.6 | 1,119.5 | -184.6 | -173.4 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 16.06 | 353.99 | 5,542.7 | 1,147.0 | -187.5 | -176.0 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 16.06 | 353.99 | 5,638.8 | 1,174.5 | -190.4 | -178.7 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 16.06 | 353.99 | 5,734.9 | 1,202.0 | -193.3 | -181.3 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 16.06 | 353.99 | 5,831.0 | 1,229.5 | -196.1 | -183.9 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 16.06 | 353.99 | 5,927.1 | 1,257.0 | -199.0 | -186.5 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 16.06 | 353.99 | 6,023.2 | 1,284.5 | -201.9 | -189.2 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 16.06 | 353.99 | 6,119.3 | 1,312.0 | -204.8 | -191.8 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 16.06 | 353.99 | 6,215.4 | 1,339.5 | -207.7 | -194.4 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 16.06 | 353.99 | 6,311.5 | 1,367.0 | -210.6 | -197.0 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 16.06 | 353.99 | 6,407.6 | 1,394.5 | -213.5 | -199.6 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 16.06 | 353.99 | 6,503.7 | 1,422.1 | -216.4 | -202.3 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 16.06 | 353.99 | 6,599.8 | 1,449.6 | -219.3 | -204.9 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 16.06 | 353.99 | 6,695.9 | 1,477.1 | -222.2 | -207.5 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 16.06 | 353.99 | 6,792.0 | 1,504.6 | -225.1 | -210.1 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 16.06 | 353.99 | 6,888.1 | 1,532.1 | -228.0 | -212.7 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 16.06 | 353.99 | 6,984.2 | 1,559.6 | -230.9 | -215.4 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 16.06 | 353.99 | 7,080.3 | 1,587.1 | -233.8 | -218.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 16.06 | 353.99 | 7,176.4 | 1,614.6 | -236.7 | -220.6 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 16.06 | 353.99 | 7,272.5 | 1,642.1 | -239.6 | -223.2 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 16.06 | 353.99 | 7,368.6 | 1,669.6 | -242.5 | -225.9 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 16.06 | 353.99 | 7,464.7 | 1,697.1 | -245.4 | -228.5 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 16.06 | 353.99 | 7,560.7 | 1,724.7 | -248.3 | -231.1 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 16.06 | 353.99 | 7,656.8 | 1,752.2 | -251.2 | -233.7 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 16.06 | 353.99 | 7,752.9 | 1,779.7 | -254.1 | -236.3 | 0.00 | 0.00 | 0.00 |
| 8,014.5 | 16.06 | 353.99 | 7,766.9 | 1,783.7 | -254.5 | -236.7 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 14.78 | 353.99 | 7,849.3 | 1,806.3 | -256.9 | -238.9 | 1.50 | -1.50 | 0.00 |
| 8,200.0 | 13.28 | 353.99 | 7,946.3 | 1,830.4 | -259.4 | -241.2 | 1.50 | -1.50 | 0.00 |
| 8,300.0 | 11.78 | 353.99 | 8,043.9 | 1,851.9 | -261.7 | -243.2 | 1.50 | -1.50 | 0.00 |
| 8,400.0 | 10.28 | 353.99 | 8,142.1 | 1,871.0 | -263.7 | -245.0 | 1.50 | -1.50 | 0.00 |
| 8,500.0 | 8.78 | 353.99 | 8,240.7 | 1,887.4 | -265.4 | -246.6 | 1.50 | -1.50 | 0.00 |
| 8,600.0 | 7.28 | 353.99 | 8,339.7 | 1,901.3 | -266.9 | -247.9 | 1.50 | -1.50 | 0.00 |
| 8,700.0 | 5.78 | 353.99 | 8,439.1 | 1,912.6 | -268.1 | -249.0 | 1.50 | -1.50 | 0.00 |
| 8,800.0 | 4.28 | 353.99 | 8,538.7 | 1,921.3 | -269.0 | -249.8 | 1.50 | -1.50 | 0.00 |
| 8,900.0 | 2.78 | 353.99 | 8,638.5 | 1,927.4 | -269.6 | -250.4 | 1.50 | -1.50 | 0.00 |
| 9,000.0 | 1.28 | 353.99 | 8,738.4 | 1,931.0 | -270.0 | -250.8 | 1.50 | -1.50 | 0.00 |
| 9,085.1 | 0.00 | 0.00 | 8,823.5 | 1,931.9 | -270.1 | -250.9 | 1.50 | -1.50 | 0.00 |
| 9,100.0 | 1.49 | 93.49 | 8,838.4 | 1,931.9 | -269.9 | -250.7 | 10.00 | 10.00 | 0.00 |
| 9,200.0 | 11.49 | 93.49 | 8,937.6 | 1,931.2 | -258.6 | -239.4 | 10.00 | 10.00 | 0.00 |
| 9,300.0 | 21.49 | 93.49 | 9,033.4 | 1,929.5 | -230.3 | -211.1 | 10.00 | 10.00 | 0.00 |
| 9,400.0 | 31.49 | 93.49 | 9,122.8 | 1,926.8 | -185.9 | -166.7 | 10.00 | 10.00 | 0.00 |
| 9,500.0 | 41.49 | 93.49 | 9,203.1 | 1,923.1 | -126.6 | -107.4 | 10.00 | 10.00 | 0.00 |
| 9,600.0 | 51.49 | 93.49 | 9,271.9 | 1,918.7 | -54.3 | -35.2 | 10.00 | 10.00 | 0.00 |
| 9,700.0 | 61.49 | 93.49 | 9,327.0 | 1,913.7 | 28.9 | 47.9 | 10.00 | 10.00 | 0.00 |
| 9,800.0 | 71.49 | 93.49 | 9,366.8 | 1,908.1 | 120.3 | 139.2 | 10.00 | 10.00 | 0.00 |
| 9,900.0 | 81.49 | 93.49 | 9,390.2 | 1,902.2 | 217.2 | 236.1 | 10.00 | 10.00 | 0.00 |
| 9,969.6 | 88.45 | 93.49 | 9,396.2 | 1,898.0 | 286.3 | 305.2 | 10.00 | 10.00 | 0.00 |
| 10,000.0 | 88.45 | 93.47 | 9,397.1 | 1,896.1 | 316.7 | 335.5 | 0.07 | 0.00 | -0.07 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 10,100.0 | 88.45 | 93.40 | 9,399.8 | 1,890.1 | 416.5 | 435.3 | 0.07 | 0.00 | -0.07 |
| 10,200.0 | 88.46 | 93.33 | 9,402.5 | 1,884.3 | 516.3 | 535.0 | 0.07 | 0.00 | -0.07 |
| 10,300.0 | 88.46 | 93.26 | 9,405.2 | 1,878.5 | 616.1 | 634.7 | 0.07 | 0.00 | -0.07 |
| 10,400.0 | 88.46 | 93.20 | 9,407.8 | 1,872.9 | 715.9 | 734.5 | 0.07 | 0.00 | -0.07 |
| 10,500.0 | 88.47 | 93.13 | 9,410.5 | 1,867.4 | 815.7 | 834.2 | 0.07 | 0.00 | -0.07 |
| 10,600.0 | 88.47 | 93.06 | 9,413.2 | 1,862.0 | 915.5 | 934.0 | 0.07 | 0.00 | -0.07 |
| 10,700.0 | 88.47 | 92.99 | 9,415.9 | 1,856.7 | 1,015.3 | 1,033.7 | 0.07 | 0.00 | -0.07 |
| 10,800.0 | 88.47 | 92.92 | 9,418.5 | 1,851.5 | 1,115.2 | 1,133.5 | 0.07 | 0.00 | -0.07 |
| 10,900.0 | 88.48 | 92.85 | 9,421.2 | 1,846.5 | 1,215.0 | 1,233.3 | 0.07 | 0.00 | -0.07 |
| 11,000.0 | 88.48 | 92.78 | 9,423.8 | 1,841.6 | 1,314.8 | 1,333.1 | 0.07 | 0.00 | -0.07 |
| 11,100.0 | 88.48 | 92.72 | 9,426.5 | 1,836.8 | 1,414.7 | 1,432.9 | 0.07 | 0.00 | -0.07 |
| 11,200.0 | 88.49 | 92.65 | 9,429.1 | 1,832.1 | 1,514.5 | 1,532.7 | 0.07 | 0.00 | -0.07 |
| 11,300.0 | 88.49 | 92.58 | 9,431.8 | 1,827.6 | 1,614.4 | 1,632.5 | 0.07 | 0.00 | -0.07 |
| 11,400.0 | 88.49 | 92.51 | 9,434.4 | 1,823.1 | 1,714.3 | 1,732.3 | 0.07 | 0.00 | -0.07 |
| 11,500.0 | 88.50 | 92.44 | 9,437.0 | 1,818.8 | 1,814.1 | 1,832.1 | 0.07 | 0.00 | -0.07 |
| 11,600.0 | 88.50 | 92.37 | 9,439.7 | 1,814.6 | 1,914.0 | 1,932.0 | 0.07 | 0.00 | -0.07 |
| 11,700.0 | 88.50 | 92.31 | 9,442.3 | 1,810.5 | 2,013.9 | 2,031.8 | 0.07 | 0.00 | -0.07 |
| 11,800.0 | 88.50 | 92.24 | 9,444.9 | 1,806.6 | 2,113.8 | 2,131.7 | 0.07 | 0.00 | -0.07 |
| 11,900.0 | 88.51 | 92.17 | 9,447.5 | 1,802.7 | 2,213.7 | 2,231.5 | 0.07 | 0.00 | -0.07 |
| 12,000.0 | 88.51 | 92.10 | 9,450.1 | 1,799.0 | 2,313.6 | 2,331.4 | 0.07 | 0.00 | -0.07 |
| 12,100.0 | 88.51 | 92.03 | 9,452.7 | 1,795.4 | 2,413.5 | 2,431.2 | 0.07 | 0.00 | -0.07 |
| 12,200.0 | 88.52 | 91.96 | 9,455.3 | 1,791.9 | 2,513.4 | 2,531.1 | 0.07 | 0.00 | -0.07 |
| 12,300.0 | 88.52 | 91.89 | 9,457.9 | 1,788.5 | 2,613.3 | 2,631.0 | 0.07 | 0.00 | -0.07 |
| 12,400.0 | 88.52 | 91.83 | 9,460.5 | 1,785.3 | 2,713.2 | 2,730.8 | 0.07 | 0.00 | -0.07 |
| 12,500.0 | 88.52 | 91.76 | 9,463.0 | 1,782.2 | 2,813.1 | 2,830.7 | 0.07 | 0.00 | -0.07 |
| 12,600.0 | 88.53 | 91.69 | 9,465.6 | 1,779.2 | 2,913.1 | 2,930.6 | 0.07 | 0.00 | -0.07 |
| 12,700.0 | 88.53 | 91.62 | 9,468.2 | 1,776.3 | 3,013.0 | 3,030.5 | 0.07 | 0.00 | -0.07 |
| 12,800.0 | 88.53 | 91.55 | 9,470.7 | 1,773.5 | 3,112.9 | 3,130.4 | 0.07 | 0.00 | -0.07 |
| 12,900.0 | 88.54 | 91.48 | 9,473.3 | 1,770.9 | 3,212.8 | 3,230.3 | 0.07 | 0.00 | -0.07 |
| 13,000.0 | 88.54 | 91.42 | 9,475.9 | 1,768.3 | 3,312.8 | 3,330.2 | 0.07 | 0.00 | -0.07 |
| 13,100.0 | 88.54 | 91.35 | 9,478.4 | 1,765.9 | 3,412.7 | 3,430.1 | 0.07 | 0.00 | -0.07 |
| 13,200.0 | 88.55 | 91.28 | 9,480.9 | 1,763.6 | 3,512.7 | 3,530.0 | 0.07 | 0.00 | -0.07 |
| 13,300.0 | 88.55 | 91.21 | 9,483.5 | 1,761.5 | 3,612.6 | 3,629.9 | 0.07 | 0.00 | -0.07 |
| 13,400.0 | 88.55 | 91.14 | 9,486.0 | 1,759.4 | 3,712.5 | 3,729.9 | 0.07 | 0.00 | -0.07 |
| 13,500.0 | 88.55 | 91.07 | 9,488.5 | 1,757.5 | 3,812.5 | 3,829.8 | 0.07 | 0.00 | -0.07 |
| 13,600.0 | 88.56 | 91.00 | 9,491.0 | 1,755.7 | 3,912.4 | 3,929.7 | 0.07 | 0.00 | -0.07 |
| 13,700.0 | 88.56 | 90.94 | 9,493.6 | 1,754.0 | 4,012.4 | 4,029.6 | 0.07 | 0.00 | -0.07 |
| 13,800.0 | 88.56 | 90.87 | 9,496.1 | 1,752.4 | 4,112.4 | 4,129.6 | 0.07 | 0.00 | -0.07 |
| 13,900.0 | 88.57 | 90.80 | 9,498.6 | 1,751.0 | 4,212.3 | 4,229.5 | 0.07 | 0.00 | -0.07 |
| 14,000.0 | 88.57 | 90.73 | 9,501.1 | 1,749.6 | 4,312.3 | 4,329.5 | 0.07 | 0.00 | -0.07 |
| 14,100.0 | 88.57 | 90.66 | 9,503.6 | 1,748.4 | 4,412.2 | 4,429.4 | 0.07 | 0.00 | -0.07 |
| 14,200.0 | 88.58 | 90.59 | 9,506.1 | 1,747.3 | 4,512.2 | 4,529.4 | 0.07 | 0.00 | -0.07 |
| 14,300.0 | 88.58 | 90.53 | 9,508.5 | 1,746.3 | 4,612.2 | 4,629.3 | 0.07 | 0.00 | -0.07 |
| 14,400.0 | 88.58 | 90.46 | 9,511.0 | 1,745.5 | 4,712.1 | 4,729.3 | 0.07 | 0.00 | -0.07 |
| 14,500.0 | 88.58 | 90.39 | 9,513.5 | 1,744.7 | 4,812.1 | 4,829.2 | 0.07 | 0.00 | -0.07 |
| 14,600.0 | 88.59 | 90.32 | 9,516.0 | 1,744.1 | 4,912.1 | 4,929.2 | 0.07 | 0.00 | -0.07 |
| 14,700.0 | 88.59 | 90.25 | 9,518.4 | 1,743.6 | 5,012.0 | 5,029.1 | 0.07 | 0.00 | -0.07 |
| 14,800.0 | 88.59 | 90.18 | 9,520.9 | 1,743.2 | 5,112.0 | 5,129.1 | 0.07 | 0.00 | -0.07 |
| 14,900.0 | 88.60 | 90.11 | 9,523.3 | 1,743.0 | 5,212.0 | 5,229.1 | 0.07 | 0.00 | -0.07 |
| 15,000.0 | 88.60 | 90.05 | 9,525.8 | 1,742.8 | 5,311.9 | 5,329.0 | 0.07 | 0.00 | -0.07 |
| 15,100.0 | 88.60 | 89.98 | 9,528.2 | 1,742.8 | 5,411.9 | 5,429.0 | 0.07 | 0.00 | -0.07 |
| 15,200.0 | 88.61 | 89.91 | 9,530.6 | 1,742.9 | 5,511.9 | 5,528.9 | 0.07 | 0.00 | -0.07 |
| 15,300.0 | 88.61 | 89.84 | 9,533.1 | 1,743.1 | 5,611.9 | 5,628.9 | 0.07 | 0.00 | -0.07 |
| 15,400.0 | 88.61 | 89.77 | 9,535.5 | 1,743.5 | 5,711.8 | 5,728.9 | 0.07 | 0.00 | -0.07 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 15,500.0 | 88.62 | 89.70 | 9,537.9 | 1,743.9 | 5,811.8 | 5,828.9 | 0.07 | 0.00 | -0.07 |
| 15,600.0 | 88.62 | 89.64 | 9,540.3 | 1,744.5 | 5,911.8 | 5,928.8 | 0.07 | 0.00 | -0.07 |
| 15,700.0 | 88.62 | 89.57 | 9,542.7 | 1,745.2 | 6,011.7 | 6,028.8 | 0.07 | 0.00 | -0.07 |
| 15,800.0 | 88.62 | 89.50 | 9,545.1 | 1,746.0 | 6,111.7 | 6,128.8 | 0.07 | 0.00 | -0.07 |
| 15,884.5 | 88.63 | 89.44 | 9,547.2 | 1,746.8 | 6,196.1 | 6,213.2 | 0.07 | 0.00 | -0.07 |
| 15,900.0 | 88.63 | 89.44 | 9,547.5 | 1,747.0 | 6,211.7 | 6,228.7 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 88.63 | 89.44 | 9,549.9 | 1,747.9 | 6,311.6 | 6,328.7 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 88.63 | 89.44 | 9,552.3 | 1,748.9 | 6,411.6 | 6,428.7 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 88.63 | 89.44 | 9,554.7 | 1,749.9 | 6,511.6 | 6,528.6 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 88.63 | 89.44 | 9,557.1 | 1,750.9 | 6,611.5 | 6,628.6 | 0.00 | 0.00 | 0.00 |
| 16,400.0 | 88.63 | 89.44 | 9,559.5 | 1,751.8 | 6,711.5 | 6,728.6 | 0.00 | 0.00 | 0.00 |
| 16,500.0 | 88.63 | 89.44 | 9,561.9 | 1,752.8 | 6,811.5 | 6,828.6 | 0.00 | 0.00 | 0.00 |
| 16,600.0 | 88.63 | 89.44 | 9,564.3 | 1,753.8 | 6,911.4 | 6,928.5 | 0.00 | 0.00 | 0.00 |
| 16,700.0 | 88.63 | 89.44 | 9,566.7 | 1,754.8 | 7,011.4 | 7,028.5 | 0.00 | 0.00 | 0.00 |
| 16,800.0 | 88.63 | 89.44 | 9,569.1 | 1,755.8 | 7,111.4 | 7,128.5 | 0.00 | 0.00 | 0.00 |
| 16,900.0 | 88.63 | 89.44 | 9,571.5 | 1,756.7 | 7,211.3 | 7,228.4 | 0.00 | 0.00 | 0.00 |
| 17,000.0 | 88.63 | 89.44 | 9,573.9 | 1,757.7 | 7,311.3 | 7,328.4 | 0.00 | 0.00 | 0.00 |
| 17,100.0 | 88.63 | 89.44 | 9,576.3 | 1,758.7 | 7,411.3 | 7,428.4 | 0.00 | 0.00 | 0.00 |
| 17,200.0 | 88.63 | 89.44 | 9,578.7 | 1,759.7 | 7,511.2 | 7,528.4 | 0.00 | 0.00 | 0.00 |
| 17,300.0 | 88.63 | 89.44 | 9,581.1 | 1,760.6 | 7,611.2 | 7,628.3 | 0.00 | 0.00 | 0.00 |
| 17,400.0 | 88.63 | 89.44 | 9,583.5 | 1,761.6 | 7,711.2 | 7,728.3 | 0.00 | 0.00 | 0.00 |
| 17,500.0 | 88.63 | 89.44 | 9,585.9 | 1,762.6 | 7,811.1 | 7,828.3 | 0.00 | 0.00 | 0.00 |
| 17,600.0 | 88.63 | 89.44 | 9,588.3 | 1,763.6 | 7,911.1 | 7,928.2 | 0.00 | 0.00 | 0.00 |
| 17,700.0 | 88.63 | 89.44 | 9,590.7 | 1,764.5 | 8,011.1 | 8,028.2 | 0.00 | 0.00 | 0.00 |
| 17,800.0 | 88.63 | 89.44 | 9,593.1 | 1,765.5 | 8,111.0 | 8,128.2 | 0.00 | 0.00 | 0.00 |
| 17,900.0 | 88.63 | 89.44 | 9,595.5 | 1,766.5 | 8,211.0 | 8,228.2 | 0.00 | 0.00 | 0.00 |
| 18,000.0 | 88.63 | 89.44 | 9,597.9 | 1,767.5 | 8,311.0 | 8,328.1 | 0.00 | 0.00 | 0.00 |
| 18,100.0 | 88.63 | 89.44 | 9,600.3 | 1,768.5 | 8,410.9 | 8,428.1 | 0.00 | 0.00 | 0.00 |
| 18,200.0 | 88.63 | 89.44 | 9,602.7 | 1,769.4 | 8,510.9 | 8,528.1 | 0.00 | 0.00 | 0.00 |
| 18,300.0 | 88.63 | 89.44 | 9,605.0 | 1,770.4 | 8,610.9 | 8,628.0 | 0.00 | 0.00 | 0.00 |
| 18,364.7 | 88.63 | 89.44 | 9,606.6 | 1,771.0 | 8,675.6 | 8,692.7 | 0.00 | 0.00 | 0.00 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| VP - Michael Ryan Fe<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 8,823.5 | 1,931.9 | -270.1 | 506,512.00 | 571,818.00 | 32° 23' 32.285 N | 104° 6' 2.385 W |
| FTP - Michael Ryan F<br>- plan misses target center by 241.2usft at 9723.4usft MD (9337.7 TVD, 1912.4 N, 49.6 E)<br>- Point | 0.00 | 0.00 | 9,396.5 | 1,681.9 | 9.9 | 506,262.00 | 572,098.00 | 32° 23' 29.805 N | 104° 5' 59.126 W |
| BHL - Michael Ryan F<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,606.6 | 1,771.0 | 8,675.6 | 506,351.30 | 580,764.00 | 32° 23' 30.490 N | 104° 4' 18.053 W |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.14 Server | **Local Co-ordinate Reference:** | Well Michael Ryan Fed Com #203H |
| **Company:** | Matador Production Company | **TVD Reference:** | KB @ 3106.5usft |
| **Project:** | Rustler Breaks | **MD Reference:** | KB @ 3106.5usft |
| **Site:** | Michael Ryan | **North Reference:** | Grid |
| **Well:** | Michael Ryan Fed Com #203H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | BLM Plan #1 | | |

**Formations**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 172.1 | 172.1 | Rustler | | 1.39 | 89.43 |
| 411.1 | 411.0 | Salado | | 1.39 | 89.43 |
| 943.4 | 942.6 | Castile (T) | | 1.39 | 89.43 |
| 2,546.1 | 2,511.9 | G30:CS14-CSB | | 1.39 | 89.43 |
| 2,620.8 | 2,583.6 | G26: Bell Cyn. | | 1.39 | 89.43 |
| 3,461.5 | 3,391.5 | G26: Bell Cyn. | | 1.39 | 89.43 |
| 4,710.1 | 4,591.4 | G26: Bell Cyn. | | 1.39 | 89.43 |
| 6,158.3 | 5,983.1 | G4: BSGL (CS9) | | 1.39 | 89.43 |
| 6,535.0 | 6,345.1 | L8.2: U. Avalon Shale | | 1.39 | 89.43 |
| 6,651.3 | 6,456.8 | L6.3: Avalon Carb | | 1.39 | 89.43 |
| 6,752.9 | 6,554.5 | L6.2: L. Avalon Shale | | 1.39 | 89.43 |
| 6,845.1 | 6,643.1 | L5.3: FBSC | | 1.39 | 89.43 |
| 7,231.9 | 7,014.8 | L5.1: FBSG | | 1.39 | 89.43 |
| 7,290.5 | 7,071.1 | M. FBSG | | 1.39 | 89.43 |
| 7,442.7 | 7,217.4 | L. FBSG | | 1.39 | 89.43 |
| 7,511.4 | 7,283.4 | L4.3: SBSC | | 1.39 | 89.43 |
| 7,994.8 | 7,747.9 | L4.1: SBSG | | 1.39 | 89.43 |
| 8,127.0 | 7,875.4 | L4.1: SBSG B Carb | | 1.39 | 89.43 |
| 8,187.8 | 7,934.5 | SBSG B Target | | 1.39 | 89.43 |
| 8,294.6 | 8,038.7 | L4.1: SBSG C | | 1.39 | 89.43 |
| 8,333.8 | 8,077.1 | L3.3: TBSC | | 1.39 | 89.43 |
| 8,751.8 | 8,490.6 | L3.3.2: Break Sand (T) | | 1.39 | 89.43 |
| 9,266.4 | 9,001.8 | L3.1: TBSG | | 1.39 | 89.43 |
| 9,623.4 | 9,286.1 | L. TBSG | | 1.39 | 89.43 |
| 9,699.3 | 9,326.6 | L2: WFMP A | | 1.39 | 89.43 |

**Plan Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 25.0 | 25.0 | 0.0 | 0.0 | Start Build 0.63 |
| 500.2 | 500.0 | 0.0 | -12.4 | Start 500.0 hold at 500.2 MD |
| 1,000.2 | 999.3 | 0.0 | -38.6 | Start DLS 1.50 TFO 94.44 |
| 2,068.0 | 2,052.4 | 147.8 | -82.3 | Start 5946.5 hold at 2068.0 MD |
| 8,014.5 | 7,766.9 | 1,783.7 | -254.5 | Start Drop -1.50 |
| 9,085.1 | 8,823.5 | 1,931.9 | -270.1 | Start Build 10.00 |
| 9,969.6 | 9,396.2 | 1,898.0 | 286.3 | Start DLS 0.07 TFO -87.55 |
| 15,884.5 | 9,547.2 | 1,746.8 | 6,196.1 | Start 2480.2 hold at 15884.5 MD |
| 18,364.7 | 9,606.6 | 1,771.0 | 8,675.6 | TD at 18364.7 |